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<tr>
<td>12:30</td>
<td>Opening remarks</td>
<td>Tommi Järvenpää, VP – Investor Relations</td>
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<td>12:35</td>
<td>Delivering on our promises for 2020</td>
<td>Roeland Baan, President &amp; CEO</td>
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<td>13:10</td>
<td>We continue to unlock significant value</td>
<td>Maciej Gwozdz, President – BA Europe</td>
<td>43</td>
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<td>13:40</td>
<td>Break</td>
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<td>14:00</td>
<td>Solid operational foundation enabling commercial growth</td>
<td>Michael S. Williams, President – BA Americas</td>
<td>63</td>
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<td>14:30</td>
<td>We remain committed to our financial targets</td>
<td>Christoph de la Camp, CFO</td>
<td>84</td>
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<td>15:00</td>
<td>Summary</td>
<td>Roeland Baan, President &amp; CEO</td>
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<tr>
<td>15:05</td>
<td>Break</td>
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<td>15:15</td>
<td>Breakouts</td>
<td>Michael S. Williams, President – BA Americas, Jan Hofmann, EVP – Business Transformation &amp; IT, Martin Mikiewicz, VP – Manufacturing Excellence Global</td>
<td>98, 106, 114</td>
</tr>
<tr>
<td>16:30</td>
<td>Cocktails</td>
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</tbody>
</table>
Speakers

Roeland Baan
President & CEO
Roeland joined the company in 2016 as the President & CEO. Roeland is the head of the Outokumpu Leadership Team.

Christoph de la Camp
CFO
Chris is the Chief Financial Officer and a member of the Outokumpu Leadership Team. He joined the company in 2016.

Maciej Gwozdz
President – Europe
Maciej joined Outokumpu as the head of Operations Europe and a member of the Outokumpu Leadership Team in 2016. He has been the Head of business area Europe since the beginning of 2018.

Michael S. Williams
President – Americas
Michael joined the company in 2015 as the Head of business area Americas and a member of the Outokumpu Leadership Team.
Speakers

Jan Hofmann
EVP – Business Transformation & IT

Jan has been working for Outokumpu since 2005 in different positions including several strategy and financial roles. Jan has been a member of the Outokumpu Leadership Team since 2015. He took over the Head of Business Transformation & IT responsibility in 2016.

Martin Mikiewicz
VP – Manufacturing Excellence Global

Martin joined the company in 2018 as the Head of Global Manufacturing Excellence.

Moderator:
Tommi Järvenpää
VP – Investor Relations

Tommi joined Outokumpu in 2014 and he has been the Head of Investor Relations since 2016.
Follow the event on twitter

#OutokumpuCMD18
Disclaimer

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Delivering on our promises for 2020
OUR VISION

Best value creator in stainless steel by 2020 through customer orientation and efficiency
We introduced our vision in April, 2016. Connected to the vision, we announced our financial targets for 2020:

- Adjusted EBITDA of €750 million
- ROCE of 12%
- Gearing of <35%

We also announced several other targets to force an immediate step change in our cost and competitive position.
April, 2016:

"We will reduce our total recordable injury frequency rate from 15.0 to < 5.0 by 2020”

In 2017, our TRIFR* was 4.4
April, 2016:

"We will bring Organizational Health Index* from the bottom to the top quartile by 2020"

In 2018, we are at 2nd quartile

* McKinsey
April, 2016:

"We will be the best value creator to our customers by 2020"

We have improved Net Promotor Score by over 30%
At the end of 2017, our net debt was €1.1 billion.

April, 2016: "We will reduce our net debt from €1.6 billion to <€1.2 billion by the end of 2017"
April, 2016:
"We will reduce our SG&A costs by 25% to €300 million by the end of 2017"
Since the launch of the targets, we have achieved cumulative adjusted EBITDA of over €1.2 billion over the past 9 quarters.
We have delivered on all of our promises...
...and are progressing well towards our 2020 EBITDA target

€165 million in 2015

€482 million LTM*

€750 million in 2020

* Q4/17-Q3/18
Market volatility is visible in our earnings...

