



INS Vikrant: India's Indigenous Move

This editorial is based on [“A welcome addition to the naval quiver”](#) which was published in Hindustan Times on 01/09/2022. It talks about the commissioning of India's first indigenously designed and built aircraft carrier, Vikrant.

For Prelims: INS Vikrant, INS Vikramaditya, Indo-Pak War 1971, Hambantota Port, Bio-Technical Weapons, Multi-Function Radars, Defence Public Sector Units (DPSUs), SRIJAN Portal, Project 75I, Positive Indigenisation List(Defence Procurement Policy), Aircraft Carriers Across the Globe

For Mains: Significance of INS Vikrant in India's Maritime Security, Recent Initiatives Towards Expanding India's Defence Infrastructure

From the first indigenous **warship INS Ajay in 1960**, to the first indigenous frigate [INS Nilgiri](#) in 1968, the commissioning of the first **indigenously designed and built aircraft carrier, INS Vikrant**, is a significant punctuation in India's pursuit of self-reliance ([Aatmanirbhar Bharat](#)).

At **45,000 tonnes**, Vikrant is the **largest naval ship to be designed and built in India**, and with this accomplishment, the country joins the band of nations that have demonstrated such capability with major countries like **United States (US), the United Kingdom (UK), France, Russia, Italy, and China**.

While the [absorption of indigenisation](#) has matured, a large gap still exists in the development of **critical technologies, Hi-Tech components, weapons and advanced manufacturing processes**.

It is imperative to identify relevant **demand-side functional domains** and technologies to channel indigenous efforts towards attaining **sustainable self-reliance in cutting-edge defence technologies**.

What is the Significance of INS Vikrant in India's Maritime Security?

- **Vikrant** (which means courageous) is named after **India's first aircraft carrier**, bought from the UK and **commissioned in 1961**.
 - The first INS Vikrant was a major symbol of national pride and played an important role in several military operations including the **1971 Indo-Pak War** before being **decommissioned in 1997**. Now India's first homemade aircraft carrier will carry the name of her illustrious predecessor.
- After its induction, the warship will be a key component of the Indian Navy's push to establish itself as a [blue water force](#), one with the ability to project its power on distant seas.
 - It is especially important amid **India's bid to be a net security provider in the Indian Ocean region** where it faces China, whose navy is focused on aircraft carriers and has already inducted two vessels.
- With the commissioning of **INS Vikrant**, India will have two operational aircraft carriers (the other

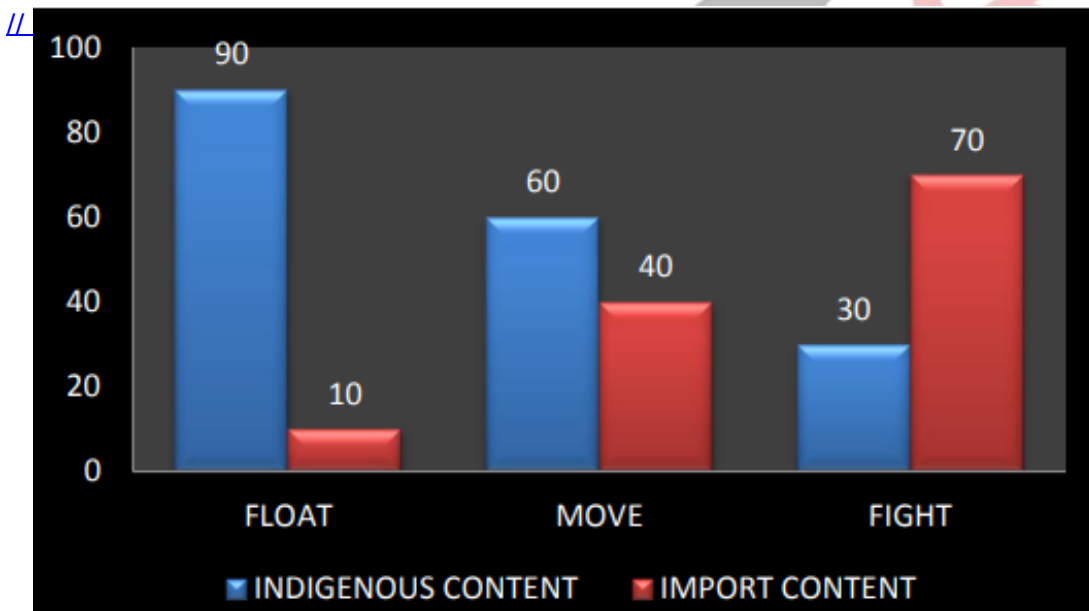
one is [INS Vikramaditya](#)), which will bolster the maritime security of the nation.

What are the Other Aircraft Carriers Across the World?

