CSIR Technology Awards 2016

Council of Scientific & Industrial Research

Anusandhan Bhawan, Rafi Marg, New Delhi – 110001

CSIR

CSIR's Mission

"New CSIR for New India"

CSIR's Vision

Pursue science which strives for global impact, technology that enables innovation-driven industry and nurture trans-disciplinary leadership thereby catalysing inclusive economic development for the people of India

About the CSIR Technology Awards

CSIR Technology Awards were instituted in 1990 to encourage multi-disciplinary in-house team efforts and external interaction for technology development, transfer and commercialization.

The category of awards are :

(i) Life Sciences;

(ii) Physical Sciences including Engineering;

(iii) Innovation (to be awarded to the best innovation that has been patented in any area);

(iv) Business Development and Technology Marketing; and

(v) Most Significant CSIR Technology of the Five Year Plan Period.

Criteria for Selection of Awards

I. The Technology Award for Life Sciences

II. The Technology Award for Physical Sciences including Engineering

Visible and sustained impact of a high order on the industrial / economic / societal activity, high scientific content, innovative character, global novelty and competitiveness of the technological development(s)

III. The Technology Award for Innovation

To be awarded to the best innovation that was patented in any area

IV. The Technology Award for Business Development and Technology Marketing

Making significant contributions for enhancing the business of CSIR knowledgebase and will be given for the new business & marketing initiatives, strategies evolved and implemented, quantum of business generated and realised

V. The Technology Award for Most Significant CSIR Technology of the Five Year Plan Period

To be awarded once in five years, coinciding with the plan period, to the technology which is proven in the market place, at least for the five years

The CSIR Technology Awards-2016 Winners

Herbal Composition (NBRMAP-DB), CSIR-NBRI & CSIR-CIMAP

Wax De-oiling Technology, CSIR-IIP

Drishti, CSIR-NAL

CSIR Technology Award for Life Sciences-2016

CSIR Technology Awards-2016 in "Life Sciences" category is conferred to CSIR-National Botanical Research Institute (CSIR-NBRI) and CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow for "Development of Herbal Composition (NBRMAP-DB) for the Management of Diabetes Type II".

NBRMAP-DB is a scientifically validated and standardized herbal formulation developed by CSIR-NBRI and CSIR-CIMAP, Lucknow. The drug has been launched by AIMIL Pharmaceuticals (India) Limited, New Delhi - the licensee, under the trade name of BGR-34.

NBRMAP-DB is an anti-diabetic, hypoglycemic formulation with immune-modulatory properties and provides relief to people suffering from diabetes through management of blood glucose level. During a short span of less than a year, more than one million diabetic patients have been benefitted by this formulation throughout the country with a sale of approximately ₹ 60 crores.

Success of this formulation has given a thrust to cultivation of medicinal plants and thus value addition to the agricultural sector, towards generating employment and thereby uplifting the socio-economic status of farmers.

This award inspires researchers engaged in finding innovative solutions, for affordable healthcare through the amalgamation of modern scientific methods, and India's rich traditional knowledge.

CSIR Technology Award for Physical Sciences including Engineering-2016

The CSIR Technology Awards - 2016 under the category "Physical Sciences including Engineering" goes to CSIR-Indian Institute of Petroleum (CSIR-IIP), Dehradun for "Development of Wax De-oiling Technology and its Commercialization at Numaligarh Refinery".

CSIR-Indian Institute of Petroleum has developed and commercialised a state-of-the-art 'Wax De-oiling Technology' with high energy efficiency, low carbon footprint and low capital cost for producing 'Paraffin' and 'Microcrystalline' waxes in collaboration with Engineers India Limited (EIL) and Numaligarh Refinery Limited (NRL).

Based on the techno-commercial inputs from CSIR-IIP and EIL, NRL has set-up the first ever wax plant based on indigenous technology. This wax plant built at a cost of ₹ 676 crore is designed to produce 50,000 Metric Ton Per Annum (MTPA) of high quality and high value 'Paraffin Wax' and 4,500 MTPA of 'Microcrystalline Wax' for making tyre and rubber, candles, adhesives, corrugated board, cosmetics, casting etc.

The successful commercialization of the technology at NRL resulted in several benefits such as enhanced refinery profitability, encouraged small scale entrepreneurs for start-ups with setting-up of medium and small sized ancillaries to generate direct and indirect employment in 'North-East' region. Besides satisfying local demand, NRL has also started export of wax to numerous countries abroad.

The commercialization of indigenous Wax De-oiling Technology is in the direction with 'Make in India' initiative.

