



Investor presentation

September 2022

Forward-looking statements

This presentation contains forward-looking information that involves risks and uncertainties, including statements about Umicore's plans, objectives, expectations and intentions.

Should one or more of these risks, uncertainties or contingencies materialize, or should any underlying assumptions prove incorrect, actual results could vary materially from those anticipated, expected, estimated or projected.

Readers are cautioned that forward-looking statements include known and unknown risks and are subject to significant business, economic and competitive uncertainties and contingencies, many of which are beyond the control of Umicore.

As a result, neither Umicore nor any other person assumes any responsibility for the accuracy of these forward-looking statements.

Introduction to Umicore

Who we are



We deliver sustainable solutions to address global megatrends

Our products and services accelerate global **mobility transformation**, cater for the **growing need for advanced materials** and enable **even greater circularity for critical metals**

We are the leading ***circular* materials technology company** fulfilling its mission to create sustainable value through ***materials for a better life***



A global supplier, locally



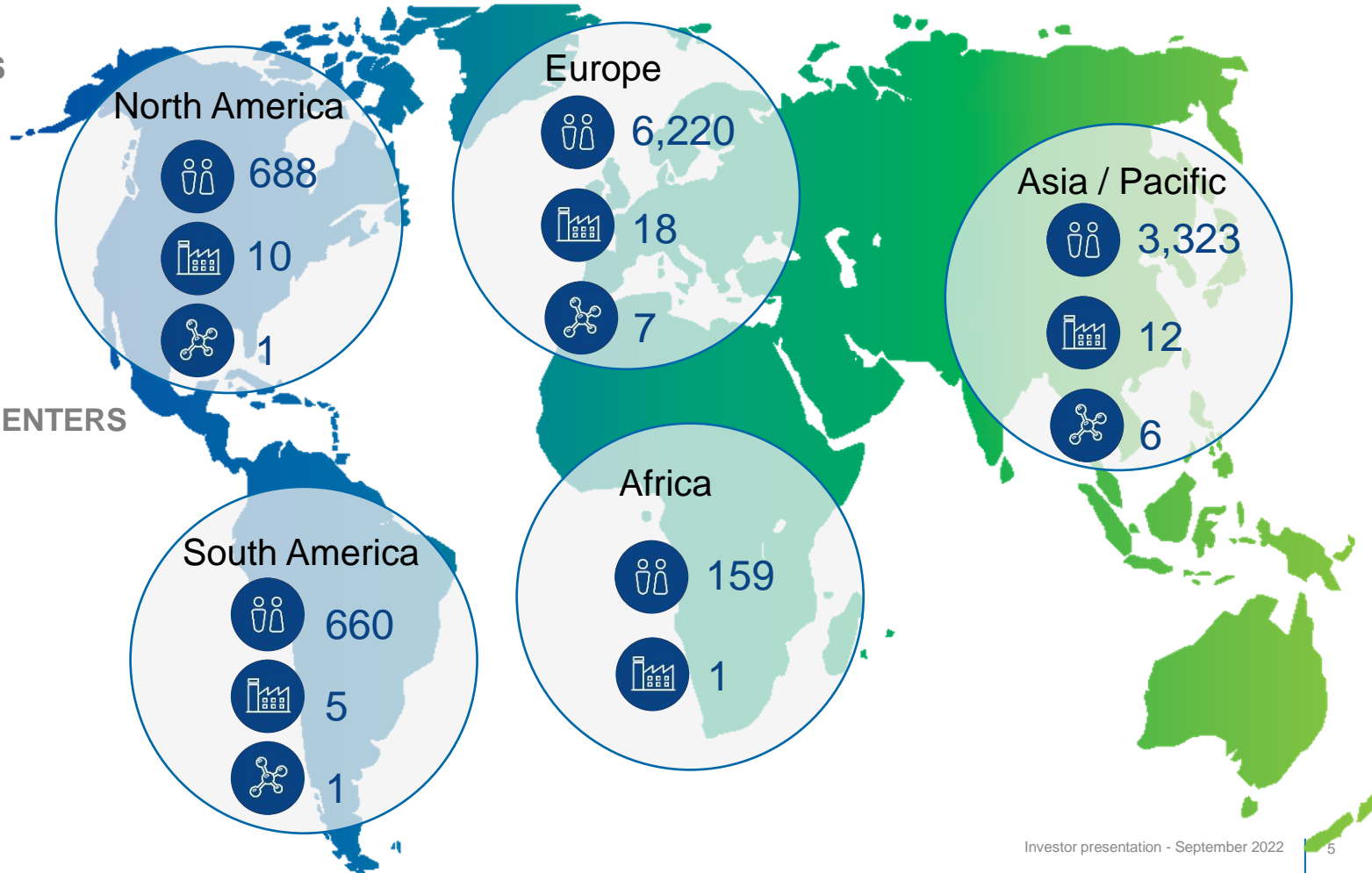
COLLEAGUES
11,050



PRODUCTION
SITES
46



R&D |
TECHNICAL CENTERS
15



Our strongly rooted foundations



Building on Horizon 2020 achievements

“Fit” and ready for the future

HORIZON 2020 SUCCESSFULLY DELIVERED



REVENUES
2020

€3.2bn

+7%
CAGR 15-20

ADJUSTED
EBIT 2020

€536m

+12%
CAGR 15-20

ROCE

12.1%

PUSHING INDUSTRY STANDARDS IN TERMS OF SUSTAINABILITY



RECORD RESULTS IN 2021



REVENUES

€4.0bn

ADJUSTED EBIT

€972m

Net debt / LTM adj.
EBITDA ratio, well
in I.G. territory

0.77

Free Cash Flow

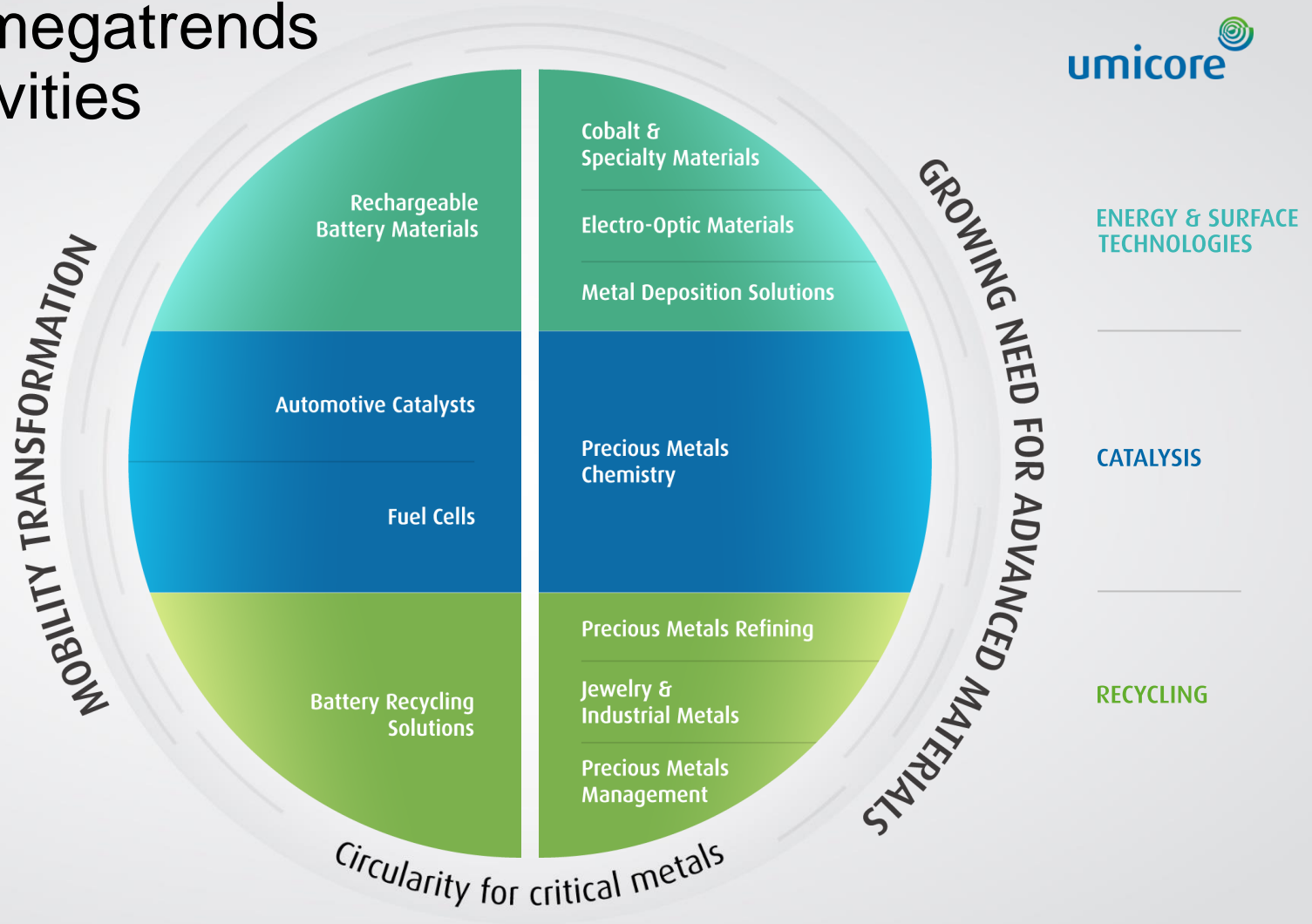
€989m

ROCE

22.2%



Accelerating megatrends driving all activities



H1 2022 achievements



CATALYSIS

Automotive Catalysts
Precious Metals Chemistry
Fuel Cell & Stationary Catalysts



ENERGY & SURFACE TECHNOLOGIES

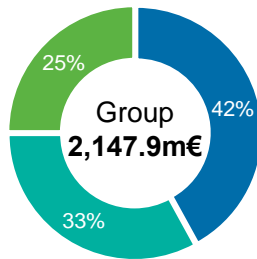
Rechargeable Battery Materials
Cobalt & Specialty Materials Metal
Deposition Solutions Electro-Optic
Materials



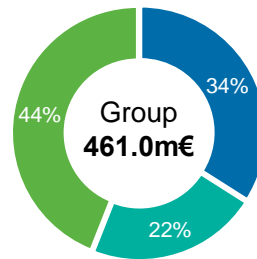
RECYCLING

Precious Metals Refining
Precious Metals Management
Jewelry & Industrial Metals
Battery Recycling Solution

Revenues (excl. metal)

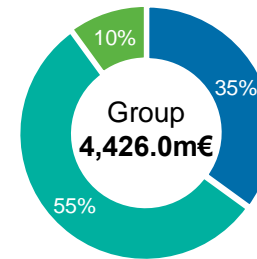


Adj. EBIT



Adj. EBIT margin
21.0%

Cap. Employed (av.)



ROCE
20.8%



Umicore 2030
RISE

RISE pillars enabling all activities to thrive, making Umicore a net beneficiary from megatrends

Unique portfolio
of mutually
reinforcing activities

Strong
foundations
and successful
track record

Anticipating
megatrends and
embracing them as
our business drivers

Sustainability
deeply embedded
in our DNA

R **Reliable**
Transformation
Partner

We listen to the voice of our customers and focus on solving their issues

I **Innovation**
& Technology
Leader

We are an innovation and technology leader delivering value through innovation in metal science, metallurgy and metal chemistry

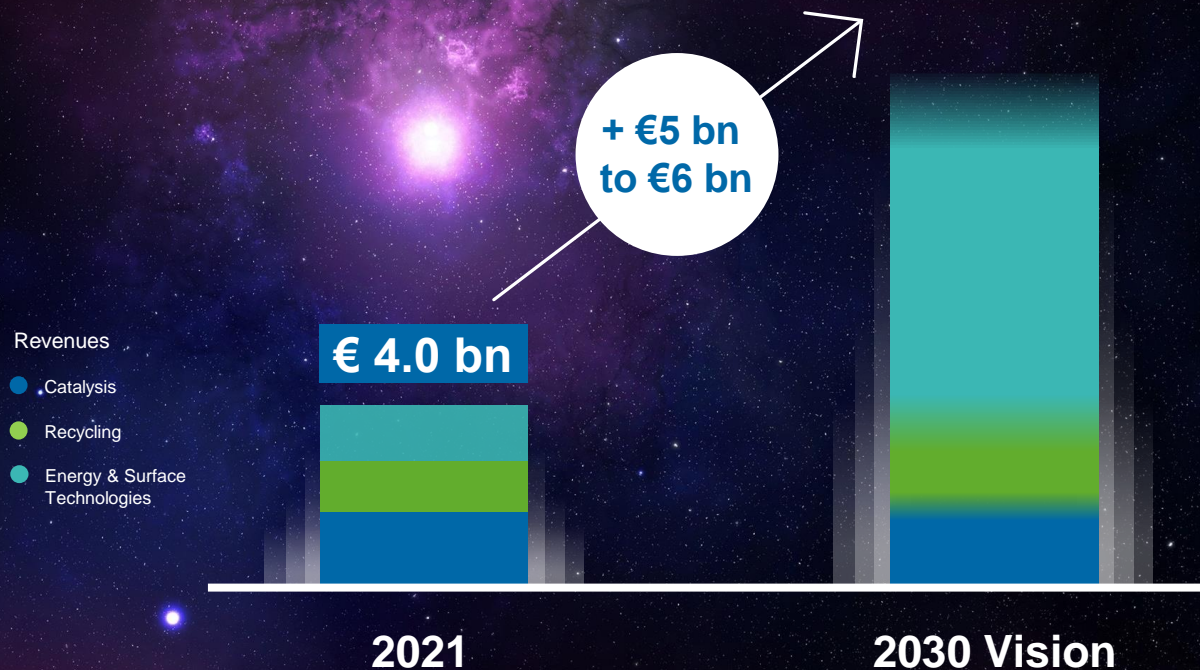
S **Sustainability**
Champion

We embed sustainability in our products and services and in the way we do business

E **Excellence**
in execution

We achieve competitive cost positions through investment in operational excellence and digital

Mobility transformation unlocking transformational growth for Umicore



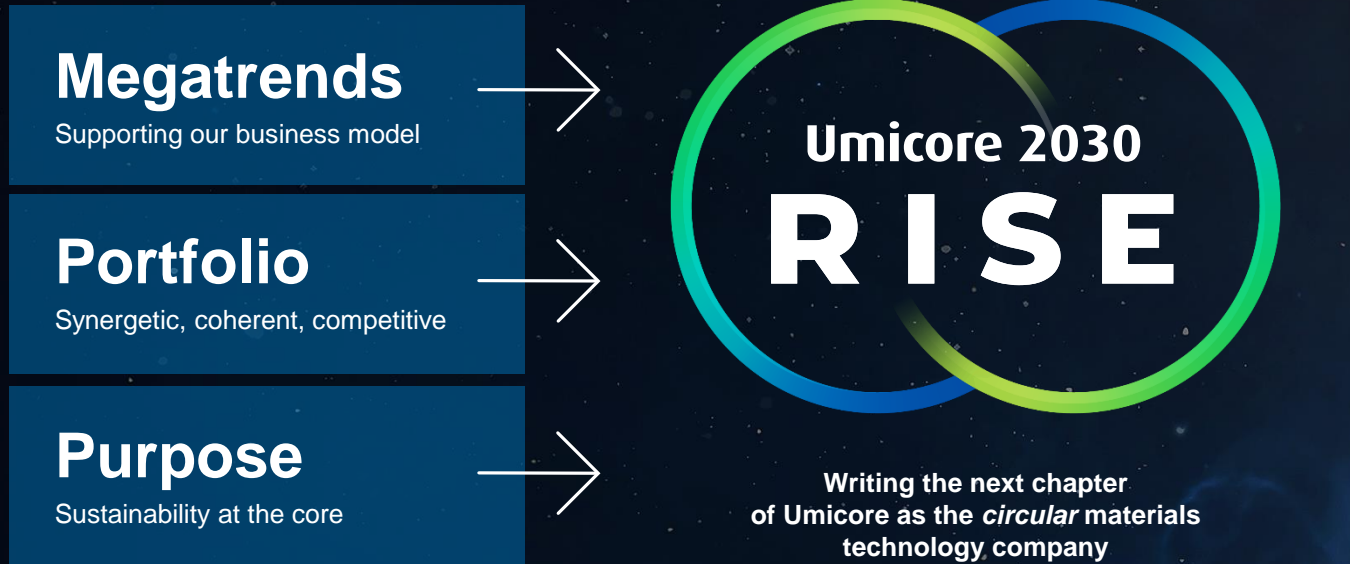
Profitable growth with adjusted EBITDA margins > 20% throughout the period

Uninterrupted value creation at Group level



Note: Based on gradual PGM prices normalization scenario and battery metal prices at 2021 levels

Net beneficiary of a changing world



2030

GROWTH
>100%
Revenues

Grow like a start-up

PROFIT
>20%
EBITDA margin

Create value as an established company

RETURN
15%
ROCE

Mobility Transformation

Circularity for critical metals

Mobility transformation radically accelerating

Uniquely positioned to help the world transition to cleaner mobility

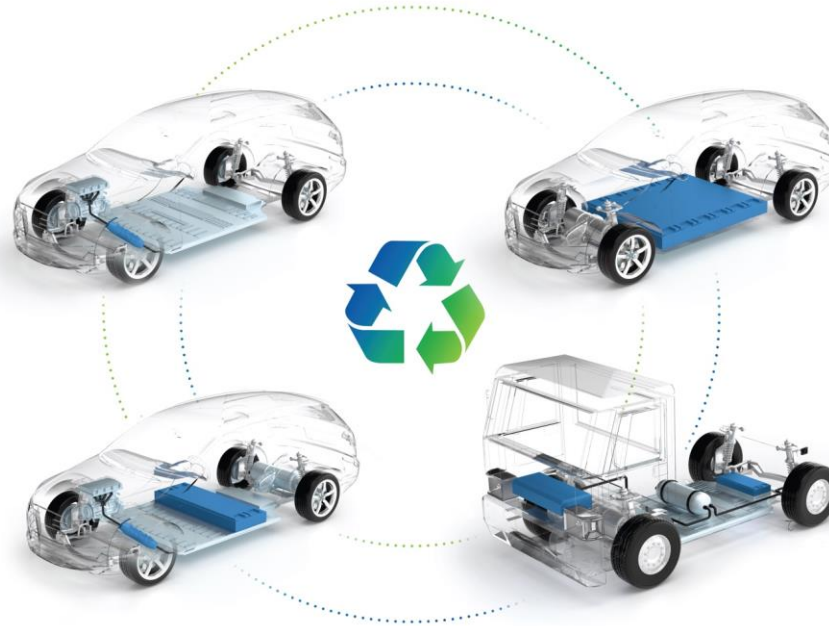
ICE equipped vehicles will remain the dominant clean mobility drive train for the next 10+ years

