SERVICES: A GLANCE INTO THE FUTURE

GROWTH AND DIGITALISATION

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# Services in a nutshell

<table>
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<th>In one year:</th>
<th>115,000 deliveries, constituting more than 900,000 line items, packed in 134,000 packages</th>
<th>117,000 unique materials stored</th>
<th>16,300,000 kg of parts, with a total volume of 46,700 m³</th>
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| We serve 12,000 customers | | | ...
| 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 | One promise to the customer: We offer expertise, proximity, reliability and responsiveness for our customers in the most sustainable way |
| 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 | |
We operate in two strategic markets

Marine & Power Plants
Demand drivers:
- Focus on efficiency of operations
- Strong demand for power generation in developing countries

Growth through:
- Capturing further opportunities within our installed engine base
- Exploring opportunities in the installed base of multiple brands and equipment

Oil & Gas
Demand drivers
- Solid demand for energy
- Pressure to keep production up

Growth through:
- Building on our installed base in power generation, pumping, and offshore propulsion
- Leveraging existing capabilities

Increasingly shaped by:
- Complexity, uncertainty and volatility in global economy and politics
- Trade sanctions and trade barriers
- Digital disruption
- Growing importance of gas as a fuel
- New and stricter regulations regarding emissions, safety, and asset efficiency
Changing competitive landscape requires adapting the way we operate

- Increasing our market share through **superior customer service**, improved quality and products that offer **clear customer benefits**
- Changes in customer behaviour and more advanced technology drive **demand for premium services**
- **Digitalisation is crucial** for staying competitive and enabling growth
- Extending current products and competences into new markets and making acquisitions require **adapting operating models**
Managing the lifecycle of our installations

New products

Mature products

Introduction
Development

Growth
Maturity
Decline
Maintain
Phase-out

Introduce
Focus
Support
Maintain

Knowledge transfer from R&D to Services
Implementation of new technical solutions
Responsive & preventive solutions
Solutions & products for operational optimisation
Lifetime extension packages, obsolescence management
Controlled phase out of product lines
Managing the lifecycle: A closer look at our business

We manage long relationships with our customers
Understanding our 181 GW engine installed base

Wärtsilä’s engine installed base

- 38% 4-st marine
- 36% 4-st power
- 26% 2-st* marine

Engine installed base: MW distribution by commissioning year

*2-stroke now Winterthur Gas and Diesel Ltd. (WinGD), a joint venture between Wärtsilä and CSSC
Business per industry segment and region

Net sales split 2014

- Power
- Offshore
- Merchant
- Cruise & Ferry
- Special Vessels & Navy

- Middle-East and Asia
- Americas
- Northern Europe
- Southern Europe and Africa
We are where our customers need us to be

11,000 service professionals in 70 countries, 160 locations…

Marine installed base by operating country
Power installed base by operating country
Service locations
A solid business in a challenging environment

Net sales development

MEUR

2500
2000
1500
1000
500
0

95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14

25 March, 2015 Pierpaolo Barbone
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 focus is key

Customer first
We will nourish our partnerships with the existing customer base by focusing on improved:
- Time to quote
- Delivery accuracy
- Quality of field service

Access to new customers
We will seek to grow our customer base organically and through acquisitions by leveraging our existing competences.
- Exploring opportunities in the installed base of multiple brands and equipment
We will continue to develop and commercialise our portfolio of value-adding services:

- Asset performance management agreements
- Retrofits
- Upgrading of installed base

Focus areas for agreements:

- Marine: LNG carriers, cruise
- Oil and gas: offshore drilling and production, OSV’s
- Power Plants
Wärtsilä’s service agreement types

**Asset Management**
- Full responsibility for operations & maintenance
  - Lifecycle cost guarantee
  - Risk management
  - Performance guarantee
  - Extending lifetime of asset
- Monthly fixed and variable fee

**Maintenance Agreements**
- Responsibility for maintenance
- Financial predictability
- Ensured performance
- World class technical expertise
- Global and local coordination
- Monthly/quarterly fixed or variable fee, parts and work included

**Technical Management**
- Maintenance planning
- Maintenance cost prediction
- Condition evaluation
- Condition monitoring
- Periodical inspections
- Fixed monthly/quarterly management fee, parts and work on purchase order basis

**Supply Agreements**
- Consisting of one or more of the following
  - Manpower
  - Spare parts
  - Workshop services
  - Online services
  - Competence development and training
- Purchase order basis
Installed base under agreements

- Americas: 2,693 MW
  - Marine: 7,964 MW
  - Plants: 13,035 MW
  - Total: 20,999 MW

- North Europe: 2,956 MW
  - 224 MW

- South Europe & Africa: 1,878 MW
  - 4,282 MW

- Middle East & Asia: 437 MW
  - 5,093 MW
Digitalisation
The effects of digitalisation are expected to be so big that it is often referred to as the third industrial revolution.

