Information for Shareholders

Annual general meeting
The Annual General Meeting of Wärtsilä Corporation will take place on Wednesday 12 March 2003, beginning at 4 p.m., in the Congress Wing of the Helsinki Fair Centre, address Messuaukio 1, 00520 Helsinki.

Right to attend
Shareholders who have been registered no later than 2 March 2003 in the Company’s list of shareholders maintained by the Finnish Central Securities Depository Ltd have the right to attend the Annual General Meeting.

Notification of attendance
Shareholders wishing to attend the Annual General Meeting are required to inform the Company thereof not later than 4 p.m. on 7 March 2003 either in writing, by e-mail, by fax or by telephone.

Address:
Wärtsilä Corporation
Share Register
P.O. Box 196
FIN-00531 Helsinki
Finland
Telephone +358 10 709 5282, between 10 am and 2 p.m. on weekdays
fax +358 10 709 5283
e-mail: yk@wartsila.com

Letters, e-mails and faxes informing of the participation at the Annual General Meeting must reach the Company before the notification period expires at 4 p.m. on Friday 7 March 2003.

Letters authorizing a proxy to exercise a shareholder’s voting right at the Annual General Meeting should reach the Company before the notification period expires.

Payment of dividend
The Board of Directors will propose to the Annual General Meeting that a normal dividend of EUR 0.25 and an extra dividend of EUR 1.50 or altogether EUR 1.75 per share to be paid on the 2002 financial period. The dividend will be paid to shareholders who are registered in the list of shareholders maintained by Finnish Central Securities Depository Ltd on the record date, which is 17 March 2003. The dividend payment date proposed by the Board is 24 March 2003.

Annual report 2002
This Annual Report is also available in Finnish and Swedish and may be downloaded at Wärtsilä’s Internet site, www.wartsila.com.

Interim reports 2003
Wärtsilä Corporation will publish Interim Reports on its financial performance during 2003 as follows:

- 29 April 2003 January-March
- 31 July 2003 January-June
- 31 October 2003 January-September.

These Interim Reports are published in English, Finnish and Swedish on Wärtsilä’s Internet site. Interim Reports will be sent by post on request. Interim Report orders: tel. +358 10 709 0000/Corporate Communications or Internet: www.wartsila.com.

Stock exchange releases:
Wärtsilä’s Stock Exchange releases are available in English, Finnish and Swedish on Wärtsilä’s Internet site.

Information material orders
Wärtsilä’s Annual and Interim Reports, brochures and releases are available at the Communications Department, tel. +358 10 709 0000 or they can be ordered via Internet www.wartsila.com.
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14 Environment
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Wärtsilä in Brief

Wärtsilä is the leading global ship power supplier and a major provider of solutions for decentralized power generation and of supporting services. In addition Wärtsilä operates a Nordic engineering steel company Imatra Steel and manages a substantial shareholding to support the development of its core business.

Strategy

Power on Land and at Sea

Wärtsilä is the leading supplier of ship machinery, propulsion and manoeuvring solutions for all types of marine vessels and offshore applications.

Key figures 2002

Net sales MEUR 763.4
- Operating profit MEUR 188.9
- Profit before extraordinary items MEUR 178.0
- Balance sheet total MEUR 2,685.0
- Gearing 0.50
- Personnel at year end 12,459

Marine

The Ship Power Supplier
Wärtsilä improves the performance and profitability of its customers’ businesses by providing reliable and cost-effective total propulsion systems while fully respecting environmental demands.

Key figures 2002

- Net sales MEUR 188.9
- Order intake MEUR 506.7
- Year-end order book MEUR 617.7

Power Plants

Wärtsilä is a leading global provider of power plants for decentralized power generation. Wärtsilä provides power plants for baseload, peaking, and combined heat and power applications. We also supply solutions for gas compression and for oil and gas pumping. The product range comprises gas- and oil-fired power plants with outputs from 1 to 300 MW and biofuelled power plants with outputs from 3 to 25 MW.

Key figures 2002

- Net sales MEUR 666.0
- Order intake MEUR 427.9
- Year-end order book MEUR 255.2

Market share of medium- and low-speed main engines

<table>
<thead>
<tr>
<th>Engine Type</th>
<th>Wärtsilä</th>
<th>Other Engine manufacturers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium-speed engines</td>
<td>34 % (37 %)</td>
<td>25 % (26 %)</td>
</tr>
<tr>
<td>Low-speed engines</td>
<td>34 % (37 %)</td>
<td>25 % (26 %)</td>
</tr>
</tbody>
</table>

Source: Diesel & Gas Turbine WorldWide

Market share of Wärtsilä Power Plants

<table>
<thead>
<tr>
<th>Engine Type</th>
<th>Wärtsilä</th>
<th>Gas turbines</th>
<th>Other Engine manufacturers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wärtsilä 8% (5%)</td>
<td></td>
<td>29% (50%)</td>
<td>63% (45%)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Diesel & Gas Turbine WorldWide

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**Wärtsilä Corporation**

**Holdings**
- Assa Abloy and Wärtsilä Real Estate are the main holdings.
  - Assa Abloy 7.6%
  - Wärtsilä Real Estate 100%

**Strategy**
- The Total Service Provider
  Keeping the customers’ investments productive by optimizing their operations throughout the product lifecycle.

**Strategy**
- A Skilful Niche Player
  Special engineering steels and automotive components

**Strategy**
- Holdings create financial resources for developing Wärtsilä’s core business, the Power Divisions.

**Key figures 2002**
- Net sales MEUR 843.4
- Personnel at year end 5,644
- Long-term service agreements for 9,756 MW
- O&M agreements 2,056 MW

**Imatra Steel**
- Imatra Steel is Wärtsilä’s special engineering steels company. Imatra Steel produces round, square and flat special steel bars, forged engine and front axle components, leaf springs and tubular stabilizer bars. The company’s customers are European automotive and mechanical engineering companies.

**Key figures 2002**
- Net sales MEUR 200.4
- Operating profit MEUR 3.2
- Profit before extraordinary items MEUR -0.4
- Personnel at year end 1,391

**Imatra Steel net sales by market area 2002**

- Finland 14% (15%)
- Other northern countries 38% (36%)
- Other EU countries 47% (46%)
- Other countries 1% (3%)

**Wärtsilä’s engine base**

<table>
<thead>
<tr>
<th>Power Plants</th>
<th>Marine engines</th>
<th>Low-speed</th>
<th>Medium-speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000 MW</td>
<td></td>
<td>140 MW</td>
<td>120 MW</td>
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<tr>
<td>120 MW</td>
<td>140 MW</td>
<td>80 MW</td>
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<td>20 MW</td>
<td>40 MW</td>
<td>20 MW</td>
<td>0 MW</td>
</tr>
</tbody>
</table>

**Assa Abloy share price development 1998-2002**

- Traded shares (x 1,000)
  - Series B
  - General Index

**Wärtsilä supports its customers throughout the lifecycle of its products by ensuring lifetime efficiency. Wärtsilä’s Service business is founded upon the Group’s global base of installed engines and power plants. Wärtsilä is close to its customers through subsidiaries in roughly 60 countries.**

**Imatra Steel**

**Wärtsilä’s engine base**

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<tr>
<td>20 MW</td>
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<td>20 MW</td>
<td>0 MW</td>
</tr>
</tbody>
</table>

**Assa Abloy share price development 1998-2002**

- Traded shares (x 1,000)
  - Series B
  - General Index
Highlights of 2002

POWER DIVISIONS

Marine
• The John Crane-Lips acquisition strengthened Wärtsilä’s position as the leading global supplier of ship power and propulsion solutions. Renamed Wärtsilä Propulsion, this company increased Marine’s sales by 25.3%.

• Marine’s order intake became livelier during the autumn and in the final quarter was almost double the volume in the same period one year earlier.

• Wärtsilä signed a co-operation agreement with Mitsubishi Heavy Industries Ltd in September on the development of a new low-speed marine diesel engine.

Power Plants
• The volume of power plant orders declined, profitability improved.

• The volume of projects was good, financing was problematic.

• The Power Plants division’s organization was restructured to increase the flexibility required by prevailing market conditions. A new functional organization was adopted in November.

• Power plant activity was highest in Latin America.

• Large 100 MW order for pumping units gained in September for crude oil pipeline in Turkey.

• Clear growth in interest in biofuelled power plants.

Service
• The Service division showed further growth. Three new Ciserv companies were acquired, each with its own specialist expertise in marine service.

• Service focused on developing new service products and accelerating deliveries.

• Wärtsilä Land and Sea Academy was set up to provide training for marine and power plant customers.

Wärtsilä Group’s net sales by divisions 2002

<table>
<thead>
<tr>
<th>Service</th>
<th>Marine</th>
<th>Power Plants</th>
<th>Intra Steel</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>33.5% (33.5%)</td>
<td>30.3% (25.2%)</td>
<td>26.4% (32.2%)</td>
<td>8.0% (7.9%)</td>
<td>1.8% (1.1%)</td>
</tr>
</tbody>
</table>

Power Divisions, net sales by division 2002

<table>
<thead>
<tr>
<th>Service</th>
<th>Marine</th>
<th>Power Plants</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.4% (36.4%)</td>
<td>32.9% (27.4%)</td>
<td>28.7% (35.0%)</td>
<td>2% (1.2%)</td>
</tr>
</tbody>
</table>

Key ratios

<table>
<thead>
<tr>
<th>EUR million</th>
<th>Year</th>
<th>Most recent quarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>2,706.8</td>
<td>2,358.7</td>
</tr>
<tr>
<td>Operational EBIT</td>
<td>111.4</td>
<td>95.8</td>
</tr>
<tr>
<td>Operating profit</td>
<td>367.1</td>
<td>523.9</td>
</tr>
<tr>
<td>Profit before extraordinary items</td>
<td>386.1</td>
<td>508.7</td>
</tr>
<tr>
<td>Earnings per share, euro</td>
<td>4.20</td>
<td>5.53</td>
</tr>
<tr>
<td>Balance sheet total</td>
<td>2,465.3</td>
<td>2,405.0</td>
</tr>
<tr>
<td>Interest-bearing liabilities, gross</td>
<td>485.0</td>
<td>168.3</td>
</tr>
<tr>
<td>Convertible subordinated debentures</td>
<td>117.2</td>
<td>28.1</td>
</tr>
<tr>
<td>Cash and bank balances</td>
<td>118.9</td>
<td>184.6</td>
</tr>
<tr>
<td>Personnel end of period</td>
<td>10,564</td>
<td>11,122</td>
</tr>
</tbody>
</table>
Wärtsilä bioplants use the patented BioGrate combustion technology, which is especially suitable for extremely wet wood residues, bark and sawdust.

