

**HUMAN RESOURCE DEVELOPMENT,
PUBLIC AWARENESS, OUTREACH &
INTERNATIONAL COLLABORATIONS**



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vertical articulates DAE's vision for nurturing human capital, enhancing capacity, managing knowledge, and advancing technology to achieve self-reliance in India's nuclear energy sector.

Dr. Homi Jehangir Bhabha's foresight in cultivating a skilled workforce led to the founding of a specialized training school at the Trombay in 1957. This institution has evolved into a globally recognized center having trained around 11,000 scientists and engineers till date.

To support nuclear energy growth, plans are afoot for a consolidated training facility at BARC Visakhapatnam to centralize training for scientific officers, trainees, and administrative staff.

In knowledge management, BARC encourages its scientific community to publish research in leading journals under the ODOS framework. Public outreach initiatives across India, including scientific publications, and novel school outreach program promote awareness of nuclear technology benefits, dispel myths, and foster trust.

Atal incubation centers at BARC and other centres nurture start-ups bridging nuclear and non-nuclear fields, while the AKRUTI program deploys societal technologies via universities, NGOs, and MSMEs. DAE holds about 250 commercially transferable technologies, issues approximately 800 licenses, and mentors industry through incubation efforts.

Human Resource Development: Recognizing the vital role of skilled personnel in advancing India's multi-stage nuclear power programme, Dr. Bhabha established the BARC Training School at Trombay in 1957, shortly after founding AEET in 1954. Since then, the school has trained nearly 11,000 scientists and engineers, imparting multidisciplinary knowledge and practical experience critical for nuclear energy.

The 2024-2025 academic year saw about 179 graduates from the 68th batch of the Orientation Course for Engineering Graduates and Science Postgraduates (OCES) at the Mumbai campus.

This year's 68th batch produced 168 graduates as Scientific Officers who joined various BARC scientific groups, strengthening R&D efforts in engineering, science, and radiological safety. Complementing OCES is the DAE Graduate Fellowship Scheme (DGFS), linked to the Homi Bhabha National Institute, ensuring a steady stream of skilled personnel for DAE units.



A group photograph of meritorious officers who graduated from BARC Training School OCES-2024 program. They are joined by Dr. P. K. Mishra (in center), Chief Guest for Graduation Function & Principal Secretary to the Prime Minister; Dr. Ajit Kumar Mohanty, Secretary, DAE and Chairman, AEC and Mr. Vivek Bhasin, Director, BARC.

The program remains highly competitive, with about 85,000 applications in 2025 for roughly 250 seats. OCES attracts not only BARC candidates but also participants from PSUs and the Indian Armed Forces, whose enrollment has steadily grown. The year-long curriculum blends nuclear science fundamentals with advanced electives, experimental work, and projects to prepare graduates for diverse careers. The BARC Doctoral Programme integrates coursework and research, admitting 80 scholars in 2025 under the aegis of HBNI.

BARC also conducts pan-India outreach to raise awareness among students about opportunities at the center, ensuring a steady flow of talent supporting India's nuclear self-reliance and technological excellence.

Scientific Information Management and Outreach: Publishing is integral to BARC's knowledge management activities. Newsletters, web digests, and bulletins regularly highlight cutting-edge research at BARC and global peer institutions. Increasingly, books capturing notable scientific achievements at BARC and other DAE institutes are published. Under ODOS framework, BARC actively promotes open-access publishing in leading journals, with a clear upward trend in scientific dissemination. Since its introduction, around 300 publications were covered.

The BARC Central Library holds over 200,000 books and journals and 9,000 unique reports documenting India's nuclear journey. Smart digital infrastructure upgrades are underway to enhance user experience at the Central Library. To promote and expand readership of its extensive book collection, two editions of the Science and Technology Book Exhibition have been organized, attracting significant participation from the scientific community of BARC.



BARC Newsletter issues published during the review period of 2024-2025 showcasing prominent outcomes encompassing science and technology.



Mr. Vivek Bhasin, Director, BARC visited the Book Exhibition organized in Central Library in 2025.

BARC hosts the Trombay Colloquium, where eminent scientists and leaders share insights. Recent speakers include Dr. Soumya Swaminathan of WHO, Mr. Raj Chengappa of India Today Group, and Mr. Kiran Kumar of Department of Space in 2024, along with DRDO Chief Dr. Samir V. Kamat and DST Secretary Professor Abhay Karandikar in 2025.

There is strong emphasis on promoting Hindi in science and technology publications (newsletters, workshops, conferences), supporting official language policy. BARC's outreach engages citizens, especially youth, through campus visits and flagship events like National Science and National Technology Day, highlighting nuclear science and technology achievements cutting across interesting themes through interactive short films, videos and edutainment skits. An educational tour to BARC Trombay facilities was organized by BARC during September 1-3 this year for 16 meritorious students (enrolled in 9th-12th standard) of a pan-India quiz

competition conducted by Gujarat Council on Science and Technology (GUJCOST).

