Industry

BARC's Nuclear

By Technology Transfer & Collaboration Division and SIRD Newsletter Editorial Team

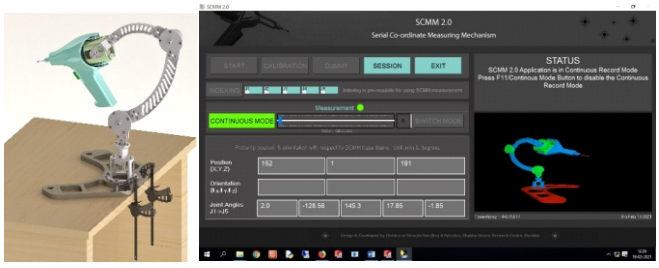
Technology Transfers

During July-August 2025 period, the Technology Transfer and Collaboration Division in BARC inked agreements with industry partners for transferring nuclear spin-off technologies with applications in agriculture, urban waste management, food preservation, engineering, water treatment among others. Key details of transferred technologies are covered here.

A Rapid Composting Technology for decomposition of dry leaves, kitchen waste and temple waste (Code:AB25NABTD) and Mass multiplication medium of Biofungicide Trichoderma spp. (Code:AB08NABTD) have been transferred to Solapur-based M/s. Plant Health Solutions. BARC's rapid composting technology helps in generating compost which is rich in carbon content and beneficial in enriching organic matter-depleted soils, whereas mass multiplication medium for faster growth of Trichoderma spp., which is an effective bio fungicide that controls fungi, promotes plant growth, improves stress tolerance, enriches soil, and eco-friendly.

The technology of Microfine Neem Biopesticide (Code: AB21NABTD) has been transferred to M/s. Bioadaptis from Punjab. Low Dose Dosimeter or ANUDOSE For Food Irradiation Application (Code: AB58FTD) technology has been transferred to Lucknow based M/s. Impartial Testing.

A host of other technologies encompassing engineering and waste management have also been transferred to the industry. These include a 100kW, 35kV Electron Beam Melting (EBM) Gun Column for Metallurgical Application (Code: EG17APPD), a Serial Coordinate Measuring Mechanism (SCMM) (Code: EG21DRHR), and the technology of Air Plasma Incinerator (Code: EG30L&PTD) (2 Nos.)



Serial Coordinate Measuring Mechanism technology, licensed to Gurgaon based M/s. QS Metrology Pvt. Ltd.

Participants at the first edition of Deep Tech Talk Series on "Harnessing the Power of Multiomics" held at DAE Convention Centre in Anushakti Nagar, Mumbai.

have been inked with M/s. Star Alucast Pvt. Ltd., (Mumbai), QS Metrology Pvt. Ltd., (Gurgaon) and Seiler Garepa India Pvt. Ltd., (Pune) & Cist Technology Solutions Pvt. Ltd., (Mumbai) respectively. Air Plasma Incinerator technology has special importance for management of waste in an environment-friendly manner.

Additionally, the technology of Hybrid Granular SBR for Wastewater Treatment (GST) (Code: EV05WSCD) has been transferred to M/s. Twarit Industries Pvt. Ltd. (Banaras) and M/s. Inovativa Waste Aid and Management Pvt. Ltd. (Goa). Further, the technology of Dissolved Oxygen (DO) Monitor (Model-1) (Code: CH32ACD) has been transferred to Pune based M/s. Primove Engineering Pvt. Ltd. In this way, BARC's nuclear spin-offs continue to achieve pan-India reach.

Advertising of New BARC Technologies BARC-DAE technologies which have significant industrial applications are regularly featured on the official webpage (https://barc.gov.in/technologies/index.html) of BARC. Some of the newly introduced technologies that are ready for transfer to the industry are as follows.

- **Healthcare**: Multi-contaminant Exposure Respiratory Cartridge (MERC) for Face-Mask/Respirator, developed by Chemical Engg., Group, was listed with the code MD31AMMD.
- **Cancer Care**: Novel Magneto-Liposomes for Targeted delivery of Doxorubicin and Improvement of Chemo-Radiotherapy efficacy in Cancer Patients, developed by BSG, was listed with the code AB63RB&HSD.
- **Rare Earths Recovery**: A Process for the recovery of rare earth

beckons

Spin-off Technologies

values from ankeritic ore body of Ambadongar, Gujarat, developed by Materials Group, was listed with the code CH48MinD.

