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SP's Naval Forces

ROUNDUP

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THE ONLY NAVAL MAGAZINE FOR NAVIES ACROSS ASIA-PACIFIC



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Indian Navy Inaugurates Three Warships — A Strategic Leap Forward

India to emerge as a major maritime power, says Prime Minister Modi as Indian Navy commissioned three Warships - Surat, Nilgiri, and Vaghsheer. This marks a major step towards enhancing India's maritime defence capabilities and reinforcing a leading maritime power in the region.

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Flying Into The Future

The next 25 years promise to be even more exciting for the Indian Navy's naval aviation arm as it plans to increase the number of aircraft in its inventory to 500 by 2050 from its current number of around 300 fixed and rotary wing aircraft and UAVs.

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EXCLUSIVE CNS INTERVIEW

ADMIRAL DINESH K. TRIPATHI
PVSM, AVSM, NM
CHIEF OF THE NAVAL STAFF

Ministry of Defence
Naval Headquarters
South Block, New Delhi 110011

MESSAGE

My compliments to SP Guide Publication on celebrating its Diamond Jubilee.

The Navy Day serves to remind us of the Indian Navy's most glorious chapter of victory at sea. It showcased the Navy's ability to influence affairs ashore through decisive actions at and from the sea. Drawing on its illustrious legacy, the Indian Navy today remains steadfast in its resolve to remain Combat Ready, Credible, Cohesive and a Future Ready force.

As India has embarked on an ambitious journey to become *Viksit Bharat* by 2047, the seas have rightfully regained their prominence for propelling her growth to achieve her rightful place in the comity of nations. The Indian Navy today is poised to meet the growing aspirations of our Nation and her citizens. Being the principal manifestation of the Nation's maritime power, we remain committed to protect and promote our national interests - Anytime, Anywhere, Anyhow!

Over the past 60 years, the growth of SP Guide Publications has mirrored the rising stature of the Indian Navy. Its well-researched and informative magazines on the Defence and Aerospace sector have served to shape an educated opinion of our Military Personnel, policy makers and the public alike. I am sanguine that the publication will enhance the maritime consciousness of our citizens through its special issue of *SP's Naval Forces* on the occasion of the Navy Day 2024. I wish SP's publication team continued success, fair winds and following seas in all future endeavours.

Sam No Varunah! Jai Hind!

October 10, 2024

(Dinesh K. Tripathi)
Admiral

“Indian Navy is Committed of Becoming an ‘Atmanirbhar’ Force by 2047”

On the occasion of Indian Navy Day, in a comprehensive interview to Jayant Baranwal, Editor-in-Chief, *SP's Naval Forces*, Admiral Dinesh Kumar Tripathi, Chief of the Naval Staff, shares his vision for the Indian Navy and gives his insights into the evolving landscape of Navy's strategies, combat preparedness, and modernisation

SP's Naval Forces (SP's): As the Chief of the Naval Staff of one of the most sophisticated and the most professional Navies in the world, what will be your vision?

(a): Towards the build-up of combat power,

(b): Towards sustainability and boosting process of your human resource,

(c): Towards the overall role for the country and beyond?

Chief of the Naval Staff (CNS): As the principal manifestation of India's maritime power, the primary role of Indian Navy is to deter war and in case deterrence fails, to win it decisively. The contemporary security environment demands that we must also be prepared to prevail in daily contestation and competition, while leverag-



This issue of *SP's Naval Forces* coincides with the Navy Day. As the Chief of the Naval Staff says, in his message, "The Navy Day serves to remind us of the Indian Navy's most glorious chapter of victory at sea. It showcased the Navy's ability to influ-

ence affairs ashore through decisive actions at and from the sea. Drawing on its illustrious legacy, the Indian Navy today remains steadfast in its resolve to remain Combat Ready, Credible, Cohesive and a Future Ready force."

The lead story of this issue is a comprehensive and exclusive interview with Admiral Dinesh K. Tripathi, Chief of the Naval Staff with the Navy Chief laying out his vision of Indian Navy modernising its capabilities in accordance with perspective plans to realise a suitable force mix to meet all envisaged missions in the Areas of Interest. CNS details that the future expansion plan includes induction of state-of-the-art Next Generation warships, nuclear powered and conventional submarines, aviation and sub-surface assets, augmentation of autonomous solutions to enhance

combat capabilities, and induction of niche technology and equipment to address emergent threats and future challenges.

On January 15, 2025, the Indian Navy marked a significant milestone with the commissioning of three cutting-edge warships - INS Surat, INS Nilgiri, and INS Vaghsheer. The landmark ceremony was presided over by the Prime Minister of India, Narendra Modi, at a grand event held at the naval base in Mumbai. This marks a major step towards enhancing India's maritime defence capabilities and reinforcing its position as a leading maritime power in the region. Manish Kumar Jha reports on the commissioning of the ships.

Naval Aviation is the tip of the offensive spear of the Indian Navy (IN) and has always been at the forefront of all naval operations in

peace and war. In his report, Vice Admiral A.K. Chawla analyses that the next 25 years promise to be even more exciting for the Indian Navy's naval aviation arm as it plans to increase the number of aircraft in its inventory to 500 by 2050 from its current number of around 300 fixed and rotary wing aircraft and UAVs.

