Integrated Annual Report 2022

Rising today to transform tomorrow

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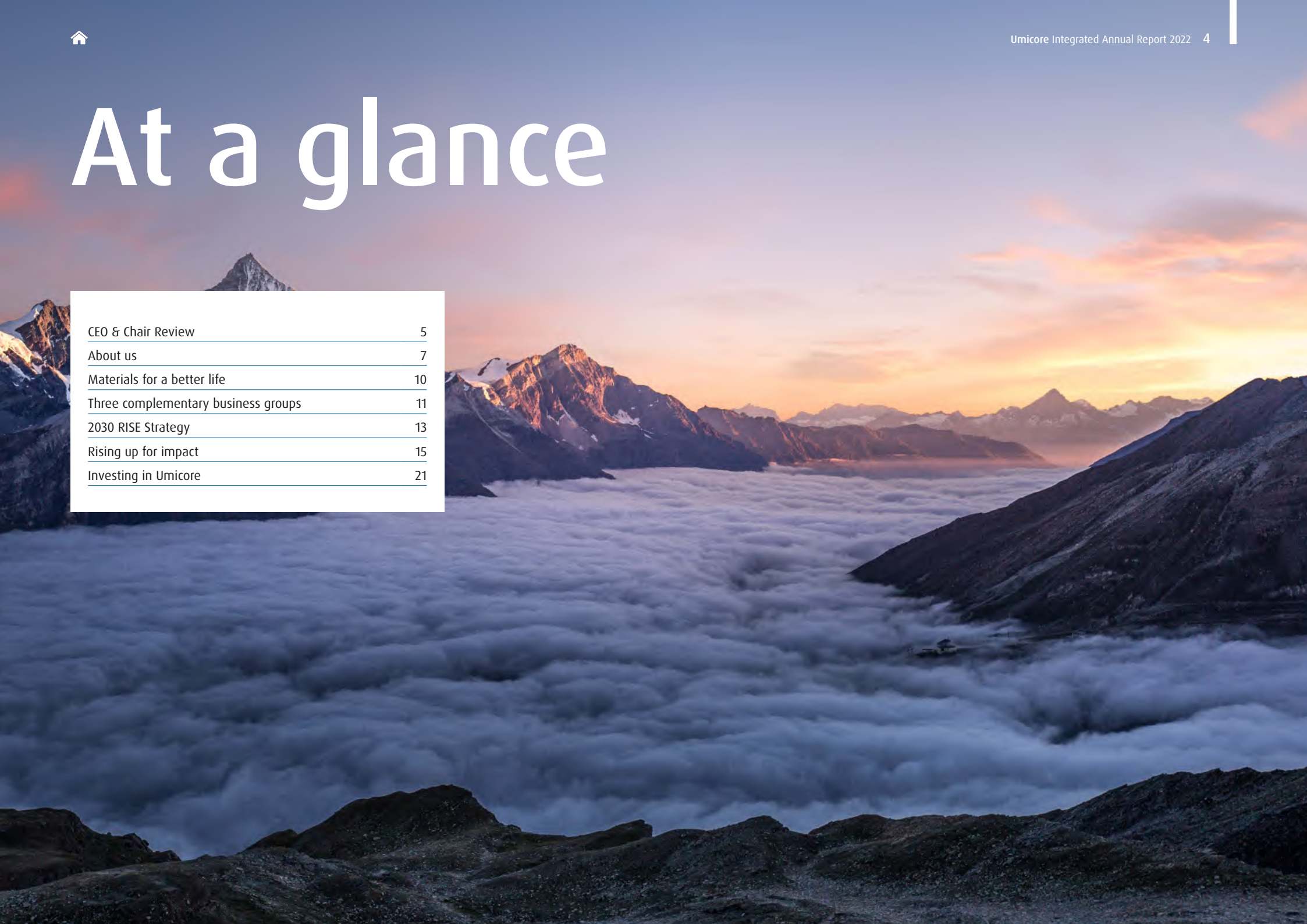
Contents

The Umicore integrated annual report offers a comprehensive and integrated view of our performance for 2022. This report is produced in accordance to the GRI Standards. For more, please see About this report. Definitions for the terms used throughout this report can be found in the Glossary for the report.

Access all items in this report, in English and in Dutch, online, at:
ANNUALREPORT.UMICORE.COM

At a glance



CEO & Chair Review

CEO Mathias Miedreich and Chair Thomas Leysen at Umicore's site in Hoboken, Belgium

2022 was a challenging year for the world. We were beginning to recover slowly from the COVID-19 pandemic when the war in Ukraine broke out, resulting in a new humanitarian crisis, exposing the fragile interdependencies of our economies and inflaming geopolitical tensions. The devastating effects of climate change also became more pronounced, affecting nature and human lives in every part of the world.

Umicore demonstrated good resilience in its 2022 financial performance and at the same time, we articulated an ambitious growth strategy for the years ahead — **Umicore 2030 RISE.** Our role in supporting the pressing need for a more circular economy and mobility transformation from combustion engine cars to electric vehicles worldwide has come clearly to the fore.

Business highlights

In terms of financial results, the Group's intrinsically robust foundations, our agility and delivery on operational excellence, meant we could again deliver a strong performance in 2022. **Adjusted EBITDA was the second highest in our history** at € 1.2 billion, slightly below our record in 2021 due, on the one hand, to the cost inflation environment and slightly less favorable precious metal prices and, on the other, our increased spending on innovation and growth preparation, in line with the implementation of our 2030 RISE Strategy. Operational free cash flow remained healthy at € 344 million. Net financial debt stood at € 1.2 billion giving a leverage ratio of 0.96x LTM adjusted EBITDA. Return on capital employed for the Group amounted to a high of 19.2%.

Our **Catalysis** Business Group reached record levels in revenues and earnings. Operational excellence and the ability to pass through cost inflation led to a record adjusted EBITDA of € 419 million with a margin of 23.6%. The Automotive Catalysts Business Unit confirmed its leadership position, outperforming the global car market and winning market share thanks to its favorable platform and customer mix in light-duty applications.

Revenues and earnings in **the Energy & Surface Technologies** Business Group grew substantially, with adjusted EBITDA at € 290 million. Cobalt & Specialty Materials benefited from exceptionally strong demand and supportive cobalt and nickel prices in the first half of the year, which returned to normal in the second half. While the Rechargeable Battery Materials Business Unit was favorably exposed to higher lithium prices, sales volumes of cathode active materials remained subdued, in line with our previously announced expectations.

The **Recycling** Business Group again delivered an excellent performance with revenues similar to 2021. The adjusted EBITDA of € 532 million was lower in 2021 due to cost inflation and less favorable precious metal price levels compared with 2021. The Precious Metals Refining Business Unit benefited from solid volumes and an overall supportive supply environment. Higher revenues in the Jewelry & Industrial Metals Business Unit offset a slightly lower contribution from the trading activity in Precious Metals Management.

The year was eventful with multiple announcements supporting our ambitious, growth plan strategy for the coming years. In June, Umicore unveiled its **2030 RISE Strategy,** which builds on our strong foundations, unique portfolio and our early identification of today's intensifying global megatrends: the mobility transformation; the growing need for advanced materials; and the circularity for critical metals. Our 2030 RISE Strategy is our roadmap to grow, scale and speed up our unique value proposition to our customers and all our stakeholders, to more than double our revenues by the end of the decade at adjusted EBITDA margins exceeding 20%.

For Umicore, 2022 was a year of defining "firsts"

We made significant progress on the customer side in closing secure, value-creative contracts in our battery materials where we are unlocking new ways of establishing strategic partnerships. Among the most prominent examples of customer agreements supporting the electric vehicle industry, is the creation of Europe's first battery materials joint venture with Volkswagen's battery company PowerCo**.** This partnership is a recognition of our product technology and process expertise and a benchmark for future agreements. We inaugurated **Europe's first "Gigafactory" for battery materials in Nysa, Poland**, which from the start of production runs on renewable electricity only. And with this, we became the first company in Europe to have rolled out a complete battery materials supply chain – from the intake of battery metals to their refining, their conversion into precursors and ultimately ultra-pure cathode active materials.

Together with Prime Minister Justin Trudeau, we announced our plans to build **Canada's first Gigafactory for precursor and cathode active materials**, filling the missing link in the country's battery value chain from natural resources to electric mobility.

2030 RISE strategy

The four pillars of our 2030 RISE Strategy are based on the acronym that RISE represents and our vision of what Umicore stands for.

"**R" for Reliable transformation partner**: We listen to the voice of our customers and focus on solving their issues. Our automotive customers for example can rely on our 50-plus years' automotive experience, starting in catalysis for combustion engines through to the last 20 years in rechargeable battery materials for electric vehicles (EVs) and fuel cell catalysis

"I" represents Umicore's Innovation and technology power, which is at the heart of what we do. Umicore's future success is closely linked to our technological edge and leadership in all of our activities. In our Rechargeable Battery Materials business, our researchers are diligently working on new technologies to further improve battery performance and thereby electric cars. Umicore recently announced the industrialization of manganese-rich HLM batteries, which will complement our broad portfolio of NMC battery materials for high-performance, long-range EVs. In our new global R&D center in Korea, we're working on next-generation technologies for solid-state batteries. The upcoming global, stringent emission standards (EU7/CN7/US27), continue to drive the need for innovative catalyst technologies for light and heavy-duty internal combustion engine (ICE) applications. Our cutting-edge innovations for light-duty gasoline applications help our customers meet the most stringent emission standards while balancing cost and performance with the optimized usage of platinum (Pt), palladium (Pd), and rhodium (Rh).

The "S" stands for Umicore as a Sustainability champion. Umicore lives this purpose and contributes to the planet through its embedded Let's Go for Zero ambitions. We are helping in decarbonizing electromobility with our local-for-local supply chains. This includes using 100% renewable energy with each new investment as well as increasing the share of renewable energy in our existing operations through long-term Power Purchase Agreements. In 2022, we reduced our Scope 1+2 GHG emissions by 13% compared to our 2019 baseline and increased the share of renewable electricity to 35%, up from 17% in 2021. We also announced our ambitious Scope 3 target to reduce the carbon intensity of purchased materials by 42% by 2030 (vs. our 2019 baseline). In addition, the Science Based Target initiative (SBTi) validated our 2030 GHG reduction targets as science-based and aligned with the Paris Agreement.

However, in terms of safety, our lost time accidents were below expectations in 2022 and we will need to step up to achieve our ambition on zero injuries. We continue to support the principles of the UN Global Compact and we report our progress, including our progress related to the impact on the Sustainable Development Goals in this integrated annual report.

"E" as the final letter of the RISE acronym is about Excellence. Whether it's excelling in operations, in quality, in talent, in ESG or in innovation, we want to excel in all aspects of our business to deliver on our strategic roadmap and on our promises to our customers. We are convinced that the Umicore team has what it takes to deliver.

In 2023 we will have to continue to face some headwinds in terms of inflation and lower precious metals prices. At the same time, we will be focused on the delivery of the RISE 2030 strategy and expect to deliver a number of important milestones.

In closing, we would like to thank our customers and business partners for their continued support and all our talented and extremely hard-working colleagues for their continued commitment. We look forward to continuing our journey together.

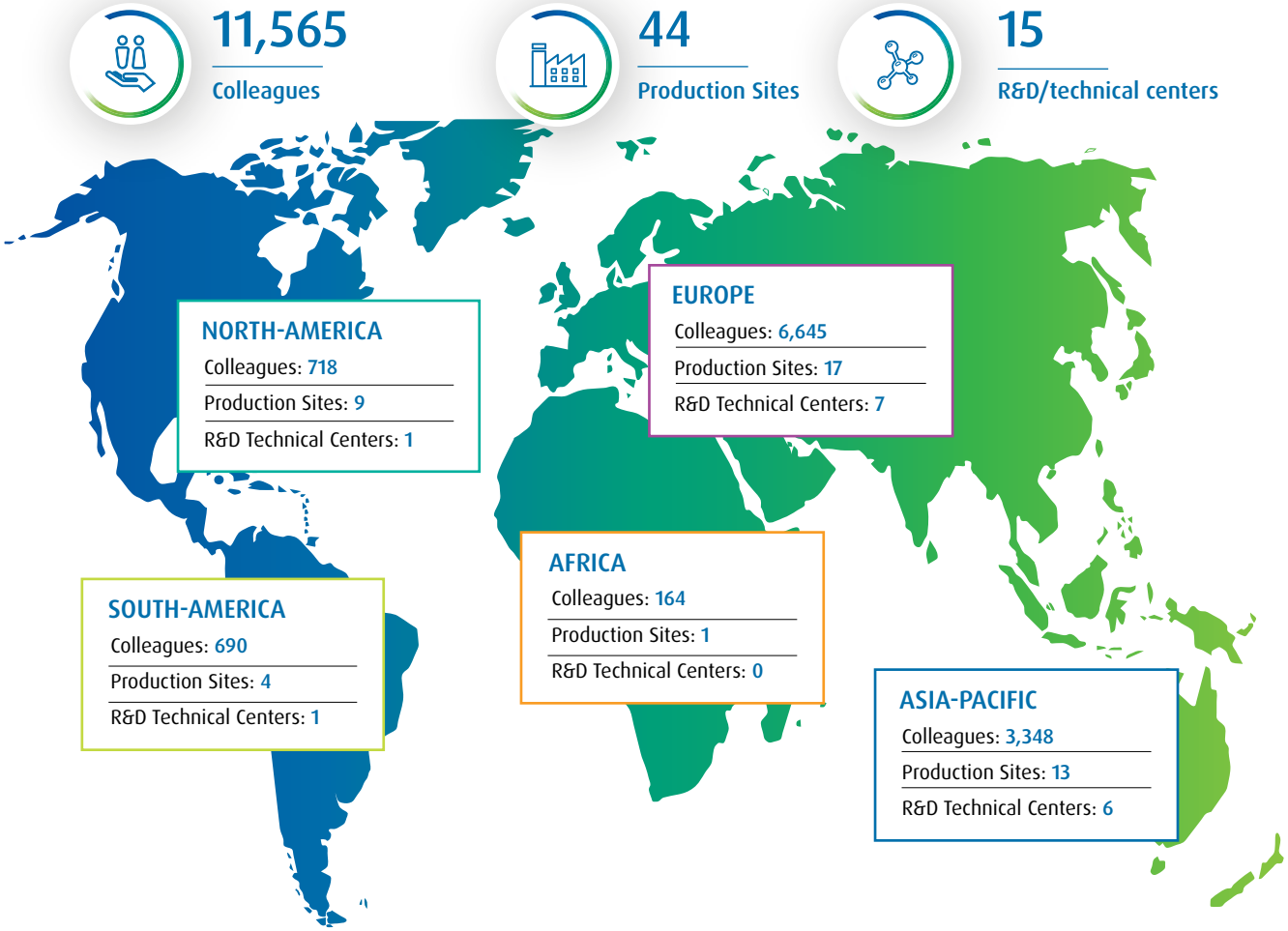
About us

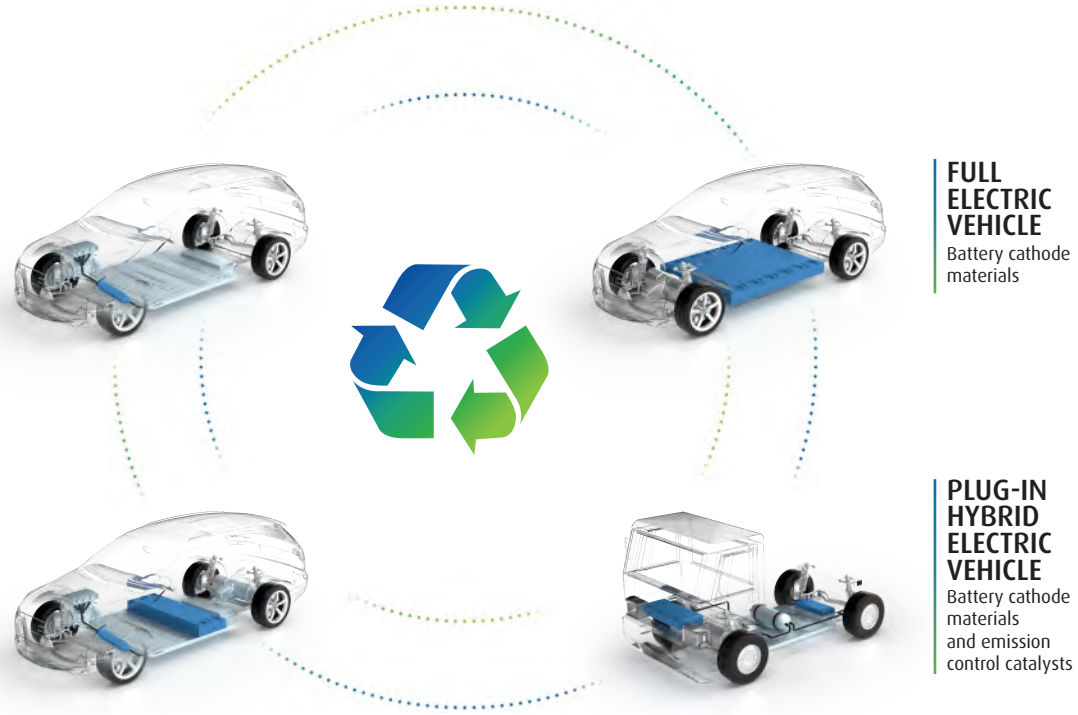
Umicore: the circular materials technology company

Reducing harmful vehicle emissions. Giving new life to used metals. Powering the cars of the future. Umicore is world leader in *circular* materials technology and recycling, employing 11,565 people and spanning 12 countries over three continents.

Umicore's operations are divided into business groups: **Catalysis, Energy & Surface Technologies** and **Recycling**. Each Business Group is in turn comprised of several Business Units that serve different end markets, resulting in an overall diversified revenue and customer base. Read more about it in Three Complementary Business Units.

Drawing on its extensive expertise in the fields of **chemistry, material science and metallurgy**, Umicore is a key enabler of the mobility transformation and circularity of critical metals.





Mobility transformation

We lead the way in emission control catalysts for passenger cars and heavy-duty applications; a leading supplier of cathode materials for rechargeable lithium-ion batteries used in electric vehicles; a front-runner in rechargeable battery recycling; and a leading supplier of proton exchange membrane fuel cell catalysts used in the emerging hydrogen economy (in particular, focusing on transportation applications).

Circularity of critical metals

We operate one of the world's most **sophisticated precious metals** recycling facilities and our plants can recover 28 precious and non-ferrous metals from - industrial residues, electronic scrap, batteries, automotive and industrial catalysts and fuel cells. The recovered materials are transformed into pure metals or new products. Umicore is also a pioneer in recycling rechargeable batteries: its battery recycling plant in Belgium has an annual capacity of 7,000 tons of lithium-ion batteries and battery production scrap, the equivalent of 35,000 electric vehicle batteries.

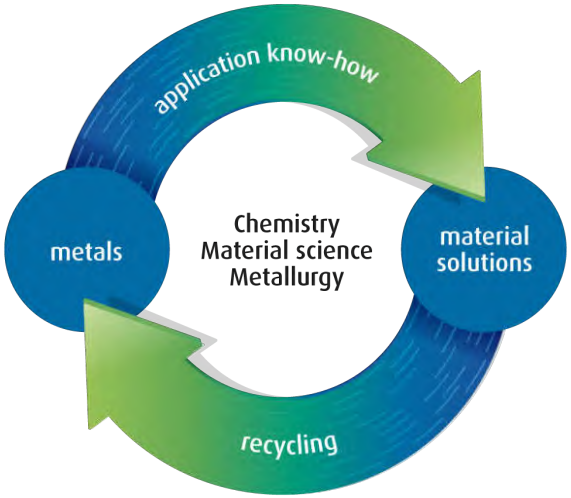
This **closed-loop business model** not only defines how we run our business and build our strategy but sets us apart from our competitors.

All our materials are customized and developed with processes that accommodate health and safety, recyclability, cost efficiency, waste reduction and energy efficiency, in our own facilities and throughout the value chain.

We have made sustainability a priority in all we do. Our **integrated approach to sustainability** minimizes the impact of our industrial operations and our commitment to ethical and responsible sourcing delivers value and distinguishes us from our competitors.

This positive impact enhances quality of life by reducing harmful vehicle emissions, giving new life to used metals and powering the cars of the future.

Our success depends on balancing the economic, environmental and social impact of our operations, while looking to our highly skilled people to uphold our values and mission.



Our values are vital to our success

Openness
We communicate openly, accurately and enthusiastically. We provide reliable and relevant information about our activities promptly and regularly while respecting commercial confidentiality. We consider interaction important and welcome constructive dialogue with all our stakeholders.

Innovation
We believe in continuously searching for improvement and that innovation is the ultimate driver for long-term profitability and growth. We are open to new ideas and prepared to take considered risks.

Teamwork
We encourage sharing of information across divisional, functional and geographical borders to make full use of all our knowledge and experience. By working together towards shared goals, our employees are expected to derive pride, satisfaction and fun from their work.

Respect
We show respect for each other and for cultures, customs and values in our dealings with employees and other stakeholders. We do not compromise on occupational health and safety and act with responsibility to the environment.

Commitment
We believe in keeping our promises, adhering to high performance standards and continuously searching for the best possible solutions.

Materials for a better life

Materials are at the core of our daily lives, and are key for wealth creation and, ultimately human progress.

At Umicore, we stand by our convictions of making materials that will improve our quality of life and the health of our planet, while delivering sustainable value to our stakeholders. That's why we place great emphasis on our closed-loop business model and, more particularly, in the sound and efficient recycling of metal-related materials, making them vital for sustainable products and services.

We also actively invest in and pursue activities that have a positive impact on society from reducing harmful vehicle emissions, giving new life to used metals or powering the clean cars of the future.

We want Umicore to lead the way in creating and providing material-based solutions that live up to our mission of **Materials for a better life.**

materials for a better life

The Umicore Way is the cornerstone of everything we do at Umicore. Our strategy sets out our business goals and growth ambitions for the coming years, as well as our sustainability and broad environmental, social and governance objectives. The Umicore Way outlines our values and the way in which we wish to achieve these goals as well as our overall commitment to the principles of sustainable development. We believe that the broad values and aspirations captured in this document should be applicable in all contexts – in different regions, cultures and business situations. The Umicore Way is not only for Umicore employees but also covers our relationships with all our stakeholders.

The Umicore Way is supplemented by detailed company codes and charters including the Umicore Code of Conduct, the 2020 Belgian Code on Corporate Governance, the Umicore Corporate Governance Charter and the Umicore Dealing Code.

Employees working at Umicore Corporate R&D site in Olen, Belgium

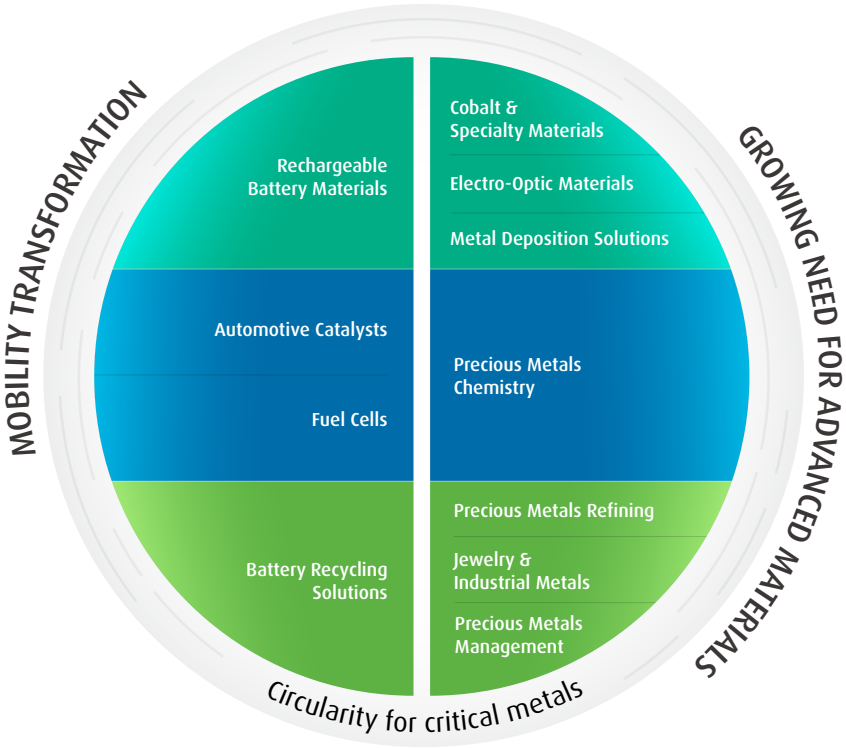
Three complementary business groups

Complementarity of Umicore's activities continues to give us a true competitive edge

Our operations are divided into three business groups, each consisting of decentralized business units that serve multiple end markets (automotive being the most sizeable). Within these three business groups the focus is on areas in which Umicore not only adds value but can excel and is recognized as market leader by our customers.

Our ambition is to be the preferred partner of our customers. We are committed to the growth of our business through the competence of our people, excellence in operations and technological innovation.

We have a unique portfolio of mutually reinforcing activities in which every business group, unit and department has an important role to play in achieving our ambition to be the *circular* materials technology company.



Catalysis

Reducing harmful emissions

Automotive Catalysts

Leading producer of emission control catalysts for gasoline and diesel on-road and non-road applications, power generation and industrial processes to meet environmental standards around the world.

Fuel Cells & Stationary Catalysts

Leading player in emissions control catalysts for industrial plants and shipping, and supply state-of-the-art fuel cell catalysts for zero emission mobility and green hydrogen production.

Precious Metals Chemistry

Experts in metals-based catalysis for life-enhancing applications. Emission treatment technologies, cancer treatments, the production of fine chemicals and advanced electronics – all are made possible with our organometallic technology know-how.

Energy & Surface Technologies

Powering the future

Cobalt & Specialty Materials

Experts in sourcing, production and distribution of cobalt and nickel products. Our materials are at the heart of everyday products such as rechargeable batteries, tools, paints and tyres. Our recycling and refining processes, give new life to cobalt and other metals.

Electro-Optic Materials

Leading supplier of material solutions for the space, optics and electronics sectors, including products for thermal imaging, wafers for space solar cells, high brightness LEDs and chemicals for fiber optics.

Metal Deposition Solutions

World leader in supplying products for (precious) metal-based electroplating and PVD coating of surfaces in the nano and micrometre range. The highest demand for our solutions comes from products in daily use or the solutions that enable their production in the first place.

Rechargeable Battery Materials

Pioneer in battery materials and a leader in cathode material supplies for rechargeable lithium-ion batteries to power electric vehicles, giving them added range and performance.

Recycling

Giving new life to used metals

Battery Recycling Solutions

Leader in closed-loop technology for rechargeable batteries. We use proprietary high-quality recycling processes to recover all valuable metals in an environmentally sound manner. We offer a unique sustainable and circular approach.

Jewelry & Industrial Metals

Experts in developing products and processes based on precious metals such as gold, silver and platinum. Our customers use these materials to make fine jewelry, coins, high-purity glass and industrial catalysts. We provide our customers with sustainable and responsible sourcing of these metals and closed-loop recycling.

Precious Metals Management

We supply and handle all precious metals, ensuring physical delivery by using both the output of our precious metals refineries and our network of industrial partners and banks. We offer our customers tailor-made solutions for delivering, hedging and trading precious metals.

Precious Metals Refining

Experts in treating the most complex materials and operator of the world's most sophisticated precious metals recycling facility. Our refining and recycling technology gives used metals a new life, while our processes add value to the circular economy.

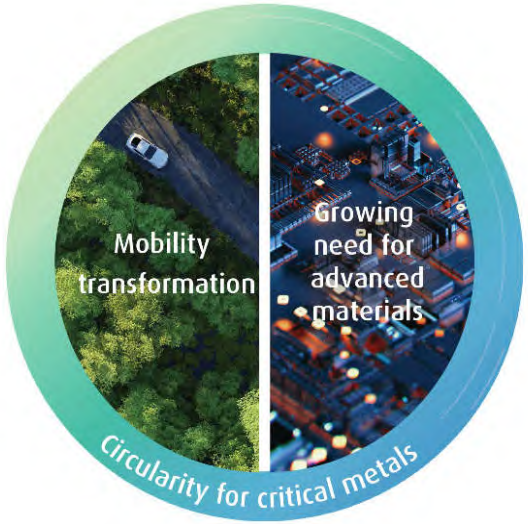
This strong portfolio and solid foundations provide the ideal starting point for our onward journey to 2030.

2030 RISE Strategy

Driven by megatrends

Umicore has a history of successfully anticipating global societal trends that define the next decades and embracing these megatrends as business drivers.

Three powerful megatrends will continue to underpin our strategy and drive our businesses well into the future.



- **Mobility transformation –** Mobility as we know it is set to change dramatically over the next few years. As we shift gear towards cleaner, carbon-neutral transport, emission legislations will become more stringent and with it will come an exponential growth in electrification. Accelerating this mobility transformation will be profound for both business and society. Discover more on our solutions in Three Complementary Business Groups.

- **Circularity for critical metals –** Our future economy will be more circular with even greater emphasis on sharing, leasing, reusing or recycling existing materials. Across all our markets, recycling will be a major source of materials for our clients. This trend, whilst more visible in both Precious Metals Refining and Battery Recycling Solutions, is embedded in all our activities.

- **Increased demand for advanced materials –** The demand for more scalable, more efficient and more sustainable solutions brought faster to market and ready to tackle the big societal challenges will continue to increase. All our businesses already contribute to meeting global demand. Please also see Three Complementary Business Groups for more details on our solutions.

Through our global footprint, state-of-the art technologies, unique closed-loop business model and market positioning, Umicore is well placed to adopt all three megatrends as drivers of our future growth.

Our strategy: rooted in strong foundations

The successful Horizon 2020 Strategy drove a step-change transformation of the Umicore Group. Between 2015 and 2020, Umicore established its lead in clean mobility materials and recycling. We rebalanced our portfolio of activities and doubled the size of the business in terms of earnings, while delivering substantial shareholder returns.

Hot on the heels of this success, Umicore unveiled, in June 2021, its sustainability ambitions "Let's Go for Zero". These ambitions cover our goal to achieve carbon neutrality by 2035 and reaffirmed Umicore's commitment to use its technological know-how, scientific expertise and corporate reach to be an industry leader in sustainability. It has also been defined as a "caring strategy": caring about talent, about health, about safety, about the planet and about creating value both for society and our stakeholders.

Our Horizon 2020 strategy and Let's go for Zero sustainability ambitions together have turned sustainability into a clear competitive advantage and pushed industry standards to the next level, while enabling us to achieve record results in 2021.

Now it's time to embark on the next chapter of our journey.

Umicore's proven ability to embrace megatrends, its strong market positions, technology leadership and organizational excellence are the solid foundations on which to build our onward journey to 2030, making us fit and ready for the future.

Ready to RISE

Umicore has now pledged to rise higher and reach even further than the achievements of the past to create a bold, sustainable company of the future.

Umicore 2030
RISE

Launched in June 2022, Umicore's **2030 RISE Strategy** provides the much-needed continuity in our strategic journey, while building on the leadership in clean mobility and recycling achieved under the Horizon 2020 Strategy.

This new strategic plan is designed to accelerate sustainable and profitable growth with value creation to 2030 and beyond; while being a net beneficiary of the changing world, particularly with regards to mobility transformation.

With the 2030 RISE strategy we will continue to build Umicore to be the *circular* materials technology company, extending the closed-loop business model throughout the organization. Our ambition is to be a transformation partner for our customers, supporting them in becoming more sustainable and – particularly in the automotive industry – making the successful transition to carbon-free mobility in the next decades.

Between now and 2030, we will scale up our global operations, resulting in a projected doubling of revenues for the Umicore Group towards 2030, with adjusted EBITA margins of more than 20% and ROCE returns of 15%.

Between now and 2030, Umicore will grow like a start-up while continuing to create value as the long-established company it already is.

Four pillars for success

Our 2030 RISE Strategy comprises four distinct pillars on which the implementation and scaling up of the business will be built. It is no coincidence that we have chosen the word "RISE" as each letter refers to one pillar of the strategy. Each pillar plays a vital role in our strategic success going forward.

R Reliable Transformation Partner

I Innovation & Technology Leader

S Sustainability Champion

E Excellence in Execution

- The **"R"** stands for "Reliability" and the **reliable transformation partner** that we already are for many customers and can become for many more. We listen to our stakeholders and focus on supporting them in their own transformation to become sustainable and circular companies. We will continue to build and maintain long-term relationships with our customers, suppliers and partners. More information here.

- The **"I"** is for **innovation and technology**. Umicore is already an **innovation and technology leader**, pioneering in chemistry, material science and metallurgy. Our future success relies on us maintaining our technological advantage and value creation. To reach our 2030 ambitions, we are set on developing the next generation of clean mobility and advanced materials – and creating a safety net to protect the world's resources, however scarce or abundant by applying our closed-loop model. More information here.

- "**S**" is for **sustainability champion**. Sustainability is in our DNA and woven into the very fabric of our organization. At Umicore we see it as our mission to be an industry leader in sustainability. We embed sustainability in all our products and services, and in the way we manage our operations and people. Our '**Let's Go for Zero' ambitions** are at the heart of the next chapter of our journey pushing us to rise even higher than before. More information here.

- The "**E**" in RISE denotes **excellence in execution**. With this "E" we are making a clear statement to our customers: We are there for you, we are ramping up our business to meet your needs, and we will deliver on our promises. Performance is key to achieve our growth trajectory. With the future scale of our organization and the speed at which the world around us is changing, we strive for excellence in everything we do. More information here.

Umicore's 2030 RISE Strategy is ambitious. It is bold. But it is based on solid and well-established foundations; a successful business track record; driven by strong megatrends; and implemented by our excellent and highly skilled teams throughout the world.

Our journey towards 2030 has already begun.

For more information, please consult our contributions on Strategy and Rising up for impact in this report.

Rising up for impact

Planning for the best possible future, while addressing society's most pressing challenges

Umicore plans for the best possible future by remaining healthy and competitive, while addressing society's most pressing challenges. We take our commitment to our people and our planet seriously, while considering global economic, social and environmental aspects carefully.

Stakeholder	How we engage	Key topics
Shareholders & Investors	Capital Markets Day Direct contact Market trends research Perception study Questionnaires Shareholder meetings Shareholder study Roadshows & conferences	Umicore's product quality and production capacity Responsible governance and human rights compliance of Umicore's suppliers Sustainability of Umicore's products Umicore's responsible governance and human rights compliance 2030 RISE strategy
Suppliers	Direct contact Supplier portal Questionnaires Market trends research	Umicore's responsible governance and human rights compliance Responsible governance and human rights compliance of Umicore's suppliers Sustainability of Umicore's products Occupational health and safety within Umicore's own operations Material sourcing & input content of Umicore's products
Employees	Internal social media Surveys Workshops & Training Market trends research	Occupational health and safety within Umicore's own operations GHG & metal emissions Umicore's closed-loop services Sustainability of Umicore's products
Public Sector & Authorities	Direct contact Partnerships Society & regulatory trends research	Occupational health and safety within Umicore's own operations GHG & metal emissions Waste from Umicore's own operations Water use from Umicore's own operations Jobs created by Umicore Umicore's responsible governance and human rights compliance
Customers	Direct contact Customer satisfaction survey Conferences Questionnaires Market trends research	Quality and capacity of Umicore's recycling services Umicore's product quality and production capacity Sustainability of Umicore's products GHG & metal emissions Umicore's closed loop services
Sector Organizations	Direct contact Market trends research	Umicore's closed loop services Responsible governance and human rights compliance of Umicore's suppliers Umicore's responsible governance and human rights compliance Sustainability of Umicore's products Material sourcing & input content of Umicore's products Occupational health and safety within Umicore's own operations

Stakeholder engagement at the heart of our materiality assessment

To support our 2030 RISE Strategy's growth ambitions, and continue to be a sustainability champion using it to our competitive advantage, it is essential to develop a full understanding of the impact that our products and operations have on the world. That is why we work closely both internally with our business units and externally with all our stakeholders to deliver products and services that have specific sustainability benefits.

As a publicly listed company, we interact with many parties interested in how we conduct business. The relationship we foster with our stakeholders directly influences our success and our impact on society.

Stakeholder engagement at Umicore is a localized approach. All sites must identify their respective stakeholders and establish suitable ways of engaging with them. In many cases, such as the dialogue with customers and suppliers, stakeholder relationships are primarily managed by the business units, in line with our decentralized approach to business unit management.

Materiality assessment

Company-specific information, such as Umicore's risks and opportunities and sector-specific information, such as international sustainability frameworks, formed a long list of relevant topics. Umicore reviewed GRI (Global Reporting Initiative), IIRF (International Integrated Reporting Framework), SASB (Sustainability Accounting Standards Board), WBCSD (World Business Council for Sustainable Development), Stakeholder Capitalism metrics of the WEF (World Economic Forum), TCFD (Task Force on Climate-related Financial Disclosures) as well as peer reviews and performance in sustainability rating benchmarks.

To determine priorities, we conducted internal and external dialogues with stakeholders. We first assessed our stakeholder groups concerning the stakeholders' interest in and influence on Umicore. We then asked internal and external stakeholders to prioritize topics according to the impact on their decisions towards Umicore. We consulted customer and supply representatives, employees worldwide and across all functions from the production site to senior management, as well as shareholders and fund providers through online surveys, workshops and interviews. Desk research complemented the survey and interview results.

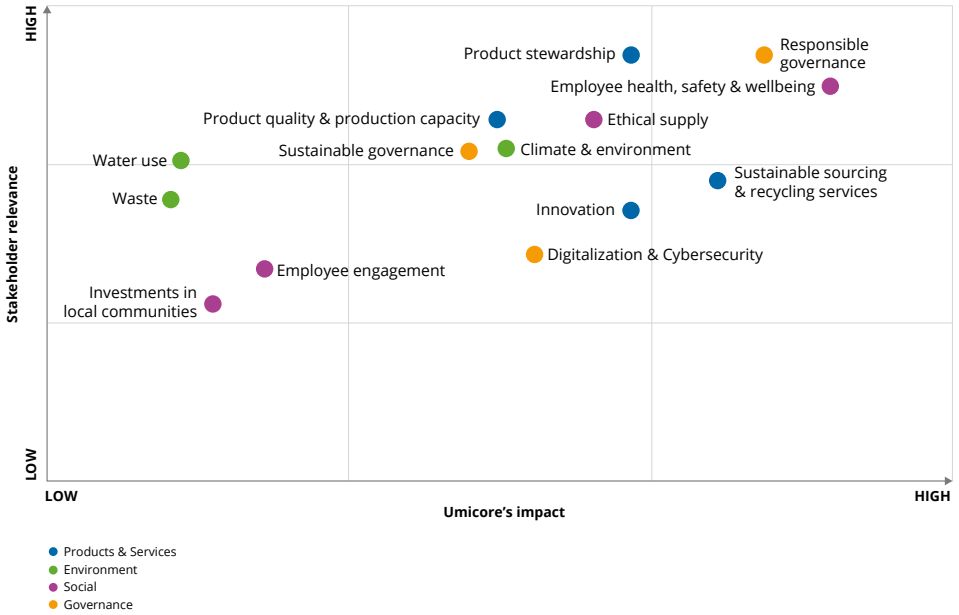
The ranking of topics from both the external and internal consultations was then categorized according to impact on Umicore and/or impact as a result of Umicore activities. As a result, a preliminary materiality matrix was developed.

Umicore's leadership were presented with this preliminary matrix and together analyzed the maturity of the material topics within Umicore. In addition, each material topic was assessed in terms of risk or opportunity. Risk-driven topics would pose a significant business risk if Umicore did not address them – linked to our **"license to operate"**. Opportunity-driven topics are those that could create opportunities in the market – linked to our **"license to grow".**

> "Mapping the material topics as risk- or opportunity-driven and according to their maturity enabled us to visualize the topics in terms of urgency and strategic focus."
>
> Natalia Agüeros, ESG Director

In November 2022, Umicore began a **new stakeholder engagement exercise** to inform double materiality and disclosure as of reporting year 2023. The outcomes of that exercise are expected to be presented to, and validated by, the Management Board and Supervisory Board in the first quarter of 2023.

UMICORE MATERIALITY MAP



Umicore Topic	Umicore Definition
Climate & environment	The impact that Umicore operations, sourcing, transportation of raw materials and finished products have on the environment, biodiversity, climate change, mobility and the health of local communities.
Digitalization & Cybersecurity	The impact that digitalization, robust ICT systems and secure data management have on business continuity and trust.
Employee engagement	The impact that Umicore's job creation, inclusiveness, occupational and professional opportunities (e.g. training) and employee wellbeing have on employee attraction, retention and/or employability.
Employee health, safety & wellbeing	The impact that materials use and transformation (e.g. WEE scraps) and occupational safety within Umicore's own operations have on the health and wellbeing of Umicore's workforce.
Ethical supply	The impact that Umicore's commitment to securing materials from ethically managed sources, including anti-corruption, anti-fraud, anti-money laundering and Human Rights safeguards, has on local communities.
Innovation	The impact that a strategic focus on innovative solutions has on business continuity, sustainability performance, availability of clean technologies and the transition to a low-carbon economy.
Investment in local communities	The impact that Umicore's job creation, initiatives and activities, beyond their business operations, have on the development and wellbeing of communities impacted by operations.
Product quality & production capacity	The impact that the quality (innovative) of metal containing products and capacity volumes (meeting demand) have on the availability and accessibility of low-carbon and clean technologies.
Product stewardship	The impact that product design (functionality, quality, durability, safety, sustainability) has on society
Responsible Governance	The impact that responsible governance (e.g. anti-corruption, anti-fraud, anti-money laundering, anti-discrimination, anti-harassment) and respected human rights (e.g. related to child labor, bonded labor, safety hazards) have on business continuity and trust.
Sustainability Governance	The impact that Umicore's sustainability governance and ESG risk and opportunity management approach has on business resilience.
Sustainable sourcing & Recycling services	The impact that sustainable sourcing practices, the use of secondary materials, and the quality of Umicore recycling services and closed loop offering have on biodiversity, the scarcity of resources, the circular economy and business reslience.
Waste	The impact that the waste generated by Umicore has on resource efficiency and environment.
Water	The impact that the water used by Umicore has on resource efficiency and environment.

Maximizing positive impact

Umicore supports the United Nations Sustainable Development Goals (SDGs). Through innovative products and practices, we minimize adverse impacts, protect the environment, promote social progress and support economic growth.

Umicore also adheres to the **ten Principles of the United Nations Global Compact on human rights, labor, environment and anti-corruption**. We integrate these principles into our company's strategy, culture and day-to-day operations and engaging in collaborative projects that advance the Sustainable Development Goals.

To **support sustainable consumption and production patterns (SDG12),** we deliver technologies that provide resource efficiency and sustainability throughout industrial supply chains. Our recycling services – processing over 200 types of metal-containing materials, including industrial residues and "end-of-life" materials – deliver sustainable sourcing solutions to our customers. Our pioneering role in implementing sustainable sourcing practices in the supply chain has raised the bar for the industry and thus reduces waste generation on a large scale. At the same time, we continue to innovate to minimize negative impacts, for example, by limiting emissions and reducing waste in our industrial operations.

Umicore **builds resilient infrastructure, promotes inclusive and sustainable industrialization and fosters innovation (SDG9).** Our strategic focus tackles society's resource scarcity and environmental concerns. Our closed-loop business model supports the circular economy and our clean mobility solutions enable our automotive customers to reduce negative environmental impacts. We are a leading producer of catalysts and catalytic filters used in emission abatement systems for light- and heavy-duty vehicles, on-road and off-road. Our catalysts and particulate filters convert pollutant emissions into harmless gases and trap particulate matter, enabling our customers to meet present and future environmental standards. Umicore's products have prevented hundreds of millions of tons of harmful pollutants from being emitted into the air. Our continued investment in R&D advances technological capabilities. Umicore remains committed to open innovation; a dedicated team facilitates collaboration with dozens of research institutes, start-ups and universities worldwide.

Through our electromobility technologies, Umicore is contributing to **ensuring access to affordable, reliable, sustainable and modern energy for all (SDG7)**. We are a leading producer of cathode materials for lithium-ion batteries. These are key in determining the power and energy density of rechargeable batteries to maximize the driving distance of electrified vehicles. Our technologies improve efficiency for downstream customers who manufacture the batteries and electrified vehicles, and for users of electric vehicles. Our hydrogen cell technologies are used as a new chemical carrier for energy, which is set to become the major energy carrier in the future and can be used to decarbonize the industry.

We play an essential role in the energy transition with our products and continuously work to improve energy efficiency and increase renewable energy use in our processes.

The Net-Zero pillar of our Let's Go for Zero ambition sets the tone for Umicore **to combat climate change (SDG13)**. Through its operations, Umicore emits greenhouse gases (GHGs). To minimize this negative impact, we have set Net-Zero GHG emission targets by 2035 for Scope 1 and Scope 2 emissions.

Additionally, the nature of our closed-loop business model enables us to avoid GHGs by using materials from non-primary sources. As a result, we have set an ambitious target for our Scope 3 emissions: to reduce the carbon intensity of purchased materials by 42% by 2030. This means that the Scope 3 emissions of our raw materials will not increase, despite the exponential growth projected in our 2030 RISE strategy.

Our 2030 decarbonization targets have been validated by the Science-Based Targets initiative (SBTi), confirming targets align with evidence-based science. By having our targets validated by SBTi, we support the goals of the Paris Agreement. Furthermore, our clean mobility solutions and closed-loop business model support the societal journey to decarbonization. Umicore also engages in public and private partnerships to improve education and awareness about climate change mitigation, for example, concerning clean energy and mobility.

The Zero Harm pillar of our Let's Go for Zero ambition is a significant challenge for an industrial player. However, Umicore is prioritizing employees' and neighbors' wellbeing and safety and minimizing

the negative impact of its operations. Intensified efforts in favor of occupational health and safety and the overall wellbeing of our employees **promote wellbeing and healthy lives (SDG3),** as does safeguarding the safety of our products. Our catalysts also contribute to SDG3 by preventing harmful pollution and contributing to cleaner air for people to breathe.

Water availability and **sustainable management of water (SDG6)** are fundamental components in the Zero Harm pillar of our Let's Go for Zero ambition. Umicore has set out to implement a water stewardship program for all its industrial activities, with extra focus on areas facing water stress. The program focuses on two main objectives: raising global awareness about water sustainability and addressing local water risks where they exist. This program enables our sites to identify and mitigate water risks, share best practices with other sites and limit our impact on the environment, preventing water pollution from our production sites and continuously reducing water usage in our operations.

Umicore aims to **make communities as inclusive, safe, resilient and sustainable as possible (SDG11)**. We work actively to minimize the negative societal and environmental impact that our operations may cause. We are committed to reducing diffuse emissions with a target of -25% diffuse emissions by 2025. We are taking additional actions to ensure that the local community and industry can co-exist sustainably. In Hoboken, for example, we are accelerating investments to reduce diffuse emissions further and create a green zone to increase the distance between the residential area and our operations.

Decent work and economic growth (SDG8) are an important focus for Umicore. Through job creation and thanks to our innovative and resource-efficient business model, Umicore contributes to the global transition. Umicore respects the principle of collective bargaining and is committed to fair wages and equal pay for work of equal value. We ensure a safe and secure working environment within our organization and ensure that human rights are respected within our supply chain.

To **ensure gender equality (SDG5)** and cultivate diversity of thought within the company, Umicore strives to build an inclusive culture and increase women among our employees and our management. We've set ourselves an ambitious goal of gender parity as soon as possible, with 35% of women in management by 2030.

Beyond the borders of our company, we promote anti-discrimination against women and enforce equal opportunities in our supply chain by asking suppliers to adhere to our Global Sustainable Sourcing Policy. For more information on how Umicore's impact on the Sustainable Development Goals has been evaluated, see the Social Statements.

Wellbeing at work for all	Zero inequality and wellbeing at work for all		Clean mobility solutions	Zero inequality, zero harm and closed loop business model	Closed loop business model and clean mobility solutions	Closed loop business model and clean mobility solutions	Zero Harm, closed loop business model and clean mobility solutions	Closed loop business model and clean mobility solutions
↑	↑		↑	↑	↑	↑	↑	↑

Maximizing positive impact to society

Minimizing operational impacts

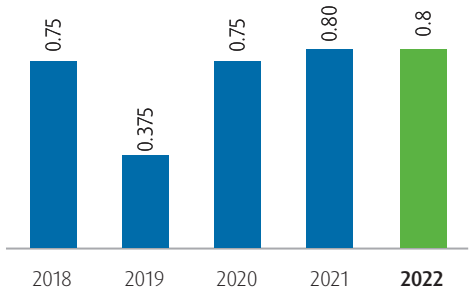
↓		↓				↓	↓	↓
Minimizing all emissions, -25% diffuse emissions by 2025 and safeguarding employee safety		Minimizing operational impacts through a water stewardship program for all industrial activities				Minimizing all emissions, -25% diffuse emissions by 2025	Net Zero GHG emissions, - 25% diffuse emissions by 2025, -42% carbon intensity of purchased materials by 2030	Net Zero GHG emissions, - 25% diffuse emissions by 2025, -42% carbon intensity of purchased materials by 2030

		RISK AND OPPORTUNITY								STRATEGY					
Umicore Themes	Umicore Topic	Regulatory & legal context	Sustainable & ethical supply	Technology & substitution	Information & data protection	Market	Metal price	Talent attraction & retention	Climate & environment	Net Zero	Zero Harm	Zero Inequalities	Best in class governance	Clean Mobility & Recycling	SDGs
PRODUCTS & SERVICES	Product stewardship	✓		✓										✓	3, 9, 12, 13
	Product quality & production capacity			✓		✓								✓	3, 7, 9, 11, 12, 13
	Sustainable sourcing & Recycling services		✓				✓							✓	9, 12
	Innovation			✓		✓			✓					✓	6, 7, 9, 12, 13
ENVIRONMENT	Climate & environment		✓						✓	✓	✓				3, 6, 11, 12, 13, 14
	Waste								✓		✓				12
	Water								✓		✓				6
SOCIAL	Ethical supply	✓	✓								✓				8
	Employee health, safety & wellbeing							✓			✓				3, 5, 8
	Employee engagement							✓				✓			3, 5, 8
	Investment in local communities										✓				8, 11, 13
GOVERNANCE	Responsible Governance	✓											✓		8
	Digitalization & Cybersecurity	✓			✓								✓		3, 8, 13
	Sustainability Governance	✓	✓			✓		✓	✓				✓		3, 5, 6, 7, 8, 9, 11, 12, 13

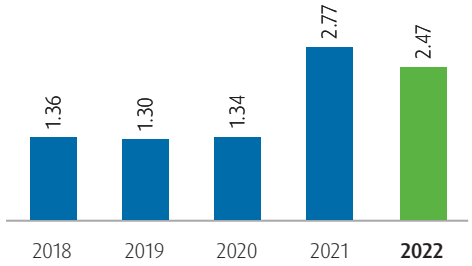
Investing in Umicore

Creating value as an established circular materials technology partner

GROSS DIVIDEND



BASIC ADJUSTED EPS



SHAREPRICE & DENOMINATOR

€ 2.47 BASIC ADJUSTED EARNINGS PER SHARE

	2022
Total shares issued as at 31 December	*246,400,000*
of which treasury shares	*6,199,341*
of which shares outstanding	*240,200,659*
Weighted average number of outstanding shares	*240,340,705*
Potential dilution due to stock option plans	*345,226*

Investing in Umicore is an investment in a net beneficiary of a changing world. Driven by and embracing powerful megatrends, Umicore is **set to deliver fast, profitable growth with uninterrupted value creation to 2030 and beyond** as we embark on the next strategic chapter as a circular materials technology company.

Investing in Umicore is also an investment in a sustainability champion. Sustainability is in our DNA, it's part of our history and our future. The Let's Go for Zero sustainability ambitions are translated into the following three focus areas: zero inequality, zero harm and zero greenhouse gases. These are, combined with todays' megatrends, all key drivers for our sustainable growth path.

Building on the successful achievement of the Horizon 2020 strategy, Umicore is scaling up and unveiled the 2030 RISE strategy at the Capital Markets Day held on 22 June 2022 in London.

The financial ambition is to create sustainable value by balancing growth, returns and cashflow throughout the plan. In concrete terms this means Umicore aims to:

- More than double revenues compared with 2021.
- Achieve profitable growth with EBITDA-margin above 20%.
- Create sustainable value, above cost of capital, targeting 15% ROCE.
- Carry out phased investments of approximately € 5 billion between 2022-2026, with Battery Recycling and Rechargeable Battery Materials accounting for the bulk, subject to value creative agreements.
- Generate attractive free cashflow at Umicore Group level in the second half of the decade.

Acceleration of profitable growth supported by megatrends

Umicore's ambition to RISE is driven by the following three powerful megatrends, but particularly the rapidly accelerating mobility transformation.

- **Mobility transformation**: The global mobility transformation is accelerating and the shift to cleaner mobility is expected to grow threefold by 2030. Through our complementary portfolio and presence in all drivetrain technologies, Umicore is uniquely positioned to capture this growth opportunity and to guide our automotive customers through their transformation journey.
- **Growing need for advanced metal materials**: Advanced materials are key enablers for faster, more scalable, more efficient, and more sustainable solutions that tackle the challenges of society today and tomorrow. Umicore develops the next generation of sustainable advanced materials ensuring that they are used again and again through its recycling technologies.
- **Circularity for critical metals**: We see value where others see waste. Against a background of a rapidly growing conviction that the future economy will be even more of a circular economy, also considering the growing electrification of mobility, Umicore enables full circularity for critical metals and integrates circularity in its everyday business.

Synergetic, coherent and competitive portfolio

Umicore has a **unique value proposition for automotive customers that are impacted by the clean mobility transformation**. We are a reliable partner that provides clean mobility solutions for all existing types of automotive platform drivetrains (e.g. emission control catalysts to clean exhaust gases from gasoline and diesel internal combustion engines in light-duty and heavy-duty vehicles; rechargeable battery materials required to power plug-in hybrid and full-electric vehicles; and catalysts for fuel cell-powered vehicles). By offering the full spectrum of automotive drivetrain technologies, Umicore is uniquely positioned to support its automotive customers in their complete journey from internal combustion engine towards electrification, ultimately, becoming **a partner for the whole mobility transformation**.

Umicore's accumulated assets and abilities precisely address what automotive original equipment manufacturers need in their energy transition:

- in-depth upstream expertise in metal sourcing, trading and transformation;
- proven industrial-scale high-quality production of automotive catalysts and rechargeable battery materials for decades;
- ESG frontrunner in decarbonization and sustainable sourcing; and, last but certainly not least,
- by truly closing the loop as a technology leader in metal recycling.

Umicore's complementary and synergetic portfolio enables value creation based on solid foundations. All three business groups and 11 business units are individually strong but together unlock solid commercial, operational and financial synergies across transversal themes, making them interdependent. In-depth, shared know-how in metal science, chemistry, metallurgy, sustainability and circularity is the common tread. In addition, with different positions in their lifecycle, the business groups combined represent a strong value creating model.

- **Scale-up** | investments to capture future **profitable growth**: based on the mobility transformation, Umicore will invest in battery materials, battery recycling and fuel cells to capture long-term value creation.
- **Free cashflow generation** | **strong internal free cashflow generation** in Automotive Catalysts and Precious Metals Refining: The Automotive Catalyst Business Unit is ideally positioned to capture an unprecedented market value peak, maximizing business value and delivering approximately € 3 billion free cashflow between 2022-2030 by focusing on process efficiency and operational agility. The Precious Metals Refining Business Unit will leverage its leadership in sustainable, complex, low-carbon recycling to generate strong free cashflows, even at normalized precious metals prices. These cashflows can be re-invested in Umicore's growth businesses.
- **Cultivate** | developing with a **focus on ROCE and diversification**: the business units that are champions in their respective markets have very strong returns, value creation and ROCE. In addition, they enable the diversification towards a broader industrial base.

Materials for a better life, sustainability at the core of the corporate purpose

Sustainability is truly engrained in who we are and how we behave. When it comes to sustainability, we see it as our mission to be an industry leader. Over the past decades, Umicore has established a strong track record in ethical supply, eco-efficiency and wellbeing at work. More fundamentally, we have sharpened our strategic focus on those activities that are providing solutions to some of the most pressing societal challenges globally, such as the need for cleaner mobility, the need for a circular economy and the need to address climate change with speed and decisiveness. **Sustainability at Umicore is not only about minimizing the impact of our industrial operations, it is first and foremost about having a positive impact on society.**

Building on the achievements of the past years and striving to continuously raise the bar, Umicore introduced in 2021 the next chapter in its sustainability ambitions with Let's Go for Zero. By introducing bold targets to achieve net-zero Scopes 1 and 2 greenhouse gas emissions (GHGs) by 2035, zero inequality and zero harm, we stretch our sustainability ambitions even further. And we are convinced that this is the right thing to do for society and our stakeholders.

In the framework of the 2030 RISE Strategy, Umicore introduced an ambitious target for its Scope 3 GHGs to drive decarbonization in the value chain. In November 2022, the Science Based Target initiative (SBTi) validated Umicore's intermediate GHGs reduction targets for 2030 as science-based and aligned with the United Nations' Paris Agreement.

These bold Let's go for Zero sustainability ambitions, particularly when it comes to decarbonization, provide significant value to our customers and allow Umicore to distinguish itself within its industry, **turning our sustainability profile into a greater competitive advantage.**

By embedding these ambitions, Umicore's 2030 RISE Strategy builds on our corporate purpose to produce **Materials for a better life** through businesses that will help shape a healthy planet and society, while delivering sustainable value to the stakeholders.

Maintaining a competitive lead through innovation

As a *circular* materials technology company, innovation is at the core of our success. We are a technology leader in key activity fields, combining our rich expertise in the field of metal-based chemistry, science and complex metallurgy. Umicore has a strong track record of, and commitment to, innovation to maintain a competitive lead. Spending on R&D represented 7.6% of revenues in 2022 (compared with 6% in 2021).

In line with our RISE 2030 strategy, the focus of our innovation efforts lies in developing process and product technologies that address the key global societal challenges of clean mobility and resource scarcity. In 2022, we made progress on our short- and long-term technology and innovation roadmap, to unlock transformational growth and meet the goals of our strategic journey. The significant step-up in R&D spending in 2022 reflects primarily the increased spending in Rechargeable Battery Materials related to next generation design-to-performance and design-to-cost product and process technologies as well as ongoing customer qualifications. We also increased our R&D expenditures in battery recycling and advanced technology development related to decarbonization and emission reduction programs to meet our ambitious sustainability programs. The importance of our R&D efforts is reflected in the 15 R&D centers globally and the 72 new patents registered in 2022, an increase of almost 5% from 2021.

Over 75% of Group capital expenditure to be spent between 2022-2026 will be dedicated to battery materials, battery recycling, and fuel cells, all focused on secular growth opportunities, with rechargeable battery materials and battery recycling solutions being the most significant growth projects.

Process competence center at Umicore's site in Olen, Belgium

Healthy capital structure

Our focus is on maintaining a strong balance sheet and remaining equivalent to an investment grade credit status across our growth plan. Our synergetic and complementary portfolio of activities offers diversified funding opportunities. Firstly, the strong internal free cash flow generation in Automotive Catalysts and Precious Metals Refining can be re-invested in the growth businesses. Secondly, there is an increasing appetite in the market to fund sustainable ESG projects. Sustainable funding instruments are being favored in Umicore's financing mix of which the sustainability-linked private placement of debt for an amount of € 591 million is an example. For the first time, the funding costs of the placement are tied to our sustainability performance. We also strongly believe in co-funding through joint ventures or other strategic partnerships, a third funding lever. In addition, we have the possibility to look into grants and incentive mechanisms when available. Finally, as a listed company, we have the option to seek capital market funding in different forms, conditional upon the fact that it presents the right opportunity, from both a business and return perspective.

Umicore shares

Umicore shares are listed on the Euronext Brussels stock exchange.

The total number of outstanding and fully paid-up shares, and the number of voting rights, are 246,400,000. During the year, Umicore used 198,050 of its treasury shares in the context of the exercise of stock options, 43,459 for bonus conversions and 60,145 for shares granted. In the course of 2022, Umicore bought back 1,300,000 of its own shares. On December 31st 2022, Umicore owned 6,199,341 of its own shares representing 2.52% of the total number of shares issued as of that date.

Evidenced by the significant and historical volatility of the VIX index in 2022, the stock markets were overall affected by strong cautions about rising interest rates, inflation and geopolitical tensions.

Umicore share price started the year at € 35.66 and peaked at € 42.16 on May 27th, conclusion of the strong performance of the Umicore share against the market over the first half of 2022. While the performance during the first half of 2022 was driven by the announcement – in February – of Umicore's 2021 all-time record results and strong Q1 guidance for 2022, markets reacted cautiously, in an overall volatile market, to the 2030 RISE Strategy, unveiled at our 2022 Capital Markets Day.

The Umicore share price evolved slightly above the market over the second half of 2022, overall following the volatile market trend. The share price reached its lowest level at € 29.15 on September 23rd, before a gradual recovery, further boosted by the announcement of the joint venture with PowerCo; the MoU to construct a manufacturing facility for CAM and pCAM in Canada; and the inauguration of the Europe's first battery materials Gigafactory in Nysa. Share price closed 2022 at € 34.19.

Over the year, Umicore substantially outperformed the main indexes (Bel-20, Euro Stoxx Chemicals, Euro Stoxx 50) with a share price performance stabilizing at 96.0% (Base 100) versus 85.9%, 88.2% and 88.3% for the respective indexes.

Shareholder returns

Umicore aims to create value for its shareholders. There is no fixed pay-out ratio and the dividend policy supports a stable to growing dividend.

Umicore's Supervisory Board will propose a gross annual dividend of € 0.80 per share for the full year 2022. This compares to a full dividend of € 0.80 per share paid out for the financial year 2021.

Taking into account the interim dividend of € 0.25 per share paid out on August 23rd 2022 and subject to shareholder approval, a gross amount of € 0.55 per share will be paid out on May 4th 2023.

INDEXES & RATINGS

Index membership (selection) at December 31st 2022

Bloomberg	Bloomberg Belgium Large & Mid Cap Price Return Index Bloomberg Electric Vehicles ESG Screened Net Return Index Bloomberg Electric Vehicles Price Return Index Bloomberg Goldman Sachs Global Clean Energy Index Price Return
Euronext	BEL20 Euronext100
MSCI	MSCI AC Europe IMI MSCI ACWI IMI with USA Gross Dividends Index MSCI EAFE ESG Leaders Index MSCI EMU ESG Leaders Price Return USD MSCI EMU SRI S-Series PAB 5% Capped Index MSCI Europe ESG Leaders Index MSCI Europe SRI S-Series PAB 5% Capped Index MSCI World Custom ESG Climate Series A Net in EUR MSCI WORLD ESG SEL IMPACT ex FOSSIL FUEL
STOXX	STOXX Europe 600 ex UK Net Return EUR STOXX Sustainability Price Index EUR

In addition, Umicore is a member of the Financial Times Stock Exchange (FTSE) FTSE4Good Index Series, a series of ethical investment indices designed to measure the performance of companies demonstrating specific ESG practices and minimizing ESG risks. Umicore is also a member of the FTSE World Europe Index.

ESG ratings 2022 (snapshot)

CSR Hub	91
Ecovadis	75
ISS ESG	B-
MSCI	AAA
Refinitiv	75
SUSTAINALYTICS	29.7

The Standard Ethics (SE) indexes measure Sustainability and Corporate Governance in accordance with OECD, EU and UN voluntary guidelines. Umicore is rated EE+ (very strong) and is a member of:

- SE European Best in Class Index (30 European listed companies with the highest Standard Ethics Rating)
- SE Belgian Index
- SE European 100 index

Engagement with shareholders and investors

Umicore has a high free float with a broad base of international shareholders which at the end of 2022 were primarily situated in Europe and North America. The overview of shareholders holding voting rights equal to 3% or more, as well as analyst research and consensus information can be found on our website under share information.

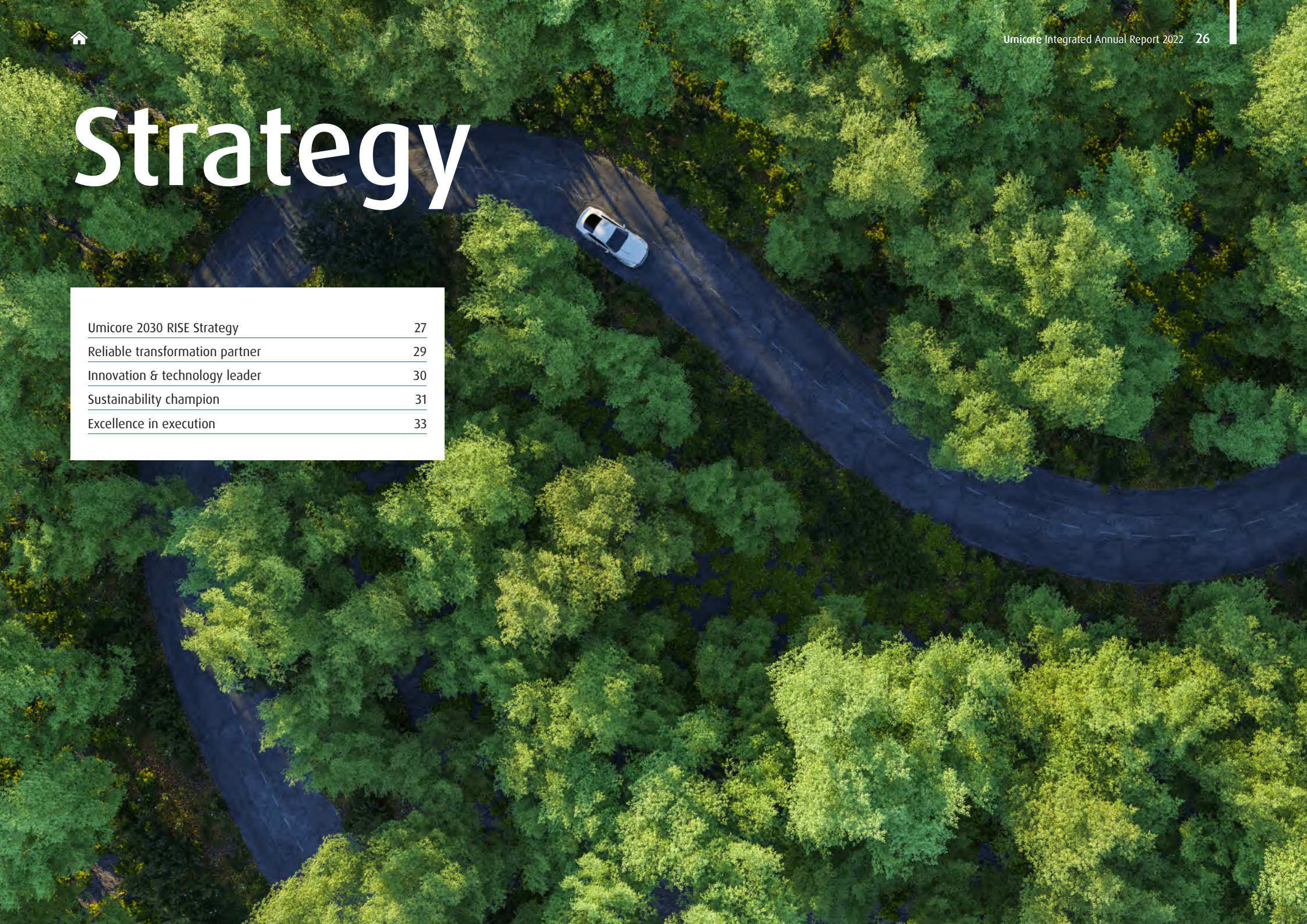
Umicore is covered by various financial analysts, who provide their own independent research analyses and earnings estimates in respect of the company. Some 20 brokerage firms actively cover Umicore at the end of 2022, reflecting strong and global interest from the financial market in its equity story and growth opportunities.

Umicore strives to provide timely and accurate information on its strategy, performance and prospects to its shareholders. Leveraging on 2021's debuts (the launch of Umicore's Let's go for Zero ambitions, increased disclosure in the 2021 Full year results, etc.), 2022 saw the reinforcement of Umicore's increased transparency and disclosure. The 2022 Capital Markets Day, during which the 2030 RISE strategy was presented, was a key highlight of the year. The full Management Board presented to a total of 48 physical participants and 743 participants following online. The Management Board took the opportunity to present the strategic roadmap for Umicore's next development phase, building on our proven ability to embrace megatrends, our strong market positions, technology leadership and organizational excellence, and which will allow us to accelerate sustainable and profitable growth to be a net beneficiary of the changing world.

In addition to the 2022 Capital Markets Day, the further integration of EU taxonomy in its reporting and the SBTi validation of Umicore's near-term 2030 targets to reduce its Scopes 1, 2 and 3 are testament of the increased transparency and disclosure in Umicore's reporting.

Umicore's Management, including the newly appointed CFO, Wannes Peferoen, and the Investor Relations team were in contact with investors and shareholders on a regular basis during virtual and in-person roadshows in North America, Europe and Asia, as well as through investor conferences, webcasts or conference calls (among others, the earnings calls and the call to announce the Joint Venture with PowerCo), and the Annual General Meeting of shareholders. In addition to what is mentioned above, the investor and shareholder contacts focus on a broad range of topics covering both strategy and financial, Environmental, Social and Governance (ESG) performance.

Strategy



Umicore 2030 RISE Strategy

Umicore is entering a new phase in its history with the ambition to build a significantly larger business as a *circular* materials technology company. A business that is built on profitable and sustainable growth with tangible value for our stakeholders. Based on our unique, historical metallurgical, material science and chemical competences that underly our activities, and with our unique portfolio of mutually reinforcing activities, we are well-positioned to succeed.

Our ambition is to close the loop within our Group and be a **reliable transformation partner** for our customers, helping them become more sustainable and – in the automotive industry – successfully transition to carbon-free mobility in the following decades.

The world is changing fast and our response to those changes needs to be faster, bigger, bolder.

Building on strong foundations

Umicore's **2030 RISE Strategy,** unveiled in June 2022, is our new strategic plan designed to accelerate value creative growth and help us achieve ongoing success through to 2030 and beyond.

Umicore successfully delivered on its Horizon 2020 Strategy goals, achieving its financial target to double its earnings two years in advance, and emerged with a very clear and sharp focus on clean mobility materials and recycling. We turned sustainability into a greater competitive advantage. We rebalanced our portfolio of activities and we doubled the size of our business.

Now we are ready to RISE to meet the new challenges.

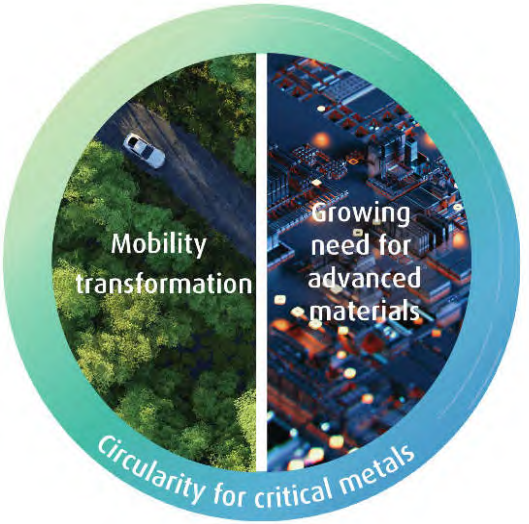
This new strategy builds on Umicore's **proven ability to embrace megatrends as our business drivers** as well as our strong market positions, technological leadership and organizational excellence. These strong foundations will enable us to accelerate sustainable and profitable growth, while being a net beneficiary of the changing world, particularly of the rapidly accelerating mobility transformation.

In line with the Company's **vision for sustainable growth**, the 2030 RISE Strategy strengthens Umicore's clear purpose to produce Materials for a better life through businesses that help shape a healthy planet and society, while delivering sustainable value to our stakeholders.

At the core of our strategy is a unique value proposition to be a **reliable transformation partner** for our customers, supporting them on their own sustainability journey.

Driven by megatrends

Umicore's 2030 RISE Strategy is driven by the powerful megatrends facing our industry, particularly **mobility transformation** with the rapid acceleration towards cleaner transport. This transition alone has the potential to triple Umicore's addressable mobility market by 2030. Such acceleration comes with stringent emissions legislation and an exponential growth in electric transportation. **Automotive Catalysts** provides customers with the technology that enables historically low emissions of harmful substances for the next generation of combustion engines. As the pace at which car producers transition to electromobility increases, so will the growth of **Rechargeable Battery Materials**. Whilst **Fuel Cells** used in hydrogen-based mobility will similarly play a greater role in the move to decarbonize mobility.



As the world continues to look for faster, more scalable, more efficient and more sustainable solutions to tackle the challenges of society, the **demand for high-tech advanced materials** for various industries and applications (e.g. electronics, aerospace, food sector, pharmaceuticals, etc) is increasing. Umicore's businesses continue to meet this demand in a sustainable way, most notably Cobalt & Specialty Materials, Electro-Optic Materials, Metal Deposition Solutions, Precious Metals Chemistry, Jewelry & Industrial Metals and Precious Metals Management. These businesses have a strong technology leadership position in their field. (See more on our industries page here).

This increasing requirement for advanced materials will also push our economies to become more circular. Across all our markets, **circularity of vital metals** through **recycling** will be a major source of materials for our clients. This trend, whilst most visible in both Precious Metals Refining and Battery Recycling Solutions, is embedded in all our activities. For more information about all our activities see Operations.

After careful and well-thought preparation to get Umicore ready and in ideal shape, we are now able to capture this tremendous growth opportunity and scale up our winning strategy. We have anticipated these megatrends, prepared for them and now we are ready with our new strategic roadmap for the journey that lies ahead.

Scaling up our winning strategy: RISE-ing up together

Umicore is ready to embark on the next chapter as the *circular* materials technology company as we're building on excellent foundations supported by powerful megatrends, the right portfolio and our purpose-driven and talented teams.

What makes Umicore exceptionally well positioned to benefit from this shift? All **our activities are mutually reinforcing**. There are clear commercial synergies in our portfolio, such as shared know-how in metal science, chemistry and metallurgy, as well as strong synergies in circularity and customer intimacy covering the full spectrum of clean mobility solutions for our automotive customers.

We also take advantage of strong operational synergies, such as digital initiatives and the Let's Go for Zero ESG ambitions at Group level. Strong internal free cash flow generation in Automotive Catalysts and Precious Metals Refining also allows us to re-invest in our growth businesses (Rechargeable Battery Materials, Battery Recycling Solutions and Fuel Cell & Stationary Catalysts).

All the pieces of the puzzle are in place for us to scale up. But to leverage this position we must work as one team across Umicore aligning around our shared direction; harnessing speed; and drawing on our diverse talents to meet the demands of the megatrends impacting our business on a global scale.

Our new **2030 RISE Strategy** is our roadmap for this journey ahead. Implementation of our strategy has already begun. Scaling up our winning strategy and business will be based on the four strong pillars of RISE:

R Reliable Transformation Partner **I** Innovation & Technology Leader **S** Sustainability Champion **E** Excellence in execution

- Reliable transformation partner
- Innovation & technology leader
- Sustainability champion
- Excellence in execution

With these four distinct RISE pillars we will grow like a start-up company, while continuing to add value as the long-established company we already are. This is a unique combination.

Our success in this new journey depends on every member of staff and every business unit RISE-ing together and rising with our stakeholders globally.

Reliable transformation partner

Reliability is our trademark

We listen to our customers, build a relationship of trust, while providing cutting-edge technologies that transform them into more sustainable and circular businesses.

R

Reliable
Transformation
Partner

Reliability has always been our trademark. In today's fast-paced changing world reliability is more important than ever. Reliability is a key differentiator for our partners when choosing who they want to rely on for the upcoming mobility transformation and to face today's societal and business challenges.

Being a **reliable transformation partner** means more than simply supplying technology. It means building and maintaining long-term relationships with our customers; listening to them; focusing on solving their issues; and supporting them in becoming sustainable and circular companies.

Our business model has always been a partnership model with each of our 11 Business Units playing a vital role in creating value for our customers throughout the supply chain.

We strongly believe that this is our way to an even more successful future. Umicore is the only company that can provide car manufacturers with key technologies for all drivetrains - **battery electric vehicles** (EV), **fuel cell electric vehicles** (FCEV) and **internal combustion engines** (ICE) - and offer **closed-loop recycling services** to recover the metals at the end of their lifespan.

Umicore operates one of the world's most sophisticated **precious metals recycling** facilities and we can recover 28 precious and non-ferrous metals from feed including industrial residues, electronic scrap, li-ion batteries, automotive and industrial catalysts and fuel cells. Recovered materials are transformed into pure metals or new products.

The **Automotive Catalysts business unit** provides catalytic solutions for clean mobility until the internal combustion engine fades out. With the knowledge of, and strategic relations with, the automotive industry, Automotive Catalysts is one of the rocket boosters of the Umicore Group. **Recycling** is another booster and will become even more important as the industry transitions to a more circular business model.

For our automotive customers, being a reliable transformation partner means continuing to excel in innovation, ESG and operations. Umicore is still an ESG frontrunner when it comes to our ambitious CO_2 commitments and production of sustainable materials.

Innovation & technology leader

Innovation is a no-brainer!

Umicore is already an Innovation and technology leader today, pioneering in chemistry, material science and metallurgy. Our future success relies on this innovation and technological edge.

Innovation
& Technology
Leader

Innovation and technology are deeply rooted within Umicore and are at the heart of everything we do. We have a long tradition and a strong portfolio of innovations, of intellectual property, and of producing cutting-edge technologies throughout the Group.

Umicore is already a technology leader delivering value through state-of-the art material science, metallurgy and metal chemistry. And we are working hard to maintain our leading position. Whether we are developing the next generation catalysts; the best-in-class battery materials technologies for our automotive customers, creating the most efficient battery recycling technologies or finding novel ways to reduce carbon emissions and capture green-house gas emissions (GHG), we must stay on top.

To reach our ambitious goals under the new 2030 RISE Strategy, innovation and technology across the Group will continue to be vital. Between 2010 and 2022, Group R&D has doubled demonstrating the strategic importance of innovation in our business.

> **"Group R&D doubled between 2010 and 2022, demonstrating its strategic importance"**

At Umicore, we know that no one-size-fits-all. That's why in **Rechargeable Battery Materials** we invest in developing customized battery materials technologies for our customers covering both "design-to-performance" with high-nickel and "design-to-cost" applications with mid-nickel high voltage, as well as emerging manganese-rich technologies. And of course, we are also ahead of the game in working on advanced technologies such as cathode materials and catholytes for solid-state batteries.

In **Precious Metals Refining**, further innovation will be essential to reduce our carbon footprint and our overall environmental impact but also to improve our cost structure through automation and digitalization. Our combined pyro and hydro expertise in metals refining is unrivalled. In **Battery Recycling,** finetuning our pyro hydro processes to recover metals efficiently at the lowest cost while meeting the highest sustainability standards will remain a key differentiator. In our other businesses, our catalyst gauzes used for fertilizer production reduce GHGs, the connectors we use to recharge our phones or cars are subject to innovation in our **Metal Deposition Solutions** activities; while the magic of seeing in the dark is created with our infrared vision lenses in **Electro-Optic Materials** and innovative solutions will be needed to meet our customers' demand for their metals to be traceable.

So, innovation and technology will remain the trademark of Umicore.

Sustainability champion

Sustainability is in our DNA

Our mission is to be an industry leader in sustainability; it is not only about minimizing the impact of our operations on the climate and our planet, but also about maximizing our positive impact through our products and services.

S

Sustainability
Champion

Sustainability has always been at the heart of Umicore's vision. A vision that over the years has hard-coded sustainability into our DNA: **materials for a better life**. It defines our purpose and is an integral part of everything we do. Sustainability is a common goal for all Umicore colleagues and the thread that binds us together.

Our approach is anchored in our unique business model with circularity at its heart and is coupled with our commitment to leveraging our expertise and resources to develop safe, sustainable and innovative solutions that enhance the quality of life for people and the planet.

At Umicore, we have long recognized the need to transition towards a more sustainable future. We strive to maximize the positive impact on society, through our operations, in our value chain and with our products and services.

Our **"Let's Go for Zero"** ESG ambitions, launched in 2021, and the three pillars (**Net Zero GHGs**, **Zero Harm**, and **Zero Inequality**) are fully embedded in the 2030 RISE Strategy and remain a vital step in becoming a Sustainability Champion.

Net zero Scope 1 & 2 GHG emissions by 2035

Umicore supports the goals of the Paris Agreement and continues to act decisively on the path towards its ambitious objectives and timeline of reaching net-zero Scope 1+2 GHG emissions by 2035, with intermediate milestones of a 20% reduction by 2025 and a 50% reduction by 2030 (vs. 2019 baseline).

The roadmap to decarbonizing our operations by 2035 stipulates three types of actions: avoid emissions; replace sources that cause emissions; and finally capture emissions that we can't design out. While we investigate innovation potential for long-term decarbonization, increasing energy efficiency and the share of electricity from renewable sources are the priority to reach our short and medium-term goals. As a result, we aim to reach 100% of our electricity from renewables in Europe, and 60% globally, by 2025 (vs. 2019 baseline).

Umicore also announced in 2022 its ambitious Scope 3 target to reduce the carbon intensity of purchased materials by 42% by 2030 (vs. 2019 baseline). The roadmap to managing the carbon intensity of our purchased materials includes leveraging our internal closed loop model; increasing the internal reuse of recycled metals; seizing further opportunities to increase the already high volume of secondary materials in our input mix; increasing sourcing from decarbonizing and low-carbon suppliers; moving further into the upstream refining; and continuing to maximize process efficiency.

In November 2022, the **Science Based Target initiative (SBTi)** validated Umicore's intermediate GHG reduction targets for 2030 as science-based and aligned with the United Nations' Paris Agreement to limit the global temperature rise to 1.5°C or well below 2°C this century.

Zero harm

The **wellbeing and safety** of our people is the focus of the Zero Harm ambition. Establishing and promoting a global caring safety culture is the most meaningful way to ensure health and safety for all our employees worldwide. Efforts to eliminate occupational-related health risks are being pursued, with the goal of leading the industry by setting voluntary, science-based targets for potentially hazardous exposure to metals.

Our Zero Harm ambition is also linked to our continued commitment to **sustainably and ethically sourced raw materials**. Beyond our long-standing approach to protecting Human Rights in our **supply chain**, most notably for ethical cobalt sourcing, and in light of the accelerating transition to electromobility, it is crucial to secure reliable supply of raw materials that is also environmentally and socially responsible. Umicore will further build on its long track record and due diligence in the sourcing of critical raw materials.

Minimizing environmental impact is also an important part of our Zero Harm ambition. We are committed to minimizing impact beyond our carbon footprint and to seeking opportunities to maximize the positive impact of our operations on water, air, biodiversity, waste and energy. In addition to continuous improvement on these

dimensions of environmental performance, Umicore is committed to reducing diffuse metal emissions by 25% by 2025 (vs. 2020 baseline).

Zero inequality

We recognize the importance of **equity** in ensuring that every individual is supported according to their unique needs and circumstances. This includes providing additional support to underrepresented groups within Umicore, who may face specific challenges and require tailored resources to achieve equality with their peers.

We aim to further promote diversity and inclusion by seeking broader cultural representation and gender parity in management, with an intermediate milestone of at least 35% women in management by 2030. We firmly believe that diversity of thought leads to more innovation, and at Umicore, that ultimately benefits our business and sustainability strategy.

Zero inequality also means ensuring equal pay.

Best in class governance

Governance is the backbone of our strategy. It defines, guides and supports the important work of managing risks and delivering our commitments to inclusion, wellbeing, ethics, climate and environmental action, and positive impact. We are committed to **best-in-class governance** and as a result we continue to strengthen our ESG organization to steer and support progress towards our ambitions.

Transparency and disclosure are integral parts of good governance. For Umicore, that means full transparency on both our contributions and impacts on sustainability, and on how we manage opportunities and stay resilient in the future.

Umicore is committed to continuous improvement in both the scope and granularity of our annual integrated reporting, for which we receive third-party independent assurance for both financial and non-financial data. Our disclosure is designed to provide additional visibility and clarity on the impact and value Umicore contributes to society, on ESG risks and resilience management and on our contributions to the Sustainable Development Goals.

Umicore is built on profitable and sustainable growth and is a key player in the transition to a low carbon economy. As such, our best-in class governance approach also means that we will favor sustainable funding instruments as part of our 2030 RISE strategy to accelerate value creative growth.

At Umicore, we recognize the urgent need to transition towards a more sustainable future. Umicore's commitment to supporting that transition is long-standing and continues through 2030 RISE. We know that embedding sustainability in our business strategy is essential to business and societal resilience today, and in the future.

Excellence in execution

Operational excellence, digitalization and continuous learning will keep us ahead

With the speed at which our world is changing and the scaling up of our business, performance is key and the Umicore teams play a key role. At Umicore, we strive for excellence in everything we do.

E

Excellence
in execution

With the future scale of our organization, the pace of change in our industry, the stronger connection with our customers and the financial requirements of our strategic plans, we need to excel at everything we do.

Transformation to a faster, bigger, bolder Umicore hinges on our continued operational excellence. Our customers trust us because we deliver on our promises. To meet our growth trajectory, we will need to ramp up our operations while ensuring that we continue to excel in meeting their demands. Throughout the Group, we continuously ask: What more can we do to fulfil the needs of our customers even better? How can we do that more efficiently? Can we further optimize our processes? Can we further simplify logistics? How can we help them improve their sustainability performance?

Excellence in execution whether in operations, upscaling, modular plant design, continuous de-bottlenecking and value creation or transformation of the organization to cope with huge growth requirements will be key to fulfilling our growth trajectory.

With this future scale up of our organization and the pace at which the world around us is changing, speed is of the essence. That's where digitalization goes hand in hand with operational excellence and is vital for us to succeed. Digitalization is ongoing throughout many areas of our company, including optimizing production processes, monitoring energy consumption, tracking emissions, safety and training, product sampling, to name a few.

We are convinced that these four pillars are the key drivers to achieve our ambitions across all parts of Umicore. Aligning around these pillars will encourage and enable us all to work together, share our knowledge and leverage our collective strengths.

With this new 2030 RISE Strategy we will be **faster, bigger, bolder.**

Performance

How we create value

INPUT

Financial
- Free cashflow from operations **€ 835m**
- Market Cap **€ 8bn** (at 2022 FYR results announcement 16/02/2023 closing)
- Net debt / LTM adj. EBITDA **0.96**

Operations
- Global footprint close to our customers
- Production sites **44**
- Sales, marketing & other sites **34**
- CAPEX **€ 470m**

Innovation
- **Innovation** at the heart of our **sustainable products & services**
- R&D **€ 316m**
- R&D sites **15**

Environment
- Input mix **55%** secondary materials
- Energy **7,300 TJ** of which **35%** from renewable electricity
- Water withdrawn **9,616** megaliters

Employees
- Group employees **11,565** of which, **23.5%** women
- Nationalities **80**

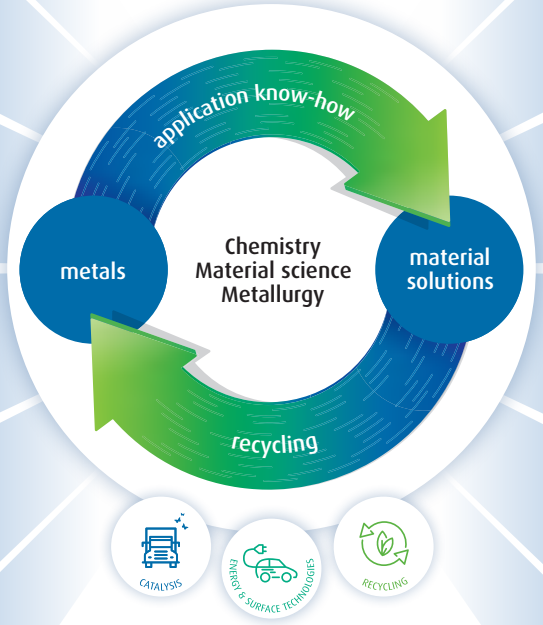
Society
- **€ 24.5bn** paid to **19,663** suppliers in **87** countries
- **12,635** Customers in **99** countries
- Platinum ecovadis sustainability rating **Top 1%**

BUSINESS MODEL

We are a global materials technology & recycling group...

...With a closed loop business model delivering

materials for a better life



OUTPUT

Financial
- Revenues **€ 4.2bn**
- **78%** revenues from clean mobility & recycling
- Adjusted EBITDA **€ 1,151m**

Operations
- ROCE **19.2%**
- Closing the metals loop **28** metals recovered across all recycling activities
- Nysa site Carbon neutral as of start of production with **100%** green power supply

Innovation
- High performance fuel cells
- Technologies enabling industry leading purity, consistency & quality of cathode materials
- New patent families registered **72**

Environment
- Scope 1 Ghg emissions **347,156 t** CO_2e
- Scope 2 Ghg emissions **338,554 t** market-based CO_2e
- Diffuse metal emissions **-45%** vs 2020

Employees
- Retention rate **93%**
- Metal exposure ratio **1.1%** (all biomarkers aggregated)
- Lost time accidents **96**

Society
- Certified ethical origin of our rechargeable battery materials, LBMA certifications, RMI conformant refiners & RJC certification
- Taxes paid **€ 246m**
- **49m t** avoided GHG from our e-mobility products & recycling services (2018 through 2022)

IMPACT ON SDGS

Key performance figures

(in million € unless stated otherwise)	2018	2019	2020	2021	2022
Economic performance					
Revenues (excluding metal)[1]	3,271	3,361	3,239	3,791	4,155
Adjusted EBIT	514	509	536	971	865
Return on Capital Employed (ROCE) (in %)	15.4	12.6	12.1	22.2	19.2
R&D expenditure	196	211	223	245	316
Capital expenditure	478	553	403	389	470
Adjusted EPS (in €/share)	1.36	1.30	1.34	2.77	2.47
Gross dividend (in €/share)	0.75	0.375	0.75	0.80	0.80
Social and environmental performance					
Revenues from clean mobility and recycling (in%)	72	75	79	79	78
Total donations, including staff freed time (in thousands of euro)	1,432	1,614	1517.21	1623.99	2,005.75
CO_2e emissions (scope1)	417,140	389,101	330,619	372,699	346,439
CO_2e emissions (scope2) - Market based (in tonne)	350,562	402,795	401,926	473,738	338,554
CO_2e emissions (scope2) - Location based (in tonne)	368,649	426,074	417,346	418,989	361,251
Energy consumption (in terajoules)	7,458	7,476	7,591	8,308	7,300
Workforce (fully consolidated companies)	10,420	11,152	10,859	11,050	11,565
Lost Time Accidents (LTA)	61	90	49	73	96
LTA frequency rate	3.36	4.60	2.50	3.7	4.87
LTA severity rate	0.10	0.20	0.47	0.12	0.16
Exposure ratio 'all biomarkers aggregated' (in %)	2.8	1.8	2.0	1.5	1.1
Average number of training hours per employee	43.10	48.73	36.33	41.59	46.60
Voluntary leavers ratio	7.18	5.99	4.20	5.82	6.53

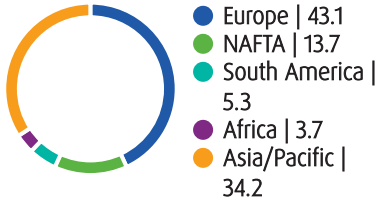
1 Revenues of 2021 and 2022 have been restated to exclude the pass-through value of the purchased lithium and manganese

Financial


7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

GROUP REVENUES BY GEOGRAPHY (EXCLUDING METALS)

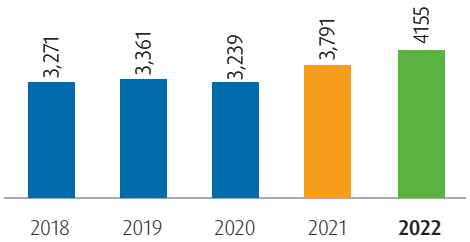
%



Revenues by geography (excluding metals)

GROUP REVENUES (EXCLUDING METAL)

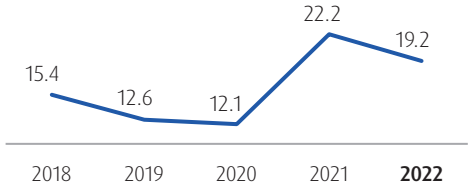
Millions of Euros



1 Revenues of 2021 and 2022 have been restated to exclude the pass-through value of the purchased lithium and manganese

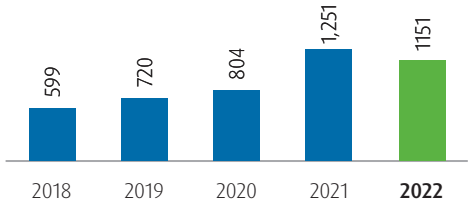
GROUP RETURN ON CAPITAL EMPLOYED (ROCE)

%

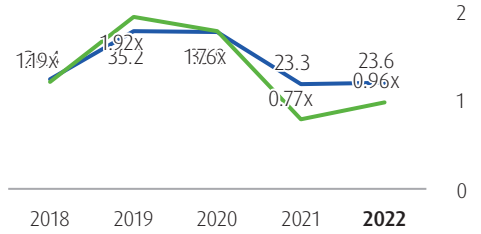


GROUP ADJUSTED EBITDA

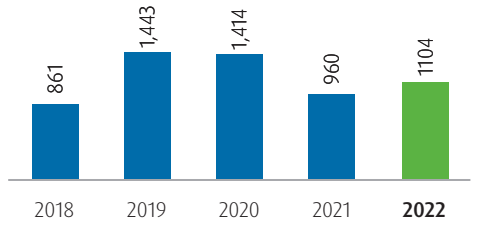
Millions of Euros



GEARING RATIO AND NET DEBT / LTM ADJUSTED EBITDA



GROUP NET DEBT



Resilient business performance in a volatile market

Umicore posted a strong performance in 2022 in a context of severe market disruptions, cost inflation and a volatile precious metal price environment. Group revenues[1] for the full year amounted to € 4.2 billion, up 10% compared with the previous year, driven by a strong operational performance, higher volumes and prices. Adjusted EBITDA amounted to € 1,151 million, a decrease of 8% compared with the record level achieved in 2021, reflecting increased spending for innovation and growth preparation, cost inflation[2] and less favorable precious metal price levels[3]. Operational free cash flow remained strong at € 344 million, despite higher working capital requirements mainly driven by a record level lithium price, as well as higher capital expenditures. Net financial debt slightly increased to € 1.1 billion, resulting in a leverage ratio of 0.96x LTM adjusted EBITDA.

Revenues and earnings in **Catalysis** reached record levels. Automotive Catalysts outperformed the global car market, driven by a favorable platform and customer mix in light-duty applications as well as market share gains. Operational excellence and the ability to pass-through cost inflation resulted in record adjusted EBITDA of € 419 million.

Revenues and earnings in **Energy & Surface Technologies** increased substantially, achieving adjusted EBITDA of € 290 million. Cobalt & Specialty Materials benefited from an exceptionally strong demand and a supportive cobalt and nickel price environment in the first half of the year, before an expected normalization in the second half. The increased performance of Rechargeable Battery Materials included a favorable exposure to the increase of the lithium price. As anticipated and previously announced, sales volumes of cathode active materials remained subdued

Recycling delivered another excellent operational performance with revenues in line with the level achieved in 2021. The Precious Metals Refining Business Unit benefited from solid volumes and an overall supportive supply environment. A slightly lower contribution of the trading activity in Precious Metals Management was offset by higher revenues in the Jewelry & Industrial Metals Business Unit. Adjusted EBITDA amounted to € 532 million, below the level of 2021 due to cost inflation and less favorable precious metal price levels compared to 2021.

> **"The year 2022 marks a successful start for our "2030 RISE" strategy, which is designed to accelerate value creative growth. We have delivered a strong business performance in a context of significant macroeconomic headwinds and have already demonstrated very tangible progress against key strategic and financial objectives. I am tremendously proud of the Umicore team that has made this performance possible and I remain very confident that we are best positioned to capture the significant growth opportunities provided by the accelerating mobility transformation."**
>
> Mathias Miedreich, CEO of Umicore

The year 2022 also marks the introduction of Umicore's 2030 RISE Strategy, designed to deliver significant, value creative growth. The **Rechargeable Battery Materials** Business Unit made significant progress by closing multiple long-term value creative customer contracts and supplier partnerships, as well as by achieving major milestones in executing its value chain presence in Europe and North America. The **Catalysis** and **Recycling** Business Groups again demonstrated their resilience, operational excellence and ability to generate strong free cash flows in a very challenging market context. These achievements reconfirm the ability of Umicore to balance growth, returns and cash flows over the time-frame of its 2030 RISE Strategy and are proof points of its execution. The Group also diversified and extended its funding base at attractive conditions with newly issued sustainability linked debt instruments for a total amount of € 1,091 million. In addition, the Science Based Target initiative (SBTi) has validated Umicore's intermediate greenhouse gas reduction targets for 2030, an important milestone in its Let's Go for Zero ambitions to achieve Net-Zero greenhouse gases by 2035, an integral part of the 2030 RISE growth strategy.

Adapted revenue definition for Energy & Surface Technologies to enhance comparability

As lithium and manganese are increasingly valuable and volatile components in rechargeable battery materials, it was decided to no longer treat them as consumables but as hedged metals in order to make the accounting approach consistent with the revenue[4] performance indicator used in Umicore's other business units. This will allow neutralizing distortions in revenues resulting from the volatility in the value of the purchased metals and enhance comparability of the underlying performance of the Rechargeable Battery Material business unit. Henceforth the pass-through value of the purchased lithium and manganese will therefore be excluded from the revenue calculation, as is currently already the case for cobalt and nickel. The Energy & Surface Technologies 2021 and 2022 revenues have been restated accordingly.

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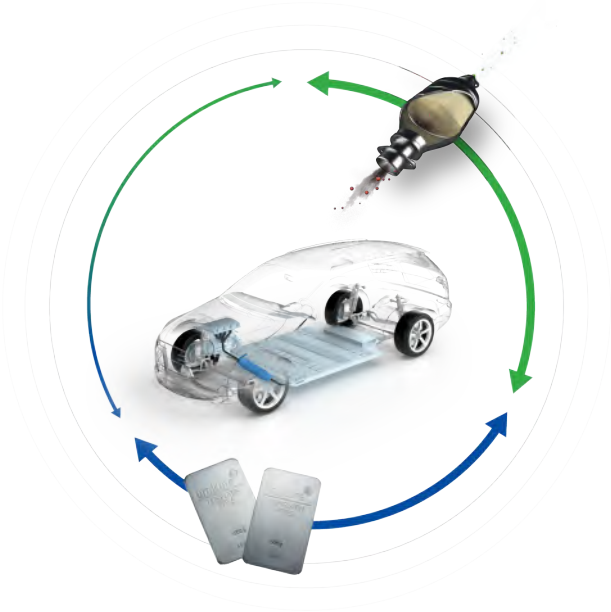
1 All references to revenues in this document refer to revenues excluding metals (i.e. all revenue elements less the value of the following purchased metals: Au, Ag, Pt, Pd, Rh, Co, Ni, Pb, Cu, Ge, Li, Mn).
2 The cost inflation headwind amounted to € 184 million over 2022.
3 In 2022, the impact from precious metal prices was € 70 million below the 2021 levels.
4 See the glossary (see "about this report") for the revenue definition.

