DRDO NEWSLETTER

A Monthly Bulletin of Defence Research and Development Organisation

https://www.drdo.gov.in

ISSN: 0971-4391

SEPTEMBER 2026 | VOLUME 46 | ISSUE 9

DRDO CONDUCTS SUCCESSFUL MAIDEN FLIGHT-TEST OF 'KUSHA' LONG-RANGE SURFACE-TO-AIR MISSILE

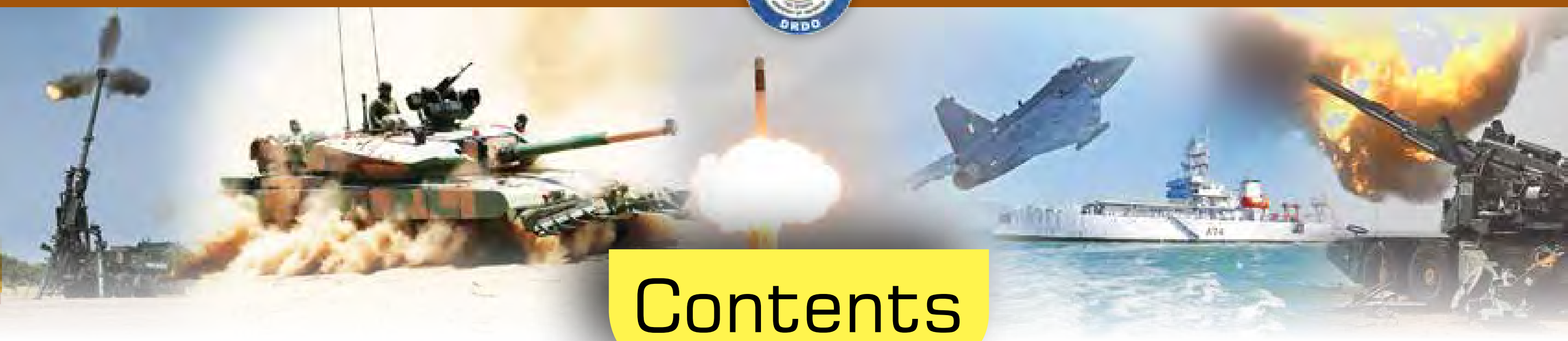
Editor-in-Chief: Kiran Chauhan
Associate Editor-in-Chief: Sudhanshu Bhushan
Editor: Dipti Arora
Design & Pre-press: Raj Kumar
Printing: Rajesh Kr Singh
Distribution: Pratyaksh Sharma

SEPTEMBER 2026 | VOLUME 46 | ISSUE 9

46th Year of Publication

LABORATORY CORRESPONDENTS

Agra	:	Shri Gayasuddin Quraishi, Aerial Delivery Research and Development establishment (ADRDE)
Ahilyanagar	:	Shri RA Shaikh, Vehicle Research and Development Establishment (VRDE)
Ambernath	:	Dr Ganesh S Dhole, Naval Materials Research Laboratory (NMRL)
Balasore	:	Shri Mrinal Goswami, Integrated Test Range (ITR)
		Shri Ratnakar S Mohapatra, Proof & Experimental Establishment (PXE)
Bengaluru	:	Shri Sriram GN, Aeronautical Development Establishment (ADE)
		Smt MR Bhuvaneswari, Centre for Airborne Systems (CABS)
		Smt Faheema AGJ, Centre for Artificial Intelligence & Robotics (CAIR)
		Dr Josephine Nirmala M, Combat Aircraft Systems Development & Integration Centre (CASDIC)
		Shri Jitender Kumar & Shri Vedang Chauhan, Centre for Military Airworthiness & Certification (CEMILAC)
		Dr Sanchita Sil & Dr Sudhir S Kamble, Defence Bioengineering & Electromedical Laboratory (DEBEL)
		Dr V Senthil, Gas Turbine Research Establishment (GTRE)
		Smt Saima Bashir, Electronics & Radar Development Establishment (LRDE)
		Ms Mita Jana, Microwave Tube Research & Development Centre (MTRDC)
Chandigarh	:	Dr Pal Dinesh Kumar, Terminal Ballistics Research Laboratory (TBRL)
	:	Dr Anuja Kumari, Defence Geoinformatics Research Establishment (DGRE)
Chennai	:	Shri K Anbazhagan, Combat Vehicles Research & Development Establishment (CVRDE)
Dehradun	:	Shri Sachin Oberai, Defence Electronics Applications Laboratory (DEAL)
		Shri JP Singh, Instruments Research & Development Establishment (IRDE)
Delhi	:	Shri Vikas Kashyap, Centre for Personnel Talent Management (CEPTAM)
		Dr (Mrs) Pritam Sangwan, Centre for Fire, Explosive & Environment Safety (CFEES)
		Dr KP Mishra, Defence Institute of Physiology & Allied Sciences (DIPAS)
		Shri Santosh Kumar Choudhury, Defence Institute of Psychological Research (DIPR)
		Dr Navin Kumar Soni, Institute of Nuclear Medicine and Allied Sciences (INMAS)
		Dr Sujata Dash, Institute for Systems Studies & Analyses (ISSA)
		Ms Sugandha Aggarwal, Recruitment & Assessment Centre (RAC)
		Shri Ashok Kumar, Scientific Analysis Group (SAG)
		Dr Rupesh Kumar Chaubey, Solid State Physics Laboratory (SSPL)
Gwalior	:	Dr MK Meghvansi, Defence R&D Establishment (DRDE)
Haldwani	:	Dr Atul Grover, Defence Institute of Bio-Energy Research (DIBER)
Hyderabad	:	Dr A Nagendranath, Advanced Systems Laboratory (ASL)
		Shri Rajeev Kumar Sharma, Defence Research and Development Laboratory (DRDL)
		Shri Ch Narasimhachari, Defence Electronics Research Laboratory (DLRL)
		Shri S Shashi Nath, Defence Metallurgical Research Laboratory (DMRL)
Jagdalpur	:	Shri Khilawan Singh, SF Complex (SFC)
Jodhpur	:	Shri DK Tripathi, Defence Laboratory (DL)
Kanpur	:	Dr Mohit Katiyar, Defence Materials & Stores Research & Development Establishment (DMSRDE)
Kochi	:	Dr Sandhya Songara, Naval Physical & Oceanographic Laboratory (NPOL)
Leh	:	Dr Dorjey Angchok, Defence Institute of High Altitude Research (DIHAR)
Mussoorie	:	Shri Sunil Bhandari, Institute of Technology Management (ITM)
Mysuru	:	Dr M Palmurugan, Defence Institute of Bio-defence Technologies (DIBT)
Nasik	:	Shri Ashutosh Sharma, Advanced Centre for Energetic Materials (ACEM)
Pune	:	Shri Ajay K Pandey, Armament Research and Development Establishment (ARDE)
		Dr Ganesh Shankar Dombe, High Energy Materials Research Laboratory (HEMRL)
		Dr Anoop Anand, Research and Development Establishment (E) (R&DE)
Tezpur	:	Dr KS Nakhuru, Defence Research Laboratory (DRL)
Visakhapatnam	:	Smt Jyotsna Rani, Naval Science & Technological Laboratory (NSTL)



Contents

Please mail your feedback and suggestions at:
director.desidoc@gov.in; drdonl.desidoc@gov.in;
Contact at: 011-23902403; 23902472; Fax: 011-23819151

DRDO CONDUCTS SUCCESSFUL MAIDEN FLIGHT-TEST OF 'KUSHA' LONG-RANGE SURFACE-TO-AIR MISSILE

The Defence Research & Development Organisation (DRDO) successfully conducted the maiden flight test of the 'Kusha' long-range surface-to-air missile from the APJ Abdul Kalam Island off the coast of Odisha on 23 July 2026. This maiden test was conducted against an electronic target simulating a high-speed and high-altitude aerial threat which was successfully intercepted by the missile system.

The 'Kusha' missile system is capable of neutralising a wide variety of aerial threats, including fighter jets, missiles, unmanned aerial vehicles and large enemy aircraft within a wide range and altitude envelope. All weapon system elements, including the missiles, radars, and command and control centre, have been developed by various DRDO laboratories and industry partners.

Hon'ble Raksha Mantri Shri Rajnath Singh stated that the successful test flight of 'Kusha' marks an important milestone in Indian defence R&D, highlighting the capability to develop a long-range surface-to-air missile system, possessed only by a handful of nations. The missile, he added, will also eliminate the import dependency for such systems and signify a giant leap in the air defence capabilities of the nation.

Shri Rajesh Kumar Singh, Defence Secretary and Secretary, Department of Defence R&D and Chairman, DRDO monitored all activities during the launch and congratulated the team members involved in the successful flight test.

CLEARANCE TO INDIGENOUSLY DEVELOPED FERRIUM C 64 BY M/S SUNFLAG, NAGPUR

The Centre for Military Airworthiness & Certification (CEMILAC), Bengaluru, has accorded provisional clearance to M/s Sunflag Iron & Steel Co. Limited, Nagpur, for the successful development and indigenization of Ferrium C 64, a premium aircraft-quality alloy steel equivalent to AMS 6509. The alloy is intended for high-strength, carburizable steel components of aero systems, where high resistance to fatigue and abrasive wear, along with high load-bearing capacity, is essential. The successful development of this critical alloy marks a significant milestone towards indigenous capability and reducing dependence on imported materials.

