

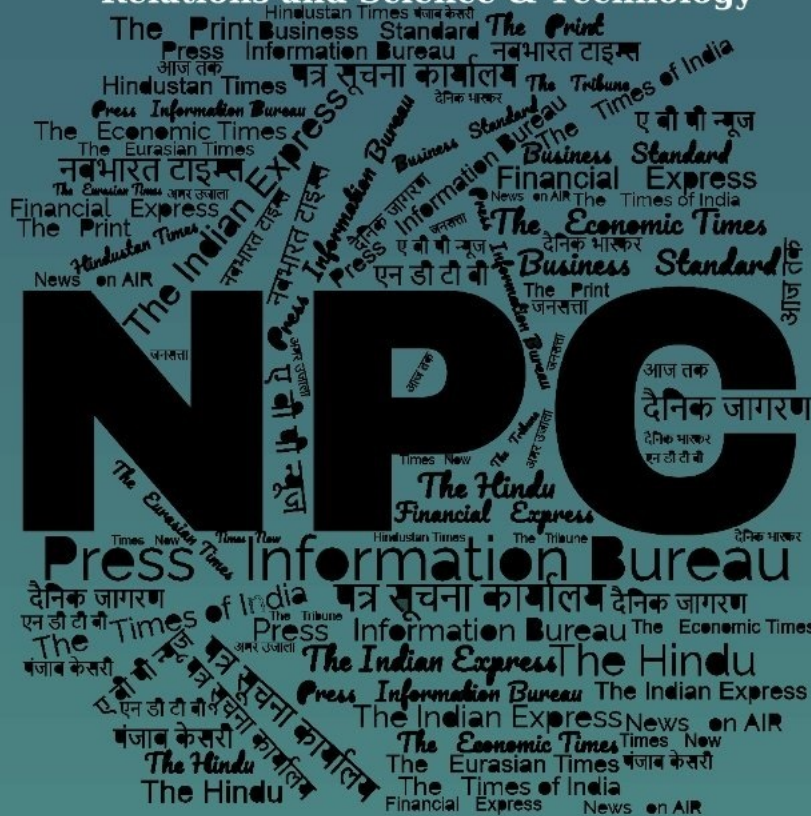
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# समाचार पत्रों से चयित अंश Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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**Press Information Bureau**  
**Government of India**

**Ministry of Defence**

*Thu, 28 Dec 2023*

### **Induction of Missile cum Ammunition (MCA) Barge, LSAM 10 (YARD 78)**

Missile Cum Ammunition Barge, LSAM 10, the fourth Barge of 08 x Missile Cum Ammunition Barge project, built by MSME Shipyard, M/s SECON Engineering Projects Pvt Ltd, Visakhapatnam for Indian Navy, was inducted on 28 Dec 23 at Naval Dockyards, Mumbai for NAD(Karanja). The Induction Ceremony was presided over by Cmde MV Raj Krishna, CoY(Mbi).

The contract for building 08 x Missile Cum Ammunition Barge was signed between MoD and M/s SECON Engineering Projects Pvt Ltd, Visakhapatnam on 19 Feb 21.

Induction of these Barges would provide impetus to operational commitments of IN by facilitating Transportation, Embarkation and Disembarkation of articles/ ammunition to IN Ships both along-side jetties and at outer harbours.

These Barges are indigenously designed and built under relevant Naval Rules and Regulation of Indian Register of Shipping (IRS).

The model testing of the Barge during design stage was undertaken at Naval Science and Technological Laboratory (NSTL), Visakhapatnam. These Barges are proud flag bearers of Make in India initiative of Government of India (GoI).

<https://pib.gov.in/PressReleasePage.aspx?PRID=1991284>

## **India planning to launch 50 satellites for intelligence gathering in five years: ISRO chief**

India is aiming to launch 50 satellites in the next five years for geo-intelligence gathering which will include the creation of a layer of satellites in different orbits with a capacity to track the movement of troops and image thousands of kilometres of area, Indian Space Research Organisation (ISRO) chairman S. Somanath said here on December 28.

For realising India's aspiration to become a strong nation, the current size of its satellite fleet is not enough and it should be "ten times what we have today", he said, speaking at 'Techfest', an annual science and technology event organised by the Indian Institute of Technology Bombay here.

It was important to improve the ability of satellites to detect changes, to bring in more of AI-related and data-driven approach to analyse data, reduce data downloads and get only the necessary information, he said.

Spacecrafts are capable of observing a country's borders and neighbouring regions, the ISRO chief noted.

