Introduction to Umicore
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 electrified transportation and portable electronics

The world’s leading recycler of complex waste streams containing precious and other valuable metals
Our foundations

Unique business model
- Metals
- Application know-how
- Material solutions
- Recycling

Supportive megatrends
- More stringent emission control
- Electrification of the automobile
- Resource scarcity

Industry leader in sustainability

Supportive megatrends
- More stringent emission control
- Electrification of the automobile
- Resource scarcity
# Our Group structure

## CATALYSIS
- Automotive Catalysts
- Precious Metals Chemistry

## ENERGY & SURFACE TECHNOLOGIES
- Cobalt & Specialty Materials
- Rechargeable Battery Materials
- Electroplating
- Electro-Optic Materials
- Thin Film Products

## RECYCLING
- Precious Metals Refining
- Jewellery & Industrial Metals
- Platinum Engineered Materials
- Precious Metals Management
- Technical Materials

<table>
<thead>
<tr>
<th></th>
<th>Revenues* (million €)</th>
<th>REBITDA* (million €)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATALYSIS</td>
<td>632.8</td>
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<tr>
<td>ENERGY</td>
<td>398.4</td>
<td>88.9</td>
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<tr>
<td>SURFACE</td>
<td></td>
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<tr>
<td>TECHNOLOGIES</td>
<td>339.5</td>
<td>104.1</td>
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</table>

*1H 2017
Business group split for 1H 2017
Excluding Corporate and Discontinued Operations

Revenues (excluding metal)
- Catalysis: 25%
- Energy & Surface Technologies: 46%
- Recycling: 29%

Recurring EBITDA
- Catalysis: 34%
- Energy & Surface Technologies: 36%
- Recycling: 29%

Recurring EBIT
- Catalysis: 34%
- Energy & Surface Technologies: 38%
- Recycling: 28%

Average capital employed
- Catalysis: 22%
- Energy & Surface Technologies: 41%
- Recycling: 37%
Our Strategy – Horizon 2020

By 2020 we expect to have...

- Clear leadership in clean mobility materials and recycling
- Doubled the size of the business in terms of earnings
- Rebalanced the portfolio & earnings contributions
- Turned sustainability into a greater competitive edge
Unique position in clean mobility materials
Present across all drive trains

Internal Combustion Engine
Umicore provides:
Emission control catalysts

Full Electric Vehicle
Umicore provides:
Battery cathode materials

Plug-In Hybrid Electric Vehicle
Umicore provides:
Battery cathode materials and emission control catalysts

Fuel cells
Umicore provides:
Electro-catalyst and battery cathode materials
Unique position in clean mobility materials
Full service offering vs competitors

<table>
<thead>
<tr>
<th></th>
<th>Automotive catalysts</th>
<th>Battery materials</th>
<th>Fuel cell catalysts</th>
<th>Refining &amp; recycling services</th>
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</thead>
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<tr>
<td><strong>Umicore</strong></td>
<td>✔️ ✔️ ✔️</td>
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<td>✔️</td>
<td>✔️ (incumbent in spent automotive catalysts)</td>
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<td></td>
<td>✔️</td>
<td></td>
</tr>
</tbody>
</table>

✔️ ✔️ ✔️ Incumbent
✔️ Early stage

Leadership in clean mobility materials and recycling
Unique position in recycling
Metallurgical leadership and closed loop offering

- **Unique technologies in Hoboken** for treating complex residues and by-products
- **Closing the loop** in product businesses by offering recycling services
- **Over 200** input streams
- **Recovery of 20 metals**

**LONG LOOP**
Unique technologies for treating complex residues & by-products

**SHORT LOOP**
Recycling services for customer production scrap & residues
Doubling the earnings

Recurring EBIT

Excluding Discontinued

Potential to double earnings from 2014 base

CAGR ~10%

Increase average ROCE to beyond 15% target
Rebalancing the Portfolio

More significant relative contribution expected from both Catalysis and Energy & Surface Technologies in 2020

Recurring EBIT

- **2014**: 52% Catalysis, 29% Recycling, 19% Energy & Surface Technologies
- **2016**: 35% Catalysis, 42% Recycling, 23% Energy & Surface Technologies
- **1H 2017**: 34% Catalysis, 38% Recycling, 28% Energy & Surface Technologies

Legend:
- Blue: Catalysis
- Green: Recycling
- Cyan: Energy & Surface Technologies
Turning sustainability into a greater competitive edge

We have transformed Umicore into a sustainability leader over the past 15 years
Global presence
10,400 people, 61 industrial sites

North America
- 838 people
- 12 industrial sites
- 15% of revenues

South America
- 688 people
- 4 industrial sites
- 6% of revenues

Europe
- 6,558 people
- 25 industrial sites
- 49% of revenues

Asia-Pacific
- 2,058 people
- 19 industrial sites
- 28% of revenues

Africa
- 260 people
- 1 industrial site
- 2% of revenues

Headcount and site figures exclude associated companies (June 2017)
Rechargeable Battery Materials

Focus on recent growth investments
A leading player in the industry

The strategy for success

- Offering a broad spectrum of cathode materials, an advanced product roadmap and strong application support
- Operating the most efficient factories with a large industrial footprint close to the customers.
- Engaging in strategic key customer relationships and providing peace of mind via superior supply chain partnerships

