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A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology

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India showcases Tejas Jet at Singapore Air Show

By Hanan Zaffar

India showcased its Tejas Light Combat Aircraft at the Singapore Air Show recently with an eye toward the indigenous jet's export potential.

Three Tejas jets and a 44-member Indian Air Force (IAF) crew were on hand in Singapore to participate in the air show, which ran from February 15-18.

"IAF will be pitching the indigenous Tejas MK-I alongside participants from across the world. The Tejas aircraft will be enthraling the audience with its display of low level aerobatics displaying its superior handling characteristics and maneuverability," the country's Defense Ministry said in a statement.



India's indigenous Tejas MK-I light combat aircraft. Photo: Indian Ministry of Defence

"The participation of Indian Air Force in the Air Show provides India with the opportunity to showcase the Tejas aircraft and to interact with counterparts from RSAF (Royal Singapore Air Force) & other participating contingents," it added.

Last February, India awarded Rs 48,000 crore (\$6.43 billion) to state-run Hindustan Aeronautics Ltd. for 83 Tejas aircraft, its largest-ever indigenous defense procurement.

The aircraft is reportedly considered a strong contender for the Malaysian Air Force. However, there has not been an official announcement to date.

About the Aircraft

The Tejas Light Combat Aircraft is an agile, single-engine, multi-purpose combat aircraft. In February 2019, after receiving final operational clearance, it became the country's first indigenous fighter.

The delta-wing jet is designed for air combat, offensive air support, reconnaissance, and anti-ship warfare.

The fourth-generation aircraft includes critical operational features such as an Electronic Warfare Suite, Active Electronically-Scanned Array Radar, and air-to-air refueling.

Capable of carrying a payload of 3.5 tons, the supersonic combat fighter can be equipped with precision-guided missiles and long-range, "over the horizon" missiles.

Tejas Mark 2

After ordering more than 100 Tejas fighters, India is developing the Tejas Mark 2, a bigger, more powerful medium fighter.

In November 2021, the IAF signed off on a comprehensive design review of the new Tejas fighter, clearing the way for the manufacture of a prototype for testing. The production of the jet is scheduled to begin in 2023.

Boost to Exports

India has been trying to boost its defense exports while prioritizing local production.

The defense ministry has set a target of Rs 1.75 lakh crore (\$25 billion) in defense manufacturing by 2025, including an export plan of Rs 35,000 crore (\$5 billion) in military supplies.

<https://www.thedefensepost.com/2022/02/21/india-tejas-singapore-air-show/>

DRDO on Twitter



22 February 2022

DRDO @DRDO_India · 53m

Celebrating Science & Tech achievements in the past 75 years DRDO will showcase defence technology at 16 cities, scientists delivering lectures at 33 locations in 11 different Indian languages as part of [#VigyanSarvatraPujyate](#)
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Transforming India through
Advancement in Defence
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DRDO is participating in
VIGYAN SARVATRA PUJYATE
 FESTIVAL OF SCoPE FOR ALL

22-28 February

Ministry of Education and 4 others

22 February 2022

DRDO @DRDO_India · 15h

Building future through science and technology - As India celebrates 75 glorious years of independence, DRDO officially announces its participation in Vigyan Sarvatra Pujyate.
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Showcasing
Science and Technology
 in **Defence**
 Research and Developments.

DRDO is participating in
VIGYAN SARVATRA PUJYATE
 FESTIVAL OF SCoPE FOR ALL

22-28 February

DRDO will be displaying
 indigenously developed tanks and missile
 at the Defence Expo Pavilion

Ministry of Education and 6 others

21 February 2022



Press Information Bureau
Government of India

Ministry of Defence

Mon, 21 Feb 2022 6:15PM

Indian Navy showcases latest indigenous acquisitions during the President's Fleet Review

The Hon'ble President and Supreme Commander of the armed forces of India, Shri Ram Nath Kovind reviewed the Indian Navy Fleet at Visakhapatnam on 21 Feb 22. With the theme '75 years in Service of the Nation,' Indian Navy showcased its latest state-of-art indigenously built combat platforms during the 12th edition of the Fleet Review which was also conducted as part of the 75th anniversary of India's Independence being celebrated as 'Azadi Ka Amrit Mahotsav'.

