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समाचार पत्रों से चयनित 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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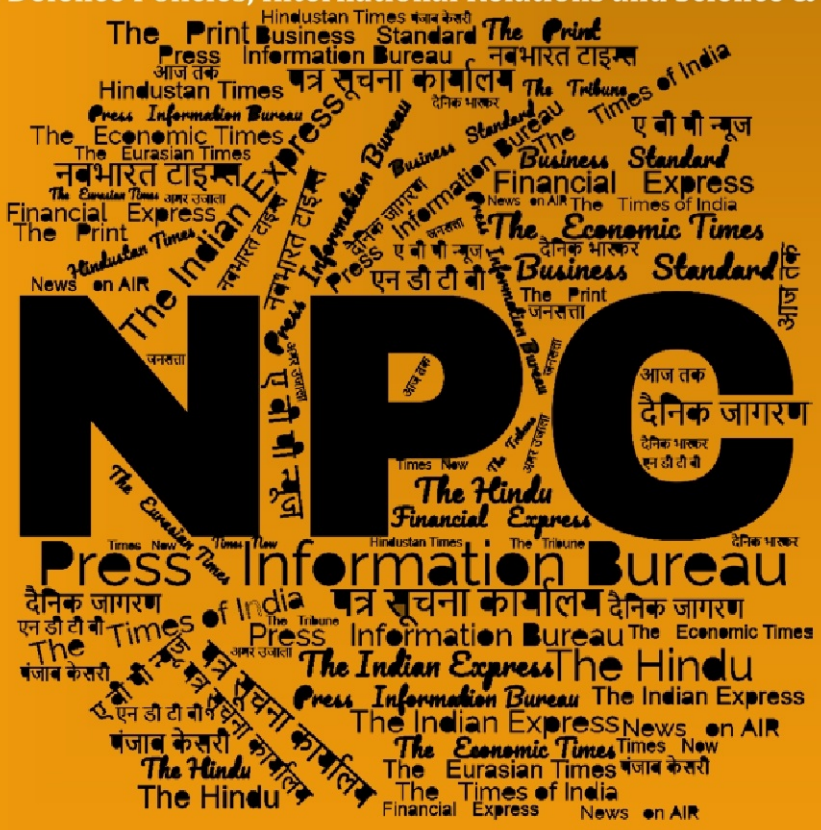

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DRDO News

DRDO releases redefined and augmented Research Verticals & Thrust Areas across DIA-CoEs to streamline and enhance research

Source: Press Information Bureau, Dt. 07 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2100569

Directorate of Futuristic Technology Management (DFTM) at Defence Research and Development Organisation (DRDO) HQs in New Delhi on February 07, 2025 released the redefined and augmented Research Verticals & Thrust Areas across DRDO Industry Academia – Centres of Excellence (DIA-CoEs) to streamline and enhance the focus of Directed Research. The realignment and augmentation of research areas include future technology requirements of DRDO laboratories and deep technology research areas. The existing 65 Research Verticals distributed across 15 DIA-CoEs have been redesigned into 82 Research Verticals. This important development is part of a strategic effort to refine the DIA-CoEs' research focus and introduce cutting-edge deep technology research areas to strengthen the overall research outcomes.

Some of the new areas added to the bouquet of research verticals are 'Compound Semiconductor Technologies' at IITB, 'Laser Beam Combining based Communication, Power Transmission & Manufacturing and Extraction & Recycling of Materials' at IITH, 'Software Defined Radios' at IITK, 'Emerging RF Technologies' at IITR and 'Cryptography and Information Security' at IITKgp and many more.

The new realignment is expected to encourage stronger interdisciplinary, multi-institutional research collaboration engaging Industry & academia, minimise duplicative efforts, and maximise resource utilisation across the institutions. Additionally, it will also ensure that DIA-CoEs contribute meaningfully to address DRDO's future technology challenges and shaping the future of defence technology.

For more information about newly identified Research Verticals and Thrust Areas of DIA-CoEs please visit: https://www.drdo.gov.in/drdo/adv-tech-center

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DRDO to display 5th gen AMCA model at Aero India

Source: The Hindu BusinessLine, Dt. 09 Feb 2025,
URL: https://www.thehindubusinessline.com/economy/logistics/drdo-to-display-5th-gen-amca-model-at-aero-india/article69198918.ece

For the first time full scale model of Advanced Medium Combat Aircraft (AMCA), a twin-engine 5th generation stealth fighter aircraft conceptualised and designed by DRDO' Aeronautical Development Agency (ADA), will be displayed at five-day long Aero India show.

The aircraft is likely to be inducted into Indian Air Force by 2035 after completion of trials.

On March 7, 2024, the Cabinet Committee on Security had cleared the AMCA project that is slated to cost ₹15,000 crores.

ADA is demonstrating the full scale engineering model in Aero India - India Pavilion to showcase the air prowess and technological advancements in the country.

Design iterations, as per the DRDO, are part of the development cycle.

“The present model being displayed is contemporary as of today and will be evolved during the development. This practice is followed across the globe by any combat aircraft design house,” DRDO sources said.

Only a few countries like US, Russia and China have 5th generation fighter aircraft.

AMCA is one of the most advanced 5th generation fighter and ADA is working on development of key 5th generation technologies like AI powered Electronic Pilot, Netcentric Warfare Systems, Integrated Vehicle Health Management, and Internal weapon Bay, DRDO officials said.

The AI powered Electronic Pilot comprises with multi sensor data fusion to enhance situational awareness, pilot decision support system, automatic target identification system, combined vision system for navigation in poor visibility, and manned and unmanned teaming, the DRDO officials narrated.

The implementation of AI based technologies in AMCA will force multiply the operational capabilities making AMCA as one of the most advanced 5th generation fighter aircraft among the contemporary aircraft.

The use of AI in AMCA will force multiply the ADA in progressing the development activities.

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Defence News

Defence Strategic: National/International

15th edition of Biennial Aero-India International Seminar begins in Bengaluru

Source: Press Information Bureau, Dt. 08 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101004

The 15th edition of the Biennial Aero-India International Seminar commenced in Bengaluru, Karnataka on February 08, 2025. The two-day seminar has been organised by the Centre for

Military Airworthiness & Certification (CEMILAC) of Defence Research and Development Organisation (DRDO) in association with the Aeronautical Society of India (AeSI) as a prelude to Aero India 2025, which will be held in Bengaluru from February 10 to 14, 2025.

The seminar is a premier event in the global aerospace arena. The theme this year is 'Futuristic Aerospace Technologies: Challenges in Design Validation', highlighting discussions and deliberations on Emerging Trends in Futuristic Aerospace Technologies and Military Airworthiness & Certification: Challenges in Design and Testing.

International delegates attending the event are from prominent foreign companies like Airbus Defence and Space from Spain; Collins Aerospace, GE Aerospace, Martin-Baker, MBDA and Rolls-Royce from UK, Rafael Advanced Defense Systems from Israel, and SAFRAN France. Indian Industry participating in the seminar includes Abeyaantrix Solutions, Ansys Inc., Globals Inc., JSR Dynamics Pvt. Ltd, RAPHE mPhibr, and TAQBit Labs Private Limited.

The seminar offers a platform to explore collaborative research opportunities and forge strategic partnerships, advancing the future of aerospace and defence technologies. A total of 12 technical sessions covering various topics on Challenges in Design Validation on Futuristic Aerospace Technologies are scheduled. The seminar on 'Futuristic Aerospace Technologies: Challenges in Design Validation' focuses on various topics such as Cutting-Edge Technologies for System Design and Validation, Innovative Approaches for Airworthiness & Certification, Leveraging Artificial Intelligence to enhance Future of Aviation, Pioneering Advancements in Electronics and Sensing Technology, Global Insights into Next–Gen Propulsion Systems, Emerging Trends in Military Aviation, Innovations driving Human Missions beyond Earth.

Secretary, Department of Space and Chairman ISRO Dr V Narayanan was the Chief Guest of the event, while Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat was the Guest of Honour. President, AeSI Dr G Satheesh Reddy was also present on the occasion. About 1,100 delegates are participating from DRDO, Defence PSUs, Armed Forces and Private Industries, including MSMEs. Further, 33 speakers from both India and abroad will deliver technical talks on a range of topics in the domain.

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Aero India 2025

Source: Press Information Bureau, Dt. 08 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2100966

Introduction

Aero India, Asia's Largest Air Show, is a biennial air show and aviation exhibition which is held in Bengaluru, organized by the Defence Exhibition Organisation, Department of Defence Production, Ministry of Defence. Aero India is India's premier aerospace and defence exhibition where global aero vendors and the Indian Air Force (IAF) thrill the spectators with back-to-back aerobatic flying displays. It is a flagship event that brings together global industry leaders, government officials, technology experts, and defence strategists under one roof. The event not only showcases the

nation's technological prowess and innovations but also provides a dynamic platform for international cooperation and strategic dialogue.

The Legacy and Importance of Aero India

Aero India has evolved into a major international event that not only highlights the latest advancements in aerospace technology but also serves as a critical forum for strategic interactions between domestic and international stakeholders. The show is a reflection of the nation's commitment to advancing its aerospace and defence capabilities. Over the years, Aero India has been instrumental in:

Showcasing Cutting-Edge Technologies: The event regularly features demonstrations of state-of-the-art aerospace systems, innovative defence solutions, and breakthrough technologies that are shaping the future of air and space travel.

Fostering Strategic Dialogues: Through high-level interactions, Aero India has provided an arena for discussions on policy, defence collaborations, and the future roadmap of the aerospace sector.

Enhancing International Partnerships: With participation from global aerospace giants and defence agencies, the show underscores India's growing stature as a key player in the international aerospace community.

This legacy has not only paved the way for the current editions of the event but has also set a high benchmark for the future. Aero India is more than an exhibition—it is a convergence point of innovation, strategy, and national pride.

Aero India 2025

Aero India 2025, the 15th edition of Aero India, is designed to be a landmark edition that leverages the successes of its predecessors while charting new territories in aerospace and defence technology. Aero India 2025 will be held from 10th to 14th February 2025 at Yelahanka Air Force Station, Bengaluru, Karnataka, India. The first three days are dedicated to business visitors, while the last two days are open to the general public.

The broad theme is 'The Runway to a Billion Opportunities'.

Events at Aero India 2025

The five-day event comprises a curtain raiser event, inaugural event, Defence Ministers' Conclave, CEOs' Round-Table, iDEX start-up event, breath-taking air shows, a large exhibition area comprising India Pavilion and a trade fair of aerospace companies.

- To facilitate dialogue towards strategic partnership with friendly countries, India will host the Defence Ministers' Conclave on the theme 'BRIDGE -Building Resilience through International Defence and Global Engagement'. It encapsulates the dynamic geopolitical conditions and the path to mutual prosperity, which can be BRIDGED through cooperation among nations with shared vision of security and development.
- A number of bilateral meetings are planned at the levels of Raksha Mantri, Raksha Rajya Mantri, Chief of Defence Staff and Secretary among others on the sidelines of the event.

The focus will be on bolstering the defence and aerospace ties with friendly countries by exploring newer avenues to take the partnership to the next level.

- The CEOs' Round-Table is expected to provide a favourable platform to foreign Original Equipment Manufacturers (OEMs) for manufacturing in India. Global CEOs, CMDs of domestic PSUs and premier private defence & aerospace manufacturing companies from India will be participating in the event.
- The India Pavilion will showcase India's commitment to its Make-in-India initiative by showcasing indigenous defence manufacturing capabilities and cutting-edge technologies ready for the global stage, including the future prospects. Promotion of Indian start-ups is a focus area at Aero India 2025 and a wide spectrum of state-of-the-art technologies/products developed by them will be showcased at an exclusive iDEX pavilion.
- In addition, dynamic aerobatic displays and live technology demonstrations will provide an immersive experience, showcasing the potential of modern aerospace platforms and technologies. A number of seminars on various important themes are also planned as part of the event.

