

Diversifying the Customer Base for Shipbuilding in the United Kingdom

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The United Kingdom’s Ministry of Defence (MOD) now buys most of the ships built by the country’s shipyards. A shipbuilding industry relying almost entirely on a single customer will have limited motivation to improve its efficiency or advance the state of the art. The MOD thus asked the RAND Corporation to shed light on the United Kingdom’s prospects for success in the commercial or military export market. The RAND analysis was based on literature reviews, a survey of shipbuilders, and interviews with personnel at the responding shipyards.

Differences Between Military and Commercial Shipbuilding

If the UK commercial market is to expand, the country’s largely military shipbuilding industrial base will have to begin building commercial ships. The construction of most commercial ships, however, differs dramatically from that of warships:¹

- **Ship size and complexity.** The average commercial ship is about three times as big as the average military ship and thus cannot be built in facilities sized for military ships. At the same time, the average commercial ship is much simpler than the average military ship.
- **Acquisition process.** Commercial ship owners are accustomed to much simpler contracting, testing, etc., than are military ship owners.
- **Design and construction.** Commercial ships are, for the most part, large steel boxes with simple propulsion and navigation systems. Designing military ships takes longer because of the large number of sophisticated systems involved and a desire to at least match the current state of the art. Construction of commercial ships depends on simple steel forming and welding processes repeated over and over. The construction of warships involves the use

Key findings:

Any attempt by the United Kingdom to re-enter the commercial shipbuilding market or enter the military ship export market would face daunting challenges, including

- the need for the country’s militarily oriented shipbuilding industrial base to enter the dramatically different world of commercial shipbuilding
- strong competition in both markets
- the mismatch between the United Kingdom’s military ship products and the needs of importing countries.

Design breakthroughs by the United Kingdom could help its competitive position, but such advances require risky investments.

of exotic materials and the installation of large amounts of high-value, sensitive equipment.

- **Workforce character.** In the United Kingdom, military shipbuilding requires a much higher ratio of white- to blue-collar workers than does commercial shipbuilding. This is because military shipbuilding requires more highly skilled workers and demands much more engineering support, as well as the need to interact extensively with the government oversight team. Such high skill base and overhead cannot be sustained by any yard that expects to build typical commercial ships at competitive prices.

Prospects for Market Entry and Integration

The United Kingdom would face strong competitors in attempting to re-enter the commercial shipbuilding market (see Figure 1). Japan and

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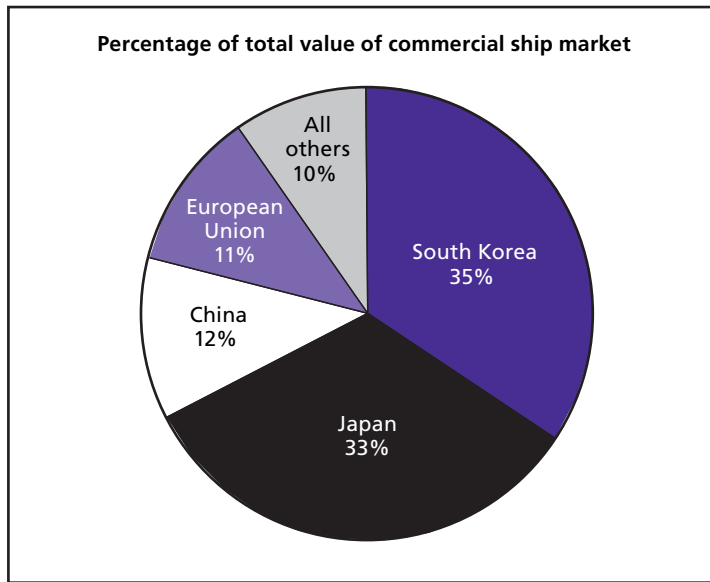
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¹ Auxiliary ships such as oilers fall in between warships and commercial ships along most of these dimensions.

