

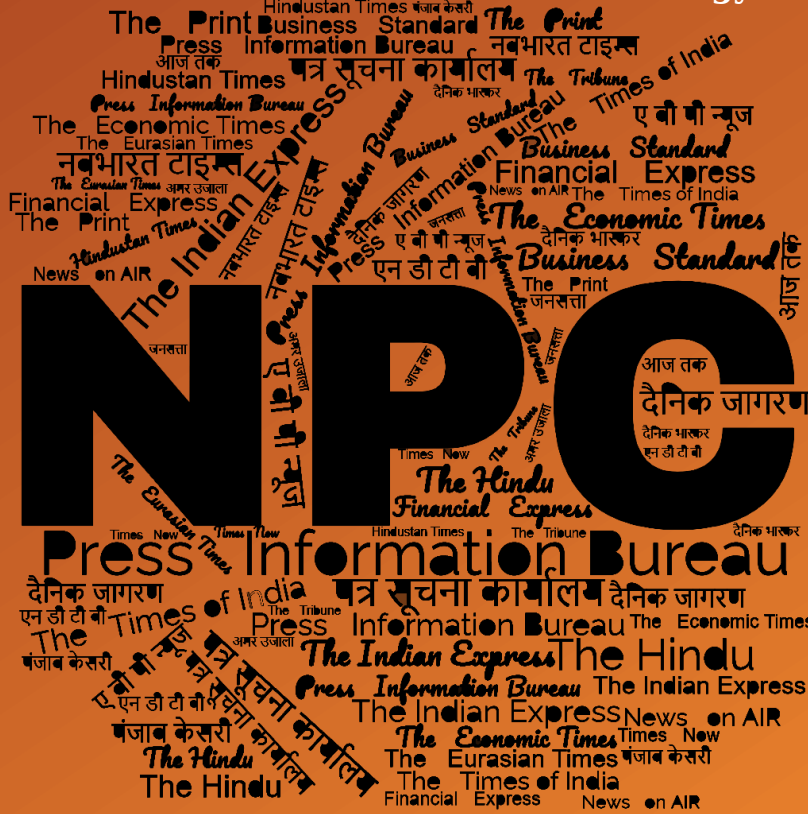
नवंबर
Nov
2023

खंड/Vol. : 48 अंक/Issue : 224
30/11/2023

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

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



रक्षा विज्ञान पुस्तकालय
Defence Science Library
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र
Defence Scientific Information & Documentation Centre
मेटकॉफ हाउस, दिल्ली - 110 054
Metcalf House, Delhi - 110 054

CONTENTS

S. No.	TITLE		Page No.
Defence News			1-7
Defence Strategic: National/International			1-7
1.	Indian Navy Operational Demonstration 2023 at Sindhudurg	<i>Press Information Bureau</i>	1
2.	Army Chief Addresses Pune Dialogue on National Security (PDNS) : 'Securing India's Economic Growth'	<i>Press Information Bureau</i>	2
3.	Indian Army Chief: Battle Space Getting Complex, Expect the Unexpected	<i>The Tribune</i>	3
4.	Create a Culture of Quality Manufacturing for India to become a Net Defence Exporter: Raksha Mantri to Indian Defence Manufacturers at DRDO Quality Conclave	<i>Press Information Bureau</i>	3
5.	US Offers Air Defence System-equipped Stryker Infantry Combat Vehicles to India	<i>India Today</i>	4
6.	Indian, Australian Armed Forces Undergo Tactical Exercises During AustraHind 2023	<i>ANI</i>	5
7.	China Holds Military Drills along Violence-hit Myanmar Border	<i>The Times of India</i>	6
Science & Technology News			7-11
8.	TASL, Satellogic to Establish Local Space Tech Capability in India	<i>The Hindu</i>	7
9.	Tripartite MoU Paves Way for Centre of Excellence (Pilot) to Foster the Geospatial Technology, Innovation and Solutions	<i>Orissadiary.com</i>	8
10.	4 Astronauts will be Trained for US-India Mission: ISRO	<i>The Times of India</i>	9
11.	NASA Head to Visit ISRO Facilities in Bengaluru to Review NISAR Spacecraft	<i>The Hindu</i>	9
12.	Top ISRO Scientist V R Lalithambika Conferred with Highest Civilian French Honour for Space Cooperation Initiatives	<i>The Indian Express</i>	10