Internal Combustion Engine

Emission control Catalyst

Plug-in Hybrid Electric Vehicle

Battery active materials and emission control catalysts



Full Electric Vehicle

Battery active materials

Fuel Cells Vehicle

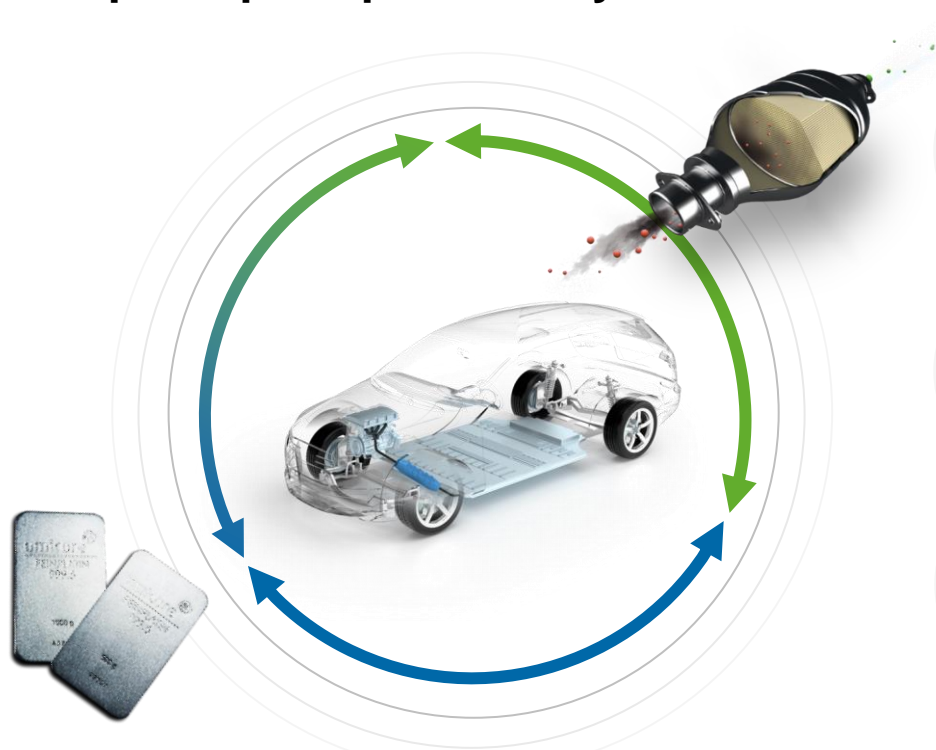
Electro-catalyst and battery active materials

Prime electrification path for light transportation

Prime electrification path for heavy transportation

Automotive Catalysts

Capture peak profitability and maximize value



Umicore catalyst technologies **prevented 2.8 million tons of NOx emissions** from being emitted into the air in 2021

Using average lifetime of 200,000 km including NOx, HC, CO, excluding PM

R

Embarking the mobility transformation together with our customers

I

Strong technology position in light of upcoming emission legislation

S

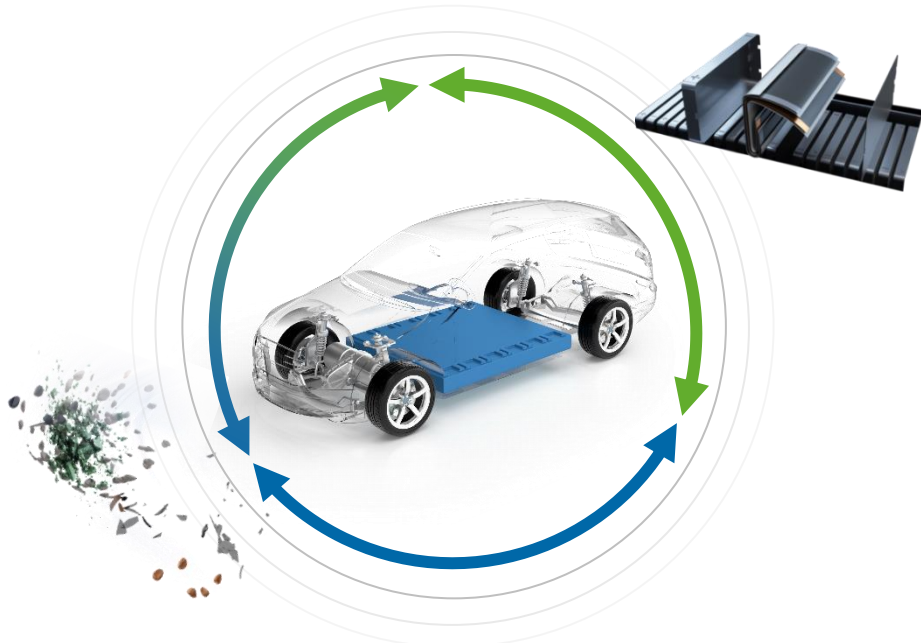
Long-standing partner in delivering cleaner air with embedded sustainability value through sustainable operations

E

Agility mindset and operational agility to manage the transformation

Rechargeable Battery Materials

Capture profitable growth and create sustainable value



Umicore cathode materials prevented **over 9.5 million tons of GHG emissions** from being emitted in 2021

Considering recycling, production, processing into batteries and the use of batteries in full EVs

R

Value-creative strategic partnerships across the value chain

I

Broad technology & IP portfolio covering design-to-performance and design-to-cost applications, incl. next-gen technologies

S

Pioneering responsibly-sourced materials and becoming the driving force to decarbonize the battery value chain

E

Step-change in process, operational and organizational excellence

Battery Recycling Solutions

Capture profitable growth in circular battery value chain



Recycled material up to **96% lower CO₂ footprint** vs. primary materials

LCA-analyses performed according the ISO14040/44

- R** Supporting our customers with a circular offering from the start and ready to accelerate together
- I** Long-standing materials and process technology know-how
- S** Embedded sustainability value through sustainable recycling operations
- E** Over 10 years of pilot scale experience gives a head start to scale to 150kt capacity units

Fuel Cell Catalysts

Capturing the emerging growth



Umicore PEM catalysts prevented **147,000 tons of GHG emissions** from being emitted in 2021

PEM: Proton-exchange membrane
Using average personal vehicle lifetime of 200,000 km

R

Long-term global leader in PEM fuel cell catalysts at industrial scale

I

Industry-leading materials in terms of durability, performance and PGM loading

S

Embedded sustainability value delivering high performance solutions for zero emissions transport

E


Scaling-up production footprint in most cost-efficient way

Advanced Materials

Circularity for critical metals

Key enabling technology in various sectors

Attractive markets and differentiated technology

	<i>Serving demanding high-tech applications</i>	<i>Synergies in R&D, metal management</i>	<i>Circularity = efficient and sustainable business model</i>	<i>Key differentiator</i>
Cobalt & Specialty Materials	Plating, chemicals, automotive, construction		Residues from tooling and chemical industries	Flexible supply, market and application knowledge
Metal Deposition Solutions	Consumer electronics, decorative applications, automotive		Residues from electroplating baths	Application knowledge, technical support
Electro-Optic Materials	Space, optics and electronics		Ge bearing residues	Superior performances through quality and purity, recycling
Precious Metals Refining	Metal recycling and refining industry		Recycling 17 metals	Ability to process complex streams, customer service
Precious Metals Management	Precious metal consumers (internal and external)		Traceability	Market knowledge, security of supply
Jewelry & Industrial Metals	Jewelry, high-purity glass, chemicals		Recycling Gold, Silver, Platinum from jewellery and industrial applications	Application and market knowledge, closed-loop offering
Precious Metals Chemistry	Life science, fine chemicals		Closed-loop offering (with PMR)	Chemical synthesis of complex metal based molecules

Precious Metals Refining

Leadership in sustainable, complex and low carbon recycling



1.8 million tons of GHG emissions avoided in 2021 through material input mix & recycling

R

Trusted partner for more than 20 years, recovering 17 different metals from more than 200 complex waste streams

I

Offering superior metal yields touching the full metal value chain with leading CO₂ performance with next generation technology

S

Responsibly sourced materials at the heart of our operations

E

Enhance operational excellence through digitalization and automation and continuous debottlenecking

A scenic landscape photograph of a mountain range. In the foreground, there are lush green pine trees. The middle ground shows rolling hills and valleys covered in dense forests. In the background, a prominent, rugged mountain peak rises against a blue sky with wispy white clouds. A large, semi-transparent blue circle is overlaid on the right side of the image, partially behind the text.

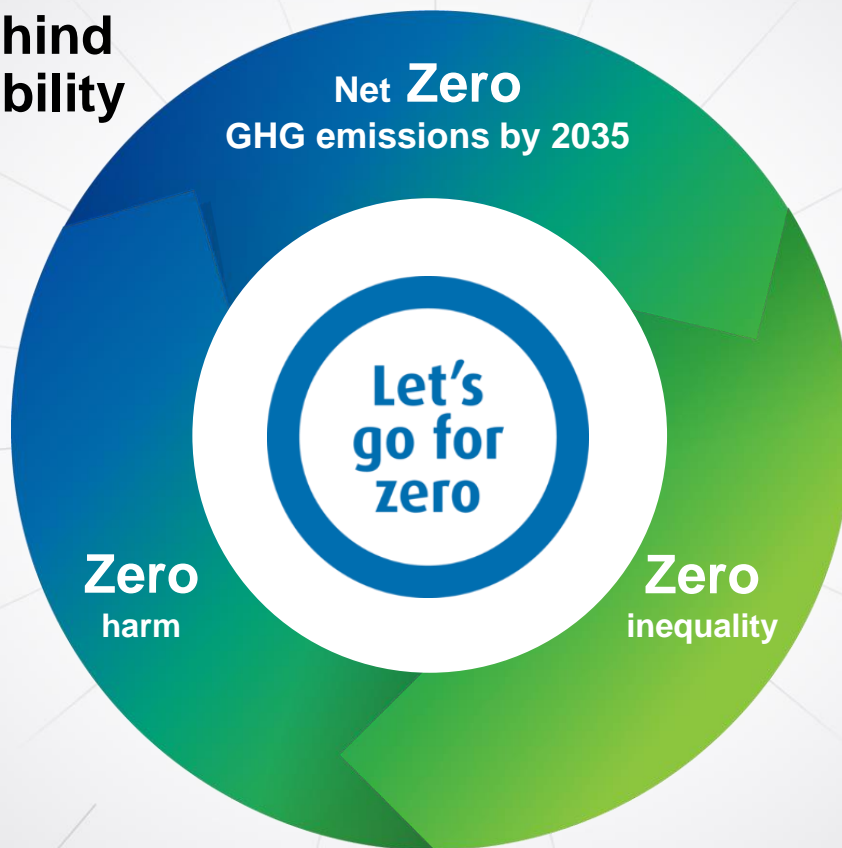
We Go for Zero

Sustainability

Champion

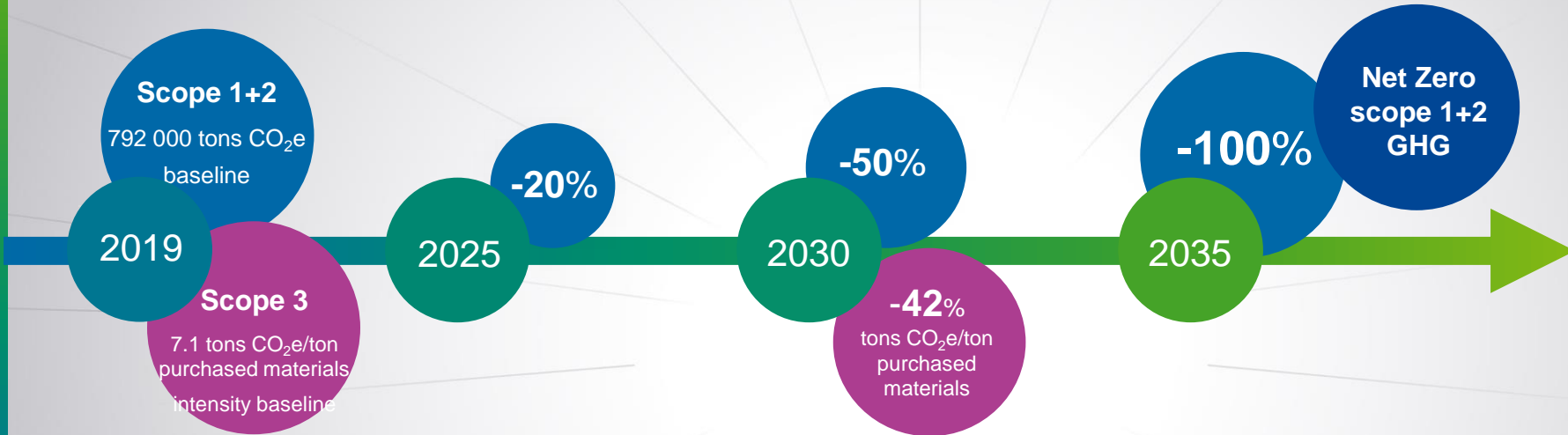
Let's Go for Zero

the ambitions behind
being a Sustainability
Champion



Net Zero GHG. Zero regrets.
Endless possibilities.

Net Zero GHG emissions by 2035



Net Zero GHG. Zero regrets.
Endless possibilities.



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

committed

**Belgian
Alliance** for
**Climate
Action**

Zero inequality

WHERE
WE ARE
TODAY

11,050

Group employees

25%

Women in management

21.6%

Non-Europeans in senior management

75

Nationalities

WE
GO FOR

Gender parity in management as soon as possible, with **35%** women in management by 2030

Increased cultural diversity in management teams by 2025

Measuring and disclosing **Pay Equality**



Zero harm



- **Minimizing impact on the environment**
- **-25%** diffuse emissions by 2025 with continuous improvement of other types of metal emissions
- **New water stewardship program**

Wellbeing @ work

Zero work related injuries

Zero excess exposure

Mental, physical, occupational and social **wellbeing** at work for **all**

Sustainable sourcing champion

Driving positive impact in the value chain




Umicore 2030 – RISE

Growth, returns and cashflows

Horizon 2020 strategy financial targets

Delivered on financial targets

	2015 – 2020 Targets	2020 Values	2021 Values
Accelerating profitable growth	CAGR revenues of 7 %	7 %	9 %
	CAGR adj. EBITDA of 8 %	12 %	18 %
	Double adj. EBIT to € 0.5bn by 2020	Achieved in 2018	Tripled by 2021
High investments & strong returns	Group ROCE > 15 %	12.1 %	22.2 %
Delivered on top-line growth ambition	Not at the detriment of margins – double digit earnings growth	Strong value creation notwithstanding ROCE headwinds due to delayed capacity utilization in Rechargeable Battery Materials in China	Record 2021 results with record precious metal prices as accelerator

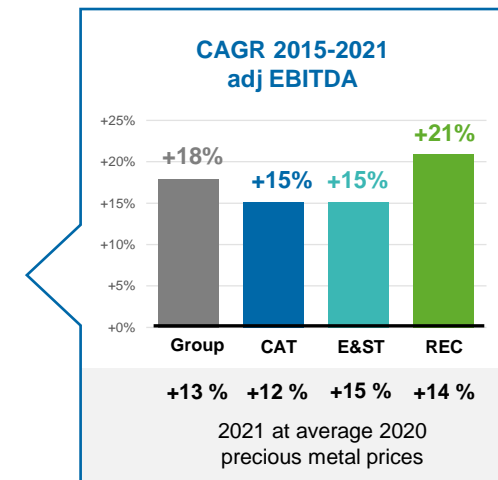


Horizon 2020 strategy drove step-change

Doubled in size : earnings, capital employed and value

	2015	STEP CHANGE	2021
Workforce ('000)	8.8	+ 26 %	11.1
Revenues (€ bn)	2.3	x 1.7	4.0
adj EBITDA (€ bn)	0.47	x 2.7	1.25
Average Capital Employed (€ bn)	2.2	x 2.0	4.4
Enterprise Value (€ bn)	4.5	x 2.1	9.6
Market Cap (€ bn)	4.2	x 2.1 ~ 15 %	8.6

annual TSR



Doubled size of the Group driven by strong underlying market growth and accelerated by metal prices

Substantial growth investments, yet to generate full payback potential

Strong double digit shareholder returns (with increased volatility in recent years)

