



Introducing Umicore

BICC&I seminar on Green Technology
Leuven, 15th March 2016

Who we are

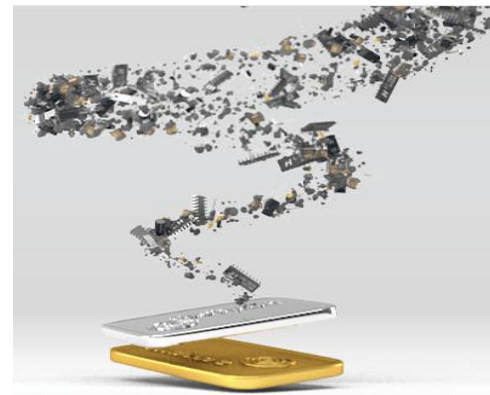
A global materials technology and recycling group



One of three global leaders in emission control catalysts for light-duty and heavy-duty vehicles and for all fuel types



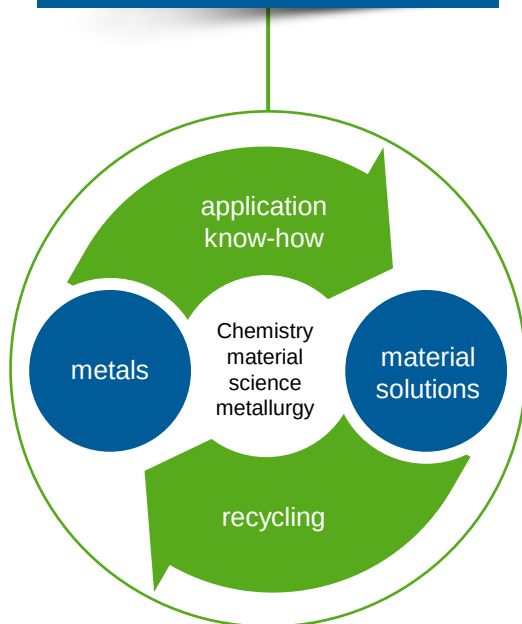
A leading supplier of key materials for rechargeable batteries used in portable electronics and hybrid & electric cars



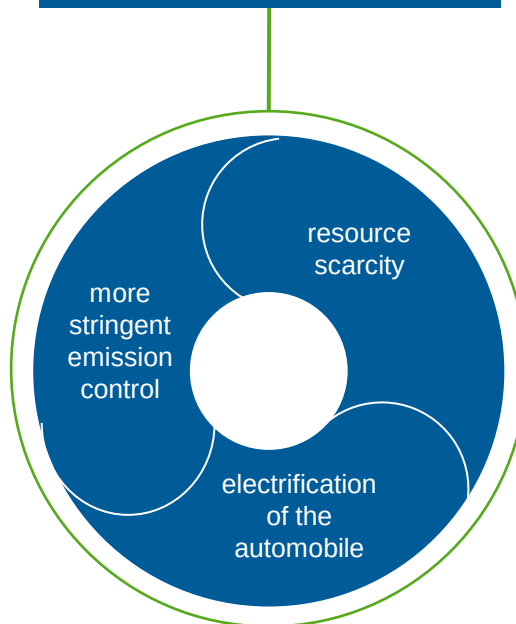
The world's leading recycler of complex waste streams containing precious and other valuable metals

Our foundations

Unique business model



Supportive megatrends



Industry leader in sustainability



Our strategy



By 2020 we have...



clear leadership
in clean mobility
materials and
recycling



turned
sustainability
into a greater
competitive edge

Our Group structure



Recycling

Jewellery & Industrial Metals
Platinum Engineered Materials
Precious Metals Management
Precious Metals Refining
Technical Materials



