

# Aurubis AG

## Metals for Progress

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Hauck & Aufhäuser  
Roadshow – Aurubis AG in Paris

September, 12th 2023

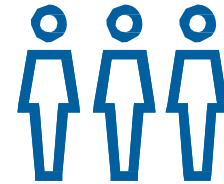


# Aurubis: We are experts for metals.



Successful in  
**20** countries on  
**3** continents

**> 7,100 x**  
passion and  
engagement



**157 years**

of experience in the  
production of non-  
ferrous metals



One of the  
worldwide leading  
companies in  
copper recycling

about **1 million t**



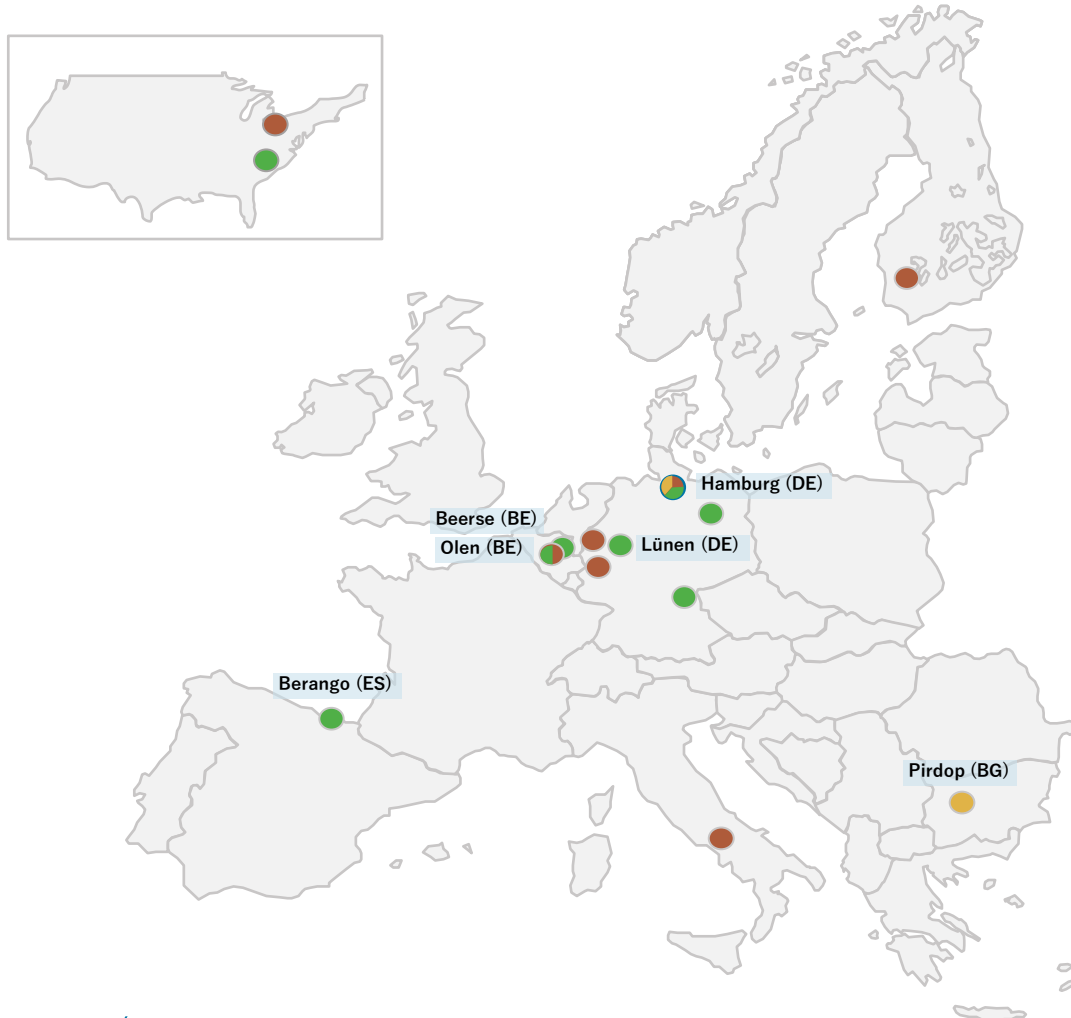
of recycling materials  
are processed by Aurubis  
on a yearly basis



different **metals**  
are recovered by  
Aurubis

# Aurubis production & sales footprint

○ Headquarters ● Primary Copper ● Recycling/Precious Metals ● Copper Products



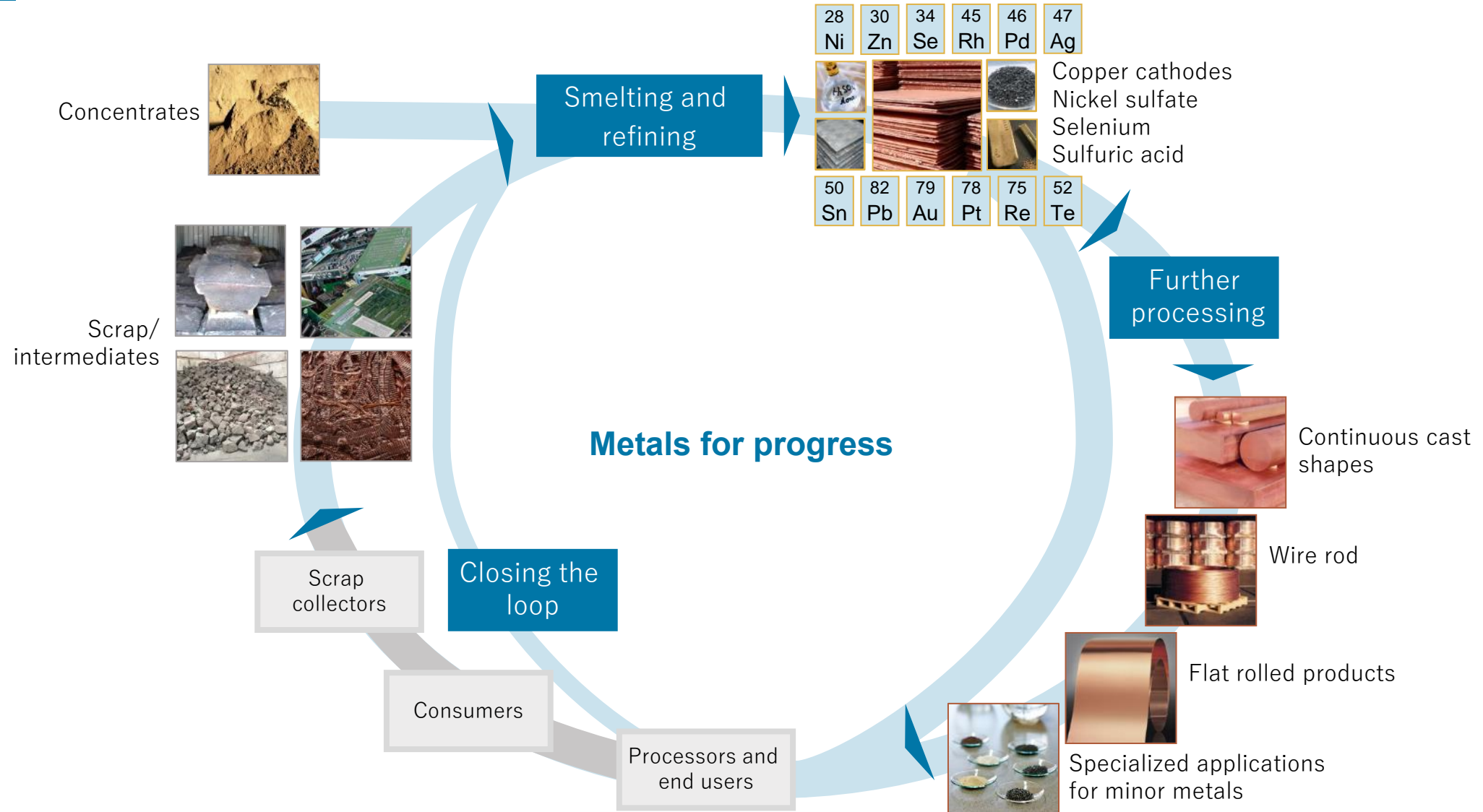
Aurubis operates a closely linked network of **6 key plants in Europe** with a focus on **smelting and refining primary and recycling raw materials**