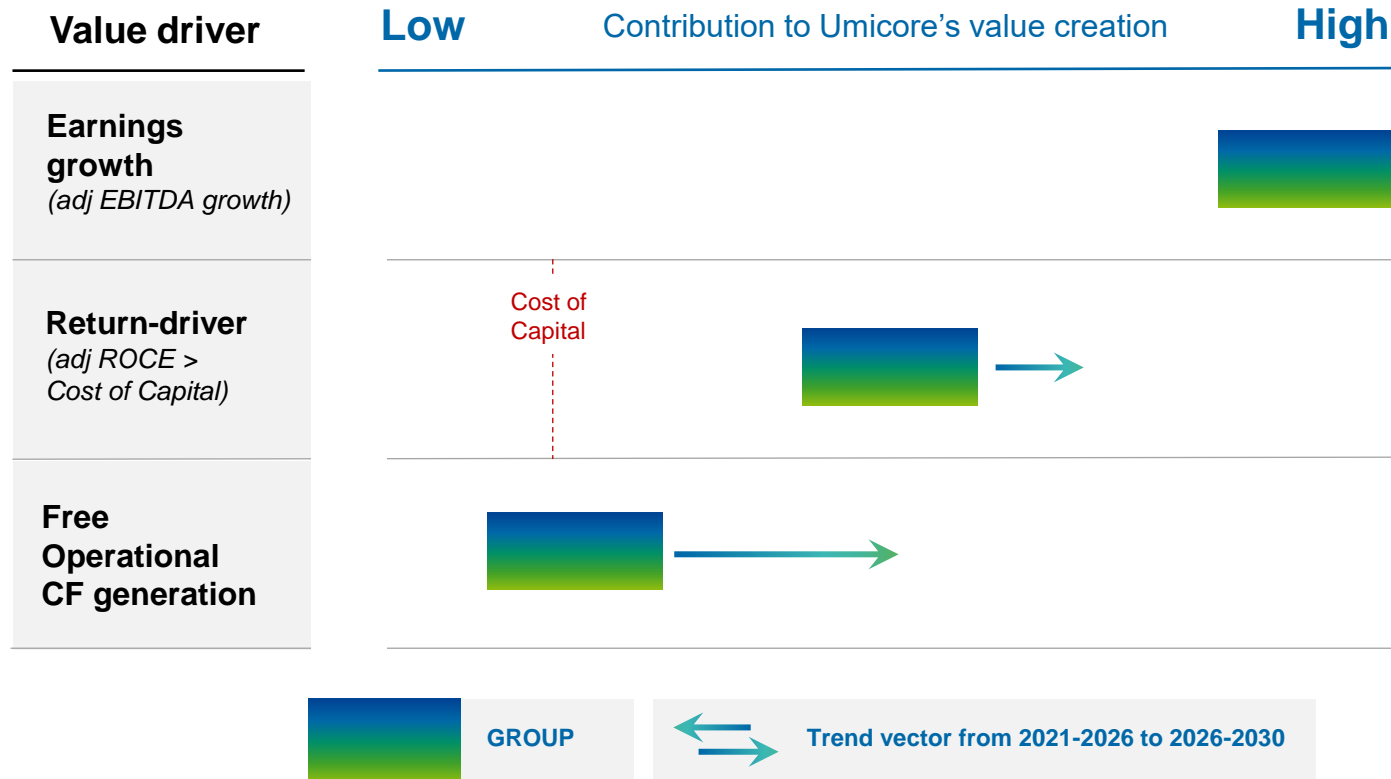
Balanced earnings growth across different business groups



Enterprise Value and Market Cap calculated end of calendar year
 TSR = Total Shareholder Return = Market Cap accretion (eoy) + dividend payout
 Workforce = fully consolidated entities

Differentiated sources of value creation

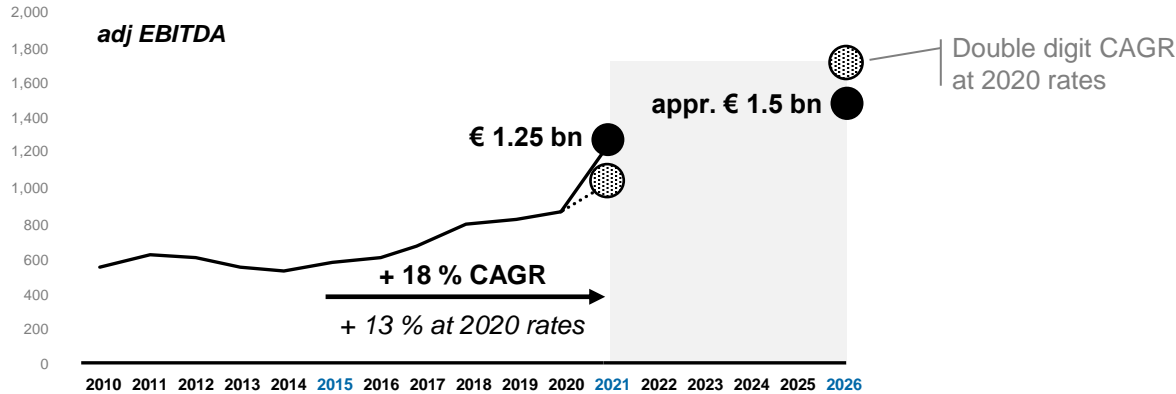
Balancing growth, returns and cash flows for the Group



- **Attractive earnings growth** driven by Rechargeable Battery Materials & Battery Recycling Solutions
- Group growth rate depends on metal prices
- **Group returns above Cost of Capital across the plan** despite sizeable growth investments
- Reinvest significant free cash flows of Catalysis & Recycling in E&ST
- **Cash flow payback as from second half of decade**

Umicore Group earnings growth ambition

Secular earnings growth while maintaining attractive historical margins

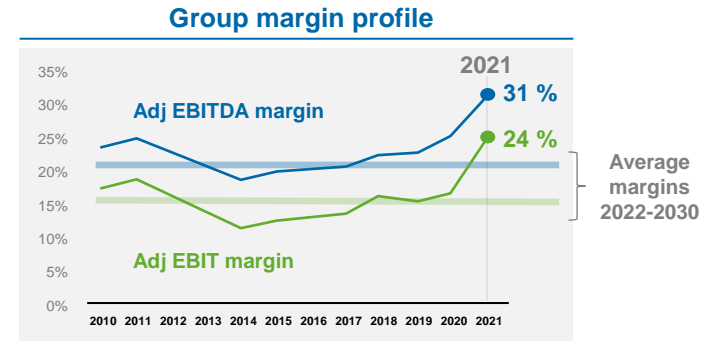


● 2021 actual reported adjusted EBITDA
 2026 assuming a gradual PGM price normalization scenario

● at aver 2020 PGM prices

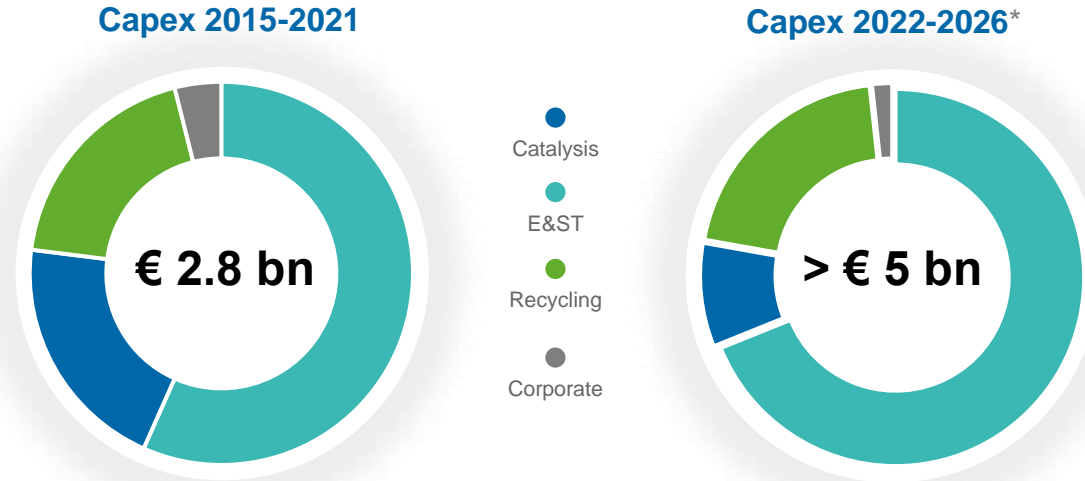
- Ambitious 2026 growth plan** with Rechargeable Battery Materials as transformative factor and growth in Catalysis
- Growth expected to be non-linear** and dependent on metal price trends
- Substantial growth beyond 2026** from battery materials, battery recycling and fuel cells
- Attractive Group margins** in line with historic average (assuming normalized PGM prices)

	2021	2026 ambition	2030 vision
Revenues	€ 4 bn	+ € 2.5 bn to € 3 bn vs 2021	+ € 2.5 bn to € 3 bn vs 2026
adj EBITDA margin	€ 1.25 bn 31 %	appr. € 1.5 bn > 20 %	> 20 %
Phased growth conditional upon value creative returns from contracts			



Growth investments to accelerate

Over 3/4th of Group capex in battery materials, battery recycling & fuel cells



Phased capex and conditional upon value creative returns

Bulk of Group capex oriented towards secular growth opportunities

Rechargeable Battery Materials & Battery Recycling Solutions most significant growth projects in 2022-2026

Lower share of capex in Catalysis notwithstanding initial fuel cell growth investments

Fuel cell capex as % of Catalysis	< 20 %
Rechargeable Battery Materials capex as % of E&ST	> 90 %
Battery Recycling Solutions capex as % of Recycling	appr. 50 %
Total as % of Group total	> 75 %

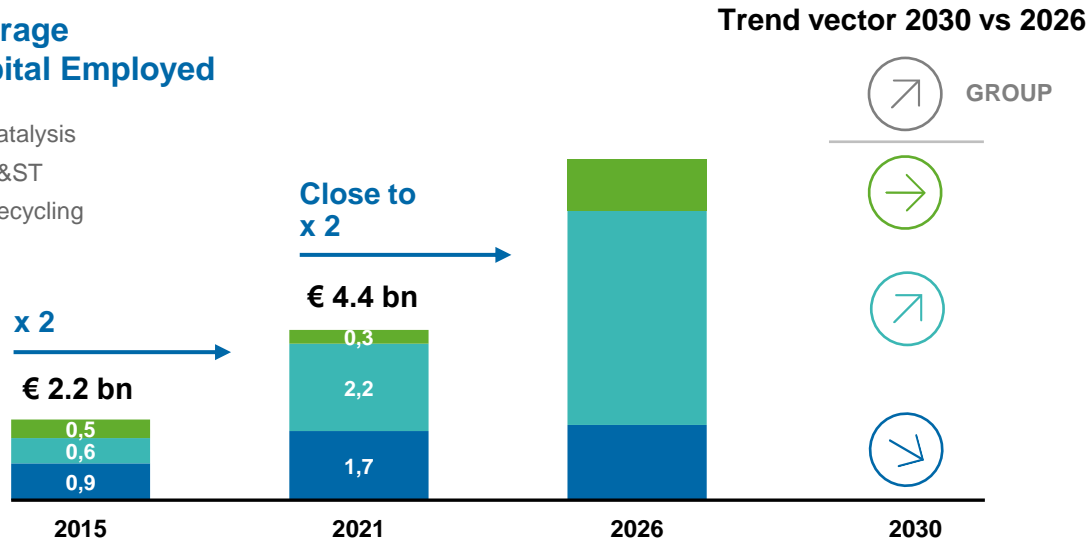
* Net investments incl co-financing

Capital allocation shift to accelerate

Doubling of capital employed subject to value creative returns

Average Capital Employed

- Catalysis
- E&ST
- Recycling



Close to doubling of average capital employed by 2026 (vs 2021) driven by Rechargeable Battery Materials & Battery Recycling Solutions

Catalysis
stable base up to 2026 (incl. fuel cell investments); significantly lower base as from mid-decade; substantial working capital release anticipated

E&ST
grow to appr. 2/3rd of group capital base driven by Rechargeable Battery Materials expansion

Recycling
increase in capital base through large scale Battery Recycling plant & ESG investments in Hoboken

Further growth beyond 2026 depending on growth pace in Rechargeable Battery Materials and Battery Recycling Solutions

E&ST in % of average Group Cap Employed	2015 ~ 1/3 rd	2021 ~ 50 %	2026 ~ 2/3 rd	2030 > 2/3 rd

Group totals include Corporate. Capital Employed sensitive to prevailing metal prices through NWC. Projections assume gradual normalization of PGM prices and battery material metal prices in line with 2021 average price.

Capital allocation shift to accelerate

Group returns above cost of capital with some temporary dilution in E&ST

Catalysis

ROCE

2015 - '20 average – ~14 %

**Lower capital employed
base drives higher
returns**

2026 ambition ~ 20 % 2030 vision > 20 %

E&ST

ROCE

2015 - '20 average – ~11 %

**Near-term returns
dampened by
Rechargeable Battery
Materials' growth costs and
investments. Above cost of
capital shortly after 2026**

2026 ambition > 8 % 2030 vision > 12.5 %

Recycling

ROCE

2015 - '20 average – ~37 %

**Highly value-creative
returns on higher capital
base incl. Battery Recycling;
assumes normalized PGM
prices**

2026 ambition ~ 30 % 2030 vision ~ 20 %

GROUP

ROCE

2015 - '20 average – ~14 %

**Stay above cost of capital
across the plan and create
substantial value towards
end of decade once mid-
decade investments are
ramped-up**

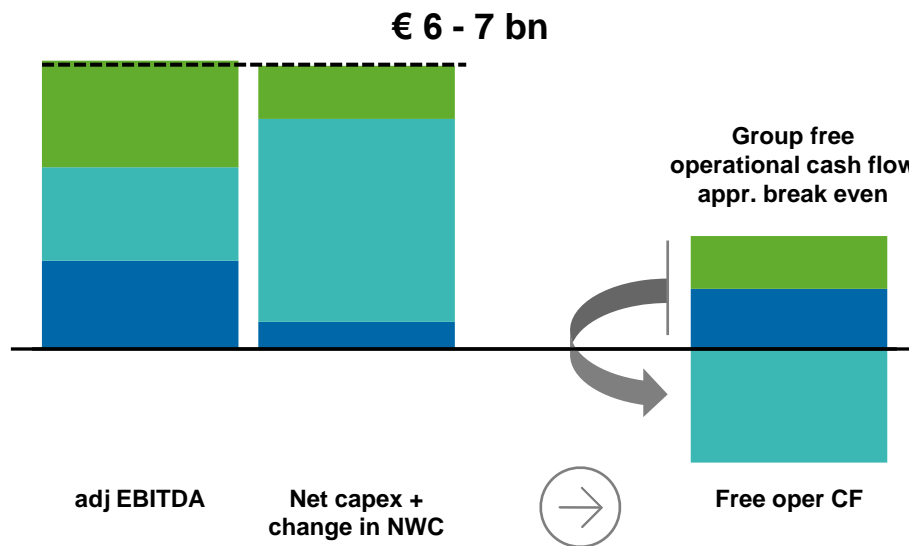
2026 ambition > 12.5 % 2030 vision 15 %

Operational cash flow profile

Substantial free cash flows in Catalysis & Recycling reinvested into E&ST

Cumulative cash flows 2022 - 2026

- Catalysis
- E&ST
- Recycling



Substantial free cash flows in Catalysis and Recycling Accelerating further beyond 2026

Reinvested in Rechargeable Battery Materials expansion

E&ST cash payback after capacity ramped-up (> 2026)

Potential for substantial operational free cash flows after 2026 depending on level of growth investments to accommodate post-2030 growth

Group total includes Corporate
 Free Operational CF defined as adj EBITDA – equity accounted contribution – Capex – change in NWC
 Net capex includes co-financing

Funding levers

From full autonomous funding to co-funding partnership model

Policy unchanged :
Maintain Investment Grade status

Embedded in group strategy

Optional

Embedded in group strategy				Optional	
<p>Strong free operational cash flow generation</p> <p>Catalysis & Recycling as strong free cash flow generators</p>	<p>ESG-focused debt funding appetite</p> <p>Leverage on growing debt appetite & capacity in the market for ESG- and electrification-focused projects</p>	<p>Co-funding partnership model</p> <p>Customers open to participate in operational funding in return for capacity assurances & technology commitment</p>	<p>Joint Venture investment sharing</p> <p>Selective strategic JV set-ups allow to share the upfront investment burden in return for sharing the returns</p>	<p>Grants and other funding incentive mechanisms</p> <p>Access substantial support funding for the electrification transformation as an established player with proven technology and industrialization skills</p>	<p>Capital Market funding</p> <p>To accelerate Rechargeable Battery Materials expansion, conditional upon business & return visibility.</p>



Financial review H1 2022

Strong performance in H1 2022

Key figures



Umicore delivers first-half performance in line with Q1 outlook, in a challenging market context, and makes good progress in the execution of the “Umicore 2030 – RISE” strategy

REVENUES € 2.1 bn Stable YoY	Adjusted EBIT € 461 m -26% YoY	Free Operating Cash Flow € 320 m Net debt stable at € 955 m Net debt / LTM Adj. EBITDA 0.88x
Adjusted NET PROFIT (Group share) € 321 m Adjusted EPS € 1.34 Interim dividend of € 0.25 per share	Adjusted EBITDA € 601 m -21% YoY	CAPEX € 190 m
		ROCE 20.8%

Key highlights of H1 2022

Strong performance despite market environment characterized by significant external challenges

Catalysis: outperforming global car market driven by further market share gains in light-duty gasoline; adj. EBIT slightly below H1 2021 record level

Energy & Surface Technologies: strong performance of Cobalt & Specialty Materials and positive impact from unexpected spike in lithium price in Rechargeable Battery Materials

Recycling: second-highest level performance in business group history, despite lower precious metal prices

Strong operational cash flows including a less than anticipated increase in net working capital, resulting in stable net financial debt compared to end of 2021

Active implementation of RISE 2030 strategy with key milestones achieved

In Rechargeable Battery Materials:

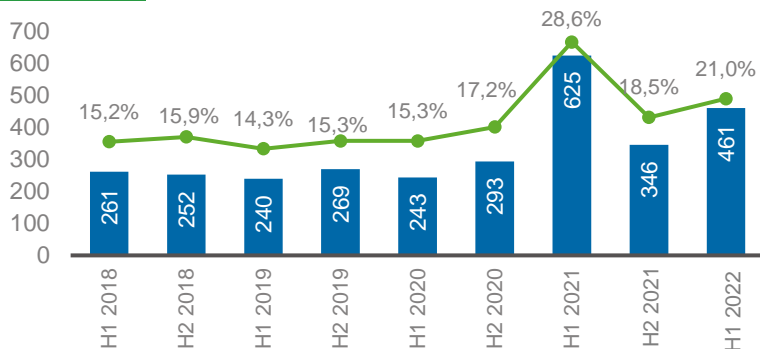
- Further build-out of long-term, **value creative customer partnerships**
- Inauguration of new global **R&D** center in Korea and agreement with Idemitsu Kosan Co. to jointly develop catholyte materials for solid-state batteries
- Announced plans to build local production footprint in Canada; important step in global rollout of **regional supply chains to three continents**
- **Start of production** in greenfield CAM plan in **Nysa, Poland**

Ambition to achieve net zero Scope 1 and 2 GHG emissions by 2035 complemented with ambitious target for **Scope 3**: 42% reduction of CO₂e/ton of purchased materials by 2030