"All of it can be seen from satellites. This capability gives us enormous potential. We have been launching satellites to handle this, but there is a different way of thinking now and we need to look at it in a much more critical manner because the power of (any) nation is the ability to understand what is happening around it," Mr. Somanath said.

Many satellites are being designed and configured, he said.

"We have already configured 50 satellites to be realised in the next five years and this is going to be launched for India for supporting this particular geo-intelligence capability over the next five years plus (period)," the ISRO chief added.

If India is able to launch satellites at this scale, threats to the country can be better mitigated, Mr. Somanath said.

"We have found out a way by which a layer of satellites can be launched starting from GEO (geo-stationary equatorial orbit) to LEO (lower earth orbit) and also (in) very low earth orbit where we need very critical assessment of some situation," he said.

This is a new domain which is coming up not only in optical, but also in SAR (synthetic aperture radar), thermal and various other technologies, Mr. Somanath pointed out.

"We will have communication between satellites, so that if some satellite detects something, which is at GEO at 36,000 kms, it can have a large view. If you find some activity happening, you can task another satellite in the lower orbit (to check) much more carefully and then give more information," he said.

"We are also looking at imaging, not a very small area (but) thousands of kilometers of area and we would like to cover entire borders in everyday cycles. This is a tremendous capability that we are building if we are able to launch these satellites in the next five years," he said.

Mr. Somanath noted that the overall satellite fleet of the country, with its current strength of 54, is "just not enough" for a nation like India which is aspiring to be powerful and strong.

"I think it must be ten times what we have today," the ISRO chief said.

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- It was important to improve the ability of satellites to detect changes, to bring in more of AI-related and data-driven approach to analyse data, reduce data downloads and get only the necessary information, he said.
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<https://www.thehindu.com/sci-tech/science/india-planning-to-launch-50-satellites-for-intelligence-gathering-in-five-years-isro-chief/article67685777.ece>

## THE TIMES OF INDIA

*Thu, 28 Dec 2023*

### **US deploys Cutting-Edge Military Capabilities in Indo-Pacific, supports India's Defence Modernization Plans**

To maintain deterrence in the Indo-Pacific and assist India in bolstering its defence modernisation plans, the United States is deploying cutting-edge military capabilities to its allies. Calling 2023 a 'decisive year', the US Department of Defence, in an official release has stated that it is supporting allies and partners as they invest in their capabilities.

"Bolstering India's defence modernization plans, including by advancing the priorities outlined in the Roadmap for US-India Defence Industrial Cooperation," the release read. Under the US-India Defence Industrial Cooperation, both nations will co-produce fighter jet engines and Stryker armoured vehicles, as well as launch the India-US Defence Acceleration Ecosystem (INDUS-X) to promote partnerships between US and Indian researchers, entrepreneurs, and investors.

"The United States is joining together with Indo-Pacific allies and partners in ways that strengthen peace and security across the region, including by operating together like never before," the US Defence Department release said.



It said that India is modernizing the scope of its military engagements. "India, modernizing the scope our military engagements including by incorporating advanced fighter aircraft and strategic bombers in our exercises, which strengthens interoperability and highlights shared efforts to promote stability and security in the Indo-Pacific," the release read.

The Defence Department's year-ender fact sheet also highlighted the defence Exercise MALABAR of the US with India, Japan, and Australia. It was hosted in Australia for the first time this year and facilitated high-end training in anti-submarine exercises, communications, and air defence. "The Association of Southeast Asian Nations (ASEAN), including through capacity-building programs and training courses to support the incorporation of Women, Peace, and Security principles into regional security planning and operations, as well as an emerging leaders fellowship program for young civilian and defence leaders in the Indo-Pacific," the release said, pointing to several training courses that take place to ensure the security of the IndoPacific region.

"Investing over USD 1.2 billion in security cooperation initiatives across the Indo-Pacific region, including one of the largest US investments in history to bolster IndoPacific partners' capability and capacity, maritime domain awareness, and resilience against coercion," the release added. Throughout 2023, the US collaborated with allies and partners to accomplish ground-breaking results for peace, stability, and deterrence in support of a free and open Indo-Pacific region.

As Secretary Austin has said, "In this decisive decade, 2023 will be remembered as a decisive year for implementing US defence strategy in Asia." In the recently concluded India-US 2+2 Ministerial Dialogue, both New Delhi and Washington reaffirmed their commitment to strengthening the multifaceted defence partnership between the two nations. The pledge included a comprehensive approach, encompassing extensive dialogues, increasingly complex military exercises, and the acceleration of joint projects initiated under the June 2023 Roadmap for India-US Defence The ministers specifically welcomed the Investors Strategy Industrial Cooperation.

