

No. DSIR/MS/2022/02
Government of India
Ministry of Science & Technology
Department of Scientific & Industrial Research
MONTHLY SUMMARY FOR THE CABINET
(For the month of **February, 2022**
(Part-I Unclassified)

Major achievements during the month of February, 2022:

Council of Scientific & Industrial Research (CSIR)

New Technologies/Processes Developed/Transferred

- CSIR-CECRI developed value added high surface area carbon for the fabrication of supercapacitors. The Institute also developed a process for fabrication of 2.7 V, 100 F cylindrical supercapacitor.
- CSIR-CMERI developed a Piezoelectric Actuator System for Automotive Translation Systems.
- CSIR-CSIO developed the following technologies:
 - Machine for performing Double Volume Exchange Transfusion
 - Visual Odometry System
 - V-Treat Breathing Device (Dry Unit)
 - V-Treat Breathing Device (Wet Unit)
 - Sensor nodes with wireless transmission modules
 - Graphical user interface for identification of exact location of fires
- CSIR-NCL discovered a new class of potent antimalarial agents with bioactivity better than the existing drugs. Efforts are underway for lead optimization.
- CSIR-CDRI licensed the following technologies:
 - “A Nucleic Acid Staining Dye for Biomedical Applications to M/s GenetoProteinPvt. Ltd, Lucknow
 - “An Industrially Viable Process of an Orally Active Investigational New Drug S007-1500 for Fracture Healing” transferred to M/s Troikaa Pharmaceuticals Ltd, Ahmedabad
- CSIR-CECRI transferred the technology for Tannin Based Rust Converter M/s Laal Chemicals, Chennai
- CSIR-CFTRI licensed the process for ‘Coffee Leaf Brew Mix’ to S.L.N. Coffee Pvt Ltd. Kodagu Dist., Karnataka. CSIR-CFTRI also transferred the process for ‘Spray Dried Refined Papain’ to Vijayalakshmi Industries Pvt Ltd., Coimbatore, Tamil Nadu.
- CSIR-IHBT licensed the following processes:
 - ‘Ready to Eat Instant Seera in the Convenience Package’ licensed to M/s Yuktika Biotech Pvt. Ltd., Palampur, District Kangra (H.P.)
 - ‘Preparation of Tea Mouthwash’ to the Unati Cooperative Marketing-cum-Processing Society Ltd., Talwara, District Hoshiarpur, Punjab.

- CSIR-NML transferred the following technology/know-how:
 - 'Recycling Lithium-Ion Batteries (LIBs) to Recover Sellable metal/salts of Li, Co, Mn, Ni. Cu, Al, graphite and plastics' to RecyclibPvt. Ltd.
 - 'Closed-loop know-how to recycle spent Lithium-Ion Batteries (LIBs) to produce value added products of Li, Co, Mn, Cu, Ni, saleable plastics and graphite' to NILE Li-Cycle India Private Limited

Collaborations/Agreements/MoUs Signed (National)

- CSIR and Tata Steel signed MoU for technology partnership: CSIR and Tata Steel signed an umbrella MoU to pursue strategic technological partnership across multiple technology areas. The objective of the collaboration model is to create first-in-the-world technologies with a global impact on society, industry, and the innovation ecosystem.
- MoU executed between CSIR-CDRI and University of North Bengal, West Bengal on 17-2-2022 to explore possible collaborative research programs in specific fields of interest.
- A MoA executed between CSIR-CDRI and DBT, New Delhi on 17-2-2022 for "Development of small molecular antivirus against Chikungunya and Japanese Encephalitis Virus."
- CSIR-CFTRI signed an MoU with Coffee Board, Bangalore on 02.02.2022 for initiating a collaborative project on investigation on the role of chicory in coffee.
- CSIR-CFTRI signed an MoU with Sub-Divisional Office, Raghunathpur, Purulia District, West Bengal on 16.02.2022 for undertaking nutrition intervention for SAM/ SU children in Raghunathpur sub-division.
- CSIR-CIMFR signed the following two Tripartite Agreements:
 - Collieries Company Limited, Kothagudem, Telengana; M/s. Damodar Valley Corporation, Kolkata and CSIR-CIMFR, Dhanbad for Coal Sampling Work on 04-02-2022.
 - Western Coalfields Limited, Nagpur; Maharashtra State Power Generation Company Limited, Prakashgad, Bandra (E), Mumbai and CSIR-CIMFR, Dhanbad for Coal Sampling Work on 07-02-2022
- CSIR-IHBT signed the following MoUs:
 - With Department of Horticulture, Govt. of Sikkim on 18.02.2022 for the purpose of livelihood promotion and rural development of Sikkim.
 - With Career Point University Tikker-Kharwarian, Hamirpur (H.P.) on 22.02.2022 for MoU for collaborative research and academic activities of mutual interest.
- CSIR-IICB signed an MoU with Kalinga Institute of Medical Sciences and Hospital (KIMS Hopital), Bhubaneshwar, Odisha for Collaborative Research Work
- CSIR-IICT signed the following MoUs:
 - Process know-how for 2-chloro-1-(1-chlorocyclopropyl)ethan-1-one, CAS No.: 120983-72-4 (a key starting material for prothioconazole) for Crystal Crop Protection Limited, New Delhi