<table>
<thead>
<tr>
<th>Year</th>
<th>Adjusted EBITDA (€ million)</th>
<th>Linear EBITDA development to 2020 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>€165</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTM*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>€750</td>
<td></td>
</tr>
</tbody>
</table>

*Q4/17-Q3/18
...and we have had €100 million market headwind this year

- Ferrochrome price
  - $0.27 /lb higher
  - US base price $86 /tonne higher
  - Market tailwind of €150 million

- Graphite electrode prices
  - 10 times higher
  - Market tailwind of €150 million

- Ferrosilicon prices
  - 30% higher

- Europe base price
  - €53 /tonne lower

- Truck freight prices in the US
  - 15% higher
  - Market headwind of €250 million

Q4/17-Q3/18 average compared to FY2015 average
Sources: Metal Bulletin, CRU, Outokumpu
By excluding market noise, we see the real underlying progress in our performance.

Adjusted EBITDA with vision 2020 market assumptions:

- €165 million in 2015
- €185 million in 2016
- €205 million in 2017
- €225 million in LTM*
- €750 million in 2020

Linear EBITDA development to 2020 target:

* Q4/17-Q3/18
We expect markets to stabilize

Input cost levels are remaining relatively high

Safeguards are expected to restore the market balance in Europe

Ferrochrome market is becoming tighter
Our 2020 financial targets remain unchanged

Adjusted EBITDA: €750 million
ROCE: 12%
Leverage: <35%
How to close the gap?

€110 million from commercial growth

€160 million from efficiency gains
Europe
€50 million
• Higher deliveries
• Value-added products
• Service solutions

Americas
€60 million
• Customer & product mix
• Market share in Mexico
• New products

€110 million from commercial growth
Europe
€100 million
- Raw material optimization
- General procurement
- 3% annual productivity increase
- Digital manufacturing

Americas
€40 million
- Mexinox restructuring
- Logistics costs reduction
- Raw material optimization
- Delivery reliability

€160 million from efficiency gains
We will deliver an adjusted EBITDA of €750 million in 2020.
We are operating in a growing industry...

- Global cost pressure persists
- Intensifying competition from low-cost producers
- Volatility increasing due to heightened political risks

- Rising middle-class
- Infrastructure investments
- Industrial production growth
- Climate change driving need for sustainable solutions
...and this growth is supporting stainless steel demand

Global stainless steel real demand in 2018

43.4 million tonnes

Expected global stainless steel real demand in 2023

47.3 million tonnes

- Consumer goods & Medical: +18%
- Automotive: +13%
- Architecture, Building & Construction: +28%
- Chemical, Petrochemical & Energy: +10%
- Heavy industries: +17%
- Other: +21%

Source: SMR, October 2018
Our competitive advantages will secure our long-term growth

- Sustainable solutions
- Digitalization
- Customer satisfaction
Case: Myllysilta -- a collapsed bridge re-built with stainless steel cladding

>60% lower lifecycle carbon footprint

Lifecycle carbon footprint*, tonnes

-200 -100 0 100 200 300

End-of-life recycling

Savings

Manufacture, surface treatment & installation
Maintenance
Replacement
Net lifecycle impacts

Stainless steel (grade 2205)
Mild steel (painted)

* Source: IMOA March 2015
We are the world leader in sustainable steel production

Energy intensity¹

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>11.3</td>
<td>11.1</td>
<td>10.5</td>
<td>9.8</td>
<td>9.3</td>
</tr>
</tbody>
</table>

CO₂ emissions intensity²,

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.54</td>
<td>0.48</td>
<td>0.47</td>
<td>0.41</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Recycled content, %

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>YTD*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>85</td>
<td>84</td>
<td>87</td>
<td>87</td>
<td>87</td>
<td>89</td>
</tr>
</tbody>
</table>

* Q1/18-Q3/18
1. GJ per tonnes crude steel
2. Direct and indirect, tonnes per tonne steel

Estimated global recycled content
We have the lowest carbon footprint ferrochrome in the world

