WÄRTSILÄ SERVICES GOES DIGITAL

SOLUTIONS FOR THE MARINE, OIL & GAS AND ENERGY SECTORS
CARNEGIE BANK’S SEMINAR, 1 MARCH 2016

Pierpaolo Barbone, President & EVP, Wärtsilä Services
Content

• Who are we? Wärtsilä Services in brief
• Digitalisation in Services
• Customer engagement: Wärtsilä Online Services
• Digital Maintenance Services: Remote support
• Asset Performance Optimisation: Wärtsilä Genius
• Co-creation in the digital age: Wärtsilä Marine Mastermind
• Digitalisation through the eyes of Wärtsilä Services
• Our digital story in a nutshell
Wärtsilä Services’ Mission
We create lifecycle services with our customers, enhancing their business – whenever, wherever.

Wärtsilä Services’ Strategic Goal
Our customers recognize us as their most valued and competitive service partner: competent, reliable and easy to deal with.
Wärtsilä Services 2015 in brief

The size and scope of the Services business provides a platform for further growth.

43% of Wärtsilä group net sales

56% of Wärtsilä’s personnel

<table>
<thead>
<tr>
<th>Net Sales [MEUR]</th>
<th>2015</th>
<th>2014</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>2,184</td>
<td>1,939</td>
<td>+13%</td>
</tr>
<tr>
<td>Wärtsilä group</td>
<td>5,029</td>
<td>4,779</td>
<td>+5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personnel</th>
<th>2015</th>
<th>2014</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>10,592</td>
<td>10,692</td>
<td>-1%</td>
</tr>
<tr>
<td>Wärtsilä group</td>
<td>18,856</td>
<td>17,717</td>
<td>+6%</td>
</tr>
</tbody>
</table>
Net sales growth (MEUR)

- 2005: 1,093
- 2006: 1,266
- 2007: 1,550
- 2008: 1,830
- 2009: 1,830
- 2010: 1,823
- 2011: 1,816
- 2012: 1,908
- 2013: 1,842
- 2014: 1,939
- 2015: 2,184

+13%
We are where our customers need us to be

11,000 service professionals in 70 countries, 160 locations…
## Services in a nutshell

<table>
<thead>
<tr>
<th>In one year:</th>
<th>We serve 12,000 customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>115,000 deliveries, constituting more than 900,000 line items, packed in 134,000 packages</td>
<td></td>
</tr>
<tr>
<td>117,000 unique materials stored</td>
<td></td>
</tr>
<tr>
<td>16,300,000 kg of parts, with a total volume of 46,700 m³</td>
<td></td>
</tr>
</tbody>
</table>

| 66,700 export declarations |
| Around 106,000 transportations making use of roughly 150 carrier modalities |
| We maintain knowledge and skills for 350 different product types |

| 66,700 export declarations |
| Around 106,000 transportations making use of roughly 150 carrier modalities |
| We maintain knowledge and skills for 350 different product types |

| Our 3,600 field service professionals perform 100,000 field services jobs |
| We provide 20,000 technical answers |
| We maintain 450 installations under long-term contract |

---

...One promise to the customer:

We offer expertise, proximity, reliability and responsiveness for our customers in the most sustainable way.
Who are our customers?

**ENERGY**
- +181 GW installed base
- +24 GW and approx. 600 installations covered by service agreements
- +14’500 installations connected to Wärtsilä Online Services

**HYDRO**

**OIL & GAS**

**MARINE**

**OFFSHORE**

**MERCHAND**

**CRUISE & FERRY**

**SPECIAL VESSELS & NAVY**

© Wärtsilä 2016
A broad range of expertise and services

Engine services
Propulsion services
Electrical and Automation services
Hydro & Industrial services
Seals and Bearings services
Service agreements
Service projects
Training services
The only way forward is growth

We will grow by

• Doing more business with existing customers
• Exploring opportunities within new customer segments by leveraging current competences
• Acquiring businesses in growing markets

Customer first
Go digital
Asset & lifecycle management
New customer access
Megatrends that drive digitalisation

- Growing amount of data
- Universal connectivity
- Globalisation of value chains
- Growing focus on the environment
- Intelligent solutions and services
- Exploratory analytics and visualisation
The digital transformation

- Digitalisation is about rethinking services with the help of modern technology to make services easier, faster and more valuable.
- Digitalisation can also offer new ways to increase revenue and growth potential.
- Wärtsilä is utilising connectivity and data gathering to develop a comprehensive digitalised approach to optimising operations and enabling growth together with our customers.

“Digitalisation has already created new opportunities for companies to look for growth. It is changing how companies create value for their customers.”
**Dimensions of digitalisation**

**Human behaviour**
Ultimately, digitalisation is about change in human behaviour. It’s a cultural change that’s having a net positive effect on our lives on many levels, from our daily interactions with each other to job descriptions.

**New business models**
Digitalisation is changing how companies create value for their customers, and these changes can be profound, going as deep as re-evaluating the nature of their business as completely new business models become available.

**User experience**
User experience is central, as user expectations keep growing. This will lead to a demand for seamless and effortless solutions, with a focus on e.g. data visualisations and even wow effects.