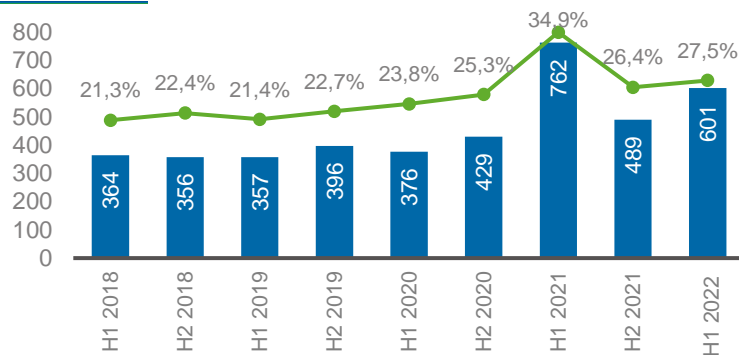
Strong Adj. EBIT(DA) and margins

Close to 1H 2021 exceptional record performance despite challenging market context

Adj. EBIT & Adj. EBIT margin



Adj. EBITDA & Adj. EBITDA margin



- **Adjusted EBIT of € 461 million, down 26% compared to record level of H1 21 and up 33 % compared to H2 21**

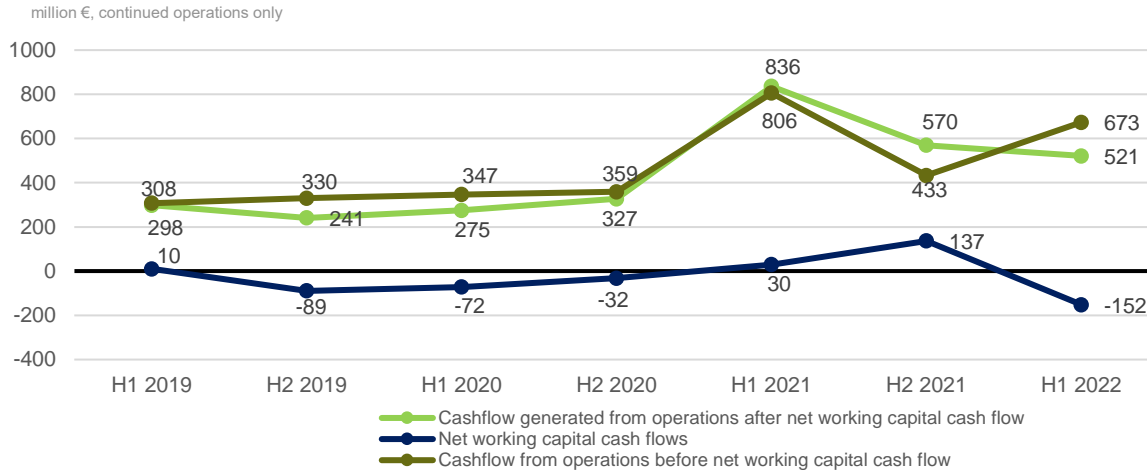
- Strong operational performance
- Less favourable precious metal price environment, volatile battery materials metal prices
- Impact of higher costs linked to general cost inflation and innovation
- Net forex tailwind

Adjusted EBITDA of € 601 million, down 21% compared to H1 21 and up 23 % compared to H2 21

Adjusted Group D&A slightly up

Continued margin uptrend following H1 21 peak

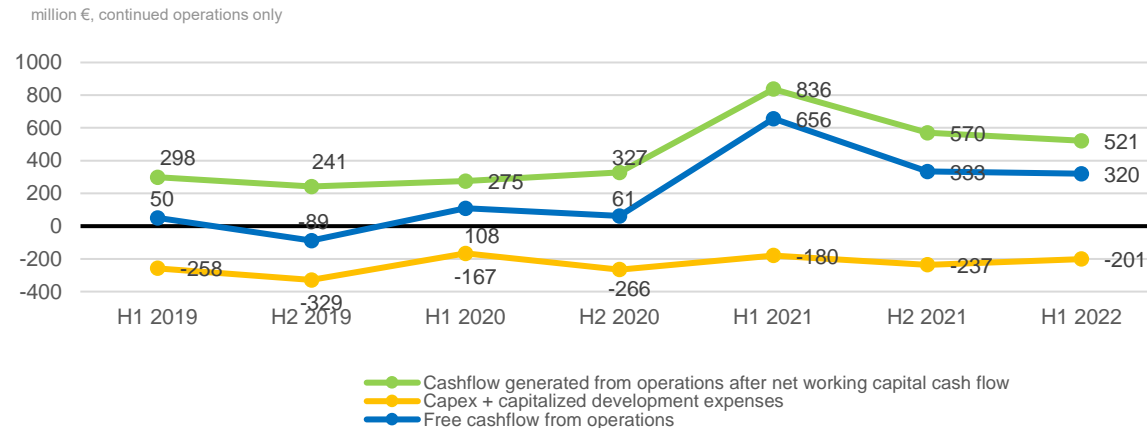
Strong free operating cash flow generation



Cash flow from operations after changes in working capital at € 521 million

Smaller than anticipated increase in cash working capital of € 152 million, reflecting working capital management, temporary positive effects in the month of June and lower than expected metal prices.

NWC increase in E&ST mitigated by a decrease in Catalysis and Recycling.



Free cash flow from operations of € 320 million

Capex and capitalized development expenses slightly up year on year to € 201 million

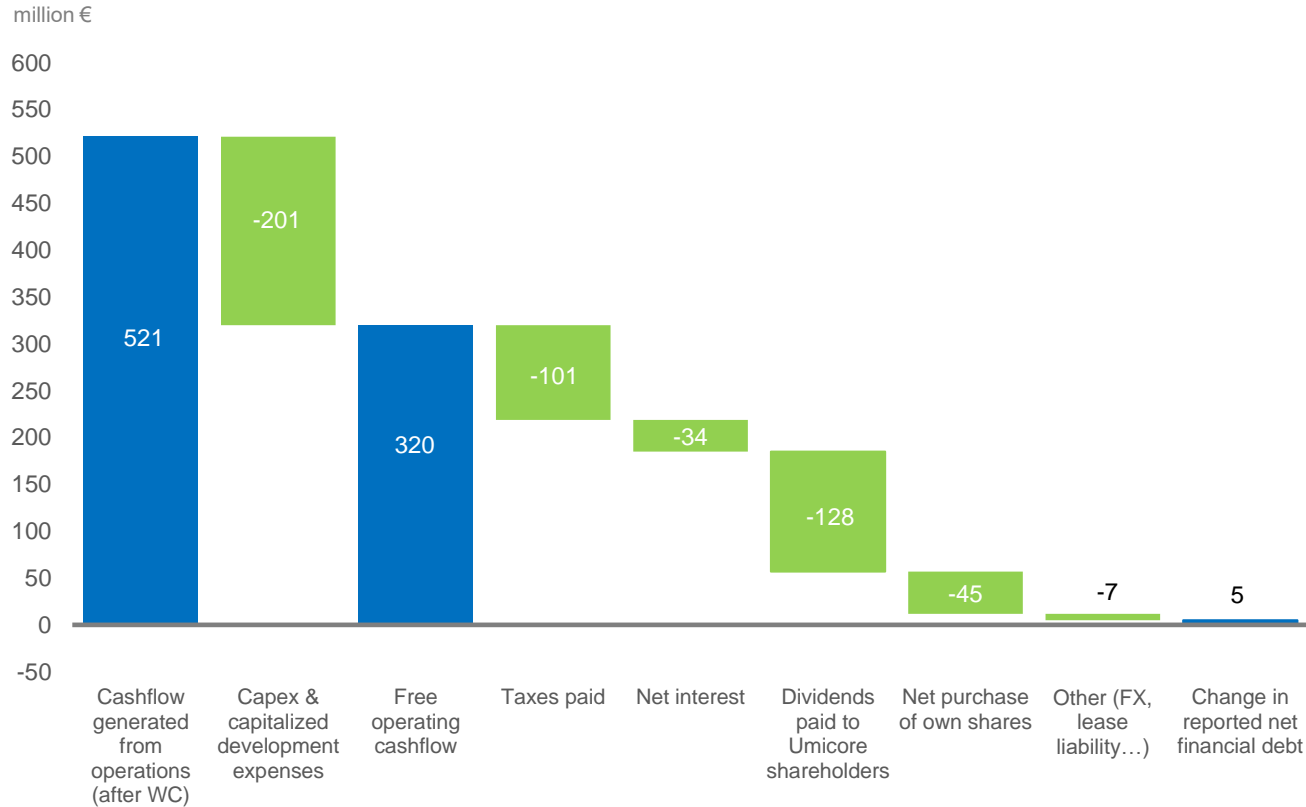
E&ST accounting for 2/3rd of Group capex, driven by RBM

Continued focus on capex efficiency across businesses

*Free cashflow from operations = cashflow generated from operations – capex & capitalized development expenses

Net cash flow bridge

Stable net financial debt versus end 2021



Free operating cashflow of € 320 million, including € 152 million increase in working capital and € 201 million investments.

Funded a combined € 308 million cash outflow related to taxes, net interest charges, dividends & net purchase of own shares.

Resulting in a stable net financial debt vs December 2021 and a corresponding strong leverage ratio (0.88x LTM adj EBITDA).

Full P&L

Million €	H1 2021	H1 2022
Adjusted EBIT	625	461
- Net finance cost	(52)	(46)
- Adjusted Tax	(140)	(92)
Adjusted net result	433	323
- Minorities	(5)	(1)
Adjusted net result Group share	428	321
<i>Adjusted EPS</i>	<i>1.78</i>	<i>1.34</i>
Adjustments to EBIT	(39)	(20)
Adjustments to net result Group	(28)	(12)
Net result Group share	400	309

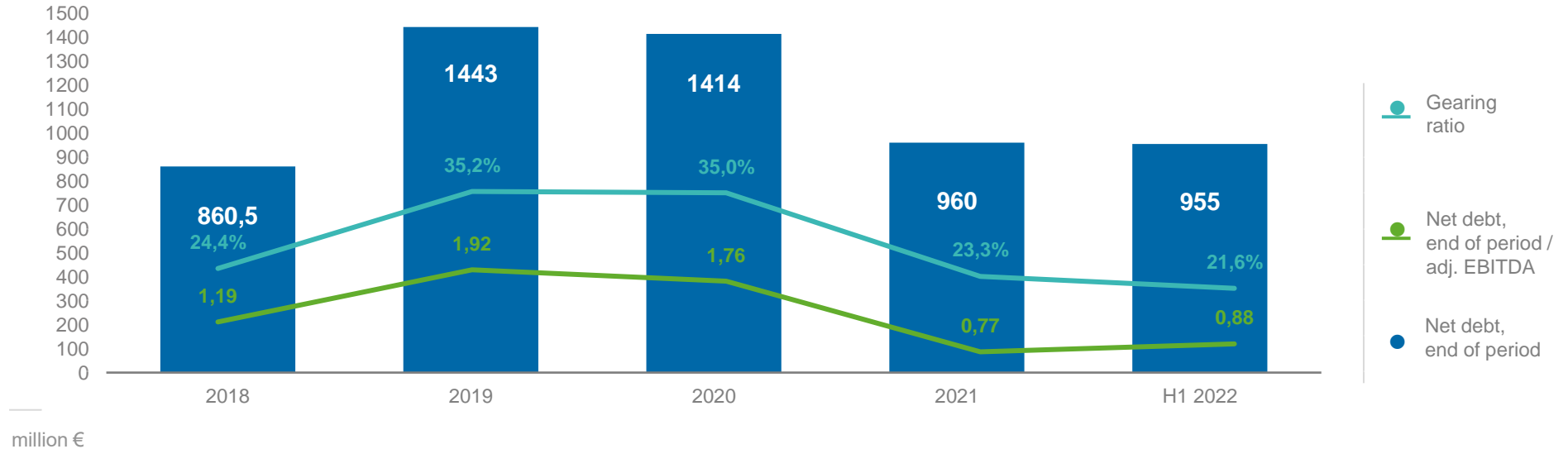
Adj. EBIT below last year's record level, reflected in lower Net result Group share

Decrease in adjusted net financial cost due to lower forex charges more than offsetting higher net interest charges

Lower adjusted tax charges reflecting the lower year on year taxable profit, as well as a lower adjusted effective group tax rate (22.8 % vs 24.9 %).

Limited adjustments to EBIT of - € 20 million, mainly linked to environmental provisions.

Solid capital structure



€ 1.0 billion free-cash-flow in 2021, drove the decreasing net debt and a gearing ratio down to 0.77x

End of H1 2022 corresponds to :
0.88x net debt to adj. EBITDA ratio
21.6% gearing ratio

2022 Outlook

Umicore expects another strong performance in 2022 across business groups in a severely disrupted market context

Based on the performance in the first half of the year and assuming precious metal prices remain at current¹ levels for the remainder of the year, Umicore expects its adjusted EBIT for the full year 2022 to be somewhat above consensus², including some € 220 million uplift from precious metal prices versus 2020 (taking into account the effect of strategic hedging).

This outlook incorporates a cost inflation headwind estimated less than € 150 million for the full year, excluding offsetting measures such as pricing, and assumes no further significant disruptions to the economy or Umicore's operations from geopolitical developments, the pandemic or additional supply-chain constraints.

¹ Current refers to the date of this publication i.e., 29 July 2022

² Umicore has engaged Vara Research GmbH to survey brokerage analysts to provide analysts' consensus estimates to the market. The most recent consensus is available on <https://vara-services.com/umicore/>. Consensus adjusted EBIT for Umicore Group in 2022 amounted to € 828 million at the time of this publication.

Guidance for full year 2022



CATALYSIS

It is anticipated that car production will remain impacted by the ongoing supply disruptions. Notwithstanding the related limited visibility, Umicore expects to continue to benefit from its strong market position in gasoline applications. Taking into account the strong performance in the first half of the year and the current assumptions on volumes for 2022, adjusted EBIT in **Catalysis** for the full year is expected to be close to the record level achieved in 2021, somewhat above consensus¹, despite the impact of cost inflation.



E&ST

Based on the first-half performance and anticipating a normalization in Cobalt & Specialty Materials, Umicore expects adjusted EBIT in **Energy & Surface Technologies** for the full year 2022 to be above the level of the previous year and above current consensus expectations².



RECYCLING

Umicore expects adjusted EBIT for **Recycling** for the full year 2022 to be in line with current consensus³. This is based on the assumption that current precious metal prices will continue to prevail. This also takes into account a somewhat improved supply mix in Precious Metals Refining compared to the first half.

As announced previously, **Corporate** costs are expected to continue to increase above inflation in 2022 as Umicore is committed to its longer-term innovation and digitalization and is preparing its systems and organization for future expansion.

¹ Catalysis adjusted EBIT for the FY 2021 amounted to 326 m€, Vara Research consensus adjusted EBIT for Catalysis amounted to 281 m€ at the time of this publication

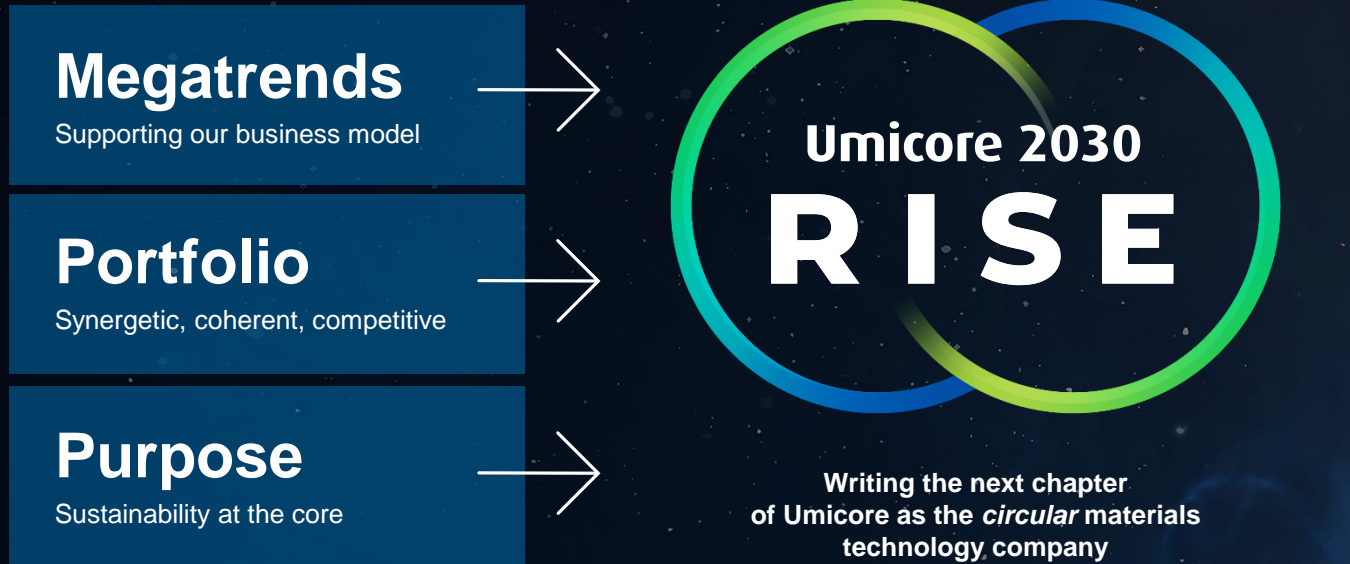
² Energy & Surface Technologies adjusted EBIT for FY 2021 amounted to 139 m€ Vara Research consensus adjusted EBIT for E&ST amounted to 148 m€ at the time of this publication

³ Recycling adjusted EBIT for the FY 2021 amounted to 573 m€ Vara Research consensus adjusted EBIT for Recycling amounted to 475 m€ at the time of this publication



Key Investment Considerations

Net beneficiary of a changing world



2030

GROWTH
>100%
Revenues

Grow like
a start-up

PROFIT
>20%
EBITDA
margin

Create
value as an
established
company

RETURN
15%
ROCE

Creating value as an established company while growing as a start-up company

- **Well-diversified business profile** with broad product, end-market and customer base driven by a common theme of sustainability and ever-growing megatrends, **source of varied and synergetic value-creating growth.**
- **Strong track record of and commitment to innovation** to maintain competitive lead (R&D spending of ~6% of revenues in 2021)
- **Robust financial performance** across cycles and **strong balance sheet, while continuously investing in growth**
- **Experienced** board, management team, and clear governance principles
- **Record earnings in 2021 building on strong underlying operational performance in all business groups demonstrating the merits of the strategy building on complementary activities and further supported by an exceptional precious metal price environment.**



Annexes



Business Group Overview



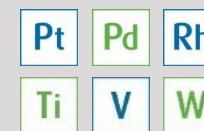
Catalysis



Catalysis overview

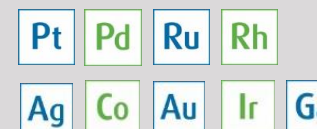
Automotive Catalysts

We are one of the leading producers 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.