The ministers commended the breadth of partnerships under the India-US Defence Acceleration Ecosystem (INDUS-X) since the initiative was launched in June 2023. The ministers specifically welcomed the Investors Strategy Session convened in New Delhi on November 8, 2023. The event provided an opportunity for private investors to mobilize capital to fund innovation in cutting-edge technology to address critical security needs.

The India-US 2+2 ministerial dialogue is a diplomatic summit held every year since 2018, with the minister of external affairs and the defence minister representing India while the Secretary of State and the Secretary of Defence represent the United States. During the ministerial dialogue, the ministers further welcomed the launch of the INDUS-X Gurukul Education series to enable startups to leverage opportunities in the defence ecosystems of India and the United States.

They also took note of the recent launch of the INDUS-X joint challenges initiative, which will unleash the talent and innovative drive of commercial sectors in both countries to strengthen the respective defence industry ecosystems, a joint statement of the India-US 2+2 Ministerial Dialogue said.

<https://timesofindia.indiatimes.com/world/us/us-deploys-cutting-edge-military-capabilities-in-indo-pacific-supports-indias-defence-modernization-plans/articleshow/106350310.cms?from=mdr>

## **भारत-फिलिपींस में नौसैनिक युद्धाभ्यास से चीन नाराज:कहा- हमारे मामले में तीसरा देश दखल न दे; फिलिपींस चीनी क्षेत्र में घुसपैठ कर रहा**

भारत और फिलिपींस के बीच साउथ चाइना सी में नेवल एक्सरसाइज पर चीन ने आपत्ति जताई है। चीन के रक्षा मंत्रालय के प्रवक्ता कोल वु कियान ने कहा है कि दो देशों के बीच रक्षा सहयोग से किसी तीसरे देश की शांति को नुकसान नहीं पहुंचना चाहिए।

चीनी मीडिया की तरफ से पूछे गए एक सवाल के जवाब में कियान ने कहा- चीन और फिलिपींस के बीच समुद्री विवाद में किसी तीसरे देश को दखल देने का हक नहीं है। हम अपने देश की सुरक्षा और समुद्री अधिकारों के लिए जरूरी कदम उठाता रहेगा।

फिलिपींस और भारत की नेवी ने इस महीने युद्धाभ्यास किया था। इसमें भारत की तरफ से INS कदमत और फिलिपींस की तरफ से BRP रेमन अल्कराज जहाज ने हिस्सा लिया था। वहीं कुछ दिन पहले चीनी कोस्ट गार्ड्स पर फिलिपींस के जहाजों पर वॉटर कैनन से हमला करने का आरोप लगा था।

इस पर सवाल के जवाब में चीनी रक्षा मंत्रालय के प्रवक्ता ने कहा- ये आरोप झूठे हैं। उन्होंने दावा किया कि चीन की तरफ से लगातार चेतावनी के बावजूद फिलिपींस हमारे क्षेत्र में घुसपैठ कर रहा है।

### **चीन बोला- फिलिपींस ने हमारे जहाज को तबाह किया**

कियान ने कहा- फिलिपींस का जहाज हमारे कोस्ट गार्ड शिप से टकराया, जिससे हमारा जहाज तबाह हो गया। इस तरह की हरकत बेहद खतरनाक और गैर-जिम्मेदाराना है। इन हरकतों की वजह से ही कानून के दायरे में रहते हुए हमारे कोस्ट गार्ड को जरूरी कदम उठाने पड़े, जो पूरी तरह से सही है।

मामले पर अमेरिका की तरफ से जताए गए विरोध पर चीन ने कहा- हम इस तरह की बयानबाजी को बढ़ावा नहीं देते हैं। फिलिपींस जिस क्षेत्र को अपना बताता है, वो चीन का हिस्सा है। अमेरिका उन्हें हमारे खिलाफ भड़काने का काम कर रहा है।

दरअसल दिसंबर के शुरुआती हफ्ते में दक्षिण चीन सागर में चीन के कोस्ट गार्ड्स ने फिलिपींस के जहाजों पर हमला किया था। उन्होंने मछुआरों के जहाज पर वाटर कैनन चलाई थी। चीन ने पहले जहाजों की घेराबंदी की, फिर पानी से हमला किया था। फिलिपींस ने चीन की इस अवैध और आक्रामक कार्रवाई की निंदा की थी।