Catalysis

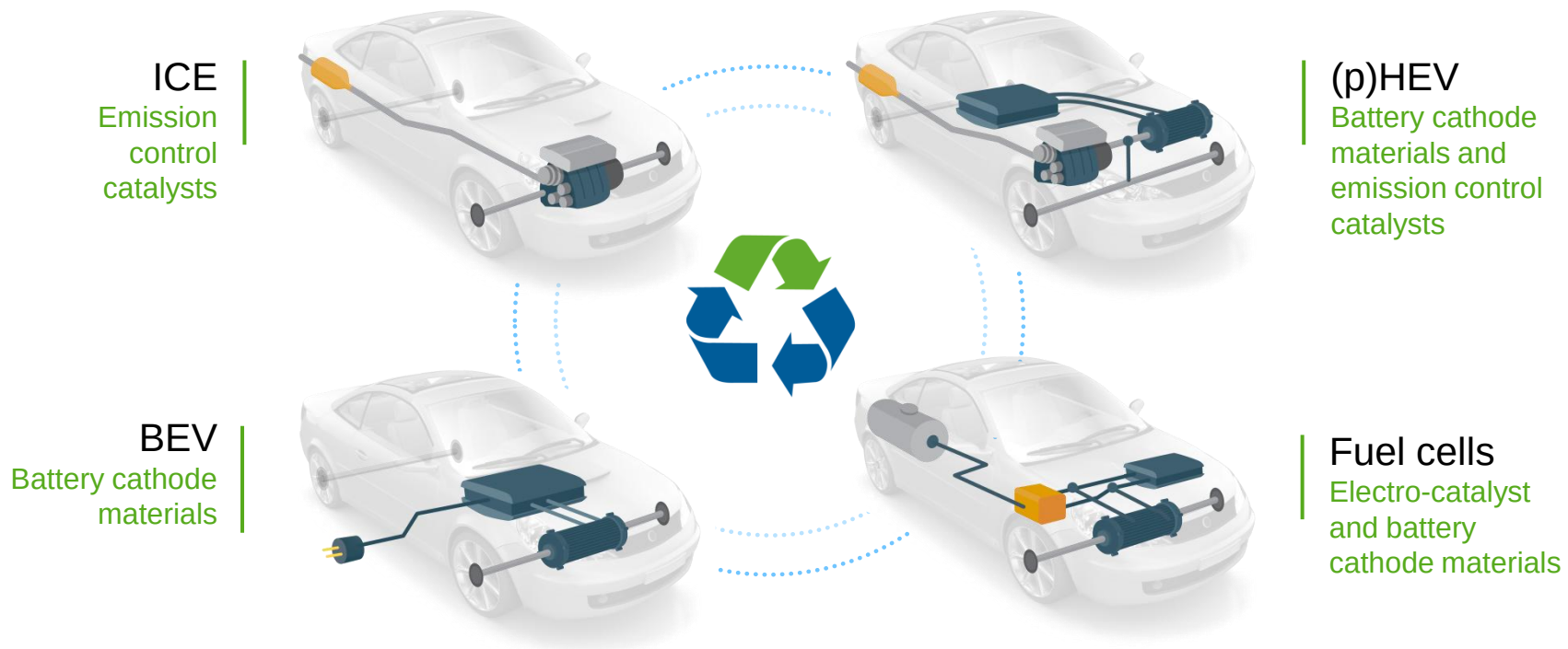
Automotive Catalysts
Precious Metals Chemistry