The development has been accomplished within a short span through the concerted efforts of all stakeholders. CEMILAC provided comprehensive support throughout the development and certification process, culminating in the grant of pre-production utilisation of alloy. This achievement paves the way for wider adoption in critical helicopter transmission components, gears, actuators, high load mechanical parts, engine and drivetrain applications, thereby contributing towards atmanirbharta.

While presenting the certificate, Shri APVS Prasad, CE(A), CEMILAC, appreciated the efforts of M/s Sunflag towards the indigenous development of the component to meet the requirements of defence forces. He also acknowledged the efforts of HAL (F&F) in initiating the project and RCMA (F&F) in facilitating its certification. The CE (A) urged all stakeholders to accord due impetus to indigenization and concurrently pursue certification on a fast-track basis. He further emphasized the importance of adhering to stipulated timelines for the indigenisation and airworthiness certification of all critical alloys, which would contribute significantly towards sustaining the operational readiness of various fleets of services.

RELEASE OF CEMILAC CERTIFICATION KIT VER 2.0

The Centre for Military Airworthiness & Certification (CEMILAC), Bengaluru, Certification Kit Ver 2.0, containing modules on airworthiness certification frameworks, policy documents and tutorial materials, was released by the Chief Guest Air Marshal Yalla Umesh VSM, Air Officer Commanding-in-Chief (AoC-in-C), Maintenance Command, IAF, during the DRDO Aero Cluster Synergy Meet 2026 held on 25 July 2026 at the Aeronautical Development Establishment (ADE), Bengaluru. The DG (ACE), DG (Aero), MD BATL, Director BDL, MD Astra Microwave, and Chief Executive (A), CEMILAC, were the other dignitaries present during the release.

The director (public interface) of CEMILAC outlined the idea of "Certification Kit Ver 2.0", which was conceived, keeping in mind the challenges faced by D&D agencies

during certification and the continued efforts of CEMILAC to facilitate defence aero industries, thereby promoting ease of certification. The "Certification Kit Ver. 2.0" has the following major additions:

Modified Interface – User-friendly with ease of navigation.

- Design Organisation Approval Scheme – Tab providing DOAS methodology in detail along with associated documents.
- e-Certification – Tab providing information in detail on the e-certification portal along with troubleshooting steps.
- Airworthiness Certification Requirement (ACR) – Update on ACR included.
- IMTAR Form V 2.0 – All forms in editable format are included for ease of use.
- Frequently Asked Questions (FAQs) – A tab containing FAQs is included.

CE(A), CEMILAC, expressed confidence that the kit will facilitate a better understanding of certification processes and requirements among D&D agencies, thereby enabling them to appropriately plan and address airworthiness aspects prior to engagement with CEMILA/ RCMAs.

He also emphasized that adherence to the prescribed procedure right at the beginning would not only minimize delays in certification but also optimise the efforts of stakeholders.

DEVELOPMENT OF NAVIC–BASED IRIG-B TIME GENERATION SYSTEM AT ITR

To explore the applicability of indigenous satellite navigation time for test range operation, a prototype system for generation and dissemination of IRIG-B time signals based on the Indian Regional Navigation Satellite System (IRNSS)/NavIC has been developed at the Integrated Test Range (ITR), Chandipur. The system has been realized under the leadership of Shri K Suchendar, OS & Director, ITR, and the Central Timing Team of ITR in technical collaboration with the GNSS Laboratory, Department

of Physics. The University of Burdwan, West Bengal.

A Contract for Acquisition of Research Services (CARS) project entitled "A study on the applicability of IRNSS/NaVIC time for test range application through IRIG-B signal generation" was undertaken with the University of Burdwan. The project was led by Dr Anindya Bose as the principal investigator, with active participation from the scientists and technical staff of ITR. The developed prototype receives precise timing information from the NaVIC constellation and generates standard IRIG-B timing signals compatible with existing range instrumentation. The system has been designed to provide a native alternative to conventional GPS-based timing infrastructure used for countdown timing, telemetry, radar, electro-optical tracking systems, and other mission-critical applications at the test range.

The project marks an important step towards reducing dependence on foreign satellites and enhancing self-reliance in strategic timing infrastructure. The technology can be extended to other defence establishments where secure and accurate time synchronization is essential. The prototype system has been validated at ITR through operational testing and robustness verifications and presented to the Range Technology Council on 14 July 2026.

DRDO INKS TWO MAJOR CONTRACTS WITH INDUSTRY PARTNERS AS PART OF AEW&C MK-II PROGRAMME

In a significant boost to Aatmanirbhar Bharat, the Centre for Airborne Systems (CABS), Bengaluru, has signed a contract with AI Engineering Services Limited (AIESL), New Delhi, for the conversion of six A321 aircraft from commercial to green configuration, further leading to the development and production of the Airborne Early Warning & Control (AEW&C) MKII programme. A separate contract was inked with Adani Defence Systems and Technologies (ADSTL), Ahmedabad, to engage with the company as a Development Cum Production Partner (DCPP) for mission systems designed for the AEW&C MKII programme.

The contracts were signed by the Director, CABS, with the CEO, AIESL, and Head-Airborne Platform, ADSTL, in the presence of the Defence Secretary; Secretary, Department of Defence R&D; and Chairman, DRDO, Shri Rajesh Kumar Singh in New Delhi on 22 July 2026. CABS, with support from ADSTL as DCPP, is responsible for the integration of mission systems on the modified AEW&C Mk II platform, delivered by Airbus Defence and Space (original equipment manufacturer). CABS and ADSTL will also carry out flight testing of the AEW&C MK II aircraft along with the Indian Air Force to obtain certification from airworthiness agencies – the Centre for Military Airworthiness and Certification and the Directorate General of Aeronautical Quality Assurance.

DMRL TRANSFERS THREE ADVANCED NAVAL STEEL TECHNOLOGIES TO SAIL

The Defence Metallurgical Research Laboratory (DMRL), Hyderabad, a premier DRDO laboratory specialising in metallurgy and materials science, has successfully transferred three advanced material technologies to the Steel Authority of India Limited (SAIL). The Transfer of Technology (ToT) marks a significant milestone in enhancing indigenous material capabilities for strategic defence applications.

The manufacturing technologies transferred include:

1. DMR-249A Grade Steel Billets for SAIL's Alloy Steel Plant, Durgapur.

2.DMR-249BK Grade Steel Billets for SAIL's Alloy Steel Plant, Durgapur.

These steel billets serve as feedstock for manufacturing bulb bars, which manufacturers use as feedstock to produce bulb bars, which serve as structural stiffeners in the construction of naval ships and submarines.

3. DMR-249B Steel Plates (8–30 mm thickness) for SAIL's Alloy Steel Plant, Durgapur, and Rourkela Steel Plant, Rourkela.

These high-performance steel plates meet stringent dimensional, physical, and metallurgical requirements for the construction of naval vessels, offering enhanced reliability and structural integrity.

The ToT ceremony was held at DMRL, Hyderabad, on 21 July 2026. During the event, Dr RV Hara Prasad, DS & DG (NS&M), handed over the Licensing Agreement for Transfer of Technology (LAToT) documents to representatives of SAIL in the presence of Dr R Balamuralikrishnan, OS & Director, DMRL, along with senior management officials from SAIL.

These technology transfers reaffirm DMRL's commitment to advancing Aatmanirbhar Bharat by enabling indigenous production of critical defence materials and contributing to the Viksit Bharat.

DELIVERY OF 500-WATT PULSED LASER DIODE STACKS

The Solid State Physics Laboratory (SSPL), Delhi, has successfully developed and packaged 500-watt pulsed laser diode stacks operating at a wavelength of 905 nm. These high-power laser diode stacks are critical components of laser proximity fuzes for QRSAM, NGARM and other missile systems employing laser proximity fuze technology.

As part of the technology development and evaluation programme, 50 initial prototype laser diode stacks were delivered to IRDE, Dehradun, for trials and evaluation. During the delivery ceremony, the items were exchanged between Dr Anesh Kumar Sharma, OS & Director, SSPL, Delhi, and Dr Ajay Kumar, OS & Director, IRDE, Dehradun, in the presence of Dr Sudhir Khare, Sc 'H', IRDE, and other senior officers and scientists from both laboratories.

The laser diode stacks have been developed by stacking multiple laser diode chips and have been comprehensively characterised in accordance with applicable MIL standards, ensuring their suitability for demanding defence applications.

The exchange of the prototype stacks between SSPL and IRDE marks a significant milestone in the development of high-power pulsed laser diode technology for defence applications.

The achievement reflects the combined expertise of both laboratories in design, fabrication, packaging, testing, characterisation and system-level integration, paving the way for further trials and induction into strategic applications.

SSPL SIGNS LATOT FOR INDIGENOUS ZNTE SINGLE CRYSTAL GROWTH TECHNOLOGY FOR ADVANCED TERAHERTZ APPLICATIONS

Director, Solid State Physics Laboratory (SSPL), Dr Anesh Kumar Sharma, OS & Director, SSPL, has signed a Licensing Agreement for Transfer of Technology (LAToT) with Director, Ants Innovations Pvt. Ltd., Mumbai, Mr Ashwini Jain, for "ZnTe Single Crystal Growth for Broadband Terahertz Applications."