CSIR Technology Award for Innovation-2016

The Technology Award-2016 for "Innovation" goes to CSIR-National Aerospace Laboratories, Bengaluru for "LED Based DRISHTI Visibility Measuring System".

Drishti is a visibility measuring system installed at Indian airports to give information to pilots on the visibility at the runway for safe landing and take-off operations of aircrafts. It is mandatory category transmissometer. Transmissometers installed at various Indian airports have been of foreign origin. The high cost of imported devices and complications observed in maintaining them necessitated indigenous development of Drishti, a cost-effective and highly precise system.

Drishti stands on par with or better than the imported transmissometers. It has provision to get multi systems visibility data in a single computer with remote health monitoring, multiple display modules, web enabling of data, secured encrypted communication of data from Runway to ATC and many more. Further, Drishti is1/3rd the total cost of imported system.

The state-of-the-Art Drishti system with unique innovative design of the entire hardware (both opto-mechanical and electronic) and software developed with virtual instrumentation concept has made a paradigm shift. Drishti is for all categories of Airports, viz., CAT I, CAT II, CAT III A & B. 27 numbers systems of DRISHTI have been installed in 10 international airports,70 systems are being installed in other civilian airports while 54 systems are planned for IAF Airbases. The next-gen Drishti to address the needs of Railways and Roadways is on the anvil.

Certificate of Merit
CSIR Technology Awards-2016

The “Certificate of Merit" under the CSIR Technology Award 2016 goes to CSIR-Indian Institute of Chemical Technology, Hyderabad (CSIR-IICT) and M/s Vinati Organics Ltd., Mumbai, for the “Technology Transfer for Commercial Plants of 4000 MT per year of para-tert-butyl toluene, 3000 MT per year of para-tert-butyl benzoic acid and 2000 MT per year of para-tert-butyl methyl benzoate".

Para-tert-butyl toluene is a speciality chemical which is entirely imported in the country currently. It is of commercial importance as a raw material for production of para-tert-butyl benzoic acid and para-tert-butyl benzaldehyde which are used as process regulator in polymer industry, in production of fragrances and flavours, pharmaceuticals, as lubricating oil additive, regulators for production of polyesters and usage in personal care segment. At present there is no dedicated capacity for production of such chemicals in India.

CSIR-IICT has developed and licensed three process technologies - continuous production of para-tert-butyl toluene for a commercial plant of 4000 MT per year, para-tert-butyl benzoic acid making with recyclable catalyst for a commercial plant of 3000 MT per year and know-how for para-tert-butyl methyl benzoate from para-tert-butyl benzoic acid for a commercial plant of 2000 MT per year - to M/s. Vinati Organics Limited, Mumbai. The commissioning of commercial plant of 4000 TPA production capacity is underway and is scheduled to be completed by 2016.

CSIR

About CSIR

Established in 1942 by a resolution of the then Central Legislative assembly, the Council of Scientific & Industrial Research (CSIR) is an autonomous body registered under the Registration of Societies Act XXI of 1860. CSIR is known for its cutting edge R&D knowledgebase in diverse S&T areas and today it is a contemporary R & D organization. Having pan-India presence, CSIR has a dynamic network of 38 national laboratories and 39 outreach centres.

CSIR covers a wide spectrum of science and technology and provides significant technological interventions in many areas which include environment, health, drinking water, food, housing, energy, specialty chemicals & petrochemicals, glass & ceramics, medicinal plants & plants of economic value, leather, mining, metals & minerals, machinery & instrumentation, strategic sectors including aerospace etc.

CSIR's role in S&T human resource development is noteworthy. It nurtures Research Scholars supporting them through fellowships namely Junior Research Fellowships (JRFs), Senior Research Fellowships (SRFs), Research Associates etc.

CSIR has operationalized desired mechanisms to boost entrepreneurship, which could lead to enhanced creation and commercialization of radical and disruptive innovations, underpinning the development of new economic sectors.

CSIR through its unique R&D interventions is addressing national goals and Missions such as Swachh Bharat, Swasth Bharat, Samarth Bharat, Make in India, Innovate for India, Startup India, Skill India etc.

CSIR Focus

S&T Interventions to benefit common man & society

Promotion of R&D in Industry to enhance National competitiveness

Innovative technologies for the Strategic Sector

Catalysing knowledge based entrepreneurship- Start-Ups & Scientific enterprises

- Connect to students - building a sustainable ecosystem for S&T HR
- Skill Development

CSIR : Post Independence Indian Innovation System for Self Reliance in Non-strategic Sectors

Total No. of Laboratories/Institutes : 38

75 Years of CSIR Touching Lives

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Research, Project Planning and Business Development Directorate
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