Press Information Bureau
Government of India

Ministry of Defence

Wed, 29 Nov 2023

Indian Navy Operational Demonstration 2023 at Sindhudurg

जलमेव यस्य, बलमेव तस्य'

"The one who controls the sea is all powerful"

Indian Navy will display its operational prowess and capabilities through an 'Operational Demonstration' covering a spectrum of naval operations by the ships and aircraft at the iconic Sindhudurg Fort on the western seaboard of India on 04 December 2023. The event, hosted by Admiral R Hari Kumar, Chief of the Naval Staff, will be witnessed from the Tarkarli beach by senior Centre and State government officials, military dignitaries and the local populace. The event aims to celebrate and glorify our rich maritime history and shed the colonial practices.

Built in the year 1660 by the Maratha Ruler Chhatrapati Shivaji Maharaj, the Sindhudurg Fort boasts of India's rich maritime history and also meets the Navy's requirement to conduct an operational demonstration with its frontline assets.

Indian Navy celebrates Navy Day on 04th December to commemorate "Operation Trident" the Navy's audacious attack on Karachi harbour during the 1971 War. The Op Demo is being organised to celebrate the valour and courage of the personnel and their resolve to achieve the impossible under adverse circumstances. The event will also showcase the Indian Navy's state-of-the-art ships and aircraft to the general public and online viewers through a live telecast.

The event will witness participation of 20 warships along with 40 aircraft comprising MiG 29K and LCA Navy as major attraction along with combat beach reconnaissance and assault demo by the Marine Commandos of the Indian Navy. The other major attractions include performance by the Naval Band, continuity drill and horn pipe dance by the SCC cadets. The event will culminate with illumination of ships at anchorage followed by laser show at Sindhudurg Fort.

This is the first time that the Indian Navy will be organising a mega event which is not taking place at any major naval station. The location of the Sindhudurg Fort is 550 km from Mumbai and about 135 km from naval station at Goa. All out efforts have been made by the Navy along with the State Government and local administration to showcase these events.

Navy Day celebrations are aimed at fostering greater outreach, renewing maritime consciousness amongst our citizens and highlight the Navy's contributions towards national security.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1980717>



**Press Information Bureau
Government of India**

Ministry of Defence

Wed, 29 Nov 2023

Army Chief Addresses Pune Dialogue on National Security (PDNS) : 'Securing India's Economic Growth'

The Chief of Army Staff, Gen Manoj Pande addressed members of the Pune International Centre, Observer Research Foundation, Officers, Veterans and other distinguished guests on 27 November 2023 at Pune on the commemoration of 8th PDNS of Pune International Centre (PIC).

The Chief emphasised on inextricable link between the Nation's progress & its security needs and stressed that while economic power is the fountainhead of growth, yet it is the 'Military Strength' that lends it the ability to effect the outcomes necessary to protect & further its multifarious interests while ensuring continuous increase in its 'Comprehensive National Power'.

While deliberating upon the contours of the current & evolving geo-political landscape, the Chief of Army Staff elucidated on the need to 'Expect the Unexpected' as the battle space has become more complex, contested & lethal.

Gen Manoj Pande assured the audience that the Indian Army remains seized of the Military Implications of these dynamics. A holistic approach that incorporates implementation of proactive measures towards all aspects that impact or enhance security have been adopted for capability enhancement and ensuring requisite adaptability.

The Chief elaborated upon the Indian Army's vision to Transform into modern, agile, adaptive technology enabled and self reliant future ready force, capable to deter and win wars in a multi domain operational environment across the full spectrum of operations to protect our national interests in synergy with the other Services. Initiation of progressive changes based on four key drivers were highlighted.

- (a) Unprecedented trends in the geo strategic landscape
- (b) Limitless potential of Disruptive Technologies
- (c) Transforming character of modern Wars
- (d) Profound changes in the socio – economic domain

Capability Building: He said that as part of Force Restructuring and Optimization, the Indian Army is reviewing its organisational structures to include Rightsizing, Rationalising and Reorganising, while undertaking Modernisation and Technology Infusion to include niche technologies including 5G, AI, Quantum Lab, Internet of Military Things, Robotics, Adaptive Manufacturing and Space Assets for Satellite Communication. He also reiterated that these Capability Development endeavours stand committed to the vision of Atmanirbharta.