The technology has been developed indigenously by SSPL for the growth of high-quality zinc telluride (ZnTe) single crystals and fabrication of ZnTe substrates, which are key materials for advanced broadband terahertz (THz) sensing, imaging, and spectroscopy requirements spanning various strategic defence applications, including ultra-fast security scanning and chemical and explosive sensing/detection. Additionally, this technology is safe for biological use and offers very sensitive measurements, making it better than traditional high-energy X-ray methods for civilian uses.

The successful transfer of this technology marks an important step towards indigenous

production of strategic single-crystal materials, strengthening the domestic technology ecosystem and reducing dependence on imported materials.

This is a significant step towards achieving greater self-reliance in advanced single-crystal materials and Terahertz-based technologies, thereby strengthening the technological capabilities of the nation.

MOU BETWEEN DIPAS AND AIIMS, BHOPAL

A Memorandum of Understanding (MoU) was signed between the Defence Institute of Physiology & Allied Sciences (DIPAS), Delhi, and AIIMS, Bhopal, on 20 July 2026 for collaborative research, academic exchange and advanced research in the field of human performance. The signing ceremony was held at AIIMS-Bhopal in the presence of Director, DIPAS Shri Devakanta Pahad Singh, OS, and Prof. (Dr) Madhabananda Kar, Executive Director, AIIMS, Bhopal. The partnership aims to boost health in extreme environments and develop cutting-edge protective medical technologies to mitigate operational stress.

MOU BETWEEN DMSRDE AND UPTTI, KANPUR

A Memorandum of Understanding (MoU) was signed between the Defence Materials and Stores Research & Development Establishment (DMSRDE), Kanpur, and the Uttar Pradesh Textile Technology Institute (UPTTI), Kanpur, on 6 July 2026 to promote collaboration in textile science and technology for the defence and civil sectors. The MoU was exchanged between Dr Kingsuk Mukhopadhyay, Director, DMSRDE, and Prof. (Dr)

G Nalankilli, Director, UPTTI, at UPTTI, Kanpur, in the presence of Shri Amit Saraiya, Sc 'F'; Dr Mukesh Kumar Singh; Dr Supriyo Chakraborty; and other senior officers from both organisations.

HANDING OVER CEREMONY OF INDIGENOUS FILTERS AND BEARINGS AT CVRDE

The Combat Vehicles Research & Development Establishment (CVRDE), Chennai, organized a handing over ceremony of his designed and developed products for the Indian Armed Forces on 18 August 2026. The indigenous products handed over were:

- Co-Axial lube oil filter assembly of KDE
- Mainshaft bearing for STFE
- Indigenous filter elements for MiG 29K/KUB aircraft

Prof. (Dr) Prateek Kishore, DS & DG (ACE), was the Chief Guest of the occasion.

In his august presence, Shri J Rajesh Kumar, OS & Director, CVRDE handed over the abovementioned technologies to Dr SV Ramana Murty, DS & Director, Gas Turbine Research Establishment (GTRE), Begnaluru and Naval HQ officials in the formal event held at CVRDE. Senior officials from DRDO, Navy HQ, and industry partners graced the event with their presence.

In his keynote address, the Chief Guest emphasized that the country has potential capabilities to develop world-class products and critical technologies. These technologies shall be realized in a defined time with the involvement of all stakeholders in the defence ecosystem.

The CVRDE, GTRE, Centre for Military Airworthiness & Certification (CEMILAC), DGAQA, and the industry partners M/s Mikroflo Filters, Hyderabad; M/s Amado Tools, Bangalore; and M/s Austin Engineering Company Ltd., Gujarat, were teamed up together for accomplishing this great success.

INAUGURATION OF META-MATERIAL CENTRE AT DLJ

The Meta-Material Centre was inaugurated at Defence Laboratory, Jodhpur (DLJ), by Dr RV Hara Prasad, DS & DG (NS&M), on 27 July 2026 in the august presence of Dr Ravindra Singh, OS & DG (R&M); Shri VS Shenoi, OS & Director DLJ; Dr B Choubey, OS & Director DCW&E; and Shri MV Sankar, IDSE, CE (R&D) Delhi, officers and staff of DLJ. The advanced facility is established as a dedicated Centre for the large scale roll-to-roll printing of artificial electromagnetic materials patterns and aero-grade composites fabrication. It also contains a Clean Room of Class 10000. Dr Prasad, highlighted the importance of these unique facilities established under Meta-Material Centre and emphasized its contribution to ongoing DRDO programs on various stealth platforms. Shri Shenoi expressed his gratitude to all stakeholders and acknowledged the efforts of the project team in realizing the facility.

INAUGURATION OF PROCESSING-CUM-TESTING FACILITY AND DESERT TEST RANGE AT DLJ

Dr RV Hara Prasad, DS & DG (NS&M), inaugurated the Processing-cum-Testing Facility and Desert Test Range (DTR) on 27 July 2026 at Defence Laboratory, Jodhpur (DLJ)in the solemn presence of Dr Ravindra Singh, OS & DG (R&M); Shri VS Shenoi, OS & Director DLJ; Dr B Choubey, OS & Director DCW&E; and Shri MV Sankar, IDSE, CE (R&D), Delhi.

A key highlight of the facility is the chemical processing laboratory for preparation of solutions for vegetation and dust suppression, mmW laboratory for characterization and testing of sensors for helicopter landing aid for brownout and signal processing and microwave laboratory for testing of Drone-based buried object detection systems. The desert test range is equipped with a desert field site for testing of product/system.

DMRL ESTABLISHES INERT ATMOSPHERE MAGNET PROCESSING FOR DEVELOPMENT OF ADVANCED RARE EARTH MAGNETS

Defence Metallurgical Research Laboratory (DMRL), Hyderabad, recently achieved a significant milestone with the inauguration of the Inert Atmosphere Magnet Processing Facility (IAMP). The facility is critical for developing Advanced Heavy Rare Earth (HRE) Lean Nd-Fe-B Permanent Magnets. Dr RV Hara Prasad, DS & DG (NS&M), inaugurated the facility on 21 July 2026 in the presence of Dr R Balamuralikrishnan, OS & Director, DMRL, and other senior scientists.

Dr Prasad was briefed on the global scarcity and limited availability of HRE elements required for developing high-performance Nd-Fe-B magnets for defence applications and how the new facility will help in addressing this major challenge. Dr Prasad was also briefed on the diverse range of magnet components already developed at DMRL to support critical sectors, including Nd-Fe-B and Sm-Co blocks and sector magnets for BLDC motor applications, high-speed rotor ring magnets, TWT magnets, actuator magnets, etc. by Dr M Manivel Raja, Sc 'G', and Dr Ranjan Kumar Singh, Sc 'G'.

DMRL ESTABLISHES MULTI-PROBE CMM FACILITY

The Defence Metallurgical Research Laboratory (DMRL), Hyderabad, inaugurated a Multi-Probe Coordinate Measuring Machine (CMM)/Vision Measuring Machine (VMM) Facility on 27 July 2026, further strengthening its high-precision metrology infrastructure. The VMM is a precise, non-touch, computer-controlled system that can measure the shapes and sizes of complex parts with accuracy down to tiny fractions of a millimetre. The facility uses touch

probes to measure 3D features and optical sensors to measure 2D features without touching, allowing for thorough size checks of test samples and precise parts.

Dr R Balamuralikrishnan, OS & Director, DMRL, inaugurated the facility in the presence of Associate Directors and senior scientists. Dr Srinivasa Rao Nandam, Sc 'F', briefed the gathering on the facility's advanced features, capabilities and measurement techniques. A live demonstration of the instrument followed, showcasing the dimensional inspection of GD&T features on test specimens.

Dr R Balamuralikrishnan praised the team that set up the facility, calling it an important step forward in high-precision metrology, which enhances DMRL's ability to inspect the dimensions of key parts needed for creating advanced materials and processes for strategic uses.

INAUGURATION OF FORWARD SPEED SIMULATION TEST FACILITY AT GTRE

Gas Turbine Research Establishment (GTRE), Bengaluru, is involved in the design and development of turbofan and turbojet engines across various thrust classes. During development, these engines undergo extensive testing to validate their performance and endurance for all possible flight conditions before integration with aircraft.

To expand its testing capabilities, GTRE has established Test Cell-6, a dedicated facility for simulating forward flight conditions for small engines up to the 500 kgf thrust class. The facility can simulate inlet conditions up to Mach 0.9 by accurately controlling total pressure and temperature. It utilizes high-pressure air from the Centralized Compressor Air Station, which is conditioned through pressure and flow control valves, coolers, and chillers before being supplied to the engine under test mounted on the thrust stand through a plenum chamber & bellows.

A dedicated data acquisition system records engine test data, and an engine health monitoring system monitors critical parameters such as vibrations, tip clearance, strain, etc. The facility was inaugurated by Dr K Rajalakshmi Menon, DS & DG (Aero), on 16 July 2026 in the presence of Dr SV Ramana Murty, DS & Director, GTRE.