Wärtsilä is part of this transformation, and invests in developing new solutions and services that create value for our customers and enable us to grow together with them.

**Digitalisation will create new growth and opportunities for industries.**
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
Digital transformation

Technology
Digitalisation is driven by technological developments and the changes they enable.

User experience
Growing user expectations create demand for seamless and effortless solutions, with a focus on e.g. data visualisation.

New business models
Digitalisation is changing customer value creation, as new business models become available.

Human behaviour
Ultimately, digitalisation is a cultural change with a net positive effect on our lives on many levels.
Digitalisation in industrial services

• Through partnerships with common business goals, digitalisation can help our customers’ business top line growth.
• New opportunities emerge at all stages from design to operations support, creating new business models and making old ones more efficient.
• Digitalisation enhances customer engagement, enabling a seamless and rewarding customer experience.
• Digitalised services can improve performance throughout the installation lifecycle.
Improving customers’ business top line with a co-growth approach

Customer value creation is a partnership in which digital technology and analytical skills of human experts are combined to achieve a common goal.
Wärtsilä’s focus areas for digital value creation

1. Customer engagement
2. Intelligent engines and components
3. Digital maintenance services
4. Virtual concepts
5. Asset performance optimisation
Customer engagement

- Digitalisation enables new forms of customer engagement.
- Increasingly sophisticated digital services offer value and empowerment.
- User experience is expected to be seamless and intuitive.
Roadmap for customer engagement

**Today**
- Wärtsilä Online Services with all customer asset information visible to the customer through the internet platform.
- Spare part online ordering included with order tracking information and latest condition based maintenance reports.
- Customers are able to connect to asset level data and perform basic trending functionalities.

**Future (2016-2018)**
- Condition based maintenance results create online dynamic maintenance schedules for customers.
- Remote centres available for running diagnoses, making adjustments and operating the assets remotely.
- Customer online spare part ordering is one of the biggest sales channels and includes proactive offering.
Intelligent engines and components

- Breakthrough innovations emerge from exploiting intelligent technologies.
- Key components will be equipped with track and trace features enabling them to alert when issues arise.
- In intelligent engines, components communicate with each other and self-optimise based on this communication.
Roadmap for intelligent engines and components

Today
- R&D projects ongoing to test “black box” data collection from engines.
- Testing of part identification tags.

Future (2016-2018)
- New ecosystem with suppliers in place. Smart or intelligent components embedded, enabling remote identification of condition.
- Improved machine-to-machine communication.
- Interaction between machine data and external conditions will optimise the business.
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.
Roadmap for digital maintenance services

Today
- Reports available through Wärtsilä Online Services.
- Global planning board available for Wärtsilä’s use through global skills management system.

- Digital and mobile concepts and tools, like virtual engineering, make interaction with customers transparent and collaborative throughout the maintenance process.
- Accurate, more user-friendly guidance at customers’ locations.
- Real-time services from online diagnostics to remote operation from remote centers.
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.
Roadmap for virtual concepts

Today
• Augmented reality and holograms in test use.
• Deployment of remote training concepts.
• 3D design exists for all of the new portfolio equipment.

Future (2016-2017)
• Holograms and augmented reality are used for training and supporting customers remotely.
• Live direct or indirect view of physical real-world environment augmented with sound, video, graphics or other data.
• External developers will be utilised to create virtual mobile apps to support customer business and operations.
• 3D printing will optimise the local availability of selected components.
The technical enabler behind Wärtsilä’s performance optimisation concepts is a single ecosystem.
Roadmap for asset performance optimisation

Today
- Condition monitoring and manual dynamic maintenance planning available for engines and propulsion.
- Predictive services for selected equipment.
- Data acquisition platform available for measuring ship or power plant performance.

Future (2015-2016)
- Fleet management information available in Wärtsilä’s online services portal.
- Asset performance optimisation services can help define the optimal performance of the ship or power plant, as well as help customers optimise business performance.
- All equipment or installation-based condition and performance data in the same data cloud.
Executive summary

- Changing competitive landscape and customer expectations creates a need to adapt our operating models
- We will seek business growth within our installed base and explore opportunities in new markets where we can leverage our existing competences
- Our focus is on strengthening our leadership in lifecycle services
- We will continue investing in the development of new digital solutions and services that create value for our customers and enable us to grow together with them