### **साउथ चाइना सी में चीन की दादागिरी नई नहीं**

साउथ चाइना सी में फिलिपींस और चीन के बीच इस तरह का टकराव पहले भी कई बार हुआ है। इस साल भी दोनों देशों के बीच जनवरी से तनातनी जारी है।

**26 सितंबर:** बीजिंग ने साउथ चाइना सी में फिलीपींस के मछली पकड़ने वाले जहाजों को रोकने के लिए स्कारबोरो शोल इलाके में फ्लोटिंग बैरियर लगाए थे। साउथ चाइना मॉर्निंग पोस्ट की रिपोर्ट के मुताबिक, चीन ने फिलीपींस से करीब 200 किमी दूर स्थित स्कारबोरो शोल में लैगून के एंटी गेट पर 300 मीटर लंबा बैरियर लगाया गया था। सितंबर में फिलिपींस ने इस बैरियर को तोड़ दिया।

**अगस्त 2023:** चीन के कोस्टगार्ड ने फिलीपींस की मिलिट्री सप्लाय बोट पर वॉटर कैनन से वार कर दिया था। अलजजीरा की रिपोर्ट के मुताबिक घटना शनिवार को हुई जब फिलीपींस की बोट अपने सैनिकों के लिए खाना लेकर जा रही थी।

**फरवरी 2023:** साउथ चाइना सी के विवादित हिस्से में घूम रहे एक फिलीपींस कोस्ट गार्ड के प्लेन को चीन के रेडियो ऑपरेटर ने धमकी दी थी। रेडियो ऑपरेटर ने 3500 फीट नीचे कोस्ट गार्ड के वेसल से अनाउंस करते हुए कहा था- यहां से तुरंत निकल जाओ।

**जनवरी 2023:** फिलीपींस ने कहा था कि चीन ने एक लेजर लाइट से उनके वेसल को रोकने की कोशिश की। इससे फिलीपींस के जहाज में सवार चालक दल को दिखना बंद हो गया था। फिलीपींस ने कहा था कि चीन ने ऐसा जानबूझ कर किया था। जो साउथ चाइना सी में उनके अधिकारों का उल्लंघन है।

### **पूरे साउथ चाइना सी पर चीन का दावा**

चीन हमेशा से साउथ चाइना सी के लगभग पूरे हिस्से पर अपना दावा करता रहा है। इसके लिए वो 5 छोटे देशों को अक्सर परेशान करता है। इनमें फिलीपींस, वियतनाम, मलेशिया, ताईवान और ब्रुनेई शामिल हैं। ये सभी देश साउथ चाइना सी को अपना बताते हैं। चीन ने इस क्षेत्र में कई आर्टिफिशियल आईलैंड बना लिए हैं। इस क्षेत्र में चीन ने कई सैन्य ठिकाने भी तैयार कर लिए हैं।

<https://www.bhaskar.com/international/news/south-china-sea-dispute-india-philippines-naval-exercise-vs-china-132361608.html>

**R. REPUBLICWORLD.COM**

*Thu, 28 Dec 2023*

## **Indian Navy's IFC-IOR issues Warning as surge in Drone Attacks threatens Indian Ocean Security**

In its November 2023 monthly report, the Indian Navy's Information Fusion Centre – Indian Ocean Region (IFC-IOR) sounded the alarm on the escalating threat of drone attacks in the Red Sea and Northern Arabian Sea. This trend, characterized as a "growing cause of concern" for global trade, poses serious risks to commercial shipping transiting through the Indian Ocean region (IOR).

The centre, based in Gurugram, recorded a concerning uptick, observing five drone attacks in the first eleven months of 2023, with three incidents specifically documented in November alone. The



figures for 2023 surpass those of the previous two years, with December reporting additional drone attacks. Houthi rebels from Yemen have targeted vessels suspected of connections to Israel, responding to Israeli actions in Gaza. This rising threat has forced major shipping companies to reroute vessels, seeking alternative paths to navigate away from the volatile region.

### **Maritime safety and global economy in peril**

The monthly report underscores the gravity of these attacks, highlighting potential risks such as vessel sinkings, marine environmental pollution, trade blockades near choke points, and a significant increase in insurance rates. These implications can have far-reaching consequences, affecting the global economy.