Restructuring continued

- Restructuring continued. Closure of the Zwolle factory in the Netherlands and the transfer of technology to Italy proceeded as planned.

- The Technology and Manufacturing divisions within Power Divisions were merged in April to form the Engine division.

- The Group’s cost efficiency improved.

IMATRA STEEL

- Forging business raised overall net sales.

- Demand for special engineering steels remained weak.

- Imatra Steel’s net sales rose 7.5%.

- Demand for steels began to decline.

- Scottish Stampings strengthens the forging business.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>3,575</td>
<td>3,521</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1,173</td>
<td>805</td>
</tr>
<tr>
<td>Italy</td>
<td>1,167</td>
<td>1,213</td>
</tr>
<tr>
<td>France</td>
<td>936</td>
<td>1,024</td>
</tr>
<tr>
<td>Sweden</td>
<td>568</td>
<td>554</td>
</tr>
<tr>
<td>Norway</td>
<td>468</td>
<td>333</td>
</tr>
<tr>
<td>Great Britain</td>
<td>449</td>
<td>303</td>
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<tr>
<td>Switzerland</td>
<td>431</td>
<td>428</td>
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<tr>
<td>Denmark</td>
<td>184</td>
<td>165</td>
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<tr>
<td>Spain</td>
<td>127</td>
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<tr>
<td>Germany</td>
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<td>63</td>
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<tr>
<td>Portugal</td>
<td>45</td>
<td>43</td>
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<tr>
<td>Poland</td>
<td>25</td>
<td>23</td>
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<tr>
<td>Other Europe</td>
<td>112</td>
<td>90</td>
</tr>
<tr>
<td>Europe</td>
<td>9,352</td>
<td>8,696</td>
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<tr>
<td>India</td>
<td>742</td>
<td>719</td>
</tr>
<tr>
<td>Singapore</td>
<td>235</td>
<td>120</td>
</tr>
<tr>
<td>Japan</td>
<td>172</td>
<td>27</td>
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<tr>
<td>China, Hong Kong</td>
<td>112</td>
<td>106</td>
</tr>
<tr>
<td>Other Asia</td>
<td>631</td>
<td>555</td>
</tr>
<tr>
<td>Asia</td>
<td>1,892</td>
<td>1,527</td>
</tr>
<tr>
<td>USA</td>
<td>401</td>
<td>334</td>
</tr>
<tr>
<td>Other Americas</td>
<td>545</td>
<td>440</td>
</tr>
<tr>
<td>Americas</td>
<td>946</td>
<td>774</td>
</tr>
<tr>
<td>Other countries</td>
<td>269</td>
<td>125</td>
</tr>
<tr>
<td>Total</td>
<td>12,459</td>
<td>11,122</td>
</tr>
</tbody>
</table>
Wärtsilä values

Energy
Capture opportunities and make things happen

Excellence
Do things better than anyone else in our industry

Excitement
Foster openness, respect and trust to create excitement
Wärtsilä’s personnel is actively taking part in various fund raising and other community events all over the world.

Wärtsilä – Power on Land and at Sea

Mission
We contribute to solving the global needs of sea transportation and power generation by developing equipment and services that convert fuels into power efficiently and with the lowest possible environmental impact.

Vision
We strive to lead the ship power and distributed power generation markets by providing the most competitive, reliable and environmentally sound solutions.

Our worldwide network of professionals translates these solutions into maximum customer satisfaction and value.

Our mission and vision mean that:
• We take responsibility for the total functionality of our system supplies.
• We maintain and develop a comprehensive service network capable of enhancing value for our customers.
• We develop products that meet the strictest environmental criteria.
• We develop value for our shareholders.

Targets
Operational
• The leading global ship power supplier.

• In Power Plants, Wärtsilä’s target is to strengthen its global leadership position in large engine based power plants and to grow in renewable energy solutions. Gas power plant deliveries will be half of Wärtsilä’s total engine based power plant business.

• In the Marine and Power Plants divisions Wärtsilä’s target is to grow 4% a year. Further growth will be achieved through acquisitions.

• The annual growth target for the Service division is 10-15%. The service business will represent over one-third of the total net sales of the Power Divisions.

Financial
• Wärtsilä’s target is to improve the performance of the Power Divisions by raising the operating profit to 7-8% of net sales.
• The solvency ratio target is 40%.

Dividend policy
Wärtsilä’s target is to pay a dividend equivalent to 50% of operational earnings per share.

Group Structure

The Group consists of two industrial business areas – the Power Divisions and Imatra Steel. Power Divisions, which is the core of the Group, is divided into Marine, Power Plants and Service divisions. Imatra Steel is a Nordic steel company.
Dear Shareholders,

During 2002 the Wärtsilä Group continued to develop its industrial operations in line with the guidelines set earlier. These call for us to strengthen our position as a supplier of marine propulsion systems and decentralized power generation solutions, and also to increase our presence in the Service business. At the same time we continued to disengage ourselves from assets that did not relate directly to these core businesses.

Demand in Wärtsilä’s main markets, marine engines and power plants, was slack during the first half of the year. Interest in marine engines picked up during the summer but demand for power plants is still weak.

Demand for marine engines and propulsion systems is linked directly to orders for new ships. Shipyard order books contracted at the start of the year. Towards the end of the year the demand increased and order books strengthened once again. Orders mainly involved tankers and bulk carriers, and at the year end also container ships. Few new passenger vessels and cruise ships were ordered since a large number are still under construction. Net sales from Wärtsilä’s traditional marine engine operations remained at the previous year’s level.

Increasingly intense competition in the shipbuilding industry and the ever stronger position of shipyards in Asia has opened up new opportunities for Wärtsilä’s propulsion systems. The acquisition of John Crane-Lips and this company’s integration within Wärtsilä’s Marine Division proceeded entirely as planned and the market reaction was positive. John Crane-Lips, now called Wärtsilä Propulsion, has been part of the Group since 1 April 2002. Wärtsilä Propulsion accounted for the total growth of the Marine Division in 2002, raising Marine’s annual sales by more than 25 percent. We plan to expand this business further with new, complementary products, by increasing the role of design and engineering, and by forging alliances with other companies in the market.

The focus of the world’s shipbuilding industry is shifting to Asia where Wärtsilä already has long-term Sulzer-engine licensing agreements with the most important shipyards in the largest shipbuilding countries in the region: Korea, Japan and China. We will continue to deepen this cooperation and in this vein we have started co-operation with Mitsubishi Heavy Industries Ltd to develop a new low-speed marine engine which will further broaden our product range in the Asian market.

The main markets for Wärtsilä’s power plant business lie outside the industrial world in Asia, Latin America and Africa. The use of natural gas as a fuel has not yet gained a foothold in these countries, while coal-fired and hydropower plants are both expensive and slow to build. This has made Wärtsilä’s fuel oil solutions a natural alternative. The recent high price of oil, the weak economic conditions and the uncertain political situation have weakened investment financing in these countries considerably. The need for new electricity generating capacity, however, has not disappeared, as is proved by the large number of projects currently in the pipeline.

In the industrialized countries, decentralized power production is gaining ground as the preferred technology today. Wärtsilä’s gas- and biofuelled power plants offer an attractive answer to this need. Wärtsilä BioPower is already a well established supplier of small standardized power plants in the Nordic region and also to some extent in North America.

The low order intake at the end of 2001 and throughout 2002 resulted in a fall of 12.4 percent in the Power Plants division’s net sales. We remain committed to developing our oil- and gas-fired power plants in order to further reduce their operating and construction costs and harmful emission levels, and we see future opportunities for success in these markets. At the same time the highest growth potential in our view lies in biopower plants.

Our Service business is a strategically important pillar of our operations and one that offers our company the greatest opportunities for growth. We further developed our range of repair and operations services during the year with the acquisition of three new service companies, each of which in its own way supports our aim to build a versatile,
The service business grew 6.7 percent during the year. Growth was affected by the general economic conditions, low marine freight volumes and the high price of oil. We will accelerate growth in our Service business by acquiring companies specialized in marine repair and reconditioning.

During the year we also merged our Technology and Manufacturing units into a new Engine division. This will simplify reporting procedures and clarify responsibilities. The Engine Division is responsible for the design and manufacture of Wärtsilä engines.

Wärtsilä seeks to underpin its leading position and technical competitiveness in the long term through Technology Forum, a group set up by the company during the year to initiate and co-ordinate research projects important to Wärtsilä. Characteristic of the Forum’s activities is tight co-operation with the divisions coupled with closer and longer-term collaboration with research institutions. Technology Forum’s key focus areas are environmental technology and fuels, new engine and energy technologies, system automation, and technologies related to materials, propulsion and manufacturing. Product and system development is the responsibility of the divisions.

Last year the Power Divisions devoted EUR 85.9 million to research and development (3.7 percent of net sales).

With our long-term 7-8 percent operating margin target in mind we continued with measures to streamline the Group. An important step along this path is the termination of engine manufacturing in the Netherlands, a decision taken at the end of 2001. Once the measures required by this decision are fully implemented in early 2003 our manufacturing capacity will correspond to the estimated level of demand in the next few years.

Slack demand in the power plant business is the main reason why our manufacturing volume in 2002 reached only 3,538 megawatts, which is 20.5 percent less than a year ago. Low manufacturing volume and the streamlining measures still in progress kept profitability lower than in the previous year. As a result we are implementing a number of new rationalization measures affecting the power plant organization in most of our operating locations.

The streamlining measures now in progress will result in the reduction of altogether 800 employees; 200 of this total applies to the Power Plant division and 370 of the total were put into effect during 2002. However, acquisitions raised the total number of employees in the Power Divisions by 1,330 to 11,068. Personnel has as far as possible been moved to the Service business, where the need for new personnel is growing increasingly.