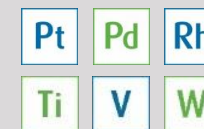
Precious Metals Chemistry

We are 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 by our organometallic technology know-how.



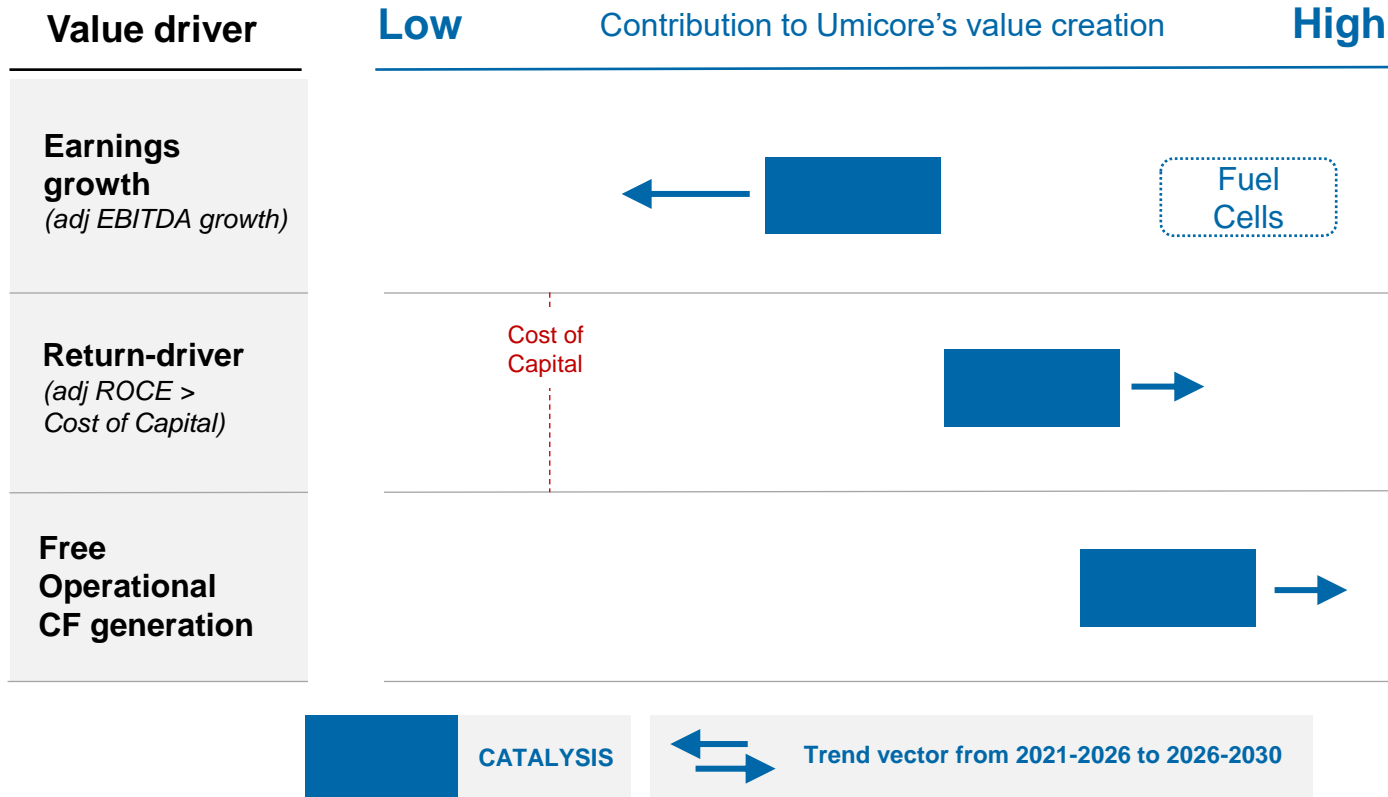
Fuel Cell & Stationary Catalysts

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



Catalysis

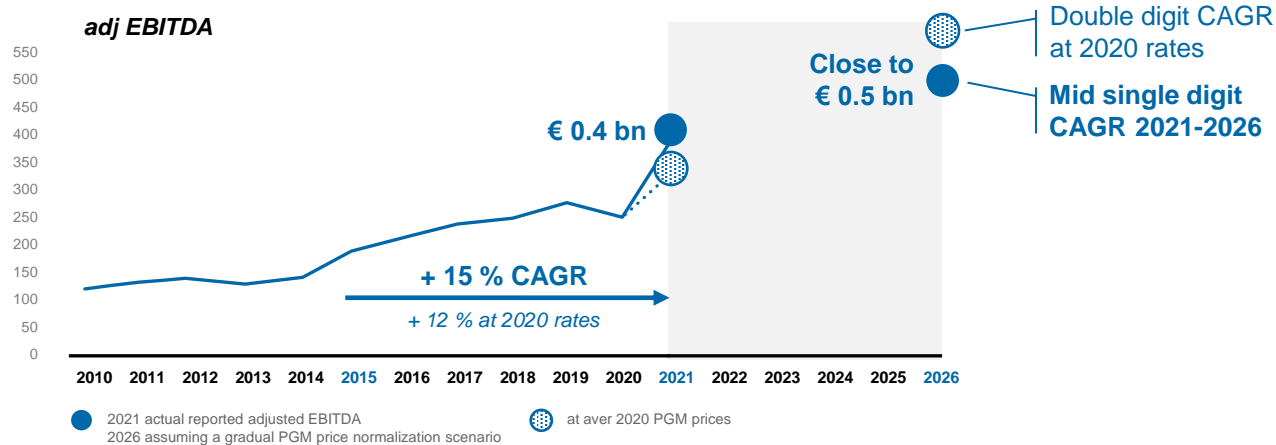
Balancing growth, returns and cash flows



- Capture unprecedented value peak in Automotive Catalysts in the decade
- Prepare growth acceleration in fuel cell catalysts after mid-decade
- Reduction in Cap Ex in Automotive Catalysts to drive high(er) returns
- Initial payback in fuel cells towards end of decade (lower capital intensity)
- High free cash flows over the plan
- Transition from growth to free cash flow focused business model in Automotive Catalysts

Catalysis

Committed to capture medium-term growth while driving efficiency & cash



Attractive medium-term growth from car market recovery, final legislation cycle and HDD expansion

Maintain margins above historical average through continued operational efficiency focus

Substantial free cash flows accelerating as from mid-decade

Strong position in fuel cells with meaningful growth contribution as from mid-decade and material contribution as from next decade

	2021	2026 ambition	2030 vision
Revenues	€ 1.69 bn	appr. € 2.0 bn	> 2021 and < 2026
adj EBITDA	€ 0.40 bn	close to € 0.5 bn	comparable vs 2026
margin	24 %	> 20 %	
Fuel cell catalysts in % of adj EBITDA	< 5 %	< 10 %	< 30 %
			Substantial fuel cell acceleration after 2030

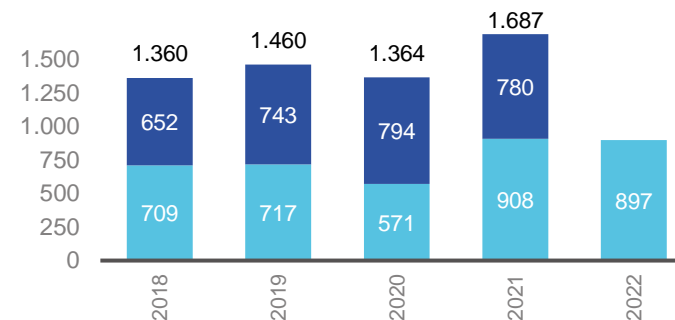
Catalysis H1 2022

Revenues -1% and adj. EBITDA margin at 23%

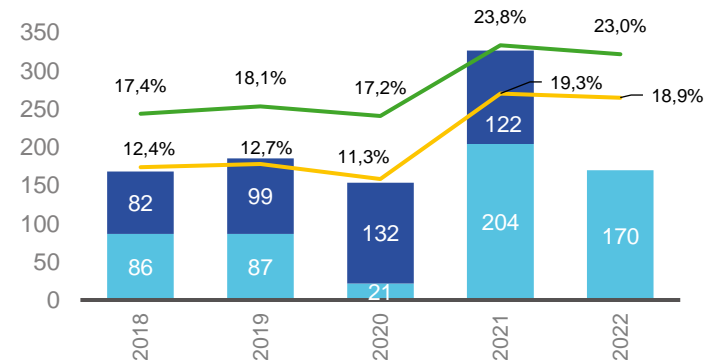
- **Strong performance despite significant disruptions in global industries and supply-chains**
- **Automotive Catalysts**
- Outstanding performance against challenging backdrop
- Volumes down less than market, reflecting strong market position and market share gains in gasoline technologies for LDV
- Revenues broadly flat YoY with product mix offsetting lower volumes. Earnings well up sequentially and close to H1 2021 record level despite cost inflation
- **Precious Metals Chemistry**
- Higher revenues driven by strong demand for homogenous catalysts and inorganic chemicals
- **Fuel Cell & Stationary Catalysts**
- Lower revenues from PEM fuel cell catalysts reflecting COVID-19 lockdowns in major Chinese cities resulting in postponements of customers orders

Revenues (m€)

● H2 ● EBITDA margin
● H1 ● EBIT margin



Adjusted EBIT (m€) & EBIT(DA) margin



Zoom in on Automotive Catalysts (AC) and Fuel Cell & Stationary Catalysts (FCS)

Catalysis: capture peak in Automotive Catalysts and emerging growth in Fuel Cells

**Fuel Cells:
prepare growth
acceleration after
mid-decade**

**Automotive Catalysts:
extending value capturing
through presence in most
attractive market segments
with right technology**

- Strong position in light-duty gasoline; segment benefiting most from upcoming emissions legislation
- Growing share in HDD segment in China and Europe

Continued focus on maximizing business value



2022-2027

Continued focus on high-capacity utilization (>85%)

Continued focus on process efficiency

Technology value pricing as core principle

2028-2030



Keep capacity utilization high (>85%) and align operations with market evolution

Annual fixed cost reduction of € 100 Mn in 2030

~ € 3 billion cash delivered between 2022 and 2030

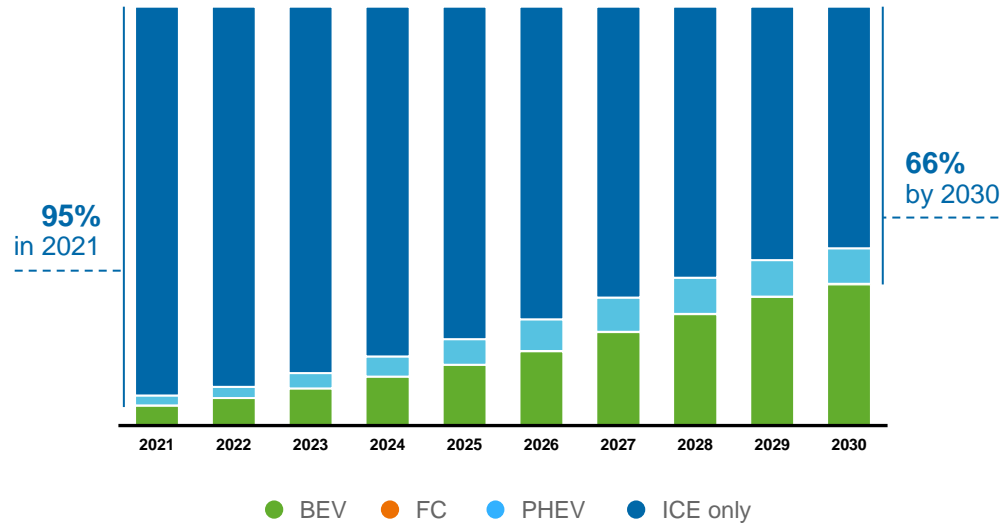
Accelerating mobility transformation

ICE remains dominant powertrain solution in 2030

Light-duty vehicles

Proportion by powertrain in global production

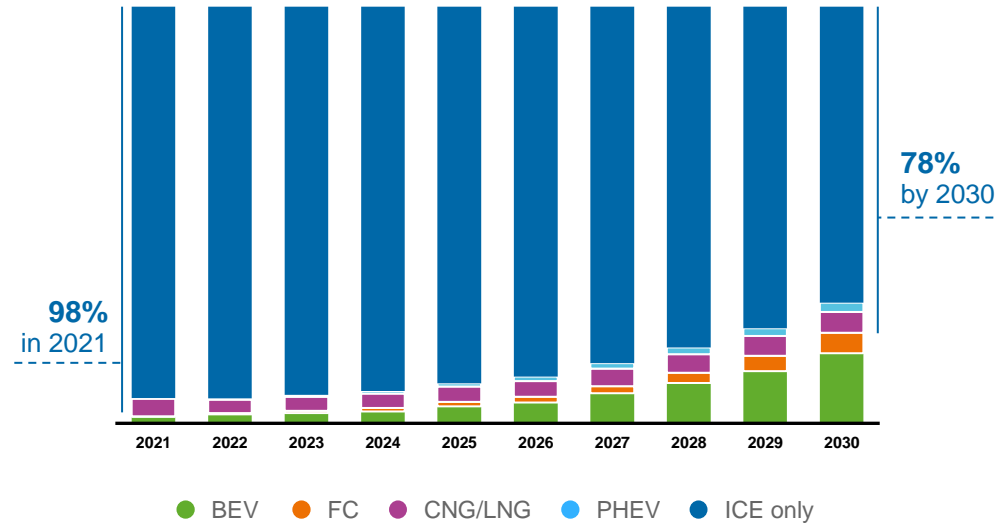
Source: Umicore market model – LDV



Heavy-duty vehicles

Proportion by powertrain in global production

Source: Umicore market model – HDV (incl. medium-duty vehicles, on-road vehicles only)



BEV: battery electric vehicle

FC: fuel cell vehicle

CNG/LGN: Compressed natural gas / Liquefied natural gas

PHEV: plug-in (hybrid) vehicle

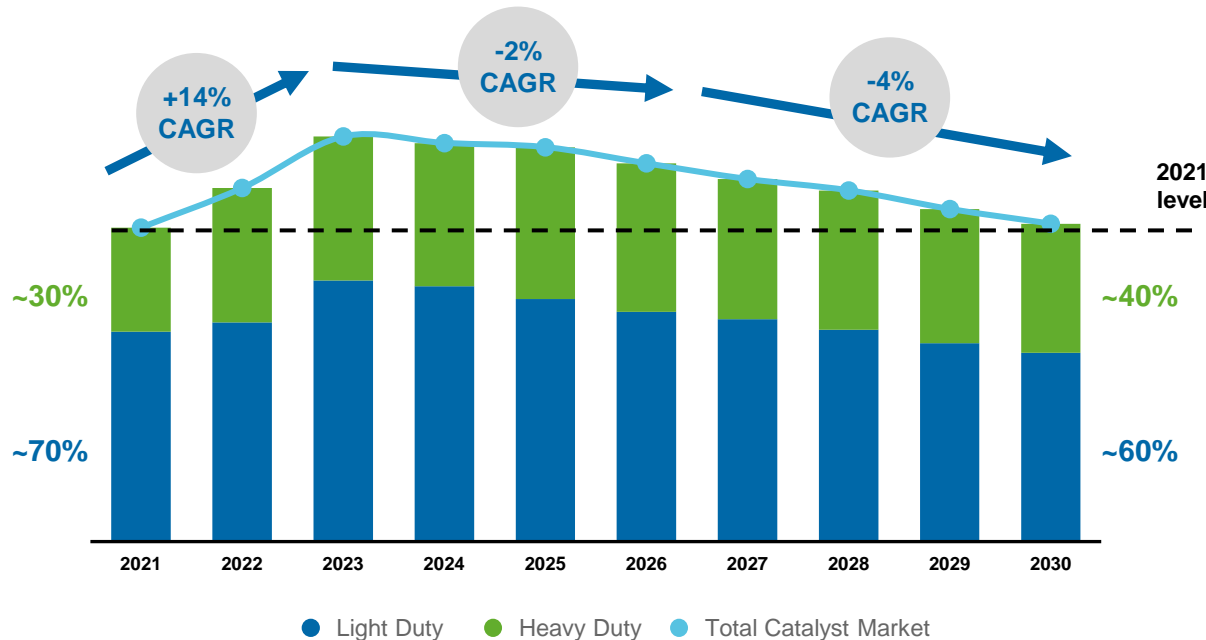
ICE: internal combustion engine (gasoline/diesel) only

Attractive value to capture the next decade

Emission catalyst market moving towards unprecedented value peak



Light, Medium & Heavy-Duty Vehicles Global automotive catalyst volumes (liters)



Source: Umicore market model – LDV and HDV (includes emissionized Heavy-Duty and Medium-Duty Vehicles; on-road only)

Value growth driven by market rebound and tighter legislation for light-duty and heavy-duty vehicles

Total addressable market in 2030 still exceeding addressable market in 2021

Attractive market profile – Ability to capture peak profitability and afterwards generate significant amount of free cash flow

Automotive Catalysts – RISE

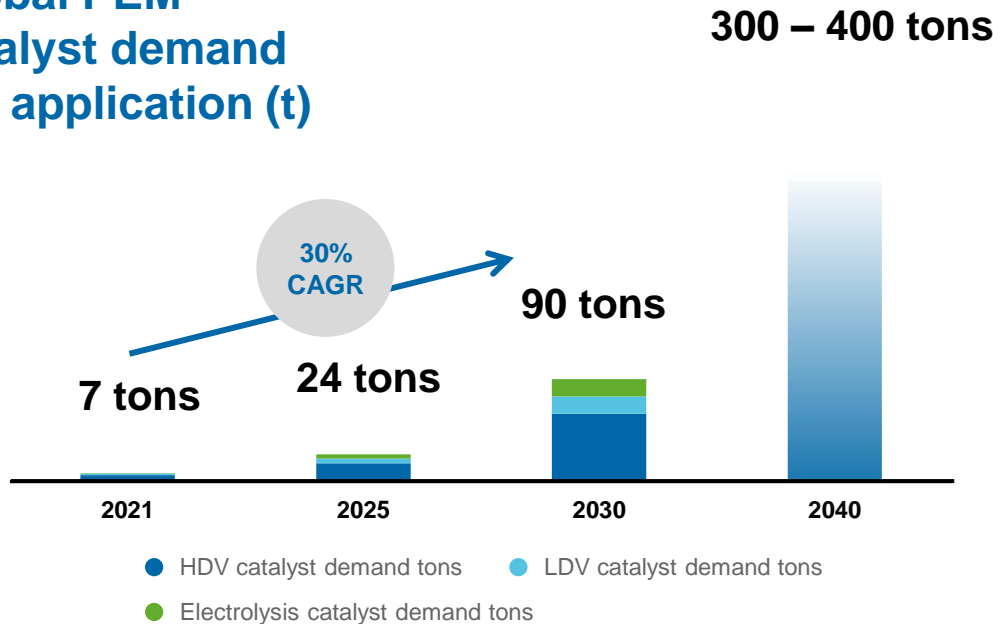
Capture peak profitability and maximize value



