# UPSC PREPARATION

## Project 75-India

Project 75 intends to build six diesel-electric attack submarines of the Kalvari class that is based on the Scorpene class, were being built at MDL (Mazagon Dock Limited).
Project 75(I) succeeds the Project 75 Kalvari-class submarine for the Indian Navy.

Under Project 75-India, the Navy will build six conventional diesel-electric submarines that would be bigger than the under-construction Scorpene-class submarines being built at the Mazagon Dockyards Limited in Mumbai under Project 75.

### What is Project 75(I)?

- Project-75(I) envisages indigenous construction of six modern conventional submarines with contemporary equipment, weapons & sensors including Fuel-Cell based AIP (Air Independent Propulsion Plant), advanced torpedoes, modern missiles and state-of-the-art countermeasure systems.
- This would provide a major boost to the indigenous design and construction capability of submarines in India, in addition to bringing in the latest submarine design and technologies as part of the project.
- The overall aim would be to progressively build indigenous capabilities in the private sector to design, develop and manufacture complex weapon systems for the future needs of the Armed Forces.
- The project would not only aid in boosting the core submarine/shipbuilding industry but would also greatly enhance the manufacturing/industrial sector, especially the Micro Small and Medium Enterprises (MSMEs) by developing an industrial ecosystem for the manufacture of associated spares/systems/equipment related to submarines.
- This will be an important step towards meeting broader national objectives, encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government.

### 30-year Submarine Plan

- Around the time of the Kargil war, GoI approved a 30- year submarine building plan. It included the construction of 24 submarines indigenously by 2030.
- The submarine building plan had separate series of submarine building lines with code names Project 75 and Project 75I.
- Out of 24 submarines to be built in India, 18 will be conventional submarines and 6 will be nuclear-powered submarines
- India's current arsenal consists of 14 conventional submarines.
- Of the 14 conventional submarines India currently possesses, including the Scorpene, only half are operational at any given point of time.
- The INS Arighat is a nuclear-powered ballistic missile submarine, is to be commissioned soon.

## Submarines under Project 75

- Project 75 is a programme by the Indian Navy that envisaged building six Scorpene-Class attack submarines.
- The Mazagon Dock Limited (MDL) is manufacturing six Scorpene submarines with technical assistance from the Naval Group of France.
- Submarines of the Ongoing Project-75:
    a. Three submarines INS Kalavari, INS Khanderi and INS Kharanj have been commissioned into the Indian Navy.
    b. Trials of 4th and 5th submarines, the INS Vela and INS Vagir are underway while the construction of the 6th Vagsheer is underway.
    c. The submarines under Project-75 Scorpene-Class are powered by diesel-electric propulsion systems.

## About Scorpene Class Submarines

- The Scorpene-class submarines are one of the most advanced conventional submarines in the world.
- The submarine has superior stealth features, such as low radiated noise levels, advanced acoustic silencing techniques and the ability to attack with precision-guided weapons on board.
- The Indian Navy intends to use the submarines for missions such as intelligence gathering, area surveillance, anti-surface warfare, anti-submarine warfare and minelaying operations.
- The submarines are armed with six torpedo-launching tubes, 18 heavy weapons, tube-launched MBDA SM-39 Exocet anti-ship missiles and precision-guided weapons.
- It can launch crippling attacks on the surface and underwater enemy targets.
- Moreover, the attack submarines can travel at a maximum submerged speed of approximately 20 knots and have the ability to remain submerged for 21 days.
- These Submarines have a diving depth of more than 350 m.
- The Scorpene class of submarines were designed by French naval shipbuilding firm DCNS in partnership with Spanish shipbuilding firm Navantia.

## Significance of Project 75

- It is one of the Largest ‘Make in India’ Projects. It will facilitate faster and more significant absorption of technology and create a tiered industrial ecosystem for submarine construction in India.
- It Ensures Self-Reliance and reduces current dependence on imports and gradually ensures the dependability of supplies from indigenous sources.
- It acts as a deterrence mechanism to counter China and Pakistan and to protect Indo-Pacific :
    a. According to the Indian Navy, the Pakistan Navy is estimated to have 10 submarines, of which 5 French-origin Agosta 90B class (Khalid class) conventional vessels are fully operational.
    b. Pakistan has signed an agreement to purchase eight conventional submarines with China.
    c. It is estimated that China’s People’s Liberation Army Navy (PLAN) has nine SSNs and four Jin-class SSBNs.

d. Estimates also suggest China has a fleet of 40-plus diesel-electric submarines beset by maintenance issues.

## Frequently Asked Questions

Which is India's first nuclear submarine?

INS Arihant is India's first nuclear submarine. It is a class of nuclear-powered ballistic missile submarines built for the Indian Navy.

Who manufactures submarines under Project 75 (I) in India?

Ministry of Defence has shortlisted 2 domestic companies – state-owned Mazagon Dockyard Limited (MDL) and private firm Larsen & Toubro Ltd, and 5 foreign vendors: Rubin Design Bureau of Russia, Naval Group of France, Navantia of Spain, ThyssenKrupp Marine Systems (TKMS) of Germany, and Daewoo Shipbuilding & Marine Engineering of South Korea under Project 75 (I).