The report cataloged specific attacks, including a drone assault on the Liberian-flagged oil tanker CAMPO SQUARE in the northern Arabian Sea on February 10 and a rotary unmanned aerial vehicle approaching a vessel within 10 meters 130 NM SW of Salalah, Oman, on March 1, 2023. In November, three notable instances occurred, including a US Navy ship downing a drone in the Red Sea off Yemen on the 15th, a drone attack on the Malta-flagged container ship CMA CGM SYMI in the Arabian Sea on the 24th, and a US Navy ship shooting down a drone in the Bab el Mandeb strait off the coast of Yemen on the 29th.

### **IFC-IOR assists attacked vessel**

The report emphasized the impact of these attacks on maritime safety, raising concerns among seafarers navigating through the IOR. The IFC-IOR cited an example where it assisted a vessel attacked mid-sea in the Arabian Sea by a drone. Although the drone hit the fore-castle area, causing no major damage, the incident highlights the vulnerability of vessels to such attacks.

The Centre urged seafarers to maintain vigilant visual and RADAR monitoring for potential air threats. Vessels are advised to increase speed, avoid presenting a vulnerable aspect, and report incidents to MARSEC Centres, including IFC-IOR, for assistance coordination. Additionally, vessels should heed warnings from operational MARSEC Centres and broadcast messages on designated channels to alert nearby vessels and multinational forces.

The recent drone attacks on India-bound vessels, MV Chem Pluto and MV Sai Baba, have prompted a robust response from India. The country deployed warships, including INS Kochi and INS Kolkata, in the region. Indian Defence Minister Rajnath Singh declared, "Those who have carried out these attacks, we will find them from the depths of the seas, and strict action will be taken against them. India plays the role of Net Security Provider in the entire Indian Ocean Region."

Prime Minister Modi addressed the situation in the Red Sea, discussing maritime security and the freedom of navigation with Israeli PM Benjamin Netanyahu and Saudi Arabia's Crown Prince Mohammed bin Salman. The international community closely watches as India takes firm steps to safeguard its maritime interests in the face of evolving threats in the Indian Ocean.

<https://www.republicworld.com/defence/indian-armed-forces/indian-navys-ifc-ior-issues-warning-as-surge-in-drone-attacks-threatens-indian-ocean-security/>

## **IAF Chief VR Chaudhari visits Two Frontline Operational Bases in Western Sector**

The Chief of Air Staff (CAS) Air Chief Marshal VR Chaudhari of the Indian Air Force visited two frontline operational bases in the western sector, the IAF said in a statement on Friday. The IAF chief was briefed on the operational readiness of the bases, the statement said. During his interaction with air warriors, he complimented them for their professionalism and exhorted them to maintain their vigil to guard the nation's skies, it added.

Earlier, On December 22, the Air Chief while addressing the 20th Subroto Mukerjee Seminar at the Manekshaw Centre in New Delhi emphasised India's proactive role in raising the concerns of the countries of Global South. He spoke on the relevance of air power and the need for IAF to act as a catalyst for progress, fostering strategic partnerships and contributing to the collective advancement of the Global South.

IAF's increased footprint during regular training engagements with partner nations has resulted in sharing of best practices in operations and maintenance. He also mentioned the role played by Indian Military Advisory Teams and courses offered through Indian Technical and Economic Cooperation program, which had paved the way for increased cooperation by conducting training for more than 200,000 officials in both the civil and defence sector.

The Air Chief brought out that in the past nine years, IAF had trained more than 5000 foreign trainees from countries of the Global South. He also added that indigenous aerospace platforms such as LCA, LCH, Akash Missile systems and radars offer competitive and reliable options for air forces of the Global South, boosting India's economic and technological clout.

He reiterated IAF's role in international HADR operations, which had further strengthened India's leadership role in the Global South. Earlier this month, Air Chief Marshal Chaudhari visited the headquarters Maintenance Command and Economic Explosives Limited (EEL), facilities in Maharashtra's Nagpur.

He was received by Air Marshal Vibhas Pande, AOC-in-C, Maintenance Command. He was briefed about the facility by Solar Group chairman Satyanarayan Nuwal on the latest products being developed by the company.

The IAF chief visited various integrated plants and production facilities of ammunition and explosives, such as the Chaff facility and Rocket Assembly Bay, and was also shown the mixing and casting of Pinaka rockets.

