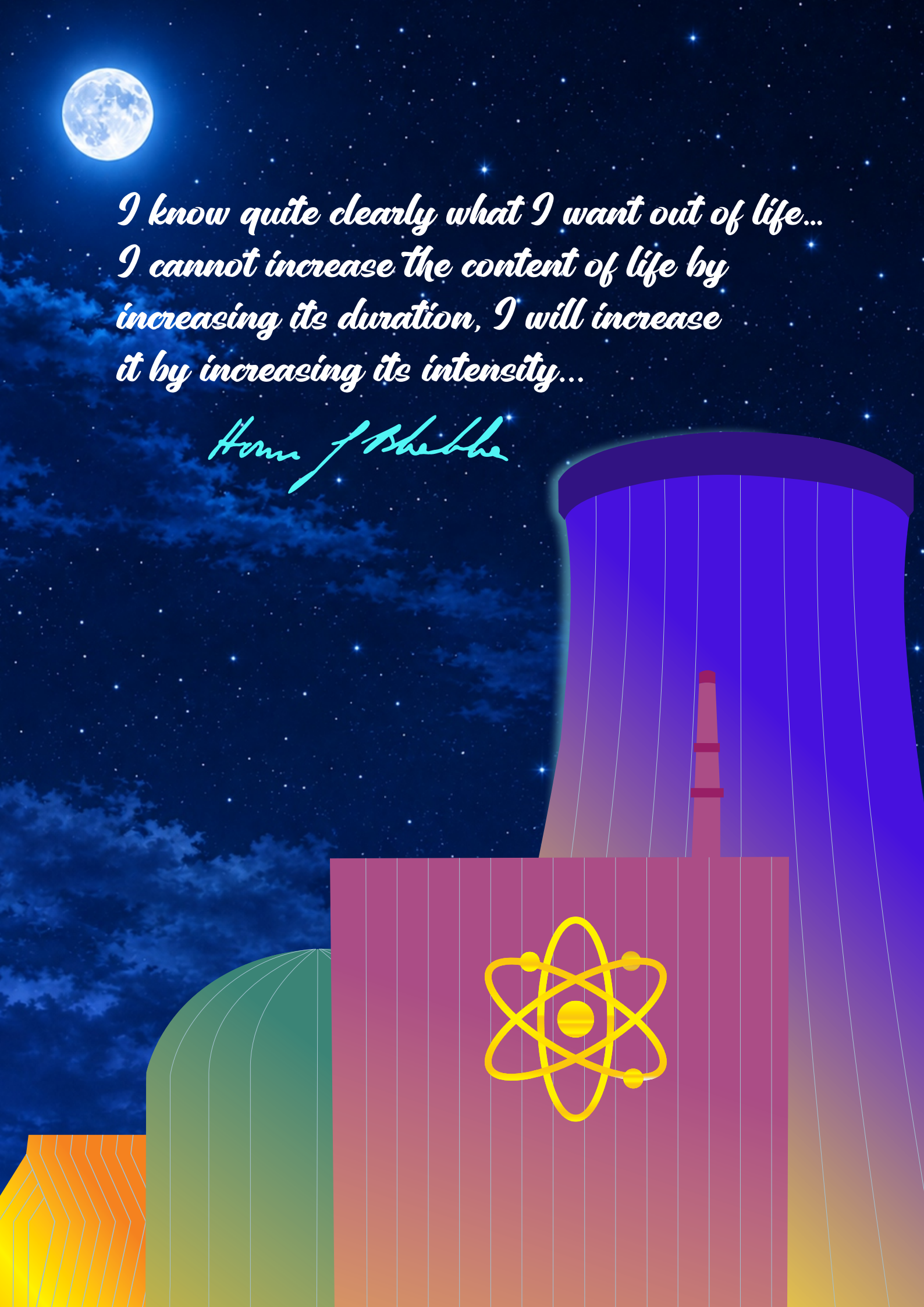

I know quite clearly what I want out of life...
I cannot increase the content of life by
increasing its duration, I will increase
it by increasing its intensity...

ROBUST

Training

Building Human Resource Capital for a Resilient Nuclear Power Programme

सशक्त प्रशिक्षण: नाभिकीय ऊर्जा कार्यक्रम हेतु मानव संसाधन संपदा का निर्माण

Human Resource Development and Research: Recognizing the pivotal role of skilled scientific and technical personnel in advancing India's three-stage nuclear power programme, Dr. Homi J. Bhabha established the BARC Training School at Trombay in 1957. Since its inception, the Training School has emerged as a premier centre for developing human resources in nuclear science and technology, having trained nearly 11,200 scientists and engineers. Through rigorous multidisciplinary education, experimental training and research, BARC continues to nurture scientific excellence and technological self-reliance.

During 2025-2026, the 69th batch of the Orientation Course for Engineering Graduates and Science Postgraduates (OCES) successfully completed its training, with 185 Trainee Scientific Officers graduating and joining various units of the Department of Atomic Energy (DAE). The graduation ceremony was held on 30 July 2026. Reflecting the programme's national significance and competitiveness, OCES/DGFS-2026 received over 93,000 applications, from which 266 candidates were selected. The 70th batch commenced training in August 2026, alongside participants from the defence sector and NTPC. Complementary initiatives, including the DAE Graduate Fellowship Scheme (DGFS), provide specialized training through postgraduate education at premier institutions.

