
Apr. 2015
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

As the core of the ship equipment, marine diesel engine can be divided into low-speed, medium-speed and high-speed types according to the rotational speed.

Currently, South Korea, Japan and China enjoy about 80% share of the global marine diesel engine market. Among them, South Korea monopolizes the low-speed marine engine market, while Japan and China act as leaders in the medium-speed marine engine market. A large number of marine diesel engine companies worldwide make use of technology licenses for production and sale, particularly MAN and Wartsila are the world's foremost license providers. In 2014, MAN and Wartsila shared 99% of the global low-speed marine engine market and 77% of the world's medium-speed marine engine market.

Although as the world's largest shipbuilding country, China is weak in ship supporting capabilities and has to apply the patents of MAN, Wartsila and Mitsubishi Heavy Industries to the vast majority of low-speed marine diesel engines. As of the end of 2014, MAN had authorized nearly 20 companies in China, while Wartsila authorized 10 ones and Mitsubishi Heavy Industries 3 ones.

Through introduction, digestion and assimilation, China has raised its marine diesel engine production level rapidly, and witnessed the emergence of Hudong Heavy Machinery, CSSC-MES Diesel, Dalian Marine Diesel, Yichang Marine Diesel Engine, Qingdao Haixi Heavy-duty Machinery and other low-speed marine engine protagonists. In 2014, the above five companies boasted total capacity of low-speed marine engines up to 8.5 million horsepower. At the same time, medium-speed marine engine enterprises represented by CSSC Marine Power and Shaanxi Diesel Engine Heavy Industry have also arisen.

MAN is the world's largest low-speed marine diesel engine brand. In 2014, its sales reported €14.286 billion, of which €3.273 billion stemmed from MAN Diesel & Turbo. In February 2015, MAN signed the 10-year agreements about low-speed two-stroke diesel engine license with China State Shipbuilding Corporation (CSSC) and China Shipbuilding Industry Corporation (CSIC).

Wartsila is known as the world's largest medium-speed marine diesel engine brand. Wartsila runs four marine diesel engine joint ventures in China, namely Shanghai Wartsila Qiyaq Diesel Company (WQDC), Wartsila Nantong, Wartsila Yuchai and Winterthur Gas & Diesel (Win GD). Win GD is a joint venture co-founded by Wartsila (holding 30% stake) and CSSC (70% stake), which grasps Wartsila's two-stroke engine technology, and formally went into operation on January 19, 2015.

Hudong Heavy Machinery is the largest manufacturer of marine diesel engines in China. It enjoyed 51% stake in CSSC-MES Diesel in 2013 and produced 194 marine diesel engines with 4.1 million horsepower in 2014, ranking first in the industry. In January 2015, it delivered the world's first SCR system applied to Win GD's low-speed engines.

CSSC Marine Power is grown from the merger between Zhenjiang CSSC Equipment and Anqing CSSC Diesel Engine in September 2013. As a leader in Chinese medium-speed marine engine market, the company is capable of annually producing 500 medium-speed marine engines with the bore (cylinder diameter) size of below 320mm and 840,000 horsepower as well as 30 low-speed engines with 300,000 horsepower.
Dalian Marine Diesel produces high-power marine engines for Wartsila and MAN, with annual capacity of 2 million horsepower. In December 2013, Dalian Marine Diesel and W?rtsil? signed an agreement to jointly develop new-generation X92 green marine engines. The report highlights the followings:

※ Global marine diesel engine market size, regional structure, corporate structure, etc;
※ Policies on marine diesel engine and industrial environment in China;
※ Supply and demand, import & export and competitive landscape of Chinese marine diesel engine market;
※ Development of low-speed and medium-speed marine engines in China;
※ Operation, R & D and development strategies of six global marine diesel engine companies and 17 Chinese counterparts.

### Leading Products and Competitive Edges of Key Marine Diesel Engine Manufacturers in China in 2014

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<th>Hit Products</th>
<th>Competitive Edges</th>
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<tr>
<td>CSSC</td>
<td>WARTSILA series of low-speed marine engine with cylinder diameter of above 500mm</td>
<td>The second largest producer of low-speed marine engine in China, with annual capacity of 1.7 million horsepower; it developed the low-speed engine with highest power in China, i.e., 11S390ME-C9.2.</td>
</tr>
<tr>
<td>CSSC</td>
<td>All series of medium-speed engine and low-speed engine with small cylinder diameter</td>
<td>The largest producer of medium-speed marine engine in China, with annual production of medium-speed engines up to 640,000 horsepower</td>
</tr>
<tr>
<td>CSSC</td>
<td>DMD-MBD. DMD-WARTSILA series of heavy marine main engine</td>
<td>Capable of annually producing 2 million horsepower of low-speed engines; it is cooperating with Wartsila to develop new-generation X92 model</td>
</tr>
<tr>
<td>CSSC</td>
<td>YMD-NAN. YMD-WARTSILA. YMD-MITSUBISHI series of low-speed engine</td>
<td>Capable of annually producing 1.3 million horsepower of low-speed engines; it acquired 99% equities of YMD Company in Aug 2014, with competitiveness lifted further</td>
</tr>
<tr>
<td>CSSC</td>
<td>PC2-5/6, DK20/DK28, MAN B&amp;W/L16/24, L21/31, L32/40 series of medium-and high-speed engines</td>
<td>The biggest manufacturer of medium- and high-speed and high-power marine diesel engine and diesel generator</td>
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