Group key figures

	Annex	2018	2019	2020	2021	2022
Total turnover		13,717	17,485	20,710	24,054	**25,436**
Total revenues (excluding metal)[1]		3,271	3,361	3,239	3,791	**4,155**
Adjusted EBITDA	F9	720	753	804	1,251	**1,151**
Adjusted EBIT	F9	514	509	536	971	**865**
of which associates	F9	5	11	8	21	**16**
EBIT adjustments	F9	(14)	(30)	(237)	(75)	**(32)**
Total EBIT	F9	500	479	299	896	**832**
Adjusted EBIT margin (in %)[1]		15.5	14.8	16.3	25.1	**20**
Return on Capital Employed (ROCE) (in %)	F31	15.4	12.6	12.1	22.2	**19.2**
Effective adjusted tax rate (in %)	F9	24.4	24.7	24.2	23.1	**20**
Adjusted net profit, Group share	F9	326	312	322	667	**593**
Net profit, Group share	F9	317	288	131	619	**570**
R&D expenditure	F9	196	211	223	245	**316**
Capital expenditure	F34	478	553	403	389	**470**
Net Cash flow before financing	F34	(604)	(271)	99	787	**153**
Total assets, end of period		6,053	7,023	8,341	9,045	**9,942**
Group shareholders' equity, end of period		2,609	2,593	2,557	3,113	**3,516**
Consolidated net financial debt, end of period	F24	861	1,443	1,414	960	**1,104**
Gearing ratio, end of period	F24	24.4	35.2	35.0	23.3	**23.60**
Net debt / LTM adjusted EBITDA		1.19x	1.92x	1.76x	0.77x	**0,96x**
Capital employed, end of period	F31	3,802	4,442	4,457	4,377	**4,716**
Capital employed, average	F31	3,344	4,048	4,451	4,384	**4,511**

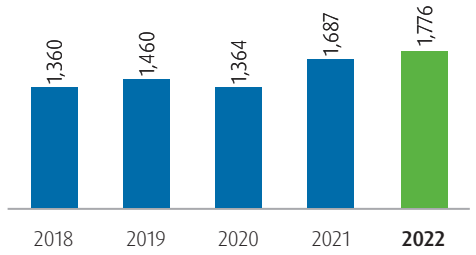
1 Revenues of 2021 and 2022 have been restated to exclude the pass-through value of the purchased lithium and manganese

Catalysis



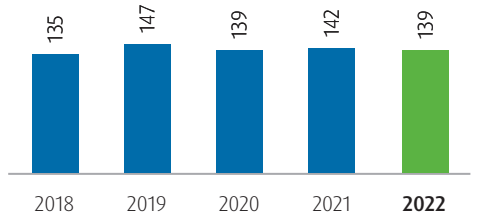
CATALYSIS REVENUES (EXCLUDING METAL)

Millions of Euros



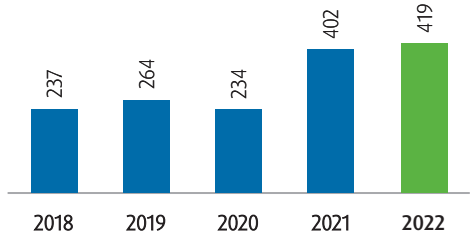
CATALYSIS R&D EXPENDITURE

Millions of Euros



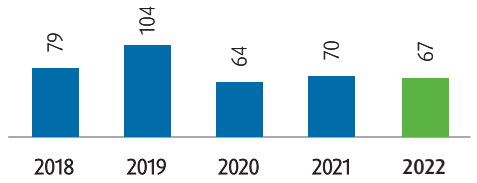
CATALYSIS ADJUSTED EBITDA

Millions of Euros



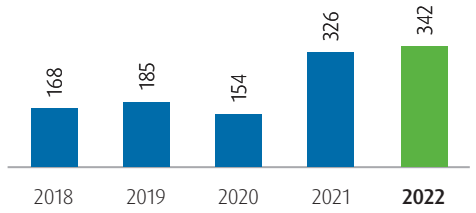
CATALYSIS CAPITAL EXPENDITURE

Millions of Euros



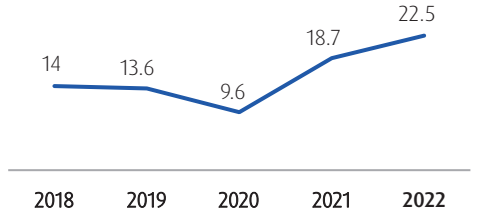
CATALYSIS ADJUSTED EBIT

Millions of Euros



CATALYSIS RETURN ON CAPITAL EMPLOYED (ROCE)

%



Overview 2022 performance

The Catalysis business group set another all-time record performance in 2022, with both revenues and earnings exceeding the previous record result achieved in 2021.

Revenues reached € 1,776 million and adjusted EBITDA amounted to € 419 million, representing respective increases of 5% and 4% compared to the previous year.

This exceptional performance was primarily led by Automotive Catalysts which significantly outperformed, both in volumes and revenues, a subdued global car market. This was driven by a favorable platform and customer mix in light-duty gasoline applications as well as by further market share gains in gasoline catalyst technologies in China.

The Business Group also benefited from higher revenues in Precious Metals Chemistry while revenues in Fuel Cells & Stationary Catalysts remained in line with the previous year, impacted by COVID-19 lockdowns in China in the first half of the year. The higher revenues, combined with a favorable product mix, operational optimizations in Automotive Catalysts and a pass-through of cost inflation into pricing, resulted in margins well above historical levels. Adjusted EBIT amounted to € 342 million, representing an increase of 5% year on year.

2022 Business Review

The year 2022 proved to be another difficult year for the automotive industry, which was affected by severe supply constraints. Continued global logistic disruptions and shortages of semi-conductors, together with a resurgence of the COVID-19 pandemic in China in the first half of 2022, forced car manufacturers to reduce production despite strong global demand. As a result, global light-duty production for the full year 2022 remained broadly in line with the level of 2021 (+1.5%). This is however still well below the pre-pandemic level of 2019. Lower year on year car production in China and Europe was offset by strong growth in other regions, in particular in the second half of the year.

Despite this challenging backdrop, **Automotive Catalysts** delivered another set of record results, growing both revenues and earnings year on year. The business unit outperformed the global light-duty vehicle market both in volumes and revenues (+11% year on year) driven by a favorable platform and customer mix in China, North and South America, and India as well as further market share gains in gasoline catalyst applications in the Chinese market. This more than offset a decrease in revenues from the heavy-duty diesel segment, caused by a steep year on year decline in Chinese heavy-duty diesel production. Earnings were further supported by the product mix - with a higher portion of light-duty vehicles - and a favorable PGM price environment, and increased year on year despite cost inflation headwinds.

The **light-duty vehicle segment** represented 86% of Automotive Catalysts' revenues in 2022, of which 79% corresponds to gasoline technologies.

The Chinese ICE market, which represented 29% of Umicore's global light-duty catalyst volumes, declined 4.9% compared to the previous year. After a first half affected by a resurgence of the COVID-19 pandemic in major Chinese provinces, which resulted in temporary production suspensions in car manufacturer plants in March and April, car production rebounded strongly in the second half of 2022. Umicore substantially outperformed the Chinese market, both in volumes and revenues (+13.3%), benefitting from its strong customer mix and further market share gains with local car manufacturers.

The European ICE market, which represented 25% of Umicore's global light-duty catalyst volumes, decreased with 4.4% year on year, reflecting supply disruptions related to semiconductors and wiring harnesses, in particular in the first half of the year. Umicore's volumes and revenues (-4.7%) developed in line with the market.

The North and South American ICE markets, which represent 27% of Umicore's global light-duty catalyst volumes, increased compared to the previous year (+8%) reflecting robust consumer demand. Umicore substantially outperformed the car market in this region, both in terms of volumes and revenues (+30%), driven by a favorable customer and platform mix.

Umicore's revenues (+14.3%) and volumes were well above the Asia Pacific ICE market, which grew +3.7% year on year. This was primarily driven by a favorable customer and platform mix in India, which allowed Umicore to outpace a steeply growing Indian market.

The **heavy-duty diesel segment** represented 14% of the business unit's revenues in 2022.

The Chinese heavy-duty diesel market, accounting for 49% of Umicore's global heavy-duty diesel volumes, contracted substantially in 2022 (-33%) reflecting continued supply chain disruptions which were further exacerbated by COVID-19 related production suspensions in the second quarter and compared to a year 2021 that was boosted by strong demand for China V technologies ahead of the nationwide implementation of China VI. Umicore's heavy-duty diesel volumes and revenues were down in this overall bearish market.

In Europe, Umicore's volumes and revenues substantially outperformed the heavy-duty diesel market, which increased 4.8% compared to 2021, reflecting a favorable customer and platform mix.

Revenues for **Precious Metals Chemistry** increased compared to the previous year. Volumes of inorganic chemicals benefited from strong demand from the automotive industry. Revenues from homogenous

catalysts were slightly below the record level of the previous year, with higher sales volumes of homogenous catalysts used in bulk applications offset by lower revenues from the life science applications segment. The performance of the business unit was also supported by a favorable PGM price environment.

Revenues for **Fuel Cells & Stationary Catalysts** remained in line with the previous year. Revenues from proton-exchange-membrane (PEM) fuel cell catalysts used in the transportation segment declined, affected by the COVID-19 related lockdowns in China in the first half of the year. Over the course of the year, Umicore entered into additional collaboration agreements with leading OEMs in China, thereby successfully extending its customer portfolio in the region.

Based on the growing number of customer contracts and ongoing qualifications, Umicore announced an expansion of its PEM-fuel cell catalyst mass-production capabilities with a greenfield plant in Changshu, China, which is set to start production mid-2025. This plant, which will be the world's largest fuel cell catalyst plant by that time, will be scalable to align with the future growth of the business unit's customer portfolio.

The lower revenues from the fuel cell activity were offset by higher revenues from stationary catalysts which benefited, after a more difficult year 2021 impacted by COVID-19 related project postponements, from a recovery in demand from the chemical, refining and manufacturing end-markets. Earnings for the business unit decreased, reflecting cost inflation as well as costs related to the construction of the plant in Changshu.

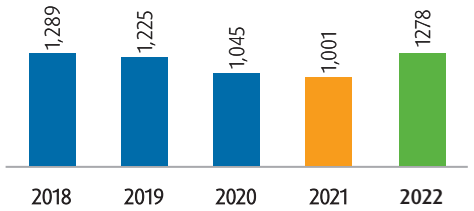
Catalysis key figures

	2018	2019	2020	2021	2022
Total turnover	3,311	4,539	5,917	8,155	**7,738**
Total revenues (excluding metal)	1,360	1,460	1,364	1,687	**1,776**
Adjusted EBITDA	237	264	234	402	**419**
Adjusted EBIT	168	185	154	326	**342**
of which associates	0	0	0	0	**0**
Total EBIT	162	185	96	308	**331**
Adjusted EBIT margin (in %)	12.4	12.7	11.3	19.3	**19.2**
R&D expenditure	135	147	139	142	**139**
Capital expenditure	79	104	64	70	**67**
Capital employed, end of period	1,265	1,537	1,727	1,551	**1,564**
Capital employed, average	1,200	1,358	1,596	1,743	**1,522**
Return on Capital Employed (ROCE) (in %)	14	13.6	9.6	18.7	**22.5**
Workforce, end of period (fully consolidated)	3,070	3,190	3,073	3,007	**3,080**
Workforce, end of period (associates)	-	-	-	-	

Energy & Surface Technologies

E&ST REVENUES (EXCLUDING METAL)

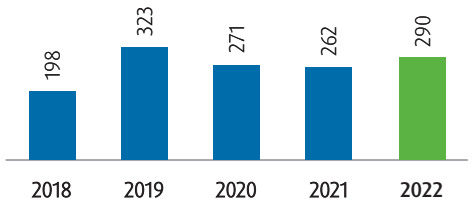
Millions of Euros



1 Revenues of 2021 and 2022 have been restated to exclude the pass-through value of the purchased lithium and manganese

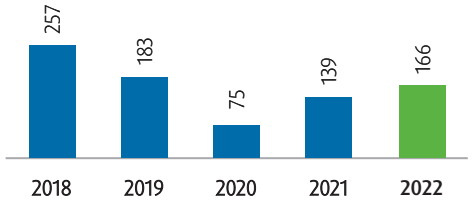
E&ST ADJUSTED EBITDA

Millions of Euros



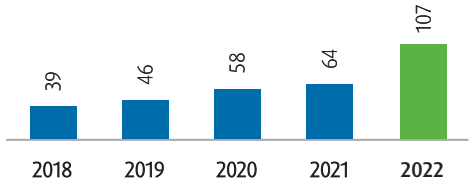
E&ST ADJUSTED EBIT

Millions of Euros



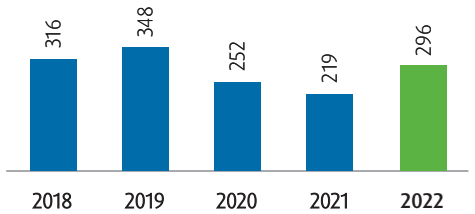
E&ST R&D EXPENDITURE

Millions of Euros



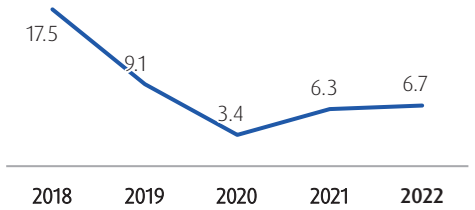
E&ST CAPITAL EXPENDITURE

Millions of Euros



E&ST RETURN ON CAPITAL EMPLOYED (ROCE)

%



Adapted revenue definition for Energy & Surface Technologies to enhance comparability

As lithium and manganese are increasingly valuable and volatile components in rechargeable battery materials, it was decided to no longer treat them as consumables but as hedged metals in order to make the accounting approach consistent with the revenue performance indicator used in Umicore's other business units. This will allow to neutralize distortions in revenues resulting from the volatility in the value of the purchased metals and enhance comparability of the underlying performance of the Rechargeable Battery Material business unit. Henceforth the pass-through value of the purchased lithium and manganese will therefore be excluded from the revenue calculation, as is currently already the case for cobalt and nickel. The Energy & Surface Technologies 2021 and 2022 revenues have been restated accordingly.

Overview 2022 performance

In 2022, revenues[1] in Energy & Surface Technologies amounted to € 1,278 million and adjusted EBITDA to € 290 million, up respectively 28% and 11% compared with the previous year, driven by higher revenues and earnings in Rechargeable Battery Materials and Cobalt & Specialty Materials.

The Cobalt & Specialty Materials Business Unit benefitted from exceptionally strong demand and a supportive price environment in the cobalt and nickel chemicals and related distribution activities in the first half of the year, before an expected normalization of demand patterns in the second half. As anticipated and previously announced, sales volumes of cathode active materials in Rechargeable Battery Materials remained subdued. Revenues of the Business Unit, however, were well up compared to the previous year, reflecting a favorable transactional exposure to the lithium price in 2022.

As mentioned, this sensitivity of revenues and earnings to the price of lithium will decrease throughout 2023 and be minimized from 2024 through forward contracts and hedging mechanisms. Adjusted EBIT of the business group amounted to € 166 million, up 20% year on year, including the increase in D&A following the production start of the plant in Nysa as of mid-2022.

2022 Business Review

Revenues in **Rechargeable Battery Materials** were well above the levels of the previous year, including a favorable transactional lithium price impact resulting from the time lapse between the conversion of purchased raw materials into cathode materials and the sale of these materials to customers.

Despite a challenging context for the automotive industry, global sales of electric vehicles increased +56% compared to the previous year, driven by a strong demand in China and Europe. An important milestone was reached in 2022, with sales of full electric vehicles for the first time accounting for 10% of all new vehicles sales worldwide, demonstrating the rapid ascent of this new drivetrain technology and the speed of transformation that the automotive industry is going through.

Sales of electric vehicles in Europe were well up (+15%) year on year with demand for battery materials growing +22%. Sales volumes of Umicore's NMC (nickel, manganese, cobalt) cathode materials grew in line with the market demand for battery materials, confirming Umicore's strong position in the region. In September, Umicore officially inaugurated its greenfield production plant for cathode active materials in Nysa, Poland. This plant, which is fully powered by renewable electricity, is Europe's very first gigafactory for cathode active materials and makes Umicore the only company in Europe with a complete circular and sustainable battery materials value chain. As previously announced, it will be further expanded with additional production lines set to come on stream in 2023. Upon finalization of this expansion, the plant will have a total production capacity of 20 GWh.

Sales of electric vehicles in China nearly doubled (+83%) compared to 2021. The increase in demand for NMC cathode materials was, however, less pronounced (+65% year on year) as the majority of the growth in China was driven by sales of shorter-range, LFP-based, vehicles. As anticipated and previously announced, Umicore's volume evolution did not match the NMC demand growth in China due to an unfavorable customer mix for certain mid-nickel platforms.

Electric vehicles sales in North America grew substantially in 2022 (+52%), albeit it from a smaller base, reflecting strong customer demand as well as a growing number of electric vehicle models introduced by car OEMs in the region. It is expected that the Inflation Reduction Act (IRA), which provides for significant investments in clean energy and transportation technologies, will further boost local demand for electric vehicles through consumer and commercial tax credits and will strongly incentivize the creation of a domestic EV supply chain. In July, before the electrification impetus provided by the IRA, Umicore announced its plans to construct a manufacturing facility for cathode materials and related precursor materials in Ontario, Canada based on growing customer traction and ongoing qualifications in North America. The cathode materials produced in this facility are intended to be covered by the IRA[2] and allow eligibility for the respective tax credits mechanisms in the US. Pending the closing of customer contracts, Umicore is targeting to start construction of the plant in 2023 and operations at the end of 2025 with the potential to reach, by the end of the decade, an annual production capacity capable of powering approximately one million EVs. In the meantime, Umicore is serving its North American customers out of its cathode materials production plant in Korea. Umicore's sales volumes of cathode materials in the region increased substantially compared to last year, reflecting the strong momentum in the North American EV sales.

Over the year, Umicore made strong progress in the execution of its 2030 RISE Strategy in Rechargeable Battery Materials

[1] All references to revenues in Energy & Surface Technologies henceforth exclude the value of all the purchased metals (Co, Ni, Li, Mn).
[2] Based on the information known at the time this press release was written.

and reached **key milestones in the build out of long-term, value creative strategic customer and supplier partnerships**. As battery-ecosystems are being established in key regions, car manufacturers become increasingly direct involved in the selection of the performance-critical cathode materials and their precursors. In this context, Umicore is pioneering long-term customer partnerships and simultaneously diversifying its customer and platform exposure.

- In **Europe**, Umicore signed a joint venture agreement for precursor and cathode material production with PowerCo, the battery company of Volkswagen.[1] From 2025 onwards, this joint venture will supply PowerCo's European battery cell factories with key materials. The partners aim to produce by the end of the decade cathode materials and their precursors for 160 GWh cell capacity per year, which compares to an annual production capacity capable of powering about 2.2 million full electric vehicles.

  Umicore also signed a long-term strategic supply agreement for EV cathode materials with Automotive Cells Company (ACC), set to start with an annual offtake commitment of 13 GWh in early 2024 with the ambition to grow yearly supplied volumes to at least 46 GWh by 2030.[2]
- In **North America**, Umicore and PowerCo announced an intention to explore a strategic long-term supply agreement to serve PowerCo's future battery Gigafactory in the region[3]. This planned, non-exclusive agreement, would make PowerCo an important customer for Umicore's planned battery materials production plant in Ontario, Canada.

- Umicore also recently signed an agreement with Terrafame Ltd. for the long-term supply of low carbon, sustainable high-grade nickel sulphate. This agreement will cover a substantial part of the future nickel requirements of Umicore's cathode materials manufacturing plant in Poland and reconfirms Umicore's strong commitment to establish a sustainable battery materials value chain in Europe.

Through its continued R&D efforts Umicore **remains at the forefront of Li-ion battery technologies** thereby ensuring the best array of today's and next generation's design-to-cost and design-to-performance technologies to its customers. In the framework of its broad technology and innovation roadmap, Umicore agreed with Idemitsu Kosan Co., Ltd to jointly develop high-performance catholyte materials for solid-state batteries, combining both players' expertise in cathode active materials and solid electrolytes, and aiming to provide the technological breakthrough to extend the driving range and thereby propel e-mobility[4]. After the close of the year, Umicore announced[5] that it is starting the industrialization of its manganese-rich HLM (high lithium, manganese) cathode active materials technology and targets commercial production and use in electric vehicles in 2026. By adding HLM to its portfolio, Umicore introduces a distinctly competitive battery technology to other design-to-cost technologies. This complements Umicore's broad range of NMC battery materials for high performance, long-range EVs. HLM is gaining traction with car and battery cell manufacturers as a differentiating lower cost, high energy-density and sustainable battery technology.

Umicore also continues to build further on its **pioneering approach in terms of responsibly sourced materials**. As founding member of the Global Battery Alliance, Umicore is co-developing the Battery Passport[6] with the aim of setting up a global vision of a sustainable, responsible and circular battery materials value chain, based on standardized, comparable and auditable data. The proof of concept was launched at the World Economic Forum's Annual Meeting in Davos in January 2023.

The Business Unit Rechargeable Battery Materials is at the core of Umicore's 2030 RISE Strategy. As a next step in the execution of its strategy, Umicore intends to group the Rechargeable Battery Materials activities within one legal entity. This set-up will provide the best foundation for the business unit to scale within Umicore and maximize its financing options, while delivering on its ambitious 2030 RISE objectives.

Revenues for **Cobalt & Specialty Materials** increased substantially year on year. The cobalt and nickel chemicals and related distribution activities generated an exceptionally strong performance in the first half of the year driven by high activity levels in key end-markets and inventory build-up of customers in a context of high demand and increasing cobalt and nickel prices. As anticipated, performance normalized in the second half reflecting an expected slowdown in demand in a competitive market environment and a cobalt price that fell back substantially from the peak level reached in May. Revenues from the tool materials activity increased, benefiting from strong demand for hard metal and diamond tools, in particular in the first half of the year. Revenues from carboxylates were also higher, reflecting high demand from the coating and painting industries.

Revenues for **Metal Deposition Solutions** were stable compared to the previous year. Higher revenues for decorative applications and platinized compounds used in electrocatalytic materials offset the impact of lower demand for precious metal-based electrolytes used in portable devices and printed circuit boards used in the electronics industry. Revenues of thin film products remained in line with previous year, with a slowdown in demand from the micro-electronics industry compensated by higher order levels for optic applications.

Revenues for **Electro-Optic Materials** remained stable year on year. Revenues from infra-red solutions increased, driven by strong demand for optical lenses used in infra-red vision applications. This was offset by lower revenues from germanium solutions, reflecting a less favorable product mix and slightly lower volumes in high purity chemicals used in optical fibers and lower demand for germanium substrates.

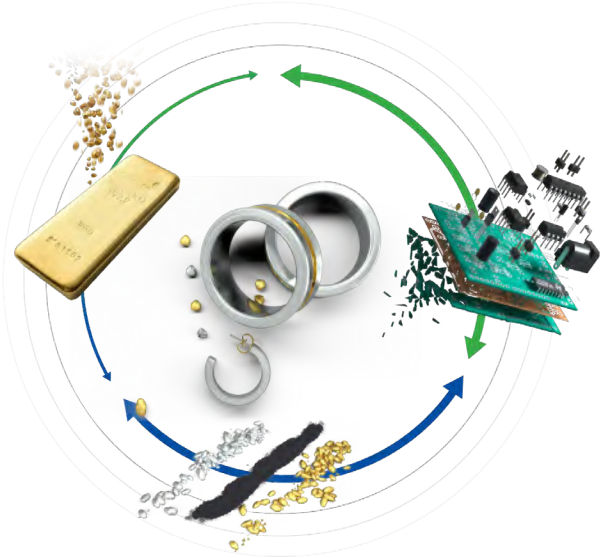
1 Please refer to the press release of September 26th, 2022, available on the Umicore website.
2 Please refer to the press release of June 22nd, 2022, available on the Umicore website.
3 Please refer to the press release of December 1st, 2022, available on the Umicore website.
4 Please refer to the press release of April 27th 2022, available on the Umicore website.
5 Please refer to the press release of February 13th, 2023, available on the Umicore website.
6 Please refer to the press release of January 18th 2023, available on the Umicore website.

Energy & Surface Technologies key figures

	2018	2019	2020	2021	2022
Total turnover	3,650	2,938	2,811	3,534	**4,974**
Total revenues (excluding metal)[1]	1,289	1,225	1,045	1,001	**1,278**
Adjusted EBITDA	323	271	186	262	**290**
Adjusted EBIT	257	183	75	139	**166**
of which associates	0.9	5	5	8	**5**
Total EBIT	251	154	(36)	141	**169**
Adjusted EBIT margin (in %)[1]	19.8	14.5	6.7	13.1	**12.6**
R&D expenditure	39	46	58	64	**107**
Capital expenditure	316	348	252	219	**296**
Capital employed, end of period	1,769	2,324	2,133	2,275	**2,751**
Capital employed, average	1,469	2,014	2,209	2,198	**2,498**
Return on Capital Employed (ROCE) (in %)	17.5	9.1	3.4	6.3	**6.7**
Workforce, end of period (fully consolidated)	3,447	3,997	3,761	3,836	**3,991**
Workforce, end of period (associates)	782	751	727	792	**821**

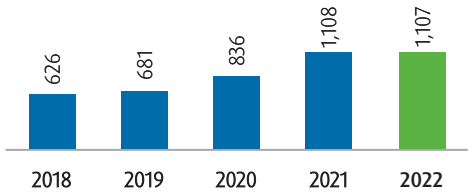
1 Revenues of 2021 and 2022 have been restated to exclude the pass-through value of the purchased lithium and manganese

Recycling



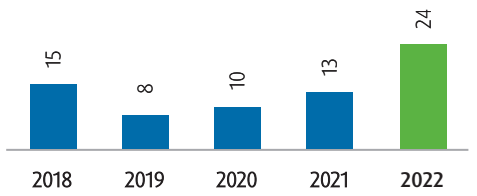
RECYCLING REVENUES (EXCLUDING METAL)

Millions of Euros



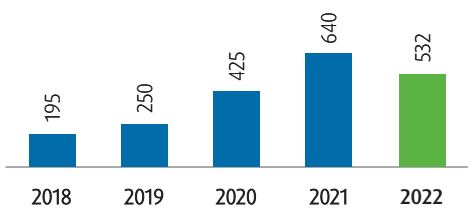
RECYCLING R&D EXPENDITURE

Millions of Euros



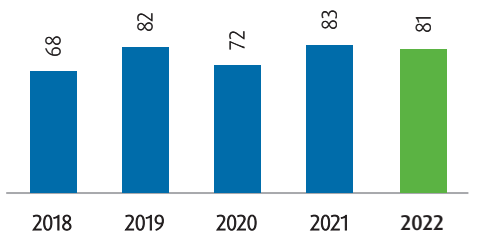
RECYCLING ADJUSTED EBITDA

Millions of Euros



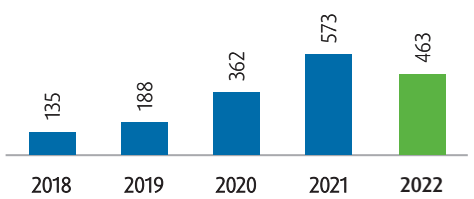
RECYCLING CAPITAL EXPENDITURE

Millions of Euros

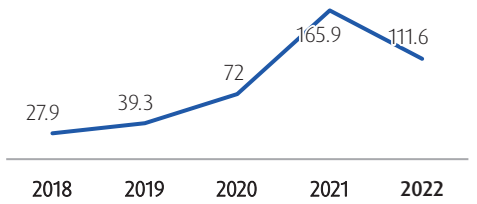


RECYCLING ADJUSTED EBIT

Millions of Euros



RECYCLING RETURN ON CAPITAL EMPLOYED (ROCE)



Overview 2022 performance

The Recycling Business Group delivered another excellent performance in 2022 with revenues reaching € 1,107 million, in line with the record level achieved in 2021.

The Precious Metals Refining Business Unit benefited from solid volumes and an overall supportive metal price environment, despite diverging pricing trends per metal. A slightly lower contribution from the trading activity in Precious Metals Management was offset by higher revenues in the Jewelry & Industrial Metals Business Unit, which benefited from high demand from the investment, jewelry and high purity glass end-markets. Adjusted EBITDA amounted to € 532 million and adjusted EBIT to € 463 million. Although well above historical levels, earnings were below the record level achieved in 2021 reflecting substantial cost inflation headwinds.

2022 Business Review

Revenues for **Precious Metals Refining** were close to the record level achieved in the previous year. Earnings, however, were impacted by significant cost inflation driven primarily by higher energy prices. As previously indicated, the long-term fixed contracts allowed only a limited pass-through of inflation to pricing.

The year 2022 was marked by volatile precious and PGM prices. Prices of rhodium and palladium peaked in the first half before declining substantially, while platinum, silver and gold prices significantly fluctuated throughout the entire year. Against this volatile background and taking into account the existing strategic metal hedges concluded in previous years, a lower average received price for rhodium was offset by higher average received prices for most other precious as well as non-precious metals.

Operational performance of the Hoboken plant was robust and processed volumes remained broadly in line with the levels of the previous year. The regular maintenance shutdown of the smelter in the last quarter was completed successfully and operations restarted as planned. The global logistic disruptions, which affected the input mix in the first half of the year, eased during the summer months. In the second half of the year, the business unit was able to catch-up and process the delayed supplies of complex PGM-rich materials from the first six months of the year. Availability of spent automotive catalysts, however, remained constraint throughout the year due to lower volumes of end-of-life vehicles and collectors holding on longer to scrap material in current volatile PGM price environment.

Precious Metals Refining continues to invest and take measures to reduce the impact of its operations on the environment. In 2022, the business unit built windshields around storage areas where raw materials are loaded and unloaded and created a green buffer zone on the site's premises in order to further minimize dust spreading. The results of the most recent monitoring of lead in blood values, carried out in November 2022[1], showed the lowest average level ever achieved, well below legal norms. This is a testimony of the success of Umicore's long-standing and continued efforts to minimize its impact on the environment and the plant's surroundings. Additional measures will take place in 2023 with the construction of a closed green zone outside the plant to increase the distance between the plant and the residential area. Altogether these measures should allow for a long-term sustainable co-existence of the site and its neighbors.

Revenues for **Jewelry & Industrial Metals** increased compared to the previous year reflecting a strong performance in most product lines. Revenues from platinum engineered materials used in high purity glass applications were well up, reflecting industry-leading product performance that resulted in higher order levels from existing customers as well as a successful extension of the customer base. Order levels of silver coins increased driven by safe-haven consumer buying, while sales volumes of jewellery products continued to benefit from strong demand from the luxury end-market. This more than offset subdued demand for platinum based performance catalysts used in the industrial and agricultural industries. The contribution from the refining and recycling activities remained overall in line with the previous year.

The earnings contribution from **Precious Metals Management** was slightly below the level of the previous year reflecting primarily a less favorable PGM price environment, in particular for rhodium. Revenues from the physical delivery of metals remained broadly in line with the previous year, with strong industrial demand for silver offset by lower order levels for gold and silver bars from the institutional investment industry.

Driven by accelerating vehicle electrification, volumes of battery production scrap and "end-of-life" batteries are set to increase exponentially towards 2030. Sustainable and environmentally sound recycling solutions for the processing of these batteries will be critical, as evidenced by the stringent regulatory battery recycling requirements that are being introduced in key regions. At the same time, the rapidly increasing penetration of electric vehicles will result in a sharp increase in demand for key metals used in batteries such as nickel, lithium and cobalt, and a challenge will be to meet this growing demand in a sustainable and circular way.

Umicore's recently created **Battery Recycling Solutions** business unit will be a key enabler for the sustainable electrification of the automotive industry providing regional access to critical metals and allowing closed-loop, environmentally friendly, low carbon battery manufacturing. Based on growing customer engagements and more than 15 running commercial partnerships, Umicore announced a significant scale-up of its battery recycling activities in Europe with a 150,000 ton battery recycling plant. This plant, which will be the biggest battery recycling plant in the world, will deploy Umicore's latest proprietary technology which allows to recover nickel, lithium, cobalt and copper into their purest battery-grade form in an eco-efficient way.

[1] Please refer to the press release of December 8th 2022, available on the Umicore website.

Recycling key figures

	2018	2019	2020	2021	2022
Total turnover	7,625	11,320	13,904	15,609	**15,338**
Total revenues (excluding metal)	626	681	836	1,108	**1,107**
Adjusted EBITDA	195	250	425	640	**532**
Adjusted EBIT	135	188	362	573	**463**
Total EBIT	126	190	311	529	**463**
Adjusted EBIT margin (in %)	21.5	27.6	43.3	51.7	**41.8**
R&D expenditure	15	8	10	13	**24**
Capital expenditure	68	82	72	83	**81**
Capital employed, end of period	546	405	447	461	**347**
Capital employed, average	483	479	502	345	**415**
Return on Capital Employed (ROCE) (in %)	27.9	39.3	72	165.9	**111.6**
Workforce, end of period (fully consolidated)	2,832	2,849	2,769	2,867	**2,996**

Corporate review

As anticipated, corporate costs increased over 2022 compared to 2021. This is explained by important R&D expenditures linked to Umicore's technology and innovation roadmap. In particular, Umicore invested in the development of new state-of-the-art battery technologies such as high-performance catholyte materials for solid-state batteries and manganese-rich HLM cathode active materials in the design-to-cost segment. Corporate costs also included investments related to digitalization efforts. It is to be expected that corporate costs will further increase over 2023 in the framework of Umicore's future expansion and growth in line with its 2030 RISE strategy.

Element Six Abrasives' contribution to Umicore's adjusted EBITDA was stable compared to the previous year reflecting a robust business performance, the impact of operational excellence programs and cost discipline efforts, and a favorable exchange rate effect. Revenues from the oil & gas drilling activity were well up, driven by a further recovery of the drilling industry, which reached pre-COVID-19 production levels again in the second half of 2022. Revenues of carbide-based materials increased compared to an already strong performance in 2021, driven by operational efficiencies and end-market demand growth. Revenues in the precision tooling activity were somewhat below the level of the previous year, reflecting a more challenging context in the automotive end-market, in particular in the first half of the year

Research & development

In 2022, R&D expenditures in fully consolidated companies amounted to € 316 million, up 29% compared to € 245 million in 2021. This significant step-up reflects primarily increased spending in Rechargeable Battery Materials related to next generation design-to-performance and design-to-cost product and process technologies as well as ongoing customer qualifications. Umicore also increased R&D expenditures in battery recycling and advanced technology development related to decarbonization and emission reduction programs to meet its ambitious sustainability programs. In addition, efforts in corporate mid- to long-term technology development and open innovation collaboration programs were also higher. Over the course of the year, Umicore filed 72 new patent applications.

The R&D spend represented 7.6% of Umicore's 2022 revenues and capitalized development costs accounted for € 21 million of the total amount.

Corporate & Financial review

Financial result and taxation

Adjusted net financial charges totaled € 125 million, compared to € 100 million in the same period last year, reflecting higher net interest charges, in particular on short term loans, and somewhat higher foreign exchange related costs.

The adjusted tax charge for the period amounted to € 145 million, down compared to € 196 million last year as a result of a year on year decrease in taxable profit in combination with a lower adjusted effective group tax rate (20.0% versus 23.1% in the same period last year). Taking into account the tax effects on adjustments, the net tax charge for the Group amounted to € 138 million. The total tax paid in cash over the period amounted to € 216 million and was also well up from € 175 million last year.

Cashflows and financial debt

Cashflow generated from operations including changes in net working capital amounted to a level of € 835 million, compared to the record level of € 1,405 million last year. As expected, working capital requirements in Energy & Surface Technologies were well up, mainly on the back of increased battery material metal prices. After deducting € 491 million of capital expenditures and capitalized development expenses, the resulting free cash flow from operations was € 344 million, compared to € 989 million in the same period last year.

At 31 December 2022 **adjusted EBITDA** amounted to € 1,151 million, down 8% compared to last year's record of € 1,251 million. This corresponds to a robust adjusted EBITDA margin of 27.3% for the Group, after the all-time record of 32.5% in the same period last year. While margins in Energy & Surface Technologies and Recycling decreased respectively due to ramp-up costs and energy inflation, the Catalysis business group maintained margins in line with previous year.

Net working capital for the Group increased by € 342 million compared to the end of 2021. While higher battery metal prices increased working capital in Energy & Surface Technologies, working capital needs remained stable in Catalysis and decreased in Recycling thanks to a temporary positive impact. At current metal prices, working capital at the end of 2023 is expected to increase from the levels of end of 2022, including the reversal of some temporary cash inflows in Recycling and anticipating volume growth in Energy & Surface Technologies.

Capital expenditure totaled € 470 million at the end of 2022, compared with € 389 million the previous year. Energy & Surface Technologies accounted for more than 60% of the Group's capital expenditure, driven by investments in the expansion of the Rechargeable Battery Materials business unit European's footprint. In the Catalysis and Recycling business segments capital expenditure slightly decreased. In Catalysis, the Automotive Catalysts business unit continued to focus on investments in production footprint optimization and targeted capacity expansions. In Recycling, the increase in capital expenditure was related to environmental and safety investments in the Precious Metals Refining business unit. Capitalized development expenses amounted to € 21 million, down versus 2021. The further expansion of the Rechargeable Battery Materials business unit's footprint in Europe, combined with the expected investments in North America, should result in higher Group capital expenditure in 2023 versus previous year.

Dividend payments over the period amounted to € 192 million, while the net cash outflow related to the exercise of stock options and the purchase of treasury shares (to cover stock option plans and share grants) amounted to € 43 million.

The increase in working capital requirements and capital expenditures drove a moderate increase of **net financial debt** from

€ 960 million at the end of 2021 to € 1,104 million at 31 December 2022. The leverage ratio amounted to 0.96x LTM adjusted EBITDA. The group's equity amounted to € 3,566 million at 31 December 2022, corresponding to a net gearing ratio[1] of 23.6%.The sustainability linked US Private Placement Notes, issued in November[2] 2022, has been drawn in January 2023.

Adjustments

Adjustments had a negative impact of - € 32 million on EBIT of which - € 20 million was already accounted for in the first half. These adjustments were mainly related to the increase of some environmental provisions linked to legacy remediation initiatives and include € 12 million of restructuring charges in the stationary catalyst business in Denmark.

Including positive adjustments to financial and tax items of respectively € 3 million and € 7 million, the total adjustments to net group earnings over the period corresponded to negative impact of - € 23 million.

Hedging

Umicore entered into forward contracts to cover part of its expected structural price exposure to certain precious metals for 2023, 2024 and 2025. For 2023, based on the respective currently expected exposures, the following lock-ins have been secured: more than a third for silver and gold, somewhat less than half for palladium and close to a quarter for platinum and rhodium. For 2024, the expected lock-in ratios are: close to half for gold and palladium, more than a third for silver and close to a quarter for platinum and rhodium. For 2025, close to a quarter was locked-in for the expected gold and silver exposures.

Next to strategic metal hedges, the Group typically manages a portion of its forward energy price risks by entering into energy hedges. Currently, Umicore has hedges in place that cover a majority portion of its expected European electricity, natural gas and fuel needs for 2023. These hedges particularly cover future energy needs in Belgium, Finland and Poland and are expected to reduce Umicore's exposure to energy market price fluctuations in particular for its Belgian operations in 2023. For 2024 and 2025, close to a third of the electricity needs and two thirds of the natural gas needs for the European activities are hedged.

EU taxonomy

The European Union created an action plan to finance sustainable growth, aimed at redirecting capital flows to sustainable economic activities. This is part of the efforts to reach the objectives of the European Green Deal and make Europe climate-neutral by 2050. In 2021, the European Union introduced the EU Taxonomy, which is a classification system establishing a list of economic activities qualifying as sustainable. Umicore has assessed the compliance of its products and services with Taxonomy Regulation (EU) 2020/852 and the subsequently published Delegated Acts. In our Integrated Annual Report 2021, we reported on the Taxonomy-eligibility assessment of our economic activities for two of the six environmental objectives: Climate Change Mitigation and Climate Change Adaptation. For the reporting on 2022, Umicore's eligible activities have been assessed against the alignment criteria as set forward by the EU Taxonomy Regulation. The results of our Taxonomy-alignment assessment are presented in the sections below. The remaining four environmental objectives are yet to be published by the EU in 2023. Umicore will report on its eligibility and alignment with the four additional environmental objectives when required. This year's Taxonomy reporting therefore reflects only a piece of Umicore's eligibility and potential alignment with all the six environmental objectives and focuses only on Climate Change Mitigation and Climate Change Adaptation.

Assessment results

Based on the eligible economic activities that are defined by the Taxonomy Regulation as substantially contributing to climate change adaptation and mitigation, we reviewed which Umicore economic activities qualify as eligible economic activities in contributing to the EU Taxonomy objectives of Climate Change mitigation and Climate Change adaptation. In this assessment, we took into account Umicore's turnover generating economic activities that we sell as products and services to the market, and have excluded internal industrial activities that are not turnover generating. Umicore's two eligible activities "Manufacturing of rechargeable batteries" and "Manufacturing of equipment for the production and use of hydrogen" have been identified as significantly contributing to the EU Taxonomy objective of Climate Change Mitigation and not Climate Change Adaptation.

	Turnover[1]	CAPEX[2]	OPEX[3]
EU Taxonomy "Climate Change Mitigation" aligned activities (in million EUR)[4]	1,951	285	116
EU Taxonomy "Climate Change Mitigation" aligned activities (in %)[4]	7.7%	56.4%	28.8%
Total Umicore activities (in million EUR)[4]	25,436	505	404

1 Umicore's turnover includes metal prices that are subject to market fluctuations and thus our reporting on the EU Taxonomy will include those fluctuations.
2 We used the CAPEX definition as defined by the EU Taxonomy, which is different from Umicore's definitions of CAPEX. More information on these differences can read in the accounting policy below.
3 We used the OPEX definition as defined by the EU Taxonomy, which is different than Umicore's definitions of OPEX. More information on these differences can read in the accounting policy below.
4 Umicore's activities contribute to the EU Taxonomy Climate Change Mitigation objective and not to the EU Taxonomy Climate Change Adaptation objective.

Manufacturing of rechargeable batteries

Umicore has activities that match the EU Taxonomy eligible business activity: "Manufacturing of rechargeable batteries, battery packs and accumulators for transport, stationary and off-grid energy storage and other industrial applications. This includes the manufacturing of respective components (battery active materials, battery cells, casings and electronic components) and recycling of end-of life batteries.[3] Umicore supplies battery active materials for lithium-ion rechargeable batteries used in electric vehicles, energy storage systems and portable electronics. This is an enabling activity as it can contribute to substantially reducing greenhouse gas (GHG) emissions

1 (net debt / net debt + equity)
2 Please refer to the press release of November 24th 2022, available on the Umicore website.
3 The activity is linked to the Statistical Classification of Economic Activities in the European Community (NACE)-code 27.2. Manufacture of batteries and accumulators.

in transport, stationary and off-grid energy storage.
The manufacturing of battery materials for the portable electronics market has not been considered as an eligible activity as there is no direct link with a substantial reduction in GHG emissions. Only the cathode materials used for electric vehicles and energy storage systems have been considered in the assessment. This includes also specific R&D activities related to anode materials for electric vehicles and energy storage systems.

Umicore also recycles, refines, transforms and sells cobalt and nickel specialty chemicals for a wide range of applications. Our assessment of eligible economic activities includes, however, only the cobalt and nickel products sales flowing into the battery value chain for electric vehicles. We excluded any internal sales of cobalt and nickel among Umicore business units. Umicore's activity contributes to the Climate Change Mitigation objective because batteries for electric vehicles and energy storage systems are an alternative to internal combustion engine vehicles and energy generation technologies emitting GHGs.

Manufacturing of equipment for the production and use of hydrogen

Umicore has activities that are eligible for the EU Taxonomy eligible business activity: "Manufacture of equipment for the production and use of hydrogen"[1] . Umicore produces proton exchange membrane fuel cell catalysts for hydrogen power generation in vehicles. Fuel cell-powered vehicles combine the best of both worlds: long driving ranges and short refueling times combined with zero use-phase emissions. These advantages make the fuel cell-powered automotive particularly attractive in long-distance or energy-intensive haulage applications. Umicore's activity is an enabling activity for the production and use of hydrogen as it can contribute to substantially reducing GHG emissions in transport. For this purpose, we only took the fuel cells business line into account and disaggregated this from the stationary catalysts business line.

Taxonomy-Eligibility Assessment Process

For the EU Taxonomy eligibility and alignment assessment, we engaged the external expertise of PwC. They assisted Umicore in the analysis of the EU Taxonomy definitions and criteria. In collaboration with the business units, we identified which Umicore activities are eligible for the EU Taxonomy's Climate Change Mitigation and Climate Change Adaptation objectives. A key focus of the assessment was to avoid double counting, which we mitigated in two ways. On the one hand, we excluded all intercompany transactions from the exercise, and we only took the turnover-generating economic activity for a specific business unit or business line into account. On the other hand, some Umicore activities could be eligible for several environmental objectives of the EU Taxonomy. We anticipate that our economic activities in Catalysis and Recycling will be most relevant for the four additional environmental objectives to be published by the EU in 2023. The main purpose of our Catalysis activities is to reduce toxic pollution in the air rather than to reduce GHG emissions. As we assume that the contribution of our Catalysis activities will be most relevant to the EU Taxonomy objective of Prevention of Pollution, we have to date chosen not to put it forward for the Climate Change Mitigation objective. Umicore's Recycling business supports the transition of the use of primary resources towards recycling, which is less carbon intensive. As we assume that the contribution of our Recycling business will be most relevant to the objective of Transition to a Circular Economy, we have to date chosen not to put it forward for the Climate Change Mitigation objective.

Taxonomy-Alignment Assessment Process

For the alignment assessment of Umicore's eligible economic activities, we engaged the external expertise of PwC. They assisted Umicore in identifying and analyzing the alignment criteria as set out in the Delegated Acts of the EU Taxonomy Regulation. The process included three alignment assessment steps:

Technical Screening Criteria

For Umicore's identified Taxonomy-eligible economic activities, the Technical Screening Criteria were closely analyzed. Both the 'Manufacturing of rechargeable batteries' and 'Manufacturing of equipment for the production and use of hydrogen' have been assessed as meeting the technical screening criteria that are set out by the EU Taxonomy. Both economic activities are enabling other industries to support in mitigation (reduce or avoid) GHG emissions through the electrification of transportation and application of energy storage systems.

Do No Significant Harm (DNSH)

For the assessment of whether Umicore's eligible economic activities meet the Do No Significant Harm criteria, we have evaluated all relevant business operations against the specific criteria set out for the EU Taxonomy requirements. Our eligible activity for climate change mitigation has therefore been assessed not to harm the EU objectives related to the other five environmental objectives of: climate change adaptation; protection of water and marine resources; transition to a circular economy; prevention/ reduction of pollution; and protection of biodiversity and ecosystems. Umicore has therefore performed an assessment of its economic activities against the specific requirements, including among others, the existence of required climate and vulnerability assessment of the operations, environmental degradation risk assessments, the implementation of circular business practices, avoidance of hazardous substances and environmental impact assessments. Based on the assessment performed, Umicore concluded that its eligible business activities meet the Do No Significant Harm criteria.

Compliance with Minimum Safeguards

As the last step in the EU Taxonomy alignment assessment, Umicore has assessed its eligible economic activities against the Minimum Safeguards. The Minimum Safeguards requires a Taxonomy activity to be carried out in alignment with: the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights (including the Declaration on Fundamental Principles and Rights at Work of the International Labour Organisation; the eight fundamental conventions of the ILO; and the International Bill of Human Rights). Umicore has performed an assessment of its relevant processes, procedures, policies, internal controls related to the Minimum Safeguards and evaluated the

[1] The activity is linked to the NACE code 27.1. Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus.

relevant outcome of the compliance management practices. In conducting the assessment, we have built on the guidance from the Final Report on Minimum Safeguards from the EU Platform on Sustainable Finance. Through this assessment, we evaluated that the management processes and outcome of these processes are aligned with the Minimum Safeguard requirements.

Based on the three alignment assessment steps outlined above, Umicore has concluded that the identified Taxonomy-eligible economic activities are also Taxonomy-aligned.

Accounting policy

The IFRS imposes the reporting of turnover in the segment information (note F7 of the Financial Statements). Turnover is defined as the sum of all outgoing sales invoices and contains the metal sales. When metal prices rise, turnover increases but this rise is not the result of increased business activity, nor will it automatically lead to improved profitability. The IFRS turnover published by Umicore has been analyzed and the Group concluded that the definition is in line with the Turnover KPI requested for EU Taxonomy purposes. To avoid double counting, only external turnover has been considered for the EU Taxonomy exercise.

For the KPI related to capital expenditures (CAPEX), the EU Taxonomy required inclusion of all the additions to tangible and intangible assets during the financial year considered, before depreciation, amortizations or impairments. It also covers the tangible and intangible assets resulting from business combinations and the leases that lead to the recognition of a right-of-use asset as per IFRS 16.

The capitalized expenditure definition at Umicore (see Glossary) is more restrictive than the EU Taxonomy definition as it concerns capitalized investments in tangible and intangible assets, excluding capitalized R&D costs. Capitalized R&D costs, new capitalized leases and the business combinations therefore represent differences between the CAPEX KPI presented in the Umicore Financial Statements and the CAPEX KPI as defined by the EU Taxonomy. Those additions are, however, available in the Financial Statements under notes F8, F14 and F16.

To avoid double counting, only external capital expenditure has been considered for the EU Taxonomy exercise.

For the KPI related to operating expenditures (OPEX), the EU Taxonomy required inclusion of a limited number of items compared with the number of items included in the total operating expenditures disclosed by Umicore in its Financial Statements (note F9 of the Financial Statements). The EU Taxonomy only includes direct non-capitalized costs related to R&D, building renovation measures, short-term leases, maintenance and repair and any other direct expenditures relating to day-to-day servicing of assets of property, plant and equipment by the undertaking or third party to whom activities are outsourced that are necessary to ensure the continued and effective functioning of such assets.

To avoid double counting, only the costs initiated in the originating eligible activity have been considered.

The assessment of Umicore's eligible activities excludes Umicore's joint ventures and associated companies.

Finally, note that the allocation to the numerator for the three required EU Taxonomy KPIs is based on Umicore's internal financial reporting that identifies these KPIs per business line or per specific market. The respective business unit controllers have agreed upon the eligibility of their activities and reported the data centrally.

PROPORTION OF TURNOVER FROM PRODUCTS OR SERVICES ASSOCIATED WITH TAXONOMY-ALIGNED ECONOMIC ACTIVITIES - DISCLOSURE COVERING YEAR 2022

			Substantial contribution criteria						DNSH criteria ('Does not significantly harm')									
Economic Activities (1)	Absolute OpEx	Proportion of OpEx	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of OpEx, year 2022	Taxonomy-aligned proportion of OpEx, year N-1	Category (enabling activity or)	Category (transitional activity)
	Currency	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Percent	Percent	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
3.4. Manufacture of batteries	1,907,750,421	7.5%	100%	0%						Y	Y	Y	Y	Y	Y	7.5%		E	
3.2. Manufacture of equipment for the production and use of hydrogen	43,421,484	0.2%	100%	0%						Y	Y	Y	Y	Y	Y	0.2%		E	
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)	**1,951,171,905**	**7.7%**	**100%**	**0%**												**7.7%**			
A.2. Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
3.4. Manufacture of batteries	0	0%																	
3.2. Manufacture of equipment for the production and use of hydrogen	0	0%																	
Turnover of taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)	**0**	**0%**																	
Total (A.1 + A.2)	**1,951,171,905**	**7.7%**														**7.7%**			

B. TAXONOMY NON-ELIGIBLE ACTIVITIES		
Turnover of Taxonomy-non-eligible activities (B)	**23,484,351,099**	**92.3%**
TOTAL (A+B)	**25,435,523,004**	**100%**

PROPORTION OF CAPEX FROM PRODUCTS OR SERVICES ASSOCIATED WITH TAXONOMY-ALIGNED ECONOMIC ACTIVITIES - DISCLOSURE COVERING YEAR 2022

			Substantial contribution criteria						DNSH criteria ('Does not significantly harm')									
Economic Activities (1)	Absolute OpEx	Proportion of OpEx	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of OpEx, year 2022	Taxonomy-aligned proportion of OpEx, year N-1	Category (enabling activity or)	Category (transitional activity)
	Currency	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Percent	Percent	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
3.4. Manufacture of batteries	280,926,699	55.6%	100%	0%						Y	Y	Y	Y	Y	Y	55.6%		E	
3.2. Manufacture of equipment for the production and use of hydrogen	4,074,474	0.8%	100%	0%						Y	Y	Y	Y	Y	Y	0.8%		E	
CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)	**285,001,173**	**56.4%**	**100%**	**0%**												**56.4%**			
A.2. Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
3.4. Manufacture of batteries	0	0%																	
3.2. Manufacture of equipment for the production and use of hydrogen	0	0%																	
CapEx of taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)	**0**	**0%**																	
Total (A.1 + A.2)	**285,001,173**	**56.4%**														**56.4%**			
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																			
CapEx of Taxonomy-non-eligible activities (B)	**220,099,691**	**43.6%**																	
TOTAL (A+B)	**505,100,864**	**100%**																	

PROPORTION OF OPEX FROM PRODUCTS OR SERVICES ASSOCIATED WITH TAXONOMY-ALIGNED ECONOMIC ACTIVITIES - DISCLOSURE COVERING YEAR 2022

			Substantial contribution criteria						DNSH criteria ('Does not significantly harm')									
Economic Activities	Absolute OpEx	Proportion of OpEx	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of OpEx, year 2022	Taxonomy-aligned proportion of OpEx, year N-1	Category (enabling activity or)	Category (transitional activity)
	Currency	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Percent	Percent	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
3.4. Manufacture of batteries	111,418,333	27.6%	100%	0%						Y	Y	Y	Y	Y	Y	27.6%		E	
3.2. Manufacture of equipment for the production and use of hydrogen	4,714,815	1.2%	100%	0%						Y	Y	Y	Y	Y	Y	1.2%		E	
OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)	**116,133,147**	**28.8%**	**100%**	**0%**												**28.8%**			
A.2. Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
3.4. Manufacture of batteries	0	0%																	
3.2. Manufacture of equipment for the production and use of hydrogen	0	0%																	
OpEx of taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)	**0**	**0%**																	
Total (A.1 + A.2)	**116,133,147**	**28.8%**														**28.8%**			

B. TAXONOMY NON-ELIGIBLE ACTIVITIES		
OpEx of Taxonomy-non-eligible activities (B)	**287,468,493**	**71.2%**
TOTAL (A+B)	**403,601,640**	**100%**

Operations


11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

€ 470m

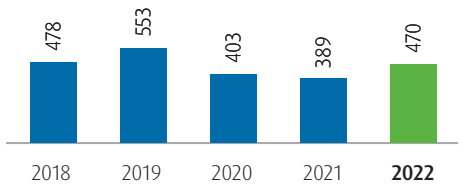
2022 CAPITAL EXPENDITURE

19.2%

RETURN ON CAPITAL EMPLOYED

CAPITAL EXPENDITURE

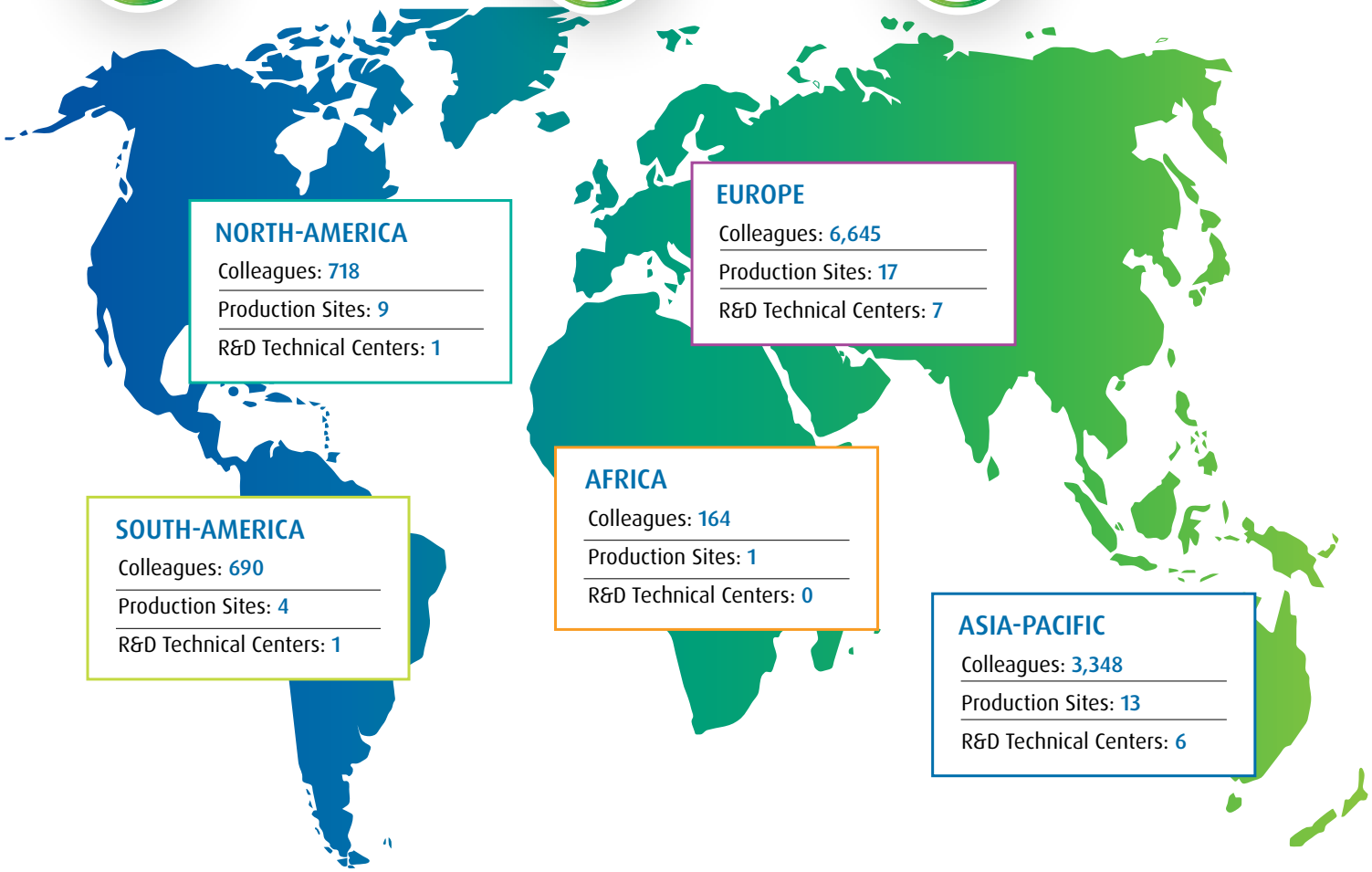
Millions of Euros



11,565 Colleagues

44 Production Sites

15 R&D/technical centers



NORTH-AMERICA

Colleagues: 718

Production Sites: 9

R&D Technical Centers: 1

EUROPE

Colleagues: 6,645

Production Sites: 17

R&D Technical Centers: 7

SOUTH-AMERICA

Colleagues: 690

Production Sites: 4

R&D Technical Centers: 1

AFRICA

Colleagues: 164

Production Sites: 1

R&D Technical Centers: 0

ASIA-PACIFIC

Colleagues: 3,348

Production Sites: 13

R&D Technical Centers: 6

Operations: optimizing excellence

Umicore is a circular materials technology Group, with more than 11,000 employees, creating sustainable products and services for a broad range of customers located in 99 countries.

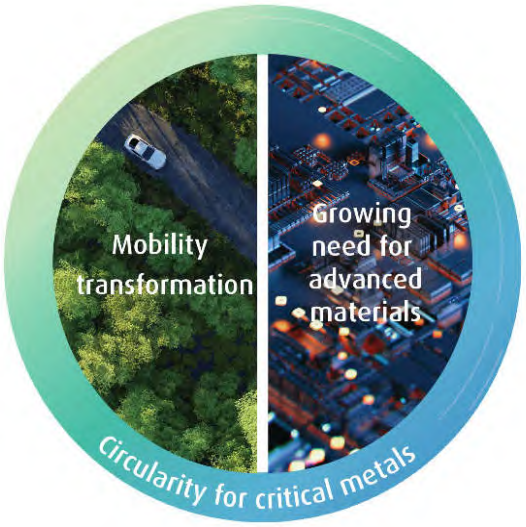
To cater to this international customer base, Umicore has established local presence in Asia-Pacific, Europe, North and South America and South Africa. With headquarters in Brussels, Belgium, we work from 44 different production sites, 15 R&D sites and 34 other sites such as sales and marketing offices. Many of these sites accommodate a combination of business units, corporate departments or other activities.

Our local presence reflects Umicore's strong belief in customer proximity. As a reliable partner, we listen to our customers and focus on supporting them in their own ambition to become sustainable and circular companies. With our local presence, we offer our customers proximity to the best possible technologies, tailor-made products and services. Our upstream value chain integration in the local markets provides us with the opportunity to further reduce greenhouse gas emissions in the upstream value chain, while optimizing excellence and continuity of operations.

While Umicore's 11 business units serve a multitude of customers across different sectors and industries, the global automotive industry would be a key end market for Umicore. Umicore offers a unique value proposition to automotive customers who are impacted by the global clean mobility transformation. We are a reliable transformation partner that provides clean mobility solutions for all existing types of automotive platform drivetrains (e.g. emission control catalysts to clean the exhaust gases from gasoline and diesel internal combustion engines in light-duty and heavy-duty vehicles; rechargeable battery materials required to power plug-in hybrid and full-electric vehicles; and catalysts for fuel cell-powered vehicles). By offering the full spectrum of automotive drivetrain technologies across the globe, Umicore is uniquely positioned to support its automotive customers in their complete journey from internal combustion engine towards electrification, ultimately, becoming a trustworthy partner for the whole mobility transformation.

As a global company, Umicore is supplied from an established and diverse supplier base in 87 countries. Our decentralized approach facilitates local activities, as business units and sites have operational flexibility and can respond quickly to the dynamics in local markets, both in the upstream supply chain and in the downstream needs expressed by customers. At the same time our customers, suppliers and partners can rely on strong support from the center. This allows us to build long-term relationships with our stakeholders.

Operations driven by megatrends and an ambition to rise



Based on the solid foundations of the Horizon 2020 strategy and Let's Go for Zero sustainability ambitions, in 2022 Umicore launched the 2030 RISE Strategy, its new strategic plan designed to accelerate value creative growth. The 2030 RISE Strategy builds on Umicore's proven ability to embrace megatrends, and Umicore is more determined than ever to leverage its unique position and mutually reinforcing portfolio of activities to benefit from the global transformation of mobility, respond to the growing need for advanced materials, and contribute to the pursuit of a global circular economy.

Mobility transformation

- **Mobility transformation**: The mobility transformation is accelerating and the shift to carbon-free mobility is expected to grow exponentially by 2030. Through its complementary portfolio and presence in all drivetrain technologies, Umicore is uniquely positioned to capture this growth opportunity and guide our automotive customers through their transformation journey, from start to finish.
- **Growing need for advanced metal materials**: Advanced materials are key enablers for faster, more scalable, more efficient, and more sustainable solutions that tackle the challenges of society today and tomorrow. Umicore develops the next generation of sustainable advanced materials ensuring that they are used again and again through its recycling technologies.
- **Circularity for critical metals**: Against a background of a rapidly growing conviction that the future economy will be even more of a circular economy, also considering the increasing electrification of mobility, Umicore enables full circularity for critical metals. Circularity is also integrated in our everyday business both within the transformation of mobility and the growing need for advanced materials.

The 2030 RISE Strategy comprises four implementation pillars to ensure a strict focus on strategic execution and scaling-up. Each pillar plays a vital role in our strategic success going forward:

R **Reliable** Transformation Partner

I **Innovation** & Technology Leader

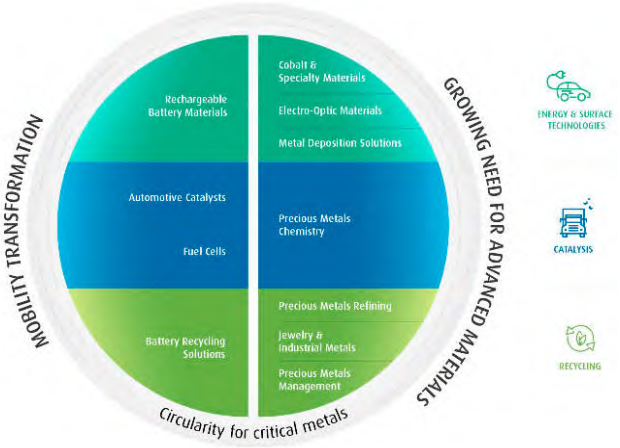
S **Sustainability** Champion

E **Excellence** in execution

- The **"R"** stands for **reliable transformation partner**
- The **"I"** is for **innovation and technology**
- The "**S**" is for **sustainability champion**
- The "**E**" in rise denotes **excellence in execution**

Strategy

Umicore's operations are organized into three business groups (Catalysis, Energy & Surface Technologies and Recycling) and 11 Business Units.



Catalysis

Umicore's **Catalysis** Business Group comprises the Automotive Catalysts, Fuel Cells & Stationary Catalysts and Precious Metals Chemistry Business Units. Their activities focus on the development and production of catalyst formulations and systems used to abate harmful emissions from combustion engines, for use in fuel cells, and chemical and life science applications. These catalysts mainly use Platinum Group Metal (PGM) chemistries, in which Umicore has over 50 years of experience.

The **Automotive Catalysts** Business Unit is one of the world's leading producers of catalysts used in automotive emission systems for light-duty and heavy-duty vehicles. Its PGM-based emission catalysts are used in gasoline and diesel internal combustion engines, including the engines of mild and full hybrid vehicles. The business unit develops and manufactures three-way catalysts (TWC) and particulate filters (cGPF) for gasoline engines as well as diesel oxidation catalysts (DOC), particulate filters (DPF), NOx (Nitrogen oxides) and SCR (selective catalytic reduction) systems for diesel engines. In particular, it has a very strong market position in the gasoline light-duty segment, reflecting industry-leading gasoline catalyst technology. In addition, the business unit produces catalysts for heavy duty diesel (HDD) vehicles such as buses and trucks and for motorcycle or small engine applications. Umicore Automotive Catalysts' worldwide operations deliver emission catalysts to global and local automobile manufacturers in Asia-Pacific, Europe and North and South America.

Despite the rapidly increasing penetration of full-electric vehicles in the light-duty segment, the Automotive Catalysts Business Unit anticipates a substantial increase in the value of its addressable market. This is based on the projected light duty gasoline and diesel vehicles and heavy-duty diesel production growth rates towards 2030 and on upcoming emission legislation in Europe and China. Based on its strong technology portfolio, Umicore's Automotive Catalysts activity is well positioned to capture this market value peak and to maximize business value through a continued focus on process efficiency and operational agility. Between 2022 and 2030, the business unit has the potential to generate a free cashflow of approximately € 3 billion with approximately 20% adjusted EBITDA margins maintained over the period.

Umicore Automotive Catalysts employee working at our sample lab in Hanau, Germany

Through the **Fuel Cells & Stationary Catalysts** Business Unit, Umicore supports future growth in both Proton Exchange Membrane (PEM) fuel cells and stationary catalysis, targeting a broad range of industries including the automotive industry, manufacturing, hydrogen production and power and propulsion. It aims to support its customers in developing clean engines and reaching zero emission mobility and power supply. The business unit benefits from Umicore's established global presence in both business areas with headquarters in Shanghai.

Fuel cell drivetrain technology for heavy-duty vehicles, is gaining momentum as an environmentally friendly alternative to internal combustion engines. Demand from the hydrogen-based mobility segment is set to grow exponentially towards 2040. As a leading fuel cell catalyst provider, with currently 40% global market share in the mobility segment, Umicore is ideally positioned to capture the growth in hydrogen-based mobility. Umicore's fuel cell activity, which has applied R&D centers in Europe and Asia as well as an industrial-

scale PEM-catalyst production footprint in Germany and Korea, will expand its PEM-catalyst mass-production capabilities with a greenfield plant in China in order to cater for the rapidly growing demand of its customers. This plant, which is set to start production in 2025, will be by that time the world's largest fuel cell catalyst plant.

Umicore **Precious Metals Chemistry** develops and manufactures metal-based catalysts, active pharmaceutical ingredients (APIs) and chemical vapor deposition (CVD) precursors. Its expertise includes the conversion of metals into inorganic and organometallic chemicals, APIs and homogeneous catalysts as well as the handling and manufacturing of highly toxic or sensitive materials. Its key end markets are automotive, chemicals, electronics and pharmaceuticals.

Energy & Surface Technologies

Umicore's **Energy & Surface Technologies (E&ST)** Business Group contains the Cobalt & Specialty Materials, Rechargeable Battery Materials, Metal Deposition Solutions and Electro-Optic Materials Business Units. This business group comprises Umicore's innovative battery materials that power rechargeable lithium-ion batteries and enable the world's transition to electromobility. The Cobalt & Specialty Materials Business Unit has a long-standing track record in the sourcing, production and distribution of cobalt and nickel products. The business group also supplies products for precious and non-precious metal-based electroplating and PVD coating in the Metal Deposition Solutions Business Unit and germanium-based material solutions for the space, optics and electronics sectors in the Electro-Optic Materials Business Unit.

Umicore **Rechargeable Battery Materials** is a leading supplier of active cathode materials for lithium-ion batteries which is the main battery technology powering full electric and (plug-in) hybrid vehicles. The Rechargeable Battery Materials Business Unit has more than 25 years' experience in cathode active materials (first for portable electronic applications, then for electric vehicle (EV) applications). It has an impressive product and process technology leadership track record and demonstrated industrial capabilities in manufacturing cathode active materials and the related precursor materials at mass scale at the highest quality and environmental standards.

Based on its longstanding upstream know-how in cobalt and nickel refining and recycling, and as a front runner in the sustainable raw material sourcing, the Rechargeable Battery Materials Business Unit established a unique position in the battery value chain.

In terms of supply capacities, Umicore has been expanding significantly its cathode materials production capacity since 2016 to cater for rapidly growing customer demand, particularly from the EV segment. Today, Umicore supplies its customers from its Gigafactories in China and Korea. In 2022, we also started production in our greenfield plant in Nysa, Poland, which is the first Gigafactory for cathode materials in Europe.

Umicore is currently the only cathode player to produce industrial cathode materials on two continents. In addition, it is the first to supply cathode materials to global customers with identical quality and performance from different plants across different regions. Based on ongoing customer qualifications, Umicore plans to set up local production in North America. This expansion would complete Umicore's global rollout of regional supply chains for automotive and battery cell customers on three continents.

Umicore's unique locally integrated value chain proposition, both upstream and downstream, provides solid benefits in securing ethical and low-carbon footprint raw materials and is a strong competitive differentiator. It is further complemented by the closed loop recycling of battery materials provided by the Battery Recycling Solutions Business Unit in the Recycling Business Group.

During 2022, Umicore reached key milestones in Europe in the build-out of long-term strategic customer partnerships, further building on its first movers' advantage. In April, Umicore and Automotive Cells Company signed a long-term strategic supply agreement for EV cathode materials. Set to start in early 2024, the agreement foresees an annual offtake commitment of 13 gigawatt hours (GWh) in with the ambition to grow yearly supplied volumes to at least 46 GWh by 2030.

In September, Umicore announced a joint venture with PowerCo, the battery company of Volkswagen, for precursor and cathode material production. From 2025 onwards, the joint venture will supply PowerCo's European battery cell factories. By the end of the decade, the partners aim to produce cathode materials and their precursors for 160 GWh cell capacity per year, which compares to an annual production capacity capable of powering about 2.2 million full electric vehicles.

Focusing on its expansion to North America, Umicore and PowerCo announced in December that they aim to extend their collaboration in battery materials and are exploring a strategic long-term supply agreement to serve PowerCo's future battery Gigafactory for electric vehicles in North America. Based on the closing of this agreement and pending other customers contracts, Umicore expects to start construction of its Ontario Gigafactory in 2023 and operations at the end of 2025 with the potential to reach, by the end of the decade, an annual production capacity capable of powering approximately one million electric vehicles.

Umicore Rechargeable Battery Materials employees working at our plant in Jiangmen, China

At the same time, Umicore will be strengthening its position in Asia through a more diversified customer and platform exposure.

At the start of 2023, Umicore also signed an agreement with Terrafame Ltd for the long-term supply of low carbon, sustainable high-grade nickel sulphate. This agreement will cover a substantial part of the future nickel requirements of Umicore's cathode materials manufacturing plant in Poland and reconfirms Umicore's strong commitment to establish a sustainable battery materials value chain in Europe.

The pace of electrification continues to accelerate rapidly, underpinned by a strong regulatory push (e.g. the zero emissions from new cars and vans in Europe by 2035, the Inflation Reduction Act in the US, and most recently the Green Deal Industrial Plan in Europe) as well as ambitious commitments from major car manufacturers. As a result, demand for cathode materials used in electric vehicles is set to grow massively between 2022-2030. With its' industry leading product and process technology and unique locally integrated value chain proposition, the Rechargeable Battery Materials Business Unit is in an excellent position to capture profitable growth and deliver sustainable value. The business unit is set to deliver by focusing on reinforcing and further growing its R&D, refining and precursor and cathode materials manufacturing footprint in key regions, close to customers. This growth strategy and related investments are predicated on the establishment of long-term value creative partnerships with battery and car OEM customers of which key achievements for 2022 are presented above.

Based on its roadmap, the Rechargeable Battery Materials Business Unit has the ambition to reach adjusted EBITDA margins of approximately 20% in 2030. Umicore is expecting to earn more than its cost of capital shortly after 2026 with growing returns thereafter.

The Business Unit **Cobalt & Specialty Materials** is a worldwide leader in the recycling and refining of nickel and the transformation and marketing of cobalt and nickel specialty chemicals. Its broad expertise covers a multitude of applications in both chemical and powder metallurgy. The unit covers all steps of the value chain, from sourcing to distribution, with production units and sales offices on all continents.

Umicore's **Metal Deposition Solutions** Business Unit is one of the world's leading suppliers of products for precious metal-based coating of surfaces in the nano and micrometer range. The unit masters the two highest-quality coating processes: electroplating and PVD coating which offer customers tailor-made coating processes for their specific needs. Its coating solutions are used by manufacturers in the electronics, semi-conductor, automotive, optics and jewelry industries.

The **Electro-Optic Materials** Business Unit supplies germanium-based material solutions to customers around the world. Its main markets are thermal imaging and opto-electronic applications, for which it supplies germanium wafers, infrared lenses and optics, and germanium-based chemicals.

Recycling

In its **Recycling** Business Group, Umicore gives new life to used metals. The Recycling business recovers a large number of precious and other metals from a wide range of waste streams and industrial residues. Its operations also extend to the production and recycling of jewelry materials. This business group also offers products for various applications including chemical, electric, electronic, automotive and special glass applications. It consists of four business units: Precious Metals Refining, Battery Recycling Solutions, Precious Metals Management and Jewelry & Industrial Metals, with at the center its flagship Precious Metals Refining plant in Hoboken, Belgium, unique in its kind. The recycling business group builds on a strong 25-year track record integrating circularity at the core of its existence, many years before circularity became a household word.

Umicore Precious Metals Refining leaching and electrowinning in Hoboken, Belgium

Umicore **Precious Metals Refining** operates as one of the world's largest precious metals recyclers and is the market leader in low-carbon recycling of complex waste streams containing precious and other non-ferrous metals, serving a broad range of customers worldwide. As other business units (such as Automotive Catalyst, Rechargeable Battery Materials and Fuel Cells & Stationary Catalysts) use these metals, Precious Metals Refining truly closes the metals loop in our operations and is therefore at the heart of our closed-loop business model, providing a true competitive edge. It is a key enabler of the low carbon economy as recycling reduces the carbon footprint of metals in the value chain by about 50%. Recent innovations allowed Umicore to maximize input of highly complex PGM materials, such as spent automotive and industrial catalysts. Umicore's unique technology touches the full value chain, going from industrial by-products to end-of-life materials. Precious Metals Refining recovers 17 metals out of more than 200 types of complex waste streams which makes us intrinsically flexible and gives us the opportunity to focus on raw materials that bring us the most value.

"Recycling reduces carbon footprint of metals in the value chain by about 50%."

Growing metal scarcity and increasing complexity of the materials offered for recycling are key drivers for the business. Increasing regulatory requirements and more stringent legislation, such as obligations regarding proportions of recycled materials in the product and environmental restrictions, present a real opportunity for Umicore as it can leverage on its leadership in complex and low-carbon recycling. All of this translates in an increasing structural demand for sustainable and complex recycling solutions regardless of the metal price evolution. In addition, the Battery Recycling Solutions Business Unit (see hereafter) greatly benefits from the world-class expertise of the Precious Metals Refining Business Unit.

Through its leadership in sustainable and complex recycling, the Precious Metals Refining Business Unit is seen to continue to create sustainable value with EBITDA margins above 35%, to generate a 20% return on capital employed by 2030 and to continue to generate substantial cash flows, considering the assumption of normalized Platinum Group Metals prices.

The **Battery Recycling Solutions** Business Unit is an essential part of our contribution to the sustainable electrification of the automotive industry as it enables us to close the loop in battery manufacturing. With accumulated industrial-scale experience in lithium-ion EV battery recycling and over 15 running commercial partnerships with leading car manufacturers and cell makers, Umicore is a true pioneer in this activity. Based on growing customer engagements, the business unit announced plans for a significant scale-up of its battery recycling activities in Europe with a 150,000-ton battery recycling plant. This plant, which will be the largest battery recycling plant in the world, will deploy Umicore's latest proprietary pyro-hydro recycling technology, resulting in industry leading recovery rates for cobalt, copper, nickel and lithium while having a minimal impact on the environment. Upon commissioning of the plant, Umicore is expected to be the first company in Europe covering the full cathode materials value chain at large scale, thereby strongly contributing to the European Union's objective to establish a sustainable and circular electric vehicles battery ecosystem in Europe.

New and more stringent regulatory requirements will support our battery recycling activities further. Metal scarcity, the circular economy component and the focus on limiting the carbon footprint will continue to drive the use of recycled metals in batteries and on a broader scale.

Umicore **Precious Metals Management** is a global leader in the supply and handling of all precious metals. The business unit ensures physical delivery to most countries worldwide, by using the output of Umicore's precious metals refineries as well as its close network with reliable industrial partners and banks. The business unit acts as a link between the recycling activities and producers in need of precious metals (internal as well as external). Umicore guarantees supply continuity through sustainable sourcing of raw materials.

The **Jewelry & Industrial Metals Business Unit** supplies precious metal-based products to jewelers and precious metals processors. It provides semi-finished products and alloys for industrial applications, as well as equipment for high-quality glass applications and optimized performance catalysts for ammonium oxidation processes. It also offers precious metals recycling services. The business unit, headquartered in Germany, has operations in Austria, Brazil, Canada, China, Germany, Thailand and the US.

Capital expenditure

Capital expenditure totaled € 470 million at the end of 2022, compared with € 389 million the previous year.

Energy & Surface Technologies accounted for more than 60% of the Group's capital expenditure, driven by investments in the expansion of the **Rechargeable Battery Materials** business unit European's footprint.

In the Catalysis and Recycling business segments capital expenditure slightly decreased. In **Catalysis,** the Automotive Catalysts business unit continued to focus on investments in production footprint optimization and targeted capacity expansions. In **Recycling**, the increase in capital expenditure was related to environmental and safety investments in the **Precious Metals Refining** business unit. Capitalized development expenses amounted to € 21 million, down versus 2021.

The further expansion of the **Rechargeable Battery Materials** business unit's footprint in Europe, combined with the expected investments in North America, should result in higher Group capital expenditure in 2023 versus previous year.

The **Research & Development** spend represented 7.6% of Umicore's 2022 revenues and capitalized development costs accounted for € 21 million of the total amount.

Associate & joint venture companies

Umicore has investments in various business activities over which it does not exercise full management control. Associate companies are those in which Umicore has significant influence over financial and operating policies, but no control. Typically, this is evidenced by ownership of between 20-50% of the voting rights, while joint ventures usually entail a 50:50 split in ownership and control. Joining forces is a way to speed up technological developments, gain access to specific markets, or share investments.

When management control is not exercised by Umicore, we are able to guide and control the management and monitor business developments through representation on the board of directors. Although we cannot impose our own policies and procedures on any associate or on any joint venture when we do not possess majority voting rights, our expectations that the operations be run in accordance with the principles of the Umicore Way are clearly communicated.

Umicore is rigorous in safeguarding any intellectual property that is shared with associate or joint venture partners. For a full list of associate and joint venture companies, see note F17.

Umicore and PowerCo announce joint venture

In September 2022, Umicore and PowerCo, the battery company of Volkswagen Group, announced the founding of a joint venture for precursor and cathode material production in Europe. Production at the JV is scheduled to start in 2025 to supply PowerCo's Salzgitter factory and reach an annual capacity of 40 GWh in 2026. Both partners target to grow the joint venture's annual production capacity to 160 GWh by the end of the decade, which compares to an annual production capacity capable of powering about 2.2 million full electric vehicles. Under the terms of the agreement, both partners will jointly control the joint venture and will share costs, investments, revenues and profits.

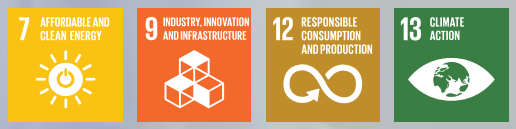
The joint venture will give both partners a significant first-mover advantage in the fast-growing e-mobility market in Europe. Together they plan to invest about € 3 billion into new materials production capacities.

The partnership will provide Umicore with secured access, through firm take or pay commitments, to an important part of the European demand for EV cathode materials at guaranteed value creative returns.

The joint venture is designed to meet both partners' profitability and return criteria and will unlock, for each side, significant synergies and economies of scale. Umicore's IP and know-how will be made available through a license agreement to the joint venture to ensure its leading technology position.

In addition to the joint venture, Umicore and PowerCo will collaborate on the sustainable and responsible sourcing of raw materials, an area in which Umicore is an industry leader. Finally, Umicore will provide refining services to PowerCo and both partners aim to include, at a later stage, elements of refining and battery recycling based on Umicore's technology and know-how into the scope of the joint venture.

Innovation


7 AFFORDABLE AND CLEAN ENERGY
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

15

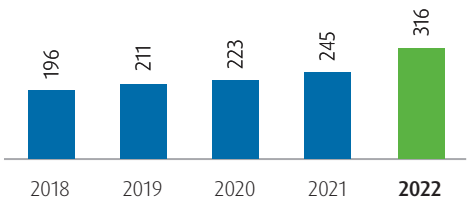
R&D SITES

€ 316m

2022 R&D SPEND

R&D EXPENDITURE

Millions of Euros



Umicore: an innovation & technology leader

Umicore is an innovation and technology leader, combining in chemistry, material science and metallurgy. From battery materials, automotive catalysts, fuel cell catalysts, thermal imaging lenses used in firefighting and security to the electroplating and thin film products that go into high-performance surface products and decorative materials, our innovations are behind many of the cutting-edge products enabling progress in the modern world. Next to creating leading materials solutions we embed circularity entirely in our innovation approach, recycling all valuable elements to a maximum and in a sustainable way.

Umicore Electro-Optic Materials employee in a clean room environment in Olen, Belgium

Innovation and technology are at the heart of everything we do at Umicore, while research and development (R&D) are the lifeblood. It's fitting then that the "I" from innovation is the second pillar and integral to our new 2030 RISE Strategy, unveiled in June 2022. Our future success depends on us maintaining our technological advantage and value creation.

We consistently invest in innovation to meet the growing demand for innovative and sustainable clean mobility materials and for state-of-the-art recycling services to close the loop of precious and other valuable metals.

> **"Innovation and technology are at the heart of everything we do at Umicore, while research and development are the lifeblood."**
>
> Yves van Rompaey, SVP, Corporate Research & Development

Partner of choice

Umicore is known for the breadth and depth of its internal expertise and know-how, with leading international scientific and engineering talent dedicated to developing the next generation of sustainable products and process technologies. Thanks to our team's in-depth knowledge of metallurgy and materials science, a significant part of our technology is delivered using our own R&D findings.

With fast-moving societal megatrends, including the accelerating move to cleaner mobility and electromobility, as well as the need for a circular economy, we cannot find all the solutions by relying on our internal expertise alone. That is why Umicore's community of over 1300 scientists is forging partnerships and developing technologies through market intelligence and open innovation with leading industrial or academic partners and start-ups. Further internationalization of corporate R&D by linking with global ecosystems will be vital in driving up the speed but driving down the complexity and, ultimately, ensuring the success of strategic ambitions.

R&D at Umicore is the cornerstone of our technological development

Umicore's innovations push the boundaries of clean mobility and recycling, and contribute to a sustainability-driven world and the green economy. Innovation is embedded in the core of our business and our strategy – adding value across the organization and supporting our long-term growth. At Umicore, innovation comprises: Corporate R&D; business-unit-level R&D; New Business Incubation (NBI); all of which are supported by essential innovation functions such as open innovation, IP, and strategic insights and analysis. Our community accelerates their own learning through the Umicore Technical and Digital Academy (UTDA).

Our Corporate R&D organization is a cornerstone of our technological development, connecting the R&D departments in our business units and ensuring that all parts of the businesses harness operational synergies for innovation and tap into our deep R&D expertise. In this way, we ensure that innovation is woven into the heart of the business and that our R&D insights are inspired by the market and the needs of our customers.

Umicore Rechargeable Battery Materials employee working at the lab in Nysa, Poland

This is particularly true for **clean mobility and recycling,** where global megatrends as well as political and market demands are accelerating the pace of innovation. Umicore has an advanced position in this rapidly developing area, setting new industry standards with advanced and sustainable product and process technologies.

For clean mobility, we are a **leader in automotive catalysts** for emission control and fuel cells and are already a long-standing **leader in cathode materials** to power the EVs of today and tomorrow. For recycling, we are a pioneer in the fast-growing sector of **EV battery recycling** and an undisputed **champion in precious metals recycling.**

As part of its commitment to reduce diffuse emissions by 25% in 2025 versus 2020, Umicore is using sophisticated R&D modelling and innovative techniques to better identify the sources of metal to air emissions and enable teams to take action as we do for our recycling plant in Hoboken, Belgium.

Next-generation technology also helps us reduce energy consumption throughout our business and hence **reach our decarbonization goals**. Technological advancements are also vital in the capture of nitrous oxide, also already happening in Hoboken, and greenhouse gas emissions, particularly to reach our Let's Go for Zero ambition of Net-Zero GHGs by 2035.

R&D expenditure in fully consolidated companies amounted to € 316 million, up 29% compared with € 245 million in 2021. This significant step-up reflects primarily increased spending in Rechargeable Battery Materials related to next generation design-to-performance and design-to-cost product and process technologies as well as ongoing customer qualifications. Umicore also increased R&D expenditure in battery recycling and advanced technological developments related to decarbonization and emission reduction programs to meet its ambition sustainability targets.

The R&D spend represented roughly 7.6% of Umicore's 2022 revenues and capitalized development costs accounted for € 21 million of the total.

New Business Incubation (NBI)

Umicore created a New Business Incubator (NBI) some years ago aimed at further strengthening and expanding the Group's innovation capabilities. The NBI works in a startup-based environment that benefits from the support and scale of Umicore's global organization. At an early stage, the NBI identifies winning technologies with the potential to become mature businesses over a horizon of 5-15 years. The innovation pipeline is focused on sustainable product and process technologies that enable continued long-term business growth and secure our pioneering leadership in the areas of clean mobility materials, recycling and green hydrogen.

The NBI manages all aspects of business development, exploring, identifying and developing future business opportunities in adjacent and new markets. This allows Umicore to selectively expand in these markets in line with its strategy and strengths.

New incubators are set up within NBI as standalone businesses comparable to start-ups, in which the technology is deployed, pilot lines are built, and commercial sales portfolios are developed. Projects with the potential to reach industrial scale, combined with a strong business model, are transferred to an existing Umicore business unit or could become a new business unit in their own right.

In 2022, the NBI activities included solid state and silicon anode battery materials and exploration of opportunities related to hydrogen generation and storage. In early 2022, these battery recycling activities became one of the first ventures of NBI to graduate into a standalone business unit within Umicore, designated Battery Recycling Solutions (see "Battery Recycling" for more information). We also recently started the industrialization of high lithium, manganese (HLM) technology as a low-cost high-energy density cathode materials solution with lower nickel (Ni) content.

Open innovation

Partnerships play an increasingly essential role in accelerating research and innovation. Our global **Open Innovation team develops Umicore's technology innovation** worldwide network and partnerships, including academia, peer companies and start-ups. Alongside our own research programs, Umicore promotes open innovation and supports the co-development of promising technologies for breakthrough materials and recycling solutions. In 2022, Umicore's dedicated Open Innovation team was involved in over 200 open innovation partnerships focused on long term developments in the fields of materials for clean mobility and recycling solutions.

Continuous knowledge sharing, collaboration and our learning culture enable us to maintain our competitive edge and retain our status as an innovation and technology leader. In 2022, therefore, we organized the first, three-day **Umicore Science and Technology Days**. Over 300 participants in Antwerp, Belgium and Cheonan, South Korea joined the hybrid event.

Guest PHD students at the Umicore Science and Technology days in Antwerp, Belgium

Strategic insights and analysis

The **Strategic Insights and Analysis team** ensures we create a systematic and thorough understanding of market dynamics and industry roadmaps, using corporate forecasting methods and artificial intelligence to provide strategic input to our steering committees and innovation boards.

Clean Mobility & Recycling Innovation

The transportation sector is a major contributor to global CO_2 emissions, producing approximately 7.6 billion metric tons of CO_2 in 2021 up from 7.3 billion on 2020 levels.[1] Passenger cars are responsible for a large part of this pollution. As such, the transition to zero-carbon mobility, with a combination of electric, hybrid and fuel cell vehicles, will play a key role in achieving international climate targets.

Umicore has unique strength in this fast-growing sector, where innovation is driven by the urgency of government climate targets, accelerating plans to phase out sales of fossil-fuel powered vehicles and the consequently accelerating penetration of battery and fuel cell electric vehicles. As a *circular* materials technology company, we provide a full offering to support this innovative roadmap towards ever cleaner vehicles.

We are a **global leader in the supply of automotive catalysts** to clean the exhaust gases from internal combustion engines for light-duty and heavy-duty vehicles and for all fuel types.

Umicore Corporate R&D employees working in Olen, Belgium

We provide **cathode materials for electric vehicles and the catalysts** that are used to power fuel cell-driven vehicles. Most importantly, Umicore also has the capabilities to recycle all these materials and drivetrain components when they reach the end of life, thereby sustainably closing the loop. The scarce resources used in clean mobility technologies create a large carbon footprint from primary sourcing. The ability to recycle and re-use battery and catalysis materials is therefore crucial.

European regulation is setting ever stricter requirements and it is expected that Euro 7 emissions standards will be implemented in 2025, mandating unprecedented levels of cleanliness for ICE vehicles. Looking further ahead, we also anticipate more stringent emission standards in the United States for passenger cars (LEV IV and Tier 4 criteria in 2026) as well as significantly more stringent emissions standards for heavy-duty diesel (EPA and CARB in 2027). Current China 6 emission norms are one of the most stringent emissions standards in the world, and it is expected that China will implement even tougher China 7 emission standards for passenger cars and heavy-duty diesel transportation as of 2027. Furthermore, from January 2027, it is expected that automotive batteries will have to declare quantities of recycled content, and by January 2030,

[1] More information here: https://www.statista.com/statistics/1291615/carbon-dioxide-emissions-transport-sector-worldwide/

minimum levels of recycled content will be required, with higher minima enforced from 2035.

Process Competence Center in Olen, Belgium

Catalysis

Umicore has a unique position in catalysis, supporting clean mobility across all drive-train technologies, with a leading position in gasoline and fuel cell applications. Our continuous innovation in catalyst particles and technologies helps our customers comply with increasingly stringent emission regulations and meet targets to improve air quality and reduce carbon footprints.

Umicore Automotive Catalysts employees in Nowa Ruda, Poland

Internal combustion engine catalysts

The upcoming global, stringent emission standards (EU7/CN7/US27) continue to drive the need for innovative catalyst technologies for light and heavy-duty Internal Combustion Engine (ICE) applications.One example of our cutting-edge innovations for light-duty gasoline applications is the recent launch of the new rhodium-saving "FlexMetal" technology. This new technology helps our customers meet the most stringent emission standards while balancing cost and performance with the optimized usage of platinum (Pt), palladium (Pd), and rhodium (Rh). This technology has already been tested and approved by several customers in Asia, Europe and the US.

As part of the upcoming EU7 emissions legislation proposal, the after treatment of gasoline engines potentially requires a new secondary emissions treatment (SET) technology for the abatement of ammonia. In 2022, Umicore introduced a break-through SET technology on the market, that will help our customers address the EU ammonia abatement standards.

As for light-duty vehicle applications, the aftertreatment of heavy-duty diesel engines faces increasingly stringent emission standards for NOx (nitrogen oxides, a key component of smog) and particulates. This requires state-of-the-art engine technology and innovative catalytic emission control systems.

Umicore, together with Scania, have developed a next generation Exhaust Aftertreament System (EATS). Using a twin-dosing selective Catalytic Reduction System (SCR) the EATS can remove NOx highly efficiently. Our newly developed **UmiCOR®** SCR technology in that twin-dousing system adds value for our customers by reducing CO_2 levels in line with the proposed NO_x EU7 emission standards.

Fuel cell catalysts

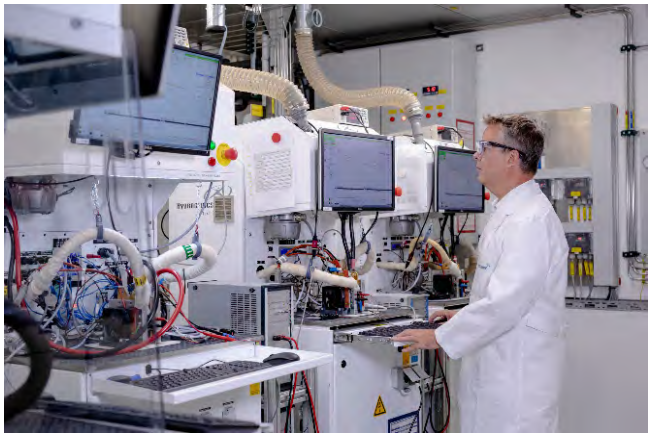
As we partner with our customers on the journey of mobility transformation, we believe that fuel cell electric vehicles (FCEVs) will be increasingly important in our move to cleaner mobility, particularly for heavy transportation. That's when Umicore's experience comes into its own.

Umicore's **Proton Exchange Membrane (PEM) fuel cell catalysts** are designed to provide the automotive industry and green hydrogen production with high performance fuel cells. With 30 years experience of manufacturing fuel-cell catalysts, Umicore has proven know-how in catalyst development, scale-up and industrial scale production.

To complement the development of fuel cell catalysts, in July 2022 Umicore announced that it would **invest in building a large-scale fuel cell catalyst plant in Changshu in China** to capture the fast-emerging growth in fuel cell technology. The plant will enable the accelerated transformation to hydrogen-based clean mobility, serving demand through to 2030. The facility will also be carbon neutral, reducing Scope 3 carbon emissions in the value chain.

Projects set up by Umicore in 2021 to explore opportunities in the generation and storage of hydrogen are ongoing. Development of PGM-based catalysts for Liquid Organic Hydrogen Carrier (LOHC) applications in a large scale port-to-port infrastructure continued throughout 2022. This technology uses existing diesel infrastructure and has the potential to transform the way hydrogen can be stored and used to power FCEVs. LOHC technologies provide an effective alternative to compressed hydrogen, as they allow hydrogen to be chemically bonded to a stable liquid organic carrier, aimed at making the storage and transportation of hydrogen safer, more practical and cost efficient. As a result, LOHC technology may help to overcome some of the existing logistics and infrastructure challenges associated with the use of hydrogen as a fuel for clean mobility. The technology could also save significantly more energy than current commercial solutions. The fuel cell catalysts are being developed in a joint project together with Umicore, the University of Erlangen and Hydrogenous LOHC Technologies.

As part of its circular business model, Umicore recycles fuel cell catalysts re-using metals such as platinum, for fresh fuel cell catalyst production and further reducing their Scope 3 carbon footprint.



Umicore Fuel Cell & Stationary Catalysts employee in Hanau, Germany

Battery materials

Driven by the global megatrend of mobility transformation to electrification, rechargeable battery materials are central to Umicore's ambitious 2030 RISE strategy.

Umicore is a leading producer of cathode materials for lithium-ion batteries used in electric vehicles and is committed to developing materials that deliver higher energy density, faster charging times and a higher life cycle at a competitive cost, while always meeting the strictest safety standards. Our technology roadmap spans short-, mid- and long-term research horizons not only for lithium-ion battery materials but also sodium-ion and disordered rock salt battery materials.

Umicore Rechargeable Battery Materials employees in Nysa, Poland

High-nickel cathode chemistries are a strong focus of attention, as nickel helps deliver higher energy density. Umicore has successfully repositioned its offer to become a major player in high-nickel chemistry. This is a major factor behind our joint venture with PowerCo, the battery company of the Volkswagen Group, for precursor and cathode material production capacities in Europe to supply PowerCo's European battery cell gigafactories production.

Europe's first battery materials gigafactory

Umicore took a landmark step in 2022 when it inaugurated Europe's first battery materials gigafactory in Nysa, Poland. This new carbon-neutral facility producing cathode active materials (CAM) for electric vehicle marks an important step in achieving the European Union's ambition of having its own battery ecosystem that is both sustainable and competitive on a global scale.

> **"We're very proud to open Europe's very first gigafactory for cathode active materials. Umicore's carbon-neutral facility in Nysa is a true enabler and accelerator of the e-mobility transformation across the EU."**
>
> Mathias Miedreich, CEO of Umicore

Plans to construct a CAM and PCAM manufacturing facility in Ontario, Canada were announced in July 2022, representing another step for Umicore in establishing a truly global production presence with local-for-local battery value chains.

New technologies, such as silicone-based anodes can also boost the energy density in lithium-ion batteries, thanks to their higher capacity, and solid-state batteries are another area of our innovation focus. Solid-state batteries are expected to substantially increase the energy density compared to commercially available lithium-ion batteries today, thus alleviating the two largest concerns for passenger EV adoption: cost and range anxiety. The safety profile of solid-state batteries also exceeds that of traditional lithium-ion as a result of its truly all-solid cell architecture, avoiding the use of liquid organic electrolyte. Alongside several leading car manufacturers and cell makers, Umicore has invested in **Solid Power**, a US developer of solid-state battery technology. In 2022, Umicore also partnered

with **Idemitsu** to develop high-performance catholyte materials. Both investments demonstrate our commitment to furthering solid-state battery technology in partnership with key industry players.

In April 2022, a **new global R&D center for cathode materials** became fully operational in Cheonan, Korea. The new world-class R&D center is geared to the high performance and efficient development of cost-oriented cathode active materials, resulting in a top-notch technology partner for rechargeable battery materials. Later that month, Umicore announced that it had entered **a strategic partnership with Automotive Cells Company (ACC)** for EV battery materials in Europe.

Battery recycling

Umicore is a global leader in recycling complex waste streams containing precious and other valuable metals. Our closed-loop business model is a powerful strategic differentiator that has helped us build a pioneering position in the recycling of rechargeable batteries. Our battery recycling plant in Hoboken, Belgium, has an annual input capacity of 7,000 tons of lithium-ion batteries and battery production scrap, the equivalent of 35,000 electrified vehicle (xEV) batteries.

End-of-life batteries in Umicore's Battery Recycling Solutions plant in Hoboken, Belgium

As demand for electrified vehicles (xEVs) grows exponentially across the world, our battery recycling expertise and long-standing competences in hydro- and pyrometallurgy recycling processes place Umicore in a unique position to meet the needs of automotive manufacturers and the wider EV supply chain. The technology provides input flexibility, as well as the robustness of pyrometallurgy. It is an effective, reliable, robust and scalable technology that is able to recover lithium in addition to cobalt, nickel and copper. The environmental impact of this process is better than any other alternative in the market.

The creation of the new Business Unit Battery Recycling Solutions, underlines our commitment to make battery recycling and our closed-loop model an essential part of our contribution to the sustainable electrification of the automotive industry. Our proprietary recycling technology is a significant step-up in recycling performance. With the increased extraction efficiency of cobalt, nickel and copper, yields can reach over 95% for a wide variety of battery chemistries. This includes the capability to recover most of the lithium in EV batteries, solving a key constraint in existing recycling capacity. The recovered metals will be delivered in battery-grade quality at the end of Umicore's recycling process, allowing them to be re-introduced in the production of new lithium-ion batteries. With minimal waste and impact on the environment, this **next-generation recycling technology will be vital for the surge in EV adoption**, putting Umicore in a strong position to forge commercial partnerships in the EV value chain. In early 2022, Umicore signed an agreement with ACC, to use our battery recycling services and technology for the needs of its pilot plant in Nersac, France.

We announced at our Capital Markets Day in June that we will be scaling up our capacity with a new 150,000-tons/year unit in Europe and will build on our experience in pyro-hydro technologies. A good starting point is our existing presence in Europe followed by the roll-out of a similar model in North America.

Digitalization accelerating innovation

With the future scale of our organization, the speed at which the world around us is changing, we need to excel at everything we do. Operational excellence and **digitalization** are key enablers to achieve our strategic ambitions.

