



CSIR NEWS

Newsletter of the Council of
Scientific & Industrial Research

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CSIR Impacting Lives Serving India

CSIR-CIMAP Technologies: Transforming India's Medicinal and Aromatic Crops Landscape

From the mint fields of Uttar Pradesh to the aromatic plantations of the Northeast and the medicinal crop clusters of southern India, technologies developed by CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow, are helping farmers diversify agriculture, enhance incomes, and build sustainable value chains. Through improved crop varieties, cultivation technologies, and value-added products, CSIR-CIMAP has played a pivotal role in expanding the cultivation of Medicinal and Aromatic Plants (MAPs) across the country.

Over the years, CSIR-CIMAP has developed and disseminated high-yielding varieties and production technologies for a wide range of crops, including menthol mint, lemongrass, citronella, basil, vetiver, patchouli, palmarosa, geranium, rosemary, ashwagandha, kalmegh, senna, aloe vera, shatavari, and isabgol. These technologies have been adopted across diverse agro-climatic regions, enabling farmers to cultivate crops best suited to local conditions and market demand.

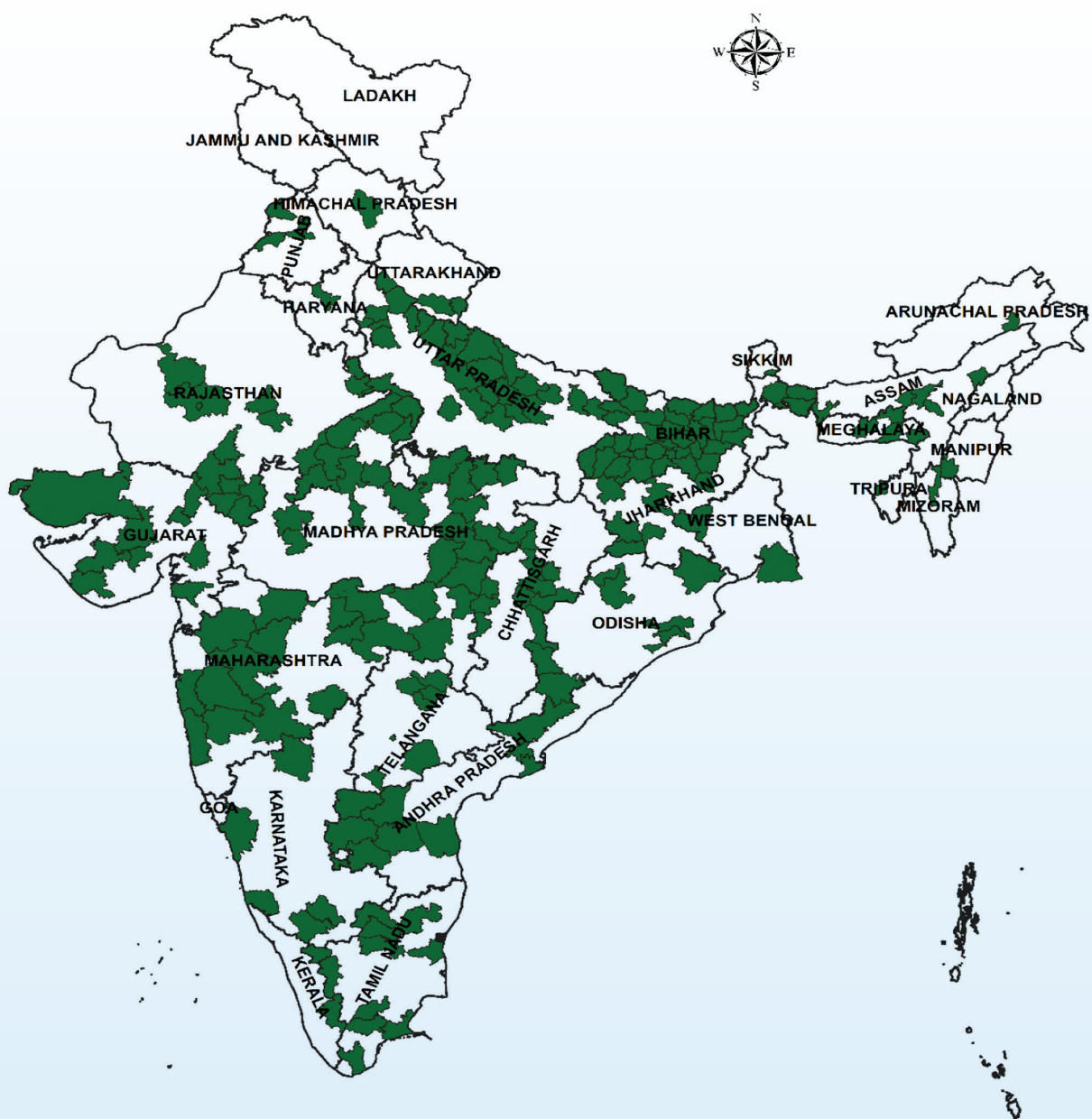
The impact of these interventions is visible nationwide. Improved CSIR-CIMAP varieties are currently cultivated on an estimated 4.5 lakh hectares, generating an annual production value

of nearly ₹6,000 crore. The sector also contributes significantly to rural livelihoods, creating approximately 6.5 crore man-days of employment every year through cultivation, processing, distillation, and value-addition activities.

A distinguishing feature of the institute's approach is its focus on the entire value chain, from quality planting material and agronomic practices to processing technologies and market-oriented products. This has enabled farmers and rural entrepreneurs to move beyond primary production and participate in higher-value segments of the medicinal and aromatic plant industry.

The national relevance of CSIR-CIMAP's work was highlighted during discussions on the Biological Diversity (Amendment) Bill, 2023 in Parliament, where the institute's contributions to biodiversity-based livelihoods and value creation were specifically acknowledged.

By combining scientific innovation with grassroots outreach, CSIR-CIMAP is helping position India as a global leader in medicinal and aromatic crops while creating sustainable livelihood opportunities for farming communities across the country.

