



Rijksdienst voor Ondernemend
Nederland

*Opportunity Report
Marine Engineering Equipment Industry in Shandong Province*

NBSO Qingdao

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Colofon

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China Marine Engineering Equipment Industry

China's marine equipment manufacturing industry has been developing rapidly. Reasons for this rapid development are firstly, many shipbuilding companies turned to marine equipment manufacturing, due to a slowdown in the shipbuilding industry. Secondly, the Chinese government has greatly supported and encouraged the development of this industry for the needs of marine resources - especially offshore oil and gas.

In the "12th Five Year Plan of the National Strategic Emerging Industry Development", 7 key development directions and major tasks were confirmed; high-end equipment manufacturing industry was one of them. The development goal for marine engineering equipment is clearly defined as well. According to the plan, the government supports development of offshore oil and gas exploration equipment, especially core technology for design and manufacturing of deep-water exploration equipment, drilling equipment, production equipment, and operating and auxiliary ships. The plan also encourages industrialization of offshore wind energy equipment, desalination equipment and seawater utilization equipment, and encourages the strengthening of international cooperation.

In this context the China's marine equipment market grew rapidly. Many marine equipment industry clusters were formed in Shanghai, Jiangsu, Liaoning, Shandong, Zhejiang and other coastal provinces and cities.

Since the second half of 2014, the price of crude oil has fallen sharply. It had a huge impact on the global marine engineering equipment market. But for the global oil and gas industry, the trend will still be to develop from land to the sea, from the shallow ocean to the deep ocean. Marine related industries like offshore wind power and seawater utilization are still developing as well. So overall, the Chinese government still attaches great importance to the development of the marine engineering equipment industry. According to the "13th Five Year Plan", the Chinese government will further strengthen the marine economy, optimize the marine industry structure, promote the industrialization of desalination, support the development of the marine biological pharmaceutical and marine equipment manufacturing industries, accelerate the development of marine services, further promote Shandong, Zhejiang, Guangdong, Fujian, and Tianjin, etc. as marine economy pilot zones, construct Qingdao Blue Valley and other marine economic development demonstration areas. In 2015, China's State Council unveiled the country's 10-year national plan, "Made in China 2025". The plan also emphasizes on the importance of developing marine engineering equipment and high-tech ships.

Marine Equipment Industry in Shandong Province

Shandong Province lies on the east coast of China; it covers a land area of 157,000 km² and has a coastline of 3,000 km, 1/6 of China's total. Shandong has been the third economic power in China in terms of GDP, after Guangdong and Jiangsu. Shandong Peninsula is the largest peninsula in China. With an advantageous location, abundant marine resources and a good marine environment, Shandong has great potential to develop the marine economy.



Shandong province ranks first in marine scientific research; marine scientists and researchers in Shandong account for more than half of the total in China. The Shandong provincial government attaches great importance to the development of the marine engineering equipment manufacturing industry and has developed a series of policies and plans to promote the development of the industry. In 2011, the State Council approved the "Shandong Peninsula Blue Economic Zone Development Plan" (2011-2020), which is China's first regional development strategy on marine economy. As a national strategy, "Shandong Peninsula Blue Economic Zone Development Plan" plans to make the cities of Dongying, Weifang, Weihai, Rizhao and Binzhou professional modern manufacturing bases for marine equipment and make Qingdao and Yantai integrated marine equipment manufacturing bases with international competitiveness. In the marine equipment manufacturing sector, the focus is on shipbuilding and repairing, yachts and cruise manufacturing, offshore oil and gas development equipment, port machinery and equipment, desalination equipment, marine power equipment, marine instrumentation, nuclear power equipment, environmental equipment and materials manufacturing.

With the support and encouragement of the Shandong government, the marine engineering equipment manufacturing industry has developed rapidly. Shandong is competitive in fields including offshore oil and gas, ocean monitoring and instrumentation, and seawater desalination equipment. In the field of offshore oil and gas engineering equipment, Shandong focuses more on exploration equipment.

Several cities in Shandong such as Qingdao, Yantai, Weihai, and Dongying have become centers of marine engineering manufacturing bases and industrial clusters.