Furthermore, Aurubis operates a network of 8 plants in Copper Products




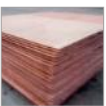




- Rod: Hamburg, Olen, DG Emmerich, Avellino
- Shapes: Hamburg, Schwerm Metall (JV w/Wieland)
- Flat Rolled Products: Stolberg, Pori, Buffalo


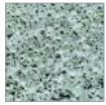


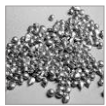



Aurubis has a **service and sales network in more than 20 countries** (Europe, Asia, and North America)

# Closing the loop is part of Aurubis' integrated business model



# Increased concentrate throughput and strong product demand

	FY 2021/22	Change vs. prior year
 Concentrate processing <sup>1</sup>	2,429,000 t	+8 %
 Copper scrap/blister copper input <sup>2</sup>	540,000 t	-1 %
 Other recycling materials <sup>2</sup>	524,000 t	-3 %
 Cathode output	1,111,000 t	+0 %
 Continuous cast wire rod output	880,000 t	+1 %
 Copper shapes output	218,000 t	+17 %
 Flat rolled products + specialty wire output	176,000 t	-8 %
 Sulfuric acid output	2,296,000 t	+9 %

	FY 2021/22	Change vs. prior year
 Gold	47 t	-8 %
 Silver	911 t	-4 %
 Lead	44,016 t	+8 %
 Nickel	3,863 t	-1 %
 Tin	9,340 t	-7 %
 Zinc	13,917 t	-24 %
 Minor metals	867 t	-11 %
 Platinum group metals (PGMs)	9,514 kg	+9 %

<sup>1</sup> Custom smelter production <sup>2</sup> Prior-year figures adjusted

# Executive summary of first 9 months 2022/23

<p>Operating EBT 9M 2022/23 of <b>€ 406 million</b> (PY: € 426 million)<sup>1</sup></p>	<p>ROCE <b>15.1 %</b> (PY: 17.1 %)<sup>1</sup></p>	<p>Aurubis' positive development continues with strong nine-month figures for FY 2022/23 at the very high level of the previous year</p> <hr/> <p>Good concentrate markets; the increased cathode premium and high wire rod demand led to very good Q3 2022/23 figures, despite a lower metal result and lower sulfuric acid revenues. Lower energy costs due to a drop in gas and electricity prices, active energy management, and an insurance payout with positive impact on Q3 results</p> <hr/>
<p>Net cash flow <b>€ 73 million</b> (PY: € 11 million)<sup>1</sup></p>	<p>Forecast FY 2022/23 <b>€ 450–550 million</b> op. EBT</p>	<p>Operating ROCE lower due to temporarily high inventories and high investment payments for realizing our growth strategy, but still slightly above targeted level</p> <hr/> <p>Maintenance shutdown in Pirdop very well executed in budget and on time, ongoing stable operating performance at our primary smelter in Hamburg</p> <hr/> <p>Net cash flow improved with inventories remaining high due to the shutdown in Bulgaria – inventories will be released during Q4 of FY 2022/23</p>

<sup>1</sup> Prior-year figures adjusted

**» Aurubis confirms forecast range of € 450–550 million operating EBT for FY 2022/23**



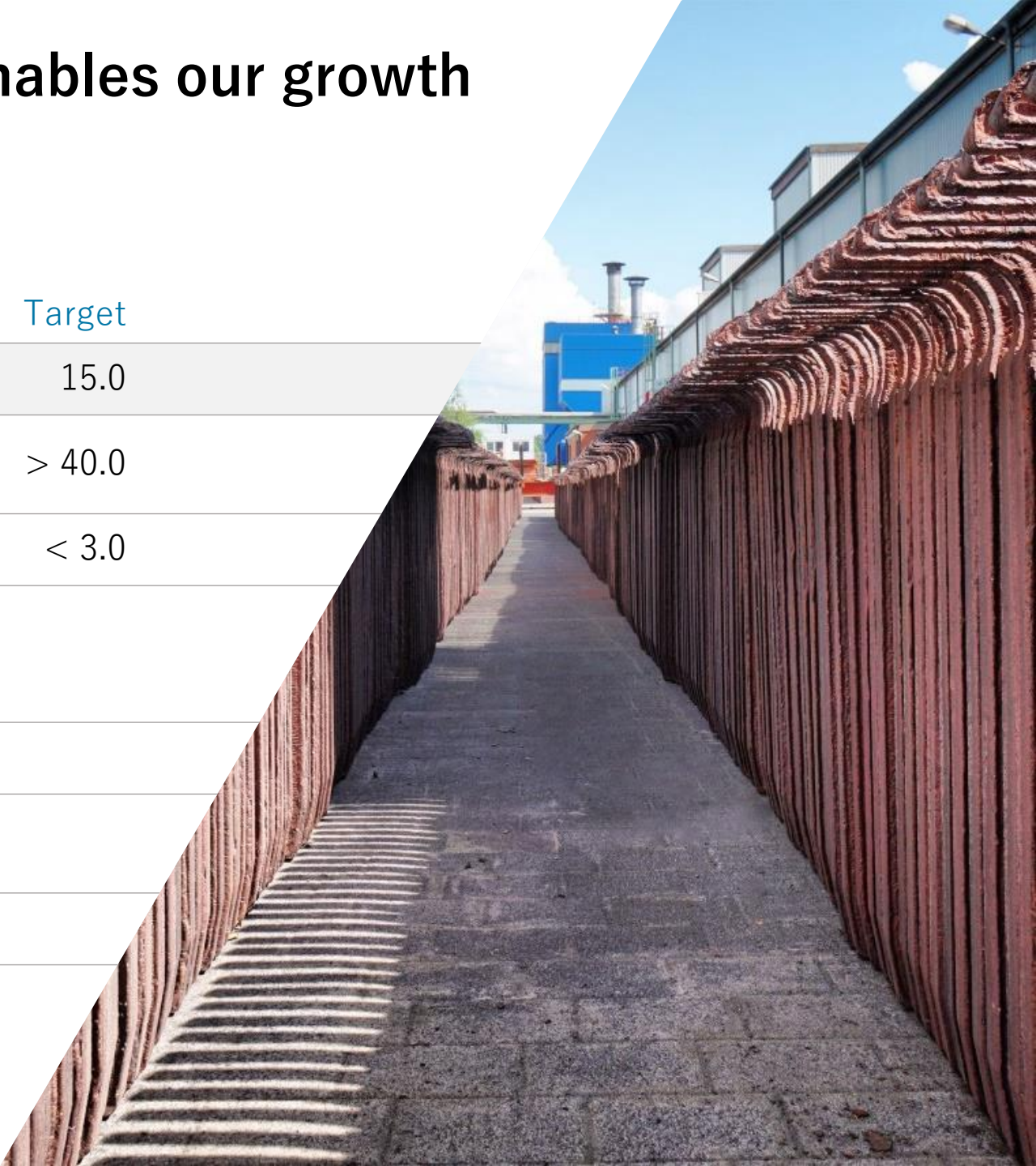
# Aurubis' strong financial position enables our growth strategy