India had invited President Prabowo Subianto of Indonesia to be the Chief Guest for India's 76th Republic Day Parade on January 26, 2025. A former Army General and Defence Minister, Subianto was sworn in as the 8th President of Indonesia on October 20, 2024. Indonesia is India's eighth-largest trading partner. Lt General P.C. Katoch (Retd) reports on The India-Indonesia friendship, which was elevated to the level of Comprehensive Strategic Partnership in 2018, has now widened the

scope of bilateral relations to allow for new collaboration in the realm of defence industry, science and technology etc. The defence relations form a significant pillar to this growing partnership.

Wishing all discerning readers happy reading!

(Signature)

JAYANT BARANWAL
Publisher & Editor-in-Chief

ing cooperation and collaboration towards common good. I intend to continue the efforts of my predecessors towards ensuring that the Indian Navy remains a Combat Ready, Credible, Cohesive and Future Ready Force. Towards this we aim to induct capabilities across all the five domains that the Navy seamlessly operates in, that is space, air, surface, sub-surface and cyber.

Indian Navy is modernising its capabilities in accordance with perspective plans to realise a suitable force mix to meet all envisaged missions in the Areas of Interest. The future expansion plan includes induction of state-of-the-art Next Generation warships, nuclear powered and conventional submarines, aviation and sub-surface assets, augmentation of autonomous solutions to enhance combat capabilities, and induction of niche technology and equipment to address emergent threats and future challenges.

Knowing that a well-knit and motivated force is crucial to fulfilling our mandate, we aim to foster an environment that supports holistic professional and personal development of our workforce, strengthening organisational excellence and enhancing individual skills. We are laying emphasis on high-quality professional training conducted under realistic combat conditions to enhance competence and capability. Through personnel-centric policies coupled with administrative reforms, we aim to retain our well trained and motivated human capital, and inspire continued service in the Indian Navy. To attract the brightest minds and best talent, the Indian Navy has developed a comprehensive three-pronged strategy focussing on building the Navy's brand image, outreach to our potential candidates and facilitating recruitment through ease of procedures.

"Indian Navy remains a Combat Ready, Credible, Cohesive and Future Ready Force. Towards this we aim to induct capabilities across all the five domains that the Navy seamlessly operates in, that is space, air, surface, sub-surface and cyber."



Admiral Dinesh Kumar Tripathi, Chief of the Naval Staff has the vision of a strong and capable Navy for realising the dream of becoming a developed nation 'Viksit Bharat' by 2047

Our recruitment strategies are adapted to the needs and aspirations of the younger generation, and focussed on enhancing awareness and providing pathways for a rewarding career in the Navy.

India's GDP by some estimates, could surpass \$26 trillion mark by 2047 - a nearly eight-fold increase from today. It is clear, that an export-based economy will be a prime mover for achieving the goal of a Viksit Bharat by 2047. Vast volumes of our exports and imports, inevitably, will be facilitated by the seas. With 95 per cent of India's trade by volume and 68 per cent by value currently being sea-borne, and only set to grow to meet the markers I highlighted, free access to ports and secure sea lanes will remain critical to our economic well-being. An aspiring India

needs a strong and capable navy for realising the dream of becoming a developed nation - 'Viksit Bharat' by 2047. To sustain the same, Navy aims to build a well-balanced multi-dimensional networked force that is capable of delivering ordnance on target and effects across the spectrum of conflict. While doing so, we also aim to achieve self-reliance. The Indian Navy has made an unequivocal commitment of becoming an Atmanirbhar Force by 2047. This would not only help us achieve self-reliance in Defence, but also stimulate our economic growth towards nation building for a Viksit Bharat @2047.

SP's: Can you please share the wish-list of our Navy for next five years and next 10 years?

"Project P-75(I) is in line with the vision of 'Atmanirbhar Bharat' to acquire national competence in submarine construction and enable the Indian industry to independently design and construct submarines"

CNS: In the rapidly evolving geo-strategic, geo-political and geo-economic landscape of world affairs, it is becoming increasingly apparent that India's role and involvement is expanding substantially. As India grows in stature and capability to achieve its rightful place in the comity of nations, it is axiomatic that the scale and scope of national security challenges will also increase concomitantly. In overcoming these challenges, a well-equipped, technologically-enabled, efficiently-supported, modern and Large Navy will remain a critical instrument of national power.

Towards the same, the Navy aims to build a well-balanced multi-dimensional networked force that is capable of delivering ordnance on target and effects across the spectrum of conflict. We aim to induct capabilities across all the five domains that the Navy seamlessly operates in:

- **Space:** Space based ISR capabilities, for enhancing MDA and battle-space transparency.
- **Air:** Shore based as well as integral naval aviation assets to undertake maritime surveillance, Fleet air defence, maritime and shore strike, ASW, special operations, SAR, intelligence gathering and Fleet logistics/communications. Broadly, we are looking at platforms like Twin Engine Deck Based Fighters (TEDBF), Deck Based Multi-Role Helicopters (DBMRH) and long-range maritime reconnaissance aircraft including unmanned and autonomous platforms with optimum Manned-Unmanned Teaming (MUMT).
- **On the Surface:** The ability to project force across our frontiers. Credible blue water capabilities through optimum mix of Carrier Strike Groups (CSGs), next generation destroyers, precision long range seaborne attack

vectors, credible land attack capability and expeditionary platforms, amongst many others.