INDEPENDENCE DAY CELEBRATION

DESIDOC, Delhi

The 80th Independence Day was celebrated with patriotic fervour and enthusiasm at the Defence Scientific Information & Documentation Centre (DESIDOC), Delhi. The celebrations brought together officers and staff members to commemorate the historic occasion and reaffirm their commitment to the nation.

The programme commenced with the hoisting of the national flag by Ms Kiran Chauhan, Director, DESIDOC. As the tricolour unfurled proudly, the gathering stood in solemn respect, followed by the singing of 'Vande Mataram' and the national anthem, which filled the atmosphere with patriotic spirit. A flag march was also organised as part of the celebrations. The march added a sense of pride and unity to the occasion, with participating personnel marching in formation while carrying the national flag.

The celebrations served as a reminder of the sacrifices and struggles of the freedom fighters who laid the foundation of an independent India. The occasion also inspired everyone to uphold the values of unity, integrity and dedication towards the nation.

DMRL, Hyderabad

The Defence Metallurgical Research Laboratory (DMRL), Hyderabad, celebrated the 80th Independence Day on 15 August 2026 with patriotic fervour and enthusiasm. On a bright and windy morning, the spirit of the occasion was reflected in the enthusiastic participation of the DMRL community, as employees came together to commemorate the historic day with unity and pride. The celebrations commenced with the hoisting of the national tricolour by Dr K. Gopinath, OS & OITC, DMRL, followed by the rendition of the national anthem.

Addressing the gathering, Dr Gopinath extended Independence Day greetings to all employees and their families and paid tribute to the sacrifices, courage and vision of the freedom fighters and the contributions of the predecessors who shaped the nation and the organisation.

Emphasising the responsibility of every individual towards nation-building, Dr Gopinath stated that each one of us, through our work and commitment, has an important role to play in building and securing the nation. Highlighting DMRL's vital role in strengthening the nation's technological and strategic capabilities, Dr Gopinath

expressed pride in the laboratory's achievements during the past year across various projects and domains. He also highlighted the initiatives undertaken for employee welfare and the various programs and events organised by the laboratory. Appreciating the collective efforts of the entire DMRL team, he acknowledged the significant accomplishments achieved by the laboratory in recent times. He urged all employees to rededicate themselves to the goals of the laboratory and the nation and to contribute wholeheartedly towards the national vision of Atmanirbhar and Viksit Bharat.

RAISING DAY CELEBRATIONS

ACEM, Nasik

Advanced Centre for Energetic Materials (ACEM), Nasik, celebrated its 15th Raising Day on 19 June 2026 with immense zeal and enthusiasm. Prof. (Dr) Prateek Kishore, DS & DG (ACE), graced the occasion as the Chief Guest. Dr AP Dash, OS & Director, HEMRL, Pune; Dr Makarand Joshi, OS & Director, R&DE(E), Pune; Shri MV Ramesh Kumar, OS & Director, ARDE; Shri SK Nayak, OS & Director, PXE; Shri Sanjay Chaudhuri, OS & GM, MSC; Dr Om Prakash Chaurasia, Sc 'G' & Director, DIHAR; and Shri Jayaseelan T, IDAS, IFA (R&D), Pune, and other dignitaries graced the occasion.

The event was kicked off by the planting of trees by Chief Guest, all Directors, IFA and dignitaries and was followed by the release of balloons.

Shri TV Jagadeeswar Rao, OS & GM, ACEM, welcomed the gathering and briefed them about work carried out at ACEM. He re-stressed the importance of safety and quality in propellant processing. He also elaborated on various futuristic activities undertaken at ACEM as per the 10-year roadmap. He informed us about various welfare activities like the sports complex, officer's mess, etc. being taken up at ACEM.

This was followed by the release of the ACEM annual report and the inauguration of the new ACEMNET portal and sample management system software.

Chief Guest Prof. Kishore, in his address, appreciated the work carried out by each employee. He noted that to date ACEM has carried out processing of propellant without any incident and zero accident. DG (ACE) urges that ACEM achieve its targets with full safety compliance and maintain its record of zero accidents.

Prior to the function, various sports competitions and fun games were conducted among ACEM employees, such as cricket, football, table tennis, carrom, badminton, chess, kabaddi and marathon (3 km & 5 km) on the occasion to improve team spirit and camaraderie and to create an atmosphere of enthusiastic competitiveness. Sports Awards, Fun Games Winner, ACEM Lab Level appreciation awards and the Best Division Award were also presented to awardees by the Chief Guest.

The event was concluded with a cultural performance from ACEM employees.

DESIDOC, Delhi

The Defence Scientific Information & Documentation Centre (DESIDOC), DRDO, celebrated its Raising Day on 29 July 2026, with enthusiasm and pride, commemorating its significant contributions towards strengthening scientific information management, technical documentation, and knowledge dissemination in support of defence research.

Addressing the gathering, the Chief Guest of the occasion, Dr Mayank Dwivedi, DG (HR), congratulated DESIDOC on its remarkable journey and appreciated the centre's dedicated efforts in supporting DRDO's research ecosystem. The Chief Guest highlighted the growing importance of trusted scientific information, digital knowledge repositories, and emerging technologies such as artificial intelligence in enhancing research productivity and informed decision-making. Ms Kiran Chauhan, Director, DESIDOC, also addressed the gathering and spoke about the initiatives and activities of the DESIDOC during the past year and the roadmap for the upcoming years. The Directors of Metcalfe House-based laboratories' sister laboratories were also present on the occasion. The dignitaries also visited the exhibition showcasing various publications from DESIDOC. As part of the celebrations, outstanding employees were felicitated for their exemplary contributions and dedicated service. The employees who had completed 25 years of service at the DRDO were also felicitated by the Chief Guest. The employees who had completed 25 years of service at the DRDO were also felicitated by the Chief Guest. The dignitaries released the DRDO Monograph on 'Turbocharging for High Mobility of Military Trucks' authored by Chetan Lal Dhamejani and Dipak Kisan Dond; and also released an inhouse developed application, 'DRDO NewsNet'. The celebrations concluded with a vibrant cultural programme presented by DESIDOC personnel.

The Raising Day celebrations reaffirmed DESIDOC's dedication to excellence in scientific information management and its continued support for DRDO's mission of achieving self-reliance in defence technologies through effective knowledge and information services.

DMSRDE, Kanpur

Defence Materials and Stores Research & Development Establishment (DMSRDE), Kanpur, celebrated its Golden Jubilee Raising Day on 29 July 2026. The event was presided over by Dr Kingsuk Mukhopadhyay, OS & Director, DMSRDE. Director in his address, highlighted various achievements, milestones achieved, and progress of ongoing project activities in the last year. He congratulated DMSRDE on last year's achievements. He also

felicitated 18 officers and staff with medals and commendation certificates on the occasion. He also distributed Certificates of Appreciation to the members of the DMSRDE Volleyball and Chess Teams who were the winners and runner-ups of the DRDO North Zone Volleyball and Chess Tournament 2025, respectively. To mark this special occasion, a crèche facility for the DMSRDE personnel and their families was also inaugurated. The program ended with the vote of thanks delivered by Mr Amit Saraiya, Sc 'F', followed by the national song and national anthem.

MUTUAL AID SCHEME DRILL EXERCISE–SURYAAKASH

Exercise "Suryaakash" was conducted to validate the preparedness of the security force in responding to a simulated terrorist attack and hostage situation within an installation of strategic importance (Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru) on 20 July 2026. The exercise aimed to assess the effectiveness of the response mechanism, command and control, inter-team coordination, room intervention procedures, casualty evacuation and communication under high-risk operational conditions.

824 DSC Pl and 4/8 GR displayed a high level of commitment, professionalism, and operational readiness throughout the exercise. The Quick Reaction Team (QRT) of 824 DSC The Pl responded promptly to the simulated incident and established an effective outer and inner cordon, preventing the escape of the terrorists and restricting unauthorised movement. Command and control were established without delay, facilitating coordinated decision-making and deployment of resources. The room intervention was executed by 4/8 GR with determination and tactical discipline. The assault team demonstrated effective room entry drills, target discrimination and hostage extraction procedures while maintaining adherence to standard operating procedures. Communication among team members remained effective, contributing to the successful neutralisation of the simulated threat and the safe evacuation of hostages.

Overall, the exercise successfully met its training objectives and demonstrated the operational capability of the security force to respond effectively to a terrorist attack and hostage situation in a strategic installation. The lessons identified during the exercise should be incorporated into future training programs and Standard Operating Procedures (SOPs) to further enhance operational preparedness and resilience against emerging security threats.

CELEBRATION OF 12TH INTERNATIONAL YOGA DAY 2026

June 21 is celebrated as International Yoga Day (IYD) all over the world after its unanimous declaration by the United Nations General Assembly (UNGA) on 11th December, 2014. The idea of IDY was first mooted by the Hon'ble prime minister Shri Narendra Modi during his speech at UNGA on 27 September 2014, wherein he stated, "Yoga is an invaluable gift of India's ancient tradition, which is 5,000 years old. It embodies unity of mind and body, thought and action, restraint and fulfillment, harmony between man and nature, and a holistic approach to health and well-being. It is not about exercise but about discovering the sense of oneness with yourself, the world, and nature. By changing our lifestyle with consciousness, it can help in well-being." To mark the occasion, the following laboratories of DRDO celebrated IDY 2026 at their respective locations.