		9M 2022/23	9M 2021/22 <sup>3</sup>	Target
ROCE <sup>1</sup>	%	15.1	17.1	15.0
Equity ratio (equity/total assets)	%	57.5	54.0	> 40.0
Debt coverage <sup>2</sup>		0.0	-0.2	< 3.0
Additional KPIs				
		9M 2022/23	9M 2021/22	
Capital expenditure	€m	374	225	
Capital employed (balance sheet date)	€m	3,457	2,980	
Net cash flow	€m	73	11	

<sup>1</sup> Rolling EBIT last 4 quarters

<sup>2</sup> Net financial liabilities/rolling EBITDA last 4 quarters

<sup>3</sup> Prior-year figures adjusted



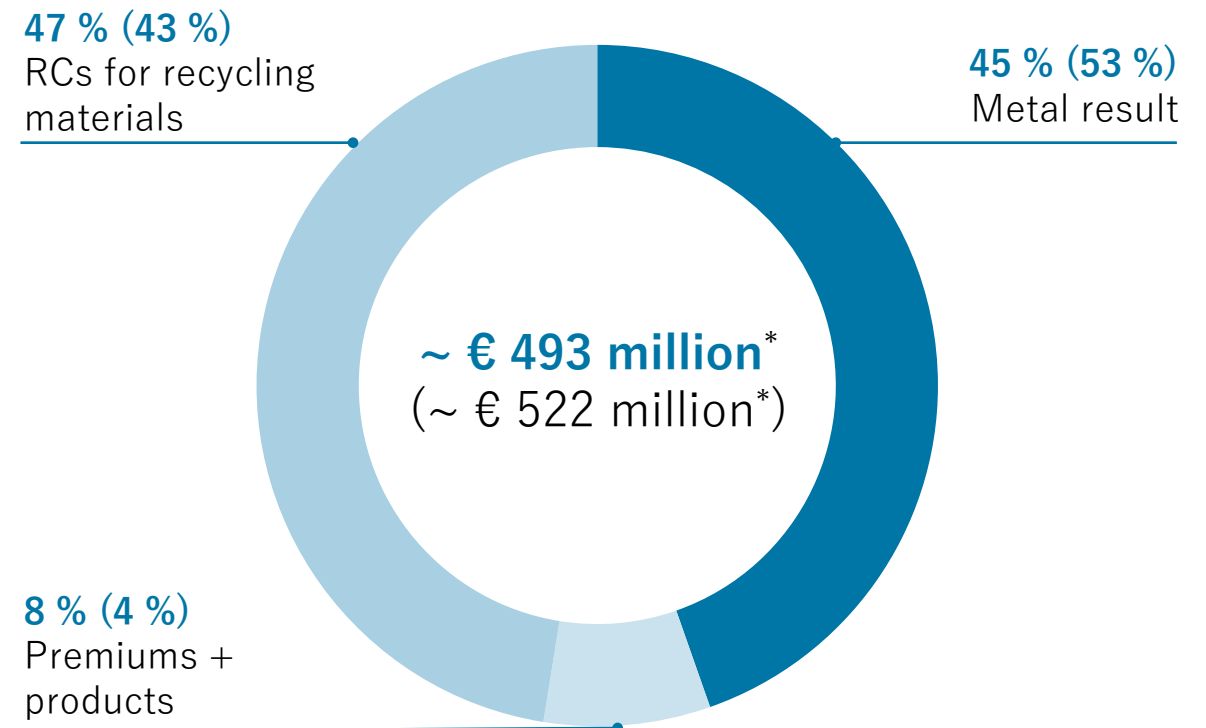
# Multimetal Recycling segment

		9M	9M
Operating results		2022/23	2021/22 <sup>2</sup>
EBIT	€m	141	186
<b>EBT</b>	<b>€m</b>	<b>143</b>	<b>186</b>
<b>ROCE<sup>1</sup></b>	<b>%</b>	<b>15.8</b>	<b>35.5</b>
Quantities			
Copper scrap/blister copper	mt	253	243
Other recycling materials	mt	391	366
Cathodes	mt	389	385

<sup>1</sup> Rolling EBIT last 4 quarters

<sup>2</sup> Prior-year figures adjusted

Breakdown of income components in MMR segment  
9M 2022/23 YTD (YTD prior-year figures)



\* Gross margin = Total of earnings components metal result, treatment and refining charges for concentrates + recycling materials, and premiums + products