- **Sub-Surface:** To ensure credible deterrence, an optimum mix of conventional submarines and nuclear-powered SSNs to provide adequate sea denial capability. SSBNs will continue to constitute the most potent and reliable component of our nuclear triad.
- **Cyber:** Sharp offensive and robust defensive cyber capabilities that can act as a force multiplier across all other domains.

While doing so, we also aim to achieve self-reliance. The Indian Navy has made an unequivocal commitment of becoming an Atmanirbhar Force by 2047.

SP's: May we request for status update on P-75(I) requirement of our Navy?

CNS: Project-75(I) is the first project to be steered under the prestigious Strategic Partnership model introduced by the Government of India. The project envisages construction of six indigenous state-of-the-art Air Independent Propulsion or AIP equipped conventional submarines with enhanced combat capabilities. The aim of Project P-75(I) is in line with the vision of 'Atmanirbhar Bharat' to acquire national competence in submarine construction and enable the Indian industry to independently design and construct submarines.

The submarines constructed under this Project would provide us a definite combat edge in the underwater battle space. These submarines would be entirely constructed in Indian Shipyards (with Transfer of Technology), progressively achieving higher level of indigenous content including indigenous weapons, communication, navigation suite as well as the Command and Weapon Control System (CWCS). The Project is envisaged to ensure future, logistics support and undertaking Maintenance Repair and Overhaul (MRO) of submarines in Indian Shipyards through manufacture of submarine equipment and systems through the Indian industry. The Project besides ensuring early induction of the submarines would also provide unique long-term opportunities and planning certainty for Indian industry, to invest and support submarine construction and sustainment activities over the next 30 years, whilst creating a large number of direct and indirect job opportunities in India. The project also offers the prospect of creating an MRO hub in India for such submarines operated by friends and partner nations in the region as well as creates potential for future export orders in the Asia-Pacific region.

SP's: As part of the QUAD, India has become part of the IPMDA. Could you explain the Indian Navy's role in this initiative and the benefits it will accrue?

CNS: Indo-Pacific Partnership on Maritime Domain Awareness (IPMDA) is an initiative under the umbrella of QUAD for enhancing regional maritime domain awareness in the Indo-Pacific region. The IPMDA initiative for the IOR is planned to be implemented

"As far as Aircraft Carriers are concerned, they are central to the Indian Navy's concept of operations. A Carrier Battle Group, centred on an Aircraft Carrier, is a means of projecting maritime power at sea."

PHOTOGRAPHS: PIB, indiangnavy / X



(Top) Combined operations of INS Vikramaditya and INS Vikrant;
(Above) INS Tushil, the latest multi-role stealth guided missile frigate.

through the IFC-IOR at Gurugram, India, through IFC-IOR would be sharing maritime security related information and collated MDA picture with regional partners towards more effective surveillance against threats in the region to ensure Security And Growth for All in the Region.

SP's: The China is pursuing aircraft carrier programme fairly aggressively. Fujian aircraft carrier, currently under trials,

with a full load displacement of 85,000 tonnes is being perceived as the largest and the most advanced carrier. How do you perceive these developments? Are these of any concern to us? Should India be pursuing acquiring such a formidable capability under its fleet?

CNS: Indian Navy is well aware of development plans of Chinese Aircraft Carriers and their capability. All such programmes are monitored very closely and continuously.

"The Indian Navy is fully prepared to safeguard the maritime interests of the nation and tackle maritime security challenges promptly and effectively"

The Indian Navy is fully prepared to safeguard the maritime interests of the nation and tackle maritime security challenges promptly and effectively. We have credible capability and are continuously evolving to meet the new challenges. We are constantly fine-tuning our concept of operations and formulate our capability perspective plans to cater for developing threats.

Towards capability development, our perspective plan envisages induction of Carrier Battle Groups, state-of-the-art Next Generation warships, nuclear powered and conventional submarines, revitalisation of aviation and sub-surface assets, augmentation of autonomous solutions to enhance combat capabilities, and induction of niche technology and equipment to address emergent threats and future challenges.

As far as Aircraft Carriers are concerned, they are central to the Indian Navy's concept of operations. A Carrier Battle Group, centred on an Aircraft Carrier, is a means of projecting maritime power at sea. It is a self-contained and composite force, capable of undertaking a wide range of operational tasks which no other platform can undertake. The ship and its airwing - fighters and helicopters - constitute a war-fighting system that has inherent flexibility as well as mobility, and can be rapidly re-deployed based on emerging scenarios. These factors have prompted all major Navies in the world to invest in Aircraft Carriers and utilise this critical capability to achieve their desired objectives - both at sea and ashore.

Aircraft carrier has, therefore, clearly emerged as a necessity for our nation, as was also highlighted by the Standing Committee on Defence (SCOD) in its 36th Report of 17th Lok Sabha. ■



Indian Navy Inaugurates Three Warships — A Strategic Leap Forward

India to emerge as a major maritime power, says Prime Minister Modi as Indian Navy commissioned three Warships - Surat, Nilgiri, and Vaghsheer. This marks a major step towards enhancing India's maritime defence capabilities and reinforcing a leading maritime power in the region.