<https://timesofindia.indiatimes.com/india/iaf-chief-vr-chaudhari-visits-two-frontline-operational-bases-in-western-sector/articleshow/106368696.cms?from=mdr>

## **‘INS Imphal capable across spectrum of naval warfare in all 4 dimensions’**

As India’s latest stealth destroyer INS Imphal prepares for its operational deployment on the high seas to further boost the Indian Navy’s readiness in a challenging and vast strategic expanse, the warship’s commanding officer Captain Kamal Kumar Choudhury said it will be a globally deployable versatile platform, and its forward presence will help secure the country’s growing economic and military interests. In an interview to **Rahul Singh** on board the destroyer, Choudhury spelt out his top priorities, the challenges faced by the commissioning crew of a warship, the multi-mission capabilities of INS Imphal, how it will enhance India’s sea power, and the historic firsts associated with the destroyer.

### **What will be your top priorities in the coming months?**

The immediate focus will be on conducting trials of the Barak-8 medium range surface-to-air missile (MRSAM) system. It will provide air defence against all kinds of aerial threats. Completing the aviation trials is equally critical for helicopter operations by day and night. All other weapons and systems were fully tested before the commissioning, including the extended-range BrahMos supersonic missile, Varunastra heavy-weight torpedoes and anti-submarine rockets. Once INS Imphal is integrated with the navy’s Western Fleet, we will be ready for deployment anywhere.

### **What does it feel like to be the commissioning captain of a frontline destroyer?**

To commission a new warship, and that too a destroyer, as a captain is the opportunity of a lifetime. I have been in service for almost 26 years, and I am telling you that it is the best job you can ever get in the Indian Navy. This happens to be my third commissioning. The first one was guided missile frigate INS Talwar in 2003 at St Petersburg in Russia. At the time, I was a gunnery officer and in charge of the forward-mounted 100 mm gun. I was also the executive officer (second-in-command) when guided missile destroyer INS Kochi was commissioned in 2015.

### **Can you talk about the challenges faced by the commissioning crew of a warship?**

The biggest challenge is that you are starting from scratch. You have to set up the warship’s organisation from scratch. In an operational ship, only a part of the crew is new and amalgamates with the rest of the ship. In the navy, a third of the crew moves in and out of a ship every year. There is some continuity. In commissioning, everyone comes from a different background. Some may be familiar with that class of ship, and others not. But all of them must fit together and put the platform through its paces. They must do many things for the first time. There is no previous experience to draw from. Starting a new organisation without any past references is the biggest challenge. But therein lies a great opportunity too. Whatever you thought should happen in the navy through your service, you have an opportunity to make that happen on the ship.

### **Can you elaborate on the capabilities of the destroyer?**

INS Imphal's multi-mission offensive and defensive capabilities will allow it to tackle the full spectrum of maritime threats. The modern platform clearly demonstrates the maturity of indigenous technological and shipbuilding prowess. It is the first Indian warship to have fired the BrahMos missile before its commissioning. It shows we are able to commission ships that are combat ready. The missile arms INS Imphal with the capability to strike enemy ships and shore installations with precision at extended ranges. INS Imphal can accommodate two multi-role helicopters including the US-origin MH-60R and the indigenous advanced light helicopter. It is capable of blue water operations across the spectrum of naval warfare in all four dimensions --- air, surface, underwater and electronic.

In anti-air warfare, the MRSAM weapon complex including the MFSTAR (multi-functional surveillance and threat alert radar) can take down any kind of aerial threat. In anti-surface warfare, we have the capability to carry out long-range surveillance and engagement of surface and land targets. In the anti-submarine domain, the weapon fit consists of torpedoes and rockets. The warship's sensor suite is advanced and tailored for multi-dimensional surveillance. It consists of the MFSTAR active phased array radar, RAWL 02 MK-IIA air search radar, surface surveillance radar, bow-mounted HUMSA-NG sonar, and the Shakti and Nayan electronic surveillance systems that provide a continuous, all-round and multi-dimensional surveillance bubble around the warship. The warship is equipped with advanced electronic warfare systems that can detect and track all types of threats. We can launch countermeasures against them.

### **INS Imphal has been commissioned at a time when China's influence is rising in the Indian Ocean region. It also faces other challenges. Your thoughts?**

The multi-mission destroyer will add to India's already formidable maritime might. It is a major combatant. From the smallest peace-time challenge to fighting under NBC (nuclear, biological and chemical) warfare conditions, this destroyer is a potent platform. It is equipped with cutting-edge capabilities, the best that the Indian Navy has today. She has long legs and can operate wherever India's maritime interests lie, be it the Indian Ocean region or beyond. INS Imphal can operate independently or as part of a carrier battle group. It can and will accomplish any assigned mission.