Throughout period:
€ ~3 Bn total cash delivered and critical talent pool,
supporting Umicore growth
ROCE ~20% in 2030 and adj. EBITDA margin ~20%

PEM catalyst market to witness exponential growth towards 2040

Global PEM catalyst demand per application (t)



Source: Umicore market model (HDV incl. MDV)

Strong regulatory support for hydrogen economy in Europe and APAC region

PEM catalyst demand to grow exponentially as of 2025 driven by increasing penetration of fuel cell HDV as well as electrolysis



Global addressable market of 90t for Umicore by 2030

Fuel Cells – RISE



Capture emerging growth as leading fuel cell catalyst provider

<p>Capture near term growth in fuel cells for HDV/MDV and long range LDV</p> <hr/> <p>Adjacent opportunities - market potential for green electrolysis</p>	<p>R Reliable Transformation Partner</p>	<p>I Innovation & Technology Leader</p>	<p>S Sustainability Champion</p>	<p>E Excellence in execution</p>
	<p>BUILDING CUSTOMER COOPERATIONS ACROSS THE VALUE CHAIN</p>	<p>BENCHMARK MATERIALS – INNOVATION AND RESEARCH AT THE HEART OF THE FUEL CELL GROWTH STRATEGY</p>	<p>KEY PARTNER FOR THE TRANSITION TO ZERO-EMISSIONS MOBILITY</p>	<p>SCALING-UP PRODUCTION FOOTPRINT IN MOST COST-EFFICIENT WAY</p>

Head start, based on proven technology leadership
Profitable today and value accretive throughout period



Energy & Surface Technologies

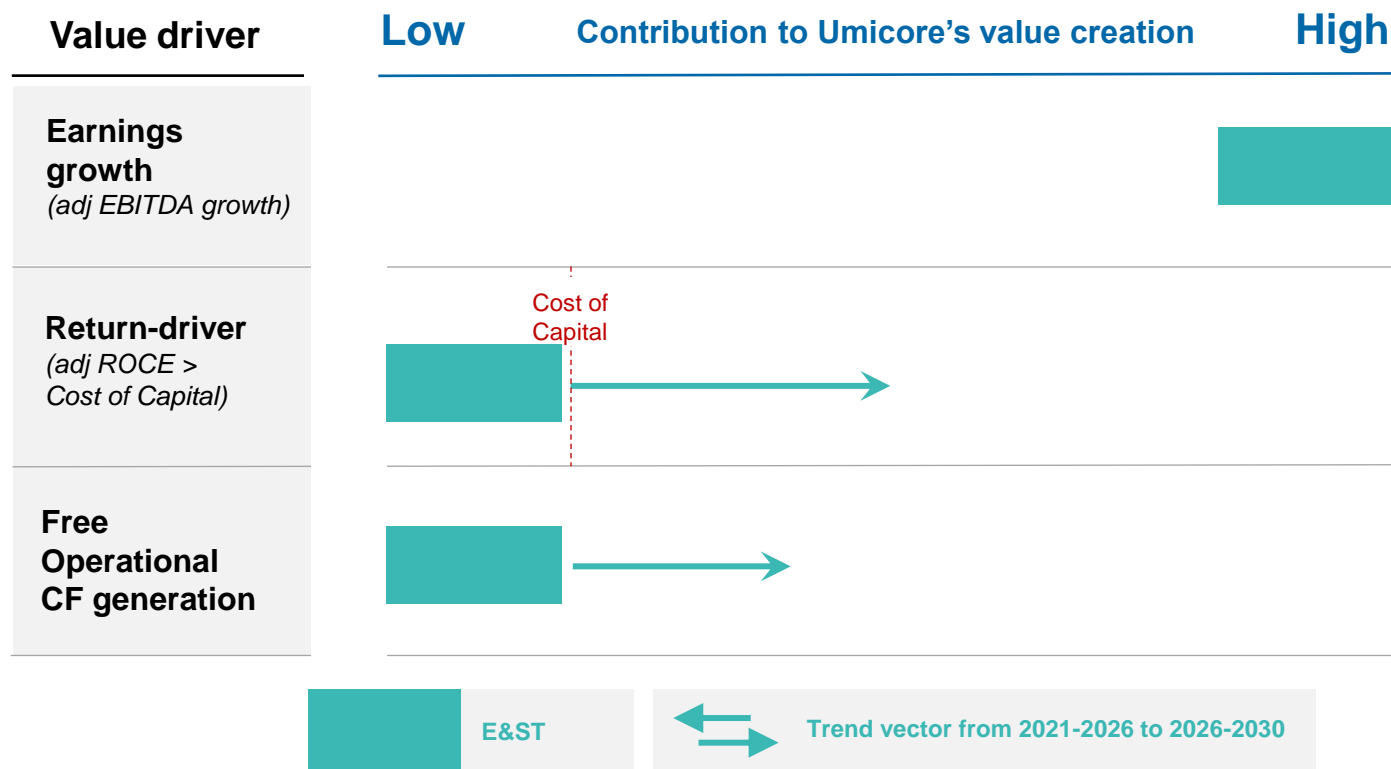


Energy & Surface Technologies overview

Rechargeable Battery Materials	We are a pioneer in battery materials and a leading cathode material supplier for rechargeable lithium-ion batteries, giving added range and performance to electric vehicles, and longer battery life for portable electronics.	Ni Co Li Mn
Cobalt & Specialty Materials	We are 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.	Co Ni W Ta Cu
Metal Deposition Solutions	We are one of the world's leading suppliers of products for (precious) metal-based electroplating and PVD coating of surfaces in the nano and micrometre range. Our solutions for the highest demands are used in many products of daily use or enable their production in the first place.	Au Ag Pd Pt Rh Ru
Electro-Optic Materials	We are a 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.	Ge Pt Se Si Ti W

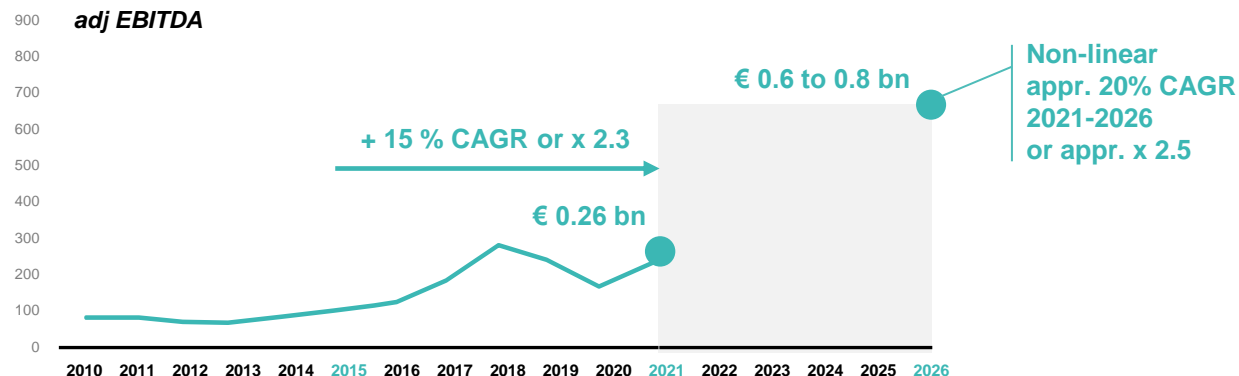
E&ST

Balancing growth, returns and cash flows



- Unprecedented transformational growth in Rechargeable Battery Materials
- Partial payback by 2026 from high growth investments in Rechargeable Battery Materials; becoming value creative shortly thereafter
- Significant upfront growth investments dampen free cash flows; strong free cash flows once new greenfield sites are ramped-up

Rechargeable Battery Materials to drive transformative growth



Step-change in revenues & earnings as from mid-decade driven by Rechargeable Battery Materials

Robust underlying EBITDA margins despite impact from substantial upfront growth & start-up costs. Margin increase after 2026

Material but phased investments conditional upon value creative returns

Non-Rechargeable Battery Materials businesses target selective growth, maintaining + 20% adj EBITDA margins

	2021	2026 ambition	2030 vision
Revenues	€ 1.17 bn	+ € 2.5 bn to € 3 bn vs 2021	+ € 2.5 bn to € 3.5 bn vs 2026
adj EBITDA margin	€ 0.26 bn 22 %	€ 0.6 to 0.8 bn < 20 %	higher vs 2026

Phased growth conditional upon value creative returns from contracts

E&ST H1 2022

Revenues +21% and adj. EBIT +44%, reflecting higher revenues and earnings in Cobalt & Specialty Materials and Rechargeable Battery Materials

Rechargeable Battery Materials

As anticipated and announced in December, cathode material volumes were subdued

Volumes headwinds more than offset by positive impact from unexpected spike in lithium price

Cobalt & Specialty Materials

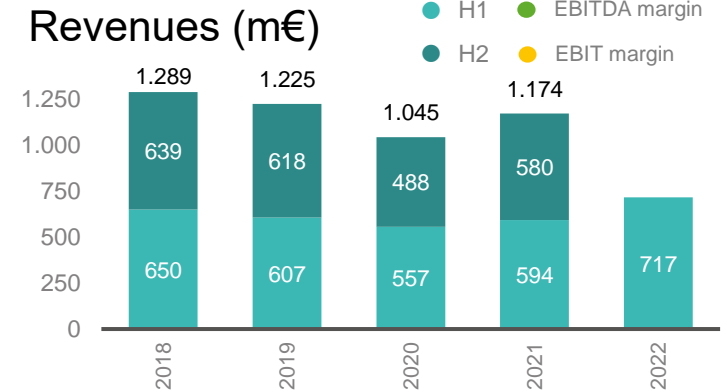
Continued, exceptionally strong market demand in combination with favorable cobalt and nickel price environment in cobalt and nickel chemicals and related distribution activities

Metal Deposition Solutions

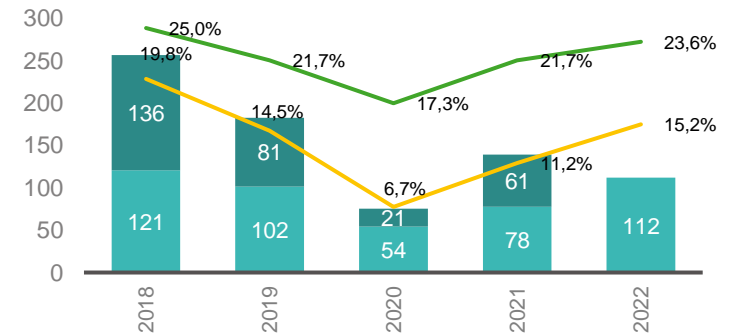
Stable revenues with higher order levels of decorative and platinized applications compensating lower demand for precious metal-based electrolytes

Electro-Optic Materials

Slightly higher revenues driven by strong demand for germanium substrates from the space and automotive industry



Adjusted EBIT (m€) & EBIT(DA) margin



Zoom in on Rechargeable Battery Materials (RBM)

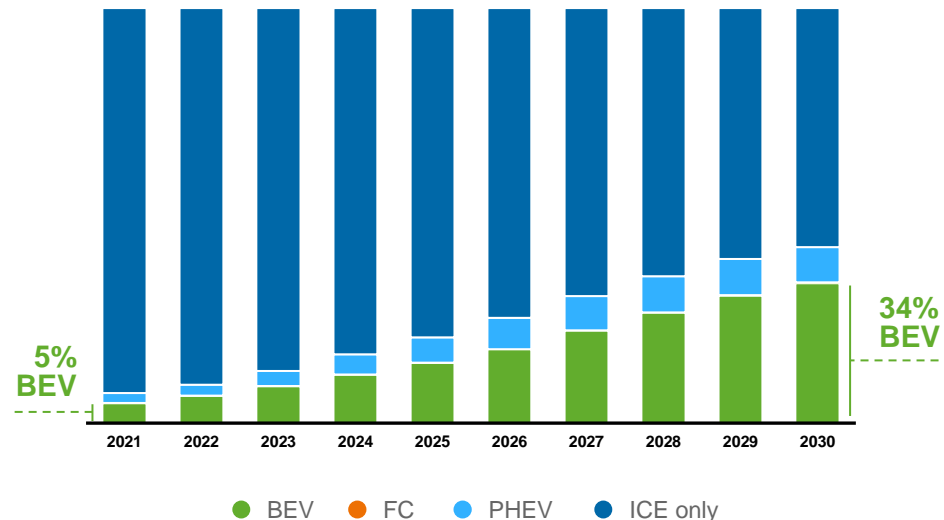
Electrification increasing at fast pace, triggered by regulatory push and OEM commitments



Light-duty vehicles

Proportion by powertrain in global car production

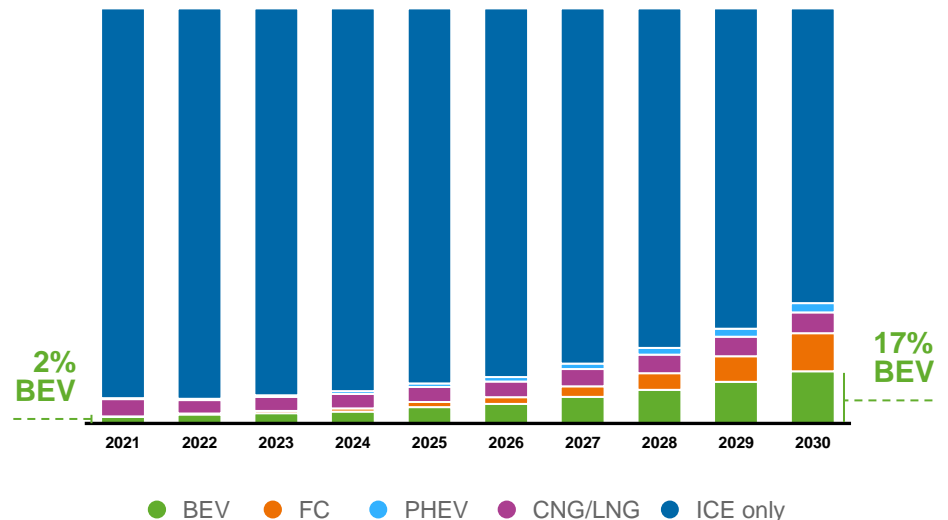
Source: Umicore market model



Medium- and Heavy-duty vehicles

Proportion by powertrain in global car production

Source: Umicore market model



BEV: battery electric vehicle

FC: fuel cell vehicle

CNG/LNG: Compressed natural gas / Liquefied natural gas

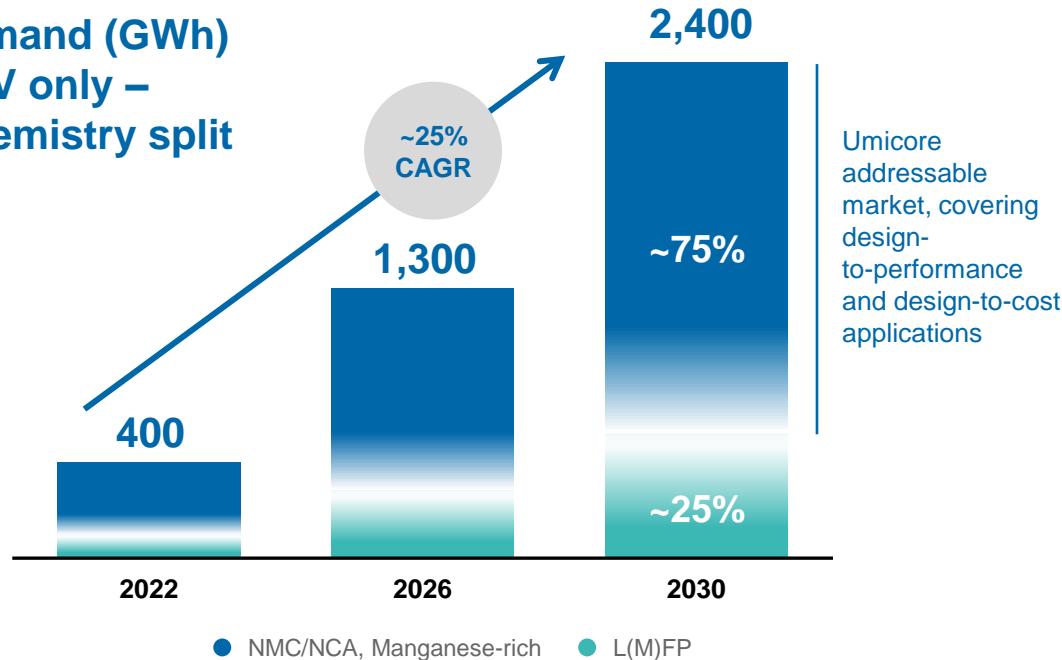
PHEV: plug-in (hybrid) vehicle

ICE: internal combustion engine (gasoline/diesel) only

Umicore chemistries addressing ~75% of total Light-duty EV CAM demand



Global CAM demand (GWh) LDV only – Chemistry split



Source: Umicore market model

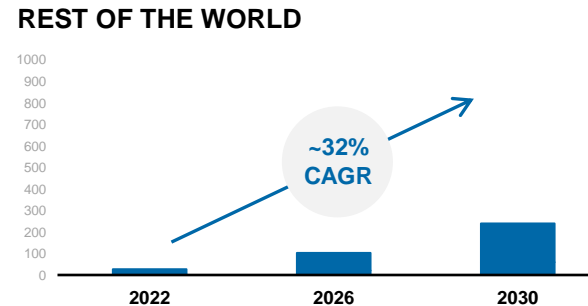
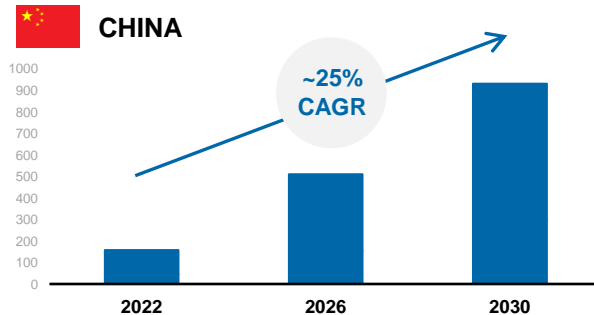
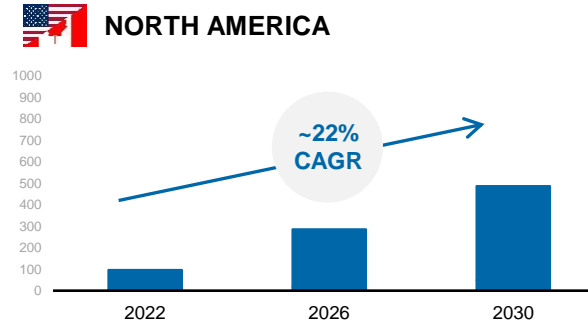
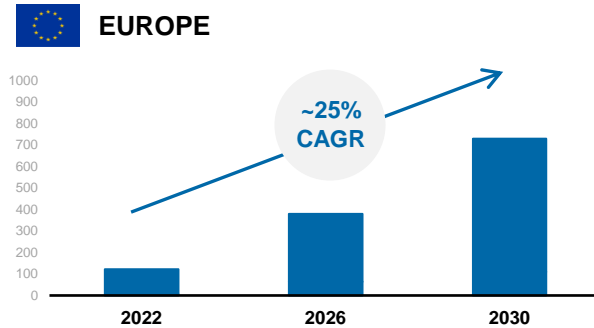
Evolving technologies reflecting car OEMs' need for performance- and cost-focused solutions

