RSIS S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
Nanyang Technological University

RSIS COMMENTARY

www.rsis.edu.sg No. 028 – 14 February 2017

Southeast Asia's Naval Shipbuilding Industry: Challenges Ahead

By Richard A. Bitzinger

Synopsis

Naval shipbuilding in Southeast Asia, although ambitious in scope, is likely to remain limited to low-tech manufacturing (hulls and sub-assemblies), MRO (maintenance, repair, and overhaul), and a few showcase projects.

Commentary

NEARLY EVERY large country in Southeast Asia possesses a shipbuilding industry. Some local shipbuilding sectors are quite large, in fact - Vietnam, for example, is the world's fifth largest shipbuilder. These countries are engaged, in a limited way, in the construction of warships for their respective navies.

Moreover, most countries wish to expand their shipyards and production capacities, and into more ambitious shipbuilding programmes. However, Southeast Asian shipyards face some long-range problems when it comes to further developing their shipbuilding capabilities.

Southeast Asian Shipbuilding: An Overview

Naval production in Southeast Asia is mostly concentrated in the following shipbuilding companies:

• Indonesia: PT PAL, a state-owned "strategic" industrial enterprise;

• Malaysia: Boustead Naval Shipyard, a division of Boustead Heavy Industries;

• Singapore: ST Marine, a division of Singapore Technologies Engineering (STEngg);

• Thailand: Bangkok Dock Company Ltd.; and

• Vietnam: Vinashin, also known as the Shipbuilding Industry Corporation (SBIC) of Vietnam.

The best-known products of these local shipyards include:

• *Indonesia*: PT PAL has constructed German-designed 57-metre patrol boats for the Indonesia Navy (TNI-AL), as well as a large Landing Platform Dock (LPD) ships, and wants to build two Dutch-designed *Sigma*-class corvettes, if the TNI-AL places a follow-on order. PT PAL also wants to build submarines (designed by South Korea) for the navy.

• *Malaysia*: During the 2000s, Boustead Naval Shipyard undertook construction of six *Kedah*-class Next Generation Patrol Vessel (based on the German MEKO A-100 design) for the Royal Malaysian Navy (RMN). This programme has been succeeded by the Second-Generation Patrol Vessel (SGPV) programme, which will entail Boustead building six French-designed *Gowind*-class (3100-ton) frigates.

The company is partnering with DCNS, a French naval contractor, on this project, which will cost at least US$2.8 billion. The SGPV programme is regarded as especially crucial by the RMN, who are concerned that they would lack credible combat capability in territorial disputes in the South China Sea.

• *Singapore*: Recent and current naval shipbuilding programmes include the *Formidable*-class frigate (based on the French *Lafayette* design), the *Endurance*-class amphibious assault ship (also sold to the Thai navy), and the 1200-tonne Independence-class littoral mission vessel. Singapore also plans to build a large Joint Multimission Ship (JMMS), basically a helicopter carrier (LHD).

• *Thailand*: Bangkok Dock undertook final assembly of the *Krabi*-class OPV, based on the British *River*-class patrol vessel.

• *Vietnam*: Vietnam is currently building several Russian-designed *Molniya*-class corvettes; other naval products include patrol boats and logistics ships.

Challenges Facing Local Naval Shipbuilders

Southeast Asian shipyards face long-term problems when it comes to expanding or further developing their shipbuilding capabilities or product lines, three challenges in particular stand out:

● **Lack of profitability**: Many regional shipyards are unprofitable due to extremely small production runs or mismanagement. Indonesia’s PT PAL is starved for contracts, as the Jakarta government is unable to commit to a long-term naval modernisation (and funding) plan.

In 2009, PT PAL was forced to enter a process of rationalisation through which around half of its 2,000 employees were made redundant. For its part, Vietnam's shipbuilding ambitions were dealt a severe blow in 2010, when Vinashin collapsed under a debt burden of US$4.5 billion (it is currently under reorganization).

● **Corruption**: In Malaysia corruption in armaments procurement has undermined national naval shipbuilding efforts. The Kedah-class shipbuilding programme was initially an ambitious plan to build 27 large OPVs; however, it was plagued from the beginning by fiscal irregularities, resulting in quality control problems and delays.

The original contractor, PSC-Naval Dockyards, was discovered to have not paid several subcontractors, while also engaging in the apparent embezzlement of employee retirement funds; as a result, the government forced Boustead to take over PSC shipyards and finish the project. Even then, first ship in the series failed to pass its pre-delivery sea trials due to technical problems and quality issues. Eventually, the Kedah-class programme was reduced to just six ships.

● **Low levels of shipbuilding expertise and technology**: The relatively low level of technological and technical capabilities of regional shipyards is probably the greatest impediment that these builders face. In most cases, local shipbuilding is decidedly small-scale, limited to relatively simple items like patrol vessels, corvettes, and offshore patrol vessels (OPVs). Only in a few instances (Singapore, for instance), do local shipbuilders construct larger vessels, such as frigates or amphibious assault ships.

Even then, all regional shipbuilding enterprises have to import all or nearly all of the systems and weapons that go on these warships, including the engines, radars, electronics, fire control, missiles, and naval guns. Singapore's *Formidable*-class frigates, for example, use French sensors and decoys, Israeli electronic warfare systems, American-made antiship cruise missiles and helicopters, and an Italian 76mm gun.

For the most part, when it comes to naval shipbuilding, Southeast Asian shipyards essentially just build the shell (i.e., the hull, superstructure, and interiors), while the high-end, value-added items are supplied by foreign subcontractors.

Stuck at the Bottom of the Market?

For these reasons, many regional shipyards want to move up the "ladder of production" by undertaking more complex and more complicated ship-construction projects. Malaysia, for example, was keen to co-produce (with the United Kingdom) two *Improved Lekiu*-class frigates being acquired by its navy. For its part, Indonesia has expressed an interest in locally building follow-on *Sigma*-class corvettes (the first two were built in the Netherlands), as well as submarines.

In most cases, however, there is a chicken-and-the-egg problem at work here: local shipyards do not possess sufficient workforce skills or manufacturing capabilities to take on more complicated projects, while at the same time they do not engage in sufficient large-scale production to justify developing those capabilities. When it

came to the *Lekiu* programme, for example, BAE Systems, the British-based lead contractor, was reluctant to include Boustead in any kind of significant industrial cooperation, arguing that it was “not advanced enough” to play a large role in the programme. Moreover, many of these shipyards still lack sufficient numbers of qualified engineers and technical personnel to engage in more advanced types of naval production.

Consequently, not withstanding the potential, it is unlikely that Indonesia, Malaysia, Thailand, or Vietnam will ever rise above their current positions as relatively minor players in naval shipbuilding. Naval construction will continue to be ad hoc and sporadic, limited to MRO (maintenance, repair, and overhaul), low-end manufacturing (hulls and sub-assemblies), final production, and a few showcase arms projects that are, for the most part, generally low-tech in nature.

Richard A. Bitzinger is Senior Fellow and Coordinator of the Military Transformation Programme at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore. He is formerly with the RAND Corp. and the Asia Pacific Centre for Security Studies.

Nanyang Technological University
Block S4, Level B3, 50 Nanyang Avenue, Singapore 639798
Tel: +65 6790 6982 | Fax: +65 6794 0617 | www.rsis.edu.sg