Wärtsilä’s steel business, Imatra Steel, enhanced its standing as a leading supplier of forged components and springs to the European truck industry. The acquisition of Scottish Stampings in 2001 broadened our product portfolio in this sector and further deepened contacts with customers. Investments continued at Imatra related to modernization of the basic metallurgical process at the steel works. Owing to low manufacturing volumes, as well as efficient utilization of the modernization investments, negotiations were started at Imatra in the autumn on the need for personnel reductions. As a result, by 2004 the number of employees at the Imatra Steel Works will decrease by 90.

In May we sold 10 million Assa Abloy shares for EUR 138 million, which was in line with the Group’s long-term strategy. This sale yielded a capital gain of EUR 111 million which, as planned, has been used for corporate development purposes including the acquisitions already mentioned. At the same time our solvency ratio, and in particular the value of the Assa Abloy shares we still hold, will allow the Board to propose payment of an extra dividend at the next Annual General Meeting.

Improved demand for marine engines, growth in our Service business, and increased cost-efficiency give us reason to believe that profitability will improve during 2003.

Let me close by thanking our customers for your confidence in our products and service. I also wish to thank our shareholders for the interest you have continued to show in our company. And finally my thanks are due to all our employees for your good work during the year.

February 2003

Ole Johansson
Board of Directors

**Mr Robert G. Ehrnrooth**, LicSc (Econ.), Chairman, born 1939. Chairman of the Board of Wärtsilä Corporation since 1990. Member of the Board of Fiskars Corporation. Owns 40,321 shares in Wärtsilä.

**Mr Georg Ehrnrooth**, MSc (Eng.), born 1940. Member of the Board of Wärtsilä Corporation since 1999. Chairman of the Board of Assa Abloy AB (publ), Deputy Chairman of the Board of Rautaruukki Corporation, member of the Boards of Nokia Corporation, Sampo plc and Sandvik AB (publ.). Owns 75,659 shares in Wärtsilä.

**Mr Göran J. Ehrnrooth**, MSc (Econ.), born 1934. Chairman of the Board of Fiskars Corporation. Member of the Board of Wärtsilä Corporation since 1992. Member of the Board of Assa Abloy AB (publ). Owns 105,409 shares in Wärtsilä.

**Mr Jaakko I loniemi**, MSc (Pol. Sc.), born 1932. Member of the Board of Wärtsilä Corporation since 1994. Owns 579 shares in Wärtsilä.

**Mr Antti Lagerroos**, LLic, born 1945. President & CEO and Member of the Board of Finnlines plc. Member of the Board of Wärtsilä Corporation since 2002. Member of the Boards of Fortum Oyj and Nordic Aluminium Oyj. Owns 4,000 shares in Wärtsilä.

**Mr Bertel Langenskiöld**, MSc (Eng.), born 1950. President & CEO of Fiskars Corporation. Member of the Board of Wärtsilä Corporation since 2002. Member of the Supervisory Board of Rautaruukki Corporation. Owns no shares in Wärtsilä.


**Mr Vesa Vainio**, LLM, Deputy Chairman, born 1942. Member of the Board of Wärtsilä Corporation since 1993. Chairman of the Board of UPM-Kymmene Corporation and member of the Board of Nokia Corporation. Owns 834 shares in Wärtsilä.

Board Members’ term of office changed in 2002.
The Extraordinary General Meeting of Wärtsilä shareholders on 25 September 2002 decided that each Board Member’s term of office shall last for one year. This means that the terms of all members expire in 2003.
Board of Management

Mr Ole Johansson, BSc (Econ.), born 1951. President and CEO. Worked for the company 1975-79 and rejoined in 1981. Owns 9,500 shares in Wärtsilä. Warrant 2001 allows subscription of 84,000 Wärtsilä B shares and warrant 2002 allows subscription of 150,000 Wärtsilä B shares.

Mr Sven Bertlin, BSc (Econ.), born 1944. Executive Vice President. Group Vice President, Engine division. Joined the company in 1970. Owns 2,872 shares in Wärtsilä. Warrant 1996 with right to subscribe for 9,600 Wärtsilä B shares. Warrant 2001 allows subscription of 42,000 Wärtsilä B shares and warrant 2002 allows subscription of 40,000 Wärtsilä B shares.

Mr Pekka Ahlqvist, MSc (Eng.), born 1946. Group Vice President, Engine division. Joined the company in 1999. Owns 1,500 shares in Wärtsilä. Warrant 2001 allows subscription of 42,000 Wärtsilä B shares and warrant 2002 allows subscription of 40,000 Wärtsilä B shares.

Mr Tage Blomberg, BSc (Eng.), born 1949. Group Vice President, Service division. Joined the company in 1975. Owns 1,350 shares in Wärtsilä. Warrant 2001 allows subscription of 42,000 Wärtsilä B shares and warrant 2002 allows subscription of 40,000 Wärtsilä B shares.

Mr Kari Hietanen, LLM, born 1963. Group Vice President, Legal Affairs and HR. Company Secretary and Secretary to the Board of Management. Joined the company in 1989. Owns 48 shares in Wärtsilä. Warrant 2001 allows subscription of 42,000 Wärtsilä B shares and warrant 2002 allows subscription of 40,000 Wärtsilä B shares.


Mr Raimo Lind, MSc (Econ.), born 1953. Group Vice President, CFO. Employed by the company 1976-89 and rejoined in 1998. Owns 1,560 shares in Wärtsilä. Warrant 2001 allows subscription of 42,000 Wärtsilä B shares and warrant 2002 allows subscription of 40,000 Wärtsilä B shares.


Corporate Management

Corporate Management comprises the Board of Management along with the following directors responsible for corporate functions and the president of Imatra Steel:

Mr Christian Andersson, born 1944. LLM. Group Vice President, External Relations

Ms Maj-Len Ek, born 1948. MSc (Econ.). Vice President, Group Control

Ms Bodil Forss, born 1957. MSc (Eng.). Chief Information Officer (CIO)

Mr Per Hansson, born 1967. MSc (Eng.). Vice President, Corporate Planning

Ms Eeva Kainulainen, born 1948. MSc (Soc.Sc.). Vice President, Corporate Communications & IR

Ms Taina Sopenlehto, born 1960. Doctor of Technology. Vice President, Human Resources

Mr Kari Tähtinen, born 1946. Doctor of Technology. President of Imatra Steel Oy Ab
Human Resources

A key task for the HR function is to ensure that the Group has the right management resources available for future business challenges. The Global HR project is expected to offer useful tools to develop management potential in the whole Group towards more demanding tasks and positions.

Highlights of 2002

- Number of employees adjusted to prevailing market conditions.
- Internal discussion on corporate values.
- Third performance tracking survey was carried out.
- Development of a new global system for human resources management was started.
- Information technology also adopted in personnel development.

Based on the Occupational Health and Safety Policy and Directive, launched as a part of the Group’s quality system, Wärtsilä companies have been working on implementing occupational health and safety management systems in accordance with the OHSAS 18001 standard.

Organizational climate

The third Performance Tracking Survey was carried out in the spring 2002 and covered more than 2,300 employees. The study gives useful information on the Group’s current capabilities and on where development efforts should be directed in order to build on these capabilities and thereby enhance performance. The results showed clear improvement in key areas such as leadership and communication. Several areas for further development were identified and in these fields teams representing both management and employees have been creating action plans for improvement. The performance tracking surveys will be repeated at regular intervals to monitor development.

The corporate values

Wärtsilä’s corporate values have been reformulated into three core values – Energy, Excellence and Excitement – based on value discussions at different levels in the Group over the past few years. These values have been discussed in the units, in local and international works councils and in different leadership development programmes.

Performance management

2002 was the first full year of operation of the Wärtsilä Academy. The junior management training programme Lead, one of the Academy’s responsibilities, was further developed based on extensive experience from the programme’s execution in Finland and India. New Lead
programmes were conducted in many countries with a total of close to 200 participants.

Three mid-career Reach programmes were held for altogether 80 participants. The sixth top management Lausanne Leadership programme was delivered in cooperation with IMD and other enterprises. IMD is a university specializing in international executive training. Wärtsilä had 12 participants in the programme.

As a new learning platform, the Wärtsilä Academy offered access to world-class executive training through the IMD weekly webcasts. Very favourable feedback from an internal audience of more than 100 attendees paves the way for increased use of e-learning in the future.

The yearly discussion process, one of the cornerstones in Wärtsilä’s performance management, was further developed and redesigned to ensure full use for over 11,000 employees. The yearly discussions form the primary tool for cascading Group goals and targets down to the individual and for identifying the competences needed to achieve them.

### Human resources management

The goal of the Global HR project initiated in 2001 is to establish a global solution for efficiently managing human resources in the whole Group. The system will give instant and up-to-date information on Group employees, jobs and competences, and will also serve as an effective tool for training and travel management. The project blueprint was completed in the spring 2002 and implemented in the form of a pilot project in Wärtsilä Italy in the autumn. The roll-out to other Group companies has started and will continue to mid-2004.

#### Compensation and rewards

The total Group salary costs in 2002 were EUR 548.9 million. The position evaluation of the management positions is almost complete in the major Group companies and is now being extended to the recently acquired companies.

Group-wide bonus schemes based mainly on Group results and partly on individual targets covered more than 1,500 managers. The major European Group companies applied profit-sharing schemes for personnel not covered by any other bonus scheme.

The management incentive schemes are described in the Financial Review, page 41.

### A year of changes

The number of employees in the Marine and Service divisions rose during 2002 as a result of strategic acquisitions. Service’s personnel also grew organically.

Personnel negotiations related to restructuring measures are in progress that will reduce personnel in the Power Divisions by altogether 800 employees; of this figure approx. 370 reductions took effect in 2002. 200 of the reductions are related to the restructuring of the Power Plant division.

Personnel negotiations at Imatra Steel Works started in September with the aim of adapting the number of personnel to correspond to decreased production and delivery volumes will lead to a reduction of 90 persons by the end of 2004.

At the end of the year the company had 12,459 employees: 11,068 in the Power Divisions and 1,391 in Imatra Steel.