Our ferrochrome operations’ CO₂ footprint is only 42% of industry average*

Source: ICDA LCI
We are leading in the digitalization of stainless industry

<table>
<thead>
<tr>
<th>AI and robotics</th>
<th>Digital processes and services</th>
<th>Safety and cybersecurity</th>
<th>Electric vehicles and other new applications</th>
</tr>
</thead>
</table>

33
Over the next 5 years, digitalization will unlock significant potential...

Free up over 100,000 tonnes of capacity

Release days of inventories by over 20 days
...and ensure superior customer experience

- Shorter lead times
- Increased delivery reliability
- Faster service through digital channels

Higher customer satisfaction
We are the best value creator to our customers and we are aiming higher

Percentage of absolutely or very satisfied customers*

Outokumpu 63%

Competitors 58%

* Outokumpu customer satisfaction survey 2018
We are the best value creator to our employees

OHI* in 2016
4th quartile

OHI in 2018
2nd quartile

* Organizational Health Index, McKinsey
We are the best value creator to our shareholders

Total shareholder return since beginning of 2016*

Outokumpu +42%  
Aperam -13%  
Acerinox +9%

* 1.1.2016-15.11.2018
We have delivered on all of our promises...

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Organization Health</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Net Debt</td>
<td>&gt; €500m</td>
<td></td>
</tr>
<tr>
<td>SG&amp;A Costs</td>
<td>&lt; 30%</td>
<td></td>
</tr>
<tr>
<td>Adjusted EBITDA</td>
<td>€1.2b</td>
<td></td>
</tr>
</tbody>
</table>
...and by determined execution...

€110 million from commercial growth

€160 million from efficiency gains
...we will achieve an adjusted EBITDA of €750 million in 2020
We deliver
We continue to unlock significant value
Underlying business performance has improved

Balance in the European stainless steel market is expected to be restored

We are on our way to deliver €150 million annual EBITDA improvement
We have delivered on our promises

<table>
<thead>
<tr>
<th>Safety</th>
<th>Scrap ratio of 89%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;50%</td>
<td>reduction on incidents* since 2015</td>
</tr>
</tbody>
</table>

| Organization health to 2nd quartile |
| Production cost savings >€90 million since 2015 |

* Lost time injury frequency rate
** Fixed and variable cost savings
We have had tough market this year...

<table>
<thead>
<tr>
<th>Import penetration up to over</th>
<th>Base prices down by over</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>€160/tonne</td>
</tr>
</tbody>
</table>

Graphite electrode prices 10 times higher

Ferrosilicon prices up by over 20%

In 2018, we have had market headwind of over €200 million compared to 2017.

...but our underlying performance has improved

Market headwind
Adjusted EBITDA

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>LTM*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>203</td>
<td>295</td>
<td>404</td>
<td>253</td>
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</tbody>
</table>

* Q4/17-Q3/18
We expect cost pressure to continue but safeguards to restore balance in Europe

Average monthly stainless steel imports into the EU, kt

Stainless steel deliveries into the EU, kt

EC preliminary quota level

Imports EU Mills

Sources, Imports: Eurostat/Comext, EU deliveries: SPAS data & Eurofer
European market is expected to grow

Europe flat product demand by segment, million tonnes

- Consumer goods & medical: +3%
- ABC & infrastructure: +19%
- Chemical, petrochemical & energy: +3%
- Automotive & heavy transport: +11%
- Industrial & heavy industries: +5%
- Others: +2%

Total demand improvement by 2023: 7%

Source: SMR October 2018
We are on our way to deliver €150 million annual EBITDA improvement by 2020.

Commercial growth
€50 million

Efficiency gains
€100 million
We are increasing the sales of value-added products

Excellent steel solutions know-how

State of art facilities

Long-term commercial efforts
The share of premium pro and supra grades has increased:

- 29% in 2015
- 31% in 2017
- 33% in 2018
The benefit from improved mix does not come only from higher margins but...