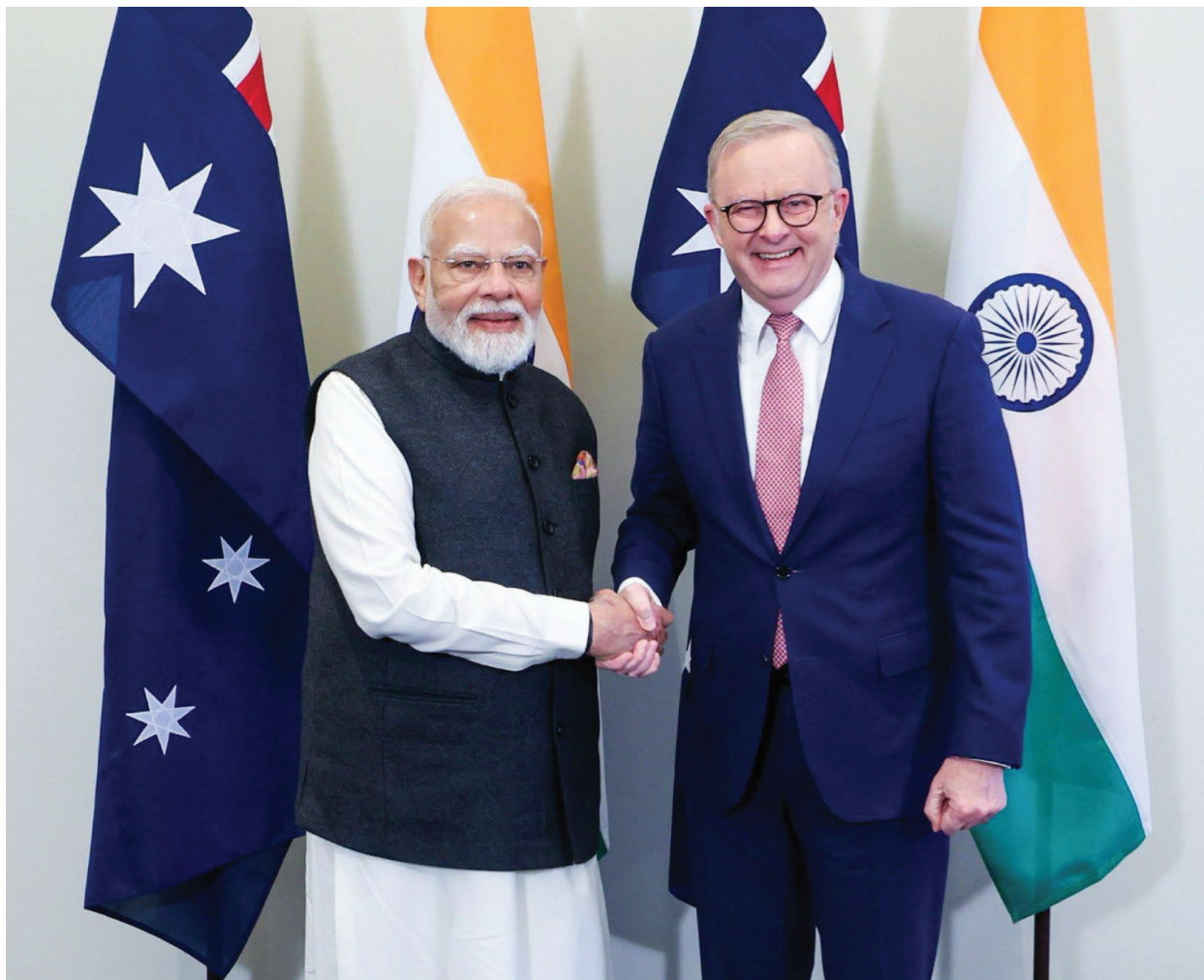


0 200 400 800 1,200 1,600 Kilometers

CSIR-CIMAP Technologies Reaching Across Indian States

Contributed by Science Communication and
Dissemination Directorate (SCDD), CSIR, New Delhi.
Email: ask.scdd@csir.res.in

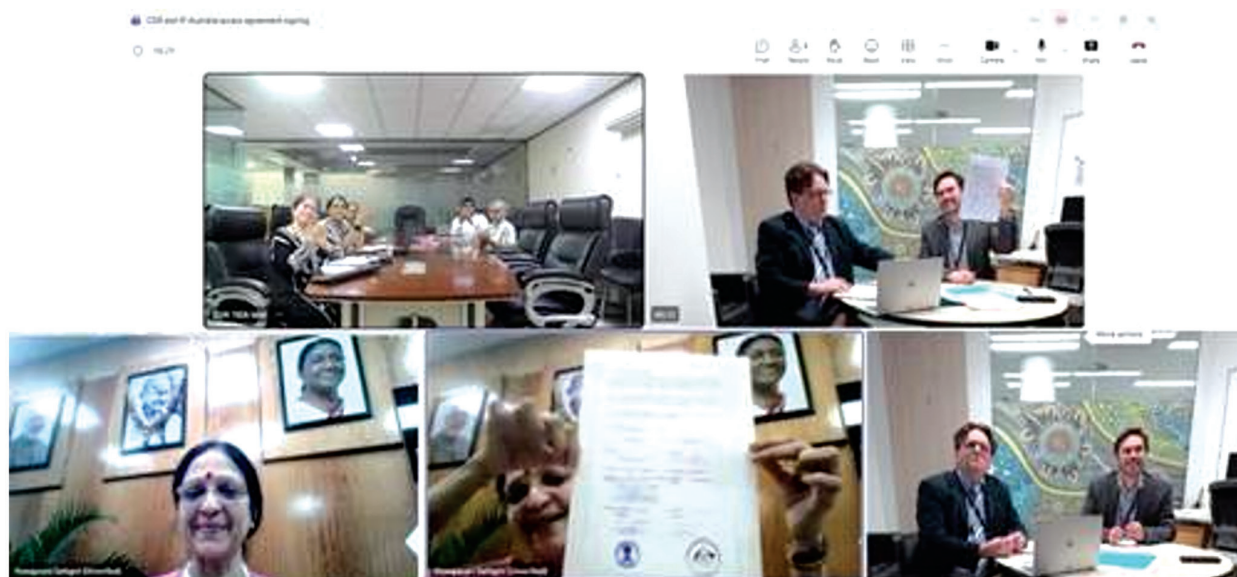
India and Australia Sign Agreement on Access to CSIR-TKDL to Strengthen Protection of Traditional Knowledge



The CSIR and IP Australia have entered into an Agreement on access to CSIR's Traditional Knowledge Digital Library (CSIR-TKDL) during the 3rd India–Australia Annual Summit held in Melbourne, Australia, on 9 July 2026. The Agreement was concluded in the presence of the Hon'ble Prime Minister of India, Shri Narendra Modi, and the Hon'ble Prime Minister of Australia, Mr Anthony Albanese MP.