Whether it is to optimize our processes, track emissions, reduce energy consumption, use robots to carry out dangerous activities or even provide more widespread access to training, digitalization is a vital tool in our ongoing innovation. Digitalization at Umicore is driven by healthy collaboration among different departments and teams. In 2022, at Umicore's Science and Technology Days several organizations showcased how their digital solutions were helping to accelerate innovation and technology within Umicore.

Innovation and technology are so deeply rooted in our organization. Continued investment in R&D and "Next Gen" technology will be vital to achieving our bold, strategic ambitions on our journey to 2030.

Umicore Science and Technology Days in Antwerp, Belgium

Environment

55%

SECONDARY MATERIALS IN INPUT MIX

-45%

DIFFUSE METAL EMISSIONS VS 2020 BASELINE

35%

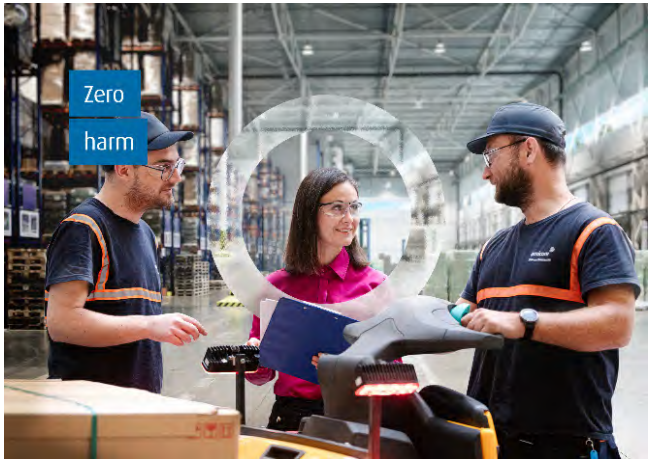
RENEWABLE ENERGIES IN PURCHASED ELECTRICITY MIX

Minimizing impact on climate and the environment

Minimizing the impact of our operations on climate and the environment are key elements of our sustainability strategy.

The Umicore Way and our mission of Materials for a Better Life drive our commitment to sustainability. As a materials technology company, we aim to increase the efficient use of metals, energy and other inputs in our operations to balance environmental and economic factors and work to increase closed-loop relationships with our customers. Our success is measured in our ability to make sustainability a competitive advantage.

Minimizing the environmental impact of our operations is an integral part of our **Zero Harm ambition**. Building on significant achievements tied to state-of-the-art operations in terms of intensity and environmental impact, Umicore continues to maximize the efficient use of resources and minimize emissions to air and water. Umicore is committed to reducing diffuse metal emissions by 25% by 2025 compared with 2020 and implementing water stewardship in 100% of our operations. Read more about our first findings in terms of biodiversity here.



Umicore Automotive Catalysts employees in Nowa Ruda, Poland

Sustainability at the heart of new strategy

Being a sustainability champion is at the heart of our new **2030 RISE Strategy,** launched in June 2022. In practice, this means we are minimizing the impact of our operations and maximizing our positive effect on society, supporting the journey to decarbonization.

As the backbone of our climate action plan, our **Let's Go for Zero ambition** establishes our targets and milestones to reach our goals. We are committed to carbon neutrality for Scopes 1 and 2 greenhouse gas emissions (GHGs) by 2035, with different milestones along the way and using 2019 as the baseline. In addition to our net zero targets, we are committed to running all our European operations on renewable energy by 2025.

Reducing GHGs

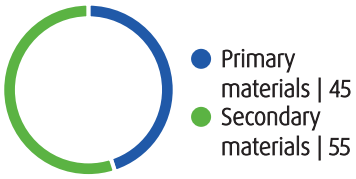
To have a meaningful impact on climate change we need to ensure the sustainability of our value chain. Umicore is therefore working with suppliers to reduce Scope 3 GHGs. In 2022, Umicore announced its ambitious target to reduce the carbon intensity of purchased materials by 42% by 2030. To achieve this ambition, we will not increase the Scope 3 emissions of our raw materials, despite the exponential growth projected in our 2030 RISE Strategy. Umicore's 2030 targets for Scopes 1, 2 and 3 are validated by the Science-Based Target initiative (SBTi), confirming their alignment with climate science.

Umicore supports the Taskforce on Climate related Financial Disclosures (TCFD) and joined the Belgian Alliance for Climate Action (BACA).

Resource efficiency

INPUT MATERIALS MIX

%



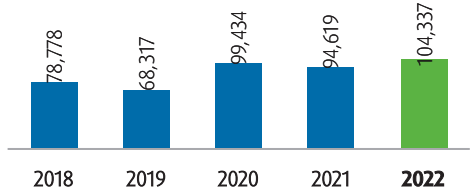
The ambition to address increasing global resource scarcity and achieve material efficiency is an important factor in our strategy. Umicore is a world leader in the eco-efficient recycling and refining of precious, special, secondary and base metals-bearing materials. Our eco-efficient process entails maximizing the physical recycling of materials while minimizing the associated environmental burden. We recover and sell these metals and our closed-loop business model maximizes the re-use of materials.

In 2022, 55% of the materials were from secondary origin and 45% were of primary origin stable compared with previous year's data. In 2022, post-consumer raw materials represented approximately 45% of total secondary raw materials for the Group. Over time, factors impacting secondary materials availability for Umicore's input mix could be the rapid growth in demand for clean-mobility materials, linked to society's shift to decarbonization, combined with long lead times between bringing material to the market and having material available for recycling.

Waste

TOTAL WASTE[1]

tons



1 Data from previous years is for indicative purposes only.

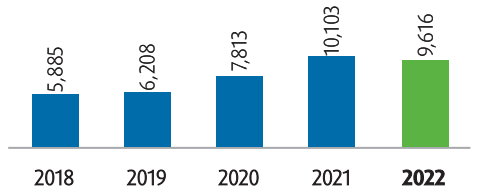
Umicore's commitment to resource efficiency is at the heart of our closed-loop business model. We maximize the use and reuse of the materials in our flows. (See 2030 RISE Strategy section for more information). Similarly, we monitor and seek to minimize the waste generated by our operations.

In 2022, a total of 104,337 tons of waste were generated compared with 94,619 tons in 2021, an increase of 10%. While total volume of non-hazardous waste reduced by 13% from 21,065 tons in 2021 to 18,363 tons in 2022, the recycling rate of non-hazardous waste remained stable with 69% in 2022 compared with 71% in 2021. Mainly due to the disposal of stockpiled amounts, the total volume of hazardous waste increased by 17% from 73,554 tons in 2021 to 85,974 tons in 2022, while the recycling rate of hazardous waste remained relatively stable with 7% in 2022 compared with 8% in 2021.

Water

TOTAL WATER WITHDRAWAL[1]

megaliters



1 The data from 2017-20 is "water use" with a slightly different definition, see Environmental Statements

Umicore water treatment installation in Olen, Belgium

In 2022 Umicore set out to define its water stewardship program as part of the Zero Harm pillar of the Let's Go for Zero ambitions. Water use at Umicore is key to our processes and operations. Like metals, water can be infinitely reusable and renewable if treated with care. Our climate action plan includes treating climate- and water-related disasters, while a key piece of our Zero Harm ambition is to minimize our impact on water as a resource. In this context, we have therefore defined a Umicore water stewardship program. Within this program Umicore will launch, in 2023, a risk-based approach to

address the relevant water issues at all operational sites, starting off by developing contextual water action plans for the Olen and Hoboken sites. From our assessment these sites proved to be the most significant from a double materiality perspective.

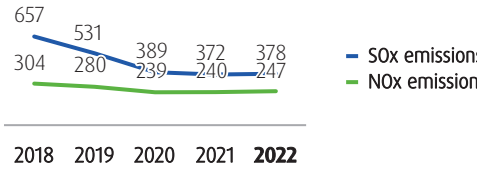
In terms of data collection Umicore adopted the GRI definitions and has actions in place to arrive at audit-quality data calculations and build further on the existing processes to improve insight in water data.

Total water withdrawal in 2022 amounted to 9,616 megaliters while total freshwater withdrawal was 9,405 megaliters, which represents a slight decrease compared with 2021. Distribution of water withdrawal remained almost stable across the business groups compared with 2021. Based on the group assessment for water, using WRI Aqueduct, it was identified that several sites withdraw water from water stressed areas. At Group level the water withdrawal from water stressed areas was 5,380 megaliters while freshwater withdrawal from water stressed areas was 5,345 megaliters. In comparison with 2021 these volumes are stable. The total water discharge for the group was 8,094 megaliters in 2022 of which 1,906 megaliters represents discharge of freshwater. The freshwater consumption for the Group amounted to 7,499 megaliters.

Emissions

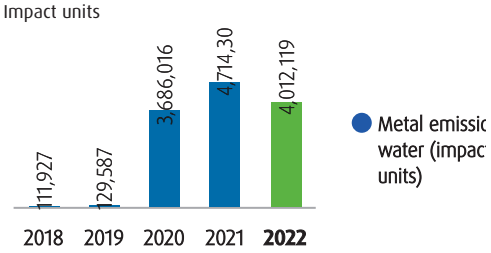
SOX & NOX EMISSIONS

Tons



METAL EMISSIONS TO WATER[1] [2]

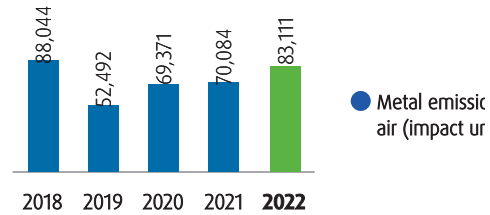
Impact units



1 Impact factors have been updated compared with previous years.
2 Metal emissions to water data has been restated for 2020 and 2021, see Environmental Statements

METAL EMISSIONS TO AIR[1]

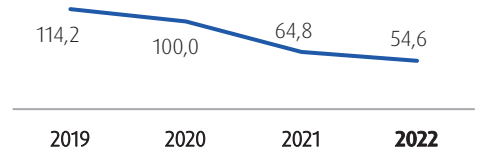
Impact units



1 Impact factors have been updated compared with previous years.

DIFFUSE METAL EMISSIONS - HOBOKEN SITE[1]

% impact of the 2020 baseline



1 Relative impact of diffuse emissions (Pb,As and Cd), averaged over three measuring posts and over full year.

Umicore has been systematically tracking metal emissions to water and air from point sources since 2011. Ambitious reduction targets have been achieved since then, and we strive continuously to reduce the impact that our metals emissions have on the environment. We focus on emissions that are relevant to the environment in terms of impact and that are affected by the metals present in Umicore's material flow. We monitor and take steps to reduce the impact of emissions on the environment – to air, water and on the soil.

Different metals each have different and specific potential toxicity levels for the environment and human health. For this reason, we focus on reducing the impact of our emissions by applying an impact factor. In 2021, we reviewed the scientific basis behind this approach and revised the impact factor of several metals. This revision has been applied to emissions values from 2018 onwards.

The **SOx** emissions for the Group slightly increased by 2% from 372 tons in 2021 to 378 tons in 2022. The **NOx** emissions also show a slight increase by 3%, with 247 tons in 2022 compared with 240 tons in 2021.

Umicore Rechargeable Battery Materials site in Kokkola, Finland

Metal emissions to air in 2022 were 83,111 impact units, up by 19% from 70,084 in 2021. The corresponding loads of metals to air increased by 22% year-on-year, from 994 kg in 2021 to 1,214 kg in 2022. The increase can be attributed to increased activities in the Energy & Surface Technologies Business Group, leading to an increase in calculated metal load while staying well within the legal emission limits at the sites. The metal emissions at most of the material sites at Umicore actually decreased year-on-year, due to a combination of increased filter efficiency, improved air emissions abatement systems and fewer working hours for certain equipment.

Metal emissions to water in 2022 decreased 15% to 4,012,119 impact units, from 4,714,302 in 2021. This can be mainly attributed to a decreased emission in production activities at the Rechargeable Battery Materials plant in Kokkola. The corresponding load of metals to water for the Group decreased by 15% year-on year, from 908,186 kg in 2021 to 774,306 kg in 2022.

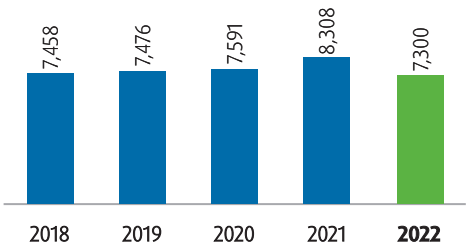
During the reporting year 2022, it was discovered that a material load of emissions to water was omitted from the reporting for the period 2020-21, for a site that was acquired by Umicore in 2019. The loads and metal impact to water have been recalculated for those years accordingly, leading to significant changes to the overall impact for the Group due to regular, significant emissions of a metal with a relatively low impact factor. Umicore has at all times been in compliance with local legislation regarding this discharge.

As opposed to the "guided" emissions described above, from a point source such as a chimney, **diffuse emissions** originate from a non-point source, such as from dust when handling raw materials. Achieving our Group-wide target of a 25% reduction from the 2020 baseline means defining targets for each site identified as contributing to Umicore's impact in terms of diffuse metal emissions — namely the site in Hoboken. In 2022, this production site further improved the management of diffuse emissions, bringing its impact down by 45% compared with the site's 2020 baseline.

Energy

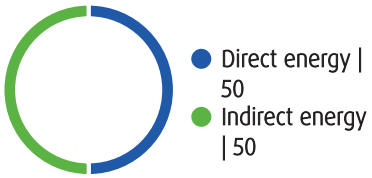
ENERGY CONSUMPTION (ABSOLUTE)

Terajoules



ENERGY BY SOURCE

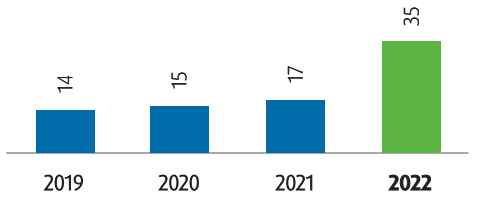
%



Energy by source

RENEWABLE ENERGY IN PURCHASED ELECTRICITY

%



Umicore has a long history of prioritizing energy and process efficiency across its operations. In the context of our Let's Go for Zero strategy ambitions, efficiency remains a priority to help us achieve our ambitions of Net Zero Scopes 1+2 GHG emissions by 2035. Energy consumption continues to be monitored and reported on all sites, including for energy efficiency projects. The two largest sites in Belgium have been part of the energy efficiency covenant with the Flemish Government since 2004.

In 2022, 32 sites accounted for more than 95% of the Group's energy consumption with a total of 46 energy efficiency projects implemented over the course of the year. These projects cover a broad spectrum of improvements such as process optimization,

Heating Ventilation & Air Conditioning (HVAC), lighting and insulation. This year, we are sharing two energy efficiency project outcomes.

In our Automotive Catalysts site in Bad Säckingen (Germany), the process team analyzed the frequency drive of the main exhaust fan. Exhaust gases are completely combusted in a burner fueled by natural gas. Optimization in the frequency enables a reduction in natural gas use, leading to an estimated annual energy saving of 2,000 MWh, equivalent to 404 tonnes CO_2e saving per year.

At our Rechargeable Battery Material site in Cheonan (South Korea), an annual energy saving of 697 MWh is realized in a HVAC efficiency project, saving 287 tonnes CO_2e per year. During the winter season, the temperature in the production area will be controlled by venting hot air via fans, substituting the operation of the air conditioning.

Total energy consumption in 2022 was 7,300 TJ compared with 8,308 TJ in 2021, a decrease of 12%. This decrease in energy consumption can be mainly attributed to a decrease in activity in our Energy & Surface Technology Business Group and reduced energy use in Recycling. In 2022, direct energy consumption was 3,616 TJ, or 50% of the total energy consumption for the Group, and indirect energy consumption for industrial sites and office buildings was 3,685 TJ, or 50% of the total energy consumption for the Group. Umicore's **energy intensity ratio** amounted to 1.8 for 2022, down from 2 in 2021.

The total global electricity use was 919,520 MWh, of which 35% was from renewable sources — up from 17% in 2021. In Europe, where a significant share of electricity demand occurs in the Group, the share from renewable sources was 55%. The Group's target for renewable electricity is a 60% global share and a 100% share in Europe by 2025.

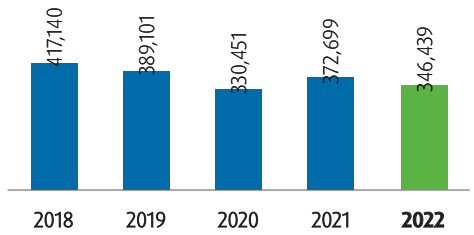
In 2022, Umicore also completed additional on-site renewable electricity installations, including solar installations at our sites in Shirwal (India) and Jiangmen (China). Collectively both projects resulted in 3,066 MWh of renewable electricity.

Umicore site in Olen, Belgium

Greenhouse Gas Emissions

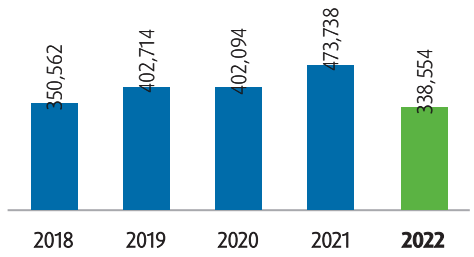
SCOPE 1 EMISSIONS

Tons CO_2e



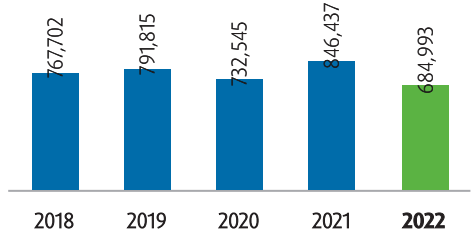
SCOPE 2 EMISSIONS - MARKET BASED

Tons CO_2e



SCOPE 1+2 GHG EMISSIONS - MARKET BASED

Tons CO_2e



Scope 1 emissions are direct GHG emissions from owned or controlled processes and Scope 2 emissions are indirect GHG emissions from the generation of purchased energy. Total market-based emissions (Scopes 1+2) in 2022 decreased 19% year-on-year to 684,993 tons CO2e, from 846,437 tons CO2e in 2021, with reductions observed in all business groups and year-on-year reductions both on Scope 1 (7%) and Scope 2 (29%).

The decrease in **Scope 1** emissions occurs in all business groups. In Hoboken (Belgium), the nitric acid plant became operational in the last quarter of 2022. This installation captures nitrous oxide, a potent GHG emission, converting it into nitric acid. This led to a 20% decrease in nitrous oxide emissions verus 2021, and it will deliver a significant decrease in process emissions in 2023.

Market-based **Scope 2** reductions in 2022 are also observed in all business groups. This is largely attributed to changes in electricity grid emission factors (EFs). As of 2022 Umicore applies more strictly the hierarchy for electricity grid EFs as per the Greenhouse Gas Protocol. In decreasing order of preference and where available, we use supplier specific EFs (contracts, certificates), the latest residual mix EFs (national, subnational or regional) and national production EFs.

Total location-based emissions were 707,690 tonnes CO2e. As compared with 2021, the market-based Scopes 1+2 total is lower than the location-based total, attributed to more sites with contracts with exclusively renewable electricity, use of guarantees

of origin for renewable electricity and on-site renewable electricity installations. Umicore's **GHG intensity ratio** amounted to 165 for 2022, down from 213 in 2021 and 226 in 2020.

Umicore has set a target for **Net Zero Greenhouse Gas (GHG) emissions in Scopes 1 and 2 by 2035**, with intermediate milestones of a 20% reduction by 2025 and a 50% reduction by 2030. These milestones are set against our 2019 GHG emissions baseline: 791,915 tons CO_2e total Scopes 1 and 2 emissions. As compared with the baseline, total market-based emissions in 2022 decreased by 13%.

In 2022, Umicore created a full **Scope 3** inventory for 2019 to serve as a baseline for the definition of a Science Based Target initiative (SBTi)-compliant scope 3 target. This baseline year was chosen to align with that used for the scope 1 and 2 target. As 2019 was also the most recent year not impacted by the COVID-19 pandemic, SBTi allowed 2019 in the baseline selection.

Scope 3 emissions for 2019 amount to 8.2 million tons of carbon dioxide equivalent (CO2e), around 10 times the combined amount of scope 1 and 2 emissions for the same year. The largest amount of these emissions, 7.3 million tons, comes from upstream activities, of which the category "purchased goods and services" represents more than 90%.

As part of the Let's Go for Zero ambitions announced in June 2021, we committed to having our greenhouse gas (GHG) emissions reduction target validated by the SBTi. Considering the absolute value of our Scope 3 emissions; our future growth; and that the materials we buy have the largest impact on our scope 3 footprint, we have defined a carbon intensity target for our purchased goods and services. The target aims to reduce emissions by 42% by 2030, compared with the 2019 baseline.

We have identified different levers to achieve this very ambitious target. The first lever is really making use of our unique and strong closed-loop model. The second is to increase the input of secondary materials in our mix. The third is working together with our suppliers giving preference to those suppliers that either already have a low-carbon footprint or at least a clear roadmap towards one. The fourth and final lever is moving further upstream into refining.

Greenhouse gas emissions linked to purchased goods and services in 2022 have increased to about 7.3 million tons compared with 6.8 millions tons in 2019. This is linked to an increase in the tonnage of the raw materials processed. For more, see the Environmental Statements.

In 2023, we will continue to work with our suppliers on their emissions profile, helping to identify ways in which they can reduce the footprint of the products they deliver to Umicore. Although Umicore's Scope 3 target focuses on the category 3.1: "Purchased goods and services", we will also work towards reducing emissions in the other impact categories, with a focus on upstream such as transport-related emissions. See Responsible and sustainable sourcing in our supply chains .

For **avoided emissions**, also referred to as "**Scope 4**", see Sustainable Products & Services and the Environmental Statements.

Regulatory compliance & management system

In 2022, some 45,000 environmental measurements were carried out at all Umicore's industrial sites, compared to some 58,000 the year before. The ratio for the number of measurements that did not meet the regulatory or permit requirements is very low at 0.25% for the Group, compared to 0.10% in 2021. It should be noted that during the analysis of the 2022 regulatory compliance data uncertainties were encountered with regard to the count of measurements and exceedances at several sites, having an impact on the total count and the compliance excess rate. Therefore, numbers presented here can be seen as indicative only. In 2023, further work will focus on strengthening the reliability of these indicators.

Of the 52 consolidated industrial sites, 50 have put in place an environmental management system certified against ISO 14001. The two remaining sites are acquisitions/new sites that joined Umicore reporting in 2018 and 2021, these sites are planning the implementation of an environmental management system during 2023.

In total, 66 environmental complaints were received in 2022, the large majority of which was related to noise and dust. Seven of the complaints are ongoing.

Managing impact from historical activities

The history of Umicore goes back more than 200 years. It all started with the coming together of several mining and smelting companies, which gradually evolved into the materials technology and recycling company Umicore is today. In the mid-1990s, Umicore began divesting all mining rights remaining from its historical predecessor companies. Mine closures and restitution of concessions to state authorities are consistently carried out in collaboration with the competent authorities and local stakeholders. Remediation projects for smelting and refining installations are developed in close consultation to ensure any risks are reduced to levels acceptable to the authorities.

Umicore's proactive program for assessing and, where necessary, remediating soil and groundwater contamination is defined in The Umicore Way. The following paragraphs illustrate the progress made in the main ongoing programs during 2022.

Belgium

Our oldest predecessor company, Vieille Montagne, was granted a mining concession by Emperor Napoleon Bonaparte in 1805, with five more concessions added over time, all located in eastern Wallonia. Mining activities ceased in the 1950s, and extensive rehabilitation work was carried out in close consultation with the competent authorities. Four concessions were officially retroceded to the Government, with the remainder ongoing.

Historical non-ferrous metals production in Hoboken, Olen, Balen and Overpelt impacted soil and groundwater on the industrial sites and on neighboring land. In 1997, Umicore concluded a voluntary Covenant with the Flemish Region to deal with this historical

contamination, signing an addendum in 2004 with the regional waste authorities (OVAM) and the Flemish Regional Minister of the Environment. We committed to spend € 62 million over 15 years for historical pollution remediation on four sites, including two sites in Balen and Overpelt that were divested by Umicore in 2007 and that now belong to Nyrstar. OVAM and Umicore also joined forces to remediate historic pollution in the 9km-perimeter surrounding the industrial sites, over 10 years, both contributing € 15 million to a remediation fund. In 2014, OVAM and Umicore agreed to extend the program an additional five years. The covenant came to an end in 2019, but the remedial efforts at the Umicore sites will continue as long as is necessary.

Umicore site in Hoboken, Belgium

Hoboken

In Hoboken, the plant was originally founded as a lead and silver refining operation in 1887. Over the next 135 years the site has grown into one of the largest and most sophisticated refineries and recyclers of metals in the world. Over the years, Umicore has replaced heavily contaminated topsoil and remediated the historical contamination in the adjacent residential area. On the operational site an extensive soil and groundwater remediation is ongoing in order to address existing risks to the environment. During 2022 on site soil remediation proceeded at steady speed, and approximately 25,000 tons of soil has been remediated. The next stage of groundwater remediation aims to further isolate the groundwater at site from the environment. Prior to the start-up of this new groundwater drainage system, and to avoid run-off to the environment, additional monitoring was undertaken in agreement with OVAM. The monitoring evaluated the added value of further extending the groundwater catchment system. Meanwhile the current groundwater remediation efforts are operated successfully. About 6,000 m^3 of groundwater has been purified in the on-site wastewater treatment plant. The majority of this water has been re-used at site.

Olen

In Olen, contamination in and around the site results from historical production activities of mainly copper and cobalt. An on-site groundwater remediation program, started in 2007, is ongoing to remove contaminated groundwater and avoid further spreading of the plume. In 2022, the soil remediation proceeded as planned in view of the infrastructure works at site. Approximately 1,000 tons of contaminated soil and buried waste were further excavated during 2022.

Between 1922 and 1980, radium and uranium were produced in Olen, including radium used in experiments by Marie Curie. The radium production plant was demolished during the 1970s and the production waste was confined to a temporary but long-term aboveground storage facility, according to contemporary standards. Umicore continues to monitor on site and takes measures whenever necessary.

However, to ensure a long-term solution to future generations, we are working with the federal and regional agencies for the storage of historical radioactive waste. In 2020, the **Federal Agency for Nuclear Control** issued guiding principles for the permanent remediation and storage of this legacy radioactive material in a vision note. This was an important step towards addressing once and for all the historical radioactive legacy at the Olen site and a big step towards a sustainable solution. Joint working groups, including government agencies FANC/AFCN, NIRAS/ONDRAF, OVAM and Umicore are setting out the steps towards a complete remediation program for this exceptional legacy. Developing and implementing this detailed roadmap is expected to take several years.

In 2022, the Minister of the Interior provided a legal framework stipulating requirements for the remediation of soil contaminated by radioactive substances. The Council of Ministers approved a preliminary draft law. The legislation brings us one step closer to effective remediation of this radioactive contamination in Olen.

Meanwhile, Umicore continues risk monitoring. Measurements and controls are carried out on a regular basis by FANC/AFCN and Umicore. In each case, the results confirm that there is no danger to humans and the environment.

Brazil

During an environmental assessment following the acquisition in 2003 by Umicore of industrial units in Americana (SP), Guarulhos (SP) and Manaus (AM) in Brazil, pre-existing groundwater pollution was detected at the Guarulhos site. This historical pollution originates from before Umicore's purchase of the operations. Umicore installed a hydraulic barrier in 2011 to prevent further spreading of this contamination. Targeted extraction systems were put in place on site to speed up the remediation.

In addition, Umicore worked with the local authorities, to relocate residents in the area adjacent to the plant and converted the vacated space into a park in 2016, minimizing the potential exposure of the population. The industrial activities moved to Americana during 2020 and 2021 and the industrial buildings in Guarulhos were closed and partially demolished.

Groundwater remediation is extremely complex and requires a very specific step-by-step approach. It is therefore not exceptional that such projects take 10 or more years. To speed up the process, state-of-the-art remediation techniques (e.g. thermal remediation) were commissioned. Trials of these techniques took place between 2021 and 2022 and are expected to be fully operational in 2023. Studies to further improve and shorten the lead times for remediation projects are ongoing. As always, such studies are carried out in

close cooperation with the relevant national and local authorities and regulatory bodies.

France

Umicore's predecessor companies operated mines in the south of France from the mid-1800s. The last mining activities were terminated by the early 1970s and extensive rehabilitation work was carried out during the 1990s. All former mining concessions in France have now been retroceded to the French Government.

Zinc mining in Saint-Félix-de-Pallières began in the 19th century. The concession was closed in 1971 in full compliance with legislation and was waived in 2004 by the French authorities. Umicore regularly monitors a landfill containing flotation residues, which remains Umicore's property. To guarantee its long-term safety and stability, Umicore carried out and completed extensive refurbishment work in 2021 and 2022, including remodeling the land surface; installing engineered stability layers; planting vegetation; and improving the drainage system, all of this in close contact and under the supervision of the relevant authorities. In 2019, the French State issued four injunctions for Umicore to implement further remediation measures. These injunctions were later annuled in 2020 on the grounds that Umicore complied with all its obligations at the time of termination of its operations. The cases are now on appeal. A decision by the Administrative Court of Appeal is expected in 2023. These injunctions relate to different sites of the former mining operations, the main one being the landfill on which Umicore in the meantime completed the relevant remediation operations.

In Viviez, pollution in and around the site results from historical zinc refining activities that started in 1855 and stopped towards the end of the last century. Umicore invested € 40 million in a large-scale remediation program from 2011 to the end of 2016 and has transferred post-remedial obligations to a third party. Together with other partners, Umicore joined a voluntary program in 2017 to address soil contamination in private gardens around the Viviez site. Data was collected between 2017 and 2018 and measures were defined by a dedicated expert panel established by the competent authorities. During the last two years, Umicore has prepared extensively for execution of the work in consultation with relevant stakeholders, including developing a detailed roadmap and planning schedule. The project is scheduled to start during the first half of 2023 and estimated to finish during the course of 2024. This project is carried out on a voluntary basis.

United States

In 1980, Umicore's predecessor company acquired an abandoned silver-gold mine at Platoro in a nature recreation area in the Rocky Mountains in Colorado. Subsequent exploration was unsuccessful and further exploitation of the mine was stopped.

Saint-Félix-de-Pallières - Photographed by Elise Delpech

In the 1990s a water treatment plant was installed, which was replaced by a new modern facility in 2018 with a view to further decreasing metal concentration in the discharge and the volume of solid waste. A proposal received by Umicore/Union Gold in 2019 for a new effluent permit to be attained in 2024 was immediately contested by Union Gold, who argued against the technical feasibility of the very stringent limits for arsenic included within. The competent authorities accepted these arguments and recommended applying for a less stringent permit. Meanwhile, Union Gold tested additional treatment steps in the wastewater treatment plant. Water drainage is highly dependent on natural weather conditions, dealing with snowfall in winter and the melting of snow in spring, which releases water in the mine openings, carrying the natural rock metals with it. This necessitates regular upgrades. Continuous improvement work on the water treatment plant at the site was carried out and will continue in the coming years. Umicore will oversee this project on a long-term basis in cooperation with the relevant authorities.

At the cobalt-producing facility operated from 1980 to 2010 by Umicore and our predecessors in Maxton, North Carolina, soil and groundwater contamination was identified after closure and demolition of the plant. Umicore entered a voluntary program with the authorities and has put in place comprehensive groundwater remediation to address the issue fully by 2033. The land owned by Umicore was divested in 2021. The current groundwater remediation plan is under review in order to allow identification of potential efficiency gains with a view to further improving the long-term management of the groundwater resource to the extent possible, based on up-to-date monitoring data.

Environmental key figures

	unit	notes	2018	2019	2020	2021	2022
CO_2e emissions (scope1)	tonne	E7	417,140	389,101	330,451	372,699	**346,439**
CO_2e emissions (scope2) - Market based	tonne	E7	350,562	402,714	402,094	473,738	**338,554**
CO_2e emissions (scope2) - Location based (1)	tonne	E7	368,649	426,074	421,089	421,990	**361,251**
Energy consumption	terajoules	E6	7,458	7,476	7,591	8,308	**7,300**
Renewable electricity	%	E6	-	14	15	17	**35**
Metal emissions to water (load) (3)	kg	E5	1,861	2,052	696,523	908,186	**774,306**
Metal emissions to water (2) (3)	impact units	E5	111,927	129,587	3,686,016	4,714,302	**4,012,119**
Metal emissions to air (load)	kg	E5	1,564	864	984	994	**1214**
Metal emissions to air (2)	impact units	E5	128,247	65,189	69,371	70,084	**83,111**
Diffuse metal emissions	%	E5		114.2	100.0	64.8	**54.6**
SOx emissions	tonne	E5	657	531	389	372	**378**
NOx emissions	tonne	E5	304	280	239	240	**247**
Water withdrawal	thousand m3	E4	5,885	6,208	7,813	10,103	**9,616**
Fresh water withdrawal	thousand m3	E4				9,764	**9,405**
Total waste produced (1)	tonne	E3	78,778	68,317	99,434	94,619	**104,337**
Hazardous waste (1)	tonne	E3	58,759	47,589	78,055	73,551	**85,974**
of which recycled (1)	%	E3	5.3	7.9	5.0	8.0	**6.7**
Non hazardous waste (1)	tonne	E3	20,018	20,728	21,379	21,065	**18,363**
of which recycled (1)	%	E3	62.2	59.4	64.7	71.4	**69.5**
Compliance excess rate	%	E8	0.14	0.10	0.15	0.10	**0.25**
Environmental complaints	N°	E8	29	33	80	104	**66**
Sites ISO 14001 certified	%	E8	91	95	96	94	**96**

(1) Definitions of KPIs have changed over time. A direct comparison of numbers before 2021 is therefore not fully applicable.

(2) Impact factors have been updated for all years compared with previous years. See more information in Environmental Statements section E5 and Performance section Emissions.

(3) Metal emissions to water data has been restated for 2020 and 2021. See more information in Environmental Statements section E5 and Performance section Emissions.

Employees

11,565

Group employees

23.5%

Women in our workforce

93%

Retention rate

People: who we are

Our success is driven by the skills, passion and diversity of our people

As the 2030 RISE Strategy sets out the next exciting chapter for Umicore, as the *circular* materials technology company, **our people, with their skills, experience and energy**, are even vital to our success. They are what make Umicore one of the most exciting, influential and attractive companies in which to work.

As a result, we continue to invest significant resources in ensuring we are an employer of choice in all the regions where we operate. We support our employees in every way we can, and we support their right to collective bargaining by engaging in constructive dialogue with them.

The year 2022 was a particularly busy year for Umicore. At Group level the new 2030 RISE Strategy was unveiled, which was translated into Sirius, the HR strategy that was launched in December and that fully equips all our colleagues, current and future, for the coming transformation and the unprecedented growth of our company. It will help us deal with challenges such as the war for talent, diversity and inclusion, agility and wellbeing and meeting the specific needs of the Business Units by applying best practices and standardization across processes. At the same time, the Sirius HR model ensures greater efficiency and effectiveness where HR is closer to our employees thanks to streamlined, consistent and organized processes.

The Sirius strategy was inspired by the strong foundations, as well as the four distinct pillars that were defined in the Let's Go for Zero ambitions and the existing people strategy, which upheld our Umicore values and help us to create the truly caring company that we are today.

- **Diversity & Inclusion** – the way we think
- **Agile Way of Working** – the way we lead
- **Learning & Growth** – the way we learn
- **Wellbeing** – the way we care

Umicore Precious Metals Refining employees in Hoboken, Belgium

LEADERSHIP COMPASS

Engraining diversity & inclusion in the way we think

An inclusive work culture is essential for every employee to feel good at work and to be prepared for success. In 2022, we invested considerable time and resources in developing our D&I Strategy with various training programs and initiatives offered at corporate and regional levels. Diversity & Inclusion: the way we think.

Adopting the agile way

Agility in business is essential to maintain a competitive edge in a constantly evolving world. Implementing an agile mindset that brings together people, processes, connectivity and innovation to achieve better results requires a certain style of leadership backed up by a strong recruitment and development program. At Umicore, this past year we have worked hard in rolling out the **Leadership Compass** that points the way to transforming our organization to a more agile mindset. Talent management: the agile way.

Promoting continuous learning & growth

Keeping our **employees engaged** and motivated is as important as ensuring that we recruit the best. At Umicore, **we actively promote a culture of learning and growth for all employees**. Every year we invest significantly in training programs to support their personal development.

No comprising on wellbeing & safety – the way we care

Umicore strives to be a preferred employer of both current and prospective employees, and **we are committed to their wellbeing** and to ensuring that Umicore is a healthy place to work. Umicore promotes and safeguards physical, mental, social and occupational health in the workplace, because wellbeing is fundamental for a thriving workforce. Reducing stress and understanding local work cultures are key elements of our Wellbeing@work programs.

We do not compromise on safety. Everyone should be and feel safe at work. We seek to ensure the highest level of safety in all our facilities and aim for zero work-related injuries. We are committed to further developing our safety standards and to setting up a safety culture across all sites, which is why much time was dedicated to implementing a new Safety Strategy in 2022. Care is the basis to lead Umicore to zero work-related injuries and the **Zero Harm** target set in our Let's Go for Zero ambitions. As part of the new strategy, 2022 saw the roll out of the Coaching for Safety program. (See "Occupational Safety")

Reviewing remuneration

Umicore is committed to providing competitive salaries and working conditions to our employees and to providing occupational and professional training opportunities. We empower all Umicore employees to contribute to Umicore's success. Performance is appraised regularly and rewarded equitably. Our caring culture reinforces the sense of belonging at Umicore, which is also reflected in the fact that we maintain a strong retention rate.

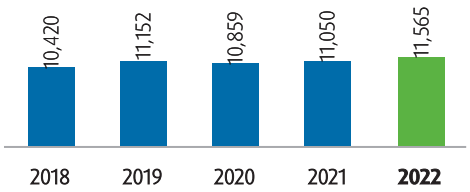
The proof of this hard work and the impact of the various initiatives lies in the results.

11,565

TOTAL EMPLOYEES

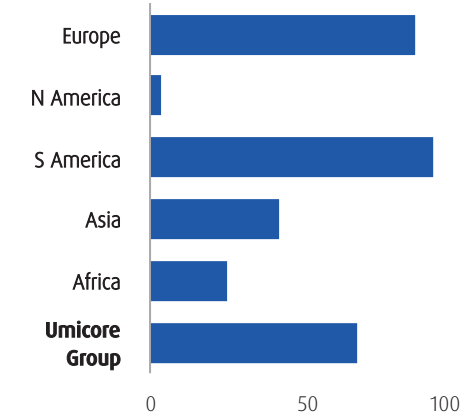
WORKFORCE

Number of employees



EMPLOYEES REPRESENTED BY A UNION OR COLLECTIVE LABOR AGREEMENT (CLA)

%



Workforce: the way we are

In 2022, the **total workforce** increased by 590 employees to a total of 14,229. The number of employees in the fully consolidated companies increased from 11,050 at the end of 2021 to 11,565 at the end of 2022, mainly due to growth in Europe. The most significant increase was in Belgium, Poland, Finland and Germany. In Belgium, the headcount increases related primarily to support our new 2030 RISE Strategy and increased production demands. In Poland, the workforce at the Nysa gigafactory more than doubled from the previous year. Amongst the associated companies there was an increase of 75 employees in 2022. Most Umicore employees work on a full-time basis, as illustrated by the full-time equivalent (FTE) of 11,339 (consolidated), which is very close to the reported headcount of 11,565 employees.

Umicore has had systematic Group-wide internal reporting on Code of Conduct matters since 2011, recording any breaches of The Umicore Way or our Code of Conduct Policy. In 2022, a total of 28 cases were reported, involving a total of 34 employees. Most of these cases were about personal misconduct. The type of action taken varies from a warning letter to dismissal. Despite all measures in place and a culture of transparency, reporting is only as complete as the information provided by the people involved.

Supporting collective bargaining & engaging in constructive dialogue

Umicore supports the right to organize collective bargaining agreements. While such practice is commonplace in Europe, in other locations collective bargaining mechanisms and trade unions may be less common or face local legal restrictions. In 2022, the highest representation was in South America and Europe and the lowest in North America. With a slight decrease from 66.94% in 2021, 65.79% of Umicore employees belong to **a trade union** organization and/or the level of their wages were negotiated through **a collective bargaining agreement in 2022**.

We engage in constructive dialogue with our employees and their representatives. Umicore signed the **Sustainable Development Agreement** with the international union IndustriALL in 2019. The agreement covers the global implementation of several policies including human rights, equal opportunities, labor conditions, ethical conduct, environmental protection and the participation of trade unions in the pursuit of these objectives. All Umicore sites are screened internally each year. In 2022, this screening showed that none of Umicore's sites demonstrated a particular risk of infringement of any of the principles of the agreement. See the full text of the agreement here.

Umicore employees at Headquarters in Brussels, Belgium

Equal pay for work of equal value

Umicore is committed to upholding the right to adequate remuneration for all employees. Fair and equitable remuneration is a fundamental element of Umicore's remuneration policies and processes. Remuneration and all other benefits are based on the principle of fairness and are defined on the basis of **whichever is highest** among the following criteria:

- national legal standards, or
- standards of the national branches, or
- collective labor agreements

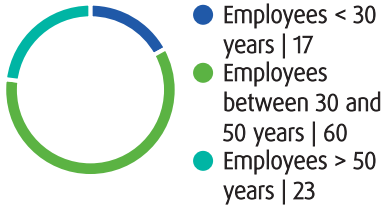
As part of our Let's Go for Zero ambitions embedded within the 2030 RISE Strategy, Umicore engaged Deloitte to assess its gender pay equality, using a regression analysis to gain insights into the different wage drivers and to calculate an adjusted pay gap. The adjusted pay gap is the wage difference after factoring out non-gender effects (such as age, tenure, education, etc.). This assessment approach was piloted for managers employed in Belgium in 2022 (which represents 27% of the Group manager population globally).The 2022 average adjusted pay gap for women in management roles in Belgium was well below the 5% threshold described in the proposed EU approach. The analysis did not include other Belgian employee categories as they are subject to a fixed wage scheme that is defined within collective labor agreements. This adjusted pay gap analysis will be carried out progressively, starting with the Group's largest sites. Umicore will continue to monitor and take action where necessary.

In the increasingly competitive climate, we want to remain an employer of choice to attract and retain the brightest and most talented across the globe.

Umicore Rechargeable Battery Materials employees in Nysa, Poland

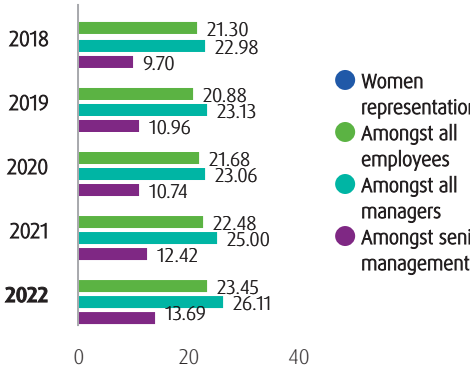
WORKFORCE AGE SPLIT

% of employees



WOMEN AT UMICORE

% of employee category



Diversity & inclusion: the way we think

Umicore believes in **equal opportunities, fairness, diversity and inclusion.** We welcome all individuals regardless of age, cultural background, disability, ethnicity, gender, marital status, political opinion, religion, or sexual orientation. We value a mix of ambitions, approaches, educational backgrounds, experiences, interests, personalities, skills, and views.

At Umicore everyone is **valued equally**, **treated equally** and **paid equally for equal efforts**. This goal of **Zero Inequality** is central to our Let's Go for Zero ambitions and is embedded within our new Umicore 2030 RISE Strategy.

Umicore has committed to increase diversity, be it gender, nationality, age or experiences while ensuring **Zero Inequality**.

Embracing cultural differences

At Umicore, we believe that **diversity of thought** will keep us ahead of the competition. We want our workforce to reflect the societies in which we operate, building a diverse, inspiring and collaborative workplace in which everyone can thrive. Diverse teams bring diverse perspectives, improving innovation and ultimately performance at Umicore. As our global footprint continues to grow, we seek to increase the diversity of experiences and cultures across the Group, particularly within senior management. A better balance in this regard will enable us to make business decisions that are strongly aligned with the markets we serve.

One way to measure how far we are pushing the needle in meeting our D&I goals in terms of demographic and cognitive diversity, particularly among senior managers, is through the "Diversity of Thought index" that we have developed. The index is also supported by initiatives linked to building more inclusive leadership (linked to the Leadership Compass). In 2022, we were on track to meet the 2024 goal, with a positive increase in diversity of nationalities and of experience, while diversity of gender represented the most challenging aspect.

In terms of international diversity: in 2022 our workforce comprised 80 nationalities. The share of non-European representation in senior management positions decreased slightly to 20.83% in 2022 from 21.57% in 2021. This ratio decrease is a result of rise of non-European senior managers proportional to the overall increase in the number of senior managers' positions.

Umicore Rechargeable Battery Materials employees in Nysa, Poland

Tackling unconscious bias

We all have unconscious biases, in other words stereotypes that are unintentional and deeply engrained within our subconscious. By becoming aware of these biases, we become more inclusive. In the context of the Let's Go for Zero ambition and in the spirit of leading by example, the learning initiative " **From unconscious bias to conscious inclusion**" became mandatory for all managers as from 2022. It is also now available in eight different languages. With this training course we aim to increase awareness about unconscious bias as it is an important driver to increase equity, diversity and inclusion throughout the whole Group. This year over 70% of managers completed the training.

Reaching gender parity

Rebalancing gender at work means attracting more talented women, identifying those with high potential and fast tracking them into leadership positions. Reaching gender parity remains high on our agenda. That's why we have set ourselves the Let's Go for Zero target of **gender parity as soon as possible**, with an intermediate goal of 35% of women in management by 2030. In 2022, 23.45% of Umicore employees were women, which is an increase from 22.48% in 2021. Women in management roles have increased from 25% in 2021 to 26.11% in 2022.

> "Inclusion unlocks the power of our diversity. We encourage an inclusive culture by welcoming different points of view, inspiring us to be even more innovative."
>
> Céline Van Haute, SVP Human Resources

To meet our gender diversity goals, our overall focus has continued to be on recruiting and developing female managers. Despite the number of actions including communication campaigns, specific programs and newly designed training in 2022, 31% of managers recruited were women, down from 45% in 2021 and lower than our 35% target. Several factors are at play here. Firstly, the spike witnessed in 2021 was much higher than the industry average and reflected the large number of managerial vacancies at Umicore. Secondly, the 2022 levels have fallen back to 2020 levels, which is more in line with the industry average, particularly given the global "war for talent".

Diversity in age, abilities & orientations

D&I is much broader than discussions and actions around gender. Our initiatives also reach out to all ages, orientations and abilities. We work hard at Umicore to really ensure that all our colleagues are welcome and included within the #UmicoreFamily.

Various initiatives have been set up at the corporate and regional levels to support women in their careers. In Germany, workshops entitled "For Men Only: Tools for Inclusive Leadership" were organized in which male leaders were provided with the tools to establish fair and inclusive interaction in their team and in the company. While in China and APAC countries, female leaders can network with their peers in a tailor-made one-week **Women in Business Leadership Program.** In the **China Young Graduate Program,** which hires new graduates and provides two years fast-track development, 50% of new recruits are women.

One particularly inspiring female role model is our very own Operational Manager, Evelien De Wilde, who was chosen in 2022 as one of the **"Inspiring Fifty"** by a non-profit Belgian initiative that provides more visibility for women in technology.

To raise awareness and show **support to the LGBTQIA+ community**, "Queer at Umicore" was launched on the International Day against Homophobia, Biphobia and Transphobia in 2022. "Queer at Umicore" is a grassroot movement and growing network sparked by the desire from both HR and employees to heed the doubts and questions their colleagues were presenting in the chat box during a webinar on LGBTQIA+.

Understanding **generational diversity** is essential for constructive collaboration. That's why the buddy program was set up at Hoboken, Belgium, pairing colleagues from different backgrounds, generations and cultures to support each other at work.

Colleagues from the Information Systems team joined a partnership in 2022 with Autimatic, an external partner that offers **job opportunities to people with autism** proving that if we are willing to **go beyond borders** when it comes to recruitment and where we look for talent, **magic can happen**!

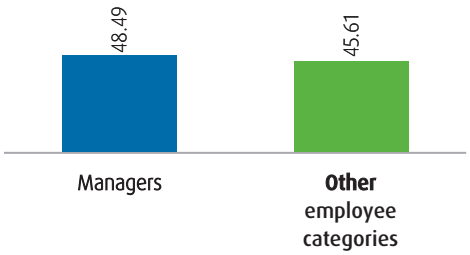
Our D&I strategy is already gaining positive attention. In China in 2022, our colleagues of Umicore's Chinese headquarters participated in the "Leading DEI Best Practices Guide" program organized by the PageGroup and Hero in which they submitted the Umicore D&I best practices with the business world. Our D&I Strategy won the "**Best Practice Silver Award**".

Umicore Automotive Catalysts employees in Rayong, Thailand

As a global company, Umicore is diverse by nature. As we continue our growth trajectory under the 2030 RISE Strategy, we will create more opportunities for diversity and continue our efforts towards greater inclusion.

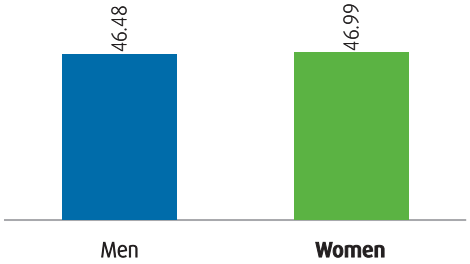
TRAINING TIME, BY EMPLOYEE CATEGORY

Average hours of training per employee



TRAINING TIME, GENDER SPLIT

Average hours of training per employee



Talent management: the agile way

To anticipate and seize opportunities in the market and to respond quickly to customer needs, Umicore has adopted **an agile way of working** – a key pillar in our former HR strategy and ever more relevant to meet the challenges of Umicore's 2030 RISE strategy. Agility is our ability to anticipate, adapt and respond quickly to change. Agility means we engage in building a collaborative workplace where employees take the initiative, challenge the status quo and propose new solutions, across business units, functions and regions. All employees are encouraged to take ownership and to lead from wherever they stand.

Agility also implies a unique leadership model to ensure our success. That model is our **Leadership Compass,** launched in 2021, and further developed and implemented in 2022. The model combines three dimensions to leadership all of which must work in harmony as a complete mindset to ensure that Umicore has the agility to stay ahead of the pack.

1. **Win from within** is inner drive, passion, purpose.
2. **Engage with impact** meaning success is achieved by sharing and engaging with colleagues.
3. **Go beyond borders** is the ability to see the outside perspective**.**

These three leadership dimensions are intrinsic to everything we do as leaders. Our leaders combine a winning approach, an entrepreneurial attitude and engagement with their teams and colleagues. They instill their passion and drive, care for their colleagues, and engage with their teams towards a common goal, calculating the risks by looking beyond their own horizon.

These behaviors are integrated into our HR processes – into our way of recruiting, our assessment tools, training courses, talent reviews, succession planning and our project management. In 2022, they have inspired various initiatives within teams across the Group such as training courses in the various regions or as part of the onboarding.

Umicore Science and Technology days in Antwerp, Belgium

Encouraging employee mobility and stimulating learning

In line with the Umicore Way, we support an environment that values career mobility. Employee mobility is a way to bolster an agile way of working: working in more than one country, business unit or job family stimulates employees to adapt and to respond quickly to change.

We believe the only sustainable competitive advantage is an organization's ability to learn faster than the competition. That's why we engage in creating a culture of continuous **learning** in which employees take ownership of their personal and professional **growth**. Our prime focus is developing future-oriented skills and behaviors in our workforce ensuring that our employees have the right skills to contribute to our success and face the changes in the industry.

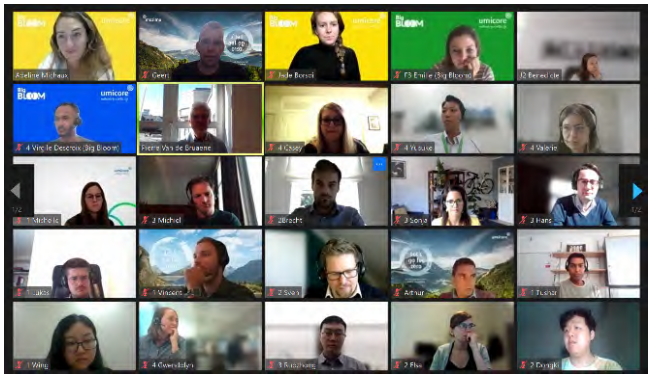
Various transition assistance programs also exist throughout the Group to ensure the ongoing employability of our people. From mentoring new graduates to preparing high potential colleagues for leadership positions, to the support for retirees and the various internal and external training courses for our employees to upgrade or acquire new skills.

Umicore promotes career development using an internal online vacancies tool and we operate a Group-wide learning management platform called **"My Campus"** and regular Talent Reviews.

Digitalization, blended learning & other formats

Digitalization of our training courses continued unabated throughout 2022 with roll out of several new courses under the **Umicore Technical & Digital Academy(UTDA).** The UTDA catalyzes cross Business Units and cross-regional "blended technical learning" and contributes to the success of Umicore as an innovative learning organization.

In Germany, short Impulse Workshops were created and offered to all employees for the first time in 2022. Following feedback from last year's **People Survey,** additional effort also went into making training more accessible for blue collar workers. Such methods included: hanging **posters with QR Codes,** having quarterly **Workers' Council** meetings to promote the new curriculum. The workshops focus on a particular topic, are provided in short sessions that are more easily incorporated into the working day and incorporate break-out sessions in which people can reflect and discuss together. Given that the workshops bring together participants from all levels and groups they are also an excellent place for networking and connection. In 2022, over 400 people were trained in eight workshops with more planned in 2023.



First Umicore Hackathon on 2030 RISE

Hackathon

Umicore conducted its first hackathon in 2022. In this **innovative learning concept** 20 colleagues from seven nationalities all with different jobs and from various business units worked together to apply the **Leadership Compass** to find solutions for challenges that society faces.

Average training time per employee

Umicore's employee training is above the industry average. A point that continued in 2022 with a particular focus on providing additional training courses, including offerings for newcomers, post-COVID-19 classroom and catch-up training and new management training courses.

Average training time per employee in 2022 reached 47 hours, higher than the 42 hours in 2021. In 2022, managers' training hours (48 hours) were slightly higher than for other employees (46 hours) and women's' training hours (47 hours) were slightly higher than for men (46 hours).

In 2022, 96% of all employees from fully consolidated companies had an appraisal interview to discuss their development at least once during the year.

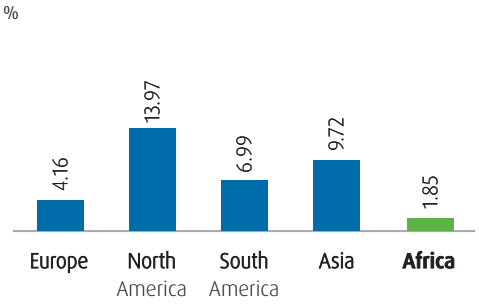
93%

RETENTION RATE

80%

PARTICIPATION IN EMPLOYEE SURVEY

VOLUNTARY LEAVERS RATE BY REGION



Employee engagement in an uncertain world

Our predominant goal is to engage our 11.000+ colleagues around the globe, regardless of their location, business unit or assignment. More than ever, we need to become one large #UmicoreFamily, where our colleagues feel cared for, considered, respected and safe. Our **People Survey,** carried out every three years, and follow this up with specific programs to future ensure that our employees are listened to, can speak up, and feel empowered and engaged. The survey provides valuable insights on how we are performing as an employer and – more importantly – how we can continue to grow and make progress. The 8th edition of the People Survey took place in 2021 with an overall participation rate of 80%, which shows a remarkable level of engagement.

This past year has been about analyzing the feedback, devising strategies for the greater engagement of our employees and implementing new initiatives. Given that results of the survey differed considerably region to region, action plans and implementation took a decentralized approach. The People Survey has sparked several initiatives globally including those mentioned below.

In the Asia-Pacific region (APAC), several common points came out of the People Survey, mostly notably improvements to process management and optimization and provision of new training courses. One concrete initiative that has so far come out of the survey outcomes is the **Employee Assistance Program (EAP).** Established in 2022, EAP is a confidential helpline facilitated by external professionals for employees to dial in to discuss any issues, for example, stress, burnout and so on.

"Collaboration and care for each other came out as clear strengths of our organization and underline the true spirit of the #UmicoreFamily."

Mathias Miedreich, CEO of Umicore

Collaboration and care remain key strengths

Collaboration and care for each other came out as clear strengths for Umicore and underline the true spirit of the #UmicoreFamily. Care is key to avoiding work-related injuries and reaching **Zero Harm**, one of the pillars of our Let's go for Zero ambitions. However, today we are still not quite there yet although much of this past year has been dedicated to implementing a new Safety Strategy. We have also worked on rolling out our Coaching for Care program with the objective of encouraging everyone to become safety leaders and safety coaches.

Umicore employees at Headquarters in Brussels, Belgium

Umicore as an employer of choice

In 2022, Umicore received the **Top Employer** certification in Belgium for the 17th consecutive year. We want Umicore to be an employer of choice in all the regions where we operate and strive to make this happen.

In 2022, our overall **retention rate** decreased to 93%, from 94% in 2021. In 2022 the voluntary leavers rate increased to 6.53% from 5.82% in 2021. Significant regional differences in retention rates continue, with North America reporting the highest voluntary leaver rate at 13.97%. This region's labor market saw record low unemployment, shrinking workforce and resilient job growth. The war for talent continues in some of the other regions.

We are proud of our position as a pioneer and world leader in materials technology and sustainability, and in a disruptive industry, we need to continue innovating, challenging the status quo and growing, both as a company and as an employer.

"Wellbeing is all about vitality. Today more than ever, it is a condition for success, both as a business and as an organization. You can't have personal, let alone collective growth without a healthy workforce."

Bert Swennen, Group Director EHS Operations and Group Medical Officer

Wellbeing

At Umicore, we aim to create an environment where everyone feels welcome, connected and appreciated for their contribution. A place where our people can grow, thrive, interact and take care of each other.

Ensuring everyone's Wellbeing@Work

For many years, Umicore has strived to offer a great place to work and we are committed to wellbeing as part of our values in The Umicore Way. As the intensity of jobs has increased over the years, our Zero Harm pillar of the Let's Go for Zero ambitions continues to focus on the **Wellbeing@Work program** with care as a cornerstone.

Wellbeing is not only essential for the overall health of our employees, their personal performance and development; it is also crucial to the professional performance and success of the whole Umicore Group. Productivity, health and safety and the retention of our most talented people depend on a good wellbeing strategy and enables us to continue to attract young talent and create a greater sense of belonging.

Umicore's **Wellbeing@Work program** centers on four areas: **mental, physical, social** and **occupational health** in the workplace, which are adapted to individual needs and regional circumstances.

Raising awareness, maintaining and improving mental wellbeing

Mental health is a growing concern and a real issue that has been further exacerbated over the past two years by the pandemic.

At Umicore, we continue to improve our knowledge and raise awareness among our leaders and employees on the importance of safeguarding **mental wellbeing**. To this end, quite some work was carried out in 2022. Together with Belgian consultant "Better Minds at Work", we developed the **Umicore Mental Wellbeing Model.** This scientific and evidence-based model indicates which organizational aspects (e.g. autonomy in the job, feeling appreciated, your authority versus your competence, digital hygiene, etc) have an impact on mental wellbeing. The primary aim was to raise awareness among our leaders so that they can create the optimal circumstances to maintain or improve the mental wellbeing of their staff; identify early stress signals; know which steps to take to prevent burnout. To this end, a course was developed and piloted in 2022 and by the time of writing Umicore's entire Management Board had participated in the three-hour workshop, showing just how important a topic it is for our leadership. The workshop will be further rolled out throughout 2023 and Umicore is also developing an e-learning course on the topic.

We work closely together with the various regions to ensure that the local wellbeing initiatives and actions are consistent with the group-wide approach. In 2022, we further deployed a **regional network** to exchange best practices, coordinate projects and seek input into the Group projects on wellbeing.

Focus on Women initiative

Focus on Women – an initiative of female managers in Belgium who want to support female leadership and create more awareness on the gender gap in business – organized two webinars in 2022 on the theme of **mental wellbeing**. In one session attended by about 200 participants, Prof Jan-Emmanuel De Neve shared the outcome of his long-standing research on the key drivers of employee wellbeing and its impact on company performance. In another session, academic, entrepreneur and innovator, Elke Van Hoof shared her insights on "Turning Stress into Resilience".

Maintaining one's physical wellbeing

Whilst individuals should take responsibility for their **physical wellbeing** through their own efforts and decisions, Umicore offers support and options for all our employees to improve their physical health, not because we must but because we genuinely care.

Voluntary preventive health checks were introduced for across the Umicore Group during 2022 and already73% of Umicore's total

workforce have so far been offered these checks.Local health plans have also been developed on important topics such as nutrition, weight, smoking prevention, cardiovascular risks and substance abuse. This work is supported by local campaigns on general health topics in many of Umicore's sites:84% of Umicore's employees worked at a site where a general health campaign was organized.

Regional initiatives

In Brazil, for example, the annual **"Pink October"** campaign, designed to raise awareness about preventative screening for breast cancer, was also followed up in 2022 with the **"'Blue November"** a campaign to highlight prostate cancer causes and prevention. During the months of both campaigns, employees received free screening.

Umicore in Brazil also organized the **"Skin Cancer Screening"** campaign in 2022. A dermatologist came on site for two days to offer consultations and check for possible lesions suggestive of skin cancer. In addition, there was a lecture on skin care and the importance of using sunscreen. Employees who took part in the consultations received the gift of sunscreen.

In Portugal, **Reiki sessions** were organized to help reduce stress and anxiety. **Nutrition Talks** took place in China, while in Belgium, employees could cycle or, for the first time in 2022, **hike up the Mont Ventoux,** the highest mountain in Provence, France.

Creating a sense of belonging

In terms of **social wellbeing**, collectively feeling part of a community gives energy. It is therefore imperative to strengthen this **sense of belonging** among colleagues, teams and with supervisors and neighbors. Our People Survey carried out in 2021 confirmed that people feel proud to be part of the #UmicoreFamily and we want to maintain this engagement through ongoing dialogue with our employees.

In 2022, we launched the hybrid way of working comprising three days in the office and two days at home. Creating a sense of belonging therefore becomes even more important across the Group. Communicating through our **Connect platform** and sharing stories about events and people is therefore vital to maintaining social connection and wellbeing.

Sharing a sense of support and help for the communities around us creates an even stronger link. Colleagues at our plants in Poland in **Nowa Ruda** and **Nysa,** for example**,** united efforts to support Ukrainian refugees entering Poland at the outbreak of war. Read more here.

Occupational wellbeing remains a top priority

Occupational wellbeing has always been a priority at Umicore. Our efforts to offer safe, healthy workplaces and eliminate occupation-related health risks continue to the maximum.

Umicore is an industry leader by setting voluntary, science-based targets for potentially hazardous exposure to metals that are more stringent than legal requirements, where these exist. All employees who may be exposed to metals and other hazardous chemicals in the workplace are included in an occupational health surveillance program. For more information see Occupational Health. Umicore also implemented a state-of-the-art industrial hygiene standard to ensure that reliable workplace sampling data form a sound basis for risk management mehttps://www.umicore.com/en/newsroom/news/mental-wellbeing/asures to be taken.

Find out more about how Umicore cares for its employees across the globe with these valuable insights and tips from Carolina Venturelli (HR Director in South America), Scott Mitchell (Plant Manager at the AC site in Burlington, Canada) and Veerle Frederickx (company medical doctor in Belgium).

Umicore employees at Headquarters in Brussels, Belgium

80%

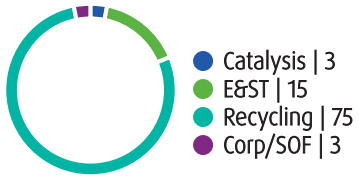
REPORTING SITES WITHOUT LTA

96

LOST TIME ACCIDENTS

LOST TIME ACCIDENTS, BY BUSINESS GROUP

Number of LTAs



ost Time Accidents (LTA) - by Business group

Occupational safety

Umicore is committed to ensuring the highest level of safety in all its facilities. This commitment is embedded in the 2030 RISE Strategy and further strengthened in the Let's Go for Zero ambition to achieve zero work-related injuries.

The safety of our people is a core value

Despite this commitment, lost time accidents (LTAs) remained a challenge in 2022. Although 80% of the reporting sites recorded no LTAs, Umicore still recorded 96 LTAs in 2022 compared with 73 in 2021, resulting in 3,210 lost calender days. Of the total number of staff LTAs, 86 occurred in Europe and of these, 73 occurred on Belgian sites. In 2022, 21 contractor LTAs were recorded compared with 20 in 2021.

There were also 21 lost time accidents with contractors compared with 20 in 2021.

Given these results we recognize the need to take a new approach in addressing the safety of our people, which is why in 2022 we took the following steps:

1. We appointed a **new Group Safety Director**.
2. We adopted a new approach to safeguarding all those who come to work for us and unveiled a **new Safety Strategy** in the autumn of 2022. (see **Towards a caring safety culture – 2023-2025** below).
3. We started using **a new performance metric – The Total Recordable Injury Rate (TRIR) –** which provides a more complete picture of both successes and challenges in safety **(see below).**

Now with these new steps in place, together with our newly unveiled Safety Strategy we are aiming higher for 2023 and beyond.

Towards a caring safety culture – 2023-2025

In June 2022, our newly appointed Group Safety Director set about auditing the overall processes and safety standards within our organization.

In autumn 2022, the new Safety Strategy was unveiled, with the emphasis on building a caring safety culture. The new approach sets out our **three safety priorities** for the next two years, which will be vital to accelerating improvements in safety across the whole Umicore Group, and allowing us to embark on the journey to 2030.

These priorities are fully aligned with the 2030 RISE Strategy and more specifically our commitment towards Zero Harm under our Let's Go for Zero ambitions.

Umicore Automotive Catalysts employees in Nowa Ruda, Poland

Zero fatalities and serious incidents

We will prevent fatalities and serious incidents by ensuring full compliance with **life-saving programs** such as the management of high-hazard tasks (e.g. work at height, confined space, hot work, critical lifting) ensuring they are properly and consistently managed across all sites to prevent the occurrence of serious incidents and fatalities.

We commit to further improving the **process safety standards and management** that are core to preventing catastrophic process events.

We will also put in place a thorough and effective **contractor management system** to manage contractors and their activities, from selection through execution and evaluation of their work. This will allow us to assess their adherence to safety standards.

Caring safety culture

We will develop a true **caring safety culture** and make safety top of mind for all our people through **visible and felt leadership** on the shop floor, engaging in better and more frequent safety conversations.

Observation and feedback programs, consistent throughout the organization, will be vital to drive broad engagement in safety observations, as well as feedback for leaders and peers at the operational level.

Proactively communicating about our safety vision, strategy, focus areas and new initiatives to enhance the organization's understanding of why we're doing it will be crucial in helping us to create a true caring safety culture.

Prepare for growth

The 2030 RISE Strategy envisages significant scaling up over the next decade. In our growth plans **we will embed safety structurally** from project conception to full operation, providing robust processes and a safe work environment for all.

> "During our first Catalysis Safety Day, many best practices were shared providing inspiration to our site safety representatives to continue to improve local safety systems and to strengthen our safety culture."

We will make the necessary changes to existing installations and incorporating safety design for all new facilities. We will carry out consistent **incident analysis and review,** drawing on and sharing the lessons learned to prevent reoccurrence.

Safety culture and behavior begin even before newcomers start working. That's why we will ensure that all new employees receive an effective **Hire & Onboarding for Safety** program with consistent selection, induction and on-the-job training for all new hires.

These three key priorities will be backed up by sound data and performance management, a tried and tested compliance assurance program, and the learning culture that already exists within our organization.

Work has already begun on implementing this new approach and will continue in the following years.

First Catalysis Safety Day a huge success

To promote a caring safety culture and stimulate colleagues to look after each other and the contractors working with them, the Catalysis Business Group started to organize quarterly Catalysis Safety Days, which bring all site safety representatives together to participate in interactive discussions on safety topics, share thoughts and best practices, learn from incidents as well as exchange and review the three-year site safety plans. The first Catalysis Safety Day took place on 11 March 2022 on the topic of "contractor management". The North & South American Catalysis sites presented their site safety programs. Many excellent best practices were shared providing inspiration to our site safety representatives to continue to improve local safety systems and strengthen our safety culture.

These Safety Days will continue to be organized throughout 2023.

Umicore Olen #wellontrack campaign

As part of the caring safety culture, Umicore Olen launched its #wellontrack campaign in the autumn of 2022, The campaign has so far consisted of 18 workshops to raise awareness about the basic strategies to cycle and arrive safely at work. Whether on the road or at work, every decision can have a huge impact on one's own safety as well as that of family and colleagues. With **800 employees joining the workshops**, the campaign was a huge success.

Measuring safety performance in the broader sense

In 2022, Umicore introduced a new metric to measure safety performance. **The Total Recordable Injury Rate (TRIR)** encompasses not only lost-time accidents, but also cases resulting in adapted work and simple medical treatments (e.g. requiring no restricted work or days lost), of both staff and contractors working on our premises. This new metric is in line with best industry practice and provides greater visibility and understanding of our safety performance.

Last year, we estimated our past safety performance against this new criterion to establish a TRIR baseline rate of 9.9 and set the 10% reduction for 2022, compared with 2021. Last year was also the first year in which we were able to collect real and reliable data using this new metric. We have so far met the 9.0 target in 2022 and we are aiming for continuous improvement throughout 2023.

Among the recordable incidents, 80% are related to common workplace hazards such as bumps, strikes, hits, trips and cuts. Burns and acute exposures, which are always our main focus, account for less than 15%. And most importantly, there were zero fatalities or permanent disabilities in 2022.

Over 100,000 observations and 10,000 safety walks were recorded globally in 2022, which demonstrates the high level of commitment of our leadership and staff in identifying and addressing hazardous situations. In order to accelerate the improvement in our performance, we will increase our focus on safety walks and behavior observation in 2023.

With the knowledge provided by TRIR and the solid steps we have taken in 2022, we can now set effective plans and implement new initiatives to reduce the injury rate and move closer to our ambition of Zero Harm.

Solid steps in 2022

Several changes were implemented over the last six months of 2022, aimed at creating a more prominent caring safety culture with a focus on growing a coaching mindset and reducing the level of risk tolerance.

Improvements to Umicore's **process safety management** were top priority during this past year. Our integrity in design; technology; and operations depend on it. The existing process safety management system, established in 2015, was assessed, an inventory and prioritization of processes were drawn up, and timelines were set.

Process hazard assessment (PHA) and **process risk analysis (PRA)** continued to be carried out in 2022, with 98% of all high-priority processes completed. The implementation of risk reduction measures (RRM) already brought 76% of all process installations to a low risk level, and we will continue to implement additional risk reduction measures in 2023.

The same priority has been given to new process installations with PRAs, which are now carried out during the design stage so that risk reduction measures are already included in the design.

In 2022, Umicore also continued to pursue its internal **HAZOP Leader Training program** to expand knowledge and understanding about process risks throughout the organization. By the end of the year, 75 employees from 13 different sites were trained in the program of online and classroom courses. In 2022, we also started a new in-depth **safety audit process**, with 11 Process Safety Auditors trained and three sites audited.

A new incident management standard was published in September 2022 to improve the identification, classification, communication and investigation of incidents. Consistency in reporting and sharing learnings from incidents are key enablers of safety performance. Such reporting allows common causes to be identified and addressed systemically, while providing solid information to support business decisions.

Coaching for Safety training

Umicore's commitment to safety is unwavering. Tackling cultural change in terms of safety is the only right path to creating a safe work environment. Throughout 2022, Umicore started the full roll-out of its "'Coaching for Safety" program as a mandatory leadership program for all sites. The aims of the program were clear:

- Develop a **caring safety and wellbeing culture** throughout the whole organization.
- Develop, **embed and sustain coaching mindsets** and behaviors among our leaders.
- **Enable leaders to lead the cultural change** and support teams in reaching a high performing level of "interdependence".
- Support the global adoption of **a common Umicore language around safety/wellbeing.**
- **Strengthen local safety leadership programs and initiatives.**

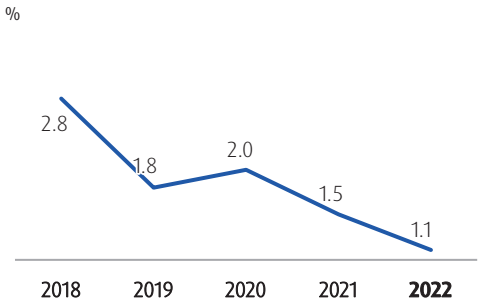
By the end of 2022, 91 leaders had already been trained.

Further roll out of the Coaching for Safety program has been set for 2023, with a plan to have all leaders trained in within two years. Priority will be given to managers at operational sites.

Solid progress prepares the ground towards 2030

The safety of our people is, and will always be, a core value at Umicore. Much progress has been made in 2022 but going forwards we need to continue to learn and accelerate improvements to our safety practices across the whole Umicore Group, preparing us for the journey towards 2030.

EXPOSURE RATIO, ALL BIOMARKERS AGGREGATED[1]



1 Ratio between the number of monitoring results exceeding the Umicore target value, defined for relevant hazardous substances, and the total number of monitoring results.

Occupational health

Umicore makes continuous efforts to eliminate occupational-related health effects and to promote wellbeing in the workplace. The main occupational health risks are related to exposure to hazardous chemical substances and physical hazards (mainly noise).

Umicore is leading the industry by setting voluntary, science-based targets for potentially hazardous exposure that are more stringent than legal requirements, where they exist. All employees with potential workplace exposure to any of the target metals (arsenic, cadmium, cobalt, indium, nickel, lead and platinum salts) or other metals are monitored by an occupational health surveillance program. As part of our 2030 RISE Strategy, the Let's Go for Zero ambition for occupational exposure is to reduce to zero the number of individual readings that indicate exposure for an employee that is higher than the internal target levels. While these excess readings do not necessarily indicate an immediate risk for the person concerned, they are important indicators of recent or lifetime exposure and are used as the basis for further improvements on specific sites. We aim to remain within the biomarkers of exposure for the following metals and target values:

- **Arsenic:** 30 micrograms per gram of creatinine in urine
- **Cadmium:** 2 micrograms per gram of creatinine in urine
- **Cobalt:** 15 micrograms per gram of creatinine
- **Indium:** 1 microgram per liter of plasma
- **Lead:** 25 micrograms per 100 milligrams of blood
- **Nickel:** 30 micrograms per gram of creatinine in urine
- **Platinum salts:** no new cases of platinum salt sensitization

In 2022, a total of 7,820 biological samples were collected from employees with occupational exposure to at least one of the metals mentioned above (platinum salts excluded). 84 readings showed a result in excess of the internal target value, bringing the total excess rate to 1.1%, down from 1.5%[1] in 2021. All occupationally exposed employees are regularly monitored by an occupational health physician in line with regulatory requirements and Umicore's occupational health guidance.

Umicore Rechargeable Battery Materials employees in Cheonan, Republic of Korea

ARSENIC

Occupational exposure to arsenic is possible in the Business Groups Energy & Surface Technologies and Recycling. In total, eight employees or 0.8% of the 1,019 occupationally exposed workers had an excess reading during 2022, down from an excess rate of 1.3% in 2021.

CADMIUM

Occupational exposure to cadmium represents a potential health risk in the Business Groups Energy & Surface Technologies and Recycling. Cadmium in urine is an excellent biomarker for lifetime exposure. In 2022, a total of 460 employees had an occupational exposure to cadmium. Only two employees recorded a cadmium in urine reading in excess of the target value. This resulted in an excess rate of 0.4% compared with 0.2% in 2021 (one employee with an excess reading).

COBALT

In total, 2,015 employees are occupationally exposed to cobalt, mainly in the Business Group Energy & Surface Technologies. The number of employees exceeding the target value was further reduced to 26, resulting in an excess rate of 1.3%, down from 2.2% in

1 The value for 2020 has been restated from 1.6% to 2.0%. This change is the result of Umicore reducing its internal target value for lead as described below.

2021. In the Business Unit Rechargeable Battery Materials, we noted an excess rate of 0.2% in 2022, down from 0.9% in 2021. The excess readings in the Business Unit Cobalt & Specialty Materials were at 8.4%, compared with 10.6% in 2021. The sites in Cheonan (Korea, Rechargeable Battery Materials), Jiangmen (China, Rechargeable Battery Materials), Olen (Belgium, Rechargeable Battery Materials) and Kokkola (Finland, Rechargeable Battery Materials) further improved their comprehensive 'zero dust' management plan.

This **'zero dust' program** focuses on equipment improvements and workers' behavior. Concrete actions include technical improvements; awareness programs; regular industrial hygiene campaigns; excellent housekeeping; improved maintenance of critical equipment; and compliance with the personal protective equipment procedures. Experiences and best practices from one site are shared with the other sites. The site in Nysa (Poland, Rechargeable Battery Materials) will start up its exposure monitoring program in 2023. The Business Unit Cobalt & Specialty Materials intensified its dust reduction program with the focus on technical source control improvements, encapsulation of equipment, enhanced ventilation systems and strict application of personal protective equipment procedures including respiratory mask fit testing for each exposed employee. While in 2022 good progress was made in exposure at the sites in Olen (Belgium, Energy & Surface Technologies), Fort Saskatchewan (Canada, Energy & Surface Technologies) and Grenoble (France, Energy & Surface Technologies), these sites report the higher excess rates. Improvement programs at these sites are managed through specific projects with clear targets and deadlines.

For workers exposed to cobalt, both Business Units Cobalt & Specialty Materials and Rechargeable Battery Materials have implemented Umicore's **occupational health guidance for cobalt**, including biological monitoring and medical surveillance.

INDIUM

The Business Group Energy & Surface Technologies has exposure to indium. Indium in plasma is an excellent biomarker for lifetime exposure. In 2022, the **biological monitoring program** as well as the **annual occupational health surveillance check** at the site in Balzers (Liechtenstein, Energy & Surface Technologies) had again to be postponed due to the COVID-19 pandemic. The checks are now scheduled for 2023. The site in Hsinchu Hsien reported two excess readings resulting in an excess rate of 0.4% compared with 1.6% in 2020 (note that in 2021, no biological monitoring could be performed due to COVID-19 restrictions).

LEAD

Occupational lead exposure represents a potential health risk, mainly in the Business Group Recycling. In 2022, Umicore's internal target value for lead is 25 micrograms (µg)/deciliter (dl) in blood. In total, 1.6% of the 1,404 occupationally exposed employees exceeded the target value of 25µg/100 milligrams (ml) slightly up from 1.4% in 2021. The increase in excess readings is the result of an **intensified monitoring program** among exposed employees. The Hoboken site (Belgium, Recycling) continues to implement improved engineering controls, while ensuring timely training for newly hired staff. Strict attention is paid to personal protective equipment compliance and mask fit testing.

Umicore Rechargeable Battery Materials employees in Cheonan, Republic of Korea

NICKEL

The Business Groups Energy & Surface Technologies and Recycling have occupational exposure to nickel. In 2022, a total of 2,406 employees were exposed to nickel. In 2022, 24 of the exposed workers exceeded the target level resulting in an excess level of 1.0% compared with 1.2% in 2021. The Business Unit Rechargeable Battery Materials maintained its excellent performance with an excess rate of 0.6% comparable with 0.5% in 2021. A targeted program focusing on **technical improvements, raising awareness and training programs** as well as **improved personal protective equipment compliance** contributed to this result. The site in Subic (Philippines, Energy & Surface Technologies) reported a decreased excess rate of 13.8% compared with 20.2% in 2021. The site has implemented several engineering projects among others in the packaging line along with improved housekeeping and an intensified personal protective equipment procedure.

PLATINUM SALTS

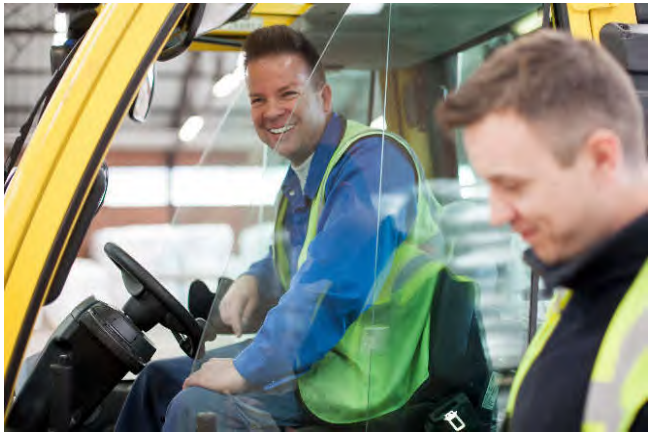
The Business Groups Catalysis and Recycling have workplaces with exposure to platinum salts. In 2022, for the second year in a row, there were no newly diagnosed cases of platinum salt sensitization. All the sites with relevant platinum salt exposure implemented a **workplace sampling program** following an **updated Umicore industrial hygiene standard**.

OTHER OCCUPATIONAL RELATED DISEASES

The number of occupational diseases is the number of employees with a newly diagnosed occupational disease or occupationally linked symptoms during the reporting year.

In 2022, two employees developed a musculoskeletal disorder due to their occupation. An occupational health physician is following up on both people concerned. Five people developed contact dermatitis in the precious metal refinery at the site in Hoboken (Recycling, Belgium). Technical measures are being taken along with a **strict housekeeping program**. One case of industrial noise-related hearing loss was reported at the site in Glens Falls (Recycling, United States).

Over the past years, Umicore has been confronted with several burn-out cases that led to long-term sickness with impact on both the individual and the organization. Following Umicore's **Zero Harm in the Let's Go for Zero ambitions**, many regional and site initiatives are taken to address this issue. At Group level, training focused on organizational aspects that could maintain and improve the mental wellbeing of teams and individuals has been developed and is being deployed throughout the organization. An e-learning on mental wellbeing is also in development.



Umicore Cobalt & Specialty Materials employees in Olen, Belgium

Social key figures

	unit	Notes	2018	2019	2020	2021	2022
Workforce (fully consolidated companies)	N°	S2	10,420	11,152	10,859	11,050	11,565
Temporary contracts	% of workforce	S2	3.13	3.31	3.19	3.51	3.02
Women amongst all employees	% of workforce	S2	21.30	20.88	21.68	22.48	23.45
Women amongst all managers	% of workforce	S2	22.98	23.13	23.06	25	26.11
Women amongst senior management	% of workforce	S2	9.70	10.96	10.74	12.42	13.69
Non-European representation in senior management functions	%	S2	17.91	18.49	20.13	21.57	20.83
Average training hours per employee	hours/employee	S3	43.10	48.73	36.33	41.59	46.60
Employees having a yearly appraisal	% of workforce	S3	96.15	94.00	93.42	94.14	96.01
Voluntary leavers - ratio	% of workforce	S3	7.18	5.99	4.20	5.82	6.53
Employees represented by union or Collective Labour Agreement (CLA)	% of workforce	S4	64.49	65.60	66.38	66.94	65.79
Exposure ratio 'all biomarkers aggregated'[1]	%	S7	2.8	1.8	2.0	1.5	1.1
Number of occupational linked diseases	N°	S7	12	18	6	10	8
People with platinum sensitisation	N°	S7	3	1	1	0	0
Fatal accidents	N°	S8	1	0	1	0	0
Lost Time Accidents (LTA)	N°	S8	61	90	49	73	96
Lost Time Accidents (LTA) for sub-contractors	N°	S8	21	25	17	20	21
LTA frequency rate	LTA/million hours worked	S8	3.4	4.6	2.5	3.7	4.87
LTA severity rate	lost days/thousand hours worked	S8	0.1	0.2	0.5	0.1	0.16

1 Ratio between the number of monitoring results exceeding the Umicore target value, defined for relevant hazardous substances, and the total number of monitoring results.

Society


8 DECENT WORK AND ECONOMIC GROWTH
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Advocating for a more sustainable future

Our mission of Materials for a Better Life drives us to develop material solutions for society's most pressing issues while we strive to maximize our positive impact.

The Umicore Way is the cornerstone of everything we do at Umicore and outlines our commitments to society, while our mission of *Materials for a Better Life* drives us to develop responsible and sustainable material solutions. In addition to the materials we produce, Umicore also incorporates various business practices to ensure that we have a positive impact on society.

Supporting policy developments

In the countries and regions in which Umicore is operationally active, we support policy developments that bolster clean mobility and the global energy transition to reduce climate impact. In addition, we contribute to better understanding and faster implementation of **circular economy models** in the applications related to Umicore activities.

In this respect Umicore collaborates with the Trade Committee of Eurometaux and with the European Commission to **define minimum compulsory due diligence** requirements for the entire value chain Another example is the contribution Umicore makes to the development of the new European waste shipment regulation in order to stimulate the circular economy. The new regulation will allow more efficient processing of hazardous waste while keeping stringent requirements.

Building networks

To boost our efforts, Umicore participates in many **partnerships** and knowledge-sharing platforms. We regularly enter into scientific partnerships with public institutions such as universities, with the primary aim of furthering research projects or providing expert advice on technology directions. Partnerships and research grants are occasionally contracted with public organizations. In 2022, these partnerships included IMEC, the Queensland University Australia.

Memberships

Umicore is also a member of various industry associations often sitting on the executive and board level. Such memberships enable us to provide input into strategic initiatives and the regulatory agenda based on innovation and technology advocacy, and market and business insights.

Our CEO is currently a member of three World Economic Forum CEO Communities including: Chemical and Advanced Materials Industry Governors Community comprised of chairs and chief executives from leading partner companies who meet during the WEF in Davos.

He is also part of the CEO Action Group for the European Green Deal – a high-level platform for business leaders to support positive action for the climate, as well as a member of the Alliance of CEO Climate Leaders a global community of CEOs who advocate bold and proactive action to ensure a smooth transition to a low-carbon and climate-resilient economy.

In Europe, Umicore has also actively participated and supported the creation of the **European Battery Alliance** (since 2017) and the **Battery European Partnership Association (BEPA)**. The latter is the public-private entity that supports the European Commission in defining the technology roadmaps as well as the research and innovation priorities to be funded in the 2021-27 timeframe (under the Horizon Europe program). Umicore is a co-chair of BEPA. The Commission welcomed the provisional political agreement to make all batteries placed on the EU market more sustainable, circular and safe.

Umicore offers battery materials and highly efficient recycling services compliant with the sustainability requirements on carbon footprint, recycled content, and performance and durability, which will be introduced gradually from 2024 onwards.

For an overview of all the association memberships see the Key Memberships list below.

Key memberships

A3M (L'Alliance des Minerais, Minéraux et Métaux); Agoria (Belgian multi-sector federation for the technology industry); American European Community Association (AECA); Belgian Alliance for Climate Action (BACA); Belgo Indian Chamber of Commerce and Industry (BICC&I); Belgian industrial Research and Development (BiR&D); Belgium-Japan Association & Chamber of Commerce (BJA); Drive+ (platform for automotive suppliers and associations to discuss Drive Sustainability Partnership); Eurometaux (European Non-Ferrous Metals Association); European Industrial Research Management Association (EIRMA); European Partnership for Responsible Minerals (EPRM); European Round Table of Industrialists (ERT); ETION Forum for engaged entrepreneurship based in Flanders; Federation of Belgian Industrial Energy Consumers (FEBELIEC); Flemish Network of Enterprises (Voka); Flanders-China Chamber of Commerce (FCCC); Global Legislators for a Balanced Environment (GloBE EU); Responsible Minerals Initiative (RMI); The Shift (a Belgian sustainability community); Verbond van Belgische Ondernemingen (VBO); World Economic Forum (WEF); UN Global Compact.

Battery

Battery Europe Partnership Association (BEPA); Cobalt Institute; Cobalt REACH consortium; Deutsche Gesellschaft für Galvano- und Oberflächentechnik (DGO); Energy Materials Industrial Research Initiative (EMIRI); Essencia; European Association for Battery (ReCharge), Global Battery Alliance (GBA), Hybrid and Fuel Cell Electric Vehicles (EVB - EV Belgium, ex-AVERE); Nickel Institute; Nickel REACH consortium.

Catalysts

Associacao dos Fabricantes de Equipamentos para Controle de Emissoes Veiculares da América do Sul (AFEEVAS); Association for Emissions Control by Catalyst (AECC); Catalyst Manufacturers Association, Japan (CMAJ); Committee of Vehicle Emission Control in China (CVEC); Emission Controls Manufacturers Association, India (ECMA); Hydrogen Council; Hydrogen Europe; Manufacturers of Emission Controls Association (MECA); Verband der Automobilindustrie (VDA); Verband der Chemischen Industrie e.V. (VCI); Accessa (Association for the Catalytic Control of Emissions from Stationary Sources to Air).

Recycling

European Battery Recycling Association (EBRA); European Electronics Recyclers Association (EERA); European Precious Metals Federation (EPMF); Fachvereinigung Edelmetalle (German Precious Metals Association); Global Battery Alliance (GBA); International Platinum Group Metals Association (IPA); International Precious Metals Institute; Minor Metals Trade Association; Responsible Jewellery Council (RJC); The European Association of Advanced Rechargeable Batteries (RECHARGE); London Bullion Market Association (LBMA); London Platinum and Palladium Market (LPPM); International Lithium Association (ILA).

Advocating for best practices in supply chains

Umicore actively advocates for best practices in the value chain. Our **Zero Harm ambition** is linked to our continued commitment to sustainably and ethically sourced raw materials. Beyond our long-standing approach to protecting human rights in our **supply chain**, most notably for **ethical cobalt sourcing**, and in light of the accelerating transition to electromobility, it is crucial to secure raw materials supply that is reliable and environmentally and socially responsible. Umicore will further build on its long track record of due diligence in the sourcing of critical raw materials. For more, see Sustainable Products & Services.

Umicore was one of the first members of The Global Battery Alliance (GBA), a public-private collaboration platform founded in 2017 at the World Economic Forum to help establish a sustainable battery value chain, bringing together leading international organizations, NGOs, industry actors, academics and multiple governments to align collectively in a pre-competitive approach, to drive systemic change along the entire value chain.

Interacting with communities

Contact with the communities where Umicore operates is the most direct way that we interact with society. **Open and transparent dialogue** with such communities is an integral part of our stakeholder engagement. Through employment, Umicore also actively contributes to the generation of wealth in all areas where we operate. Although wealth generation is an obvious benefit, the way in which this wealth is generated is also of great importance. Civil society groups periodically declare a stake in our operations and the way we do business. Umicore welcomes such interest and attempts to engage openly and constructively. We always strive to be a top employer wherever we operate. For more information about Umicore as an employer see Employees.

Contributing on a voluntary basis

Umicore makes voluntary contributions at site and Group level to a range of charitable causes. We manage Group-level engagement efforts through a **Group Donations Committee** that has the mandate to engage with civil society groups and determine the extent of partnerships. As a matter of policy, Umicore does not make donations to political parties or organizations. For more, see Giving back to society.

Umicore paid € 246 million in total taxes on our 2022 operations and with our employees contributed € 119 million in social security payments.

Connecting advocacy to our 2030 RISE Strategy

The year 2022 was a year of change for Umicore. It was the year in which the Umicore 2030 RISE Strategy was unveiled, highlighting exponential growth and opportunities to scale up our business, all while respecting our commitment to society. It was also the year in which our government affairs team took stock of its approach to advocacy translating the new strategy into tangible business implications and advocacy plans. Umicore's government affairs team are the ambassadors of our business ensuring that we uphold our mission, adhere to our commitments and maximize our positive impact on society. Whether it is by supporting policy developments, building networks, advocating for best practices in supply chains, raising awareness on the issues and trends that affect Umicore strategy our business is guided by the expertise of our government affairs team.

All actions carried out by the team are underpinned by the four key pillars of the new 2030 RISE Strategy.

The work of this team is not only necessary it is fundamental to creating the optimal external conditions for implementing the 2030 RISE Strategy by providing the license to operate; funding to back up the plans for growth; and anticipate the risks and opportunities.

> "We are the ambassadors of Umicore and mobilize external stakeholders in support of the 2030 RISE Strategy"
>
> Wouter Ghyoot, VP Government Affairs

Moving to a low-carbon society

Accelerating the transition to a low-carbon society requires driving down the cost of clean mobility technologies and clean energy. Electrification of transport and heating processes in industry using electricity generated from renewable sources is crucial to meet the goals of the Paris Agreement. Advanced materials represent a sizeable part of the cost of these clean technologies and are key enablers for a low-carbon society. The advanced materials path from lab to market is long, risky and capital-intensive, so industry welcomes risk-sharing initiatives supporting European industrial leadership. Founded in 2012 by Umicore and other industrial and research organizations, EMIRI (the Energy Materials Industrial Research Initiative) works to raise awareness about the role of advanced materials in everyday life and in the European economy, and advocates for stronger EU-level support for innovation. EMIRI is now the driving force behind the EU's **Advanced Materials Initiative 2030 (AMI2030)** that by the end of 2023 should lead to a decision

by EU and Member States to launch a publicly funded partnership on advanced materials for the digital and green transition.

Our technologies in clean mobility and resource efficiency are an enabler to mitigate climate change. A more ambitious agenda in terms of **climate change** is therefore creating market opportunities for Umicore – which is in line with our corporate purpose of integrated value creation. To support ambitious regulations, we demonstrate our technologies and **advocate for ambitious targets, because Umicore technology can reach those ambitions**. Umicore provides technical insights to support achieving these goals – e.g., by providing science-based targets to authorities. Umicore co-writes longer-term technology roadmaps with regulators, academics and other members of industry.

In **resource efficiency**, our technologies offer the same functionalities while reducing use of metals. We extract fewer natural resources and re-use metals to create our advanced materials. We emphasize the links between a circular economy and responsible sourcing, resource efficiency and high-quality recycling. Umicore is mindful of the sensitivity of taking positions on matters of public interest and has developed guidelines to do so responsibly through the industry groups to which we are affiliated. Well-developed science and facts form the basis of the opinions and position we take.

We share our knowledge and collaborate with many partners to advance the global transition towards a green and circular economy.

Read how Umicore integrates sustainability into IT.

Launch of the first battery passport

Umicore is a founding member and is represented in the Executive Board of the Global Battery Alliance (GBA) established in 2021, NGOs, academic players, authorities and industrial members worked together with Umicore to develop the first **battery passport**with a QR code, which was launched at Davos in January 2023.On a global scale, this passport shows full transparency of the source of the raw materials within a battery and provides a carbon footprint of that battery. A Child Labor Index is to be integrated in the battery passport.

Transparency of a battery's lifecycle enables consumers, companies and regulators to make well-informed choices, propelling decarbonized electric driving. The Battery Passport is therefore key to reducing climate change.

In addition, Umicore contributes to the WEF Circular Cars working group. This initiative is focused on making the **car industry more circular** and creating the same functionality with fewer resources. This work explores the impact of a second life battery market, material passports and design-for-recycling concepts in the future automotive and transportation business models.

Enabling ultra-clean transportation

With most developed countries and regions outlining their hydrogen strategies to support their journey towards climate neutrality, Umicore is active in various hydrogen-related advocacy platforms such as **Hydrogen Europe**, the **Hydrogen Council**, the **European Clean Hydrogen Alliance**, the **European Raw Materials Alliance**, the **Electrolyser Partnership**, the **Energy Materials Industrial Research Initiative (EMIRI)** and **Waterstofnet**. In these platforms, Umicore highlights the key role that advanced materials, such as electrocatalysts, can play in enabling the production of hydrogen by electrolysis and its conversion back into energy using **fuel cells**. We also highlight the promises of LOHC (liquid organic hydrogen carrier) technology for the transport of hydrogen and our ability to recycle these various hydrogen technologies to recover the precious metals and re-use them in new electrocatalysts.

As a producer of key components of catalytic **emission control** systems, Umicore is a member of various industry associations worldwide through which, in close collaboration with automotive engineering companies, and we aim to contribute significantly to the portfolio of **ultra-clean transportation** options of the future, using the most advanced emission control technologies

Engaging for impact

Umicore strives to reach the highest possible impact for society with our products & services portfolio and with the way we do business.

Our technologies in clean mobility and resource efficiency are an enabler to mitigate climate change. Therefore, a more ambitious agenda in terms of **climate change** is creating market opportunities for Umicore – which is in line with our corporate purpose of integrated value creation. To support ambitious regulations, we demonstrate our technologies and advocate for ambitious targets, because Umicore technology can reach those ambitions. Umicore provides technical insights to support achieving these goals – e.g., by providing science-based targets to authorities. Umicore co-writes longer-term technology roadmaps with regulators, academics and other members of industry.

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Responsible and sustainable sourcing in our supply chains

€24.5b

Paid to suppliers worldwide

We leverage our sustainability approach in the value chain, both upstream with our suppliers and downstream with our customers.

As a global materials technology and recycling group, we purchase and recycle minerals and metals for use in a wide range of products and technologies. For our operations to function, we need raw materials, transportation, energy and other goods and services. Sustainable procurement is an essential part of our ambition to be a sustainability champion under our 2030 RISE Strategy. It is also a key driver in our Let's Go for Zero ambition to cause **Zero Harm** in our supply chain.

Our approach is shaped by our new Umicore Global Sustainable Sourcing Policy (UGSSP). The UGSSP aims to mitigate supply chain risks, through both direct and indirect procurement. The policy defines our expectations from suppliers and is fully aligned with the Umicore Way, the Umicore Code of Conduct and the Global Framework Agreement on Sustainable Development between Umicore and the IndustriALL Global Union.

We expect our suppliers to be committed to business integrity; to promote the principles of sustainable procurement in their supply chain; to be compliant with local laws; to ensure health and safety; to minimize the impact on climate and the environment; and to respect international human rights law on their own sites and from their own suppliers, including abolishing child and forced labor and eliminating discrimination.

The UGSSP was rolled out during 2022 and will be continued in 2023. To reach our goal, each Business Unit is defining a set of risk-based assessment criteria that include risks to people and the environment. These criteria also enable a risk prioritization approach to focus on highest risk/impact first. By 2025, our aim is to have all identified suppliers adhering to the policy.

The expectations set for all suppliers are complemented by additional dedicated responsible sourcing frameworks for some critical raw materials. Examples are the Sustainable Procurement Framework for Cobalt or the policy on responsible global supply chain of minerals from conflict affected and high-risk areas.

Battery materials

Sustainability of the **battery supply chain** includes the conditions under which raw materials are extracted and processed, which is why Umicore is committed to responsible sourcing of our battery materials. While Umicore has had a dedicated policy for cobalt in place for the last decade, Umicore also implements due diligence in the supply of other raw materials for batteries, e.g., nickel and lithium. The approach is directly inspired by our experience with cobalt and follows the basic steps of the Sustainable Procurement Framework for Cobalt.

Umicore Nickel Acetate

For us, **sustainable procurement of cobalt** means considering the economic, environmental and social performance of our suppliers in the purchase of materials, as well as the social and environmental impact of the supply chain. To source cobalt, in 2012 we implemented a pioneering Sustainable Procurement Framework for Cobalt and in 2016 were the first to obtain external validation for our ethical procurement and due diligence approach in this area through an annual third-party audit (reported in our annual compliance report).

In 2022, we updated the Cobalt framework for several reasons: to retain our leadership position in this area in line with the new Umicore 2030 RISE Strategy; to extend the scope of ESG requirements; and to align with upcoming regulatory developments. Updates also took account of the heightened awareness that our customers and society at large have regarding activities and their impact on the environment. The Framework follows the principles of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas but extends beyond the risks described in the OECD Annex II to cover aspects including environmental policies on water, waste, CO_2; community engagement, as well as health and safety.

As outlined, Umicore is well aware of the sustainability risks that are linked to the sourcing of cobalt, particularly in the Democratic Republic of Congo both for large-scale industrial mining as for artisanal and small-scale mining. Often, artisanal and small-scale mining (ASM) activities are linked to issues such as Human Rights abuses, child labor, poor occupational health and safety conditions. In 2004 Umicore decided to exclude cobalt obtained from ASM from our supply chain due to these high risks. Today, Umicore still does not source any ASM materials, however, we support several initiatives that look into improving conditions of ASMto attain sufficiently high sustainability standards, as well as schooling for children and alternative livelihoods.

To ensure the responsible sourcing and **traceability of materials** in our supply chain, we carry out a detailed risk assessment of our suppliers, which includes background screening, questionnaires, onsite visits, and if required, enhanced engagement and developing risk mitigation programs with the suppliers. A dedicated cobalt sourcing committee, referred to as the Approval Committee, is responsible for the principles and guidelines in the framework and has overall control and decision-making power. The Approval Committee includes a member of the Umicore management board and the senior management of Sustainability and Supply. For more on Umicore's efforts to support the development of traceability projects across the industry, see Battery Passport a Re|Source.