After a 21-Gun Salute and Ceremonial Guard of Honour, the President embarked on the Presidential yacht, INS Sumitra, an indigenously built Naval Offshore Patrol Vessel designated as the Presidential yacht. The President was received by the Hon'ble Raksha Mantri Shri Rajnath Singh and Admiral R Hari Kumar, the Chief of Naval Staff. The Yacht sailed past 44 ships from the Navy, Coast Guard, SCI and MoES lined up in four columns at anchorage off Visakhapatnam, exhibiting the nation's maritime power in full display. A spectacular flypast was conducted as a part of the static review of the Fleet. During the final stage of the review, a mobile column of warships and submarines carried out high-speed steam past alongside the Presidential yacht. Several enthralling waterfront activities by Parade of Sails, Search and Rescue Demonstration at Sea, Aerobatics by Hawk aircraft and Water Para Jumps by the elite Marine Commandos (MARCOS) held the guests mesmerised.

As the presidential yacht passed between the review columns, each ship dressed in full regalia, manned by her ship's company saluted the President with traditional "Three Jais" in a demonstration of the unconditional allegiance to the country and the Supreme Commander.

The Hon'ble President also witnessed demonstrations in the form of a composite flypast by 55 aircraft including Chetaks, ALH, Sea Kings, KAMOVs, Dorniers, IL-38SD, P8I, Hawks and MiG 29K.

Addressing the Fleet during the Review, the Hon'ble President said that the Indian Navy's constant vigil, prompt response to incidents and untiring efforts have been highly successful in ensuring Safety of the seas and of the maritime commons which are critical to our trade and energy needs. The President expressed his happiness on the Indian Navy becoming increasingly self-reliant and being at the forefront of the 'Make in India' initiative. He noted that about 70 per cent of the contents of several warships and submarines under construction in various public and private shipyards across the country are indigenous. He said that it is a matter of great pride that India has built nuclear submarines and soon we would have our indigenously built aircraft carrier, 'Vikrant', joining the service. He added that the development of indigenous naval shipbuilding capabilities is an impressive contribution to the making of an 'Aatmanirbhar Bharat'.

The Review was followed by the release of a special First Day Cover and a commemorative stamp by the Hon'ble President in the presence of Raksha Mantri Shri Rajnath Singh and Minister of State for Communication Shri Devusinh J Chauhan.



<https://pib.gov.in/PressReleasePage.aspx?PRID=1800087>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Mon, 21 Feb 2022 6:15PM

राष्ट्रपति के बेड़े की समीक्षा के दौरान भारतीय नौसेना ने स्वदेशी उपलब्धियों का प्रदर्शन किया

माननीय राष्ट्रपति और भारत के सशस्त्र बलों के सर्वोच्च कमांडर श्री राम नाथ कोविंद ने 21 फरवरी, 22 को विशाखापत्तनम में भारतीय नौसेना के बेड़े की समीक्षा की। 'राष्ट्र की सेवा में 75 वर्ष' विषय पर भारतीय नौसेना ने बेड़ा समीक्षा (फ्लीट रिव्यू) के 12वें संस्करण के दौरान स्वदेशी रूप से निर्मित अपने नवीनतम अत्याधुनिक लड़ाकू प्लेटफॉर्म का प्रदर्शन किया। इसे 'आजादी का अमृत महोत्सव' के तहत मनाए जा रहे भारत की आजादी की 75वीं वर्षगांठ के रूप में आयोजित किया गया था।

