



Industry

BARC's Nuclear

On November 22, 2024, the Technology Transfer and Collaboration Division (TT&CD) of Bhabha Atomic Research Centre (BARC) and Atal Incubation Centre (AIC-BARC) conducted a significant technology transfer ceremony in Mumbai. The AKRUTI programme for propagation of BARC-DAE technologies among the rural environs too witnessed significant new developments. The ceremony underscored BARC's commitment to technological innovation and entrepreneurial support across multiple domains. A brief update on these developments is presented here.

Technology Transfers Agreements

The event featured 16 technology transfer agreements with notable companies. The technologies transferred to the industry encompass Pharmaceutical and Biotechnology Innovations, Environmental and Sustainability Technologies, Advanced Material and Manufacturing Technologies, and Specialized Detection and Monitoring Technologies.

In Pharmaceutical and Biotechnology Innovations landscape, Asian Aerosol OAN Pvt. Ltd., Mumbai secured the technology on Bio-available curcumin formulations with significant applications in pharmaceutical and



Signing of the technology transfer agreement with M/s Okosu Industries LLP, Surat (Gujarat) in presence of Dr. Raghvendra Tewari, Director of the Materials Group, BARC and Dr. S. Adhikari, Director of the Knowledge Management Group, BARC and Shri Daniel Babu P., Head, TT&CD, BARC and other high-ranking officials.



Signing of the technology transfer agreement with Pune based M/s. United Bio Energy Pvt. Ltd., in presence of Shri Martin Mascarenhas, Director of the Beam Technology Development Group, BARC and Dr. S Adhikari, Director of the Knowledge Management Group and Dr. Padma Nilaya, Head of the Laser & Plasma Division in BARC.

nutraceutical sectors. The technology for synthesizing o-Tolylbenzotrile (OTBN) which functions as an advanced intermediate for anti-hypertensive drugs was secured by Prashant Industries, Ahmedabad. Enerchii Minchem Pvt. Ltd., Bhubaneswar secured the technology of Superabsorbent BARC-Hydrogel (MRIDAMRT) with potential impact across advanced material sciences. The technology of atmospheric pressure portable catalytic air plasma system for fast synthesis of aqueous Nitrate & Nitrite fertilizers was also transferred to industry partners, including to a Pune-based firm M/s. United Bio Energy Pvt. Ltd.

In Environmental and Sustainability Technologies landscape, H₂O Dynamics India Limited, South Goa secured the technology of Hybrid Granular SBR for Wastewater Treatment as well as the Process system for cleaning contaminated wastewater. The technology of Rapid Composting for organic waste decomposition with

beckons



Spin-off technologies



AKRUTI Kendra-Tarapur Agreement with Palghar-based firm M/s. K.K. Enterprises for transfer of 'Banana Health Drink' technologies.

applications in Municipal and temple waste management has been transferred to Arihant Bioscience and Adrem Solutions. Additionally, Radiation Assisted Adsorbent Technology for Textile Effluent Decolouration, and Compact Helical Biodegradable Waste Converter – SHESHA, was also transferred to the industry partners.

In Advanced Material and Manufacturing Technologies landscape, OKOSU Industries LLP, Surat secured the technology of Titanium diboride (TiB₂) powder production & Zirconium diboride (ZrB₂) powder fabrication with significance in advanced materials engineering industries.

In Specialized Detection and Monitoring Technologies landscape, Electronics Corporation of India Limited, Hyderabad (a unit of DAE) secured the technology of Portable Radio Isotope Detection with significant applications in radiation monitoring & safety.

Start-up Incubation

In startup incubation and entrepreneurship landscape, Team Cassion is incubating on developing an efficient technology for extracting kokum butter which has the characteristics of good taste, texture and flavor and can become a potential alternative to vegetarian fat used in cooking and confectionery.

The in-house technology incubation landscape, an agreement was inked with Hyurja Fuel Systems and Vasantdada Sugar Institute for incubation on Plasma pyrolysis plant for low-carbon hydrogen production and

Gamma-irradiated chitosan crop production formulation, respectively. For the technology of Bioavailable Cold Water Dissolvable Formulation of Astaxanthin and Pomegranate Peel Extract, an agreement was inked under Collaborative Technology Incubation category with Pluviago Pvt. Ltd. Ace-Ex Industries has successfully graduated from the incubation program on the technology of Handheld Gamma Spectrometer based on Cesium Iodide (CsI) Single Crystal.

AKRUTI Programme Expansion

The Advance Knowledge and Rural Technology Implementation initiative (AKRUTI) continued its mission of encouraging entrepreneurship. Key developments in AKRUTI landscape are as follows.

Four new AKRUTI Kendras established with academic institutes viz., **UBKV** (Uttar Banga Krishi Vishwavidyalaya) at Cooch Behar in West Bengal, **DYPACSC** (Dr. D. Y. Patil Arts, Commerce and Science College) at Pimpri, Pune in Maharashtra, **MGU** (Mahatma Gandhi University) at Kottayam in Kerala, **PAHSU** (Punnyashlok Ahilyabai Holkar Solapur University) at Solapur in Maharashtra.

Two new technology transfer agreements were inked with a Pune-based firm M/s. Organic India, LLP for 'Micropropagation of Banana' and a Palghar-based firm M/s. K.K. Enterprises for 'Banana Health Drink' technologies through AKRUTI Kendra-Tarapur, established in 2021 through NPCIL CSR funding arrangement and is managed by Shree Vitthal Education and Research Institute - SVERI, Pandharpur. The AKRUTI Kendra-Tarapur generated a revenue of Rs.250,000 (70% of accrued through license fee) in the last trimester of 2024.



The agreement for establishing an AKRUTI Kendra at Mahatma Gandhi University in Kottayam, Kerala MGU was inked in presence of Prof. Dr. Bismi Gopalakrishnan, Registrar of MGU, Dr. S. Adhikari, Director of the KMG and Shri Daniel Babu P., Head, TT&CD, BARC and other high-ranking officials.