



Industry

BARC's Nuclear

By Technology Transfer & Collaboration Division and SIRD Newsletter Editorial Team

During March-April, 2025, 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.

Transfer of Technologies

Mixed-Matrix Membrane Diaphragm Technology

Technology Transfer and Collaboration Division, BARC, organized an agreement signing ceremony on April 16, 2025, at BARC Trombay, Mumbai. The event marked the signing of a Technology Transfer Agreement with M/s. Bharat Heavy Electricals Limited (BHEL), New Delhi, for the transfer of know-how related to the Mixed-Matrix Membrane Diaphragm technology for separator applications in electrochemical cells.

The Mixed-Matrix Membrane Diaphragm, developed by BARC, is designed for use in alkaline water electrolyser cells. This technology serves as an effective, low-cost substitute for imported zirfon membranes and asbestos-based diaphragms, which are commonly used in



Officials of Chemical Engineering Group, BARC and TT&CD, BARC exchanged technology transfer agreement with M/s. BHEL, New Delhi during a ceremony organized in BARC Trombay on April 16, 2025.



Senior officials of TT&CD and Food Technology Division in BARC and industry partners exchange technology transfer agreement related to Food technologies.

electrolysers. The membrane has demonstrated reliable performance, with cell voltage at a current density of 5000 A/m² comparable to that of asbestos diaphragms and commercially available zirfon membranes.

Additional Technology Transfers

During March-April 2025 period, BARC also transferred several other notable technologies to industry partners, which included:

- The NISARGRUNA Biogas Plant technology for processing of biodegradable waste was transferred to Nilgiri Builders Pvt. Ltd., Indore, on March 28, 2025.
- The Rapid Composting Technology for decomposition of dry leaves, kitchen waste, and temple waste was transferred to Neev Bioroots LLP., Indore, on March 28, 2025.
- The Radiation Assisted Adsorbent Technology for

beckons



Spin-off technologies



Left to Right: Dr. B. Tata (GITAM), Prof. G. Ravi Kumar (GITAM), Shri Raja Phani Pappu, Dean School of Business (GITAM), Shri Gunasekaran D., Registrar (GITAM), Shri Daniel Babu P., Head, TT&CD (BARC) & Head, PA&MID (DAE), Dr. Errol D'Souza, Vice Chancellor (GITAM), Smt. Bharti A. Bhalariao, Group Leader (AKRUTI), TT&CD, Dr. S. T. Mehetre, Scientific Officer, BioScience Group, BARC.

Textile Effluent Decolouration (Rad-TED) was transferred to Maharaja Enterprises, Balotra, Rajasthan, on March 3, 2025.

AKRUTI Programme Activities

Signing of Agreements

TT&CD, BARC signed agreements with Jai Hind College, Churchgate (Mumbai) on March 3, 2025, and GITAM University, Visakhapatnam on April 24, 2025, to establish AKRUTI Kendras.

Technology Transfers & Trainings

Technology Transfer agreements were signed by the Technology Transfer & Collaboration Division (TT&CD) through the AKRUTI Kendra at Tarapur with applications in food and engineering domains. An agreement was inked with Tech Indra Organic for transfer of Ready-to-Eat Fruit Cube Technology (developed by FTD, BARC). Also, under the Entrepreneurship development programme of AKRUTI, two agreements for transfer of technologies related to Banana Health Drink (developed by FTD) and BLDC Motor based HP Pump (Chemical Engg. Group) were inked with Pune-based Organic India LLP., and Palghar-based Shree Ganesh Electricals, respectively.

Faculty from D.Y. Patil College of Science, Arts and Commerce situated at Pune attended AKRUTI Kendra-DYPSCA training at BARC Trombay, organized by

the Nuclear Agriculture & Biotechnology Division, Bio Science Group, BARC. AKRUTI Kendra-Tarapur held an entrepreneurship workshop-cum-awareness program at Sonopant Dandekar College, Palghar on March 3, 2025, and two BARC food technology workshops for a Self-Help Group in Phopharan Village on March 15th and 25th, 2025.

Outreach & Visits

Nuclear Recycle Board Tarapur hosted an outreach event on "Societal Applications of BARC Technologies" at AKRUTI Kendra-Tarapur on March 18, 2025, discussing BARC technologies and Kendra's progress. The Kendra was set up under a CSR arrangement with NPCIL. AKRUTI Center products were showcased at the exhibition stall, attracting over 200 attendees from various communities, with a strong interest in BARC technology licenses.

On March 23, 2025, AERB Chairman along with other senior officials of the Board visited AKRUTI Kendra Tarapur, where TT&CD officials made a detailed presentation on BARC technologies and ongoing rural development and entrepreneurship activities at the Kendra.

Inaugurations

A new AKRUTI Kendra of BARC was inaugurated at Mahatma Gandhi University Campus at Kottayam in Kerala on April 24, 2025.



Transfer of BARC's BLDC Motor-based HP Pump Technology: Shri M.S. Deshpande, Director, Chemical Technology Group, BARC and senior officials of BARC exchanges agreement with Palghar based Shree Ganesh Electricals.