The Parmanu Jyoti program features BARC scientific officers conducting educational and cultural initiatives in remote schools, inspiring over 18,000 students across multiple states about nuclear energy's societal benefits during the year 2024. From its launch in 2022, the program has positively impacted more than 100,000 students across pan-India Jawahar Navodaya Vidyalayas.

Technology Management: BARC licenses numerous technologies to industry, fostering commercialization through incubation centers such as the Atal Incubation Centers, which link startups with nuclear innovations.

Annually, over 200 technology transfer agreements are signed, with more than 450 active licensees commercializing nuclear spin-off technologies.

For over seven decades, DAE has licensed nearly 250 technologies, issuing about 800 licenses to industry and rural sectors. Atal Incubation Centers across four DAE units, including BARC Trombay, connect India's startup ecosystem with nuclear and non-nuclear technologies, driving employment and entrepreneurship in critical tech fields. The newly formed AIC-ANUSHAKTI, part of the Atal Innovation Mission, is advancing deep-tech incubation and innovation in India. Recent milestones include MoUs



Amity Centre for Nuclear Biotechnology (Navi Mumbai) students visited BARC for an outreach programme.



A meritorious student of GUJCOST's pan-India S&T quiz competition felicitated by Dr. A.K. Dureja, Associate Director of Knowledge Management Group (KMG), BARC (on the left) and Mr. Manoj Singh, Head of the Scientific Information Resource Division, KMG.



The maiden Deep Tech Talk Series on “Harnessing the Power of Multiomics” held at DAE Convention Centre in Mumbai.

with HBNI and PanScience Innovations to boost entrepreneurship, the launch of a Deep Tech Talk Series featuring expert sessions, and active participation in events and outreach programs to strengthen collaboration and student engagement in the innovation ecosystem.

The AKRUTI (Advanced Knowledge and RUrban Technology Implementation) initiative expands societal technology deployment via universities, NGOs, and MSMEs to meet grassroots needs. Currently, 12 AKRUTI Kendras operate nationwide, promoting rural entrepreneurship, with plans for expansion.

Safety Council: The BARC Safety Council (BSC) commemorated its 25th anniversary, marking its dedicated service in ensuring the highest standards of safety across BARC's extensive network of facilities in Mumbai and other parts of the country. Its regulatory mandate encompasses research reactors, fuel fabrication and reprocessing plants, waste management centres, particle accelerators, and radiological laboratories.

BSC accomplished significant regulatory milestones. It issued a total of 131 regulatory clearances, covering commissioning, operational, and renewal approvals for major BARC projects such as RMRC in Kolkata, the MACE Telescope in Ladakh, the Dhruva Reactor, PREFRE-1 and PREFRE-2, SFSF, and FRFCF at

Kalpakkam. The council also conducted 131 regulatory inspections to ensure adherence to safety norms and compliance with its recommendations. In addition, it actively participated in 57 emergency exercises, which enhanced institutional preparedness for both radiological and fire-related contingencies. BSC's work further extended to the authorization of radioactive waste management; 34 authorizations and 11 special authorizations were granted in this domain. It also approved authorization to procure 255 radiation sources and 17 radiological laboratories, along with 41 shipments of radioactive materials.

To reinforce regulatory governance, BSC released several important safety documents. These included Event Reporting Procedure for BARC Facilities (BSC/SG/2025/13), Regulatory Inspection and Enforcement in BARC Facilities (BSC/SM/2025/7), Safe Operations of Chemical Laboratories (BSC/SG/2024/11), and Regulatory Consenting Process for Radiation Facilities (BSC/SG/2023/11).

As part of its training and awareness efforts, BSC organized a two-day Silver Jubilee Symposium on “Regulatory Role of BSC - Goals and Achievements,” held from May 2, 2025, which drew nearly 200 participants. Continuing its commitment to stakeholder engagement, the council also convened a thematic meeting on “Regulatory Measures for Radiation Facilities” on December 14, 2024. In addition, three training courses on “Safety and Regulatory Measures for BARC Facilities” were conducted at Mumbai, Kalpakkam, and Tarapur, and the 24th course on Material Handling Equipment was held at Trombay to enhance operational safety procedures.

In industrial hygiene and safety, BSC maintained momentum through its ongoing Accident Prevention Programme, which included hygiene surveillance and proactive safety promotion initiatives. It convened a 3-days Technical Meet from May 8, 2025, which was attended by 162 Safety Coordinators representing 80 divisions. The 55th National Safety Day was observed on March 4 with events such as poster, slogan, and play competitions designed to encourage safety awareness among employees. Further, the 40th training course on “Accident Prevention and Occupational Health and Safety,” conducted from July 7-18, 2025, trained 50 participants in best practices for workplace safety. On Founders Day 2024, the Director's Safety Shield Awards (DSS-2023) were presented to divisions demonstrating exemplary safety performance. Overall, BSC also trained around 1,500 CAT-I and CAT-II trainees in industrial hygiene and safety.



Inaugural session of 49th Training Course of Safety and Regulatory Measures of BARC Facilities.