- Process know-how of Accelerated Anaerobic Composting (AAC) to convert organic waste into good quality organic fertilizer for Nyrmalya Bio Engineering Solutions Pvt. Ltd
- Process know-how for 2-Cl, 5-Cl-Methyl thiazole (CCMT) for K KChempro India Private Limited, Mumbai
- Development of (i) Device for production of alkaline ionized water for domestic consumption and, (ii) Chemical dosing protocols to obtain alkaline water from tap water for non-potable industrial applications for M/S. SPM India Limited
- Collaboration in R&D activities related to development of New Chemicals Entities (NCES), API Intermediates and Reference Standards for Alder Research Chemicals Private Limited, Khammam, Telangana
- CSIR-IMMT signed a General Academic and Research MoU with Central University of Odisha
- CSIR-NAL signed a MoU with IAF, HAL, ADA on 24-02-2022 for Optimum utilization of Flight test crew. CSIR-NAL also signed an MoU with Indian Institute of Technology Kanpur on 28-02-2022 for TTCL / TTL Studies on AN 32 Airframe Components for Life Extension beyond 40 Years.
- CSIR-NIO signed an MoU with Adani Group of Companies including Adani Ports and SEZ Ltd, Adani Power Ltd, Adani Transmission Ltd, Adani Green Energy Ltd, Adani Cementation Ltd and Adani Enterprises Ltd for Technical and Scientific Cooperation on blue economy and developments in the coastal and marine area.
- CSIR-NML entered into following MoUs:
 - With RecyclibPvt. Ltd. for Recycling Lithium-Ion Batteries (LIBs) to recover sellable metal/salts of Li, Co, Mn, Ni. Cu, Al, graphite and plastics
 - With NILE Li-Cycle India Private Limited for Closed-loop Know-How to recycle spent Lithium-Ion Batteries (LIBs) to produce value added products of Li, Co, Mn, Cu, Ni, saleable plastics and graphite
 - With Geological Survey of India for Analysis of NGCM Package – G (Hg) (3000 Samples) (Sediments and Soil Samples)

Collaborations/Agreements/MoUs Signed (International)

- CSIR-IICB signed a MoU with St. Jude Children's Research Hospital, Memphis, TN, USA on 18th February 2022 to strengthen and develop research cooperation in areas of mutual interest and form a research partnership to address a range of disciplines with emphasis on understanding areas of the health sciences

Patents Update

Patents Filed		Patents Granted		Patent Prosecutions	
India	Abroad*	India	Abroad*	Indian	Foreign
20	08	09	16	18	90

*Data reported to IPU during the said period and may increase later during national phase entries

High impact S&T services offered

- CSIR-CRRI:
 - Investigation to study distress in Pavement and suggest Remedial Measures thereof of Karauli-Dholpur Section (2lane) of NH-11B km 83 to km 184 in Rajasthan for National Highway Authority of India (NHAI)
 - Design of bituminous mix for the resurfacing of runways at INS GARUDA, Naval Base Kochi, Kerala under Military Engineering Service.
 - Structural Evaluation of RouzaChuraha (Ghazipur)- Phephna (Balialia) Section using FWD for Strengthening Recommendations (Package-2) for Mcc Mahadeo Constructions Private Limited
 - Review of DPR's of Maharashtra, Sikkim and Uttarakhand States for National Rural Infrastructure Development Agency (NRIDA)
- CSIR-IIP carried out Numaligarh Refinery Expansion Project Experiments for producing VG grade Bitumen from Un-Converted Oil (UCO) Generated from Upcoming Ebullated Bed (EB) Resid Hydrocracker under.
- CSIR-NEERI:
 - Indoor air pollution control and health burden reduction through introduction of Neerdhur improved cookstove in rural Maharashtra
 - Assessment of impacts on air environment due to the proposed changes in capacities and utilization of existing facilities of the Captive Power Plants at Grasim Industries Ltd., Vilayat, Gujarat
 - Bacteriological testing and appraisal of hypochlorite & silver ionization-based water disinfection systems
 - Ambient air quality monitoring and audit of Ready-Mix Concrete (RMC) Plants and Building Construction Sites of Mumbai Region