Nation Building : COAS emphasised that the Indian Army, while remaining resolute towards protection of the nation's territorial integrity, also contributes significantly in nation building through various endeavours. He dwelled upon the synergy with various stakeholders towards this commitment. He explained the contribution of Indian Army in Infrastructure Development, especially in far flung remote areas of the country, in synergy with National Logistic requirements. The aspect of empowerment of local communities by promoting Border Area Tourism in

collaboration with Ministry of Tourism and various other initiatives as a major stakeholder to enable, support and fructify an inclusive growth were also elucidated.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1980811>

The Tribune

Thu, 30 Nov 2023

Indian Army Chief: Battle Space Getting Complex, Expect the Unexpected

Indian Army Chief Gen Manoj Pande has said current and evolving geo-political landscape means there is need to 'expect the unexpected' as the battle space has become more complex, contested and lethal. The Ministry of Defence today said the Army Chief emphasised inextricable link between the nation's progress and its security needs and stressed economic power is the fountainhead of growth, yet it is the 'military strength' that lends it the ability to effect the outcomes necessary to protect and further national interests.

Addressing the 8th Pune Dialogue on National Security (PDNS) at the Pune International Centre (PIC), General Manoj Pande assured the audience that the Indian Army remains seized of the military implications of these dynamics. He elaborated upon the Army's vision to transform into modern, agile, adaptive technology-enabled and self-reliant future ready force, capable to deter and win wars in a multi-domain operational environment across the full spectrum of operations to protect our national interests in synergy with the other Services.

As part of force restructuring and optimisation, the Army is reviewing its organisational structures to include rightsizing rationalising and reorganising.

<https://www.tribuneindia.com/news/india/army-chief-battle-space-getting-complex-expect-the-unexpected-567206>



Press Information Bureau
Government of India

Ministry of Defence

Wed, 29 Nov 2023

Create a Culture of Quality Manufacturing for India to become a Net Defence Exporter: Raksha Mantri to Indian Defence Manufacturers at DRDO Quality Conclave

“Quality products prerequisite for competing in international market”

Need to produce high-quality, reliable & safe military systems for Armed Forces to deal with future challenges, says Shri Rajnath Singh

Raksha Mantri Shri Rajnath Singh has called upon the Indian defence manufacturers to create a culture of quality in defence production, terming it as a prerequisite to compete in the international

market. Addressing the plenary session of DRDO Quality Conclave on the theme ‘Quality Odyssey for Self Reliance in Defence Products’ in New Delhi on November 29, 2023, he stated that only quality products create global demand, and it will help in realising Prime Minister Shri Narendra Modi’s vision of making India a global manufacturing hub and a net defence exporter.

The Raksha Mantri pointed out that those countries, which manufacture quality products, export their equipment to countries across the globe. He added that due to the good quality, the prices of these platforms are quite high; but it should be kept in mind that importing countries are ready to pay even the highest prices for state-of-the-art products.

Stressing that top-quality products bring credibility to the domestic defence industry, Shri Rajnath Singh stated that manufacturing of such equipment within the country will generate increased global demand and bolster India’s reputation in the international market. He also underscored the importance of cost control while manufacturing quality defence products.

“Cost control should be given utmost importance; however it should not be at the expense of quality. We have to be globally cost competitive, but it has to be done by remaining in the top quality segment. We must move forward with this idea,” said Shri Rajnath Singh. He underscored the need to manufacture high-quality military systems which are effective, reliable & safe and can enable the Armed Forces to accomplish the missions successfully.

The Raksha Mantri also presented System for Advanced Manufacturing Assessment and Ranking (SAMAR) certificates to the representatives of qualified industries.

Speaking on the occasion, Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat reaffirmed DRDO’s commitment towards delivering quality systems. He requested all stakeholders to have firm resolve and synergise towards self-reliance in high quality indigenous military systems. Secretary, Department for Promotion of Industry and Internal Trade (DPIIT) Shri Rajesh Kumar Singh and Chairman, Quality Council of India Shri Jaxay Shah were also present.

The conclave was also attended by DRDO Director Generals, Directors, Quality heads of DRDO Laboratories, experts from industry and other stakeholders. It provided a common platform to key stakeholders in Defence domain for sharing their perspectives and deliberate for realising the dual goal of self-reliance and exports. The Conclave was held over two sessions, viz. ‘Improving self-Reliance & Quality Culture in Defence Manufacturing’ and ‘Quality Assurance in Defence & Aerospace’. Experts from Industry, Government Quality Assurance Agencies and User Services gave their perspectives during the conclave sessions.