### **The warship has many historic firsts...**

Like I said, it is the first warship to have fired the BrahMos supersonic cruise missile before its commissioning. It is also the first warship with separate accommodation for women officers and sailors. We can currently accommodate eight women officers and 12 sailors. Right now, there is only one woman officer on board. She is the deputy logistics officer and the first woman to be part of a warship's commissioning crew in the Indian Navy's history. It is also the first warship to be named after a city in the country's North-East.

<https://www.hindustantimes.com/india-news/ins-imphal-capable-across-spectrum-of-naval-warfare-in-all-4-dimensions-101703703416051.html>

## **Old and strong: On India-Russia**

The importance of External Affairs Minister S. Jaishankar's visit to Russia this week can be gleaned from the special effort New Delhi and Moscow have made to make the meetings successful and productive. For India, at the end of a year of prolific diplomacy, a five-day visit would seem unusually long, particularly as the Kremlin leadership normally does not see high-level foreign visits at all in this period right before its holiday season. It is equally unusual for Russian President Vladimir Putin to meet lower-ranking foreign officials, as he did while meeting Mr. Jaishankar. The warmth was significant given that Prime Minister Narendra Modi has skipped the annual leadership summit, an unbroken tradition from 2000-21, for two years now, leading to speculation about the health of the India-Russia relationship after the Ukraine war.

While India took care not to criticise Russia, worries over the flagging of defence supplies, continued issues over paying Russia for imports in third currencies, and the general decline in other bilateral engagements have persisted. It is clear that a large part of Mr. Jaishankar's mission was to smooth over the perception of differences. The resultant agreements, pertaining to furthering collaboration in future Kudankulam nuclear power projects, fostering connectivity, trade and resuming talks for the Eurasian Economic Union-India free trade agreement, and joint military production indicate that bilateral relations are on track. So is multilateral cooperation, especially as Russia plans to host the expanded BRICS summit next year, and India and Russia continue to coordinate positions at the UN and SCO. Mr. Jaishankar's announcement that imports of Russian hydrocarbons will continue to rise despite the West's Russian sanctions, indicated the strength of ties that continue "regardless of political fluctuations".

Mr. Jaishankar's affirmation that the annual leadership summit will be resumed in 2024, appeared to signify that both sides are working to eliminate any static in the relationship. His statement that the India-Russia relationship was the 'only constant in world politics' over the last six decades would not have gone unnoticed especially in Washington and Beijing, given some of the friction in India-U.S. relations over the Pannun investigation, as well as U.S. President Joseph Biden's decision not to accept Mr. Modi's invitation for Republic Day, while India-China relations have ended another year in impasse over the military standoff. It remains to be seen whether the bonhomie will yield concrete movement on the rupee-rouble payment mechanism, or on expediting the delayed delivery of S-400 air system units. However, the larger import of his visit, and his words that the "geopolitical and strategic convergence" between India and Russia in a multipolar world that is "rebalancing", will be watched most closely by votaries and critics of the relationship.

<https://www.thehindu.com/opinion/editorial/old-and-strong-india-russia-ties/article67683819.ece>



# THE TIMES OF INDIA

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## **Nuclear Sector set to power Indian space missions: ISRO Chief**

India's nuclear sector is set to fuel and power future Indian space missions, Isro chairman S Somanath said at Indian Institute of Technology-Bombay's Techfest on Thursday. He talked about the upcoming projects undertaken by the space agency and said it will also go for nuclear propulsion in collaboration with the department of atomic energy.

Citing that two radioisotope heating units that were included in the propulsion module of Chandrayaan-3 on a trial basis worked flawlessly, Somanath said the department of atomic energy was enthusiastic about the project. His statement assumes significance in the context of global agencies entering the nuclear power sector. The Isro chief said the first phase of the Bharatiya Antariksh Station will be ready by 2028 while the entire station will be completed in 2035. "It will be an international platform for collaborative research," he said, adding, the space station will be a gateway for interplanetary missions, microgravity studies, space biology, medicine and research. Speaking on other projects, Somanath said Isro is working on an Integrated Lunar Exploration Roadmap which, among other things, envisages setting up a moonbase habitat at a cost lower than those being planned by other nations. The lunar roadmap also includes a lunar sample return mission.