The TKDL Access Agreement is one of the eighteen key outcomes of the bilateral discussions held during the Summit, which covered a wide range of areas including defence and security, energy security, education, skill development, science and technology, film-making, traditional knowledge, and repatriation of cultural properties.

The Traditional Knowledge Digital Library (TKDL), a first-of-its-kind prior art database,



has been developed by India to prevent the misappropriation of its rich traditional knowledge through the erroneous grant of patents. Under the Agreement, IP Australia will gain access to the TKDL database to identify relevant prior art while examining patent applications in accordance with Australia's patent laws and examination procedures. The Agreement will facilitate more informed and efficient patent examination while helping prevent the grant of patents on knowledge that is already part of India's documented traditional heritage.

India and Australia are both home to rich indigenous knowledge systems, traditional

practices and cultural expressions that have evolved over centuries and are vulnerable to misappropriation. The signing of the Agreement reflects the shared commitment of both countries to safeguarding traditional knowledge and strengthening intellectual property systems through effective use of documented prior art.

The implementation of the Agreement will be overseen by Mr Andrew Wilkinson, Commissioner of Patents, IP Australia; Dr N Kalaiselvi, Director General, CSIR and Secretary, DSIR; and Dr Viswajanani J Sattigeri, Scientist-H and Head, CSIR-TKDL Unit.

The Traditional Knowledge Digital Library (CSIR-TKDL), established in 2001 by the Government of India through a collaborative initiative of the CSIR and the Ministry of AYUSH, is the world's first database dedicated to the defensive protection of traditional knowledge. Developed to prevent the erroneous grant of patents based on Indian traditional knowledge, the CSIR-TKDL currently contains information on over 5.2 lakh formulations and practices from Ayurveda, Unani, Siddha, Sowa Rigpa and Yoga, translated into five international languages — English, German, French, Japanese and Spanish — for use by patent examiners worldwide. With the signing of the Agreement with IP Australia, eighteen patent offices now have access to the database under Non-Disclosure Agreements (NDAs). The CSIR-TKDL has played a significant role in safeguarding India's traditional knowledge, contributing to more than 375 patent applications worldwide being revoked, rejected, amended, withdrawn or abandoned based on prior art evidence from the database.

Dr Jitendra Singh Lays Foundation Stone and Inaugurates Four Advanced R&D Facilities at CSIR-IICT

Agri Research, Waste-to-Wealth Technologies and Research Translation are Creating New Opportunities for Farmers, MSMEs and Startups: Dr Jitendra Singh



Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences and Minister of State for PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh, on 30 June 2026, said that stronger partnerships between agricultural research and industry will drive India's next phase of economic growth by creating greater value from scientific innovation. He said India's agriculture sector continues to offer enormous untapped potential and that, under the leadership of Prime Minister Shri Narendra Modi, the country's scientific priorities have expanded beyond crop improvement to developing technologies that convert agricultural waste and residues into valuable products.

The Minister said scientific interventions are now moving beyond crop improvement to developing technologies that convert agricultural waste and residues into reusable value-added

products, creating new opportunities for farmers, industry and the economy.

Dr Jitendra Singh addressed scientists after inaugurating four Advanced Research and Development facilities and laying the foundation stone for a modern 200-student hostel complex at CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad. During the programme, he inaugurated the Advanced R&D Facility for Fluorochemicals and virtually dedicated to the nation the 500 KLD Decentralised Effluent Treatment Plant for the Siripuram Handloom Cluster, the Continuous Processing Platform for Industrial Chemicals and the Sustainable Engineering Complex (SustEC).

The Minister also laid the foundation stone for a ₹44.46 crore hostel complex that will strengthen residential infrastructure for young researchers. The programme brought together scientists,

industry representatives, technology partners, startups, research scholars and students, reflecting the growing emphasis on translating scientific excellence into industrial innovation and economic value. Among those present were Director, CSIR-IICT, Dr D Srinivasa Reddy; Director, CSIR-CCMB, Dr Vinay K Nandicoori; Director, CSIR-NGRI, Dr Prakash Kumar; Director, CSIR-NEERI, Dr S Venkata Mohan; and Director, CDFD, Prof. Ullas Kolthur-Seetharam.

Dr Jitendra Singh said the convergence of scientific institutions with industry has become essential for transforming research into economic value. He said laboratories can no longer function in isolation and must increasingly work alongside industry, MSMEs, startups and technology partners to accelerate innovation and commercialisation. Referring particularly to agriculture, he said scientific research across the entire value chain, from improved technologies to the productive utilisation of agricultural residues, can unlock new opportunities for value addition, rural entrepreneurship and sustainable industrial growth.

The Minister said India is witnessing a remarkable scientific transformation where innovation is increasingly becoming a key driver of national development. Referring to the country's recent achievements in defence manufacturing, aviation, space and technology, he said India is steadily progressing from being a technology adopter to becoming a technology developer, with science emerging as a powerful force behind economic growth, strategic self-reliance and global competitiveness.

Dr Jitendra Singh said CSIR has consistently demonstrated how scientific research can address national priorities while delivering practical solutions for industry and society. Referring to recent CSIR technologies for producing compressed biogas from food and agricultural waste and converting captured carbon dioxide into Dimethyl Ether, he said these innovations exemplify India's growing commitment to clean energy, circular economy and the conversion of waste into valuable national resources. He said such technologies strengthen

energy security while creating new avenues for industrial development and environmental sustainability.

Calling the newly inaugurated Advanced R&D Facility for Fluorochemicals a strategic national asset, the Minister said it will significantly strengthen India's indigenous capabilities in fluorination technologies and support the development of pharmaceuticals, agrochemicals, speciality chemicals, refrigerants, electronic chemicals and advanced materials. He said the facility will reduce dependence on imports while supporting critical sectors such as defence, electronics and space, reinforcing the country's vision of technological self-reliance.

Referring to the 500 KLD Decentralised Effluent Treatment Plant developed for the Siripuram handloom cluster with support from the Department of Science and Technology, Dr Jitendra Singh said the project demonstrates how scientific innovation can directly strengthen traditional industries and local economies. He said the indigenous low-energy treatment technology will reduce pollution, protect groundwater, enable water reuse and promote environmentally sustainable textile production, proving that industrial growth and environmental responsibility can advance together.

Speaking about the Continuous Processing Platform, the Minister said continuous manufacturing technologies represent the future of the chemical and pharmaceutical industries by improving safety, enhancing productivity, ensuring product consistency and reducing environmental impact. He said the facility will help Indian industry adopt globally competitive manufacturing systems while enabling faster translation of laboratory innovations into commercially viable technologies.