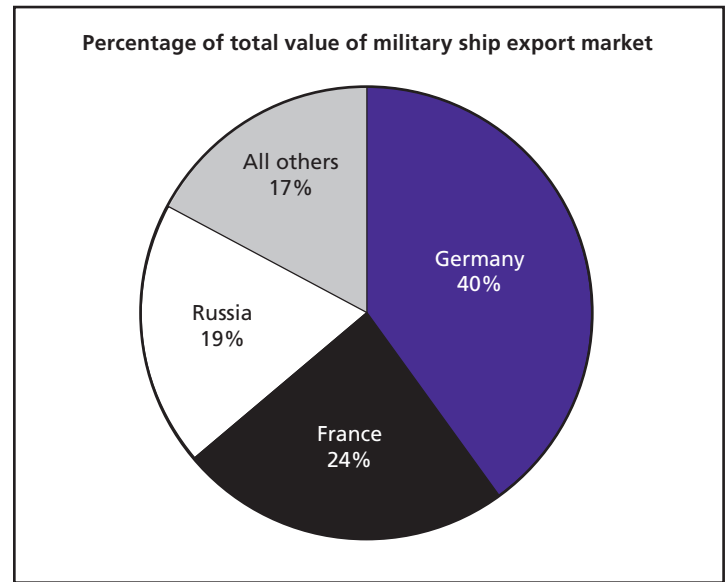
Figure 1
South Korea and Japan Dominate the Commercial Shipbuilding Market



South Korea dominates the market for ships of low and moderate complexity—mostly cargo ships and tankers. EU countries other than the United Kingdom dominate the market for more-complex ships such as passenger vessels. A newcomer would face formidable impediments to securing a meaningful market niche in such an environment. UK shipyards attempting to compete in the commercial market would also have to resolve the workforce, process, and facility issues discussed above. Finally, the pound has recently been strong against the dollar, which works against the United Kingdom’s export interests. We thus find prospects for re-entry of UK shipyards into the commercial market to be daunting.

The military export market is small in value compared with the commercial market. It nonetheless represents a tempting target if the objective is to level the load over domestic military production lulls. Here again, UK shipbuilders face strong competitors. Germany and France together have more than 60 percent of the market (see Figure 2). The United Kingdom certainly has a stronger industrial base to support military sales than it does in the commercial arena, but the match between most UK military ship products and global demand is not close. Buyers are largely looking for modestly priced frigates and small conventionally powered submarines. UK warships are, in general, too sophisticated and expensive to interest potential importers. Furthermore, export contracts often require that most ships in an order be built in the importing country, thus limiting the benefit for the exporter’s construction workforce.

Figure 2
Germany, France, and Russia Dominate the Projected Military Ship Export Market



As mentioned above, should the United Kingdom attempt to re-enter the commercial market, shipyards currently building military ships would have to diversify into commercial production. While some yards do have experience with naval auxiliaries or recent commercial projects, the historical trend has been more towards specialisation than integration of commercial and military production. Most successful shipbuilders have found it difficult to build both military and commercial ships, of any degree of complexity, within the same operation.

The Way Forward

While prospects for broadening UK shipyards’ customer base would appear to be poor, the shipbuilding industry is a volatile one, and events could always break unexpectedly in the United Kingdom’s favour. Taking advantage of such opportunities requires some preparation, such as the development of less-expensive warship designs and generation-skipping commercial designs or dramatic technological advances in systems and materials.

Of course, development of new designs and technologies would require investment on the part of shipbuilders and equipment suppliers and potentially on the part of government, if consistent with EU rules. These investments would be risky, because the probabilities of payoff would not be high, but spillover benefits might accrue to domestic military shipbuilding and to other UK industries. ■

This research brief describes work done for RAND Europe and the RAND National Security Research Division documented in *Differences Between Military and Commercial Shipbuilding: Implications for the United Kingdom’s Ministry of Defence*, by John Birkler, Denis Rushworth, James Chiesa, Hans Pung, Mark V. Arena, and John F. Schank, MG-236-MOD (available at <http://www.rand.org/publications/MG/MG236/>), 2005, 134 pp., \$20.00, ISBN: 0-8330-3670-X. MG-236 is also available from RAND Distribution Services (phone: 310.451.7002; toll free: 877.584.8642; or email: order@rand.org). The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND’s publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.



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