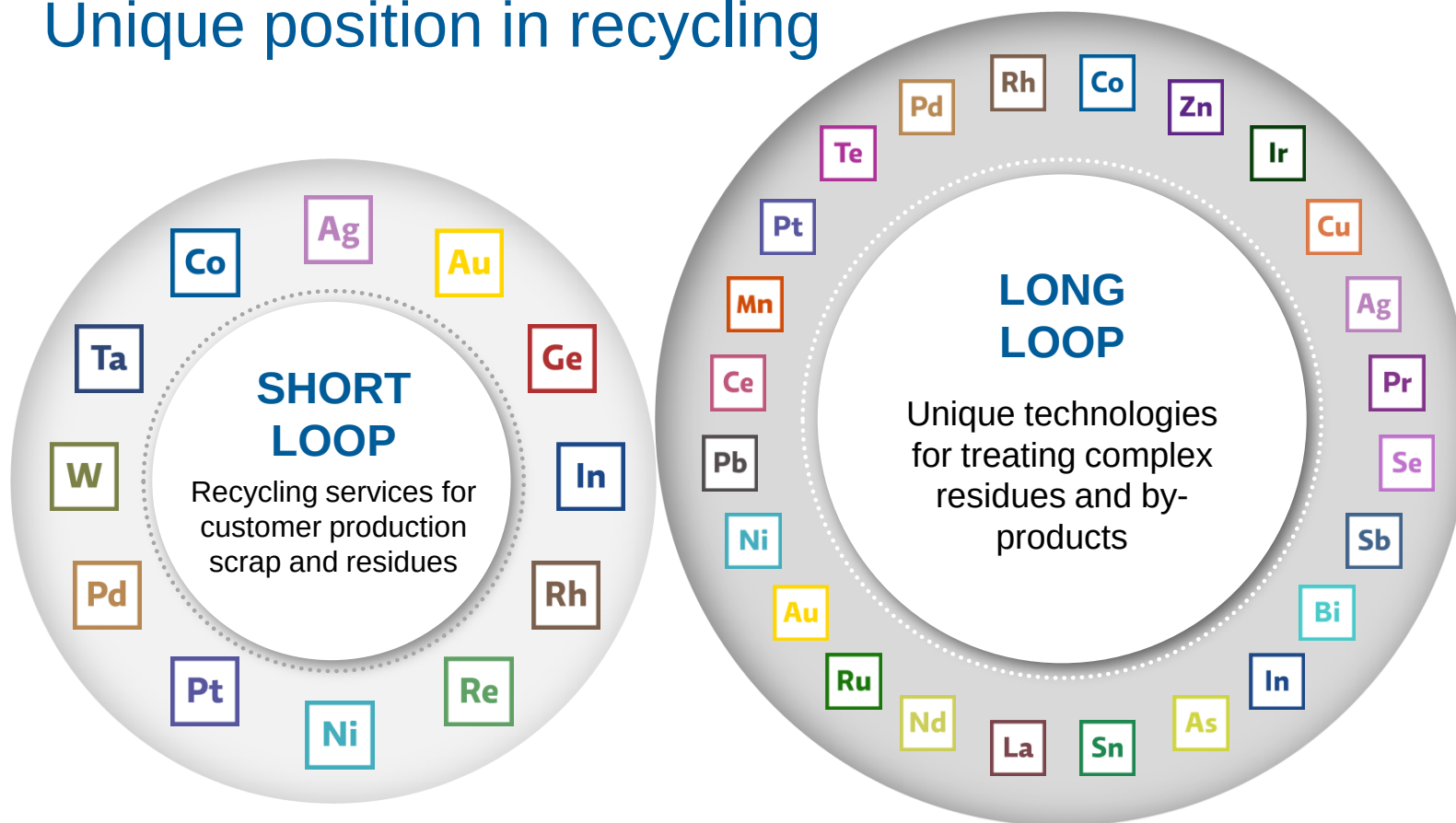
Energy & Surface Technologies

Cobalt & Specialty Materials
Electroplating
Electro-Optic Materials
Rechargeable Battery Materials
Thin Film Products