Aero India 2023: A Retrospective Analysis

The previous editions of Aero India played a critical role in laying the groundwork for the continued evolution of India's aerospace and defence landscape. The 14th edition of Aero India 2023 was held from 13th–17th February at Bengaluru, Karnataka and has been the largest ever edition since its inception in 1996 with more than 100 countries, 809 exhibitors, first ever Fly past with 53 aircrafts showcasing our airpower to global attendees and a total footfall of 7+ lakh visitors over five days. Aero India 2023 was characterized by a series of significant milestones and impactful demonstrations. Key aspects of the 2023 edition were:

- Showcasing Advanced Aerospace Technologies: The 2023 event provided a platform for companies to display state-of-the-art aerospace systems and defence solutions. This not only demonstrated technological innovation but also set the stage for future advancements in the field.
- Facilitating Strategic Engagements: Aero India 2023 was instrumental in bringing together a diverse group of stakeholders, including government officials, industry experts, and international delegations. The event fostered an environment of strategic dialogue that focused on collaborative ventures and technological partnerships.
- Strengthening India's Global Position: By successfully hosting a comprehensive and well-coordinated exhibition, Aero India 2023 reinforced India's commitment to advancing its aerospace capabilities. The show also underscored the country's readiness to engage with global partners in driving forward the next wave of aerospace innovation.

The successes and challenges of Aero India 2023 have provided valuable lessons that are being incorporated into the planning and execution of Aero India 2025. The focus on operational excellence, international collaboration, and technological innovation—elements that were prominently on display in 2023—serve as the cornerstone for the upcoming edition. The forward

momentum generated by the previous edition is expected to translate into even greater achievements in 2025, with enhanced protocols, refined strategies, and an expanded global participation footprint.

Events at Aero India 2023

The event comprised of a Defence Ministers' Conclave; a CEOs Round Table; Manthan start-up event; Bandhan ceremony; breath-taking air shows; a large exhibition; India Pavilion and a trade fair of aerospace companies.

Major exhibitors & equipment

The major exhibitors included Airbus, Boeing, Dassault Aviation, Lockheed Martin, Israel Aerospace Industry, BrahMos Aerospace, Army Aviation, HC Robotics, SAAB, Safran, Rolls Royce, Larsen & Toubro, Bharat Forge Limited, Hindustan Aeronautics Limited (HAL), Bharat Electronics Limited (BEL), Bharat Dynamics Limited (BDL) and BEML Limited.

Aero India 2023 showcased design leadership and growth in UAVs Sector, Defence Space and futuristic technologies. The event aimed to promote export of indigenous air platforms like Light Combat Aircraft (LCA)-Tejas, HTT-40, Dornier Light Utility Helicopter (LUH), Light Combat Helicopter (LCH) and Advanced Light Helicopter (ALH).

Defence Ministers' Conclave

Defence Ministers' Conclave was held on 14th February 2023. Defence Ministers of friendly foreign countries participated in the meeting, which was organised on the theme 'Shared Prosperity through Enhanced Engagements in Defence (SPEED)'. The conclave addressed aspects related to deepen cooperation for capacity building (through investments, R&D, joint venture, co-development, co-production and provisioning of defence equipment), training, space, Artificial Intelligence (AI) and maritime security to grow together. The conclave was an opportunity for the defence ministers to engage with each other to carry forward the 'Make in India, Make for the World' vision.

Bilateral meetings

On the sidelines of Aero India 2023, a number of bilateral meetings were held at the levels of Raksha Mantri, Raksha Rajya Mantri, Chief of Defence Staff and Defence Secretary among others. The focus was on bolstering the defence & aerospace ties with friendly countries by exploring newer avenues to take the partnership to the next level.

CEOs Round Table

The 'CEOs Round Table', under the chairmanship of the Raksha Mantri, was held on 13th February 2023, on the theme 'Sky is not the limit: opportunities beyond boundaries.' It laid the foundation of a more robust interaction between the Industry Partners and Government with an eye on bolstering the 'Make in India' campaign.

The Round Table witnessed participation from officials, delegates and global CEOs from 26 countries including global investors such as Boeing, Lockheed, Israel Aerospace Industries, General Atomics, Liebherr Group, Raytheon Technologies, Safran, General Authority of Military

Industries (GAMI) etc. Domestic PSUs like HAL, BEL, BDL, BEML Limited and Mishra Dhatu Nigam Limited also participated.

Bandhan ceremony

The Bandhan ceremony, which witnessed signing of Memoranda of Understanding (MoUs)/Agreements, Transfer of Technologies, Product Launches and other major announcements, was held on February 15th. A concerted effort was made towards forging B2B partnerships at the Bandhan ceremony and more than 250 such partnerships with a total value of more than Rs 75,000 crore have been finalized.

Manthan

The annual defence innovation event, Manthan, was the flagship technology showcase event held on 15th February. Organised by Innovations for Defence Excellence (iDEX), the Manthan platform will bring the leading innovators, start-ups, MSMEs, incubators, academia and Investors from defence & aerospace ecosystem under one roof.

Manthan had many firsts, including launch of challenges on Cyber Security, establishment of iDEX Investor Hub, MoUs with investors etc. Manthan 2023 provided an overview on the future vision/next initiatives of iDEX to galvanise the start-up ecosystem to foster innovation and technology development in the defence sector.

India Pavilion

The India Pavilion, based on ‘Fixed Wing Platform’ theme, showcased India’s growth in the area, including the future prospects. There was a total of 115 companies, displaying 227 products. It further showcased the growth of India in developing an ecosystem for Fixed Wing platform which includes the demonstration of various structural modules, simulators, systems (LRUs) etc. of LCA-Tejas aircraft being produced by Private Partners. There was also be a section for Defence space, New Technologies and a UAV section which will give an insight about the growth of India in each sector.

A full scale LCA-Tejas aircraft in Full Operational Capability (FOC) configuration was at the center stage of India Pavilion. LCA Tejas is a single engine, light weight, highly agile, multi-role supersonic fighter. It has quadruplex digital fly-by-wire Flight Control System (FCS) with associated advanced flight control laws. The aircraft with delta wing is designed for ‘air combat’ and ‘offensive air support’ with ‘reconnaissance’ and ‘anti-ship’ as its secondary roles.

Seminars

A number of seminars were held during the five-day event. The themes included Harnessing Potential of Ex-servicemen for Indian Defence Industry; India’s Defence Space Initiative: Opportunities for shaping Indian private space ecosystem; Indigenous development of futuristic aerospace technologies, including aero engines; Destination Karnataka: US-India defence cooperation innovation and Make in India; Advancement in maritime surveillance equipment and assets; sustenance in MRO and Obsolescence Mitigation and achieving excellence in defence grade drones and Aatmanirbharta in Aero Armament Sustenance.

Major Agreements at Aero India 2023

- MoU between Hindustan Aeronautics Limited and Safran Helicopter Engines, France for Work Share for formation of Joint venture for Design, Development, Manufacture and life time support of Helicopter Engines.
- MoU between Bharat Electronics Ltd and Aeronautical Development Agency on IWBC and Other LRUs for Advanced Medium Combat Aircraft (AMCA).
- Co-operation between BSS Material Limited and Pegasus Engineering, an ADUSEA Inc. Division (USA) for Logistic Drones for the Indian Army towards Last Mile Delivery for forward troops deployed along the border areas with capability of operation in wind/gust condition, rain/Snow etc.
- MoU between Gopalan Aerospace India Pvt. Ltd. and Omnipol, Czech Republic for manufacturing and assembling of 1st passenger aircraft (L 410 UVP-E20 version) by a private company in India.
- MoU on collaboration of Sagar Defence Engineering Private Limited (SDEPL) & Israel Aerospace Industries (IAI) for IDEX Challenge “Autonomous Weaponized boat Swarm” for Indian Navy.
- MoU between Bharat Dynamics Limited and Bultexpro Ltd., Bulgaria for setting up the manufacturing facilities for 122mm GRAD BM ER and NONER rockets in India and fulfill the requirements (including ToT).
- MoU between GRSE and Rolls-Royce Solutions GmbH (MTU) for License production with localization of the MTU 16V4000M73L engine to support the indigenous content for the Next Generation Fast Attack Craft vessel for Indian Navy.
- BEML enters into License Agreement for Transfer of Technology (ToT) with R&DEE, DRDO for development and supply of TRAWL Assembly for T-72/T-90 Tanks.
- ToT of Shakti EW System from DLRL DRDO to BEL Hyderabad Unit for all system units, Bill of Material, Test procedures, integration & offering methodology.
- MoU between Hindustan Aeronautics Limited and Elta Systems Limited, Israel for cooperation on future Business in Maritime Patrol Radar (MPR) for Indian Platforms.

Products Showcased at Aero India 2023

- Vertically Launch Short Range Surface-to-Air Missile (Bharat Dynamics Limited): VLSRSAM is a next-generation, ship-based, all-weather, air defence weapon which can be used by Navy as a quick reaction point defence against supersonic sea skimming targets like aircraft and UAVs. The Missile has a smokeless propulsion system with all-weather capability. It has a highly agile configuration with state-of-the-art Electronic Counter-Counter Measures features.
- SAL Seeker ATGM for BMP II (Bharat Dynamics Limited): Semi-Active Laser Seeker based Anti-Tank Guided Missile for BMP-II is a subsonic missile with a range of 4,000 metres and flight time of 25 seconds. The missile weighs 23 kgs with the launch tube and

can be used in different kinds of terrains to incapacitate the moving and stationary targets such as tanks and Infantry Combat Vehicles.

- Jishnu (Bharat Dynamics Limited): Jishnu, a Drone Delivered Missile, is light weight and miniaturised missile targeted for soft-skinned targets. It has a range of 1.5 km with a flight time of 9 seconds. The missile can be semi-automatic or completely autonomous based on the systems configurations.
- Software defined NAVIC/GPS receiver module based on indigenously-developed processors (Astra Microwave Products Limited).
- Indigenously-built 'Counter Drone Radar' based on technology from DRDO (Astra Microwave Products Limited).
- 9 mm sub-sonic ammunition (Munitions India Limited).
- BFT on Ios (ideaForge Technology Limited): BlueFire Touch BlueFire Touch, our Ground Control Station (GCS) software, is built to plan and command both mapping and surveillance missions with the ability to pre-plan missions based on operational area and target locations via waypoint-based navigation.
- HF SDR Radio (Bharat Electronics Limited): It is an advanced software defined radio. The radio is lightweight 20 W transmit capable radio. It provides a complete solution to the short-range communication requirements in the crowded HF band and long-range communications beyond line of sight.
- Goniometer (Bharat Electronics Limited): It is part of any integrated observation and fire control monitoring system for day time or night time use by the Artillery.

Looking Ahead: The Future of Aerospace and Defence in India

Aero India has always been more than just an exhibition—it is a strategic imperative that underscores India's commitment to becoming a global leader in aerospace and defence. The event plays a pivotal role in:

- Driving Technological Advancements: By bringing together innovators and industry leaders, Aero India acts as a catalyst for the development and deployment of next-generation aerospace systems.
- Enhancing National Security: The technologies and strategies showcased at the event contribute directly to enhancing India's defence capabilities, ensuring that the nation remains well-prepared to address contemporary and future security challenges.
- Strengthening Economic Growth: Beyond defence, the advancements in aerospace have far-reaching implications for economic growth, industrial development, and technological self-reliance.

Conclusion: Embracing the Future with Aero India

Aero India stands as a testament to India's unwavering commitment to innovation, strategic collaboration, and excellence in aerospace and defence. As the nation prepares to host Aero India

2025, the event promises to build on the rich legacy of previous editions—most notably, the transformative Aero India 2023. Through rigorous operational protocols, strategic partnerships, and a forward-thinking agenda, Aero India 2025 is poised to further elevate India's profile on the global aerospace stage.