Outreach Activities (Jigyasa, Skill Development, and others)

- CSIR and all its laboratories engaged in outreach activities on the National Science Day. CSIR actively participated in the *Vigyan Sarvatra Pujyate* grand programme of the Ministry of Science and Technology and the Ministry of Culture.
- CSIR laboratories and institutes that carried out the CSIR Jigyasa outreach programme for school children include CSIR-4PI, CSIR-NIO, CSIR-IICB, CSIR-CRRI, CSIR-CECRI, CSIR-CGCRI, CSIR-NBRI CSIR-IIMT, CSIR-NCL, CSIR-CSIO, CSIR-IITR, etc. Thousands of students participated and benefitted from the programmes.
- Skill development programmes: Several CSIR labs conducted skill developed programmes. These include:
 - CSIR-CDRI Post Graduate Training Program
 - CSIR-CECRI one-week online Skill Development Training Program conducted on "Wastewater Treatment Technologies"
 - CSIR-CGCRI Training program on "Advanced Instrumental Analysis and Classical Methods of Chemical Analysis"
 - CSIR-CMERI Skill Development Programmes on "Design, Development and Testing of Agricultural Machinery"; "Wire Arc Additive Manufacturing and Rapid Prototyping", "Foundry Technology and

- Practice" and Industry-oriented practical training course on Internet of Things
- CSIR-CRRI conducted three days regular online training programme on “Design, Construction and Quality Control in Flexible Pavements” and another three days customised online training programme on “New Technology Initiatives in Rural Roads and Use of Marginal Materials”.
- CSIR-CSIO organized a Workshop CSIR Integrated Skill Initiative Programme on "Basics of Analog and Digital Electronics"
- CSIR-IIIM: Two-day skill development programme on “Entrepreneurship opportunities in cultivation and processing of high value aroma cash crops”
- CSIR-NBRI organized four One day Awareness-cum-Skill Development Training programmes at different places in Bihar

Conferences, Seminars/Webinars organized

- CSIR-CMERI organized the National Conference-cum-Industry Meet on Foundry 4.0 during 24-25 February 2022.
- CSIR-CMERI, Russian Academy of Sciences and the Embassy of India, Moscow, Russia jointly organized India-Russia Scientific Webinar on Additive Manufacturing on 17th February 2022.
- A one-day Virtual CSIR Industry Meet on Additive manufacturing titled ‘Future of Additive Manufacturing in India-Grand Challenges’ was organized on 8th February 2022.

Visit of high level dignitaries to the Institute/Laboratory

- Dr Jitendra Singh, Hon’ble Minister of S&T presided the exclusive event of announcing names of the winners of the CSIR Jigyasa Vigyan Mahotsav.
- Hon'ble Governor of Himachal Pradesh Shri Rajendra Vishwantah Arlekar visited CSIR-IHBT, Palampur on 28th February 2022 on National Science Day. Hon'ble Governor interacted with incubates, entrepreneurs, and start-ups who are working in scientific partnership with the institute. The Hon'ble Governor laid the foundation stone of the new building block of the institute and inaugurated the "Tulip Garden", which is first such garden in H.P. He also dedicated 6 newly installed 6 essential oil distillation units to the farming communities, set up in district Mandi (3), Kangra (2) and Chamba (1).
- Shri Loknath Sharma Hon’ble Minister, Agriculture, Horticulture, AH&VS, IPR, Printing & Stationary, Government of Sikkim visited CSIR-IHBT, Palampur on 17th February 2022. The Hon’ble Minister appreciated the work being done and desired to extend the technologies of Institute such as aeroponics and hydroponics, low chilling varieties of apple, heeng, saffron, aromatic crops, floriculture crops and monk fruit in Sikkim for the benefits of the people there.
- CSIR-NIO: Visit of Shri Sushil Kumar Singh Hon'ble Member of Parliament and Member of the Standing Committee on Coal and Steel, Committee on Public Undertakings and Committee on Petitions and Consultative Committee of Ministry of Road, Transport to CSIR-NIO Goa on 11 February 2022.