Describing the Sustainable Engineering Complex (SustEC) as one of the most future-oriented initiatives inaugurated today, Dr Jitendra Singh said the facility reflects India's transition towards a circular economy. By converting waste plastics, biomass, agricultural residues and industrial by-products into fuels, hydrogen, advanced



materials and other value-added products, the complex demonstrates how scientific innovation can simultaneously promote sustainability, industrial competitiveness and economic value creation. He said such technologies reinforce the Government's commitment towards achieving Net Zero through indigenous scientific solutions.

Dr Jitendra Singh said the common thread linking all four facilities is their ability to bridge laboratory research with industrial application. Whether in fluorochemicals, clean manufacturing, environmental technologies or sustainable engineering, each initiative has been designed to support startups, MSMEs, entrepreneurs and established industries in scaling indigenous technologies. He said the true measure of scientific excellence lies not merely in research publications but in technologies that generate employment, strengthen Indian industry and improve the lives of ordinary citizens.

The Minister welcomed the recent recruitment of nearly 90 permanent personnel, including around 70 scientists and technical professionals, at CSIR-IICT and said investment in scientific talent must be matched by world-class research infrastructure. Referring to the new hostel complex, he said quality residential facilities are equally important for nurturing future scientific

leaders, encouraging collaboration and creating an environment where young researchers can innovate freely.

Dr Jitendra Singh said that through initiatives such as the Anusandhan National Research Foundation and enhanced support for deep technologies, the Government is creating an ecosystem where research institutions, academia, startups and industry work together to develop globally competitive technologies. He said the objective is to ensure that Indian laboratories lead global scientific research, Indian industries manufacture high-value technologies and Indian innovations provide solutions to global challenges.

Congratulating the scientists, researchers and staff of CSIR-IICT, Dr Jitendra Singh urged them to deepen engagement with industry, mentor young entrepreneurs and ensure that every promising laboratory innovation reaches the marketplace. He expressed confidence that CSIR-IICT will continue to play a leading role in transforming research into enterprise, enterprise into economic growth and innovation into improved quality of life, contributing meaningfully to India's journey towards becoming a global scientific leader.

Source: PIB

Transfer of Indigenous SODAR System Technology to Industry



CSIIR-Advanced Materials and Processes Research Institute (CSIR-AMPRI), Bhopal celebrated National Technology Day-2026 and 46th CSIR-AMPRI Foundation Day on 12 May 2026 (May 12-14, 2026). On this auspicious occasion, the technology of the SODAR (Sound Detection and Ranging) system was transferred by CSIR-AMPRI, Bhopal, to M/s Meteoxperts Solutions Pvt. Ltd, Noida, in the gracious presence of the Honourable Dr N Kalaiselvi, Director General, CSIR, & Secretary, DSIR, Government of India. The Director of M/s Meteoxperts Solutions, Noida, Mr Siddharth Gupta, was also present on the occasion.

At the outset, Dr Thallada Bhaskar, Director, CSIR-AMPRI, Bhopal, delivered a welcome address and opening remarks. During his address, he talked about the various technologies of CSIR-AMPRI, including the SODAR system. He highlighted the role of SODAR in climate and environmental studies with emphasis on scientific and societal challenges related to weather, climate variability, forecasting and disaster risk reduction.

Addressing the gathering, Honourable Dr N Kalaiselvi, DG, CSIR and Secretary, DSIR, emphasised that science, innovation, and technology-based developments are key drivers in India's march towards becoming a developed nation. Dr Kalaiselvi stated that the transfer of indigenous SODAR technology developed by CSIR-AMPRI's initiative reflects the commitment of the CSIR towards strengthening indigenous atmospheric monitoring technologies under the vision of Atmanirbhar Bharat and accelerating industry-oriented innovations for environmental monitoring and air quality management.

Dr Kalaiselvi also congratulated the Principal Investigator of the SODAR activity, Dr Kirti Soni, Scientist F, CSIR-AMPRI, Bhopal, for developing an indigenous SODAR system and for successfully translating research outcomes into technologies of societal and industrial relevance.

The programme concluded with a vote of thanks by Dr Mohd Akram Khan, Scientist G, followed by the Vande Mataram and National Anthem.

Automated Weather Observing System

A Decade of Indigenous Excellence in Aviation Weather Observation



Drishti – maiden system at IGI Airport, New Delhi (2011)

A Vision for Safer Aviation

Weather is one of the most critical factors influencing aviation safety. Accurate and timely information on wind speed and direction, atmospheric pressure, temperature, humidity, visibility, rainfall, and other meteorological parameters is essential for safe aircraft take-off, landing, and ground operations. International Civil Aviation Organisation (ICAO) and World Meteorological Organisation (WMO) regulations mandate continuous weather observation at airports to support operational decision-making by pilots, meteorologists, and air traffic controllers. For many years, airports in India relied heavily on imported weather-observing systems. These systems were expensive, involved substantial foreign-exchange outflows, and often posed challenges in maintenance and lifecycle support. Recognising the need for a reliable, cost-effective, and indigenous alternative, CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru, initiated the development of an Automated Weather

Observing System (AWOS) to cater to the growing requirements of the Indian aviation sector.

Meeting Global Standards through Indigenous Innovation

Developing an aviation-grade weather observing system is a complex task that demands exceptional measurement accuracy, high system availability, and compliance with stringent international standards. The system must continuously operate under diverse environmental conditions, ranging from extreme heat and heavy monsoons to high humidity and dust-laden environments. CSIR-NAL's AWOS was conceived, designed, and developed to meet these demanding requirements. The system integrates advanced meteorological sensors for measuring wind speed, wind direction, air temperature, relative humidity, atmospheric pressure, rainfall, visibility, and other critical weather parameters. Through a robust architecture comprising intelligent data acquisition units, embedded processing systems, communication

networks, and monitoring software, AWOS delivers real-time weather information with high reliability and accuracy. The system incorporates redundant communication mechanisms, automatic data archival, remote diagnostics, health monitoring, and seamless dissemination of weather information to Air Traffic Control (ATC), Meteorological Offices, Airport Operations Centres, and other operational users. Designed specifically for Indian conditions, AWOS combines rugged hardware with intelligent software to ensure round-the-clock operation year-round.

