STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.

◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.

◆ To complement the organizations’ internal competitor information gathering efforts with strategic analysis, data interpretation and insight.

◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.

◆ To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.
Abstract

In 2012, affected by the economic slowdown, shipping market slump, shipbuilding order contraction and other factors, the global marine diesel engine market shrank by 12.9% year on year to 67.27 million horsepower. In 2013, it's expected that the global shipping market will continue to face difficulties, and the marine diesel engine market size will keep decreasing, to 65.91 million horsepower.

MAN and Wartsila, two global marine diesel engine giants, share 98% of the global low-speed marine engine market and 70% of the global medium-speed marine engine market.

At present, although China is the world's largest shipbuilding country, the development of marine diesel engines is relatively slow, and the production is mainly carried out through technology licensing of companies like MAN and Wartsila. As of the end of 2012, MAN has authorized more than 19 companies in China, while Wartsila authorized nine (including a joint venture).


**Hudong Heavy Machinery** is the largest manufacturer of low-speed marine diesel engine in China, with annual output of 145 marine diesel engines (1.551 million kilowatts), including 125 low-speed ones (1.418 million kilowatts); in 2012, due to the shipping market downturn, the company's marine diesel engine output fell to 140 units (1.446 million kilowatts).

**Zhenjiang CME** is a key medium-speed marine diesel engine manufacturer in China, and its output has repeatedly hit record highs in recent years, surpassing 400 units in 2009, 600 units in 2010, and 700 units in 2011, but dropped to 410 units in 2012 due to the industry downturn.

Affected by the sluggish shipbuilding industry, Chinese marine diesel engine enterprises, especially private firms like Hefei RongAn Power Machinery, ZGPT Diesel Heavy Industry and Jiangsu Antai Power Machinery, have seen sharp decline in order intake, run under capacity, and suffered increasing pressure. These companies began to expand their business scope for long-term development.
Hefei RongAn Power Machinery has implemented a “marine engine-led co-development of multiple businesses” transition strategy since the end of 2011. At present, apart from strengthening its cooperation with shipyards, the company is developing medium-speed diesel engines and generator sets for marine equipment, and is actively engaged in the dual-fuel main engine and pure LNG-fueled main engine technology R&D and production.

ZGPT Diesel Heavy Industry has set foot in the field of natural gas power generation besides the marine diesel engine business. In 2013, the company and Mitsubishi Heavy Industries reached a consensus on KU-type gas engine technology transfer, and signed a manufacturing license agreement on April 10.

**Global Marine Diesel Engine Market Structure, 2012**

- Low-Speed Marine Diesel Engine
  - MAN Diesel 80%
  - Wärtsilä 18%
  - Mitsubishi 2%
  - Caterpillar (MAK) 5%

- Medium-Speed Marine Diesel Engine
  - Wärtsilä 47%
  - Others 25%
  - MAN Diesel 23%

# Table of contents

1 Overview of Marine Diesel Engine
   1.1 Definition
   1.2 Classification & Features
      1.2.1 Classification
      1.2.2 Features

2 Development of Marine Diesel Engine Worldwide
   2.1 Market Scale
   2.2 Competition
      2.2.1 by Country
      2.2.2 by Enterprise

3 Development Environment of Marine Diesel Engine in China
   3.1 Industry Environment
   3.2 Policy Environment
      3.2.1 Industry Planning
      3.2.2 Trade Policy

4 Marine Diesel Engine Market in China
   4.1 Supply & Demand
      4.1.1 Supply
      4.1.2 Demand
   4.2 Import & Export
      4.2.1 Import
      4.2.2 Export
      4.3 Competition

5 Market Segments of Marine Diesel Engine in China
   5.1 Low-Speed Marine Diesel Engine
      5.1.1 Market
      5.1.2 Key Players
   5.2 Medium-Speed Marine Diesel Engine
      5.2.1 Market
      5.2.2 Key Players

