Why is Wärtsilä in the Service business?

**Defensive ?**
A defensive strategy aims to protect a core product or enhance its features to make it more competitive.

**Offensive ?**
An offensive strategy aims to develop a business as a stand-alone platform, self-profitable and sustainable.
What is the competitive advantage?

Skills? Differentiation?
A skill-based competitive advantage focuses on expertise and customisation.

Scale? Low Cost?
A scale-based competitive advantage sees its source of margin in large volume, hence standardization.

«The basis of the above-average performance within an industry is sustainable competitive advantage, which is of 2 types: Cost leadership or Differentiation»

Michael E. Porter, 1986
How to use Services

**Defensive**

- **P** + **S**
  - Bundle Service to the product.

- **P** + **S**
  - Overprice Services in “entry price” market driven for core products.

** Offensive**

- **P** + **S**
  - Premium Services.

- **P** + **S**
  - Add performance guarantee into Service Agreement to limit risks for customers.
Several strategies are implemented at the same time…
Wärtsilä Services has a large portfolio… for all needs.

Several Solutions for different strategies
Vision and Mission

Corporate Vision
We will be the most valued business partner of all our customers.

Service Mission
Wärtsilä Services supports customers’ business by providing the best services in the industry and optimizing their operations and product lifecycle.

“Best services” - How?
We provide a wide range of innovative solutions that optimize the lifecycle efficiency of the serviced equipment.
**Our Strategy explained**

**Innovative solutions**
We go beyond standard products and always seek out the best technologies and customized solutions. In terms of vocabulary, “Solutions” carries more values than “Products”.

**Wide range**
A lot of solutions and expertises from one single source. We have grouped our offering in order to help customers identify our expertise.

**“Best services” - How?**
We provide a **wide range** of **innovative solutions** that optimize the lifecycle **efficiency** of the serviced **equipment**.

**Equipment**
This term includes engines, but also automation, propulsion, boilers... It also means any brand.

**Efficiency**
Efficiency must be explained in its larger sense: Economical, Performance, Safety, Environmental efficiency or any combination of these.
“Solution” model for Wärtsilä business units

Ship Power

- OEM systems
- Propulsion packages
- Engine
- Design & Engineering support
- System installation
- Ship Design

Customer value

Service Solutions

Most valued business partner

Power Plant

- OEM systems
- Engine
- Plant Contractor
- Energy Advisor
- Energy Solutions
- Turnkey Plant

Customer value

Service Solutions

Most valued business partner
As we expand our portfolio of Products and Services, we create more solutions for customers.

As we can apply it to several equipment types, we stand for being a single source of service, a one-stop-shop partner, a total service provider..

This is how we create value for customers.
Focused areas of our expertise

- Engine Services
- Propulsion Services
- Automation Services
- Reconditioning Services
- Operations & Management
- Training Services
- Boiler Services
- Ship Services
Wärtsilä Services is the leader in the industry as we are UNIQUE in our offering of the **largest scope of Services** from a **wholly owned organization**.
New premises and expansions in 2007 & 2008

- Madagascar
- Azerbaijan
- Turkey
- Brazil
- Chile
- Norway
- Denmark
- France
- South Africa
- Namibia
- Cameroun
- Korea
- China
- Vietnam
- USA
- Madagascar
Engine services – OEM brands

Wärtsilä OEM brands include:

- Wärtsilä
- Sulzer
- DEUTZ marine engines
- Nohab Diesel
- Wärtsilä Diesel
- GMT
- Wichmann
- SACM
- Stork SW Diesel
- Werkspoor
- Moteurs Duvant Crepelle
- Nordberg
- Poyaud
- Bolnes
Fuel & Gas conversions

### HEAVY FUEL OIL CONVERSION
**WÄRTSILÄ DEUTZ 628**

### CUTTING YOUR OPERATING COSTS

Costs incurred with the 628 engine were originally designed to operate on marine diesel oil (MDO). However, with the price of heavy fuel oil (HFO) being significantly lower than MDO, it is not surprising that there is considerable interest among customers converting their installations to HFO operation.

Wärtsilä has now developed the conversion of HFO to medium-speed engines that can also be applied for conversion for CSS engines that are fully certified (CEP). Calculations and design evaluations have been carried out to make the conversion package for this engine type as well as for the medium-speed propulsion set.

**THE COMPRESSION System**
- The following engine components are key in the 628 conversion package:
  - Valves designed according to rules
  - Diesel injection system
  - Wärtsilä fuel pump
  - Turbocharger
  - Waste heat recovery system
  - Wärtsilä engine system