...our service solutions are delivering additional value.
Future growth has dual path

**Premium**
- Technical expertise
- Supporting customers in extreme environments
- R&D involvement in customers’ product development

**Commodity**
- Cost competitiveness
- Leverage of local footprint
- Superior quality and delivery performance
- Lowest carbon footprint
Our efficiency gains are based on:

- Raw material optimization
- General procurement savings
- 3% annual productivity increase
- Digital manufacturing and sales
Optimizing raw material usage brings €40 million cost savings opportunities.

- Optimizing scrap value
- Optimizing ferronickel portfolio
- Increasing use of alternative nickel units
- Using nickel pig iron

The chart shows savings of €40 million:
- **Scrap**
- **Alt. nickel units**
- **FeNi**
- **NPI**
- **Others**
We are aiming to reduce our general procurement costs by another €50 million.

- Leveraging our global presence
- Supplier consolidation
- Joint effort between procurement and operations
- Standardization of consumables
- Discretionary spend control
3% annual productivity increase is based on numerous local projects

<table>
<thead>
<tr>
<th>Continuous debottlenecking of key equipment</th>
<th>Net working capital reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single operating system implementation</td>
<td>Reliability</td>
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**Benefit outlook 2019, € million**

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</tbody>
</table>
Case: Increasing Tornio meltshop #2 capacity by over 100,000 tonnes/year

- Higher scrap utilization allowed
- Raw material and product mix improved

Annual financial impact of over €10 million
Tornio is targeted to become the most cost competitive stainless steel mill globally by 2020.

- Digitalization of the entire production system in Tornio
- Tornio to become the first fully digitalized stainless steel mill in the world
- Concept will be implemented in all Outokumpu mills by 2023
- Increased efficiencies by higher throughput and lower costs

← 2020 → 2020
We are evaluating further opportunities to improve our cost and environmental position

Improving metal recovery from our own waste

- A roadmap to maximize process recycling
- Customer cooperation and logistics
- EU workstream on carbon footprint
We continue to unlock significant value

**Commercial growth**

€50m

- Higher deliveries
- Value-added products
- Service solutions

**Efficiency gains**

€100m

- Raw material optimization
- General procurement
- 3% annual productivity increase
- Digital manufacturing
Solid operational foundation enabling commercial growth
Solid and efficient operational foundation established

Streamlining of our operations continue

Commercial development unlocks substantial value potential
We have delivered on our promises

Safety

20% reduction on incidents since 2015

Organizational health to 2nd quartile

Production cost savings * ≥ €60 million since 2015

Adjusted EBITDA ≥ €140 million since 2015

* fixed and variable cost savings
We have increased our deliveries by 65% vs. 2015.

While
- reducing headcount by 38%
- improving talent
- reducing exposure to low profitability products
Despite significant cost pressure in 2018...

- €15 million
  Graphite electrodes

- €15 million
  Truck transport costs
...we have continued to improve our performance

<table>
<thead>
<tr>
<th>Year</th>
<th>Adjusted EBITDA</th>
<th>Market headwind</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>-120</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>-27</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td>LTM*</td>
<td></td>
<td>Q4/17-Q3/18</td>
</tr>
</tbody>
</table>

* Q4/17-Q3/18
Demand growth prospects remain healthy

Americas flat product demand by segment*, tonnes

- Consumer goods & medical: +8%
- Automotive & heavy transport: +7%
- Chemical, petrochemical & energy: +5%
- ABC & infrastructure: +25%
- Industrial & heavy industries: +4%

* SMR October 2018

10% total demand improvement by 2023
Section 232 brings short-term advantages in the US

Stainless steel imports have decreased by over 7 percentage points

Base price in the US has increased by over $100/tonne

Source: CRU
Healthy market together with efficient operations form foundation for

€100 million

EBITDA improvement by 2020

Commercial growth

€60 million

Efficiency gains

€40 million
Streamlining of our operations continue

- Utilize the full benefit of Mexinox restructuring
- Reduce logistics costs
- Optimize raw material usage
- Improve reliability
Sustainable gains in Mexinox restructuring

Phase 1 completed
- No supply chain impairments
- Culturally no impact
- Conversion costs reduced by over 15%