### Future challenges

A key task for the HR function is to ensure that the Group has the right management resources available for future business challenges. The Global HR project is expected to offer useful tools to develop management potential in the whole Group towards more demanding tasks and positions.

In past years considerable effort has been put into increasing a mutually beneficial dialogue between management and employees. Benchmarking with other companies shows good achievements in this respect. To reach a full understanding of, and alignment with the business targets and the company’s way of working, this dialogue has to be enhanced in the daily work environment, in yearly discussions and in works councils at both local and international levels.
Environmentally sound solutions and service

Wärtsilä’s values, mission and vision form the foundation for the company’s environmental protection activities. At the core of Wärtsilä’s products and operations is the principle of sustainable development. The work we do to enhance the environmental performance of our products and operations is also guided by Wärtsilä Group’s environmental policy, which aims at guaranteeing uniform operating principles throughout Wärtsilä’s global organization.

Environmental strategy and targets
Wärtsilä’s Board of Management approved the new environmental strategy and corporate targets in autumn 2002. The priority areas defined in the environmental strategy, coupled with the concrete targets it sets, lay a framework for improving the company’s environmental performance.

Environmentally advanced solutions and service
Wärtsilä’s aim is to develop and offer its customers environmentally advanced solutions and services that fulfil all important requirements. We require that the environmental performance of our solutions and services meet the highest standards in the industry. Development focuses on achieving low emission levels and high efficiencies.

World-class supplier
Wärtsilä’s target is to be a world-class supplier of power solutions. We give high priority to achieving sustainable development by applying the latest technical advances in raw materials, processes, products, waste and emissions.

Environmental management
Wärtsilä’s principle is to apply an ISO 14001-certified environmental management system in all its subsidiaries. At the end of 2002, twenty-eight Wärtsilä companies operated an environmental management system certified according to ISO 14001. Other Wärtsilä companies have continued to pursue this aim rigorously and their certification is in progress.

The targets of Wärtsilä’s environmental strategy will be described in more detail in the company’s Environmental Report 2002.

Managing environmental risks
Environmental risks are monitored in the same way as other business risks. Wärtsilä’s Board of Management regularly assesses the Group’s risk profile, risk management policy and indemnity insurance cover. Each Wärtsilä company is responsible for risk management in its own sphere of operations, complying with the Group’s directives.

Management of environmental risks is based on systematic and continuous risk assessment and avoidance of damage, supported by the high quality of Wärtsilä’s products and operations.

Environmental liabilities
Environmental liabilities in Wärtsilä are primarily linked to the company’s real estate. Wärtsilä is aware of certain cases that might incur environmental liabilities. However, these are of only minor financial significance.

Highlights of 2002
The main events of environmental significance to Wärtsilä during 2002 were the following:

• Wärtsilä’s Board of Management approved the updated environmental strategy and targets.

• Four Wärtsilä companies gained ISO 14001 certification.

• Wärtsilä received the Best First-Time Report award in the European Environmental Reports competition.

• Environmental reporting efficiency was enhanced with the introduction of guidelines for collecting reporting data. Work started on the development of a reporting system.

• Wärtsilä will release its next Environmental Report this year and its coverage will be wider than the 2001 report.

• A Fuels and Environment Forum was set up under Wärtsilä’s Technology Forum to handle environmental issues requiring attention at Group level.

• The first Wärtsilä 46 common rail engines were installed in the Coral Princess luxury cruise ship built at the Chantiers de l’Atlantique shipyard. Sea trials were successfully completed in November 2002. Ordered by P&O Princess Cruises, this vessel will sail in environmentally sensitive areas such as Alaska.

Wärtsilä manufactures competitive high-quality diesel and gas engines and applications based on them for marine and power plant use.
Wärtsilä’s core business is its Power Divisions: these are Marine, Power Plants and Service.

Wärtsilä supplies ship machinery, propulsion and manoeuvring solutions for all types of marine vessels and offshore applications.

Wärtsilä supplies power plants for decentralized power generation. Its gas- and oil-fired plants range in output from 1 to 300 MW, and its biopower plants from 3 to 25 MW.

Wärtsilä provides a comprehensive range of maintenance, repair and operations services to its marine and power plant customers, enabling them to optimize their return on investment.

Power Divisions
Power on Land and at Sea
**Five years in figures, Power Divisions**

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<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>2,319.9</td>
<td>2,174.3</td>
<td>2,287.8</td>
<td>1,896.6</td>
<td>1,834.6</td>
</tr>
<tr>
<td>of which outside Finland</td>
<td>97.6%</td>
<td>97.5%</td>
<td>97.7%</td>
<td>96.4%</td>
<td>97.2%</td>
</tr>
<tr>
<td>Depreciation and writedowns ¹</td>
<td>−93.4</td>
<td>−69.8</td>
<td>−73.1</td>
<td>−64.6</td>
<td>−64.2</td>
</tr>
<tr>
<td>Operating profit/loss</td>
<td>74.6</td>
<td>87.8</td>
<td>86.2</td>
<td>−28.5</td>
<td>−108.3</td>
</tr>
<tr>
<td>Capital employed ²</td>
<td>1,293.5</td>
<td>1,208.7</td>
<td>865.4</td>
<td>825.9</td>
<td>833.5</td>
</tr>
<tr>
<td>Operating profit/loss %</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>−2%</td>
<td>−6%</td>
</tr>
<tr>
<td>ROI</td>
<td>8%</td>
<td>11%</td>
<td>12%</td>
<td>0%</td>
<td>−12%</td>
</tr>
<tr>
<td>Megawatts delivered</td>
<td>6,354</td>
<td>6,172</td>
<td>7,495</td>
<td>6,278</td>
<td>6,896</td>
</tr>
<tr>
<td>Order book, end of period</td>
<td>1,206.6</td>
<td>1,516.5</td>
<td>1,624.3</td>
<td>1,314.9</td>
<td>1,210.2</td>
</tr>
<tr>
<td>Order intake</td>
<td>1,882.8</td>
<td>2,040.4</td>
<td>2,460.6</td>
<td>1,853.7</td>
<td>1,870.8</td>
</tr>
<tr>
<td>Personnel, end of period</td>
<td>11,068</td>
<td>9,738</td>
<td>9,255</td>
<td>8,742</td>
<td>7,854</td>
</tr>
<tr>
<td>of which outside Finland</td>
<td>8,341</td>
<td>7,086</td>
<td>6,812</td>
<td>6,343</td>
<td>5,324</td>
</tr>
</tbody>
</table>

¹ 2001 does not include writedowns of MEUR 37.5 included in restructuring.
² 2002 includes the Group excluding Imatra Steel, starting from year 2001.
Marine

The leading supplier of propulsion systems – The Ship Power Supplier.

Mikael Mäkinen
Group Vice President

BOARD OF MARINE DIVISION
Mr Mikael Mäkinen, born 1956, MSc (Eng.), Naval Architect. Group Vice President, Marine Division.
Mr Tom Eriksson, born 1967, MSc (Econ.). Vice President, Finance & Control
Mr Vicente Iza, born 1953. Naval Architect, Vice President, Product and Application Development.
Mr Clas-Eirik Strand, born 1945, BSc (Eng). Vice President, License Manufacturing.
Mr Leif Sund, born 1948, BSc (Eng.). Vice President, Operational Development & Quality.
Mr Matti Vekkeli, born 1959, MSc (Eng.). Vice President, Operations.
Mr Christoph Vitzthum, born 1969, MSc (Econ.). President, Wärtsilä Propulsion.
Carnival Legend, equipped with six Wärtsilä 46 engines, leaves Helsinki on its maiden voyage.

The Ship Power Supplier

Wärtsilä enhances its customers' business performance and profitability by offering reliable, cost-efficient total marine power solutions for all types of marine vessels while fully respecting environmental demands.

Putting the customer first
Wärtsilä’s leading position as “The Ship Power Supplier” strengthened in 2002. Following the acquisition of John Crane-Lips Wärtsilä is now able to offer a wider range of products than ever to existing markets and also to future customers such as navies.

Wärtsilä’s various engine room solutions are among the most advanced in the world. Engines, reduction gears, propeller shafts, shaft seals and propellers together make up the most important system in a marine vessel. Wärtsilä offers shipowners the most competitive solutions in the market regardless of the shipyard’s design resources. Since different vessels require different systems Wärtsilä tailors each solution to its customer’s needs. For this reason our know-how and local presence are in a key position to ensure that each customer’s technology and service needs are given top priority. Through its own global service network Wärtsilä is able to provide a comprehensive range of repair and reconditioning services that ensure the ship’s operational reliability throughout its lifecycle.

Wärtsilä capitalizes on significant synergy benefits through its three divisions – Marine, Power Plants and Service – because each utilizes the same basic engines and technology. Their various emissions reduction solutions and environmental technologies as well as other research and development activities are broadly similar as well.

Wärtsilä accounts for roughly one-quarter of the world market for marine main engines and auxiliary engines. This strong position is based on our comprehensive product portfolio and proven expertise in complete ship power solutions.

Close to customers in Asia
Sulzer low-speed 2-stroke engines are manufactured under licence close to the shipyards that use them because their large size makes it difficult and expensive to transport long distances. Measured in gross registered tons, 87% of all vessels were built in Asia during 2001. Eight of Wärtsilä’s ten Sulzer licensees are in Asia. Sulzer low-speed engines are also built at Wärtsilä’s factory in Trieste, Italy.

Active in many sectors
Through its broad range of products Wärtsilä operates actively in many sectors of the shipbuilding industry. The

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**Share of Power Divisions’ net sales 2002**

- Marine 32.9%
- Other 67.1%

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### Marine

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2001</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>763.4</td>
<td>595.1</td>
<td>28.3</td>
</tr>
<tr>
<td>Wärtsilä Propulsion sales</td>
<td>193.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order intake</td>
<td>506.7</td>
<td>476.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Order book end of period</td>
<td>617.7</td>
<td>769.6</td>
<td>-19.7</td>
</tr>
<tr>
<td>MW delivered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>by Wärtsilä</td>
<td>2,220</td>
<td>2,346</td>
<td>-5.4</td>
</tr>
<tr>
<td>by licensees</td>
<td>2,660</td>
<td>2,378</td>
<td>11.9</td>
</tr>
</tbody>
</table>
Wärtsilä’s licensing business

Wärtsilä low-speed Sulzer engines are manufactured under licence and the licence rights are valid for a certain territory. All except one of these licensees are shipyards or owned by shipyard groups. Most of the engines manufactured by the licensees are delivered to their own shipyards for use as main propulsion power in the various types of vessels built by these shipyards.