BARC further strengthened its research-oriented human-resource development through project training, internships and doctoral programmes under the Homi Bhabha National Institute. During the year, 468 students completed project work at BARC, while doctoral research opportunities expanded through the induction of 82 Ph.D. scholars. The JRF-2026 and DDFS-2026 programmes additionally attracted research scholars across engineering, physical, chemical and life sciences. Technical study tours, professional-skills workshops and nationwide outreach programmes complemented formal training, with 150 DAE officers engaging approximately 11,500 students across 110 institutions in 23 states.

Beyond institutional training, the Board of Research in Nuclear Sciences strengthened



Release of Souvenir by the Chief Guest and senior officials of DAE and BARC during the Graduation Function event on July 30, 2026.

India's broader research ecosystem by supporting extra-mural projects, fellowships and scientific events. During 2025-2026, 70 research projects were sanctioned, while completed projects underwent systematic evaluation, fostering innovation and interdisciplinary collaboration across universities and research institutions.

Scientific Resources Management: During the review period, BARC's information, documentation, publication and outreach activities significantly contributed to disseminating scientific knowledge, preserving research outputs and promoting public awareness. Key publications included the BARC VISTA, presenting major annual R&D achievements for 2025 in format aligned with DAE's Amrit Kaal Vision, and BARC Newsletters highlighting multidisciplinary nuclear R&D, materials science, biotechnology applications for a circular economy, & hydrogen generation technologies. 12 issues of the SIRB were released, alongside regular Nuclear News Web Digests & newspaper clippings on the Saraswati portal.

Scientific documentation and knowledge management activities continued. A total of 5,795 bibliographic Indian records were added to the INIS database, and 49 BARC Technical Reports were published across internal, external and restricted categories. Inter-library loan services addressed over 2000 resource-sharing requests, while approximately 1,750 research publications by BARC S&T community were showcased at the Central Library. Plagiarism and similarity screening covered 704 research articles and 210 theses. Foreign Language Translation services, scientometric analyses, and scientific illustrations for prospective journal covers further strengthened research support.

Audiovisual services supported all official events conducted in Central Complex, BARC, DAE Convention Centre in Anushakti Nagar, complemented by photography, videography, desktop publishing, printing, binding and timely production of diverse institutional publications. The Central Library organised exhibitions and thematic book displays commemorating eminent scientists, technological achievements and specialised scientific subjects in addition to display corner



A gallery honouring Dr. Vikram Sarabhai, the visionary of India's atomic energy and space programmes, was organised at the Central Library on his birth anniversary.



Students from District Welfare Office, Jharkhand visited BARC.

on BARC Safety Council publications. BARC hosted 12 institutions, engaging approximately 355 students and 32 teachers from Mumbai and across India during the review period.

The "OpenGRID - Exploring Beyond Boundaries" initiative aimed at promoting Open Access publishing by BARC researchers continued through the One Nation One Subscription (ONOS), One DAE One Subscription (ODOS) and the Institute of Physics (IOP) Publishing, UK for Open Access (OA) publishing programmes. During this period, Open Access publishing tallied more than 100 Open Access articles in Gold and Hybrid journals.74 OA articles were contributed by ODOS and 26 by IOP, while one article was published using the ONOS scheme.

Technology Transfer, Commercialisation and Entrepreneurship: During the past year, 24 new BARC technologies were released into the public domain for commercialization. A total of 122 technology transfer agreements were signed, covering 66 technologies transferred to 91 companies. The USB-Powered Tele-ECG Machine was transferred to 13 parties, while the Portable Raman Spectroscopy System for Oral Cancer Detection was transferred to five parties. The technology for Recovery of Rare Earth Values from the Ankeritic Ore Body of Ambadongar, Gujarat (CH48MinD), was transferred to M/s Gujarat Mineral Development Corporation (GMDC).



Inauguration of AKRUTI Kendra at Jai Hind College, Mumbai.

Two new AKRUTI centres were established, bringing the nationwide network to 14 centres. These centres facilitate the dissemination and commercialization of BARC technologies while fostering entrepreneurship, particularly in remote areas. The AKRUTI centres at Tarapur, MGU Kerala, and GITAM Vizag organized workshops and awareness exhibitions to promote BARC technologies. M/s 6C NanoCarb Pvt. Ltd. commercialized BARC-developed large-scale carbon nanotube (CNT) fabrication technology. Additionally, M/s Enthutech, Pune, and M/s Emprotech, Chhatrapati Sambhajinagar, commercialized the USB-Powered Tele-ECG Machine.

The Deep Tech Summit 2026, jointly organized by AIC Anushakti Foundation and TT&CD, BARC, marked a significant milestone with the launch of the DAE Incubator Alliance, bringing together AIC Anushakti, AIC FAST, AIC PI HUB, and AIC PLASMATECH. The summit featured 12 technology transfer agreements, a BARC Deep Technology Exhibition, the launch of Deep Tech Cohort 1.0, and policy discussions on startup development and MSME funding.

On 22 May 2026, AIC ANUSHAKTI, CII, and HBNI jointly organized the Research Scholars' Summit at the DAE Convention Centre. AIC ANUSHAKTI also launched its Deep Tech Talk Series and promoted BARC technologies through national industry platforms, including India Food Forum and Medicall, strengthening industry engagement and technology adoption.

Indigenous Development of Advanced Alkaline Water Electrolyser Stack for Hydrogen Generation



An advanced 0.5 MW alkaline water electrolyser stack has been developed through in-house process and mechanical design, engineering, and analysis of a bipolar type configuration in BARC. The stack was successfully integrated with the 1 MW electrolyser plant being developed in collaboration with PSU oil major Bharat Petroleum Corporation Limited at Kochi. Multiple successful operational campaigns at rated capacity have demonstrated the performance and readiness of this indigenous technology for integration into larger scale green hydrogen production systems.