■ MANISH KUMAR JHA

ON JANUARY 15, 2025, the Indian Navy marked a significant milestone with the commissioning of three cutting-edge warships - INS Surat, INS Nilgiri, and INS Vaghsheer. The landmark ceremony was presided over by the Prime Minister of India, Narendra Modi, at a grand event held at the naval base in Mumbai.

A destroyer, a frigate and a submarine were commissioned together for the first time, he noted, adding that all the three are 'Made in India'.

"We should become a global partner in securing the sea from drugs, weapons and terrorism and make it safe and prosperous. India is becoming a major maritime power and is being recognised as a reliable and responsible partner," Prime Minister Modi said.

This marks a major step towards enhancing India's maritime defence capabilities and reinforcing its position as a leading maritime power in the region. This development marks a crucial moment for the country's defence posture and highlights the Navy's expanding role in safeguarding national interests in an increasingly complex geopolitical landscape.

Three combat ships that were launched include Nilgiri, the lead ship of the Project 17A stealth frigate class; Surat, the fourth and final ship of the Project 15B stealth destroyer class; and Vaghsheer, the sixth and final submarine of the Scorpene-class project.

The Prime Minister said 33 ships and seven submarines have been inducted into the Navy in the last 10 years. India's defence production has crossed ₹1.25 lakh crore and defence equipment have been exported to more than 100 countries, he added.

The event, taking place at the Naval Dockyard in Mumbai, is expected to underscore India's growing self-reliance in defence manufacturing.

The event also highlights India's rapid advancement in the wake of China's aggressive move in the maritime domain. As reported, Chinese submarines have been entering the Indian Ocean Region which is a concern for India.

The induction of these warships showcases India's growing naval prowess and underscores its commitment to securing its maritime borders and enhancing its influence in the Indian Ocean Region (IOR).

Both warships were designed by the Indian Navy's Warship Design Bureau and come equipped with sophisticated weapon systems and sensors developed indigenously or through collaborations with global manufacturers.

INS Surat: A Stealthy Game-Changer

The INS Surat is the latest addition to the Visakhapatnam-class destroyers and represents a critical leap in stealth technology



Commissioning of three frontline naval combatants - INS Surat, INS Nilgiri and INS Vaghsheer at the Naval Dockyard in Mumbai, Maharashtra on January 15, 2025

and advanced weaponry. Built under the Indian Navy's 'Make in India' initiative, this warship is equipped with cutting-edge radar systems, multi-role weaponry, and state-of-the-art electronics. The INS Surat will significantly enhance India's naval deterrence capabilities and provide flexibility in multi-dimensional warfare, from anti-air and anti-submarine warfare to surface combat.

The ship is also equipped with modern aviation facilities capable of operating helicopters such as the Chetak, ALH, Sea King, and MH-60R during both day and night operations.

With its superior capabilities, the INS Surat is designed to operate in diverse maritime environments, showcasing India's evolving power projection capabilities. This warship is seen as an important asset in safeguarding the nation's interests in the increasingly contested Indo-Pacific region.

INS Nilgiri: Strengthening India's Green Fleet

The INS Nilgiri, a Nilgiri-class stealth frigate, also added its name to the list of India's

Prime Minister Narendra Modi highlighted that all three warships are 'Made in India', emphasising the nation's growing self-reliance in defence manufacturing"

modernised naval assets. The ship boasts cutting-edge technology with advanced sensors, radar, and surface-to-air missile systems, making it highly adaptable in both offensive and defensive operations. The INS Nilgiri brings the Indian Navy closer to achieving self-reliance in shipbuilding, with critical contributions from Indian shipyards.

Named after the Nilgiri hills, the ship is designed for rapid deployment and high operational flexibility, including anti-submarine warfare, air defence, and surface combat. Its induction into the Navy is a significant boost to India's naval defence, ensuring the country's maritime security interests are better protected.

INS Vaghsheer: A Submarine That Puts the Navy in High Gear

The INS Vaghsheer is a Scorpene-class submarine, which strengthens India's undersea warfare capabilities. This advanced attack submarine is designed to operate with stealth, ensuring that it can execute precision strikes while remaining undetected. The INS Vaghsheer is equipped with torpedoes, anti-ship missiles, and advanced sensors, making it one of the most potent undersea assets of the Indian Navy.

The Vaghsheer submarine, the last in the Scorpene class under Project 75, is among the most advanced diesel-electric submarines in the world. The Project was a collaboration with the French company, Naval group and an Indian defence company, MDL.

Designed for versatility, it can perform a wide range of missions, including anti-surface and anti-submarine warfare,

intelligence gathering, area surveillance, and special operations. The submarine is armed with wire-guided torpedoes, anti-ship missiles, and advanced sonar systems.

With a range of advanced technologies, the INS Vaghsheer will play a key role in enhancing the Navy's overall strategic deterrence capabilities. The submarine represents India's growing expertise in naval warfare and defence systems, reaffirming the nation's commitment to ensuring peace and stability in the Indian Ocean Region.

