



INS Vikrant: India's First Indigenous Aircraft Carrier and a Landmark in Naval Capability

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Key Takeaways

- INS Vikrant, India's first indigenous aircraft carrier, was commissioned on 2 September 2022
- Comprising 76% indigenous content, including 30,000 tonnes of steel from SAIL, the project engaged 550+ OEMs, 100 MSMEs, generating 2,000 direct and 12,500 indirect jobs.
- Equipped with advanced automation, it operates an air wing of 30 aircraft, including MiG-29K, Kamov-31, MH-60R, MiG 29 KUB, Chetak and ALH.
- Demonstrated versatility in March 2025 by evacuating injured crew from MV Heilan Star, 230 nautical miles off West of Goa.
- It can generate electricity sufficient for 5,000 households.

Introduction

INS Vikrant, the nation's first Indigenous Aircraft Carrier (IAC 1), stands as a proud statement of an aspirational and self-reliant India. Designed by the Indian Navy's Warship Design Bureau and built by Cochin Shipyard Limited (CSL), it is the largest warship ever constructed in the country. **Commissioned**



into the Indian Navy by the Hon'ble Prime Minister on 2 September 2022, INS Vikrant is a symbol of indigenous potential, indigenous resources, and indigenous skills.

The Hon'ble Prime Minister of India, Shri Narendra Modi, celebrated Diwali 2025 onboard the Indian Naval Ship (INS) Vikrant, honouring the dedication and courage of Indian Naval sailors and armed forces personnel. The visit continued his tradition of celebrating Diwali with troops deployed in forward and strategic areas, symbolising solidarity with those who safeguard the nation across all domains of warfare. The ship hosted the Prime Minister for an overnight sea sortie from 19 to 20 October 2025. The following activities were undertaken during the sortie:

- Day and night air power demonstration
- Anti-submarine rocket firing
- Night underway replenishment
- Close-range anti-air firing demonstration
- Steam past and fly past
- Cultural programme and Barakhana
- Address by the Hon'ble Prime Minister and interaction with the crew
- Witnessing yoga at sea and special forces demonstration

History and Development

INS Vikrant takes its name from India's first aircraft carrier, INS Vikrant (R11), which was decommissioned in 1997. The erstwhile INS Vikrant played a crucial role in the 1961 Goa Liberation Operation and the 1971 Indo-Pak War, earning a lasting place of pride in India's naval history. The current INS Vikrant, India's first Indigenous Aircraft Carrier (IAC 1), carries forward this legacy and represents a significant milestone in the country's naval self-reliance and shipbuilding capability.

- **Commencement of Construction:** Keel of the ship was laid on February 2009 at Cochin Shipyard Limited, marking the formal start of its construction.
- **Launch and Trials:** Launched in August 2013; maiden sea trials commenced in August 2021.
- **Design:** Conceptualised and designed by the Indian Navy's in house Warship Design Bureau (WDB).
- **Commissioning:** Commissioned on 2 September 2022 at Kochi, making India one of the few nations capable of indigenously designing and building aircraft carriers.
- **Indigenous Content:** 76 percent of the ship is indigenously built, including around 30,000 tonnes of specialty steel supplied by Steel Authority of India Limited (SAIL).



Source: INS Vikrant X Account

- **Industry Participation:** The project involved over 550 Original Equipment Manufacturers (OEMs) and sub-contractors, along with 100 Micro, Small and Medium Enterprises (MSMEs).
- **Employment Generation:** Approximately 2,000 people were employed directly at Cochin Shipyard Limited and around 12,500 indirectly through associated industries and suppliers.

A symbol of self-reliance in defence, INS Vikrant is not just a warship. It is a testament to the hard work, talent, influence and commitment of India in the 21st century.