CAIR, Bengaluru

On 2 July 2026, the Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru celebrated International Yoga Day 2026 (IYD 2026) with great enthusiasm. The theme for the event was "Yoga for Healthy Ageing", which focuses on promoting lifelong health, vitality and well-being through the regular practice of yoga. The event witnessed active participation from scientists, officers and staff members of CAIR, reflecting the organization's commitment to promoting holistic health and well-being.

The celebration commenced in the morning with a brief inaugural address emphasising the value of yoga in maintaining physical health, mental resilience and emotional well-being. The yoga session included warm-up exercises, various yoga asanas, pranayama and meditation. The yoga session was followed by a tree sapling plantation ceremony. The tree saplings were collectively planted by Dr Rituraj Kumar, OS & Director, CAIR, and participants.

CEMILAC, Bengaluru

The Centre for Military Airworthiness & Certification (CEMILAC), Bengaluru, celebrated IYD 2026 with immense vigour and enthusiasm. The event commenced with Shri APVS Prasad, OS & Chief Executive (Airworthiness), CEMILAC, highlighting the importance and significance of yoga – a unique gift passed down the generations by our ancestors. A certified yoga instructor systematically demonstrated yoga poses, a demonstration of yoga poses by a certified yoga instructor,

systematically adhering to the Common Yoga Protocol (CYP). Scientists, officers, and other contract/casual employees enthusiastically attended the demonstration in unified rows to experience collective wellness. The participants performed a series of stretching routines, physical postures, asana, and pranayama.

In line with this year's theme, the guest speaker, Shri Srinivas Murthy, lecturer at S Vyas Yoga University, addressed the participants, highlighting the importance of meditation and yoga in modern lifestyles. The CE (A), CEMILAC, emphasised that airworthiness and certification require intense concentration, precision and zero-error tolerance. Integrating a daily yoga discipline helps to counter workplace burnout, manage chronic lifestyle disorders and extend both lifespan and healthspan.

The event concluded with CE (A) exhorting one and all to adopt yoga as a daily practice and take a pledge to make it an essential part of daily life. This was followed by a vote of thanks by Shri B Sahoo, Sc 'G'.

DIPAS, Delhi

The Defence Institute of Physiology and Allied Sciences (DIPAS), Delhi, was the nodal laboratory of DRDO for organising IDY 2026. The DIPAS organised various countdown events for Delhi-based DRDO directorates/ offices/laboratories besides some in-house activities for DIPAS employees and the temporary workforce. DIBER (a cell of DIPAS) also conducted various pertinent events at different locations, such as Auli and Pithoragarh.

The first event was conducted on 10 June 2026 for DIPAS employees. Shri Rahul Singh Chauhan, Yoga instructor at MDNIY, New Delhi, was the Chief Guest.

Director, DIPAS, in his address, emphasised the importance of yoga. Shri Rahul Singh Chauhan, in his oration, highlighted that yoga or yogic practice is not limited to a mere few minutes exercise or meditation; rather, it should be integrated into every activity performed throughout the day. He also demonstrated various yogic exercises and postures beneficial for managing certain lifestyle diseases, including those specifically requested by the members of the audience.

The second event was conducted on 11 June 2026 for JRF/SRF, apprentices and trainees. It included effective competition on yoga, which comprised multiple-choice questions on yoga, and competition on slogan writing (Hindi & English) and poem writing (Hindi), with prizes and certificates of participation distributed among participants.

DIPAS also organized a one-day yoga workshop for all Delhi-based DRDO fraternity members on 19 June 2026. The programme was presided over by the DG (TM) and graced by the DG (SSS), along with senior scientists, officers, staff members, and yoga enthusiasts. The event featured an engaging and inspiring session by renowned yoga guru Dr Surakshit Goswami, India's first scholar to earn both an MA and a PhD in yoga. Sharing insights from his decades-long journey in yoga and spirituality, Dr Goswami highlighted the importance of yoga in maintaining

physical fitness, mental balance, and inner harmony. He encouraged participants to embrace yoga as a daily practice for leading healthier and more meaningful lives. The audience enthusiastically took part in the interactive yoga session and benefited from his practical guidance and motivational thoughts. The celebration reflected DIPAS's commitment to promoting holistic health, well-being, and the spirit of International Day of Yoga among the scientific community.

In accordance with the guideline issued by the Ministry of AYUSH for the celebration of IYD-2026, a mass yoga practice session with common yoga protocol was organized on 21 June, 2026, at the DRDO Complex, Timarpur, in a natural setting for the DRDO employees from Delhi-based laboratories and their families.

DL, Jodhpur

Defence Laboratory, Jodhpur (DLJ) celebrated IYD 2026 for fostering a positive and healthy work environment. Shri VS Shenoi, OS & Director, DLJ highlighted the significance of yoga in promoting physical and mental health. On the occasion, a lecture on “Importance of Yoga” was delivered by Shri Siddhant Chaturbhuj and a yoga session was conducted by Shri Mahesh Chandra Vyas, Sc ‘E’ for employees, family members and service personnel. The session was conducted with the simple Yogasanas and Pranayams.

ISSA, Delhi

The Institute for Systems Studies & Analyses (ISSA), Delhi, celebrated IYD 2026 on 18 June 2026. A yoga session was conducted for all the employees of the laboratory under the guidance of Shri Aryan, the yoga instructor. As part of the celebration, essay writing and slogan competitions were also organized to promote awareness about yoga and healthy living.

VIGILANCE AWARENESS PROGRAMME AT ISSA

The Institute for Systems Studies & Analyses (ISSA), Delhi, conducted a Vigilance Awareness lecture on 25 June 2026. Shri Anurag Pathak, Sc 'F' & Vigilance Officer, briefed on several security and vigilance aspects covering the CCS conduct, integrity pact, property returns, information and operational security, social media policy, and disciplinary proceedings.

HOMAGE TO DR APJ ABDUL KALAM

DL, Jodhpur

The 11th death anniversary of Bharat Ratna Dr APJ Abdul Kalam, former President of India and eminent scientist was solemnly observed at Defence Laboratory, Jodhpur (DLJ). On the occasion, floral tributes and homage were offered to Dr Kalam at his portrait. Dr RV Hara Prasad, DS & DG (NS&M); Dr Ravindra Singh, OS & DG(R&M); and Shri VS Shenoi, OS & Director, DLJ were present on the occasion along with senior scientists, officers and staff of DLJ.

The dignitaries paid tribute to Dr Kalam and recalled his invaluable contributions to the nation, particularly in the fields of science, technology and defence. His vision, dedication and inspiring contributions continue to motivate the scientific community.

DMSRDE, Kanpur

The Defence Materials and Stores Research & Development Establishment (DMSRDE),

Kanpur, observed the 11th death anniversary of the former President of Bharat and 'Missile Man of India', Dr APJ Abdul Kalam, on 27 July 2026. Dr Kingsuk Mukhopadhyay, OS and Director, DMSRDE, garlanded the brass statue of Dr APJ Abdul Kalam at the DMSRDE main gate. All officers and staff of DMSRDE then paid their floral tribute.

NPOL, Kochi

The Naval Physical and Oceanographic Laboratory (NPOL), Kochi, observed the 11th Remembrance Day of Dr APJ Abdul Kalam on 27 July 2026. Dr Duvvuri Seshagiri, DS & Director, NPOL, briefed about the importance of the day. Smt Rameetha K, Sc 'H', highlighted the contributions of Dr APJ Abdul Kalam. Many officers and staff of NPOL followed the ceremony with a floral tribute.

FIRE SERVICES DAY OBSERVANCE AT DRDL

The Defence Research & Development Laboratory (DRDL), Hyderabad, observed National Fire Services Day on 1 June 2026 to commemorate 71 brave firefighters who lost their lives during firefighting at Victoria Dock at Bombay port in the year 1944. Sri GV Siva Rao, OS, delivered the welcome address. Dr Ankathi Raju, DS & Director, DRDL, addressed the gathering, the theme being "Safe School, Safe Hospital and Fire Safety Aware Society – Together for Fire Prevention".

Various training programmes were organized at the laboratory to enhance the awareness of fire prevention and firefighting, which includes fire mock drills and first-aid firefighting demonstrations.

A lecture on "Challenges in Implementing Fire Protection Measures at Defence Establishments" was delivered by Shri Lavkush Kumar, Head, Skill Development Centre, Pilukuwa, CFEES, where employees from DRDL and also employees for sister laboratories, like RCI, ASL, DMRL, BDL, and MIDHANI, participated.

AS9100D CERTIFICATION OF ADE

The Aeronautical Development Establishment (ADE), Bengaluru, is an AS9100D-certified laboratory. It meets the requirements of the standards AS9100D and ISO 9001:2015 Quality Management Systems for Aviation, Space and Defence Organisations.

ADE was initially certified on 30 March 2018 for AS9100D, and the third recertification audit was conducted this year from 19 to 22 January 2026. A team of three lead auditors from NVT Quality Certification International, Bangalore, audited 25 work centres of ADE for four days. After successful completion, ADE has been recertified for AS9100D on 24 February 2026 under the scope of "Design, Development, Fabrication, Ground and Flight Tests for Certification of Unmanned Air Vehicles and Cruise Weapon Systems; Systems and Equipment for Manned and Unmanned Air Vehicles; and Development of Flight Simulator" for three years until 14 February 2029.