NM(C) chemistries (incl. Mn-rich) represent vast majority of EV CAM demand in 2030

Solid-state batteries expected to gain traction based on NMC, with a single digit market share expected towards 2030

>20% annual market growth across all regions

CAM demand (GWh) across regions LDV only



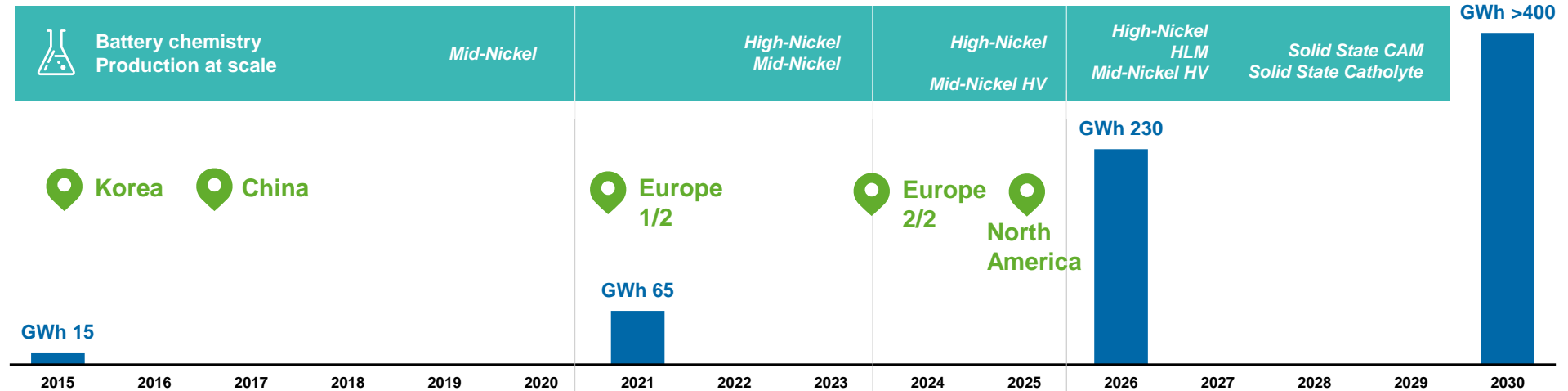
Europe, China and North America expected to represent ~90% of total LDV CAM demand

Ongoing regionalization of supply chain:

- Geopolitical context
- OEMs' sustainability considerations
- Security of supply

Source: Umicore market model

Rechargeable Battery Materials - the plan to 2030



1. Pioneering Battery Materials

- Starting of CAM R&D in 1995
- Early move into industrial scale CAM production
- Business-model: **OEM Tier 2** / direct to cell makers
- Technical interface: cell makers

2. Re-Shaping

- Market shift to **OEM Tier-1** involvement business models, next to cell makers
- Technical interface: OEM
- Customer and platform diversification
- Pioneering new **OEM co-investment** / partnership model to secure demand and share investments

3. Ramping-up

- Expanding **global footprint** to support customer SC needs **“from mine to battery”**
- Accelerate implementation of **advanced chemistries roadmap & SSB**

4. Value creative growth

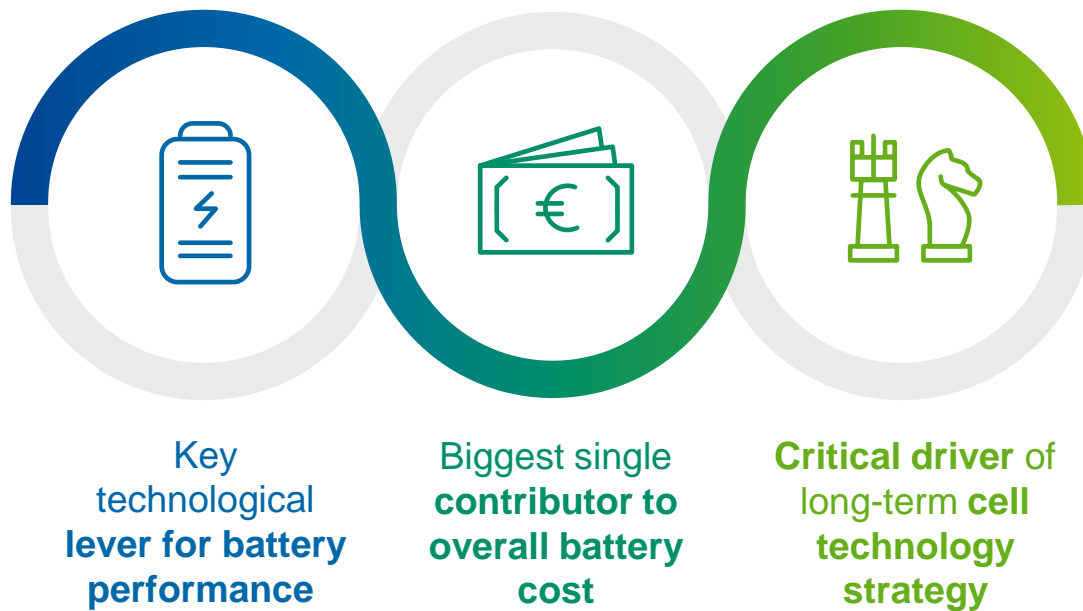
- **Significant growth** in sweet-spot phase for returns
- Visible impact of Umicore Scope 3 initiative to decarbonize BEV supply chain
- Full roll-out of advanced CAM technologies / SSB



Cathode active materials crucial for the mobility transformation ...



CAM critical component determining electrification success



... requiring critical competences and skills for CAM producers to succeed

Product



High performance and quality
product with customized end specs

Joint development with customers
and partners

Strong **technology and IP portfolio**
and **continuous innovation**

Process



Mastering **complexity and flexibility** of production process

Continuous **industrialization and process innovation**

Extensive **quality and purity control**

Supply



Strategic access to raw materials
– low carbon intensity, highest ESG requirements

Metal refining expertise
enhancing supply flexibility

Regionalized production footprint along value chain

Ample opportunities for differentiation and gaining advantage over competitors

Rechargeable Battery Materials – RISE

Capture profitable growth and create sustainable value



<p>Extend leadership in Europe</p> <hr/> <p>Enter North America with local production</p> <hr/> <p>Reinforce market position in Asia</p>	<p>R</p> <p>Reliable Transformation Partner</p>	<p>I</p> <p>Innovation & Technology Leader</p>	<p>S</p> <p>Sustainability Champion</p>	<p>E</p> <p>Excellence in execution</p>
	<p>VALUE CREATIVE STRATEGIC PARTNERSHIPS ACROSS THE VALUE CHAIN</p>	<p>TECHNOLOGY & IP PORTFOLIO COVERING PERFORMANCE & COST</p>	<p>KEY PARTNER IN TRANSITION TO LOW CARBON MOBILITY</p>	<p>STEP-CHANGE IN PROCESS, OPERATIONAL AND ORGANIZATIONAL EXCELLENCE</p>

Sustainable EBITDA growth with margins ~ 20% in 2030
Value accretive after 2026



Recycling



Recycling overview

Precious Metals Refining

We operate the world's most sophisticated precious metals recycling facility and we are experts in treating the most complex materials. Our refining and recycling technology gives used metals a new lease of life. Our processes help bring value to the circular economy.

Ag	Te	Sb	Ir	Pt	Bi
Pb	Au	Sn	In	As	Ni
Se	Ru	Pd	Rh	Cu	

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.

Ag	Pt	Au	Ir
Ru	Pd	Rh	

Jewelry & Industrial Metals

We are 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.

Ag	Au	Pt
Pd	Rh	

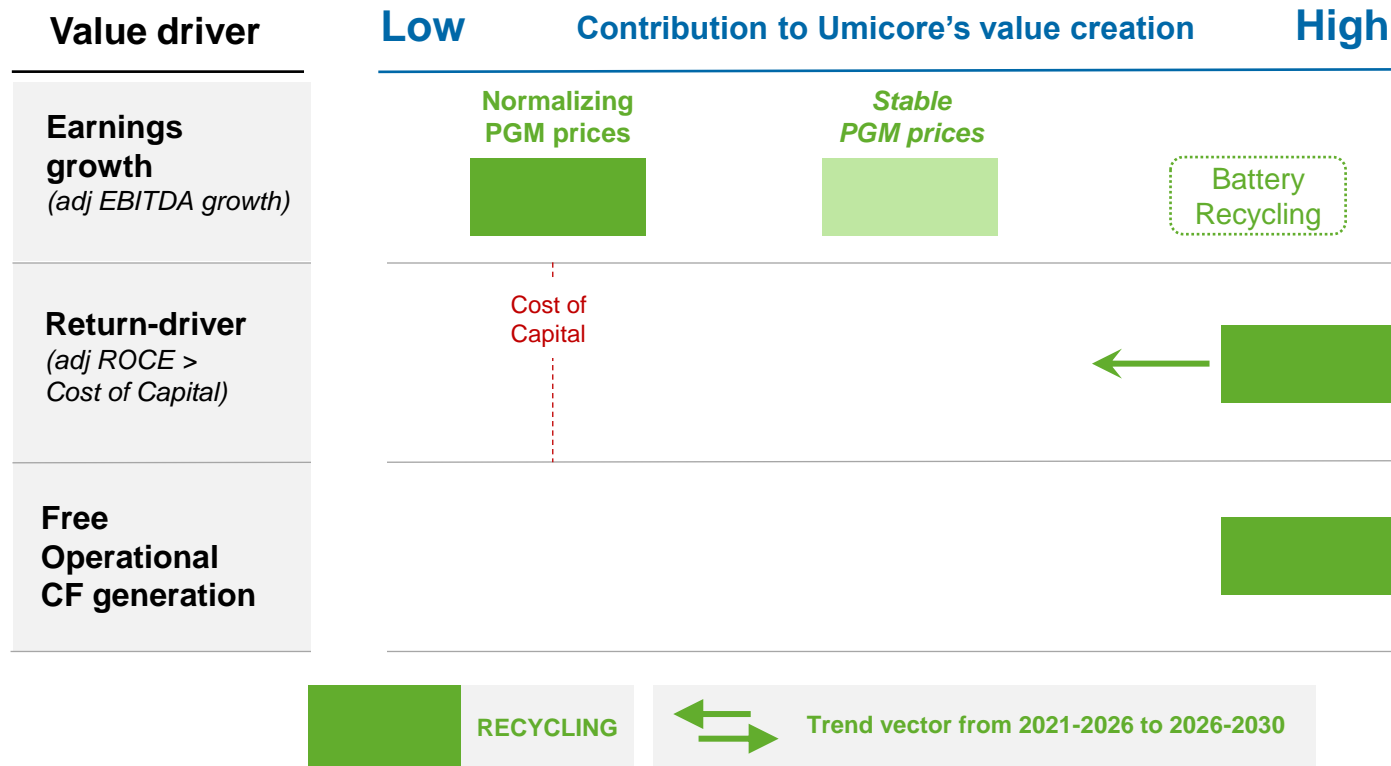
Battery Recycling Solutions

Our leading technology closes the loop 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.

Ni	Co	Li	Cu
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Recycling

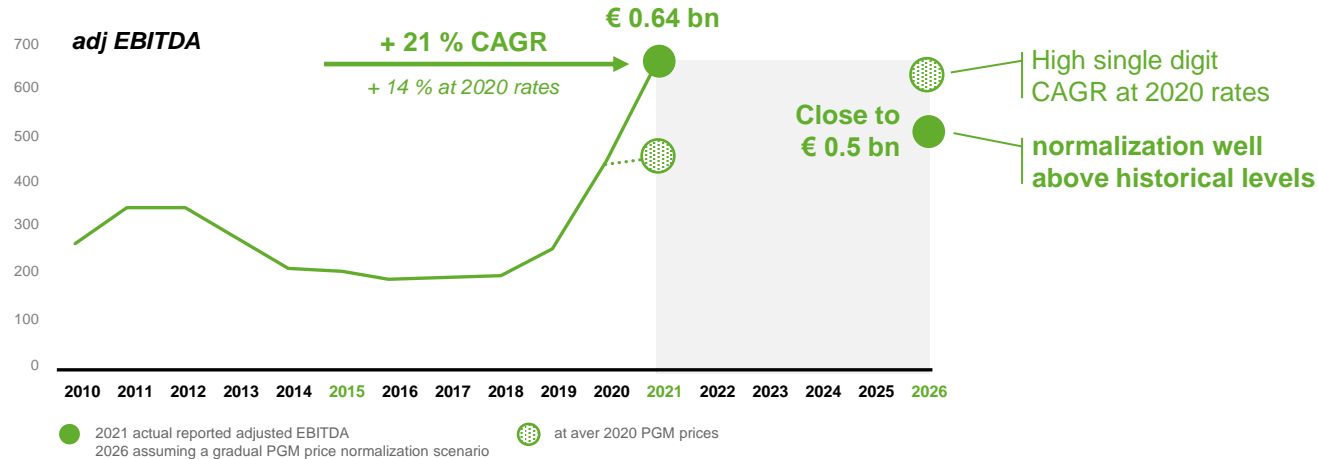
Balancing growth, returns and cash flows



- Earnings path to depend on prevailing metal prices
- Initial battery recycling payback second half of decade
- Highly value creative returns across the plan (even with lower metal prices)
- Battery recycling capital investment to somewhat dilute returns
- Significant free cash flows despite important mid-decade battery recycling investments

Recycling

Strong margins, returns & cash flows and Battery Recycling kicking in mid-decade



	2021	2026 ambition	2030 vision
Revenues	€ 1.11 bn	> € 1.0 bn	> € 1.0 bn
adj EBITDA	€ 0.64 bn	close to € 0.5 bn	
margin	58 %	> 40 %	< 40 %
Battery Recycling in % of adj EBITDA	n.r.	< 10 %	> 30 %

Sizeable additional battery recycling growth potential

Earnings dependent on assumed metal prices but continue to generating superior margins even at normalized PGM prices

Includes substantial **Battery Recycling Solutions** - related development costs up to 2025

Includes one initial large-scale battery recycling plant, operational by 2026 with full contribution by end of the decade. Potential for additional growth

Substantial free cash flow generation, accelerating as from battery recycling plant commissioning

Recycling H1 2022

Revenues -18% and adj. EBITDA margin 47.8%

Very strong performance, well above historical levels, albeit below record H1 21

Precious Metals Refining

Robust operational performance with stable volumes YoY

Below H1 21 record performance, reflecting impact of lower PGM-prices, a somewhat less favorable supply mix and cost inflation

Jewelry & Industrial Metals

Strong performance across all product lines

Continued strong demand for platinum engineered materials used in glass applications and performance catalysts

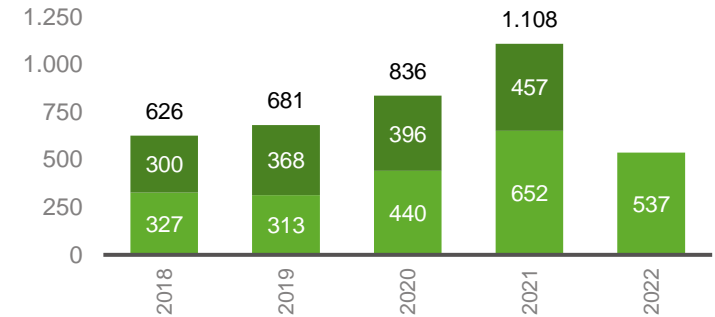
Higher volumes for investment products, benefitting from safe-haven buying

Precious Metals Management

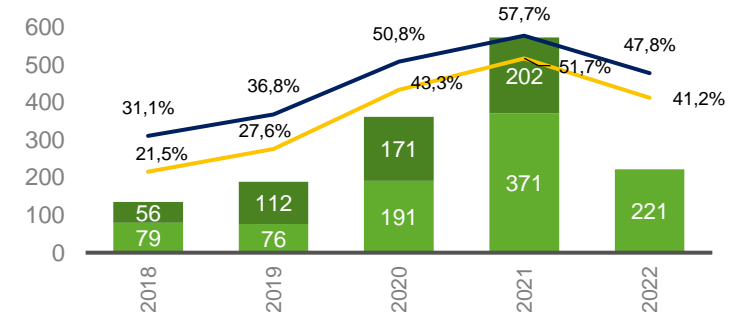
Strong performance, however, below exceptional H1 21, reflecting less favorable trading conditions, in particular for rhodium