6 Key Corporations Worldwide
   6.1 MAN Group
      6.1.1 Profile
      6.1.2 Operation
      6.1.3 Development in China
   6.2 Wartsila
      6.2.1 Profile
      6.2.2 Operation
      6.2.3 Development in China
   6.3 Caterpillar
      6.3.1 Profile
      6.3.2 Operation
      6.3.3 Development in China

7 Key Enterprises in China
   7.1 Hu Dong Heavy Machinery Co., Ltd.
   7.2 Dalian Marine Diesel Co., Ltd.
   7.3 Yichang Marine Diesel Engine Co., Ltd.
   7.4 Weichai Heavy Machinery Co., Ltd.
   7.5 CSSC-MES Diesel Co., Ltd.
   7.6 Shanxi Diesel Engine Heavy Industry Co., Ltd.
   7.6.4 Development Strategy
   7.7 Zhenjiang CME Co., Ltd.
   7.8 Zibo Diesel Engine Parent Company
   7.9 Henan Diesel Engine Industry Co., Ltd.
   7.10 Anqing CSSC Marine Diesel Co., Ltd.
   7.11 Others
      7.11.1 Jiangsu Antai Power Machinery Co., Ltd.
      7.11.2 Shanghai Xinzhong Power Machine Co., Ltd.
      7.11.3 Hefei RongAn Power Machinery Co., Ltd.
      7.11.4 CSSC Guangzhou Marine Diesel Co., Ltd.
      7.11.5 ZGPT Diesel Heavy Industry Co. Ltd.
      7.11.6 Ningbo C.S.I. Power&Machinery Group Co., Ltd.

8 Development Trend of Marine Diesel Engine in China
   8.1 Problems
   8.2 Development Trend
• Market Size of Marine Diesel Engine Worldwide, 2005-2013
• Market Size of Low-Speed Marine Diesel Engine Worldwide, 2005-2012
• Global Low-Speed Marine Diesel Engine Structure by Country, 2011
• Global Low-Speed Marine Diesel Engine Structure by Enterprise, 2007-2012
• Global Medium-Speed Marine Diesel Engine Structure by Enterprise, 2007-2012
• Three Indicators of Shipbuilding Worldwide, 2010-2012
• Memorandum of Understanding Signed between MAN, Wartsila and CANSI, 2011
• NOx Emission Standard for Marine Diesel Engine
• Related Policy of Marine Diesel Engine Market in China, 2011-2013
• Output of Low-Speed and Medium-Speed Marine Diesel Engine in China, 2007-2011
• Shipbuilding in China, 2007-2013
• Demand of Low-Speed Marine Diesel Engine in China, 2012-2015E
• Import Volume and Value of Marine Diesel Engines in China, 2008-2013
• Import Volume and Value of Marine Diesel Engines by Country of Origin in China, 2012
• Import Volume and Value of Marine Diesel Engines by Province and City in China, 2012
• Export Volume and Value of Marine Diesel Engine in China, 2008-2013
• Export Volume and Value of Marine Diesel Engine by Province and City in China, 2012
• Export Volume and Value of Marine Diesel Engine by Destination in China, 2012
• Key Production Areas of Marine Diesel Engine and Typical Companies in China
• Output of Low-Speed Marine Diesel Engine in China, 2011-2013
• Output of Key Low-speed Marine Diesel Engine Manufacturers in China, 2010-2012
• Market Share of Low-speed Marine Diesel Engine by Manufacturers, 2011
• Low-Speed Marine Diesel Engine Manufacturers and Their Technology Co-partners in China
• Output of Medium-Speed Marine Diesel Engine in China, 2011-2013
• Output of Key Medium-speed Marine Diesel Engine Manufacturers in China, 2009-2012
• Medium-Speed Marine Diesel Engine Manufacturers and Their Technology Co-partners in China
• Order Intake of MAN, 2007-2013
• Revenue and Net Income of MAN, 2007-2013
• Order intake and Revenue of Marine Diesel Engine of MAN, 2008-2012
• Order Book and Sales of Wartsila, 2007-2013
• Order Book and Sales of Wartsila by Business, 2009-2013
• Marine Diesel Engine and Application of Wartsila
• Sales of Wartsila by Region, 2007-2012
• Joint Venture Company and Sole Proprietorship of Wartsila in China
• Sales of Caterpillar, 2008-2012
• Sales of Caterpillar by Business, 2011-2012
• Power System Sales of Caterpillar by Region, 2010-2012
• Sales of Hyundai Heavy Industries, 2010-2012
• Sales of Engine & Machinery Business Division of Hyundai Heavy Industries, 2010-2012
• New Orders of Engine & Machinery Business Division of Hyundai Heavy Industries, 2010-2012
• New Orders Structure of Engine & Machinery Business Division of Hyundai Heavy Industries, 2012
• Authorized Manufacturer of Marine Diesel Engine of MAN and W?rtsil? in China
• Marine Diesel Engine Output of Hu Dong Heavy Machinery, 2007-2012 Revenue of Hu Dong Heavy Machinery, 2006-2012
• Marine Diesel Engine Output of Dalian Marine Diesel, 2007-2011
• Revenue and Total Profit of Dalian Marine Diesel, 2007-2012
• Major Economic Indicators of Yichang Marine Diesel Engine, 2007-2012
• Marine Diesel Engine Products of Weichai Heavy Machinery
• Revenue and Gross Margin of Weichai Heavy Machinery by Business, 2010-2012Revenue and Net Income of Weichai Heavy Machinery, 2007-2013
Selected Charts