Conflict minerals: tin, tantalum, tungsten, gold

In some regions of the world, exploitation of natural resources is used to fund conflict or can be associated with violations of human rights. To prevent materials that are tainted in this way from entering our supply chain, Umicore has adopted a responsible global supply chain of materials from conflict-affected and high-risk areas policy, which is based on the OECD guidelines. In the area of precious metals, this policy is complemented with specific responsible sourcing certification programs (see Responsible Operations below).

Business units purchasing **conflict minerals** – tin, tantalum, tungsten and gold (also known as 3TG) – to manufacture their products, use the Conflict Mineral Reporting Template from the Responsible Minerals Initiative for their due diligence on the purchased raw materials. All Umicore activities are compliant with the EU Conflict Minerals Regulation (in force since January 1, 2021).

Umicore gold bar and gold granules

Decarbonizing our purchased materials

One of the key elements of sustainable sourcing is reducing the environmental impact of the supply chain, including Scope 3 emissions. Scope 3 emissions refer to the indirect emissions that occur in the value chain. When looking at our 2019 carbon footprint, Umicore's Scope 3 emissions are about 10 times the combined amount of our Scopes 1 and 2. The single largest category of emissions comes from upstream activities, specifically in the category "purchased goods and services".

Umicore has set an ambitious target to reduce the carbon intensity of purchased materials by 42% by 2030. Battery materials and precious metals are the main contributors to the impact of this Scope 3 category. We are engaging with our suppliers to understand their GHG emission profile, ambitions and reduction opportunities to provide our customers with responsible, sustainable and low-carbon products. For more on Scope 3, see Greenhouse Gas Emissions and the Environmental Statements.

Responsible Operations

In addition to our policies on responsible sourcing and the related due diligence, Umicore also pursues **responsible sourcing certification** wherever appropriate, to highlight our best practices and to provide the necessary documentation to the increasing number of customers seeking assurance on our products. The Umicore internal "Metals and Minerals" working group streamlines and optimizes the efforts required for this increasing customer demand through sharing of best practices.

Umicore sites undergo audit and certification for the London Bullion Market Association (LBMA), the London Platinum and Palladium Market (LPPM), the Responsible Jewelry Council (RJC) and the Responsible Minerals Initiative (RMI).

When applicable, Umicore amended internal responsible sourcing processes and due diligence procedures to be in line with version 9 of the LBMA Responsible Gold Guidance and version 3 of the LPPM Responsible Platinum and Palladium Sourcing Guidance.

Gold & silver

The London Bullion Market Association (LBMA) manages the accreditation process for all Good Delivery listed refiners for gold and silver. The Responsible Jewelry Council's (RJC) Chain of Custody (CoC) Standard is applicable to gold and platinum group metals (platinum, palladium and rhodium). Both the RJC Chain of Custody and LBMA Good Delivery accreditations qualify the accredited sites for listing in the Responsible Minerals Initiative (RMI) conformant smelters and refiners.

In 2022, Umicore continued to ensure that operations with gold production are certified as conflict-free. Umicore operations in Hoboken and Pforzheim are certified as conflict-free smelters for gold by the LBMA for the year 2021 and will be audited for 2022 later in 2023. The LBMA also provides certification for responsible silver and the sites of Hoboken, Pforzheim and Bangkok are accredited refiners by the LBMA for 2021 and will be audited for 2022 later in 2023. The Jewelry & Industrial Metals operations in Pforzheim, Vienna and Bangkok are certified as part of the RJC Chain of Custody program for recycled gold and silver. Through mutual recognition of other relevant industry initiatives, the sites in Hoboken, Pforzheim, Vienna and Bangkok are on the RMI Conformant Gold Refiners list.

Our customers are increasingly requesting such guarantees and we provide them with the necessary documentation to attest the conflict-free status of our products.

Platinum, palladium & rhodium

In 2022 the Hoboken site received a Platinum and Palladium Sponge Accreditation Certificate covering the year 2021. The Jewelry & Industrial Metals operations in Pforzheim, Vienna and Bangkok are certified as part of the RJC Chain of Custody program for recycled platinum, palladium and/or rhodium.

Cobalt

In May 2019, Umicore Olen was approved as one of the first Responsible Minerals Initiative-conformant cobalt refinery worldwide, followed by the approval of Umicore's cobalt operations in Kokkola (Finland). For both sites the re-audit process is currently ongoing and is expected to be finalized in Q1 2023. During this time, the Olen and Kokkola sites remain on the list of RMI conformant refiners.

Umicore granulated Cobalt powder extra fine

Responsible sourcing certifications

	LBMA Gold	LBMA Silver	LPPM Platinum & Palladium	RJC Code of Practices	RJC Chain of Custody	RMI conformant Cobalt smelters	RMI conformant Gold smelters and refiners
Bangkok		x		x	x		x
Hoboken	x (*)	x (*)	x (*)				x (*)
Kokkola						x (*)	
Markham				x			
Olen						x (*)	
Pforzheim	x (*)	x (*)		x	x		x (*)
Vienna				x	x		x

* Audit process for 2022 is still ongoing.

Indirect procurement & transport

Umicore's worldwide purchasing and transportation teams procure energy and other goods and services referred to as **indirect procurement**. In 2022, the indirect procurement spend increased compared with the previous year, mainly due to higher energy costs and general prices. The main indirect procurement spend is to be found in Belgium, Germany, Poland, Finland, China & Korea.

As of last year, we do not show any EcoVadis scores of assessments performed by our suppliers. Due to the implementation of a new process in 2022 (see below), it is too early to report figures now. Future comparisons with scores of 2021 and earlier will not be possible as the reference for suppliers having to carry out an EcoVadis assessment has been changed. Although we have changed our processes, the risk-based approach remains the same.

In 2022, we revamped our indirect procurement risk assessment process, bringing it in line with the new Umicore Global Sustainable Sourcing Policy (UGSSP). Prior to 2022, in most regions new suppliers were systematically assessed through a quick scan based on criteria such as spend, geographical location and criticality. Based on this quick scan risk assessment subsequent actions were determined, such as adherence to our procurement charter or, in case of higher risk, the need for an EcoVadis assessment. As of 2022, we will no longer use the quick scan methodology. From now on all new suppliers are identified via a risk assessment, including questions in the area of sustainability. Our critical suppliers, those with the most impact, will be requested to adhere to the UGSSP. After adherence to the UGSSP, we check compliance to the policy by requesting a CSR assessment.

The entire risk assessment process and reporting is currently being digitalized in this new system and will be rolled out further on in the coming months. With this new policy, we bring additional focus on our suppliers and commitment to sustainable practices, which is vital not only for Umicore but also for our societies.

By 2025, all identified suppliers in indirect procurement will be requested to adhere to the UGSSP.

Greening supply chain transportation

In 2022, Umicore developed the foundations of a Sustainable Logistics Roadmap in order to reduce the transport-related emissions within Scope 3. The roadmap focuses among others on calculation methodologies with the aim of aligning with globally recognized methodologies, more sustainable transportation solutions and strategic partnerships with Logistic Service Providers.

Although not specifically linked to our Scope 3 objective and 2030 targets, green logistics is high on our agenda. We are continuously exploring additional solutions for green logistics and increasing our knowledge by following relevant training.

Sustainable Products & Services

12,500

customers

99

countries

78%

Of revenues from clean mobility & recycling

PLATINUM Top 1% 2022 ecovadis Sustainability Rating

Umicore strives to maximize the positive impact on society, through our operations, in our supply chain and with our products and services.

Umicore materials can be found in a variety of applications that deliver solutions for cleaner air and increased e-mobility while our unique closed-loop services turn waste metals into a resource. We provide advanced products that are built on our customers' specific performance, environmental and sustainable sourcing needs. Beyond this customer-oriented approach, we provide close collaboration across all regions to deliver a sustainable and secure supply of high-quality products and services. Our high level of investment in R&D ensures advanced and efficient production and process technologies that enable our customers to meet the most stringent sustainability demands and ambitions.

Umicore's diverse workforce brings global perspectives to our innovation and works in proximity to our international customer markets. Our ambition to achieve Net Zero greenhouse gas (GHG) emissions by 2035 will enable Umicore to offer products with a reduced carbon footprint to our customers.

Catalysis

Reducing harmfull emmisions

Energy & Surface Technologies

Reducing harmfull emmisions

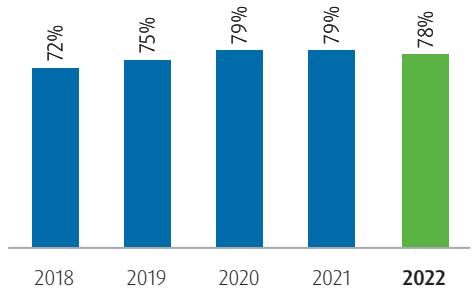
Recycling

Giving new life to used metals

For more Umicore products and services, visit:
umicore.com/products

Revenues from clean mobility & recycling

REVENUES FROM CLEAN MOBILITY & RECYCLING



Umicore's primary focus in terms of sustainable products and services is to leverage activities that provide solutions for clean mobility and resource scarcity. For many years, Umicore has been emphasizing this focus by disclosing the portion of revenues we gain from clean mobility materials and recycling.

In 2022, 78% of Group revenues (excluding metals) were generated from activities that deliver products or services that are directly linked to clean mobility or recycling. We include the production of automotive catalysts, fuel cell catalysts and battery materials for electrified vehicles, which all contribute to cleaner mobility. For recycling, we consider our refining activities, thereby taking into account the portion of secondary materials processed. We are at a similar level as in 2021, and have increased significantly from 65% in 2016, when we began tracking revenues in this way.

Many of the materials and services making up the remaining 20% of revenues provide answers to specific societal needs such as improved connectivity (materials for high quality glass and displays) or reduced energy consumption (materials for use in energy-efficient lighting such as LEDs).

For EU Taxonomy eligible and aligned activities, see EU Taxonomy.

Measuring impact

To support our ambition to turn sustainability into a greater competitive advantage, it is essential to develop a full understanding of the impact that our products have on the world. These insights can then be leveraged to improve the footprint of our products and services. Umicore's product life cycle assessments (LCAs) identify the environmental impact of products and services and set a baseline against which improvements can be measured. An LCA is a standardized, science-based tool used to define the degree of environmental impact of a given system or product[1]. LCAs take into account all phases of the product's life cycle, including direct and indirect emissions, examine inputs and outputs for each phase, and convert them into an environmental impact measurement.

Building on the opportunities identified in such assessments, we leverage our unique combination of materials chemistry, energy mix and materials mix (raw and recycled) to improve our overall environmental impact and to contribute to lower-carbon mobility. Umicore will continue to develop selective products and services that have specific sustainability benefits and answer the growing sustainability needs of our customers. We are already working closely with customers and have started engaging with suppliers to reduce the upstream footprint of our products.

Among the impact categories calculated in an LCA, the impact of GHGs to climate change, expressed in carbon dioxide equivalent (CO_2e), is prioritized because of the urgent need to tackle global warming. Until Umicore reaches the Net Zero GHG emissions target, our industrial operations will continue to emit. Our products and recycling services do have, however, a positive impact in terms of GHG emissions in the value chain. First and foremost, as a key element of our closed-loop business model, the recovery of metals from secondary sources provides raw materials with a lower carbon footprint to society; and secondly, rechargeable battery materials accelerate the transition to low-carbon mobility.

In terms of **avoided emissions** (sometimes referred to as "Scope 4"), Umicore examined in 2022 the activities linked to catalyst materials for fuel cell vehicles, next to the activities already assessed in 2021, i.e., cathode materials for electric mobility and to recycling key raw materials. The relevant avoided emissions for these activities are the GHG emissions. We also analyzed the avoided NOx emissions linked to automotive catalysts. Based on those activities, we have estimated the total avoided GHG and NOx emissions for 2022. In our calculations, a portion of our estimation was not allocated specifically to Umicore, to reflect the estimated shared contribution of the complete value chain. For more details about the assumptions considered for our calculations, see GHG emissions in the Environmental Statements.

For electric mobility, we compared rechargeable batteries for electric vehicles with a medium passenger car with an internal combustion engine running on diesel or gasoline, considering the European split between diesel and gasoline in 2021. Approximately 7.7 million tons of GHG were avoided, taking into account the production of the cathode materials, their processing into batteries, the use of batteries in full electric vehicles and end-of-life recycling.

A similar calculation comparing fuel cell vehicles with internal combustion engines, yields for 2022 approximately 130,000 tons GHG avoided emissions. For our recycling activity, we compared Umicore's secondary production with the primary production of an equivalent tonnage of each metal considered. The avoided emissions are close to 1.5 million tons of GHGs for 2022.

For automotive catalysts, the calculation is based on comparing gasoline and diesel personal cars as well as heavy-duty diesel vehicles equipped with Euro 6d catalysts with similar vehicles equipped with Euro 5 catalysts. The avoided NOx emissions for the lifetime of cars equipped with Umicore catalysts in 2022 amount to approximately 2.8 million tons.

Given the uncertainties involved in the assumptions, the figures should only be considered as estimates of the potential benefit for society. We aim to refine such calculations in the future, in particular by engaging with our suppliers and by working closely with our customers.

Umicore recycling services for complex waste materials

[1] For more information visit the ISO website - https://www.iso.org/standard/38498.html#:~:text=ISO%2014044%3A2006%20specifies%20requirements,and%20critical%20review%20of%20the

Product stewardship

Umicore's business model is dedicated to delivering sustainable products and services, and we are committed to leveraging our expertise and resources to developing safe, sustainable, and innovative solutions that enhance the quality of life for people and the planet. That is why our product development is focused on meeting those societal needs.

We evaluate the environmental, health and safety performance of our products through their life cycle to identify and implement improvements – from the supply chain, to up- and downstream production, to recycling or end-of-life – even looking to the future, with substitution planning, and aiming to reduce the use and production of substances of very high concern.

Our commitment to maximizing our positive impact through our products and services includes protecting human health. Transparent communication with our stakeholders on the properties, hazards, safe use and disposal of our products, combined with a deep knowledge of the products and their uses are essential elements of Umicore's approach to product stewardship. For more, see Management Approach.

Worldwide, Umicore ensures regulatory compliance for the products it puts on the market. For more, see Regulatory and Legal Context. Beyond compliance, Umicore has a systematic approach to the hazard assessment of its portfolio of low volume chemicals, using a hierarchy of sources, from in-house data to publicly available information. The outcomes of the hazard assessments are stored in Safety Data Sheets (SDS) and shared directly with Umicore customers and partners.

Sustainable value chain

To be a preferred sustainable supplier, we work directly with our customers to meet their sustainability/ESG requirements. This involves collaborating with our customers to develop, produce and recycle metal-related materials for material-based solutions tailored to their needs. Ongoing interaction with customers is managed by the business units. In addition to this close contact, all business units have a customer feedback process to gauge customer satisfaction periodically.

We are committed to transparency and as a result, Umicore discloses to a number of third-party sustainable supplier assessments, including EcoVadis and the CDP.

Umicore cobalt fine powder

Giving Back To Society

Making a positive difference in our communities, because we care

Umicore seeks to give back to the planet and to contribute to the well-being of the communities in which we operate to be a responsible corporation and good corporate neighbor. We believe that empowering Umicore sites for local sponsorship and donation initiatives will make a positive difference in the communities in which we operate. Umicore's support may include contributions in kind and releasing staff to work on community-related projects.

While sites determine the specific focus of their own initiatives, the general focus is on supporting and promoting a strong social fabric in the community around the site, with priority given to educational initiatives. The causes we support at site level are often dear to our staff members.

On 13 June 2022, children play at a UNICEF-UNHCR Blue Dot Safe Space, Protection and Support Hub in Sofia, Bulgaria.
Source: UNICEF

In 2022, our site in Olen (Belgium) supported a local NGO offering disadvantaged adults the opportunity to gain access to skill-enhancing classes such as writing, poetry and computing. Our colleagues in Australia supported recreational activities for disabled children. In Nowa Ruda (Poland), our colleagues organized a collection of used books to give them a second life.

At corporate level, the emphasis is on projects with an international scope with priority given to initiatives with a direct sustainable impact on society or the planet by empowering minorities and communities. Next to disaster relief, the projects supported through our donations all contribute to Umicore's 2030 RISE Strategy and more specifically our "Sustainability champion" pillar which is built on our Let's go for Zero ambitions of achieving net zero greenhouse gas (GHG) emissions by 2035; ensuring zero inequality and zero harm.

Disaster relief: impactful donation for Ukraine

With the ongoing war in Ukraine, Umicore took action to support the victims of the conflict by making a substantial donation to help finance UNICEF's "Blue Dot Hubs". With hubs located in strategic places bordering Ukraine, the Blue Dot Hubs can provide support and services to children and their families fleeing the war. They are safe spaces where families can rest and children can play. Refugees can also access a range of services at the Blue Dot Hubs such as mental and psychosocial support, first aid, distribution of emergency supplies, legal aid and counselling.

Umicore also donated locally in the regions around our plants in Nowa Ruda and Nysa, Poland. There we supported the education of Ukrainian students in cooperation with local authorities and NGOs (e.g. The Polish Red Cross and Caritas).

On 19 April 2022, volunteer Liza reads a book to two young children in the children's activity room in the Centrul de Afaceri, Transfer Tehnologic si Incubator de Afaceri (C.A.T.T.I.A) in Brasov, Romania.
Source: UNICEF

Colleagues around the world have also joined forces to collect goods for Ukraine. In the US and Canada, our colleagues raised funds to purchase relief items for the Ukrainian people. In Hanau, Germany, colleagues bought and packed food, baby and hygiene products, and other essential goods to be transported to the Ukrainian-Polish border; and supported the integration of Ukrainian schoolchildren with the help of music courses and schoolbooks.

Knowledge is the key to building a better world

Educational initiatives are particularly relevant for Umicore as a technology-oriented business. For the past decade, we have been working with UNICEF to reach those children who are in most need. We currently support two long-term projects:

1. **UNICEF Upshift** empowers young people in India by developing the skills they need to enter a labor market characterized by high unemployment.
2. **STEM education for girls** organizes bootcamps and skills sessions around STEM education for girls in Indonesia. STEM – science, technology, engineering and mathematics – are important skills for employment and empowerment.

Entrepreneurship as a force for good

Umicore is a founding member of Entrepreneurs pour Entrepreneurs/ Ondernemers voor Ondernemers (OVO). Established in 2000, the NGO pairs corporate donors with development charities that focus on promoting entrepreneurship in the developing world. Over the years, Umicore and OVO have supported work in many countries. In 2022, we focused on a project in Uganda helping young people in making their food business start-up successful. In El Salvador, we supported technical schools by providing training in electricity and photovoltaic energy.

Umicore employees select their favorite charity

In June 2022, as part of the internal launch of Umicore's 2030 RISE Strategy, we asked our employees to vote for their favorite charity helping children in need from a selection provided. **SOS Children's Villages,** a global charity that provides loving homes for children who have been abandoned and orphaned, gained the most votes, winning the competition. Umicore then donated € 50,000 to the charity with which they were able to develop and implement their new PDP2 digitalization tool. With this tool SOS Children's Villages can collect data and track families in Burundi and the Democratic Republic of Congo. Tracked indicators cover eight dimensions ranging from accommodation; food security; education; to social and emotional wellbeing. Social workers in the field can now switch from using paperwork to introducing data directly via laptops, tablets, or mobile phones.

Society key figures

Millions of Euros	2018	2019	2020	2021	2022
Raw materials cost (excluding water, gas & electricity)	11,759	15,539	18,720	21,500	22,625
Water, gas & electricity cost	96	100	100	144	251
Depreciation & impairments	227	307	363	339	328
Other costs (net)	516	434	533	532	706
Total tax paid	158	107.4	98	198	246
Creditors	33	41	58	52	77
Minority Shareholders	11	11	5	8	3
Shareholders (dividends only)	181	180	60	181	192
Charitable donations	1.4	1.5	1.5	1.6	2
Employee compensation & benefits	731	776	799	853	907

Leadership

Governance

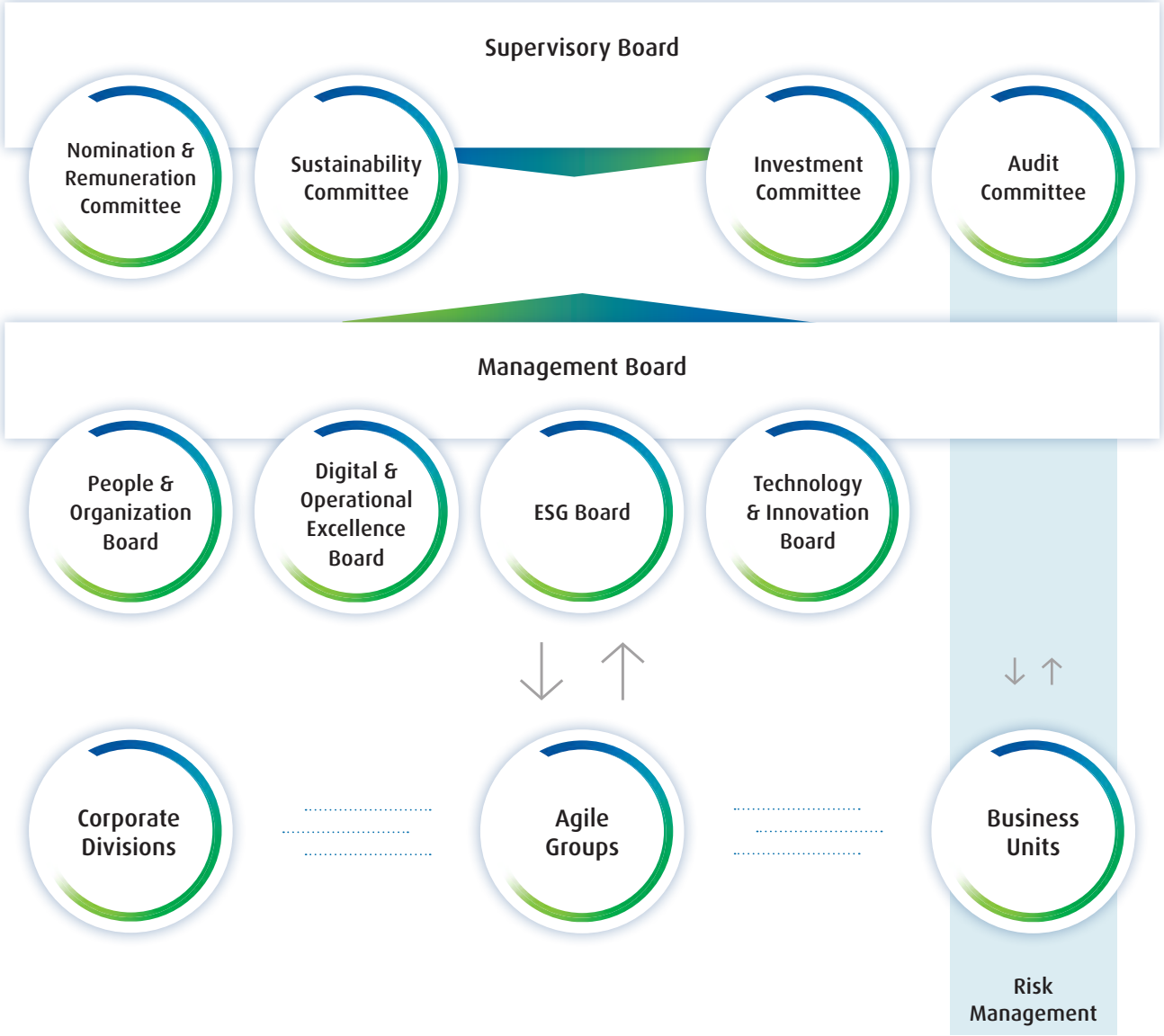
Good corporate governance is essential for our long-term success

This implies an effective decision-making process based on a clear allocation of responsibilities. That's why Umicore developed the Corporate Governance Charter, detailing all governance structures, procedures and policies in place.

The Supervisory Board

The **Supervisory Board** is responsible for Umicore's general policy and strategy. It supervises the Management Board and is also vested with specific, reserved powers, such as establishing the annual accounts, drafting the annual report and paying an interim dividend. At the time of publication, the Supervisory Board is assisted in its role by four committees:

- The **Audit Committee (A)** ensures oversight of the Group's financial and non-financial reporting process, including monitoring the integrity of statements, the Statutory Auditor's qualifications and independence, the performance of both the internal audit department and the Statutory Auditor, and the annual review of the internal control and risk management systems to ensure that the main risks, including compliance, ESG and fraud-related risks are identified and adequately managed.
- The **(new) Investment Committee (I)** ensures oversight of capital expenditure or investment proposals exceeding €200 million and commercial contracts that would lead to the requirement of such an investment.
- The **Nomination & Remuneration Committee (NR)** ensures oversight of current and prospective Supervisory Board membership, current and prospective management board membership, remuneration and incentives.
- The **(new) Sustainability Committee (S)** ensures oversight of the Group's sustainability agenda, strategy, policies and performance related to Environment Social Governance (ESG) commitments and the ability to create shared value.



The Supervisory Board approves the strategic plans and budgets submitted by the Management Board, determines the risk appetite of Umicore in order to achieve its strategic objectives, and also ensures Umicore operates in accordance with good governance/ESG principles. A more exhaustive list of the Supervisory Board responsibilities can be found in Appendix 3 to Umicore's corporate governance charter.

An overview of the composition and experience of the Supervisory Board can be found in the biographies of its members.

The Management Board

The **Management Board** – composed of six Executive Vice-Presidents (EVP) that are led by the Chief Executive Officer (CEO) – is responsible for the management of the company, including proposing the overall strategy of Umicore to the Supervisory Board; operational and day-to day management; screening and addressing the various risks and opportunities that Umicore may encounter in the short, medium or long term; defining and applying Umicore's ESG approach; and legal representation of the company with respect to third parties.

The Management Board approves the strategies of individual business units and corporate divisions and monitors their implementation. Final accountability for all aspects of Umicore's business and performance lies with the Management Board. In line with these responsibilities, as of time of publication, the Management Board members' reporting lines were as follows:

- The full Management Board, Group Communications & Investor Relations, Human Resources, and Corporate Research and Development report to the CEO, Mathias Miedreich.
- Corporate Finance, Financial Risk Management, and Information Systems report to the Chief Financial Officer, Wannes Peferoen.
- Government Affairs, Corporate Development, Strategic Insights & Analysis, Strategic Projects, Open Innovation, New Business Incubation, and Digitalization report to the Chief Strategy Officer, Frank Daufenbach.
- Group Legal, ESG and Environment, Health & Safety, Internal Audit, Enterprise Risk Management & Insurance, Corporate Security and the business region North America report to the EVP ESG & General Counsel, Géraldine Nolens.
- The business units Rechargeable Battery Materials and Cobalt & Specialty Materials, and the business region China report to the EVP Energy & Surface Technologies, Ralph Kiessling.
- Group Procurement & Transportation, Umicore Marketing Services, the business units Automotive Catalysts, Precious Metals Chemistry, Fuel Cell & Stationary Catalysts, Precious Metals Management, and the business region South America report to the EVP Catalysis, Bart Sap.
- The business units Battery Recycling Solutions, Precious Metals Refining, Jewelry & Industrial Metals, Electro-Optic Materials and Metal Deposition Solutions, and the business region Japan report to the EVP Recycling, Denis Goffaux.

An overview of the composition and experience of the Management Board can be found in the biographies of its members.

The Management Board has set up **four tactical boards** that develop part of the corporate strategy and monitor its implementation. They are each led by a member of the Management Board and managed by internal experts:

- People & Organization Board.
- Digitalization & Operational Excellence Board.
- Environment, Social & Governance (ESG) Board.
- Technology & Innovation Board.

Each tactical board can be supported by dedicated agile groups that coordinate efforts, maximize efficiency and mobilize expertise.

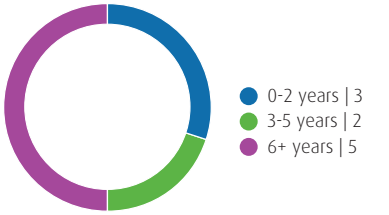
For more information see Management Approach.

Supervisory Board

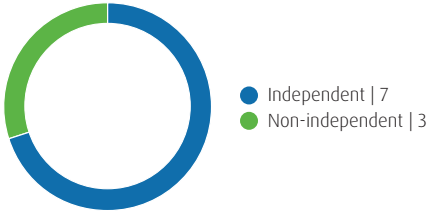
From left to right: Ines Kolmsee, Thomas Leysen, Koenraad Debackere, Françoise Chombar, Mario Armero, Birgit Behrendt, Eric Meurice, Alison Henwood, Mark Garrett, Laurent Raets, Géraldine Nolens

Board diversity

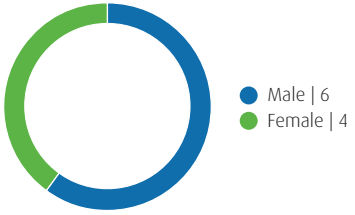
TENURE



INDEPENDENCE



GENDER



NATIONALITIES


Australia | 1


Belgium | 4


France | 1


Germany | 2


Spain | 1


Switzerland | 1


United Kingdom | 1

Thomas Leysen

Chair

Belgian, 62

Date appointed to board
10 May 2000 (date appointment Chair: 19 November 2008)

Education
Law – KU Leuven, Belgium

Experience
Thomas Leysen became Chair of Umicore in November 2008 after serving as Chief Executive Officer of Umicore 2000-08. During this mandate, he transformed the former Union Minière from a non-ferrous company into an international materials technology group called Umicore. He joined the group in 1993 as member of the Executive Committee, and successively managed several industrial divisions.

External appointments
Chair, Mediahuis, a European newspaper publishing group, Belgium - Chair, Royal DSM, The Netherlands

Expiration of mandate
Annual General Meeting of 2024

Chairman since
19 November 2008

Chairman of the Nomination & Remuneration Committee since
19 November 2008

Chair of the Investment Committee
February 2023

Mario Armero

Member

Spanish, 64

Date appointed to board
30 April 2020

Education
Law – University Complutense of Madrid, Spain

Experience
Mario Armero started his professional career at the Armero Law firm and later joined AT&T Spain. From 1992-99 he served as Secretary General at General Electric Plastics Spain, a position that he held until 2001. He was appointed Chair and CEO of General Electric Spain and Portugal in 2001, with responsibility for all the Group's Divisions in Iberia. In March 2008, he joined Corporación Llorente, a diversified family-owned industrial group, as CEO. Following that he joined Ezentis as Executive Chair. From 2012 till 2020, Mr Armero was the Executive Vice President of ANFAC, the Spanish car manufacturers association.

External appointments
Advisor of Global Infrastructure Partners - Chair of ENSO - Independent Board member of Bankinter Consumer Finance - Vice Chair of Culmia - Member of the CEDE Foundation (Spanish Confederation of Executives) - Board member of non-lucrative association Junior Achievement

Member of the Nomination & Remuneration Committee since
9 December 2020

Expiration of mandate
Annual General Meeting of 2023

Member of the Sustainability Committee
February 2023

Françoise Chombar

Independent member

Belgian, 60

Date appointed to board
26 April 2016

Education
Master Applied Language Studies Dutch, English, Spanish – Ghent University, Belgium

Experience
Françoise Chombar is co-Founder and Chair of the Board of Directors of Melexis, where she served as CEO 2003-21. She was previously planning manager at Elmos GmbH and operations manager and director at several companies within the Elex group. Françoise was a mentor in the Belgian Network for Gender studies, Sofia, for 17 years. She is committed to STEM and gender balance advocacy, for which she received a Flemish Community Honour in 2019. In 2012, she was granted an Honorary Ambassadorship for Applied Languages by the University of Ghent. In 2018, she received the title of Science Fellow at VUB, Brussels and in 2021 the first Medal of Honor, awarded by the Science and Technology Group of KU Leuven.

External appointments
Chair of the Board of Directors, Melexis NV, Belgium - Chair, Flemish STEM Platform, Belgium - Independent Director, Soitec SA, France - Independent Board member of Mediafin, Belgium - Independent Board member of Antwerp Management School, Belgium - Non-executive Board member of Ligentec SA, Switzerland

Expiration of mandate
Annual General Meeting of 2025

Member of the Nomination & Remuneration Committee since
26 April 2018

Member of the Sustainability Committee
February 2023

Koenraad Debackere

Independent member

Belgian, 61

Date appointed to board
26 April 2018

Education
Engineering – Ghent University, Belgium; Management – Ghent University, Belgium; Management – MIT Sloan School of Management, US

Experience
Prof. Dr. Ir. Koenraad Debackere has been with KU Leuven since 1995, where he teaches Technology & Innovation Management and Policy. He has won numerous awards for his research, and in 2010 was awarded a Francqui Lecture Chair in economics and business. From 2005-20 he was the general manager of KU Leuven as well as a Board member. Since 2022, he has been Chair of the Board of KU Leuven Association.

External appointments
Chair & Independent Director, Chair of Nomination Committee, Chair of Remuneration Committee, KBC Group NV, Belgium - Member Board of Governors, RWTH Aachen University, Germany

Expiration of mandate
Annual General Meeting of 2024

Member of the Nomination & Remuneration Committee since
9 December 2020

Member of the Audit Committee since
26 April 2018

Mark Garrett

Independent member

Australian/Swiss, 60

Date appointed to board
28 April 2015

Education
Economics – University of Melbourne, Australia; Applied Information Systems – Royal Melbourne Institute of Technology, Australia

Experience
Mark Garrett stepped down from all operational responsibilities in July 2022. He was CEO at Marquard & Bahls AG, a Hamburg-based holding company investing in new energies, gas, chemicals and materials, 2018-22. Before joining Marquard & Bahls AG, he served as CEO at Borealis AG, Austria, a position he had held since 2007. Prior to that, he built an extensive career in the chemical industry working with companies such as Ciba-Geigy and DuPont.

External appointments
Former CEO, Chair of the Executive Board, Marquard & Bahls AG, Germany - Non-executive Chair, Board of Directors, OMV AG, Austria

Expiration of mandate
Annual General Meeting of 2024

Member of the Nomination & Remuneration Committee since
29 July 2017

Ines Kolmsee

Independent member

German, 52

Date appointed to board
26 April 2011

Education
Process and Energy Engineering – Technische Universität Berlin, Germany; Industrial Engineering – École nationale supérieure des Mines de Saint-Étienne, France; Business Administration – INSEAD Business School, France

Experience
Ines Kolmsee is currently a partner at Matterwave Ventures, an early-stage deep-tech Venture Fund. Prior to this, she was CEO of Services & Solutions at Aperam SA from 2017-20. She previously served as CEO of SKW Stahl-Metallurgie Group, a specialty chemicals company with operations worldwide; COO and CTO at German utility EWE AG; and CFO at Arques Industries AG.

External appointments
Independent Non-Executive Director, Prysmian SpA, Italy - Independent Non-Executive Director, Boralex Inc, Canada - Independent Non-Executive Director, Etex SA, Belgium

Expiration of mandate
Annual General Meeting of 2023

Member of the Audit Committee since
26 April 2011

Chair of the Audit Committee since
28 April 2015

Member of the Investment Committee
February 2023

Birgit Behrendt

Independent member

German, 63

Date appointed to board
29 april 2021

Education
Business Administration - Academy of Administration and Economics (Verwaltungs-und Wirtschaftsakademie – VWA), Germany

Experience
Birgit Behrendt had, throughout her career, various global leadership positions at Ford Motor Company and was elected a company officer and vice president Global Purchasing in 2013. From 2018- 19 Mrs. Behrendt assumed the position of Vice President Joint Ventures, Alliances & Commercial Affairs. She is currently a Senior Advisor and Venture Partner at AP Ventures LLP, London, a leading independent venture capital fund across the hydrogen value chain.

External appointments
Member of the Supervisory Boards of Thyssenkrupp AG, KION Group AG Ford Werke GmbH, Germany - Member of the Board of Directors, Infinium Holdings, Inc US - Member of the Administrative Board, Stulz Verwaltungs GmbH & Co. KG Germany - Member of the Advisory Council, Hydrogenious LOHC Technologies GmbH, Germany until 30 September 2022

Expiration of mandate
Annual General Meeting of 2024

Chair of the Sustainability Committee
February 2023

Member of the Investment Committee
February 2023

Eric Meurice

Independent member

French, 66

Date appointed to board
28 April 2015

Education
Economics – Sorbonne, France ; Mechanical Engineering – École Centrale Paris, France; Business Administration – Stanford Graduate School of Business, US

Experience
Eric Meurice was formerly President and CEO of Netherlands-based ASML Holding, a major provider of advanced technology systems for the semiconductor industry. He was previously EVP in charge of Thomson Multimedia TV Division and held senior positions in several technology groups such as Intel, ITT, and Dell Computer.

External appointments
Non-Executive Director, Global Blue Group SA, Switzerland - Non-Executive Director, IPG Photonics Corp, US - Non-Executive Chair, Board of Directors, Soitec SA, France

Expiration of mandate
Annual General Meeting of 2024

Laurent Raets

Member

Belgian, 43

Date appointed to board
25 April 2019

Education
Commercial Engineering – Solvay Brussels School of Economics & Management, Belgium

Experience
Laurent Raets joined Groupe Bruxelles Lambert (GBL) in 2006 and became a partner in 2021. He began his career in 2002 as an M&A Consultant at Deloitte Corporate Finance, where he was involved in buying and selling mandates, due diligence and valuation assignments.

External appointments
Member of the Board of Directors and Audit Committee of Imerys SA, France

Expiration of mandate
Annual General Meeting of 2025

Member of the Audit Committee since
25 April 2019

Member of the Investment Committee
February 2023

Alison Henwood

Independent member

UK, 58

Date appointed to board
28 April 2022 (effective 1 September 2022)

Education
Bachelor of Arts in Natural Sciences, University of Cambridge, UK - Ph.D, Department of Earth Sciences, University of Cambridge, UK

Experience
Alison Henwood is a highly experienced finance professional with nearly 30 years at Shell, where she has held various financial leadership positions in Europe and the US, including the position of Executive Vice President Finance, Shell Trading and Supply. She finished her executive career at Shell end of June 2022. Since 2017, she has chaired the Audit Committee of the UK Hydrographic Office, a Ministry of Defence agency that provides hydrographic and marine geospatial data to mariners and maritime organizations across the world. In September 2021, she also joined the Board of Spectris plc, a global supplier of precision instrumentation, test equipment and software and a constituent of the FTSE 250.

External appointments
Chair of Audit Committee, Hydrographic Office, UK - Board Member and Audit Committee Member, Spectris plc

Expiration of mandate
Annual General Meeting of 2025

Member of the Audit Committee since
1 September 2022

Member of the Sustainability Committee
February 2023

Géraldine Nolens

Board secretary,
Belgian, 51
(see Management Board)

Karel Vinck

Honorary Chair

About the Supervisory board

The Supervisory Board's cumulative industry experience is broad, covering automotive, electronics, chemicals, metals, energy and finance sectors in addition to the fields of academia and science. It also includes people experienced in the public and private sector and members with experience in the different regions in which Umicore is active. Collectively, the Supervisory Board possesses strong experience of managing industrial operations and counts eight active or former CEOs in its ranks. The Supervisory Board also has collective experience in disciplines that are specifically relevant to Umicore's non-financial 2030 RISE Strategy goals such as health and safety, talent attraction and retention and supply chain sustainability.

Read more about corporate governance

Management Board

From left to right: Denis Goffaux, Géraldine Nolens, Bart Sap, Mathias Miedreich, Wannes Peferoen, Ralph Kiessling, Frank Daufenbach

Mathias Miedreich

Chief Executive Officer

German, 47

Education
International Business Management - Erlangen-Nuremberg Friedrich-Alexander University

Experience
Mathias Miedreich joined Umicore and was appointed Chief Executive Officer in October 2021, after serving as Executive Vice President of the Clean Mobility division of Faurecia, a global automotive supplier with a strong focus on sustainable mobility. Mathias started his career in Strategy Consulting at KPMG and then moved to the automotive industry, in which he has accumulated more than 20 years of experience in various senior leadership roles in Europe and Asia.

Prior to joining Faurecia in 2013 as their Vice President Strategy & New Technologies for the Clean Mobility business, he worked at Siemens and Continental.

Wannes Peferoen

Chief Financial Officer

Belgian, 42

Education
Business Engineering - KU Leuven, Belgium
MBA - Vlerick Business School, Brussels, Belgium

Experience
Wannes Peferoen was appointed Chief Financial Officer in October 2022. He joined Umicore in 2005 and has accumulated over 10 years' experience as a controller of several business units, building up a strong expertise in financial controlling including strategic planning, introducing new systems and managing financial risk. Subsequently Wannes held positions in general management in Belgium and France, and served as Senior Vice President for Electro-Optic Materials.

Prior to Umicore, Wannes worked for PriceWaterhouseCoopers in audit & advisory.

Géraldine Nolens

Executive Vice President - Chief Legal Counsel

Belgian, 51

Education
Master of Laws – University of Chicago Law School, US
European Economic Law – Julius-Maximilians-Universität Würzburg, Germany
Law – KU Leuven, Belgium

Experience
Géraldine Nolens was appointed Chief Legal Counsel for the Group in 2009 and joined the Management Board in 2015.

She started her career at the international law firm Cleary Gottlieb Steen & Hamilton before joining GDF Suez (now Engie) in 2001, where she was Electrabel's Chief Legal Officer for Southern Europe, France and new European markets.

Géraldine's career includes periods working and living in Belgium, Germany, Italy and the US.

Denis Goffaux

Executive Vice President Recycling

Belgian, 55

Education
Mining Engineering – Université de Liège, Belgium

Experience
Denis was appointed Executive Vice President Energy & Surface Technologies in 2018. He took up the position of Executive Vice President Recycling as of 1 April 2021. Previously, he served as Chief Technology Officer from 2010 to 2018 and EVP for Precious Metals Refining from 2015 to 2018.

Prior to that, he occupied successive business line and country management functions in China and Japan.

Denis began his career at Umicore with Research & Development in Olen, before moving to what was then our Cobalt & Energy Products Business Unit.

Ralph Kiessling

Executive Vice President Energy & Surface Technologies

German, 57

Education
PhD Chemical Engineering – University of Erlangen, Germany

Experience
Ralph Kiessling was appointed Executive Vice President Energy & Surface Technology on 1 March 2021. Before this he was Executive Vice President Catalysis from 2019 till 2021, after serving as Senior Vice President Operations for Automotive Catalysts from 2015 to 2019.

He previously occupied successive management functions in process technology, production and business controlling, including five years in China. In 2012, he moved to India where he built Umicore's automotive catalyst plant.

Prior to joining Umicore, Ralph held management positions in the Degussa group.

Bart Sap

Executive Vice-President, Catalysis

Belgian, 44

Education
Commercial Science – Vlekho Business School Brussels, Belgium

Experience
Bart Sap was appointed Executive Vice President Catalysis on 1 March 2021.

Bart joined Umicore in 2004 as a controller for Cobalt & Specialty Materials and, after successive assignments in Korea and Belgium covering finance, supply of raw materials, business development and refining operations, he became Senior Vice President for Cobalt & Specialty Materials and Supply at the beginning of 2020.

Frank Daufenbach

Chief Strategy Officer

French, 44

Education
Master in Management, HEC Business School, Paris, France

Experience
Frank Daufenbach joined Umicore's Management Board as Chief Strategy Officer in December 2021.

He previously worked at Faurecia, a leading global automotive supplier with a strong focus on sustainable mobility, where he served as Vice President Strategy and Marketing of the Clean Mobility business group. His prior roles include those of consultant at Monitor Deloitte, KPMG and Oliver Wyman.

Filip Platteeuw

Former Chief Financial Officer

Belgian, 50

Education
Applied Economics – Ghent University, Belgium
Financial Management – Vlerick Management School, Belgium

Experience
Filip Platteeuw was appointed Chief Financial Officer in November 2012. He joined Umicore in 2004 and served as Vice President Corporate Development from 2010 to 2012. Filip was instrumental in streamlining the business portfolio, including the divestment of the copper and zinc smelting operations.

Prior to Umicore, Filip worked for KBC Bank, taking up positions in corporate banking, equity market research and investment banking.

Filip Platteeuw resigned on 1 October 2022.

Leadership overview

As of time of publication

Frank Daufenbach

Chief Strategy Officer

- Corporate Development
- Government Affairs
- New Business Incubation & Digitalization
- Strategic Projects

Ralph Kiessling

Executive Vice President

Energy & Surface Technologies

- Rechargeable Battery Materials
- Cobalt & Specialty Materials
- China

Mathias Miedreich

Chief Executive Officer

- Corporate R&D
- Human Resources
- Group Communications & Investor Relations

Wannes Peferoen

Chief Financial Officer

- Corporate Finance
- Financial Risk Management
- Information Systems

Bart Sap

Executive Vice President

Catalysis

- Automotive Catalysts
- Precious Metals Chemistry
- Precious Metals Management
- Fuel Cell & Stationary Catalysts
- Procurement & Transportation
- Umicore Marketing Services
- South America

Géraldine Nolens

EVP ESG and General Counsel

- Legal
- Environment, Health & Safety
- Environmental, Social & Governance
- Enterprise Risk Management & Insurance
- Internal Audit
- Corporate Security
- North America

Denis Goffaux

Executive Vice-President

Recycling

- Precious Metals Refining
- Jewelry & Industrial Metals
- Battery Recycling Solutions
- Metal Deposition Solutions
- Electro-Optic Materials
- Japan

Watch personal videos

See next page for the teams

Team Mathias Miedreich

Evelien Goovaerts
VP Group Communications & Investor Relations

Antoine Lessard
Chief of Staff

Céline Van Haute
SVP Human Resources

Yves Van Rompaey
SVP Corporate Research & Development

Team Wannes Peferoen


Pierre Hautfenne
VP Group Treasurer


Flavia Leone
VP Group Tax


Joris Peeters
SVP Information Systems


Benoît Stevens
VP Group Accounting & Controlling

Team Frank Daufenbach


Geert Bens
VP Strategic Projects


Wouter Ghyoot
VP Government Affairs


Olivier Ghyssens
VP Corporate Development


Tom Krekels
Head of Strategic Insights and Analysis


Amada Montesdeoca Santana
Director Open Innovation


Pierre Van de Bruaene
SVP Strategic Projects


Patrick Vermeulen
SVP Digitalization

Team Géraldine Nolens


Natalia Agüeros
Director ESG Strategy & Engagement


Jens Blechschmidt
Head of Internal Audit


Baudouin Caeymaex
Head of Legal Corporate


Mark Caffarey
President Umicore USA


Philippe Fornage
SVP Environment, Health & Safety


Kristl Matton
Head of Corporate Security


Bart Smets
Head of Risk and Insurance


Tom Vandebosch
SVP Legal


Peter Zadora
Director ESG Acceleration

Team Denis Goffaux


Thomas Engert
SVP Metal Deposition Solutions


Atsuya Hanazawa
President Umicore Japan


Geert Hennebel
VP Electro-Optic Materials


Franz-Josef Kron
SVP Jewelry & Industrial Metals


Johan Ramharter
SVP Precious Metals Refining


Kurt Vandeputte
SVP Battery Recycling Solutions

Team Bart Sap


Sybolt Brouwer
VP Procurement Transport & FT


Enrico Cisco
VP Controlling & IT


Stephanie Dam
SVP AC Operations


Bernhard Fuchs
SVP Precious Metals Management


Lawrence Li
VP AC China


Wilfried Müller
SVP Global Sales & Marketing


Lothar Mussmann
SVP Product Management


Geert Olbrechts
SVP Research & Tech and Supply


Joakim Reimer Thøgersen
SVP Fuell Cell & Stationary Catalysts


Andreas Tiefenbacher
SVP South America


Jensen Verhelle
SVP Precious Metals Chemistry

Team Ralph Kiessling


Erik Brijs
VP Controlling & IT RBM & CSM


Michiel de Jonge
COO RBM


Ignace de Ruijter
SVP CSM


David Fong
SVP and Country Manager Greater China


Stephan Jannis
SVP Supply & Value Chain RBM & CSM


Jundong Lu
SVP Asia RBM


Geon-Seog Son
SVP R&D RBM


Jörg von Roden
SVP Sales & Business Development, RBM

Management approach

General management

The Umicore Way is the cornerstone of everything we do at Umicore and is also the basis of our management approach. The Umicore Way is supplemented by detailed company codes, setting guidelines throughout the company. These codes include:

- The Code of Conduct, which contains a comprehensive framework for ethical business practice;
- The Umicore Corporate Governance Charter, which sets out our management philosophy and governance principles;
- The Umicore insider dealing code, which spells out Umicore's policy in respect of market abuse including insider trading;
- The Umicore Global Sustainable Sourcing Policy which outlines our commitment to align our supply chain to our own values and practices; and
- many internal policies developed in support of our vision and values such as Safety, Human Rights and Working Conditions, Product Stewardship, Training & Development and Donations & Sponsorship, etc.

Our business model delivers positive impact for society. We offer solutions to sustainability challenges that are linked to megatrends and create value for all our stakeholders. Our 2030 RISE strategy is our compass for value creation.

Performance evaluation

Economic, environmental and social performance is measured annually against a set of KPIs reported through a group data management system. The data are collected and reported at the relevant entity level: site, region, business unit or business group. The corporate divisions aggregate the performance data from all parts of the Group to evaluate Umicore's overall progress for review by the Management Board.

Both financial and non-financial performance indicators are included in overall general management performance measurement as described in our remuneration policy. The new remuneration policy which integrates climate, emissions, diversity and safety performance metrics for members of the Management Board was approved by shareholders at the annual general meeting in 2022. Performance data linked to the 2030 RISE strategy pillars is monitored using an internal dashboard and is featured as part of Umicore's annual integrated reporting.

Umicore obtains third party assurance for both financial and non-financial/ESG data. Since 2021, this assurance has been carried out by EY in its capacity of statutory auditor. EY evaluates the completeness and reliability of the reported data as well as the robustness of the associated data management system. Performance indicators and reporting processes are reviewed and updated after every assurance cycle. Umicore is committed to transparency and increased disclosure, which is ongoing and will spread over several reporting cycles as part of a continuous improvement process.

Performance responsibilities

Umicore business units and corporate functions are co-accountable for their contribution to the Group's value creation and for their adherence to Group strategies, policies, standards and to the sustainable development approach. Business units are clustered in business groups according to strategic business development topics.

This implies an effective decision-making process based on clear allocation of responsibilities as described in the Governance overview, ensuring optimal balance between a culture of entrepreneurship at the level of the business units and effective steering and oversight processes centrally.

The tactical boards are key contributors to the corporate strategy and monitor its implementation. Day-to-day responsibility for the economic, social and environmental performance lies with the EVP, corporate function and business unit managers, as well as site managers. Corporate divisions develop technical guidance, ensuring collective understanding of concepts, definitions, roles and responsibilities. Regular workshops and meetings are organized each year at various levels of the organization to share best practices.

Strategy management

Our approach to strategy management derives from our vision to be a people-oriented, purpose-led and performance-driven organization.

Policies

Specific processes and guidelines have been developed to frame Umicore's approach to the 2030 RISE strategy management that include dedicated market intelligence gathering and sharing, robust performance reporting and planning processes, capacity building, strategic positioning and thought leadership development; all of which are linked to, and embedded in, the other management elements described in this chapter.

Performance responsibilities

The Chief Strategy Officer has overall oversight of Umicore's strategy and performance and is supported by a dedicated team that monitors the Group's performance against 2030 RISE objectives and ensures that integrated business planning is market- and performance-reactive and dynamic in nature.

Each member of the management board is responsible for the strategic performance of their business group or corporate division(s). Umicore business units and corporate functions are co-accountable for their contribution to the Group's adherence to, and performance against, the 2030 RISE Strategy objectives.

Financial management

Our approach to financial and economic management derives from our vision, values and organizational principles as described in The Umicore Way.

Umicore aims to create value for its shareholders. This is achieved through the development of a compelling strategy and a strong track record of delivering a solid performance against the strategic objectives. We seek to grow our existing businesses while maintaining or establishing strong leadership positions on the back of innovative technologies. Shareholder returns depend on the valuation of the Umicore stock and are supported by the payment of dividends.

Umicore aims to safeguard the business through sound financial management and by maintaining a strong balance sheet. While we have no fixed target regarding debt levels, we aim to maintain investment grade status at all times. We also seek to maintain a healthy balance between short- and longer-term debt and between debt secured at fixed and floating interest rates. This approach, coupled with strong cash flow generated from operations, allows us to self-fund the majority of our growth initiatives.

Policies

Specific internal policies and guidelines have been developed to frame Umicore's approach to specific financial aspects including: dividends, financing and funding, transfer pricing, credit management and hedging.

Performance responsibilities

Accountability for the overall financial performance of Umicore lies with the CEO, while each member of the Management Board is responsible for the financial performance of their business group or corporate division(s). The Chief Financial Officer has overall oversight of Umicore's financial and economic performance and is supported by a Corporate Finance team that includes specific expertise centers covering aspects such as tax, treasury and accounting & control. The Director Financial Risk Management ensures that the key long-term commercial and investment programs will deliver in line with the RISE 2030 performance objectives and risk thresholds. At business unit level, the head of the business unit is responsible for the operational and financial performance of the business unit. Financial controllers support the heads of the business units in managing the financial and reporting aspects of the business unit and support the financial allocation process for environmental, climate, health and safety-related projects.

Operational management

Umicore seeks to generate economic value through its existing businesses and any acquisitions or organic growth initiatives that it undertakes. This entails generating an operational return on capital employed (ROCE: adjusted EBIT / average capital employed for the period) in excess of our overall pre-tax cost of capital. This cost of capital can vary over time as a function of our risk profile and the state of the debt and equity markets. ROCE is one of the most important key performance indicators for steering Umicore.

We deal with precious and other rare metals and we therefore have relatively high working capital intensity. Management is therefore incentivized to optimize performance both from an earnings perspective and by minimizing capital employed.

Investments are assessed on a case-by-case basis: acquisitions are expected to be earnings-enhancing in the early phase of their integration and value-enhancing shortly thereafter. Similar criteria exist for organic investments, although the pursuit of longer-term growth projects invariably requires a longer view on expected returns.

Umicore seeks to maintain market leadership positions in recycling and clean mobility materials. The nature of our business, which consists of products for highly specific applications, means that we do not have a presence in any country or region which makes up a significant part of that country or region's economy. Our business is global in nature with 44 production sites in 34 countries.

When designing growth projects, we carefully consider overall contribution to our sustainability/ESG ambitions.

Understanding the increasing importance of climate resilience, we integrate the recommendations of the Task Force on Climate Related Financial Disclosures (TCFD), mitigate our climate-related risks and pursue opportunities linked to climate change mitigation. Managing these risks and opportunities is closely linked to our business model and our vision for global operations and positive impact on society.

To deliver operational excellence, Umicore focuses on three pillars: people, competencies and values.

People need to be equipped and digitalization roles filled, which is the task of the Umicore Technical and Digital Academy. Competencies are developed in centers of expertise, such as the cloud center of expertise, the computational science center, the data management center and the robotics center. Values are developed in roadmaps and project managers guide business units to set up projects.

KPIs on operational excellence and digitalization have been set up and business units have been given objectives from the management board, for example to improve EBIT through digitalization.

Policies

Specific internal policies and guidelines have been developed to frame Umicore's approach to specific operational aspects including ROCE calculation methodologies, ROCE targets and Mergers & Acquisitions.

Performance responsibilities

Management Board members are each responsible for operational management and performance within their reporting lines. The Chief Strategy Officer leads the Digitalization & Operational Excellence Board and has oversight of mergers and acquisitions supported by the Corporate Development department, and of ensuring the Group's

operational integration of the 2030 RISE objectives and monitoring performance. At business unit level, the head of the business unit is responsible for the overall operational performance. The general manager of each site has a similar responsibility at site level.

Innovation management

Technology is at the core of what we do and enables our capability to deliver value to our customers and markets by developing state of the art products, processes and services. Sustainability is a key driver of our technology development, targeting safe processes, sustainable products, supply and processes, with ambitious targets to go for zero GHG emissions in 2035 for Scope 1 and 2. We invest consistently between 5 and 7% of revenues (excluding metal) in R&D and innovation, working on the basis of a balanced portfolio ensuring short-term delivery to our businesses and customers while carefully preparing for the longer-term future. Our portfolio spans over three time horizons and includes a core competence dimension, securing technological excellence in all crucial areas.

Policies

All business units develop a business roadmap that translates to a product and service roadmap, both of which are linked to a technology and competence roadmap. These roadmaps are validated regularly based on changes in markets and technologies and are used to steer our project and activity portfolio.

Performance responsibilities

R&D at Umicore consists of a hybrid R&D organization, with business-specific R&D complemented with corporate R&D and a new business incubator, each with specific roles and responsibilities. These R&D departments come together in an innovation excellence working group, reviewing how R&D can analyze, measure and improve effectiveness and efficiency. This working group also evaluates cross-activity synergies and common topics including R&D talent development, digitalization of R&D and advises the CEO on innovation management.

The Management Board reviews the complete portfolio of technology and innovation on a quarterly basis, covering all program milestones, competences and innovation value and performance KPIs as part of the tactical Technology & Innovation Board, which is led by the CEO and coordinated by corporate R&D through a central project management office, which connects to various project management offices across Umicore for alignment.

Business units are responsible for the setup, delivery and evaluation of their project portfolio in line with customer and market expectations.

Sustainability/ESG management

At Umicore, we recognize the urgent need to transition towards a more sustainable future. Umicore's commitment to supporting that transition is long-standing and continues through 2030 RISE, in a way that requires bold ambitions and actions. Our business model is dedicated to delivering sustainable products and services, and we are committed to leveraging our expertise and resources to developing safe, sustainable, and innovative solutions that enhance the quality of life for people and the planet. Umicore strives to maximize the positive impact on society, through our operations, in our value chain and with our products and services.

As a signatory of the UN Global Compact, Umicore is looking through the lens of the Sustainable Development Goals (SDGs) to maximize its contribution to society. The relationship with our stakeholders is essential to building shared value and plays a key role in the promotion of social and environmental best practices. Upstream, we specifically act to eliminate any social or environmental harm in our supply chain. In our operations, we work to ensure a safe, healthy, equitable and sustainable work environment and to pursue opportunities for positive impact of our operations on local communities, nature and climate change. Downstream, we increase the positive impact of our products and services by working directly with our customers and through our commitment to sustainable and responsible sourcing choices. A detailed overview of our performance indicators for our ESG impact can be found in Environment, Society, and in the Environmental and Social Statements.

Because Umicore always strives to reach the highest possible impact for society, a more ambitious regulatory agenda in terms of sustainability creates market opportunities for the Group. Beyond providing insights to authorities and co-creating technology roadmaps, Umicore aims to share knowledge and work collaboratively with many partners to advance the global transition towards a sustainable future. (See "advocacy for impact")

Policies

Umicore is committed to supporting the Ten Principles of the United Nations Global Compact in the areas of Human Rights, Labor, Environment and Anti-Corruption, and to contributing to the SDGs. In our annual integrated reporting, we describe our actions to continually improve and monitor the way our strategy, culture, and daily operations contribute to ambitions and support the Global Compact and its principles. We identify SDGs where we have the largest impact and disclose our efforts towards contributing to these goals.

The 2030 RISE ambition to be a Sustainability Champion defines our commitment in terms of maximizing positive impact. Our "Let's Go for Zero" ESG ambitions, launched in 2021, (Net Zero GHGs, Zero Harm, Zero Inequality and Best-in-class Governance, see Strategy) set the course of action through targets that are embedded in the other management elements described in this chapter.

An internal Group EHS Guidance Note, where the environmental guidance was developed in accordance to ISO14001 "Environmental Management Systems", is applicable worldwide for all consolidated operations where Umicore has management control, including all business units and to the extent relevant and applicable, corporate functions. It details the approach to measuring impacts, performance and risks and reporting on environmental topics including eco-efficiency, emissions to air, water and soil, waste generation, energy use and climate change. In addition, a specific internal Energy efficiency and reduction of carbon footprint policy brings a high-level

awareness and commitment at sites and within business units to strive for continual energy efficiency improvement. Umicore also encourages all initiatives that increase recycling potential. On a global scale, metals recycling reduces the environmental, climate and social related impacts to the sourcing and transformation of metals into products.

Our approach to responsible sourcing is described in the Umicore Global Sustainable Sourcing Policy and the supporting sourcing frameworks, e.g: the Sustainable Procurement Framework for Cobalt and the Responsible global supply chain of minerals from conflict-affected and high risk areas Policy.

Our commitment to ensuring the safety and sustainability of our products throughout their lifecycle is detailed in a number of internal policies and supported by a robust lifecycle assessment process. (See " Umicore product stewardship").

Umicore has a Group Policy on donations and sponsorships with general guidelines on the thematic focus of donations and on budget allocation. Group donations focus on projects with an international scope, with priority given to initiatives that have a clear link with sustainable development and that have an educational component. Umicore is also committed to doing its part when it comes to global relief efforts, and a part of Group donations is allocated to disaster relief. Most of the donations from the business units go to charities close to their sites, in support of the local community. As a matter of policy, Umicore does not make donations to political parties or organizations.

Performance responsibilities

Accountability for the overall positive impact of Umicore lies with the CEO. For donations at Group level, the budget is set at the discretion of the CEO and donations are coordinated and managed by a Group Donations Committee reporting to the CEO.

In the management board, the EVP ESG, General Counsel and lead for the tactical ESG Board oversees sustainability/ESG integration, performance, strategy, engagement and disclosure. The tactical ESG board is supported by an ESG steering committee that brings together senior management representatives from each business group, as well as senior management representatives of corporate Environment, Health and Safety (EHS), ESG, Finance and HR. Implementation and performance against ESG KPIs are reviewed monthly by the ESG steering committee and recorded using an internal dashboard which is monitored and discussed as part of the tactical ESG Board. The management board members are each responsible for the overall ESG performance within their reporting lines, including e.g., sustainable and responsible sourcing, decarbonization or diversity in recruitment.

The Senior Vice-President (SVP) for Environment, Health and Safety (EHS) is responsible for ensuring environmental compliance, risk mitigation and data reporting across Group activities. A new dedicated corporate ESG division manages the programs aimed at the creation, integration and acceleration of strategic ESG initiatives (e.g., Scopes 1, 2 and 3 decarbonization, environmental impact, responsible sourcing) as well as programs or initiatives linked to governance topics, stakeholder engagement and materiality, ESG strategy, green finance and ESG disclosure. Corporate ESG is co-accountable with business units and corporate divisions in delivering performance, where each has (ESG topic) champions, that together with the corporate ESG team work to implement the most efficient pathways to reaching our shared goals.

Workforce management

Our approach to workforce management derives from the vision, values and organizational principles found in The Umicore Way and is reflected in the Global Framework Agreement on Sustainable Development, to which we subscribed in 2007, and renewed in 2019. Umicore implements the guidance on Human Rights, collective bargaining, equal opportunities, violence and harassment at work, safe and healthy working conditions and environmental issues.

Umicore is committed to zero inequality and zero harm and we believe it is equally important to continuously monitor, control and report our social performance and the wellbeing of our workforce.

Our workforce performance indicators can be found in Employees and in the Social Statements sections of this report.

Policies

An internal Group Social Reporting Guidance Note provides detailed guidance on measuring and reporting on social performance. Specific internal policies have been developed to frame specific elements of our social management approach including Diversity & Inclusion, Recruitment, Safety, Human Rights and Working Conditions and Training & Development.

For our approach to health and safety, the Group EHS Guidance Note, where the health and safety guidance was developed in accordance to OHSAS18001 “Occupational Health and Safety Assessment Series”, is applicable worldwide for all consolidated operations where Umicore has management control, including all business units and to the extent relevant and applicable, corporate functions. It details the approach to measuring impacts, performance and risks and reporting on occupational health and safety and provides a framework for the business units and sites.

The Umicore Group Safety Policy provides a framework for business units to develop and implement safety programs needed to achieve and maintain excellence in safety performance. The Policy is guided by universal core safety principles that can be translated by each business unit to their specific environment to take actions according to their specific risks.

Performance responsibilities

In the Management Board, the CEO has oversight responsibilities for Umicore’s Human Resources and leads the tactical People & Organization Board, which is managed by the SVP Human Resources. The EVP ESG and General Counsel is responsible for health and safety matters and co-accountable for performance against diversity goals. The SVP EHS is responsible for ensuring safety compliance, performance and reporting across Group activities.

The Management Board members are each responsible for the overall workforce performance within their reporting lines. At business unit level, the head of the business unit is responsible for workforce performance. The general manager of each site has a similar responsibility at site level. A regional Human Resources organization exists to manage social aspects at regional and country level, and to provide structural support to the business units in all aspects of human resources and health and safety management.

Implementation and performance against health and safety KPIs are internally measured and reported on a monthly basis. Implementation and performance against workforce KPIs are monitored as part of the People & Organization Board. Implementation and performance against diversity and health and safety KPIs are also monitored as part of the ESG Board. Workforce, health and safety performance are featured as part of Umicore's annual integrated reporting.

Risks & Opportunities

Managing risk effectively

The aim of our risk management system is to enable the company to identify risks and opportunities in a proactive and dynamic way and manage or mitigate them to an acceptable level wherever possible.

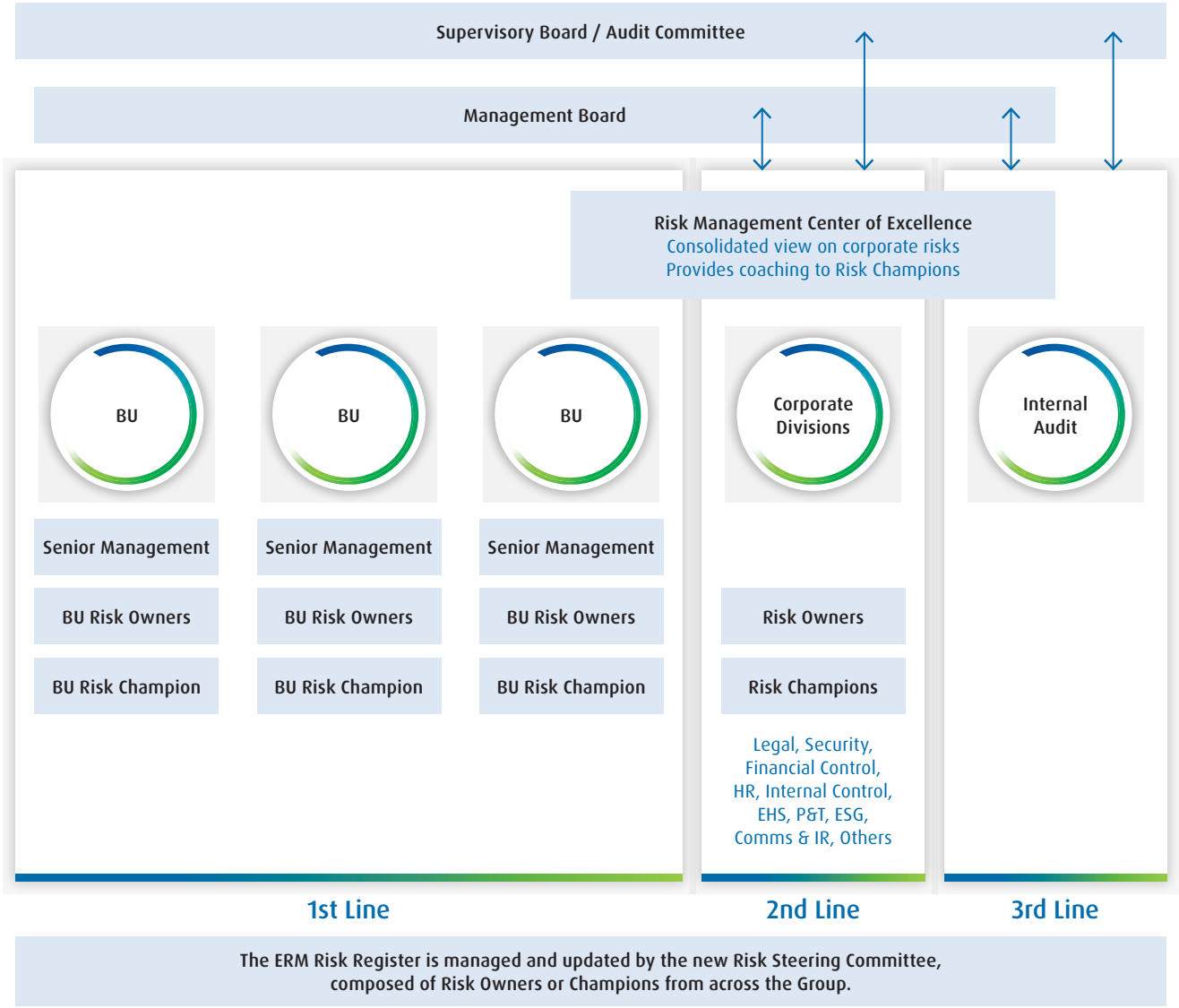
To anticipate economic and geopolitical uncertainty, increased focus on climate change and energy transition, the rapidly changing technological landscape etc., a robust risk management process supported by strong governance is crucial to support the Group achieving its financial and extra-financial strategic objectives.

Each of the Group's activities is exposed to a variety of risks that are financial or non-financial in nature but have the potential to impact the financial performance of the Group. Financial risks include changes in metal prices, in foreign currency exchange rates, in certain market-defined commercial conditions, and in interest rates as well as credit and liquidity risks. The Group's overall risk management program seeks to mitigate risks and potential adverse effects on the financial performance of the Group, including through the use of hedging and insurance instruments. For more on Managing financial risks, see note F3.

Umicore's annual Business Risk Assessment – endorsed by the Supervisory Board – fulfils this role while at the same time ensuring compliance with laws and regulations.

All identified risks and opportunities are assessed against three criteria, while at the same time determining their time horizon (short-medium-long), their likelihood of occurrence and the impact the materialization of a risk or opportunity could have.

Sustainability matters are also assessed on their impact on the Group as well as on people, society and the environment.



Process and framework

Umicore's Enterprise Risk Management framework is based on the "Three lines of defense" model, where the primary source and responsibility for the identification of risks and opportunities lies within the individual business units.

As they operate in an environment carrying specific growth expectations and differing degrees of market and technological uncertainty potentially impacting strategic objectives, each business unit is responsible for the implementation of the necessary mitigating actions which are systematically reported corresponding to the respective strategic objectives and identified risks and opportunities.

The second line of defense is insured by specific corporate departments in close collaboration with the Enterprise Risk Management (ERM) function.

Under the auspices of the Management Board, these corporate departments are also tasked with identifying, managing and mitigating certain risks and opportunities while ensuring that adequate systems are in place to address them. These risks and opportunities cover Group-wide elements that extend beyond the purview of individual business units, (e.g. financial, strategic, social, reputational, climate and environmental-related risks and opportunities) in the short, medium or longer term.

Together, they aggregate the risks and opportunities and provide a consolidated view while the ERM function will also assure a regular follow-up of the mitigation actions.

Finally, the Internal Audit function, through its independent review, assures the effectiveness and efficiency of the Risk Management process, while at the same time aligning the internal audit plan with the ERM priorities.

This model is subject to continuous improvement and is designed to be dynamic and flexible in a way that enables Umicore to respond appropriately to the Risk & Opportunity Environment.

An example of such improvement is the creation of a Steerco as shown in the below figure which will be implemented in the course of 2023.

Umicore is also enhancing its ERM organization to facilitate the implementation of a Governance, Risk and Compliance tool (GRC), supporting the visibility of the different risks and opportunities.

Governance and oversight

The audit committee of the Supervisory Board reviews all financial and non-financial risks and opportunities at Group-level, defines the Risk Appetite and Risk Tolerance, while the Management Board, as the "Executive Risk Owner" and "Subject Matter Expert" will be making and supporting risk-priority decisions following the regular review of the top risks potentially affecting the Group's financial and extra-financial strategic objectives.

Insurance

One of the techniques used to respond to risks is the use of insurance as a risk transfer mechanism. Umicore currently has insurance programs in place to protect itself against a number of risks including Property Damage & Business Interruption, Public & Products Liability, Employer's Liability, Workers Compensation, Transport, Directors' and Officers' Liability and Credit Insurance.

Since 2021, Umicore is also using its fully owned reinsurance captive in Luxembourg to retain part of the (insured) risks before transfer to the (direct) insurance market.

The type of insurance and the respective insured limits purchased from the direct insurance market are regularly reviewed to be aligned with our assessment of the relevant risks and the group's risk appetite.

Our internal control system

Internal control is a key aspect of Risk Management. Different Internal control mechanisms exist throughout Umicore to provide management with reasonable assurance of our ability to achieve our objectives. They cover:

- Effectiveness and efficiency of operations
- Reliability of financial processes and reporting
- Compliance with laws and regulations
- Mitigation of errors and fraud risks

Umicore adopted the COSO[1] framework for its Internal Control System and has adapted its various constituents within its organization and processes. " The Umicore Way" and the " Code of Conduct" are the cornerstones of the internal control environment; together with the concept of management by objectives and through the setting of clear roles and responsibilities, they establish the operating framework for the company.

Specific internal control mechanisms have been developed by business units at their level of operations, while shared operational functions and corporate services provide guidance and set controls for cross-organizational activities. These give rise to specific policies, procedures and charters covering areas such as corporate security, environment, health and safety, human resources, information systems, legal, trade compliance, research and development and supply chain management.

Umicore operates a system of Minimum Internal Control Requirements (MICR) specifically to address the mitigation of financial risks and to enhance the reliability of financial reporting. Umicore's MICR framework requires all Group entities to comply with a uniform set of internal controls in 12 processes.

[1] Committee of Sponsoring Organizations of the Treadway Commission

Within the internal control framework, specific attention is paid to the segregation of duties and the definition of clear roles and responsibilities. MICR compliance is monitored by means of self-assessments to be signed off by senior management. The outcome is reported to the management board and the audit committee.

Out of the 12 control cycles, 3 cycles (Fixed Assets, Human Resources and Travel and Entertainment) were assessed in the course of 2022 by the 101 control entities currently in scope. Risk assessments and actions taken by local management to mitigate potential internal control weaknesses identified through prior assessments are monitored continuously. The Internal Audit department reviews the compliance assessments during its missions.

Opportunities & risks overview

Risk & Opportunity	Link to Material topics	Change in Risk profile	Change in Opportunity Profile
Regulatory & Legal Context	· Digitalization & Cybersecurity · Ethical Supply · Product Stewardship · Responsible Governance · Sustainability Governance	→	↑
Sustainable & Ethical Supply	· Climate & Environment · Ethical Supply · Sustainable Governance · Sustainable Sourcing & Recycling Services	↑	→
Metal Price	· Sustainable Sourcing & Recycling Services	↑	→
Market	· Innovation · Product Quality & Production Capacity · Sustainability Governance	→	→
Technology & Substitution	· Innovation · Product Quality & Production Capacity · Product Stewardship	→	→
Information Security & Data Protection	· Digitalization & Cybersecurity	↑	→
Talent Attraction & Retention	· Employee Engagement · Employee Health, Safety & Wellbeing · Sustainability Governance	↑	↑
Climate & Environment	· Climate & Environment · Innovation · Sustainability Governance · Waste · Water	→	↑

1 Regulatory and legal context

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
· Digitalization & Cybersecurity · Ethical Supply · Product Stewardship · Responsible Governance · Sustainability Governance	NO CHANGE	INCREASE

Risk description

The globally changing regulatory environment brings both threats and opportunities for Umicore. This applies not only in the countries and regions where Umicore operates, but also in those where its products are sold and used.

Umicore's business operations are subject to a variety of increasingly stringent environment, health & safety related laws, regulations and standards. In the **short term**, these present operational challenges for our businesses, resulting in continuous improvements and investments (hence in higher costs) and potentially in an uneven competitive environment. One of the areas in which this short-term impact is visible, is the renewal or "ex officio" amendment of operational (environmental) permits for Umicore's production sites. In the course of 2021, the Flemish government imposed new and more stringent environmental requirements for Umicore's recycling plant in Hoboken. These new and challenging requirements include, amongst others, annually declining limits for levels of lead in the blood of young children under the age of 12 living in the vicinity of the Hoboken plant. Despite Umicore's continuing efforts to reduce the harmful effects of emissions and the further declining levels of lead during 2022 it cannot be excluded that certain of these new targets in the Hoboken permit will not be met in the future. As Umicore's recycling activities are concentrated on this one unique site in Hoboken, not reaching an environmental target might have a significant impact on Umicore's earnings and cash flows.

Similarly, environmental legislation can impact the way end-of-life batteries must be handled, transported and stored, which in turn can drive business decisions.

However, in the **mid- to longer term,** Umicore can benefit from these trends, especially those regarding the reduction of vehicle emissions, electrification and the circular economy.

This evolving EHS regulatory framework will ultimately also be beneficial to the environment and society as new and better technologies will have to be developed and implemented, for the emissions of both production facilities and vehicles as well as to cope with resource scarcity.

Changes in product content regulation in general and more specifically REACH regulation (or its equivalent in regions outside the EU) can in turn drive business options and/or technology choices.

Data protection and intellectual property rights have a significant impact on technology-driven businesses including Umicore. Failure to adequately manage data, knowledge and intellectual property (IP) rights may, in the short- and **medium-term**, have a negative impact on Umicore's business and freedom to operate. Despite robust mitigation measures in place, it cannot be excluded that Umicore becomes the victim of a data breach and will be fined or have to compensate victims as a result of such a breach. Umicore could be forced to take legal action against perpetrators to safeguard its intellectual property rights. Likewise, Umicore is also exposed to the risk of having to defend itself against alleged breaches of third-party IP rights, despite efforts to manage its IP portfolio actively.

Geopolitical conditions, trade legislations and restrictions continue to be a factor in Umicore's trans-border activities in short, medium and **long term**. In more and more regions, review or approval procedures are implemented for cross-border technology transfers, acquisitions and exports. Compliance with such measures may adversely affect the speed of innovation and/or the flexibility to collaborate with third parties or even within the same group. They may, however, also create opportunities for Umicore (whether in protecting its technology or creating barriers to market entry by foreign competitors).

Today, Umicore is the only cathode player to produce industrial cathode materials on two continents and has the intention to set up local production in North America, as such completing the global rollout of regional supply chains for automotive and cell customers on three continents.

The growing trend towards electrification (as recently confirmed by the decision of the European Parliament to ban the sale of new fossil fuel cars from 2035) and more stringent emission control should be seen as an opportunity to Umicore's business as described in investing at Umicore. However, governments in other parts of the world might decide to postpone the implementation of such new legislation. In the short term, such delays could have a negative impact on certain parts of Umicore's business. In the medium term, this will rather be an **opportunity** for further and increased market development, positively impacting sales and revenues.

The new Inflation Reduction Act of 2022 (IRA) in the USA, requiring that a certain percentage of critical minerals in the battery must have been recycled in North America or been extracted or processed in a country that has a free-trade agreement with the United States and that the battery must have also been manufactured or assembled in North America is rather an opportunity for Umicore.

As we have the intention to set up a manufacturing facility for cathode active battery materials (CAM) and their precursor materials (pCAM) in Ontario, Canada, these products will be "IRA approved".

Potential product or contractual liabilities remain risk factors to be monitored at all times.

National and international tax regulation is increasing and becoming more complex which increases the Group's tax compliance related risks (particularly in the field of transfer pricing and indirect taxes such as VAT). The uncertainty associated with announced or potential tax reforms is equally increasing (both on a national level such as for example in Brazil or on an international level such as for

example the OECD initiatives). These risks might impact the Group's earnings despite Umicore continuing to manage them proactively (e.g. through the recognition of uncertain tax position provisions).

Risk profile

The increased complexity of the global regulatory environment remains very complex and legislation continues to become more stringent, but overall we can consider that the risk profile remains stable compared to 2021. At the same time, new opportunities will equally arise out of such more stringent legislation.

Risks and opportunities related to trade and tariffs (including export regulations regarding both goods and technologies) require close monitoring and follow-up.

The risk profile for matters related to intellectual property rights and data protection is increasing as a result of the stricter regulations and the IP landscape which has become more litigious than previously. Despite our active management of patents and other IP rights, Umicore cannot exclude that any of our patents will be violated (and we may not always be able to successfully take action to stop or obtain compensation for any such violations) nor that there will not be any litigation against the company for an alleged infringement of a third-party IP right.

Risk mitigation

Umicore provides continuous training on regulatory requirements to ensure compliance with applicable legislation.

Umicore is continuously and systematically monitoring the regulatory landscape on health, safety, environment and climate change, and adapting its frameworks and reporting accordingly.

To ensure ongoing compliance with EHS legislation on our industrial sites, Umicore has a well-established EHS compliance audit program and constantly monitors changes in legal requirements where it operates. For more information, see Environment.

Several initiatives have been taken and continue to be taken to reduce the possible impact of harmful emissions from Umicore's production, such as the creation of a "green zone" on and next to the Hoboken production facility, as described in Environment.

At Umicore, we are committed to the responsible and sustainable management of our products throughout their lifecycle. We recognize the importance of product stewardship in protecting human health and the environment. We work collaboratively with our stakeholders to ensure the responsible management of our products. For Umicore, a specialty materials company, this also includes managing the potential risks associated with the chemicals used and implementing measures to reduce those risks. Umicore ensures regulatory compliance of the products worldwide and therefore closely monitors all changes in regulations, interpretations and guidance documents that might affect its European REACH implementation strategy. In 2022, we have submitted 13 additional substances for registration under REACH due to new business developments. As part of regular maintenance, we have updated 17 REACH dossiers for reasons including changing the tonnage band, replying to ECHA requests and including new information. Additionally, a 1st Full Registration dossier for UK-REACH has been completed to support new UK import activities.

Umicore successfully achieved the first Korea REACH (K-REACH) registration deadline at the end of 2021. With a few new registrations ongoing in 2022, Umicore is already preparing for the next wave before December 2024.

See more on Umicore's approach to Product Stewardship here.

To mitigate the potential impact of (product) liability claims, Umicore has implemented mechanisms such as contract management and risk transfer using insurance policies, in addition to rigorous quality controls.

Umicore's dedicated Intellectual Property Team within the global legal department, has rigorous processes that monitor the required freedom to operate to commercialize our products.

More and more governments have implemented new or enhanced legislation on data protection, such as GDPR in Europe, LGPD in Brazil, POPI in South Africa or PIPL in China. Umicore has implemented the necessary governance structures in compliance with these legislations and is closely monitoring any changes or new regulations on this topic.

To safeguard its data and innovative ideas, Umicore is providing training to its employees worldwide on how they can contribute to and ensure the protection of trade secrets. To that end, the "I Stay Alert" campaign, which was launched in 2021, was continued throughout 2022 as described in information security and data protection.

The Umicore Trade Compliance Team closely follows and responds to global trade conditions, not in the least the newly imposed sanctions following the recent geopolitical events in 2022.

Umicore continues to play an active role in informing legislators of various emission control technologies for both diesel and gasoline powered vehicles, to help legislators make informed decisions about future emission and testing norms. To manage policy risks, Umicore participates in public consultations and is a member of multiple industry associations, including those related to sourcing, climate and business. As described in Engaging For Impact, Umicore is supportive of challenging targets in areas such as battery regulation, as they represent opportunities for us. As a founding member of the Global Battery Alliance (GBA), Umicore is one of the staunchest drivers and co-developers of the Battery Passport. Transparency on a battery's lifecycle enables consumers, companies and regulators to make well-informed choices, propelling decarbonized electric driving.

Umicore is further enforcing its international tax team and has increased its use of third-party advisory services to monitor and manage tax-related risks.

2 Sustainable and ethical supply

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
· Climate & Environment · Ethical Supply · Sustainable Governance · Sustainable Sourcing & Recycling Services	**INCREASE**	**NO CHANGE**

Risk description

In the **short term**, potential disruption in supply chains due to factors including changes in trade regulation, geopolitical events and subsequent delays at borders and ports, container transportation shortage and high energy prices remain a real risk. A further source of stress in the supply relates to stricter application of regulations on transboundary movements of waste and/or bans by carriers, ports or countries to accept waste or dangerous goods. Regarding the supply of metals, securing adequate volumes of raw materials is essential in the ongoing viability of our product and service offering and in achieving our growth objectives. Responsible sourcing is a key priority and competitive edge for Umicore: when sourcing materials or through indirect procurement, we check suppliers and conduct due diligence based on a risk assessment to ensure that no harm is inflicted on people (e.g., human rights violations), the environment or society. More details about what we expect from our suppliers can be found in Society. Insufficient availability of raw materials such as palladium, rhodium, lithium or battery nickel units, combined with a lack of alternatives, can impact metal prices as described in the metal price chapter.

In the **medium term**, price volatility and limited availability of supply remain a concern, in particular for battery materials for which demand is expected to soar or for certain platinum group metals, the use of which is currently closely linked to internal combustion engine technology. The uncertain grade mix for battery materials may lead to inadequate supplies. There are risks that development of new supply may not precisely match demand increases, whereby the gap in supply and demand during the rapid future growth could lead to temporary supply shortages or excesses, which will reflect in metal prices. Other materials such as germanium face long-term supply challenges due to changing market conditions, where there is a trend for suppliers to move downstream. Regarding sustainability and the impact of Umicore's activities on society, it is crucial we deliver performance against our ESG ambitions, with a supply chain that is fully certified against environment, social and governance criteria and decarbonization targets for Scopes 1, 2 and 3. Next to the grade, price volatility and limited availability, the GHG impact of the raw materials we purchase comes as an additional dimension to be taken into account when locking in supply and spans over the short, medium and the long term.

In the **long term**, regarding supply, Umicore requires certain metals or metal-containing raw materials to manufacture its products and feed its recycling activities. Some of these raw materials are comparatively scarce and require very specific sourcing strategies. Obtaining adequate supplies of these materials is important for the ongoing success and growth of our business.

Risk profile

Regarding battery materials in particular, demand is expected to increase massively in the coming years and decades, as is competition for the ethical and low carbon, sustainable sourcing of the required materials. Regarding certain precious metals and platinum group metals (PGM) in particular, physical supply is currently tight and short-term sensitive to any supply or demand disruption while on a longer-term sensitive to the pace of electrification and alternative drive train technologies such as fuel cells.

The impact of COVID-19 and measures taken to contain contagion are expected to continue having an impact on the availability of raw materials and in general on the supply chain, but that risk is expected to decrease and stabilize through 2023. Conversely, geopolitical risks are increasing.

Existing and upcoming laws at national and EU level on due diligence and sustainable product policy have increased awareness about the topics of responsible sourcing and sustainable value chains, in particular for designated conflict minerals (tin, tantalum, tungsten and gold) and more recently also for battery materials (cobalt, nickel, lithium, manganese). Requirements for robust due diligence management systems, compliance and reporting will only increase in the coming years for the entire supply chain, both for the impact on human rights, as well as for environmental, social and governance (ESG) criteria. Increased standards are also an **opportunity** for Umicore because of our long-standing experience in due diligence and responsible sourcing and because they will create a more level playing field for the industry.

Risk mitigation

Umicore has implemented policies and measures covering: human rights, the right for workers to organize, collective bargaining, equal opportunities and non-discrimination, banning of child labor, banning of forced labor, consistent with International Labour Organisation (ILO) standards, as supported through a Global Framework Agreement (GFA) on Sustainable Development with IndustriALL Global Union. The GFA captures Umicore's engagement to both our employees and our suppliers.

Umicore's policies and charters such as the Code of Conduct, Human Rights Policy and the Umicore Global Sustainable Sourcing Policy (UGSSP) illustrate our long-standing and growing experience in ensuring we only buy from suppliers who can guarantee sustainable and ethical sourcing.

In addition to these general policies, Umicore also has specific risk-based policies in force, designed to safeguard the environment and to protect Human Rights in our supply chain: " Responsible global supply chain of minerals from conflict-affected and high-risk areas" and " Sustainable Procurement Framework for Cobalt", which follow the principles of the OECD "Due Diligence Guidance for Responsible Supply Chains from Conflict-Affected and High-Risk Areas".

Both policies include a robust due diligence system, which includes background screening of suppliers, a risk assessment based on country, material and supplier risk and risk mitigation actions, in combination with onsite visits and third-party audits for critical suppliers. Under the due diligence system of the Cobalt Framework, the identification of "red flags" or "orange flags" triggers engagement with the supplier on the related issue and an internal decision-making process involving senior management in appropriate follow-up. Umicore was the first company globally to get annual third-party assurance on its responsible sourcing framework for Cobalt through the annual compliance report (publicly available).

The Cobalt Framework has been extensively reviewed in 2022, broadening among others the scope of supplier requirements to a wider set of environmental, social and governance (ESG) criteria. The review also strengthened the risk assessment and risk mitigation approach. Similar frameworks have also been developed for the sustainable procurement of nickel and lithium and will become applicable for suppliers throughout 2023. The new frameworks will formalize the due diligence already conducted on nickel and lithium suppliers since 2021.

Regarding the sustainable sourcing, Umicore defined in 2022 a Scope 3 reduction target focusing on purchased goods and services. Battery materials and precious metals are the main contributors to the impact of this Scope 3 category. We have identified ways to achieve our target by 2030 and have started reaching out to suppliers to understand their GHG emission profile and reduction opportunities. We aim to work in the future with suppliers who have ambitious GHG reduction targets to be able to provide our customers with both responsible and sustainable products.

Furthermore, Umicore continues to ensure that its production operations are certified as conflict-free and receives site and metal-specific responsible sourcing certifications from the LBMA, RJC and RMI. For more information, see Society.

Regarding managing risks of critical materials and supply disruption, mitigation actions can vary depending on the materials and the position of the business unit in the market. Beyond responsible sourcing, we ensure that materials can be supplied from several reliable suppliers, we closely monitor developments in other regions and investigate other projects to diversify sourcing and we seek out secondary raw material sources and negotiate long-term contracts.

3 Metal price

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
• Sustainable Sourcing & Recycling Services	↑ INCREASE	→ NO CHANGE

Risk description

Umicore's main risk in the **short term** is related to the volatility of metal prices. Earnings are exposed to risks relating to the prices of the metals which are processed or recycled. These risks relate mainly to the impact that metal prices have on the surplus metals recovered from materials supplied for recycling, and concern platinum, palladium, rhodium, gold, silver and a wide range of base and specialty metals.

Umicore also faces transactional price risks on metals. The majority of its metal-based transactions use global metal market references. If the underlying metal price were constant, the price Umicore pays for the metal contained in the raw materials purchased would be transferred to the customer as part of the price charged for the product. However, because of the lapse of time between the conversion of purchased raw materials into products and the sale of products, the volatility in the reference metal price creates differences between the price paid for the contained metal and the price received. Accordingly, there is a transactional exposure to any fluctuation in price between the time raw materials are purchased (when the metal is "priced in") and the time the products are sold (when the metal is "priced out"). As lithium and manganese have become increasingly valuable and volatile components in rechargeable battery materials, Umicore decided to no longer treat them as a consumable but to hedge the transactional exposure going forward, in line with other battery metals like nickel and cobalt. For more information on the structural risk and on the transactional and inventory risk related to the metal prices, see note F3 of Statements.

Materials produced by Umicore contain precious or scarce metals which are partly sourced from in-house recycling operations and, for the balance, procured from primary metal producers. Umicore's ability to procure the required quantity of such metals is key in determining our ability to produce the materials which have been ordered by our customers. Although Umicore has been fading out its sourcing business with Russia in the course of 2022, the current geopolitical tensions between Russia with its leading position as a major global producer of e.g. palladium, and Ukraine could fuel metal price volatility in general and as such impact the global supply of certain metals.

The availability of metals such as nickel, lithium and cobalt - as described in Ethical and Sustainable Supply above - is the main **long-term** risk.

Due to the liquidity of the metal markets for precious metals, platinum group metals (PGM) and battery metals, Umicore's impact on the metal price is limited.

Risk profile

Prices for precious metals were volatile throughout 2022, with rhodium and palladium reaching peaks in the first half of the year on the back of geopolitical tensions, whereas in the second half of the year prices for rhodium dropped. Overall, precious metal prices were down from the historic highs of 2021.

The price of nickel was volatile over the year and was impacted by a temporary short squeeze on the London Metal Exchange. Cobalt price increased in the first half, before dropping significantly in the second half. Lithium price increased significantly in the first half of the year to reach historic highs. The increase of battery metal prices is primarily driven by the growing demand for EV batteries.

As described in the sustainable and ethical supply risk, metal scarcity is increasing because of supply / demand tightness and other factors such as geopolitical tensions or trade regulations.

Risk mitigation

For some metals quoted on futures markets, Umicore hedges a proportion of its forward metal exposure to cover part of the future price risks.

Over the course of 2022, Umicore entered additional forward contracts securing a substantial portion of its structural price exposure for certain precious metals in 2023, 2024 and 2025, thereby increasing earnings predictability. For 2023, based on the respective currently expected exposures, the following lock-ins have been secured: more than a third for silver and gold, somewhat less than half for palladium and close to a quarter for platinum and rhodium. For 2024, the expected lock-in ratios are: close to half for gold and palladium, more than a third for silver and close to a quarter for platinum and rhodium. For 2025, close to a quarter was locked-in for the expected gold and silver exposures.

The Group's policy is to hedge the transactional risk to the maximum possible extent, primarily through forward contracts. For a selection of metals, either no derivatives markets exist, or the existing market does not offer the required liquidity to enter forward contracts. This is increasingly the case for metals gaining in importance, such as cobalt and lithium. To mitigate the price risk on its transactions in these metals, Umicore maximizes the use of back-to-back hedging, matching the price reference of purchases and sales.

Umicore is continuously increasing production of precious and scarce metals from its recycling capabilities, thereby securing a significant proportion of its metals' needs. In addition, the group maintains close commercial relationships with leading primary metals producers from which it procures metals through annual or evergreen contracts.

4 Market

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
· Innovation · Product Quality & Production Capacity · Sustainability Governance	→ NO CHANGE	→ NO CHANGE

Risk description

The main industries served by Umicore are automotive (clean mobility materials such as automotive catalysts and fuel cell catalyst, rechargeable battery materials, recycling), consumer electronics (rechargeable battery materials, recycling, coating and electroplating solutions), and non-ferrous metal mining and refining industries (recycling activities). Umicore is sensitive to any major growth or global reduction in activity levels or market disruptions in these industries.

The changes in the automotive industry create the main risks for Umicore today.

In the **short term**, Umicore has a limited visibility on future automotive (ICE and EV) demand. Geopolitical tensions create market uncertainty in the short and medium term. Persistent supply chain disruptions impact the supply and demand market dynamics. The pace of electrification also impacts demand of our products. Electrification will reduce the demand for automotive catalysts and boost the demand for rechargeable battery materials. Increased demand for rechargeable battery materials requires more production lines and sites, entailing challenges in hiring and training people, acquiring the right qualifications against the right timelines and available CapEx. The lack of visibility on demand for rechargeable battery materials is a risk in both the short and **medium term**.

The rapidly accelerating shift to electrification has an influence on Umicore's catalysis and recycling activities. Since emission control catalysts are produced with platinum group metals (PGMs), a declining demand for emission control catalysts due to the reduced production of ICE vehicles has an impact on PGM prices. The availability of recyclable end of life catalysts is also decreasing over the medium to long term. Due to the increasing electrification, price volatility of metals needed to produce battery materials is increasing. It is therefore needed to put in place the necessary hedging mechanism (see above). A consistent supply of metals for rechargeable battery materials (as described in "ethical and sustainable supply") is imperative to ensure efficient production of rechargeable battery materials.

In the **long term**, the transition to electrification changes the competitive environment. The market for cathode active materials is still an emerging market with different dynamics per continent (for example in terms of over and under supply). Through its current customer and product portfolio, Umicore is exposed to design-to-performance (NMC, mid and high nickel) cathode active materials technology, and has recently announced the industrialization of the design-to-cost HLM (high lithium, manganese) cathode active materials technology. As the pace of electrification is increasing rapidly technological disruptions could have a negative impact on Umicore, in case a battery technology, to which Umicore is not exposed, would be preferred by the industry over another. The market for rechargeable battery materials is becoming more crowded as new players enter. At the same time, more and more original equipment manufacturers (OEMs) are starting to produce rechargeable battery materials – in addition to being Umicore's customer, they become Umicore's competitor.

This has an impact on Umicore, but with its positioning, Umicore is also influencing the changing market structure for rechargeable battery materials for the automotive industry. Umicore is uniquely positioned to give the market a closed-loop solution for cathode materials, as we are both producing cathode materials and recycling batteries. Furthermore, Umicore's recycling services are positively impacting society by enabling a shift towards an industrial future with low impact.

Risk profile

As confirmed in the scenario analysis of our climate related risks and opportunities, the electrification of mobility is increasing Umicore's risk profile for the catalysis business and at the same time is increasing Umicore's **opportunity** profile for the rechargeable battery materials and recycling business.

Risk mitigation

Notwithstanding the limited visibility on automotive demand, and even in fast electrification scenarios, the Catalysis Business Group is expected to continue to benefit from its strong market position in gasoline catalyst applications in Europe and China. Umicore works continuously to maintain its excellent cost position with continued work on operational efficiencies, a globally optimized production footprint and a low break-even point, which resulted in market share gains in 2022. We have the right product and technology portfolio with strong demand from our customers, also for the next waves of emission legislation such as EURO 7, which will give us the opportunity to differentiate through our next generation catalyst technologies. In 2022, Umicore already acquired several EURO 7 platforms. These strengths will feed the value creation potential over the next decade of Umicore's Automotive Catalysts activities allowing it to generate strong free cash flows to support the growth businesses in Umicore's portfolio.

In the Energy & Surface Technologies (E&ST) Business Group, and more specifically in the Rechargeable Battery Materials Business Unit, Umicore is actively diversifying its customer and platform exposure. The business unit reached important milestones in 2022 in the build-out of long-term strategic customer partnerships and securing future market share. These milestones are described in the operations section of this Report. Increased intimacy with car OEMs and qualifications for the right platforms are ever more important, which is why we are solidifying our relationships with customers. Umicore's agility in its operations and supply chain equip us to adapt quickly to changes in demand.

In terms of competitive environment, the Rechargeable Battery Materials Business Unit has more than 25 years' experience in cathode active materials (first for portable electronic applications, then for electric vehicle (EV) applications). It has an impressive innovation roadmap, combined with a proven product and process technology leadership track record and demonstrated industrial capabilities in manufacturing cathode active materials and the related precursor materials at mass scale at the highest quality and environmental standards. In addition, it is currently the only cathode player to produce industrial cathode materials in Europe and Asia and plans to set up local production in North America.

In terms of demand and supply dynamics for cathode active materials (CAM), it is expected that there will be a structural undersupply of CAM capacity in Europe and North America until 2030[1]. In this context, Umicore's fully integrated supply chain and existing and planned CAM manufacturing footprint in Europe and North America will play an important role supporting regional demand of battery and car OEMs.

The market risk is intimately associated with the metal price risk. As described in the metal price section above, we hedge a proportion of our forward metal exposure to cover part of the future price risks and maximize the use of back-to-back hedging, matching the price reference of purchases and sales.

The complementarity of our activities has proven to be a true competitive edge. In E&ST and Catalysis we serve the automotive market by enabling electrification on a mass scale and by offering cutting-edge technologies for clean combustion engines. Through our Recycling (including the Battery Recycling Solutions) activities, we close our own and our customers' materials loop and offer a unique sustainable and circular approach that will be ever more important in a world of raw materials scarcity.

Umicore will further strengthen its market position with our ambition and plan to capture growth from the next wave of sustainability-driven markets, such as fuel-cell catalysts and battery recycling.

For more information, see Financial, Operations and RISE strategy.

5 Technology and substitution

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
· Innovation · Product Quality & Production Capacity · Product Stewardship	→ NO CHANGE	→ NO CHANGE

Risk description

Umicore is a materials technology group with a strong focus on the development of innovative materials and processes. The choice and development of these technologies for existing and new markets represents the single biggest **opportunity** and risk for Umicore.

The European Commission (EC) recently announced its intention to reduce emissions from heavier vehicles by 65 percent from January 2035 and by 90 percent from January 2040 relative to 2019 levels. Although Umicore's business related to HDD (Heavy Duty Diesel) is mainly situated in China, this announcement by the EC may affect Umicore's business in this segment. The substitution of internal combustion engines by electrical vehicles and fuel cell cars presents an **opportunity** for Umicore in the short and medium term. Apart from the opportunity for Umicore's battery materials, Umicore can leverage its catalysis expertise in hydrogen applications. Umicore's risk/opportunity depends on how well the development of our technologies will correspond to such new demands.

Achieving the best cost-performance balance for materials is a priority for Umicore and its customers. There is always a risk that customers will seek alternative materials for their products, should those of Umicore not provide this optimum balance. The risk is especially present in businesses producing materials

[1] Umicore and third-party consultant analysis

containing expensive metals (especially those with historically volatile pricing characteristics).