Wärtsilä has granted a licence to sell, manufacture and service Sulzer low-speed, 2-stroke diesel engines to ten companies. The largest Wärtsilä licensees are Diesel United Ltd. in Japan, and Hyundai Heavy Industries Ltd. and HSD Engine Co. Ltd. in Korea. Of fast growing importance are the licensees in China as the country is embarking on a major expansion of its shipbuilding industry. Wärtsilä has three licensees in China.

This points to a clear need for renewal of the world’s tanker fleet, a trend further emphasized by the new safety and emissions regulations now being planned. The emission levels of Wärtsilä engines, already the lowest in the industry, are well below the limits set by the IMO. Wärtsilä, as the ship power supplier and total service provider, is in a highly competitive position to meet future demand for tanker and offshore systems.
The licensee relationships are long-term in nature and cover a multitude of functions in Wärtsilä and at the respective licensees. The extent of these relationships can best be illustrated by the recent Joint Development Agreement to design a new low-speed engine with Mitsubishi Heavy Industries Ltd., Japan, which has itself manufactured Sulzer engines since 1925.

For the shipyards a Wärtsilä Licensee means that they do not need to invest in diesel engine R&D activities, worldwide sales and service networks and the risk of transporting huge engines over longer distances; the largest engines, with outputs exceeding 80,000 kW, can weigh over 2,000 tons.

For Wärtsilä, licensing brings the company close to its customers, which is of critical importance as the global hub of shipbuilding is gradually shifting to Asia.

Wärtsilä, as a licensor, receives a licence fee per horsepower delivered by the licensee. The Wärtsilä worldwide sales and service network provides parts, maintenance, repairs, reconditioning services and technical support for all engines manufactured by the licensees. Wärtsilä also has its own manufacturing of Sulzer 2-stroke engines in Trieste, Italy, for deliveries to certain shipyards in Europe and North and South America. The Trieste factory additionally acts as a manufacturing know-how and prototype centre.

Wärtsilä’s licence, sales and service support, R&D and the engine test facility are located in Winterthur, Switzerland.

### Wärtsilä Propulsion

The integration of Wärtsilä Propulsion (formerly John Crane-Lips) with the Marine division has proceeded according to plan. System sales rose 60% in 2002. This acquisition also makes Wärtsilä the world’s leading supplier of ship propeller seals and bearings, components that form a vital link in the complete ship power system. Wärtsilä today offers complete propulsion systems comprising engines, reduction gearboxes, propellers and rudders, seals and bearings.

Seals and bearings play a crucial role in ship safety and environmental protection. They perform a dual task; to prevent water from getting into the ship’s shaft bearings and to prevent oil from escaping into the sea.

With the acquisition of John Crane-Lips Wärtsilä has improved its position and presence in the naval markets in many countries. Wärtsilä previously had agreements with only a few navies; that figure today totals approximately 75.

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**Propulsion systems deliveries**

<table>
<thead>
<tr>
<th>%</th>
<th>01</th>
<th>02</th>
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<tbody>
<tr>
<td>50</td>
<td></td>
<td></td>
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<tr>
<td>40</td>
<td></td>
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<tr>
<td>30</td>
<td></td>
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<tr>
<td>20</td>
<td></td>
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<td>10</td>
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<td>0</td>
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</tbody>
</table>

Deliveries containing propulsion systems as a proportion of main engine orders.
Power Plants

Power solutions for decentralized power generation fast, flexibly and with respect for the environment.

Pekka Ahlqvist
Group Vice President

BOARD OF POWER PLANTS DIVISION
Mr Pekka Ahlqvist, born 1946, MSc (Eng.). Group Vice President, Power Plants
Mr Jaakko Eskola, born 1958, MSc (Eng.). President, Wärtsilä Development & Financial Services Oy
Mr Osmo Härkönen, born 1949, MSc (CE). Vice President, Delivery Management
Mr Pekka Ilvonen, born 1954, MSc (Eng.), MBA. Vice President, Sales Management
Mr Jan-Erik Nordmyr, born 1957, MSc (Econ.). Vice President, Finance & Business Control
Mr Jukka Ylänen, born 1957, MSc (Eng.). Vice President, Solutions Management
Power for a Changing World

Wärtsilä is a leading global provider of power plants for decentralized power generation. The efficiency of the plants is high and they can be operated flexibly on a variety of fuels as conditions require. Wärtsilä provides power plants for baseload, peaking, and combined heat and power applications. Wärtsilä also supplies solutions for gas compression and for oil and gas pumping. The product range comprises gas- and oil-fired power plants with outputs from 1 to 300 MW and biofuelled power plants with outputs from 3 to 25 MW.

Decentralized power generation solutions – high total efficiency

Wärtsilä provides a wide range of power plants supported by a comprehensive worldwide service network. High efficiency, flexible multfuels options and modular design are the cornerstones that underlie the competitive edge of Wärtsilä power plants. Wärtsilä’s service network offers customers added value for their investment and improved profitability throughout the lifecycle of the power plant.

Wärtsilä has always been known for its strength in engine technology. Engines will continue to occupy a central position as Wärtsilä simultaneously develops power generation solutions on the basis of other technologies such as biofuelled boiler plants and fuel cells. Decentralized production is a natural response to market demand in the increasingly diversified energy sector, which is calling for more and more small-sized combined heat and power plants close to consumers.

Electricity demand is rising – the market is changing

The need for electricity is growing all over the world. Wärtsilä’s strategy is to offer a variety of power plant solutions for different needs. That is Wärtsilä’s strength; our product portfolio comprises baseload and standby power plants, peaking power plants, biofuel-fired solutions, and also pumping stations for oil and gas pipelines. Wärtsilä additionally provides operation and maintenance (O&M) services for power plant customers – indeed Wärtsilä today is responsible for operating more than 100 power plants under O&M agreements.

Changes typically take place very fast in the energy sector. During 2002 most projects and customers involved industry and utilities looking for additional or peaking power capacity fast and reliably. Wärtsilä boosted sales by bringing its sales organization closer to customers and making it more flexible.

The efficiency of electricity generation is low on average, roughly 30%. Wärtsilä power plants operate at efficiencies
The bioenergy plant markets grew strongly during the year.
Raunion Saha and Tammisaaren Energia Oy in Finland.

of around 45%. Efficiencies are far higher in combined heat and power plants; these not only produce electricity, they recover and utilize the heat energy from the process as well, raising the plant’s total efficiency to 90% in places.

**Speed and flexibility**
Wärtsilä power plants are ideally suitable for decentralized power generation due to their size and flexibility. They are built from modules of various sizes and they can be expanded or modified later if wished. Typically Wärtsilä delivers a 100 MW power plant into commercial operation in nine months from order.

Wärtsilä power plants are designed to meet owners’ varying needs. They can run on various fuels from heavy fuel oil to gas; if required, the fuel can also be varied on the same engine, allowing the use of gas or oil as conditions dictate. This gives plant owners flexibility in fuel availability, price fluctuations and emissions regulations. High efficiency, low emission levels, fast delivery and a global service network are Wärtsilä’s strengths in the world’s power plant market.

It was typical of the energy sector in 2002 that decisions on new projects took longer to reach and projects were postponed. For this reason it is still difficult to forecast trends in different energy markets. The market for biopower plants, however, grew strongly during the year. Wärtsilä is seeking growth in this business through synergies with its conventional power plant business.

Wärtsilä currently operates and maintains more than 100 power plants worldwide.

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Wärtsilä Power Plants Market Share

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Wärtsilä 8.3% (5.3%)</td>
<td>Other Engine manufacturers 62.9% (44.7%)</td>
</tr>
<tr>
<td>Gas turbines 28.8% (50.0%)</td>
<td>Source: Diesel &amp; Gas Turbine Worldwide</td>
</tr>
</tbody>
</table>

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![Image of Wärtsilä power plant and workers](image-url)
Demand is rising sharply for biopower plants designed to run on renewable energy sources. The European Union’s target is to increase energy production based on biofuels tenfold by 2010.

In 2001 Wärtsilä acquired the Finnish company Sermet Oy, a leading Nordic provider of biofuel-free heat boilers. Sermet is the core of Wärtsilä’s biopower unit. Wärtsilä’s expertise in power plants and project management and global sales network offer possibilities for rapid growth of exports of this environmentally sound technology. Wärtsilä has delivered 41 biopower plants to the Nordic countries and two plants elsewhere in Europe and another six are under construction, giving a total energy generation capacity of approximately 300 MWth with these plants. Wärtsilä expects to increase its biopower sales five times in the next three years from EUR 25 million to EUR 125 million in 2005.

Most biopower customers in Finland are sawmills, industry and utilities. State subsidies in this field today account for 25-30% of total power plant investment costs. Their purpose in a new business is to provide an incentive to develop competitive solutions. Wärtsilä’s aim is to design its biopower plants so that they are suitable for serial manufacturing. Further, Wärtsilä’s aim is to be the first global supplier of small biopower plants. This goal is supported by 60 reference plants already delivered and in operation.
Wärtsilä supports its customers throughout the lifecycle of its products by ensuring lifetime efficiency.

Tage Blomberg
Group Vice President

BOARD OF SERVICE DIVISION
Mr Tage Blomberg,
born 1949, BSc (Eng.). Group Vice President, Service.

Mr Pierpaolo Barbone,
born 1957, MSc (Min. Eng.). Vice President, Field Service.

Mr Stefan Fant,
born 1955, BSc (Mech.). Vice President, Operations & Maintenance.

Mr Werner Jungblut,
born 1965, Graduate of a commercial institute. Vice President, Technical Service.

Mr Christer Kantola,
born 1952, BSc (Mech.). Vice President, Service Sales

Mr Donal Lynch,
born 1956, Business Management Diploma (Operations/General). Vice President, Parts.