A Milestone in India's Naval Evolution

The commissioning of these three warships is a momentous occasion for the Indian Navy and India as a whole. The event underscores the nation's growing self-reliance in defence and maritime security, marking a shift towards indigenously built vessels that are equipped with world-class technology. These new additions to the fleet will enable the Indian Navy to better secure its maritime borders, safeguard vital trade routes, and project power in the Indian Ocean and beyond.

The commissioning of INS Surat, INS Nilgiri, and INS Vaghsheer symbolises India's growing naval strength and its commitment to safeguarding its national interests in an increasingly complex and dynamic global security environment. ■

Manish Kumar Jha is a Consulting & Contributing Editor for SP's Aviation, SP's Land Forces and SP's Naval Forces and a security expert. He writes on national security, military technology, strategic affairs & policies.

Flying Into The Future

The next 25 years promise to be even more exciting for the Indian Navy's naval aviation arm as it plans to increase the number of aircraft in its inventory to 500 by 2050 from its current number of around 300 fixed and rotary wing aircraft and UAVs

■ VICE ADMIRAL A.K. CHAWLA (RETD)

NAVAL AVIATION IS THE tip of the offensive spear of the Indian Navy (IN) and has always been at the forefront of all naval operations in peace and war. Starting as a modest force with the Short SA.6 Sealand amphibious aircraft and the shore-based Fairey Firefly aircraft in 1953, it quickly graduated to carrier-borne aircraft (British Hawker Sea Hawk and French Alize) with the induction of Vikrant in 1961. Vikrant and its airwing played an important role in the Liberation of Bangladesh in 1971 and this success has since then been an important driver for the growth of naval aviation in general and carrier-borne aviation in particular. The induction of maritime reconnaissance aircraft in the mid-1970s, after the transfer of the Super Constellation aircraft from the IAF, and their subsequent replacement by long range maritime reconnaissance and anti-submarine warfare (LRMRASW) aircraft, the Ilyushin IL-38s from the Soviet Union in 1977, considerably enhanced its versatility and capability. While the single-engine Aerospatiale Alouette III had been inducted for search and rescue and communication duties along with Vikrant in 1961, the 1970s also saw the induction of multi-role ship-borne helicopters with the Westland Sea King Mk 42A, subsequently upgraded in the 1980s to the Sea King Mk 42B and its commando version, the Mk 42C. Pilatus Britten Norman BN-2A-21 Islanders were inducted in 1976 for pilot and observer training.

The arm's steady progress continued in the 1980s with the induction of the vertical take-off and landing (VTOL) Sea Harrier aircraft in 1984, which replaced the Sea Hawks. The TU-142M LRMRASW aircraft in 1988, which supplemented the IL-38s. The Soviet-built Kamov 25 ship-borne multi-role helicopters with its unique contra-rotating rotor design, had been inducted in the early 1980s concurrent with the induction of the Rajput class destroyers. These were supplemented with the more advanced Kamov 28s in the late 1980s, with the induction of the Ranvir class destroyers. The Dornier 228 twin turboprop aircraft, being manufactured under license by HAL, Kanpur, were inducted for short range maritime reconnaissance and aircrew training in 1991 (a contract for their Mid-life Upgrade was signed in 2024).

The first 25 years of the 21st century have seen a transformation in Indian Navy's Naval Aviation. A major milestone was the induction of the first airborne early warning (AEW) helicopters, the Kamov 31s, along with the induction of the Talwar class frigates in 2005. These helicopters are a force multiplier at sea and are also capable of operating from both

Indian Naval aviation is poised for an exciting period of growth in the years ahead with a range of inductions in all aspects of naval aviation



A quantum leap in unmanned aviation took place with the induction of leased MQ-9B Sea Guardian high altitude long endurance (HALE) drones for maritime surveillance

the IN's aircraft carriers. The induction of the first MiG-29K carrier-borne aircraft in 2009, preparatory to the commissioning of the aircraft carrier Vikramaditya in 2013, was another significant milestone. A major enhancement in the Navy's LRMRASW and airborne anti-ship capability occurred in 2009 when the first multi-role P-8I Boeing was inducted into the Indian Navy. Hawk Mk132 Advanced Jet Trainer (AJT) aircraft were inducted in 2013 as the lead-in trainer for the MiG-29Ks. Ship-borne multi-role helicopter capability was re-invigorated in 2021, when the US Navy (USN) handed over the first two Sikorsky MH-60R 'Sea Hawk' helicopters to the IN as a replacement for the ageing Sea King 42Bs and Cs. The commissioning of the first indigenous aircraft carrier, Vikrant (in its second avatar) in 2022 marked the coming of age of naval aviation besides being a significant achievement in India's shipbuilding capability.

The IN's aviation arm has also played a significant role in building bridges of friendship and interoperability with friendly foreign navies. Dornier aircraft and ALH helicopters have been supplied to Mauritius, Seychelles and Maldivian Coast Guards and the Sri Lankan Navy by the Government of India. Training and maintenance of these aerial assets has been undertaken by the IN. Joint exercises with advanced navies include significant participation from naval aviation, helping in enhancing interoperability and building mutual confidence. Such exercises include the stand-alone deployment of P-8I aircraft for combined exercises to countries such as the US, Japan, Australia and Singapore, demonstrating the IN's reach across the world.