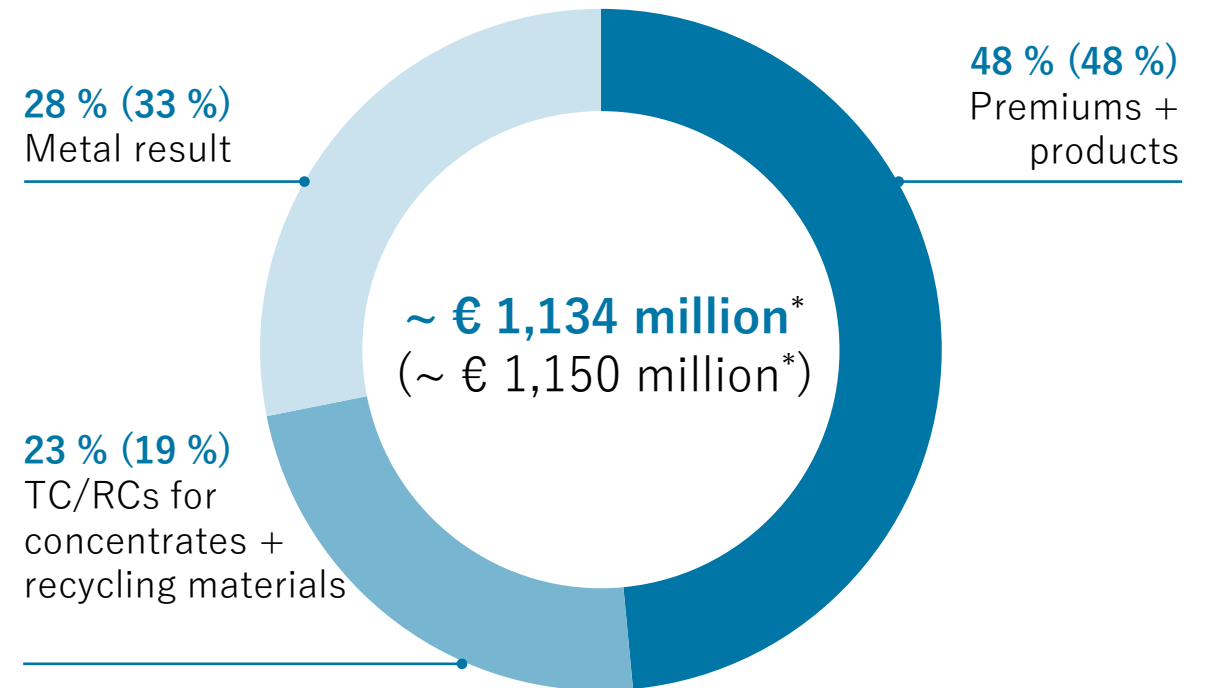
# Custom Smelting & Products segment

		9M	9M
Operating results		2022/23	2021/22 <sup>2</sup>
EBIT	€m	314	294
<b>EBT</b>	<b>€m</b>	<b>322</b>	<b>290</b>
<b>ROCE<sup>1</sup></b>	<b>%</b>	<b>17.5</b>	<b>13.3</b>
Quantities			
Concentrates	mt	1,705	1,780
Copper scrap/blister copper	mt	147	169
Sulfuric acid	mt	1,577	1,693
Cathodes	mt	452	455
Rod	mt	693	675
Shapes	mt	143	170
Flat rolled products and specialty wire	mt	101	136

<sup>1</sup> Rolling EBIT last 4 quarters

<sup>2</sup> Prior-year figures adjusted

Breakdown of income components in CSP segment  
9M 2022/23 YTD (YTD prior-year figures)



\* Gross margin = Total of earnings components metal result, treatment and refining charges for concentrates + recycling materials, and premiums + products

# Our strategy builds on the sound mission of Aurubis and covers all relevant aspects to drive sustainable growth



 **Industry Leadership in Sustainability**

- Enablers**
- Digitalization, automation, and “Plant of the Future”
  - Strategic resource management, talent and personnel development



**» It is our mission to responsibly transform raw materials into metals for an innovative and sustainable world.**

# Growth strategy: CAPEX and EBITDA impact increase significantly

## Short term

Currently approved

Growth capex ~€ 1,150 million approved

**Key projects** Aurubis Richmond Module 1 & 2, Tankhouse Pirdop, CRH, BOB, ASPA, Industrial Heat II, PV 2&3 Pirdop

EBITDA of ~€ 260 million starting 2026/27, thereof ~€ 170 million from Aurubis Richmond

## Medium term

Medium-term planning (next 4 years)

Growth capex ~€ 280 million is included in the medium-term planning

EBITDA ~€ 70 million in addition from planned strategic projects

Additional strategic projects, e.g., the modular recycling system (€ 250–300 million capex)/battery recycling, not yet included but are actively pursued

## Long term

Until 2030

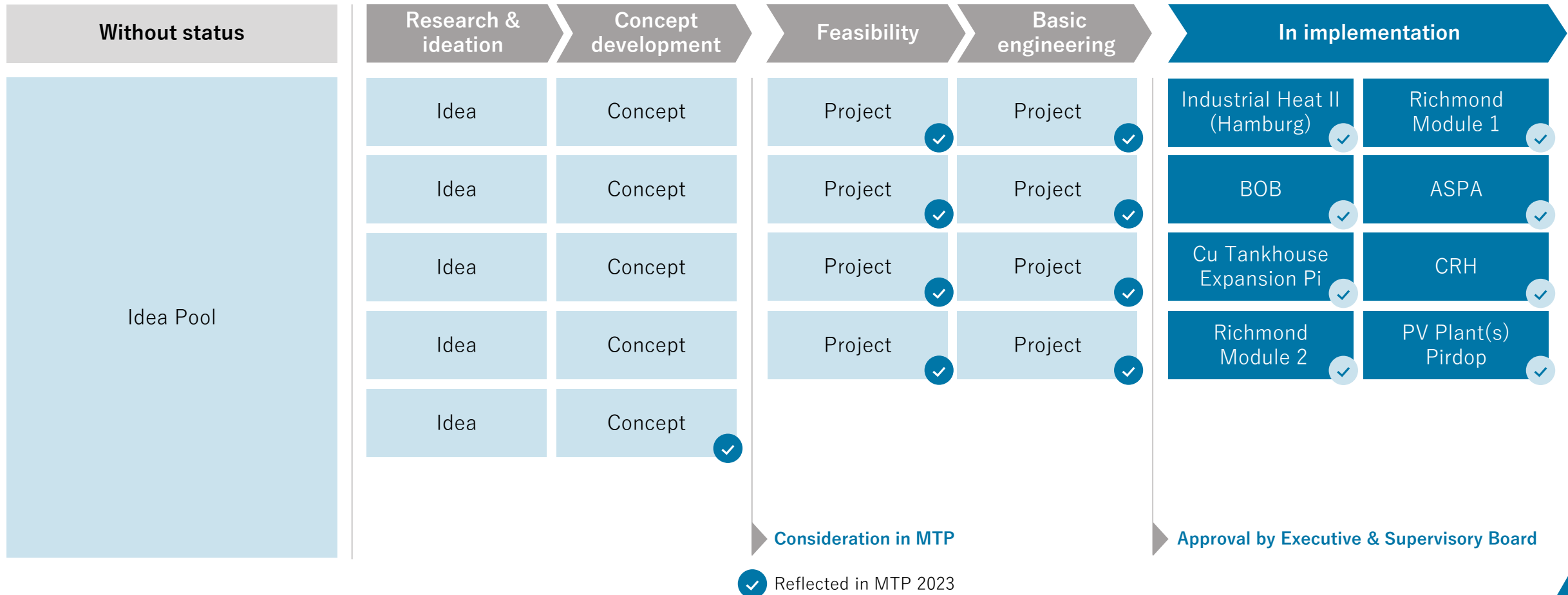
Ambition and scale of our long-term growth and project plans remain at a high level