Unique position in clean mobility materials



Unique position in recycling



Further leverage
Umicore's leadership in
closed loop solutions for customers

Leverage the profitable
expansion to 500kt in Hoboken



Global presence: 10,429 people, 64 manufacturing sites

North America

 **857**
people

 **11**
industrial sites

South America

 **692**
people

 **4**
industrial sites

Africa

 **309**
people

 **2**
industrial sites

Europe

6,694
people 

29
industrial sites 

Asia / Pacific

1,877
people 

18
industrial sites 

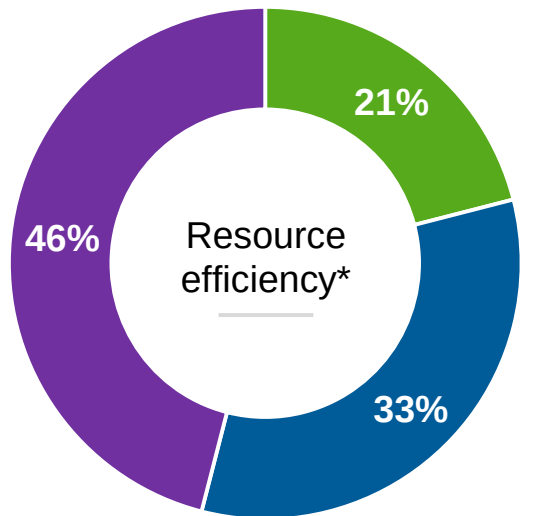
Key figures