- USA: USS Gerald R Ford Class
- China: Fujian
- United Kingdom: Queen Elizabeth Class
- Russia: Admiral Kuznetsov
- France: Charles De Gaulle
- Italy: Cavour

What are the Challenges of Indigenisation for Indian Navy?

- **Dependence on Import For Subsystems and Components:** Any warship has three components, from design to final operational induction (FLOAT, MOVE, FIGHT).
 - Indian Navy has been able to achieve about **90% indigenisation in the 'FLOAT' category**, followed by about **60% in 'MOVE' category** depending upon the type of propulsion.
 - However, **in the 'FIGHT' category** we have achieved **only about 30% indigenisation. Imports make up the remainder.**



- **Growing Chinese Influence in the Indian Ocean:** Building on its antipiracy missions, China has emerged as a strong partner for the islands and littoral countries of the Indian Ocean including its **recent vessel deployment in [Hambantota Port, Sri Lanka](#).**
- **Cost and Time Overruns:** The Navy suffers from cost and time overruns throughout most production projects, for example, **INS Vikramaditya** was inducted into service more than 10 years after it was purchased.
- **Outdated Submarines:** A submarine fleet is considered indispensable to support the Navy's aircraft carriers, among other duties.
 - Currently, the **Navy employs 15 conventional [submarines](#)**, each of which requires **breaking surfaces to charge its batteries**, making them **prone to detection** every time they are launched.

What are the Related Initiatives Towards Expanding India's Defence Infrastructure?

- [Development cum Production Partner Initiative](#)
- [Defence India Startup Challenge](#)
- [SRIJAN Portal](#)
- **Increased the [Foreign Direct Investment \(FDI\)](#) limit from 49% to 74%**
- [Innovations for Defence Excellence \(iDEX\)](#)
- [Positive Indigenisation List](#)([Defence Procurement Policy](#))
- [Project 75I](#)

What Should be the Way Forward?

- **Technological Advancement:** Development of core military technologies indigenously will significantly enhance naval capabilities.
 - Although the Indian Navy possesses design capabilities and to some extent the production base, **considerable performance enhancements are required** like:
 - [Unmanned Underwater Vehicles](#)
 - [Multi-function Radars](#)
 - [Bio-Technical Weapons](#)
 - [Bio-Fuels for Ships and Aircraft](#)
 - Enhancing Underwater Domain Awareness (UDA) by the use of [Artificial Intelligence](#) / [Machine Learning](#).
- **Collaborative Approach Towards Self Reliance:** The entire industrial might of the country, whether it is the public sector, the [Defence Public Sector Units \(DPSUs\)](#), the large private industries or [Medium, Small and Micro Enterprises \(MSMEs\)](#), **needs to partner** to achieve the goal of self reliance of the [Indian Navy](#).
 - Aside from providing technical expertise and sharing their extensive manufacturing experience, they should also be **considered as equal stakeholders in the development** of world-class defence infrastructure to serve the needs of Indian Navy's **in order to make the concept of Self Reliance and proposed indigenous capability a reality**.
- **Combat Readiness:** Commitment to self-reliance through indigenous development, is a subject of the larger goal of [combat readiness](#).
 - To **remain combat-ready until indigenous equipment is available**, we must continue the acquisition programme to meet our current operational needs.
- **Tapping the World Defence Market:** There is also a need to give adequate attention to the promotion of exports of [Indian Defence products](#).
 - Export authorisation procedures should be **simplified and streamlined through an online mechanism** with targeted outreach programmes.
- **Improving Shipyard Infrastructure:** While we have produced quality warships and aircraft carriers, our [shipyards](#) need to constantly strive to transform with the **aim to achieve global standards in quality, productivity and build periods**, so that we get the maximum output value and there is no need to look overseas.
- **Guarding for a Peaceful Indian Ocean:** With a **multilateral, multipronged approach** to preserve and enhance its strategic interests in the Indian Ocean and to shape the strategic environment, **India is establishing itself as a [global maritime power](#)** with firm belief of facing regional challenges and becoming a **guarantor of regional peace and stability**.

Drishti Mains Question

While the Absorption of Indigenisation has matured in Indian Navy, a large gap still exists in the development of critical technologies. Critically Analyse.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q.1 Which one of the following is the best description of 'INS Astradharini', that was in the news recently? (2016)

- (a) Amphibious warfare ship
- (b) Nuclear-powered submarine
- (c) Torpedo launch and recovery vessel
- (d) Nuclear-powered aircraft carrier

Ans: (c)

Q.2 Consider the following in respect of Indian Ocean Naval Symposium (IONS): (2017)

1. Inaugural IONS was held in India in 2015 under the chairmanship of the Indian Navy.
2. IONS is a voluntary initiative that seeks to increase maritime co-operation among navies of the littoral states of the Indian Ocean Region.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (b)

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