



Industry

BARC's Nuclear

By Technology Transfer & Collaboration Division and SIRD Newsletter Editorial Team

Technology Transfers

Technology Transfer Agreement was signed by BARC's Technology Transfer and Collaboration Division with Indore-based M/s. Pacetronix Pvt. Ltd. for the transfer of the technology of "ANUCHITRA Deep Brain Stimulator (DBS)" (Code: MD25ED). The DBS technology has vital applications in healthcare and is primarily deployed in treating Parkinson's disease, essential tremor, and dystonia. ANUCHITRA DBS technology was developed by BARC along with Shree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) Thiruvananthapuram, Kerala.

Hyderabad-situated DAE unit, ECIL, has picked up the technology of "Compact RF & DC electronics Unit for QMS". The DC supply along with the RF counterpart in Quadrupole Mass Spectrometer or QMS are used as quadrupole mass analyzer supply for analyzing ions coming out of the ion source of any type of mass spectrometer.

For waste water treatment and urban waste management, the technology of "Hybrid Granular SBR for Wastewater Treatment (Code: EV05WSCD)" was transferred to Indore-based Nilgiri Builders Pvt Ltd. and the technology for "Rapid Composting Technology for decomposition of dry leaves, kitchen waste and temple waste" (Code: AB25NABTD) was transferred to Mumbai-based M/s. Organica Biotech Pvt. Ltd and to Indore-located M/s. Neev Bioroots LLP., respectively.

In food and agri tech, the process for de-bittering Fenugreek (Methi) seed extracts and Shatavari root extracts (Combined Code: AB34FTD) was transferred to Hyderabad-based M/s. Waleria



Photograph of the BARC know-how based Emergency in-situ advanced leakage arresting devices technology for piping of varied configuration.

Healthtech Pvt. Ltd and the Biosensor Kit for detection of Organophosphate and Organocarbamate Pesticides (Code: AB37NABTD) was picked up by M/s. Green Collar Agritech Solutions Pvt. Ltd of Coimbatore, Tamil Nadu, respectively.

Additionally, technology transfer renewal agreement signed with M/s. C S Zircon Products Pvt.Ltd., Kala Amb (H.P.) for the seventh time for Zirconium Oxide & Zirconium Oxychloride Production.

Technology Commercialization

Some of the licensees of BARC technologies have integrated the technology know-how into their business operations and have begun supplying manufactured products to cater to domestic industry. Some of them are listed below:

- Mumbai-headquartered M/s. TEMA India Ltd., which obtained license to manufacture products based on BARC's High-Efficiency Distillation Columns for Separation of Fluid Mixtures technology, during July this year, shipped 56 units of the manufactured Distillation Columns to NPCIL for deployment in its nuclear reactor operations.
- By leveraging BARC's technology for Emergency in-situ advanced leakage arresting devices for piping, Mumbai-based M/s. Quality Manufacturing Company supplied devices made at its plant to meet the needs of Heavy Water Plant in Baroda during May.



Inking of agreement with the industry partner for transfer of BARC's Deep Brain Stimulator technology.

beckons



Spin-off Technologies



BARC technologies witnessing good interest from participants at the 'Ente Keralam 2025' exhibition at Kochi.

- Mumbai-based firm, 6C NanoCarb Pvt. Ltd., started mass production of high quality, versatile MW-CNT powder with high surface area, superior properties for customized applications based on the technology know-how made available by BARC for large-scale synthesis of carbon nanotubes.

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.

- The technology of ANUCHITRA Deep Brain Stimulator (DBS) was listed with the code MD25ED.
- The technology of Economical, Eco-friendly Radiation Indicator Labels for 25 kGy radiation dose, intended to use in radiation sterilization of medical products was listed under the code EcoRIL25.
- OPACIMETER (Code: AI40L&PTD) with applications in determining the transmissivity of a medium and in estimation of smoke emitted from a chimney/stack of an industry.
- "LASCAN DIA-GAUGE (Code: AI39L&PTD) with important application in determining the transmissivity of a medium and in estimation of smoke emitted from a chimney/stack of an industry.

AKRUTI Programme Activities

Under the AKRUTI Program, select BARC-DAE technologies are identified which can aid entrepreneurship in the remotest parts of the

country (villages); and these technologies are widely propagated through engagement with partners from the ranks of academic institutes, women self-help groups, individuals with proven capabilities among others. During the review-period, several agreements were inked for establishment of AKRUTI Kendras (Centres) across various parts of the country, which include:

- Shri Sanganabasava Mahaswamiji College of Pharmacy and Research Centre, Vijayapura, Karnataka.
- Punyshlok Ahilyadevi Holkar Solapur University (PAHSU) in Solapur, Maharashtra.

Besides, AKRUTI also spearheads transfer of BARC technologies' know-how among young entrepreneurs at grassroots. Some of the technologies for which licenses were offered during the review-period are as follows.

- A purely organic, seed dressing bio-fungicide formulation of an improved *Trichoderma Virens* Mutant Strain with Toxicological and Environment safety data technology as well as the technology based on a Process for Development of Zinc (Zn) Fertilizer Formulation from Biosludge (Code: AB27NABTD) technology were transferred to Organic India LLP, Pune.
- A Process for Development of Phosphorus (P) Fertilizer Formulation from Biosludge (Code: AB26NABTD) technology transferred to Organic India LLP, Pune
- A Rapid Composting Technology for decomposition of Dry leaves, Kitchen waste and Temple waste. (AB25NABTD)" was transferred to M/s. Tech Indra Organic, Tarapur (a business entity for AKRUTI Kendra-Tarapur)

Trainings and Outreach

TT&CD, BARC has arranged for training of resource persons engaged with the newly established AKRUTI Kendra at Uttar Banga Krushi Vishwavidyalaya in Cooch Behar faculties at BARC Trombay facilities. To disseminate the benefits of BARC technologies, a Food Technology Workshop was organized in coordination with AKRUTI Kendra Tarapur at Triveni Sangam Mahila Gram Sangh Dhakti in Dahanu and SDSM College in Palghar.

The AKRUTI Kendra at Mahatma Gandhi University at Kottayam in Kerala participated in the "Ente Keralam 2025" exhibition at Kochi. Demonstrations on BARC's Foldable Solar Dryer and Domestic water Purifier technologies were carried out at the exhibition for the benefit of participants.