ISO CERTIFICATION TO O/O DG (ACE), PUNE

The Office of the Director General (ACE) in Pune has successfully obtained ISO certification.

The O/o DG (ACE) in Pune successfully obtained ISO 9001:2015 certification for its management system in May 2026.

The certificate was handed over on 22 July 2026 to DG (ACE) at Pune.

AGNI-4' BALLISTIC MISSILE SUCCESSFULLY TEST-FIRED

The medium-range ballistic missile 'Agni-4' was successfully test-fired from the Integrated Test Range (ITR), Chandipur, in Odisha, on 6 August 2026. The launch validated all operational and technical parameters. The test was carried out under the aegis of the Strategic Forces Command.

COURSE ON POST QUANTUM CRYPTOGRAPHY AND THEIR APPLICATIONS

A course on "Post-Quantum Cryptography and Their Applications" was conducted by the Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru, during 17-19 June 2026. A total of 21 participants attended the course. The objective of the course was to discuss the reasons why post-quantum cryptography is essential along with mitigation strategies for acquiring secure communication solutions that can protect defence systems in the presence of cryptographically significant large-scale quantum computers. The participants

were from the sister laboratories, including SAG, JCB, SPIC, DEAL, ASL, DIT&CS, and CAIR. Eminent experts from institutes like IISc, Bengaluru; IISER, Bhopal; DGPU, Pune; BOSCH Limited; DITCS; and DRDO veterans were invited for delivering the talks.

CAPACITY BUILDING ON THE USE OF ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT

The Directorate of Human Resources & Vigilance, DRDO HQ, conducted the training programme on the "Use of Artificial Intelligence (AI) in Human Resource Management (HRM)" during 20-22 July 2026 at the Administrative Staff College of India (ASCI), New Delhi. The programme aimed to familiarise participants with emerging AI technologies and their practical applications in modern HR management while ensuring the responsible and ethical use of AI. The programme was inaugurated by Dr Mayank Dwivedi, OS & DG (HR), who highlighted the transformative role of AI in enhancing HR functions such as talent management, performance monitoring, decision support and workforce planning. He stressed that while AI offers significant opportunities for improving efficiency and productivity, its adoption must be guided by principles of accountability, security, and ethical use, particularly within a strategic organisation like the DRDO.

Addressing the participants, Dr Mehbuba Begam, Head (Training), DHRV, underscored the growing importance of AI-driven solutions in HRM and encouraged officials to embrace AI-enabled tools to enhance organisational effectiveness. Expert faculties from ASCI introduced participants to the concept of Industry 4.0, digital transformation, AI and ethical dimensions of AI adoption. The sessions combined theoretical

insights with extensive hands-on practical exercises, enabling participants to gain first hand experience with leading AI-powered tools. Participants gained hands-on training in AI applications such as Notebook LM, Microsoft Power BI, and Tableau for report generation, dashboard creation, data visualisation, presentation development, and analytical reporting.

COURSE ON FINANCE & MATERIAL MANAGEMENT FOR DRDO & IDAS OFFICERS AT PUNE

A five-day residential training programme on "Finance & Material Management" was organised by the National Academy of Defence Financial Management (NADFM), Pune, during 27-31 July 2026 for the participants from DRDO laboratories and IDAS officers from the Defence Accounts Department (DAD). The course was inaugurated by Shri Moloy Chandan Chakrabortty, IDAS, Director & PCDA (Trg), NADFM, and Dr Maiya Din, Director, DFMM. A total of 23 officers from DRDO and 5 IDAS officers from DAD who are posted as financial advisors and paying authorities in the R&D setup attended the training.

The objective of the training was to provide a platform where participants from both organisations can interact and brainstorm to further enhance the synergy at all levels. Important topics like Procurement Manual 2025, GeM, Costing, Legal Aspects & Arbitration, etc. were covered. Panel discussions on contract management and audit were also part of the training. The lectures were delivered by senior-level IDAS officers as well as DRDO officers and experts from GeM, Balmer & Lawrie, etc. A short trek was also conducted as part of the team-building activity.

The course concluded with a positive note where Director, NADFM emphasized the importance of this joint training for DRDO and IDAS officers. He also shared that synergy between both organizations is very important for timely completion of time-bound R&D projects and programs. This joint training program is being conducted twice every year by NADFM for the DRDO and IDAS fraternity.

COURSE ON SOLAR CELL TECHNOLOGY FOR TERRESTRIAL AND SPACE APPLICATIONS

A Continuing Education Programme (CEP) on "Solar Cell Technology for Terrestrial and Space Applications" was organised by the Solid State Physics Laboratory (SSPL), Delhi, at the CMSDS, SSPL Cell, Kolkata, during 15-17 July 2026. The three-day course was attended by 30 participants from various DRDO laboratories across India. The course was inaugurated by Dr D S Rawal, Director (Officiating), SSPL. Mr J Venkateswarulu, CCE (R&D-East), graced the occasion as the Guest of Honour, while Prof. Samit K Ray, Professor of Eminence, IIT-Kharagpur and Former Director, SN Bose National Centre for Basic Sciences, was the Chief Guest. Prof. Ray delivered the keynote lecture on "Emerging Technologies in Photovoltaic Materials and Devices".

The event brought together experts from academia, national laboratories, industry and the space sector. Invited speakers included Prof. Anirban Bhattacharya, University of Calcutta; Prof. Ambesh Dixit, IIT-Jodhpur; Dr Sunil Sankhla, DLJ; Dr Saumya Sengupta, SCL, Chandigarh; Mrs Suman Agarwal, DSP, Hyderabad; Dr Bhanu Pratap Dhamaniya, URSC, ISRO, Bengaluru; Mr Prabhu, M/s Dhruva Space, Hyderabad; Prof. Amlan J Pal, IACS, Kolkata; and Dr Sanjay Srivastava, CSIR-NPL, Delhi. Scientists from SSPL also highlighted the organization's significant R&D activities in the field.

The event provided an excellent platform for knowledge exchange and technical interaction among participants and experts. The discussions and interactions facilitated the integration of fundamental research, device development, industrial technology, and space-qualified solar power systems.

The course thus traced the technological journey from the fundamental physics of photovoltaics to the emerging frontiers of space-based solar power applications.

Dr Akhilesh Pandey, Sc 'F', served as the Course Director, while Dr Joy Chakraborty, Sc 'F', served as the Deputy Course Director.

WORKSHOP ON ON EMERGING AREAS AND CHALLENGES FOR STARTUPS AND ENTREPRENEURS IN DEFENCE & AEROSPACE AT DTTC

The DTTC, Lucknow, organized a two-day specialized workshop on "Emerging Areas and Challenges for Startups & Entrepreneurs in Defence & Aerospace" during 14 to 15 July 2026. A total of 68 participants (38 offline & 30 online), primarily startups and entrepreneurs, took part in the event. They represented organizations such as Agais Flight Intelligence, Space Probe Pvt. Ltd., Parisodhana Technologies Pvt. Ltd., Predulive Labs, Gandiv AI Defence System Pvt. Ltd., Clocean Pvt. Ltd., Aerospace & Defence Engg., Peymagen, Sixthsens.ai, etc.

The workshop was inaugurated by the Chief Guest Prof. Rajkumar Mittal, VC, BBAU, Lucknow. Shri Rudresh Kumar, Sc 'F' & Course Coordinator, provided an overview of the program. The Chief Guest highlighted the importance of skill development in the defence and aerospace sectors, emphasizing the need to equip aspiring startups and entrepreneurs with the technical expertise, innovative mindset, and industry-ready capabilities required to drive future growth and

self-reliance. Dr Sabyasachi Sinha, IIM-Lucknow, Guest of Honor, addressed participants about combining technology with capital such as human, social, financial, etc. to make a startup a viable business. In the welcome address, Dr Ashish Dubey, Sc 'G' & PD, DTTC, highlighted DTTC's role in supporting MSMEs and startups and briefed the participants about the Center's technical facilities and mandate.

During the valedictory session, Shri Jay Kumar Gupta, GM, SIDBI, graced the occasion as Guest of Honour, He addressed participants with information about SIDBI initiatives for startup ecosystem development in the region.

COURSE ON PUBLICATION EXCELLENCE: PRINCIPLES AND PRACTICE AT DESIDOC

Defence Scientific Information & Documentation Centre (DESIDOC), Delhi, conducted a course on "Publication Excellence: Principles and Practice" during 8-10 July 2026. The course was attended by many scientists and staff from various DRDO laboratories. The course covered the key aspects of paper publishing, author guidelines and publishing policies. The lectures were delivered by eminent scholars from the field of Library and Information Sciences (LIS) and related areas. Shri Yogesh Modi, Course Director, gave the brief about the major publications of DESIDOC. Dr Mohd Yousuf Ansari, Sc 'G', introduced the participants to the different

divisions of DESIDOC and also emphasised the need to write quality papers for any journal.

Various areas like reference management tools, copyright laws, scholarly communication, essential writing factors and many other related topics on paper publishing were covered during the course. Ms Kiran Chauhan, Director, DESIDOC, gave the valedictory address and urged all the participants to use the knowledge they gained during the course in writing scientific publications. The course concluded with a vote of thanks from Shri Tapesh Sinha, Sc 'F'.