**Technology**
Digitalisation is driven by technological developments, but its significance is in the changes made possible by these technologies.
Wärtsilä’s focus areas for digital value creation

1. Customer engagement:
   *Online Services*

2. Digital maintenance services:
   *Remote Support*

3. Asset performance optimisation:
   *Genius*
Wärtsilä Online services, brings savings to your operations by less handovers and manual steps
Wärtsilä Online Services – optimising our processes

- Procurement
- Logistics
- Fleet or installation administrative tasks
- Technical support
- Operations and maintenance

**Technical knowledge**: Manuals and bulletins

**My installations**: access and manage information on your installations and equipment

**Parts Online**: Spare Part Catalogues, RFQ’s, purchase orders

Create and view: **TechRequest**

Create and view: **Warranty Online (and Monitoring)**

Full overview

Maintenance planning, document management, cost and process optimization
Digital maintenance services

- Interactive and real-time data helps secure and optimise the operation of power plants and vessels.
- Utilising this data can help predict maintenance and competence needs well in advance, enabling better planning.
- Transparency of real-time data from order to invoicing.
• Data and sophisticated data analysis are becoming a key part of operations.
• Information based on analytics can help secure and optimise the operations of power plants and vessels, and therefore improve e.g. safety and efficiency of equipment.
• Utilising data can enable better operations and business planning.
• Already today we are able to remotely access and monitor installations even if they are in remote, difficult-to-access locations.
• Combining e.g. condition based maintenance, operation optimisation, analytics and advisory the installation’s fuel consumption and maintenance intervals can be optimised.
Solutions based on 3D design can offer new ways to benefit from real-time information and knowledge to:

- Enhance technical assistance
- Support maintenance and servicing
- Enable new types of virtual training concepts from video training to holograms and augmented reality.
- Increase the availability of selected components through 3D printing.
We will continue to develop and commercialise our portfolio of value-adding services:

- Asset performance management agreements
- Retrofits
- Upgrading of installed base
- Solutions for remote monitoring and real-time optimisation

Focus areas for agreements:

- Marine: LNG carriers, cruise
- Oil and gas: offshore drilling and production, OSV’s
- Power Plants
WÄRTSILÄ GENIUS SERVICES

OPTIMISE

PREDICT

SOLVE
Wärtsilä Genius services will enhance the performance of your assets as well as help your business top line growth.

- Asset performance optimisation develops and manages services and solutions that enhance the performance of our customers’ assets and business.
- We will be recognised as industry leader in Digitalisation and increase Wärtsilä service sales by improving our customers’ satisfaction through enhancing the performance of their assets and increasing their business.
Increase competitiveness and effectiveness in your daily operations with real-time optimisation.
Would you like to Optimise?

- Increase your operational efficiency
- Explore others’ best practises
- Manage fuel and other operating costs

- Optimise your asset according to your operation strategy
- Use the most convenient, safe and cost-efficient sea route
PREDICT
BY WÄRTSILÄ GENIUS SERVICES

Improve your asset and business availability and predictability with lifecycle maintenance
Would you like to Predict?

Align operational decisions on the actual condition of the equipment

Match maintenance to your operational profile

Financial predictability

Get the most profitable routes for your vessels by using the holistic market view

Increase your revenue with more efficient usage of your fleet throughout its lifetime

Ensure capacity and availability of your operations
Ensure the safety of your operations and get instant support whenever and wherever you need it
<table>
<thead>
<tr>
<th>Service Description</th>
<th>Company</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote support to ensure safe operation</td>
<td>Marine Solutions</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Energy Solutions</td>
<td>-</td>
</tr>
<tr>
<td>Get prompt advise from the best experts globally to your operational matter</td>
<td>Marine Solutions</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Energy Solutions</td>
<td>-</td>
</tr>
<tr>
<td>Shortest possible time to solve any technical issue</td>
<td>Marine Solutions</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Energy Solutions</td>
<td>-</td>
</tr>
</tbody>
</table>
WÄRTSILÄ GENIUS SERVICES

WHOLE VALUE CHAIN

ESSENTIAL SYSTEMS

3RD PARTY EQUIPMENT

ENTIRE VESSEL / PLANT

SINGLE EQUIPMENT
Co-creation in the digital age

- Digitalisation rewrites the rules of competition
  - Lower entry barriers
- Networking between companies is a must to succeed
  - Open interfaces
  - Co-creation across the value chain
Wärtsilä Marine Mastermind – Open Innovation Contest

- Digitalised service offering in marine business
- Targeted for start-ups and growth companies
- Objective for Wärtsilä to:
  - Explore the disruptive initiatives
  - Learn from lean start-up mindset
- Launched in Slush 2015

www.wartsila.com/marinemastermind
Wärtsilä Marine Mastermind Status

47 APPLICATIONS
17 COUNTRIES
5 FINALISTS

Finalists: http://www.wartsila.com/marinemastermind
• Digitalisation is about **rethinking the services** with the help of modern information technology to make operations easier, faster and more valuable.

• The value of digital services comes from **sophisticated data** collection, analytics and information.

• Digitalisation creates **new opportunities for growth**. It is changing how to create value and enabling new business models.

• Wärtsilä has the ambition to work together with its customers towards a comprehensive digitalised approach to optimising operations and enabling growth. We take a **complete lifecycle perspective** for the marine, oil and gas and energy industries.
Our digital story in a nutshell

- Long **history** in digitalisation
- Digitalisation is a **cornerstone** of our growth **strategy**
  - Expect clear gains going into the future
  - Further ramp-up – hundreds of people involved
- More product launches and incremental improvements to **Wärtsilä Genius** and **Wärtsilä Online Services**
- Additional **new services and products** to be launched to the market and internal efficiency gains to be harvested
- From idea to product in **3 months mind-set** within digital solutions
Thank You