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Raksha Mantri holds bilateral meetings with his Fijian & South Sudanese counterparts in Bengaluru ahead of Aero India 2025

Source: Press Information Bureau, Dt. 09 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101205

Ahead of Aero India 2025, Raksha Mantri Shri Rajnath Singh held bilateral meetings with Minister for Defence and Veteran Affairs, Republic of Fiji Mr Pio Tikoduadua and Minister of Defence and Veteran Affairs, South Sudan Lt Gen Chol Thon J Balok in Bengaluru, Karnataka on February 09, 2025.

Raksha Mantri welcomed Fijian Defence Minister on his maiden visit to India. Both sides expressed satisfaction on the ongoing defence cooperation and agreed to further deepen and diversify the existing collaboration. Both sides also agreed to institutionalise India-Fiji Joint Working Group on Defence Cooperation as envisaged in the MoU on Defence Cooperation signed in 2017. They decided to augment Maritime Domain Awareness for ensuring maritime safety & security, Exclusive Economic Zone protection, Naval capacity building and training cooperation for UN peacekeepers and defence civilians. This visit is a step towards India's growing engagement with Fiji, a key member of Pacific Island Countries.

In his meeting with the South Sudanese Defence Minister, Raksha Mantri thanked him for participating in Aero India 2025. Both sides agreed to initiate and expedite efforts towards a Memorandum of Understanding to effectively steer the defence cooperation between both countries. The South Sudanese side acknowledged India's efforts in United Nations Mission in South Sudan. Both sides agreed to partner for enhanced training exchanges, and agreed to expand relations through industry partnerships.

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Raksha Mantri to inaugurate Aero India 2025 at Yelahanka Air Force Station in Bengaluru on February 10, 2025

Source: Press Information Bureau, Dt. 09 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101170

The 15th edition of Aero India, Asia's biggest aerospace and defence exhibition, will be inaugurated by Raksha Mantri Shri Rajnath Singh at the Yelahanka Air Force Station in Bengaluru, Karnataka on February 10, 2025. With the broad theme of 'The Runway to a Billion

Opportunities', the five-day extravaganza will showcase India's aerial prowess and indigenous cutting-edge innovations alongside state-of-the-art products of global aerospace companies. In line with 'Aatmanirbhar Bharat' and 'Make in India, Make for the World' vision, the event will also provide a stage to forge international collaborations to fast-track the indigenisation process, thereby providing a thrust to Prime Minister Shri Narendra Modi-led Government's resolve of making the country Viksit Bharat by 2047.

Addressing a press conference in Bengaluru on the eve of the event, Raksha Mantri described Aero India as a crucial platform, which will drive forward the Government's vision of a strong, capable India, secure and self-reliant India.

"Aero India is a platform that showcases the strength, resilience, and self-reliance of New India. It is not just crucial for India's defence preparedness, but it also plays a pivotal role in shaping the future of our nation. It will demonstrate our defence capabilities and forge global partnerships. Our goal is to enhance collaboration in areas of common interest with our friendly nations, fostering deeper cooperation and shared progress. The event is not just a showcase of technology and innovation, but will also serve as a source of inspiration for our youth, fostering scientific temperament and a spirit of innovation," he said.

Organised in a total area of over 42,000 sq m and with the confirmed participation of over 900 exhibitors, including 150 foreign companies, the event is set to be the biggest-ever Aero India till date. Shri Rajnath Singh termed the participation of more than 90 countries as a testament to the growing global confidence in India's aerospace and defence capabilities. "Defence ministers or representatives from about 30 countries have come to participate in this event. The presence of Air Chiefs and Secretaries from 43 countries further highlights the significance of this event - not just for India, but for the entire international defence community," he said.

Highlighting the transformation of the defence and aerospace sector in the recent years, Raksha Mantri asserted that, today, India is not only capable of designing and developing major platforms and equipment within India, it has also successfully established a vast supply chain within the country.

"Advanced platforms like Light Combat Aircraft Tejas, Light Combat Helicopter Prachand and C-295 Transport Aircraft are now being produced in India. We have also taken a firm resolve to manufacture fifth-generation fighter aircraft within the country. From the advanced variants of the Agni missile, the Astra missile system, and the Pinaka missile system to the cutting-edge Hypersonic missile system and the Akash air defence system, we have built numerous success stories. These achievements have played a crucial role in strengthening our defence sector, making India more self-reliant and secure," he said.

Shri Rajnath Singh added that post corporatisation of Ordnance Factory Board, the newly formed companies have started performing exceptionally well in defence production. "Under a well-considered and well-developed plan, we have actively worked to empower the private sector in the defence and aerospace industries. Today, India has a thriving private defence industry that has firmly established itself and is making significant contributions to our national security," he said.

Raksha Mantri expressed confidence that defence production, having crossed the record figure of Rs 1.27 lakh crore, will exceed Rs 1.60 lakh crore by the end of 2025-26. Defence exports, which touched the record figure of Rs 21,000 crore, he said, will surpass Rs 30,000 crore.

Shri Rajnath Singh underlined the crucial role being played by the defence industrial sector in making India an economic super power. He stated that any breakthrough in the defence sector not only strengthens national security, but also impacts the economy.

Technologies developed for defence applications promote innovation in the civil sector as well, leading to employment generation and economic development, he said. He termed Aero India a significant driver of economic strength, contributing to the overall growth and development of the economy. He expressed confidence that Aero India will be remembered as a historic milestone in India's journey towards becoming a global leader in the aerospace and defence sector.

The 15th Aero India will be held between 10th and 14th February 2025. February 10th to 12th have been reserved as business days, with 13th & 14th set as public days for people to witness the show. The event comprises Defence Ministers' Conclave; CEOs Roundtable; inauguration of India & iDEX Pavilions; Manthan iDEX event; Samarthya Indigenisation event; Valedictory function; seminars; breath-taking airshows and an exhibition of aerospace companies.

Defence Ministers' Conclave

With the aim to strengthen defence cooperation with friendly nations amidst a rapidly-evolving global security landscape, Raksha Mantri will host the Defence Ministers' Conclave on February 11 in hybrid mode. The theme this year 'Building Resilience through International Defence and Global Engagement (BRIDGE)' underscores the importance of supply chain resilience and strategic collaboration in defence.

The last edition witnessed the participation of 27 Defence Ministers and Deputy Defence Ministers alongside 15 Defence & Service Chiefs and 12 Permanent Secretaries. This year, the participation has expanded as representatives from more than 80 countries are likely to participate in the conclave. Approx. 30 Defence Ministers in addition to Defence/Service Chiefs and Permanent Secretaries from friendly nations will attend the event.

The conclave will provide a crucial platform to address key aspects such as Defence capacity building through investment, joint ventures & co-production, Collaboration in R&D, training & technological advancements in AI & space, Maritime security cooperation and strategic partnerships.

CEOs Roundtable

CEOs Roundtable 2025 will be chaired by Raksha Mantri on February 10, on the theme 'Enabling Defence Cooperation through Global Engagement (EDGE)'. Over 100 Original Equipment Manufacturers (OEMs) have confirmed their participation in the event. These include 55 from 19 countries (USA, France, Russia, South Korea, UK, Japan, Israel & Brazil etc), 35 Indian (Larsen & Toubro, Bharat Forge Ltd, Adani Defence & Aerospace, Mahindra Defence Systems Ltd, BrahMos Aerospace & Ashok Leyland Defence) and 16 Defence Public Sector Undertakings (DPSUs). Shri

Rajnath Singh had addressed over 73 CEOs of 28 Foreign OEMs and 45 Indian OEMs in the 2023 edition of the event.

Major foreign OEMs including Airbus (France), Ultra Maritime (USA), GNT (South Korea), John Cockerill Defence (UK), Mitsubishi (Japan), Rafael Advance Defence System (Israel), Safran (France) and Liebherr Aerospace (France) are expected to highlight their future plans, Joint Ventures, collaborations, partnerships with Indian companies for production of spares parts, development of aero-engines, setting up of Maintenance, Repair and Operations (MRO) facilities and establishment of R&D facilities etc.

India Pavilion

The India Pavilion will provide an opportunity to Indian Defence Industries to showcase their design, development, innovation and manufacturing capabilities. It will be inaugurated by Raksha Mantri on February 10. The grandeur show at India Pavilion would signify the 'Flight of Self-Reliance' which encapsulates India's journey towards becoming a global aerospace and defence powerhouse.

India Pavilion will be divided into five distinct zones displaying indigenous capabilities in aero aviation, land aviation and naval aviation, def-space and niche technologies domains. More than 275 exhibits will be at display through various mediums, represented by complete defence ecosystem of the country which includes DPSUs, design houses, private corporates including MSMEs and start-ups. The Central Area exhibits will include a striking display of marquee platforms including Advanced Medium Combat Aircraft, Combat Air Teaming System, Twin-Engine Deck-Based Fighter.

iDEX Pavilion

The iDEX Pavilion will be inaugurated by Raksha Mantri on February 10. It will showcase cutting-edge indigenously developed products and technologies, marking a significant milestone in India's defence innovation journey. Leading innovators will display their indigenously-developed products spanning a wide-range of advanced domains including Aerospace, DefSpace, Aero Structures, Anti-drone systems, Autonomous Systems, Robotics, Communication, Cybersecurity, Surveillance & Tracking, Unmanned Ground Vehicles etc. The Pavilion will also feature a dedicated section highlighting the winners of Acing Development of Innovative Technologies with iDEX (ADITI) scheme, showcasing their ground-breaking work in critical and niche technologies.

iDEX has successfully onboarded over 600 start-ups and MSMEs, marking a significant milestone in fostering innovation. Furthermore, 40 prototypes developed under iDEX have received official clearance for procurement, with 31 procurement contracts worth Rs 1,560 crore already signed.

Manthan

Manthan 2025, the flagship annual defence innovation event, will be graced by Raksha Mantri on February 12. Organised by Innovations for Defence Excellence - Defence Innovation Organisation (iDEX-DIO), the event will bring together stakeholders of the defence innovation ecosystem including innovators, industry leaders, academia, incubators, investors, thought leaders, senior government officials etc.

Manthan will deliberate on emerging challenges and opportunities in the sector, with a focus on supporting defence start-ups and MSMEs, enhancing innovation capabilities, and fostering strategic collaborations within the defence ecosystem. It stands as a testament to the scale and speed of iDEX, showcasing the rapid strides made in defence innovation and the pivotal role of start-ups in transforming India's defence capabilities.

Samarthya

On the success story of indigenisation and innovation in the defence sector, an Indigenisation event on the theme 'SAMARTHYA' will be held on February 12 alongside the Valedictory function which will be graced by Raksha Mantri. This event is first-of-its-kind during Aero India, as it will showcase India's indigenous ingenuity in defence manufacturing by demonstrating some of the major items indigenised by DPSUs, DRDO and Services with the involvement of the private sector.

Bilateral Meetings

Bilateral meetings at the levels of Raksha Mantri/Raksha Rajya Mantri/Chief of Defence Staff/Service Chiefs/Defence Secretary/Secretary (Defence Production) will take place on the sidelines of Aero India 2025.

Seminars

A number of seminars on a variety of topics will be organised as part of Aero India 2025. On February 11, Raksha Mantri is scheduled to address a seminar organised by the Indian Air Force on the theme 'Manned Unmanned teams for Aerial Warfare - concept to targeting' and another organised by DRDO on the theme 'DRDO Industry Synergy towards Viksit Bharat'.

Other seminars on the themes - Mission DefSpace: From Vision to Reality – A Progress Report; Indigenous Development of Aerospace Materials: Strengthening India's Self-Reliance; Transition to Aatmanirbhar Indian Naval Aviation 2047 and its associated ecosystem; Transformation of Maritime Aviation by Adopting Technological trends and Indigenisation; Aligning Technologies to Future Conflicts; and Investment Opportunities for Aerospace & Defence Manufacturers in Karnataka – will also be held as part of the event.