Further, the space agency is set to launch Xposat mission on new year's day to study Black Holes and neutron stars. This will mark the 60th mission of the Polar Satellite Launch Vehicle. This will also be the first dedicated polarimetry mission in India, and second globally after Nasa's Imaging X-ray Polarimetry Explorer Mission launched in July 2021. Just five days after this mission, India's first mission to the Sun, Aditya-L1, is set to reach its destination Lagrange point 1 at 4pm on January 6.

The Lagrange point is 1.5 million kms away from earth. In addition to these, Isro is also planning a satellite exclusively for G20 countries to study air pollution, green house gases and humidity conditions, said Somanath, adding that 50 satellites with strategic applications are being planned for monitoring our borders, studying possible changes in troop movements, many of which will use artificial intelligence. Speaking about future Indian rockets, the Isro chief said they are planning ones that will be reusable as well as those to be used for space tourism.

<https://timesofindia.indiatimes.com/home/science/nuclear-sector-set-to-power-indian-space-missions-isro-chief/articleshow/106359396.cms?from=mdr>

## **Solar mission: Aditya L1 to reach Lagrange point in a week, says Somanath**

Aditya L1, the Indian Space Research Organisation's solar mission, will reach the Lagrange point 1 (L1) of the Sun-Earth system on January 6, which will enable the spacecraft to view the sun without any eclipses, ISRO chief S Somanath said on Thursday.

The mission was launched in September this year. "Aditya L1 is almost there now. Aditya L1 will reach Lagrange point on January 6 at 4 pm. We will have a very controlled burn of the engine of Aditya L1 so that it enters an orbit called the halo orbit," Somanath said at Techfest 2023, the Indian Institute of Technology Bombay's annual science and technology event.

Lagrange point is a region where gravity between earth and sun will neutralise. Absolute neutralisation is not possible because there are other bodies like the Moon, Mars, Venus, Somanath said. All six payloads have been tested and "working beautifully", he said, adding all are giving very good data. "After the insertion the satellite will be destined to look at the Sun forever as long as its electronics inside are healthy and ready to transmit data. We hope to find out a lot of correlation between the solar corona and mass ejection and impact on space weather we are facing everyday," Somanath added.

On Chandrayaan-3, India's lunar mission, Somanath said after 14 days of its contribution of collecting data, the Pragyan rover is "sleeping very well" on the lunar surface. "It is sleeping forever in history. Unfortunately, we were hoping it would wake up, but it did not happen. When we tested the whole system in our laboratory, it was working," he said.

Somanath explained that some systems that worked in the laboratory may not work on the lunar surface due to various reasons like radiation.

<https://www.hindustantimes.com/india-news/solar-mission-aditya-l1-lagrange-point-january-6-somanath-101703836961201.html>



## **Japan's Probe enters Lunar Orbit, what happens now?**

Japan's Smart Lander for Investigating Moon (SLIM) entered the Moon's orbit on Christmas Day. This has taken Japan close to its first successful landing on Earth's only satellite. If Japan succeeds, it will be fifth country in the world to land a probe on the lunar surface. Till date, United States, Russia, China and India have been successful in such an attempt.

Japan Aerospace Exploration Agency (JAXA) said on Monday that SLIM "successfully entered the moon's orbit at 04:51 pm Japan time" (0751 GMT)"

"Its trajectory shift was achieved as originally planned, and there is nothing out of the ordinary about the probe's conditions," the agency said.

### **What next for Japan's Moon mission?**

The lander, which has now been inserted in the lunar orbit, is slated to begin on January 20, at around 12 am Japan time. JAXA has said that the lander will land 20 minutes later.

JAXA's Moon lander was lifted-off into space by an H-IIA rocket. The lift-off took place in the month of September from southern Japanese island of Tanegashima. The lift-off took place after three postponements due weather-related reasons.

Earlier this month, JAXA said that the mission will be an "unprecedentedly high precision landing" on the Moon. Interestingly, the lander has a spherical probe that was developed in association with a toy company. The probe is slightly bigger than a tennis ball. It is capable of changing its shape in order to move on the lunar surface.

At the time of landing, JAXA is aiming for margin of error of under 100 metres. This when compared to error margins of "a few or 10-plus kilometres" kept by other countries is quite remarkable. JAXA has said that its margin of error was once thought impossible and is culmination of decades of effort by researchers.

"Gone are the days when merely exploring 'somewhere on the moon' was desired," said Shinichiro Sakai, JAXA's SLIM project manager earlier this month.

<https://www.wionews.com/science/japans-probe-enters-lunar-orbit-what-happens-now-674131>

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