

## **INS Arihant**

## Published On: 15-10-2022

Why is in news? INS Arihant carries out successful launch of Submarine Launched Ballistic Missile

INS Arihant carried out a **successful launch of a Submarine Launched Ballistic Missile (SLBM)** on October 14, 2022.

The missile was tested to a predetermined range and impacted the target area in the Bay of Bengal with very high accuracy.

All operational and technological parameters of the weapon system have been validated.

With Arihant, India has **now entered into a club of nations that have the technological capability to design**, **build and operate nuclear-powered ballistic missile submarines or ship submersible ballistic nuclear** (SSBNs).

The US, France, Britain, China, and Russia currently have such capabilities.

The **second submarine in the series**, **Arighat** is now undergoing sea trials after which it will be inducted into service, it is the upgraded version of INS Arihant.

## **INS Arihant**:

INS Arihant is India's first indigenously-designed, developed and manufactured nuclear-powered ballistic missile submarine.

It was **designed in 1990s** and its development project was officially acknowledged in 1998. Its design is **based on the Russian Akula-1 class submarine**.

It was launched in 2009 and its nuclear reactor went critical in 2013 and it was commissioned in 2016.

It is **strategic asset developed for over two decades** with Russia's help under **Advanced Technology Vessel** (**ATV**) **programme**, which comes directly under Nuclear Command Authority headed by the Prime Minister.

INS Arihant is 6,000-tonne submarine with length of 110 metres and breadth of 11 metres.

It is powered by 83 MW pressurised light water nuclear reactor with enriched uranium fuel.

It can carry 12 Sagarika K-15 submarine launched ballistic missiles (SLBMs) having range of over 700 km.

As it powered by nuclear reactor it can function submerged for months without having to surface.

This feature allows it to travel further and with greater stealth capability.

It assures **second strike capability** to India i.e. capability to strike back after being hit by nuclear weapons first.

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In case of India, second strike capability is important as it had committed to '**No-First-Use' policy** as part of its nuclear doctrine.