Historic First – Su-57 and F-35 at Aero India

For the first time in history, Aero India 2025 will witness the participation of two of the world's most advanced fifth-generation fighter aircraft - the Russian Su-57 and the American F-35 Lightning II. It marks a milestone in global defence collaboration and technological advancement, offering aviation enthusiasts and defence experts an unparalleled prospect to witness these state-of-the-art warplanes.

- Su-57: Russia's premier stealth multirole fighter is designed for superior air superiority and strike capabilities. Equipped with advanced avionics, supercruise capability, and stealth technology, it is making its debut at Aero India 2025. Visitors can expect high-speed aerial manoeuvres and tactical demonstrations that highlight the fighter's agility, stealth and firepower.

- F-35 Lightning II: The Lockheed Martin F-35 Lightning II, the most widely-deployed fifth-generation fighter, integrates advanced stealth, unparalleled situational awareness and networked combat capabilities. Its presence at Aero India 2025 will enable visitors to witness the flagship of US Air Force.

The inclusion of both the Su-57 and F-35 highlights India's position as a key hub for international defence and aerospace collaboration. Aero India 2025 will provide a rare side-by-side comparison of Eastern and Western fifth-generation fighter technology, offering defence analysts, military personnel and aviation enthusiasts valuable insights into their respective capabilities.

Visitor-Friendly Experience

With key infrastructure upgrades and improved amenities, Aero India 2025 promises to be bigger, smoother and more visitor-friendly than ever before.

- Enhanced Infrastructure & Traffic Management: Recognising past challenges, extensive improvements have been made to facilitate seamless entry, movement and connectivity and there has been close coordination between Ministry of Defence, Indian Air Force (IAF), various arms of Karnataka State Government like Bengaluru Traffic Police, BBMP, NHAI, and Namma Metro. Approach roads have been widened to optimise traffic flow around Air Force Station Yelahanka so as to ease congestion and improve movement around the venue.
- Security and Emergency Preparedness: Red drone zones have been designated and published with countermeasures in place to tackle unauthorised drone activity. Rapid Mobile Units will be deployed strategically to provide quick assistance and emergency support. Continuous mock drills with multiple agencies are being conducted to ensure practical and implementable contingency plans.
- Exhibitor & Visitor Experience Enhancements: To enhance the experience for exhibitors and business delegates, the exhibition area has been revamped with several key upgrades:
- Expanded and better-ventilated exhibition halls to accommodate more exhibitors and visitors comfortably.
- Improved seating and rest zones throughout the venue.
- Additional food courts and refreshment kiosks, including Indira Canteens (at parking areas).
- Lost and found counters and ATM kiosks for visitor convenience.
- Multiple water points, medical aid posts, and a dedicated cardiac aid post for emergencies, including medical evacuation.
- Multi-Layered Security Measures: Ensuring the safety of all attendees, a multi-layered security system is being deployed in collaboration with the Ministry of Home Affairs, Bengaluru Police, CISF, and Intelligence Agencies. Measures include:
- Enhanced security protocols and faster access control.
- An operational Command and Control Centre for real-time responses to security concerns.

- 24/7 CCTV monitoring for situational awareness.
- Dedicated screening zones for visitors, exhibitors, and VIPs.
- Disaster management and fire safety committees to handle emergencies.
- Connectivity & Digital Infrastructure: To address connectivity challenges, all telecom service providers are deploying temporary mobile towers and network boosters for uninterrupted communication. A dedicated Aero India 2025 mobile app has also been launched which will provide live updates, navigation assistance, and event scheduling. Secure digital communication channels have also been established for coordination among agencies. Additionally, provisions have been made to support increased electricity demands during the event while ensuring safety.
- Airspace Management & Demonstrations: Aero India demonstrations and aircraft movements are a major highlight of Aero India 2025. In coordination with AAI and HAL, the Indian Air Force has structured a dedicated Airspace management plan including:
- Temporary flight restrictions around Aero India Force Station Yelahanka to maintain safety during scheduled demonstrations.
- Strategic Aircraft parking and refuelling plans for domestic and international participants.
- Business and Innovation Support: The Aero India provides a platform for collaborations and to facilitate B2B, G2B interactions and hosting roundtable discussions to showcase technological advancements. Special focus will be given to supporting start-ups and MSMEs by providing them with a global platform to present indigenous innovations.
- Sustainability Initiatives: Aero India 2025 is committed to sustainability and has incorporated several eco-friendly measures in its conduct like:
- Reduced vehicle movement to minimise pollution and enhance pedestrian comfort.
- Exclusive use of more than 100 E Karts for movement of visitors in the exhibition venue.
- Comprehensive waste management, including increased recycling bins, waste segregation zones, and timely disposal of waste.

With these multi-agency collaborations, Aero India 2025 is set to be one of the most well-coordinated and better organised editions to date.

Raksha Rajya Mantri Shri Sanjay Seth, Chief of Defence Staff & Secretary, Department of Military Affairs General Anil Chauhan, Chief Secretary, Government of Karnataka Dr Shalini Rajneesh, Secretary (Defence Production) Shri Sanjeev Kumar, Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat, other senior officials of Ministry of Defence and industry leaders attended the curtain raiser press conference.

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IAF Conducts Seminar On 'Navachar Utkrishtam Bhavisyam' (Innovation is Path to Better Future) AERO INDIA 25

Source: Press Information Bureau, Dt. 09 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101131

Indian Air Force (IAF) is working to harness the potential of indigenous defence industry through Govt policies under the umbrella of Atmanirbharta by continuously engaging with the Industry Partners. Considerable success has been achieved in the indigenisation and innovation of spares and sustenance of equipment. The efforts are now being focused towards complex futuristic technologies, weapon systems and space domain.

Aero India being one of the premier aerospace and defence exhibition, serves as a global platform for showcasing cutting-edge technologies, innovations, and products in the field of aviation. IAF has been at the forefront of embracing the vision of ‘Make in India' by actively supporting indigenous defence development and manufacturing. IAF is the biggest stakeholder in aerospace domain and a major participant in leading the drive towards Atmanirbhata.

In pursuit of futuristic technologies and to highlight the drive towards self-reliance, lAF is conducting a seminar on the theme ‘NAVACHAR UTKRISHTAM BHAVISYAM’ (innovation is the Path to better Future). The Hon'ble Raksha Mantri Shri Rajnath Singh has been invited as the Chief Guest for the event with Chief of the Air Staff in attendance.

The seminar is planned on 11 Feb 25, from 1400-1630 Hr, at Hall No 1, Air Force Station Yelahanka, Bengaluru. The seminar is expected to have attendance from senior officers of Armed Forces, Govt officials, Industry leaders from aviation and aerospace domain, reps from Defence Public Sector Units (DPSUs), MSMEs, Start-ups, Innovators and the Academia. The seminar aims to inspire collaboration between defence forces, industry and R&D agencies, fostering a robust ecosystem for innovation.

During this seminar, the following are planned to be released /launched by Hon'ble Raksha Mantri:- a publication titled ‘IAF Compendium (Samarthya Margdarshika) of Challenges and Opportunities for Indian Industry', for the Indian industries, Micro Small Medium Enterprises (MSMEs), Start-ups and individual innovators, encompassing current and future requirements of IAF; Declaration of the winners of Mehar Baba-ll Competition (MBC). The MBC-II was launched for the Indian Industries in the year 2022. This competition harnessed exceptional talent of Indian industry in swarm drone technology and showcased their capabilities in realising solutions to specific problem statements. In addition, MBC-III ‘Collaborative Drone Based Surveillance Radars' will be launched to develop an unmanned capability similar to an Airborne Warning and Control System.

Towards bolstering the 'Digital India' drive, IAF will be launching 'VAYU VITT' digital portal for placing orders, certification and payments between lAF and HAL. This is aimed towards enhancing digitisation along with improved efficiency and transparency.

Additionally, a panel discussion on 'Manned Unmanned Teaming- From Concept to Targeting' is planned with eminent experts from the aerospace domain including scientists, industrialists, certification agencies and end users. The panel discussion is intended towards underscoring the pivotal role of Indian Industry in driving indigenous solutions for futuristic technologies to meet the evolving defence and security needs of our Nation.

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AERO INDIA 2025: Indian Naval Aviation Marching Towards 'Aatmanirbharta'

Source: Press Information Bureau, Dt. 09 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101182

Indian Navy has championed the cause of 'Aatmanirbharta' wherein it has transformed from a Buyer's Navy to a Builder's Navy with over 60 warships being constructed in Indian Shipyards. Indian Naval Aviation which forms an integral part of the Navy, is also steadfast on this path. Towards charting a firm course in this direction, a vision document 'Aatmanirbhar Indian Naval Aviation –Technological Roadmap 2047' has been formulated and is planned for release during Aero India 2025.

The Biennial event of Aero India 2025, being held at Air Force Station Yelahanka, Bengaluru from 10-14 Feb 25 offers a distinctive platform to users, R&D establishments, academia, industry partners, MSMEs and startups to interact and collectively contribute towards the national vision of 'Viksit Bharat' by 2047 through the aviation sector. The event offers a platform for the Naval Aviation to present it's future requirements and for the industry to showcase what they have to offer with respect to the three S's - Systems, Structures and Software essentially required in any Naval Aviation platform.

The Indian Navy operates upon high seas and vast oceans away from the mainland. Consequently, there is not much visibility to Indian Navy's aviation platforms. Aero India 2025 is being used as an opportunity to showcase and acquaint the general populace with various types of naval aircraft being presently operated by Indian Navy as part of the static display. This will include MiG 29K 4th generation carrier borne fighter aircraft, Kamov 31 Airborne Early Warning helicopter, Seaking 42B and MH 60 R Anti-Submarine and Anti-Ship helicopters.

In addition, the Indian Navy will also display the Light Combat Aircraft (Navy) in the exhibition Area. The aircraft is designed by Aeronautical Design Agency (ADA) and manufactured by HAL. Successful landing of LCA (Navy) onboard the indigenous aircraft carrier INS Vikrant has propelled India into the league of a few nations with the capability of designing, developing, testing and manufacturing a deck borne fighter aircraft. Among the aircraft formations for the fly-past will be the all Navy VARUNA formation in a 'V' denoting 'VICTORY', with P8I in the lead flanked by MiG 29K and Hawk 132 aircraft.

In pursuance to the nation's goal of 'Aatmanirbhar Bharat', India Pavilion will feature indigenous projects developed/ being developed by the Indian Navy in partnership with industry and DRDO,

such as state of the art missiles, air droppable Search And Rescue (SAR) Kit, Air Droppable Container (ADC) for logistic stores, carrier borne systems for MiG 29K and Advance Light weight torpedo (ALWT). Also on display in the India Pavilion would be a scaled model of Indian Navy's future deck borne fighter – the Twin Engine Deck Based Fighter (4++ generation, designed by ADA) mounted on a ski jump. Naval aviation being technology intensive, the Indian Navy is also infusing startups to develop futuristic naval aviation platforms and systems. Some of these will be on display in the India Pavilion.

To garner participation, create understanding and project future requirements of Indian naval aviation to industry, startups, DPSUs and academia, a seminar 'Transition to Aatmanirbhar Indian Naval Aviation – 2047 and it's Associated Ecosystem' is being held on 12 Feb 25. The futuristic theme focuses on self-reliance by the year of centennial Independence Day. Close collaboration and partnership with academia, industry, DRDO, DPSUs and industry is the key to realisation of this vision.

Having grown in scope, stature and magnitude over the years, Aero India 2025 would prove another stepping stone towards growth and empowerment of Naval Aviation and self-reliance of the Nation's Defence Forces.