The conclave provided an opportunity for stakeholders to network with experts to create an ecosystem in the country for producing high quality indigenous systems, implementation of standards, policies and global best practices. The participants brainstormed on various aspects of quality for the defence manufacturing revolution in India for an ‘Aatmanirbhar Bharat’.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1980696>



Thu, 30 Nov 2023

US Offers Air Defence System-equipped Stryker Infantry Combat Vehicles to India

America has offered to produce the air defence system equipped with Stryker infantry combat vehicles for India. Sources told India Today TV that the Government of India is studying the offer

made by the US government for these vehicles with air defence systems mounted on them for high-altitude area operations.

This is not the first time that the US has made the push for the sale of Stryker systems to India. These vehicles were offered to India again in the two plus two meetings of the two countries in November's second week. The timing of the US proposal aligns with other strides by the Indian defence industry in developing armoured combat vehicles.

The Wheeled Armoured Platform, a product of collaboration between the Defence Research and Development Organisation (DRDO) and private sectors, stands as a testament to the country's defence progress. Some of these armoured platforms have already been deployed in forward areas like the Ladakh sector, aiding quick responses to emergency situations along the China border.

Private Indian firms, including Bharat Forge and Tata, have also contributed to the deployment of defence forces in forward areas.

<https://www.indiatoday.in/india/story/us-offers-air-defence-system-equipped-stryker-infantry-combat-vehicles-to-india-2469243-2023-11-30>



Wed, 29 Nov 2023

Indian, Australian Armed Forces Undergo Tactical Exercises During AustraHind 2023

Indian and Australian armed forces on Wednesday underwent tactical exercises in multi-domain operations in urban and semi-urban terrain during the Joint Military Exercise AustraHind 2023 in Australia.

"The troops from Armed Forces of #India & #Australia undergoing tactical exercises in multi-domain operations in Urban & Semi-Urban terrain during the Joint Military Exercise #AustraHind_2023 in #Australia," the Indian Army wrote on 'X'.

The Indian Armed Forces contingent, comprising 81 personnel, recently departed for Australia to participate in the second edition of joint military Exercise 'AustraHind-23', the Ministry of Defence stated in a press release.

The exercise is being conducted in Western Australia's Perth from November 22 to December 6. The Indian Army contingent comprises 60 personnel from a battalion of the Gorkha Rifles.

One officer from the Indian Navy and 20 personnel from the Indian Air Force are also participating in the exercise.

The Australian Army contingent comprises 60 personnel from the 13th Brigade.

The Australian contingent also includes 20 personnel each from the Royal Australian Navy and Royal Australian Air Force, according to an official release by the Ministry of Defence (MoD).

The aim of the exercise is to foster collaborative partnership and share best practices between the two nations, the MoD stated in the release, adding that the joint drills will also promote interoperability while undertaking multi-domain operations in urban and semi-urban terrain under Chapter VII of the United Nations on peacekeeping operations.

"The joint exercise will promote an exchange of ideas and jointly rehearse tactics, technique and procedures for conducting tactical operations. Training curriculum also includes sniper firing, and

jointly operating surveillance and communication equipment to achieve a high degree of situational awareness," the MoD release stated.

"The exercise will also help in promoting understanding between the two militaries and further strengthen the defence cooperation between the two friendly nations," it added.

The exercise will help in promoting understanding between the militaries of India and Australia while also strengthening defence cooperation between the two nations, the release stated.

Further, in its release, the Ministry of Defence noted, "Exercise AUSTRAHIND was instituted in 2022 and the first edition was conducted in Mahajan, Rajasthan. It is planned to be an annual training event to be conducted alternatively in India and Australia."

<https://www.aninews.in/news/world/others/indian-australian-armed-forces-undergo-tactical-exercises-during-austrahind-202320231129202909/>

THE TIMES OF INDIA

Wed, 29 Nov 2023

China Holds Military Drills along Violence-hit Myanmar Border

China began military exercises along its border with Myanmar on Saturday and urged its citizens to leave the north of that country, which has been beset by fighting since last month.

Clashes have intensified in large areas of Myanmar's northern Shan state, close to the Chinese border, forcing more than 80,000 people to leave their homes, according to the United Nations.