Way Ahead 2025-50

The next 25 years promise to be even more exciting for the IN's Naval Aviation arm as it plans to increase the number of aircraft in its inventory to 500 by 2050 from its current number of around 300 fixed and rotary wing aircraft and UAVs. A major forthcoming induction is the acquisition of Rafale carrier-borne fighter (22 single seater and four twin seater trainers), which will supplement the MiG-29Ks on board the IN's aircraft carriers. Three specific trends would drive the coming transformation - the first being indigenisation, the second, unmanned aviation and the third being jointness between the three Services due

The commissioning of the first indigenous aircraft carrier, INS Vikrant (in its second avatar) in 2022 marked the coming of age of naval aviation besides being a significant achievement in India's shipbuilding capability

initial versions of the Dhruv suffered from various drawbacks, especially limitations of rotor folding, which have been substantially overcome with the ALK MkIII, which was inducted in 2021. The holy grail for indigenous helicopters is the Indian multi-role helicopter (IMRH), which has been in the works for about 15 years. As per open-source information, the ground test vehicle of the IMRH is expected to be produced by 2027, after which approval will be sought to develop the first few prototypes. Once this is obtained, it will require at least a decade of trials and weapon integration before it can be inducted as an operational unit. The ultimate milestone in naval aviation indigenisation is the carrier-borne aircraft. The IN has already carried out deck landing and

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launch trials of the Light Combat Aircraft (Navy), which is essentially a technology demonstrator, on both the Vikramaditya (in 2020) and Vikrant (in 2023). The next step in this programme is the Twin Engine Deck-Based Fighter (TEDBF) whose design is at an advanced stage and awaits government approval for proceeding with the construction of the first few prototypes. If approval is given in the near future to the IMRH and TEDBF, both these platforms should be flying by 2035 and could be inducted by 2040. Indigenous development of weapons and sensors for naval aviation platforms is also proceeding apace and the efforts should bear fruit in the coming decade.

As far as unmanned aerial vehicles (UAVs) are concerned, the IN inducted its first UAVs, the Searcher Mk-II and the Heron, in 2002 after the Kargil War for short range maritime reconnaissance, search and rescue, battle damage assessment and over the horizon targeting purposes. While the Searcher Mk-II UAVs have been phased out of service in 2024, the Herons were planned to be upgraded to carry additional weapons and sensors, which now seems unlikely due to their limited residual life. A quantum leap in unmanned aviation took place with the induction of leased MQ-9B SeaGuardian high altitude long endurance (HALE) drones for maritime surveillance from the US in 2020. The exceptional performance of these platforms led India to conclude a contract with General Atomics for the purchase of 31 MQ-9B Predator drones (15 for the IN), which will also be capable of carrying weapon payloads. The induction of these drones com-



(Left) Aircraft Carriers are central to the Indian Navy's concept of operations; (Right) Boeing P-8I state-of-the art aircraft has added to the reach and multi-mission capabilities of the Indian Navy

mencing 2029 will provide a quantum jump in maritime intelligence, surveillance and reconnaissance. Two Heron 900 Medium Altitude Long Endurance (MALE) UAVs, built under licence from Elbit, Israel by Adani Aerospace and Defence, and named Drishti 10 Starliner, were inducted in 2024. More such UAVs could be inducted subsequently. The IN has already inducted the short range indigenous 'Spotter' rotary UAVs on board ships for reconnaissance purposes and plans to introduce more rotary UAVs with higher endurance and load carrying capability, such as the multi-mission, utility, logistics & expedition (MULE) drones for carrying heavy loads (including casualties) in all weather conditions. Submarine launched drones are also under development.

Finally, the third driver, jointness, is already visible in the growing commonality of platforms, albeit with service-specific differ-

ences in equipment. This commonality already existed to some extent with platforms such as the Chetak and ALH helicopters and the MiG-29 and Dornier aircraft, as also the Heron and Searcher UAVs. The coming induction of Rafale carrier-borne fighters and Tata-Airbus C295 aircraft in the IN, as also common airborne weapons and sensors, will further increase the commonality, helping in synergising operations, training and logistics. Considerable scope for commonality also exists in the variety of UAVs planned for induction in the three Services.

Conclusion

Indian naval aviation is poised for an exciting period of growth in the years ahead with a range of inductions in all aspects of naval aviation. This ambitious expansion aims to strengthen the Indian Navy's overall operational readiness and ensure

it can effectively respond to diverse maritime threats. Perhaps the only aspect of naval aviation that remains to be covered is the long pending re-induction of sea planes, which will give a boost to aviation operations in our island territories and coastal regions and also provide options for logistics support, Special Forces operations and medical evacuation in the open oceans. Indigenisation too remains a relative laggard despite the intense efforts put in over the past two decades and requires to be monitored closely by all stakeholders to ensure that we develop truly indigenous aviation platforms by 2050. Nonetheless, the current focus on technological advancements, indigenous development and strategic expansion will ensure that the Indian Navy remains a formidable force in the region, ready to safeguard the nation's maritime interests. ■

PHOTOGRAPHS: PRO_Vizag / X, Boeing

India-Indonesia Relations

The India-Indonesia friendship, elevated to the level of Comprehensive Strategic Partnership in 2018, has widened bilateral relations to include defence industry collaboration, science, and technology



(Left-Right) President of Indonesia, Prabowo Subianto was the Chief Guest for the 2025 Indian Republic Day parade

■ LT GENERAL P.C. KATOCH (RETD)

INDIA HAD INVITED PRESIDENT Prabowo Subianto of Indonesia to be the Chief Guest for India's 76th Republic Day Parade on January 26, 2025. A former Army General and Defence Minister, Subianto was sworn in as the 8th President of Indonesia on October 20, 2024. Indonesia is the world's most populous Muslim-majority nation.