Ms Eva-Stina Stén,
born 1967, MSc (Econ.). Vice President, Finance & Control.
Wärtsilä Corporation

Share of Power Divisions’ net sales 2002

- Service 36.4%
- Other 63.6%

Service

<table>
<thead>
<tr>
<th>MEUR</th>
<th>2002</th>
<th>2001</th>
<th>Change %</th>
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</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>843.4</td>
<td>790.4</td>
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<tr>
<td>Long-term service agreements MW</td>
<td>9,756</td>
<td>8,262</td>
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<td>O&amp;M agreements MW</td>
<td>2,056</td>
<td>1,698</td>
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<tr>
<td>Personnel end of period</td>
<td>5,644</td>
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The Wärtsilä worldwide service network consists of 5,700 professionals in more than 60 countries.

The Total Service Provider

Wärtsilä supports its customers throughout the lifecycle of its products by ensuring lifetime efficiency. Wärtsilä’s service business is founded upon the Group’s global base of installed engines and power plants. Wärtsilä is close to its customers through subsidiaries in roughly 60 countries.

Acquisitions broaden range of special services

The Service division accounts for approximately one-third of the net sales of the Power Divisions. Wärtsilä has been building up the Service division for four years so that the number of employees has risen from 3,300 to nearly 5,700. This is half of the personnel in the Power Divisions. Net sales has continuously increased, averaging 14% p.a. during a four-year period. In 2002 net sales rose 6.7%, which is below the long-term targets, though nonetheless a relatively strong performance considering the market situation.

The division is boosting its competitiveness by increasing its specialist know-how and expanding its strategic service network. Few companies in the market can offer such a comprehensive, global network. The total service concept and the company’s in-depth knowledge of its customers and its good relationship with them, further increase the competitiveness.

Wärtsilä’s aim is to provide a high level of technological expertise as well as effective service support. In both the marine and power plant sector Wärtsilä is focusing on long-term service agreements and full operations agreements in addition to the comprehensive everyday service support.

Due to the state of the market, 2002 showed some indications of service investments being temporarily postponed. Customers’ problems led to them postponing investments in new engines, while still not starting service investments for existing equipment. However, if the weak economic trend continues the apparent need for maintenance and service to keep engines and installations operating at an optimal level will trigger new service investments.

Wärtsilä is in a unique, strong position: a global network, extensive service know-how and the expanding of the Ciserv group offer customers reliable, wide-ranging service on land and at sea.

Strategic products

Wärtsilä has continued to make progress in its goal of complementing its range of long-term service agreements by selling operations and maintenance (O&M) agreements. Wärtsilä now has more than 100 such O&M agreements, an increase of over 20% in 2001. Under an O&M agreement Wärtsilä takes on full responsibility for operating a power plant. An O&M agreement also includes service and maintenance of power plants.
Wärtsilä’s know-how is based on a deep knowledge of power plant operations and a combination of preventive and predictive maintenance that safeguards the operation of the plant. Predictive maintenance, also referred to as condition-based maintenance (CBM), gives greater flexibility in planning maintenance. From a CBM centre, Wärtsilä can monitor marine and power plant engines. The first CBM centre was established in 2001. CBM as well as remote monitoring are now part of Wärtsilä’s expanding product portfolio. Wärtsilä recently launched the Land and Sea Academy which trains all categories of seafarers and plant operators in the high level of skills and competences needed today. Wärtsilä signed its first major seafarer competence and career management development contract with the specialized chemical logistics provider Odfjell ASA.
Wärtsilä is expanding its service offering to include not only engine and propulsion system service but also the service of other ship systems and machinery.

In order to provide an unmatched range of service products and the highest level of customer service, Wärtsilä started in 2001 to acquire service companies of local strategic importance. The first company in what will become the Ciserv group was acquired in Gothenburg in Sweden.

The main goal of the Ciserv group is to offer the widest possible range of tailored service and reconditioning support, in particular for two-stroke engines, as well as specialist know-how for ships equipment. It aims to offer customers the concept of total ship service combined with a supporting service network. The Ciserv companies also service other manufacturers’ engines.

At present the Ciserv group comprises five companies, each specialized in its own areas of technical competence. Ciserv in Gothenburg focuses on engines and auxiliary equipment, boilers, control and automation equipment, other ship machinery and general steelwork. Ciserv Singapore repairs and reconditions engine parts, propellers and rudders, including chrome plating of propeller shaft seals. The specialist know-how of Ciserv Denmark is based on laser measuring and alignment, condition monitoring, and vibration measuring. Ciserv CGL Industries in Canada for its part takes care of repair and reconditioning of a wide range of engine parts. In February this year Wärtsilä acquired a Dutch marine engine service company Caltax Marine Diesel BV. Caltax specializes in the service and reconditioning of two-stroke marine engine components. The acquisition strengthens Wärtsilä’s expertise and technical capabilities and it also increases Wärtsilä’s growth potential in Northern Europe in this sector. Caltax is now part of the Ciserv group.

Wärtsilä will continue to expand the Ciserv group by acquiring companies that have specialist know-how and a strategic presence in the market. This will also make it possible to provide specialist servicework worldwide, even though a particular expertise may not be available locally. This will make sales more competitive as the company offers total service solutions.

Pierpaolo Barbone
Vice President
Ciserv Group
BOARD OF MANAGEMENT OF IMATRA STEEL
Mr Kari Tähtinen,
born 1946, Doctor of Technology, President of Imatra Steel Oy Ab.
Mr Magnus Baarman,
born 1964, MSc (Chem. Eng.), General Manager of Imatra Steel Billnäs Spring Works.
Mr Kalevi Laaksonen,
born 1943, BSc (Econ.). Corporate Controller.
Mr Kalevi Taavitsainen,
born 1949, MSc (Eng.). General Manager of Imatra Steel, Imatra Steel Works.
Mr Dan-Åke Widenberg,
born 1949, MSc (Econ.). Managing Director, Imatra Kilsta AB.

Imatra Steel

Special engineering steels and automotive components.

Kari Tähtinen
President
Imatra Steel Oy Ab
Demand for long special engineering steels remained weak throughout 2002 and delivery volume decreased in Europe by approximately 10% compared to the previous year. Heavy truck production declined roughly 6% in Europe and the volume of new registrations decreased about 13% on the previous year. Car registrations fell correspondingly by some 4%. Demand for special steels in the mechanical engineering industry and among wholesalers remained weak likewise as forecasts for an improvement in economic conditions were put back to 2003.

Imatra Steel's net sales in 2002 totalled EUR 200.4 (186.4) million, up 7.5% on the previous year. The increase took place in the company's forging business where the acquisition of Scottish Stampings strengthened Imatra Kilsta's position as a leading global supplier of forged components to the heavy truck industry. Delivery volumes by the Imatra Steel Works and the Billnäs Spring Works declined, however. Imatra Steel's operating profit was lower than one year earlier, totalling EUR 3.2 (6.4) million.

The result was depressed by an increase in scrap and energy prices during the autumn creating pressure to raise prices of both steel and components. A further adverse factor on the result was a programme started at the Imatra Steel Works in the autumn to reduce the number of personnel to match the works' lower delivery volumes. A provision of EUR 1.6 million to cover the resulting one-time costs of this programme were entered in the 2002 accounts.

The new heavy rolling mill, the first stage in the modernization of the base metallurgical processes at the Imatra Steel Works, was brought on stream on schedule in August. The purpose of the EUR 21 million programme is to safeguard the competitive efficiency of the base metallurgical process line and the quality of its products. The second stage, renewal of the continuous casting line and bloom furnace, will be completed in summer 2003.

Deliveries of machined front axle beams were started at Scottish Stampings. The range of high-tension TAPERTEC parabolic springs supplied by the Billnäs Spring Works was broadened.

Personnel development at Imatra Steel focused on increasing the multi-skill capabilities and flexibility of the employees, and on related continuous learning processes. Graduation projects related to the Specialist Qualification in Management were submitted at Imatra at the end of the year and diplomas were distributed in January. The company's quality and environmental management systems were maintained and further enhanced in line with the corresponding standards.

Prospects in 2003
For Imatra Steel, 2003 has begun under the continuing shadow of uncertain market prospects. Truck and car production, and demand for special engineering steels likewise, are forecast to begin rising during the second half of the year. Imatra Steel is expected to report an increase in net sales, due mainly to expansion of the forging business, and improved profits in 2003 as a result of the streamlining measures.

### Net sales by market segment 2002

- Trucks 52%
- Cars 14%
- Engineering industries 34%

### Five years in figures, Imatra Steel

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<thead>
<tr>
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<td>186.4</td>
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<td>173.0</td>
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<td>84.6%</td>
<td>84.2%</td>
<td>84.4%</td>
<td>83.4%</td>
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<td>–11.5</td>
<td>–11.8</td>
<td>–12.1</td>
<td>–12.0</td>
</tr>
<tr>
<td>Operating profit</td>
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<td>6.4</td>
<td>17.4</td>
<td>10.8</td>
<td>20.8</td>
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<tr>
<td>Capital employed</td>
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<td>118.1</td>
<td>113.9</td>
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<td>ROI</td>
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<td>16%</td>
<td>10%</td>
<td>20%</td>
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<td>1,235</td>
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<tr>
<td>of which outside Finland</td>
<td>543</td>
<td>515</td>
<td>372</td>
<td>371</td>
<td>390</td>
</tr>
</tbody>
</table>
Holdings

Assa Abloy

Assa Abloy is the world’s leading lock company. The company is listed on the Stockholm Stock Exchange. Wärtsilä’s share (7.6%) of Assa Abloy’s market capitalization on 31 December 2002 was EUR 302.4 million. The book value of the holding is EUR 67.4 million in the Group balance sheet.

Assa Abloy’s share of this highly fragmented world lock market is 10-12%. As the world’s leading lock company Assa Abloy is dedicated to the development of locks and security systems. These range from conventional mechanical locks and door hardware through high-security master key systems to state-of-the-art electromechanical locks, cards and readers for access control, which all contribute to new standards of security throughout the world. The lock business is Assa Abloy’s only business and all companies within the Group can therefore benefit from a rich transfer of know-how and from extensive benchmarking activities designed to spread best practices and promote excellence.

