Indigenous ambitions: Project 75 grows India’s submarine ecosystem

The construction of six Project 75 Kalvari-class boats is growing India’s domestic submarine supply chain in line with the ‘Make in India’ policy. Richard Scott reports

INS Khanderi, the second of the Indian Navy’s six new Project 75 Kalvari-class conventional submarines, was formally commissioned into service at the end of September 2019 in a ceremony at Naval Dockyard Mumbai.

Built by government-owned Mazagon Dock Shipbuilders Limited (MDL) in Mumbai under a transfer of technology partnership with France’s Naval Group, the new Khanderi and the other five boats in the class perpetuate the name of one of the navy’s earliest submarines: the previous Khanderi, which served from December 1968 to October 1989, being of the Soviet-built Project 641 ‘Foxtrot’ type. “The commissioning of Khanderi marks another milestone in the reincarnation of [the] Kalvari-class submarines,” said commanding officer Captain Dalbir Singh in his commissioning day message.

INS Khanderi was commissioned on 28 September at Naval Dockyard Mumbai. (Richard Scott/NAVYPix)
The Kalvari-class programme has invoked reincarnation in another sense. A quarter of a century after assembling the HDW-designed Type 209/1500 Shishumar-class submarines INS Shalki and INS Shankul, Project 75 has witnessed the regeneration of MDL’s capacity to build conventional submarines. Furthermore, the programme has seeded the creation of an indigenous ‘ecosystem’ of qualified equipment and component suppliers.

These developments are aligned with the Indian government’s policy goal to increase the local content in warship and submarine building programmes under the banner of ‘Make in India’. In order to give an impetus to the ‘Make in India’ initiative, MDL established a dedicated department in November 2015, while at the same time laying down an indigenisation roadmap through 2030.

Project 75 has been critically important to Naval Group. As well as marking another success for the export-oriented Scorpène submarine family (which provides the basis of the Project 75 design), it has firmly established the company’s footprint on the sub-continent and proved its technology transfer model with a first-of-class build in India.

Still, Project 75 has not been devoid of challenges. The programme is running approximately five years behind schedule. The delay is attributed in part to protracted export clearances, clarifications on transfer of technology processes and data packages, and delays to materiel procurement. Perhaps most telling was the time required to recapitalise the facilities, processes, and skills at MDL to build a new design of conventional submarine two generations removed from the Indian Navy’s force of four Type 1200/1500 Shishumar boats and nine Sindhughosh-class (Project 877EKM ‘Kilo’) submarines.

Rahul Kumar Shrawat, chair and managing director of Naval Group India, had oversight of Project 75 as chair and managing director of MDL up to his 2016 retirement. “When [Naval Group] started its collaboration with MDL, there were teething problems,” he told Jane’s. “Mazagon Dockyard found itself working with a new industrial partner and a totally new [submarine] design. Also, there was no extant production line. Skillsets had been lost, and industrial processes had changed.”

The Project 75 programme was made more complex by the Indian government’s insistence that all six submarines – including the first of class – were built in-country. “In the case of the Type 209 boats, the first two were built in Germany, and the third and fourth assembled [by MDL] using materiel kits,” said Shrawat. “For Project 75, the requirement for first-of-class build in India was a huge project management challenge.

“However, we believe we can say now that the transfer of technology [to MDL] has been successful. Not just in terms of engineering and construction, but also project management.”

Growing a footprint

Project 75 had originally been predicated on the domestic construction of an evolved version of the Type 209/1500 Shishumar-class design. However, allegations of corruption involving the original
four-boat contract led the Indian government to end that work with HDW and in 1999 negotiations were opened with France’s DCN – now Naval Group – for six Scorpène boats.

After negotiations, what was then the Armaris joint venture of DCNS and Thales was in October 2005 contracted as partner to MDL for the execution of the Project 75 programme. As well as providing the submarine design (platform and combat system), the scope of work has also covered a comprehensive transfer of technology package to MDL to support the yard’s upgrade and construction of all six boats in-country. This entailed training engineers and shipyard workers; supporting development of local infrastructure; delivering selected materials, equipment, and tools; quality control; and providing all necessary documentation.

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