AVALANCHE AWARENESS TRAINING FOR ARMY PERSONNEL BY DGRE MMC-SASOMA

To enhance the troops' preparedness towards safe mobility on operational duties and commitments in Siachen of the Indian Himalaya, snow-meteorological data collection and avalanche awareness training were conducted by MMC Sasoma, Defence Geoinformatics

Research Establishment (DGRE), Chandigarh, during April 2026 to June 2026 for officers (41), JCOs (93) and OR (1326) of different units undergoing training before induction at Siachen Battle School (SBS). The DGRE Service Officers briefed them about hazards associated with snow, dangers of avalanches in snowbound regions of the Indian Himalaya, snow-meteorological data instruments, their operational working and data recording procedures, interpretation of avalanche forecasts and role of various snow-meteorological parameters in the avalanching process.

DMRL ORGANIZES AWARENESS TALK ON STORES MANAGEMENT GUIDELINES 2023

The Defence Metallurgical Research Laboratory (DMRL), Hyderabad, organised an awareness talk on 'Stores Management Guidelines 2023' on 23 July 2026. The talk was delivered by Shri Deepak HM, Senior Stores Officer-I, DEBEL, Bengaluru.

The programme commenced with a welcome address by Shri Sowmya Deb, Sc 'G' & DCMM, who introduced the speaker. Dr K Gopinath, OS & Associate Director, DMRL, along with senior scientists and employees of DMRL, attended the programme. The speaker provided an overview of the key provisions of the Stores Management Guidelines–2023 and their practical application for effective resource utilisation and day-to-day stores management. The session covered classification and codification of stores; receipt, inspection and accounting of stores; stores procedures through GeM; stores issue procedures; inventory management; and project store accounting.

The session enhanced participants' understanding of the regulatory framework governing procurement, accounting, and disposal of inventory, thereby promoting compliance and reducing procedural errors. It also highlighted efficient approaches to inventory tracking, valuation and disposal, along with measures for reducing excess stocking and wastage and improving workspace utilisation.

The lecture received an enthusiastic response from the full-house audience, with participants seeking a similar awareness session on the Procurement Manual–2025. The programme concluded with a vote of thanks by Shri Sowmya Deb, Sc 'G', who acknowledged the contribution of the speaker and the enthusiastic participation of the DMRL community in making the event a success.

AWARENESS PROGRAM ON PREVENTION OF SEXUAL HARASSMENT OF WOMEN AT WORKPLACE AT CVRDE

The Awareness Program on "Prevention of Sexual Harassment of Women at the Workplace" was organized by the Combat Vehicles Research & Development Establishment (CVRDE), Chennai, on 7 August 2026. Ms K Rameetha, OS & PD, was the Chief Guest and Ms Reshmi Christy, advocate from Madras High Court, was the Guest of Honour. The event was also graced with the eminent presence of Shri J Rajesh Kumar, OS & Director, CVRDE; Dr V Balamurugan, OS & Program

Director (AFV) Shri T Panneer Selvam, NDC, OS; and other senior officials of NPOL.

During her address, the Chief Guest encouraged the women's fraternity to utilize the opportunity by contributing to the nation by delivering indigenous products, apart from their leading role in family. The Guest of Honour delivered an insightful update on workplace safety, prevention of sexual harassment, employees' rights, and responsibilities of the internal complaints committee.

INVITED TALK AT DLJ

Defence Laboratory, Jodhpur (DLJ) organised an invited talk on “Human Centred Design for Defence Supporting Soldiers and Enhancing Operational Excellence” on 6 August 2026 . The talk was delivered by Dr Vivek Kant, Associate Professor, IIT-Kanpur. Dr Vivek Kant highlighted the importance of designing defence systems and technologies around the needs, capabilities and safety of soldiers.

Shri VS Shenoi, OS & Director, DLJ, expressed gratitude to Dr Kant for his enlightening talk and emphasised the importance of such knowledge-sharing platforms in keeping officers abreast with the latest technologies frontiers.

INVITED TALK AND MERIT AWARD FUNCTION 2026 AT NPOL

Naval Physical and Oceanographic Laboratory (NPOL), Kochi, organized a Merit Award Function on 30 July 2026 to felicitate the students of the NPOL community who excelled in the CBSE board exam of the academic year 2025-2026. Dr Rema Devi, Sc ‘G’ & Chairperson, Works Committee welcomed the gathering and congratulated the awardees.

Dr Duvvuri Seshagiri, Director, NPOL, and Ambassador Venu Rajamony, IFS (Retd.), presented the awards to the students. The Director, NPOL delivered the felicitation address and highlighted the importance of Education. Ambassador Venu Rajamony, IFS (Retd) delivered an inspiring talk on the importance of language skills in education and how to explore the world through knowledge. Shri Tinto Chacko, Secretary Works Committee, expressed the vote of thanks.

DR SOHAN LALL DISTINGUISHED LECTURE ORGANISED BY DIPR

Defence Institute of Psychological Research (DIPR), Delhi, organised the third lecture as part of Dr Sohan Lall Distinguished Lecture Series, with Prof. (Dr) Kalpana Shrivastava, Director, Amity Institute of Behavioural Health & Allied Sciences, Noida, presented an insightful address on "Positive Mental Health Interventions and Building Emotional Resilience" on 12 June 2026.

Dr Nishi Misra, Director, DIPR, welcomed the guest and highlighted that the lecture series will enhance knowledge of the scientific fraternity in various domains. Reminiscing his enduring legacy and novel R&D contributions, tributes were paid to Dr Sohan Lall, a visionary and architect who laid the foundation for R&D in Military Psychology in India.

Prof. Shrivastava underscored the profound significance of psychology not only in the realm of defence but also in every aspect of life. She highlighted how the shift from real-life connections to online engagement can lead to isolation, superficial experiences, and a loss of genuine human touch. She brought out the importance of positive mental health practices such as gratitude, journaling, acts of kindness and positive affirmations, noting that these approaches can help enhance well-being.

Dr Nishi Misra felicitated the guest speaker and thanked her for sharing insights and practical tips for nurturing positive habits, social connectedness and building resilience in day-to-day life.

APPOINTMENTS

Director, SSPL

Dr Anesh Kumar Sharma, OS, is appointed as Director, Solid State Physics Laboratory (SSPL), SSPL, from 1 May 2026. He holds a PhD in Microelectronics Engineering from IIT Hyderabad, an M.E. from Osmania University, a B.E. in Electronics & Power and an MBA. He started his career in semiconductor technology and device development at Semiconductor Complex Ltd (Gallium Arsenide Enabling Technology Centre), the only foundry in India for compound semiconductor technologies for strategic applications. He has been instrumental and contributed significantly to the development of 0.7 micron (G7) MESFET technology, which led to realization of various indigenous MMICs like amplifiers, phase shifters, digital attenuators, LNAs, etc.

Further at DRDO, Dr Sharma has contributed to the development of RF MEMS, point-to-multipoint radio, secured communication systems, C4I systems, IFF Mk-II, etc. As a technological leader and project director of NASM-SR, he has led the development of indigenous missiles for naval applications along with onboard systems.

Chief Executive Officer (CEO), STARC

Dr Subhash Chander Sc 'G', Solid State Physics Laboratory (SSPL), Delhi, has been appointed as Chief Executive Officer (CEO) of the Semiconductor Technology & Applied Research Centre (STARC), Bangalore, on 28 May 2026. He obtained his M.Tech. in Microwave Electronics in 1995 and earned his Ph.D. in Electronics Science from the University of Delhi in 2019.

Dr Chander has developed extensive expertise in compound semiconductor technologies, particularly Gallium Arsenide and Gallium Nitride. His contributions include the development of high-fidelity device models and Process Design Kits for advanced semiconductor technologies.

He also possesses significant experience in the system-level development, integration and testing of antenna systems for ground control stations of unmanned aerial vehicles. In recognition of his outstanding technical contributions, Dr Chander was conferred the DRDO Path Breaking Research/ Outstanding Technology Development Award in 2016.

HIGHER QUALIFICATION ACQUIRED

Shri Prakash Narayanan, Sc 'G', Naval Physical and Oceanographic Laboratory (NPOL), Kochi, has been awarded a PhD from Cochin University of Science and Technology, Kochi, Kerala, for the thesis titled "High-Performance Parallel Beamforming for Passive Sonar Systems: Architecture-Aware Implementations on Multicore Processors."

FELICITATION OF DGRE OFFICIAL

Dr Upendra Kumar Singh, DS&DG (SSS), on his visit to Defence Geoinformatics Research Establishment (DGRE), Chandigarh, on 7 July 2026, felicitated Shri Neeraj Singh, Tech 'B' of DGRE, for securing first position cum gold medal by lifting 455 kg of weight at Chandigarh State Power Lifting Championship held on 7 June 2026, organised by Chandigarh Power Lifting Association, affiliated with Power Lifting India and Chandigarh Olympic Association.