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Indian Navy Chiefs' Conclave 2025

Source: Press Information Bureau, Dt. 09 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101179

The Indian Navy Chiefs' Conclave was held at the Naval Headquarters, New Delhi from 08 - 09 Feb 25, bringing together eight Former Naval Chiefs and the current Naval leadership.

The aim of the Conclave was to gain from the collective experience and knowledge of the former Chiefs, and also update them on the latest developments and policy initiatives of the Navy.

On 08 Feb, the former Chiefs were presented with an operational update, including policy initiatives, technological, materiel, and operational logistics advancements, and perspective plans at the new Nausena Bhawan.

An exclusive session was also conducted to deliberate Manthan on key issues of interest, fostering an open exchange of ideas on the future of warfare and maritime strategy in an evolving geo-political landscape and HR paradigms.

A Book titled "Legacy of Leadership: Naval Chiefs through Time" was released on the sidelines of the Conclave; chronicling the inspiring journeys of former CNSs.

With personal stories, rare photographs and firsthand accounts, this "collector's edition" offers a unique glimpse into the leadership of the former CNSs.

"We are committed to carrying forward your illustrious legacy and the Indian Navy will continue to safeguard India's national maritime interests, anytime, anywhere, anyhow" - CNS

The Former Naval Chiefs also laid wreaths at the National War Memorial and paid homage to the Bravehearts of the Nation.

The Chiefs' Conclave 2025 reaffirms the Navy’s commitment to institutional continuity, leveraging the wisdom of past leadership while shaping the future of India’s maritime power.

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Theatre Level Operational Readiness Exercise (TROPEX-25)

Source: Press Information Bureau, Dt. 07 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2100813

The 2025 edition of Indian Navy's capstone Theatre Level Operational Exercise (TROPEX), is currently underway in the Indian Ocean Region. This operational level exercise is conducted biennially with participation by all operational Indian Naval units along with substantial participation of Indian Army, Indian Air Force and Coast Guard assets. TROPEX 25 is aimed at validating Indian Navy's core warfighting skills, and ensuring a synchronised, integrated response to preserve and protect national maritime security interests in a contested maritime environment against conventional, asymmetric as well as hybrid threats.

TROPEX 25 is being conducted over a duration of three months from Jan - Mar 25. The exercise is being conducted in various phases - both in Harbour and at Sea, integrating various facets of combat operations, cyber and electronic warfare operations, live weapon firings during Joint Work Up Phase and Amphibious Exercise (AMPHEX).

During the exercise, the combined fleets comprising approximately 65 Indian Naval Ships, 09 Submarines and over 80 Aircrafts of different types, are put through complex maritime operational scenarios to validate and refine the Navy's Concept of Operations including forward deployed sustenance and interoperability with other Services.

TROPEX 25 is witnessing participation of platforms like indigenous aircraft carrier Vikrant, state-of-the-art Visakhapatnam and Kolkata Class destroyers, Kalvari Class submarines and aircraft fleet comprising MiG 29K, P8I, HALE Sea Guardian and MH-60R helicopters.

Towards enhancing synergy and jointness amongst the Services, IA, IAF and Indian Coast Guard have also been integrated into the exercise, with participation of Sukhoi-30, Jaguar, C-130, Flight Refueller, AWACS aircraft, an Infantry Brigade with over 600 troops, and more than 10 ICG ships and aircraft.

Having grown in scope and complexity over the years, TROPEX 25 Is a step forward in coordinated planning, precise targeting, combat effectiveness and credible joint operations in a dynamic environment, towards safeguarding India's national maritime interests, Anytime, Anywhere, Anyhow.

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Indian Navy's First Training Squadron Arrives At Changi Naval Base, Singapore

Source: Press Information Bureau, Dt. 07 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2100709

The ships of First Training Squadron (1TS) comprising INS Sujata, INS Shardul and ICGS Veera entered Changi Naval Base, Singapore on 06 Feb 25. The visit is part of the Long-Range Training Deployment of the Squadron to South East Asia signifying a vital step in strengthening maritime cooperative engagement and fostering mutual understanding. The squadron had previously visited Singapore in Oct 2023.

During the port call, Dr Shilpak Ambule, the High Commissioner of India to Singapore visited 1TS ships. He was briefed on the training activities undertaken by the Squadron. He also interacted with the Sea Trainees and emphasised the crucial role of Indian Navy towards enhancing maritime cooperation in the Indo Pacific region. Senior Officer, 1TS along with the Commanding Officers of INS Sujata and ICGS Veera called on Col Rinson Chua Hon Liat, Commander, Maritime Training and Doctrine (MTDC) and held discussions on maritime issues of mutual interests.

During the visit, the ships will engage in several activities aimed at enhancing cooperation and inter-operability between the Indian Navy and the Republic of Singapore Navy (RSN). Professional Exchanges, Cross Training Visits and friendly sports fixtures are planned during the ship's stay. The extant visit reinforces strong maritime partnership and collaboration between the two Navies underscoring the commitment of SAGAR (Security and Growth for All in the Region).

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Aatmanirbhar Bharat: MoD inks Rs 642 crore contract with BEL for 28 EON-51 systems for Indian Navy

Source: Press Information Bureau, Dt. 08 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101000

The Ministry of Defence, on February 08, 2025, signed a contract with Bharat Electronics Limited in New Delhi for procurement of 28 EON-51 systems for 11 New Generation Offshore Patrol Vessels and three Cadet Training Ships for the Indian Navy at a total cost of Rs 642.17 crore, including taxes under Buy (Indian-IDDM) category.

EON-51 is an Electro Optical Fire Control System which provides search, detection and classification of targets using Electro Optical and Thermal Imagers devices. The scheme will generate employment over a period of three years and encourage active participation of various Indian industries including MSMEs, thus significantly contributing to the Government’s efforts to achieve 'Aatmanirbharta' in defence.

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INS Tushil At Port Victoria, Seychelles

Source: Press Information Bureau, Dt. 09 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2101119

INS Tushil, on her maiden passage around the West coast of Africa, arrived at Port Victoria, Seychelles, on 07 Feb 25 for an operational turnaround. Officials from the High Commission of India and officials from the Indian Navy detachment warmly welcomed the ship. During the port call, Captain Peter Varghese, the Commanding Officer, hosted Shri Kartik Pande, HCI (High Commissioner of India) to Seychelles, and Maj Gen Michael Rosette, Chief of Defence Forces, Seychelles Defence Forces. A demonstration of the NISHAR—MITRA Terminal was also undertaken during the visit.

India's bilateral engagement with Seychelles is characterised by historical contacts and embodies close friendship, understanding, and cooperation. Diplomatic ties were established with Seychelles after its independence in 1976. When Seychelles attained freedom on 29 June 1976, a contingent from INS Nilgiri participated in the Independence Day celebrations. This visit by INS Tushil seeks to advance the strong relationship between the two Indian Ocean Region(IOR) nations.

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India, US to draft new defence cooperation framework for next decade

Source: The Economic Times, Dt. 07 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/india-us-to-draft-new-defence-cooperation-framework-for-next-decade/articleshow/117993058.cms

India and the US have decided to draft a new comprehensive framework on defence cooperation that will structure bilateral collaboration for the next decade. The decision was taken in a telephonic conversation on Thursday between defence minister Rajnath Singh and his US counterpart Pete Hegseth.

This was the first telephonic conversation at the defence minister-level with the new Trump administration, after Hegseth was confirmed as the US defence secretary. It also came days before Prime Minister Narendra Modi is scheduled to visit the US for his first meeting with Trump in his second term. The visit is expected to have a special focus on enhancing defence cooperation.

This could include speedy conclusion of a contract for fighter jet engine technology sharing and talks on procurement of US weapon systems like additional P 8I maritime aircraft and participation in upcoming procurements for fighter jets and military transport aircraft. A new agreement in the works that will consolidate efforts to expand the relationship was discussed during the call.

"The two ministers reviewed the extensive India-US defence cooperation activities covering multiple domains in land, air, maritime and space," the official said, adding that they reaffirmed their commitment to deepen ties.

While appreciating the "ongoing and remarkable expansion of the bilateral defence partnership", they decided to work together on technology cooperation and integration of defence industrial supply chains in particular.

The two sides have also agreed to work on enhanced interoperability, logistics and information sharing and joint military exercises. Ongoing efforts to promote industry partnerships also found special mention in the talk, with both agreeing to enhanced support for defence innovation collaboration.

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India, Israel hold 13th round of Staff Talks, focus on improving defence cooperation

Source: The Economic Times, Dt. 07 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/india-israel-hold-13th-round-of-staff-talks-focus-on-improving-defence-cooperation/articleshow/117998600.cms

India and Israel successfully held the 13th round of Staff Talks from February 3 to 6 in New Delhi, which focused upon improving several areas of defence cooperation such as joint training, technology sharing, and regional security.

The Additional Directorate General of Public Information of the Indian Army shared details of the talks on X, stating, "The 13th India-Israel Staff Talks were successfully conducted from 03 to 06 February at New Delhi, India. The discussions focused on enhancing defence cooperation, joint training, technology sharing and regional security."

Highlighting the importance of the dialogue, the Indian Army added, "This strategic dialogue reaffirms the commitment to mutual growth in defence capabilities, fostering deeper bilateral ties between the two nations united by shared interests and trust."

India and Israel cooperate across several fronts. In 2024, the two countries held the 17th India-Israel Foreign Office Consultations, reflecting the strength of the India-Israel Strategic Partnership. The discussions included an exchange of views on the prevailing situations in West Asia and the Indo-Pacific.

In another recent development, on Thursday, the Chief Operations Officer of the Royal Bhutan Army, Lieutenant General Batoo Tshering, concluded his visit to India. The Indian Army stated that the visit reinforced bilateral military cooperation, explored new avenues for defence collaboration, and reaffirmed the enduring bond between the armies of both nations.

In a statement shared on X, the Indian Army said that India and Bhutan share a "deep-rooted friendship" based on historical ties, mutual respect, and cultural affinity. Lieutenant General Tshering was on a six-day visit to India from February 1 to February 6.

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India, Mongolia border forces discuss mutual cooperation during DG-level talks

Source: The Economic Times, Dt. 07 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/india-mongolia-border-forces-discuss-mutual-cooperation-during-dg-level-talks/articleshow/118022402.cms

The border forces of India and Mongolia Friday decided to undertake joint exercises and enhance mutual cooperation in the frontier protection domain.

The Border Security Force (BSF) and the Mongolian General Authority for Border Protection (GABP) concluded on Friday their 10th director general (DG)-level talks that went on for six-days starting February 2.

The Indian side was led by BSF DG Daljit Singh Chawdhary while the Mongolian delegation was headed by Maj Gen Lkhagvasuren KH, Head of GABP and Commander of Border Troops, a BSF spokesperson said in a statement.

"BSF and GABP underscored the need for continuous mutual cooperation between the two forces, acknowledging that both the countries face similar kind of challenges in border management," he said.

The meeting saw discussions on training on border management in mountainous regions for BSF mid-level officers by GABP followed by a joint exercise and special force training (SFT) to GABP by BSF instructors in Mongolia, the spokesperson said.

The two sides also discussed ways to extend mutual cooperation in the areas of concern and for cooperation in effective prevention and detection of crimes through exchange of technological solutions, he said.

Exchange of best practices in the field of border protection, especially in the areas of security of border ports, inspection of incoming vehicles, and assistance in capability building of the two forces and cooperation in use of technology in border management were also discussed, he said.

The next round of these talks is expected to be held in Mongolia in September this year.

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India expects stable delivery of GE-powered fighter jets next fiscal year after delays

Source: The Economic Times, Dt. 10 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/india-expects-stable-delivery-of-ge-powered-fighter-jets-next-fiscal-year-after-delays/articleshow/118101626.cms

India expects stable delivery of a domestically-made light combat aircraft powered by a GE engine in the upcoming fiscal year after a delay of nearly 12 months, a top government official said on Sunday.