All capex projects are subject to a sustainability assessment (especially CO<sub>2</sub> contribution)

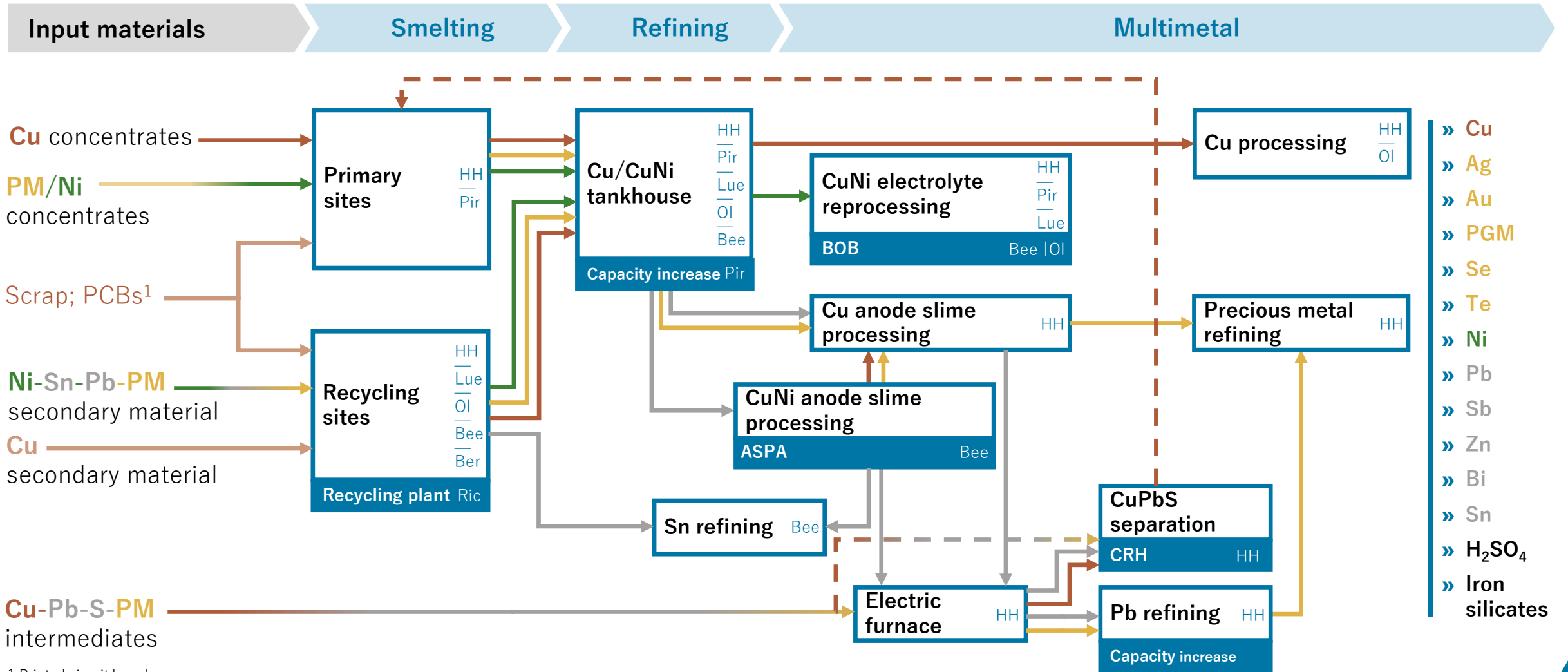
Battery recycling remains a priority growth area

# Strong pipeline features advanced projects included in medium-term planning, plus wealth of nascent concepts to drive sustainable growth

Strategic projects from development to implementation



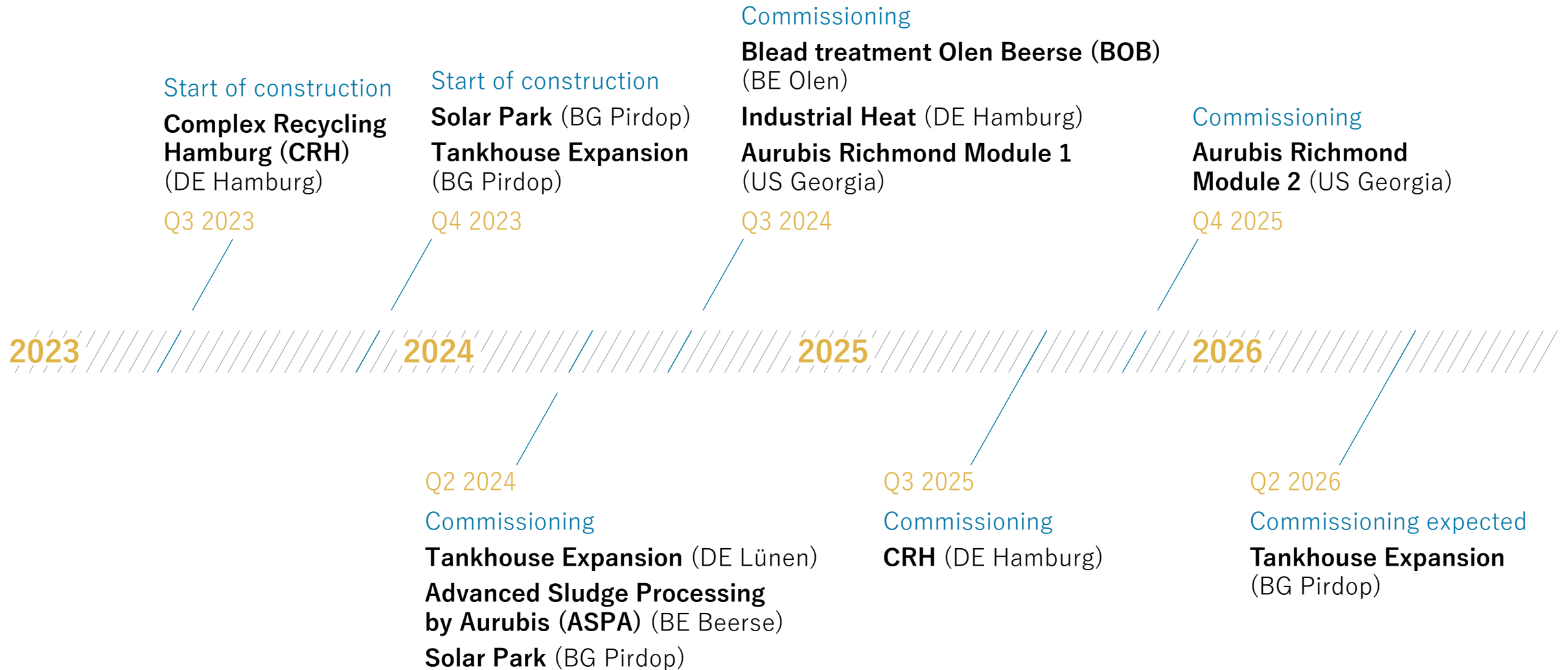
# Expanding our flowsheet with additional smelting furnaces and processes to drive multimetal growth strategy