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

Vehicle electrification driven by regulatory push and customer pull

Significant impact on NMC, the preferred chemistry for vehicle electrification
Umicore outpacing NMC market growth

• Sharp uplift in orders from a diversified customer base for Umicore’s NMC cathode materials used in xEV and E-buses, outpacing global market growth

• Confirmation of **Umicore’s unique positioning**
  - Longstanding presence in battery materials technology
  - Extensive IP portfolio
  - High-quality transportation-grade products and early qualification for transportation applications
  - Ability to scale up rapidly and massively to cater for customer needs
  - Closed loop offering

• Drives value creation and underlines Umicore’s leadership in clean mobility
Taking Umicore’s capacity to a new dimension

- **€ 160 million** investment announced in April 2016 to triple existing capacity between 2015 and end of 2018 in South Korea and China

- **€ 300 million** investment announced in May 2017 to further expand cathode materials capacity in South Korea and China by 2020

- Combined investments will increase total cathode materials production capacity more than six-fold between 2015 and 2020

- Commissioning schedule:
  - Starting in H2 2017 for first investment wave
  - Starting in H2 2018 for recently announced expansion wave

- Both expansions deploy the latest proprietary production technologies
Highlights H1 2017

• **Strong performance**: revenues +13% and REBIT +26% from continued operations

• Growth across segments, most pronounced in Energy & Surface Technologies

• **Significant organic investments and acquisitions**:  
  • Six fold expansion cathode materials production in South Korea and China on track; first production lines commissioned towards end 2017  
  • In Automotive Catalysts, acquisition of remaining 50% of Ordeg JV in Korea and agreement to acquire HDD activities of Haldor Topsoe

• **Exclusive negotiations on sale of Building Products**

• **Private debt placement** in Europe and US for close to € 700 million

• **Decision to stop with quarterly trading updates**; continuing interaction with investors to address strategic themes

• **Interim dividend of € 0.65**
Umicore expects full year recurring EBIT to be at the high end of the previously guided range of € 370 million to € 400 million assuming current market conditions continue to prevail. Excluding discontinued operations, this equates to the high end of a range of € 355 million to € 385 million.
Outlook 2017

CATALYSIS
- Patterns observed in the first half year expected to continue
- Higher revenues for full year compared to 2016, albeit with less pronounced growth in absence of major legislative steps

ENERGY & SURFACE TECHNOLOGIES
- Higher volumes for Rechargeable Battery Materials on the back of surging customer demand for xEV
- Market trends in other business units expected to be supportive with usual seasonality

RECYCLING
- Higher volumes as a result of the capacity ramp-up in Hoboken
- Maintenance shutdown scheduled in H2 similar to prior year
## Business Group key figures 2015 & 2016

### CATALYSIS

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
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<tr>
<td>Revenues</td>
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<td>Recurring EBIT</td>
<td>124.2</td>
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<td>of which associates</td>
<td>8.8</td>
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<td>EBIT</td>
<td>115.9</td>
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<td>R&amp;D expenditure</td>
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<td>Capital expenditure</td>
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<td>Recurring EBIT margin</td>
<td>10.6%</td>
<td>12.3%</td>
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<tr>
<td>ROCE</td>
<td>13.4%</td>
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### ENERGY & SURFACE TECHNOLOGIES

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<td>Revenues</td>
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<td>Recurring EBITDA</td>
<td>112.6</td>
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<tr>
<td>Recurring EBIT</td>
<td>70.2</td>
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<td>of which associates</td>
<td>(3.5)</td>
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<td>EBIT</td>
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<td>R&amp;D expenditure</td>
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<td>Capital expenditure</td>
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<td>144.3</td>
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<td>Recurring EBIT margin</td>
<td>12.6%</td>
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<td>ROCE</td>
<td>11.0%</td>
<td>11.7%</td>
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### Business Group Key Figures 2015 & 2016

#### Recycling

<table>
<thead>
<tr>
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<tr>
<td>Revenues</td>
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<td>Recurring EBITDA</td>
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<td>Recurring EBIT</td>
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<tr>
<td>EBIT</td>
<td>132.5</td>
<td>115.5</td>
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<tr>
<td>R&amp;D expenditure</td>
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<td>Recurring EBIT margin</td>
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<td>ROCE</td>
<td>30.7%</td>
<td>26.3%</td>
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#### Discontinued Operations

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<td>Recurring EBITDA</td>
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<td>Recurring EBIT</td>
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<td>of which associates</td>
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<tr>
<td>EBIT</td>
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<td>R&amp;D expenditure</td>
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<td>3.1</td>
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<tr>
<td>Capital expenditure</td>
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<td>14.5</td>
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<td>Recurring EBIT margin</td>
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<td>ROCE</td>
<td>14.9%</td>
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Financial calendar

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<td>9 February 2018</td>
<td>Full Year Results 2017</td>
</tr>
<tr>
<td>26 April 2018</td>
<td>Ordinary General Meeting of Shareholders</td>
</tr>
<tr>
<td>31 July 2018</td>
<td>Half Year Results 2018</td>
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Forward-looking statements

This presentation contains forward-looking information that involves risks and uncertainties, including statements about Umicore’s 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 Umicore.

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materials for a better life