2015 €

Revenues
€ 2.6 bn

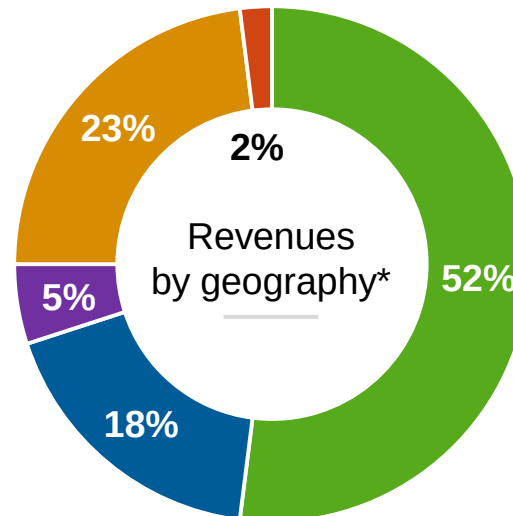
REBITDA
€ 505 m

Recurring EPS
€ 2.27 /share



End-of-life materials
Secondary materials

Primary materials



Europe
North America
South America

Asia-Pacific
Africa

* 2014 data

Strong commitment to innovation



R&D spend **€ 145 m**



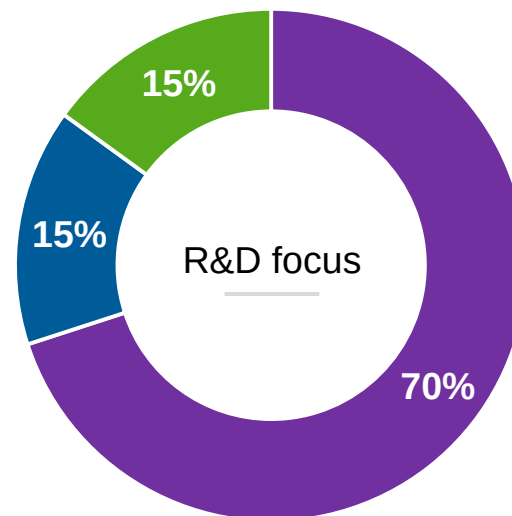
5.5% of revenues
invested in R&D



Focus on **clean mobility**
and **recycling**



539 patent families,
43 patents filed in 2014



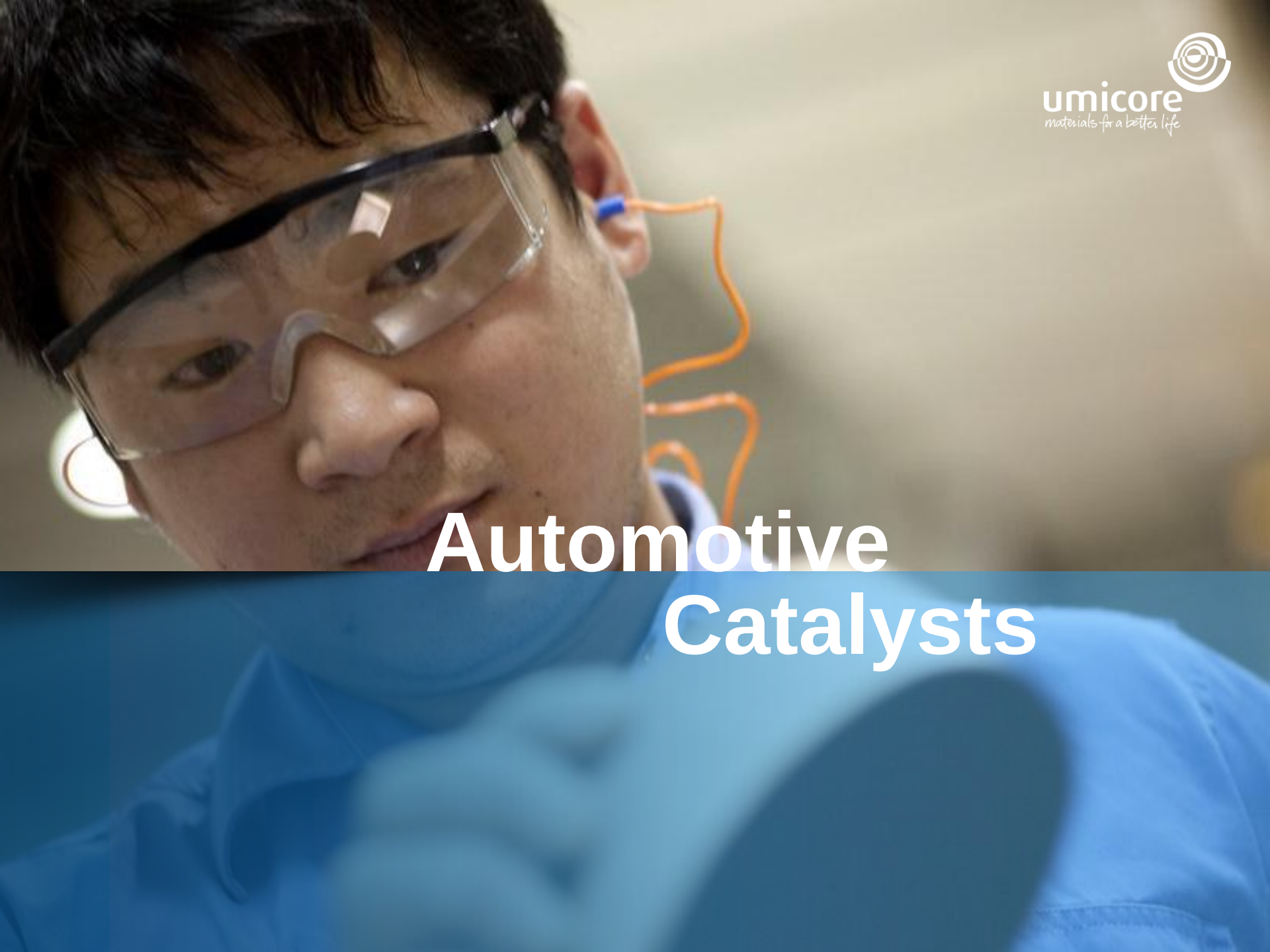
Combined Horizon
2020 clean mobility
and recycling