Qingdao: Based on the existing manufacturing of drilling rigs and support vessels, Qingdao established R&D and manufacturing systems for high-end supporting products, like marine hydro meteorological observation equipment, intelligent underwater detection equipment, underwater welding equipment, marine optical detection equipment and marine electronic equipment.

Yantai: Yantai forms the base for deep-sea oil/gas exploration and deep-sea fishing equipment, including jack-up, semi-submersible drilling platforms, offshore fishing vessels, support vessels and offshore engineering equipment module construction.

Dongying: Main products in Dongying include jack-up drilling platforms, key equipment of oil production system, offshore oil and water transportation equipment, subsea production systems and key equipment.

Weihai: In Weihai, the main products include heavy lift ships, fiberglass boats, marine crankshafts and high-pressure pumps for desalination.

Development Trends

While there has been a lot of development, overall speaking, marine related companies in Shandong lack international competitiveness. Most of them are relatively weak on R&D, design, and supporting systems. For key equipment and components, Shandong still highly depends on import.

Shandong aims to strengthen industrial competitiveness by upgrading the manufacturing sector. As a coastal province, marine equipment manufacturing is a focal point. The government encourages enterprises to increase productivity and digitization via developing and adapting more advanced technologies. Main development trends include:

- innovation and R&D
- integration of industrialization and IT(smart manufacturing)
- green manufacturing
- completed manufacturing chain

In September 2016, the State Ministry of Finance and the State Oceanic Administration jointly issued the document of "the Central Government to Provide Fiscal Support on Innovation and Development of Marine Economy Demonstration During the 13th Five Year Plan Period". According to the document, the central government plans to carry out demonstration work of marine economy innovation and development, to promote innovation and cluster development of three key industries, i.e. marine biotechnology, high-end marine equipment, and desalination. Each coastal province, including Shandong, will recommend one or two coastal cities to participate in this plan. Therefore, it can be expected that the marine engineering equipment industry will receive even more attention in Shandong.

Main Marine Players in Shandong

Shandong has many well-known, large-scale enterprises in the marine engineering industry, especially in the offshore oil and gas equipment manufacturing field, eg. CIMC Raffles, Jereh, CNOOC Qingdao, CNPC Marine Engineering Qingdao, PJOE, and Shandong Kerui.

Major companies in the Qingdao cluster:

CNOOC Qingdao Marine base

www.cnooc.com.cn/ (English and Chinese)

CNPC Qingdao marine base

www.cnpc.com.cn/cnpc/index.shtml (English and Chinese)

Qingdao Beihai Shipbuilding Heavy Industry Co., LTD.
www.bhshipyard.com.cn/ (English and Chinese)

Wuchang Shipbuilding Industry Group Co., LTD.
www.wuchuan.com.cn/xwzx/jtxw/313934.htm (English and Chinese)

Qingdao McDermott Wuchuan Offshore Engineering Co. LTD.
www.mcdermottwuchuan.com/index.html (English)

Qingdao Haixi Heavy-Duty Machinery Co., LTD.
www.qdhhmc.com/ (English and Chinese)

Relevant research institutions:

Institute of Oceanographic Instrumentation, Shandong Academy of Sciences
www.sdioi.com/ (English and Chinese)

Major companies in the Yantai cluster:

Yantai CIMC Raffles Offshore LTD.
www.cimc-raffles.com/enterprise/raffles/ (English and Chinese)

Penglai Jinglu Ship Industry Co., LTD
www.jinglushipyard.com/ (English and Chinese)

DSME SHANDONG CO., LTD. (DSSC)
www.dsme.cn/ (English and Chinese)

Penglai Jutal Offshore Engineering Heavy Industries Co.,LTD (PJOE)
www.pjoe.com.cn/index.html (English and Chinese)

Yantai Jereh
www.jereh.com/ (English and Chinese)

Yantai Shunda Ocean Engineering Service Co.,LTD
<http://www.diving-salvage.com/> (English and Chinese)

Major companies in the Dongying cluster:

Dongying Kerui Group
www.keruigroup.com.cn/ (English and Chinese)

Shengli Fangland Oil Equipment Co., LTD.
www.fanland.cc/ (English and Chinese)

Research and teaching institutions:

China University of Petroleum
www.upc.edu.cn/ (English and Chinese)

Shengli Oilfield Drilling Technology Research Institute (SLDTI)
www.sldti.com/ (English and Chinese)

Major companies in the Weihai cluster:

Huanghai Shipbuilding Co., LTD.
www.huanghaiship.com/ (English and Chinese)

Weihai Zhongfu Xigang Ship Co., LTD.
zfxg.ccqc.com.cn/cn/index.php (Chinese)

COSCO (Weihai) Shipbuilding Marine Technology Co., LTD.
www.wecosco.com/ (English and Chinese)

AVIC Weihai Shipyard Co., LTD.
www.wh-shipyard.com/ (English and Chinese)

Research and teaching institutions:

Harbin Institute of Technology (Weihai)
<http://www.hitwh.edu.cn/> (English and Chinese)

Opportunities for Dutch Companies

Although the Shandong marine engineering equipment manufacturing industry has made great progress, compared with developed countries, there is still a big gap. Shandong (and China)'s main difficulties in this industry are:

- the design and innovation capabilities are weak;
- lack of core technologies;
- most companies are at the low end of the industrial chain;
- lack of specialization;
- lack of manufacturing of supporting equipment and spare parts, rely heavily on imports;
- the industrial system is not complete, lack of related services;
- inadequate project management skills.

The main opportunities for Dutch companies are to look for gaps or weaknesses in the industrial system, and to provide technical support and services. The main opportunities are:

- to provide advanced design services;
- to help local companies to set up R&D institutions to meet domestic demand;
- to help local enterprises to enhance their specialization via technology export, cooperation, and technology transfer services;
- to export high-end components, specialized components and modular products of deep-sea construction equipment;
- to export or help to develop advanced project management software;
- to provide project management training;
- to help local shipbuilding companies to develop offshore engineering equipment manufacturing and repairing by leveraging existing shipbuilding and repairing facilities;
- to provide technology and services in the desalination and seawater utilization;
- to cooperate on marine biotechnology projects;
- to provide low-power, low consumption, high efficient automated manufacturing solutions.

Useful Links (National/Provincial)

Below Chinese authorities, associations, institutes and websites are related to the marine sector at national and provincial level. The websites are only in Chinese.

China Institute for Marine Affairs (CIMA)

Website: www.cima.gov.cn/

State Oceanic Administration (SOA)

Website: <http://www.soa.gov.cn/>

China Association of Oceanic Engineering (CAOE)

Website: www.caoe.org.cn/

Shandong Oceanic and Fishery Bureau

Website: <http://www.hssd.gov.cn/>

Blue Economy Research Institute

Website: www2.ouc.edu.cn/lanse

China Offshore

Website: www.chinaoffshore.com.cn/

China Net for Ocean Engineering Equipment

Website: www.cnoee.com/

Trade Fairs and Conferences in Shandong

China (Dongying) International Petroleum and Petrochemical Equipment & Technology Exhibition

Website: www.cdype.com.cn (English and Chinese)

International Marine Science and Technology Equipment Exhibition & Marine Industry Cooperation Forum

Website: www.iotce.org (English and Chinese)

China (Qingdao) International Ocean Science & Technology Exhibition

Website: <http://www.ostexpo.com/> (English and Chinese)

Qingdao International Conference on Desalination and Water Reuse Conference

Website: <http://www.cda-apdwr2009.com/> (English and Chinese)

Sources

13th Five Year Plan (2016-2020)

12th Five Year Plan of National Strategic Emerging Industry Development Plan (2012-2020)