21 तोपों की सलामी और औपचारिक गार्ड ऑफ ऑनर के बाद राष्ट्रपति स्वदेश में निर्मित नौसेना अपतटीय गश्ती पोत आईएनएस सुमित्रा, जिसे राष्ट्रपति यॉट के रूप में नामित किया गया है उस पर सवार हुए। माननीय रक्षा मंत्री श्री राजनाथ सिंह और नौसेनाध्यक्ष एडमिरल आर. हरि कुमार ने राष्ट्रपति का स्वागत किया। यॉट ने नौसेना, तटरक्षक बल, एससीआई और एमओईएस के 44 जहाजों को पहले विदा किया, जो विशाखापत्तनम के लंगर में चार कॉलम में पंक्तिबद्ध थे। इस पूरे प्रदर्शन में देश की समुद्री ताकत का प्रदर्शन दिखा। बेड़े की स्थैतिक (स्थिर) निरीक्षण के तहत शानदार फ्लाइंपास्ट आयोजित किया गया। समीक्षा के अंतिम चरण में युद्धपोतों और पनडुब्बियों के एक मोबाइल कॉलम ने राष्ट्रपति की नौका के साथ हाई-स्पीड स्टीम पास्ट किया। जहाजों की परेड, समुद्र में खोज और बचाव प्रदर्शन द्वारा कई रोमांचकारी वॉटरफ्रंट गतिविधियां, हॉक एयरक्राफ्ट द्वारा एरोबेटिक्स और एलीट मरीन कमांडो (एमएआरसीओएस) द्वारा वॉटर पैरा जंप ने मेहमानों को मंत्रमुग्ध कर दिया।

राष्ट्रपति की नौका जैसे ही समीक्षा स्तंभों के बीच से गुजरी प्रत्येक जहाज ने पूरे राजसी सजावट जो अपने जहाज की कंपनी द्वारा संचालित होती है उसने देश और सर्वोच्च कमांडर के प्रति बिना शर्त निष्ठा के प्रदर्शन में पारंपरिक "तीन प्रतीकों (श्री जैस)" के साथ राष्ट्रपति को सलामी दी।

माननीय राष्ट्रपति ने चेतक, एएलएच, सी किंग्स, केएएमओवी, डोर्नियर्स, आईएल-38 एसडी, पी81, हॉक्स और मिग 29 के सहित 55 विमानों द्वारा समग्र फ्लाइंपास्ट के करतब देखे।

निरीक्षण के दौरान बेड़े को संबोधित करते हुए माननीय राष्ट्रपति ने कहा कि भारतीय नौसेना की निरंतर सतर्कता, घटनाओं पर त्वरित प्रतिक्रिया और अथक प्रयास समुद्र और समुद्री जनों की सुरक्षा सुनिश्चित

करने में अत्यधिक सफल रहे हैं जो हमारे व्यापार और ऊर्जा जरूरतों के लिए महत्वपूर्ण हैं। राष्ट्रपति ने भारतीय नौसेना के तेजी से आत्मनिर्भर होने और 'मेक इन इंडिया' पहल में सबसे आगे होने पर प्रसन्नता जताई। उन्होंने कहा कि देश भर के विभिन्न सार्वजनिक और निजी शिपयार्डों में निर्माणाधीन कई युद्धपोतों और पनडुब्बियों की लगभग 70 प्रतिशत सामग्री स्वदेशी है। उन्होंने कहा कि यह बहुत गर्व की बात है कि भारत ने परमाणु पनडुब्बियां बनाई हैं और जल्द ही हमारे पास स्वदेश निर्मित विमानवाहक पोत 'विक्रान्त' सेवा में शामिल होगा। उन्होंने कहा कि स्वदेशी नौसैनिक जहाज निर्माण क्षमताओं का विकास 'आत्मनिर्भर भारत' के निर्माण में प्रभावशाली योगदान है।

निरीक्षण के बाद माननीय राष्ट्रपति ने रक्षा मंत्री श्री राजनाथ सिंह और संचार राज्य मंत्री श्री देवसिंह जे चौहान की उपस्थिति में विशेष प्रथम दिवस कवर और स्मारक डाक टिकट जारी किया।



<https://pib.gov.in/PressReleasePage.aspx?PRID=1800138>

INDIA
TODAY

Tue, 22 Feb 2022

Northern Army commander reviews security situation in Galwan valley at eastern Ladakh

The Commander of Northern Army, Lt Gen Upendra Dwivedi, visited forward areas in Eastern Ladakh to review the security situation. It was in Galwan valley where the Indian soldiers were involved in a skirmish with the Chinese PLA.