Horizon 2020 other

Post Horizon 2020
and other

17 R&D and Technical centres

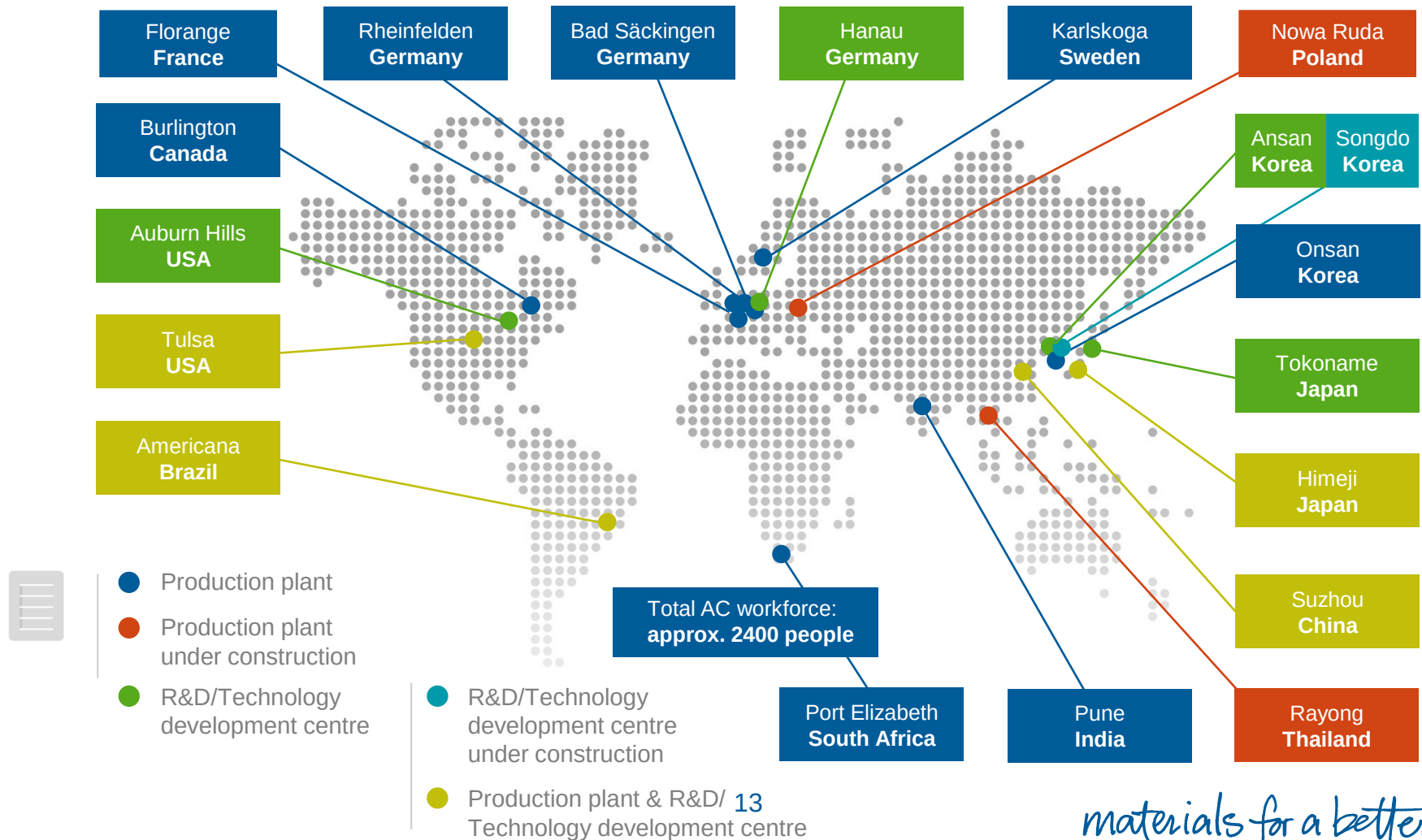




Automotive Catalysts

Global footprint

16 plants in 13 countries, 8 R&D / test centres in 6 countries



materials for a better life

Global position in Light Duty Vehicles and Heavy Duty Diesel



LDV

- Broad technology portfolio addressing all emission control needs of gasoline and diesel engines
- Global R&D and test centre footprint
- Established for more than 30 years
- Global production footprint
- Solid track record with major global OEMs and newly awarded business with major Japanese OEMs
- Strong presence in all regions and newcomer in South East Asia



HDD

- Broad technology portfolio for On-Road and Non-Road
- Global R&D and test centre footprint supporting running and future business
- Comparative newcomer
- Production footprint in relevant regions
- Contract wins with regional and global players
- Solid market position in Europe and well established market share in China



Rechargeable Battery Materials

A global presence

R&D and

Industrialization

- Product R&D (KR, JP, BE)
- Process Development (BE, KR)
- Engineering (KR)

Operations

- LCO, NMC (KR, PRC)
- LFP (BE)
- ISO9001/14001/18001
- TS16949

Application Technology

- Battery Lab (KR, JP, BE)



Customer Teams

- Dedicated teams
 - Sales & Marketing
 - Applied Technology
- in EU, US, KR, JP, PRC, TW



Total RBM workforce:
approx. 500 people

A leading player in the industry

Market characteristics

- Li-ion battery technology is established reference for portables and automotive applications
- Cathode material is important to performance and cost of a Li-ion battery

Umicore offering



A **broad spectrum of metal-based materials** used in Li-ion batteries



Umicore is a leading cathode material supplier with a large industrial footprint. We have produced enough cathode materials to:



Provide a smartphone **to every person on the planet**



Power more than **1 million EVs**



Technology leadership and a proven **quality track** record combined with a **strong application know-how** are key for business success

materials for a better life

Precious Metals Refining

Speaker

Precious Metals Refining today

Largest and most complex precious metals recycling operation in the world



Processes more than 200 different types of raw materials



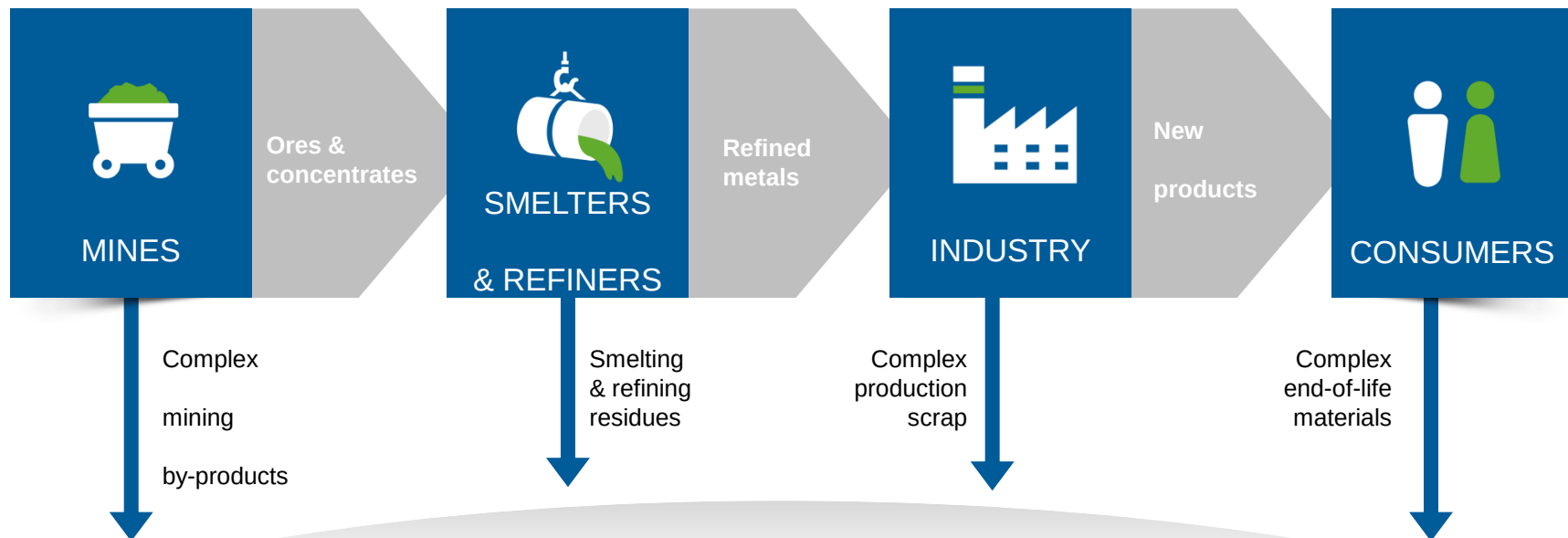
World leading refiner of 20 different metals



World class environmental and quality standards

The value chain of metals

200+ materials to close the loop



Industrial by-products

86% | **75%**
volume | revenues



Recyclables

14% | **25%**
volume | revenues

materials for a better life

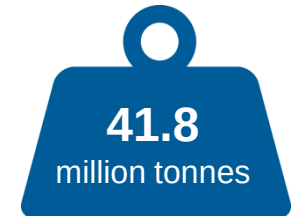


Eco-efficiency

Trend towards higher recycling rates

- Base metal smelters are increasingly obliged to find an outlet for their by-products
- **Recycling markets of end-of-life products to increase**
- Processing complex materials in an environmentally friendly way **will become the norm**

E-waste
generated
in 2014



Only 4 billion people
are covered by national
legislation



That's approximately
4 out of every
7 people



Umicore Precious Metals Refining's outstanding environmental performance and ethical sourcing practices provide an additional competitive edge

Thanks!

Contact: jan.tytgat@umicore.com