Capabilities and Specifications

INS Vikrant's technical and operational strengths are reflected in the following features:

- The carrier is **262.5 metres** long and **61.6 metres wide**, with a displacement of approximately **45,000 tonnes**.
- It is powered by **four gas turbines** that together generate about **88 megawatts** of power.
- INS Vikrant can achieve a maximum designed **speed of 28 knots**.
- The ship **accommodates around 1,600 personnel**, including women officers and sailors, and contains approximately **2,200 compartments**.
- It operates on the **Short Take-Off But Arrested Recovery (STOBAR) system**, which allows aircraft to take off using a ski-jump and land with the help of arrestor wires.
- The carrier can host up to 30 aircraft, including **MiG 29K fighter jets, MiG 29 KUB, Chetak, Kamov 31, MH 60R helicopters and Advanced Light Helicopters (ALH)**.
- The ship generates enough **electricity to power nearly 5,000 households**, with internal wiring long enough to stretch from Kochi to Kashi.

Achievements of INS Vikrant



Since its commissioning, INS Vikrant has solidified its role as a cornerstone of the nation's maritime strength. These accomplishments not only showcase the carrier's advanced capabilities but also reinforce India's commitment to the SAGAR (Security and Growth for All in the Region) vision, fostering peace, stability, and cooperation in the Indo-Pacific.

- **Maiden Sea Trials (4 August 2021):** INS Vikrant embarked on its inaugural voyage from Kochi, validating propulsion, navigation, and weapon systems, and laying the foundation for full operational readiness.
- **First Landings of LCA (Navy) and MiG-29K (February 2023):** The carrier achieved its maiden landings of indigenous LCA Navy and MiG-29K jets.
- **Night Landing Operations (May 2023):** INS Vikrant conducted successful night landings, demonstrating readiness for complex missions under challenging conditions.
- **Final Operational Clearance (January–November 2024):** Over 750 hours of flying operations, including day and night sorties by fighter aircraft and helicopters, validated the carrier's operational readiness.
- **MILAN 24:** INS Vikrant participated in Milan 24 in February 2024, a biennial multilateral naval exercise hosted by Indian Navy, which witnessed the participation of over 36 ships, two submarines, 55 aircraft and senior leadership of 47 friendly foreign countries from six continents. The event reaffirmed main status as preferred security partner in the Indian Ocean region and consolidated Indian Navy structure as Combat Ready, Credible Cohesive and Future Ready force.
- **Presidential Visit and Operational Showcase (7 November 2024):** The Hon'ble President of India witnessed take-offs, landings, missile demonstrations, and fleet maneuvers, underscoring INS Vikrant's role as a formidable symbol of maritime strength.



- **Exercise Varuna 2025 :** INS Vikrant participated in Ex- Varuna 25 (IN-French Navy bilateral exercise), with carrier strike group Charles de Gaulle, in Mar 25. The advanced Anti-Submarine Warfare and Air Defence exercises were undertaken involving the IN Carrier Battle Group and the FFN CSG.

- **Operational Achievement (March 2025):** During its Arabian Sea deployment, INS Vikrant, along with INS Deepak, was swiftly diverted to respond to an urgent situation involving the Panama-flagged bulk carrier MV Heilan Star. A Sea King helicopter from INS Vikrant carried out a challenging medical evacuation (MEDEVAC), winning three injured crew members from MV Heilan Star to INS Hansa, Goa.
- **Theatre Level Operational Readiness Exercise (TROPEX 2025):** Participated in India's largest biennial exercise across the Indian Ocean Region, involving 150+ warships, submarines, and aircraft, testing all domains of maritime warfare.
- **Exercise Konkan 2025:** Conducted a bilateral exercise with the UK's Royal Navy off Mumbai from, covering air, surface, and sub-surface operations.
- **Operation Sindoor:** Vikrant carrier battle group was at the core of Indian Navy's offensive deterrent posture during Op Sindoor. The Vikrant carrier battle group deployed in the northern Arabian sea, played a key role in strategy of compellence, thereby forcing Pakistan Navy to be in defensive posture and requesting for urgent ceasefire.
- **PM Day at Sea (October 2025):** The ship hosted the Hon'ble Prime Minister for an overnight sea sortie from 19 to 20 October 2025, on the occasion of Diwali.

INS Vikrant: A Pillar of Humanitarian Assistance and Disaster Relief (HADR)

Beyond its strategic military capabilities, Vikrant has proven to be a formidable asset in Humanitarian Assistance and Disaster Relief (HADR) operations.