### Table: Conversion Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Country</th>
<th>Year</th>
<th>Conversion type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tintrofa</td>
<td>Portugal</td>
<td>2004</td>
<td>1 x 12V32 HFO → 12V34SG</td>
</tr>
<tr>
<td>Almeida</td>
<td>Portugal</td>
<td>2004</td>
<td>1 x 12V32 HFO → 12V32DFc</td>
</tr>
<tr>
<td>Tearfil</td>
<td>Portugal</td>
<td>2005</td>
<td>1 x 12V32 HFO → 12V32DFc</td>
</tr>
<tr>
<td>Century Power</td>
<td>Pakistan</td>
<td>2005</td>
<td>3 x 12V32 HFO → 12V32DFc</td>
</tr>
<tr>
<td>Denizli</td>
<td>Turkey</td>
<td>2006</td>
<td>1 x 16V46 HFO → 16V50DF</td>
</tr>
<tr>
<td>Cerestar</td>
<td>Germany</td>
<td>2006</td>
<td>1 x 16V46 HFO → 16V50DF</td>
</tr>
<tr>
<td>Batamindo I</td>
<td>Indonesia</td>
<td>2005</td>
<td>5 x 18V32 HFO → 18V32DFc</td>
</tr>
<tr>
<td>Batamindo II</td>
<td>Indonesia</td>
<td>2006</td>
<td>7 x 18V32 HFO → 18V32DFc</td>
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<tr>
<td>Batamindo III</td>
<td>Indonesia</td>
<td>2007</td>
<td>4 x 18V32 HFO → 18V32DFc</td>
</tr>
<tr>
<td>Arenko</td>
<td>Turkey</td>
<td>2006</td>
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</tr>
<tr>
<td>Crescent Textile</td>
<td>Pakistan</td>
<td>2007</td>
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<td>Bilag</td>
<td>India</td>
<td>2007</td>
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<tr>
<td>Tacna</td>
<td>Peru</td>
<td>2008</td>
<td>4 x 18V32 HFO → 18V34SG</td>
</tr>
<tr>
<td>Lucky Cement</td>
<td>Pakistan</td>
<td>2008</td>
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<td>Lucky Cement</td>
<td>Pakistan</td>
<td>2009</td>
<td>3 x 12V46 HFO → 12V50DF</td>
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<tr>
<td>Gengiz</td>
<td>Turkey</td>
<td>2009</td>
<td>7 x 18V46 HFO → 18V50DF</td>
</tr>
</tbody>
</table>

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Environmental compliance

Water Separator
MS FinnClipper

SOx reduction
MV Suula

NOx reduction
Birka Princess
Partnerhips & Contracts

Inventory management
Condition-based maintenance
Remote monitoring
Regular technical visits
Exclusive training plan
Wärtsilä personnel for major OH

Technical Support Agreement +
Covers several vessels
along their trade routes
Fixed agreed fee
and performance targets

Global Customer Agreement +
On-board Wärtsilä crew
Safety stock onboard
Minimum downtime
with exchange part policy
Monthly reporting

Long Term Agreement +
Wärtsilä personnel
for operation & installation
Management
Performance guarantee
Monthly business report

Technical Support Agreement
Global Customer Agreement
Long Term Service Agreement
Operation & Maintenance Agreement
Offering adapted to Customers’ needs

1. Basic Products and Services
2. Packages
3. Solutions
4. Partnerships & Contracts

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What Services can do for Power Plants

- Engine Services
- Automation Services
- Boiler Services
- Reconditioning Services
- Operations & Management
- Training Services
What Services can do for Ship Power

- Reconditioning Services
- Operations & Management
- Training Services
- Ship Services
- Engine Services
- Automation Services
- Propulsion Services
- Boiler Services
After six months resting on the sea bottom the vessel was lifted and towed to Dormac shipyard in South Africa where the main engines were removed and transported to Wärtsilä South Africa for inspection and repair.

- Propulsion was done in Cape Town, South Africa.
- Engine was overhauled in Zwolle, The Netherlands.
- Vessel was rehabilitated in a Grand Bahama shipyard.
The project took 18 work weeks, and was completed in Frederikshavn yard in Denmark in the spring of 2008.
The diversity of our business limits our exposure to market fluctuation.
A selection of transport and marine related equity indexes are plotted in combination with Eurostoxx 600, which in this case represents the overall performance of the stock market. By comparing the indexes from different regions and comparing to the overall stock market performance it is possible to get some insights in the performance of the shipping industry worldwide.
… but Wärtsilä Services has grown steadily.
Acquisitions & Joint Ventures

2002
- JMC Marine A/S
- CGL Industries Ltd
- Metalock Singapore Ltd

2003
- Caltax Marine Diesel BV

2004
- Decam B.V.
- Elco Systems B.V

2005
- Gerhardt Holding Co.
- DEUTZ AG.
- Wärtsilä BLRT Baltica (JV)

2006
- Stockholms fartygreparationer AB
- INTEC Injectortechnic GmbH
- Wärtsilä BLRT Services Klaipeda UAB (JV)
- Total Automation Ltd

2007
- Marine Propeller Ltd
- Senitec AB
- McCall Propeller Ltd
- Electrical Power Engineering Ltd

2008
- International Combustion Engineering A/S
- Claus D. Christophel Mess- und Regeltechnik GmbH
- Maritime Service AS
- Navelec SAS

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Always One Step Ahead...

Total Service

24/7 Globally
Wärtsilä Services

- Offensive service development worldwide
- Portfolio development through acquisitions & innovations
- 24/7 Services