By Manjeet Negi

New Delhi: The Commander of Northern Army, Lt Gen Upendra Dwivedi, on Monday visited forward areas in Eastern Ladakh along the Line of Actual Control to review the security situation.

He interacted with the troops and appreciated the operational response to the evolving threat matrix. It was in Galwan valley where 20 Indian soldiers taught Chinese a lesson of their lives.

Earlier in the day, Lieutenant General Upendra Dwivedi interacted and lauded women ice hockey players at NSD Stadium in Leh on the sidelines of the LG Ice Hockey Championship which commenced on February 19, 2022.

The players participating in the tournament have represented India in the Asia Challenge Cup. The Army Commander appreciated their contribution and achievement towards gaining international recognition for Ladakh in ice hockey, since the entire Indian Women's Ice Hockey Team comprises players from the Ladakh region.



Northern Army commander Lt Gen Upendra Dwivedi met the troops at Galwan valley.

The Army Commander visited the prestigious Ladakh Scouts Regimental Centre, in his capacity as Colonel of the Regiment of JAMMU and KASHMIR RIFLES and LADAKH SCOUTS.

The Army Commander paid obeisance at the Ladakh Scouts Regimental Centre War Memorial in remembrance of the gallant ‘Nunoos’ who have given the supreme sacrifice while serving the nation.

He was also briefed by Colonel Rinchen Dorje, Commandant of the Regimental Centre, on the training and various activities being undertaken by the LADAKH SCOUTS.

The Army Commander complimented the Regiment for being the flag bearers of the Indian Army in Ladakh and urged them to continue with their efforts towards nation building.

<https://www.indiatoday.in/india/story/northern-army-commander-galwan-valley-ladakh-reviews-security-situation-1916081-2022-02-22>



Tue, 22 Feb 2022

How China is using AI for warfare

The PLA has integrated AI into their mechanisation procedures to develop various forms of electronic warfare systems.

By Akshdeep Arul

Last year, China allocated USD 209 billion for its defence budget. Of late, the People’s Liberation Army (PLA) is focused on equipment more than training, personnel, and maintenance. In the 60s, only 20% of the military budget was set aside for equipment.

Over the years, the Chinese Communist Party have made military “modernisation” a priority. According to a recent report by Georgetown University’s Centre for Security and Emerging Technology (CSET), the PLA’s equipment expenditure is an understatement because the published military budget did not report many important categories. The actual military expenditure is higher than what was mentioned.

The PLA has integrated AI into their mechanisation procedures to develop various forms of electronic warfare systems.

Intelligent and autonomous vehicles

Since the launch of the Wing Loong-1 combat UAV in 2009, the PLA has been continuously developing intelligent and independent systems for aerial and marine warfare. The CSET has looked at more than 343 AI equipment contracts (PLA), out of which 35% were about intelligent or autonomous vehicles. The procurement records show the defence SOEs (state-owned enterprise) have purchased COTS (commercial-off-the-shelf) vehicles with the help of a public purchasing platform known as the Drone Network.

Meanwhile, most UAV contracts have been directed towards the airforce. CSET found that PLA units have funded research on autonomous flight and purchased “intelligentised” interference and data processing modules for UAVs. For example, the Chinese Academy of Sciences (CAS) and Shenyang Institute of Automation (SIA) are state-backed and work towards intelligent vehicle research. In 2020, the institutes were given contracts to build a “3D intelligent collision avoidance system” for China Aerospace Science and Technology (CASC) and “intelligent self-flying machinery” for PLA Air Force (PLAAF).