<sup>1</sup> Printed circuit boards



# Timeline of strategic projects in implementation

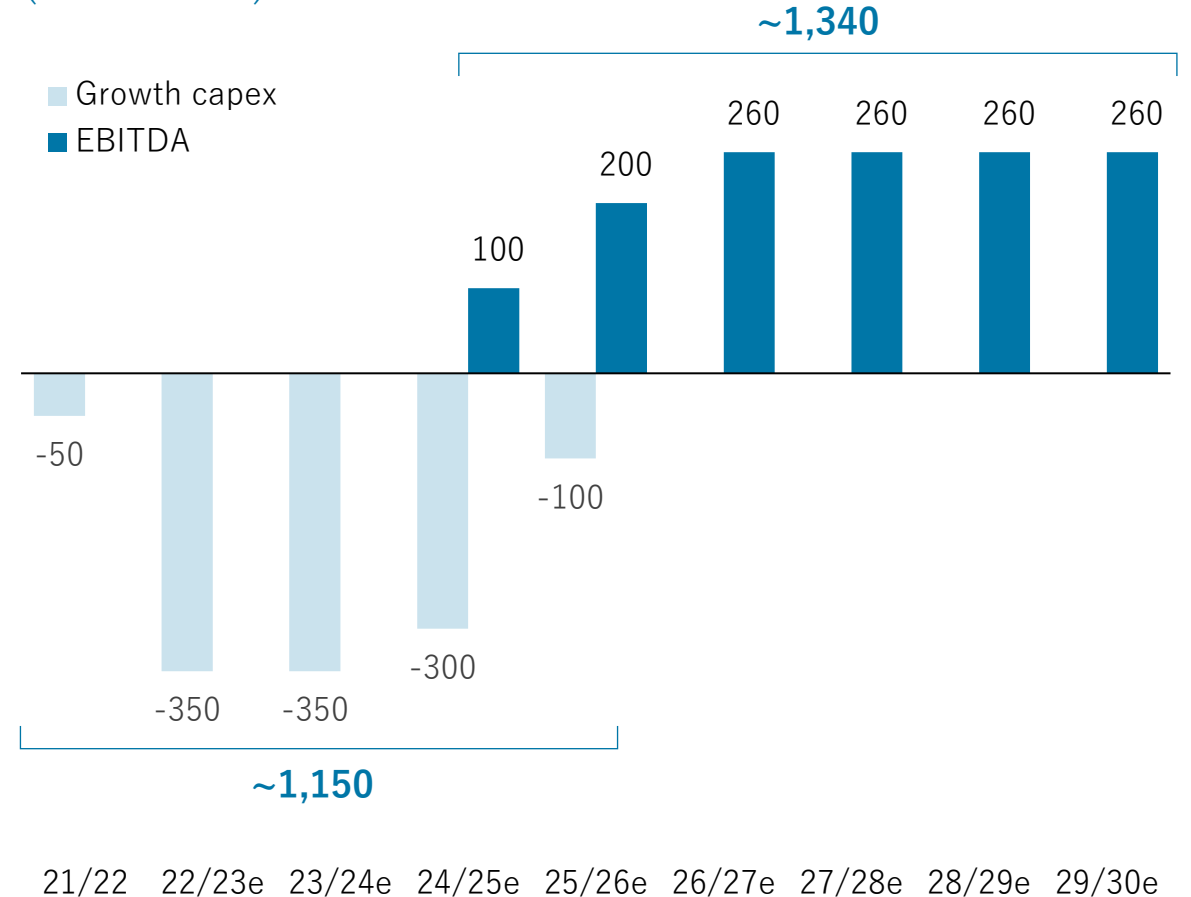


# Accumulated EBITDA to rapidly overcompensate investments

## Growth investments to be translated into profits

- Investing around € 1.2 billion in strategic growth options
- Rapid payback: accumulated EBITDA of € 1.3 billion overcompensates investments as soon as 2030
- Projects will be financed largely from own resources; current debt coverage offers additional headroom
- Balance sheet to become highly supportive for our EBITDA growth ambitions

## Capex & EBITDA contribution from 8 strategic projects (in € million)





# Growth options

## Aurubis Richmond, US – construction work is progressing



08/23/2023

# Aurubis Richmond – the leading processor of electric and electronic recycling materials in the US



## Pursue Growth Options

Investment  
~ € 640 million

EBITDA p.a.

~ € 80 million  
(by 2025/26)

~ € 170 million  
(by 2026/27)

Aurubis Richmond complements and expands our international integrated smelter network with a highly attractive investment in a promising growth market.

The total investment includes additional infrastructure investments and inflation.

Aurubis Richmond establishes us as the front-runner in the US recycling market – tied directly to our strength, innovative expertise, industry-leading metallurgical processes and flexible applications.

With this, Aurubis will become the leading processor of electrical and electronic scrap in the US, by doubling the throughput capacity and output.

~200 new jobs in total.

**Start of production**  
following ramp-up phase

Module 1: **2024**  
Module 2: **2026**

~ **180,000 t**  
input material

~ **70,000 t**  
blister copper output

» Project strengthens the circular economy and underlines Aurubis' ambition to strengthen and expand our position as the most efficient integrated smelter network worldwide



# Secure core business: Complex Recycling Hamburg (CRH) – further optimization of smelting process



CRH








# Secure & strengthen core business

## CRH: Further optimization of the smelting process in Hamburg



<p>Investment ~ <b>€ 190 million</b></p>	<p>EBITDA p.a. ~ <b>€ 40 million</b> (at full production)</p>	<p> <b>Secure</b> Core Business</p> <p></p> <p> <b>Strengthen</b> Core Business</p>	
<p>Start of production following ramp-up phase <b>Q4 2025</b></p>	<p>~ <b>32,000 t</b> p.a. Input of external material</p>	<p>Aurubis is <b>strengthening its core business</b> and investing € 190 million for further optimization of the smelting process at the Hamburg site.</p> <p>Construction of a new TBRC at the Hamburg site incl. process gas cleaning system based on best available techniques (BAT).</p> <p>Processing <b>internal and external value-added complex intermediates and recycled materials</b> with additional treatment and refining charges and metal recoveries.</p> <p>Increase in metal yield (mainly precious metals) with lower process times.</p> <p>CRH is the prerequisite for further attractive strategic projects (e.g., higher yield of additional industrial and precious metals).</p> <p>Differentiation from competitors through expansion of metallurgical processes and extension of the value chain at the Hamburg site.</p>	

» **Project underscores Aurubis' commitment to its Hamburg site, while increasing capacities for the sustainable recovery of metals from intermediates and complex recycling materials**



# Secure & strengthen core business

## Expanding the tankhouse in Pirdop





# Secure & strengthen core business

## Expanding the tankhouse in Pirdop



Secure  
Core Business



Strengthen  
Core Business

Investment  
~ **€ 120 million**

EBITDA p.a.  
~ **€ 30 million**  
(at full production)

Aurubis is **strengthening its core business** and investing € 120 million in expanding the tankhouse at its Bulgarian site in Pirdop.