India and Indonesia have strengthened their economic partnership, with bilateral trade touching \$29.4 billion in FY 2023-24. Indonesia is India's eighth-largest trading partner, while India ranks as the second-largest buyer of Indonesian coal and crude palm oil, which points to the strategic bi-

lateral partnership. India's exports to Indonesia totaled \$5.99 billion in 2024, with mineral fuels and vehicles among the top traded goods. Notably, Indonesia's investments in India cumulatively valued at \$653.88 million, spanning sectors such as automobiles, pharmaceutical and banking.

The defence cooperation agreement signed in 2001 between India and Indonesia stipulated the establishment of the JDCC to explore and identify potential areas of cooperation, matters of common interest, initiate, coordinate, monitor and control the approved cooperative activities. The 7th JDCC meeting was held at New Delhi on May 3, 2024, where both sides also exchanged views on regional and global issues of shared interest. The India-Indonesia

friendship, which was elevated to the level of Comprehensive Strategic Partnership in 2018, has widened the scope of bilateral relations to allow for new collaboration in the realm of defence industry, science and technology etc. The defence relations form a significant pillar to this growing partnership.

Defence engagements between India and Indonesia have diversified to include wide-ranging contacts between the services, military-to-military exchanges, high-level visits, capacity building and training programmes, cooperation in UN Peacekeeping, ship visits and bilateral exercises.

According to news reports of January 11, 2025, Indonesia's defence ministry has reportedly sent a letter regarding a \$450 million BrahMos deal to the Indian Em-

bassy in Jakarta. Also, India is reportedly offering a loan to Indonesia from either the State Bank of India or any other Indian national banks; specifics of which are being worked out. With Indonesia having joined BRICS in January 2024, the BrahMos deal, if it comes through, can be transacted in Indian and Indonesia currencies.

India-Indonesia bilateral relations have a bright future. Prime Minister Narendra Modi visited Jakarta, Indonesia in September 2023 to attend the 20th ASEAN-India Summit and 18th East Asia Summit. President Prabowo Subianto of Indonesia to New Delhi this month would elevate the India-Indonesia Comprehensive Strategic Partnership further. An India-Indonesia BrahMos deal will be the icing on the cake. ■

PHOTOGRAPHS: PIB, SpokespersonMoD / X

INDIAN NAVY HOSTS INDONESIA NAVY DELEGATION



Admiral Muhammad Ali, Chief of Staff of the Indonesian Navy, as part of the high-level delegation. and Admiral Dinesh K. Tripathi, Chief of the Naval Staff, held bilateral interactions to deepen maritime cooperation and strengthen ties between the two-close maritime neighbours.

The Key areas of discussion between the two naval leaders included advancing joint initiatives like Exercise Samudra Shakti, strengthening operational collaboration, and addressing shared maritime challenges, including piracy and other illegal activities at sea.

The visit also included engagements at key maritime establishments such as the Information Fusion Centre - Indian Ocean Region (IFC-IOR) and the Weapons and Electronics Systems and Engineering Establishment (WESEE), focusing on enhancing regional collaboration and maritime domain awareness. Admiral Muhammad Ali also visited the BrahMos Aerospace Private Limited (BAPL) and exchanged ideas and insights on further strengthening bilateral cooperation in the area of defence and strategy.

MoD INKS CONTRACT FOR MEDIUM-RANGE SAM FOR INDIAN NAVY



Ministry of Defence (MoD) has signed a contract with Bharat Dynamics Limited (BDL) for the supply of Medium-Range Surface-to-Air Missiles (MRSAM) for the Indian Navy at a cost of approximately ₹2,960 crore. The contract was inked by the officials of MoD and BDL in the presence of Defence Secretary Rajesh Kumar Singh in New Delhi on January 16, 2025.

The MRSAM system is a standard fit, onboard multiple Indian Naval Ships and is planned to be fitted on the majority of the future platforms planned for acquisition. The contract marks a critical milestone in the ongoing efforts to bolster India's defence capabilities and indigenise advanced military technology.

SIXTH SCORPENE CLASS SUBMARINE DELIVERED TO INDIAN NAVY



Mazagon Dock Shipbuilders Limited delivered the Sixth Scorpene Submarine 'Vaghsheer' of Project P-75 on January 9, 2025 to the Indian Navy, subsequently to be commissioned into Indian Navy as INS Vaghsheer. The Acceptance Document was signed today by Sanjeev Singhal, Chairman & Managing Director MDL and Rear

Admiral R. Adhisrinivasan, Chief Staff Officer (Tech), Western Naval Command in the presence of MDL Directors and distinguished Indian Navy Officers.

Vaghsheer, was launched on April 20, 2022 and has undergone a series of comprehensive and rigorous set of tests and trials, for more than a year, to ensure delivery of a fully Combat Worthy Submarine, capable of operation in all modes and regimes of deployment.

