Accessing 137 years of installed base

- Connects products and plants to FLSmidth’s digital infrastructure
- Seamlessly integrates with FLSmidth’s control systems, making existing data and signals available
- Easy to retrofit
SiteConnect
Insights on the go

- **Full transparency** on machine, process, and plant KPIs, in real-time

- **Mobile notifications** when user-defined events occur, e.g. downtime and production shortage

- **Compare performance between assets and plants** to identify higher/lower performing equipment
Key messages

- **Process optimisation** and **asset health** are key areas to drive **productivity** and **sustainability** for our customers – FLSmidth is enabling our customers to use this opportunity through digitalization.

- FLSmidth is leveraging digital to **differentiate our premium offering** and capture a larger part of the service business.

- We are driving **innovation in digital** and extending our access to new technology, talent and competences in Cement and Mining.
Today’s focus: Our offerings and solutions

Focus areas

Offerings and solutions

Customer experience

Business operations

Data and systems foundation

Culture and capabilities

Enablers
Our digital solutions target three levels

**Product level**

**Flow-sheet level**

**Plant level**
Our digital business offerings

- Plant control
- Process optimisation

- Machine control
- Machine optimisation
- Autonomous operations
- Condition monitoring

Cloud

Digital Services

Operational insights / KPIs
Remote monitoring
Remote optimisation
Remote troubleshooting
Predictive maintenance
...
Outlook: full end-to-end integration
Part of a greater ecosystem

Integration upstream and downstream adjusting production to balance supply and demand

Building and orchestrating an ecosystem, leveraging platforms and blockchain
Cement and Mining catch up in digital adoption - many other industries to learn from

Stage 1
Digital impact mostly in operations and cost reductions, still limited digital disruption

Stage 2
Digital engagement with customers increasingly important, personalisation using advanced data analytics

Stage 3
Advanced technologies and data analytics consistently deployed to find competitive advantages
Digitalization is a productivity opportunity
Value for our customers

Potential economic impact of sized applications in Mining in 2025 ($bn)

<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations management</td>
<td>Higher yield</td>
</tr>
<tr>
<td></td>
<td>5-10%</td>
</tr>
<tr>
<td>Equipment maintenance</td>
<td>Increased availability</td>
</tr>
<tr>
<td></td>
<td>Cost reduction in maintenance</td>
</tr>
<tr>
<td>Health and safety</td>
<td></td>
</tr>
<tr>
<td>Equipment supply</td>
<td></td>
</tr>
<tr>
<td>Human productivity</td>
<td></td>
</tr>
</tbody>
</table>

Total industry economic impact: USD 370bn
Productivity opportunities for customer operations

Source: McKinsey
Cannibalisation is a business opportunity

Equipment lasts longer and performs better, reducing CAPEX spend

Condition monitoring and predictive maintenance reduce OPEX spend

New bus. → Connected equipment

New data-based opportunities

Increase sales and market coverage through new, digitally enabled premium equipment

Increase wallet share on existing equipment through connectivity and closer customer relation
Value creation: previously the product was the end of the user experience – now it is the starting point.
FLSmidth’s unique position
Combining product, process, service and digital

**PRODUCTIVITY** (e.g. throughput)

<table>
<thead>
<tr>
<th>Current performance</th>
<th>Mechanical &amp; operational improvements</th>
<th>Digital (APC, AI, Predictive Maintenance)</th>
<th>+10-20%</th>
</tr>
</thead>
</table>

Product, service, process knowledge
Improve maintenance and operational procedures

+ digital and analytical knowledge
Data-driven optimisation and finetuning, implementation through control systems

**INDICATIVE**

+10-20%

6 November 2019 FLSmidth CMD 2019 | Digital powers Productivity
Example: Flotation optimisation in Mining
Improve recovery & reduce reagents consumption

“Smart Flotation” package
- Improves recovery
- Delivers higher grade product
- Enhances flexibility
- Reduces use of reagents
- Improves control

Economics
- Recovery rate up 3.0% → up to DKK 20m revenue increase p.a.
- Reagents consumption reduced by up to 25%

✓ Productivity
✓ Sustainability
✓ Service opportunity for FLSmidth
Example: Fabric Filter optimisation in Cement
Reduce power consumption and increase bag life

EVO II machine control system
- Reduces fan power and compressed air consumption
- Extends filter bag life
- Enables remote filter monitoring and fine-tuning
- Easy to retrofit

Economics
- 10-15% energy savings\(^1\)
- 25% longer bag life
- Bundling with service contracts and filter bags

✓ Productivity
✓ Sustainability
✓ Service opportunity for FLSmidth

1. Energy savings depending on filter size
Number of connected assets grows continuously

Status

- >750 assets connected last 12 months
- >200 plants served with remote monitoring and optimisation service packages

Outlook – next 3 years

- All new equipment is connected
- 25% of installed base retrofitted
Driving innovation in Digital
Access to new technology, talent and capabilities

**Partnerships**
Partner with market-leading providers of digital technologies and solutions to *pilot and scale* applications

**Intrapreneurship**
Identify and incubate new business models based on *expertise at the core of our business*

**Investments**
Invest in *edge and transformational technology models* that will be relevant for FLSmith in the future

**Focus technologies**
- Artificial Intelligence
- Data Analytics
- Internet of Things
- Blockchain
- Sensors & Components
- Adv. Materials & Chemicals
- Robotic Systems
- Resource Productivity
Thank you