Product/Service System Day, DTU 2017

Exploring PSS Solutions
FLSmidth at a glance

Who we are and what we do

Danish Company founded in 1882

We are more than 12,000 employees (end of 2016)

Revenue 2016 (DKKm) 18,192
EBITA 2016 (DKKm) 1,289

We are present in 50 Countries (end of 2016)
FLSmidth
Industry leader since 1882

1882
FLSmidth is founded

1889
Aalborg
Portland is established

1900-1969
Leading supplier of cement plants. A number of subsidiaries emerge

2005-
A unique combination of projects, products and services to the mining and cement industries

VISION
We drive success through sustainable productivity enhancement

VALUES
A business culture based on: Competence, Co-operation and Responsibility

STRATEGY
Productivity provider #1
Organisation

Four divisions provide a full life-cycle approach

FLSmidth Group

Customer Services
Supporting customers in discovering the right solutions in the large and important aftermarket.

Product Companies
Delivering a wide range of market-leading products for cement, mining and adjacent industries.

Minerals
Leading provider of mineral processing and material handling technology.

Cement
Premium technology and process solutions for the global cement industry. Design, build, operate and maintain plants.
GLOBAL USE OF CEMENT IN 2016

4,2 BILLION t

GLOBAL USE OF GOLD IN TECHNOLOGY 2005-2016

4,890 t

SCARCITY
OF ENERGY, RAW MATERIALS AND WATER

ENVIRONMENT
FOCUS ON LOWERING NEGATIVE IMPACT
Productivity provider #1

A unique combination of projects, products and services

Customer benefits
- Increasing output and quality
- Reducing total cost of ownership
- Increasing productivity

FLSmidth key competencies
- Process and product knowledge to optimise operations
- Guaranteed equipment uptime and performance
- Proactive and predictive maintenance
- Minimising environmental impact
- Local service and support presence
Service Offerings - Value Chain

**Parts**
- Stocking of fast moving & strategic parts
- Stock location optimized for efficient delivery and serviceability
- Simplified order handling process
- 24/7 enquiry handling (orders & troubleshooting)
- Service Training Programs

**Services**
- Service Audits
- Troubleshooting
- On-site repairs
- Parts installation
- Service supervision service
- On-site permanent set up (where applicable)
- On-Site training programs

**Rebuilds & Upgrades**
- On-site repair, assembly
- Service supervision service
- Complete rebuilds / repairs / retrofits / calibration
- On-Site Training programs
- Laboratory sampling services
- In and out programs
- Service multiple customer sites
- Process optimization assistance

**Operation & Maintenance**
- Full scale Maintenance program
- Full scale Operations program
- Cost per ton program
- Remote monitoring and trouble shooting
- Enhanced uptime
- Predictive maintenance
- Improved performance
Organisation

Our global presence

- Supercentre
- Project and technology centre
- Production
- Sales and services
- Operation and maintenance
Perth, Australia

- 21,000 m² property
- 1,760 m² office
- 59 m² training center
- 6,658 m² warehouse
- 4,485 m² workshop
- 120 ton lifting capacity
- 18 m under crane hook
- Food preparation and dining areas
- Change rooms and showers
Why focus on Service
Cement plant sales

- Asia (excl. China & India)
- India
- Russia
- Europe
- North America
- Latin America
- Middle East
- Africa

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International cement kiln market shares
Orders new capacity excl. China

2003
- FLSmidth: 55%
- Chinese: 21%
- Polysius: 8%
- KHD: 7%
- FCB & others: 9%

2004
- FLSmidth: 34%
- Chinese: 21%
- Polysius: 13%
- KHD: 4%
- FCB & others: 10%
- Others: 18%

FLSmidth-orders: 2003: 55.700 tpd
2004: 54.100 tpd
Customer Services

In 2005 we said…

- We are **not only** a company selling large projects or key products for the cement and minerals industries
- We want to transform to a **much more service oriented company**
- By strengthening our “after market” business we get the **best of two worlds**
  - Much closer day to day contact with customers
  - Less cyclical business model for the entire Group
Split between Projects, Products & Customer Services
(Cement & Minerals)