Revenues (m€)

● H1 ● H2 ● EBITDA margin ● EBIT margin



Adjusted EBIT (m€) & EBIT(DA) margin



Zoom in on Precious Metal Refining (PMR) and Battery Recycling Solutions (BRS)

Recycling: Precious Metals Refining as solid platform to enable success in Battery Recycling



EBITDA



Precious Metals Refining

Undisputed leader in complex precious metals recycling with minimized carbon footprint

>30%
of Business
Group
EBITDA

Battery Recycling

2022

Battery Recycling: Pioneer in Europe

- Leverage 10kt plant and recycling know-how to establish strong position
- Prepare high-volume plant in EU

2026

Battery Recycling: Scale-up in Europe and prepare entry in North America

- Launch 150kt plant in 2026 as pioneer in Europe
- Umicore Pyro/Hydro technology best in cost and sustainability

2030

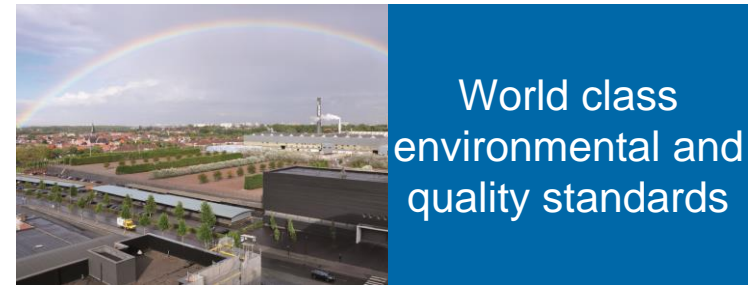
Recycling Business Group maintaining superior returns despite normalizing PGM prices, investing in battery recycling and sustainability

Precious Metal Refining

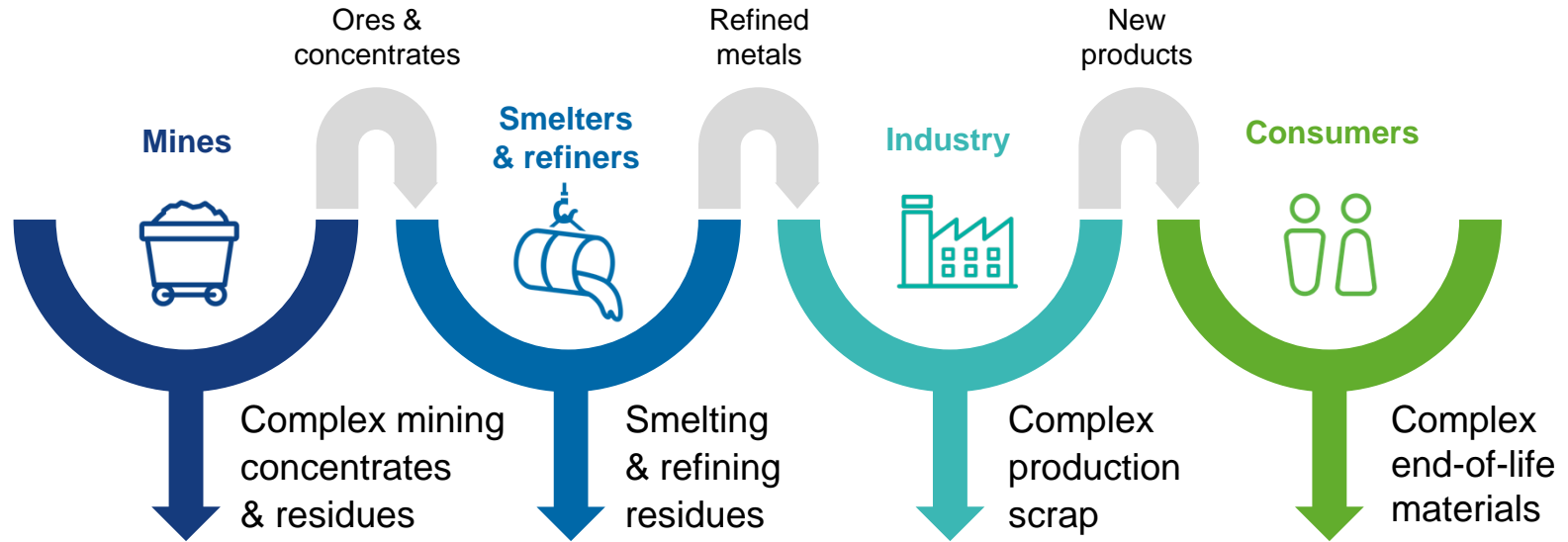
Largest and most complex precious metals recycling operation in the world



Processes more than 200 different types of raw materials



The value chain of metals



Industrial by-products

End-of life materials

Revenue Drivers



Main revenue drivers

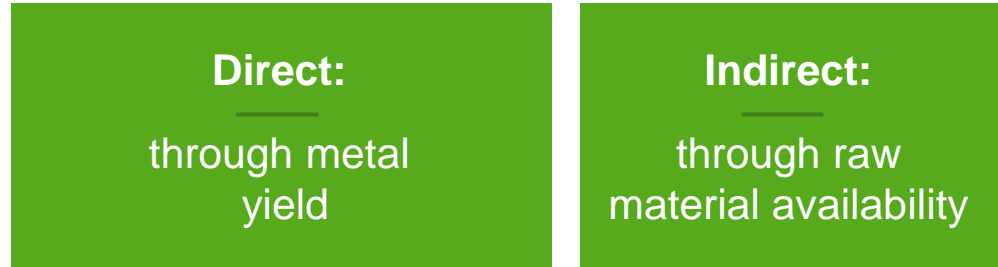
Treatment & refining charges

Treatment charges are determined, among other criteria, by the complexity of the materials

Metal yield

Umicore assumes the risk of recovery above or under the contractually agreed recovery rate

Metal price exposure



Ag	Au								
		Pt	Ir	Rh					
		Ru	Pd						
					In	Sb	As		
					Te	Sn	Pb		
					Bi	Cu			
					Ni	Se			

Managing the effects of metal price movements on earnings

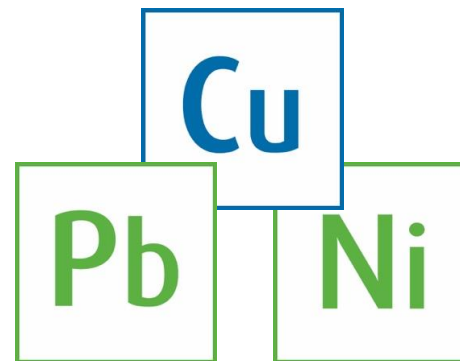
Systematic hedging of transactional exposure

Depending on market conditions hedging of (part of) structural metal price exposure through contractual arrangements

Impact on working capital is mitigated by toll-refining – metals remain property of the supplier during treatment

Umicore has unique technology

Umicore is unique due to its proprietary complex flowsheet that combines three metallurgical streams



This enables

Flexibility to treat a broad range of input materials

Recovery & valorization of the most metals

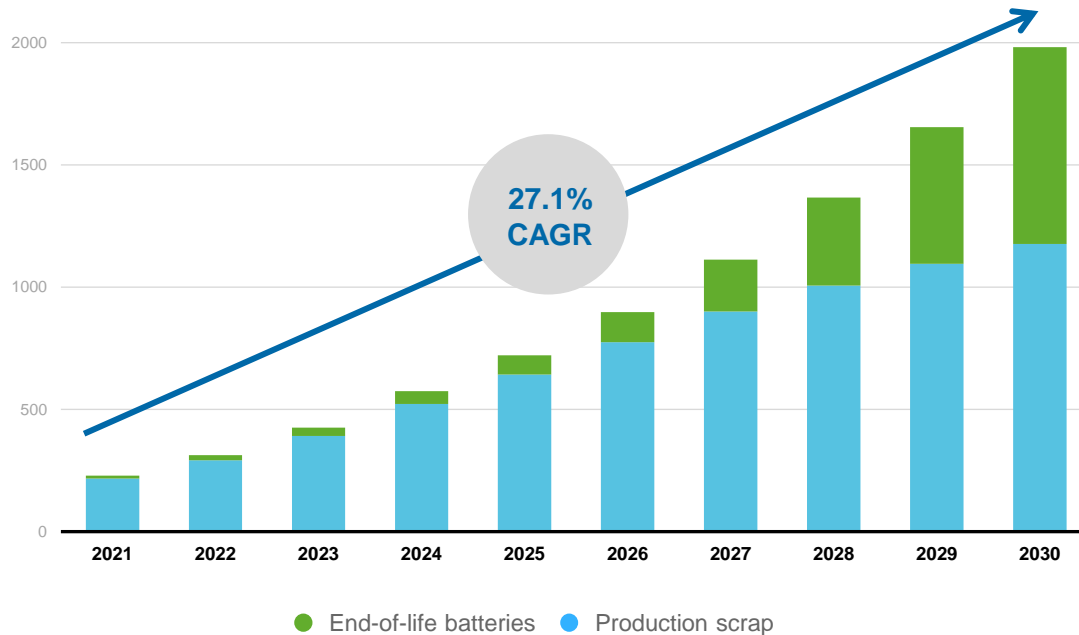
Ability to optimize feed and therefore profitability

Scope to broaden to new types of materials in future

- Umicore technology guarantees **environmentally friendly** processing, a high yield and a more competitive cost
- Umicore introduced its unique Ultra High Temperature technology for Battery Recycling more than 5 years ago

Production scrap primary source of supply towards 2030

End-of-life EV batteries and production scrap available for recycling (kMT, global)



Source: Umicore forecast data

Continuous startup of battery plants expected to produce significant pre-consumer scraps

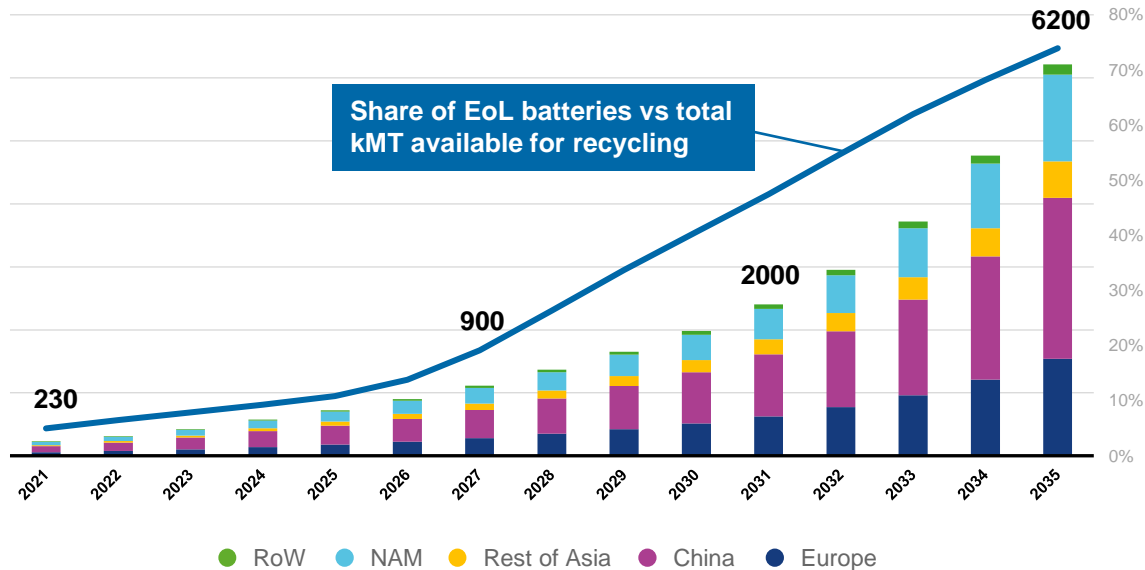
Diverse and complex input feed mix

Diversified, flexible and robust recycling technology crucial

Global recycling need accelerating significantly post 2030

Robust technology to cope with feed mix changes

End-of-life EV batteries and production scrap available for recycling – per region (kMT, global)



Source: Umicore forecast data

From 2030 end-of-life expected to become the vast majority of supply feed

Regional markets expected to emerge with specific dynamics (differentiated applications and battery technologies, regulation,...)

Importance of tuning offering for the different regional markets

Recycling is crucial for the mobility transformation...

Recycling as critical additional source of supply

**SECURING
RAW
MATERIALS**

**MAJOR
ESG
ADVANTAGES**

Multiple use of minerals versus single use of fossil fuels

Upcoming recycled content targets for new battery production

Proven and traceable sustainably sourced metals (battery passport)

Enabling regional supply chains and critical material price visibility

Mandatory End-of-Life battery recycling

Reduces the need for primary natural resources

Recycled material up to 96% lower CO2 footprint vs primary materials

...requiring critical competences and skills for battery recyclers to succeed

Process



Effective volume & mass reduction at massive scale (> 100kt/y)

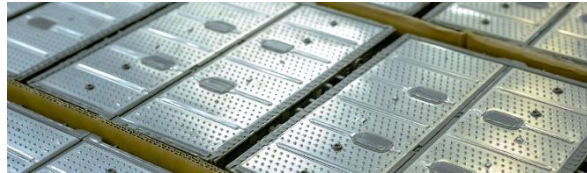
High metal extraction yields

Capable to process complex feed mix

Sustainable process:

- Safe elimination of hazardous compounds
- Manage occupational health exposure risk
- Low environmental impact

Product



Output of high-quality battery grade materials (no downcycling)

Realize effective compatibility with existing primary CAM-flowsheet

Products for high-volume addressable markets

Services



Capability to collect and treat a wide variety of materials (production scrap, off-spec components, end-of-life batteries, modules, cells, black mass)

Closed-loop operating system offering our partners a user-friendly interface and compliancy information

Competence center with integrated offering – “design for circularity”

Battery Recycling Solutions – RISE

Capture profitable growth in circular battery value chain

<p>Scale up as frontrunner in Europe and prepare industrial presence in North America</p> <hr/> <p>Leverage the optimal pyro-hydro balance as differentiating technology</p> <hr/> <p>Attract multiple sources for short- and long-term feed</p>	<p>R</p> <p>Reliable Transformation Partner</p>	<p>I</p> <p>Innovation & Technology Leader</p>	<p>S</p> <p>Sustainability Champion</p>	<p>E</p> <p>Excellence in execution</p>
	<p>SUPPORTING OUR CUSTOMERS WITH A CIRCULAR OFFERING FROM THE START, READY TO ACCELERATE TOGETHER</p>	<p>SCIENCE MEETS BUSINESS: LONG-STANDING MATERIALS AND TECHNOLOGY KNOW-HOW</p>	<p>KEY ENABLER FOR THE CIRCULAR ECONOMY</p>	<p>SCALABLE TECHNOLOGY DELIVERING ON MARKET REQUIREMENTS</p>

Establishing Battery Recycling Solutions as key enabler for a circular and low-carbon battery value chain



Financial KPIs H1 2022

Financial KPIs

in m€	FY 2020	FY 2021	H1 2022
Turnover	20.710	24.054	13.839
Revenues (excluding metal)	3.239	3.963	2.147,9
Adjusted EBITDA	804	1.251	601
Adjusted EBIT (*)	536	971	461,0
of which associates	8	21	11
Total EBIT	299	896	441
Adjusted EBIT margin	16.3%	24.0%	21.0%
Adjusted net profit, Group share	322	667	321
Adjusted Earning per share	1,34	2,77	1,34
Net profit, Group share	131	619	309
R&D expenditure	223	245	141
Capital expenditure	403	389	189,8
Net cash flow before financing	99	787	230
Total assets, end of period	8.341	9.045	10.259
Group shareholders' equity, end of period	2.557	3.113	3.410
Consolidated net financial debt, end of period	1.414	960	955
Gearing ratio, end of period	35.0%	23.3%	21.6%
Net debt / LTM adj. EBITDA	1,76x	0,77x	0,88x
Capital employed, end of period	4.457	4.377	4.475
Capital employed, average	4.451	4.384	4.426
Return on capital employed (ROCE)	12.1%	22.2%	20.8%
Workforce, end of period (fully consolidated)	10.859	11.050	11.350
Workforce, end of period (associates)	2.460	2.589	2.702
Accident frequency rate	2,52	3,70	3,85
Accident severity rate	0,47	0,12	0,08

Business Group key figures

CATALYSIS

(in million €)	FY 2020	FY 2021	H1 2022
Total turnover	5.917	8.155	3.907
Total revenues (excluding metal)	1.364	1.687	897
Adjusted EBITDA	234	402	206
Adjusted EBIT	154	326	170
Total EBIT	96	308	168
Adjusted EBIT margin	11.3%	19.3%	18.9%
R&D expenditure	139	142	72
Capital expenditure	64	70	23
Capital employed, end of period	1.727	1.551	1.486
Capital employed, average	1.596	1.743	1.519
ROCE	9.6%	18.7%	22.4%
Workforce, end of period (fully consolidated)	3.073	3.007	3.033

ENERGY & SURFACE TECHNOLOGIES

(in million €)	FY 2020	FY 2021	H1 2022
Total turnover	2.811	3.534	2.229
Total revenues (excluding metal)	1.045	1.174	717
Adjusted EBITDA	186	262	172
Adjusted EBIT	75	139	112
of which associates	5	8	3
Total EBIT	(36)	141	112
Adjusted EBIT margin	6.7%	11.2%	15.2%
R&D expenditure	58	64	41
Capital expenditure	252	219	129
Capital employed, end of period	2.133	2.275	2.484
Capital employed, average	2.209	2.198	2.380
ROCE	3.4%	6.3%	9.4%
Workforce, end of period (fully consolidated)	3.761	3.836	3.981
Workforce, end of period (associates)	727	792	809

RECYCLING

(in million €)	FY 2020	FY 2021	H1 2022
Total turnover	13.904	15.609	9.075
Total revenues (excluding metal)	836	1.108	537
Adjusted EBITDA	425	640	257
Adjusted EBIT	362	573	221
Total EBIT	311	529	217
Adjusted EBIT margin	43.3%	51.7%	41.2%
R&D expenditure	10	13	13
Capital expenditure	72	83	30
Capital employed, end of period	447	461	426
Capital employed, average	502	345	443
ROCE	72.0%	165.9%	99.9%
Workforce, end of period (fully consolidated)	2.769	2.867	2.930

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materials for a better life