Phase 2 underway
- Increase reliability and throughput on bottleneck units
- Focus on advanced maintenance strategies and operational excellence
New distribution strategy to be implemented in Q1/19 to offset large part of increased truck transport costs

- €15 million negative impact YTD
Securing scrap availability brings significant savings potential

We are increasing Calvert scrap ratio by 3 percentage points by 2020

Cost benefit of €25/tonne
Delivery reliability is the key to improve mix

- <70% SOTIF* in 2017
- 80% SOTIF in Q3/18
- 85% SOTIF target

* Shipped on time in full, business area Americas
Our commercial efforts focus on

- Enhancing customer and product mix
- Regaining market share in Mexico
- Introducing new products
Our regional mix is developing according to plans...

* FY2018 based on Q1-Q3 actuals, Q4 management estimate
...and improving product mix provides substantial further potential

Americas production mix split

- Semi-finished products
- Cold rolled secondary
- Cold rolled prime

2015 | 2016 | 2017 | 2018*
--- | --- | --- | ---

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-finished products</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Cold rolled secondary</td>
<td>42%</td>
<td>42%</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>Cold rolled prime</td>
<td>58%</td>
<td>58%</td>
<td>58%</td>
<td>58%</td>
</tr>
</tbody>
</table>

* FY2018 based on Q1-Q3 actuals, Q4 management estimate

- Cold rolled prime volume improvement since 2015: 42%
- €60 million further profitability improvement potential

1. Calvert & Mexinox
2. Full capacity utilization

79
We are regaining our market share in Mexico.

Automotive is the fastest growing market with three manufacturers.

Import pricing is below domestic pricing.

We are targeting:
- Distribution
- Appliances
- Coins/Industrial
Product development is strengthening our commercial effectiveness...

- We are introducing duplex grade 2205 in Calvert
- We are NAFTA market leader with painted stainless
- We are offering product substitutions utilizing our technical services and R&D
- We are introducing new polish surface to expand our portfolio
...and to ensure continuous portfolio expansion, we are increasing ferritic capabilities in Calvert

<table>
<thead>
<tr>
<th>Strengthen position in US ferritic segments</th>
<th>Expand current product portfolio offerings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve production efficiencies and capacities</td>
<td>Improve the route-to-market strategy</td>
</tr>
</tbody>
</table>

Annual profitability impact of €40 million from 2021 onwards
Solid operational foundation enabling commercial growth

**Commercial growth**

€60m

- Customer & product mix
- Market share in Mexico
- New products

**Efficiency gains**

€40m

- Mexinox restructuring
- Logistics cost reduction
- Raw material optimization
- Delivery reliability
We remain committed to our financial targets
adj. EBITDA €750 million
ROCE 12%
Gearing <35%
We have delivered on our promises

Adjusted EBITDA €300 million since 2015

SG&A costs €130 million since 2015

Cash flow* €550 million cumulative since 2015

Gearing 25 percentage points since 2015

*Cash flow before financing activities
We have made clear progress in all business areas...

Adjusted EBITDA, € million

Europe

2015 2016 2017 LTM*

203 295 404 253

Americas

2015 2016 2017 LTM*

-120 -27 21 17

Long Products

2015 2016 2017 LTM*

10 16 29

Ferrochrome

2015 2016 2017 LTM*

107 80 217 183

* Q4/17-Q3/18
...and reduced our costs significantly through self-help

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>Efficiency gains</th>
<th>Commercial growth</th>
<th>Market</th>
<th>LTM*</th>
<th>Efficiency gains</th>
<th>Commercial growth</th>
<th>2020 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>165</td>
<td>+320</td>
<td>+100</td>
<td>-100</td>
<td>482</td>
<td>+160</td>
<td>+110</td>
<td>750</td>
</tr>
</tbody>
</table>

* Q4/17-Q3/18
Approximate figures, based on management estimates
SG&A costs continue to decline

<table>
<thead>
<tr>
<th>Centralizing services</th>
<th>Simplifying IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardizing processes</td>
<td>Tight control of administrative costs</td>
</tr>
</tbody>
</table>

SG&A costs, € million

- **2015**: 400
- **2016**: 331
- **2017**: 307
- **LTM***: 271

*Q4/17-Q3/18*
Our capex remains conservative

- Annual maintenance: €90-100 million
- Kemi mine: ~€250 million
- Expansion, digitalization projects and other
- Growth opportunities

Capex cash flow estimated to stay at the level of €220 million
We continue to reduce interest expenses...