Revenue 2008
- by category

- Projects 65%
- Products 13%
- Customer Services 22%

Order intake 2008
- by category

- Projects 67%
- Products 13%
- Customer Services 20%
Order intake from total service activities +15% in Q4’16

2016

Total service activities
56% of revenue
55% of order intake

Revenue growth -6% vs. 2015
Order intake growth 4% vs. 2015

Total capital business
44% of revenue
45% of order intake

Revenue growth -10% vs. 2015
Order intake growth -6% vs. 2015

*) adjusted for currency
### Divisional long-term financial targets

<table>
<thead>
<tr>
<th></th>
<th>Growth (over the cycle)</th>
<th>EBITA% (over the cycle)</th>
<th>Net working capital (as pct. of revenue)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Services</td>
<td>5-10%</td>
<td>&gt;15%</td>
<td>15-20%</td>
</tr>
<tr>
<td>Product Companies</td>
<td>5-10%</td>
<td>12-15%</td>
<td>~15%</td>
</tr>
<tr>
<td>Minerals</td>
<td>5-6%</td>
<td>3-8%</td>
<td>Negative</td>
</tr>
<tr>
<td>Cement</td>
<td>3-5%</td>
<td>3-8%</td>
<td>Negative</td>
</tr>
</tbody>
</table>
Order intake in 2016

Order intake - by industry

- Adjacent: 25%
- Fertilizers: 6%
- Iron ore: 5%
- Coal: 15%
- Gold: 2%
- Copper: 44%
- Cement: 44%

Order intake - by division

  - Organic growth: 5% adjusted for currency

- Product Companies: 2015 - 5.742, 2016 - 6.250
  - Organic growth: 5%

  - Organic growth: 63%

  - Organic growth: 68%

(*) adjusted for currency
Product/Service System Development
Case Story – Remote Process Support

We wanted to deliver FLSmidth competences to our customers through connectivity technology.

- Skype and an expert team is all you need.

This would allow us to leverage our product specific knowledge ensuring that our customers got most out of our equipment.

Also general advice on plant operations and maintenance are valuable covering competence gaps for the customers while developing their capability.
The plan….

- Choose the right technology for connectivity. Select and allocated the right experts to provide the service. We used shared resources.
- Test trials with carefully picked customers
- Develop standard procedures for data collection, processing and reporting
- Create marketing materials and define price models (is it a service, part of a service contract or a bundled equipment solution – or all of those).
- Train service personnel
- Train sales people
How did it go?
- 2 years of iterations and one organizational change….

- Co-develop with Heidelberg Cement Corporation
- Develop standard procedures for data collection, processing and reporting

- First contract with Heidelberg

- Productivity platform established. Remote support to FLS factories using expert control systems and condition monitoring.
- Bundled remote support with O&M or process control systems
We wanted to measure wear surfaces inside equipment used for crushing or milling of rocks.

This would be valuable because it would allow us to optimize design and material of the liners.

Wear liners are a major wear item for our customers. A single piece of equipment may spend 35 mDKK on wear liners every year.

The liners themselves are perceived as a commodity, but there are opportunity to differentiate ourselves through lifetime and operational performance.
The plan....

- Choose the right technology to collect 3d-scans
- Experiment and test technology
- Develop standard procedures for data collection, processing and reporting
- Create marketing materials and define price models (is it a inspection service, a sales tools or part of a service contract or a bundled equipment solution – or all of those).
- Train service personnel
- Train sales people
How did it go?
- 2 years of iterations in 3 projects with increasing scope and commercial impact

- Choose the right technology to collect 3d-scans
- Experiment and test technology
- Develop standard procedures for data collection, processing and reporting
- Commercial materials and define price models (is it a inspection service, a sales tools or part of a service contract or a bundled equipment solution – or all of those).
- Train service personnel
- Train sales people
We are able to improve the design of our liners by having this service. This gives the customer longer equipment life and higher performance.

By standardizing the process we scale the capabilities of our expert team.

By providing this service we can customize our wear products in a standardized way.

FLS include process know-how in the design of the steel. Local competitors cannot provide this know how or duplicate our efforts so it is one more differentiating factor.

Service is currently charged separately.
Thank you