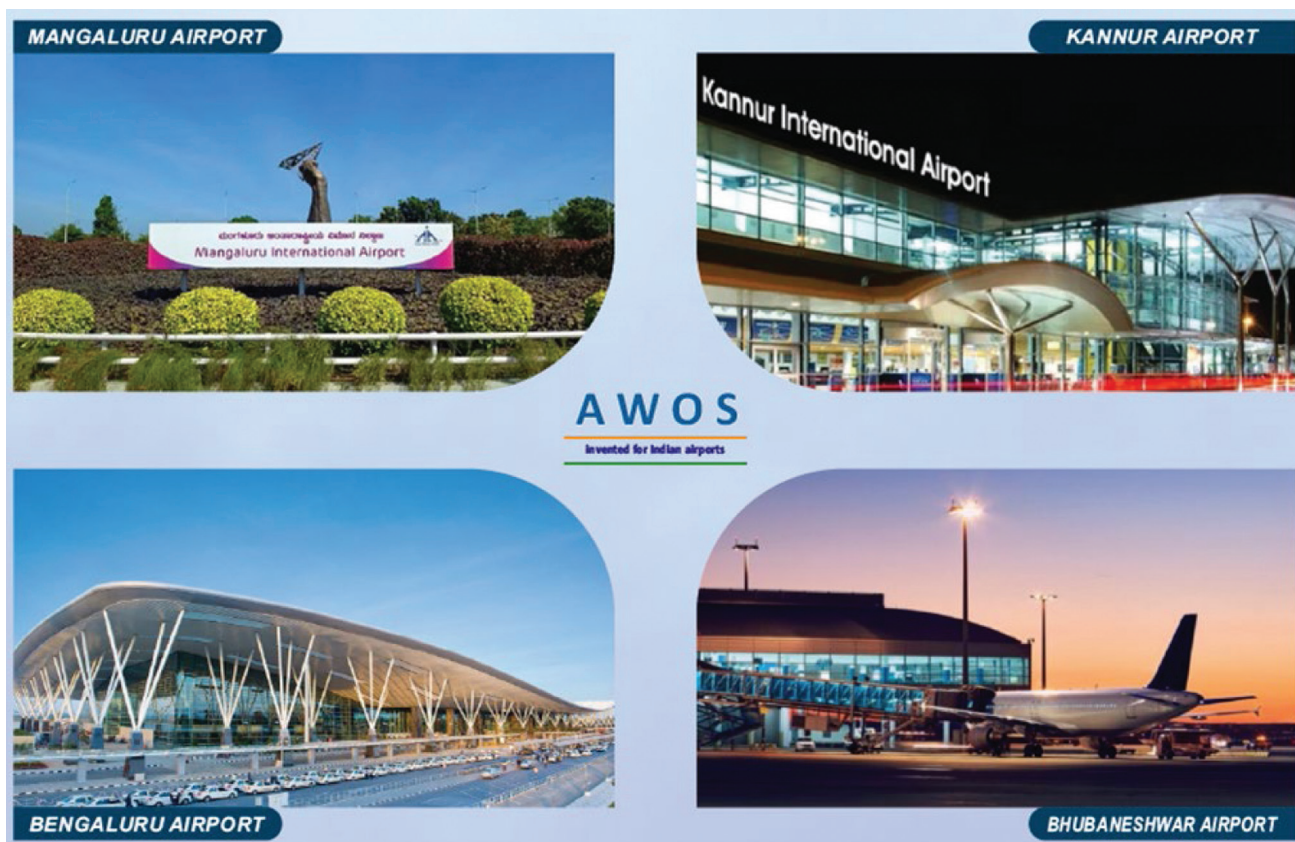
Smart Weather Intelligence for Modern Airports

Beyond sensing and data acquisition, AWOS transforms raw meteorological observations into actionable operational information. The system automatically processes weather data and generates internationally accepted aviation weather reports in compliance with ICAO and WMO requirements. The software platform provides real-time visualisation, data archiving, and web-based monitoring capabilities. These features enable

meteorologists and aviation personnel to assess changing weather conditions rapidly and make informed decisions that enhance flight safety and operational efficiency. The modular architecture of AWOS also allows future expansion and integration with advanced airport meteorological infrastructure, making it a scalable solution for both existing and emerging airports.

Serving the Nation's Aviation Infrastructure

The successful development of AWOS marked a significant milestone in India's journey towards self-reliance in aviation meteorology. Developed entirely with indigenous expertise, the system has demonstrated that world-class aviation weather monitoring technologies can be conceived, designed, and deployed within the country. Since its introduction, five AWOS systems have been successfully deployed and are currently operational across four major international airports in India — Kempegowda International Airport, Bengaluru; Biju Patnaik International Airport, Bhubaneswar; Kannur International Airport; and Mangaluru International



Airport. These systems continue to provide reliable and accurate weather information, supporting meteorologists and airport authorities in ensuring safe and efficient air operations. The successful field performance of AWOS over the years has established its reputation as a dependable indigenous alternative to imported systems, capable of meeting the demanding operational requirements of the aviation sector.

From Laboratory Innovation to Commercial Success

The technological maturity and operational success of AWOS have paved the way for its commercialisation and wider adoption. In a landmark achievement, the Technology Transfer (ToT) of AWOS was licensed to M/s Central Electronics Limited (CEL) on 14 May 2026, enabling large-scale production and deployment of the system across the country. The Technology Transfer was formalised in the august presence of the Hon'ble Minister for Science & Technology & the Director General, CSIR, underscoring the national importance of indigenous aviation technologies and CSIR-NAL's contribution to the vision of Atmanirbhar Bharat.

This successful transfer of technology represents a significant example of translating laboratory research into societal and industrial impact, ensuring that indigenous innovations reach end users and contribute to national development.

The Foundation for Next-Generation Aviation Meteorology

The success of AWOS laid the technological foundation for the development of NAviMet (NAL Aviation Meteorological System), CSIR-NAL's next-generation integrated aviation weather monitoring



“AWOS is more than a weather observing system – it is a testament to India’s scientific capability, engineering excellence, and unwavering commitment to safer skies”.

platform. The experience gained through AWOS deployments, coupled with advances in sensing, communication, and software technologies, enabled the evolution of a more comprehensive aviation meteorological solution. This progression reflects CSIR-NAL's sustained commitment to innovation and continuous advancement in aviation weather technologies.