India's state-run planemaker Hindustan Aeronautics Ltd (HAL) would have the capacity to hand over 16 to 24 aircraft in the fiscal year that starts in April following stable delivery of the engine made by the aerospace division of GE, the official said.

The delivery of engines for the fighter jet named "Tejas" was due to begin in March 2024, but Indian defence ministry sources said supply chain constraints faced by GE impacted new deliveries beyond the 65 engines already delivered as of 2023.

The Indian Air Force is desperate to shore up its fighter squadrons, which have fallen to 31 from a target of 42, at a time when rival China is expanding its own air force.

"The good news is that now the production line has stabilised. Not only in HAL, but also at the engine maker GE," India's Defence Production Secretary Sanjeev Kumar told reporters in the southern city of Bengaluru on the eve of the biennial Aero India aerospace exhibition, which begins on Monday.

"We are working with our American partner GE ... so that their supply also gets streamlined in this year 2025-26 and onwards. So that makes us believe that we would be able to meet the pace that is required," Kumar added.

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Union Minister Sanjay Seth hands over restricted military type certificates for Astra BVR missile, HTT-40 aircraft at Aero India Seminar

Source: The Economic Times, Dt. 10 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/union-minister-sanjay-seth-hands-over-restricted-military-type-certificates-for-astra-bvr-missile-htt-40-aircraft-at-aero-india-seminar/articleshow/118104589.cms

Union Minister of State for Defence Sanjay Seth handed over restricted military type certificates (RMTC) for the indigenous Astra Beyond Visual Range (BVR) missile and HTT-40 (Hindustan Turbo Trainer-40) aircraft at the 15th Aero India International Seminar in Bengaluru on Sunday.

Seth also released guidance materials for the life extension of aircraft and systems.Secretary DDR&D and Chairman DRDO, Dr Samir V Kamat; Former SA to RM & President AeSI Dr G Satheesh Reddy; Deputy Chief of Air Staff Air Marshal Tejinder Singh; and others were also present during the event.

In a post on X, Seth said, "Today, at the 15th Aero India International Seminar by DRDO & AeSI, I handed over the Restricted Military Type Certificates (RMTC) for ASTRA BVR and HTT-40 and released Guidance Materials for Aircraft Systems' Life Extension, enhancing India's aeronautical capabilities."Notably, the 15th edition of the Biennial Aero-India International Seminar commenced in Bengaluru, Karnataka, on Saturday, the Ministry of Defence said in an official statement.

The two-day seminar has been organised by the Centre for Military Airworthiness & Certification (CEMILAC) of the Defence Research and Development Organisation (DRDO) in association with the Aeronautical Society of India (AeSI) as a prelude to Aero India 2025, which will be held in Bengaluru from February 10 to 14, as per the Ministry.The statement added that the seminar is a premier event in the global aerospace arena. The theme this year is 'Futuristic Aerospace Technologies: Challenges in Design Validation,' highlighting discussions and deliberations on Emerging Trends in Futuristic Aerospace Technologies and Military Airworthiness & Certification: Challenges in Design and Testing.

International delegates attending the event are from prominent foreign companies like Airbus Defence and Space from Spain; Collins Aerospace, GE Aerospace, Martin-Baker, MBDA and Rolls-Royce from the UK; Rafael Advanced Defence Systems from Israel; and SAFRAN France. Indian industries participating in the seminar include Abeyaantrix Solutions, Ansys Inc., Globals Inc., JSR Dynamics Pvt. Ltd., RAPHE mPhibr, and TAQBit Labs Private Limited.

The seminar offers a platform to explore collaborative research opportunities and forge strategic partnerships, advancing the future of aerospace and defence technologies. A total of 12 technical sessions covering various topics on challenges in design validation on futuristic aerospace technologies are scheduled. The seminar on 'Futuristic Aerospace Technologies: Challenges in Design Validation' focuses on various topics such as cutting-edge technologies for system design and validation, innovative approaches for airworthiness & certification, leveraging artificial intelligence to enhance the future of aviation, pioneering advancements in electronics and sensing technology, global insights into next-gen propulsion systems, emerging trends in military aviation, and innovations driving human missions beyond Earth, the statement added.

Secretary of the Department of Space and Chairman of ISRO V. Narayanan was the chief guest of the event, while Secretary of the Department of Defence R&D and Chairman of DRDO Samir V Kamat was the guest of Honour. President, AeSI G Satheesh Reddy was also present on the occasion.

The statement also mentioned that about 1,100 delegates are participating from DRDO, Defence PSUs, Armed Forces and Private Industries, including MSMEs. Further, 33 speakers from both India and abroad will deliver technical talks on a range of topics in the domain.

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PM Modi heads to France next week, defence, nuclear projects on cards

Source: The Indian Express, Dt. 08 Feb 2025,
URL: https://indianexpress.com/article/india/pm-modi-heads-to-france-next-week-defence-nuclear-projects-on-cards-9823922/

Prime Minister Narendra Modi will head to France next week to co-chair the Artificial Intelligence (AI) Action Summit as well as for a bilateral meeting with French President Emmanuel Macron as announcements on defence and nuclear projects are expected.

During the visit from February 10 to 12, the PM will be going to Paris for the AI Summit and then head to Marseille, along with Macron, to inaugurate the new Indian consulate. The leaders will also visit the war cemetery and pay tributes to the sacrifices made by Indian soldiers during World War 1. They will also visit Cadarache, the site of the International Thermonuclear Experimental Reactor (ITER).

Foreign Secretary Vikram Misri Friday underlined that India's expectation from the summit is that AI applications should be designed, developed, deployed and used in "safe, humane, responsible and trustworthy" manner. "The PM will co-chair the AI Summit alongside President Macron of France. The PM will arrive in Paris in the evening of February 10. He will then attend the dinner that is being hosted by President Macron at Elysee Palace. On 11 February, the Prime Minister will co-chair the AI Summit alongside President Macron of France. AI is bound to have and already having profound impact across all sectors of economy, polity, society and governance and therefore summits such as the AI Summit are both significant and timely," Misri said.

An Artificial Intelligence Foundation is also expected to be launched during the summit, as the French president has called it "action summit". This is likely to be a fund, similar to the one on climate change, and will work on AI solutions to global challenges on health and areas.

This will be the PM's first bilateral visit to France in his third term.

Sources said Friday that announcements are expected to be made on defence and nuclear projects. They said talks are underway on procuring aircraft, submarines and engines, and discussions were being held on small modular nuclear reactors.

Diplomatic sources said French companies have been working with India on "Make in India" and "transfer of technology". During his visit, Modi and Macron will also address the India-France CEOs forum.

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Ahead of PM Modi's visit, top US general spotlights growing ties with India

Source: Hindustan Times, Dt. 10 Feb 2025,
URL: https://www.hindustantimes.com/india-news/top-us-general-spotlights-growing-ties-with-india-101739128532423.html

The importance of the US-India partnership is growing as the two countries face "an increasingly complex and dynamic security environment in the Indo-Pacific", a top American commander said on Sunday, putting the spotlight on China's attempts to boost its presence in the vast strategic region.

Both the US and India stand for a rules-based international order for peace, prosperity and stability in the region.

"Aero India 2025 is an ideal forum to showcase US defence aircraft and equipment and ultimately contribute toward our compatibility and interoperability with other nations," said US Pacific Air

Forces commander General Kevin Schneider, who is part of the American delegation visiting the five-day airshow that begins on Monday.

More than two dozen American exhibitors will engage Indian counterparts, explore new business opportunities, and demonstrate innovative solutions in aviation and defence. These companies will display advancements in unmanned aerial systems, fighter aircraft, advanced avionics, and defence electronics, an official US statement said on the eve of Asia's biggest airshow.

The airshow at the Yelahanka airbase here will be attended by more than 900 exhibitors, 54 foreign original equipment manufacturers, 52 domestic manufacturers and top representatives of 78 countries, said defence production secretary Sanjeev Kumar.

"One of the highlights of the airshow will be the display by the Russian Su-57 and US F-35 stealth fighters," he said.

"The US will showcase a range of advanced aircraft, reinforcing the strong and growing defence and aerospace partnership between the US and India, which share a commitment to promoting regional security, stability and economic prosperity through diversified trade, and strategic investment ties," the US statement added.

US embassy chargé d'affaires Jorgan Andrews will lead the high-level American delegation of representatives from the US Departments of State, Defence, and Commerce. "The United States is excited to once again participate in Aero India and to spotlight our strong defence ties with India. Our cooperation in defence, trade, and training is integral to our growing strategic partnership," he said.

On February 6, defence minister Rajnath Singh spoke to his US counterpart Pete Hegseth over phone and reviewed bilateral defence cooperation, with focus on multiple domains in land, air, maritime and space, even as the two leaders agreed to deepen collaboration in areas including technology, integration of defence industrial supply chains, interoperability, logistics and information sharing, and joint military exercises.

This was their first conversation after Hegseth took over as defence secretary and came in the run-up to Prime Minister Narendra Modi's upcoming visit to the US.

"The growth in Indian and US bilateral defence trade has corresponded with growing interoperability through information sharing, liaison officers, training exercises, and defence enabling agreements," Schneider added.

Both sides have made progress under the US-India Defence Industrial Cooperation Roadmap, including ongoing collaboration to advance priority co-production arrangements for jet engines, munitions, and ground mobility systems.

The road map, adopted in 2023, seeks to fast-track technology cooperation and co-production in critical areas including air combat and land mobility systems, intelligence, surveillance, and reconnaissance, munitions, and the undersea domain.

Last October, India signed a deal worth $3.5 billion with the US to acquire 31 MQ-9B drones to boost its defence preparedness, primarily with an eye on China. The agreement came after a

deliberative process in New Delhi that spanned eight years, involved negotiations with two US administrations, incorporated the lease of two drones in this period, and required, at the American end, a challenging process of congressional approval.

Hindustan Aeronautics Limited (HAL) is also negotiating a deal with US firm GE Aerospace for the joint production of F414 engines in India. The two firms signed a memorandum of understanding in Washington in June 2023 to produce 99 F414 engines for India's future LCA (light combat aircraft) Mk-2 programme.

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Aero India 2025 kicks off: IAF, Army chiefs take historic flight; grand air show set to unfold

Source: Hindustan Times, Dt. 10 Feb 2025,
URL: https://www.hindustantimes.com/india-news/aero-india-2025-begins-today-iaf-army-chiefs-take-historic-flight-grand-air-show-teja-navy-bengaluru-101739145251655.html

In a first, Army Chief General Upendra Dwivedi and Air Force Chief Air Chief Marshal AP Singh took to the skies together in the indigenous Light Combat Aircraft (LCA) Tejas on Sunday, ahead of the Aero India 2025 event in Karnataka's Bengaluru. This historic flight, featuring two service chiefs in the cockpit, highlights the growing synergy between the Indian Army and the Indian Air Force (IAF). "It was the best moment of my life. As you are aware Air Chief Marshal AP Singh is my course mate and we have been together since our NDA days. I wish he had met me earlier; I would have changed my option to the Air Force. I have told earlier also if I had gone to the Air Force, I would have been a fighter pilot. From today AP Singh is also my guru. I relished. I must admire the kind of challenge Air Force pilots take. It's a good start for Aero India 2025," Dwivedi told reporters.

The Tejas, developed entirely in India, represent the country's commitment to 'Aatmanirbharta' (self-reliance) in defence. Aero India, a biennial air show and aviation exhibition began Monday and will continue till February 14 at Yelahanka Air Force Station, Bengaluru. The premier event provides a platform for defence industry leaders to collaborate and showcase advanced technologies, aiding the Indian Armed Forces in modernising their operational capabilities. Defence minister Rajnath Singh will inaugurate the 15th edition of 'Aero India', touted as Asia's largest air show, and an India Pavilion at the venue. Speaking at the Curtain Raiser event on Sunday, he stressed the government's push to transform the aerospace sector, enabling India to produce indigenous fighter jets like LCA Tejas and Prachand. He further highlighted that India is not only designing and developing major defence equipment but has also established a robust supply chain for the same.

