

1 Introduction

Historically and geographically, Japan has been dependent on the ocean, and its resources are the only natural resources in which Japan is on equal footing with other major industrial nations. This dependency coupled with the strength of the yen and pressures of urbanization will lead to increased exploration and utilization of Japan's abundant ocean-related resources in the coming decade.

This study is intended to inform Canadians interested in entering the Japanese market for ocean industries equipment about the characteristics of this market, specific factors affecting the development of demand and options for approaching the market.

2 Industry Background

Domestic Market Restrictions

Defence market prohibition. Due to laws established during the U.S. occupation of Japan following the Second World War, the development of military and defence-related equipment has been confined to a small number of companies. Technology transfer between defence and civil companies has also been blocked.

These laws affected Japan's overall ocean industries equipment development in a number of ways. Japan's laws prohibiting defence-related equipment development by private sector industries handicapped ocean industries equipment technology development greatly in comparison to Western countries. Japan is still approximately 10 years behind Canada and the U.S. in many areas of ocean industries equipment and related technology.

Further, at the inception of the Japan Marine Science and Technology Centre (JAMSTEC), laws prohibiting the centre and the Japan Defense Agency to conduct joint research and development were passed. These laws also restricted the sharing of technology and equipment between the two agencies. As a result, JAMSTEC conducts research and development for "peace-related," private industries only.

Lack of domestic offshore oil resources. Japanese companies currently supply 10 per cent of the world's offshore rigs and platforms. Firms such as Nippon Steel, Sumitomo Metals, and the shipbuilding divisions of Mitsubishi Heavy Industries and Mitsui Zosen Corp., produce the structural

elements but the equipment used on these rigs is primarily supplied by other countries with more advanced technology in offshore oil exploration. One of the main reasons for this is that the lack of domestic offshore oil resources has acted as a deterrent to the development of ocean industry-related equipment and technology.

Limited research and development. The oil and defence industries represent only a small market niche for domestic ocean industries equipment producers. It has been difficult for companies to rely on these sectors to support any kind of research and development activities, in contrast to Scandinavian countries, England, Canada and the U.S. where the prospect of offshore oil exploration activities and defence department contracts increases development in the ocean industries equipment sectors. For example, the U.S. conducts an estimated 300 times more research and development for defence and oil and gas-related ocean industries equipment than Japan.

An example of this type of defence-related development is seen in the distribution of manned deep-dive, 6 000-m class research submersibles. The U.S. and France each own four such vessels, the U.S.S.R. two, and Japan one. The U.S. and U.S.S.R. submarines are owned and operated by the Navy and a defence department respectively. French submarines are operated by a government agency and Japan's is controlled by JAMSTEC.

This Japanese disadvantage makes Japanese defence and ocean-related markets fairly vulnerable to foreign manufacturers who possess much needed equipment and technology.

Environmental restrictions. Fishing unions have extensively influenced Japan's ocean industry coastal area development. With strong lobbies and other political influence, the unions have kept ocean development to a minimum, claiming that excessive development would harm fishing areas and output.

As a result, severe environmental restrictions and regulations force all potential ocean developers through excessive red tape and several government agencies before receiving construction permits.

Concentrated opposition by fishing unions also restricts development of certain ocean areas. For example, there were plans to use a man-made island for the new airport at Ishigakijima Island. However, due to the potential destruction of the surrounding environment and fishing grounds, the project was strongly opposed by the Japanese fishing industry and ultimately scrapped.