Processing of around **340,000 t of copper cathodes** in the future, which corresponds to an increase of around 50 %.

Further optimization of material flows in the smelter network.

Reduction of our logistics costs and the CO<sub>2</sub> footprint associated with them.

Expansion also creates the conditions for additional strategic projects at other Aurubis Group sites.

Start of production  
following ramp-up  
phase

**second half of  
2026**

~ **120,000 t** p.a.  
additional capacity

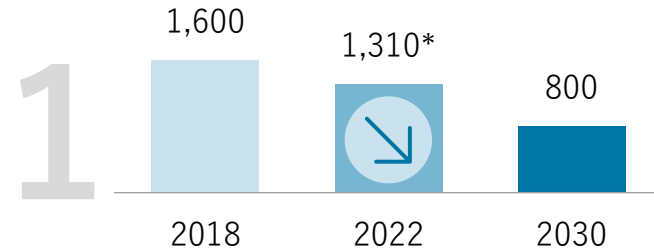


By expanding production capacity, Aurubis is investing in a growing market and making another contribution to driving innovations and technological advances.

# Our KPIs underline our sustainability ambitions and demonstrate momentum

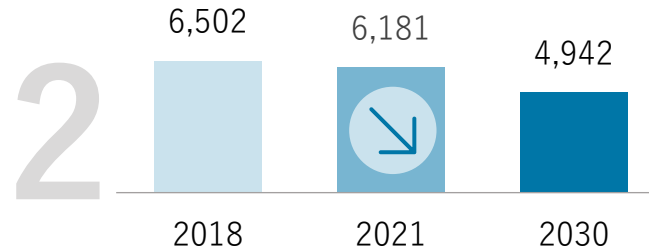


**Absolute Scope 1+2 CO<sub>2</sub> emissions**  
(in kt)

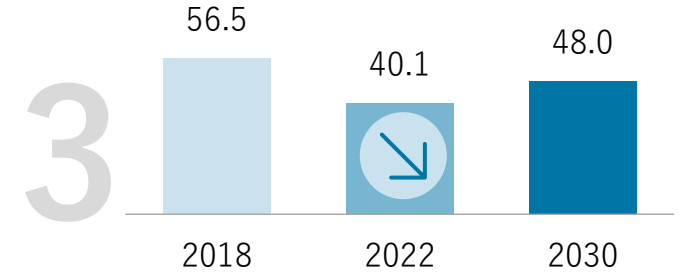


\* Preliminary figures

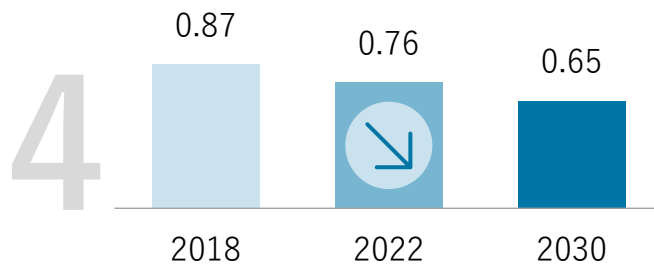
**Scope 3 CO<sub>2</sub> emissions**  
(in kt)<sup>1</sup>



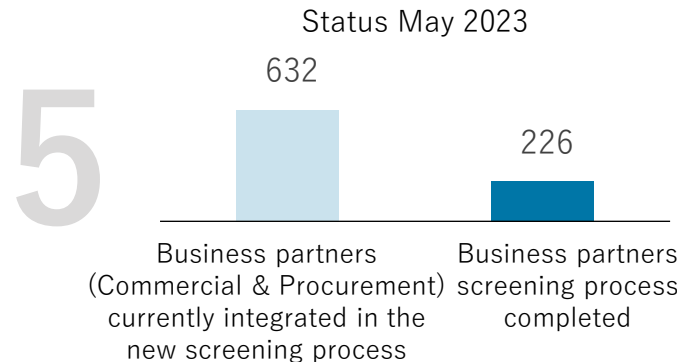
**Air emissions (dust)**  
(in g per t of multimetal Cu equivalent)<sup>2</sup>



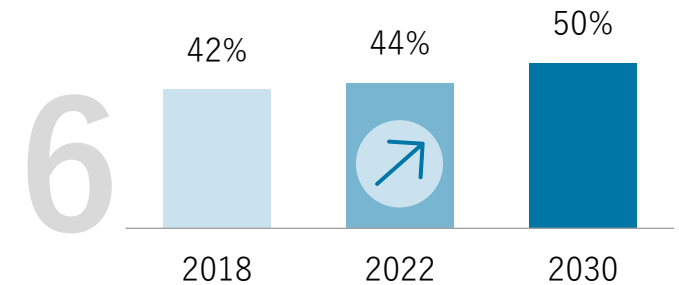
**Metal emissions to water**  
(in g per t of multimetal Cu equivalent)<sup>2</sup>



**Supply chain integrity**  
For all identified high risk business partners we implemented action plans. This has reduced our business partner risk.<sup>3</sup>



**Recycling content (Cu)**  
Recycling share of Cu cathodes (in %)



<sup>1</sup> Assumed steady copper cathode production until target year (physical intensity target)

<sup>2</sup> Multimetal Cu equivalent: total metal produced at Aurubis smelters (Cu, Zn, Ni, Pb, Sn, Au, Pd, Pt, Ag, Rh, Se, Te) x weight factors

<sup>3</sup> Aurubis is introducing a revised and uniform Business Partner Screening system in FY 2022/23, in which we bundle the requirements of the various regulations, standards, and initiatives.

# Leading the way with life cycle assessments – and substantially lower carbon footprints than industry averages



CO<sub>2</sub> footprint of Aurubis metals vs. global industry average

## Copper cathodes

in kg CO<sub>2</sub> eq./t Cu

Global industry average

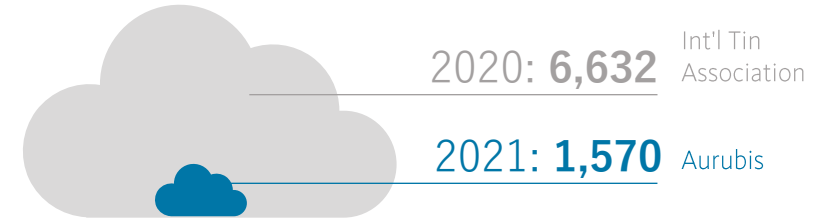


Remark: The environmental profiles have been verified by TÜV Nord Cert in accordance with DIN EN ISO 14040:2021 and DIN EN ISO 14044:2021.