- **Strategic Capabilities for HADR Operations**

Vikrant is equipped with state-of-the-art technology and infrastructure, making it a versatile platform for various operations. Its design incorporates a high degree of automation for machinery operations, ship navigation, and survivability, enhancing its efficiency during emergency deployments. One of Vikrant's notable features is its robust power generation system, capable of supplying electricity equivalent to that needed for 5,000 households, facilitating sustained operations in remote or disaster-affected areas. Additionally, the carrier's extensive aviation facilities enable it to serve as a mobile command centre, hospital, and supply hub during emergencies.



Source: PIB Press Release

- **Alignment with India's Regional Strategy**

INS Vikrant's role in HADR operations aligns with India's broader maritime strategy, particularly the 'SAGAR' (Security and Growth for All in the Region) initiative. The Indian Navy has been at the forefront of providing humanitarian assistance and disaster relief during calamities and contingencies. These actions have enhanced India's stature as the 'Preferred Security Partner' and 'First Responder' in the Indian Ocean Region.

- **Rescue Operation**

Responding to a distress call from the Panama-flagged MV Heilan Star about 230 nautical miles west of Goa, a Sea King helicopter from INS Vikrant successfully airlifted three injured crew members to INS Hansa for medical care. The operation exemplified the Indian Navy's steadfast commitment to Humanitarian Assistance and Disaster Relief (HADR) beyond national waters.



A Milestone in India's Maritime Self-Reliance

Since 2014, Indian shipyards have delivered over 40 indigenous warships and submarines to the Navy, with a new platform being inducted on average every 40 days. It is a true testimony to the country's zeal and fervor in pursuing capability build up towards enhanced maritime security. The development and operationalization of INS Vikrant mark a landmark chapter in the Indian Navy's journey toward self-reliance.

Indigenous Design and Construction

INS Vikrant was designed by the Indian Navy's Warship Design Bureau (WDB) and constructed at Cochin Shipyard Limited (CSL). The ship has large number of indigenous equipment and machinery, involving major industrial houses in the country viz. BEL, BHEL, GRSE, Keltron, Kirloskar, Larsen & Toubro, Wartsila India etc. as well as over 100 MSMEs. The development and production of indigenous warship grade steel for the ship was through a partnership between Navy, DRDO and Steel Authority of India (SAIL), which has enabled the country to become self-sufficient with respect to warship steel.

Enhancing Maritime Capabilities

In June 2023, the Indian Navy showcased its formidable maritime capabilities through a multi-carrier operation involving INS Vikrant and INS Vikramaditya, along with a diverse fleet of ships, submarines, and aircraft, demonstrating India's technological expertise in the maritime domain.

Strategic Procurement: Rafale-Marine Jets

In April 2025, India signed a ₹63,000 crore deal with France for the procurement of 26 Rafale-Marine

fighter jets, which are capable of operating from aircraft carriers. This acquisition includes pilot training, flight simulators, weapons, and long-term maintenance support, and features technology transfer to boost Indian defence manufacturing. The Rafale-Marine jets will enhance the air wings of both INS Vikrant and INS Vikramaditya, ensuring unparalleled combat readiness.

Commitment to Indigenous Shipbuilding

The Indian Navy's vision for a **second indigenous aircraft carrier** and plans to station INS Vikrant in **Visakhapatnam** to strengthen the Eastern Naval Command further underscore its commitment to self-reliance and regional security. With over **133 ships and submarines** built and commissioned in India as of December 2024, the Indian Navy continues to be a key pillar supporting the growth of the Indian shipbuilding sector. As of December 2024, **63 out of the 64 warships planned** to be inducted in the Navy, are being built in India. This includes the majestic INS Vikrant aircraft carrier and nuclear submarines like **INS Arihant** and **INS Arighaat**.

Conclusion

INS Vikrant stands as a lasting symbol of India's maritime resurgence, with the indigenously built carrier cutting through the ocean and showcasing the nation's military prowess. Beyond enhancing the Indian Navy's regional security role, Vikrant inspires future generations toward complete defence indigenization. As India strengthens its presence in the Indo-Pacific, the carrier also highlights the nation's ambition to become one of the world's top defence exporters. INS Vikrant has filled the country with a new confidence, and has created a new confidence in the country.

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