A Symbol of Atmanirbhar Bharat

AWOS stands today as a shining example of India's capability to develop mission-critical aerospace technologies indigenously. By providing airports with a reliable, accurate, and cost-effective weather observing system, AWOS has strengthened aviation safety while reducing dependence on foreign technologies. More importantly, it has demonstrated the power of indigenous innovation in addressing national needs through science and engineering excellence. The successful deployment, operational performance, and commercialisation of AWOS reaffirm CSIR-NAL's role as a key contributor to India's aerospace ecosystem and technological self-reliance.

The Road Ahead

As India's aviation sector continues to expand rapidly, the demand for advanced meteorological infrastructure will continue to grow. Building on the proven success of AWOS, CSIR-NAL is pursuing next-generation technologies that integrate intelligent sensing, cloud-based monitoring, predictive analytics, and AI-enabled decision-support systems for aviation weather services. From AWOS to NAviMet and beyond, CSIR-NAL remains committed to developing world-class indigenous technologies that enhance aviation safety, operational efficiency, and national self-reliance.

CSIR-CEERI Licenses Two Indigenous Technologies to the Industry

C SIR-Central Electronics Engineering Research Institute (CSIR-CEERI), Pilani, organised a Technology Know-How Licensing Ceremony at its newly inaugurated Conference Hall on 12 June 2026 to facilitate the transfer of two indigenous technologies developed by the Institute for commercial deployment.



Director, CSIR-CEERI, with representatives of M/s Navshali Innovations Pvt. Ltd, Karnal during the technology transfer ceremony

The ceremony marked the exchange of Technology Know-How licensing documents for two innovative technologies developed by CSIR-CEERI:

- Milk Mastitis Detection System
- Customised RF Tube Sealer Prototype



Director, CSIR-CEERI, exchanging documents with representatives of M/s Remi Electrotechnik Pvt. Ltd, Mumbai

The Milk Mastitis Detection System was licensed to M/s Navshali Innovations Pvt. Ltd, Karnal, through the National Research Development Corporation (NRDC), New Delhi, while the Customised RF Tube Sealer Prototype was licensed to M/s Remi Electrotechnik Pvt. Ltd, Mumbai.

Representatives from both companies expressed their commitment to commercialisation and large-scale adoption of these indigenous technologies.

Addressing the gathering, Dr PC Panchariya, Director, CSIR-CEERI, emphasised that the Institute's mission extends beyond developing cutting-edge technologies to ensuring their successful transfer to industry for societal and national benefit. He stated that technology transfer is a vital step in transforming innovations from the "Lab to Market", while reinforcing the national initiatives of Atmanirbhar Bharat and Make in India. He further highlighted CSIR-CEERI's continued commitment to developing indigenous technologies that address the country's strategic, industrial, healthcare, and agricultural needs.

Milk Mastitis Detection System

The Milk Mastitis Detection System is a portable, rapid diagnostic module developed for the early detection of mastitis infection in dairy animals. Based on advanced electrochemical sensing technology, the system analyses milk samples and delivers results within approximately 20 seconds, classifying samples as Healthy, Suspected, or Mastitis Positive.

Early diagnosis enables timely treatment, improves animal health, enhances milk quality, and minimises economic losses for dairy farmers and the dairy industry. The technology is expected to



Dr Navjot Kumar demonstrating the CSIR-CEERI developed Milk Mastitis Detection System

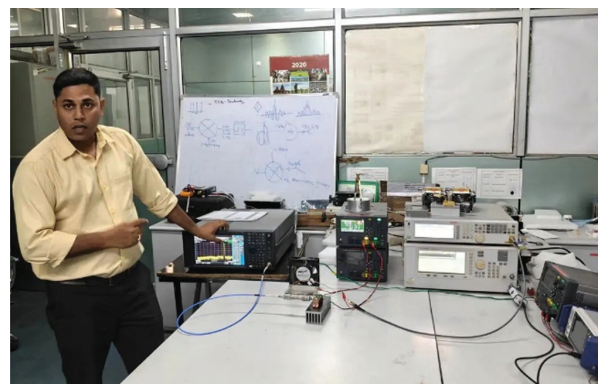
promote scientific innovation in dairy farming while strengthening the rural economy.

Customised RF Tube Sealer Prototype

The Customised RF Tube Sealer Prototype is an indigenous medical device designed for the safe and contamination-free sealing of blood bags and other medical tubing used in blood

banks and healthcare facilities. Its contact-free sealing process significantly reduces the risk of contamination, ensuring enhanced safety during medical procedures.

The technology is expected to reduce India's dependence on imported medical equipment, encourage indigenous manufacturing.



Dr Ashish Kumar Singh demonstrating the indigenous RF Tube Sealer technology

EVENTS

Science, Technology, and Innovation Need Identification for Sustainable Development of Kargil

To strengthen Science, Technology and Innovation (STI)-driven interventions for sustainable and inclusive development in the Kargil region, CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, in collaboration with Unnat Bharat Abhiyan (UBA)-IIT Delhi, IIT Jammu, and Government Degree College, organised a one day consultation programme on "Science, Technology, and Innovation Need Identification for Sustainable Development of Kargil" on 15 July 2026 at Government Degree College, Kargil, Ladakh. The programme was organised under the CSIR-NIScPR initiative titled "Leveraging CSIR Technologies for Rural Development: Expanding

Initiatives and Identifying Opportunities." The initiative seeks to facilitate the dissemination of indigenous technologies developed by CSIR laboratories for addressing rural developmental challenges across India. The knowledge Partners of the event were CSIR-Central Food Technological Research Institute (CSIR-CFTRI), Mysuru, and CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram.

Kargil possesses immense potential in agriculture, horticulture, medicinal and aromatic plants, food processing, renewable energy, eco-tourism, and rural entrepreneurship. However, geographical remoteness, harsh climatic conditions,

and limited access to appropriate technologies continue to pose significant developmental challenges. The programme aimed to identify region-specific science and technology needs and explore suitable technological interventions to enhance livelihoods, improve resource efficiency, and promote climate-resilient development.

More than 100 participants, including scientists, academicians, policymakers, government officials, representatives from research institutions, entrepreneurs, farmers, Self-help Groups (SHGs), students, and community representatives, participated in the programme and actively contributed to the discussions. The event provided a unique platform for dialogue among scientific institutions, government agencies, and local stakeholders to identify priority areas requiring science and technology interventions.