In achieving an optimal cost-benefit balance, the cost efficiency of our production processes plays a key role. Hence, there is a risk that we could fall behind the competition in our operational excellence and digitalization.

It is crucial for Umicore to consistently develop winning technologies, such as in battery recycling and for cathode materials. For example, lithium iron phosphate (LFP) battery chemistry is a mainstream technology in China. This chemistry is not produced by Umicore, and the risk is that LFP would become widely adopted elsewhere. A switch to solid state batteries – as a substitution for lithium-ion batteries - is an **opportunity** in the **long term** as this battery technology calls for more sophisticated materials solutions that may require Umicore's expertise. Umicore's activities have a lasting positive impact on society. Umicore upskills its workforce by offering learning and development opportunities in areas such as digitalization and technology as described in Innovation. We are continuously improving our technologies to minimize the environmental impact from our activities. Umicore's R&D in automotive catalysts, batteries and fuel cells contribute to clean mobility and our recycling developments make industry more sustainable.

Risk profile

Given the pace of the market evolution, Umicore's opportunity profile is increasing, but at the same time, the risk profile is also increasing.

Risk mitigation

Timely introduction of key technologies is essential. As described in the market risk, Umicore closely monitors the market and makes sure a close relationship with its customers is maintained to focus on the right technology trends at the right time. We prioritize key development projects and allocate the necessary resources. We are continuously working on the efficiency and digitalization of our R&D. We have installed a rigorous governance system for our R&D activities with a key focus on essential milestones and risks to be covered.

As described in the regulatory and legal context risk, the environmental permit for the smelter on our Hoboken site is a risk for our license to operate. To mitigate this risk, Umicore has leveraged robotic process automation (RPA) to automate the 'wind barometer' process which steers which activities on the site can be conducted according to the weather forecast. We are also evaluating whether we can engineer the slags on our Hoboken site towards a cement replacement product.

To support our **opportunity** in hydrogen technology, Umicore has set up a dedicated 'Fuel Cells' business unit and in our New Business Incubator there is a portfolio of projects around hydrogen.

As a pioneer in battery recycling, we have continued to develop our technologies in battery recycling, focusing on the most relevant battery chemistries. This has been done with a keen focus on the sustainability but also on the recovery of all essential metals with the highest yields, including Cu, Ni, Co and also Li. By making sure we look to develop our processes in an integrated way, pre-processing and refining, we secure also the lowest environmental impact. For cathode materials, we investigate a range of chemistries and prepare them to be ready for the market. We design products both for performance and for cost-driven segments. In line with the trend to lower cobalt and nickel contents in the cost-driven segment and to mitigate the risk posed by LFP, we are developing our high lithium manganese (HLM) solution.

Umicore patents disruptive technologies. In 2022, Umicore registered 72 new patent families.

For more information, see Innovation.

6 Information security & data protection

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
· Digitalization & Cybersecurity	↑ INCREASE	→ NO CHANGE

Risk description

Umicore's production plants and services are highly dependent on the availability of IT services. Cybersecurity includes our hardware, software and information protection. Due to cyber incidents, Umicore's servers or network could be blocked, and data breaches could jeopardize the confidentiality of our data. Unavailability of services, disruption of the supply chains or interruption of our production facilities due to cyber-attacks could have a major impact on our customers and our financial results. Any compromise on the confidentiality of intellectual property would negatively impact our competitive advantage. Unauthorized modification of financial data would jeopardize accurate reporting to shareholders. Whether in the short, medium or long term, any cyber incident or data breach would have an immediate impact.

Beyond Umicore's own operations, we would be impacted if any of our main suppliers experiences a cyber incident. Cyber incidents can be local or global and if Umicore is attacked, this could have consequences for our customers and as an example the automotive industry could be impacted.

Risk profile

Cyber-attacks may be very focused and advanced. The expanding threat landscape and expanding digital footprint is leading to an increase in cyber-attacks. The risk profile is increasing because there are more cyber-attacks, and they are becoming more sophisticated as the attacks happen in multiple layers.

In addition, due to the increased use of a digital work environment (on site and at home), the role of IT services in delivering seamless access to all corporate resources as well as ensuring information security is more important than ever.

In 2022, there was no change in opportunity profile.

Risk mitigation

Umicore protects its data for confidentiality, availability and integrity.

Umicore has put in place in-service training sessions for our employees about phishing and all employees are part of a mobile device management platform to protect Umicore's applications and data. Umicore launched the "I stay alert campaign" on eight topics, including general topics such as confidential information and clean desk for all employees as well as topics such as trade secrets, social engineering and HR security for a specific target group of employees. The materials for these awareness campaigns remains available and additional training is being developed.

Umicore regularly continues to assess and improve its information security, and the state of cyber resilience of its IT landscape, against evolving threats. A security operation center analyzes the logs of the systems and warns us of any suspicious movement. We have ourselves tested by ethical hackers and scan all our hardware and software to exclude technical vulnerability.

Since April 2022, Umicore obtained ISO 27001 (information security) certification, after independent external audit by the British Standards Institute (BSI).

Third party expert security assessments are conducted, and both the corporate cyber security team and the corporate security department are being expanded. Umicore consistently increases its investments in security-related IT systems and applications such as backup processes, virus and access protection, authentication and encryption tools. Security-related IT controls are being extended and are tested as part of Umicore's external audit process.

A Proof of Concept was performed with the objective to determine the maturity of Operational Technology and to upgrade the resilience of industrial control systems against malicious actions.

7 Talent attraction and retention

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
· Employee Engagement · Employee Health, Safety & Wellbeing · Sustainability Governance	↑ INCREASE	↑ INCREASE

Risk description

The attraction and retention of skilled people are important factors in enabling Umicore to fulfil its strategic ambitions and to build further expertise, knowledge and capabilities in the business. This represents Umicore's most important risk, because being unable to do so would compromise our ability to deliver on our 2030 RISE ambitions in the short, medium and long term.

Umicore's main **short-term** risk remains linked to keeping our employees healthy and safe. We continued to keep on-site COVID-19 infections to a minimum and no production site had to be closed in 2022 as a result of the pandemic.

We will also look to recruit new employees due to the expansion of the group, especially in the RBM and BRS Business Units, and anticipate a number retirements at some production sites in the coming years.

In the **medium term**, Umicore is faced with the challenge of ensuring a safe working environment in an industrial operation combined with a deep need to foster and operationalize a new safety culture. Employee safety impacts the employees, their families and our operations. Employee wellbeing is key to both employee retention and recruitment.

Talent management, -attraction and -retention pose a **medium to long term** risk, especially in terms of expected strategic growth as part of our 2030 RISE ambitions, this might be accompanied by new skills to be developed or acquired. Umicore aspires to have an agile workforce, so we can adapt and quickly respond to change – key elements towards maintaining a competitive advantage.

Diversity of thought at Umicore is a reality we live in our organization: our employees are active across the globe, in our different Business Units and support organizations, representing multiple generations and different genders. We firmly believe that this diversity of thought, where different perspectives are valued, leveraged and where knowledge is shared across the organization and generations, will continue to enrich our employees in triggering bold, new and creative ideas, leading to even more innovative teams.

Risk profile

The short-term risk linked to the coronavirus pandemic has decreased.

In the longer term, the war for talent is still a reality. As Umicore is growing, the recruitment of additional colleagues will generate more opportunities to boost diversity in the company's workforce.

Risk mitigation

Employer branding campaigns, pro-active sourcing and reinforced recruitment teams are some of the initiatives we take to mitigate our main risk of talent attraction and retention. We have reinforced talent management processes and will continue to do so in the coming years, both globally and regionally, to improve employee engagement, through e.g. providing sufficient internal mobility opportunities for our employees. Employee wellbeing is a strategic priority and multiple initiatives have been launched, such as burn-out prevention and vitality.

The pandemic has changed the work environment globally and at Umicore, we have decided to introduce a new teleworking policy which was further rolled out during the first quarter of 2022.

Following the Umicore's Group EHS Guidance Note, units and sites identify occupationally linked health and safety hazards and risks. Workplace injuries and occupationally related health symptoms are thoroughly investigated, reported and discussed at the site's safety committee. This information contributes to the set-up, maintenance and, where needed, improvement of a health and safety management system with the aim of preventing all workplace-related injuries and health symptoms.

A process safety management system is deployed on all sites following strict process risk analysis and risk reduction methods. Regular internal health and safety audits evaluate the efficiency of its implementation.

We are improving the safety culture within the company, by deploying a "Coaching for Safety" program. Active leadership engagement is in place to stimulate engagement on all levels and measures endorsed by the shop floor are implemented. Safety programs focus on Control of High Risk activities, behavioral aspects, administrative measures and include in-service training. Health programs aim at reducing exposure and also focus on improving physical and mental wellbeing at the workplace.

In the chapter Employees, many initiatives and programs illustrate how Umicore is mitigating the risks linked to talent management and how we are developing our diversity of thought.

8 Climate and environment

Link to Material topics	Change in Risk profile	Change in Opportunity Profile
· Climate & Environment · Innovation · Sustainability Governance · Waste · Water	→ NO CHANGE	↑ INCREASE

Risk description

In the **short term**, many of the climate and environmental risks are either regulatory or linked to the impact of our operations on the environment. Increasingly stringent regulations on energy use and emissions can induce higher operational costs and our license to operate is predicated on managing the impact of our operations in the communities where we operate. Any incident in a plant can affect emissions in air or water and increase noise, impacting the immediate surroundings – which is in fact a risk on any time horizon. There is also an environmental risk linked to the shipment of materials. Many of the materials Umicore processes, such as scrap and residues, are classified as dangerous goods and maritime and air transport are increasingly reluctant to ship this hazardous material. The scarcity of transport could impact Umicore's operational efficiency and there is also an impact on society, as a leakage of hazardous materials during transport could have negative consequences for the environment and for people's health.

In the **medium term**, Umicore experiences the market risk of increasing requirements for carbon footprint of products and processes. Increasing requirements for environmental impacts such as biodiversity and land use could pose a risk and the rising cost of water is a risk in the medium and long term, as well as access to renewable energy, which is both a risk and an **opportunity**.

The consequences of climate change are the main **long-term** risk for Umicore.

Umicore has conducted climate-related risk analysis. Scenarios were chosen for relevance to Umicore and to represent the entire spectrum of possible future worlds, from Paris-aligned, through business as usual, to strongly increased physical risks. Short term is defined as until 2025, medium term until 2030 and long term after 2030.

Umicore has conducted a climate-related transition risks scenario analysis of a 1.8°C scenario (RCP2.6, Paris-aligned) and a 3.0°C scenario (RCP4.5), based on the IEA ETP and WEO 2020 reports, for our own operations with a timeframe of 10 and 30 years. Umicore's climate-related transition risks and opportunities could be market, reputation, policy & legal and technology related. Building on the qualitative scenario analysis from 2021, in 2022, we focused on quantifying the financial impact of climate transition-related opportunities and risks; specifically in terms of EBITDA impacts, to test the resilience of our business and integrate the findings into our 2030 RISE Strategy. This deepened analysis confirmed the findings of the qualitative analysis: In a 1.8°C scenario, Umicore has a transition risk in the automotive catalysts business as demand for catalysts might be impacted given the foreseen declining demand for cars with internal combustion engines. Most other Umicore product lines, e.g. rechargeable battery materials, fuel cells and recycling services, show transition opportunities in both the 1.8°C and 3.0°C scenarios, the degree of which is linked to the pace of the shift towards electric mobility. The impact of these scenarios is described in investing in Umicore.

For the climate-related physical risk analysis, we chose the 3.0°C scenario (RCP4.5) and the worst-case climate change scenario (RCP8.5) until 2050 in which we identified both chronic and acute physical risks. For both climate-related physical risk scenarios, climate change causes extreme natural events, chronic deviations in temperatures and precipitation patterns, and rising sea levels. This could impact our sites or supply chain: for example, Flanders, which is an area where Umicore has several production sites, has been declared an area in risk of drought. Umicore's main physical risks are related to flooding and water availability.

Risk profile

The climate and environmental risks from a regulatory or operational point of view remained the same.

The opportunity profile has increased, because lower carbon footprint products in the clean air, e-mobility and recycling sectors are in high demand from customers. The ongoing transition to a lower carbon economy continues to present Umicore with opportunities to expand and develop processes in ways that can mitigate or address climate change and environmental risks.

Risk mitigation

Umicore plays a key role in the transition to a low-carbon future as our materials tackle global trends for clean air and e-mobility, and our closed loop business model tackles resource stewardship.

Our facility in Hoboken is the world's largest and most complex precious metals recycling operation, processing over 200 types of raw material and recovering over 20 different metals. We ensure that a high volume of the metals we process come from secondary sources – production scraps, residues and end-of-life materials. We can also recycle customers' residues and production scrap to help them maximize their material efficiency and then transform the recovered materials into new products. In total we recover 28 metals from our closed loop activities, and we continue to adapt our processes to recycle new and more complex end-of-life products. As described in the regulatory and legal context and in Environment, we are mitigating the risk concerning the environmental permit in Hoboken. Umicore's recycling activity is the best mitigation to both climate change and environmental degradation, because recycling metals emits less greenhouse gases and is more resource efficient than mining metals.

To mitigate the impact of our operations, Umicore keeps to the most stringent environmental standards for air and water and works every year to improve our energy efficiency and environmental footprint despite our growth and increased production. Umicore takes measures, such as windshields and green buffer zones to further minimize the impact of operations and manages its historical environmental legacy, ensuring adequate financial provisions are in place, which are reviewed twice a year. For more information, see Environment.

Umicore maps its sites in water stress areas and keeps track of water types and consumption to mitigate our risk with respect to water availability and rising costs of water. Only the Olen and Hoboken, Belgium sites have been identified as material in terms of both water impact and risks. In 2022, a Group-wide water stewardship program was defined. The program includes an ongoing education and awareness campaign, review of data granularity for improved disclosure, the development of contextual targets based on granular process-by-process water use data at material sites, and development of internal water risk guidance.

Efforts around water risks mitigation were also linked to Umicore's review of the Group's impact on biodiversity. In 2022, we set out to understand Umicore's global biodiversity exposure and impact risk. This first assessment at Group-level showed that only some sites are embedded in an environment with high biodiversity value and revealed several local initiatives to preserve or improve biodiversity around site operations. More information can be found here. Moving forward, a centralized, Group-level environmental impact program will be implemented to include biodiversity risk and impact management and to improve Group-level disclosure on those topics.

To address the environmental impact of our products, Umicore is committed to the responsible and sustainable management of our products throughout their lifecycle. We recognize the importance of product stewardship in protecting human health and the environment. We work collaboratively with our stakeholders to ensure the responsible management of our products (see Legal & Regulatory risks for more on REACH and online for more on Umicore Product Stewardship. To address the carbon footprint of products and processes, Umicore performs life cycle assessments on selected products and services on a rolling and ongoing basis to sharpen insight on environmental performance, through the right choice of the chemistry, energy mix, and raw materials, including recycled materials.

Group-wide, Umicore has defined a climate action plan with 3 pillars: avoiding emissions, replacing sources that cause emissions and finally capturing emissions that we can't design out. Climate related risk mitigation measures corresponding to this action plan include:

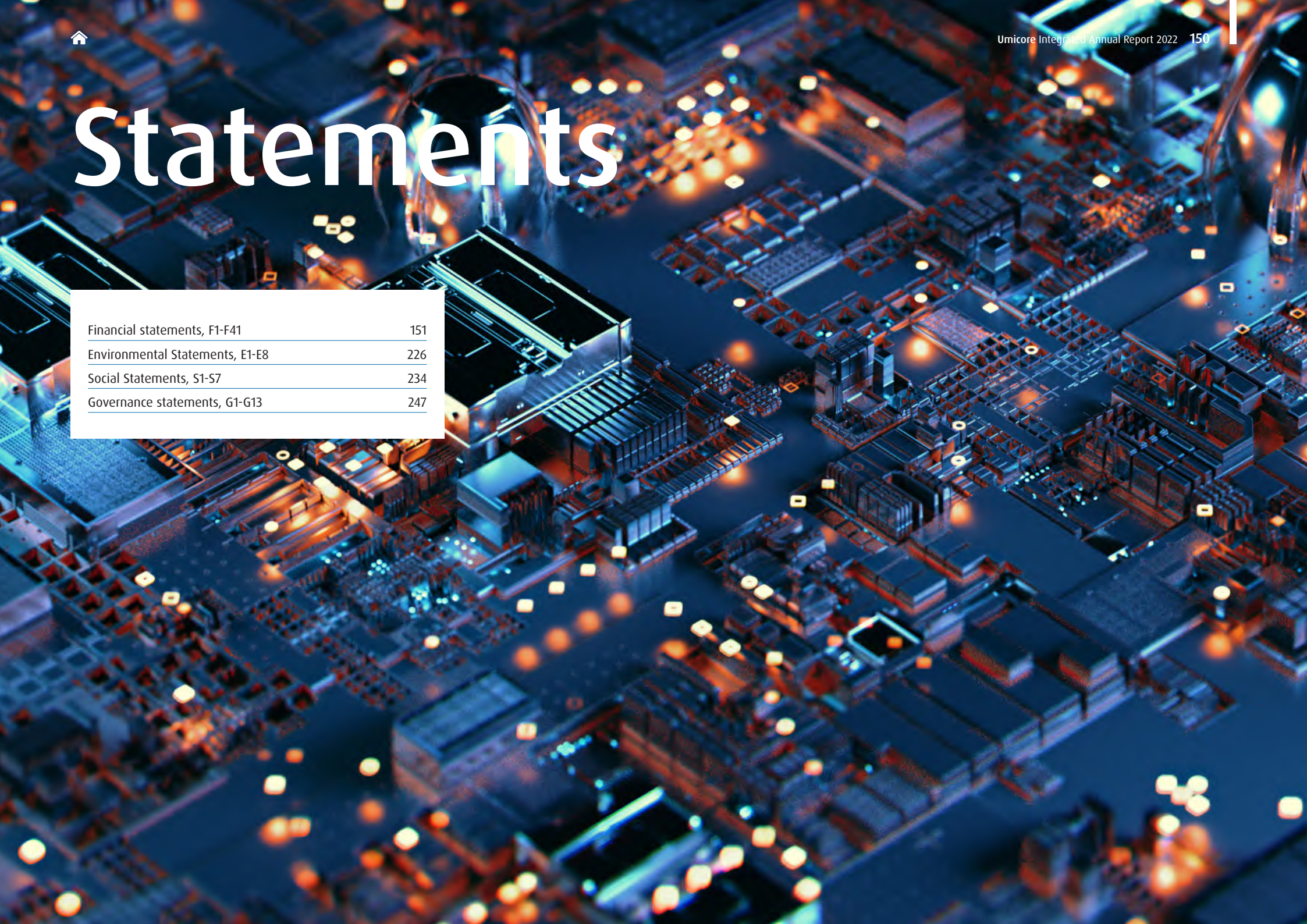
- Avoiding emissions by improving energy and heat efficiency, such as the heat and power cogeneration in Olen, Belgium, which increases energy efficiency. In addition, our R&D is at the heart of our successful pilot in capturing nitrous oxide. This is the case for our nitric acid plant in Hoboken where we capture nitrous oxide emissions and transform them into nitric acid for reuse in our precious metals refinery.
- Avoiding emissions by ensuring carbon neutral growth, with our new plant in Nysa as an example: 100% powered by renewables as of the start of production.
- Replacing emissions by generating renewable electricity across several sites; reducing the need for purchased electricity, piloting circular energy storage projects and securing long-term green power purchase agreements (PPAs). We actively pursue and sign green PPAs for our largest sites around the world, as part of our commitment to meet 100% renewables in Europe and 60% globally by 2025. For more, see Environment
- Designing out emissions through research and development around carbon-neutral fuels (biofuels) and electric furnaces as part of our R&D scope 1 decarbonization roadmap.

Umicore supports the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and while full alignment with all recommendations will take more than one reporting cycle, we intensified our analysis in the past year. In 2019, we started with an analysis of physical risks and in 2021, we conducted a qualitative transition risk scenario analysis. The results of the TCFD recommended qualitative scenario analysis were discussed with the management board in 2021. In 2022, we quantified the financial impacts from climate change, discussed outcomes with the management board, and integrated our findings into the 2030 RISE strategic planning process.

Umicore's businesses, strategy and financial planning reflect many climate-related risks and opportunities. Our global footprint and

diverse site locations reduce our exposure to physical risks. New sites have been chosen considering proximity to customers, access to skilled workforce, excellent logistics, infrastructure and green energy. The focus of our products and services, our investments in R&D and operational excellence, our policies for collaboration with our suppliers and our 2030 RISE objectives are a few examples of these strategic choices. They are embedded in our ongoing financial planning and decision making through their integration in business planning and the development of the ESG dashboard. Further analysis will be repeated or refined on a recurring basis to identify risks based on current scientific findings.

Statements



Financial statements

Consolidated income statement

Thousands of Euros	Notes	2021	2022
Turnover	F9	24,054,439	**25,435,523**
Other operating income	F9	176,919	**184,552**
Operating income		**24,231,358**	**25,620,075**
Raw materials and consumables	F9	(21,644,346)	**(22,875,549)**
Payroll and related benefits	F10	(853,140)	**(906,507)**
Depreciation and impairments	F9	(338,777)	**(328,382)**
Other operating expenses	F9	(517,313)	**(696,621)**
Operating expenses		**(23,353,576)**	**(24,807,059)**
Income (loss) from other financial assets	F12	1,156	**5,651**
RESULT FROM OPERATING ACTIVITIES		**878,938**	**818,667**
Financial income	F11	13,904	**7,279**
Financial expenses	F11	(80,716)	**(101,719)**
Foreign exchange gains and losses	F11	(23,480)	**(27,699)**
Share in result of companies accounted for using the equity method	F17	17,347	**13,473**
PROFIT (LOSS) BEFORE INCOME TAX		**805,993**	**710,001**
Income taxes	F13	(179,044)	**(137,600)**
PROFIT (LOSS) FROM CONTINUING OPERATIONS		**626,949**	**572,401**
Profit (loss) of the period		626,949	**572,401**
of which minority share		7,990	**2,523**
of which Group share		618,959	**569,878**

(EUR)			
Basic earnings per share from continuing operations	F39	2.57	**2.37**
Diluted earnings per share from continuing operations	F39	2.56	**2.37**
Dividend payout per share		0.75	**0.80**

The notes F1 (p. 157) through Parent company separate summarized financial statements (p. 223) are an integral part of these consolidated financial statements.

Consolidated statement of comprehensive income

Thousands of Euros	Notes	2021	2022
Profit (loss) of the period from continuing operations		**626,949**	**572,401**
Items in other comprehensive income that will not be reclassified to P&L			
Changes due to remeasurements of post employment benefit obligations		46,007	**92,628**
Changes in deferred taxes directly recognized in other comprehensive income		(11,838)	**(26,239)**
Items in other comprehensive income that may be subsequently reclassified to P&L			
Changes in financial assets at FV through OCI reserves		43	**8,047**
Changes in cash flow hedge reserves		65,732	**(49,428)**
Changes in deferred taxes directly recognized in other comprehensive income		(19,811)	**11,202**
Changes in currency translation differences		86,663	**18,863**
Other comprehensive income from continuing operations	F23	**166,796**	**55,073**
TOTAL COMPREHENSIVE INCOME FOR THE PERIOD		**793,745**	**627,474**
of which Group share		784,177	**627,018**
of which minority share		9,568	**456**

The deferred tax impact on the consolidated statement of comprehensive income is due to changes in the cash flow hedge reserves for € 11.2 million and in the employee benefit reserves for € -26.2 million.

The movements on exchange differences are mainly related to the strengthening of the USD (€ 20.3 million) and BRL (€ 17.2 million) and weaker CNY (-13.2 million) and PLN (-9.2 million) compared to EUR.

The notes F1 (p. 157) through Parent company separate summarized financial statements (p. 223) are an integral part of these consolidated financial statements.

Consolidated balance sheet

Thousands of Euros	Notes	31/12/2021	31/12/2022
Non-current assets		**3,102,769**	**3,394,075**
Intangible assets	F14, F15	339,848	**343,366**
Property, plant and equipment	F16	2,351,133	**2,532,301**
Investments accounted for using the equity method	F17	155,140	**158,943**
Financial assets at fair value through Other Comprehensive Income	F18	14,120	**22,165**
Loans granted	F18	2,608	**2,592**
Trade and other receivables	F20	20,672	**18,712**
Deferred tax assets	F21	219,248	**315,996**
Current assets		**5,942,472**	**6,548,297**
Loans granted	F18	169	**1,273**
Inventories	F19	2,869,071	**3,393,674**
Trade and other receivables	F20	1,832,033	**1,830,540**
Income tax receivables	F21	46,762	**82,941**
Cash and cash equivalents	F22	1,194,437	**1,239,869**
TOTAL ASSETS		**9,045,241**	**9,942,372**

Thousands of Euros	Notes	31/12/2021	31/12/2022
Equity of the Group		**3,167,274**	**3,566,050**
Group shareholders' equity		3,112,882	**3,516,481**
Share capital and premiums		1,384,273	**1,384,273**
Retained earnings		2,151,292	**2,526,051**
Currency translation differences and other reserves	F23	(196,370)	**(127,887)**
Treasury shares		(226,313)	**(265,956)**
Minority interest		54,392	**49,569**
Non-current liabilities		**2,398,400**	**2,242,010**
Provisions for employee benefits	F27	387,206	**286,476**
Financial debt	F24	1,724,037	**1,626,179**
Trade and other payables	F25	47,361	**48,037**
Deferred tax liabilities	F21	24,294	**30,029**
Provisions	F29, F30	215,502	**251,289**
Current liabilities		**3,479,567**	**4,134,312**
Financial debt	F24	430,847	**717,259**
Trade and other payables	F25	2,807,966	**3,110,059**
Income tax payable	F21	197,488	**261,950**
Provisions	F29, F30	43,266	**45,044**
TOTAL EQUITY & LIABILITIES		**9,045,241**	**9,942,372**

The notes F1 (p. 157) through Parent company separate summarized financial statements (p. 223) are an integral part of these consolidated financial statements.

Consolidated statement of changes in equity

Thousands of Euros	Share capital & premiums	Reserves	Currency translation & other reserves	Treasury shares	Minority interest	Total for continuing operations
Balance at the beginning of 2021	**1,384,273**	**1,749,655**	**(367,825)**	**(208,921)**	**64,674**	**2,621,856**
Result of the period	-	618,959	-	-	7,990	**626,949**
Other comprehensive income for the period	-	-	165,218	-	1,578	**166,796**
Total comprehensive income for the period	**-**	**618,959**	**165,218**	**-**	**9,568**	**793,745**
Changes in share-based payment reserves	-	-	14,255	-	-	**14,255**
Dividends	-	(180,530)	-	-	(6,008)	**(186,538)**
Transfers	-	1,137	(5,904)	4,767	-	**-**
Changes in treasury shares	-	-	-	(22,159)	-	**(22,159)**
Changes in scope	-	(37,929)	(2,115)	-	(13,841)	**(53,885)**
BALANCE AT THE END OF 2021	**1,384,273**	**2,151,292**	**(196,370)**	**(226,313)**	**54,392**	**3,167,274**
Result of the period	-	569,878	-	-	2,523	**572,401**
Other comprehensive income for the period	-	-	57,140	-	(2,067)	**55,073**
Total comprehensive income for the period	**-**	**569,878**	**57,140**	**-**	**456**	**627,474**
Changes in share-based payment reserves	-	-	11,824	-	-	**11,824**
Dividends	-	(192,057)	-	-	(5,310)	**(197,367)**
Transfers	-	(3,054)	(481)	3,535	-	**-**
Changes in treasury shares	-	-	-	(43,178)	-	**(43,178)**
Changes in scope	-	(8)	-	-	31	**23**
BALANCE AT THE END OF 2022	**1,384,273**	**2,526,051**	**(127,887)**	**(265,956)**	**49,569**	**3,566,050**

The legal reserve of €55.0 million which is included in the retained earnings is not available for distribution. The share capital of the Group as at 31 December 2022 was composed of 246,400,000 shares with no par value.

The changes in scope movements in 2021 are mainly related to the squeeze-out to acquire the remaining 8.8 % of the shares in Agosi (Allgemeine Gold- und Silberscheideanstalt AG, Germany) for € 53.9 million.

The notes F1 (p. 157) through Parent company separate summarized financial statements (p. 223) are an integral part of these consolidated financial statements.

Consolidated statement of cash flow

Thousands of Euros	Notes	2021	2022
Profit (loss) from continuing operations		626,949	**572,401**
Adjustments for profit of equity companies		(17,347)	**(13,473)**
Adjustment for non-cash transactions	F34	399,936	**411,803**
Adjustments for items to disclose separately or under investing and financing cashflows	F34	228,573	**206,570**
Change in working capital requirement	F34	167,154	**(342,166)**
Cashflow generated from operations		**1,405,265**	**835,135**
Dividend received		5,018	**12,153**
Tax paid during the period		(174,990)	**(216,063)**
Government grants received		23,287	**2,942**
Net operating cashflow	**F34**	**1,258,580**	**634,167**
Acquisition of property, plant and equipment	F16	(379,572)	**(458,859)**
Acquisition of intangible assets	F14	(36,854)	**(32,431)**
Acquisition in additional shareholdings in subsidiaries		(53,870)	**-**
Acquisition of financial assets	F18	(5,014)	**-**
New loans extended	F18	(170)	**(2,091)**
Sub-total acquisitions		**(475,480)**	**(493,381)**
Disposal of property, plant and equipment		1,994	**6,126**
Disposal of intangible assets		623	**59**
Disposal of subsidiaries and associates, net of cash disposed		1,417	**6,210**
Repayment of loans	F18	0	**212**
Sub-total disposals		**4,034**	**12,607**
Net cashflow generated by (used in) investing activities	**F34**	**(471,446)**	**(480,774)**

Thousands of Euros	Notes	2021	2022
Own shares		(22,159)	**(43,178)**
Payment of lease liabilities	F24	(19,534)	**(20,050)**
Interest received		12,098	**3,913**
Interest paid		(54,510)	**(70,164)**
New loans and repayments	F24	(331,718)	**214,599**
Dividends paid to Umicore shareholders		(180,537)	**(192,053)**
Dividends paid to minority shareholders		(6,007)	**(5,595)**
Net cashflow generated by (used in) financing activities	**F34**	**(602,367)**	**(112,528)**
Effect of exchange rate fluctuations		(20,081)	**14,155**
TOTAL NET CASHFLOW OF THE PERIOD		**164,686**	**55,020**
Net cash and cash equivalents at the beginning of the period for continuing operations	F22	**1,001,630**	**1,166,316**
Net cash and cash equivalents at the end of the period for continuing operations	F22	**1,166,316**	**1,221,335**
of which cash and cash equivalents		1,194,437	**1,239,869**
of which bank overdrafts		(28,122)	**(18,534)**

The notes F1 (p. 157) through Parent company separate summarized financial statements (p. 223) are an integral part of these consolidated financial statements.

Notes of the financial statements

General information about the financial statements

The company's consolidated financial statements and the management report prepared in accordance with article 3:33 of the Belgian Companies and Associations Code set forth in the sections labelled About us (p. 27) through Management Responsibility Statement (p. 225) for the year ended 31 December 2022 were authorized for issue by the Supervisory Board on 10 March 2023. They have been prepared in accordance with the legal and regulatory requirements applicable to the consolidated financial statements of Belgian companies. They include those of the company, its subsidiaries and its interests in companies accounted for using the equity method.

F1 Basis of preparation

The Group presents its annual consolidated financial statements in accordance with all International Financial Reporting Standards (IFRS) adopted by the European Union (EU).

The consolidated financial statements are presented in thousands of euros, rounded to the nearest thousand, and have been prepared on a historical cost basis, except for those items that are measured at fair value.

Umicore is a Société Anonyme - Naamloze vennootschap company with its registered office in Brussels, Belgium at Rue du Marais 31 (Broekstraat 31) B - 1000 Brussels (Belgium) and has following LEI code 529900F3AIQECS8ZSV61 .
Umicore operates its business from Belgium. Umicore NV-SA is the ultimate parent company of the Umicore Group.
Umicore Group did not change his name compared to previous year.

Umicore is the circular materials technology Group. It focuses on application areas where its expertise in materials science, chemistry and metallurgy makes a real difference. Its activities are organised in three business groups: Catalysis, Energy & Surface Technologies and Recycling. Each business group is divided into market-focused business units offering materials and solutions that are at the cutting edge of new technological developments and essential to everyday life. Umicore generates the majority of its revenues and dedicates most of its R&D efforts to clean mobility materials and recycling. Umicore's overriding goal of sustainable value creation is based on an ambition to develop, produce and recycle materials in a way that fulfils its mission: materials for a better life. Umicore's industrial and commercial operations as well as R&D activities are located across the world to best serve its global customer base.

F2 Accounting policies

2.1 Principles of consolidation

2.1.1 Subsidiaries

Subsidiaries are all entities (including structured entities) over which the Group has control.

The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

Note F5 lists all significant subsidiaries of the Group at the closing date.

The Group applies the acquisition method to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair values of the assets transferred, the liabilities incurred to the former owners of the acquiree and the equity interests issued by the Group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The Group recognizes any minority interest in the acquiree on an acquisition-by-acquisition basis, either at fair value or at the minority interest's proportionate share of the recognized amounts of acquiree's identifiable net assets. Acquisition-related costs are expensed as incurred.

If the business combination is achieved in stages, the acquisition date carrying value of the acquirer's previously held equity interest in the acquiree is re-measured to fair value at the acquisition date; any gains or losses arising from such re-measurement are recognized in profit or loss.

Any contingent consideration to be transferred by the Group is recognized at fair value at the acquisition date. Subsequent changes to the fair value of the contingent consideration that is deemed to be an asset or liability is recognized in profit or loss. Contingent consideration that is classified as equity is not re-measured, and its subsequent settlement is accounted for within equity.

Inter-company transactions, balances and unrealized gains on transactions between group companies are eliminated. Unrealized losses are also eliminated. When necessary, amounts reported by subsidiaries have been adjusted to conform with the Group's accounting policies. The lines "other operating income" and "other financial income" of the income statement include, depending on the nature of the underlying transactions, the currency translation differences due to intercompany transactions to be translated

from the transaction currency into functional currency which may differ from euro for some entities and regions.

IFRS 5 (Non-current Assets Held for Sale and Discontinued Operations) does not specify the treatment for the elimination of inter-company transactions between discontinued and continued operations. As an accounting policy Umicore opts not to eliminate the intercompany transactions within the income statement between the discontinued and continued operations. For the balance sheet presentation however, IFRS 10 (Consolidated Financial Statements) overrides IFRS 5 and requires all intercompany balances to be eliminated including those between the discontinued and continued operations.

2.1.2 Changes in ownership interests in subsidiaries without change of control

Transactions with minority interests that do not result in loss of control are accounted for as equity transactions – that is, as transactions with the owners in their capacity as owners.

The difference between fair value of any consideration paid and the relevant share acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to minority interests are also recorded in equity.

2.1.3 Disposal of subsidiaries

When the Group ceases to have control, any retained interest in the entity is remeasured to its fair value at the date when control is lost, with the change in carrying amount recognized in profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognized in other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets or liabilities. This may mean that amounts previously recognized in other comprehensive income are reclassified to profit or loss.

2.1.4 Associates

Associates are all entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. Investments in associates are accounted for using the equity method of accounting. Under the equity method, the investment is initially recognized at cost, and the carrying amount is increased or decreased to recognize the investor's share of the profit or loss of the investee after the date of acquisition.

The Group's investment in associates includes goodwill identified at acquisition. If the ownership interest in an associate is reduced but significant influence is retained, only a proportionate share of the amounts previously recognized in other comprehensive income is reclassified to profit or loss where appropriate. The Group's share of post-acquisition profit or loss is recognized in the income statement, and its share of post-acquisition movements in other comprehensive income is recognized in other comprehensive income with a corresponding adjustment to the carrying amount of the investment. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognize further losses, unless it has incurred legal or constructive obligations or made payments on behalf of the associate. The Group determines at each reporting date whether there is any objective evidence that the investment in the associate is impaired. If this is the case, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate and its carrying value and recognizes the amount adjacent to "share in result of companies accounted for using the equity method" in the income statement.

Profits and losses resulting from upstream and downstream transactions between the Group and its associate are recognized in the Group's financial statements only to the extent of unrelated investor's interests in the associates. Unrealized losses are eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of associates have been changed where necessary to ensure consistency with the policies adopted by the Group. Dilution gains and losses arising in investments in associates are recognized in the income statement.

2.1.5 Joint arrangements

The Group applies IFRS 11 to all joint arrangements. Under IFRS 11 investments in joint arrangements are classified as either joint operations or joint ventures depending on the contractual rights and obligations each investor. The Group has assessed the nature of its joint arrangements and determined them to be joint ventures. Joint ventures are accounted for using the equity method. Under the equity method of accounting, interests in joint ventures are initially recognized at cost and adjusted thereafter to recognize the Group's share of the post-acquisition profits or losses and movements in other comprehensive income.

When the Group's share of losses in a joint venture equals or exceeds its interests in the joint ventures (which includes any long-term interests that, in substance, form part of the Group's net investment in the joint ventures), the Group does not recognize further losses, unless it has incurred obligations or made payments on behalf of the joint ventures.

Unrealized gains on transactions between the Group and its joint ventures are eliminated to the extent of the Group's interest in the joint ventures. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of the joint ventures have been changed where necessary to ensure consistency with the policies adopted by the Group.

2.2 Principles of segmentation

Note F7 provides the Group's segment information, in line with IFRS 8. Umicore is organized in business units. Operating segments under IFRS 8 at Umicore are differentiated by their growth drivers in the areas of Catalysis, Energy & Surface Technologies, and Recycling.

The Catalysis segment provides automotive catalysts for gasoline and diesel light and heavy-duty diesel applications, including on-road and non-road vehicles. The business group also offers stationary catalysis

for industrial emissions control and produces precious metals based compounds and catalysts for use in fuel cell applications and in the pharmaceutical and fine chemicals industries.

The Energy & Surface Technologies segment is focused on products that are found in applications used in the production and storage of clean energy and in a range of applications for surface technologies that bring specific properties and functionalities to end products. All the activities offer a closed loop service for the customers. The Recycling segment treats complex waste streams containing precious and other specialty metals. The operations can recover 20 of these metals from a wide range of input materials ranging from industrial residues to end-of-life materials. Other activities include production of precious metals-based materials that are essential for applications as diverse as high-tech glass production, electrics and electronics.

Corporate covers corporate activities, shared operational functions and the Group's Research, Development & Innovation unit. Umicore's minority share in Element Six Abrasives and Ieqsa is also included in Corporate.

Operating segments are reported in a manner consistent with the internal reporting provided to the supervisory board and the management board.

The segment results, assets and liabilities include items directly attributable to the segment as well as those elements that can reasonably be allocated to a segment.

The pricing of inter-segment sales is based on an arm's length transfer pricing system. In the absence of relevant market price references, 'cost plus' mechanisms are used.

Associate companies are allocated to the business group with the closest fit from a market segment perspective.

2.3 Inflation accounting

For the reported period, there is one subsidiary in the Umicore Group having a functional currency belonging to a hyperinflationary economy in Argentina. However, in view of significance to the Group, this is not material for IAS 29 to be applied.

2.4 Foreign currency translation

Functional currency: items included in the financial statements of each entity in the Group are measured using the currency that best reflects the economic substance of the underlying events and circumstances relevant to that entity. The consolidated financial statements are presented in euros which is the functional currency of the parent. To consolidate the Group and each of its subsidiaries, the financial statements are translated as follows:

- Assets and liabilities at the year-end rate as published by the European Central Bank or by the Central Bank of Brazil for the Brazilian Real.
- Income statements at the average exchange rate for the year.
- The components of shareholders' equity at the historical exchange rate.

Exchange differences arising from the translation of the net investment in foreign subsidiaries, joint ventures and associated entities at the period-end exchange rate are recorded as part of the shareholders' equity under "currency translation differences".

When a foreign operation is partially disposed of or sold, exchange differences that were recorded in equity are recognized in the income statement as part of the gain or loss on sale.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as local currency assets and liabilities of the foreign entity and are translated at the closing rate.

2.5 Foreign currency transactions

Foreign currency transactions are recognized during the period in the functional currency of each entity at exchange rates prevailing at the date of transaction. The date of a transaction is the date at which the transaction first qualifies for recognition. For practical reasons a rate that approximates the actual rate at the date of the transaction is used for some operations, for example, an average rate for the week or the month in which the transactions occur.

Subsequently, monetary assets and liabilities denominated in foreign currencies are translated at the closing rate at the end of the reporting period.

Gains and losses resulting from the settlement of foreign currency transactions, and from the translation of monetary assets and liabilities denominated in foreign currencies, are recognized in the income statement as a financial result.

In order to hedge its exposure to certain foreign exchange risks, the Company has entered into certain forward contracts (see Note F2.22, Financial instruments).

2.6 Property, plant and equipment

Property, plant and equipment ("PPE") is recorded at historical cost, less accumulated depreciation and impairment losses. Cost includes all direct costs and appropriate allocation of indirect costs incurred to bring the asset to working condition for its intended use.

Borrowing costs that are directly attributable to investments are capitalized together with the costs of the assets in accordance with IAS 23. All borrowing costs that cannot be linked directly to an investment are recognized as expenses in the period when incurred.

The straight-line depreciation method is applied through the estimated useful life of the assets.

Useful life is the period of time over which an asset is expected to be used by the company.

Repair and maintenance costs are expensed in the period in which they are incurred, if they do not increase the future economic benefits of the asset. Otherwise they are classified as separate components of items of property, plant and equipment. Those major components of items of property, plant and equipment that are replaced at regular intervals are accounted for as separate assets as they have useful lives different from those items of property, plant and equipment to which they relate. Umicore's PPE, being complex and highly customized industrial assets, typically do not have an individual resale value if put outside the overall context of the operations. Therefore, no residual value is taken into account when determining the depreciable value.

The typical useful life per main type of property, plant and equipment are as per table below. For material newly acquired or constructed assets, the useful life is separately assessed at the moment of the investment request and can deviate from the above standards.

Management determines the estimated useful lives and related depreciation charges for property, plant and equipment. Management uses standard estimates based on a combination of physical durability and projected product life or industry life cycles. These useful lives could change significantly as a result of technical innovations, market developments or competitor actions. Management will increase the depreciation charge where useful lives are shorter than previously estimated, or it will write-off or write-down technically obsolete or non-strategic assets that have been abandoned or sold.

Land use rights are part of the Property, Plant and Equipment and are typically amortized over the contractual period.

	years
Land	Non-depreciable
Buildings	
- Industrial buildings	20
- Improvements to buildings	10
- Offices and laboratories	40
Plant, machinery and equipment	10
- Furnaces	7
- Small equipment	5
Furniture and vehicles	
- Vehicles	5
- Mobile handling equipment	7
- Computer equipment	3 - 5
- Furniture and office equipment	5 - 10

2.7 Intangible assets & equity transaction expenses

2.7.1 Equity transaction expenses

Expenses for formation and capital increase are deducted from the share capital.

2.7.2 Goodwill

Goodwill represents the excess of the cost of an acquisition of a subsidiary, associate or jointly controlled entity over the Group's share in the fair value of the identifiable assets and liabilities of the acquired entity at the date of acquisition. Goodwill is recognized at cost less any accumulated impairment losses.

Goodwill from associates and joint ventures is presented in the balance sheet on the line "Investments accounted for under the equity method", together with the investment itself.

To assess impairment, goodwill is allocated to a cash generating unit (CGU). At each balance sheet date, these CGUs are tested for impairment, meaning an analysis is performed to determine whether the carrying amount of goodwill allocated to the CGU is fully recoverable.

If the carrying amount is not fully recoverable, an appropriate impairment loss is recognized in the income statement. These impairment losses are never reversed.

The excess of the Group's interest in the fair value of the net identifiable assets acquired over the cost of acquisition is recognized in the income statement immediately.

2.7.3 Research and development

Research costs related to the prospect of gaining new scientific or technological knowledge and understanding are recognized in the income statement as an incurred expense.

Development costs are defined as costs incurred for the design of new or substantially improved products and for the processes prior to commercial production or use. They are capitalized if, among others, the following conditions are met:

- the intangible asset will give rise to future economic benefits, or in other words, the market potential has been clearly demonstrated.
- the expenditures related to the process or product can be clearly identified and reliably measured.

In case it is difficult to clearly distinguish between research or development costs, the costs are considered as being research. If development costs are capitalized they are amortized using a straight-line method over the period of their expected benefit, in general five years.

2.7.4 CO_2 emission rights

Within the framework of the Kyoto protocol, a third emission trading period started, covering 2013-2020 and the fourth phase started on January 1, 2021 (till 2030). Therefore, the Flemish Government granted emission rights to the Flemish sites of certain companies, including Umicore. Each year, at the end of February, one fifth of these emission rights is put on an official registry account. The release of emission rights to this registry account entails the capitalization in the intangible assets, which is in line with the guidance of the Belgian Accounting Standards Commission. Gains on the recognition of emission rights at fair value are deferred until the certificates are used. Emission rights owned are subject to impairment testing but are not depreciated. If, at a certain closing date, it appears that the closing market price is below the carrying value, a write-down is booked. At each closing date, the Group estimates the actual use of rights for the period and recognizes a provision for the rights that will have to be restituted to the Government. The charge related to the impairment loss or the recognition of provisions are fully compensated in the income statement by the release of deferred revenue. Historically, Umicore owns the required rights to ensure its normal operating activities.

2.7.5 Other intangible assets

All the following types are recorded at historical cost, less accumulated amortization and impairment losses:

- Concessions, patents, licenses: are amortized over the period of their legal protection with a minimum of 5% (in general over 5 years).
- Customer portfolios: are typically amortized over a period of five years.
- ERP software is typically amortized over a period of ten years.
- Smaller software is typically amortized over a period of five years.

In case of an earn-out component, a remeasurement is foreseen, adapting the carrying amount of the asset and the amortization accordingly.

Umicore has currently no intangible asset with an indefinite useful live.

2.8 Lease

IFRS 16 sets out the principles for the recognition, measurement, presentation, and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model. At the commencement date of a lease, lessees recognize a lease liability (i.e. a liability to make lease payments), and a right-of-use asset (i.e. an asset representing the right to use the underlying asset over the lease term).

The lease liabilities are recognized at the present value of the remaining lease payments (see note F24) in non-current liabilities or in current liabilities depending on the due date (up till 2021 lease liabilities were presented in non-current liabilities only).

The right-of-use asset is depreciated over the term of the lease (see note F16). Interest expense is recognized on the lease liability (see note F11). The lease liability is remeasured upon the occurrence of certain events (e.g. a change in the lease term or a change in future lease payments resulting from a change in index). Such remeasurements of the lease liability will generally be recognized as an adjustment to the right-of-use asset.

The Group applies the lease recognition exemptions for short-term leases and leases for which the underlying asset is of low value. The Group elects, by class of underlying asset, not to separate non-lease components from lease components and instead accounts for each lease component and any associated non-lease component as one single lease component.

The Group leases metals to and from third parties for specified periods for which the Group receives or pays fees. Metal lease contracts are typically concluded for less than one year.

The metal leases from and to third parties are still reported as off-balance sheet commitments, as not in the scope of IFRS 16.

2.9 Financial assets at fair value through OCI, loans and non-current receivables

All movements in financial assets at fair value through other comprehensive income ("OCI"), loans and receivables are accounted for at trade date.

Financial assets at fair value through OCI are carried at fair value. Unrealized gains and losses from changes in the fair value of such assets are recognized in equity as financial assets at fair value through OCI reserves. When the assets are sold or impaired, the accumulated fair value adjustments are also included in the OCI. Financial assets are derecognized when the rights to receive cash flows from the investments have expired or have been transferred and the Group has transferred substantially all risks and rewards of ownership.

Loans and receivables are carried at amortized cost less any impairment.

All write-downs are recorded on a separate account and are netted with the carrying amounts when all chances of recovery are depleted. Own shares are deducted from equity.

2.10 Inventory

Inventories are classified as:

1. Base products (gross values)
   a. Permanently tied up metal inventories (not hedged)
   b. Commercially available metal inventories (hedged)
   c. Other base products inventories (not hedged)
2. Consumables (gross values)
3. Write down and impairments
4. Advances paid
5. Contracts in progress

Inventories are carried at cost. Cost comprises direct purchase or manufacturing costs and an appropriate allocation of overheads.

Base products (gross values) are mostly metal-containing products on which Umicore is exposed to price fluctuation risks. Most of these inventories follow Umicore's metal accounting rules and are classified in two inventory categories that reflect their specific nature and business use: the permanently tied up metal inventories and the commercially available metal inventories. The latter inventories are subject to an active and systematic hedging process to minimize the effects of market price fluctuations on the financial performance of the Group. Conversely, the permanently tied up metal inventories are typically not hedged. Next to these categories, the other base product inventories consist of materials used in the manufacturing processes to obtain the marketable basis products. These inventories are also typically not hedged. More details on the hedging mechanisms can be found in note F3.

Individualized or weighted average valuation is applied on the initial at cost valuation per category of inventory complemented with the following fair value principles:

- On the permanently tied up metal inventories : In view of their permanent nature, Umicore opted to apply the measurement and recognition rules of Property, Plant and Equipment (IAS 16) and Impairment of Assets (IAS 36). The valuation is based on the "historical cost less any accumulated depreciation and accumulated impairment" principle. As the inventories are considered to have an unlimited useful life, no depreciations are applied. Instead they are subject to Umicore's annual impairment testing of the CGUs carrying these inventories. Any impairments booked are classified under the caption Write downs & Impairments.
- On the commercially available metal inventories : These inventories are economically hedged. For the part of the inventory where Umicore obtained IFRS 9 Fair Value hedge accounting, Umicore applies the mark-to-market valuation principles. When IFRS 9 Fair Value hedge accounting cannot be obtained (see note F2.22.1 transactional risks – fair value hedging), LOCOM (lower of cost or net realizable value, meaning the estimated selling price less the estimated costs of completion and the estimated cost necessary to make the sale) is applied.
- On the other base products inventories, LOCOM and slow moving principles are applied. Any write-downs booked are classified under the caption Write downs & Impairments.

Consumables (gross values) are products that are not used in a direct way in the manufacturing processes (for example: packaging material). They are valued using the weighted-average cost method and are subject to LOCOM. Any write-downs booked are classified under the caption Write downs & Impairments

Write-downs & Impairments are any impairments or write downs booked on the Base products and Consumables which are captured under this line item.

Advances paid are down-payments on transactions with suppliers for which the physical delivery has not yet taken place and are booked at nominal value.

Contracts in progress are valued using the percentage-of-completion method.

2.11 Trade and other receivables

Trade and other receivables are measured at amortized cost, i.e. at the net present value of the receivable amount. Unless the impact of discounting is material, the nominal value is taken. Receivables are written down for irrecoverable amounts. All write-downs are recorded on a separate account and are netted with the carrying amounts when all chances of recovery are depleted.

Trade receivables of which substantially all the risks and rewards have been transferred are derecognized from the balance sheet. The positive fair value of derivative financial instruments is included under this heading.

Trade and other receivables are subject to an impairment methodology, referred to as the Expected Credit Loss (ECL) model, measuring the expected credit losses based on shared credit risk characteristics. Umicore has established an allowance matrix based on different customer and sector ratings, ageing balances, macro-economic and regional factors and historical loss patterns.

The Group may undertake certain linked contracts to sell or buy metal and commit to repurchase or sell the metal in the future. An asset representing the metal which the Group has committed to sell or a liability representing the obligation to repurchase the metal are recognized in trade and other receivables or

trade and other payables, respectively. Accordingly, principal cash flows in respect of sale and repurchase agreements are shown as cash flows from operating activities in the cash flow statement rather than cash flows from financing activities as long the financing is short term in time and the underlying transactions are not rolled over. Consistently interest paid and received are shown as cash flows from operating activities and presented as other income in the income statement in line with lease and factoring fees. No revenues are recognized in respect of the sale leg or costs are recognized in respect of the purchase leg if it regards the same metals and quantities engaged with the same party.

2.12 Cash and cash equivalents

Cash includes cash-in-hand and cash with banks. Cash equivalents are short-term, highly liquid investments that are readily convertible into known amounts of cash, have maturity dates of three months or less and are subject to an insignificant risk of change in value.

These items are carried in the balance sheet at nominal value or amortized cost. Bank overdrafts are included in the current liabilities on the balance sheet.

2.13 Impairment of non-financial assets

Property, plant and equipment and other non-current assets, including intangible assets and financial assets not held for trading, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If any such indication exists, the recoverable amount of the asset is estimated.

The recoverable amount is the higher of an asset's net selling price and value in use. To estimate the recoverable amount of individual assets the company often determines the recoverable amount of the cash-generating unit (CGU) to which the asset belongs.

Whenever the carrying amount of an asset exceeds its recoverable value, an impairment loss is recognized as an expense immediately.

A reversal of impairment losses is recognized when there is an indication that the impairment losses recognized for the asset or for the CGU no longer exist or have decreased. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

2.14 Share capital and retained earnings

A. Repurchase of share capital: When the company purchases some of its own shares, the consideration paid, including any attributable transaction costs net of income taxes, is deducted from the total shareholders' equity as treasury shares. No gain or loss shall be recognized in profit or loss on the purchase, sale, issue or cancellation of own shares. When such shares are subsequently sold or reissued, any consideration received is included in shareholders' equity.

B. Incremental costs directly attributable to the issue of new shares are shown in equity as a deduction from the proceeds of the issue, net of tax.

C. Dividends of the parent company payable on ordinary shares are only recognized as a liability following approval by the shareholders.

2.15 Minority interests

Minority interests include a proportion of the fair value of identifiable assets and liabilities recognized upon acquisition of a subsidiary that is attributable to third parties, together with the appropriate proportion of subsequent profits and losses.

In the income statement, the minority share in the Group's profit or loss is presented separately from the Group's consolidated result.

2.16 Provisions

Provisions are recognized in the balance sheet when:

- There is a present obligation (legal or constructive) as a result of a past event.
- It is probable that an outflow of resources will be required to settle the obligation.
- A reliable estimate can be made on the amount of the obligation.

A constructive obligation is an obligation that derives from company actions where, by an established pattern of past practice or published policies, the company has indicated that it will accept certain responsibilities and, as a result, the company has created a valid expectation that it will discharge those responsibilities.

The amount recognized as a provision is the best estimate of the expenditure required to settle the present obligation at the end of the reporting period and taking into account the probability of the possible outcome of the event. Where the effect of the time value of money is material, the amount of a provision is the present value of the expenditure expected to be required to settle the obligation. The result of the yearly discounting of the provision, if any, is accounted for as a financial result.

The main types of provision are the following:

2.16.1 Provisions for employee benefits (See note F2.17 - Employee benefits)

2.16.2 Environmental obligations

Environmental provisions are based on legal and constructive obligations from past events, in accordance with the company's environmental approach and applicable legal requirements.

The full amount of the estimated obligation is recognized at the moment the event occurs.

When the obligation is production/activity related, the provision is recognized gradually depending on normal usage/production level.

2.16.3 Other Provisions

These include provisions for litigation, onerous contracts, warranties, exposure to equity investments and restructuring. A provision for restructuring is recognized when the company has approved a detailed and formal restructuring plan and the restructuring has either commenced or has been announced publicly before the end of the reporting period. Any restructuring provision only includes the direct expenditure arising from the restructuring which is necessarily entailed and is not associated with the ongoing activities of the Company.

2.17 Employee benefits

2.17.1 Short-term employee benefits

These include wages, salaries and social security contributions, paid annual leave and sick leave, bonuses and non-monetary benefits, and are taken as an expense in the relevant period.

All company managers are eligible for bonuses that are based on indicators including personal performance and key financial targets. The amount of the bonus is recognized as an expense, based on an estimation made at the end of the reporting period.

2.17.2 Post-employment benefits (pensions, medical care)

The company has various pension and medical care schemes in accordance with the conditions and practices of the countries it operates in. The schemes are generally funded through payments to insurance companies or trustee-administered funds.

2.17.2.1 Defined benefit plans

The company has accounted for all legal and constructive obligations both under the formal terms of defined benefit plans and under the company's informal practices.

The amount presented in the balance sheet is based on actuarial calculations (using the projected unit credit method) and represents the present value of the defined benefit obligations netted with the fair value of the plan assets.

The past service costs are immediately recognized in the income statement since IAS 19 revised.

All remeasurements as a result of changes in the actuarial assumptions of post-employment defined benefit plans are recognized through other comprehensive income (OCI) in the period in which they occur and are disclosed in the statement of comprehensive income as post-employment benefit reserves.

In Belgium, in line with the Belgian legislation applicable to 2nd pillar pension plans (so-called "Law Vandenbroucke"), all Belgian Defined Contribution plans, for which the legal minimum guaranteed return is applicable have to be considered under IFRS as Defined Benefit plans. Liabilities and costs of these plans are therefore calculated following the Projected Unit Credit Method.

In Germany two defined contribution pension plans exist which are externally financed via the "Pensionskasse Degussa" (PKD) or the support fund "Unterstützungskasse Degussa" (RUK).The PKD and RUK plans secure only the inflation and guaranteed interest rate adjustments of the benefits. In recent years, due to the low interest rate environment, there is a risk of shortfalls in the self-funding at the DKP and RUK to honor these adjustments. In case of such shortfalls the PKD and RUK would call upon Umicore to contribute the extra funding required. For this reason, the inflation and guaranteed interest rate adjustments for the PKD and RUK plans are recognized as defined benefit obligation plans under IFRS. Management applied a best estimate simplified method to calculate the shortfall risk and recognized this as an additional obligation.

2.17.2.2 Defined contribution plans

The company pays contributions to publicly or privately administered insurance plans.

The payments are recognized as expenses as they fall due and as such are included in personnel costs.

2.17.3 Other long-term employee benefits (jubilee premiums)

These benefits are accrued for their expected costs over the period of employment using an accounting methodology similar to that for defined benefit pension plans. These obligations are in general valued annually by independent qualified actuaries. All remeasurements as a result of changes in the actuarial assumptions are immediately recognized in the income statement.

2.17.4 Termination benefits (pre-retirement plans, other termination obligations)

These benefits arise as a result of the company's decision to terminate an employee's employment before the normal retirement date or of an employee's decision to accept voluntary redundancy in exchange for those benefits. When they are reasonably predictable in accordance with the conditions and practices of the countries the company operates in, future obligations are also recognized.

These benefits are accrued for their expected costs over the period of employment, using an accounting methodology similar to that for defined benefit pension plans. In general, these obligations are valued annually by independent qualified actuaries. All remeasurements as a result of changes in the actuarial assumptions are immediately recognized in the income statement.

2.17.5 Equity and equity-related compensation benefits (share-based payments IFRS 2)

Different stock option and share programs allow company employees and company senior management to acquire or obtain shares of the company.

The option or share exercise price equals the market price of the (underlying) shares at the date of the grant. When the options are exercised, shares are delivered to the beneficiaries from existing own shares. For the share programs, shares are delivered to the beneficiaries from existing own shares. In both cases, the equity is increased by the amount of the proceeds received corresponding to the exercise price.

The options and shares are typically vested at the moment of the grant and their fair value is recognized as an employee benefit expense with a corresponding increase in equity as share based payment reserves. For the options, the expense to be recognized is calculated by an actuary, using a valuation model which takes into account all features of the stock options, the volatility of the underlying stock and an assumed exercise pattern.

As long as the options granted have not been exercised, their value is reported in the Statement of Changes in Equity as 'share based payments reserve'. The value of the options exercised during the period is transferred to 'retained earnings'.

2.17.6 Presentation

The impact of employee benefits on results is booked under operating results in the income statement, except for the interest and discount rate impacts which are classified under financial results.

2.18 Financial liabilities

All movements in financial liabilities are accounted for at trade date.

Borrowings are initially recognized as proceeds received, net of transaction costs.

Subsequently they are carried at amortized cost using the effective interest rate method.

Amortized cost is calculated by taking into account any issue costs, and any discount or premium on issue. Any differences between cost and redemption value are recognized in the income statement upon redemption.

Financial debt also contains the lease liability as per IFRS 16 (see note F2.8).

The convertible bond is considered as a compound instrument. It contains a liability and a equity component. This instrument is convertible into shares at the option of the holder. Each component is, therefore, accounted for separately. The liability element is determined by fair valuing the cash flows excluding any equity component. The residual is assigned to equity. The equity component is not remeasured, nor at conversion nor at maturity. Note, finally, that the convertible bond is a zero coupon instrument.

2.19 Trade and other payables

Trade payables are measured at amortized cost, i.e. at the net present value of the payable amount. Unless the impact of discounting is material, the nominal value is taken.

The Group may undertake certain linked contracts to sell or buy metal and commit to repurchase or sell the metal in the future. An asset representing the metal which the Group has committed to sell or a liability representing the obligation to repurchase the metal are recognized in trade and other receivables or trade and other payables, respectively. Accordingly, principal cash flows in respect of sale and repurchase agreements are shown as cash flows from operating activities in the cash flow statement rather than cash flows from financing activities as long the financing is short term in time and the underlying transactions are not rolled over. Consistently interest paid and received are shown as cash flows from operating activities and presented as other income in the income statement in line with lease and factoring fees. No revenues are recognized in respect of the sale leg or costs are recognized in respect of the purchase leg if it regards the same metals and quantities engaged with the same party.

The negative fair value of derivative financial instruments is included under this heading.

2.20 Income taxes

Taxes on profit or loss of the year include current and deferred tax. Such taxes are calculated in accordance with the tax regulations in effect in each country the company operates in.

Current tax is the expected tax payable on the taxable income of the year, using tax rates enacted at the end of the reporting period, and any adjustment to tax payable (or receivable) in respect of previous years.

The tax payable is determined based on tax laws and regulations that apply in each of the numerous jurisdictions in which the Group operates. The income tax positions taken are considered by the Group to be supportable and are intended to withstand challenge from tax authorities. However, it is accepted that some of the position can be uncertain and include interpretation of complex tax laws.

Tax provisions are recognized where the precise impact of the tax law and regulations on taxes payable with respect to profit arising in those jurisdiction is unclear and could trigger a tax adjustment represented by a future flow of funds to a tax authority or a consequent adjustment to a deferred tax asset. Uncertain tax positions are assessed periodically, implying a detail assessment following the interpretation of IFRIC 23, considering uncertainties individually or collectively, based on which approach provided the best predictions of the resolution of the uncertainties with the tax authorities; assuming that the tax authority will examine the position (if entitled to do so) and will have full knowledge of all the relevant information; and recognizing an Uncertain Tax Position or UTP (or group of UTPs) using either the most likely amount

or the expected value, depending on which is thought to give a better prediction of the resolution of each (group of) UTP(s), to reflect the likelihood of an adjustment being realised on examination. The estimation and judgements in relation to uncertain tax positions are reassessed if the facts and circumstances on which those estimates and judgements were based have changed or as a result of new information that affects the initial assessments. In the measurement of the Uncertain tax positions, the Group considers the statute of limitation applicable in each jurisdiction, additionally interest and penalties are included in the assessment.

Deferred taxes are calculated using the liability method on temporary differences arising between the tax base of assets and liabilities and their carrying amounts in the financial statements. These taxes are measured using the rate prevailing at the end of the reporting period or future applicable tax rates formally announced by the government in the country the Company operates in.

Deferred tax assets are only recognized to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilized.

Deferred tax assets and liabilities are offset and presented net only if they relate to income taxes levied by the same taxation authority on the same taxable entity.

2.21 Revenue recognition

2.21.1 Revenue recognition from contracts with customers

Despite the complexity of several processes within each business unit, the performance obligations are rather straightforward, those being:

- Catalysis: the delivery of the goods in accordance with contract specifications. These specifications have been predefined and validated through samples. This latter is not considered as a significant stream for further analysis under IFRS 15.
- Recycling: the return of the refined metals back to the client in accordance with the contract either in their pure metal content or as part of a (semi)finished product and the sale of metal (including surplus metal recovered) towards the customers.
- Energy and Surface Technologies: the delivery of the products according to specification agreed in the sales order received.

Umicore has carefully considered the satisfaction of the performance obligation and concludes that for sales within Catalysis the revenue is recognized at a point of time when the control transfers to the customer. Despite the products being customized, the considerations for over time have not been met given that the customer does not control the production process nor has the Group the entitlement to be paid prior to delivery of the goods. The control is therefore transferred based upon the usual delivery terms (incoterms) and the customer accepting the goods upon delivery.

For sales within Recycling, the vast majority of revenue is recognized at a point in time when the control of the refined products or metal is back in the hands of the customers (refinery) or in the hands of the customers (sale of metal, including surplus metal recovered), embarked by the delivery.

For sales within Energy and Surface Technologies the revenue is recognized at a point in time when the control is transferred to the customer, this moment being driven by the delivery of the products according to the incoterms.

No revenue is recognised for the sale leg of contracts under which the Group sells or buys precious metal and commits to repurchase or sells the metal in the future.

Some of the contracts do contain commercial discounts and rebates, however frequency is relatively low, and magnitude is not significant. If applicable, these are recognized in the same period the sale is established.

There are no additional warranty agreements sold to clients on top of legal requirements, therefore these are not considered as a separate performance obligation.

Consequently, the transaction price identified within the agreement is allocated in full to the performance obligation.

There are no significant contract balances where either the Group has performed the performance obligation for which no billing occurred yet, or alternatively has received advance payments for which the performance obligation has not been satisfied.

The revenue from contracts with customers is further detailed in note F7 and F9.

The assessment in view of impairment losses is captured under the expected credit loss model as detailed in note F20.

2.21.2 Government grants

A government grant is accounted for in the balance sheet initially as deferred income when there is reasonable assurance that it will be received and that the company will comply with the conditions attached to it. Grants are recognized in the income statement over the period necessary to match them with the costs they are intended to compensate.

2.22 Financial instruments

The Group uses derivative financial and commodity instruments primarily to reduce the exposure to adverse fluctuations in foreign exchange rates, commodity prices, interest rates and other market risks. The Group uses mainly spot and forward contracts to cover the metal and currency risk, and

swaps to hedge the interest rate risk. The operations carried out on the futures markets are not of a speculative nature.

2.22.1 Transactional risks – fair value hedging

Derivative financial and commodity instruments are used for the protection of the fair value of underlying hedged items (assets, liabilities and firm commitments) and are recognized initially at fair value at trade date. The hedged items (physical commitments and commercially available inventory, primarily) are, under Umicore's economical hedging policies, initially valued at fair value by applying mark-to-market.

Where possible Umicore documents hedge accounting according to the criteria set out in IFRS 9. The bottom layer or the net position approach for the fair value hedge on groups of closed portfolios of foreign exchange risk and commodity risk exposures are applied. Under the bottom layer approach, a layer representing the nominal amount of an exposure that has historically been present on a constant and continuous basis is defined.

This layer is further split into smaller unit of accounts, sublayers, which are designated as hedged items. The sublayers are then hedged by hedging instruments that are designated as hedging multiples of such sublayers.

Under the net position approach, hedging is applied based on a group of items with offsetting risk positions, the net position being the hedged item hedged by a hedging instrument.

In both approaches, it regards closed hedged portfolios in which items cannot be added, removed or replaced without treating each change as the transition to a new portfolio. In both approaches, the exposures cover a group of both on balance and off balance foreign exchange and commodity positions, that is, either trade payables, inventories and purchase commitments or trade receivables and sales commitments exposed to the variability of foreign currencies or commodity prices.

In the absence of reaching IFRS 9 hedge accounting as the bottom layer or net position criteria are not met or when no market-based derivatives are available, Umicore recognizes the hedged items at cost. Since under Umicore economical hedging policy, all transactional hedging positions are marked to market for operational risk monitoring purposes, this consists in reversing any positive fair value on these hedged items to keep them at cost (in case of inventories) or off-balance (in case of commitments). Hedges in this category are labeled as economical hedges and are not considered speculative instruments.

When there is a consistent practice of trading of commodities through the use of commodity contracts by a dedicated subsidiary or a cash generating unit (CGU) of the Group and by which the entity takes delivery of the underlying commodity to sell it within a short period after delivery for the purpose of generating a profit from short-term fluctuations in price or trading margins, the inventory is valued at fair value through the income statement and the related physical and / or commodity commitments are classified as derivatives and measured at fair value through the income statement.

2.22.2 Structural risks – cash flow hedging

Derivative financial and commodity instruments used for the protection of future cash flows are designated as hedges under cash-flow hedge accounting. The effective portion of changes in the fair value of hedging instruments which qualify as cash flow hedges are recognized in the shareholders equity as hedging reserves until the underlying forecasted or committed transactions occur (i.e. affect the income statement). At that time the recognized gains and losses on the hedging instruments are transferred from equity to the income statement.

When the underlying hedged transactions are no longer probable or the hedges become ineffective, the corresponding hedging instrument will immediately be terminated and all profits or losses including those which were deferred in equity, are immediately recognized in the income statement.

In the absence of obtaining cash-flow hedge accounting at inception as defined under IFRS 9, then the fair value of the related hedging instruments is recognized in the income statement instead of the equity and this prior to the occurrence of the underlying forecasted or committed transactions.

2.22.3 Embedded derivatives

Executory contracts (the "host contract") may sometimes contain embedded derivatives.

Embedded derivatives cause some or all of the cash flows that would otherwise be expected from the host contract, to be modified according to a specified interest rate, financial instrument price, commodity price, foreign exchange rate, or another variable. If it is concluded that such a derivative is not closely related to the host contract, it is separated from the host contract and accounted for under the rules of IFRS 9 (fair value through profit or loss). The host contract is accounted for using the rules applicable to executory contracts, which effectively means that such a contract is not recognized in the balance sheet or profit and loss before delivery on the contract takes place.

2.23 Climate change

In preparing the consolidated financial statements, the Group has considered the potential impact of climate-related risks which cover both transition risks (market, reputation, policy & legal, technology) and physical risks (direct damage to assets and supply chain disruption). The long term consequences of climate change and the climate-related transition risks scenario analysis for Umicore are further described in the Risk & Opportunities section of this report.

The potential impact of climate change on a number of areas within the financial statements has been considered such as:

- The forecasts and cash flows used in impairment review of non-current assets (including goodwill).
- Recoverability of deferred taxes.
- Expected lives of property, plant and equipment and their exposure to the physical risk posed by climate change. Their expected lives tend to be short to medium term, as such the physical risk posed by climate change in the long term is low.

There is inherent uncertainty over the assumptions used within these areas and how they will impact the Group's business operations, cash flows and profit projections. Nevertheless, the latest outlooks of the Group reflect continuous investment in sustainable technologies and our unique position to meet the market with sustainable solutions.

With the commitment to reach net zero scope 1 and 2 greenhouse gas emissions by 2035 and to run 100% of operations in Europe on renewable electricity by 2025, the Group secures long-term green power purchase agreements (PPAs) for its plants and offices. Agreements are analysed under IFRS to determine whether those contracts are own-used contracts, financial instruments or if they contain a lease. As of 31 December 2022, all our PPAs contracts are accounted for as own-used contracts.

2.24 Adjustments

The adjustments to the result relate to restructuring measures, impairment of assets linked to restructuring measures and other income or expenses arising from events or transactions that are clearly distinct from the ordinary activities of the company such as discontinuation of activities and environmental provisions that relate to historical pollution or linked to non-active sites.

F3 Financial risk management

Each of the Group's activities is exposed to a variety of risks that are financial or non-financial in nature but have the potential to impact the financial performance of the Group. Financial risks include changes in metal prices, in foreign currency exchange rates, in certain market-defined commercial conditions, and in interest rates as well as credit and liquidity risks. The Group's overall risk management program seeks to mitigate risks and potential adverse effects on the financial performance of the Group, including through the use of hedging and insurance instruments.

3.1 Currency risk

Umicore's currency risk can be split into three distinct categories: structural, transactional and translational risks.

3.1.1 Structural risk

A portion of Umicore's revenues are structurally denominated in US dollar (USD), while many of the related operations are located outside the USD zone (particularly in Europe and Asia).

Any change in the USD exchange rate against the EUR or other currencies which are not pegged to the USD will have an impact on the results.

A large portion of such structural currency exposure derives from USD denominated metal prices linked to the recycling and refining operations.

Next to the sensitivity USD vs EUR, there is also a structural and increasing sensitivity to certain other currency pairs such as the USD and EUR vs the Korean won (KRW), the Chinese yuan (CNY), the Canadian dollar (CAD), the Polish Zloty (PLN) and the Brazilian real (BRL).

Structural currency hedging

Umicore's hedging policy allows for hedging forward its structural currency exposure, either in conjunction with the hedging of structural metal price exposure or in isolation, typically when a currency exchange rate or a metal price denominated in EUR is above its historical average and at a level where attractive margins can be secured.

In relation to the structural risk, the Group assesses the hedge effectiveness through a critical terms match between the hedged item (future probable cash flows) and the hedging instrument including amount and maturity. The Group applies a prudent approach in the application of structural hedging, never up to 100 %, avoiding thereby ineffectiveness arising from difference in maturity between hedged item and hedging instrument or changes in exposure amounts.

At the end of 2022, Umicore had structural currency hedging in place relating to its non-metal related currency sensitivity including the following pairs of currencies: EUR/USD, USD/KRW, USD/CNY, EUR/CNY, EUR/PLN and USD/CAD.

3.1.2 Transactional risk

The company is also subject to transactional risks in respect of currencies, i.e. the risk of currency exchange rates fluctuating between the time the price is fixed with a customer or supplier and the time the transaction is settled. The Group's policy is to hedge the transactional risk to the maximum extent possible, primarily through forward contracts.

In relation to the transactional risk, the Group assesses the hedge effectiveness through a critical terms match between the hedged item (balance sheet items and commitments) and the hedging instrument including amount and maturity. The Group hedges transactional risks to the maximum extent up to 100 %. Any ineffectiveness can arise from difference in maturity between hedged item and hedging instrument or changes in exposure amounts, but this is not expected to be material.

3.1.3 Translational risk

Umicore is an international company and has foreign operations which do not have the EUR as their functional currency. When the results and the balance sheets of these operations are consolidated into Umicore's Group accounts the translated amount is exposed to variations in the value of such local currencies against the EUR, predominantly the KRW, CNY, USD, BRL, PLN and ZAR. While Umicore does not systematically hedge its translational currency exposures, it may enter into ad hoc translational hedges.

3.2 Metal price risk

Umicore's metal price risk can be split into three distinct categories: structural, transactional and inventory risks.

In relation to the structural and transactional risk, for the purpose of assessing the hedge effectiveness, the Group applies a critical terms match between the hedged item and the hedging instrument including in terms of quantity and maturity. Hedge ratio is 100% whereby our sources of ineffectiveness could be a difference in maturity between hedged item and financial instrument or a change in exposure.

3.2.1 Structural risk

Umicore is exposed to structural metal related price risks. Those risks relate mainly to the impact that metal prices have on surplus metals recovered from materials supplied for treatment or any other revenue component that fluctuates with the metal price. Umicore's policy allows hedging of such metal price exposure, typically if forward metal prices expressed in the functional currency of the concerned businesses are above their historical average and at a level where attractive margins can be secured. The extent to which metal price risk can be hedged depends on the availability of hedging instruments and sufficient associated market liquidity.

The Recycling segment recycles platinum, palladium, rhodium, gold and silver and a wide range of other base and specialty metals. In this segment the short-term sensitivity of revenues and operating profits to metals prices is particularly material. However, given the variability of the raw-material feed over time and the variable duration of the supply contracts negotiated, it is not suitable to provide a fixed sensitivity to any particular metal. In general terms, higher metals prices tend to be earnings enhancing for the Recycling business (and vice versa). Umicore also has a metal price sensitivity in its other business segments (Catalysis, Energy & Surface Technologies) linked primarily to the revenue components that are metal price related and depending on the metals used in these segments. Also, in these cases a higher metal price tends to carry short term benefits for the profitability of each business (and vice versa). However, other commercial conditions which are largely independent of the metal price, such as product premiums, are also significant and independent drivers of revenues and profitability. Finally, sustained high metal prices could in some cases increase other risks such as the risk of substitution or the risk of supply chain disruptions.

Structural metal price hedging

For some metals Umicore hedges part of its forward metal exposure. This hedging is based on documentation demonstrating a high probability of future metal price based cash flows originating from commercial contracts. Umicore hedged part of its forward metal exposure. Over the course of 2022, Umicore entered into additional forward contracts to cover a substantial part of its expected structural price exposure to certain precious metals for 2023, 2024 and 2025. For 2023, based on the respective currently expected exposures, the following lock-ins have been secured: more than a third for silver and gold, somewhat less than half for palladium and close to a quarter for platinum and rhodium. For 2024, the expected lock-in ratios are: close to half for gold and palladium, more than a third for silver and close to a quarter for platinum and rhodium. For 2025, close to a quarter was locked-in for the expected gold and silver exposures. Finally, Umicore also has hedges in place for a portion of its expected lead, copper and nickel exposure for 2023 and 2024.

In relation to the structural risk, the Group assesses the hedge effectiveness through a critical terms match between the hedged item (future probable cash flows) and the hedging instrument amongst others amount and maturity. The Group applies a prudent approach in the application of structural hedging, never up to 100 %, avoiding thereby ineffectiveness arising from difference in maturity between hedged item and hedging instrument or changes in exposure amounts.

3.2.2 Transactional risk

The Group faces transactional price risks on metals. The majority of its metal-based transactions use third party metal market references, such as the London Metal Exchange. If the underlying metal price were to be constant, the price Umicore pays for the metal contained in the raw materials purchased would be passed through to the customer as part of the price charged for the product. However, because of the lapse of time between the conversion of purchased raw materials into products and the sale of products, the volatility in the reference metal price creates differences between the price paid for the contained metal and the price received.

Accordingly, there is a transactional exposure to any fluctuations in price between the moment raw materials are purchased (i.e., when the metal is "priced in") and the moment the products are sold (i.e. when the metal is "priced out").

The Group's policy is to hedge the transactional risk to the maximum extent possible, primarily through forward contracts.

In relation to the transactional risk, the Group assesses the hedge effectiveness through a critical terms match between the hedged item (balance sheet items and commitments) and the hedging instrument amongst others amount and maturity. The Group hedges transactional risks to the maximum extent up to 100 %. Any ineffectiveness of such hedges can arise from difference in maturity between hedged item and hedging instrument or changes in exposure amounts, but this is not expected to be material.

The accelerating growth in battery materials in recent years substantially increased the exposure to specific related metals such as cobalt, lithium or nickel. Increasing volumes, the vulnerability to the associated price volatility and in the case of certain metals such as cobalt and lithium the absence of a liquid paper forward market result in increased metal risks. For cobalt and lithium, Umicore's transactional hedging policy aims to match to a maximum extent the pricing in and pricing out of the contracted metal. Such physical back-to-back hedging allows management of transactional risks related to cobalt and lithium in a volatile market.

The Group's economical transactional metal hedging policy prescribes that mark-to-market valuation principles are initially applied on all elements of the transactional hedging position, hedging instruments as well as hedged items. Where possible this happens under IFRS 9 hedge accounting criteria. When IFRS 9 hedge accounting cannot be applied or obtained, Umicore reverses positive mark-to-markets (see note F2.22.1 – Transactional risks – fair value hedging).

3.2.3 Metal inventory risk

The Group faces metal price risks on its permanently tied up metal inventories. This risk is related to the market metal price moving below the carrying value of these inventories.

Umicore tends not to hedge against this risk.

3.3 Interest rate risk

Interest rate risks arise from changes in prevailing market interest rates, which can lead to changes in the fair value of fixed-rate debt instruments and in changes in interest payments for variable-rate debt instruments. This risk is managed by regularly assessing the debt profile of the Group and by entering into interest rate swaps. At the end of December 2022, the Group's gross financial debt stood at € 2,343 million, of which 1,633 million carrying a fixed interest rate.

The outstanding interest rate swaps totaled € 40 million and will expire in 2023.

New US private placements were issued in November 2022 (but only drawn in January 2023) for a total of € 232 million and USD 363 million, with the part in USD hedged to EUR with cross-currency swaps.

3.4 Credit risk

Credit risk and concentration of credit risk

Credit risk is the risk of non-payment by any counterparty in relation to sales of goods or metal lease operations. In order to manage its credit exposure, Umicore has determined a credit policy with credit limit requests, approval procedures, continuous monitoring of the credit exposure and dunning procedure in case of delays. The credit risk resulting from sales is, to a certain extent, covered by credit insurance, letters of credit or similar secure payment means. Umicore entered into several credit insurance agreements with different insurers. One global credit insurance contract has been put in place on a world-wide basis. This contract protects the insured activities against insolvency, political and commercial risks with an individual deductible per invoice of 5% and foresees an indemnification cap set at regional or country levels. Umicore has determined that in a certain number of cases where the cost of credit insurance is disproportionate in relation to the risk to be insured, no such global credit insurance coverage will be sought. For those businesses, characterized by a significant level of customer concentration or by a specific and close relationship with the customers, specific insurance contracts may be set up for a certain period. It should be noted that some sizeable transactions, such as the sales of precious metals by Recycling, have a limited credit risk as payment before delivery is a widely accepted practice. Umicore may further limit selected credit risks by entering into without recourse receivables discounting arrangements or particularly in China by without recourse bank draft discounting. Regarding its risk exposure to financial institutions such as banks and brokers, Umicore is also establishing internal credit lines. Specific limits are set, per financial instrument, covering the various risks to which the Group is exposed when transacting with such counterparties. In accordance with IFRS 9, impairments for expected credit losses on receivables are measured and recognized, applying a simplified approach.

3.5 Liquidity risk

Liquidity risk relates to the ability to service and refinance debt (including notes issued) and to fund operations. The Group manages liquidity risk by maintaining adequate sources of funding, by ensuring a very wide diversification of such funding sources (in terms of instruments, lending banks and other institutions and in terms of geography), by matching as close as possible the maturity profiles of financial assets and liabilities and by staggering the maturities of financing sources. Sources of funding include a.o. operating cash flows, committed and uncommitted bank facilities including Chinese bank draft lines, metal lease lines, commercial paper issuance and long term private debt placements.

Please refer to note F20 and F24 for further details.

3.6 Tax risk

The tax charge included in the financial statements is the Group's best estimate of its tax liability but, until such time as audits by tax authorities are concluded, there is a degree of uncertainty regarding the final tax liability for the period. The Group's policy is to submit tax returns within the statutory time limits and engage tax authorities to ensure that the Group's tax affairs are as current as possible and that any differences in the interpretation of tax legislation and regulation are resolved as quickly as possible. Given the scale and the international nature of the Group's business, VAT, sales tax and intragroup transfer pricing are an inherent tax risk as it is for other international businesses. Changes in tax laws or in their application with respect to matters such as transfer pricing, VAT, foreign dividends, R&D tax credits and tax deductions, could increase the Group's effective tax rate and adversely affect its net results. Based on these tax risks described, management performed a detailed assessment for uncertain tax positions which resulted in provisions recorded for these uncertainties in line with IFRIC 23.

3.7 Capital risk management

The Group's objectives when managing capital are to safeguard its ability to continue as a going concern, to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may for example adjust the amount of dividends paid to shareholders, return capital to shareholders, buy back its own shares or issue new shares.

The Group monitors its capital structure primarily on the basis of the gearing ratio and the net financial debt over adjusted EBITDA ratio. The gearing ratio is calculated as net financial debt divided by the sum of net financial debt and total Group equity. Net financial debt is calculated as non-current financial debt plus current financial debt less cash and cash equivalents.

The figures for the presented periods are detailed under the note F24 on Financial Debt.

In an ordinary course of business operating environment, the group aims for a capital structure equivalent to investment-grade credit rating status. The group could consider temporarily exceeding the equivalent level of indebtedness in the case of an extraordinary event, such as for example a major acquisition.

3.8 Strategic and operational risks

Umicore faces certain strategic and operational risks that are not necessarily financial in nature but which have the potential to impact the financial performance of the Group. These include a.o. technology risks, supply risks, the risk of product substitution by customers, security of supply related risks (such as for selected critical metals), operational risks related to critical production installations, information system availability and cyber security risks, risks from legal disputes and proceedings, risks related to metal trading activities, asset impairment risks due to a change in the asset's underlying business context & outlook, etc. In some cases a direct link exists between financial and operational risks. For example, a potential continuity of supply risk for certain critical raw materials or metals due to sudden or extreme physical supply tightness could substantially enhance financial risks and in particular metal price-related risks. In the past, certain metals such as for example rhodium or cobalt showed high price volatility related to supply tightness considerations. Please refer to the chapter about Managing Risk Effectively for a description of some of these risks and an outline of Umicore's general approach to risk management.

F4 Critical accounting estimates and judgments

Estimates and judgments used in developing and applying the consolidated entity's financial statements are continually evaluated and are based on historical experience and other factors, including the expectations of future events that may have a financial impact on the entity and that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results.

Assumptions and estimates are applied when:

- Assessing the need for and measurement of impairment losses.
- Accounting for pension obligations.
- Recognizing and measuring provisions for tax, environmental, warranty and litigation risks, product returns, onerous contracts and restructuring.
- Determining inventory write-downs.
- Assessing the extent to which deferred tax assets will be realized.
- Useful lives of Property, Plant and Equipment and Intangible assets excluding goodwill.

The critical estimates and judgments that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are listed below.

4.1 Impairment testing

The Group performs an impairment test on the carrying value of its cash generating units whenever certain external or internal triggering events suggest a potential impairment risk for such unit. The Group performs annual impairment tests on the goodwill carried by its cash generating units. An impairment loss is recognized when the carrying value exceeds the recoverable amount in a structural way. The recoverable amount is the higher of the fair value less costs to sell and its value in use in accordance with the accounting policy. This value in use is calculated by discounting related future free cash flows (DCF model) to calculate their present value. These calculations require the use of and are sensitive to estimates and assumptions such as discount rates, exchange rates, commodity prices, future capital requirements and future operating performance. Internal estimates of future business performance are based on an analysis of a combination of factors including: market growth projections, market share estimates, competitive landscape, pricing and cost evolution. Such analysis combines both internally-generated estimates and data from external sources.

As at 31 December 2022, the carrying amount of the goodwill for the consolidated entity was € 158.4 million (€ 158.6 million in 2021). We refer to note F15 Goodwill for more details on the annual goodwill impairment testing.

4.2 Rehabilitation obligations

Provision is made for the anticipated costs of future rehabilitation of industrial sites and surrounding areas to the extent that a legal or constructive obligation exists in accordance with accounting policy 2.15. These provisions include future cost estimates associated with reclamation, plant closures, waste site closures, monitoring, demolition, decontamination, water purification and permanent storage of historical residues. These future cost estimates are discounted to their present value. The calculation of these

provision estimates requires assumptions such as application of environmental legislation, plant closure dates, available technologies and engineering cost estimates and specifically related to the Hoboken Green Zone, the purchase cost of houses. A change in any of the assumptions used may have a material impact on the carrying value of rehabilitation provisions. As at 31 December 2022, the carrying amount of rehabilitation provisions was € 108.3 million (€ 109.8 million in 2021). We refer to note F29 Environmental provisions for more details.

4.3 Defined benefit obligations

An asset or liability in respect of defined benefit plan is recognized on the balance sheet in accordance with accounting policy 2.17. The present value of a defined benefit obligation is dependent upon a number of factors that are determined on an actuarial basis.

The consolidated entity determines the appropriate discount rate to be used at the end of each year. The consolidated entity's employee benefit obligations are discussed in more detail in Note F27. At 31 December 2022, a liability with respect to employee benefit obligations of € 286.5 million was recognized (€ 387.2 million in 2021).

4.4 Recovery of deferred tax assets

Deferred tax assets are recognized for deductible temporary differences, unused tax losses and fair value reserves entries only if it is probable that future taxable profits (based on Group operational plans) are available to use those temporary differences and losses. The actual tax results in future periods may differ from the estimate made at the time the deferred taxes are recognized.

Other assumptions and estimates are disclosed in the respective notes relevant to the item where the assumptions or estimates were used for measurement.

4.5 Provisions for other liabilities and charges

The fast growth of Umicore's battery materials sales for transport applications in particular is increasing the Group's exposure to the automotive industry end market. This industry has a practice of applying warranty and recall settlements related to potential product quality events (irrespective of whether any legal obligation exists). In view thereof, Umicore continued in 2022 its dedicated provisioning model for battery materials as introduced in previous years.

Additional significant provisions for other liabilities and charges are related to onerous contracts. An onerous contract provision is recognised when the unavoidable cost of meeting the obligations under the contract exceed the economic benefits expected to be received under it.

As at 31 December 2022, the carrying amount of the provisions for other liabilities and charges amount to € 126.7 million (€ 89.4 million in 2021).

4.6 Provisions for uncertainty over income tax treatments

As mentioned under the note F2.20, Umicore makes a detail assessment of all tax uncertainties within the Group as per IFRIC 23. In the measurement of the uncertain tax positions, the Group has considered the statute of limitation taking into account the tax law and regulations that are applied in the correspondent country, resulting in a range of three to ten years. The resolution of the tax positions taken by the Group can take considerable period of time to conclude and, in some cases, it is difficult to predict the outcome. The estimates made reflect where the Group: is involved in routine tax audits; has identified potential tax exposures related to transfer pricing ; or is involved in discussions with tax authorities. The estimation of the tax liability and income tax expense includes the corresponding penalties and late payment interests. Most of the uncertain tax positions are measured using the expected value, consisting to the sum of the probability - weighted outcome of a range of potential outcomes, nevertheless the most likely amount has also been used in a limited number of uncertain tax positions. The large majority of the provision for uncertainty over tax treatments is related to various individual uncertainties whether the tax authority will accept a certain applied transfer pricing methodology or to various individual uncertainties related to the deductibility of an amount for tax purposes. Group provision for uncertainty over tax treatments at December 2022 amounting to € 108.9 million (2021 : € 101.1 million) results in an increase of those liabilities by € 7.8 million. This provision was booked under Income Tax Payable in the consolidated balance sheet. The movement of the year corresponds to remeasurement and roll-forward of existing uncertain tax positions; reversal of uncertain tax position based on mitigation actions taken and on the expiration of the statute of limitation; and the recognition of newly uncertain tax positions.

F5 Group companies

Below is a list of the main operating companies included in the consolidated financial statements

		% INTEREST IN 2021	% INTEREST IN 2022
For continuing operations			
Argentina	Umicore Argentina S.A.	100.00	**100.00**
Australia	Umicore Marketing Services Australia Pty Ltd.	100.00	**100.00**
Austria	Oegussa GmbH	100.00	**100.00**
Belgium	Todini (BE 0834.075.185)	100.00	**100.00**
-	Umicore Financial Services (BE 0428.179.081)	100.00	**100.00**
-	Umicore Marketing Services Belgium (BE 0402.964.625)	100.00	**100.00**
-	Umicore Specialty Materials Brugge (BE 0405.150.984)	100.00	**100.00**
-	Umicore Holding Belgium (BE 0731.571.921)	100.00	**100.00**
Brazil	Coimpa Industrial Ltda	100.00	**100.00**
-	Umicore Brasil Ltda	100.00	**100.00**
-	Clarex S.A.	100.00	**100.00**
-	Umicore Shokubai Brasil Industrial Ltda	60.00	**60.00**
-	Umicore Catalisadores Ltda.	100.00	**100.00**
Canada	Umicore Canada Inc.	100.00	**100.00**
-	Umicore Autocat Canada Corp.	100.00	**100.00**
-	Umicore Precious Metals Canada Inc.	100.00	**100.00**
-	Umicore Rechargeable Battery Materials Canada Inc	100.00	**100.00**
China	Umicore Marketing Services (Shanghai) Co., Ltd.	100.00	**100.00**
-	Umicore Marketing Services (Hong Kong) Ltd.	100.00	**100.00**
-	Umicore Autocat (China) Co. Ltd.	100.00	**100.00**
-	Umicore Changxin Surface Technology (Jiangmen) Co., Ltd.	80.00	**80.00**
-	Jiangmen Umicore Changxin New Materials Co., Ltd.	90.00	**90.00**
-	Umicore Shokubai (China) Co Ltd	60.00	**60.00**
-	Umicore Platinum Engineered Materials (Suzhou) Co., Ltd.	100.00	**100.00**
-	Umicore Catalyst (China) Co., Ltd.	100.00	**100.00**
Denmark	Umicore Denmark ApS	100.00	**100.00**
Finland	Umicore Finland OY	100.00	**100.00**
France	Umicore France S.A.S.	100.00	**100.00**
-	Umicore IR Glass S.A.S.	100.00	**100.00**
-	Umicore Autocat France S.A.S.	100.00	**100.00**
-	Umicore Specialty Powders France S.A.S.	100.00	**100.00**
-	Umicore Marketing Services France S.A.S.	100.00	**100.00**
-	Todini France S.A.S.	100.00	**100.00**
Germany	Umicore AG & Co. KG (*)	100.00	**100.00**
-	Agosi AG	100.00	**100.00**
-	Umicore Galvanotechnik GmbH	100.00	**100.00**
-	Todini Deutschland GmbH	100.00	**100.00**
-	Umicore Shokubai Germany GmbH	60.00	**60.00**
Italy	Todini and CO. S.P.A.	100.00	**100.00**
India	Umicore Autocat India Pvt LTD	100.00	**100.00**
-	Umicore India Private Limited	100.00	**100.00**
-	Todini Metals and Chemicals India Private Limited	70.00	**70.00**
Japan	Umicore Japan KK	100.00	**100.00**
-	Umicore Shokubai Japan Co Ltd	60.00	**60.00**
South Korea	Umicore Korea Ltd.	100.00	**100.00**
-	Umicore Marketing Services Korea Co., Ltd.	100.00	**100.00**
-	Umicore Catalysis Korea LLC	100.00	**100.00**
Liechtenstein	Umicore Thin Film Products AG	100.00	**100.00**
Luxemburg	Umicore International	100.00	**100.00**
-	Umicore Autocat Luxembourg	100.00	**100.00**
-	Umicore Shokubai	60.00	**60.00**
Mexico	Todini Atlántica S.A. de C.V.	70.00	**70.00**
Netherlands	Schöne Edelmetaal BV	100.00	**100.00**
Philippines	Umicore Specialty Chemicals Subic Inc.	78.20	**78.20**
Poland	Umicore Autocat Poland sp. z o.o.	100.00	**100.00**

		% INTEREST IN 2021	% INTEREST IN 2022
-	Todini Europe sp. z o.o.	70.00	**70.00**
-	Umicore Poland Sp. z o.o.	100.00	**100.00**
Portugal	Umicore Marketing Services Lusitana Metais Lda	100.00	**100.00**
South Africa	Umicore Marketing Services Africa (Pty) Ltd.	100.00	**100.00**
-	Umicore Catalyst South Africa (Pty) Ltd.	65.00	**65.00**
Spain	Todini Quimica Ibérica, S.L.	100.00	**100.00**
Sweden	Umicore Autocat Sweden AB	100.00	**100.00**
Switzerland	Allgemeine Suisse SA	100.00	**100.00**
Taiwan	Umicore Thin Film Products Taiwan Co Ltd	100.00	**100.00**
Thailand	Umicore Precious Metals Thailand Ltd.	100.00	**100.00**
-	Umicore Autocat (Thailand) Co., Ltd.	100.00	**100.00**
-	Umicore Shokubai (Thailand) Co., Ltd.	60.00	**60.00**
United Kingdom	Umicore Coating Services Ltd.	100.00	**100.00**
-	Umicore Marketing Services UK Ltd	100.00	**100.00**
USA	Umicore USA Inc.	100.00	**100.00**
-	Umicore Autocat USA Inc.	100.00	**100.00**
-	Umicore Precious Metals NJ LLC	100.00	**100.00**
-	Umicore Precious Metal Chemistry USA LLC	100.00	**100.00**
-	Umicore Precious Metals USA Inc.	100.00	**100.00**
-	Umicore Optical Materials USA Inc.	100.00	**100.00**
-	Umicore Shokubai USA Inc	60.00	**60.00**
-	Palm Commodities International	100.00	**100.00**
-	Umicore Electrical Materials USA Inc.	100.00	**100.00**
-	Umicore Catalyst USA, LLC	100.00	**100.00**

(*) Umicore AG & Co. KG, with its registered office in Hanau, Germany, is exempt from its obligation to prepare, audit and publish annual and consolidated financial statements and a management and group management report in accordance with sections 264b and 291 of the German Commercial Code (HGB).

F6 Foreign currency measurement

For the main currencies applicable within the Group's consolidated entities and investments, the prevailing rates used for translation into the Group's presentation currency (EUR), are as set out below. All subsidiaries, associates and joint-ventures have as functional currency the currency of the country in which they operate, except for Element Six Abrasives (United Kingdom) where the functional currency is the US dollar (USD).