Predictive maintenance and logistics

Like the United States, the PLA has deployed AI for maintenance and logistics. Additionally, 11% of the 343 AI contracts was focused on maintenance, repair, logistics, or sustainment, CSET reported. Meanwhile, established PLA contractors have come up with AI-based softwares to detect leaks, fault diagnosis, and automate ordering (smart warehouses). In March 2020, the Academy of Military Sciences reached out to Anwise Global Technology to build an automated code testing platform.

Today, Anwise is China's largest intelligent equipment manufacturer that exclusively focuses on military aerospace and electronics. The company has also developed AI-based applications to create a virtual prototype library for evaluating aerospace weaponry.

Intelligence, Surveillance, and Reconnaissance

AI has the potential to disrupt military Intelligence, Surveillance, and Reconnaissance (ISR). Interestingly, one in every five PLA AI deals were around ISR. AI is widely used for geospatial imagery analysis, media analysis, and intel acquisitions.

During 2020, CASC and PLASSF sent out orders for acquiring equipment for polarised surface detection, distance measurement, and multisource data fusion systems embedded in satellites. In addition, the PLASSF has signed a deal with Beijing Uxsino Software Co to develop a geospatial information perception and intelligent analysis subsystem.

Simulation and training

Earlier, the PLA had struggled with lack of aircraft, improper training, internal issues during joint ops, and rigid organisational structure. Now PLA uses war-gaming to simulate warfare to train military officers in strategic thinking or to study the nature of potential conflicts.

The PLA has rolled out contracts for developing a proprietary AI-based war-gaming software used in military institutes and educational programmes. For example, a Chinese company called DataExa developed an AI-based war-gaming simulator known as AlphaWar, inspired by AlphaStar, a DeepMind's Starcraft-playing AI system.

Automated Target Recognition (ATR)

Industries worldwide have shifted to automation to cut costs and improve efficiency. Similarly, the PLA has stated that target recognition and fire control are the most important characteristics of modern weapons systems. However, using AI in this is relatively new and unorthodox. In 2020, the PLA and defence SOEs started distributing contracts for target detection based on synthetic aperture radar imagery, target recognition algorithms for UAVs, feature extraction, recognition algorithms, and multi-target fusion.

The PLA deploys AI-based ATR software in aerial vehicles. Today, private companies like Shandong Hie-Tech advertise ATR systems installed in UAVs. The company was asked to make "UAVs and supporting equipment" in June 2020 for PLA.

<https://analyticsindiamag.com/how-china-is-using-ai-for-warfare/>



Tue, 22 Feb 2022

Troop Comforts Ltd signs MoU with IIT Delhi to develop smart protective clothing for Indian Security Forces

New Delhi: Troop Comforts Limited (TCL), a Government of India enterprise under the Ministry of Defence with headquarter at Kanpur, on Monday signed an MoU with the country's leading research institution IIT Delhi to develop Smart Protective Clothing for the Indian Security Forces.

The TCL Group produces Troop Comfort Items for defence and paramilitary forces. The Group has four factories viz. Ordnance Equipment Factory, Kanpur, UP; Ordnance Clothing Factory, Shahjahanpur, UP; Ordnance Clothing Factory, Avadi, TN and Ordnance Equipment Factory, Hazratpur, UP.

Under the MoU, IIT Delhi and TCL will work in the area of research and development of garments and equipment for the security personnel deployed in the high-altitude areas like Siachen Glacier, clothing for protection from ballistic weapons and development of sensor fitted garments. All the four TCL factories depending upon their requirements will assign projects to IIT Delhi for research and innovation. The scope of the collaboration will cover all the new fields including application of smart textiles to defence applications, integration of artificial intelligence in Troop Comfort Items and development of futuristic infantry soldier as a system (Integration of Telecommunication & Health Monitoring Device).

Both organisations will constitute a Joint Working Group (JWG) to facilitate the initiation of the collaborative projects.