The programme commenced with an inaugural session chaired by distinguished dignitaries from CSIR-NIScPR, Unnat Bharat Abhiyan-IIT Delhi, IIT Jammu, and Government Degree College, Kargil. The session began with a welcome address by Ms Disket Angmo, Principal, Government Degree College, Kargil; followed by addresses from Dr Geetha Vani Rayasam, Director, CSIR-NIScPR; emphasising the role of science-led interventions and stakeholder partnerships in promoting sustainable livelihoods and inclusive regional development. Speaking on the occasion, the other dignitaries- Prof. Ranjana Aggarwal, Dr Yogesh Suman, Prof. PK Singh, and Prof. Meenakshi Rajeev, highlighted the importance of science, technology, innovation, and institutional collaboration for the sustainable development of the Kargil region.

The inaugural session concluded with a vote of thanks by Dr Shiv Narayan Nishad, Scientist-E, CSIR-NIScPR.

The first technical session, chaired by Dr Nassreen F Kacho, Senior Scientist and Head, Krishi Vigyan Kendra, Kargil and moderated by Mohammed Nasirul Mehdi Shabani, Principal, Government Degree College, Drass, experts from premier scientific institutions shared their experiences and technological innovations relevant to the Himalayan region. Dr RS Praveen Raj, Scientist-F, CSIR-NIIST, presented advanced agricultural technologies suitable for mountain ecosystems, including dehumidified drying technology for agricultural crops. Dr Aashitosh Inamdar, Scientist-F, CSIR-CFTRI, discussed value-addition and food-processing technologies to enhance rural entrepreneurship in the Kargil region. Dr Ashok Yadav, Principal Scientist, ICAR, highlighted the potential of Heeng cultivation in the country and the need for achieving self-sufficiency in Heeng production in India. He highlighted the progress made in Heeng cultivation under various ongoing initiatives and emphasised the need for continued science and technology interventions to strengthen livelihood opportunities in the Kargil region.

The second session, chaired by Dr Mukul Bajpai, Scientist CSIR-NIScPR, on funding opportunities and local need identification featured presentations by Mr Anub Tsetan Paljor, District Development Consultant, NABARD; Dr Jigmet Yangchan, University of Ladakh; Dr Nassreen F Kacho, Senior Scientist and Head, Krishi Vigyan Kendra, Kargil; and Dr Sameer Kumar Sarma



Pachalla, Associate Dean, Outreach & Skill Development, IIT Jammu; Mohammed Nasirul Mehdi Shabani, Principal, Government Degree College, Drass; Mr Rizwan Ali, Assistant Professor, Department of Physics, Government Degree College, Drass; Prof. Sajad Hussain, Government Degree College, Drass. The speakers discussed institutional support mechanisms, technology adoption strategies, financial assistance, and collaborative opportunities for sustainable rural development.

The programme concluded with an interactive scientist–stakeholder consultation session during which participants identified several priority areas requiring science and technology interventions. Key issues highlighted included sustainable agriculture, protected cultivation, medicinal and aromatic plants, food processing and value addition, renewable energy, water resource management, climate-resilient farming, rural entrepreneurship, eco-tourism, skill development, and livelihood enhancement. The participants also emphasised the importance of strengthening institutional partnerships and promoting technology

demonstrations, pilot projects, and capacity-building programmes tailored to the needs of the region.

The deliberations generated valuable recommendations that will contribute to the preparation of a roadmap for future collaborative interventions involving CSIR laboratories, academic institutions, government agencies, financial organisations, and local communities. The programme also enhanced awareness among stakeholders regarding technologies developed by CSIR laboratories and their potential applications for addressing developmental challenges in Kargil.

The successful organisation of the event, resulting from the contributions made by team members, marked another significant milestone in CSIR-NIScPR's collaboration with UBA and its continuing efforts to promote evidence-based policy research, technology dissemination, and science-led rural development. The consultation reaffirmed the commitment of all participating organisations to fostering long-term partnerships for the sustainable and inclusive development of the Kargil region.

CSIR-IMTECH Celebrates Van Mahotsav 2026 with Plantation Drive

C SIR-Institute of Microbial Technology (CSIR-IMTECH), Chandigarh, celebrated Van Mahotsav 2026 on 10 July 2026 in its Sector 39A campus by organising a plantation drive in collaboration with the Department of Forest & Wildlife, Chandigarh Administration, reaffirming its commitment to environmental sustainability and ecological conservation.

The plantation drive was led by Dr Alka Rao, Director, CSIR-IMTECH, along with Dr Sachin Raut, In-charge, Horticulture Division. The programme witnessed the active participation of scientists, technical and administrative staff of CSIR-IMTECH, along with research scholars. During the Van Mahotsav, a variety of indigenous and botanical saplings were planted to promote biodiversity,

improve the green cover of the campus and reinforce the importance of environmental stewardship. The plantation drive also supported the national



Dr Alka Rao, Director, CSIR-IMTECH, planting a sapling on the occasion of Van Mahotsav

campaign “Ek Ped Maa Ke Naam”, symbolising the nurturing bond between motherhood and nature.

Addressing the gathering on the occasion, Dr Alka Rao, Director, CSIR-IMTECH, emphasised the importance of preserving nature and fostering a culture of environmental responsibility. She highlighted that Van Mahotsav serves as a reminder of our collective duty to protect and nurture the environment for future generations. She encouraged all members of the institute to actively contribute towards sustainable practices

and make tree plantation a continuous community effort rather than a one-time activity.

Expressing gratitude to its partners, CSIR-IMTECH acknowledged the support of Sh. Saurabh Kumar, IFS, Chief Conservator of Forests, Department of Forests & Wildlife, Chandigarh Administration, Confederation of Indian Industry (CII), Chandigarh, CII-Indian Women Network (IWN) Chandigarh Tricity Chapter, and JADE XCLUSIVE, Chandigarh for providing saplings and contributing to the successful organisation of the event.



Group photo of the participants during Plantation drive

World Environment Day 2026 Celebrated at CSIR-AMPRI

CSIR-Advanced Materials and Processes Research Institute (CSIR-AMPRI), Bhopal, celebrated World Environment Day on 11 June 2026, with great enthusiasm and active participation from scientists, students, staff members, and distinguished guests. The event was graced by Dr D Srinivasa Reddy, Director, CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, as the Chief Guest.

Inspired by the Honourable Prime Minister's call to protect Mother Earth and promote sustainable growth, the celebrations commenced with a plantation drive in the institute premises, where Dr D Srinivasa Reddy and Dr Thallada Bhaskar, Director, CSIR-AMPRI, along with students of AcSIR-AMPRI, planted saplings in front of various Laboratory Blocks. Dr Reddy also visited the Roller Compacted Geopolymeric

Road (cement-free) constructed at the institute campus.