		CLOSING RATES		AVERAGE RATES	
		2021	2022	2021	2022
American Dollar	USD	1.133	**1.067**	1.183	**1.053**
Indian Rupee	INR	84.229	**88.171**	87.439	**82.686**
Canadian Dollar	CAD	1.439	**1.444**	1.483	**1.369**
Hong Kong Dollar	HKD	8.833	**8.316**	9.193	**8.245**
Japanese Yen	JPY	130.380	**140.660**	129.877	**138.027**
Brazilian Real	BRL	6.320	**5.565**	6.381	**5.439**
South African Rand	ZAR	18.063	**18.099**	17.477	**17.209**
Chinese Yuan	CNY	7.195	**7.358**	7.628	**7.079**
Thai Baht	THB	37.653	**36.835**	37.837	**36.856**
Korean Won (100)	KRW	13.464	**13.441**	13.541	**13.581**
Polish Zloty	PLN	4.597	**4.681**	4.565	**4.686**

F7 Segment information

BUSINESS GROUP INFORMATION 2021

Thousands of Euros	Notes	Catalysis	Energy & Surface Technologies	Recycling	Corporate & Unallocated	Eliminations	Total Continued
Total segment turnover		**8,154,850**	**3,533,830**	**15,609,350**	**34,849**	**(3,278,440)**	**24,054,439**
External turnover		7,989,680	3,478,360	12,551,550	34,849	-	**24,054,439**
Inter-segment turnover		165,170	55,470	3,057,800	-	(3,278,440)	**-**
Total segment revenues (excluding metals) (*)		**1,687,430**	**1,001,155**	**1,108,140**	**-**	**(5,920)**	**3,790,805**
External revenues (*)		1,685,690	1,000,915	1,104,200	-	-	**3,790,805**
Inter-segment revenues		1,740	240	3,940	-	(5,920)	**-**
Result from operating activities	**F9**	**307,811**	**132,841**	**528,640**	**(90,355)**	**-**	**878,938**
Adjusted		326,365	131,522	572,927	(79,981)	-	**950,833**
Adjustments		(18,554)	1,319	(44,287)	(10,374)	-	**(71,896)**
Share in result of companies accounted for using the equity method	**F9**	**-**	**7,659**	**-**	**9,688**	**-**	**17,347**
Adjusted		-	7,659	-	12,884	-	**20,543**
Adjustments		-	-	-	(3,197)	-	**(3,197)**
EBIT	**F9**	**307,811**	**140,500**	**528,640**	**(80,668)**	**-**	**896,284**
Adjusted		326,365	139,181	572,927	(67,097)	-	**971,377**
Adjustments		(18,554)	1,319	(44,287)	(13,571)	-	**(75,092)**
Depreciation and amortisation	**F9**	**75,180**	**122,613**	**66,921**	**14,811**	**-**	**279,526**
Adjusted		75,229	122,613	66,921	14,811	-	**279,576**
EBITDA	**F9**	**382,991**	**263,114**	**595,562**	**(65,856)**	**-**	**1,175,810**
Adjusted		401,595	261,795	639,848	(52,286)	-	**1,250,952**
Consolidated total assets		**3,356,473**	**4,364,500**	**1,426,498**	**1,825,075**	**(1,927,305)**	**9,045,241**
Segment assets		3,356,473	4,316,864	1,426,498	1,717,571	(1,927,305)	**8,890,101**
Investments accounted for using the equity method		-	47,636	-	107,504	-	**155,140**
Consolidated total liabilities		**1,858,320**	**2,075,177**	**973,614**	**2,898,161**	**(1,927,305)**	**5,877,967**
Capital Employed at 31/12 of previous year		1,727,443	2,133,138	446,861	149,138	-	**4,456,580**
Capital Employed at 30/06		1,846,061	2,191,046	236,829	77,507	-	**4,351,443**
Capital Employed at 31/12	F31	1,551,494	2,275,465	460,723	89,213	-	**4,376,895**
Average Capital Employed in first half year	F31	1,786,752	2,162,092	341,845	113,323	-	**4,404,011**
Average Capital Employed in second half year	F31	1,698,778	2,233,255	348,776	83,360	-	**4,364,169**
Average Capital Employed for the period	**F31**	**1,742,765**	**2,197,674**	**345,310**	**98,341**	**-**	**4,384,090**
ROCE	F31	18.73%	6.33%	165.92%	-68.23%	0.00%	**22.16%**
Capital expenditure	**F34**	**70,052**	**218,674**	**83,097**	**16,774**	**-**	**388,596**
Total R&D expenditure	**F9**	**141,592**	**63,518**	**13,164**	**26,939**	**-**	**245,213**
R&D recognized in operating expenses	F9	132,726	49,903	13,164	21,590	-	**217,383**
R&D capitalized as intangible assets	F34	8,867	13,614	-	5,349	-	**27,830**

(*) Revenues of 2021 and 2022 have been restated to exclude the pass-through value of the purchased lithium and manganese

BUSINESS GROUP INFORMATION 2022

Thousands of Euros	Notes	Catalysis	Energy & Surface Technologies	Recycling	Corporate & Unallocated	Eliminations	Total Continued
Total segment turnover		**7,737,980**	**4,974,110**	**15,337,950**	**44,233**	**(2,658,750)**	**25,435,523**
External turnover		7,570,330	4,957,480	12,863,480	44,233	-	**25,435,523**
Inter-segment turnover		167,650	16,630	2,474,470	-	(2,658,750)	**-**
Total segment revenues (excluding metals) (*)		**1,776,470**	**1,277,547**	**1,106,600**	**-**	**(5,420)**	**4,155,197**
External revenues (*)		1,775,140	1,277,397	1,102,660	-	-	**4,155,197**
Inter-segment revenues		1,330	150	3,940	-	(5,420)	**-**
Result from operating activities	**F9**	**330,609**	**163,597**	**462,711**	**(138,250)**	**-**	**818,667**
Adjusted		341,850	161,500	462,854	(117,769)	-	**848,435**
Adjustments		(11,241)	2,096	(143)	(20,481)	-	**(29,768)**
Share in result of companies accounted for using the equity method	**F9**	**-**	**4,929**	**-**	**8,545**	**-**	**13,473**
Adjusted		-	4,929	-	11,275	-	**16,204**
Adjustments		-	-	-	(2,731)	-	**(2,731)**
EBIT	**F9**	**330,609**	**168,525**	**462,711**	**(129,705)**	**-**	**832,140**
Adjusted		341,850	166,429	462,854	(106,495)	-	**864,639**
Adjustments		(11,241)	2,096	(143)	(23,212)	-	**(32,499)**
Depreciation and amortisation	**F9**	**76,952**	**123,778**	**69,300**	**15,877**	**-**	**285,907**
Adjusted		76,952	123,778	69,300	15,877	-	**285,907**
EBITDA	**F9**	**407,561**	**292,303**	**532,011**	**(113,828)**	**-**	**1,118,047**
Adjusted		418,802	290,207	532,154	(90,618)	-	**1,150,545**
Consolidated total assets		**2,934,242**	**5,431,475**	**1,389,803**	**1,895,611**	**(1,708,759)**	**9,942,372**
Segment assets		2,934,242	5,380,156	1,389,803	1,787,987	(1,708,759)	**9,783,429**
Investments accounted for using the equity method		-	51,319	-	107,624	-	**158,943**
Consolidated total liabilities		**1,423,712**	**2,670,793**	**1,040,149**	**2,950,427**	**(1,708,759)**	**6,376,322**
Capital Employed at 31/12 of previous year	F31	1,551,494	2,275,465	460,723	89,213	-	**4,376,895**
Capital Employed at 30/06	F31	1,486,142	2,483,699	425,709	79,205	-	**4,474,755**
Capital Employed at 31/12	F31	1,563,571	2,750,911	346,513	55,001	-	**4,715,996**
Average Capital Employed in first half year	F31	1,518,818	2,379,582	443,216	84,209	-	**4,425,825**
Average Capital Employed in second half year	F31	1,524,856	2,617,305	386,111	67,103	-	**4,595,375**
Average Capital Employed for the period	**F31**	**1,521,837**	**2,498,444**	**414,664**	**75,656**	**-**	**4,510,600**
ROCE	F31	22.46%	6.66%	111.62%	-140.76%	0.00%	**19.17%**
Capital expenditure	**F34**	**67,358**	**295,709**	**81,332**	**25,479**	**-**	**469,878**
Total R&D expenditure	**F9**	**139,088**	**106,519**	**23,837**	**46,422**	**-**	**315,866**
R&D recognized in operating expenses	F9	133,030	91,513	23,503	46,407	-	**294,453**
R&D capitalized as intangible assets	F34	6,058	15,005	334	15	-	**21,412**

(*) Revenues of 2021 and 2022 have been restated to exclude the pass-through value of the purchased lithium and manganese

Segment information is presented in respect of the Group's business segments as defined below.

The segment results, assets and liabilities include items directly attributable to the segment as well as those elements that can reasonably be allocated to a segment.

The pricing of inter-segment sales is based on an arm's length transfer pricing system. In the absence of relevant market price references, 'cost plus' mechanisms are used. Segment turnover and revenue (without metals) is taking into account intragroup operations. Those are mainly related to recycling services and sales of refined metal from the recycling segment to the other group segments and are important to assess the performance of the segments concerned.

Since these transactions cannot be considered as external operations, they are eliminated at the Group level, to present a net position. Eliminations of total assets and total liabilities represent the intra-segment eliminations as well as the inter-segment eliminations.

The Group's business segments have no single external customer that amounts to 10 per cent or more of the Group's revenue.

Umicore determined segments as the accurate level of detail to split the product sales since the underlying business, competences and technologies, application and product characteristics and customer portfolio within each individual segment are similar. Moreover, obtaining information at a more disaggregated level would result in excessive costs and efforts compared to the added value for an external reader of the consolidated financial statements.

GEOGRAPHICAL INFORMATION 2021

Thousands of Euros	Notes	Europe	of which Belgium	Asia-Pacific	North America	South America	Africa	Total
Total segment turnover		12,676,355	213,003	6,422,284	3,761,205	1,010,605	183,991	**24,054,439**
Total non current assets		1,487,101	592,688	1,200,470	122,993	51,229	4,283	**2,866,076**
Capital expenditure	F34	253,053	102,104	108,851	16,984	9,213	496	**388,596**
Employee compensation & benefits		613,163	329,680	138,417	71,916	21,497	8,147	**853,140**
Income taxes		88,603	42,066	40,374	17,440	28,557	4,070	**179,044**

GEOGRAPHICAL INFORMATION 2022

Thousands of Euros	Notes	Europe	of which Belgium	Asia-Pacific	North America	South America	Africa	Total
Total segment turnover		13,050,441	158,623	6,399,746	4,618,198	1,151,961	215,177	**25,435,523**
Total non current assets		1,656,524	618,814	1,189,977	128,273	70,002	3,760	**3,048,536**
Capital expenditure	F34	325,307	100,929	109,657	14,588	19,756	570	**469,878**
Employee compensation & benefits		637,061	347,680	152,030	81,087	28,786	7,542	**906,507**
Income taxes		69,068	6,674	5,630	30,972	26,463	5,467	**137,600**

Total non current assets by region does not include deferred tax assets, loans granted, investments accounted for using the equity method and assets related to employee benefits.

BUSINESS GROUPS

The Group is organized into the following reporting segments:

CATALYSIS

The segment includes the Automotive Catalysts, Precious Metals Chemistry and Fuel Cell & Stationary Catalysts business units. Catalysis provides automotive catalysts for gasoline and diesel light and heavy-duty diesel applications, including on-road and non-on road vehicles. The business group also offers stationary catalysis for industrial emissions control and produces precious metals-based compounds and catalysts for use in fuel cell applications and in the pharmaceutical and fine chemicals industries.

ENERGY & SURFACE TECHNOLOGIES

The segment includes the Cobalt & Specialty Materials, Electro-Optic Materials, Metal Deposition Solutions and Rechargeable Battery Materials business units. Energy & Surface Technologies' products are found in applications used in the production and storage of clean energy and in a range of applications for surface technologies that bring specific properties and functionalities to end products. All the activities offer a closed loop service for the customers. This segment includes the associates Ganzhou Yi Hao Umicore Industries and Jiangmen Chancsun Umicore Industry.

RECYCLING

The segment consists of the business units Precious Metals Refining, Jewelry & Industrial Metals, Precious Metals Management and Battery Recycling Solutions. Recycling treats complex waste streams containing precious and other specialty metals. The recycling operations can recover 20 of these metals from a wide range of input materials ranging from industrial residues to end-of-life materials.

Other activities include production of precious metals-based materials that are essential for applications as diverse as high-tech glass production, electrics and electronics.

CORPORATE

Corporate covers corporate activities, shared operational functions and the Group's Research, Development & Innovation unit. Umicore's shareholdings in Element Six Abrasives and Ieqsa are also included in Corporate.

In the geographical segment information, the figures presented as non-current assets exclude the amounts for long term investments, non-current loans granted, deferred tax assets and assets for employee benefits as required by IFRS 8. Performance of the segments is reviewed by the chief operating decision maker based on the adjusted EBIT/ result from operating activities. As illustrated in the table above, the difference between the adjusted result from operating activities and the result of operating activities as presented in the Consolidated income statement consists of the adjustments for which definitions are given in the glossary.

Associate companies are allocated to the business group with the closest fit from a market segment perspective.

F8 Business combinations and acquisitions of associates and joint ventures

There were no business combinations during the year 2022.

F9 Result from operating activities

Thousands of Euros	2021	2022
Sales	23,901,842	**25,266,272**
Services	152,597	**169,251**
Turnover	**24,054,439**	**25,435,523**
Re-invoicing of costs to third parties	61,307	**123,929**
Operating grants	26,031	**20,275**
Royalties and license fees	11,264	**13,827**
Emission rights income	8,945	**16,040**
Insurance recovery	18,406	**8,871**
Various interests and penalties for late payments	880	**761**
Gains on disposals of assets	1,057	**3,201**
Translation difference on intra-group eliminations	(1,361)	**(11,389)**
Tax incentives	5,294	**3,707**
Tax credits	39,779	**2,329**
Other	5,318	**3,001**
Other operating income	**176,919**	**184,552**
OPERATING INCOME OF CONTINUING OPERATIONS	**24,231,358**	**25,620,075**
Raw materials and consumables	**(21,644,346)**	**(22,875,549)**
Payroll and related benefits	**(853,140)**	**(906,507)**
Depreciation and amortisation	(279,526)	**(285,907)**
Impairment loss	(48,504)	**(24,931)**
Write-down on inventory and impairment of financial assets	(10,747)	**(17,544)**
Depreciation and impairments	**(338,777)**	**(328,382)**
Services and outsourced refining and production costs	(422,798)	**(547,584)**
Royalties, licence fees, consulting and commissions	(57,820)	**(81,667)**
Taxes other than income taxes	(22,960)	**(29,748)**
Provisions (increase/use and reversal)	(13,477)	**(35,944)**
Losses on disposal of assets	(258)	**(1,678)**
Other operating expenses	**(517,313)**	**(696,621)**
OPERATING EXPENSES OF CONTINUING OPERATIONS	**(23,353,576)**	**(24,807,059)**

Turnover refers to turnover from customers as per IFRS 15. The further disaggregation is detailed in note F7. As described in the accounting policy 2.21, the revenue from contracts with customers are mainly

recognized at a point in time. The increase in turnover in 2022 is mainly related to the increase of metal prices and to a volume effect.

Services mainly include the revenues from tolling contracts.

Tax credits mainly concerns the tax credits in Brazil resulting from a landmark ruling by the Brazilian Supreme Court in May 2021 covering multiple years.

The increase in raw materials and consumables used is mainly related to the increase of metal prices and a volume effect. Raw materials and consumables include primarily the value of the purchased metals. Utilities (water, gas and electricity) represent for € 250.8 million in 2022 (€ 144.2 million in 2021).

The impairment losses have decreased compared to 2021. In 2022, those impairments are mainly related to the restructuring of the stationary catalyst business in Denmark and to a lesser extent to impairments of capitalized development costs.

The line provisions contains the movements in the environmental provisions and in the provisions for other liabilities and charges which are detailed in the notes F29 and F30.

R&D EXPENDITURE

Thousands of Euros	Notes	2021	2022
R&D recognized in other operating expenses		217,383	**294,453**
R&D capitalized as intangible assets	F14	27,830	**21,412**
TOTAL R&D EXPENDITURE FOR CONTINUING OPERATIONS		**245,213**	**315,866**

Total R&D expenditure was € 315.9 million in the fully consolidated companies in 2022 (€ 245.2 million in 2021). The part of the R&D expenditures that is directly recognized in operating expenses amounts to € 294.4 million in 2022 (€ 217.4 million in 2021).

ADJUSTMENTS INCLUDED IN THE RESULT

			2021			2022		
Thousands of Euros	Notes		Total	Adjusted	Adjustments	Total	Adjusted	Adjustments
Turnover		a	24,054,439	24,054,439	-	**25,435,523**	**25,435,523**	**-**
Other operating income		b	176,919	137,133	39,786	**184,552**	**181,849**	**2,703**
Operating income		**c=a+b**	**24,231,358**	**24,191,572**	**39,786**	**25,620,075**	**25,617,372**	**2,703**
Raw materials and consumables		d	(21,644,346)	(21,644,346)	-	**(22,875,549)**	**(22,875,549)**	**-**
Payroll and related benefits		e	(853,140)	(852,147)	(993)	**(906,507)**	**(906,393)**	**(114)**
Depreciation and impairments		f	(338,777)	(298,187)	(40,590)	**(328,382)**	**(316,156)**	**(12,227)**
of which depreciation and amortisation		g	(279,526)	(279,576)	50	**(285,907)**	**(285,907)**	**-**
Other operating expenses		h	(517,313)	(446,256)	(71,057)	**(696,621)**	**(670,141)**	**(26,480)**
Operating expenses		**i=d+e+f+h**	**(23,353,576)**	**(23,240,935)**	**(112,641)**	**(24,807,060)**	**(24,768,239)**	**(38,821)**
Income (loss) from other financial assets		j	1,156	196	959	**5,652**	**(697)**	**6,349**
Result from operating activities		**k=c+i+j**	**878,938**	**950,833**	**(71,896)**	**818,667**	**848,435**	**(29,768)**
Share in result of companies accounted for using the equity method		l	17,347	20,543	(3,197)	**13,473**	**16,204**	**(2,731)**
EBIT		**m=k+l**	**896,284**	**971,377**	**(75,092)**	**832,140**	**864,639**	**(32,499)**
EBITDA		**n=m-g**	**1,175,810**	**1,250,952**	**(75,142)**	**1,118,047**	**1,150,546**	**(32,499)**
Net financial result	F11	o	(90,292)	(99,586)	9,294	**(122,139)**	**(124,792)**	**2,653**
Income taxes	F13	p	(179,044)	(196,309)	17,266	**(137,600)**	**(144,933)**	**7,333**
Profit (loss) of the period		**q=m+o+p**	**626,949**	**675,482**	**(48,533)**	**572,401**	**594,914**	**(22,513)**
of which minority share		r	7,990	7,990	-	**2,523**	**1,855**	**668**
of which Group share		s=q-r	618,959	667,492	(48,533)	**569,878**	**593,059**	**(23,181)**
Effective tax rate		t=p/(k+o)	23%	23%	28%	**20%**	**20%**	**27%**

ADJUSTMENTS PER SEGMENT AND NATURE INCLUDED IN THE RESULT

	2021					2022				
Thousands of Euros	**Total**	**Catalysis**	**Energy & Surface Technologies**	**Recycling**	**Corporate & Unallocated**	**Total**	**Catalysis**	**Energy & Surface Technologies**	**Recycling**	**Corporate & Unallocated**
Other operating income	**39,786**	30,312	1,877	7,597	-	**2,703**	**2,389**	**4**	**214**	**97**
Operating income	**39,786**	**30,312**	**1,877**	**7,597**	**-**	**2,703**	**2,389**	**4**	**214**	**97**
Payroll and related benefits	**(993)**	(993)	-	-	-	**(114)**	**(114)**	**-**	**-**	**-**
Depreciation and impairments	**(40,590)**	(40,406)	-	(185)	-	**(12,227)**	**(12,157)**	**-**	**(69)**	**-**
Other operating expenses	**(71,057)**	(7,467)	(1,522)	(51,699)	(10,370)	**(26,480)**	**(1,359)**	**2,093**	**(287)**	**(26,927)**
Operating expenses	**(112,641)**	**(48,866)**	**(1,522)**	**(51,883)**	**(10,370)**	**(38,821)**	**(13,630)**	**2,093**	**(357)**	**(26,927)**
Income (loss) from other financial assets	**959**	-	964	-	(4)	**6,349**	**-**	**-**	**-**	**6,349**
Result from operating activities	**(71,896)**	**(18,554)**	**1,319**	**(44,287)**	**(10,374)**	**(29,768)**	**(11,241)**	**2,096**	**(143)**	**(20,481)**
Share in result of companies accounted for using the equity method	**(3,197)**	-	-	-	(3,197)	**(2,731)**	**-**	**-**	**-**	**(2,731)**
EBIT	**(75,092)**	**(18,554)**	**1,319**	**(44,287)**	**(13,571)**	**(32,499)**	**(11,241)**	**2,096**	**(143)**	**(23,212)**
Related to restructuring	**(33,879)**	(31,281)	41	110	(2,749)	**(1,862)**	**(2,884)**	**3,093**	**(64)**	**(2,006)**
Related to environment	**(58,251)**	-	-	(48,836)	(9,415)	**(26,500)**	**-**	**(1,000)**	**508**	**(26,008)**
Related to asset impairments	**(17,857)**	(17,585)	-	-	(272)	**(12,255)**	**(11,949)**	**-**	**-**	**(306)**
Other	**34,895**	30,312	1,278	4,439	(1,134)	**8,118**	**3,593**	**4**	**(587)**	**5,108**

Adjustments had a negative impact of € 32 million on EBIT of which € 20 million was already accounted for in the first half. These adjustments were mainly related to the increase of some environmental provisions linked to legacy remediation initiatives and include € 12 million of restructuring charges in the stationary catalyst business in Denmark.

Including positive adjustments to financial and tax items of respectively € 3 million and € 7 million, the total adjustments to the profit of the period corresponded to negative impact of € 23 million.

F10 Payroll and related benefits

Thousands of Euros	2021	2022
Wages, salaries and direct social advantages	(640,870)	**(681,056)**
Other charges for personnel	(28,834)	**(42,349)**
Temporary staff	(10,189)	**(10,357)**
Share-based payments	(14,255)	**(11,824)**
Employee salaries	**(694,148)**	**(745,586)**
Employer's social security	**(108,765)**	**(119,003)**
Defined benefit contributions	(20,581)	**(34,179)**
Contribution to defined contribution plans	(16,893)	**(17,443)**
Employer's voluntary contributions (other)	(3,064)	**(3,406)**
Pensions paid directly to beneficiaries	(3,628)	**(4,733)**
Provisions for employee benefits (-increase / + use and reversal)	(6,063)	**17,842**
Pensions and other benefits	**(50,229)**	**(41,919)**
PAYROLL AND RELATED BENEFITS OF CONTINUING OPERATIONS	**(853,140)**	**(906,507)**

The defined contribution plans of the Group in some countries like the USA, Canada, South Africa and Germany are directly recognized in the Consolidated income statement under the line "Contribution to defined contribution plans".

The cash discounts that the authorities give back to Umicore Belgium on the social security contributions, relating to incentives regarding a.o. shift premiums, overtime and R&D are disclosed under the item "Employer's social security".

AVERAGE HEADCOUNT IN CONSOLIDATED COMPANIES

	2021	2022
Executives and managerial staff	2,045	**2,156**
Non managers	8,910	**9,151**
Total for continuing operations	10,955	**11,307**

SHARE-BASED PAYMENTS

Thousands of Euros	Notes	2021	2022
Date of grant		11/02/2021	**16/02/2022**
Share price at the date of grant (Belgium & Other)	F28	47.47	**33.86**
Number of stock options granted	F28	1,108,500	**1,289,064**
Valuation model		Present Economic Value	
Assumed volatility (% pa)		27.50	**27.50**
Risk-free interest rate (% pa)		(0.710)	**0.110**
Dividend increase (% pa)		10.00	**10.00**
Rate of pre-vesting forfeiture (%pa)		NA	**NA**
Rate of post-vesting leaving (%pa)		5.00	**2.00**
Minimum gain threshold (% pa)		15.00	**15.00**
Proportion who exercise given minimum gain achieved (% pa)		100.00	**100.00**
Fair value per granted instrument determined at the grant date (EUR)		8.56	**6.43**
Total fair value of options granted		**9,489**	**8,289**
10.000 shares granted at 49,72 EUR		497	**-**
52.000 shares granted at 47,08 EUR		2,448	**-**
48.500 shares granted at 37,55 EUR		1,821	**-**
49.811 shares granted at 33,22 EUR		-	**1,655**
43.459 shares granted at 34,23 EUR		-	**1,488**
10.000 shares granted at 38,22 EUR		-	**382**
334 shares granted at 31,75 EUR		-	**11**
Total fair value of shares granted		**4,767**	**3,535**
SHARE-BASED PAYMENTS		**14,255**	**11,824**

The Group recognized a share-based payment expense of € 11.8 million during the year.

The part of this expense related to stock options is calculated by an external actuary using the Present Economic Value model which takes into account all features of the stock option plans and the volatility of the underlying stock. This volatility has been determined using the historical volatility of the Group shareholders' return over different averaging periods and different terms. For the calculation of the option value based on the lattice model, weekly steps were introduced, therefore focusing on a weekly term of volatility. The retained volatility assumption was set at 27.5% to reflect the increase of observed volatility. No other market condition has been included in the basis of calculation of fair market value.

The free share part of the expense is valued at the market price of the shares at the grant date. In 2022, shares have been granted mainly to senior management resulting in an expense of € 3.5 million.

F11 Net financial result

Thousands of Euros	2021	2022
Interest income	12,962	**7,095**
Interest expenses	(64,460)	**(81,396)**
Discounting of non-current provisions	(3,046)	**(6,047)**
Foreign exchange gains and losses	(23,480)	**(27,698)**
Other financial income	942	**184**
Other financial expenses	(13,210)	**(14,277)**
TOTAL OF CONTINUING OPERATIONS	**(90,292)**	**(122,139)**

All interest income and expenses are recognized using the effective interest rate method.

The 2022 interest income reached € 7.1 million benefiting from the € 2.7 million impact related to the interests on the tax credit in Brazil (9.3 million in 2021), resulting from a landmark ruling by the Brazilian Supreme Court in May 2021 and covering multiple years. Those related interests have been taken in adjustments (see note F9). The interest expenses amounted to € 81.4 million. Those expenses included € 10.2 million of interest expenses (theoretical phantom interests) on the debt component of the convertible debt (€ 10.0 million in 2021) and € 1.1 million of interests related to leases as per IFRS 16. The increase of the year mainly comes from interest expenses on other short term loans.

The discounting of non-current provisions relates mainly to employee benefits provisions and to a lesser extent to environmental provisions. This amount is influenced by the present value of these liabilities, which in turn is influenced by changes in the discount rate, by the cash-out profile and by the recognition of new non-current liabilities. Most of the discounting results in 2022 were booked in Germany and to a lesser extent in Belgium.

Foreign exchange results, mainly explained by the cost of forward points in hedging instruments, include realized exchange results and the unrealized translation adjustments on monetary items using the closing rate of the period. They also include fair value gains and losses on other currency financial instruments (see Note F33).

Other financial expenses include payment discounts, bank expenses and other financial fees incurred.

F12 Income from other financial investments

Thousands of Euros	2021	2022
Capital gains and losses on disposal of financial investments	946	**6,210**
Dividend income	210	**251**
Interest income from financial assets	-	**3**
Impairment results on financial investments	-	**(811)**
TOTAL FOR CONTINUING OPERATIONS	**1,156**	**5,652**

Capital gain and losses on disposal of financial investments includes € 6.2 million of profit linked to the disposal of Umicore's Zinc Chemicals activities which occurred in 2016 and for which Umicore was contractually entitled to some earn-out that materialised in 2022.

F13 Income taxes

Thousands of Euros	2021	2022
Income tax expense		
Recognized in the income statement		
Current income tax	(201,870)	**(244,991)**
Deferred income tax	22,826	**107,391**
Total tax expense for continuing operations	**(179,044)**	**(137,600)**
RELATIONSHIP BETWEEN TAX EXPENSE (INCOME) AND ACCOUNTING PROFIT		
Result from operating activities	878,938	**818,667**
Financial result	(90,292)	**(122,139)**
Profit (loss) before income tax of consolidated companies	**788,646**	**696,528**
Weighted average theoretical tax rate (%)	24.77	**27.62**
Income tax calculated at the weighted average theoretical tax rate for continuing operations	**(195,312)**	(192,362)
Tax effect of :		
Expenses not deductible for tax purposes	(7,395)	**(6,056)**
Tax-exempted revenues	303	**4,497**
Dividends from consolidates companies & Associates	(66)	**(18)**
Gains & Losses taxed at a reduced rate	36	**592**
Tax incentives and tax holidays	26,903	**49,890**
Tax computed on other basis	563	**(3,868)**
Utilisation of previously unrecognized tax losses	4,130	**4,182**
Write down (or reverse of previous write down) of DTA	(6,475)	**(1,371)**
Change in applicable tax rate	(300)	**15,522**
Other tax credits (excluding R&D tax credits)	1,058	**7,072**
Non recoverable foreign withholding taxes	(7,943)	**(7,615)**
Previous years adjustments	(3,299)	**(13,313)**
Other (including IFRIC 23)	8,753	**5,248**
TAX EXPENSE AT THE EFFECTIVE TAX RATE FOR THE YEAR	**(179,044)**	**(137,600)**

The weighted average theoretical tax rate evolved from 24.8% in 2021 to 27.6% in 2022. Excluding the impact of adjustments, the adjusted effective tax rate for 2022 was 20.0%. This compares to the 23.1% in 2021.

F14 Intangible assets other than goodwill

Thousands of Euros	Development expenses capitalized	Concessions, patents, licences, etc.	Software	CO2 emission rights	Other intangible assets	Total
At the beginning of previous year						
Gross value	157,704	98,840	150,989	15,898	103,637	**527,068**
Accumulated amortisation	(119,187)	(64,134)	(124,295)	-	(28,556)	**(336,172)**
Net book value at the beginning of previous year	**38,517**	**34,707**	**26,694**	**15,898**	**75,081**	**190,897**
. additions	8,867	842	1,435	8	25,702	**36,854**
. disposals	(553)	-	(26)	0	(45)	**(623)**
. amortisation charged (included in "Depreciation and impairments")	(9,424)	(8,890)	(8,119)	-	(4,691)	**(31,123)**
. impairment losses recognized (included in "Depreciation and impairments")	(5,099)	(17,381)	(274)	-	(214)	**(22,968)**
. emission rights allowances	-	-	-	1,979	-	**1,979**
. translation differences	(145)	5	329	(1)	533	**722**
. other movements	3,843	3,507	8,463	0	(10,287)	**5,526**
At the end of previous year	**36,006**	**12,790**	**28,503**	**17,884**	**86,079**	**181,263**
Gross value	156,213	104,755	158,921	17,884	116,012	**553,785**
Accumulated amortisation	(120,207)	(91,965)	(130,418)	-	(29,932)	**(372,522)**
Net book value at the end of previous year	**36,006**	**12,790**	**28,503**	**17,884**	**86,079**	**181,263**
. additions	6,226	294	3,535	-	22,375	**32,431**
. disposals	-	-	(5)	0	0	**(4)**
. amortisation charged (included in "Depreciation and impairments")	(9,057)	(5,548)	(8,282)	-	(4,377)	**(27,265)**
. impairment losses recognized (included in "Depreciation and impairments")	(11,969)	(3,659)	(66)	-	(334)	**(16,028)**
. emission rights allowances	-	-	-	8,329	-	**8,329**
. translation differences	(388)	(3)	(43)	0	267	**(166)**
. other movements	16,092	5	10,040	0	(19,747)	**6,391**
At the end of the year	**36,910**	**3,880**	**33,683**	**26,214**	**84,264**	**184,951**
Gross value	152,534	105,008	170,955	26,214	119,250	**573,961**
Accumulated amortisation	(115,624)	(101,128)	(137,272)	-	(34,986)	**(389,010)**
NET BOOK VALUE FOR CONTINUING OPERATIONS	**36,910**	**3,880**	**33,683**	**26,214**	**84,264**	**184,951**

In 2022, additions amounted to € 32.4 million and mainly contain capitalized expenses in internally generated developments for € 21.4 million (see note F9), of which € 15.2 million is included in "Other intangible assets" as intangible assets in progress. Additions mainly relate to capitalized development expenses in new battery materials technology & processes as well as capitalized expenses related to the renewal of a Group software. Impairment losses are mainly linked to impairment on selected capitalized development projects in Catalysis and impairment of IP's following the restructuring of the stationary catalyst business in Denmark. Net increase of emission right allowances amounts to € 8.3 million in 2022 (new grants € 17.2 million and settlement €-8.9 million). Other movements mainly include the transfer between intangible assets in progress (included under "other intangible assets") and the other categories of intangible assets and transfers from tangible assets. The other intangible assets category contains intangible assets in progress for € 71.1 million (mainly capitalized development costs) but also some business portfolio and customers' list acquired for € 12.4 million. There are no pledges on, or restrictions to, the title on intangible assets, other than disclosed in note F35.

F15 Goodwill

Thousands of Euros	31/12/2021	31/12/2022
At the end of the previous year		
Gross value	165,627	**168,915**
Accumulated impairment losses	(9,637)	**(10,330)**
Net book value at the end of previous year	**155,990**	**158,585**
. impairment losses recognized (included in "Depreciation and impairment")	-	**(2,149)**
. translation differences	2,595	**1,979**
At the end of the year	**158,585**	**158,415**
Gross value	168,915	**171,495**
Accumulated impairment losses	(10,330)	**(13,080)**
NET BOOK VALUE FOR CONTINUING OPERATIONS	**158,585**	**158,415**

This table includes goodwill related to fully consolidated companies only. Goodwill relating to companies accounted for using the equity method is detailed in note F17.

The change of the period relates to the impairment of the goodwill related to the stationary catalyst business in Denmark partially offset by the translation differences.

The goodwill accounted in each of the CGU groups, but summarized by segment, is as follows:

Thousands of Euros	Catalysis	Energy & Surface Technologies	Recycling	Total
31/12/2021	**49,988**	**90,264**	**18,333**	**158,585**
31/12/2022	**47,795**	**92,297**	**18,322**	**158,415**

Management tests annually whether goodwill has suffered any impairment in accordance with the accounting policy stated in note F2. Such impairment tests are performed at a cash generating unit level, which may vary in scope from a total business unit to an individual plant but never a full segment scope. The recoverable amounts of cash-generating units to which goodwill is allocated have been determined based on value-in-use calculations by means of discounted cash flow modelling on the basis of the Group's operational plans which typically look forward 5 years, followed by a long term projection. On macroeconomic and external indicators such as currency and metal prices, the testing uses typically prevailing market conditions at the time the plans are drafted. The rates used are typically the ones observed on international exchanges in the last quarter of the year. Beside the impairment taken on the stationary catalyst business in Denmark, the 2022 goodwill impairment testing indicated sufficient headroom in the respective cash generating units and hence no other goodwill impairments were recognized. The 2022 impairment testing used an average tax rate of 25.0% (unchanged versus 2021) and a weighted average cost of capital post-tax of 7.7% (compared to 7.0% in 2021) . A uniform WACC rate was applied across cash generating units with unit-specific risk factors considered to be reflected in the underlying cash flow projections. Terminal values were determined on the basis of a perpetual growth rate of on average 2% (same as in 2021). Inflation rates were based on guidance from national and international institutes such as the NBB or ECB.

In this exercise, the Group has considered the potential impact of climate change (forecasts and cash flows used, expected live of property, plant and equipment, capital expenditures to meet net zero scope 1 and 2 greenhouse gas emissions).

F16 Property, plant and equipment

Thousands of Euros	Land and buildings	Plant, machinery and equipment	Furniture and vehicles	Other tangible assets	Construction in progress and advance payments	Total
At the beginning of previous year without leasing						
Gross value	1,242,294	2,478,662	260,590	23,522	508,033	**4,513,101**
Accumulated depreciation	(546,526)	(1,657,994)	(178,187)	(22,619)	-	**(2,405,326)**
Net book value at the beginning of previous year without leasing	**695,767**	**820,668**	**82,403**	**903**	**508,033**	**2,107,775**
. additions	76,361	42,349	14,979	16,148	229,435	**379,272**
. disposals	(446)	(207)	(111)	(312)	(113)	**(1,189)**
. depreciations (included in "Depreciation and impairments")	(47,462)	(159,613)	(20,906)	(331)	-	**(228,312)**
. net impairment losses recognized (included in "Depreciation and impairments")	(462)	(24,543)	(743)	312	-	**(25,436)**
. translation differences	16,705	19,803	600	39	24,674	**61,822**
. other movements	50,119	183,342	10,746	40	(249,089)	**(4,842)**
At the end of previous year without leasing	**790,583**	**881,799**	**86,969**	**16,799**	**512,941**	**2,289,090**
At the beginning of the year without leasing						
Gross value	1,382,096	2,703,328	276,986	39,340	512,940	**4,914,690**
Accumulated depreciation	(591,513)	(1,821,529)	(190,017)	(22,540)	-	**(2,625,599)**
Net book value at the beginning of the year without leasing	**790,583**	**881,799**	**86,970**	**16,799**	**512,940**	**2,289,091**
. additions	22,479	39,665	10,742	6,122	379,852	**458,859**
. disposals	(2,541)	(1,103)	(354)	(586)	(14)	**(4,598)**
. depreciations (included in "Depreciation and impairments")	(52,591)	(163,603)	(21,493)	(654)	-	**(238,340)**
. net impairment losses recognized (included in "Depreciation and impairments")	(1,342)	(1,819)	(594)	-	-	**(3,754)**
. translation differences	(4,622)	(5,878)	209	4	(5,226)	**(15,513)**
. other movements	63,216	190,895	13,311	1,476	(275,011)	**(6,114)**
At the end of the financial year without leasing	**815,183**	**939,956**	**88,791**	**23,161**	**612,541**	**2,479,631**
Gross value	1,451,062	2,877,669	289,795	46,294	612,541	**5,277,361**
Accumulated depreciation	(635,880)	(1,937,713)	(201,004)	(23,133)	-	**(2,797,729)**
NET BOOK VALUE FOR CONTINUING OPERATIONS WITHOUT LEASING	**815,183**	**939,956**	**88,791**	**23,161**	**612,541**	**2,479,631**

Thousands of Euros	Land and buildings	Plant, machinery and equipment	Furniture and vehicles	Other tangible assets	Construction in progress and advance payments	Total
Gross value	67,193	1,055	24,865	637	-	**93,750**
Accumulated depreciation	(26,327)	(713)	(10,689)	(135)	-	**(37,864)**
Net book value at the beginning of previous year for leasing	**40,865**	**342**	**14,176**	**502**	**-**	**55,886**
. additions	16,638	1,274	7,662	-	-	**25,573**
. depreciations (included in "Depreciation and impairments")	(11,907)	(771)	(7,330)	(105)	-	**(20,113)**
. translation differences	1,336	2	40	0	-	**1,378**
. transfer	(681)	-	1	-	-	**(680)**
At the end of previous year for leasing	**46,251**	**847**	**14,549**	**397**	**-**	**62,043**
Leasing at the beginning of the year						
Gross value	68,958	2,310	28,436	625	-	**100,329**
Accumulated depreciation	(22,707)	(1,463)	(13,888)	(228)	-	**(38,286)**
Net book value at the beginning of the year for leasing	**46,251**	**847**	**14,549**	**397**	**-**	**62,044**
. additions	6,172	43	7,583	12	-	**13,811**
. depreciations (included in "Depreciation and impairments")	(11,802)	(848)	(7,542)	(103)	-	**(20,296)**
. translation differences	97	(14)	11	(1)	-	**93**
At the end of the financial year for leasing	**37,732**	**28**	**14,603**	**306**	**-**	**52,669**
Gross value	70,390	159	31,823	637	-	**103,010**
Accumulated depreciation	(32,659)	(131)	(17,220)	(331)	-	**(50,340)**
NET BOOK VALUE FOR LEASING	**37,732**	**28**	**14,603**	**306**	**-**	**52,669**
Tangible asset including leasing						
Gross value	1,521,453	2,877,828	321,618	46,931	612,541	**5,380,371**
Accumulated depreciation	(668,538)	(1,937,844)	(218,223)	(23,464)	-	**(2,848,070)**
NET BOOK VALUE FOR CONTINUING OPERATIONS INCLUDING LEASING	**852,914**	**939,984**	**103,394**	**23,467**	**612,541**	**2,532,301**

Capital expenditure totaled € 470 million (including additions on intangible assets but without the capitalized R&D costs as per Umicore's capital expenditures definition), compared to € 389 million the previous year. Energy & Surface Technologies accounted for more than 60 % of the Group's capital expenditure, driven by investments in the expansion of the Rechargeable Battery Materials business unit European's footprint. In the Catalysis and Recycling business segments capital expenditure slightly decreased. In Catalysis, the Automotive Catalysts business unit continued to focus on investments in production footprint optimization and targeted capacity expansions. In Recycling, the capital expenditure was mainly related to environmental and safety investments in the Precious Metals Refining business unit.

Impairments on property, plant and equipment are mainly related to the restructuring of the stationary catalyst business in Denmark.

The line 'other movements' mainly includes the transfer between construction in progress and the other categories of assets and to a lesser extent transfer to intangible assets.
There are no pledges on, or restrictions to, the title on property, plant and equipment, other than disclosed in note F35.

F17 Investments accounted for using the equity method

The investments in companies accounted for using the equity method are composed mainly of the following associates:

	Country	Measurement currency	Percentage 2021	Percentage 2022
For continuing operations				
Associates				
IEQSA	Peru	PEN	40.00%	**40.00%**
Ganzhou Yi Hao Umicore Industries	China	CNY	40.00%	**40.00%**
Element Six Abrasives	United Kingdom	USD	40.22%	**40.22%**
Jiangmen Chancsun Umicore Industry Co.,LTD	China	CNY	40.00%	**40.00%**

Investments in associates are accounted for in accordance with the equity method and represent approximately 1.6% of Umicore's consolidated balance sheet total. Umicore has no individual material investments in associates. Considering the objectives of the IFRS 12 disclosure requirements, the most significant associate is Element Six Abrasives, in which Umicore holds 40.22%. Element Six Abrasives is a synthetic diamond materials group, part of De Beers Group, its majority shareholder. The group operates worldwide with primary manufacturing facilities in Ireland, Germany, the UK, the US and South Africa. Element Six Abrasives is on an adjusted results basis a profitable group, generating positive cash flow. The group's functional currency is USD. Umicore is represented in the Board of Directors and the audit committee of Element Six Abrasives. Besides its equity share in this company, Umicore has no other commitments, guarantees or obligations arising from its involvement in this associate. Adjustments, if any, in respect of the financial statements of Element Six Abrasives, are separately disclosed under the relevant captions of Umicore's consolidated financial statements (see note F9 for adjustments).

Thousands of Euros	Net book value	Goodwill	Total
At the end of previous year	**109,557**	**45,583**	**155,140**
. Profit (loss) of the period	13,473	-	**13,473**
. dividends	(11,902)	-	**(11,902)**
. change in other reserves	1,858	-	**1,858**
. translation differences	38	336	**374**
AT THE END OF THE YEAR FOR CONTINUING OPERATIONS	**113,025**	**45,919**	**158,943**

The elements recognized in other comprehensive income for investments accounted for using the equity method are mainly related to employee benefits reserves and translation reserves.

Umicore's share in the aggregated balance sheet and profit and loss items of the associates would have been as follows:

Thousands of Euros	31/12/2021	31/12/2022
Assets	270,781	**302,125**
Liabilities	143,037	**170,650**
Turnover	261,159	**355,164**
profit (loss) of the period	17,347	**13,473**

F18 Financial assets at fair value through OCI and loans granted

Thousands of Euros	Financial assets at FV through OCI	Loans granted
Non-current financial assets		
At the beginning of previous year	**8,352**	**3,252**
. increase	5,014	39
. translation differences	78	36
. fair value recognized in equity	(43)	-
. other movements	719	(719)
At the end of previous year	**14,120**	**2,608**
. increase	-	970
. decrease	-	(212)
. impairment losses (included in "Income (loss) from other financial assets")	-	(794)
. translation differences	(7)	(42)
. fair value recognized in equity	8,076	-
. other movements	(24)	63
AT THE END OF THE FINANCIAL YEAR FOR CONTINUING OPERATIONS	**22,165**	**2,592**
CURRENT FINANCIAL ASSETS		
At the end of the preceding financial year	**-**	**169**
. change in scope	-	10
. increase	-	1,121
. translation differences	-	(28)
AT THE END OF THE FINANCIAL YEAR FOR CONTINUING OPERATIONS	**-**	**1,273**

In 2021, the increase in financial assets at fair value through OCI included, amongst other, the equity investment in a developer of next-generation solid state batteries. In 2022, the € 8.1 million gain on financial assets measured at fair value through other comprehensive income mainly relates to the revaluation at fair value of this investment.

F19 Inventories

Thousands of Euros	31/12/2021	31/12/2022
Analysis of inventories		
Base products - gross value	2,874,788	**3,389,853**
.Permanently tied up metal inventories (not hedged)	834,372	**1,052,088**
.Commercially available metal inventories (hedged) (*)	1,364,202	**2,028,691**
.Other base products inventories (not hedged)	676,214	**309,074**
Consumables - gross value	111,128	**125,699**
Write-downs	(118,279)	**(137,666)**
Advances paid	12,059	**4,103**
Contracts in progress	(10,626)	**11,686**
TOTAL INVENTORIES FOR CONTINUING OPERATIONS	**2,869,071**	**3,393,674**

* applying Umicore's transactional metal hedging - see note F2.22.1 and F3.2.2

Inventories have increased by € 524.6 million compared with December 2021. While higher battery metal prices increased the value of inventory in Energy & Surface Technologies, inventories remained relatively stable in Catalyst and Recycling. The increase of permanently tied up inventories is mainly linked to the battery materials activities, where ramp-up of production capacity and commissioning of new production lines requires higher quantities of permanent metal inventory.

The total gross book value of Umicore's permanently tied-up metal inventories at 31 December 2022 compares to a value of € 4,067 million when applying the 31 December 2022 market prices (€ 3,298 million at end December 2021).

In line with Umicore's accounting policies related to inventories (see Note F2.10), metals are classified in inventory categories that reflect their specific nature and business use. Umicore classifies permanently tied-up metal inventories as a separate inventory category. At start of the year, Umicore carried permanently tied-up inventories for silver, gold, platinum, palladium, rhodium, cobalt, nickel, germanium, lead and copper. In the course of the first half of 2022, Umicore initiated a permanently tied-up lithium metal inventory in Energy & Surface Technologies to cover part of the current and expected future needs for the metal linked to the projected expansion in battery materials. As this inventory category is considered to have an unlimited useful life, no depreciations are applied but instead it will be subject to Umicore's annual impairment testing of the Cash Generating Units carrying these inventories. Applying the LOCOM principle on permanently tied-up metal inventories on 31 December 2022 would have given rise to a non-cash impairment charge of € 40.9 million for the Group.

The change in inventory recognized in Raw Materials and Consumables in the consolidated income statement is a positive amount of € 550 million (representing the cash movements on inventory balances). The net write-down of inventory recorded in the consolidated income statement in 2022 amounts to € 18 million.

Write-downs on inventories amount to € 137.7 million and mainly relate to write-downs on scrapping during production ramp-up, and internal and customer qualifications.

There are no pledges on, or restrictions to, the title on inventories.

F20 Trade and other receivables

Thousands of Euros	Notes	31/12/2021	31/12/2022
Non current			
Cash guarantees and deposits		9,737	**9,596**
Other receivables maturing > 1 year		10,217	**4,330**
Assets employee benefits		718	**4,786**
TOTAL FOR CONTINUING OPERATIONS		**20,672**	**18,712**
Current			
Trade receivables (at cost)		1,394,540	**1,313,156**
Trade receivables (write down)		(18,771)	**(17,893)**
Other receivables (at cost)		243,746	**309,323**
Other receivables (write down)		(207)	**(378)**
Interest receivable		1,439	**1,942**
Fair value receivable financial instruments held for cash-flow hedging	F33	80,452	**62,187**
Fair value receivable - financial instruments related to FV hedging (IFRS 9 hedge accounting)	F33	9,868	**23,141**
Fair value receivable - financial instruments related to FV hedging (economic hedging)	F33	3,977	**25,219**
Deferred charges and accrued income		116,989	**113,843**
TOTAL FOR CONTINUING OPERATIONS		**1,832,033**	**1,830,540**

Increase in other receivables mainly comes from an increase in margin calls for € 36 million.

Thousands of Euros	Total	Not due	Overdue between 0-30 days	30-60 days	60-90 days	> 90 days
Ageing balance analysis at the beginning of the year						
Trade receivables (w/o doubtful and securitized receivables) - at cost	**1,357,690**	1,222,865	111,435	12,724	6,021	4,645
Other receivables - at cost	**243,746**	236,195	2,940	1,186	252	3,173
Loss allowance	**16,595**	10,006	1,465	270	692	4,162
Expected loss rate	**1.04%**	0.69%	1.28%	1.94%	11.03%	53.24%
Ageing balance analysis at the end of year						
Trade receivables (w/o doubtful and securitized receivables) - at cost	**1,296,087**	1,140,691	120,486	26,522	6,778	1,610
Other receivables - at cost	**309,323**	299,034	955	1,921	4,288	3,125
Loss allowance	**15,536**	9,257	1,438	232	798	3,811
Expected loss rate	**0.97%**	0.64%	1.18%	0.82%	7.21%	80.48%

CREDIT RISK – TRADE RECEIVABLES

Thousands of Euros	Trade receivables (write-down)	Other receivables (write-down)	Total
At the beginning of previous year	**(22,320)**	**(207)**	**(22,526)**
. Impairment losses recognized in income statement	(1,761)	-	**(1,761)**
. Reversal of impairment losses	1,535	-	**1,535**
. Impairment written off against asset carrying amount	4,564	-	**4,564**
. Other movements	129	-	**129**
. Translation differences	(918)	0	**(917)**
At the end of previous year	**(18,771)**	**(207)**	**(18,978)**
At the beginning of the financial year	**(18,771)**	**(207)**	**(18,977)**
. Impairment losses recognized in income statement	(1,022)	(171)	**(1,193)**
. Reversal of impairment losses	1,700	-	**1,700**
. Impairment written off against asset carrying amount	171	-	**171**
. Other movements	148	-	**148**
. Translation differences	(120)	(1)	**(121)**
AT THE END OF THE FINANCIAL YEAR FOR CONTINUING OPERATIONS	**(17,893)**	**(378)**	**(18,271)**

The Group applies the IFRS 9 simplified approach to measure expected credit losses which uses a lifetime expected loss allowance for all trade receivables. To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The expected loss rates are based on historical payment profiles of sales and the corresponding credit losses experienced. The historical loss rates are adjusted to reflect current and forward-looking information on macro-economic factors affecting the ability of the customers to settle the receivables. The Group has identified macro-economic factors, Probability of Default (PD) and Loss Given Default (LGD) to be the most relevant factors, and accordingly adjusts the historical loss rates based on expected changes in these factors.

In principle, Umicore uses credit insurance as a means to mitigate the credit risk related to trade receivables. In 2022, three main credit insurance policies with three different insurers were in place. At closing, € 551.2 million of the Group's outstanding invoices were covered by a policy where indemnification in case of non-payment amounts to 95% with an indemnification cap set at regional or country level. The other two policies covered € 289 million of trade invoices with a global annual deductible of € 5 million, a maximum indemnity per year of € 200 million and an indemnification in

case of non-payment of 95%. The Group also managed credit exposure by selling invoices to financial institutions without recourse (€ 533 million end of 2022 compared to € 410 million end of 2021), partly covered by the above credit insurance policies. Under one of these facilities, the carrying amount of receivables sold before the transfer amounts to € 206 million while total carrying amount of the assets that the entity continues to recognize and the related continuing involvement liability equal to € 16.9 million as of 31 December 2022. The latter consist mainly of non-transferred credit risk as well as late payment risk over the relevant portfolio. Other facilities, amounting to € 345 million, are derecognized in their entirety.

Specifically in China, Umicore reduces credit risk by discounting bank acceptance drafts it receives from its customers without recourse (and hence derecognized) (€ 268 million end of year 2022 compared to € 290 million end of 2021).

Finally, some businesses units do not use credit insurance and instead use internal credit limits that are set based on available financial information and business knowledge. Theses limits are duly reviewed and approved by management.

F21 Tax assets and liabilities

Thousands of Euros	31/12/2021	31/12/2022
Tax assets and liabilities		
Income tax receivables	46,762	**82,941**
Deferred tax assets	219,248	**315,996**
Income tax payable	(197,488)	**(261,950)**
Deferred tax liabilities	(24,294)	**(30,029)**

	Assets		Liabilities		Net	
Thousands of Euros	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**
At the end of preceding financial year	**221,938**	**219,248**	**(22,846)**	**(24,294)**	**199,092**	**194,954**
Deferred tax recognized in the P&L	18,119	**111,110**	4,707	**(3,719)**	22,826	**107,391**
Deferred tax recognized in equity	(23,322)	**5,933**	(8,156)	**(21,025)**	(31,478)	**(15,092)**
Translation differences	5,359	**(1,200)**	(84)	**(86)**	5,275	**(1,286)**
Transfer	(2,085)	**(19,095)**	2,085	**19,095**	-	**-**
Other movements	(761)	**-**	-	**-**	(761)	**-**
AT THE END OF FINANCIAL YEAR	**219,248**	**315,996**	**(24,294)**	**(30,029)**	**194,954**	**285,967**

	Assets		Liabilities		Net	
Thousands of Euros	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**
Deferred tax in respect of each type of temporary difference						
Intangible assets	25,797	**31,180**	(6,392)	**(1,815)**	19,405	**29,365**
Goodwill on fully consolidated companies	-	**-**	(556)	**(590)**	(556)	**(590)**
Property, plant and equipment	11,848	**9,193**	(29,662)	**(36,849)**	(17,814)	**(27,656)**
Long term receivables	141	**72**	(470)	**(227)**	(329)	**(155)**
Inventories	77,332	**164,375**	(27,804)	**(28,669)**	49,528	**135,706**
Trade and other receivables	15,529	**18,641**	(58,640)	**(53,822)**	(43,111)	**(35,181)**
Group Shareholder's equity	105	**-**	(3,959)	**(4,313)**	(3,854)	**(4,313)**
Long Term Financial Debt and other payable	15,743	**18,749**	(24,307)	**(17,478)**	(8,564)	**1,271**
Provisions Employee Benefits	77,506	**51,854**	(7,299)	**(13,546)**	70,207	**38,308**
Provisions for Environment	29,969	**28,785**	(205)	**(285)**	29,764	**28,500**
Provisions for other liabilities and charges	22,889	**31,219**	(658)	**(1,169)**	22,231	**30,050**
Current Financial Debt	1,224	**-**	(4,858)	**(567)**	(3,634)	**(567)**
Current Provisions for Environment	1,969	**4,731**	-	**-**	1,969	**4,731**
Current Provisions for Other Liabilities & Charges	4,281	**4,703**	(8)	**(8)**	4,273	**4,695**
Trade and other payables	60,570	**84,638**	(877)	**(1,840)**	59,693	**82,798**
Total deferred tax due to temporary differences	**344,903**	**448,140**	**(165,695)**	**(161,178)**	**179,208**	**286,962**
Tax losses to carry forward	**80,051**	**58,137**	**-**	**-**	**80,051**	**58,137**
Investments deductions	650	**650**	-	**-**	650	**650**
Other	2,236	**2,039**	-	**-**	2,236	**2,039**
Deferred tax assets not recognized	(67,191)	**(61,821)**	-	**-**	(67,191)	**(61,821)**
Total tax assets/liabilities	**360,649**	**447,145**	**(165,695)**	**(161,178)**	**194,954**	**285,967**
Compensation of assets and liabilities within same entity	(141,401)	**(131,149)**	141,401	**131,149**		**-**
NET AMOUNT	**219,248**	**315,996**	**(24,294)**	**(30,029)**	**194,954**	**285,967**

Thousands of Euros	**2021 Base**	**2022 Base**	**2021 Tax**	**2022 Tax**
Amount of deductible temporary differences, unused tax losses or tax credits for which no deferred tax asset is recognized in the balance sheet				
Expiration date with no time limit	249,850	**231,706**	67,191	**61,821**

The changes of the period in temporary differences are charged to the consolidated income statement except those arising from events that were recognized directly in the consolidated statement of comprehensive income.

The main movements in deferred tax recognized directly in the consolidated statement of comprehensive income are deferred taxes generated by temporary differences included within the lines "Trade and other receivables" (positive by € 3.2 million), “Provisions for employee benefits” (negative by € 26.8 million) and “Trade and other payables” (positive by € 8.2 million). The main movements in deferred tax recognized in the consolidated income statement are deferred taxed generated by temporary differences included within the line inventories.

Deferred tax assets are only recognized to the extent that their utilization is probable, i.e. if a tax benefit is expected in future periods. The Group assesses a recoverability in a range of 5 to 10 years. The actual tax results in future periods may differ from the estimate made at the time the deferred taxes are recognized.

Unrecognized deferred tax assets of € 61.8 million mainly arise from tax losses (€ 56.5 million).

In accordance with IAS 12, a deferred tax liability on untaxed reserves of the Belgian companies, amounting potentially to € 37.5 million, has not been recognized as management anticipates that this liability will not be incurred in a foreseeable future.

Group current income tax payable at 31 December 2022 amounting € 262.0 million (2021 : € 197.5 million) include uncertain tax positions of € 108.9 million (€ 101.1 million in 2021).

F22 Net cash and cash equivalents

Thousands of Euros	31/12/2021	31/12/2022
Cash and cash equivalents		
Short-term investments : bank term deposits	272,965	**612,839**
Short-term investments : term deposits (other)	43	**98**
Cash-in-hands and bank current accounts	921,428	**626,932**
Total cash and cash equivalents	**1,194,437**	**1,239,869**
Bank overdrafts	28,122	**18,534**
NET CASH AS IN CASH FLOW STATEMENT	**1,166,315**	**1,221,335**

All cash and cash equivalents are fully available for the Group.

Liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed (unused in 2022), uncommitted credit facilities from a large pool of financial institutions and the ability to close out market positions.

Due to the dynamic nature of the underlying businesses, the Group aims to maintain funding flexibility through committed credit lines. Excess liquidities are invested for very short periods and are spread over a limited number of banks, all enjoying a satisfactory credit rating.

F23 Currency translation differences and other reserves

The detail of the Group's share in currency translation differences and other reserves is as follows:

Thousands of Euros	Conversion rights recognized in equity	Financial assets at FV through OCI reserves	Cash flow hedge reserves - Commodities	Cash flow hedge reserves - Currencies	Cash flow hedge reserves - IRS	Deferred taxes directly recognized in OCI	Changes in post employment benefits, arising from changes in actuarial assumptions	Share-based payment reserves	Currency translation differences	Total
Balance at the beginning of previous year	**50,324**	**(3,052)**	**(27,688)**	**16,721**	**(771)**	**79,187**	**(325,033)**	**44,642**	**(202,157)**	**(367,826)**
Remeasurements recognized in other comprehensive income	-	2	69,150	(16,354)	(1,971)	(25,487)	48,082	-	-	**73,423**
Remeasurements recognized in equity	-	-	-	-	-	-	-	14,255	-	**14,255**
Remeasurements derecognized out of other comprehensive income	-	-	28,949	(14,165)	-	(6,044)	(0)	-	-	**8,740**
Transfer from/to retained earnings	-	-	-	-	-	-	-	(5,904)	-	**(5,904)**
Change in scope	-	-	-	-	-	912	(3,026)	-	-	**(2,114)**
Exchange differences	-	40	393	150	(143)	(176)	(2,107)	-	84,898	**83,055**
BALANCE AT THE END OF PREVIOUS YEAR	**50,324**	**(3,009)**	**70,804**	**(13,649)**	**(2,885)**	**48,391**	**(282,085)**	**52,994**	**(117,259)**	**(196,370)**
Balance at the beginning of the year	**50,324**	**(3,009)**	**70,804**	**(13,649)**	**(2,885)**	**48,391**	**(282,085)**	**52,994**	**(117,259)**	**(196,370)**
Remeasurements recognized in other comprehensive income	-	8,076	10,056	(18,402)	(6,159)	(23,205)	94,387	-	-	**64,752**
Remeasurements recognized in equity	-	-	-	-	-	-	-	11,824	-	**11,824**
Remeasurements derecognized out of other comprehensive income	-	-	(44,952)	11,907	-	7,708	-	-	-	**(25,337)**
Transfer from/to retained earnings	-	(402)	-	-	-	-	646	(725)	-	**(481)**
Exchange differences	-	(28)	(186)	(777)	586	78	(1,754)	-	19,807	**17,725**
BALANCE AT THE END OF THE YEAR	**50,324**	**4,637**	**35,723**	**(20,922)**	**(8,458)**	**32,972**	**(188,806)**	**64,092**	**(97,452)**	**(127,887)**

The net losses recognized in the OCI regarding cash flow hedges (€ 14.5 million) are the changes in fair value of new cash flow hedging instruments or existing ones at opening but which have not yet expired at year end. The net gains derecognized from OCI (€ 33.0 million) are the fair values of the cash-flow hedging instruments existing at the opening which expired during the year. The total impact incurred at expiration of the cash-flow hedges during the year represents a gain of € 25.8 million, recognized in the income statement. This amount includes the mentioned net gains derecognized from OCI (€ 33.0 million) and the fair value changes incurred in the course of the year on expired existing cash-flow hedges and on new instruments contracted during the year (€ -7.2 million).

Remeasurements as a result of changes in the actuarial assumptions on the defined post-employment benefit plans have been recognized in OCI for € 94.4 million (refer to Note 27 on Provisions for employee benefits). The 2022 shares and stock option plans have led to a share-based payment reserve increase of € 11.8 million (refer to note F10 on employee benefits). € 0.7 million, linked to exercised options and free shares plans, have been transferred to retained earnings.

The movements on exchange differences are mainly related to the strengthening of the USD (€ 20.3 million) and BRL (€ 17.2 million) and weaker CNY (-13.2 million) and PLN (-9.2 million) compared to EUR. The total exchange differences are mainly impacted by the following currencies : CNY, BRL, KRW, PLN, ZAR, ARS and USD.

F24 Financial debt

Thousands of Euros	Bank loans	Lease liability	Other loans	Total
Non-current				
At the beginning of previous year	**1,205,000**	**52,865**	**447,289**	**1,705,154**
. Increase	-	25,573	32,109	**57,682**
. Decrease	-	(19,534)	(824)	**(20,358)**
. Translation differences	-	1,400	(0)	**1,400**
. Transfers	-	2,588	(22,430)	**(19,842)**
At the end of previous year	**1,205,000**	**62,892**	**456,145**	**1,724,037**
. Increase	-	13,842	42,328	**56,170**
. Decrease	-	(20,050)	-	**(20,050)**
. Translation differences	-	40	(3)	**37**
. Transfers	(88,000)	(16,015)	(30,000)	**(134,015)**
At the end of the financial year	**1,117,000**	**40,709**	**468,470**	**1,626,179**
Current portion of long-term financial debts				
At the end of the preceding financial year	**-**	**-**	**20,000**	**20,000**
. Increase / decrease	-	-	(20,026)	**(20,026)**
. Translation differences	-	-	26	**26**
. Transfers	88,000	16,015	30,000	**134,015**
At the end of the financial year	**88,000**	**16,015**	**30,000**	**134,015**

Thousands of Euros	Short term bank loans	Bank overdrafts	Short term loan : commercial paper	Other loans	Total
Current					
At the end of the preceding financial year	**374,720**	**28,122**	**8,005**	**1**	**410,847**
. Increase / decrease	(103,981)	(9,217)	86,913	219,563	**193,278**
. Transfers	0	-	0	0	**1**
. Translation differences	(12,148)	(371)	-	(8,362)	**(20,881)**
At the end of the financial year	**258,591**	**18,534**	**94,918**	**211,201**	**583,244**

Net financial debt at 31 December 2022 stood at € 1,103.6 million compared with € 960.4 million at the start of the year.

The financial debt includes the Schuldschein issued in 2017 (€ 330 million; fair value € 313.7 million), the US private placements issued in 2017 (€ 360 million; fair value € 320.4 million) and in 2019 (€ 390 million; fair value of € 330.5 million), the European Investment Bank (EIB) loan issued in 2020 (€ 125 million; fair value € 103.8 million) and the convertible bond issued in 2020 (€ 500 million ; fair value € 468.5 million).

On December 31, 2022, an amount of € 65 million was outstanding on the French NEU CP program and an amount of € 30 million was outstanding on the French NEU MTN program (out of € 600 million available under each program).

An amount of € 30 million was outstanding on the Belgian Commercial Paper program (out of € 600 million available under the program).

On December 31, 2022, there were no outstanding advances under the € 500 million sustainability-linked Syndicated Bank Credit Facility concluded in 2021 and maturing in October 2027, nor under the € 495 million Syndicated Bank Credit Facility maturing in April 2025.

The aforementioned Syndicated Bank Credit Facilities and the long term debt instruments require the Company to comply with certain financial covenants. Umicore has not faced any breach of those covenants in 2022 or in previous years.

The long-term debts mainly consist of debt instruments in euros. New US private placements were issued in November 2022 but only drawn in January 2023. This new debt amounts to a total of € 232 million and USD 363 million, with the part in USD hedged to EUR with cross-currency-swaps. On December 31, 2022, no debt is yet outstanding for this issuance as the amount is not yet drawn but the fair value of the cross-currency swaps is already recorded and included in Note F33 Fair Value of financial instruments (derivatives).

The interest rate on the average gross debt amounted to 2.66% for full year 2022 (2.23% for full year 2021).

The line "new loans and repayment of loans" in the consolidated statement of cash flow does not include the movements on bank overdrafts and the currency translation differences, nor the theoretical phantom interests on the debt component part of the convertible debt (€10.2 million in 2022) which is non cash.

The net gearing ratio (see definition in Glossary) end of 2022 of 23.6% (23.3% in 2021) and the net financial debt over adjusted EBITDA ratio of 0.96x (compared to 0.77x end of 2021) position the Group well within its targeted capital structure limits.

Maturity of gross financial debt

Thousands of Euros	Type of Interest	Due within 1 year	Due between 1 and 5 years	Due beyond 5 years	Total
Gross Financial debt of previous year					
Lease Liabilities		-	45,209	17,683	**62,892**
Credit Institutions	Fixed/Floating	402,847	-	-	**402,847**
Commercial Papers	Floating	28,000	-	-	**28,000**
Schuldschein	Fixed/Floating	-	287,000	43,000	**330,000**
US Private Placement	Fixed	-	50,000	700,000	**750,000**
EIB Loan	Fixed	-	125,000	-	**125,000**
Convertible Bond	Fixed	-	456,145	-	**456,145**
TOTAL		**430,847**	**963,354**	**760,683**	**2,154,884**

Thousands of Euros	Type of Interest	Due within 1 year	Due between 1 and 5 years	Due beyond 5 years	Total
Gross Financial debt of the year					
Lease Liabilities		16,015	25,743	14,966	**56,724**
Credit Institutions	Fixed/Floating	488,325	-	-	**488,325**
Commercial Papers	Floating	124,919	-	-	**124,919**
Schuldschein	Fixed/Floating	88,000	242,000	-	**330,000**
US Private Placement	Fixed	-	210,000	540,000	**750,000**
EIB Loan	Fixed	-	125,000	-	**125,000**
Convertible Bond	Fixed	-	468,470	-	**468,470**
TOTAL		**717,259**	**1,071,213**	**554,966**	**2,343,438**

Analysis of long term debts by currencies (including current portion)

Thousands of Euros	EUR	Total
Analysis of long term debts by currencies (including current portion)		
Bank loans	1,205,000	**1,205,000**
Other loans	498,470	**498,470**
NON-CURRENT FINANCIAL DEBTS (INCLUDING CURRENT PORTION)	**1,703,470**	**1,703,470**

Net financial debt

Thousands of Euros	2021	2022
Non current financial debt	1,724,037	**1,626,179**
Current portion of non current financial debt	20,000	**134,015**
Current financial debt	410,847	**583,244**
Cash and cash equivalents	(1,194,437)	**(1,239,869)**
NET FINANCIAL DEBT	**960,447**	**1,103,569**

Proportion of gross outstanding debt by category

Gross outstanding debt	
Short term bank loans	**14.8%**
Long term bank loans	**47.7%**
Commercial paper	**4.1%**
Bank overdrafts	**0.8%**
Lease liability	**2.4%**
Convertible Bond	**20.0%**
Other bank facilities	**10.3%**

Gearing ratio (%)

Millions of Euros		2021	2022
Net financial debt	a	960.4	**1,103.6**
Equity of the Group	b	3,167.3	**3,566.1**
Total	c=a+b	4,127.7	**4,669.6**
Gearing ratio (%)	d=a/c	23.3	**23.6**

F25 Trade and other payables

Thousands of Euros	Notes	31/12/2021	31/12/2022
Non-current			
Long-term trade payables		-	**23**
Other long-term debts		6,540	**6,324**
Investment grants and deferred income from grants		40,821	**41,690**
Total for continuing operations		**47,361**	**48,037**
Current			
Trade payables		2,196,225	**2,250,707**
Advances received on contracts in progress		29,851	**33,061**
Tax payable (other than income tax)		32,885	**31,645**
Payroll and related charges		168,014	**183,630**
Other amounts payable		67,708	**116,096**
Dividends payable		11,612	**11,616**
Accrued interest payable		10,326	**11,181**
Fair value payable financial instrument held for cash flow hedging	F33	24,504	**56,541**
Fair value payable - financial instruments related to FV hedging (IFRS 9 hedge accounting)	F33	31,874	**64,867**
Fair value payable - financial instruments related to FV hedging (economical hedging)		433	**14,477**
Accrued charges and deferred income		234,534	**336,237**
Total for continuing operations		**2,807,966**	**3,110,059**

Compared with 31 December 2021, trade payables increased, driven mainly by more purchase volumes at higher metal prices with longer payment terms. Trade payables include bank acceptance drafts issued by Umicore in China. Bank acceptance drafts are a commonly used form of payment in China, often preferred by suppliers in view of their transferability, their use as financing collateral or their ability to be discounted. End of 2022, Umicore issued €336 million of bank acceptance drafts in China (compared to € 260 million end of 2021). Trade payables end of 2022 include contracted metals to be repurchased for an amount of € 210 million (compared to € 136 million end of 2021). The tax payables (other than income tax) mainly include VAT payables.

Umicore has no global supply chain program. However, some suppliers have agreements in place with banks through which Umicore is expected to provide confirmation that suppliers invoices are correct and will be settled on the due date. At the end of 2022, such confirmations were provided for a total outstanding payable amount of € 267 million (compared to € 242 million end of 2021).

F26 Liquidity of the financial liabilities

PREVIOUS FINANCIAL YEAR

	Earliest contractual maturity					
Thousands of Euros	**< 1 Month**	**1 to 3 Months**	**3 Months to 1 Year**	**1 to 5 Years**	**> 5 years**	**Total**
Financial debt	**252,209**	**69,764**	**108,874**	**963,354**	**760,683**	**2,154,884**
Current	**252,209**	**69,764**	**108,874**	**-**	**-**	**430,847**
Short term bank loans	216,083	69,764	88,873	-	-	**374,720**
Bank overdrafts	28,122	-	-	-	-	**28,122**
Short-term loan: commercial paper	8,005	-	-	-	-	**8,005**
Other loans	-	-	1	-	-	**1**
Current portion of other long-term loans	-	-	20,000	-	-	**20,000**
Non-current	**-**	**-**	**-**	**963,354**	**760,683**	**1,724,037**
Bank loans	-	-	-	462,000	743,000	**1,205,000**
Lease liability	-	-	-	45,209	17,683	**62,892**
Other loans	-	-	-	456,145	0	**456,145**
TRADE AND OTHER PAYABLES	**1,868,161**	**583,445**	**342,920**	**48,278**	**12,522**	**2,855,327**
Current	**1,868,161**	**583,445**	**342,920**	**13,439**	**-**	**2,807,966**
Trade payables	1,539,519	463,937	192,769	-	-	**2,196,225**
Advances received on contracts in progress	16,545	9,155	4,151	-	-	**29,851**
Tax payable (other than income tax)	26,481	6,186	218	-	-	**32,885**
Payroll and related charges	50,943	42,202	74,869	-	-	**168,014**
Other amounts payable	26,120	27,639	13,949	-	-	**67,708**
Dividends payable	11,612	-	-	-	-	**11,612**
Accrued interest payable, third parties	6,777	139	3,410	-	-	**10,326**
Fair value payable financial instrument held for cash flow hedging	1,949	1,831	10,942	9,782	-	**24,504**
Fair value payable - financial instruments related to FV hedging (IFRS 9 hedge accounting)	8,974	12,550	6,693	3,657	-	**31,874**
Fair value payable - financial instruments related to FV hedging (economical hedging)	-	-	433	-	-	**433**
Accrued charges and deferred income	179,242	19,806	35,487	-	-	**234,534**
Non-current	**-**	**-**	**-**	**34,839**	**12,522**	**47,361**
Other long-term debts	-	-	-	1,178	5,362	**6,540**
Investment grants and deferred income from grants	-	-	-	33,661	7,161	**40,821**

FINANCIAL YEAR

	Earliest contractual maturity					
Thousands of Euros	**< 1 Month**	**1 to 3 Months**	**3 Months to 1 Year**	**1 to 5 Years**	**> 5 years**	**Total**
Financial debt	**406,340**	**28,799**	**282,119**	**1,071,213**	**554,966**	**2,343,438**
Current	**406,340**	**28,799**	**282,119**	**-**	**-**	**717,259**
Short term bank loans	81,689	28,799	148,103	-	-	**258,591**
Bank overdrafts	18,534	-	-	-	-	**18,534**
Short-term loan: commercial paper	94,918	-	-	-	-	**94,918**
Other loans	211,200	-	1	-	-	**211,201**
Current portion of long-term bank loans	-	-	88,000	-	-	**88,000**
Current portion of other long-term loans	-	-	30,000	-	-	**30,000**
Lease liability	-	-	16,015	-	-	**16,015**
Non-current	**-**	**-**	**-**	**1,071,213**	**554,966**	**1,626,179**
Bank loans	-	-	-	577,000	540,000	**1,117,000**
Lease liability	-	-	-	25,743	14,966	**40,709**
Other loans	-	-	-	468,470	-	**468,470**
TRADE AND OTHER PAYABLES	**2,224,458**	**570,447**	**285,722**	**63,328**	**14,140**	**3,158,094**
Current	**2,224,458**	**570,447**	**285,722**	**29,431**	**-**	**3,110,058**
Trade payables	1,823,579	368,251	58,877	-	-	**2,250,707**
Advances received on contracts in progress	10,816	17,811	4,435	-	-	**33,061**
Tax payable (other than income tax)	27,315	119	4,210	-	-	**31,645**
Payroll and related charges	54,844	48,747	80,039	-	-	**183,630**
Other amounts payable	16,868	77,677	21,552	-	-	**116,096**
Dividends payable	11,616	-	-	-	-	**11,616**
Accrued interest payable, third parties	6,735	579	3,867	-	-	**11,181**
Fair value payable financial instrument held for cash flow hedging	5,446	3,915	28,049	19,132	-	**56,541**
Fair value payable - financial instruments related to FV hedging (IFRS 9 hedge accounting)	7,659	11,720	35,189	10,299	-	**64,867**
Fair value payable - financial instruments related to FV hedging (economical hedging)	-	11,009	3,467	-	-	**14,477**
Accrued charges and deferred income	259,581	30,619	46,037	-	-	**336,237**
Non-current	**-**	**-**	**-**	**33,896**	**14,140**	**48,037**
Long-term trade payables	-	-	-	23	-	**23**
Other long-term debts	-	-	-	1,293	5,031	**6,324**
Investment grants and deferred income from grants	-	-	-	32,580	9,110	**41,690**

F27 Provisions for employee benefits

The Group has various legal and constructive defined benefit obligations, the vast majority of them being "final pay" plans linked to the Belgian and German operations.

Thousands of Euros	Post-employment benefits, pensions and similar	Post-employment benefits - other	Termination benefits early retirement & similar	Other long-term employee benefits	Total
At the end of the previous year	**339,383**	**2,817**	**27,588**	**17,418**	**387,206**
. Increase (included in "Payroll and related benefits")	33,368	142	4,553	(926)	**37,137**
. Reversal (included in "Payroll and related benefits")	588	-	-	(268)	**320**
. Use (included in "Payroll and related benefits")	(47,244)	(72)	(6,622)	(1,457)	**(55,395)**
. Interest and discount rate impacts (included in "Financial expenses")	5,418	14	615	209	**6,256**
. Translation differences	(26)	(26)	14	(11)	**(49)**
. Transfers	3,883	-	(164)	128	**3,847**
. Recognized in other comprehensive income	(88,645)	(90)	(3,217)	(894)	**(92,846)**
AT THE END OF THE FINANCIAL YEAR	**246,725**	**2,785**	**22,768**	**14,198**	**286,476**

The above table shows the balances and the movements in provisions for employee benefits of the fully consolidated subsidiaries only.

The termination benefits mainly concern some severance pay schemes in Korea and Belgian pre-retirement plans. Other long-term benefits mainly concern jubilee premium in Belgium and Germany.

The lines "Increase", "Reversal" and "Use" of employee benefits provisions can be linked with the line "Provisions for employee benefits" of the note F10. The amount recognized in other comprehensive income originates mainly from an increase in discount rates on the pension plans. A reconciliation with the note F23 and the consolidated statement of comprehensive income is provided in the tables below.

The transfers mainly relates to transfer to assets employee benefits which are disclosed in note F20.

The defined contribution plans of the Group in some countries like in the USA, Canada, South Africa and Germany are not part of this note as the amounts are directly recognized in the income statement under the line "Contribution to defined contribution plans" (see note F10).

The following disclosure requirements under IAS 19 amended were derived from the reports obtained from external actuaries.

The largest post-employment plans in 2022 are in Belgium and in Germany. These two countries represent 90% of the total defined benefit obligations.

Thousands of Euros	31/12/2021	Movements 2022	31/12/2022
Belgium	77,061	(29,065)	**47,996**
Germany	280,427	(64,974)	**215,453**
Subtotal	**357,488**	**(94,039)**	**263,449**
Other entities	29,718	(6,691)	**23,028**
TOTAL	**387,206**	**(100,730)**	**286,476**

Umicore defined benefit pension schemes for the 2 major countries are the following:

BELGIUM

Characteristics of the Defined Benefit plans Umicore companies in Belgium operate defined benefit plans that provide retirement or long-term employee benefits which are related to salary and age or length of service. These retirement and long term benefit plans represent a defined benefit obligation of € 253.0 million and assets for € 205.0 million. They foresee in lump sum or monthly payments upon retirement or pre-retirement and benefits in case of reaching a number of years of service or in case of death or disability prior to retirement.

The net provisions for pension of € 48.0 million can be broken down in post-employment defined benefit plans (€ 19.3 million of which € 122.1 million is the obligation and € 102.8 million relates to plan assets), termination benefits plan (€ 3.2 million of obligation not funded), jubilee premium (€ 3.0 million, not funded) and post-employment defined contributions plans and bonus saving plans with guaranteed return and therefore treated as Defined Benefit plans (€ 22.5 million of which € 124.7 million is the obligation and € 102.2 million relates to plan assets).

Funding The post-employment plans are externally funded through either insurance companies or a self-administrated institution for occupational retirement provision ("IORP"). For the IORP, the necessary governance processes for risk management are in place. One of the risk measures is to perform on a regular basis a "Continuity Test" in which the consequences of strategic investment policies are analyzed in terms of risk- and-return profiles and solvency measures. A statement of investment principles and funding policy are derived from this. The purpose is to have a well-diversified asset allocation to control the risk.

Fair values of plan assets The fair values of the equity and debt instruments are determined based on quoted market prices in active markets (level 1 fair value classification). The plans hold no direct positions in Umicore shares or bonds, nor do they own any property used by an Umicore entity. Investments are well diversified so that the failure of any single investment would not have a material impact on the overall level of assets.

GERMANY

Characteristics of the Defined Benefit plans The post-employment benefits are mainly unfunded pension plans of defined benefit type providing retirement, disability and death benefits. All benefit plans are based on final or final average pay excluding the deferred compensation plans. The benefits of the deferred compensation plan are based on annual converted salary and provide a guaranteed interest of 3.0% p.a. (6.0% p.a. for salary conversions before 2014). All post-employment plans represent a defined benefit obligation of € 221.1 million and assets for € 9.5 million.

The net provisions for pension of € 211.6 million mainly includes the Degussa pension defined benefit plans, including the contribution plan where the inflation and interest rate adjustments of the benefits are guaranteed (€ 165.2 million), the closed and open compensation plans (€ 34.7 million), a jubilee premium plan (€ 6.6 million) and other termination benefits (€ 5.0 million).

Funding As mentioned above, the post-employment benefits are mainly unfunded plans. A minor part is funded by pledged reinsurance contracts.

Fair values of plan assets All plan assets relate to pledged insurance contracts and have no quoted market price.

The most significant risks related to the defined benefit plans are:

- Asset volatility: The plan liabilities are calculated using a discount rate set with reference to corporate bond yields; if plan assets underperform this yield, this will create a deficit.
- Changes in bond yields: A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plan's bond holdings.
- Salary risk: The majority of the plans' benefit obligations are calculated by reference to the future salaries of plan members. As such, any salary increase of plan members higher than expected will lead to higher liabilities.
- Longevity risk: All pension plans beside the new deferred compensation plan as from 2014 provide life annuities which involve the risk of longevity i.e. the risk that the payment period of the pension increases due to the increase in life expectancy. The company uses mortality rates which depend on the year of birth to include this risk in the pension obligation.
- Risk of cash outflow: Since death as active and disability benefits are provided there is a risk of cash outflow before retirement.
- Legislation risks: If the law which define the benefit changes, it can result in a change of the obligations.

Some additional risks are related to Germany only:

- In Germany two defined contribution pension plans exist which are externally financed via the "Pensionskasse Degussa" (PKD) or the support fund "Unterstützungskasse Degussa" (RUK). With respect to the required pension adjustments of pensions paid by these plans, there is a risk that these adjustments cannot be fully borne by the PKD or RUK and therefore can result in additional unfunded pension obligations. This part of the PKD and RUK plans is therefore considered as a Defined Benefit Plan and the risk of the additional obligation expected until end of 2025 has been included in the defined benefit obligation and is yearly reviewed (additional obligation of € 11.6 million for PKD and € 0.7 million for RUK at the end of 2022).
- The closed deferred compensation plan provides a guaranteed interest rate of 6% which increases the risk for a pension cost in addition to the converted salary. The plan was closed at 31 December 2013 and replaced by a plan with no significant risk in this respect.

And some risks are related to Belgium only:

- Because of the Belgian legislation applicable to 2nd pillar pension plans (so-called "Law Vandenbroucke"), all Belgian Defined Contribution plans have to be considered under IFRS as Defined Benefit plans. Law Vandenbroucke states that in the context of defined contribution plans, the employer must guarantee a minimum return of 3.75% on employee contributions and 3.25% on employer contributions. However, shortly before year-end 2015, a change in the Belgian Law was enacted resulting in a decrease of the guaranteed return from 3.25 % to a minimum interest rate defined based upon the Belgian 10-year interest rate but within the range 1.75% – 3.75%. The new rate (currently 1.75%) applies for the years after 2015 on future contributions and also on the accumulated past contributions as at 31 December 2015 if the financing organization does not guarantee a certain result on contributions until retirement age. If the organization does guarantee such a result, the rates

3.25/3.75% still apply on the accumulated past contributions as at 31 December 2015. Because of this minimum guaranteed return, the employer is exposed to a financial risk: further contributions could be required if the return on assets would not be sufficient to reach the minimum benefits to be paid. The Group has plans that are financed through insurance contract as well as one plan financed through an IORP. The related defined benefit obligations have been aggregated with the other obligations for defined benefit plans. The Projected Unit Credit (PUC) methodology has been used. Total defined benefit obligations related to those plans amounts to € 124.7 million as at the end of December 2022 and related plan assets to € 102.2 million.

Pension plans mainly in Belgium, Korea, Liechtenstein and Japan are wholly or partly funded with assets covering a substantial part of the obligations. All other plans have no material funding or are unfunded.

Change in benefit obligation

Thousands of Euros	2021	2022
Change in benefit obligation		
Benefit obligation at beginning of the year	**697,222**	**677,967**
Current service cost	43,641	**40,519**
Interest cost	5,904	**9,648**
Plan Participants' Contributions	843	**1,089**
Remeasurements - changes in demographic assumptions	(831)	**(1,615)**
Remeasurements - changes in financial assumptions	(37,337)	**(178,215)**
Remeasurements - experience adjustments	723	**40,444**
Benefits paid from plan/company	(30,537)	**(35,310)**
Expenses paid	(2,479)	**(3,765)**
Exchange rate changes	818	**900**
BENEFIT OBLIGATION AT END OF THE YEAR	**677,967**	**551,662**

Change in plan assets

Thousands of Euros	2021	2022
Change in plan assets		
Fair value of plan assets at the beginning of the year	**271,690**	**291,479**
Expected return on plan assets	2,069	**3,392**
Remeasurements on plan assets	11,671	**(42,086)**
Employer contributions	37,350	**54,380**
Member contributions	843	**1,089**
Benefits paid from plan/company	(30,537)	**(35,310)**
Expenses paid	(2,534)	**(3,825)**
Exchange rate changes	927	**853**
FAIR VALUE OF PLAN ASSETS AT THE END OF THE YEAR	**291,479**	**269,972**

Change in net liability

Thousands of Euros	2021	2022
Amount recognized in the balance sheet		
Defined benefit obligations	677,967	**551,662**
Fair value of plan assets	291,479	**269,972**
Funded Status	**386,488**	**281,690**
NET LIABILITY (ASSET)	**386,488**	**281,690**
Components of pension costs		
Amounts recognized in income statement		
Current service cost	43,641	**40,519**
Interest cost	5,904	**9,648**
Interest income on plan assets	(2,069)	**(3,392)**
Remeasurement of other long term benefits	(920)	**(4,454)**
Administrative expenses and taxes	55	**60**
Total pension cost recognized in income statement	**46,611**	**42,381**
Amounts recognized in other comprehensive income ("OCI")		
Cumulative remeasurements at opening	**299,829**	**254,689**
Remeasurements of the year	(48,196)	**(92,846)**
Minorities	27	**(26)**
Other movements	-	**(646)**
Translation differences	4	**39**
Change in scope	3,026	**-**
Total recognized in the OCI at subsidiaries	**254,689**	**161,210**
Remeasurements at associates and joint ventures	27,396	**27,595**
TOTAL RECOGNIZED IN THE OCI	**282,084**	**188,805**
Remeasurements recognised in OCI as per Note F23 (w/o Minorities)	48,082	**94,387**
Currency translation differences as per Note F23 (w/o Minorities)	(2,107)	**(1,754)**
Reameasurements related to Minorities (including ctd's on Minorities)	32	**(5)**
Total Remeasurement shown in OCI	**46,007**	**92,628**
.Currency translation differences as per Note F23 (w/o Minorities)	2,107	**1,754**
.Currency translation differences related to Minorities	(5)	**(22)**
.Remeasurements related to equity companies	87	**(1,514)**
REMEASUREMENTS OF THE YEAR SHOWN IN NOTE F27	**48,196**	**92,846**
Remeasurements (recognized in OCI)		
Effect of changes in demographic assumptions	(805)	**(1,615)**
Effect of changes in financial assumptions	(37,103)	**(174,568)**
Effect of experience adjustments	1,404	**41,265**
(Return) on plan assets (excluding interest income)	(11,692)	**42,072**
TOTAL REMEASUREMENTS INCLUDED IN OCI	**(48,196)**	**(92,846)**

The interest cost and return on plan assets as well as the remeasurement impact on the non post-employment benefit plans, are recognized under the financial expenses (discounting of non-current provisions) in the income statement (see note F11). All other elements of the expense of the year are classified under the wages, salaries and direct social advantages in operating expenses.

Remeasurements of the year recognized in other comprehensive income originate mainly from a change in discount rates on the pension plans and differences between the expected and actual return on plan assets offset as well as effects of experience adjustments (higher inflation, pension adjustment on PKD and RUK plans).

	2021	2022
PRINCIPAL ACTUARIAL ASSUMPTIONS		
Weighted average assumptions to determine benefit obligations at year end		
Discount rate (%)	1.17	**3.73**
Rate of compensation increase (%)	2.62	**2.57**
Rate of price inflation (%)	1.80	**2.02**
Rate of pension increase (%)	1.27	**1.58**
Weighted average assumptions used to determine net cost		
Discount rate (%)	0.78	**1.17**
Rate of compensation increase (%)	2.55	**2.62**
Rate of price inflation (%)	1.75	**1.80**
Rate of pension increase (%)	1.30	**1.27**

Category of plan assets

	2022	
	Fair value of all plan assets	Fair Value of plan assets with quoted market price
Plan assets		
Cash and cash equivalents	**34,335**	**30,306**
Equity instruments	**53,603**	**53,603**
Debt instruments	**85,794**	**85,794**
Real estate	**7,413**	**7,413**
Assets held by insurance company	**80,543**	**71,086**
Other	**8,284**	**7,432**
TOTAL PLAN ASSETS	**269,972**	**255,634**

Assumptions are recommended by the local actuaries in line with the IAS19 revised. The standard reference for the Eurozone is iBOXX AA Index yield and similar indexes are used for the other regions. Mortality tables used are country specific.

Other plan assets are predominantly invested in insurance contracts and bank term deposits. The expected long-term rate of return on assets assumptions is documented for the individual plans as recommended by the local actuaries.

Sensitivities on the defined benefits obligation

	2022	
Thousands of Euros	**Valuation trend +0,25%**	**Valuation trend -0,25%**
Sensitivity to trend rate assumptions on discount rate		
Present value of defined benefit obligation	**538,639**	**565,545**
Weighted average duration of benefit obligation (in years)	**9.54**	**10.05**
Sensitivity to trend rate assumptions on inflation rate		
Present value of defined benefit obligation	**532,479**	**519,542**
Sensitivity to trend rate assumptions on salary increase rate		
Present value of defined benefit obligation	**556,322**	**545,126**

Balance sheet reconciliation

Thousands of Euros	**2021**	**2022**
BALANCE SHEET RECONCILIATION		
Balance sheet liability (asset) as of previous year	**425,529**	**386,488**
Pension expense recognized in income statement for the period	46,611	**42,381**
Amounts recognized in OCI	(48,196)	**(92,846)**
Employer contributions via funds for the period	(25,572)	**(41,191)**
Employer contributions paid directly for the period	(11,771)	**(13,189)**
Other	(3)	**-**
Currency translation differences	(109)	**46**
BALANCE SHEET LIABILITY (ASSET) AS OF END OF THE YEAR	**386,489**	**281,690**
Provisions for employee benefits in non current liabilities as per Balance Sheet	387,206	**286,476**
Asset employee benefit in non current asset (note F20)	(718)	**(4,786)**
NET OBLIGATION ON BALANCE SHEET	**386,488**	**281,690**

At 31 December

Thousands of Euros	**2018**	**2019**	**2020**	**2021**	**2022**
Present value of defined benefit obligation	549,052	651,685	697,222	677,967	**551,662**
Fair value of plan assets	216,101	259,952	271,690	291,479	**269,972**
Deficit (surplus) in the plan	**332,951**	**391,733**	**425,532**	**386,488**	**281,690**
Experience adjustments on plan assets	4,410	(17,138)	(5,398)	(11,671)	**42,086**
Experience adjustments on plan liabilities	5,967	3,032	2,942	723	**40,444**

Thousands of Euros	**2022**
EXPECTED CASH FLOWS FOR FOLLOWING YEAR	
Expected employer contributions	**43,867**
Expected total benefit payments	
Year 1	**32,975**
Year 2	**21,394**
Year 3	**32,002**
Year 4	**31,532**
Year 5	**63,124**
Next 5 years	**172,409**

F28 Stock option plans granted by the company

Plan	Expiry date	Exercise	Exercise price EUR (the exercise price may be higher in certain countries)	Number of options still to be exercised
ISOP 2016	04/02/2023	all working days of Euronext Brussels	16.63	**139,200**
				139,200
ISOP 2017	13/02/2024	all working days of Euronext Brussels	25.50	**394,250**
			27.04	**23,750**
				418,000
ISOP 2018	08/02/2025	all working days of Euronext Brussels	40.90	**968,125**
				968,125
ISOP 2019	10/02/2026	all working days of Euronext Brussels	34.08	**1,188,250**
			36.78	**5,000**
				1,193,250
ISOP 2020	09/02/2027	all working days of Euronext Brussels	42.05	**1,163,375**
				1,163,375
ISOP 2021	10/02/2028	all working days of Euronext Brussels	47.08	**1,103,500**
				1,103,500
ISOP 2022	16/02/2029	all working days of Euronext Brussels	33.22	**1,279,064**
				1,279,064
TOTAL				**6,264,514**

ISOP refers to “Incentive Stock Option Plan” (worldwide plan for senior managers and above).

The stock options, which are typically vested at the time of the grant, are foreseen to be settled with treasury shares. Options which have not been exercised before the expiry date elapse automatically.

	2021		2022	
	Number of share options	Weighted average exercise price	Number of share options	Weighted average exercise price
DETAILS OF THE SHARE OPTIONS OUTSTANDING DURING THE YEAR				
Outstanding at the beginning of the year	**5,785,190**	**32.00**	**5,201,500**	**38.23**
Granted during the year	1,108,500	47.08	**1,289,064**	**33.22**
Forfeited during the year	-	-	**28,000**	**37.17**
Exercised during the year	1,692,190	22.72	**198,050**	**20.13**
OUTSTANDING AT THE END OF THE YEAR	**5,201,500**	**38.23**	**6,264,514**	**37.78**
Exercisable at the end of the year	1,703,625	32.82	**2,718,575**	**34.31**

The options outstanding at the end of the year have a weighted average contractual life until September 2026.

The details concerning the calculation of the fair value of the options granted are detailed under note F10 on Payroll and related Benefits.

F29 Environmental provisions

Thousands of Euros	Provisions for soil clean-up & site rehabilitation	Other environmental provisions	Total
At the end of previous year	**109,780**	**20,836**	**130,615**
. Increase (included in "Other operating expenses")	28,154	25,099	**53,252**
. Reversal (included in "Other operating expenses")	(5,764)	(3,377)	**(9,141)**
. Use (included in "Other operating expenses")	(23,571)	(12,287)	**(35,858)**
. Discounting (included in "Financial expenses")	(209)	-	**(209)**
. Translation differences	697	2	**698**
. Other movements	(819)	819	**-**
AT THE END OF THE FINANCIAL YEAR	**108,267**	**31,092**	**139,359**
Of which - Non Current	106,109	13,085	**119,194**
Of which - Current	2,158	18,007	**20,165**

Provisions for environmental legal and constructive obligations are recognized and measured by reference to an estimate of the probability of future cash outflows as well as to historical data based on the facts

and circumstances known at the end of the reporting period. The actual liability may differ from the amounts recognized.

Provisions increased overall by € 8.7 million, with additional provisions which are higher than the uses and reversals of existing provisions.

The increase of provisions for soil and site rehabilitation are mainly related to revised provisions taken in Belgium at Olen site. The use of provision in 2022 mainly relates to the green zone neighboring the Hoboken plant for € 20.0 million.

Early 2020, the Federal Agency for Nuclear Control issued guiding principles for the permanent remediation and storage of the legacy radioactive material related to Umicore's Olen site in Belgium. Joint working groups have been established, including governmental agencies such as NIRAS/ONDRAF, OVAM, FANC and Umicore to elaborate a roadmap describing the different steps that need to be taken to reach a permanent storage solution. Going forward, the joint working groups will provide updates of the estimated future remediation and storage costs and the dedicated existing environmental provisions. The provision will be adapted in view of changing circumstances and insights developed during the project. Developing and implementing this detailed roadmap is currently expected to take several years. Umicore will in the meantime continue the monitoring works to guarantee that no risks are emanating from those remnants, neither for the workers on site, nor for the surrounding population.

The movements of the other environmental provisions are mainly related to the need for and adjustment of CO2 emission rights in Belgium.

Management expects the most significant cash outflows on these projects for non-current elements to take place within 10 years.

F30 Provisions for other liabilities and charges

Thousands of Euros	Provisions for reorganisation & restructuring	Provisions for litigation	Provisions for other liabilities and charges	Total
At the end of the previous year	**38,754**	**2,527**	**86,869**	**128,148**
. Increase (included in "Other operating expenses")	3,260	-	46,343	**49,602**
. Reversal (included in "Other operating expenses")	(1,475)	(10)	(3,821)	**(5,306)**
. Use (included in "Other operating expenses")	(11,124)	(309)	(5,174)	**(16,607)**
. Translation differences	865	(21)	292	**1,136**
AT THE END OF THE FINANCIAL YEAR FOR CONTINUING OPERATIONS	**30,280**	**2,187**	**124,512**	**156,974**
Of which - Non Current	22,440	482	109,173	**132,095**
Of which - Current	7,836	1,704	15,339	**24,879**

Provisions for reorganization and restructuring and other liabilities and charges are recognized and measured by reference to an estimate of the probability of future outflow of cash as well as to historical data based on the facts and circumstances known at the end of the reporting period. The actual liability may differ from the amounts recognized.

Provisions for other liabilities and charges relate to provisions for onerous contracts, warranty and quality recall risks (€ 108.3 million) and other provisions (€ 16.2 million).

In 2022, provisions increased overall by € 28.8 million. Additional other provisions for liabilities and charges include € 36.5 million of provision for warranty and quality recall risks that are mainly linked to risks related to automotive end market applications in both Catalysis and Energy & Surface Technologies (the latter referring to the dedicated provisioning model for battery materials) and € 5.5 million of provision for onerous contracts.

The uses of provision for reorganization and restructuring (€ 11.1 million) mainly relate to the execution of the previously announced restructurings in Cobalt & Specialty Materials in the USA and in Catalysis in Denmark and in the USA.

The provisions for litigation are not including the tax provisions related to IFRIC 23 as those are booked under the line Income tax payable in the balance sheet.

No reliable estimation could be made regarding the expected timing of cash outflows related to the non-current part of the provisions for other liabilities and charges.

F31 Capital employed

Thousands of Euros	Notes	31/12/2021	30/06/2022	31/12/2022
Intangible assets	F14,F15	339,849	342,500	**343,366**
Property, plant and equipment	F16	2,351,134	2,436,788	**2,532,301**
Investments accounted for using the equity method	F17	155,140	170,895	**158,943**
Financial assets at FV through OCI	F18	14,120	14,207	**22,165**
Inventories	F19	2,869,071	3,142,604	**3,393,674**
Non current receivable (excluding assets employee benefits)	F20	19,954	19,205	**13,926**
Current trade and other receivables for capital employed calculation		1,750,174	2,226,229	**1,730,814**
Income tax receivable		46,762	57,221	**82,941**
Assets included in capital employed		**7,546,203**	**8,409,651**	**8,278,131**
Non-current trade and other payables	F25	47,360	46,596	**48,037**
Current trade and other payables for capital employed calculation		2,783,459	3,437,611	**3,053,518**
Translation reserves	F23	(117,250)	(40,347)	**(97,444)**
Non-current provisions	F29,F30	215,502	244,141	**251,289**
Current provisions	F29,F30	43,266	43,575	**45,044**
Income tax payable		197,488	209,885	**261,950**
Liabilities included in capital employed		**3,169,825**	**3,941,461**	**3,562,394**
Capital employed		**4,376,378**	**4,468,190**	**4,715,737**
Eliminations		517	6,565	**259**
CAPITAL EMPLOYED AS PUBLISHED		**4,376,895**	**4,474,755**	**4,715,996**
Average Capital Employed in first half of the year (*)		4,404,011		**4,425,825**
Average Capital Employed in second half of the year (**)		4,364,169		**4,595,375**
Average Capital Employed for the period		**4,384,090**		**4,510,600**
Adjusted EBIT	F9	971,377		**864,639**
ROCE in year preceding closing date		**22.16%**		**19.17%**

(*) calculated as the average of the Capital Employed at June 30 and the Capital Employed at the end of the previous year

(**) calculated as the average of the Capital employed at the end of the period and the capital employed at June 30

The current trade and other receivables used for the calculation of the capital employed do not take into account the margin calls (€ 37.5 million at the end of 2022) and the gains booked on the mark-to-market value of strategic hedging instruments (€ 62.5 million in 2022). The current trade and other payables used for the calculation of the capital employed do not take into account the losses booked on the mark-to-market value of strategic hedging instruments (€ 56.6 million at the end of 2022).

Average capital employed for the period is calculated as the average of the capital employed of both half years.