“Under the self-reliant India mission, this MoU with IIT Delhi will prove to be a milestone in the direction of making the country’s security forces empowered and modern,” said Mr. S.K. Sinha, CMD, TCL.

“IIT Delhi’s Textile and Fibre Engineering Department is well-known for innovations in the area of smart textiles. It’s privilege for us to support our security forces through this MoU with TCL,” said Prof. Sunil Kumar Khare, Dean R&D, IIT Delhi.

The TCL Group, which is undergoing transformation as per the recent policies of the government, is aiming to be complete integral solution provider for the forces’ requirements. The government-run firm is aiming to switch over from conventional items to technology driven items catering to the security forces as well as civil market.

<https://indiaeducationdiary.in/troop-comforts-ltd-signs-mou-with-iit-delhi-to-develop-smart-protective-clothing-for-indian-security-forces/>



Tue, 22 Feb 2022

India, Oman bilateral air force exercise begins in Jodhpur

The Indian Air Force said that several dignitaries will be visiting the air force station in Jodhpur during the five-day exercise

By Malavika Murali

New Delhi: The Indian Air Force (IAF) and the Royal Air Force of Oman began a five-day bilateral exercise on Monday at the Jodhpur air force station. The exercise named Eastern Bridge-VI is in its sixth edition.

”It will provide an opportunity to enhance operational capability and interoperability between the two Air Forces,” a statement from the ministry of defence said.

It also stated that participation by both the air forces in the exercise “will promote professional interaction, exchange of experiences and enhancement of operational knowledge, besides strengthening bilateral relations between the two countries”.

The IAF said that various dignitaries will be visiting the air force station in Jodhpur during the five-day exercise.

Sharing pictures on Twitter, the IAF wrote, “Enhancing operational efficiency through #Interoperability. #IAF and #RAFO contingents prepare for Exercise Eastern Bridge VI. This event will provide a platform for both Air Forces to learn best practices and operate together. #BridgesOfFriendship.”



India's fighter aircraft Sukhoi-30 and Oman's F-16s take part in the 'Eastern Bridge-VI' exercise between the Indian Air Force and Air Force of Oman at Jodhpur Air Force Station on February 21, 2022. (PTI)

The bilateral exercise comes a couple of weeks after Oman's top defence official Mohammed Nasser Al Zaabi visited India from January 30 to February 4 as part of an official visit. Zaabi had co-chaired a meeting of the Joint Military Cooperation Committee, which supposedly initiated a series of high-level defence engagements between the two countries.

Exercise Eastern Bridge V was held in October 2019 at the Air Force Base Masirah, Oman.

The IAF contingent comprised MiG-29 and C-17 aircraft. It was the first time that MIG-29 fighter aircraft participated in an International Exercise outside India.

<https://www.hindustantimes.com/india-news/india-oman-bilateral-air-force-exercise-begins-in-jodhpur-101645499542058.html>

GLOBES

Tue, 22 Feb 2022

Israel successfully tests naval version of Iron Dome

From the Israel Navy's Sa'ar 6 corvette INS Magen, Protective Dome successfully intercepted rockets, cruise missiles, and UAVs.

By Danny Zaken

The Israel Ministry of Defence - Directorate of Defense Research & Development (Mafat), the IDF, and Rafael Advanced Defense Systems Ltd., announced this morning that they had successfully completed complex trials of the Protective Dome system in a naval configuration based on an advanced version of the Iron Dome rocket defense system. The naval version was operated for the first time on the Israel Navy's Sa'ar 6 corvette INS Magen.

In the trial, various scenarios simulating existing and future threats that the system might have to deal with were tested. These included rockets, cruise missiles, and UAVs. The Ministry of Defense says that the success of the trial is an important milestone in the development of operational capabilities for protecting the State of Israel's strategic assets and vital interests against existing and future threats in the area.



The ministry also says that Protective Dome's capability is an important layer in the ability of the Israel Navy's ships to defend themselves and their zones of operation and contributes to Israel's naval superiority in the region.