Navy's MiG-29K, anti-ship helicopters on display

- The Indian Navy will showcase a range of naval aviation assets at Aero India 2025, including the MiG-29K, Seaking 42B, Kamov 31, MH-60R, and other anti-ship and airborne early warning helicopters.

- The Light Combat Aircraft (Navy), designed by the Aeronautical Design Agency (ADA) and manufactured by HAL, will be displayed in the exhibition area.
- A scaled model of the future Twin Engine Deck-Based Fighter (TEDBF), a fourth-generation deck-borne fighter designed by ADA, will be exhibited in the India Pavilion.
- The Navy has transitioned from a "Buyer's Navy" to a "Builder's Navy," with over 60 warships under construction in Indian shipyards. A vision document, “Aatmanirbhar Indian Naval Aviation: Technological Roadmap 2047,” will be released during the event, outlining the future course for indigenous naval aviation capabilities.
- The Navy's fly-past will feature the ‘Varuna’ formation, symbolising victory, with P-8I in the lead, flanked by MiG-29K and Hawk 132 aircraft. The India Pavilion will showcase indigenous defence projects developed by the Indian Navy in collaboration with DRDO and industry, including advanced missiles, air droppable search and rescue kits, logistics containers, MiG-29K carrier-borne systems, and lightweight torpedoes.
- In a first, the mega event will witness participation of two of the world's most advanced fifth-generation fighter aircraft equipped with stealth capabilities --- the Russian Su-57 and the American F-35 Lightning II, the Defence Ministry said on Sunday.

What else is expected at Aero India 2025?

- The India Pavilion at Aero India 2025 will symbolise the ‘Flight of Self-Reliance’, showcasing India's progress toward becoming a global aerospace and defence powerhouse. The pavilion will feature five zones displaying indigenous capabilities in aero aviation, land aviation, naval aviation, defence-space, and niche technology domains.
- The country’s complete defence ecosystem, including DPSUs, design houses, private corporates, MSMEs, and start-ups, will present over 275 exhibits. The Central Area exhibits will feature marquee platforms such as the Advanced Medium Combat Aircraft (AMCA) and Combat Air Teaming System (CATS).
- Aero India 2025, a flagship defence and aerospace event, will bring together global industry leaders, government officials, technology experts, and strategists. Over 100 Original Equipment Manufacturers (OEMs) have confirmed participation, including 55 from 19 countries (USA, France, Russia, South Korea, UK, Japan, Israel, Brazil, etc.), 35 Indian companies (L&T, Adani Defence, Mahindra Defence, BrahMos Aerospace, etc.), and 16 DPSUs.
- Major foreign OEMs, including Airbus (France), Ultra Maritime (USA), GNT (South Korea), Mitsubishi (Japan), Rafael (Israel), and Safran (France), will showcase future plans, collaborations, and partnerships with Indian companies. The event will focus on joint ventures, production of spare parts, development of aero-engines, setting up of MRO (Maintenance, Repair & Operations) facilities, and establishment of R&D centers in India.

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Aero India 2025: Bharat Electronics Limited to unveil latest innovations, AI-powered warfare tech

Source: The Economic Times, Dt. 09 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/aero-india-2025-bharat-electronics-limited-to-unveil-latest-innovations-ai-powered-warfare-tech/articleshow/118089017.cms

Navratna Defence PSU Bharat Electronics Limited (BEL) will showcase its latest offerings for the armed forces at Aero India 2025, scheduled to be held at Yelahanka Air Force Station, Bengaluru, from February 10 to 14. Aero India 2025 will feature a range of advanced products and systems from BEL, according to the press release.

Among the key offerings in communication equipment are variants of Software Defined Radio, Radio on the Move, and High Capacity Radio Relay.

Electro-optic devices on display will include the Uncooled Thermal Imager Sight for Assault Rifles, Passive Night Vision Goggles, and the Border Observation Surveillance System.

In the domain of airborne electronic warfare and avionics, BEL will showcase products such as the Stall Protection System for helicopters, Digital Flight Control Computer, and Tactical Data Link for naval platforms.

Shipborne systems on display will include the Passive Hydrophone Element (Low and Medium Frequency), HUMSA-NG Transducer Element, and the Ship-based SIGINT EW System.

BEL will also present weapon systems such as the Pralay Missile, Long Range Land Attack Cruise Missile, and QRSAM. Land-based electronic warfare systems will feature the Portable Anti-Drone System and Ground-Based ELINT System.

Additionally, the exhibition will include arms and ammunition such as the Corner Shot Weapon System, Electronic Artillery Fuzes, and Long Range Glide Bomb.

Radar systems on display will include the Air Defence Fire Control Radar, Arudhra Radar, Ashwini Radar, and Multi-Function Radar.

BEL will also showcase futuristic and cutting-edge technologies such as 5G Solutions for Defence, Quantum Cryptography, Unmanned Warfare Technology, Space Situational Awareness and Theatre Command; Upgraded Ku Band Exciter, Direct RF Signal Processing and Digital Light Engine, said the release.

Apart from these, on show will be the latest Artificial Intelligence based products like Generative AI-based Virtual Assistants, AI-based Language Translation Solutions and AI-enabled Speech Analysis & Voice Translation Systems.

On display are also advanced products and systems developed by BEL in collaboration with local MSMEs and global OEMs.BEL will be showcased in Hall E4.1.

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TechEagle to invest Rs 100 crore in UAVs, launches first Responder Drone

Source: The Economic Times, Dt. 07 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/techeagle-to-invest-rs-100-crore-in-uavs-launches-first-responder-drone/articleshow/118007146.cms

TechEagle on Friday said it plans to invest Rs 100 crore in the next three years amid the growing demand for drones and unmanned aerial vehicles in the area of public safety. Paytm founder Vijay Shekhar Sharma, along with Inflection Point Ventures-backed drone logistics and UAV technology startup, also announced the launch of an autonomous UAV First Responder for enhanced disaster relief, law enforcement, crowd control, and environmental monitoring.

"With expanded manufacturing, strategic partnerships and the Rs 100 crore investment over the next three years, TechEagle is poised to meet growing demand (for drones and UAVs) from state agencies, security forces, and international emergency teams," the company said.

The newly-launched drone is a fully autonomous UAV designed to redefine emergency response, it said adding that in tandem with this launch it has secured a contract with the disaster authorities of the Himachal government, reflecting the urgent demand for advanced UAV technology.

"The First Responder Drone isn't just a technological breakthrough, it's Bharat's answer to global challenges in emergency response. With superior range, payload capacity, and autonomy, our UAV delivers unmatched real-time intelligence and operational efficiency all at one-fourth the cost of Western counterparts," said Vikram Singh Meena, Founder & CEO of TechEagle.

The drone accelerates emergency operations by delivering aid, mapping disaster zones, providing real-time surveillance, and facilitating critical search and rescue missions, the company said. It added that the drone also serves as an airborne command unit, delivering unmatched situational intelligence and operational support.

Engineered and made domestically, the latest drone is mission-ready in under 120 seconds, adapting effortlessly across urban landscapes, flood zones, wildfires, and mountainous terrains, the company said.

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India set to boost defence exports, Industry Quality Assurance conclave held in New Delhi

Source: ANI News, Dt. 10 Feb 2025,
URL: https://aninews.in/news/national/general-news/india-set-to-boost-defence-exports-industry-quality-assurance-conclave-held-in-new-delhi20250207231603/

The Industry Quality Assurance (QA) Conclave, on the theme 'Collaborative Quality Assurance: Bridging the Gap Between Industry and Defence,' was held in New Delhi on February 07, according to the official statement.

Delivering the keynote address, Secretary (Defence Production) Sanjeev Kumar highlighted India's strides in defence manufacturing under the Atma Nirbhar Bharat initiative. He underscored the pivotal role of innovation, collaboration, quality assurance and mindset in making India a global leader in defence exports. The conclave aimed to foster deeper collaborations and innovative strategies between the defence sector & shipbuilding industries to promote indigenisation and excellence in defence manufacturing said the statement.

According to the statement, Chief of Materiel, Indian Navy Vice Admiral Kiran Deshmukh described technical innovation, collaboration, and rigorous testing as key pillars for a robust and quality-driven defence ecosystem.

Director General of Quality Assurance N. Manoharan highlighted the importance of a strong QA-industry partnership and the need for standardised, innovative, and risk-managed processes to enhance the quality of defence manufacturing.Additional Director General (QA) Warship Production Rear Admiral Iqbal Singh Grewal highlighted the critical role of emerging technologies and streamlined QA processes in achieving excellence in defence manufacturing.

Discussions at the conclave explored innovative quality assurance practices, including proactive quality control strategies and enhanced collaboration frameworks between defence organisations and the shipbuilding industry. Efficient type testing and certification methods aligned with global best practices to reduce project delays and failures were also presented.

Participants delved into strategies for balancing QA with project timelines and integrating delay mitigation strategies to ensure timely project completion without compromising quality. The conclave further emphasised the adoption of cutting-edge technologies and their impact on QA processes.

The statement said it is organised by the Directorate General of Quality Assurance; the event witnessed participation from senior government officials, industry leaders, naval representatives, and quality assurance professionals. The conclave provided a dynamic platform for knowledge sharing, collaborative brainstorming, and forging meaningful connections among stakeholders, including shipyard executives, QA professionals, policymakers and researchers.

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Bangladesh Navy Chief meets Pakistan Army Chief in Rawalpindi

Source: The Economic Times, Dt. 10 Feb 2025,
URL: https://economictimes.indiatimes.com/news/defence/bangladesh-navy-chief-meets-pakistan-army-chief-in-rawalpindi/articleshow/118096193.cms

Bangladesh's chief of naval staff, Admiral Mohammad Nazmul Hassan, last week met the head of Pakistan's army, Syed Asim Munir Ahmed Shah, marking the second defence-level meeting between the two south Asian nations in less than a month.

The development is being seen as the Bangladesh interim government's efforts to broaden its engagements and defence ties in the region. Earlier, the second-in-command of the Bangladesh Army had met Munir in Rawalpindi.

Hasan met Shah in Rawalpindi on Friday to discuss naval cooperation and participation in a multinational naval exercise organised by Pakistan Navy, people aware of the matter told ET, adding that a section of the Bangladesh military has been stressing collaboration with Pakistan to boost "regional stability".

ET had reported last month that Pakistan army is planning to launch training programmes for its Bangladeshi counterpart from this month. Besides hosting the director general of Pakistan's ISI agency, Bangladesh military has been receiving military delegations from Rawalpindi since the fall of the Sheikh Hasina government.

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Science & Technology News

Union Minister Dr. Jitendra Singh called on States to establish BioE3 cells as part of India's Biotechnology revolution and realize Bio-Vision in Viksit Bharat by 2047

Source: Press Information Bureau, Dt. 07 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2100800

Union Minister Dr. Jitendra Singh called on states to establish BioE3 Cells as part of India’s biotechnology revolution, with the aim of realizing Bio-Vision for Viksit Bharat by 2047. During the Centre-State Partnership Conclave on the BioE3 Policy, held at Vigyan Bhavan in New Delhi, Dr. Singh emphasized the significance of strengthening Centre-State collaboration to advance India's bioeconomy.

He highlighted the need for state governments to leverage their unique strengths, resources, and economic priorities to propel India’s biomanufacturing sector forward. Notably, he pointed out the importance of marine resources, the Himalayan region’s resources, and other region-specific bio-resources that could help usher in a new biotech revolution.

Union Minister of State (Independent Charge) for Science and Technology, Minister of State (I/C) for Earth Sciences, Minister of State in the Prime Minister’s Office, Department of Atomic Energy, Department of Space, and Personnel, Public Grievances and Pensions, Dr. Jitendra Singh credited Prime Minister Narendra Modi's visionary leadership for approving the BioE3 Policy within the government’s first 100-day agenda. He mentioned other key initiatives, such as Mission Mausam, funding for Space Startups, and the National Research Foundation (NRF).

