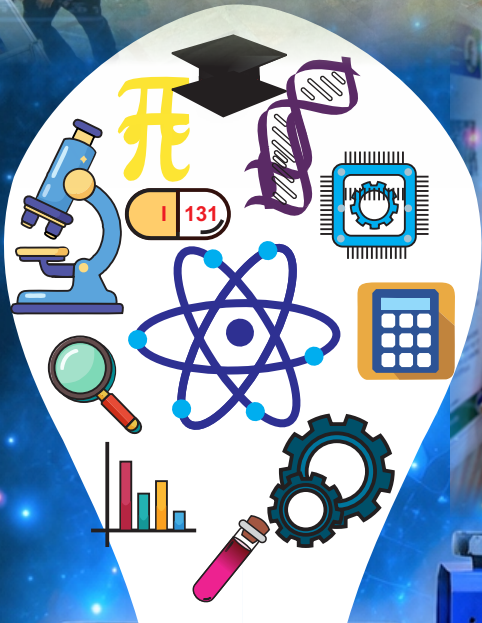




NUCLEAR R&D Tech Spin-offs

Bhabha Atomic Research Centre (BARC) continues to foster industry collaboration by transferring emerging nuclear spin-off technologies and associated know-how besides stimulating rural entrepreneurship. The Centre is also accelerating efforts to incubate deep-tech startups in high-priority domains critical to sustained economic growth.



Technology Streamlining & Transfer

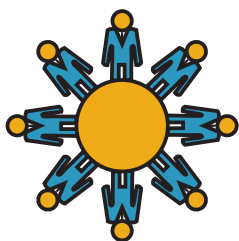


Multiple indigenous technologies for public and industrial applications were streamlined during January–April this year. These include:

Preservative-free Ready-to-Eat Mint Coriander Spice Dip (AB66FTD)
D/H Mass Spectrometer (AI42TPD)
Radiation Processing of Fresh Leafy Vegetables (AB67FTD)
Hollow Cathode Plasma Torch System (CERPPT-25KW)
Portable Thyroid Monitor (MD34RSSD)
Carbon Nanotube Fiber via CVD (CH50GAMD)
Semi-Automatic OBT & Carbon-14 Extraction System (CH51EMAD)
Absolute Capacitance Diaphragm Gauge (AI43TPD)

BARC signed over 30 agreements with industry partners for the transfer of 27 technologies spanning metallurgy, agriculture, water purification, waste management, food processing, and healthcare diagnostics. These technologies include innovations in e-waste copper recovery and polymer resins, plasma-based fertilizer synthesis, superabsorbent materials for oil removal, waste composting and biodegradable conversion systems, lithium-ion battery material synthesis, and whole-body scanning systems. Key high-impact solutions include the Soil Organic Carbon Detection Kit (SOCDK), biosensor kits for pesticide detection, portable Raman spectroscopy for oral cancer screening, USB-based TeleECG systems, rapid composting solutions for organic waste, rare earth recovery from ores, and mixed-matrix membrane systems for electrochemical applications.

Innovation Ecosystem



An incubation extension agreement was signed with Hyurja Fuels Pvt. Ltd. focusing on plasma pyrolysis of methane for green hydrogen production. A collaborative incubation agreement was also established with IEC Hydrogen Frontiers for scaling up zirconium composite membrane

diaphragms used in alkaline water electrolyzers, strengthening hydrogen and clean energy R&D commercialization.

Deep Tech Summit 2026 organized jointly by AIC Anushakti Foundation and TT&CD, BARC. The program witnessed launch of Deep Tech Cohort 1.0, where 6 startups (showed EoI) were selected from 64 applicants. Formation of the DAE Incubator Alliance, bringing together AIC Anushakti, AIC FAST, AIC PI HUB, and AIC PLASMATECH across Department of Atomic Energy centres. Signing of 12 technology transfer agreements, accelerating lab-to-market translation. Showcasing of policy discussions around deep-tech startups, MSME funding, and ecosystem development. The summit featured a keynote narrative by A. Velumani, sharing his journey from BARC colleague to entrepreneur, inspiring deep-tech founders.

Semiconductor crystal development technology transferred to Raana Semiconductors. A chitosan-based plant regulator startup successfully graduated in collaboration with Vasant Dada Sugar Institute. BARC-DAE medical diagnostics and healthcare technologies were showcased at Odisha Medical Expo 2026 and Medical Kolkata 2026.

Rural Entrepreneurship



AKRUTI Kendras promote rural entrepreneurship and sustainable development through the dissemination, demonstration, and training of DAE-BARC technologies. During the review period, an agreement was signed with Savitribai Phule Pune University for establishing an AKRUTI Kendra,

strengthening institutional collaboration.

Extensive training programmes, workshops, and awareness camps were conducted across villages and academic institutions, including practical exposure to technologies such as Foldable Solar Dryer, Neem Biopesticide, Soil Organic Carbon Detection Kit, and Rapid Bio-Composting. Women self-help groups (Bachat Gat) were trained in food processing and livelihood-oriented tech.

Students, faculty, entrepreneurs, and officials from institutions, including IIT Mumbai, Dandekar College (Palghar), Theem College (Boisar), Pravara Rural Engineering College (Loni), NPCIL, BARC, and others participated in visits, trainings, and knowledge exchange programmes. International engagement included a study visit by a delegation from Kenya and the Rotary Club, Boisar.

AKRUTI Kendra-MGU advanced academic outreach through exposure visits, innovation programmes, and participation in events such as the Kerala Science Congress 2026 and Kerala Higher Education Conclave. Outreach programmes and expert sessions highlighted innovation, preventive healthcare, and women-led entrepreneurship.