Protective Dome is part of a layered air defense array that includes the Arrow and David's Sling (formerly Magic Wand) longer range systems. Rafael is the developer of Protective Dome's weapons system, while Israel Aerospace Industries, through its Elta subsidiary, is the developer of the Adir naval radar system, and mPrest is the developer of Protective Dome's command and control system.

Minister of Defense Benny Gantz said that the technology that Israel was developing in its multi-layered defense array gave it vital freedom of action against Iran's proxies in the region and the weapons at their disposal, that were steadily developing. "We continue to be two steps ahead of them, and we shall continue to upgrade our defensive and offensive capabilities to preserve Israel's regional superiority in defending its citizens and its economy."

Moshe Fattal, head of the Homa administration within the Directorate of Defense Research & Development at the Ministry of Defense, which is responsible for the rocket and missile defense systems, said, "By means of the powerful radar that was developed specially for the protection mission, the system successfully identified the threats launched at it, rockets, cruise missiles, and UAVs, and, on the high seas, fired naval Iron Dome interceptors at them, which destroyed them with perfect accuracy."

<https://en.globes.co.il/en/article-israel-successfully-tests-naval-version-of-iron-dome-1001402998>

ISRO gears up for second launch of 2022, Oceansat-3 to likely liftoff by end of March

The satellites will be launched onboard PSLV-C53, which will deploy them in orbit around Earth

New Delhi: Weeks after successfully launching Earth Observation Satellite-04, the Indian Space & Research Organisation (Isro) has set eyes on the second launch of the year. The Indian Space Agency will blast off the Polar Satellite Launch Vehicles (PSLV) with Oceansat-3 and INS-2B from Sriharikota to mark the second launch of the year.

Sources told India Today that the launch could likely be conducted by the end of March or the first week of April and could have five rideshare satellites. The satellites will be launched onboard PSLV-C53, which will deploy them in orbit around Earth. The payload is being readied in Ahmedabad and will take at least two weeks before assembling begins.

Sources added that the assembling process will take place in Bangalore before it is transported to Sriharikota for commencing launch activities. The entire process could take at least three to four weeks after which the satellites will be rolled onto the launch pad for final liftoff.

The main payload will be part of the Oceansat series of satellites used for earth observation and monitoring water bodies. The first Oceansat was launched in Polar Sun Synchronous orbit nearly 720 kilometers above Earth in 1999. The satellite carried Ocean Colour Monitor (OCM) and a Multi-frequency Scanning Microwave Radiometer (MSMR) for oceanographic studies. The satellite remained functional for 11 years in orbit till August 8, 2010.

Oceansat-2 was blasted off onboard PSLV-C14 mission in 2009 with three payloads: Ocean Colour Monitor (OCM), Ku-band Pencil Beam scatterometer (SCAT), and Radio Occultation Sounder for Atmosphere (ROSA) developed by the Italian Space Agency. Oceansat-2 had an operational lifetime of five years.

Oceansat-3 will carry forward the legacy of the series as it is launched in the Sun-Synchronous Polar Orbit. The space agency is yet to release more details about the mission. Isro chief S Somnath had earlier this year said that the Department of Space will conduct five major satellite launches in the coming three months.

After the launch of Oceansat-3, Isro will liftoff SSLV-D1 Micro SAT in April 2022. Isro will also launch GSAT-21, the first fully funded satellite by the New Space India Limited (NSIL). The communication satellite will be developed and operated by NSIL to meet the Direct to Home (DTH) application needs.

The agency opened its account in 2021 with a textbook launch of PSLV-C52 with EOS-04 and two rideshare satellites on Valentine's Day morning. The four-stage rocket lifted off with a student satellite INSPIRESat and a spacecraft dubbed INSAT-2DT that is a precursor of a joint India-Bhutan mission in the future.

<https://www.indiatoday.in/science/story/isro-pslv-c53-mission-oceansat-3-launch-date-time-s-somnath-space-mission-1915862-2022-02-21>