To ensure the success of the BioE3 Policy, Dr. Jitendra Singh urged states to establish ‘BioE3 Cells’ in collaboration with the Centre through the Department of Biotechnology (DBT). These BioE3 Cells will serve as interconnected knowledge hubs, linking state and national stakeholders to facilitate the effective implementation of the BioE3 Policy. Established at the state level, these cells will act as central platforms for knowledge exchange, policy coordination, and technology adoption in the biomanufacturing sector.

On this occasion, Dr. Singh released a booklet on the Establishment of BioE3 Cells for Biomanufacturing Implementation, which aims to catalyze Centre-State partnerships to drive biotech innovations. In releasing the booklet, he highlighted that the primary goal of the BioE3 Cells is to ensure biomanufacturing initiatives are closely aligned with each state’s specific priorities, resources, and strengths, while also staying connected to broader national objectives. He emphasized that by establishing a nationwide network of BioE3 Cells, the government aims to facilitate the integration of emerging technologies, innovative research, and sustainable biomanufacturing practices across regions, ensuring a cohesive and efficient approach to biotechnology development in India.

Reiterating PM Modi's "Whole of Government" approach, Dr. Singh called for a strong Centre-State partnership to ensure the successful implementation of the BioE3 Policy. He stressed the need to stop working in silos and instead collaborate on various fronts, with clear demarcation between industry, academia, and entrepreneurship. He also referred to IN-SPACe and BIRAC as successful; platform to usher collaborations with private sector.

Furthermore, Dr. Singh pointed out notable advancements in India’s biotechnology sector, including the indigenous DNA vaccine developed by the Department of Biotechnology during the pandemic, the development of the antibiotic ‘Nafithromycin’, and successful gene therapy trials at CMC Vellore. He also emphasized that India remains open to private sector collaboration, aiming to replicate the successes seen in the space sector and nuclear energy.

Highlighting the government's commitment, Dr. Singh referred to the allocation of resources for Bio Foundries and Biomanufacturing in the latest budget, which marked a shift from typical populist priorities to a focus on science and technology under PM Modi’s leadership.

Dr. Singh also provided examples of successful Centre-State collaboration. For instance, his Department of Administrative Reforms has paired states with similar issues to address challenges effectively. He noted the central government’s funding for cleaning lakes like Loktak Lake and Dal Lake. Additionally, he mentioned the establishment of Fecal Sludge Treatment Plants (FSTP) during the Kumbh Mela, showcasing how science and biotechnology can play a critical role in addressing daily challenges and ensuring sustainable development.

Dr. Rajesh Gokhale. Secretary Department of Biotechnology addressed the conclave on opportunities in Biotech Sector for Viksit Bharat. Dr. Alka Sharma, Senior Advisor DBT summarized the deliberations which took place throughout the day with states. Kiran Mazumdar Shaw, founder, Biocon joined the conclave through virtual mode. Mr. R. Subramani, Founder, Fermbox Bio, Bangalore also marked his presence along with senior representatives from almost all states. Dr. Jitendra Kumar, MD, BIRAC shared BIRAC’s effort towards building strong industry linkages, paving the way for the establishment of BioE3 cells.

The conclave provided a valuable platform for senior representatives from various states to deliberate on biotechnology initiatives, ensuring these efforts are aligned with each state's unique strengths and resources while staying true to the overarching goals of the BioE3 Policy.

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New milestone in indigenous development of gaseous detector important for mega science FAIR project in Germany

Source: Press Information Bureau, Dt. 07 Feb 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2100715

Researchers have developed an innovative technique using a radioactive source that can simplify the study of radiation effects on Gas Electron Multiplier (GEM) detectors, a crucial step in nuclear and particle physics experiments.

Gas Electron Multiplier (GEM) detector are particle detectors used as tracking devices in high-energy physics experiments that utilizes a thin, perforated foil with a high electric field to amplify particles produced by ionizing radiation, allowing for precise detection of particles like muons by significantly multiplying the initial signal generated by the particle's interaction with the gas within the detector.

They are also strong candidates for diagnostic applications in medical technology because of their good position resolution. First introduced by Prof. Fabio Sauli in 1997, GEM detectors consist of a 50 µm thick Kapton foil, with 5 µm copper cladding on both sides.

Despite their advantages, the inclusion of Kapton, a radiation-resistant polyimide film with excellent insulating properties, in the active volume makes these detectors sensitive to radiation-induced effects, particularly the charging-up of the dielectric medium. During operation, ionizing radiation deposits energy into the detector, initiating electron avalanche formation.

This process results in charge accumulation on the Kapton foil, which in turn enhances the electric field within the GEM holes—the primary region for electron multiplication. This increase in the electric field boosts the detector's gain and efficiency. Over time, a dynamic equilibrium is established, stabilizing the gain and ensuring consistent detector performance.

India has the full responsibility of building all the GEM chambers that will be used in the future Compressed Baryonic Matter (CBM) experiment at FAIR and will be operated at very high radiation environment. For this, it is important to enhance the understanding of the charging-up effect in GEM detectors, a phenomenon that remains inadequately understood.

To investigate this phenomenon, Dr. Saikat Biswas and his PhD student, Dr. Sayak Chatterjee along with the other collaborators from the Bose Institute, an autonomous institution under the Department of Science and Technology (DST), Government of India, conducted an in-depth investigation into the charging-up effect on the Kapton foil and its subsequent impact on detector performance.

The team from Department of Physical Sciences at Bose Institute, developed a specialized experimental setup to study the charging-up effect in triple GEM detectors by studying its gain variation as a function of time.

Analysis of the charging effect indicated that as either the detector gain (the ratio of the primary charges to the charges detected by the readout board) or irradiation rate increased, the charging-up time decreased significantly. This behavior was attributed to higher particle densities, which facilitated faster charge equilibrium within the GEM holes.

The findings from this study provide valuable insights for predicting behavioral changes in GEM detectors, critical components in high-rate experiments, when subjected to external radiation. These insights will inform design considerations and operational parameters for GEM chambers in radiation-intensive environments such as the CBM experiment at FAIR, Germany. These results are not only important for CBM experiment only but also for other high-rate experiments where GEM will be used.

The researchers plan to extend their work to investigate the impact of GEM foil geometry on the charging-up effect and to explore behavioral changes under various types of irradiations, extending beyond the capabilities of laboratory setups. The studies published in the Journal of Instrumentation & Nuclear Instruments and Methods in Physics Research Section A, are crucial milestones for indigenous gaseous detector development.

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ISRO achieves key milestone in cryogenic engine testing

Source: The Times of India, Dt. 08 Feb 2025,
URL: https://timesofindia.indiatimes.com/science/isro-achieves-key-milestone-in-cryogenic-engine-testing/articleshow/118052776.cms

Isro successfully conducted a crucial vacuum ignition test of its indigenous CE20 cryogenic engine at its Propulsion Complex in Mahendragiri, Tamil Nadu, on 7 February.The test simulated space conditions for the engine, which powers the upper stage of the LVM-3 rocket. Isro said the test focused on igniting the engine’s thrust chamber using a multi-element igniter under vacuum conditions, matching the tank pressure parameters required for engine restart during actual space flight.

Both the engine and facility performed as expected during the trial. Isro is exploring an innovative approach to restart operations, investigating the use of bootstrap mode for turbopump initiation instead of traditional stored gas systems, as per a statement issued Saturaday.

This development is part of Isro's broader initiative to enable multiple cryogenic engine restarts during flight missions. Developed by Isro's Liquid Propulsion Systems Centre (LPSC), the CE20 engine has already been qualified for thrust levels between 19 and 22 tonnes with single-start capability and is cleared for use in the Gaganyaan mission. This latest vacuum test follows earlier successful trials conducted under ground conditions.

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We want to restart cryogenic stage in flight for mission advantages: ISRO chief

Source: The Hindu, Dt. 08 Feb 2025,
URL: https://www.thehindu.com/sci-tech/science/we-want-to-restart-cryogenic-stage-in-flight-for-mission-advantages-isro-chief/article69195856.ece

A day after ISRO successfully carried out the ignition trial of the indigenous CE20 cryogenic engine, its Chairman and Secretary of Department of Space V Narayanan on Saturday (February 8, 2025) said that the test would be advantageous to missions.

The Chairman also said there were no glitches as reported in the media in ISRO's first Space Docking Experiment (SpaDeX) mission."We want to restart the cryogenic stage in the flight for mission advantages. So, we recently carried out a test towards that," Narayanan told PTI on the sidelines of the 15th Biennial Edition of Aero India International Seminar 2025, held in Bengaluru.

SpaDeX docking: ISRO arrests drift between satellitesOn February 7, ISRO successfully carried out the ignition trial of the indigenous CE20 cryogenic engine powering the upper stage of LVM3, with a multi-element igniter under vacuum conditions, which simulates the engine ignition in the vacuum condition of space. This test was carried out in the High-Altitude Test Facility at ISRO Propulsion Complex in Mahendragiri, Tamil Nadu.

According to an ISRO release, during this test, the ignition of the engine Thrust Chamber was carried out with a multi-element igniter in vacuum, under the tank pressure conditions that are expected to prevail at the time of restarting the cryogenic engine in flight.The performance of the engine and the facility during the test was normal and as expected, it added.

ISRO’s SpaDex mission advances lunar exploration, sample return missions and other objectives: ATLOn reports in the media on glitches in the SpaDeX mission, Narayanan said, "No glitches, right now it is docked. We are going step by step. We are studying and then we are planning to do a lot of experiments."

On January 16, the space agency successfully performed the docking of satellites as part of the Space Docking Experiment (SpaDeX) and it also announced that post docking, control of two satellites as a single object was successful. In this mission, NVS-02 navigation satellite was successfully injected into the intended Geosynchronous Transfer Orbit.

But on February 2, ISRO issued an update stating that the orbit raising operations towards positioning the satellite to the designated orbital slot could not be carried out as the valves for admitting the oxidizer to fire the thrusters for orbit raising did not open.

The ISRO chairman was the chief guest at Aero India International Seminar 2025. This year, the international conference on military airworthiness explored the topic 'futuristic aerospace technologies: challenges in design validation'.

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No glitches in SpaDex, we are going step by step: ISRO chief

Source: The Economic Times, Dt. 08 Feb 2025,
URL: https://economictimes.indiatimes.com/news/science/no-glitches-in-spadex-we-are-going-step-by-step-isro-chief/articleshow/118069458.cms

ISRO Chairman V Narayanan on Saturday said there were no glitches in the space agency's maiden space docking mission, Spadex, as reported in a section of media and that it was going step by step. "No glitches, right now it is docked. We are going step by step. We are studying and then we are planning to do a lot of experiments," Narayanan, Secretary, Department of Space, told PTI on the sidelines of the 15th Biennial Edition of Aero India International Seminar, 2025, here.

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Although on February 2, the Indian Space Research Organisation (ISRO) issued an update stating that the orbit raising operations towards positioning the satellite to the designated orbital slot could not be carried out as the valves for admitting the oxidizer to fire the thrusters for orbit raising did not open.

Some reports had recently claimed that space docking could be experiencing technical issues as the two spacecraft -- SDX-01 and SDX-02, are yet to undock.

But Narayanan had said earlier too that the space agency was still conducting a review of the undocking process and that the move could take a while.

According to ISRO, the SpaDeX mission is a cost-effective technology demonstrator mission for the demonstration of in-space docking using two small spacecraft that was launched by a PSLV rocket.In space, docking technology is essential when multiple rocket launches are required to achieve common mission objectives.

This experiment is crucial for ISRO's future missions, such as the Bharatiya Antariksh Station and landing of an astronaut on the moon.

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