Source: International Copper Association 2019, Aurubis LCA 2021

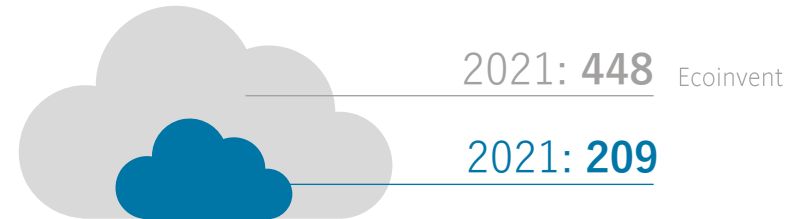
## Tin

in kg CO<sub>2</sub> eq./t



## Silver

in kg CO<sub>2</sub> eq./kg



## Gold

in kg CO<sub>2</sub> eq./kg



➤ Aurubis continuously pursues better energy efficiency: lowering costs, improving CO<sub>2</sub> footprint



# Thank you for your participation.

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For further questions, contact:  
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# Your IR contacts

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# Financial calendar

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- 2022/23 Annual Report      December 6, 2023
- AGM      February 15, 2024



# Maintenance shutdowns in the next 3 years



EBT effect from maintenance shutdowns (in € million)

	FY 2022/23		FY 2023/24		FY 2024/25	
Smelter maintenance Hamburg			May/ June 2024	~36		
Smelter maintenance Pirdop	May/ June 2023	~20			May/ July 2025	~35
Anode furnace Lünen	Nov/ Dec 2022	~7	Nov/ Dec 2023	~8	Nov/ Dec 2024	~8
KRS Lünen	May 2023	~9	May 2024	~9	May 2025	~9



# Aurubis at a glance

Based in [Hamburg](#), Aurubis AG develops its leading market position with a [responsible approach](#) to the [environment](#), [people](#), and [resources](#)



The company's main expertise is in optimally [processing concentrates](#) and [recycling raw materials](#) with complex qualities

[Metallurgical know-how](#), [state-of-the-art plant facilities](#), and extraordinarily [high environmental standards](#) for the sector make Aurubis an attractive partner for raw material suppliers



The company, which was founded in 1866 as [Norddeutsche Affinerie AG](#), is listed in the [MDAX](#) and produces more than [1 million t of copper cathodes](#) and various copper products from them with about [7,100 employees](#) worldwide

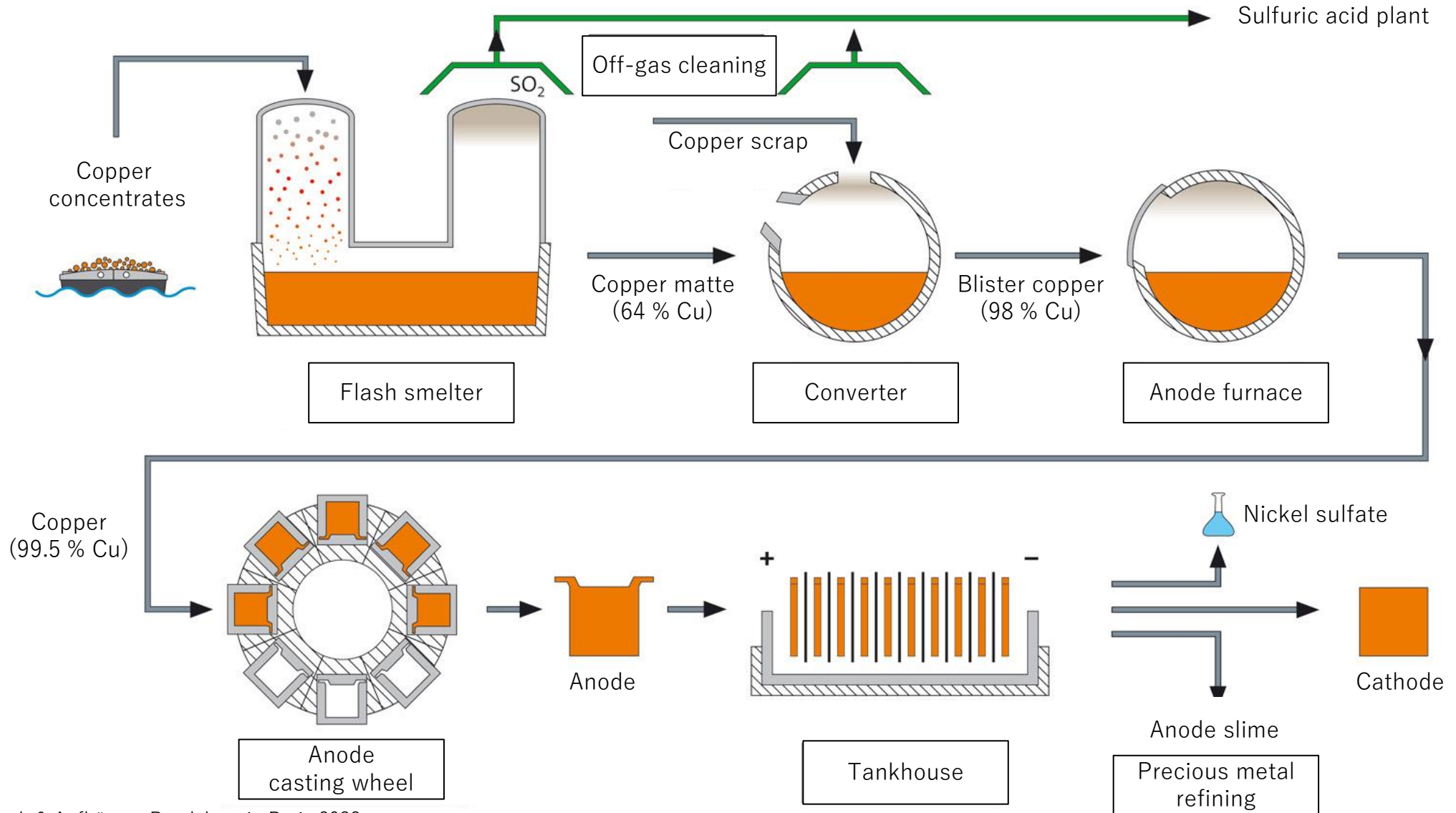


The Group is [active in more than 20 countries](#) and has production sites concentrated in [Europe](#) and [North America](#)



Aurubis is one of the world's leading producers of cathodes, rod, and flat rolled copper products

# Primary copper production process



# Disclaimer

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## Forward-looking statements

This document contains forward-looking statements that involve risks and uncertainties, including statements about Aurubis' plans, objectives, expectations, and intentions. 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 Aurubis. 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.