Acquisitions of leading companies are a fast and highly effective way to enter mature markets. They bring strong brands, an installed base with its recurring business and well established distribution channels. Acquisitions are also a way to expand the Group’s area of competence. HID in the USA, the world’s leading manufacturer of contactless cards and readers for access control, illustrates this approach. Another example is the acquisition of the Swedish Besam in 2002. Besam is the world leader in the field of door automatics.

In 2002 the net sales of Assa Abloy were EUR 2.8 (2.4) billion and profit before extraordinary items EUR 220.5 (160) million. The Group employs approximately 29,000 people. There are opportunities for higher margins in both old and newly acquired companies.

Wärtsilä Real Estate

Wärtsilä Real Estate is responsible for developing, selling, leasing and maintaining the property assets in the parent company’s balance sheet. Most of these properties are unrelated to the company’s operations. Wärtsilä Real Estate also provides professional advice and services on all matters related to the properties owned by Wärtsilä Group.

Wärtsilä Real Estate’s role as a real estate expert was strengthened considerably during 2002. This action, underpinned by the unit’s expertise, serves two purposes: to ensure that the business premises and property services available to Wärtsilä’s core businesses support the Group’s operational objectives; and to put the property assets used by the Group to more efficient use. A global web-based real estate system incorporating basic information on all the properties used by Wärtsilä worldwide was developed and brought into use during 2002.

The year’s biggest property deal was the sale of Wärtsilä’s head office building. Wärtsilä holds a long-term lease on part of the facilities which will be extended.
Wärtsilä Real Estate assumed operational responsibility for the properties at the Zwolle factory in the Netherlands during 2002. Wärtsilä Real Estate was also increasingly asked to assist other Wärtsilä subsidiaries in the sale and leasing of properties.

The real estate market in Finland was generally speaking balanced during the year but clear variations were evident in demand for leased business premises; interest remained strong for retail space but was clearly weaker for office facilities. However, since the vacancy rate for business premises remained relatively low, rent levels for office premises did not fall significantly. Investors, particularly foreign investors, showed considerably greater interest in the real estate market during 2002. Demand for office premises is expected to grow, possibly already during 2003, while demand for business premises will continue to be lively.

Wärtsilä Real Estate’s largest property development project is the Arabianranta art and media industry centre where the construction of an office building totalling approximately 10,000 floor-m² was completed during the year. Wärtsilä still owns 86,000 floor-m² of building rights for office premises on this site. The largest property transaction during the year was the sale of Wärtsilä’s head office building in Helsinki’s Halkaniemi district.

Wärtsilä Real Estate sold properties and shares in housing companies worth altogether EUR 16.8 (10.8) million in 2002, which yielded a profit of EUR 0.4 (6.3) million.

At the end of the year the properties managed by Wärtsilä Real Estate, excluding the properties used by Wärtsilä itself, had a total book value of EUR 21.9 (21.4) million.
Key releases 2002

14 January 2002
Wärtsilä receives largest power plant order ever - 160 MW power plant for Guatemala

29 January 2002
Wärtsilä donates EUR 43,000 to support youth work in Finland and abroad

30 January 2002
Wärtsilä acquires John Crane-Lips to consolidate its position as the leading global ship power supplier

7 February 2002
Financial Statements Bulletin: Wärtsilä’s result before extraordinary items EUR 508.7 million (336.1)

15 February 2002
Wärtsilä acquires reconditioning business from Metalock in Singapore

28 February 2002
Wärtsilä approaching negotiated settlement on restructuring in the Netherlands

12 March 2002
Wärtsilä supplies Biofuel Heating Plant to Fortum Lämpö Oy

12 March 2002
Wärtsilä’s Annual General Meeting

14 March 2002
Wärtsilä supplies three gas power plants to Hungary

20 March 2002
Wärtsilä reaches agreement on restructuring in Zwolle, the Netherlands

22 March 2002
Purso-Tools Oy – Wärtsilä’s “Supplier of the Year” in 2001

3 April 2002
LNG carrier breakthrough for Wärtsilä

15 April 2002
Wärtsilä takes ownership of John Crane-Lips

30 April 2002
Wärtsilä wins Best First-Time Report award in European Environmental Report competition

3 May 2002
Interim Report January - March 2002 Wärtsilä's first-quarter net sales up 17%

6 May 2002
More Wärtsilä engines for new Fortum vessels

14 May 2002
Wärtsilä wins orders for three BioGrate boiler plants

20 May 2002
Wärtsilä’s acquisition of engine repair and reconditioning business in Singapore completed

21 May 2002
Wärtsilä to supply generators for offshore oil project in Gulf of Mexico

30 May 2002
Wärtsilä sells 10 million shares in Assa Abloy

30 May 2002
Wärtsilä power for Husky Oil in Canada

2 July 2002
Wärtsilä increases holding in Wärtsilä India Ltd

25 July 2002
Wärtsilä delivers gas power plant for USA

31 July 2002
Year 2002 warrants subscribed

1 August 2002
Interim report January – June 2002 Wärtsilä Power divisions show clear improvement in performance in second quarter

16 August 2002
Wärtsilä and Haldor Topsøe start co-operation in fuel cell development

4 September 2002
Wärtsilä proposes to expand Board of Directors

Safmarine Zambesi is powered by a Sulzer two-stroke engine.
13 September 2002
Negotiations at Wärtsilä’s Turku Factory on reduction in manufacturing volume

16 September 2002
Wärtsilä acquires propulsion system service business in Denmark

19 September 2002
Wärtsilä donates training engine to China

23 September 2002
Wärtsilä increases holding in Wärtsilä India Ltd

24 September 2002
Wärtsilä Propulsion Systems for five chemical tankers

25 September 2002
Two new members for Wärtsilä’s Board

25 September 2002
Market conditions affect Wärtsilä’s prospects

26 September 2002
Temporary layoffs at Wärtsilä’s Turku Factory

1 October 2002
Wärtsilä supplies 100 MW of oil pumping units to Turkey

1 October 2002
Wärtsilä acquires reconditioning business CGL Industries Ltd. in Canada

8 October 2002
Wärtsilä to supply 23 MW gas power plant to Pennsylvania, USA

14 October 2002
Wärtsilä won repeat order for Sulzer RT flex engines

14 October 2002
Wärtsilä’s acquisition of the Danish service company JMC Marine concluded

15 November 2002
Wärtsilä and Mitsubishi join forces in designing new marine engine

19 November 2002
Wärtsilä sets 2003 profitability target required for 2002 option scheme

13 December 2002
New functional organization in Wärtsilä Power Plants Division

20 December 2002
Wärtsilä engines to six container ships

Wärtsilä communications policy
Wärtsilä discloses information on its goals, financial position and business operations in an open, truthful, systematic and timely manner to enable the stakeholders to form a true and fair view of the company.

Wärtsilä’s communications activities comprise internal and external corporate communications and investor relations.

Wärtsilä publishes stock exchange releases and stock exchange announcements, general press releases and trade press releases. Wärtsilä’s subsidiaries publish press releases with local relevance. Stock exchange releases give information on news that could affect the share price. Stock exchange announcements are releases of a technical nature. Press releases provide information on business-related news or other news of a general interest to Wärtsilä stakeholders. Releases to the trade press provide more detailed information on Wärtsilä’s products and technology. All releases are published in Finnish, Swedish and English except those to the trade press, which are produced only in English. The Stock Exchange releases and press releases are available on the Internet immediately after publishing.
Glossary for Wärtsilä Power Divisions

Terms frequently used in publications by Wärtsilä’s Power Divisions.

**Base-load** = Power plants running for more than 8,000 hours/year, i.e. generating power for continuous use.

**Biofuel** = Biofuels are a large and relatively unexplored source of energy worldwide. They are derived from forest, swamp and agricultural biomass, and from organic solid, liquid and gaseous biowastes recoverable from municipal, agricultural and industrial processes.

**Biopower** = Biofuels are considered renewables; therefore biopower is viewed as a “clean” technology.

**BioGrate** = The patented BioGrate combustion technology is especially suitable for burning wood residue, bark and sawdust. BioPower’s small power plant technology is based on BioGrate combustion technology.

**Boiler plant** = The plant entity which includes the boiler and all the necessary equipment and auxiliary components needed for operating the plant process.

**Bow thruster** = A transverse thruster mounted in the bow of a ship to make manoeuvring easier in harbours.

**cgt (compensated gross tonnage)** = The compensated tonnage of a ship, i.e. the ship's volume adjusted (compensated) by a factor to render the amount of work at the yard equivalent for different types and sizes of ship.

**CIPS** = Coastal and Inland Propulsion System. A tailor-made propulsion system with small fixed pitch propellers (diameter below 3.5 m) suitable for inland navigation vessels, fishery vessels, coasters and luxury (mega) yachts.

**CO₂** = Carbon dioxide. A component in the atmosphere; it prevents thermal radiation emissions.

**Cogeneration** = A process by which the pistons complete their power stroke every second crankshaft revolution.

**Controllable pitch propeller (CPP)** = A propeller whose pitch can be controlled (changed) by rotating the blades with a hydraulic or electro-mechanical system in the propeller’s hub.

**DCC (Diesel Combined Cycle)** = Technology utilizing both the shaft output and thermal output of a diesel engine. The thermal output is used to drive a steam turbine, for example.

**Decentralized power plant** = A small local power plant for small towns, communities or industrial processes.

**Deep Sea Seals (DSS)** = The trademark for Wärtsilä Propulsion seals.

**DeNOx** = Secondary emission reduction technology for emissions of nitrogen oxides. Commonly used technology is Selective Catalytic Reduction (SCR) system.

**DWT (dead weight tons)** = The difference between the displacement and the lightweight of a ship, i.e. the combined weight of its cargo, passengers, crew, stores, fuel and other liquids.

**DWI (Direct Water Injection)** = A method in which water is injected into the engine cylinders prior to fuel injection in order to reduce nitrogen oxide emissions. Direct water injection reduces the combustion temperature and therefore the formation of nitrogen oxides.

**Efficiency (power generation)** = The ratio between the input fuel energy and the power produced. The total efficiency of a power plant means the amount (%) of total fuel energy that can be converted into electricity and heat.