Subsequently, the Chief Guest inaugurated the Centre of Excellence (CoE) established under the DCPC-AMPRI Project, marking an important milestone in strengthening the institute's research infrastructure and innovation capabilities in the area of recyclable and transparent gamma and neutron shielding polymer composites.

Dr Reddy also visited the TEJASVI Centralised Testing Facility (Technical Evaluation and Joint Analysis System for Virtual Integration) and Vivekananda Vigyan Pradarshani, where he interacted with scientists and students and appreciated the scientific exhibits displayed in the exhibition.

The formal function was held at the TaRa Auditorium and began with the floral welcome of the chief guest and Saraswati Vandana.



Welcoming the gathering, Dr Thallada Bhaskar, Director, CSIR-AMPRI, highlighted the significance of World Environment Day and emphasised the role of science and technology in addressing environmental challenges. He mentioned that CSIR-AMPRI is contributing towards energy & environmental solutions. He deeply appreciated the valuable contributions of Dr Reddy and mentioned his pioneering work in medicinal chemistry with emphasis on the silicon switch approach, and his leadership at CSIR-IICT. He mentioned that we are confident that his insights, guidance, and suggestions will be immensely beneficial in strengthening the activities of CSIR-AMPRI and taking the organisation to the next level of excellence.

Dr Prabhat Baghel, Scientist-F, briefed about the various activities organised for school and college students, as part of the World Environment Day programme, under the Jigyasa Skill programme that includes Quiz Competition, Slogan Writing Competition, and Poetry Competition, aimed at promoting environmental awareness and encouraging creative expression among the participants.

Dr D Srinivasa Reddy delivered a keynote address on the occasion, highlighting the significant contributions of CSIR-IICT towards environmental protection and sustainable development. He emphasised the transformative role of chemical sciences in improving the quality of life and addressing societal challenges. He noted the pivotal contribution of CSIR-IICT in establishing Hyderabad as a pharma hub and highlighted the institute's role in the development of the COVID-19 vaccine, Covaxin, in collaboration with Bharat Biotech.



Dr Reddy also spoke about several impactful technologies developed by CSIR-IICT, including Effluent Treatment Plant (ETP) solutions for textile industries, advanced membrane technologies for the purification of medical-grade water and dialysis applications, compostable plastic technologies, and environmentally friendly next-generation refrigerants. He further discussed various areas of mutual interest where CSIR-AMPRI and CSIR-IICT can work together through collaborative research and technology development initiatives.

The MoU was exchanged between CSIR-AMPRI and EAII Advisors — Evidence Action's Technical Partner in India, New Delhi, aimed at fostering collaborative efforts for societal and technological impact.

The event also recognised and encouraged young talent through the distribution of prizes to winners of various competitions conducted under the Jigyasa Skill programme.

The Chief Guest was felicitated by Dr Thallada Bhaskar, Director, CSIR-AMPRI. The programme was concluded with a vote of thanks delivered by Dr P Asokan, Scientist-G, followed by Vande Mataram, the National Anthem and a group photograph.

In all, the World Environment Day 2026 celebrations at CSIR-AMPRI successfully showcased the institute's commitment to environmental protection and sustainable development through scientific innovations. The programme inspired participants to actively contribute towards creating a cleaner, greener, and more sustainable future.

Students Visit CSIR-AMPRI under CSIR-JIGYASA Programme



As part of the CSIR-JIGYASA initiative aimed at nurturing scientific temperament among school students, a group of students from RJ Chaware High School and Convent, Maharashtra visited CSIR-AMPRI, Bhopal on 07 May 2026.

During the visit, students were introduced to emerging research areas and advanced technological developments in the domains of materials science, sustainable construction materials, environmental technologies, and advanced processing techniques. The students visited various research laboratories and interacted with scientists of the institute to understand ongoing R&D activities and their societal relevance.

The visiting students were also exposed to innovative technologies related to advanced materials, waste-to-wealth approaches, infrastructure technologies, and indigenous research capabilities being developed at CSIR-AMPRI. The interaction

aimed to inspire students towards careers in science, technology, innovation, and research.

As part of the academic interaction, students also presented their work and ideas in areas related to science, environment, and literature (ancient Indian scripts, etc.), showcasing creativity, scientific curiosity, and analytical thinking. Scientists of the institute appreciated the enthusiasm and active participation of the students.

The programme was conducted under the banner of CSIR-JIGYASA, a flagship student-scientist connect initiative of CSIR intended to bridge classroom learning with real-world scientific research and innovation.

The visit concluded with an interactive session encouraging students to pursue scientific inquiry and contribute towards nation-building through science and technology.

AWARDS/HONOURS

CSIR-IMTECH Scientist Dr Pradip Sen Awarded the Royal Society of Chemistry Horizon Prize

Dr Pradip Sen, Scientist-G at CSIR-Institute of Microbial Technology (CSIR-IMTECH) has been awarded the prestigious 2026 Horizon Prize by the Royal Society of Chemistry (RSC). The

award recognises an international team of scientists for their collaborative efforts to combat two major neglected tropical diseases: leishmaniasis and Chagas disease. Together, these diseases affect

more than 20 million people worldwide, mainly in Low- and Middle-Income Countries (LMICs), and there are currently no effective vaccines to prevent them.

Dr Pradip Sen was part of a global consortium of 51 scientists led by Durham University, UK, that worked together to identify and validate new drug targets that could pave the way for better treatments for leishmaniasis and Chagas disease. The team's efforts have generated valuable tools and knowledge that are accelerating the search for new therapies against these devastating illnesses. Dr Sen, along with his team, made significant contributions to visceral leishmaniasis, also known as kala-azar, the most severe and potentially fatal form of leishmaniasis. At CSIR-IMTECH,

Dr Pradip Sen works on how the parasite *Leishmania donovani* (that causes visceral leishmaniasis) infects host cells, identification of molecular basis for disease pathogenesis in visceral leishmaniasis, identifying new drug targets and drug molecules.

Dr Alka Rao, Director, CSIR-IMTECH, on congratulating Dr Pradip Sen, stated that "IMTECH has been at the forefront of delivering solutions for unmet medical needs. Despite the fact that more than 1.5 billion people worldwide require treatment for at least one neglected tropical disease, investment in the development of new medicines remains limited. The prize given to Dr Sen also recognises our research efforts in tackling these major health challenges"



Dr Pradip Sen (second row extreme right) with International team of scientists who have been awarded the prestigious 2026 Horizon Prize

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