An armed alliance of ethnic minority groups in October launched a major offensive against the army in regions close to the Chinese border, displacing more than 332,000 people, the United Nations has said.

The groups have seized dozens of military positions and a town that is important for trade with China.

Against this backdrop, the Chinese army has launched "combat training activities" along the border with Myanmar, Beijing's Southern Theatre Command said Saturday in a statement that did not specify the duration of the exercises or the number of soldiers involved.

The aim of the drills is to "test the ability of troops... to control and close borders and to strike with firepower", the army said, adding that it was "ready to respond to all kinds of emergencies".

Beijing informed Myanmar's ruling junta about the exercises, junta spokesman Zaw Min Tun said Saturday, adding the military would "cooperate with China to work for peace and border stability".

On Friday, state-owned Myanmar media reported that the military's opponents had used drones to drop bombs on vehicles in Muse, a border town opposite China's Ruili city.

The attack, which took place on Thursday, destroyed 120 vehicles "carrying household goods, consumer goods, clothing and construction materials", according to the Global New Light of Myanmar.

A significant proportion of Myanmar's trade with China transits through this region.

The blockage of the trade route has dented the junta's finances, compounding the economic problems the military has faced since the 2021 coup.

China called on Friday for its citizens to leave northern Myanmar "as soon as possible" and to stay away from the fighting.

<https://timesofindia.indiatimes.com/world/china/china-holds-military-drills-along-violence-hit-myanmar-border/articleshow/105494576.cms>

Science & Technology News



Wed, 29 Nov 2023

TASL, Satellogic to Establish Local Space Tech Capability in India

Tata Advanced Systems Ltd. (TASL), an Indian private sector player for aerospace and defence solutions, and Satellogic Inc., a leader in sub-metre resolution Earth Observation (EO) data collection, have announced their collaboration for establishing and developing local space technology capabilities in India.

This collaboration is a first step in TASL's satellite strategy and a significant milestone for Satellogic as it enters the fast-growing Indian defence and commercial market, the companies said in a statement.

"The project will commence with comprehensive training, knowledge transfer, and local assembly of optical sub-metre resolution EO satellites, the first of which is planned to be launched as TSAT-1A," the statement said.

"The focus will be on manufacturing satellites and developing imagery in India for national defence and commercial applications, toward which TASL is commissioning a satellite AIT plant at its Vemagal facility in Karnataka," the statement added.

Sukaran Singh, Chief Executive Officer and Managing Director, TASL, said, "Space is important to TASL not just as a business but also due to its culture of precision that will help other activities in TASL."

"Additionally, TASL will also work with local SMEs for payloads and other technologies to bolster India content," he added.

TASL and Satellogic will collaborate on the development of a new satellite design and work together to integrate multiple payloads on a single satellite that will generate a diverse range of data over India, the companies said.

"This collaboration will accelerate space capacity building for one of the largest nations in the world with the goal of enabling the advancement of commercial space capabilities and greater access to critical information for a range of applications such as security, sustainability, and energy," said Emiliano Kargieman, Chief Executive Officer and Founder at Satellogic.

"It's a great example of what's possible via the Satellogic Space Systems programme," he added.

<https://www.thehindu.com/business/tasl-satellogic-to-establish-local-space-tech-capability-in-india/article67587765.ece>

Wed, 29 Nov 2023

Tripartite MoU Paves Way for Centre of Excellence (Pilot) to Foster the Geospatial Technology, Innovation and Solutions

India will soon have a Centre of excellence to foster the Geospatial Innovation & Research and to cater to emerging technology solution requirements of the Geospatial domain in the country.

A tripartite MoU was signed between National Geospatial Programme- DST, National Institute of Geo-informatics Science & Technology (NIGST), Survey of India, and IIT Tirupati Navishkār I-Hub Foundation on November 28, 2023, to establish this Centre of excellence- a Pilot.

The Geospatial Innovation & Research Centre of Excellence (CoE) as a pilot aims to cater for the emerging technology solution requirements of the Geospatial domain in the country. The centre would support and encourage innovative geospatial technology-based start-ups, industries, Public Sector Undertakings (PSUs) that have an application and impact in the core sectors of the economy.