YARD 12707 (SURAT) AND YARD 12651 (NILGIRI) DELIVERED TO INDIAN NAVY



In a historic milestone for the country's Atmanirbharta, journey, two warships, a destroyer (Surat) and a frigate (Nilgiri) were delivered to the Indian Navy on December 20, 2024. The ships have been designed and constructed indigenously by the Warship Design Bureau of Indian Navy and MDL, respectively. This is in keeping with the thrust, given by Government of India and the Indian Navy, on nation building through self-reliance. Simultaneous induction of two state-of-the-art men of war will significantly enhance the operational capabilities and combat readiness of the Indian Navy.

The delivery of Yard 12707 (Surat), the fourth and final Project 15B stealth guided missile destroyer, culminates the iconic indigenous destroyer building project of the Indian Navy, which began with the Project 15 (three Delhi class, 1997-2001), followed by Project 15A (three Kolkata class, 2014-2016) and Project 15B (four Visakhapatnam class, 2021-2024).

Yard 12651 (Nilgiri), the first Project 17A stealth frigate is a follow-on of the Shivalik class (Project 17) frigates active in service. Nilgiri is first among the seven P17A frigates under construction and MDL, Mumbai and GRSE, Kolkata. These multi-mission frigates are capable of operating in a 'blue water' environment dealing with both conventional and non-conventional threats in the area of India's Maritime Interests.

OPERATIONAL DEMONSTRATION BY INDIAN NAVY'S EASTERN NAVAL COMMAND



The Indian Navy successfully concluded a breath-taking Operational Demonstration (Op Demo) at the iconic Ramakrishna Beach, Visakhapatnam, Andhra Pradesh on January 4, 2025. This captivating event showcased the Indian Navy's operational excellence and outstanding efforts. The event was graced by Chief Minister of Andhra Pradesh and was hosted by Vice Admiral Rajesh Pendharkar, Flag Officer Commanding-in-Chief, Eastern Naval Command.

The Op Demo featured thrilling display of the maritime might of many Warships, Aircrafts, Submarines, MARCOS etc. The grand finale of the evening included a traditional Beating Retreat Ceremony by the ENC, an impeccable Continuity Drill, and a mesmerising Laser and Drone Show that left the audience in awe. Lakhs of attendees, including the Hon'ble Chief Justice of AP, senior dignitaries, MPs/MLAs, and local Citizens and tourists, witnessed the

APPOINTMENT



Vice Admiral Rajaram Swaminathan, Controller Warship Production and Acquisition

Vice Admiral Rajaram Swaminathan, assumed charge as the Controller of Warship Production & Acquisition on January 30, 2025. He was commissioned in Indian Navy in 1987. In a career spanning more than 37 years, he has worked onboard the Aircraft Carrier, INS Viraat, for more than nine years in various capacities. The Flag Officer has held many important assignments including Fleet Engineer Officer (Western Fleet), General Manager (Refit) at Naval Dockyard (Mumbai), Director of Personnel and Principal Director Ship Production at New Delhi. He was also involved in the acquisition of Aircraft Carrier, Vikramaditya, as Warship Production Superintendent in Russia and as Principal Director Aircraft Carrier Projects in Delhi.

event first-hand, while many more joined through the live telecast.

MoD INKS ₹1,990 CRORE CONTRACT

Ministry of Defence has signed two contracts, worth approximately ₹2,867 crore, for the construction of Air Independent Propulsion (AIP) Plug for DRDO-AIP system & its integration onboard Indian Submarines, and the integration of Electronic Heavy Weight Torpedo (EHWT) onboard the Kalvari-Class submarines. Both the contracts were signed in the presence of Defence Secretary Rajesh Kumar Singh in New Delhi on December 30, 2024.

The contract for construction of AIP Plug and its integration was inked with Mazagon Dock Shipbuilders Limited, Mumbai worth around ₹1,990 crore, while the contract for integration of EHWT, being developed by DRDO, was signed with Naval Group, France at an approximately cost of ₹877 crore.

The AIP technology is being indigenously developed by DRDO. The project pertaining to construction of AIP-Plug and its integration will enhance the endurance of conventional submarines. The integration of EHWT will be a collaborative effort by Indian Navy, DRDO and Naval Group, France. It would greatly augment the firepower capabilities of Kalvari Class submarines of the Indian Navy.

LAUNCHING OF TWO FAST PATROL VESSELS



Goa Shipyard Ltd (GSL), India's premier Defence Public Sector Undertaking (DPSU) Shipyard, achieved yet another milestone with the concurrent launch of two indigenously designed and constructed Fast Patrol Vessels (FPVs) for the Indian Coast Guard. Earlier, GSL had launched two vessels of the same series in the month of October 2024. GSL is constructing a fleet of eight FPVs for the Indian Coast Guard, underscoring the shipyard's pivotal role in realizing the vision of 'Atmanirbhar Bharat' in defence production.

The two vessels, Amulya and Akshay, state-of-the-art FPVs, are designed in-house by GSL to meet the Indian Coast Guard's specific operational needs. With a length of 52 meters, a breadth of 8 meters, and a displacement of 320 tonnes, these vessels are optimized for protecting offshore assets, island territories, and conducting surveillance operations. ■

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