- Revolving credit facility refinanced
- Convertible notes due February 2020
- 2019 notes prepaid
- 2021 notes refinanced

### Interest expenses, € million

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>LTM*</th>
<th>2020 target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>130</td>
<td>101</td>
<td>92</td>
<td>75</td>
<td>&lt;50</td>
</tr>
</tbody>
</table>

* Q4/17-Q3/18
...and to extend our debt maturities
Tax loss carry forwards will keep cash taxes moderate

In Finland, we start paying cash taxes in 2019

Deferred tax assets still to be recognized on the tax losses in the US and the UK

Expire later than in 5 years

94%
Resilient cash flow will continue to strengthen our balance sheet.

- Shareholder return
- Investing in further efficiency
- Debt reduction
- Growth opportunities

<table>
<thead>
<tr>
<th>EBITDA target</th>
<th>Capex</th>
<th>Interest expenses</th>
<th>Cash taxes and others</th>
<th>Potential free cash</th>
</tr>
</thead>
<tbody>
<tr>
<td>750</td>
<td>~50</td>
<td>~70</td>
<td></td>
<td>~410</td>
</tr>
</tbody>
</table>
Reducing net debt further remains a key priority

- Short-term fluctuations in working capital remain
  - Nickel prices
  - Ferrochrome prices
  - Seasonality
Dividend pay-out ratio throughout a business cycle will be approximately 30-50% of net income
adj. EBITDA
€750 million
ROCE
12%
Gearing
<35%
We are ready to capture significant potential from commercial growth
NAFTA cold-rolled market is approx. 220,000 tonnes per month

98% of NAFTA CR consumption is commodity grade (200, 300, 400 series)

85% of the market is owned by TOP10 distributors
We have an efficient production setup

~70 kt cold rolled coils shipped to US (subject to 25% import tariff)

Hot rolled coils shipped from Calvert to Mexinox (not subject to tariff)
Drivers for our commercial growth

- Enhancing customer and product mix
- Improving customer service
- Expanding product portfolio
Our customer mix continues to improve gradually

**TIER 4**
- Market entrant
- Limited portfolio
- New workforce

**TIER 3**
- Established position
- Integrated operations
- Commodity portfolio
- Skilled workforce

**TIER 2**
- Acceptance as quality leader
- Leading portfolio
- Increased complexity in supply chain
- Fully integrated back office & commercial team

**TIER 1**
- Complete market acceptance
- Customer satisfaction leader
- High margin, demanding product offering
We continue to improve our customer service

- New staff located to Calvert with direct contact with the producing mill
- Geographic structure in place
- Market owners aligned with key segments

SOTIF* improvement is the key to increase customer satisfaction

* Shipped on time in full
Our product portfolio is expanding

Ferritics

2205 duplex

Painted stainless

Polish surface
We are ready to capture significant potential from commercial growth

- Enhancing customer and product mix
- Improving customer service
- Expanding product portfolio
Digitalization will boost our competitive position
Digitalization – Next step in our business transformation

2012
Acquisition of Inoxum

2013 - 2015
Restructuring
Transform the industrial platform

2016 - 2020
Must-Win-Battles
Transform the operating model

Digital transformation

The best value creator in stainless steel by 2020 through customer orientation and efficiency
The impact of digitalization on stainless steel industry is still widely underestimated.