Professor Abhay Karandikar, Secretary, DST highlighted that this is perhaps the first step in the direction of implementing some aspects of the National Geospatial Policy. “After liberalising the Geospatial Guidelines and bringing in the Policy, we are in the process of reforming the Survey of India. There is a plan to set up a geospatial data exchange. Incubators will also be set up to work both on developing the geospatial technology as well as support startups that can focus on applications,” he added.

Professor Karandikar pointed out that geospatial data science is an emerging interdisciplinary field which includes geospatial engineering, computer science and information technology. He also added that setting up focused incubators and carrying out capacity building through dedicated CoE will translate to implementation of the recommendations of the geospatial data policy.

“Using data science and AI model, this whole concept of World Wide Web (WWW) may change in next 10 years and may centre around geospatial platform, through which we can get both contextual and location-based information by combining AI and machine learning in linear fashion for future searches,” Prof Karandikar said.

Dr. K.N Satyanarayana, Director, IIT Tirupathi, briefed about the Technology Innovation Hub (TIH) developed under NM-ICPS and said that the TIH has four major activities – technology development, capacity building, creating startup ecosystem and international cooperation, focusing on these new areas.

Sh. Hitesh Kumar S. Makwana, Surveyor General of India, said that the MoU was prepared in consultation of all stakeholders. “We are careful about the challenges and accordingly we need an action plan for all these challenges, which would require full cooperation from all stakeholders,” he added.

Shri Sunil Kumar, Joint Secretary (Geospatial), DST along with officials from DST, SOI and IIT Tirupathi also attended the event.

DST will work in synergy with existing technology innovation hubs as well as experts/institutions to leverage each other’s strengths as well as the power of collaboration to produce synergistic

outcomes in innovation. This would ensure that there is a dynamic functional model where technologies being focused are driven by market demands.

<https://orissadiary.com/tripartite-mou-paves-way-for-centre-of-excellence-pilot-to-foster-the-geospatial-technology-innovation-and-solutions/>

THE TIMES OF INDIA

Thu, 30 Nov 2023

4 Astronauts will be Trained for US-India Mission: ISRO

Four Indian astronauts would be trained for an India-US joint space mission and one of them would travel to the International Space Station next year, Isro chairman S Somanath said on Wednesday, adding: "All four will get overseas training and two shortlisted astronauts will undergo training at Nasa."

On Tuesday, Nasa chief Bill Nelson, while lauding Chandrayaan-3, had said the US will help train Indian astronauts.

<https://timesofindia.indiatimes.com/india/4-astronauts-will-be-trained-for-us-india-mission-isro/articleshow/105603935.cms>

THE HINDU

Wed, 29 Nov 2023

NASA Head to Visit ISRO Facilities in Bengaluru to Review NISAR Spacecraft

NASA administrator Bill Nelson will visit the ISRO facilities in Bengaluru on November 30 to review the ongoing work on the NISAR spacecraft, a joint Earth-observing mission of NASA and ISRO.

"I will join Rakesh [former Indian astronaut Wing Commander Rakesh Sharma (retd)] tomorrow. We will both see NISAR together. I am looking forward to this visit. There are two radars on the NISAR in two different bands, one is built by India and the other by the U.S.," Mr. Nelson told reporters here on Wednesday.

NISAR — short for NASA ISRO Synthetic Aperture Radar — is undergoing testing and integration at ISRO facilities in Bengaluru prior to its launch early next year from the Satish Dhawan Space Centre at Sriharikota onboard ISRO's GSLV Mark-II launch vehicle.

NISAR carries L and S dual-band Synthetic Aperture Radar (SAR), which operates with the Sweep SAR technique to achieve large swaths with high-resolution data.

While NASA's Jet Propulsion Laboratory is providing the mission's L-band SAR, ISRO's U.R. Rao Satellite Centre in Bengaluru is providing the spacecraft bus, the S-band SAR electronics, the launch vehicle, and associated launch services and satellite mission operations.

Earlier in the day, Mr. Nelson along with Wing Commander Sharma interacted with students during an event entitled 'Reaching for the Stars : A Conversation with NASA and ISRO'.

During the interaction, Mr. Nelson said space unifies rivals both internationally and domestically.

“We, jointly with the Russians, operate the International Space Station. We built the space station together in 1998 and we are going to continue it till 2030. The unity is obvious. The future international missions that are going to the moon are another example, so space unifies. Space even unifies in our domestic politics, in America, there is such a deep division between Republicans and Democrats but when it comes to space they all come together in agreement,” Mr. Nelson said.