F32 Financial instruments by category

AS AT THE END OF PREVIOUS YEAR

							Carrying amount
Thousands of Euros	**Level**	**Fair value**	**Held for trading - economic hedging**	**Fair value hedge accounting**	**Cash Flow hedge accounting**	**Loans, receivables and payables**	**Financial assets at FV through OCI**
ASSETS							
Financial assets at fair value through Other Comprehensive Income		**14,120**	**-**	**-**	**-**	**-**	**14,120**
Financial assets at fair value through Other Comprehensive Income - Shares	1	14,120	-	-	-	-	14,120
Loans granted		**2,777**	**-**	**-**	**-**	**2,777**	**-**
Loans to associates and non consolidated affiliates		2,777	-	-	-	2,777	-
Trade and other receivables		**1,852,705**	**3,977**	**9,868**	**80,452**	**1,758,408**	**-**
Non-current							
Cash guarantees and deposits		9,737	-	-	-	9,737	-
Other receivables maturing in more than 1 year		10,217	-	-	-	10,217	-
Assets employee benefits		718	-	-	-	718	-
Current							
Trade receivables (at cost)		1,394,540	-	-	-	1,394,540	-
Trade receivables (write-down)		(18,771)	-	-	-	(18,771)	-
Other receivables (at cost)		243,746	-	-	-	243,746	-
Other receivables (write-down)		(207)	-	-	-	(207)	-
Interest receivable		1,439	-	-	-	1,439	-
Fair value of financial instruments held for cash-flow hedging	2	80,452	-	-	80,452	-	-
Fair value receivable - financial instruments related to FV hedging	2	13,845	3,977	9,868	-	-	-
Deferred charges and accrued income		116,989	-	-	-	116,989	-
Cash and cash equivalents		**1,194,436**	**-**	**-**	**-**	**1,194,436**	**-**
Short-term investments: bank term deposits		272,965	-	-	-	272,965	-
Short-term investments: term deposits (other)		43	-	-	-	43	-
Cash-in-hand and bank current accounts		921,428	-	-	-	921,428	-
TOTAL OF FINANCIAL INSTRUMENTS (ASSETS)		**3,064,038**	**3,977**	**9,868**	**80,452**	**2,955,621**	**14,120**

							Carrying amount
Thousands of Euros	**Level**	**Fair value**	**Held for trading - economic hedging**	**Fair value hedge accounting**	**Cash Flow hedge accounting**	**Loans, receivables and payables**	**Financial assets at FV through OCI**
LIABILITIES							
Financial debt		**2,182,852**	**-**	**-**	**-**	**2,154,884**	**-**
Non-current							
Bank loans		1,232,968	-	-	-	1,205,000	-
Lease liability		62,892	-	-	-	62,892	-
Other loans		456,145	-	-	-	456,145	-
Current							
Short term bank loans		374,720	-	-	-	374,720	-
Bank overdrafts		28,122	-	-	-	28,122	-
Short term loan: commercial paper		8,005	-	-	-	8,005	-
Other loans		20,001	-	-	-	20,001	-
Trade and other payables		**2,855,327**	**433**	**31,874**	**24,504**	**2,798,516**	**-**
Non-current							
Other long term debts		6,540	-	-	-	6,540	-
Investments grants and deferred income from grants		40,821	-	-	-	40,821	-
Current							
Trade payables		2,196,225	-	-	-	2,196,225	-
Advances received on contracts in progress		29,851	-	-	-	29,851	-
Tax - other than income tax - payable		32,885	-	-	-	32,885	-
Payroll and related charges		168,014	-	-	-	168,014	-
Other amounts payable		67,708	-	-	-	67,708	-
Dividends payable		11,612	-	-	-	11,612	-
Accrued interest payable		10,326	-	-	-	10,326	-
Fair value financial instrument held for cash flow hedging	2	24,504	-	-	24,504	-	-
Fair value payable - financial instruments related to FV hedging	2	32,307	433	31,874	-	-	-
Accrued charges and deferred income		234,534	-	-	-	234,534	-
TOTAL OF FINANCIAL INSTRUMENTS (LIABILITIES)		**5,038,179**	**433**	**31,874**	**24,504**	**4,953,400**	**-**

AS AT THE END OF THE FINANCIAL YEAR

			Carrying amount				
Thousands of Euros	**Level**	**Fair value**	**Held for trading - economic hedging**	**Fair value hedge accounting**	**Cash Flow hedge accounting**	**Loans, receivables and payables**	**Financial assets at FV through OCI**
ASSETS							
Financial assets at fair value through Other Comprehensive Income		**22,165**					**22,165**
Financial assets at fair value through Other Comprehensive Income - Shares	1	22,165					22,165
Loans granted		**3,865**				**3,865**	
Loans to associates and non consolidated affiliates		3,865				3,865	
Trade and other receivables		**1,849,252**	**25,219**	**23,141**	**62,187**	**1,738,705**	
Non-current							
Cash guarantees and deposits		9,596				9,596	
Other receivables maturing in more than 1 year		4,330				4,330	
Assets employee benefits		4,786				4,786	
Current							
Trade receivables (at cost)		1,313,156				1,313,156	
Trade receivables (write-down)		(17,893)				(17,893)	
Other receivables (at cost)		309,323				309,323	
Other receivables (write-down)		(378)				(378)	
Interest receivable		1,942				1,942	
Fair value of financial instruments held for cash-flow hedging	2	62,187			62,187		
Fair value receivable - financial instruments related to FV hedging	2	48,359	25,219	23,141			
Deferred charges and accrued income		113,843				113,843	
Cash and cash equivalents		**1,239,869**				**1,239,869**	
Short-term investments: bank term deposits		612,839				612,839	
Short-term investments: term deposits (other)		98				98	
Cash-in-hand and bank current accounts		626,932				626,932	
TOTAL OF FINANCIAL INSTRUMENTS (ASSETS)		**3,115,151**	**25,219**	**23,141**	**62,187**	**2,982,439**	**22,165**

						Carrying amount	
Thousands of Euros	**Level**	**Fair value**	**Held for trading - economic hedging**	**Fair value hedge accounting**	**Cash Flow hedge accounting**	**Loans, receivables and payables**	**Financial assets at FV through OCI**
LIABILITIES							
Financial debt		**2,294,869**				**2,343,438**	
Non-current							
Bank loans		1,068,431				1,117,000	
Lease liability		40,709				40,709	
Other loans		468,470				468,470	
Current							
Short term bank loans		346,591				346,591	
Lease liability		16,015				16,015	
Bank overdrafts		18,534				18,534	
Short term loan: commercial paper		94,918				94,918	
Other loans		241,201				241,201	
Trade and other payables		**3,158,095**	**14,477**	**64,867**	**56,541**	**3,022,210**	
Non-current							
Long term trade payables		23				23	
Other long term debts		6,324				6,324	
Investments grants and deferred income from grants		41,690				41,690	
Current							
Trade payables		2,250,707				2,250,707	
Advances received on contracts in progress		33,061				33,061	
Tax - other than income tax - payable		31,645				31,645	
Payroll and related charges		183,630				183,630	
Other amounts payable		116,096				116,096	
Dividends payable		11,616				11,616	
Accrued interest payable		11,181				11,181	
Fair value financial instrument held for cash flow hedging	2	56,541			56,541		
Fair value payable - financial instruments related to FV hedging	2	79,344	14,477	64,867			
Accrued charges and deferred income		336,237				336,237	
TOTAL OF FINANCIAL INSTRUMENTS (LIABILITIES)		**5,452,964**	**14,477**	**64,867**	**56,541**	**5,365,649**	**-**

Loans and debt have been issued at market rates which would not create any major differences with effective interest expenses. All categories of financial instruments of Umicore are at fair value except the non-current bank loans for which the carrying amounts differ from the fair value (see note F24). The fair value of financial instruments traded in active markets is based on quoted market prices at the end of the reporting period. The fair value of financial instruments that are not traded in an active market is determined using valuation techniques, mainly discounted cash-flow, using market assumptions prevailing at the end of the reporting period. In particular, the fair value of interest rate swaps is calculated as the present value of the estimated future cash flows. The fair value of forward foreign exchange, metal and energy contracts is determined using quoted forward exchange, metal and energy rates at the end of the reporting period. The fair value of quoted financial assets held by the Group is their quoted market price at the end of the reporting period. The fair value of financial liabilities is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the Group for similar financial instruments. The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair values.

32.1 Fair value hierarchy

The Group adopted the amendment to IFRS 7 for financial instruments which are measured in the balance sheet at fair value, with effect from January 2009. This amendment requires disclosures of fair value measurements by level, based on the following fair value measurement hierarchy:

- Level 1: fair value based on quoted prices in active markets for identical assets or liabilities.
- Level 2: fair value based on inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly.
- Level 3: fair value for the asset or liability valuation are based on unobservable inputs.

In the Group, the fair values on financial assets at fair value through OCI are measured as level 1.

All the metal, energy and foreign currency derivatives are measured as level 2.

During the year, there were no transfer between levels in the fair value hierarchy.

32.2 Sensitivity analysis on financial instruments

Umicore is sensitive to commodity prices, foreign currency and interest rate risk on its financial instruments. The fair values of the financial instruments reflect the difference between the contract rates and the closing rates. The sensitivity calculations are performed by stressing the closing rates (being commodity prices, currency exchange rates, electricity and gas prices and interest rates) with 10% up and down. The market values in the stressed scenario's are then compared to the original market values.

32.2.1 Commodity prices

The fair value on financial instruments related to cash flow hedging sales would have been € 14.1 million lower/higher if the metal prices would strengthen/weaken by 10%.

The fair value on financial instruments related to cash flow hedging purchases would have been € 11.5 million higher/lower if the energy prices would strengthen/weaken by 10%.

The fair value on other commodity sales hedge compliant financial instruments would have been € 48.4 million lower/higher and the fair value on other commodity purchases hedge compliant financial instruments would have been € 11.4 million higher/lower if the metal prices would strengthen/weaken by 10%.

The fair value on other commodity sales financial instruments according to economic logic would have been € 15.8 million lower/higher and the fair value on other commodity purchases financial instruments according to economic logic would have been € 2.1 million higher/lower if the metal prices would strengthen/weaken by 10%.

32.2.2 Foreign currency

The fair value of forward currency contracts related to cash flow hedging would have been € 40.2 million higher if the EUR would strengthen against USD by 10% and would have been € 49.1 million lower if the EUR would weaken against USD by 10%.

The fair value of forward currency contracts related to cash flow hedging would have been € 9.3 million lower if the USD would strengthen against KRW by 10% and would have been € 9.3 million higher if the USD would weaken against KRW by 10%.

The fair value of forward currency contracts related to cash flow hedging would have been € 3.7 million higher if the EUR would strengthen against CNY by 10% and would have been € 4.5 million lower if EUR would weaken against CNY by 10%.

The fair value of forward currency contracts related to cash flow hedging would have been € 3.3 million lower if the USD would strengthen against CNY by 10% and would have been € 3.3 million higher if USD would weaken against CNY by 10%.

The fair value of forward currency contracts related to cash flow hedging would have been € 6.1 million lower if the USD would strengthen against BRL by 10% and would have been € 6.1 million higher if USD would weaken against BRL by 10%.

The fair value of forward currency contracts related to cash flow hedging would have been € 6.0 million lower if the USD would strengthen against CAD by 10% and would have been € 7.3 million higher if USD would weaken against CAD by 10%.

The fair value of forward currency contracts related to cash flow hedging would have been € 8.3 million lower if the EUR would strengthen against PLN by 10% and would have been € 10.2 million higher if EUR would weaken against PLN by 10%.

The fair value of other forward currency contracts sold would have been € 54.1 million higher if the EUR would strengthen against USD by 10% and would have been € 66.2 million lower if the EUR would weaken against USD by 10%.

The fair value of other forward currency contracts bought would have been € 15.8 million lower if the EUR would strengthen against USD by 10% and would have been € 19.4 million higher if the EUR would weaken against USD by 10%.

The fair value of net position of current assets and liabilities exposed to USD would have been € 31.2 million lower if the EUR would strengthen against USD by 10% and would have been € 38.1 million higher if the EUR would weaken against USD by 10%.

The fair value of other forward currency contracts sold would have been € 6.7 million higher if the EUR would strengthen against CNY by 10% and would have been € 8.2 million lower if the EUR would weaken against CNY by 10%.

The fair value of net position of current assets and liabilities exposed to CNY would have been € 6.6 million lower if the EUR would strengthen against CNY by 10% and would have been € 8.1 million higher if the EUR would weaken against CNY by 10%.

The fair value of other forward currency contracts sold would have been € 9.8 million higher if the CNY would strengthen against USD by 10% and would have been € 12.0 million lower if the CNY would weaken against USD by 10%.

The fair value of other forward currency contracts sold would have been € 4.3 million higher if the EUR would strengthen against PLN by 10% and would have been € 5.2 million lower if the EUR would weaken against PLN by 10%.

The fair value of net position of current assets and liabilities exposed to PLN would have been € 4.8 million higher if the EUR would strengthen against PLN by 10% and would have been € 5.8 million lower if the EUR would weaken against PLN by 10%.

The fair value of other forward currency contracts sold would have been € 9.3 million lower if the KRW would strengthen against USD by 10% and would have been € 9.3 million higher if the KRW would weaken against USD by 10%.

The fair value of other forward currency contracts bought would have been € 4.0 million higher if the KRW would strengthen against USD by 10% and would have been € 4.0 million lower if the KRW would weaken against USD by 10%.

The fair value of net position of current assets and liabilities exposed to KRW would have been € 9.9 million lower if the EUR would strengthen against KRW by 10% and would have been € 12.2 million higher if the EUR would weaken against KRW by 10%.

32.2.3 Interest rate

The fair value of long term loans would have been € 21.7 million lower if interest rate levels would increase by 10% and € 22.2 million higher if interest rate levels would decrease by 10%.

F33 Fair value of financial instruments (derivatives)

Umicore hedges its structural and transactional commodity (metal and energy), currency and interest rate risks using respectively commodity derivatives (mainly quoted on the London Metal Exchange), currency derivatives and (cross-currency) interest rate swaps with reputable brokers and banks.

33.1 Financial instruments related to cash-flow hedging

	Notional or Contractual amount		Fair value		Change in fair value
Thousands of Euros	**31/12/2021**	**31/12/2022**	**31/12/2021**	**31/12/2022**	**31/12/2022**
Forward commodities sales	156,750	**151,101**	11,241	**9,680**	(1,560)
Forward commodities purchases	(52,394)	**(89,600)**	59,564	**25,388**	(34,176)
Forward currency contracts sales	681,471	**787,569**	(16,315)	**(22,001)**	(5,686)
Forward currency contracts purchases	(57,804)	**(96,565)**	4,621	**2,801**	(1,820)
Forward IRS contracts	396,600	**796,913**	(3,164)	**(10,222)**	(7,059)
Total fair value impact subsidiaries			**55,947**	**5,646**	**(50,301)**
recognized under trade and other receivables			80,452	**62,187**	
recognized under trade and other payables			(24,504)	**(56,541)**	
Total fair value impact associates and joint ventures			(1,953)	**(1,735)**	
Total			**53,995**	**3,911**	

The principles and documentation on the hedged risks as well as the timing related to the Group's cash flow hedging operations are included in note F3 Financial risk management.

The fair values of the effective hedging instruments are in the first instance recognized in the fair value reserves recorded in equity and are derecognized when the underlying forecasted or committed transactions occur (see note F23).

The forward commodities sales contracts are set up to hedge primarily the following commodities: gold, silver, palladium, platinum, nickel, lead, rhodium, cobalt and copper. The forward commodity purchase contracts are set up to hedge primarily the electricity, gas and fuel oil price risks. The forward currency contracts are set up to hedge USD towards EUR, KRW, CNY, BRL and CAD as well as EUR towards PLN and CNY. The terms and conditions of the forward contracts are common market conditions. Following the new issuance of US private placements in November 2022 (see note F24), Umicore set up cross currency swaps whose notional and fair value are included in the forward currency contract sales category. (Cross-currency) interest rates swap contracts are set up to hedge primarily intercompany loans to Group's entities whose functional currency is different from the loan currency.

Umicore did not face any ineffectiveness on cash flow hedging in P&L in 2021 and 2022.

The fair values of the hedging instruments reflect the difference between the contract rates and the closing rates. The total fair value of financial instruments for cash-flow hedging has a positive impact on the fair value reserves in equity at end of 2022. This positive impact is most significant for commodities purchased and sold, while forward currency contracts and (cross-currency) interest swaps offset part of this positive impact. All of the hedging instruments have their maturity within the next three years except for the cross currency swaps related to the new issuance of US private placements which have longer maturities.

33.2 Financial instruments related to fair value hedging

	Notional or Contractual amount		Fair value		Change in fair value
Thousands of Euros	**31/12/2021**	**31/12/2022**	**31/12/2021**	**31/12/2022**	**31/12/2022**
Forward commodities sales (IFRS 9-hedge accounting)	259,702	**360,386**	(14,858)	**(53,093)**	(38,235)
Forward commodities sales (economic hedging)	59,432	**168,485**	1,984	**10,451**	8,467
Forward commodities purchases (IFRS 9-hedge accounting)	(82,064)	**(79,685)**	4,934	**16,940**	12,006
Forward commodities purchases (economic hedging)	(58,194)	**(21,413)**	1,560	**291**	(1,269)
Forward currency contracts sales	1,216,640	**1,260,888**	(12,232)	**(668)**	11,565
Forward currency contracts purchases	(494,154)	**(428,554)**	150	**(4,905)**	(5,055)
Total fair value impact subsidiaries			**(18,463)**	**(30,984)**	**(12,522)**
recognized under trade and other receivables (IFRS 9- hedge accounting)			9,868	**23,141**	
recognized under trade and other receivables (economic hedging)			3,977	**25,219**	
recognized under trade and other payables (IFRS 9- hedge accounting)			(31,875)	**(64,867)**	
recognized under trade and other payables (economic hedging)			(433)	**(14,477)**	
Total			**(18,462)**	**(30,984)**	

The principles and documentation related to the Group's transactional hedging are included in note F3 "Financial Risk Management". Under Umicore's economical hedging policy, financial instruments for currency and commodity hedging are used to protect the fair value of underlying hedged items (assets, liabilities and firm commitments) and are recognized at fair value at closing date. Umicore obtained for the fair value hedging of its currency risk exposures hedge accounting under the criteria of IFRS 9 (see note F2.22.1).

For the fair value hedging of its commodity risk exposures, Umicore did not obtain hedge accounting under the criteria of IFRS 9 for some metals. Hedge accounting principles are accepted for copper, lead and nickel. In the absence of hedge accounting, the financial instruments are measured at fair value as if they were held for trading. However, such instruments are being used to cover existing transactions, considered as hedged items under Umicore transactional hedging risk policy (primarily inventory and firm commitments) and so these commodity hedging instruments held for trading are not speculative in nature.

The fair values are immediately recognized in the income statement under Other Operating income for the commodity instruments and the Net Finance cost for the currency instruments. The adjustments for the hedged items as well as the hedging instruments are recorded in the following caption of the statement of financial position: "trade and other receivables" and "trade and other payables".

The fair values of the hedging instruments reflect the difference between the contract rates and the market closing rates. In view of the intent of the Group policy on transactional hedging, the net impact on operating income of fair value movements on both hedging instruments and hedged items is neutral. The booking of the fair value movements on financial instruments under fair value hedging had a negative impact on the operating income at the end of 2022. Most of the fair values of the hedging instruments are not significant as the closing rates do not materially differ from the strike rates. Only for the commodities sold and purchased the fair values are significant. These concern metal hedging instruments of which most have their maturity within the next year. The forward commodities sales contracts are set up to hedge primarily the following commodities: nickel, lead and copper. The forward commodity purchase contracts are set up to hedge primarily nickel, lead and copper. The forward currency contracts are set up to hedge mainly USD towards EUR, BRL and KRW as well as EUR towards CNY, KRW, and PLN.

The forward contracts following the economic logic are contracts to hedge following commodities: silver, gold, platinum and palladium.

Fair value hedged items and hedging instruments compliant with IFRS 9 hedge accounting

	31/12/2021		31/12/2022				
Thousands of Euros	**Fair Value Hedged Items**	**Fair Value Hedging Instruments**	**Fair Value Hedged Items**	**Fair Value Hedging Instruments**	**Change in Fair Value Hedged Items**	**Change in Fair Value Hedging Instruments**	**Ineffectiveness**
Transactional metal hedges	18,905	(12,031)	**55,080**	**(41,920)**	36,175	(29,889)	6,285

The main source of hedge ineffectiveness on the fair value hedging originates from differences in maturity dates between the hedging instruments and the underlying hedged item. With respect to the fair value currency hedges, the hedged items are mirroring the hedging instruments and are included in various sections of the balance sheet. The total fair value on these transactional currency hedges amounted to a loss of € 5.5 million. The ineffectiveness on currency hedges is immaterial.

AS AT THE END OF PREVIOUS YEAR

	Earliest contractual maturity (undiscounted) - notional amounts					Earliest contractual maturity (undiscounted) - fair value				
Thousands of Euros	**< 1 Month**	**1 to 3 Months**	**3 Months to 1 Year**	**1 to 5 Years**	**Total**	**< 1 Month**	**1 to 3 Months**	**3 Months to 1 Year**	**1 to 5 Years**	**Total**
FINANCIAL INSTRUMENTS ASSETS (FAIR VALUE)										
Interest Rate Risk										
(Cross-currency) Interest rate swaps	-	-	-	121,600	**121,600**	-	-	-	47	**47**
Commodity risk										
Total forward sales (CFH)	10,140	33,666	43,231	55,937	**142,974**	191	(254)	(509)	12,444	**11,872**
Total forward purchases (CFH)	2,475	4,952	32,113	12,854	**52,394**	1,515	3,006	43,242	11,801	**59,564**
Total forward purchases (FV - IFRS 9 Hedge Accounting)	25,929	30,273	25,862	-	**82,064**	1,445	1,528	1,961	-	**4,934**
Total forward sales (FV economic hedging)	-	43,666	2,592	-	**46,258**	-	2,224	193	-	**2,417**
Total forward purchases (FV economic hedging)	14,932	40,885	2,377	-	**58,194**	497	1,041	21	-	**1,560**
FX Risk										
Forward currency contracts sales (CFH)	32,617	9,338	49,359	23,610	**114,924**	963	501	2,865	18	**4,348**
Forward currency contracts purchases (CFH)	2,475	4,952	34,319	16,058	**57,804**	337	680	3,287	317	**4,621**
Forward currency contracts sales (FV - IFRS 9 Hedge Accounting)	81,149	40,909	25,430	-	**147,488**	755	306	256	-	**1,318**
Forward currency contracts purchases (FV - IFRS 9 Hedge Accounting)	121,549	78,972	47,854	385	**248,759**	1,419	394	1,801	1	**3,616**
FINANCIAL INSTRUMENTS LIABILITIES (FAIR VALUE)										
Interest Rate Risk										
(Cross-currency) Interest rate swaps	-	-	-	275,000	**275,000**	-	-	-	(3,211)	**(3,211)**
Commodity risk										
Total forward sales (CFH)	305	1,870	6,514	5,087	**13,776**	(55)	(87)	(337)	(152)	**(631)**
Total forward sales (FV - IFRS 9 Hedge Accounting)	65,774	94,180	58,764	40,983	**259,702**	(2,455)	(3,406)	(5,197)	(3,801)	**(14,858)**
Total forward sales (FV economic hedging)	-	-	13,174	-	**13,174**	-	-	(433)	-	**(433)**
FX Risk										
Forward currency contracts sales (CFH)	41,509	44,982	256,654	223,401	**566,547**	(1,894)	(1,744)	(10,605)	(6,420)	**(20,663)**
Forward currency contracts sales (FV - IFRS 9 Hedge Accounting)	486,931	351,714	192,287	38,220	**1,069,152**	(5,800)	(6,746)	(1,148)	144	**(13,550)**
Forward currency contracts purchases (FV - IFRS 9 Hedge Accounting)	76,362	115,950	53,083	-	**245,394**	(720)	(2,398)	(348)	-	**(3,466)**

AS AT THE END OF THE FINANCIAL YEAR

	Earliest contractual maturity (undiscounted) - notional amounts					Earliest contractual maturity (undiscounted) - fair value				
Thousands of Euros	**< 1 Month**	**1 to 3 Months**	**3 Months to 1 Year**	**1 to 5 Years**	**Total**	**< 1 Month**	**1 to 3 Months**	**3 Months to 1 Year**	**1 to 5 Years**	**Total**
Financial Instruments Assets										
Interest Rate Risk										
(Cross-currency) Interest rate swaps	-	-	40,000	362,032	**402,032**	-	-	367	7,305	**7,672**
Commodity risk										
Total forward sales (CFH)	2,213	13,395	49,859	28,085	**93,552**	644	2,021	7,505	10,608	**20,779**
Total forward purchases (CFH)	-	-	67,574	22,026	**89,600**	-	-	(3,086)	28,474	**25,388**
Total forward purchases (FV - IFRS 9 Hedge Accounting)	18,438	14,177	35,265	-	**67,881**	3,739	2,829	10,381	-	**16,950**
Total forward sales (FV economic hedging)	5,274	8,999	51,506	14,493	**80,272**	2,067	3,234	15,632	3,969	**24,901**
Total forward purchases (FV economic hedging)	-	20,223	-	-	**20,223**	-	317	-	-	**317**
FX Risk										
Forward currency contracts sales (CFH)	2,093	4,186	18,843	(70,334)	**(45,212)**	111	235	1,166	4,036	**5,547**
Forward currency contracts purchases (CFH)	3,557	7,114	32,056	53,837	**96,565**	216	386	993	1,206	**2,801**
Forward currency contracts sales (FV - IFRS 9 Hedge Accounting)	465,048	268,646	123,938	7,800	**865,433**	2,775	(1,477)	4,364	278	**5,940**
Forward currency contracts purchases (FV - IFRS 9 Hedge Accounting)	60,449	58,311	67,615	-	**186,375**	171	18	61	-	**251**
Financial Instruments Liabilities										
Interest Rate Risk										
(Cross-currency) Interest rate swaps	-	20,361	154,520	220,000	**394,881**	-	(368)	(3,404)	(14,123)	**(17,895)**
Commodity risk										
Total forward sales (CFH)	3,814	5,888	29,906	17,941	**57,549**	(472)	(1,245)	(5,969)	(3,412)	**(11,098)**
Total forward sales (FV - IFRS 9 Hedge Accounting)	24,773	67,531	196,307	71,775	**360,386**	(5,234)	(8,171)	(31,104)	(8,585)	**(53,093)**
Total forward purchases (FV - IFRS 9 Hedge Accounting)	2,354	9,451	-	-	**11,804**	5	(15)	-	-	**(10)**
Total forward sales (FV economic hedging)	-	59,988	28,225	-	**88,213**	-	(11,009)	(3,440)	-	**(14,450)**
Total forward purchases (FV economic hedging)	-	-	1,190	-	**1,190**	-	-	(27)	-	**(27)**
FX Risk										
Forward currency contracts sales (CFH)	55,789	58,224	321,211	297,557	**732,780**	(4,974)	(2,301)	(18,676)	(1,597)	**(27,548)**
Forward currency contracts sales (FV - IFRS 9 Hedge Accounting)	129,273	175,451	90,732	-	**395,455**	(671)	(2,920)	(3,017)	-	**(6,608)**
Forward currency contracts purchases (FV - IFRS 9 Hedge Accounting)	143,101	34,645	23,645	40,788	**242,179**	(1,759)	(614)	(1,068)	(1,714)	**(5,156)**

F34 Notes to the cash flow statement

34.1 Definitions

The cash flow statement identifies operating, investing and financing activities for the period.

Umicore uses the indirect method for the operating cash flows. The profit (loss) of the period is adjusted for:

- the effects of non-cash transactions such as provisions, impairment losses, mark to market, etc., and the variance in operating capital requirements.
- items of income or expense associated with investing or financing cash flows.

Thousands of Euros	2021	2022
Adjustments for non cash transactions		
Depreciation and amortisation	279,526	**285,907**
(Reversal) Impairment loss	48,504	**24,931**
Mark to market of inventories and commitments	19,764	**64,068**
Exchange difference on long-term loans	4,878	**(14,811)**
(Reversal) Impairment loss on other financial assets	-	**811**
Write-down on inventory and impairment of financial assets	10,747	**17,544**
Depreciation on government grants	(401)	**(2,401)**
Share-based payments	14,255	**11,824**
Change in provisions	22,662	**23,928**
Total	**399,936**	**411,803**
Adjustments for items to disclose separately or under investing and financing cash flows		
Income taxes of the period	179,043	**137,600**
Interest (income) charges	51,498	**76,954**
(Gain) loss on disposal of fixed assets	(1,759)	**(7,732)**
Dividend income	(210)	**(251)**
Total	**228,573**	**206,571**
Change in working capital requirement analysis		
Inventories	(150,979)	**(524,603)**
Trade and other receivables	(171,084)	**(28,658)**
Trade and other payables	449,647	**367,231**
As in the consolidated balance sheet	**127,584**	**(186,030)**
Non-cash items (*)	35,113	**(138,534)**
Items disclosed elsewhere (**)	(52,810)	**(29,508)**
Currency translation differences	57,269	**11,906**
As in the consolidated cash flow statement	**167,156**	**(342,166)**

(*) Non-cash items are mainly linked to mark to market of strategic and transactional hedging as well as impairments on inventories and receivables.

(**) Item disclosed elsewhere are mainly due to changes in interests, tax receivable and payable as well as government grants.

Thousands of Euros	Net cash and cash equivalent	Loans (w/o bank overdrafts)	Net financial debt
At the end of previous year	**1,166,315**	**2,126,762**	**960,447**
Cash flow of the period	55,020	198,143	**143,123**
AT THE END OF THE FINANCIAL YEAR	**1,221,335**	**2,324,905**	**1,103,570**

Net cash and cash equivalent includes bank overdrafts as disclosed in note F22.

34.2 Net cash flow generated by operating activities

Operating cash flow after tax is € 634 million. Net working capital for the Group increased by € 342 million compared to the end of 2021. While higher battery metal prices increased working capital in Energy & Surface Technologies, working capital needs remained stable in Catalysis and decreased in Recycling thanks to a temporary cut off effect.

34.3 Net cash flow used in investing activities

Net cash used in investing activities increased by € 9.3 million in 2022 compared to 2021. Capital expenditure reached € 469.9 million (compared to € 388.6 million in 2021), excluding capitalized R&D costs as per Umicore's definition of capital expenditures (refer to Glossary). Energy & Surface Technologies accounted for more than 60% of the Group's capital expenditure, driven by investments in the expansion of the Rechargeable Battery Materials business unit European's footprint. In the Catalysis and Recycling business segments capital expenditure slightly decreased. In Catalysis, the Automotive Catalysts business unit continued to focus on investments in production footprint optimization and targeted capacity expansions. In Recycling, the increase in capital expenditure was related to environmental and safety investments in the Precious Metals Refining business unit. Capitalized development expenses amounted to € 21.4 million, down versus 2021.

Thousands of Euros		2021	2022
Acquisition of tangible assets	a	379,572	**458,859**
Acquisition of intangible assets	b	36,854	**32,431**
Acquisitions of assets	**c=a+b**	**416,426**	**491,290**
Capitalized R&D	d	27,830	**21,412**
Capital expenditure	**e=c-d**	**388,596**	**469,878**

34.4 Net cash flow used in financing activities

The cash used in financing activities is mainly related to the purchase and use of own shares to cover the exercise of options (€ 43.2 million), the payment of dividends (€ 197.7 million), of interest (€ 70.2 million) and the reimbursement of the lease liability (€ 20.1 million).

The effect of exchange rate fluctuations in the statement of cash flow includes the effect of exchange rate fluctuations on cash held on one hand and the currency translation effect on the intercompany loan eliminations on the other hand.

F35 Off-balance sheet rights and commitments

Thousands of Euros	2021	2022
Guarantees constituted by third parties on behalf of the Group	38,112	**64,139**
Guarantees constituted by the Group on behalf of third parties	3,112	**3,625**
Guarantees received	81,102	**58,563**
Goods and titles held by third parties in their own names but at the Group's risk	1,643,975	**1,988,971**
Commitments to acquire and sell fixed assets	4,278	**25,783**
Commercial commitments for commodities purchased (to be received)	910,182	**1,106,973**
Commercial commitments for commodities sold (to be delivered)	1,930,639	**2,346,619**
Goods and titles of third parties held by the Group	5,447,836	**6,676,091**
TOTAL	**10,059,236**	**12,270,764**

35.1 Guarantees constituted by third parties on behalf of the Group

These are secured and unsecured guarantees given by third parties to the creditors of the Group guaranteeing that the Group's debts and commitments, actual and potential, will be satisfactorily discharged.

35.2 Guarantees constituted by the Group on behalf of third parties

These are guarantees or irrevocable undertakings given by the Group in favor of third parties guaranteeing the satisfactory discharge of debts or of existing or potential commitments by the third party to its creditors.

There are no loan commitments given to third parties.

35.3 Guarantees received

These are pledges and guarantees received guaranteeing the satisfactory discharge of debts and existing and potential commitments of third parties towards the Group, with the exception of guarantees and security in cash.

The guarantees received are mainly related to supplier guarantees backed by bank institutions. Those guarantees are set up to cover the good execution of work by the supplier.

Some guarantees received are related to customer guarantees, received mainly from a customer's mother company on behalf of one of its subsidiaries. A minor part of the received guarantees is related to rent guarantees.

All guarantees are taken at normal market conditions and their fair value is equivalent to the carrying amount. No re-pledge has been done on any of those guarantees.

35.4 Goods and titles held by third parties in their own names but at the Group's risk

These represent goods and titles included in the Group balance sheet for which the Group bears the risk and takes the profit, but where these goods and titles are not present on the premises of the Group. It concerns mainly inventories leased out to third parties or held under consignment or under tolling agreement by third parties.

35.5 Commercial commitments

These are firm commitments to deliver or receive metals to customers or from suppliers at fixed prices.

35.6 Goods and titles of third parties held by the Group

These are goods and titles held by the Group, but which are not owned by the Group. It concerns mainly third-party inventories leased in or held under consignment or tolling agreements with third parties. It also includes in a much lesser extent some non-metal leases that are not in the scope of IFRS 16 because of lower values or short-term.

The Group leases metals (particularly gold, silver, platinum and palladium) from and to banks and other third parties for specified, mostly short term, periods and for which the Group pays or receives fees. As at 31 December 2022, there was a net lease-in position of € 1,444 million vs. € 1,005 million at end of 2021. This increase is mainly caused by higher volumes. As detailed in Note F2.8, those metal leases are not under the scope of IFRS 16.

F36 Contingencies

As previously disclosed, the Group had at 31 December 2021 a pending file that can be qualified as a contingent liability according to the definition of IFRS. A subsidiary of Element Six Abrasives had received notice of a local tax assessment for € 24.9 million to be grossed up with statutory interests, estimated at 31 December 2021 at € 14.5 million. On 8 March 2022, a court determination was issued ruling in favour of the company's appeal. No appeal was made by the tax authorities and therefore the case is closed.

The Group is the also subject of a number of other claims and legal proceedings incidental to the normal conduct of its business. Management does not believe that such claims and proceedings are likely to have a material adverse effect on the financial condition of Umicore.

F37 Related parties

Thousands of Euros	2021	2022
Transactions with joint ventures and associates		
Operating income	196,699	**301,109**
Operating expenses	(232,041)	**(346,673)**
Dividends received	(4,808)	**(11,902)**

Thousands of Euros	2021	2022
Outstanding balances with joint ventures and associates		
Current trade and other receivables	39,774	**46,036**
Current trade and other payables	79,573	**124,061**

The transactions with associates and joint ventures are mainly commercial transactions, sales and purchases of goods and services.

Besides its equity share in its associates, Umicore has no other commitments, guarantees or obligations arising from its involvement in those.

There are no transaction with entities held by key management personnel.

Thousands of Euros	2021	2022
Supervisory Board		
Salaries and other compensation	1,262	**1,185**
Fixed portion	296	**362**
Variable portion (based on attended meetings)	467	**428**
Value of the share grant	497	**393**
Benefit in kind company car chairman	3	**2**

No variable or other compensation element (apart from attendance-related fees) is associated with directorship. No loan or guarantees have been granted by the company to members of the supervisory board.

Thousands of Euros	2021	2022
Management Board		
Salaries and other benefits	18,814	**13,410**
Short-term employee benefits	11,021	**5,509**
Post-employment benefits	1,044	**1,077**
Other long-term benefits	2,027	**1,909**
Share-based payments	4,721	**4,914**

The data above shows the accounting view of the supervisory board and management board remuneration and slightly differs from the information provided in the remuneration report in the Corporate Governance section.

In the tables above, the employer social security contributions, if applicable, are included in the short-term employee benefits. These do not feature in the remuneration report.

With regards to share-based incentives the share grant figures included in share-based payments above represent the value of the shares granted in 2022 for services rendered in 2021. The remuneration report shows the value of the shares granted in 2023 for services rendered in the reporting year 2022.

The figures related to the annual variable remuneration linked to the reference year 2022, included in short-term employee benefits, represent the level of accruals at balance sheet date. The remuneration report features the actual amounts paid with respect to the reference year 2022.

Accruals booked for the long-term variable remuneration (2022 PSU Plan) for the reference year 2022 are included in the other long-term benefits. The award level for vesting in 2025 will depend on long-term performance measures and the exact award levels will be included in the remuneration report of 2024.

F38 Events after the reporting period

The Supervisory Board will propose a gross annual dividend of € 0.80 per share at the Annual General Meeting on 27 April 2023. This compares to a full dividend of € 0.80 per share paid out for the financial year 2021. Taking into account the interim dividend of € 0.25 per share paid out on 23 August 2022 and subject to shareholder approval, a gross amount of € 0.55 per share will be paid out on 4 May 2023.

The sustainability linked US Private Placement Notes, issued in November 2022, has been drawn in January 2023 as disclosed in Note F24.

F39 Earnings per share

Earnings per share

(EUR)	2021	2022
EPS - basic	2.57	**2.37**
EPS - diluted	2.56	**2.37**
Basic adjusted EPS	2.77	**2.47**

The following earnings figures have been used as the numerator in the calculation of basic and diluted earnings per share:

Numerator elements

Thousands of Euros	Notes	2021	2022
Net consolidated profit, Group share	F9		
From continuing operations		618,959	**569,878**
Adjusted net consolidated profit, Group share	F9	667,492	**593,059**

The following numbers of shares have been used as the denominator in the calculation of basic and diluted earnings per share:

Denominator elements

	2021	2022
Total shares issued as at 31 December	**246,400,000**	**246,400,000**
of which treasury shares	5,200,995	**6,199,341**
of which shares outstanding	241,199,005	**240,200,659**
Weighted average number of outstanding shares	**240,868,119**	**240,340,705**
Potential dilution due to stock option plans	1,112,044	**345,226**
Adjusted weighted average number of outstanding shares	241,980,163	**240,685,931**

Total outstanding shares are after deduction of treasury shares, which are held to cover existing stock option plans or are available for resale. The denominator for the calculation of diluted earnings per share takes into account an adjustment for stock options.

During 2022, no new shares were created as a result of the exercise of stock options with linked subscriptions rights. During the year Umicore used 198,050 of its treasury shares following the exercise of stock options and 103,604 for shares granted. In the course of 2022, Umicore bought back 1,300,000 own shares. On 31 December 2022, Umicore owned 6,199,341 of its own shares representing 2.52 % of the total number of shares issued as at that date.

F40 IFRS developments

There were no new standards, amendments and interpretation to standards issued, and **mandatory** for the first time for the financial year beginning 1 January 2022 with a material impact on the Group's consolidated financial statements .

In case of material, these are developed in the accounting policies section.

A fundamental reform of major interest rate benchmarks is being undertaken globally, including the replacement of some interbank offered rates (IBORs) with alternative nearly risk-free rates (referred to as 'IBOR reform'). The amendments to IFRS 9 and IAS 39 Financial Instruments: Recognition and Measurement provide a number of reliefs, which apply to all hedging relationships that are directly affected by interest rate benchmark reform. A hedging relationship is affected if the reform gives rise to uncertainty about the timing and/or amount of benchmark-based cash flows of the hedged item or the hedging instrument. These amendments have no impact on the consolidated financial statements of the Umicore Group as it does not have any interest rate hedge relationships that are referenced to LIBOR. In 2021, Umicore set up a working group to monitor the IBOR reform and its potential effect across the Group on contracts.

For all other new interpretations and standards not yet mandatory as from 1 January 2022, management has no indications that this will result in a material impact on the Group's consolidated financial statements. In particular, the impact of IFRS 17 (Insurance contracts) and its amendments has been assessed and the transactions within the scope of IFRS 17 are unlikely to have a material impact on the financial statements of the Group.

F41 Auditors' remuneration

The worldwide remuneration for the statutory auditor and its affiliated companies totaled € 2.7 million, including an amount of € 2.3 million for the statutory audit missions (€ 0.6 million for the audit of the parent company) and € 0.4 million for non-statutory audit services including audit-related and other attestation services (€ 0.3 million) and non-audit services (€ 0.1 million).

Parent company separate summarized financial statements

The annual accounts of Umicore are given below in summarized form.

In accordance with the Companies code, the annual accounts of Umicore, together with the management report and the statutory auditor's report will be deposited with the National Bank of Belgium.

These documents are also available on request at:

UMICORE
Rue du Marais 31
B-1000 Brussels
(Belgium)

The statutory auditor did not express any reservations in respect of the annual accounts of Umicore.

The legal reserve of € 55.0 million which is included in the retained earnings is not available for distribution.

Thousands of Euros		31/12/2020	31/12/2021	31/12/2022
Summarized balance sheet at 31 December				
1. Assets				
Fixed assets		**3,172,625**	**3,296,290**	**3,543,162**
I.	Formation expenses	14,685	10,288	**6,228**
II.	Intangible assets	99,032	99,067	**114,396**
III.	Tangible assets	452,430	460,546	**461,517**
IV.	Financial assets	2,606,478	2,726,389	**2,961,021**
Current assets		**2,060,640**	**2,169,189**	**2,631,586**
V.	Amounts receivable after more than one year	476,214	584,998	**435,442**
VI.	Stocks and contracts in progress	617,346	503,271	**720,577**
VII.	Amounts receivable within one year	620,119	861,136	**1,173,296**
VIII.	Investments	290,395	185,936	**226,272**
IX.	Cash at bank and in hand	4,565	559	**4,603**
X.	Deferred charges and accrued income	52,001	33,289	**71,396**
TOTAL ASSETS		**5,233,265**	**5,465,479**	**6,174,748**
2. Liabilities and shareholders' equity				
Capital and reserves		2,177,834	2,428,079	**2,528,617**
I.	Capital	550,000	550,000	**550,000**
II.	Share premium account	848,130	848,130	**848,130**
III.	Revaluation surplus	91	91	**91**
IV.	Reserves	414,075	391,090	**417,915**
V.	Result carried forward	267,163	352,163	**492,586**
Vbis.	Result for the period	86,475	272,454	**209,830**
VI.	Investments grants	11,900	14,151	**10,065**
Provisions and deferred taxation				
VII.A.	Provisions for liabilities and charges	206,053	198,047	**180,279**
Creditors		**2,849,378**	**2,839,353**	**3,465,852**
VIII.	Amounts payable after more than one year	1,707,729	1,707,589	**1,619,444**
IX.	Amounts payable within one year	1,063,641	1,040,392	**1,697,439**
X.	Accrued charges and deferred income	78,008	91,372	**148,969**
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY		**5,233,265**	**5,465,479**	**6,174,748**

Thousands of Euros			31/12/2020	31/12/2021	31/12/2022
Income statement					
	I.	Operating income	4,459,290	6,229,378	**7,093,132**
	II.	Operating charges	(4,481,338)	(5,947,989)	**(6,932,583)**
	III.	**Operating result**	**(22,048)**	**281,389**	**160,549**
	IV.	Financial income	201,457	213,675	**292,050**
	V.	Financial charges	(85,500)	(133,578)	**(142,949)**
	VI.	**Result on ordinary activities before taxes**	**93,908**	**361,486**	**309,650**
	X.	Income taxes	(7,433)	(51,736)	**(12,969)**
	XI.	**Result for the period**	**86,475**	**309,750**	**296,681**
	XIII.	**Result for the period available**	**86,475**	**309,750**	**296,681**

Thousands of Euros			2020	2021	2022
Appropriation account					
A.	**Profit (loss) to be appropriated**		**558,337**	**661,913**	**789,267**
	1.	Profit (loss) for the financial year	86,475	309,750	**296,681**
	2.	Profit (loss) carried forward	471,862	352,163	**492,586**
C.	**Appropriation to equity**		**(24,220)**	**22,985**	**(26,826)**
	3.	To the reserve for own shares	(24,220)	22,985	**(26,826)**
D.	**Profit (loss) to be carried forward (1)**		**352,163**	**492,586**	**570,305**
	2.	Profit (loss) to be carried forward	352,163	492,586	**570,305**
F.	**Profit to be distributed (1)**		**(181,954)**	**(192,312)**	**(192,136)**
	1.	Dividends			
		ordinary shares	(180,395)	(192,312)	**(192,136)**
	2.	Profit sharing to personnel	(1,559)	-	**-**

(1) The total amount of these two items will be amended to allow for the amount of the company's own shares held by Umicore on the date of the Annual General Meeting of Shareholders on 27 April 2023 ; the gross dividend of EUR 0.80 will be proposed.

Thousands of Euros				Number of shares
Statement of capital				
A.	**Share capital**			
	1.	Issued capital		
		At the end of the preceding financial year	550,000	246,400,000
		At the end of the financial year	550,000	246,400,000
	2.	Structure of the capital		
	2.1.	Categories of shares		
		Ordinary shares	550,000	246,400,000
	2.2.	Registered shares or bearer shares		
		Registered		45,645,027
		Bearer		200,754,973
E.	**Authorized unissued capital**		55,000	

		% capital	Number of shares	Notification date
G.	**Shareholder base (1)**			
	Family Trust Desmarais, Albert Frère and Groupe Bruxelles Lambert S.A.	15.98	39,363,737	29/06/2021
	BlackRock Investment Management	5.06	12,463,608	28/11/2022
	Norges Bank	5.30	13,054,028	12/08/2022
	Baillie Gifford & Co and Baillie Gifford Overseas Ltd.	9.91	24,420,971	06/09/2022
	APG Asset Management (*)	2.73	6,728,778	21/10/2016
	Others	58.51	144,169,537	31/12/2021
	Own shares held by Umicore	2.52	6,199,341	31/12/2021
		100.00	246,400,000	
	of which free float	100.00	246,400,000	

(1) At 31 December 2022, 5.201.500 options on Umicore shares are still to be exercized. This amount includes 5.201.500 acquisition rights of existing shares held by Umicore.

(*) Transparency notification received prior to the 2018 capital increase – according to the information we received, the actual participation would still reach 3%

Management responsibility statement

We hereby certify that, to the best of our knowledge, the Consolidated Financial Statements as of 31 December 2022, prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union, and with legal requirements applicable in Belgium, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group and the undertakings included in the consolidation taken as a whole, and that the management report includes a fair review of the development and performance of the business and the position of the Group and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face.

10 March 2023,

MATHIAS MIEDREICH
CHIEF EXECUTIVE OFFICER

Environmental Statements

Consolidated environmental figures

	unit	notes	2018	2019	2020	2021	2022
CO_2e emissions (scope1)	tonne	E7	417,140	389,101	330,451	372,699	**346,439**
CO_2e emissions (scope2) - Market based	tonne	E7	350,562	402,714	402,094	473,738	**338,554**
CO_2e emissions (scope2) - Location based (1)	tonne	E7	368,649	426,074	421,089	421,990	**361,251**
Energy consumption	terajoules	E6	7,458	7,476	7,591	8,308	**7,300**
Renewable electricity	%	E6	-	14	15	17	**35**
Metal emissions to water (load) (3)	kg	E5	1,861	2,052	696,523	908,186	**774,306**
Metal emissions to water (2) (3)	impact units	E5	111,927	129,587	3,686,016	4,714,302	**4,012,119**
Metal emissions to air (load)	kg	E5	1,564	864	984	994	**1214**
Metal emissions to air (2)	impact units	E5	128,247	65,189	69,371	70,084	**83,111**
Diffuse metal emissions	%	E5		114.2	100.0	64.8	**54.6**
SOx emissions	tonne	E5	657	531	389	372	**378**
NOx emissions	tonne	E5	304	280	239	240	**247**
Water withdrawal	thousand m3	E4	5,885	6,208	7,813	10,103	**9,616**
Fresh water withdrawal	thousand m3	E4				9,764	**9,405**
Total waste produced (1)	tonne	E3	78,778	68,317	99,434	94,619	**104,337**
Hazardous waste (1)	tonne	E3	58,759	47,589	78,055	73,551	**85,974**
of which recycled (1)	%	E3	5.3	7.9	5.0	8.0	**6.7**
Non hazardous waste (1)	tonne	E3	20,018	20,728	21,379	21,065	**18,363**
of which recycled (1)	%	E3	62.2	59.4	64.7	71.4	**69.5**
Compliance excess rate	%	E8	0.14	0.10	0.15	0.10	**0.25**
Environmental complaints	N°	E8	29	33	80	104	**66**
Sites ISO 14001 certified	%	E8	91	95	96	94	**96**

(1) Definitions of KPIs have changed over time. A direct comparison of numbers before 2021 is therefore not fully applicable.

(2) Impact factors have been updated for all years compared with previous years. See more information in Environmental Statements section E5 and Performance section Emissions.

(3) Metal emissions to water data has been restated for 2020 and 2021. See more information in Environmental Statements section E5 and Performance section Emissions.

E1 Scope of environmental statements

Environmental key figures include data from consolidated industrial sites where Umicore has operational control. The following sites are no longer reported compared with 2021: Arab (United States; Cobalt & Specialty Materials) and Frederikssund (Denmark; Automotive Catalysts). This brings the total number of consolidated industrial sites that report environmental data in 2022 to 52, down from 54 in 2021. Only sites running from the January 1st are included.

Within the scope of Umicore's reporting framework, most of the sites report their environmental data at the end of the third quarter together with a forecast for the fourth quarter. In January, the forecasted values are checked by the sites for significant deviations and, if needed, corrected. The eight sites with the

largest environmental impact for 2022 are: Hanau (Germany; Catalysis, Recycling), Olen (Belgium; Energy & Surface Technologies, Corporate R&D), Hoboken (Belgium; Recycling), Jiangmen Site 1, Jiangmen Site 2 (both China; Energy & Surface Technologies), Cheonan Site 1, Cheonan Site 2/3 (both Korea; Energy & Surface Technologies), and Kokkola (Finland; Energy & Surface Technologies). These sites reported their full year figures in 2022. A sensitivity analysis, undertaken for the 2021 data on energy consumption data, indicates that the potential deviation of the Group environmental performance would be 1% in case of a 20% error in the forecasted data.

Please note that due to improved analytical and reporting methods, some of the data published in the 2021 annual report have been restated in the 2022 report.

E2 Resource efficiency

The raw materials in scope for this indicator are the metals purchased to develop metal-based applications. The percentage is expressed in total raw materials weight.

The resource efficiency indicator provides information on the nature - primary or secondary - of the raw materials processed at the operational sites into a final (Umicore) product.

The following definitions apply for primary and secondary raw materials[1]:

Primary raw material: Material which has never before been subjected to use or processed into any form of end-use product (or part thereof) other than that required for its manufacture. In the absence of information from the supplier on the nature of the raw materials supplied, these raw materials are considered as primary. The collected data are expressed in terms of total tonnage of incoming material.

Secondary raw material: Material that has been used and/or processed before and can be reused or processed again into any form of end-use product (or part thereof).

Secondary raw materials consist of two sub-groups[2]:

Secondary pre-consumer raw material: Material resulting from the industrial processes in the value chain before that material has been processed into a product. Please note that this includes waste materials originating from intermediate manufacturing steps in the value chain using primary raw materials as input. In all cases the material should not be suitable for consumption in the intermediate manufacturing steps from which it originates.

Secondary post-consumer raw material: Material resulting from products ending in at least one lifetime. Please note that this includes waste materials originating from intermediate manufacturing steps in the value chain using secondary raw materials (pre- and or post- consumer raw materials) as input. This also includes material recovered from waste generated by industrial facilities in their role as end-users of a finished product. In all cases the material should not be suitable for consumption in the intermediate manufacturing steps from which it originates.

E3 Waste

Waste is defined as the total volume of generated waste expressed in tons/year. The distinction between hazardous and non-hazardous waste is made based on the local regulation for the region where the reporting entitiy is located.

The waste recycling rate is the ratio of the waste recovered by third parties (including waste recovered as energy through incineration) to the total waste.

E4 Water

Water withdrawal figures as of 2021 include withdrawn produced water (mainly, this is the water/moisture content of incoming raw materials and liquid solutions), and rainwater while the "water use" figures from 2018-20 do not include these amounts.

With respect to water withdrawn from water stressed areas the WRI Aqueduct tool has been used to determine the sites located in an area in water stress. For the sites material to the group's water withdrawal these locations are limited to the Bangkok, Hoboken, Olen and Shirwal sites, based on an assessment in 2020.

4.1 Water, by business group

	unit	Catalysis	Energy & Surface Technologies	Recycling	Umicore Group
Water withdrawal	thousand m^3	560	6,173	2,883	9,616
Fresh water withdrawal	thousand m^4	513	6,013	2,878	9,405
Water discharge	thousand m^5	337	5,618	2,140	8,095
Fresh water discharge	thousand m^6	282	223	1,400	1,906
Water consumption	thousand m^7	223	555	743	1,521
Fresh water consumption	thousand m^8	231	5,790	1,478	7,499

[1] Inspired by BSI 8001:2017 Framework for implementing the principles of circular economy in organisations
[2] Inspired by EN45557:2019 General method for assessing the proportion of recycled content in energy-related products

E5 Emissions

We focus on the metals that are present in Umicore's material flow and that are relevant to the environment in terms of impact. A detailed assessment to evaluate and define the relevant metals was carried out in 2010 and implemented in 2011. A procedure is in place to evaluate the effect of changes to Umicore's material flow at existing sites as well as at plants that are newly established or joining the company, to ensure that the list of metals is up to date and relevant. Since 2011, no changes to the list were needed.

The metals taken into consideration for the impact determination for water are the following: Antimony (Sb), Arsenic (As), Cadmium (Cd), Cerium (Ce), Chromium (Cr) III and VI, Cobalt (Co), Copper (Cu), Gold (Au), Indium (In), Lead (Pb), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Palladium (Pa), Platinum (Pt), Rhodium (Rh), Selenium (Se), Silver (Ag), Strontium (Sr), Tellerium (Te), Thallium (Tl), Titanium (Ti), Zinc (Zn) and Zircronium (Zr).

The metals taken into consideration for the impact determination for air are the following: Aluminium (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Indium (In), Iron (Fe), Lead (Pb), Lithium (Li), Manganese (Mn), Mercury (Hg), Nickel (Ni), Palladium (Pa), Platinum (Pt), Rhodium (Rh), Selenium (Se), Silicon (Si), Silver (Ag), Tellerium (Te), Thallium (Tl), Tin (Sn), Tungsten (W), Vanadium (V), Zinc (Zn) and Zircronium (Zr).

Metal emissions to water (load) are defined as the total amount of metals emitted after treatment to surface water from effluent(s) expressed in kg/year. If sites make use of an external wastewater treatment plant, the efficiency of that treatment is considered if known to the site.

Metal emissions to air (load) are defined as the total amount of metals emitted to air, after emissions abatement where applicable, in solid fraction by all point sources expressed in kg/year. For mercury and arsenic, vapor/fume fractions are counted as well.

For each of the metals emitted to water and air, an impact factor is applied to account for the different toxicity and ecotoxicity levels of the various metals when they are emitted to the environment. The higher the impact factor, the higher the toxicity is to the receiving water body (for water emissions) or to human health (for air emissions).

The impact factors for water emissions are based on scientific data generated ("predicted no effect concentrations" or PNECs) for the REACH regulation for most metals and on Tatsi et.al (2015) for thallium[1]. An impact factor of 1 was attributed to the antimony PNEC of 113 µg/l. All impact factors used relate to freshwater data. The impact factors for emissions to air are based on the occupational exposure limits (OELs) (reference: American Conference of Industrial and Governmental Hygienists, 2021) and the binding EU OELs. An impact factor of 1 was attributed to the zinc (oxide) OEL of 2 mg/m^3. Subsequently, an impact factor for all relevant metals was calculated based on these references. The metal impact to air and to water is expressed as "impact units/year".

In 2021, a review of the PNECs and OELs for each metal of concern was carried out to update the scientific basis for the impact factors. This led to a revision of impact factors for several metals. The revised set of impact factors for metals to air and water is applied consistently to all data 2018-22 presented in this report.

Other emissions tracked by Umicore are SOx and NOx emissions, which are reported in tons/year. The majority of the data for SOx and NOx are obtained from direct measurements (online analyzers), complemented to a lesser extent by data based on calculations based on site-specific data. Our sites emit further compounds to a certain extent, but these are not considered material, based on a thorough review of trends in the years 2011-15, when data on VOCs, COD, etc. were also collected. All sites that have joined Umicore since 2015 have been reviewed for potential additional material compounds, and no such addition was deemed required.

At all relevant locations with environmental emissions, Umicore is compliant with the applicable laws and legislation that regulate and control emissions to the environment. Legal obligations drive most of our data collection related to emissions; however, additional compounds may be analyzed at higher frequencies in excess of the strictly legal requirements to improve data reliability, where this is meaningful. Emission of compounds that are not legally required to be monitored and that we have not voluntarily added to our analysis campaigns may occur, but the impact of such untracked emissions is considered negligible.

Umicore has applied the materiality principle to emissions since 2016, meaning that only the sites with a material impact in comparison to the Group total are required to report. An assessment of the emissions of 2015, the last year when all industrial sites were required to report emissions, identified 10 or fewer sites that made up 95% or more of the Group total for each (set of) parameter(s) (assessed in terms of load for SOx and NOx and in terms of impact for metals emissions to water and air). Sites that have joined Umicore since 2015 have been reviewed for their materiality impact and were grouped for each (set of) parameter(s) as material or not, based on a comparison with the sites in these two categories of the 2015 assessment. This renders the previously used "95% or more" assessment rule somewhat less accurate, but it is clear that we are still very close to above 95% of the Group total emissions for any material compound. All non-material sites are requested to assess if there were any significant upward deviations from their 2015/recent emissions baseline, triggering a discussion of whether or not they are to be considered material in the reporting year; this was not applicable in 2022.

[1] Tatsi, K., Turner, A., Handy, R. D., (2015), The acute toxicity of thallium to freshwater organisms: Implications for risk assessment. Science of The Total Environment, 536, 382-390. https://www.sciencedirect.com/science/article/abs/pii/S0048969715302655?via%3Dihub

During the reporting year 2022 it was discovered in the Group audit program that a material load of emissions to water was omitted from the reporting for the 2020-21 period at one site. The loads and metal impact to water have been recalculated accordingly. The reported load of emissions is an overestimation, as at that site some of the reported metal load relies on data before the last wastewater treatment step. The most reliable data was used. The treatment efficiency for this last step will be investigated.

Diffuse metal emissions

The concentration of suspended particulate matter (PM10) in air of relevant metals (lead, arsenic and cadmium) is measured in µg/Nm³ daily at three measurement stations related to our production site in Hoboken. The monthly averages result in an annual moving average concentration, which is then multiplied by the impact factors to air for the respective metals. The data were normalized at the end of 2020, giving the baseline for this Let's Go for Zero target.

In 2021 and 2022 a screening was conducted across the Group to identify which other sites may be material in contribution to this target. We expect to include the performance of other identified sites in future reporting. Their impact will be added to the baseline by projecting their impact backward to end of 2020 and the baseline will be adapted when new sites are acquired.

E6 Energy

6.1 Energy, by business group

	unit	Catalysis	Energy & Surface Technologies	Recycling	Umicore Group
Energy consumption	terajoules	1,290	3,501	2,500	7,300

Indirect energy consumption: energy from purchased electricity, steam, compressed air and heat.

Direct energy consumption: energy from fuel, gas oil, natural gas, LPG, coal, cokes, pet cokes etc.

The definition of renewable energy as given in the Greenhouse Gas Protocol Scope 2 Guidance (2015 amendment) has guided us in defining the scope of this indicator. Only the following energy sources are considered in scope for this KPI: wind energy; solar energy; energy from biomass (including bio- and other naturally produced gas); hydropower (including marine hydro); and geothermal energy.

Energy intensity is calculated as the total absolute energy consumption (in terajoules) over revenues excluding metals (in millions of Euros).

E7 Greenhouse gases

7.1 scope 1 & scope 2 emissions, group data

	2018	2019	2020	2021	2022
Total	767,702	791,815	732,545	846,437	684,993

7.2 scope 1 + 2 emissions, by business group

	unit	Catalysis	Energy & Surface Technologies	Recycling	Umicore Group
CO_2e emissions (scope1+2) - Market based	tonne	116,386	313,374	254,815	684,993
CO_2e emissions (scope1+2) - Location based	tonne	131,653	304,622	270,930	707,690

Umicore reports its absolute CO_2e emissions as per the scope of sites outlined in E1. The absolute CO_2e emission volumes are calculated using the Greenhouse Gas Protocol definition and reporting methodology for Scopes 1 and 2 (WBCSD and WRI 2004 and amendment for Scope 2 of 2015). Scope 2 for Umicore includes not only purchased electricity but also steam, compressed air and heat purchased from third parties (from industrial parks or utility companies). CO_2e includes the greenhouse gases CO_2, CH_4 and N_2O for Scope 1 and major process emissions. Other greenhouse gases are not relevant in Umicore's operations. With the exception of electricity, the Scope 2 emissions take into account only CO_2.

The calculation of Scope 2 emissions for each site is done in two ways: once using market-based CO_2 emission factors and once using location-based CO_2 emission factors. The market-based emission factors allow for the calculation ofthe CO_2 emissions based on the specific contracts that sites have in place with their energy suppliers, considering the relevant energy mix for these contracts (including green energy attributes, where applicable). The location-based CO_2 emission factors facilitate calculating the CO_2 emissions based on grid average emission factors in a country/region where these data are available. The total CO_2 emissions for the Group are then presented as two separate values based on this differentiation, and the metrics are abbreviated as: CO_2e market-based and CO_2e location-based.

The WBCSD Chemical Sector Working Group on GHG Measurement and Reporting established additional guidance to cope with observed anomalies in GHG reporting. Umicore has implemented these guidelines since the 2012 reporting. The sector guidelines are published on the WBCSD website.

GHG emissions intensity is calculated using the total CO_2e market-based emissions (in tons) over total revenues excluding metals (in millions of Euros).

7.3 scope 3 emissions - 2019 baseline

Category	tonnes CO2e emissions
Purchased Goods and Services	6,816,941
Capital Goods	137,760
Fuel & Energy related activities	119,080
Upstream distribution	178,180
Waste generated	22,140
Business travel	10,159
Employee commuting	14,828
Upstream leased assets	12,269
Downstream distribution	40,157
Processing of sold products	321,974
End-of-life treatment of sold products	536,953
Total	**8,210,441**

The estimation of the Scope 3 greenhouse gas (GHG) emissions covers all upstream and downstream Scope 3 categories for the reference year 2019.

By default, the applied emission factors come from databases (EcoInvent, ADEME, DEFRA, EEIOA, etc.). When available, we relied on emission factors coming from average industry association data (by means of life cycle assessment exercises). Umicore aims to continuously improve the emission factors and plans to work closely with suppliers to incorporate supplier-specific product emission factors in Umicore's category 3.1 calculations.

Calculations for all categories follow the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Below, we provide additional details per category, as well as the main encountered limitations and their related assumptions:

- For **purchased goods and services** (Category 3.1): The applied emission factors come from EcoInvent (3.4 for most materials and 3.8 for newly added materials compared with the 2018 inventory), life cycle assessment from metal associations or other literature sources. Proxies have been selected whenever the emission factors of the related products were not available. The emissions factor for recycled materials is assumed to be equal to 0. No supplier-specific data has been used.

- For **capital goods** (Category 3.2), the most conservative emission factors (EFs) have been selected from the types of investment available in the 2020 USEEIO Supply Chain Factors Dataset version 1.0 and the Supply Chain Greenhouse Gas Emission Factors for US Industries and Commodities. The EF selected represents the amount of GHGs emitted for € 1 spent in non-residential structures.

- To calculate the Scope 3 emissions for **Fuel- & Energy-related activities** (Category 3.3), we used the 2019 conversion factors for the Well-To-Tank data for the production and distribution of fuels/energy consumed in Scopes 1 and 2 from the DEFRA database.

- **Upstream transportation and distribution** (Category 3.4): as a conservative approach, in the absence of specific data on destination or starting point in the same country, the distance travelled by the goods was estimated to be equivalent to a large distance between two cities in different parts of the country (e.g., Bruges-Arlon for Belgium). When the transportation mode was not provided, it was assumed to be by sea whenever the trip was intercontinental or shorter by sea, and otherwise by road (truck) if on the same continent and shorter by road. When transportation was multimodal, only the longest part of the journey was taken into account (e.g., for goods shipped from Japan to Germany, only the journey by sea was considered and not the port-to-facilities journey by truck).

This bird's eye view has been taken as default.

Umicore pays for most transport, which explains the large impact on emissions in category 3.4 (**upstream transportation and distribution**) and the small impact in category 3.9 (**downstream transportation and distribution**) (Table 5.7, p.45, the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard).

- For **waste treatment** (Category 3.5), emission factors from the French carbon database were used for all countries, as no other appropriate EFs that take into account waste collection were encountered in available databases. The emissions for waste sent to recycling or recovery were considered in this category. Given that no EF was available to represent the recycling treatment process without taking into account the avoided emissions linked to remanufacturing new products, the EF for treating hazardous waste was used for calculating the emissions linked to recycling treatment. Due to the lack of detailed data today a conservative approach is used, as "hazardous waste treatment" is the highest EF used in this assessment to estimate waste treatment emissions. When appropriate EF data is available, the calculation can be refined.

- For **business travel** (Category 3.6), a distinction was made for sites within and outside of Europe. For business travel within Europe for the reference year 2019, Umicore received GHG emissions data from its travel operator directly, using ADEME and DEFRA data. For the sites outside of Europe, a spend-based estimation was made using a default conversion factor (i.e., to convert spend into kilometers (kms)) and a default EF from EcoInvent 3.8 (i.e., to convert kms into CO_2e).

- For **employee commuting** (Category 3.7), per country per site the modal split (percentage of employees using a particular commuting mode) is multiplied with the average trip length and the emission factor per commute mode, based on Environmental Protection Agency 2021 data for employee commuting, for Belgium sites it's based on Brussels intercommunal transport company STIB-MIVB data.

- **Upstream leased assets** (Category 3.8), covers the emissions from operation of assets leased by Umicore (not taking place on Umicore premises and hence not part of our Scopes 1+2), such as pre-treatment of raw material (e.g. drying) for RBM, corporate & PMR. This category also includes the emissions of leased company cars (based on fuel consumption).

- **Downstream transportation and distribution** (Category 3.9): the same assumptions hold as described for category 3.4 – see above.

- **Downstream processing of sold products** (Category 3.10): Processing emissions have been considered for products for which the processing is relevant and known. Processing of sold products has been considered and includes processing of: cathode powders into batteries; copper into copper tubes and pipes; and lead into lead acid batteries. Emissions have been allocated to Umicore based on the mass ratio of the Umicore product within the final product. These products represent two of the three main activities of Umicore and cover two of the three business groups.

- For the **Use phase of sold products** (Category 3.11), we have not considered any emissions as none of our products are fuels or feedstocks, nor do they directly consume energy in the use phase, contain or form GHGs that are emitted during this phase (Table 5.11, p.56, the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard).

- **Downstream end-of-life treatment of sold products** (Category 3.12), has been considered for: cathode materials in batteries; lead in acid batteries; copper pipes and tubes; and automotive catalysts (for the volumes not recycled directly by Umicore). These activities represent the largest activities of Umicore, covering the three business groups Recycling, Energy and Surface Technologies and Catalysis.

- **Downstream leased assets** (Category 3.13): not applicable since Umicore's operational assets leased to other entities have been reported under Scopes 1 and 2 following the operational control consolidation approach.

- **Franchises** (Category 3.14): not applicable since Umicore does not have any franchises.

- **Investments** (Category 3.15): Joint ventures have historically not gathered information on their Scopes 1 and 2 emissions. Concrete steps have, however, been put in place to assure that these JVs are also incorporating carbon in their future decision-making process, requiring a detailed assessment of emissions. Given limited data availability, we have derived emission information based on the capacity available for the two biggest joint ventures. This assessment shows that the inclusion of these emissions will, in the future, have limited impact on the baseline (~1%). During the SBTi validation, Umicore accepted a nominal 1% added to Scope 3 (category 15) to represent the to-be-finalized category 15 calculations.

2022 update of the Scope 3

The 2022 update focusses on the category 3.1: "Purchased goods and services" as this is the category in scope of the SBTi target. The same methodology as described above for 2019 has been followed in 2022. As part of the implementation of the scope 3 objective the goal is to gradually replace emissions factor from literature and databases by supplier-specific product emission factors. As this action was recently launched, the supplier specific emission factor data is still very limited for 2022. Update compared with the 2019 inventory include switching from EcoInvent database 3.8 to 3.9.1 and aligning with recent average industry data from metal association life cycle assessment exercises. Proxies have been selected whenever the emission factors of the related products were not available. The emission factor for recycled materials is assumed to be equal to 0.

Scope 4, avoided emissions

Estimating avoided emissions requires taking assumptions that have an influence on the results. The main assumptions taken in this case are the following:

Cathode materials for electric mobility

- The solution to compare: we compared the emissions of a medium passenger car with a rechargeable battery containing our cathode materials, with the emissions of a medium passenger car containing an internal combustion engine running on diesel or gasoline, considering the European split between diesel and gasoline in 2021 (no data available yet for 2022).
- We considered the NMC (nickel manganese cathode) materials produced in 2022 for electric mobility applications, assuming that the entire volume is used for full electric vehicles. We made our calculations under the assumption that the vehicles are charged using European average grid mix.
- The comparison covers the following steps: mining, production of the cathode materials by Umicore, processing into batteries, use of the batteries in full electric vehicles and recycling of the batteries at end of life. Literature or LCA data from commercial databases have been used for all processes not carried out by Umicore.
- The production of the car and its recycling have not been considered as it has been assumed that it was the same for both the Umicore technology and the solution to compare.

Recycling

- We compared Umicore's secondary production with the primary production of an equivalent tonnage of each metal considered.
- As much as possible, we applied the industry average climate change impact provided by the metal associations for primary production. Data from commercial LCA databases had to be used for some metals in the absence of such industry average.
- We have considered the recovery of a select number of metals by Umicore in 2022. For these metals, the climate change impact for Scopes 1, 2 and 3 upstream has been considered.

Fuel cells

- The solution to compare: we compared the emissions of a fuel cell medium passenger car containing our catalyst material, with the emissions of a medium passenger car containing an internal combustion engine running on diesel or gasoline, considering the European split between diesel and gasoline in 2021 (no data available yet for 2022).
- We considered the fuel cells materials produced by Umicore in 2022.
- The comparison relies on publicly available data for the vehicle production, use phase and end-of-life phase. For the fuel cell vehicle, it includes the production of the catalyst materials, manufacturing of the fuel cell and the battery, manufacture of the H2 tank.

Automotive catalysts

- The solution to compare: we compared the emissions of gasoline and diesel passenger car as well as heavy-duty diesel vehicles equipped with a Umicore euro 6d automotive catalyst in 2022 with the same vehicles equipped with a euro 5 catalyst. The comparison focused on NOx emissions.
- The comparison covers the following steps: mining, production of the automotive catalyst, use phase of the vehicle and recycling of the catalyst at end of life. Publicly available LCA data have been used for all processes not carried out by Umicore.
- The production of the car and its recycling have not been considered as it has been assumed that it was the same for both the Umicore technology and the solution to compare.

E8 Regulatory compliance & management system

The compliance excess rate is the ratio between the total number of excess results and the total number of compliance measurements. An excess result is a monitoring result that violates a limit value defined in a permit, regulation or other relevant regulatory standard.

The total number of measurements is the total number of environmental impact measurements as required by the operational permit, environmental permit, or comparable standard in the region where the reporting entity is operating (this may include higher frequency measurements of permit-related parameters where deemed useful for internal quality reasons). The total number of measurements means the number of measurement events multiplied by the number of parameters per measurement event.

A complaint is a formally registered notification made by an external claimant, authorities excluded, to the entity / site, concerning an EHS-related issue with a perceived negative impact.

Group data

%	2018	2019	2020	2021	2022
Compliance excess rate	0.14	0.10	0.15	0.10	0.25

Social Statements

Consolidated social figures

	unit	Notes	2018	2019	2020	2021	2022
Workforce (fully consolidated companies)	N°	S2	10,420	11,152	10,859	11,050	11,565
Temporary contracts	% of workforce	S2	3.13	3.31	3.19	3.51	3.02
Women amongst all employees	% of workforce	S2	21.30	20.88	21.68	22.48	23.45
Women amongst all managers	% of workforce	S2	22.98	23.13	23.06	25	26.11
Women amongst senior management	% of workforce	S2	9.70	10.96	10.74	12.42	13.69
Non-European representation in senior management functions	%	S2	17.91	18.49	20.13	21.57	20.83
Average training hours per employee	hours/employee	S3	43.10	48.73	36.33	41.59	46.60
Employees having a yearly appraisal	% of workforce	S3	96.15	94.00	93.42	94.14	96.01
Voluntary leavers - ratio	% of workforce	S3	7.18	5.99	4.20	5.82	6.53
Employees represented by union or Collective Labour Agreement (CLA)	% of workforce	S4	64.49	65.60	66.38	66.94	65.79
Exposure ratio 'all biomarkers aggregated'[1]	%	S7	2.8	1.8	2.0	1.5	1.1
Number of occupational linked diseases	N°	S7	12	18	6	10	8
People with platinum sensitisation	N°	S7	3	1	1	0	0
Fatal accidents	N°	S8	1	0	1	0	0
Lost Time Accidents (LTA)	N°	S8	61	90	49	73	96
Lost Time Accidents (LTA) for sub-contractors	N°	S8	21	25	17	20	21
LTA frequency rate	LTA/million hours worked	S8	3.4	4.6	2.5	3.7	4.87
LTA severity rate	lost days/thousand hours worked	S8	0.1	0.2	0.5	0.1	0.16

1 Ratio between the number of monitoring results exceeding the Umicore target value, defined for relevant hazardous substances, and the total number of monitoring results.

S1 Scope of social statements

In total, 85 consolidated sites are included in the HR related notes of the social reporting (S2 to S3). This is a decrease of one site from 2021 and attributed to the addition of one site, Changshu, as well as two site closures: Arab and Frederikssund. The sites report full-year data for the social indicators. The indicators presented are based on data from fully consolidated companies.

S2 Workforce

2.1 Group data

	unit	2018	2019	2020	2021	2022
Workforce (fully consolidated companies)	N°	10,420	11,152	10,859	11,050	11,565
Workforce from associated companies	N°	3,180	2,976	2,460	2,589	2,664
Employees men	N°	8,201	8,823	8,505	8,566	8,853
Employees women	N°	2,219	2,329	2,354	2,484	2,712
Full-time equivalent	N°	10,224	10,956	10,576	10,828	11,339
Employees < 30 years	N°	1,980	2141	1,893	1,911	1,955
Employees between 30 and 50 years	N°	5,939	6363	6,339	6,521	6,951
Employees > 50 years	N°	2,501	2648	2,627	2,618	2,659
Temporary contracts	% of workforce	3.13	3.31	3.19	3.51	3.02
Women amongst all employees	% of workforce	21.30	20.88	21.68	22.48	23.45
Women amongst all managers	% of workforce	22.98	23.13	23.06	25.00	26.11
Women amongst senior management	% of workforce	9.70	10.96	10.74	12.42	13.69
Non-European representation in senior management positions	%	17.91	18.49	20.13	21.57	20.83

2.2 Regional data

	unit	Europe	North America	South America	Asia-Pacific	Africa	Umicore Group
Total workforce	N°	7,606	733	1,100	4,184	606	14,229
Workforce (fully consolidated companies)	N°	6,645	718	690	3,348	164	11,565
Workforce from associated companies	N°	961	15	410	836	442	2,664
Employees men	N°	5,143	535	496	2,577	102	8,853
Employees women	N°	1,502	183	194	771	62	2,712
Full-time equivalent	N°	6,428.21	713.50	690.00	3,343.58	164.00	11,339
Temporary contracts	% of workforce	3.78	2.79	2.61	1.52	5.49	3.02

2.3 Business group data

	unit	Catalysis	Energy & Surface Technologies	Recycling	Corporate	Umicore Group
Total workforce	N°	3,080	4,812	2,996	3,341	14,229
Workforce (fully consolidated companies)	N°	3,080	3,991	2,996	1,498	11,565
Workforce from associated companies	N°		821		1,843	2,664
Employees men	N°	2,415	3,074	2,498	866	8,853
Employees women	N°	665	917	498	632	2,712
Full-time equivalent	N°	3,051.12	3,997.69[1]	2,930.60	1,359.88	11,339
Temporary contracts	% of workforce	6.72	2.05	1.40	1.20	3.02

1 In Business Group Energy & Surface Technologies the Full-time equivalent (FTE) number is greater than the Workforce number due to the distribution method used to allocate FTE of employees in commercial profiles to different Business Units.

2.4 General overview of sites & employees

	Production sites	R&D | Technical centres	Other sites	Employees
Europe				
Austria	1	-	-	167
Belgium	3	1	1	3,387
Denmark	-	1	-	56
Finland	1	1	-	341
France	3	-	1	254
Germany	4 (1)	3	1	1778 (363)
Ireland	(1)	-	-	(458)
Italy	-	-	2	39
Liechtenstein	1	1	-	82
Luxemburg	-	-	1	12
Netherlands	-	-	1	10
Poland	2	-	1	422
Portugal	-	-	1	6
Russia	-	-	1	6
Spain	-	-	1	7
Sweden	1	-	(1)	36 (1)
United Kingdom	1	(1)	2 (1)	42 (139)
Asia-Pacific				
Australia	-	-	1	8
China	5 (2)	1	5 (1)	1568 (831)
India	1	-	2	113
Japan	2	3	2 (1)	168 (1)
Philippines	1	-	-	116
South Korea	2	2	1	1,180
Taiwan	-	-	2	35
Thailand	2	-	1	160
United Arab Emirates	-	-	(1)	(4)
North America				
Canada	3	-	-	276
Mexico	-	-	1	3
United States	6	1	4 (1)	439 (15)
South America			-	
Argentina	1	-	-	77
Brazil	3	1	1	613
Peru	(1)	-	-	(410)
Africa				
South Africa	1 (1)	-	1	164 (442)
Total	**44 (6)**	**15 (1)**	**34 (6)**	**11,565 (2,664)**

Figures in brackets denote "of which associates and joint venture companies". Where a site has both production facilities and offices (e.g., Hanau, Germany), it is classified as a production site only. Some of our production sites and R&D/technical centers are located on the same site but are counted separately.

S3 Talent management

3.1 Group data

	unit	2018	2019	2020	2021	2022
Employees having a yearly appraisal	% of workforce	96.15	94.00	93.42	94.14	96.01
Average number of training hours per employee	hours/ employee	43.10	48.73	36.33	41.59	46.6
Average number of training hours per employee – Men	hours/ employee	44.68	48.26	37.11	41.21	46.48
Average number of training hours per employee – Women	hours/ employee	37.29	50.48	33.49	42.90	46.99
Average number of training hours per employee – Managers	hours/ employee	37.59	43.01	26.98	42.40	48.49
Average number of training hours per employee – Other employee categories	hours/ employee	42.94	49.51	38.62	41.28	45.61
Voluntary leavers ratio	% of workforce	7.18	5.99	4.2	5.82	6.53
Voluntary leavers men	N°	619	521	372	519	570
Voluntary leavers women	N°	110	126	86	123	178

3.2 Regional data

	unit	Europe	North America	South America	Asia-Pacific	Africa	Umicore Group
Average number of training hours per employee	hours/ employee	41.63	47.32	65.26	53.15	30.33	46.60
Employees having a yearly appraisal	% of workforce	96.10	99.30	96.51	95.08	95.06	96.01
Voluntary leavers ratio	% of workforce	4.16	13.97	6.99	9.72	1.85	6.53

3.3 Business group data

	unit	Catalysis	Energy & Surface Technologies	Recycling	Corporate	Umicore Group
Average number of training hours per employee	hours/ employee	47.56	51.55	39.77	44.91	46.60
Employees having a yearly appraisal	% of workforce	96.86	91.90	99.56	98.28	96.01
Voluntary leavers ratio	% of workforce	7.72	7.38	4.89	5.03	6.53

S4 Occupational safety

All consolidated industrial sites where Umicore has operational control, are included in the scope of the occupational safety reporting. In 2022, following Umicore's internal reporting procedure 89 consolidated sites, of which 52 are industrial sites, were required to report their occupational safety data.

Despite all measures and an open safety culture there is an inherent risk of incomplete accident reporting. Umicore is dependent on information provided by the person (employee and/or contractor) involved in an accident.

4.1 Group data

	unit	2018	2019	2020	2021	2022
Fatal accidents - Staff	N°	0	0	1	0	0
Fatal accidents - Contractors	N°	1	0	0	0	0
Lost Time Accidents (LTA) - Staff	N°	61	90	49	73	96
Lost Time Accidents (LTA) - Contractors	N°	21	25	17	20	21
LTA frequency rate - Staff		3.36	4.6	2.5	3.7	4.87
Calendar days lost - Staff	N°	1,830	3,893	9,176	2,328	3,210
LTA severity rate - Staff		0.10	0.2	0.5	0.1	0.16
Sites ISO 45001 certified	%	51.9	52.6	54.4	59.26	63.46%
Process safety events	N°					263
Total recordable injuries (Staff & Contractors)	N°		NA			233
Total recordable injury rate (Staff & Contractors)	N°					9.00

4.2 Regional data

	unit	Europe	North America	South America	Asia-Pacific	Africa	Umicore Group
Lost Time Accidents (LTA) - Staff & Contractors	N°	103	3	5	5	1	117

4.3 Business group data

	unit	Catalysis	Energy & Surface Technologies	Recycling	Corporate	Umicore Group
Fatal accidents - Staff	N°	0	0	0	0	0
Fatal accidents - Contractors	N°	0	0	0	0	0
Lost Time Accidents (LTA) - Staff	N°	3	15	75	3	96
Lost Time Accidents (LTA) - Contractors	N°	0	6	9	6	21
Calendar days lost - Staff	N°	97	885	2,161	67	3,210

S5 Occupational health

All consolidated industrial sites where Umicore has operational control, are included in the scope of the occupational health reporting. In 2022, following Umicore's internal reporting procedure, 52 consolidated sites were required to report their occupational health data.

The information in this note only relates to Umicore employees. Data on subcontractors' occupational health are not included. Additional information on Umicore's approach to occupational health can be found in the corresponding section of **Management Approach**.

S6 Donations

6.1 Group data

€ thousand	2018	2019	2020	2021	2022
Cash donations	1,287.22	1432.68	1346.28	1458.62	1915.58
Donations in kind	66.10	78.95	159.19	146.72	55.02
Staff freed time	78.34	102.02	11.74	18.65	35.15
Total donations	1,431.66	1613.65	1517.21	1623.99	2005.75

6.2 Regional data

€ thousand	Europe	North America	South America	Asia-Pacific	Africa	Umicore Group
Total donations	1552.73	127.72	69.91	126.45	128.94	2005.75

6.3 Business group data

€ thousand	Catalysis	Energy & Surface Technologies	Recycling	Corporate	Umicore Group
Total donations	314.93	299.93	402.75	988.14	2,005.75

S7 Analyzing Umicore's SDG contribution

Umicore supports the Ten Principles of the United Nations Global Compact and has been committed to advancing the Sustainable Development Goals (SDGs) for many years. To gain more insights into our contribution to the SDGs, we conducted a detailed analysis in 2021.

For the analysis, we assessed the 169 targets of the 17 United Nations' SDGs according to the following dimensions:

- **Potential contribution** indicates if Umicore's contribution is direct or indirect in achieving an SDG target. A direct contribution is defined as an actual or potential contribution through Umicore's operations, core business, way of doing business, or investments. An indirect contribution is an actual or potential contribution through Umicore's indirect activities throughout the value chain.
- **Sense of contribution** indicates if Umicore is 'enhancing its positive contribution' or 'minimizing its negative impact' to achieve an SDG target.
- **Level of contribution** indicates if Umicore has a low, medium, or high contribution to the world through the SDG target.

To assess the impact correctly, an external party reviewed our strategy, operations, and internal documentation, a targeted scan of the SDG compass and information from relevant industry documentation. Using these data sources to assess our contribution to the SDG targets according to the dimensions listed above, we gained comprehensive insight into the specific contribution of Umicore to each of the SDGs, determining which SDGs are the most relevant to our strategic commitments. The SDGs selected are those on which Umicore has a high direct impact. We added SDG 5, gender equality, for which we have a medium direct impact, as it is a strategic priority for Umicore. Therefore, Umicore's main SDGs are 3, 5, 6, 7, 8, 9, 11, 12 and 13. A degree of subjectivity is inherent to an exercise of this kind. Several review rounds were organized to increase objectivity, and we recorded the reasoning for our specific decision.

In 2022, we reviewed the analysis and updated impacts related to SDG 13.

SDG #	SDG Name	SDG description	SDG sub-target	Potential contribution	Sense of contribution	Level of contribution	Comments
1	End poverty	SDG 1. End poverty in all its forms everywhere	1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	Direct	Enhancing positive contribution	Low	Umicore can positively contribute by giving all employees freedom of association (collective bargaining can have impact on wages) and including compliance with applicable laws (which state minimum wages) in binding contracts with suppliers. Umicore also has a limited negative contribution as it does not engage in artisanal mining, which is an important source of income for the rural poor. However the positive contribution is estimated to be more significant.
3	Healthy lives	SDG 3. Ensure healthy lives and promote well-being for all at all ages	3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	Direct	Enhancing positive contribution	Low	Umicore can contribute positively to mental health and wellbeing by providing its employees with wellbeing programs focussed on preventing burnouts, flexible working arrangements, mental wellbeing trainings etc.
3	Healthy lives	SDG 3. Ensure healthy lives and promote well-being for all at all ages	3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	Direct	Enhancing positive contribution	Low	Umicore can contribute positively by providing its employees with substance abuse programs (targeted at specific sites) for tobacco and alcohol.
3	Healthy lives	SDG 3. Ensure healthy lives and promote well-being for all at all ages	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by the nature of its business i.e. producing catalysts for cancer treatments and by providing its employees with substantial health coverage. It can also support by giving charities medical aid in developing countries e.g. AZG, Red Cross (although this is not part of the philanthropy focus on education and technology).
3	Healthy lives	SDG 3. Ensure healthy lives and promote well-being for all at all ages	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	Direct	minimizing negative impact	High	Umicore can reduce its negative contribution by keeping control over the pollution its operations may cause (heavy metals, dioxins) in general and especially in areas surrounding factories e.g. managing of risks associated with lead on metal refiner sites as well as in sourcing areas . It can also contribute by monitoring the health of all employees with a potential workplace exposure to metals.
4	Quality education	SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	Direct	Enhancing positive contribution	Low	This contribution is related to Umicore's dedicated philanthropy approach (focus on education). As Umicore focusses its sponsorships and donations on international projects with a clear educational component, it can positively contribute through its partnerships to educate and encourage young people to study sciences e.g. That's Brilliant campaign to promote STEM education and its partnership with UNICEF on 2 child-education projects.
4	Quality education	SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.4 By 2030, substantially increase the number of youths and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	Direct	Enhancing positive contribution	Low	This contribution is partially related to Umicore's dedicated philanthropy approach (focus on education). As Umicore focusses its sponsorships and donations on international projects with a clear educational component, it can positively contribute through its partnerships to educate and encourage young people to study sciences e.g. That's Brilliant campaign to promote STEM education. Umicore can also contribute positively by providing its employees with continuous training opportunities.
4	Quality education	SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	Direct	Enhancing positive contribution	Low	This contribution is related to Umicore's dedicated philanthropy approach (focus on education). Umicore can positively contribute through partnerships to educate and encourage young girls to study sciences e.g. That's Brilliant campaign to promote STEM education, especially among girls.

SDG #	SDG Name	SDG description	SDG sub-target	Potential contribution	Sense of contribution	Level of contribution	Comments
4	Quality education	SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development	Direct	Enhancing positive contribution	Low	Umicore can contribute positively by providing specific training to its employees on topics such as inclusion & diversity, business ethics, sustainable development etc.
5	Gender equality	SDG 5.Achieve gender equality and empower all women and girls	5.1 End all forms of discrimination against all women and girls everywhere	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by eliminating discrimination within its own organisation. Moreover, it can promote anti-discrimination in its entire supply chain by having its suppliers sign a code of conduct including clauses on anti-discrimination against women.
5	Gender equality	SDG 5.Achieve gender equality and empower all women and girls	5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	Indirect	Enhancing positive contribution	Low	Umicore can contribute by eliminating all forms of violence against women within its own organisation but more specifically in its supply chain: it can promote anti-violence practices by having its suppliers sign a code of conduct including clauses on exploitation of women.
5	Gender equality	SDG 5.Achieve gender equality and empower all women and girls	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	Direct	Enhancing positive contribution	Medium	Umicore can contribute by taking measures within its own organisation i.e. equal pay, gender parity in management, providing services for working mothers,... . Moreover, Umicore can also promote and enforce equal opportunities in its supply chain.
6	Clean water and sanitation	SDG 6. Ensure availability and sustainable management of water and sanitation for all	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	Direct	minimizing negative impact	High	Umicore can minimize its negative impact by keeping control over the water pollution its operations may cause in areas surrounding factories as well as in sourcing areas of precious metals and minerals. Umicore can also contribute by controlling the amount of water used for its operations
6	Clean water and sanitation	SDG 6. Ensure availability and sustainable management of water and sanitation for all	6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	Direct	minimizing negative impact	Low	Umicore can minimize its negative impact by keeping control over the amount and sources of water used for its operations and by treating and reusing water.
6	Clean water and sanitation	SDG 6. Ensure availability and sustainable management of water and sanitation for all	6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	Direct	minimizing negative impact	High	Umicore can minimize its negative impact by keeping control over the water pollution its operations may cause in general but also specifically in areas surrounding factories as well as in sourcing areas of precious metals.
7	Affordable and clean energy	SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	Direct	Enhancing positive contribution	High	Umicore can contribute positively by producing rechargeable battery materials for electrified transportation, portable electronics, energy storage and power tools.
7	Affordable and clean energy	SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	Direct	Enhancing positive contribution	High	Umicore can contribute positively by the nature of its business activities i.e. producing rechargeable battery materials for storage of renewable energy as well as by increasing the share of renewable energy in its own energy consumption.

SDG #	SDG Name	SDG description	SDG sub-target	Potential contribution	Sense of contribution	Level of contribution	Comments
7	Affordable and clean energy	SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all	7.3 By 2030, double the global rate of improvement in energy efficiency	Direct	Enhancing positive contribution	High	Umicore can contribute positively by producing high quality rechargeable battery materials for efficient storage and release of renewable energy and in making its own operations more energy efficient e.g. by executing energy efficiency projects and implementing systems to monitor energy use.
7	Affordable and clean energy	SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all	7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	Direct	Enhancing positive contribution	Low	Umicore can contribute positively by participating in REACH, by information sharing on toxicity and handling of substances and fuel business and by Umicore's product stewardship policy including substitution strategy and reduced impact for customers.
8	Work and economic growth	SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high value-added and labor -intensive sectors	Direct	Enhancing positive contribution	High	Umicore can contribute positively to technical upgrading and innovation by producing innovative products (e.g. emission control catalysts, rechargeable batteries and catalyst for fuel applications) and investing in R&D.
8	Work and economic growth	SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	Direct	Enhancing positive contribution	Low	This contribution is related to Umicore's dedicated philanthropy approach (focus on education & technology). Umicore can positively contribute by supporting organizations which encourage entrepreneurship e.g. by being a founding member of Entrepreneurs pour Entrepreneurs/Ondernemers voor Ondernemers which pairs corporate donors with development charities that focus on promoting entrepreneurship in the developing world.
8	Work and economic growth	SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead	Direct	Enhancing positive contribution	High	Umicore can contribute positively by its core activity of recycling and refining of metal bearing materials and by using materials in their processes from end-of life or secondary origin.
8	Work and economic growth	SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by ensuring equal opportunities and inclusiveness within its own organization. Moreover, it can promote equal opportunities and inclusiveness in its supply chain.
8	Work and economic growth	SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training	Direct	Enhancing positive contribution	Low	Umicore can contribute positively by focusing on recruiting young people (blue collar as well as white collar) e.g. through a young graduate program and by supporting educational programs.

SDG #	SDG Name	SDG description	SDG sub-target	Potential contribution	Sense of contribution	Level of contribution	Comments
8	Work and economic growth	SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.7 Take immediate and effective measures to eradicate forced labor , end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms	Direct	Enhancing positive contribution	High	Umicore can contribute positively by ensuring that human rights are respected within its supply chain i.e. by having suppliers sign policies such as the "Responsible global supply chain of minerals from conflict-affected and high risk areas" policy (which encompasses a code of conduct, human rights policy and sustainable procurement charter) and by executing targeted controls, especially as the regions in which precious metals and materials are sourced, are sensitive to issues such as forced labor and violence. Umicore can also contribute by supporting NGOs who are working in its sourcing areas e.g. Fund for the Prevention of Child labor in Mining Communities in DRC.
8	Work and economic growth	SDG 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by ensuring a safe and secure working environment within its own organization e.g. health care programs, social wellbeing programs, safety trainings. Moreover, it can promote and enforce (through signing of codes of conducts) good working conditions in its supply chain.
9	Build resilient infrastructure	SDG 9.Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by its contribution to the overall development of clean mobility i.e. through rechargeable battery materials and catalysts for reducing emissions.
9	Build resilient infrastructure	SDG 9.Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	Direct	Enhancing positive contribution	Low	Umicore can contribute positively by increasing the share of its sustainable business activities in the portfolio and by employing new people, in its own operations as well as in the rest of the supply chain.
9	Build resilient infrastructure	SDG 9.Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	Direct	Enhancing positive contribution	High	Umicore can contribute positively by its core activity of recycling and refining of metal bearing materials, by using materials in its processes from end-of life or secondary origin. Umicore can also contribute by making its operations more energy efficient and reducing air, water and soil pollution through the use of new sustainable technologies.
9	Build resilient infrastructure	SDG 9.Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	Direct	Enhancing positive contribution	High	Umicore can contribute positively by investing in R&D programs to develop sustainable products and technologies e.g. more efficient recycling of materials.
10	Reduce inequality	SDG 10. Reduce inequality within and among countries.	10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	Direct	Enhancing positive contribution	Medium	Umicore can contribute by ensuring equality and implementing inclusion policies within its own organization. Moreover, it can promote social inclusion in its supply chain.

SDG #	SDG Name	SDG description	SDG sub-target	Potential contribution	Sense of contribution	Level of contribution	Comments
10	Reduce inequality	SDG 10. Reduce inequality within and among countries.	10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality	Direct	Enhancing positive contribution	Medium	Umicore can contribute by implementing policies within its own organization. It can also contribute in developing countries to promote equality and fair remuneration at its suppliers e.g. by signing codes of conduct.
11	Sustainable cities	SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable.	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	Direct	Enhancing positive contribution	Low	Umicore can contribute positively to sustainable transport by its activities on clean mobility i.e. producing rechargeable battery materials for electrical cars and catalysts to clean exhaust gases.
11	Sustainable cities	SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable.	11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	Indirect	Enhancing positive contribution	Medium	Umicore can contribute positively by limiting the mining of new metals by recycling metals and thus keeping current landscapes and resources untouched. Umicore can also contribute by reducing harmful emissions through the production of catalysts, therefore reducing impacts such as climate change impacts and acid rain.
11	Sustainable cities	SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable.	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	Direct	minimizing negative impact	High	Umicore can minimize its negative impact by keeping control over the pollution its operations may cause (heavy metals, dioxins) in cities surrounding factories and mines.
12	Sustainable consumption and production	SDG 12.Ensure sustainable consumption and production patterns.	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	Direct	Enhancing positive contribution	High	Umicore can contribute positively by efficient use of resources in its operations e.g. using raw materials from secondary sources, sourcing these resources in an ethical and sustainable way (controlled by sustainable procurement practices) and by the nature of its operations i.e. precious metals refining and recycling.
12	Sustainable consumption and production	SDG 12.Ensure sustainable consumption and production patterns.	12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	Direct	minimizing negative impact	High	Umicore can minimize its negative impact by limiting and actively managing the negative impact of its operations in terms of GHG emissions (efficient production, capturing and transforming byproducts), in terms of metal emissions to air, water and soil (process efficiency, filtration) and waste management.
12	Sustainable consumption and production	SDG 12.Ensure sustainable consumption and production patterns.	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	Direct	Enhancing positive contribution	High	Umicore can contribute positively by the nature of its business activities e.g. recovering metals from waste streams such as e-scrap and using materials from secondary sources. Umicore can also minimize its negative impact by actively controlling and minimizing the waste generated by its own operations.
12	Sustainable consumption and production	SDG 12.Ensure sustainable consumption and production patterns.	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by adopting sustainable practices e.g. using materials from non-primary sources and by integrating sustainability information into its reporting cycle e.g. in an integrated annual report.
12	Sustainable consumption and production	SDG 12.Ensure sustainable consumption and production patterns.	12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by implementing sustainable procurement practices in its supply chain e.g. by signing and having suppliers sign a code of conduct, setting up of sustainable procurement charters, carrying out audits,...

SDG #	SDG Name	SDG description	SDG sub-target	Potential contribution	Sense of contribution	Level of contribution	Comments
13	Climate Action	SDG 13. Take urgent action to combat climate change and its impacts	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	Direct	Enhancing positive contribution	High	Umicore can contribute positively by the nature of its business i.e. recycling minerals and metals, by using materials from non-primary sources, by having a clear strategy and target to reduce emissions (which will be validated by SBTi) and by aligning with the TCFD.
13	Climate Action	SDG 13. Take urgent action to combat climate change and its impacts	13.2 Integrate climate change measures into national policies, strategies and planning	Direct	minimizing negative impact	Medium	Through its operations, Umicore emits GHG. To minimize that negative impact, Umicore has integrated the goal of 'net zero GHG emissions' by 2035 in its corporate 'Let's go for zero' strategy.
13	Climate Action	SDG 13. Take urgent action to combat climate change and its impacts	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	Indirect	Enhancing positive contribution	Low	Umicore can contribute positively by undertaking public-private partnerships on climate change mitigation e.g. on clean energy and clean mobility and by creating awareness on how its products can help mitigate climate change e.g. reducing resource consumption by recycling of minerals.
14	Life below water	SDG 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	Indirect	minimizing negative impact	Medium	Umicore can minimize its negative impact by limiting metal pollution to water.
15	Life on land	SDG 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	Indirect	minimizing negative impact	Medium	Umicore can minimize its negative impact by making sure that the mines from which it sources its materials are developed to mitigate impacts and conserve the natural environment. Umicore can also contribute by using resources from non-primary sources and by limiting the pollution and waste from its own production processes, especially metal pollution to water sources in this case.
15	Life on land	SDG 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	Indirect	minimizing negative impact	Low	Umicore can minimize its negative impact by limiting the emissions, pollution and waste from its own production processes, thus mitigating climate change which can cause droughts and floods. Umicore can also contribute by efficient water use in its own operations and in the supply chain.
15	Life on land	SDG 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	Indirect	minimizing negative impact	Medium	Umicore can minimize its negative impact by making sure that the mines from which it sources its materials are developed to mitigate impacts and conserve the natural environment. Umicore can also contribute by using resources from non-primary sources and by limiting the pollution and waste from its own production processes.
16	Peace, justice, institutions	SDG16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	16.1 Significantly reduce all forms of violence and related death rates everywhere	Indirect	Enhancing positive contribution	Low	Umicore can contribute positively by setting up responsible sourcing programs for its precious minerals and metals to avoid any use of violence within its supply chain and to avoid that the proceedings from those minerals are misused to finance armed conflict in high-risk areas.
16	Peace, justice, institutions	SDG16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children	Indirect	Enhancing positive contribution	Medium	Umicore can contribute positively by setting up responsible sourcing programs for its precious minerals and metals as mining is an industry that is sensitive to forced child labor due to the regions in which operations occur. Umicore can also contribute by actively supporting programs/NGOs aimed at preventing child labor.

SDG #	SDG Name	SDG description	SDG sub-target	Potential contribution	Sense of contribution	Level of contribution	Comments
16	Peace, justice, institutions	SDG16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime	Indirect	Enhancing positive contribution	Low	Umicore can contribute positively by continuing and elaborating responsible sourcing programs for its precious minerals and metals as those materials can be misused to finance armed conflict.
16	Peace, justice, institutions	SDG16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	16.5 Substantially reduce corruption and bribery in all their forms	Direct	Enhancing positive contribution	Medium	Umicore can contribute positively by making sure there is no corruption or bribery within its own organization and within its supply chain, especially because the areas in which precious minerals and metals are sourced are sensitive to armed conflict and corruption.
16	Peace, justice, institutions	SDG16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	Direct	Enhancing positive contribution	Low	Umicore can contribute positively by involving stakeholders e.g. employees at lower management levels in strategic company decisions.
17	Partnerships for the goals	SDG 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development: Finance.	17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries	Indirect	Enhancing positive contribution	Low	Umicore can contribute positively by engaging in the Global Battery Alliance (GBA) to help shape a circular, responsible and sustainable battery value chain.
17	Partnerships for the goals	SDG 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development: Finance.	17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	Indirect	Enhancing positive contribution	Low	Umicore can contribute positively by engaging in the partnerships such as Global Battery Alliance (GBA), Belgian Alliance for Climate Action (BACA) and through its engagement for STEM education.

Governance statements

Corporate governance

G1 Corporate governance framework

During the financial year 2022, Umicore (also the "**Company**") was subject to the Belgian Code on Corporate Governance 2020 (the "**CG Code 2020**").

The English, Dutch and French versions of the CG Code 2020 can be found on the website of the Belgian Corporate Governance Committee.

The governance structure of the Company and the policies and procedures of the Umicore Group are described in detail the corporate governance charter of Umicore (the "**CG Charter**"), which was last amended on 9 June 2022. The CG Charter is available on the Umicore website or may be obtained on request from Umicore's Group Communications Department.

Umicore has articulated its mission, values and basic organizational philosophy in a document called The Umicore Way. This document spells out how Umicore views its relationship with its customers, shareholders, employees and society. It is supplemented by detailed company codes and policies, the most significant of which is the Code of Conduct.

In terms of organizational philosophy, Umicore believes in decentralization and in entrusting a large degree of autonomy to each of its business units. The business units in turn are accountable for their contribution to the Group's value creation and for their adherence to Group strategies, policies, standards and sustainable development approach.

In this context, Umicore is convinced that a sound corporate governance structure is a necessary condition to ensure its long-term success. This implies an effective decision-making process based on a clear allocation of responsibilities. Such approach must ensure an optimal balance between a culture of entrepreneurship at the level of the business units and effective steering and oversight processes. The deals in more detail with the responsibilities of the shareholders, the Supervisory Board, the CEO, the Management Board and the specific role of the Audit Committee and of the Nomination & Remuneration Committee. The present statements provide information on governance issues which relate primarily to the financial year 2022.

G2 Corporate structure

The Management Board ("*directieraad*"/"*conseil de direction*") is entrusted with all matters not specifically reserved to the Supervisory Board ("*raad van toezicht*"/"*conseil de surveillance*") or the shareholders' meeting by the Belgian Code of Companies and Associations (the "**BCCA**") or Umicore's articles of association.