- Asset-heavy and capital intense industry
- Digital technology can unlock significant value from existing industrial assets
- “maximize output on the cost base”
- “with relatively low investment”

Main Target Areas:
- Admin Efficiency
- Customer Experience
- Manufacturing

Impact
Manufacturing: Potential to free up over 100,000 tonnes of blocked capacity over the next 5 years

**ASSET AVAILABILITY**
- Minimize standstills and maintenance shutdowns ...
  - ... by predicting equipment failure and predictive maintenance

**QUALITY ASSURANCE**
- Avoid quality defects ...
  - ... by detecting them early in the process before adding further value

**LEAD TIME**
- Minimize waiting times ...
  - ... by advanced supply chain management and closed loop production
Case Study: AI stabilized FeCr smelter #3 performance with immediate financial benefits

- **ELECTRODE CONTROL MODEL**
  - Boost resource efficiency
- **STABILITY MODEL**
  - Predict failures

**4x** furnace lifetime

**3.1%** throughput increase
We are joining forces with Microsoft to boost our digital transformation in manufacturing

Outokumpu and Microsoft establishing a new benchmark for the process industry. Together.

Building a leading edge industrial digital platform

Multi-year strategic cooperation and co-investment

Combining digital expertise of Microsoft with transformation leadership of Outokumpu
Tornio to become most digitized and cost-competitive stainless mill by 2020, roll out to other mills by 2023

<table>
<thead>
<tr>
<th>Tornio</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
</tr>
<tr>
<td>Cold rolling works</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot rolling mill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel melting shop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrochrome</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Transparency > Analytics > Simulation > Digital Twin > Close Loop
Digitalization will boost our competitive position

We are taking the lead in digital transformation of the stainless steel industry

Digital manufacturing implemented at all mills by 2023

Potential to free up over 100,000 tonnes of blocked capacity
Manufacturing excellence delivering reliability

Capital Markets Day 2018
Martin Mikiewicz
VP – Manufacturing Excellence Global
Trinity of excellence

Safety

Quality

Reliability
What is the most unreliable kind of car?
Why?
<table>
<thead>
<tr>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No real owner</strong></td>
</tr>
<tr>
<td><strong>Almost a commodity</strong></td>
</tr>
<tr>
<td><strong>Don’t care</strong></td>
</tr>
<tr>
<td><strong>Drive it like you stole it</strong></td>
</tr>
<tr>
<td><strong>No need for maintenance</strong></td>
</tr>
<tr>
<td><strong>Refuel with cheapest fuel possible</strong></td>
</tr>
</tbody>
</table>
Reliable and stable processes deliver consistent results

Traditional = People doing whatever they can to get the results

Best Practice = People using standard processes to get the results
Journey towards reliability is a long one and has prerequisites.

Leadership

Organizational alignment

All functions working together

Operational culture
What can we expect when we get it right?

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEE* (Overall equipment effectiveness)</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>Delivery performance</td>
<td>&gt;95%</td>
</tr>
</tbody>
</table>

OEE* Overall equipment effectiveness

*Overall equipment effectiveness*
Our journey towards operational reliability

Preparation
Q1 & Q2 2018

Deployment
Q3 & Q4 2018

Implementation
2019 thru 2020
Deploying reliability contributes to our €750 million EBITDA target

**Throughput**
- More uptime
- Improved quality
- Better maintenance planning
- Less scrap

**Costs**
- Higher equipment utilization
- Spare part optimization
Reliability gains consist of numerous improvement projects at all sites

<table>
<thead>
<tr>
<th>Site</th>
<th>Project Description</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANNEAL AND PICKLE COIL Nyby</td>
<td>Reduce total throughput time</td>
<td>7,000t production increase</td>
</tr>
<tr>
<td>HOT ROLL BILLET Sheffield</td>
<td>Reduce roughing mill scrap</td>
<td>&gt;65% reduction already</td>
</tr>
<tr>
<td>CUT SHEET Terneuzen</td>
<td>Reduce speed losses and variation</td>
<td>+20% line speed</td>
</tr>
</tbody>
</table>
Reliability works but implementing is not easy
Manufacturing excellence delivering reliability

- Solid plan for each plant
- Clear project pipeline with allocated responsibilities and resources
- Experienced people to ensure success
Stay tuned and follow us on

www.outokumpu.com