AIC ANUSHAKTI

Established under the Govt. of India's flagship Atal Innovation Mission, Mumbai-headquartered AIC-ANUSHAKTI is committed to becoming a leading state-of-the-art incubation centre in deep tech, facilitating commercialization of cutting-edge technologies and supporting India's drive towards self-reliance. Some of the recent developments are as follows:

MoUs for Collaborative Activities and Start-up Incubation AIC ANUSHAKTI, HBNI inked an MoU to promote and expand deep tech entrepreneurship in the country. The MoU was inked on August 20th in the presence of Dr. A. K. Tyagi, Dean HBNI; Martin Mascarenhas, Chairman of AIC-ANUSHAKTI; and the Directors of AIC-ANUSHAKTI, Dr. P. A. Hassan and Daniel Babu. It was followed by an insightful discussion on the roadmap of activities planned at AIC-ANUSHAKTI. Further, under an MoU with PanScience Innovations - focused on promoting startup incubation activities - a total of 60 applications were received for support and 8 were shortlisted to make their pitch before a panel of experts drawn from the ranks of BARC.

Launch of Deep Tech Talk Series AIC-ANUSHAKTI launched its flagship knowledge sharing initiative, the Deep Tech Talk Series, with the first edition on "Harnessing the Power of Multiomics" delivered by Dr. Abhishek Tripathi, Co-Founder & Director (R&D Operations) of Novelgene Technologies Pvt. Ltd. The event saw participation of BARC scientific community, HBNI, and college students. The inaugural address was delivered by Dr. P.A. Hassan, Associate Director, BSG and the Vote of Thanks by Daniel Babu, Head, TT&CD, BARC.

Outreach & Engagements AIC-ANUSHAKTI participated in the Incubators Conclave 2025 organized by Maharashtra State Innovation Society (MSInS) at MCMCR, Powai, for networking and ecosystem collaboration. It also visited SFIT and Thakur College as a part of focused outreach to explore collaboration opportunities and engage students in innovation and entrepreneurship activities.

AKRUTI Programme Activities

Inauguration of new AKRUTI Kendra and Agreement Signing AKRUTI Kendra – DYPACS was formally inaugurated at Dr. D.Y. Patil College of Arts, Commerce and Science near Pune in Maharashtra. Senior officials of TT&CD, NA&BTD, FTD, and DMTD present during the inauguration demonstrated to the participants - totaling 500 - the benefits of BARC nuclear spin-off technologies. The new Kendra was planned to serve as a collaborative platform to promote innovation, rural technology dissemination, and sustainable community development.

AKRUTI Kendra – DYPACS inauguration function.

Technology Transfers & Trainings Under the auspices of the newly inaugurated AKRUTI Kendra – DYPACS an agreement was signed with M/s. Surekh Soil Testing Laboratory Pvt. Ltd. (Latur) for transfer of BARC's Soil Organic Carbon Detection Kit. Meanwhile, numerous programs viz., trainings, workshops and awareness camps were conducted/held by AKRUTI Kendra - Tarapur for widespread dissemination of BARC technologies for rural entrepreneurship. **Trainings**: Sarpada Village from 23rd July 2025 to 30th July 2025 on Food technologies; Food Processing during 22-24 August; Fabrication of water purifier candles. **Workshops**: On BARC Technologies during Adivasi Diwas at TAPS Colony on August 9th. **Awareness Camps**: July-August period saw programs held at Sankalp Mahila Prabhag Sangh (Atmashakti Nagar), Sanjeevani Foods (Pasthal), Sankalp Mahila Bachat Gat (Pasthal), Kosbad Village (Dahanu taluka in Palghar). Additionally, AKRUTI Kendra-SVERI participated in Pandharpur wari programme by establishing a stall which saw significant footfalls.

As on date, 12 AKRUTI Kendras are operational across the country in Andhra Pradesh, Chhattisgarh, Maharashtra, Karnataka, Kerala and West Bengal. The AKRUTI Kendra-Tarapur was established through a CSR initiative of NPCIL.