SOCIAL ACTIVITIES

INVITED TALK ON ALLERGY PREVENTION AND RESPIRATORY HEALTH AT NPOL

The Naval Physical and Oceanographic Laboratory (NPOL), Kochi, organized a health awareness talk on allergy prevention and respiratory health on 9 July 2026. Dr Rema Devi M, Chairperson, Works Committee, welcomed the gathering and explained the importance of medical awareness talks for NPOL employees. The session was delivered by Dr Vineeth V, Retd. Major, Director, and Allergist, Allergy Asthma Foundation Clinics, Kerala. He explained the causes, symptoms, prevention, and management of common allergic and respiratory illnesses. Dr Duvvuri Seshagiri, DS & Director, NPOL, delivered the felicitation address and emphasised the importance of preventing allergic diseases in daily life. Shri Tinto Chacko, Secretary Works Committee, proposed the vote of thanks.

HEALTH CHECK-UP CAMP AT DLJ

A health check-up camp was organized at Defence Laboratory, Jodhpur (DLJ) on 31 July 2026 for employees and their family members in collaboration with Shriram Hospital, Jodhpur. The objective of the camp was to raise health awareness among employees and their families and to facilitate the early detection of common ailments. The camp was organized under the aegis of the Defence Laboratory Works Committee, offering facilities such as general health check-up, blood pressure and diabetes screening, BMD test, ECG and preliminary consultations with specialist doctors.

Shri VS Shenoy, Director, DLJ, expressed his gratitude to all members and stated that the laboratory remains committed to organizing similar health check-up camps in the future also to raise health awareness among the public.

DRDO SOUTH ZONE CARROM TOURNAMENT AT CVRDE

The Combat Vehicles Research & Development Establishment (CVRDE), Chennai, organised the DRDO South Zone Carrom Tournament for the year 2026–27 during 4-6 August 2026. Shri J Rajesh Kumar, OS & Director, CVRDE, graced the inaugural function along with Dr V Balamurugan, OS & Program Director, Associate Directors and other senior officials. The tournament was attended by participants from eight DRDO laboratories of the southern region, viz., ADE, CABS, CASDIC, DYSL, GTRE, and LRDE (Bangalore laboratories); NPOL (Kochi laboratory); and the host laboratory, CVRDE, Chennai. Senior dignitaries awarded medals and certificates to the winners and runners-up during the valedictory ceremony. A total of 38 members from eight DRDO laboratories contested for the title in single, doubles, mixed doubles, open event, and team event championships. Outstanding sports personalities of DRDO southern region laboratories were also felicitated by the Director, CVRDE, in lieu of their retirement in 2026.

DMRL CONDUCTS SECOND HINDI WORKSHOP OF FY 2026–27

The Defence Metallurgical Research Laboratory (DMRL), Hyderabad, conducted its second Hindi workshop of the financial year 2026–27 on 12 August 2026, reaffirming its commitment to promoting the effective use of Rajbhasha (official language) in the workplace.

Shri Pawan Kumar, Assistant Director (Official Language), welcomed the guest speaker, Md Kamalludin, Assistant Director (Retired), Hindi Teaching Scheme, Official Language Department, Hyderabad. In his opening remarks, Shri Pawan highlighted the importance of regular Hindi workshops, conducted quarterly at DMRL, in strengthening the implementation of Rajbhasha across the laboratory.

Shri NB Jagtap, TO 'D', apprised the participants of the ongoing official language initiatives at DMRL, including the progress in the installation of trilingual boards. He encouraged employees to actively participate in the workshops and incorporate Hindi into their routine official work.

In his address, Md Kamalludin explained key provisions of the Official Languages Act, 1963, and Official Language Rules, 1976, with particular emphasis on Section 3(3), Rule 5, bilingual documentation, regional classification of states into 'A', 'B' and 'C' regions, and the provisions governing noting, drafting and correspondence. The interactive session, supported by practical examples, generated considerable interest and enhanced participants' confidence in using Hindi in official communication.

HINDI WORKSHOP AT NPOL

The Naval Physical and Oceanographic Laboratory (NPOL), Kochi, conducted a Hindi workshop on 9 June 2026. Dr Duvvuri Seshagiri, OS & Director, NPOL, inaugurated the workshop. The resource person was Shri Madhusheel Ayilliath, Assistant General Manager and Officer-in-Charge, Rajbhasha Cell, RBI Kochi. The main focus of the workshop was on official language policy and technical Hindi terminology. The workshop focused on reinforcing the implementation of the official language guidelines within the office framework.

It was well received by the participants and was found to be highly informative and beneficial in promoting the use of the official language Hindi in official correspondence and communication.

VISITORS TO DRDO LABORATORIES

CAIR, Bengaluru

Lt Gen Harsh Chhibber, AVSM, VSM, PhD, DGIS, visited Centre for Artificial Intelligence and Robotics (CAIR), Bengaluru, on 29 June 2026. There was a briefing by Dr Rituraj Kumar, OS & Director, Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru, followed by discussion and demonstration of technologies developed by CAIR in the area of command and control technologies for land forces, intelligent systems & robotics, secure systems and Geographical Information Systems (GIS).

Lt Gen Harsh Chhibber during his visit at CAIR, Bengaluru

DGRE, Chandigarh

Dr Upendra Kumar Singh, DS&DG (SSS), visited the Defence Geoinformatics Research Establishment (DGRE), Chandigarh, on 7 July 2026. At the outset, Dr PK Satyawali, OS & Director, DGRE, welcomed Dr Singh and briefed him on the status of upcoming DGRE projects, ongoing R&D, technical and operational activities, and the progress of AWS deployment. Subsequently, DG (SSS) reviewed the new project proposal on weather research as presented by the project director and the team. He appreciated the project formulation and provided guidance for its further execution. Dr Singh also released the sixth volume of the DGRE Annual Magazine, "BHUMIJA-2025". The release event was accompanied by the director, DGRE, and other scientists of DGRE.

DG (SSS), DRDO releasing the DGRE Home Magazine BHUMIJA-2025 during his visit at DGRE, Chandigarh

GTRE, Bengaluru

Air Marshal Sanjiv Ghuratia, AVSM, VSM, PhD, Air Officer in Charge Maintenance, Indian Air Force, visited the Gas Turbine Research Establishment (GTRE), Bengaluru, on 16 July 2026 to review the latest advancements in India's indigenous aero engine development programmes, notably the Kaveri engine and the next generation propulsion systems earmarked for the

Advanced Medium Range Combat Aircraft (AMCA).

Dr SV Ramana Murty, DS & Director, GTRE, delivered a comprehensive briefing to Air Marshal Sanjiv Ghuratia on the ongoing projects, advanced test infrastructure, and technology demonstrators that reinforce the country's pursuit of self-reliance in aero propulsion systems. During the tour, the Air Marshal was shown the new Assembly Hangar, where the Kaveri Derivative Engine (KDE), Small Turbofan Engine (STFE), and Advanced Turbo Gas Generator (ATGG) modules along with their associated accessories are being assembled and integrated. The Air Marshal also witnessed a successful Kaveri engine test run and interacted with scientists working on various programmes.

Commending GTRE's efforts towards self-reliance in aero-engine technology, the Air Marshal highlighted the strategic importance of indigenous propulsion capabilities and reaffirmed the Indian Air Force's continued support for the development of critical defence technologies and strengthening India's strategic autonomy.

IRDE, Dehradun

Air Marshal Awadhesh Kumar Bharti, SYSM, AVSM, VM and Deputy Chief of Air Staff, visited the Instruments Research & Development Establishment (IRDE), Dehradun, on 13 June 2026. Dr Ajay Kumar, OS & Director, IRDE, welcomed Air Marshal Bharti. Dr Ajay Kumar presented major R&D initiatives taken by IRDE and technologies

Air Marshal Sanjiv Ghuratia with senior dignatories during his visit at GTRE, Bengaluru

developed at IRDE towards Atmanirbhar Bharat. He also briefed about various products which have been developed and inducted into services. Dr Ajay Kumar also presented future technologies and systems in which IRDE is spearheading the development work and also made him aware of the presence of IRDE products in land, water, air and space. Air Marshal Bharti was delighted for the R&D activities happening in the field of electro-optics in IRDE. He appreciated the role of IRDE in providing electro-optics solutions for users.

The Air Marshal also visited the IRDE Diamond Jubilee Gallery and observed its features. He saw the Technology Area, System Area, Down-the-Memory Lane and Lab WOW moments in the gallery. He appreciated the efforts of scientists and officers in achieving the targets and developing state-of-the-art systems.

Air Marshal Awadhesh Kumar Bharti taking keen interest in IRDE developed products

NPOL, Kochi

Vice Adm Ajay Kochhar, PVSM, AVSM, NM, Vice Chief of the Naval Staff (VCNS), visited the Naval Physical and Oceanographic Laboratory (NPOL), Kochi on 10 July 2026. Dr Duvvuri Seshagiri, OS & Director, NPOL; Mrs Rameetha K, Sc 'H', Dr Rema Devi M, Sc 'G', Dr Kochaleema KH, Sc 'G', and Shri Genesh R, Sc 'G' welcomed Vice Adm Ajay Kochhar. A brief about the various ongoing programmes and projects and future projects was presented by the respective teams. The interaction was followed by a visit to the the Shore Integration Facility (ICS).

Dr Duvvuri Seshagiri, Director, NPOL presenting memento to V Adm Ajay Kochhar

DRDO ON X: HIGHLIGHTS

Published by DESIDOC, Metcalfe House, Delhi-110 054