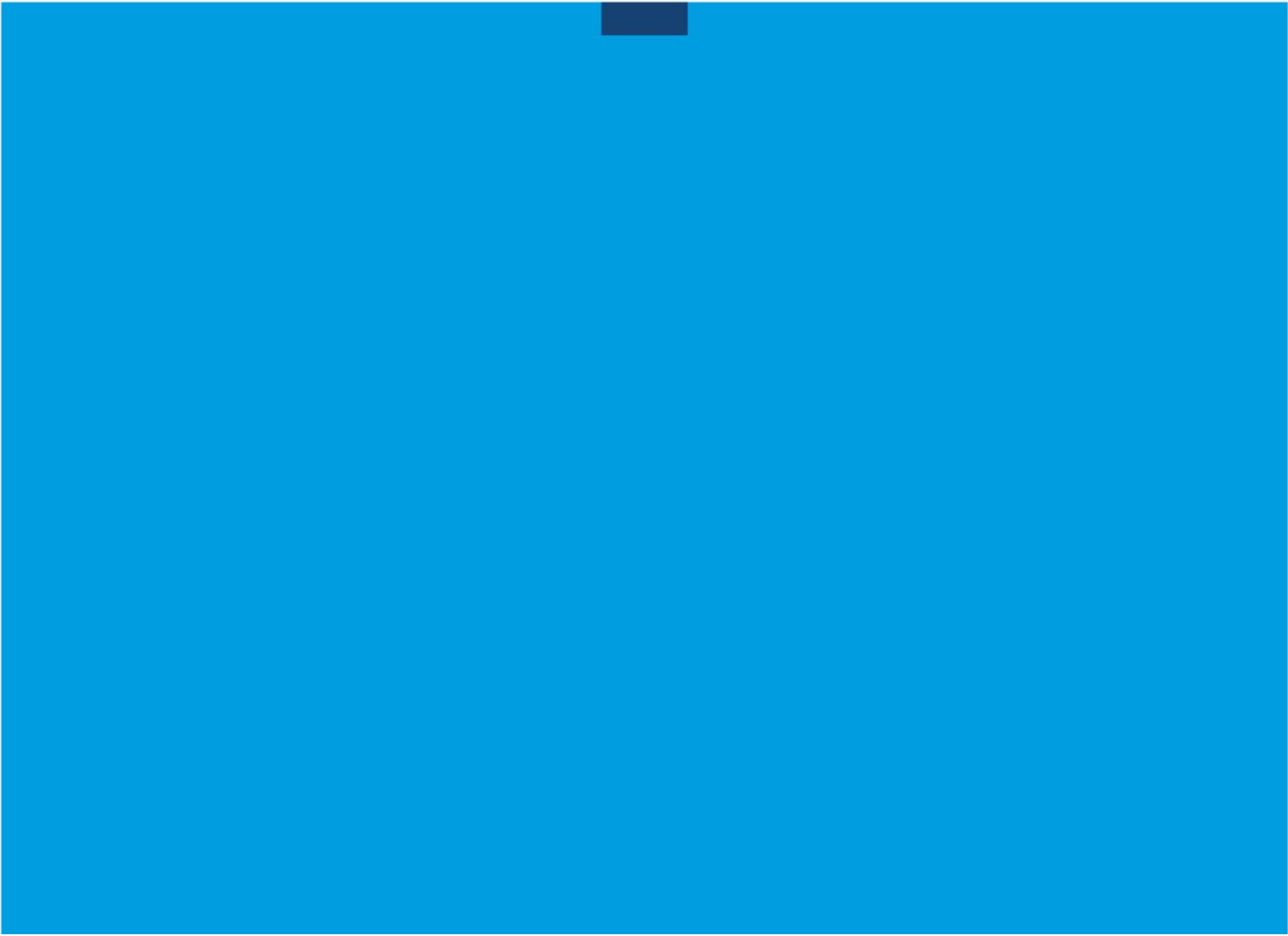
Marine Engineering Equipment Manufacturing and Long-term Development Plan (2011-2020)

Documents on "the Central Government to Provide Fiscal Support on Innovation and Development of Marine Economy Demonstration During the 13th Five Year Plan Period" (issued in Sep 2016)

Made in China 2025 (2015-2025)

Shandong Peninsula Blue Economic Zone Development Plan (2011-2020)

Statistical Report of China Marine Economy 2015, China Oceanic Administration



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