- Marine Diesel Engine Output of CSSC-MES Diesel, 2009-2012
- Major Economic Indicators of Shaanxi Diesel Engine Heavy Industry, 2007-2012
- Revenue and Total Profit of Zhenjiang CME, 2006-2011
- Marine Diesel Engine Output of Zhenjiang CME, 2009-2012
- Marine Diesel Engine Products of Henan Diesel Engine
- Output of Anqing CSSC Marine Diesel, 2009-2011
- Gas-fuelled Marine Diesel Engine Introduced by Major Manufacturers
- Medium-Speed Dual-fuel Marine Diesel Engine Introduced by Major Manufacturers
You can place your order in the following alternative ways:

1. Order online at [www.researchinchina.com](http://www.researchinchina.com)
2. Fax order sheet to us at fax number:+86 10 82601570
3. Email your order to: report@researchinchina.com
4. Phone us at +86 10 82600828/ 82601561

<table>
<thead>
<tr>
<th>Party A:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Person:</td>
<td>Tel</td>
<td></td>
</tr>
<tr>
<td>E-mail:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Party B:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Beijing Waterwood Technologies Co., Ltd (ResearchInChina)</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td>Room 502, Block 3, Tower C, Changyuan Tiandi Building, No. 18, Suzhou Street, Haidian District, Beijing, China 100080</td>
<td></td>
</tr>
<tr>
<td>Contact Person:</td>
<td>Liao Yan</td>
<td>Phone: 86-10-82600828</td>
</tr>
<tr>
<td>E-mail:</td>
<td><a href="mailto:report@researchinchina.com">report@researchinchina.com</a></td>
<td>Fax: 86-10-82601570</td>
</tr>
<tr>
<td>Bank details:</td>
<td>Beneficial Name: Beijing Waterwood Technologies Co., Ltd Bank Name: Bank of Communications, Beijing Branch Bank Address: NO.1 jinxiyuan shijicheng,Landianchang,Haidian District,Beijing Bank Account No #: 110060668012015061217 Routing No #: 332906 Bank SWIFT Code: COMMCCNSBJG</td>
<td></td>
</tr>
</tbody>
</table>

Choose type of format

- PDF (Single user license) ..............1,800 USD
- Hard copy ........................................... 1,900 USD
- PDF (Enterprisewide license)......... 2,800 USD

※ Reports will be dispatched immediately once full payment has been received.

Payment may be made by wire transfer or credit card via PayPal.

<table>
<thead>
<tr>
<th>Title</th>
<th>Format</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>