COVID related developments

- CSIR-4PI: Published “Assessment of Aerosol Optical Depth over Indian Subcontinent during COVID-19 lockdown (March–May 2020)”
- CSIR-IHBT: COVID-19 samples testing for Kangra district of Himachal Pradesh continued.
- CSIR-IIP: Total 7687 covid -19 samples tested
- CSIR-IMMT: COVID 19 sensitization carried out

Details of events celebrated to mark India@75 or Azadi Ki Amrut Mahotsav / 75 Years of Indian Independence

- CSIR-CFTRI: Success Story Webinar on "The story of infant food formulation (Amul) from buffalo milk" was organised on 7th February 2022. World Pulses Day Lecture was organised virtually on 10th February 2022 in which representatives from Academia and Industries delivered lectures.
- CSIR-NBRI: Under Azadi ka Amrit Mahotsav, CSIR-NBRI, Lucknow organized a week-long, mega festival of Science & Technology - Vigyan SarvatraPujyate from 22-28 February 2022.
- CSIR-NIO: During the month of February the institute conducted regular talks every Thursday on Azadi ka Amrit Mahotsav

Any other item of significance

- CSIR-CDRI: 71st Annual Day Celebration of CSIR-CDRI, held on 17th February. Prof. Balram Bhargava, DG ICMR delivered Sir Mellanby Oration lecture. Dr. Shekhar C. Mande, DG-CSIR graced the occasion as Guest of Honour (Online)
- CSIR-CFTRI: Interaction with Shri Shekar Rao, Member, Khadi and Village Industries Commission (KVIC) and officials of KVIC, Bangalore Division on 3rd February 2022.
- CSIR-CCMB's Dr G R Chandak, CSIR-NGRI's Dr. V. M. Tiwari and CSIR-CIMAP's Dr. Prabodh K. Trivedi were conferred with the Sir JC Bose fellowship by SERB (DST), Government of India, in recognition for his outstanding scientific contributions.

DEPARTMENTAL ACTIVITIES

DSIR's mandate is to promote Industrial Research and Development besides technology promotion, development and utilization. In order to promote and nurture Research and Development in the country, Industrial R&D Promotion Programme of the department gives recognition and registration to in-house R&D units of industries, not for profit Scientific and Industrial Research Organizations (SIROs), Public Funded Research Institutions (PFRIs) and periodically renews these recognition / registration under the respective Government Notifications (as amended from time to time), by virtue of which these organizations are able to obtain Customs duty exemptions, Goods & Service Tax (GST) concessions and Weighted tax deductions on R&D by

Industry (under section 35(2AB) of IT Act). This scheme helps in encouraging industrial R&D in the country.

Industrial R&D Promotion Programme Recognition/ Registration and renewal of In-house R&D in Industry

- 20 in-house R&D units of industries were granted recognition as well as registration certificates.
- 22 in-house R&D units of industries were granted renewal of recognition as well as renewal of registration certificates.

Scientific and Industrial Research Organisation (SIROs) Recognition/ Registration and renewal of SIROs

- 13 SIROs were granted recognition and 04 were granted registration certificates.

Public Funded Research Institution (PFRIs) Registration and Renewal of PFRIs

- 31 PFRIs were granted renewal of registration certificates.

Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM) :

Successfully completed two projects.

PUBLIC SECTOR ENTERPRISES

Central Electronics Limited (CEL)

CEL is an enterprise under DSIR having an objective to commercially exploit the indigenous technologies developed by National Labs and R&D institutions in the country. CEL has developed a number of products for the first time in the country through its own R&D efforts and it continues to emphasize its leading role in the area of solar photovoltaic systems, electronic gadgets for Railway and other strategic electronic equipment/components among others.

- The company manufactured electronic components/systems/SPV products worth Rs. 3387.32 Lakhs during February, 2022.
- Sale of items worth Rs.3613.65 Lakhs was realized during February, 2022.

National Research Development Corporation (NRDC)

NRDC continues to lay emphasis on broadening and strengthening the technology resource base by nurturing long term relationships with R&D institutions as well as

universities, technical organizations, industries and also individual inventors.

- NRDC has licensed five technologies and has been assigned three technologies by two organisations /institute during February, 2022.
- NRDC has collected premia of Rs.26.5 Lakhs and royalty of Rs.1.61 Lakhs from respective technologies during February, 2022.