**Efficiency (engine)** = The amount (%) of total fuel energy that can be converted into electricity.

**Electrical efficiency (engine)** = In simple cycle, the ratio between the input fuel energy and the electrical energy produced.

**Electricity efficiency (power plant)** = In Combined cycle technology = The use of two different power generation processes, e.g. fuel engines and steam turbines, in the same power plant. The second process utilizes the heat recovered from the first.

**Face seal** = A non-polluting seal (e.g. Coastguard) that eliminates oil loss from a ship’s outboard seal, even when this is fouled or badly damaged. The face seal is suitable either for retrofitting to existing vessels or for use on new tonnage, especially cruise vessels, tankers, bulk carriers, RoRo vessels and offshore applications.

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**EnviroEngine™** = A smokeless diesel-electric propulsion package developed jointly by Wärtsilä and Carnival Corporation for marine vessels. Combines the use of common rail and DWI technologies. Since both methods are electronically controlled, the EnviroEngine offers an optimized combination of engine efficiency, smoke emissions and NOx emissions.

**Eutrophication** = A process by which pollution from such sources as sewage effluent or leachate from fertilized fields causes a lake, pond or fen to become overrich in organic and mineral nutrients, so that algae grow rapidly and deplete the oxygen supply.

**Face seal** = A non-polluting seal (e.g. Coastguard) that eliminates oil loss from a ship’s outboard seal, even when this is fouled or badly damaged. The face seal is suitable either for retrofitting to existing vessels or for use on new tonnage, especially cruise vessels, tankers, bulk carriers, RoRo vessels and offshore applications.

**Fixed pitch propeller (FPP)** = A monoblock (cast in one piece) propeller optimized for only one operating condition.

**Four-stroke engine** = An engine in which the pistons complete their power stroke every second crankshaft revolution.

**Fuel cell** = Fuel cells are electrochemical devices that convert the energy of a fuel through a chemical reaction directly into electrical energy and heat. The basic physical structure or “building block” of a fuel cell consists of an electrolyte layer in contact with a porous anode and cathode on either side of it.

**Fuel cell stack** = A fuel cell stack is a multi-layer sandwich of fuel cells and interconnecting plates. The plates function as channels for distributing fuel gas and oxygen to the cells and also as an electrical conductor to couple the repeating cells in series. Piling a sufficient number of cells in series raises the stack voltage and power to the optimum level. See also Solid oxide fuel cell.

**Gas compression** = The raising of gas pressure and density for further processing. This makes it possible to use smaller storage tanks or pipes to transport a given quantity of gas.

**Gasification** = The production of fuel gas from biofuel for heat and/or power generation. This is a relatively new technology that is currently being developed and commercialized.

**GT (gross tonnage)** = The gross tonnage of a vessel, i.e. its total enclosed volume.

**GTCC (Gas Turbine Combined Cycle)** = Technology utilizing the shaft and thermal outputs of a gas turbine.

**HFO** = Heavy fuel oil

**High-powered special vessels** = Passenger or naval vessels able to travel at high speeds.

**High-speed engine (diesel/gas)** = An engine running at speeds over 1,200 rpm (revolutions per minute).
Hot combustion – A method that raises the temperature of the engine exhaust gases by reducing the air intake and isolating the combustion chamber. This increases total efficiency and enhances the engine’s suitability for combined cycle technology.

IMO – The International Maritime Organization.

Independent Power Producer (IPP) – A private corporation producing electricity for sale on a national grid. Also an IPP power plant.

JMT (Japan Marine Technologies) – Trademark for lip seals.

Lean-burn gas engine – A gas-fired engine in which the gas-air mixture in the engine’s cylinders contains substantially more air (roughly double) than required for complete combustion of the gas. The over-abundance of air achieves high output and efficiency combined with low nitrogen oxide emissions.

Licensee – A company authorized to manufacture under licence and that pays royalty fees on the products sold. Wärtsilä’s low-speed Sulzer engines are mainly manufactured under licence.

Lip seal – (e.g. MKII) Multi barrier type of sealing system. Applicable to any size or type of vessel. Highly resistant to wear and fouling.

Load management – Meeting varying demand for power, e.g. producing more energy when required.

Low NOx technology – A method for reducing nitrogen oxide emissions that also raises engine efficiency. Emission levels are reduced by regulating the combustion temperature in the cylinders and the duration of fuel injection.

Low-speed engine – An engine running at speeds below 300 rpm.

Medium-speed engine (diesel/gas) – An engine running at speeds of 300-1,200 rpm.

Multi-fuel engine – A Wärtsilä engine running on both gaseous and liquid fuels. (Engines denoted DF and GD are multi-fuel engines).

Multi-purpose container carrier – A freighter carrying primarily containers but also able to transport other unitized cargo.

NOx – Nitrogen oxides (NO and NO2). Products formed during the combustion of nitrogen in both the fuel and combustion air. Nitrogen oxides contribute to local eutrophication and acidification.

NT (net tonnage) – The net tonnage of a vessel, i.e. the volume of its payload spaces.

O&M – Operations and Maintenance.

Offshore – Industrial activity at sea, e.g. drilling and pumping at an oil or gas well.

Operations agreement – Operations & Maintenance (O&M) – Full performance and operational responsibility for the plant, its engines and auxiliary systems.

OpExS (Operative Excellence System) – This system, which covers all Wärtsilä’s operations, aims to generate added value for Wärtsilä’s various stakeholders. The system addresses issues including quality, the environment, occupational health and safety, continuous improvement process and self-assessment.

Orimulsion® – An emulsion of Orinoco bitumen and water produced in Venezuela.

Panamax vessel – A vessel whose main dimensions (beam/length/draught) are limited to enable the vessel to negotiate the Panama Canal.

Post-panamax vessel – A vessel too large for the Panama Canal. Generally refers to cruise ships and large container ships.

Propulsion package – The propulsion train used to drive a ship (propeller, reduction gear, engine, etc.).

Propulsor – A device similar in principle to a jet engine that uses a pump to accelerate waterflow. See Waterjet.

Pyrolysis – The production of a fuel gas which can be processed as oil and which is combustible in boilers or diesel engines. This is still at the R&D stage although pilot plant projects exist.

Reduction gear – The core function of a reduction gearbox is to reduce the main engine speed to the optimum propeller speed. Wärtsilä gears have been designed to meet the highest standards of operational efficiency and reliability with low noise and vibration.

RoPax vessel – Combined RoRo and passenger ship, a ship equipped with large RoRo decks and limited passenger facilities.

RoRo vessel – Roll-On/Roll-Off, a ship designed for carrying vehicles and wheelbased cargo, which are driven onboard and ashore.

Selective Catalytic Reduction (SCR) – A method to reduce NOx emissions using a catalytic converter fitted after the engine. The catalytic converter requires the addition of an ammonia or a urea solution to the exhaust gas.

Semi-submersible vessel – A vessel designed to be partially submerged to perform a specific task (e.g. semi-submersible oil or gas drilling rigs).

Service agreement – A service agreement covers all aspects of maintenance and service for optimizing a power plant’s lifecycle. This can include everything from parts supply and daily assistance, inspection and maintenance to implementation of agreed performance targets and even complete operation & maintenance packages for the installation.

Shaft efficiency – The ratio between the mechanical power measured on the engine shaft and the chemical power of the input fuel.

Shaft output – The power output developed by the engine’s crankshaft.

Simple cycle – Power generation using only a thermal power plant.

SO2 – Sulphur dioxide. Formed by the combustion of sulphur when burning sulphur-containing fuels. Sulphur dioxide contributes to acidification.

SOFC (Solid oxide fuel cell) – The fuel for a SOFC can be hydrogen, natural gas or diesel. Fuel cells offer very low emissions, high electrical efficiency and outstanding reliability. They are very suitable for the production of power in decentralized stationary (CHP) and marine applications. See also fuel cell.

Stearable thruster – A 360 degrees rotatable propulsor with FPP or CPP, which applies thrust in any direction and thus achieves superior manoeuvrability. Steerable thrusters can be used for both offshore (dynamic positioning) and seagoing (free-running) applications.

TEU (Twenty-foot equivalent unit) – 1 TEU is equivalent to the capacity of one 20-ft long container; hence a 12,500 TEU containership can in principle carry 12,500 containers. The TEU takes no account of a container’s weight.

Traditional fuel injection – Mechanically controlled fuel injection. Each engine cylinder has its own fuel injection pump and all the pumped fuel is fed directly into the cylinder.

Turbocharging – The pressure of the air fed into the cylinder is raised using the energy in the engine’s exhaust gas. This increases the amount of air in the cylinder, allowing injection of a higher quantity of fuel for greater output.

Turnkey power plant – A power plant delivered to the customer ready for operation.

Two-stroke engine – An engine in which the pistons complete their power stroke every crankshaft revolution.

ULCC tanker – Ultra Large Crude Carrier, an ocean-going supertanker designed to carry extremely large amounts of crude oil (>300,000 dwt).

VLCC tanker – Very Large Crude Carrier, an ocean-going supertanker designed to carry large amounts of crude oil (>200,000 dwt).

Waterjet – A propulsor that uses a pump to accelerate waterflow. The momentum generated by the acceleration of the flow results in a force that propels a ship.
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ANNUAL REPORT 2002
This Annual Report is also available in Finnish and Swedish and may be downloaded at Wärtsilä’s Internet site, www.wartsila.com

INTERIM REPORTS 2003
Wärtsilä Corporation will publish Interim Reports on its financial performance during 2003 as follows:

29 April 2003 January-March
31 July 2003 January-June
31 October 2003 January-September.

These Interim Reports are published in English, Finnish and Swedish on Wärtsilä’s Internet site. Interim Reports will be sent by post on request. Interim Report orders: tel. +358 10 709 0000/Corporate Communications or Internet: www.wartsila.com

STOCK EXCHANGE RELEASES:
Wärtsilä’s Stock Exchange releases are available in English, Finnish and Swedish on Wärtsilä’s Internet site.

INFORMATION MATERIAL ORDERS
Wärtsilä’s Annual and Interim Reports, brochures and releases are available at the Communications Department, tel. +358 10 709 0000 or they can be ordered via Internet www.wartsila.com

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