Recalling his time when he was part of the Space Shuttle Columbia, mission STS-61C in 1986, he said, “When I looked back at Earth, I saw something different from what I felt every day. When I looked I did not see racial division, I did not see religious division, and did not see political division. What I saw is that we are all in this together, we are all citizens of planet Earth.

<https://www.thehindu.com/news/cities/bangalore/nasa-head-to-visit-isro-facilities-in-bengaluru-to-review-nisar-spacecraft/article67587384.ece>



Thu, 30 Nov 2023

Top ISRO Scientist V R Lalithambika Conferred with Highest Civilian French Honour for Space Cooperation Initiatives

A distinguished scientist at the Indian Space Research Organisation, whose interest in space programmes was triggered by the sounding rocket launches by the ISRO she had viewed as a child with her grandfather was on Wednesday conferred with a top French civilian honour.

Lalithambika VR, 60, was conferred the ‘Légion d’Honneur’ for her engagement in space cooperation between France and India by the Ambassador of France to India, Thierry Mathou in Bengaluru on Wednesday.

The scientist, who was the director of the Human Spaceflight Programme at the ISRO, has been recognised by France for her role in the signing of the first joint agreement for cooperation between the French National Space Agency CNES and the ISRO on human spaceflight in 2018 where the two agencies agreed to work in the area of space medicine.

Lalithambika is also credited for coordinating another Indo-French agreement on the Indian astronaut programme in 2021. Under this agreement, the CNES will train India’s flight physicians and the CAPCOM mission control teams for human spaceflights in France at the CADMOS centre for the development of microgravity applications and space operations at the CNES in Toulouse and at the European Astronaut Centre (EAC) in Cologne, Germany.

“I am delighted to confer the Chevalier of the Légion d’Honneur on Dr VR Lalithambika, a distinguished scientist and a trailblazer in space technology. Her expertise, accomplishments and tireless efforts have scripted a new ambitious chapter in the long history of the Indo-French space partnership,” Mathou said.

Lalithambika is the second ISRO scientist after former ISRO chairman A S Kiran Kumar to be awarded the Legion d’Honneur of France for promoting Indo-French space cooperation. Kumar was awarded the honour in 2019.

“I sincerely hope that this honour being bestowed on me will spur more and more women to take up STEM careers and to excel in their chosen fields,” Lalithambika said.

“Lalithambika is an inspiration to the next generation of scientists not only in Toulouse but also in India, where she promoted inclusivity by enabling the recruitment of civilians, including women, to participate in the future of the Indian astronaut programme,” the French embassy in India said in a statement.

The Légion d’Honneur (the Legion of Honour) is the highest civilian award given by the French Republic for outstanding service to France irrespective of nationalities. It has been in existence for over 200 years since it was created in 1802 by Napoleon Bonaparte.

Lalithambika, who grew up and studied in Kerala, developed her early interest in the space programme by watching the sounding rocket launches from Thumba near her hometown with her grandfather M N Ramakrishnan Pillai, a mathematician.

A Class 10 topper for southern Kerala, she is an electrical engineer from the College of Engineering, Trivandrum and a second rank winner in the University of Kerala. She obtained an MTech at COE and a PhD in electrical engineering from the University of Kerala (2009).

Lalithambika joined ISRO’s Vikram Sarabhai Space Center in 1988 as a launch vehicle autopilot design engineer and “subsequently expanded her sphere of activity and responsibility to include the entire gamut of design and validation activities and flight telemetry data management for ISRO launch vehicle missions”.

She was the first director of the directorate of the human space programme at the ISRO in 2018.

“Her efforts were instrumental in the wayforward for the human spaceflight programme, Gaganyaan, and in the establishment of a human spaceflight center. Her contributions include evolving crew selection criteria, training curriculum and enabling the selection of Indian astronaut trainees,” according to an ISRO profile of the distinguished scientist.

“She has designed the autopilot for the PSLV, the GSLV, the GSLV Mk III and later, led the team in developing guidance and autopilot systems, flight software and validation of navigation, guidance and control systems for all ISRO ascent and re-entry missions,” the ISRO said.

<https://indianexpress.com/article/cities/bangalore/isro-scientist-vr-lalithambika-highest-civilian-french-honour-9047633/>