The Supervisory Board is responsible for the general policy and the strategy of Umicore, as well as for all actions that the BCCA reserves specifically for the board of directors in a one-tier system. It appoints and dismisses the CEO and the other members of the Management Board and it also supervises the Management Board. The Supervisory Board is assisted in its role by an Audit Committee and a Nomination & Remuneration Committee.

The day-to-day management of Umicore has been delegated to the CEO, who also chairs the Management Board. The Management Board, under the leadership of the CEO, is responsible for proposing the overall strategy of Umicore to the Supervisory Board and for Umicore's operational management. It also approves the strategies of the individual business units and monitors their implementation. The Management Board is furthermore responsible for screening the various risks and opportunities that Umicore may encounter in the short, medium or longer term (see Risk Management section) and for ensuring that adequate systems are in place to address these. The Management Board is responsible for defining and applying Umicore's approach to sustainable development.

Umicore is organized in business groups which in turn comprise business units that share common characteristics in terms of products, technologies and end-user markets. In order to provide a Group-wide support structure, Umicore has regional management platforms in China, North America, Japan and South America. Its corporate headquarters are based in Belgium (Brussels). This center provides a number of corporate and support functions in the areas of legal, finance, human resources, tax, internal audit, public and investor relations.

G3 Shareholders

3.1 Issued shares – capital structure

On 31 December 2022 there were 246,400,000 Umicore shares in issue, representing a capital of € 550,000,000.

The following shareholders have declared a participation of 3% or more (the below mentioned participations are those as mentioned in the transparency declarations of the resp. shareholders):

Gérald Frère, Ségolène Gallienne, Stichting Administratiekantoor Frère-Bourgeois, The Desmarais Family Residuary Trust, Groupe Bruxelles Lambert SA/NV, Arthur Capital S.à r.l.: 39,363,737 shares (15.98%). Baillie Gifford & Co and Baillie Gifford Overseas Ltd.: 24,420,971 shares (9.91%). Norges Bank: 13,054,028 shares (5.30%). BlackRock Inc.: 12,463,608 shares (5.06%). APG Asset Management: 6,728,778 shares (3.00%)

Also on 31 December 2022, Umicore owned 6,199,341 of its own shares representing 2.52% of its capital. Information concerning the shareholders' authorization for Umicore to purchase and/or sell its own

shares and the status of such buy-backs and divestments can be consulted in the CG Charter and on Umicore's website.

During the year, 198,050 own shares were used in the context of the exercise of employee stock options and 60,145 shares were used for share grants, of which 10,334 to the members of the Supervisory Board and 49,811 to the Management Board members. 43,459 own shares were used following a partial conversion into shares of the variable compensation of the former CEO and some members of the Management Board.

3.2 Dividend policy and payment

In 2022, Umicore paid a gross dividend of € 0.80 per share relating to the financial year 2021. This was an increase by € 0.05 compared with the gross dividend paid in 2021 in respect of the financial year 2020.

In July 2022, the Supervisory Board decided to pay a gross interim dividend of € 0.25 per share, which was paid on 23 August 2022.

3.3 Shareholders' meetings in 2022

The annual shareholders' meeting took place on 28 April 2022. A special and an extraordinary shareholders' meeting were also held on the same day. The shareholders' meeting took place physically but could also be viewed via a live (or differed) webcast.

On the occasion of the annual shareholders' meeting, the shareholders approved the resolutions regarding the annual accounts, the appropriation of the results and the discharges to the Supervisory Board members and to the statutory auditor regarding their respective 2021 mandates. At the same meeting, the shareholders appointed Ms Alison Henwood as new, independent member of the Supervisory Board for a period of three years, effective 1 September 2022. Furthermore, the mandates of Françoise Chombar as independent member of the Supervisory Board, and of Laurent Raets, as member of the Supervisory Board, were renewed, also for three years. The annual shareholders' meeting also approved a new remuneration policy, as well as the remuneration report and the remuneration of the Supervisory Board for 2022. Details of the fees paid to the members of the Supervisory Board in 2022 are disclosed in the remuneration report.

The special shareholders' meeting approved a contractual change of control clause in accordance with article 7:151 of the BCCA.

Finally, the extraordinary shareholders' meeting renewed the authorization conferred to the Company and its direct subsidiaries to acquire Umicore shares as well as the authorization granted to the Supervisory Board to increase the Company's capital (i.e. the authorized capital). These renewed authorizations are valid until respectively 30 June 2026 and 9 May 2027.

G4 Supervisory Board

4.1 Composition

The Supervisory Board, whose members are appointed by the shareholders' meeting resolving by a simple majority of votes without any attendance requirement, is composed of at least six members. The members' term of office may not exceed four years. In practice, Supervisory Board members are elected for a (renewable) period of three years. A member of the Supervisory Board cannot at the same time be member of the Management Board.

Members of the Supervisory Board can be dismissed at any time following a resolution of a shareholders' meeting, deciding by a simple majority of the votes cast. There are no attendance requirements for the dismissal of Supervisory Board members. The BCCA provides for the possibility for the Supervisory Board to appoint members of the Supervisory Board in the event of a vacancy. The next general meeting must decide on the definitive appointment of the above member of the Supervisory Board. The new member completes the term of office of his or her predecessor.

On 31 December 2022, the Supervisory Board was composed of 10 members. On the same date, seven Supervisory Board members were independent in accordance with the criteria laid down in article 3.5 of the CG Code 2020.

In terms of gender and cultural diversity, the Supervisory Board counted four women and seven different nationalities among its 10 members on 31 December 2022. Diversity also arises from the Supervisory Board members' educational backgrounds which include engineering, law, economics, finance, earth sciences and applied languages. The Supervisory Board's cumulative industry experience is broad, covering automotive, electronics, chemicals, metals, energy, finance and scientific/educational sectors. It also includes people experienced in the public and private sector and members with experience in the different regions in which Umicore is active. Collectively, the Supervisory Board possesses strong experience of managing industrial operations and counts seven active or former CEOs in its ranks. The Supervisory Board also has collective experience in disciplines that are specifically relevant to Umicore's non-financial goals such as environmental, social and sustainability governance (ESG), health and safety, talent attraction and retention and supply chain sustainability.

The composition of the Supervisory Board underwent the following changes in 2022:

- Alison Henwood was appointed independent member of the Supervisory Board for a period of three years, with effective date 1 September 2022, at the annual shareholders' meeting held on 28 April 2022.

- Furthermore, the mandates of Françoise Chombar, as independent member of the Supervisory Board, and of Laurent Raets, as Supervisory Board member, were renewed for three years on 28 April 2022.

4.2 Meetings and topics

The Supervisory Board held eight regular meetings in 2022. One of these meetings was held by means of a videoconference. On one occasion, the Supervisory Board also took decisions by unanimous written consent. One of the meetings took place in the context of a two-day strategy workshop.

The matters reviewed by the Supervisory Board in 2022 included the following:

- Group and strategy governance including Umicore's 2030 RISE Strategy,
- capital markets day 2022 storyline and content,
- financial performance of the Umicore Group,
- approval of the annual and half-year financial statements,
- adoption of the statutory and consolidated annual accounts and approval of the statutory and consolidated annual reports (including the remuneration report),
- new remuneration policy,
- approval of the agenda of an ordinary, a special and an extraordinary shareholders' meeting and calling of these meetings,
- environmental, social and sustainability governance (ESG) related topics, including but not limited to climate action, risk and resilience, water and biodiversity, diversity, transparency and disclosures and more;
- safety,
- business risk assessment,
- investment and divestment projects,
- Audit Committee reports,
- HR strategy,
- funding,
- business and technology reviews and market updates,
- joint venture and partnership projects and updates,
- annual performance review of the CEO and the other members of the Management Board,
- nomination and remuneration matters,
- interim dividend distribution.

The Supervisory Board attended the inauguration of Europe's first gigafactory for battery materials on Umicore's site in Nysa (Poland). Furthermore, the Supervisory Board visited the Volkswagen site in Salzgitter (Germany) on the occasion of the joint venture agreement entered into between Umicore and PowerCo.

4.3 Performance review of the Supervisory Board and its committees

The Supervisory Board undertakes at least every three years an evaluation of its own performance and its interaction with the CEO and the Management Board, as well as its size, composition, functioning and that of the board committees.

The last performance review took place in 2020 and included a preliminary feedback round and an in-depth discussion during a Supervisory Board meeting held in July 2020.

4.4 Audit Committee

The Audit Committee's composition and the qualifications of its members are fully in line with the requirements of article 7:99 of the BCCA and of the CG Code 2020.

On 31 December 2022, the Audit Committee was composed of four members of the Supervisory Board, three of them being independent. It is chaired by Ines Kolmsee.

The composition of the Audit Committee underwent one change in 2022: Alison Henwood was appointed member of the Audit Committee effective 1 September 2022.

All the members of the Audit Committee have extensive experience in accounting and audit matters as demonstrated by their curriculum.

The committee met four times in 2022. Apart from the review of the 2021 full year and the 2022 half year accounts, the Audit Committee reviewed reports and discussed matters related to internal audit, financial reporting, internal controls, ESG and other audit-related matters. The 2023 internal audit plan was validated. The committee met with the Group's auditor and reviewed and approved provided non-audit services. Members of the Audit Committee also discussed ad hoc matters with senior management.

4.5 Nomination & Remuneration Committee

The composition of the Nomination & Remuneration Committee is fully in line with the requirements of article 7:100 of the BCCA and of the CG Code 2020.

On 31 December 2022, the Nomination & Remuneration Committee was composed of five members, all members of the Supervisory Board, three of them being independent. The committee is chaired by the chairman of the Supervisory Board.

The composition of the Nomination & Remuneration Committee remained unchanged in 2022.

Seven Nomination & Remuneration Committee meetings were held in 2022, including three videoconference calls. During the same period the committee discussed the remuneration policy for the Supervisory Board members, the Supervisory Board committee members and Management Board members, and the rules of the stock grant and option plans offered in 2022. The committee also discussed the succession planning at the level of the Supervisory Board and the Management Board.

G5 Management Board

5.1 Composition

The Management Board is composed of at least four members. It is chaired by the CEO. All members of the Management Board, including the CEO, are appointed by the Supervisory Board upon recommendation of the Nomination & Remuneration Committee.

The composition of the Management Board underwent the following changes in 2022:

- Filip Platteeuw, former Chief Financial Officer, resigned as member of the Management Board effective 1 October 2022,
- Wannes Peferoen was appointed Chief Financial Officer and member of the Management Board effective 1 October 2022.
- On 31 December 2022 the Management Board was composed of seven members, including the CEO.

5.2 Performance review

The Management Board regularly reviews and assesses its own performance. The valuation is also discussed at the Nomination & Remuneration Committee and presented to the Supervisory Board.

The last performance reviews of the CEO and the other members of the Management Board took place on 15 February 2022.

G6 Relevant information in the event of a takeover bid

6.1 Restrictions on transferring securities

Umicore's articles of association do not impose any restriction on the transfer of shares or other securities.

The Company is furthermore not aware of any restrictions imposed by law except in the context of the market abuse legislation and of the lock-up requirements imposed on some share grants by the BCCA.

The options on Umicore shares as granted to the CEO, to the members of the Management Board and to designated Umicore employees in execution of various Umicore incentive programs may not be transferred *inter vivos*.

6.2 Holders of securities with special control rights

There are no such holders.

6.3 Voting right restrictions

Umicore's articles of association do not contain any restriction on the exercise of voting rights by shareholders, providing the shareholders concerned are admitted to the shareholders' meeting and their rights are not suspended. The admission rules to shareholders' meetings are articulated in article 20 of the articles of association. Pursuant to article 7 of the articles of association, if a share is the subject of concurrent rights, the rights attached to these shares are suspended until one person is designated as owner vis-à-vis the Company.

To the Supervisory Board's best knowledge, none of the voting rights attached to the shares issued by the Company were suspended by law on 31 December 2022, save for the 6,199,341 shares held by the Company itself on that date (article 7:217 §1 of the BCCA).

6.4 Employee stock plans where the control rights are not exercised directly by the employees

Umicore has not issued any such employee stock plans.

6.5 Shareholders' agreements

To the Supervisory Board's best knowledge, there are no shareholders' agreements which may result in restrictions on the transfer of securities and/or the exercise of voting rights.

6.6 Amendments to the articles of association

Save for capital increases decided by the Supervisory Board within the limits of the authorized capital, only an extraordinary shareholders' meeting is authorized to amend Umicore's articles of association. A shareholders' meeting may only deliberate on amendments to the articles of association – including capital increases or reductions, mergers, de-mergers and a winding-up – if at least 50% of the subscribed capital is represented. If the above attendance quorum is not reached, a new extraordinary shareholders' meeting must be convened, which will deliberate regardless of the portion of the capital represented. As a general rule, amendments to the articles of association are only adopted if approved by 75% of the votes cast. The BCCA provides for more stringent majority requirements in specific instances, such as the modification of the corporate object or the company form.

The Company's articles of association were amended once in 2022, following the renewal of the authorized capital approved by the extraordinary shareholders' meeting held on 28 April 2022.

6.7 Authorised capital – buy-back of shares

The Company's capital may be increased following a decision of the Supervisory Board within the limits of the so-called "*authorized capital*". The authorization must be granted by an extraordinary shareholders' meeting; it is limited in time and amount and is subject to specific justification and purpose requirements.

The extraordinary shareholders' meeting held on 28 April 2022 (resolutions published on 10 May 2022) renewed the authorization granted to the Supervisory Board to increase the Company's share capital. The Supervisory Board is authorized to increase the capital in one or more times by a maximum amount of € 55,000,000. The authorization will lapse on 9 May 2027 but it can be renewed.

Up until 31 December 2022, the Supervisory Board has not made use of this renewed authorization.

Following a resolution of the extraordinary shareholders' meeting held on 28 April 2022, the Company is authorized to acquire own shares on a regulated market within a limit of 10% of the subscribed capital, at a price per share comprised between € 4 and € 120 and until 30 June 2026 (included). The same authorization was also granted to the Company's direct subsidiaries. The Company acquired 1,300,000 own shares in 2022 in implementation of the above and the previous authorization.

6.8 Agreements between the Company and its directors or employees providing for compensation if they resign, or are made redundant without valid reason, or if their employment ceases because of a take-over-bid

For a closed group of employees an individual agreement has been put in place, applicable in the event of a dismissal within 12 months after a change of control over the Company. As far as the members of the Management Board are concerned, reference is made to the remuneration report and policy.

G7 Conflicts of interests (art. 7:115 through 7:117 BCCA)

During 2022, no conflicts of interests or decisions/transactions as defined under articles 7:115 through 7:117 BCA were discerned at the level of the Supervisory Board or the Management Board.

G8 Statutory auditor

At the annual shareholders' meeting held on 29 April 2021, EY Bedrijfsrevisoren BV / EY Réviseurs d'Entreprises SRL was appointed statutory auditor for a renewable period of three years. The statutory auditor is represented by Marnix Van Dooren & C° BV/SRL, itself represented by Marnix Van Dooren, and Eef Naessens BV/SRL, itself represented by Eef Naessens for the exercise of this mandate.

The Umicore policy detailing the independence criteria for the statutory auditor may be requested from Umicore.

G9 Code of Conduct

Umicore operates a Code of Conduct for all its employees, representatives and supervisory or Management Board members. This Code of Conduct is fundamental to the task of creating and maintaining a relation of trust and professionalism with its main stakeholders namely its employees, commercial partners, shareholders, government authorities and the public.

The main purpose of Umicore's Code of Conduct is to ensure that all persons acting on behalf of Umicore carry out their activities in an ethical way and in accordance with the laws and regulations and with the standards Umicore sets through its present and future policies, guidelines and rules. The Code of Conduct contains a specific section on complaints and expressions of concern by employees and "*whistleblower*" protection.[1]

The Code of Conduct is published in Appendix 6 to the CG Charter.

G10 Market manipulation and insider trading

Umicore's policy related to market abuse including insider trading is spelled out in the Umicore Dealing Code, which can be found under Appendix 7 to the CG Charter.

G11 Compliance with the CG Code 2020

During the financial year 2022, the Company has complied with all the provisions of the CG Code 2020 .

[1] 1 Umicore also adopted an internal global guideline on whistleblowing, in implementation of the EU Directive 2019/137 of the European Parliament and the Council dated 23 October 2019 on the protection of persons who report breaches of Union law (the so-called "Whistleblow Directive").

G12 Remuneration policy

Umicore's remuneration policy (the "**Policy**") outlines the remuneration principles for the members of Umicore's Supervisory Board and Management Board.

In 2021, Umicore undertook a detailed review of the Policy to ensure the Group's remuneration structure and rewards remain fair, responsible with a clear link to sustainable long-term value creation and in line with current international remuneration trends. The review also took into account the feedback received from our international shareholder base.

The Policy provides targets and remuneration with an increased focus on sustainable, profitable growth, combining financial and sustainability performance in full alignment with our sustainability ambitions.

The Policy, effective as of 1 January 2022 was approved at Umicore's annual shareholders' meeting on 28 April 2022 with 71.43% of the votes cast (disregarding the abstention votes, as provided under Belgian company law). The Policy contributes further to Umicore's efforts to increase disclosure and is available on Umicore's website.

G13 Remuneration report

REMUNERATION OF THE SUPERVISORY BOARD MEMBERS

The remuneration structure of the members of the Supervisory Board is in accordance with the Policy. The annual fixed fee and the attendance fee for the members of the Supervisory Board was increased in 2022. In addition, an annual fixed fee was introduced for the Chair and the members of the Nomination and Remuneration Committee. Other fees remained unchanged.

Supervisory Board

- **Chair**: annual fixed fee: € 60,000 + € 5,000 per meeting attended + 2,000 Umicore shares + company car
- **Member**: annual fixed fee: € 30,000 (versus € 27,000 in 2021) + € 3,000 per meeting attended (versus € 2,500 in 2021) + € 1,000 per meeting attended in person (for foreign-based members) + 1,000 Umicore shares

Audit Committee

- **Chair**: annual fixed fee: € 10,000 + € 5,000 per meeting attended + € 1,000 per meeting attended in person (for foreign-based Chair)
- **Member**: annual fixed fee: € 5,000 + € 3,000 per meeting attended + € 1,000 per meeting attended in person (for foreign-based members)

Nomination and Remuneration Committee

- **Chair**: annual fixed fee: € 10,000 (new versus 2021) + € 5,000 per meeting attended
- **Member**: annual fixed fee: € 5,000 (new versus 2021) + € 3,000 per meeting attended + € 1,000 per meeting attended in person (for foreign-based members)

2022 Remuneration overview of the Supervisory Board members

All components of the remuneration of the Supervisory Board members for the reported year are detailed in the table below.

13.1 Remuneration overview of the Supervisory Board members

in (€)

Name Mandate	Start date	End date	Fixed Fee	Shares[1]	Attendance Fee	Number of meetings attended Online/In person	Other (Car)	Total
Leysen T.								**223,817**
Chairman of the supervisory board	19-11-2008		60,000	76,440	40,000	1 / 7	2,377	
Chairman of the nomination & remuneration comittee	19-11-2008		10,000		35,000	3 / 4		
Armero M.								**125,220**
Member of the supervisory board	30-4-2020		30,000	38,220	31,000	1 / 7		
Member of the nomination & remuneration committee	9-12-2020		5,000		21,000	3 / 4		
Behrendt B.								**99,220**
Member of the supervisory board	29-4-2021		30,000	38,220	31,000	1 / 7		
Chombar F.								**115,220**
Member of the supervisory board	26-4-2016		30,000	38,220	24,000	1 / 7		
Member of the nomination & remuneration committee	26-4-2018		5,000		18,000	3 / 3		
Debackere K.								**135,220**
Member of the supervisory board	26-4-2018		30,000	38,220	24,000	1 / 7		
Member of the audit committee	26-4-2018		5,000		12,000	0 / 4		
Member of the nomination & remuneration committee	9-12-2020		5,000		21,000	3 / 4		
Garrett M.								**121,220**
Member of the supervisory board	28-4-2015		30,000	38,220	30,000	2 / 6		
Member of the nomination & remuneration committee	25-4-2017		5,000		18,000	2 / 4		
Henwood A.								**33,304**
Member of the supervisory board	1-9-2023		10,027	10,605	8,000	0 / 2		
Member of the audit committee	1-9-2023		1,671		3,000	0 / 1		
Kolmsee I.								**128,220**
Member of the supervisory board	26-4-2011		30,000	38,220	30,000	2 / 6		
Chairman of the audit committee	28-4-2015		10,000		20,000	1 / 3		
Meurice E.								**94,220**
Member of the supervisory board	28-5-2015		30,000	38,220	26,000	2 / 5		
Raets L.								**109,220**
Member of the supervisory board	25-4-2019		30,000	38,220	24,000	2 / 6		
Member of the audit committee	25-4-2019		5,000		12,000	1 / 3		

1 The share grant relates to the services rendered in the reported year. Shares were granted on 12 May 2022 (on 1 September 2022 for Alison Henwood) and were valued at the fair market value of € 38.22 per share (€ 31.75 for Alison Henwood), equivalent to either the closing share price on the day before the delivery date or the average closing price of the last 30 calendar days before delivery date, whichever is the lowest.

REMUNERATION OF THE CEO AND OTHER MANAGEMENT BOARD MEMBERS

The value of the CEO's and other Management Board members' remuneration was reviewed by the Supervisory Board on 15 February 2022. This review was carried out on the basis of recommendations from the Nomination and Remuneration Committee following a comparison survey with BEL20 and European peer companies.

In line with the Policy, remuneration of the CEO and other Management Board members included the following components in 2022: fixed remuneration, variable compensation, share-based compensation, pension plans and other benefits.

Remuneration of the CEO

Mathias Miedreich began his mandate as CEO on 1 October 2021. His annual fixed remuneration was set at € 1,000,000 and remained unchanged in 2022.

Mathias Miedreich participates in the short- and long-term variable remuneration programs as of the year of reference – 2022. The annual variable remuneration target (100% value) for performance in 2022 was set at € 600,000 and can vary between 0-125% depending on the Group and individual performance.

The year 2022 marked a successful start of Umicore's 2030 RISE Strategy, with very solid financial results and the achievement of important milestones in Umicore's "Let's Go for Zero" ambitions. This strong performance resulted in an award outcome of 109.2% for Group performance (50% weight) and 100% for individual performance (50% weight), hence a total award level of 104.6%. The CEO's actual gross annual variable compensation for the year of reference amounts to € 627,600. See Table 13.2 for more details on the 2022 performance award level.

In line with the Policy, a Performance Share Unit Plan (the PSU Plan) was introduced in 2022. The PSU Plan rewards strategic achievements driving long-term sustainable performance over a period of three years (2022-24). Under this PSU Plan, Mathias Miedreich received 17,529 PSUs, for vesting per 1 March 2025, provided the vesting conditions are met and subject to the achievement of the PSU performance objectives set in 2022 (as published in the 2021 remuneration report).

As part of the annual Umicore Incentive Stock Option Plan, 93,313 stock options were granted for 2022. On 15 February 2023, The Supervisory Board also decided to grant 2,000 Umicore shares for services rendered in the reported year. These shares are subject to a three-year lock-up.

As part of the compensation package, the Group also paid for the tuition fees (secondary school) in Belgium in 2022.

All components of the remuneration earned by Mathias Miedreich for the reported year are detailed in the Table 13.3.

Remuneration of other Management Board members

On proposal of the Nomination and Remuneration Committee and in line with the Policy, the Supervisory Board decided on 15 February 2022 to reduce, as of the year of reference 2022, the number of unconditional share awards, redistributing them over increased variable remuneration and a fixed annual fee. A pay mix with a higher portion of variable remuneration reinforces the link between reward and sustainable performance. Fixed remuneration for each other Management Board member was set at € 550,000 as of 1 January 2022.

The 2022 annual variable remuneration target (100% value) amounts to € 325,000, which can vary between 0-125% depending on Group and individual performance. See Table 13.2 for more details on the 2022 performance award level and Table 13.3 for the actual pay-outs.

Other Management Board members also participate in the PSU Plan. Under this Plan, they each received 9,495 PSUs, for vesting per 1 March 2025, provided the vesting conditions are met and subject to achieving the 2022 PSU performance targets (see 2021 remuneration report). Wannes Peferoen, who started his mandate as CFO of the Group on 1 October 2022, received 2,697 PSUs pro rata for the months in service in 2022.

As part of the annual Umicore Incentive Stock Option Plan 30,000 stock options per Management Board member were offered for 2022.

The Supervisory Board decided on 15 February 2023 to grant 2,000 Umicore shares per person for services rendered in the reported year (pro rata for Wannes Peferoen and Filip Platteeuw). These shares are subject to a three-year lock-up.

All components of the remuneration earned by the other Management Board members for the reported year are detailed in Table 13.3.

Group and individual performance 2022

The 2022 Group performance results related to the 2022 annual variable remuneration plan, are outlined in Table 13.2. This Table also shows results for individual performance in 2022.

13.2 Annual variable remuneration plan 2022 – Outcome

Topic	2022 Performance objectives	Weight	Award Min-Max	Threshold	Maximum	Award
Financial	ROCE	15%	0-150%	MIN 7.5% · 2022 TARGET 12.5%	MAX ≥ 17.5% · ACTUAL 19.2%	150%
Financial	Adjusted EBITDA[1]	15%	0-150% < 95% = 0% pay; 95% of target = 50% pay	MIN 95% of target · 2022 TARGET 100.7% (As defined by the Supervisory Board)	ACTUAL · MAX ≥ 105% of target	107%
Safety	Process Safety Event Frequency Rate: Reduction of 10% (vs 2021) + the absence of process safety events with material env. or health impact	5%	0-100%	MIN -9%	2022 TARGET/MAX ≥ -10% · ACTUAL -56.96%	100%
Safety	Total Recordable Injury Rate (TRIR): Reduction of 5% (vs 2021)	10%	0-100%	MIN -4.5%	2022 TARGET/MAX ≥ -5% · ACTUAL -5.26%	100%
Diversity & Inclusion	Recruitment of women managers: 35% in 2022	5%	0-100%	MIN 30% · ACTUAL 31.05%	2022 TARGET/MAX ≥ 35%	21%
Group	Total Group performance	50%				109.20%
Individual	Individual Performance - CEO	50%	0-120%	Defined yearly	Qualitative assessment	100%
Individual	Individual Performance - EVP (average)	50%	0-120%	Defined yearly	Qualitative assessment	100%

1 With respect to the Group's financial performance, it was decided by the Supervisory Board on 15 February 2023 to use as company growth metric in the remuneration the "Actual adjusted EBITDA versus the targeted adjusted EBITDA". This new metric, which replaces the previously communicated metric "Actual adjusted EBITDA versus targeted adjusted EBITDA at like-for-like precious metal prices", provides an equally accurate, yet less complex indication of the Group's growth.

13.3 Remuneration overview for Management Board members

in (€)

Name **Position**	**Mandate** **Start date** **End date**	**Fixed Compensation** [1]	**Short-term Variable** [2]	**Long-term Variable** [3]	**Shares** [4]	**Stock Options** [5]	**Pension Plans** [6]	**Other** [7]	**Total**	Ratio fixed [8]	Ratio variable [9]
Grynberg M.	19/11/2008	0	0	486,500	0	0	8,805	0	495,305	2%	98%
CEO	31/10/2021										
Miedreich M.	1/10/2021	1,000,000	627,600	0	65,380	600,003	208,800	55,732	2,557,515	75%	25%
CEO											
Csoma S.	01/11/2012	0	0	264,100	0	0	3,968	0	268,068	1%	99%
EVP	31/03/2021										
Daufenbach D.	6/12/2021	550,000	339,950	0	65,380	192,900	114,840	13,662	1,276,732	73%	27%
EVP											
Goffaux D.	01/07/2010	550,000	315,575	264,100	65,380	192,900	134,161	38,828	1,560,945	63%	37%
EVP											
Kiessling R.	01/02/2019	550,000	364,325	264,100	63,371	192,900	114,840	85,775	1,635,311	62%	38%
EVP											
Nolens G.	01/07/2015	550,000	339,950	264,100	65,380	192,900	144,193	20,874	1,577,396	62%	38%
EVP											
Peferoen W.	01/10/2022	137,500	84,988	0	16,345	0	28,710	3,946	271,489	69%	31%
CFO											
Platteeuw F.	01/11/2012	412,500	218,400	264,100	49,035	192,900	105,930	24,420	1,267,285	62%	38%
CFO	30/09/2022										
Sap B.	01/3/2021	550,000	372,450	0	65,380	192,900	114,840	13,818	1,309,388	72%	28%
EVP											
Steegen A.	01/10/2018	0	0	264,100	0	0	0	0	264,100	0%	100%
EVP	30/09/2021										

1 The fixed compensation includes the fixed remuneration from Umicore entities, if any.

2 The annual variable remuneration has been determined in accordance with the Policy and relates to the reported year 2022. The pay-out was made in cash in 2023, except for M. Miedreich, G. Nolens, W. Peferoen and B. Sap, who received the variable partly or totally in the form of shares.

3 The deferred variable, following the previous remuneration policy, relates to the reference year 2020 and takes into account, over the years 2020-2021-2022, an average ROCE of 17.8%, resulting in a pay-out of 100% of the 2020 deferred target, and a compounded average EBIT growth% of 19.3%, resulting in a pay-out of 39% of the 2020 deferred target. The pay-out was made in cash in 2023 except for M. Grynberg, G. Nolens and B. Sap, who received the variable partially or fully in the form of shares.

4 Shares granted relate to services rendered in the reported year 2022 during the mandate of a Management Board member. Shares were granted on 16 February 2023 and were valued at the fair market value of € 32.69 equivalent to the closing share price on the day before the delivery date or the average closing price of the last 30 calendar days before delivery date, whichever is the lowest. For German tax purposes, shares were valued at € 31.18 (lowest market quotation for shares on the delivery date).

5 Stock options granted relate to services rendered in the reported year 2022 during the mandate of a Management Board member. Stock options were granted on 16 February 2022 and were valued at a notional value of € 6.43 per option according to the Black & Scholes formulas

6 Includes defined contributions (DC) and defined benefits (DB) contributions (service cost) and the related social contributions.

7 Includes the representation allowance, benefit-in-kind company car, insurance benefits and additional benefits for Mr Kiessling for his frequent and extensive presence in Asia. It also includes tuition fees (secondary school) in Belgium paid for M. Miedreich's child.

8 (1)+(4)+(5)+(6)+(7)/Total remuneration.

9 (2)+(3)/Total remuneration.

COMPARATIVE INFORMATION ON REMUNERATION CHANGES - PAY RATIO

Table 13.4 provides an overview on the annual remuneration changes for the CEO; other Management Board members (in aggregate); mandates within the Supervisory Board and the Committees; the average employee remuneration on a full-time equivalent basis; and Company performance. Incomplete years of remuneration due to a start or end of mandate in the course of the reference year, have been adjusted to an annual base. The number of shares in Table 13.4 represents for all years the numbers of shares taking into account the share split of 16 October 2017.

Average employee remuneration relates to Umicore (Belgium), in accordance with applicable legal provisions.

13.4 Comparative table on remuneration changes of and company performance over the last five reported financial years

Annual Change		RFY 2018 vs RFY 2017	RFY 2019 vs RFY 2018	RFY 2020 vs RFY 2019	RFY 2021 vs RFY 2020	RFY 2022 vs RFY 2021	Information regarding RFY
Remuneration management board							
Position	**Type of remuneration**						
CEO (Mathias Miedreich) Mandate as of 01/10/2021	Fixed	2.9%	0.0%	2.9%	0.0%	38.9%	
	Variable	-24.8%	-5.6%	37.9%	57.7%	-22.3%	
	Number of shares	0.0%	-3.8%	0.0%	0.0%	-80.0%	
	Number of options	0.0%	-6.7%	0.0%	-31.4%	-2.8%	
	Pension + other	1.1%	8.2%	13.0%	6.7%	-7.8%	
Members of the management board (excl. CEO)	Fixed	3.3%	0.4%	4.5%	0.0%	25.0%	
	Variable	-28.0%	18.3%	10.6%	58.2%	45.2%	
	Number of shares	0.0%	-5.4%	0.0%	-0.9%	-71.2%	
	Number of options	0.0%	-14.3%	5.6%	0.0%	0.0%	
	Pension + other	-2.3%	1.9%	13.8%	-6.1%	3.3%	
Remuneration supervisory board	**Type of remuneration**						
Chairman supervisory board	Fixed	50.0%	0.0%	0.0%	0.0%	0.0%	
	Attendance fee/meeting	0.0%	0.0%	0.0%	0.0%	0.0%	
	Number of shares	0.0%	0.0%	0.0%	0.0%	0.0%	
Chairman nomination & remuneration committee	Fixed	-	-	-	-	+ 10,000 €	Introduction of 10,000 € fixed fee
	Attendance fee/meeting	0.0%	0.0%	0.0%	0.0%	0.0%	
	Number of shares	-	-	-	-	-	
Chairman audit committee	Fixed	0.0%	0.0%	0.0%	0.0%	0.0%	
	Attendance fee/meeting	0.0%	0.0%	0.0%	0.0%	0.0%	
	Number of shares	-	-	-	-	-	
Member supervisory board	Fixed	0.0%	0.0%	0.0%	0.0%	11.1%	
	Attendance fee/meeting	0.0%	0.0%	0.0%	0.0%	20.0%	
	Number of shares	0.0%	0.0%	0.0%	0.0%	0.0%	
Member audit committee	Fixed	0.0%	0.0%	0.0%	0.0%	0.0%	
	Attendance fee/meeting	0.0%	0.0%	0.0%	0.0%	0.0%	
	Number of shares	-	-	-	-	-	
Member nomination & remuneration committee	Fixed	-	-	-	-	+ 5,000 €	Introduction of 5,000 € fixed fee
	Attendance fee/meeting	0.0%	0.0%	0.0%	0.0%	0.0%	
	Number of shares	-	-	-	-	-	
Average employee remuneration on a full time equivalent basis							
% change versus previous year		3.6%	3.7%	2.7%	7.5%	5.6%	
Company's Performance		**2018**	**2019**	**2020**	**2021**	**2022**	
ROCE		**15.4%**	**12.6%**	**12.1%**	**22.2%**	**19.2%**	
EBIT M€		**514**	**509**	**536**	**971**	**865**	
% ROCE change versus previous year		2.0%	-18.2%	-4.0%	83.5%	-13.5%	
% EBIT change versus previous year		25.4%	-1.0%	5.4%	81.1%	-11.0%	

The pay ratio 2022 between the highest and lowest pay level at Umicore (Belgium) was equal to 49.

SHARE BASED PLANS AND TRANSACTIONS 2022

Management Board PSU Plans

As of performance year 2022, a Performance Share Unit Plan (PSU Plan) was introduced, replacing the deferred cash variable program that was in place until performance year 2021. Under this PSU Plan, PSUs are granted conditionally to the members of the Management Board. The PSUs vest after three years, depending on the achievement of pre-set performance goals and provided continued service on the date of vesting. The objectives are defined by the Supervisory Board upon proposal of the Nomination and Remuneration Committee and include measurable financial and sustainability targets. (See 2021 remuneration report for the 2022 PSU performance targets).

Table 13.5 provides an overview of the number of PSUs granted for performance in 2022 and the main provisions of the PSU Plan. The number of PSUs granted conditionally was determined by dividing the target PSU grant value by the Umicore share price on Euronext Brussels, being equivalent to either the closing share price on the day before the grant date or the average closing price of the last 30 calendar days before the grant date, whichever is lowest.

13.5 Management Board PSU Plans

Name Position	Number of PSUs received in 2022	Comment
Miedreich M., CEO	17,529	
Daufenbach F., EVP	9,495	
Goffaux D., EVP	9,495	
Kiessling R., EVP	9,495	
Nolens G., EVP	9,495	
Peferoen W., CFO	2,697	
Platteeuw F., CFO	9,495	
Sap B., EVP	9,495	

Main provisions of the outstanding PSU plans			
PSU Plan	Grant Date	Vesting Date	Performance window Start End
2022	01/03/2022	01/03/2025	01/01/2022 - 31/12/2024
2022 (Peferoen W.)	01/10/2022	01/03/2025	01/01/2022 - 31/12/2024

Vesting PSUs is subject to:

(1) a continued mandate as Management Board member, to the extent applicable under the PSU Plan. This condition is not applicable for members of the Management Board appointed before 1 April 2021 (unless in the event of termination for serious cause); and

(2) achievement of PSU performance objectives as defined by the Supervisory Board (see 2021 remuneration report).

If and when vesting takes place, the vesting of the PSUs is proportionate to the total weighted achieved award percentage, which can vary between 0-125%, pro rata of the number of months served by a Management Board member in the related performance year.

Management Board share option transactions in 2022

Table 13.6 provides an overview of the number of stock options granted for the services rendered in 2022 in the mandate of each member of the Management Board, the number of stock options exercised and expired in the course of the reported year, as well as the main provisions of the outstanding stock option plans.

Contrary to other countries, under Belgian Law, taxes on stock options are due at the time they are granted. Therefore and in alignment with other Belgian companies, the Umicore Incentive Stock Option Plans do not include performance conditions.

Details of all options exercised, and other share-related transactions can be found on the Financial Services and Markets Authority (FSMA) website.

13.6 Management Board share option transactions

Transactions in the reported year 2022

Name Position	Options Granted		Options Exercised		Options Expired
Miedreich M.	ISOP 2022	93,313			0
CEO					
Daufenbach F.	ISOP 2022	30,000			0
EVP					
Goffaux D.	ISOP 2022	30,000			0
EVP					
Kiessling R.	ISOP 2022	30,000			0
EVP					
Nolens G.	ISOP 2022	30,000			0
EVP					
Platteeuw F.	ISOP 2022	30,000	ISOP 2016	30,000	0
CFO					
Sap B.	ISOP 2022	30,000			0
EVP					

Main provisions of the outstanding stock option plans

ISOP Plan	Grant Date	Exercise Price *	Exercise window Start End
2022	16/02/2022	33.220	16/02/2025 - 15/02/2029
2021	11/02/2021	47.080	11/02/2024 - 10/02/2028
2020	10/02/2020	42.050	10/02/2023 - 09/02/2027
2019	11/02/2019	34.080	01/03/2022 - 10/02/2026
2018	09/02/2018	40.900	01/03/2021 - 08/02/2025
2017	13/02/2017	25.500	01/03/2020 - 12/02/2024
2016	05/02/2016	16.632	01/03/2019 - 04/02/2023

* Exercise prices take into account the share split of 16 October 2017.

Management Board share grant in 2022

Table 13.7 provides an overview of shares granted in 2022 for services rendered in 2021 during a Management Board member's mandate. Shares were granted on 16 February 2022 and were valued at the fair market value of € 33.22 per share, equivalent to either the closing share price on the day before the delivery date or the average closing share price of the last 30 calendar days before delivery date, whichever is the lowest. For German and Korean tax purposes, shares were valued respectively at € 33.54 and € 35.50. Shares are subject to a three-year lock-up until 15 February 2025.

As per the Policy, within five years from the date of appointment, the CEO is required to set aside a minimum of 30,000 Umicore shares, which he must retain throughout his tenure. This requirement also applies to other Management Board members in respect of a minimum of 15,000 shares.

On 31 December 2022, G. Nolens, D. Goffaux and R. Kiessling reached this minimum shareholder requirement. M. Miedreich, F. Daufenbach, B. Sap and W. Peferoen, are still within the five-year time-frame to build up the required minimum.

Management Board members held collectively a total of 202,831 shares on 31 December 2022.

13.7 Management Board share grant

Name Position	Number of shares received in 2022 for YR 2021	Comment
Grynberg M., CEO	8,334	
Miedreich M., CEO	500	
Csoma S., EVP	1,750	
Daufenbach F., EVP	143	
Goffaux D., EVP	7,000	
Kiessling R., EVP	7,000	
Nolens G., EVP	7,000	
Platteeuw F., CFO	7,000	
Sap B., EVP	5,834	
Steegen A., EVP	5,250	

Supervisory Board share grant in 2022

Table 13.8 provides an overview of shares granted in 2022 to Supervisory Board members for services rendered in 2022. Shares were granted on 12 May 2022 (on 1 September 2022 for Alison Henwood) and were valued at the fair market value of the share at € 38.22 (at € 31.75 for Alison Henwood), equivalent either to the closing share price on the day before the delivery date or the average closing price of the last 30 calendar days before delivery date, whichever is lowest. Shares must be held until at least one year after the member leaves the Supervisory Board and until at least three years after the delivery date.

Supervisory Board members held collectively a total of 909,707 shares on 31 December 2022.

13.8 Supervisory Board share grant

Name **Mandate in the Supervisory Board**	**Number of shares received in 2022**	**Comment**
Leysen T.	2,000	
Chairman		
Armero M.	1,000	
Member		
Behrendt B.	1,000	
Member		
Chombar F.	1,000	
Member		
Debackere K.	1,000	
Member		
Garrett M.	1,000	
Member		
Henwood A.	334	Pro rata the services in 2022
Member		as of 01/09/2022
Kolmsee I.	1,000	
Member		
Meurice E.	1,000	
Member		
Raets L.	1,000	
Member		

APPROVAL OF THE 2021 REMUNERATION REPORT AND IMPLEMENTATION OF NEW REMUNERATION POLICY AS OF JANUARY 2022

The 2021 remuneration report received 63.51% of shareholder votes (disregarding the abstention votes, as provided under Belgian Company Law), compared with 81.49% of the previous year. The 2021 remuneration report was still based on the previous remuneration policy, which was applicable until performance year 2021.

The 2022 remuneration report shows next to revised financial targets also sustainability/ESG targets in alignment with Umicore's "Let's Go for Zero" ambitions embedded within the Umicore 2030 RISE Strategy to enhance sustainable long-term value creation. Umicore will continue to include stretched and achievable targets, disclosing these targets upfront. (See Table 13.9 for the 2023 performance objectives).

13.9 Overview of the 2023 performance objectives and weighting

Annual Variable compensation plan (1y performance)	**Weight**	**2023 Target Award %**	**Treshold Award %**	**Maximum Award %**
ROCE	15%	12.5% 100% award	7.5% 0% award	≥17.5% 150% award
Adjusted EBITDA	15%	Defined by the Supervisory Board[1]	95% 50% award (Below 95%, 0% award)	≥105% 150% award
Process Safety Event Frequency Rate	5%	Reduction of 10% by 2023 versus 2022 + the absence of process safety events with material environmental or health impact	0% (same as 2022 level) 0% award	≥10% 100% award
Total Recordable Injury Rate (TRIR)	10%	Reduction of 10.5% by 2023 versus 2021	Reduction of 7.37% 0% award	≥10.5% 100% award
Recruitment of women managers	5%	35% recruited	30% recruited 0% award	≥35% recruited 100% award
Individual performance	50%	Defined yearly	0% award	120% award

1 Umicore does not disclose the adjusted EBITDA target, which is commercially sensitive information.

Performance Share Unit Plan (3y performance)	**Weight**	**2023 Target Award %**	**Treshold Award %**	**Maximum Award %**
ROCE	25%	12.5% 100% award	7.5% 0% award	≥17.5% 150% award
Total Shareholder Return (TSR)	25%	Ranked in top 50% of 12 peers	Sixth place 25% award (Ranked outside the Top 50%, 0% award)	First place 150% award
GHG emissions	25%	Scope 1+2: Reduction of 20% by 2025 versus 2019	Reduction of 12% 0% award	≥20% 100% award
Diffuse emissions	6.25%	Reduction of 36.36% lead by 2025 versus 2021	Reduction of 28.57% 0% award	≥36.36% 100% award
Diffuse emissions	6.25%	Reduction of 57.89 % arsenic by 2025 versus 2021	Reduction of 53.68% 0% award	≥57.89% 100% award
Diversity of thought index	12.5%	Increase of 16.5% by 2025 versus 2021	Increase of 13% 0% award	≥16.5% 100% award

About this report

About this report

An integrated approach

This Umicore 2022 annual integrated report is published in English and in Dutch on March 28, 2023 and is aligned with the corporate reporting requirements set out in article 3:32, §2 of the Belgian Companies' and Associations' Code. This report offers a comprehensive view of our new integrated 2030 RISE strategy, our progress through economic and sustainability/ESG performance reporting, our leadership and governance, and is followed by the full financial, environmental, social and governance statements and notes.

This report is structured using the "six capitals" approach to integrated reporting defined by the International <IR> Framework and prepared in accordance to Global Reporting Initiative (GRI) Standards. The annual integrated report also serves as a progress report on the implementation of the United Nations Global Compact's ten principles, provides information on how we contribute to the UN Sustainable Development Goals (SDGs). This report also discloses in line with the requirements of the EU Taxonomy and reflects how the recommendations of Task Force on Climate-Related Financial Disclosures (TCFD) are implemented.

All elements of the Annual Report can be consulted in English and in Dutch by browsing the dedicated website annualreport.umicore.com or downloading the report from that address. Definitions for the terms used throughout this report can be found in the Glossary for the report. Please see the back cover for contact information regarding this report and its contents.

Reporting scope & data

This report covers our operations for the 2022 calendar year, which is also the Umicore fiscal year. The scope of all objectives and a brief description of the methodology behind all performance indicators are included in in each of the financial, environmental, social and governance statements and notes.

The financial scope of this report covers all fully consolidated operations and the financial contributions of all associate and joint venture companies. The financial data are collected through our financial management and consolidation process. The environmental and social scope is limited to all fully consolidated operations – any divergence from this scope is explained in the relevant chapter or note in the report. The environmental and social data are collected through environmental and social data management systems and integrated into a central reporting tool, along with the financial data. Where data are available, the performance indicators in the document are reported with a comparison base referring back by 5 years.

Assurance

This report has been independently verified by Ernst & Young (EY). EY's audit of financial information is based on the full set of IFRS consolidated financial statements on which it has expressed an unqualified opinion. This full set of IFRS consolidated financial statements and the auditor's report thereon, can be found in the Financial Statements (p. 151) and in the Assurance Reports (p. 272) . The social and environmental information included in this report has been prepared on the basis of the same recognition and measurement principles that have been used to prepare the Environmental Statements (p. 226) and the Social Statements (p. 234). EY's report on the social and environmental statements can be found in the Assurance Reports (p. 272) .

Presentation & feedback

Umicore seeks to improve its reporting through a continuous process of stakeholder engagement and dialogue. The key social elements of the report are presented to the international trade unions, while the entire document is presented to shareholders at the Annual General Meeting in April.

Umicore also commits to consider all improvement points recommended by the independent auditor (EY) in its subsequent reporting cycles. General reader feedback is encouraged on both the online pdf and web versions of the report. Feedback received on our previous reports has been considered in the preparation of this report. To share your feedback on this report, visit: umicore.com/ar-feedback.

GRI/SASB index

GRI content index	
Statement of use	Umicore has reported in accordance with the GRI Standards for the 2022 calendar year.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard(s)	None applicable

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
General disclosures					
GRI 2: General Disclosures 2021	2-1 Organizational details	Front cover, Back cover, Social statements; Financial Statements F5			
	2-2 Entities included in the organization's sustainability reporting	About us; Umicore at a glance; Governance Statements; Financial statements: F5, F17; Environmental Statements; Social Statements			
	2-3 Reporting period, frequency and contact point	Front cover; Inside front cover; About this report			
	2-4 Restatements of information	Performance: Financial;Financial Statements; Environmental Statements			
	2-5 External assurance	Assurance reports, Governance Statements: G8; Strategy; Supervision and complaince			
	2-6 Activities, value chain and other business relationships	Strategy			
	2-7 Employees	S2 Workforce; Glossary	b.ii, b.v.	Information unavailable/ incomplete	Data collection processes will be adapted to meet future disclosure requirements.
	2-8 Workers who are not employees	Omitted	a., b., c.	Information unavailable/ incomplete	Data collection processes will be adapted to meet future disclosure requirements.
	2-9 Governance structure and composition	Leadership			
	2-10 Nomination and selection of the highest governance body	Leadership; Governance Statements; Umicore's corporate governance charter			
	2-11 Chair of the highest governance body	Supervisory Board			
	2-12 Role of the highest governance body in overseeing the management of impacts	Leadership; Governance Statements			
	2-13 Delegation of responsibility for managing impacts	Leadership; Governance Statements			
	2-14 Role of the highest governance body in sustainability reporting	Leadership; Governance Statements			
	2-15 Conflicts of interest	G7 Conflicts of interests;Risks & Opportunities; Code of conduct			
	2-16 Communication of critical concerns	Corporate governance charter; code of conduct; corporate governance statements:G2, G3, G9, G10			
	2-17 Collective knowledge of the highest governance body	Leadership; Governance Statements			
	2-18 Evaluation of the performance of the highest governance body	Governance Statements G4			

	2-19 Remuneration policies	Renumeration Report; Governance Statements G12; Corporate governance charter; code of conduct			
	2-20 Process to determine remuneration	Renumeration Report; Corporate governance charter; code of conduct			
	2-21 Annual total compensation ratio	Governance Statements:G13 Remuneration report	b	Information unavailable/ incomplete	Considering Umicore's global footprint, this compensation indicator is not a meaningful measure of the equity of compensation frameworks and current data processes do not centrally track such indicators at this time.
	2-22 Statement on sustainable development strategy	At a Glance; Strategy; Performance; Leadership;			
	2-23 Policy commitments	Management Approach; Risks & Opportunities; The Umicore Way; Code of conduct; IndustriALL Global framework Agreement on Sustainable Development			
	2-24 Embedding policy commitments	Performance: Innovation, Workforce, Society; Leadership;			
	2-25 Processes to remediate negative impacts	Strategy; Performance: Environment, Society; Management Approach;Risks & Opportunities; Code of Conduct; Umicore Integrity Line			
	2-26 Mechanisms for seeking advice and raising concerns	Code of Conduct; Umicore Integrity Line; Performance: Employees;			
	2-27 Compliance with laws and regulations	Risks & Opportunities; Financial Statements			
	2-28 Membership associations	Performance: Society			
	2-29 Approach to stakeholder engagement	At a Glance: Rising up for Impact			
	2-30 Collective bargaining agreements	Performance: Employees; IndustriALL Global framework Agreement on Sustainable Development			
Material topics					
GRI 3: Material Topics 2021	3-1 Process to determine material topics	At a Glance: Rising up for Impact			
	3-2 List of material topics	At a Glance: Rising up for Impact			
	3-3 Management of material topics	At a Glance: Rising up for Impact; Strategy; Performance; Leadership			
Economic performance					
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	At a glance; Society key figures; Financial statements: F8, F9, F39; Key figures			
	201-2 Financial implications and other risks and opportunities due to climate change	Management Approach; Risk & Opportunities; Financial Statements F2.23			
	201-3 Defined benefit plan obligations and other retirement plans	Financial statements: F2.16, F21,F27			
	201-4 Financial assistance received from government	Consolidated statement of cash flow			
Indirect economic impacts					
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Rising up for impact; Performance: Operations; Environment; Society;			

	203-2 Significant indirect economic impacts	Rising up for impact; Performance: Operations; Environment; Society; Social Statements: S7			
Anti-corruption					
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	Risks & Opportunities			
	205-2 Communication and training about anti-corruption policies and procedures	Code of Conduct; Umicore Integrity Line			
	205-3 Confirmed incidents of corruption and actions taken	omitted	all	Not applicable	
Anti-competitive behavior					
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Financial Statements: F36			
Materials					
GRI 301: Materials 2016	301-1 Materials used by weight or volume	omitted	all	Confidentiality constraints	Commercially sensitive information
	301-2 Recycled input materials used	Perfomance: Environment, Society			
	301-3 Reclaimed products and their packaging materials	omitted	all	Not applicable	
Energy					
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Performance: Environment; Environmental statements: E6	d	Not applicable	
	302-2 Energy consumption outside of the organization	Performance: Environment, Society; Environmental statements: E6			
	302-3 Energy intensity	Performance: Environment, Glossary			
	302-4 Reduction of energy consumption	Performance: Environment			
Water and effluents					
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Strategy; Performance: Environment, Risks & Opportunities, Environmental Statements E4			
	303-2 Management of water discharge-related impacts	Performance: Environment, Risks & Opportunities, Environmental Statements E4			
	303-3 Water withdrawal	Performance: Environment; Environmental statements: E4			
	303-4 Water discharge	Performance: Environment; Environmental statements: E4			
	303-5 Water consumption	Performance: Environment; Environmental statements: E4			
Emissions					
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Strategy; Performance: Environment, Risks & Opportunities, Environmental Statements E7			
	305-2 Energy indirect (Scope 2) GHG emissions	Strategy; Performance: Environment, Risks & Opportunities, Environmental Statements E7			
	305-3 Other indirect (Scope 3) GHG emissions	Strategy; Performance: Environment, Risks & Opportunities, Environmental Statements E7			
	305-4 GHG emissions intensity	Performance: Environment, Glossary			
	305-5 Reduction of GHG emissions	Strategy; Performance: Environment, Risks & Opportunities, Environmental Statements E7			
	305-6 Emissions of ozone-depleting substances (ODS)	omitted	all	Not applicable	
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Strategy; Performance: Environment, Risks & Opportunities, Environmental Statements E5			
Waste					
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Rising Up for Impact; Performance: Operations, Environment, Society			

	306-2 Management of significant waste-related impacts	Rising up for impact; Performance: Operations, Environment, Society; Management approach; Risk & Opportunities: Sustainable and ethical supply, Climate and Environment; Environmental Statements E3			
	306-3 Waste generated	Performance: Environment; Environmental Statements E3; Glossary			
	306-4 Waste diverted from disposal	Performance: Environment; Environmental Statements E3; Glossary			
Supplier environmental assessment					
	308-1 New suppliers that were screened using environmental criteria	omitted	a	Information unavailable/ incomplete	Umicore has a robust process and policy in place to prevent and mitigate risks of environmental impacts in our supply chain. This is described in our Umicore Global Sustainable Sourcing Policy, including a list of criteria for our suppliers in order to do business together. We aim to provide more explicit disclosure in the future.
GRI 308: Supplier Environmental Assessment 2016	308-2 Negative environmental impacts in the supply chain and actions taken	Performance: Society; Risks & Opportunities: Sustainable and Ethical supply; EcoVadis CSR Scorecard; Due diligence Compliance Report Cobalt Procurement	a., b., d., e.,	Information unavailable/ incomplete	Umicore has a robust process and policy in place to prevent and mitigate risks of environmental impacts in our supply chain. This is described in our Umicore Global Sustainable Sourcing Policy, including a list of criteria for our suppliers in order to do business together. Where relevant, we disclose flag indications/incidents and actions taken in the Due diligence Compliance Report Cobalt Procurement.
Employment					
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Performance: Employees; Social Statements: S2			
Occupational health and safety					
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Performance: Employees; Management approach;Risks & Opportunities; Social Statements S4, S5; IndustriALL Global framework Agreement on Sustainable Development; EcoVadis CSR Scorecard			
	403-2 Hazard identification, risk assessment, and incident investigation	Performance: Employees; Risks and opportunities; Management approach; Umicore Integrity Line ; Umicore occupational health and safety			
	403-3 Occupational health services	Performance: Employees; Management approach; Umicore occupational health and safety; Social Statements: S5			
	403-4 Worker participation, consultation, and communication on occupational health and safety	Performance: Employees; Management approach; Umicore occupational health and safety			
	403-5 Worker training on occupational health and safety	Performance: Employees; Management approach			
	403-6 Promotion of worker health	Performance: Employees; Management approach			
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Performance: Employees; Management approach			

	403-8 Workers covered by an occupational health and safety management system	Performance: Employees; Management approach; Social Statements S4, S5; IndustriALL Global framework Agreement on Sustainable Development			
	403-9 Work-related injuries	Performance: Employees; Social statements S4, S5			
	403-10 Work-related ill health	Performance: Employees; Social statements S4, S5			
Training and education					
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Performance: Employees;Social statements S3;			
	404-2 Programs for upgrading employee skills and transition assistance programs	Performance: Employees;Social statements S3;			
	404-3 Percentage of employees receiving regular performance and career development reviews	Performance: Employees; Social statements S3			
Diversity and equal opportunity					
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Performance: Employees; Leadership; Governance Statements G4; Social Statements S2			
	405-2 Ratio of basic salary and remuneration of women to men	Performance: Employees			
Child labor					
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Performance: Society; Risks and opportunities: Sustainable & ethical supply; Umicore Global Sustainable Sourcing Policy			
Forced or compulsory labor					
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Performance: Society;Risks and opportunities: Sustainable & ethical supply; Umicore Global Sustainable Sourcing Policy			
Local communities					
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Ommitted; Giving Back To Society; Rising up for impact; Risks & Opportunities ; Blood lead levels reach lowest average ever in children near Umicore site in Hoboken; Continuous improvement in Hoboken	a.	Information unavailable/ incomplete	Each Umicore site is responsible to engage locally. We disclose information about engagements with the local communities through local websites, and in some case through our disclosure, including around our site in Hoboken, Belgium.
	413-2 Operations with significant actual and potential negative impacts on local communities	Risks & Opportunities; Blood lead levels reach lowest average ever in children near Umicore site in Hoboken Continuous improvement in Hoboken			
Supplier social assessment					
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	omitted	a	Information unavailable/ incomplete	Umicore has a robust process and policy in place to prevent and mitigate risks of social impacts in our supply chain. This is described in our Umicore Global Sustainable Sourcing Policy, including a list of criteria for our suppliers in order to do business together. We aim to provide more explicit disclosure in the future.

	414-2 Negative social impacts in the supply chain and actions taken	Rising up for impact; Performance: Society; Risks & Opportunities: Sustainable and Ethical supply; Social statements: S7; EcoVadis CSR Scorecard	
Customer health and safety			
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Performance: Society (Sustainable Products & services)	
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	omitted	Not applicable
Other material topics reported			
	Criticality of raw materials	To complement the reporting on GRI 308: Supplier Environmental Assessment and GRI 414: Supplier Social Assessment. See Society; Managing risks effectively: sustainable & ethical supply	
	Sustainable products and services	To complement reporting on GRI 301: Materials. See Society; Sustainable Products & Services	
	Process safety	To complement reporting on GRI 403: Occupational Health and Safety. See Employees; Statements S4	
	Metal emissions to air and water	To complement reporting on GRI 305: Emissions. See Environment; Environmental statements: E5	
SASB RT-CH-110a.2	Discussion of long-term and short-term strategy or plan to manage scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Strategy; Performance: Environment; Our journey to decarbonization	
	Air emissions of the following pollutants: NOX (excluding N2O), SOX, volatile organic compounds (VOCs) and hazardous air pollutants (HAPs)	Performance: Environment; Environmental statements: E5	
SASB RT-CH-130a.1	Total energy consumed, percentage grid electricity, percentage renewable, total self-generated energy	Performance: Environment; Environmental statements: E6	
	Total water withdrawn, total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress (https://www.wri.org/initiatives/aqueduct)	Limited disclosure: Performance: Environment; Risks & Opportunities; Environmental statements: E4	
SASB RT-CH-150a.1	Amount of hazardous waste generated, percentage recycled	Performance: Environment; Environmental statements: E3	
	Discussion of engagement processes to manage risk and opportunities associated with community interests	Risks & Opportunities; Performance: Environment; Society; TCFD index	
SASB RT-CH-320a.1	(1)Total recordable incident rate (TRIR) and (2) fatality rate for direct employees and contract employees	Employees;Social statements S4	
	Description of efforts to assess, monitor and reduce exposure of employees and contract workers to long-term (chronic) health risks	Employees; Social statements S5; Management Approach	
SASB RT-CH-410a.1	Revenue from products designed for use-phase resource efficiency	Performance: Finance; EU Taxonomy; Environment; Sustainable Products & Services	
	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Performance: Society; Management approach; Risk & Opportunities	
SASB RT-CH-540a.1	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR) and Process Safety Incident Severity Rate (PSISR)	Limited disclosure: Performance: Employees; Social statements S4	

TCFD index

TOPIC	DISCLOSURE	PAGE REFERENCE IN ANNUAL REPORT 2022
Governance	Describe the board's oversight of climate-related risks and opportunities.	General management
	Describe management's role in assessing and managing climate-related risks and opportunities.	Operational management; Sustainability/ESG management; Risks & Opportunities; CEO&Chairman Review
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Risks & Opportunities
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Risks & Opportunities
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Risks & Opportunities
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	Risks & Opportunities
	Describe the organization's processes for managing climate-related risks.	Risks & Opportunities
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Risks & Opportunities
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Environment; Sustainability champion (Let's Go for Zero)
	Disclose scope 1, scope 2, and, if appropriate, scope 3 greenhouse gas (GHG) emissions, and the related risks.	Environment
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Sustainability champion (Let's Go for Zero)

Independent auditor's report to the general meeting of Umicore NV for the year ended 31 December 2022

In the context of the statutory audit of the Consolidated Financial Statements of Umicore NV (the "Company") and its subsidiaries (together the "Group"), we report to you as statutory auditor. This report includes our opinion on the consolidated balance sheet as at 31 December 2022, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flow for the year ended 31 December 2022 and the disclosures (all elements together the "Consolidated Financial Statements") as well as our report on other legal and regulatory requirements. These two reports are considered one report and are inseparable.

We have been appointed as statutory auditor by the shareholders' meeting of 29 April 2021, in accordance with the proposition by the Supervisory Board following recommendation of the Audit Committee and following recommendation of the workers' council. Our mandate expires at the shareholders' meeting that will deliberate on the Consolidated Financial Statements for the year ending 31 December 2023. We performed the audit of the Consolidated Financial Statements of the Group during 2 consecutive years.

Report on the audit of the Consolidated Financial Statements

Unqualified opinion

We have audited the Consolidated Financial Statements of Umicore NV, that comprise of the consolidated balance sheet on 31 December 2022, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flow of the year and the disclosures, which show a consolidated balance sheet total of € 9.942.372 thousands and of which the consolidated income statement shows a profit for the year of € 572.401 thousands.

In our opinion, the Consolidated Financial Statements give a true and fair view of the consolidated net equity and financial position as at 31 December 2022, and of its consolidated results for the year then ended, prepared in accordance with the International Financial Reporting Standards as adopted by the European Union ("IFRS") and with applicable legal and regulatory requirements in Belgium.

Basis for the unqualified opinion

We conducted our audit in accordance with International Standards on Auditing ("ISA's") applicable in Belgium. In addition, we have applied the ISA's approved by the International Auditing and Assurance Standards Board ("IAASB") that apply at the current year-end date and have not yet been approved at national level. Our responsibilities under those standards are further described in the "Our responsibilities for the audit of the Consolidated Financial Statements" section of our report.

We have complied with all ethical requirements that are relevant to our audit of the Consolidated Financial Statements in Belgium, including those with respect to independence.

We have obtained from the Supervisory Board and the officials of the Company the explanations and information necessary for the performance of our audit and we believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the Consolidated Financial Statements of the current reporting period.

These matters were addressed in the context of our audit of the Consolidated Financial Statements as a whole and in forming our opinion thereon, and consequently we do not provide a separate opinion on these matters.

Accounting treatment of hedge transactions and derivatives

Description of the key audit matter

Umicore uses a number of different derivative financial instruments to hedge against currency, energy and commodity price risks associated with its ordinary business activities. Management's hedging policy is documented in corresponding internal guidelines and serves as the basis for these transactions. These price risks arise primarily from revenue, sales and procurement transactions, in particular metals.

The Group applies cash flow hedging, fair value hedging, and economical hedging (i.e. derivatives that are not in a formal hedge relationship, but are not speculative). Each of these three types is outlined in more detail in the following paragraphs.

The cash flow hedges, also labelled as "strategic hedges" in the Group's annual report, meet the criteria for hedge accounting under IFRS 9. Consequently, the effective portion of the changes in fair value of the underlying derivative financial instruments are recognized directly in equity until the underlying hedged cash flows materialize. As of the balance sheet date, € 3.9 million (positive) were recognized in the fair value reserves in equity as disclosed in note F 33.1.

A part of the fair value hedges, also labelled as "transactional hedges" in the Group's annual report, meet the criteria for fair value hedge accounting under IFRS 9 as disclosed in the accounting policies under note F 2.21.1. These consist mainly of the currency hedges and the commodity hedges for base metals (lead, copper and nickel). The hedged items and the hedging instruments are both recognized at fair value through the income statement. As of the balance sheet date, € 23.1 million (positive) respectively € 64.9 million (negative) were recognized as fair value of the hedging instruments as disclosed in note F 32 and F 33.2.

There is a part of the transactional hedging for commodities for which under IFRS 9 no fair value hedge accounting can be applied because the criteria are not met. These are labelled as "economical hedges" in the Group's annual report. In addition, for some metals, in the absence of market-based derivatives, the hedging consists of physical back-to-back hedging set-ups without any derivative financial instruments involved. As of the balance sheet date, € 25.2 million (positive) respectively € 14.5 million (negative) were recognized as fair value of the derivatives as disclosed in note F 32 and F 33.2. Although the hedging criteria under IFRS 9 are not met, management does not consider these as speculative instruments.

We believe that these matters are significant in our audit due to their high complexity, the number of transactions as well as the extensive accounting, documentation and reporting requirements under IFRS 9.

Summary of the procedures performed

- Assessment of the design and operating effectiveness of the Group's key internal controls with regard to derivative financial instruments, including its activities to monitor compliance with the hedging policies.
- We obtained bank and broker confirmations in order to support the existence, completeness and fair values of the recorded hedging transactions. We have recalculated the impact on the income statement and have verified the contractual and financial terms for a representative sample of derivatives.
- We used market data to confirm the method applied to measure the fair value of the financial instruments and recalculated the fair value for a sample of derivatives with the use of our internal experts.

- We have inspected the existing hedge accounting documentation and the prospective effectiveness tests to evaluate their compliance with IFRS 9. In particular for the fair value hedges, we assessed the net position approach for the metal hedges. For the cash flow hedges we verified the probability of the expected future cash flows. For the part of the transactional hedging on which no fair value hedge accounting can be applied (in the absence of meeting the IFRS 9 criteria or in the absence of market-based derivatives), we verified whether the accounting treatment was in accordance with IAS 2 "Inventories" and IAS 37 "Provisions, Contingent Liabilities and Contingent Assets".
- We have assessed the accounting treatment, including the effects on equity and profit or loss, of the various hedging transactions and the reconciliation with the statement of financial position and disclosures.
- We evaluated whether the hedged items and hedging instruments were appropriately disclosed in notes F 33.1 and F33.2 of the financial statements.

Responsibilities of the Supervisory Board for the preparation of the Consolidated Financial Statements

The Supervisory Board is responsible for the preparation of the Consolidated Financial Statements that give a true and fair view in accordance with IFRS and with applicable legal and regulatory requirements in Belgium and for such internal controls relevant to the preparation of the Consolidated Financial Statements that are free from material misstatement, whether due to fraud or error.

As part of the preparation of Consolidated Financial Statements, the Supervisory Board is responsible for assessing the Company's ability to continue as a going concern, and provide, if applicable, information on matters impacting going concern, The Supervisory Board should prepare the financial statements using the going concern basis of accounting, unless the Supervisory Board either intends to liquidate the Company or to cease business operations, or has no realistic alternative but to do so.

Our responsibilities for the audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance whether the Consolidated Financial Statements are free from material misstatement, whether due to fraud or error, and to express an opinion on these Consolidated Financial Statements based on our audit. Reasonable assurance is a high level of assurance, but not a guarantee that an audit conducted in accordance with the ISA's will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Consolidated Financial Statements.

In performing our audit, we comply with the legal, regulatory and normative framework that applies to the audit of the Consolidated Financial Statements in Belgium. However, a statutory audit does not provide assurance about the future viability of the Company and the Group, nor about the efficiency or effectiveness with which the Supervisory Board has taken or will undertake the Company's and the Group's business operations. Our responsibilities with regards to the going concern assumption used by the Supervisory Board are described below.

As part of an audit in accordance with ISA's, we exercise professional judgment and we maintain professional skepticism throughout the audit. We also perform the following tasks:

- identification and assessment of the risks of material misstatement of the Consolidated Financial Statements, whether due to fraud or error, the planning and execution of audit procedures to respond to these risks and obtain audit evidence which is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting material misstatements resulting from fraud is higher than when such misstatements result from errors, since fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtaining insight in the system of internal controls that are relevant for the audit and with the objective to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control;

- evaluating the selected and applied accounting policies, and evaluating the reasonability of the accounting estimates and related disclosures made by the Supervisory Board as well as the underlying information given by the Supervisory Board;
- conclude on the appropriateness of the Supervisory Board' use of the going-concern basis of accounting, and based on the audit evidence obtained, whether or not a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's or Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the Consolidated Financial Statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on audit evidence obtained up to the date of the auditor's report. However, future events or conditions may cause the Company to cease to continue as a going-concern;
- evaluating the overall presentation, structure and content of the Consolidated Financial Statements, and evaluating whether the Consolidated Financial Statements reflect a true and fair view of the underlying transactions and events.

We communicate with the Audit Committee within the Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Because we are ultimately responsible for the opinion, we are also responsible for directing, supervising and performing the audits of the subsidiaries. In this respect we have determined the nature and extent of the audit procedures to be carried out for group entities.

We provide the Audit Committee within the Supervisory Board with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Audit Committee within the Supervisory Board, we determine those matters that were of most significance in the audit of the Consolidated Financial Statements of the current period and are therefore the key audit matters. We describe these matters in our report, unless the law or regulations prohibit this

Report on other legal and regulatory requirements

Responsibilities of the Supervisory Board

The Supervisory Board is responsible for the preparation and the content of the Supervisory Board report on the Consolidated Financial Statements, and other information included in the annual report.

Responsibilities of the auditor

In the context of our mandate and in accordance with the additional standard to the ISA's applicable in Belgium, it is our responsibility to verify, in all material respects, the Supervisory Board report on the Consolidated Financial Statements, and other information included in the annual report, as well as to report on these matters.

Aspects relating to Supervisory Board report and other information included in the annual report

In our opinion, after carrying out specific procedures on the Supervisory Board report, the Supervisory Board report is consistent with the Consolidated Financial Statements and has been prepared in accordance with article 3:32 of the Code of companies and associations.

In the context of our audit of the Consolidated Financial Statements, we are also responsible to consider whether, based on the information that we became aware of during the performance of our audit, the Supervisory Board report and other information included in the annual report, being:

- Key performance figures related to 'Economic performance' (page 36)
- Parent company separate summarized financial statements (page 227 and following)

contain any material inconsistencies or contain information that is inaccurate or otherwise misleading. In light of the work performed, there are no material inconsistencies to be reported.

The non–financial information required by article 3:32, § 2, of the Code of companies and associations has been included in the annual report. The Company has prepared this non-financial information based on the reporting guidelines of the Global Reporting Initiative standards ("GRI"). However, in accordance with article 3:80 § 1, 5° of the Code of companies and associations, we do not express any opinion on the question whether this non-financial information has been established in accordance with the GRI framework.

As requested by the Company, we have issued a separate limited assurance report on a selection of sustainability Key Performance Indicators ("KPI's") in accordance with the International Standard on Assurance Engagements ISAE 3000. We do not express any assurance on the KPI's not covered by our separate limited assurance reports.

Independence matters

Our audit firm and our network have not performed any services that are not compatible with the audit of the Consolidated Financial Statements and have remained independent of the Company during the course of our mandate.

The fees related to additional services which are compatible with the audit of the Consolidated Financial Statements as referred to in article 3:65 of the Code of companies and associations were duly itemized and valued in the notes to the Consolidated Financial Statements.

European single electronic format ("ESEF")

In accordance with the standard on the audit of the conformity of the financial statements with the European single electronic format (hereinafter "ESEF"), we have carried out the audit of the compliance of the ESEF format with the regulatory technical standards set by the European Delegated Regulation No 2019/815 of 17 December 2018 (hereinafter: "Delegated Regulation").

The Supervisory Board is responsible for the preparation, in accordance with the ESEF requirements, of the consolidated financial statements in the form of an electronic file in ESEF format (hereinafter 'the digital consolidated financial statements') included in the annual financial report available on the portal of the FSMA (https://www.fsma.be/en/data-portal).

It is our responsibility to obtain sufficient and appropriate supporting evidence to conclude that the format and markup language of the digital consolidated financial statements comply in all material respects with the ESEF requirements under the Delegated Regulation.

Based on the work performed by us, we conclude that the format and tagging of information in the digital consolidated financial statements of the Company per 31 December 2022 included in the annual financial report available on the portal of the FSMA (https://www.fsma.be/en/data-portal) are, in all material respects, in accordance with the ESEF requirements under the Delegated Regulation.

Other communications

- This report is consistent with our supplementary declaration to the Audit Committee as specified in article 11 of the regulation (EU) nr. 537/2014.

Diegem, 28 March 2023

Marnix Van Dooren *
Partner
*Acting on behalf of a BV/SRL

Eef Naessens *
Partner
*Acting on behalf of a BV/SRL

Report of the Independent Auditor

TO THE GENERAL SHAREHOLDERS' MEETING OF THE COMPANY UMICORE

Scope

We have been engaged by Umicore NV to perform a 'limited assurance engagement', hereafter referred to as "the Engagement", to report on certain sustainability indicators of Umicore NV (the "Company") as listed in Appendix 1 (the "Subject Matter") and as included in the annual report 2022 (the "Report") for the period from 1 January 2022 to 31 December 2022.

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining sustainability indicators included in the Report, and accordingly, we do not express a conclusion on this information.

Criteria applied by Umicore

In preparing the sustainability indicators as listed in Appendix 1 and included in the Report, Umicore NV applied the reporting standards of the Global Reporting Initiative ("GRI"), the Greenhouse gas protocol, the Sustainability Accounting Standards Board ("SASB") and a set of own reporting criteria as disclosed in the Report (the "Criteria").

Umicore responsibilities

Umicore's management is responsible for selecting the Criteria, and for presenting the Subject Matter in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the Subject Matter, such that it is free from material misstatement, whether due to fraud or error.

EY's responsibilities

Our responsibility is to express a conclusion on the Subject Matter based on our procedures and the evidence we have obtained.

We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements other than Audits or Reviews of Historical Financial Information" (ISAE 3000), published by the International Auditing and Assurance Standards Board. This standard requires that we plan and perform our Engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.

Our Independence and Quality Control

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants and have the required competencies and experience to conduct this assurance engagement.

EY also applies International Standard on Quality Control 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Description of procedures performed

Procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement. Consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the sustainability KPIs and related information and applying analytical and other appropriate procedures.

Our procedures included:

- Obtaining an understanding of the reporting processes for the Subject Matter;

- Evaluating the consistent application of the Criteria;
- Interviewing relevant staff at local level responsible for data collection, reporting and calculation of the Subject Matter;
- Interviewing management and relevant staff at corporate level responsible for consolidating and carrying out internal control procedures on the Subject Matter;
- Interviewing relevant staff responsible for reporting the Subject Matter in the Report;
- Determining the nature and extent of the review procedures for each of the locations contributing to the Subject Matter. Based on the site scoping, the sites Kokkola (Finland), Fort Saskatchewan (Canada) and Cheonan (South Korea) were visited to validate the data and evaluate the design and implementation of data collection and calculation processes as well as validation procedures related to the Subject Matter. For the remaining locations contributing to the sustainability indicators listed in Appendix 1, procedures were carried out centrally to review the reasonableness of the data collection, data calculation, and data validation procedures;
- Obtaining internal and external documentation that reconcile with the Subject Matter;
- Evaluating the overall presentation of the Subject Matter in the Report.

Conclusion

Based on our review, nothing has come to our attention that make us believe that the Subject Matter of Umicore NV, as listed in Appendix 1, and as included in the Report for the period from 1 January 2022 to 31 December 2022, was not prepared, in all material respects, in accordance with the Criteria.

Diegem, 28 March 2023

EY Bedrijfsrevisoren BV

Statutory auditor
Represented by

Marnix Van Dooren *
Partner
*Acting on behalf of a BV

Eef Naessens *
Partner
*Acting on behalf of a BV

Appendix

Environmental

- Metal emissions to water (load)
- Metal emission to water (impact units)
- Metal emissions to air (load)
- Metal emissions to air (impact units)
- SOx emissions
- NOx emissions
- CO_2e-emissions scope 1 (per year)
- CO_2e-emissions scope 2 - Market based (per year)
- CO_2e-emissions scope 2 - Location based (per year)
- CO_2e-emissions (scope 1+2) - Market based (per business group)
- CO_2e-emissions (scope 1+2) - Location based (per business group)
- CO2e emissions group (scope 3) – 2019 all categories & 2022 only category Purchased goods & services
- Energy consumption (absolute) (per year and per business group)
  - Energy consumption (per business group)
  - Indirect energy consumption
  - Direct energy consumption
- Number of energy efficiency projects
- Renewable electricity (Global, EU)
- Total waste produced
- Hazardous waste & % of which recycled
- Non-hazardous waste & % of which recycled
- Environmental complaints
- Sites ISO 14001 certified
- Diffuse metal emissions

Social

- Workforce (fully consolidated companies) (per year, per region, per business group)
  - Workforce from associated companies (per year, per region, per business group)
  - Total workforce (per region, per business group)
  - Employees men (per year, per region, per business group)
  - Employees women (per year, per region, per business group)
  - Full-time equivalent (per year, per region, per business group)
  - Employees (< 30 yrs, 30-50 yrs, >50 yrs)
- Temporary contracts (per year, per region, per business group)
- Diversity
  - Women amongst all employees
  - Women amongst all managers
  - Women amongst senior management
  - Non-European representation in senior management functions
  - % women of total new managerial hires
- Average training hours per employee (per year, per region, per business group)
  - Average number of training hours per employee - Men
  - Average number of training hours per employee - Women
  - Average number of training hours per employee - Managers
  - Average number of training hours per employee - Other categories
  - % of managers in managers workforce who followed e-learning on unconscious bias
- Employees having a yearly appraisal (per year, per region, per business group)
- Voluntary leavers ratio (per year, per region, per business group)
  - Voluntary leavers men & women
- Pay equality
- Retention rate
- Number of nationalities
- Number of production sites, R&D/Technical centers, other sites
- Number of employees per country
- Employees represented by union or Collective Labour Agreement (CLA) (per year, per region, per business group)
- Violation against the Code of conduct
- Health campaigns at the site (Per region, BU)
- Physical wellbeing
- Exposure ratio 'all biomarkers aggregated'
  - Exposure ratio lead (blood)
  - Exposure ratio arsenic (urine)
  - Exposure ratio cobalt (urine)
  - Exposure ratio cadmium (urine)
  - Exposure ratio nickel (urine)
  - Exposure ratio indium (blood)
  - People with platinum salts sensitization
- Number of occupational linked diseases
  - People with noise-induced hearing loss
  - People with contact dermatitis
  - People with occupational asthma other than Ptsalts
  - People with muskuloskeletal ailments
- Fatal accidents (per year and per business group)
  - Fatal accidents sub-contractors
- Lost Time Accidents (LTA) (per year, per region and per business group)
- Lost Time Accidents (LTA) for sub-contractors
- LTA frequency rate
- LTA severity rate
- Calendar days lost (per year and per business group)
- Process safety events
- Total recordable injuries (staff & contractors)
- Total recordable injury rate (staff & contractors)
- Sites ISO 45001 certified

Value Chain

- Site accreditations responsible mineral sourcing
- Ecovadis rating
- Resource efficiency (primary, secondary pre-consumer and secondary post-consumer)
- Revenues from clean mobility and recycling
- % of suppliers that have signed the UGSSP (descriptive)
- Product Stewardship
- Total donations (group, regional, BU)
  - Cash donations
  - Donations in kind
  - Staff freed time

Key figures

(in million € unless stated otherwise)	2018	2019	2020	2021	2022
Economic performance					
Revenues (excluding metal)	3,271	3,361	3,239	3,791	4155
Adjusted EBIT	514	509	536	971	865
Return on Capital Employed (ROCE) (in %)	15.4	12.6	12.1	22.2	19.2
R&D expenditure	196	211	223	245	316
Capital expenditure	478	553	403	389	470
Adjusted EPS (in €/share)	1.36	1.30	1.34	2.77	2.47
Gross dividend (in €/share)	0.75	0.375	0.75	0.80	0.80
Sustainability performance					
Revenues from clean mobility and recycling (in%)	72	75	79	79	78
Total donations, including staff freed time (in thousands of euro)	1,432	1,614	1517.21	1623.99	2005.75
CO_2e emissions (scope1)	417,140	389,101	330,619	372,699	346,439
CO_2e emissions (scope2) - Market based (in tonne)	350,562	402,795	401,926	473,738	338,554
CO_2e emissions (scope2) - Location based (in tonne)	368,649	426,074	421,089	421,990	361,251
Energy consumption (in terajoules)	7,458	7,476	7,591	8,308	7,300
Workforce (fully consolidated companies)	10,420	11,152	10,859	11,050	11,565
Lost Time Accidents (LTA)	61	90	49	73	96
LTA frequency rate	3.36	4.60	2.50	3.70	4.87
LTA severity rate	0.10	0.20	0.47	0.12	0.16
Average number of training hours per employee	43.10	48.73	36.33	41.59	46.6
Voluntary leavers ratio	7.18	5.99	4.20	5.82	6.53

umicore
materials for a better life

IF MY UNIQUE ABILITIES AND IDEAS CAN SHAPE OUR SUSTAINABLE FUTURE

IMAGINE WHAT YOU COULD DO?

UMICORE.COM/CAREERS

Glossary

Glossary

The below definitions cover Umicore's Alternative Performance Measures (APMs)

Accidents
Accident frequency rate: Number of lost time accidents per million hours worked. Accidents on the road to and from work are excluded.
Accident severity rate: Number of calendar days lost per thousand hours work. Accidents on the road to and from work are excluded.
Fatal accident: a work-related accident with fatal outcome.
Lost time accident (LTA): a work-related injury resulting in more than one shift being lost from work.
Recordable injury (RI): a work-related injury resulting in more than one first aid treatment or in a modified working program but excluding lost time accidents
Total Recordable Injury Rate (TRIR): Total number of fatal accidents, lost time accidents and recordable injuries without lost time, per million hours worked, for both Umicore employees and contractors

Adjusted EBIT
EBIT - EBIT adjustments including total other income, income taxes, depreciation and amortization, and excluding non-recurring, irregular and one-time items.

Adjusted EBIT margin
Adjusted EBIT of fully consolidated companies / revenues excluding metals.

Adjusted EBITDA
Adjusted EBIT + adjusted depreciation and amortization of fully consolidated companies.

Adjusted EBITDA margin
Adjusted EBITDA of fully consolidated companies / revenues excluding metals.

Adjusted EPS (Earnings per share)
Adjusted net earnings, Group share / average number of (issued shares – treasury shares).

Adjusted EPS, basic
Adjusted net earnings, Group share / average number of outstanding shares.

Adjusted EPS, diluted
Adjusted net earnings, Group share / (average number of outstanding shares + number of potential new shares to be issued under the existing stock option plans x dilution impact of the stock option plans).

Assessment of product (and services) sustainability (APS)
This Umicore-specific methodology is used for assessing the sustainability of Umicore's products and services and uses a tool consisting of 58 preformatted questions and answers with scoring and weighting factors, organized around eight themes.

Associate
An entity in which Umicore has a significant influence over the financial and operating policies but no control. Typically, this is evidenced by an ownership of between 20% and 50%. Associates are accounted for using the equity method.

Automotive platform
A shared set of common design, engineering and production efforts as well as major components over a number of outwardly distinct models of vehicles

Average capital employed
For half years: average of capital employed at start and end of the period; For full year: average of the half year averages.

Average number of shares outstanding
Basic: average number of outstanding shares.
Diluted: average number of outstanding shares + number of potential new shares to be issued under the existing stock option plans x dilution impact of the stock option plans.

Biomarker of exposure
Substance or its metabolite that is measured in biological fluids (e.g. blood) to assess internal body exposure.

Capital employed
Fixed Assets + Working Capital (Inventories + adjusted Trade & Other Receivables – adjusted Trade & Other Payables) – Translation Reserves – Current & Non-Current provisions other than provisions for Employee Benefits.

Capital expenditure
Capitalized investments in tangible and intangible assets, excluding capitalized R&D costs.

Catalysis/catalyst
Catalysis is a chemical process whereby one of the elements used in the reaction process, the catalyst, makes this chemical reaction possible, or speeds up this process, without being consumed in the reaction process, and therefore can be re-used.

Cathode
The cathode is the positive side in a (rechargeable) battery. In the charging phase ions are released from the cathode and migrate to the anode (negative side), thereby storing electricity. In the discharging phase, the ions move back to the cathode, thereby releasing electricity.

Charitable donation
A donation to a not-for-profit organization that is not for the commercial benefit of Umicore. Donations can be in cash or in kind. Political donations are not permitted.

China 6
Chinese emissions standard for light duty vehicles, similar to Euro 6.

Closed loop
For Umicore a "closed loop" involves taking back secondary materials from customers (e.g. production residues) or End-of-Life materials (e.g. used mobile phones, automotive catalysts). The recovered metals are then fed back into the economic cycle.

CO_2 equivalent (CO_2e)
The universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing (or avoiding releasing) different greenhouse gases against a common basis.

Conflict minerals
Minerals mined in conditions of armed conflict or Human Rights abuses, particularly gold, tin, tungsten and tantalum.

Consolidated sites
Sites of fully consolidated companies.

COSO Framework
The Committee of Sponsoring Organizations of the Treadway Commission (COSO) is a voluntary private-sector organization which has established a common internal control model against which companies and organizations may assess their control systems.

Decibel (dB)
Unit of noise level.

Diffuse emissions
See Emissions

Dodd-Frank Act
Full title: Dodd–Frank Wall Street Reform and Consumer Protection Act. The Dodd Frank Act aims to promote the financial stability of the United States by improving accountability and transparency in the financial system. Includes a requirement that companies using gold, tin, tungsten and tantalum make

efforts to determine if those materials came from the Democratic Republic of Congo (DRC) or an adjoining country and, if so, to carry out a "due diligence" review of their supply.

Earnings before interest and taxes (EBIT)

Operating profit (loss) of fully consolidated companies, including income from other financial investments + Group share in net profit (loss) of companies accounted for under equity method.

EBIT adjustments

Includes adjusted items related to restructuring measures, impairment of assets, and other income or expenses arising from events or transactions that are clearly distinct from the ordinary activities of the company. This includes adjustments related to the sale of business activities or environmental provisions related to historic pollution and environmental remediation of closed sites.

Effective adjusted tax rate

Adjusted tax charge / adjusted profit (loss) before income tax of fully consolidated companies.

EHS

Environment, health & safety.

EV - Electrified vehicle

Vehicle (passenger car or other) that runs fully or partially on electricity, rather than on conventional fuel.

Electroplating

Electroplating is a plating process in which metal ions in a solution (electrolyte) are moved by an electric field to coat another material. The process is primarily used for depositing a layer of material to bestow a desired property on that other material.

Employee

Aperson belonging to Umicore's total workforce. A Umicore employee can be a full-time, part-time or temporary employee.

Employee turnover

Expressed in terms of voluntary leavers: number of employees leaving of their own will (excluding lay-offs, retirement, and end of fixed-term contract). This number is related to the total workforce.

End-of-life (EOL)

Materials that have ended a first life cycle and will be re-processed through recycling leading to a second, third or more re-use. See Materials.

Energy

Energy consumption: the sum of indirect energy consumption (energy from purchased electricity, steam, compressed air and heat) and direct energy consumption (energy from fuel, gas oil, natural gas, LPG, coal, cokes, pet cokes etc.) at our sites. This includes also self-generated energy, for which only the consumption of fuels is taken into consideration to avoid double-counting. Energy that is sold to third parties is not included.
Indirect energy consumption: energy from purchased electricity, steam, compressed air and heat
Direct energy consumption: energy from fuel, gas oil, natural gas, LPG, coal, cokes, pet cokes etc.
Renewable energy: Wind energy, solar energy, energy from biomass (including bio- and other naturally produced gas), hydropower (including marine hydro) and geothermal energy.
Energy efficiency projects: projects with the aim to improve the efficiency of processes and continuous running of our plants with a view to reduce the energy consumption per production unit, per day etc. by improved automated control of energy supply vs. consumption needs, replacement of inefficient equipment etc. Projects are typically well planned and evaluated before implementation, including an estimate of expected investment, energy and CO2 savings, as well as rate of return and time of amortisation.
Energy intensity ratio: total absolute energy consumption (in terajoules) over revenues excluding metals (in millions of Euros).

Excess reading

A result of a biological monitoring analysis that exceeds the (internal) target level.

Exposure ratio

The exposure ratio of a specific metal is defined as the ratio between the number of employees with a biological monitoring result exceeding the Umicore target value for that specific metal and the total number of employees identified as exposed to that metal. The Umicore target values are based upon recent peer reviewed scientific data and regularly re-evaluated in the context of new evidence.

Full time equivalent (FTE)

The FTE of a worker is calculated by dividing the actual working regime, hours, shifts by the regime, hours, shifts of a full-time worker at the end of the period in fully consolidated companies.

Fully Consolidated Companies

These are companies ovr which the Group has control as defined by the IFRS (in general more than 50% of voting rights).

Gearing ratio

Net financial debt / (net financial debt + equity of the Group).

Greenhouse gas (GHG)

GHGs are the six gases listed in the Kyoto Protocol: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF_6). See 'Kyoto Protocol'.

GHG emissions intensity

total scope 1+2 CO2e market-based emissions (in tonnes) divided by the total revenues excluding metals (in millions of Euros).

Global warming potential (GWP)

A relative measure of how much heat a greenhouse gas traps in the atmosphere.

Heavy duty diesel (HDD)

Large diesel vehicles – either on-road, such as trucks and buses, or non-road such as heavy plant and mining equipment or locomotives and agricultural equipment.

Hours of training per person

Average number of training hours per employee – including internal and external training and training on-the-job. Training on-the-job can include the hours a person is being trained on the shop floor, without being fully productive. The total number of training hours is divided by the average workforce.

Industrial by-products

See Materials, Secondary raw materials.

ISO 14001

'International Standards Organization' specification for environmental management systems (ref. ISO).

ISO 45001

An internationally-applied British Standard for occupational health and safety management systems.

Joint venture (JV)

A contractual arrangement whereby Umicore and another party undertake an economic activity that is subject to joint control. Joint ventures are accounted for using the equity method.

Korean Act on the Registration and Evaluation of Chemicals (K-REACH)

Korean chemicals policy to manage the risks from chemicals and provide substance safety information.

Kyoto Protocol

International treaty of the United Nations Framework Convention on Climate Change (UNFCCC) that requires countries listed in its Annex B (developed nations) to cut emissions to 5% below 1990 levels between 2008 and 2012. In 2012, the protocol was extended to 2020 but in 2015 it was effectively replaced by the 'Paris Agreement', where UNFCCC signatories agreed to limit global warming to "well below" 2°C.

Light duty vehicle (LDV)

Primarily passenger cars – using diesel, gasoline or other fuel.

Light emitting diode (LED)

LEDs are a semiconductor-based light source offering many advantages over traditional incandescent light sources, among which long lifetime and energy efficiency.

Lithium cobaltite (LCO)
Cathode material used in lithium ion rechargeable batteries, particularly suited for portable electronic applications.

Lithium ion (LI-ION)
Lithium ion is a technology for rechargeable batteries in which lithium ions move from the positive electrode (the cathode) to the negative electrode (the anode) during the charging phase, thereby storing electricity. In the discharging phase, the lithium ions move back to the cathode, thereby releasing electricity.

Lithium nickel manganese cobalt oxide (NMC)
Relatively new type of cathode material, which is used in the emerging (H)EV market and increasingly in portable electronic applications.

Lost-time accident
See Accident

Materiality
The identification of the most relevant and significant factors influencing Umicore and Umicore's most significant economic, social and environmental impacts.

Market capitalization
Closing price x total number of outstanding shares.

Megaliter
Unit used when measuring water, equal to 1000 m^3

Microgram per deciliter (µg/dL)
Unit used when measuring metal content in blood.

Microgram per gram (µg/g)
Unit used when measuring metal content in urine.

Net cashflow before financing
Net operating cashflow – net cashflow generated by (used in) investing activities.

Net financial debt
Non-current financial debt + current financial debt - cash and cash equivalents.

Net debt / LTM adj. EBITDA
Net financial debt divided by adjusted EBITDA of the last 12 months.

Original Equipment Manufacturer (OEM)
In the automotive industry, refers to car manufacturers.

Outstanding shares
Issued shares– treasury shares.

Platform (automotive)
A combination of chassis and engine type that is used on one or more models of passenger car, sometimes between different manufacturers.

Platinum group metals (PGM)
Platinum, palladium, rhodium, ruthenium, iridium and osmium (in Umicore's case it refers mainly to the first three).

Power Purchase Agreement (PPA)
Long-term agreement concluded for the purchase of electricity. "Green PPA" refers to a Power Purchase Agreement for green or renewable electricity.

Precursor
Chemical substance that participates in the chemical reaction that produces another compound.

Predicted no effect concentrations (PNEC)
The concentration of a chemical which has no predicted effect on the environment.

Process emissions
Emissions generated from manufacturing processes, such as the CO_2 that arises from the breakdown of calcium carbonate ($CaCO_3$).

Process safety
Safety issues related to the use and storage of hazardous chemical substances that may present a hazard to employees, neighborhood residents and the environment.

R&D expenditure
Gross research and development charges, including capitalized costs. The reported R&D figures exclude R&D of associates.

Raw materials
Primary raw material: Material which has never before been subjected to use or processed into any form of end-use product (or part thereof) other than that required for its manufacture. In the absence of information from the supplier on the nature of the raw materials supplied, these raw materials are considered as primary. The collected data are expressed in terms of total tonnage of incoming material.
Secondary raw material: Material which has been used and/or processed before and can be reused or processed again into any form of end-use product (or part thereof). Includes both pre- and post-consumer materials.
Secondary pre-consumer raw material: Material resulting from the industrial processes in the value chain before that material has been processed into a product. Please note that this includes waste materials originating from intermediate manufacturing steps in the value chain using primary raw materials as input. In all cases the material should not be suitable for consumption in the intermediate manufacturing steps from which it originates.
Secondary post-consumer raw material: Material resulting from products ending at least one lifetime. Please note that this includes waste materials originating from intermediate manufacturing steps in the value chain using secondary raw materials (pre- and or post- consumer raw materials) as input. This also includes material recovered from waste generated by industrial facilities in their role as end-users of a finished product. In all cases the material should not be suitable for consumption in the intermediate manufacturing steps from which it originates. This also includes material recovered from waste generated by industrial facilities in their role as end-users of a finished product.

Metal emissions
Metal emissions to water (load): the total amount of metals emitted after treatment to surface water from effluent(s) expressed in kg/year. If sites make use of an external wastewater treatment plant, the efficiency of that treatment is considered if known to the site.
Metal emissions to air (load): the total amount of metals emitted to air, after emissions abatement where applicable, in solid fraction by all point sources expressed in kg/year. For mercury and arsenic, vapor/fume fractions are counted as well.
Metal emissions to air and water (impact): For each of the metals emitted to water and air, an impact factor is applied to account for the different toxicity and ecotoxicity levels of the various metals when they are emitted to the environment.
Diffuse metal emissions: the average concentration of suspended particulate matter (PM10) in air of relevant metals multiplied by the impact factors to air for the respective metals and normalized against the value of 2020.

Registration, Evaluation and Authorisation of CHemicals (REACH)
European chemicals policy to manage the risks from chemicals and provide substance safety information.

Return on capital employed (ROCE)
Adjusted EBIT / average capital employed.

Revenues (excluding metal)
All revenue elements - value of the following purchased metals : Au, Ag, Pt, Pd, Rh, Co, Ni, Pb, Cu, Ge, Li and Mn.

In order to neutralize distortions from fluctuating metal prices and precious metal prices in particular, Umicore uses revenues excluding the value of purchased metals rather than turnover (which include the value of the purchased metals) to track its performance. This is an industry practice followed by direct peers with similar activities.

Retention rate
100%-voluntary leavers rate

RISE
This acronym is part of Umicore's 2030 RISE Strategy which comprises the following four pillars: Reliable transformation partner, Innovation and technology leader, Sustainability champion and Excellence in execution.

Risk assessment
The evaluation of the risks of existing substances to man, including workers and consumers, and to the environment, in order to ensure better management of those risks.

Science-Based Targets Initiative (SBTi)
Organization that validates greenhouse gas targets. Partnered with CDP, UN Global Compact, World Resources Institute, World Wildlife Fund.

Scope 1, 2, 3, 4 CO_2e emissions
Scope 1 CO_2e emissions: A reporting organization's direct GHG emissions.
Scope 2 CO_2e emissions: A reporting organization's indirect GHG emissions from the generation of purchased electricity, heating/cooling, compresses air or steam.
Scope 3 CO_2e emissions: A reporting organization's indirect emissions that occur upstream and downstream in the value chain, including purchased goods and services, business travel, employee commuting, waste disposal, use of sold products, transportation and distribution (up- and downstream), investments and leased assets and franchises
Scope 4 CO_2e emissions: emission reductions which occur outside of a product's lifecycle or value chain, but as a result of the use of the product. Also referred to as "avoided emissions".

Secondary (raw) materials
See Raw materials.

Sub-contractor
A person not belonging to Umicore's total workforce, providing services to Umicore in one of its premises under terms specified in a contract.

Sustainable Development Goals (SDG)
The 17 Sustainable Development Goals adopted by the United Nations on September 25 2015 build on the Millennium Development Goals and aim at ending poverty, protecting the planet, and ensuring prosperity for all as part of a new UN sustainable development agenda. Each goal has specific targets to be achieved by 2030.

Task Force on Climate-related Financial Disclosure (TCFD)
Recommendations launched in 2017 to improve and increase reporting of climate-related financial information. CDP's disclosure platform provides the mechanism for reporting in line with the TCFD recommendations.

Training hours
Average number of training hours per employee, including all types of training (formal, training on the job, E-learning, etc.) in which the company provides support, and which are relevant to the business unit or the company. The total number of training hours is divided by the averageworkforce of fully consolidated companies.

Temporary contract, or temporary worker
Umicore employees with a temporary contract, included in the workforce of fully consolidated companies.

Voluntary leavers
Number of employees leaving at their own will (excluding lay-offs, retirement, and end of fixed-term contract). This number is related to the total workforce from fully consolidated companies.

Waste
The total volume of generated waste expressed in tonnes/year. The waste recycling rate is the ratio of the waste recovered by third parties (including waste recovered as energy through incineration) to the total waste.

Water
Water use: The use of water associated with our industrial activities in line with the definition of the term in the ISO14046 standard.
Water withdrawal: withdrawn produced water (water/moisture content of incoming raw materials and

liquid solutions), groundwater withdrawn for remediation purposes and cooling water withdrawn from and returned to surface water.

Workforce

Number of employees on Umicore payroll at the end of the period in fully consolidated companies. The number includes part-time and temporary employees but excludes employees with a dormant contract, employees on long-term illness and sub-contracted employees. This applies to all hourly paid, monthly paid, managers and interns on Umicore's payroll at the end of the reported semester including part-time and temporary employees but excludes employees with a dormant contract (career interruption, parental leave, etc.), employees on long-term illness (country specific length of continuous absence) and early retirees.

Financial calendar[1]

27 April 2023
General meeting of shareholders
(financial year 2022)

28 July 2023
Half Year Results

https://www.umicore.com/en/investors/

Stock
Euronext Brussels

Investor Relations
T +32 2 227 70 68
investorrelations@eu.umicore.com

Media Relations
T +32 2 227 71 47
media@umicore.com

1 Dates are subject to change. Please check the Umicore website for updates to the financial calendar - umicore.com

Additional Information

Publisher responsible at law
Umicore Group Communications & Investor Relations
Evelien Goovaerts
T +32 2 227 78 38
evelien.goovaerts@eu.umicore.com

Business Ethics & Security
Kristle Matton – Baudouin Caeymaex
T +32 2 227 78 37 - T +32 2 227 73 32
grievances@umicore.com

Environment, Health & Safety
Philippe Fornage
T +32 4 703 032 19
philippe.fornage@eu.umicore.com

ESG
Natalia Agüeros-Macario
T +32 2 227 71 02
natalia.agueros@eu.umicore.com

Human Resources
Céline Van Haute
T +32 2 227 74 45
celine.vanhaute@eu.umicore.com

Design & execution
TD Cascade
tdcascade.com
MachMedia
machmediagroup.com
Tangelo Software
tangelo-software.com

Photography
Jean-Michel Byl, Umicore

Languages
This report is available in English and Dutch

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Browse the report online or dowload the report
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For enquiries and additional information please contact

Registered Office

Umicore
Société anonyme - Naamloze Vennootschap
Rue du Marais 31 Broekstraat
B-1000 Brussels
Belgium
T +32 2 227 71 11
Company Number: 0401574852
VAT No: BE 0401 574 852

umicore.com
umicore.com/en/contact