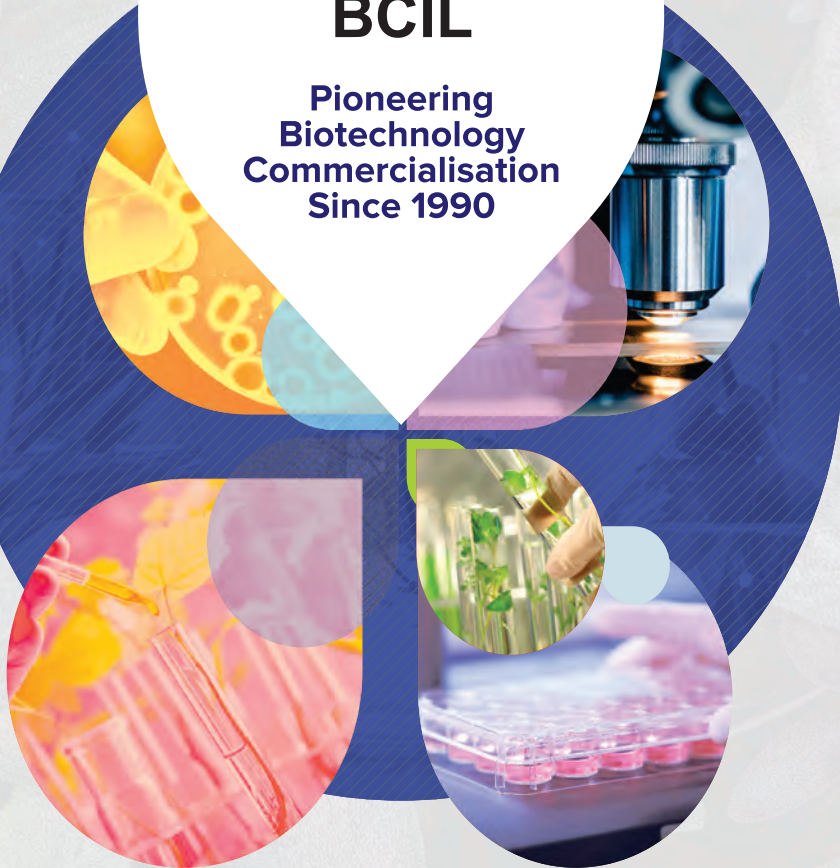




BCIL

**Pioneering
Biotechnology
Commercialisation
Since 1990**



BIOTECH CONSORTIUM INDIA LIMITED

Biotech Consortium India Limited

- A company promoted by the Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and set up by All India Financial Institutions including IDBI, ICICI, IFCI, UTI and IFCI Venture Capital Funds Limited
- Incorporated as a public limited company in 1990 with government in advisory role, development banks as major funding agency
- Nodal agency for providing business support services to facilitate accelerated commercialization of biotech products and processes



Hon'ble Prime Minister of India Shri Narendra Modi showing keen interest in activities of BCIL during interaction with Dr. Purnima Sharma, MD, BCIL



Lightning of lamp by the Chief Guest Hon'ble Union Minister of Science & Technology and Earth Sciences, Dr. Harsh Vardhan during the Silver Jubilee celebrations of BCIL on December 19, 2015



Inauguration of BCIL by the then Hon'ble Prime Minister, Shri Chandra Shekhar on December, 20, 1990

Board of Directors

Board of Directors include senior representatives from major government departments dealing in biotechnology R&D and other eminent experts.

- Chairman
- Secretary, Department of Biotechnology / Nominee
- Secretary, Department of Science and Technology / Nominee
- Director General, Council of Scientific and Industrial Research / Nominee
- Director General, Indian Council of Agricultural Research / Nominee
- Director General, Indian Council of Medical Research / Nominee
- Nominees of All India Financial Institutions
- Other Eminent Experts
- Managing Director, BCIL

Areas of Operation



Key Strengths of BCIL

- **Technical strengths:** Extensive expertise and experience in above areas of operations in all biotechnology sectors viz. healthcare, agriculture, environment and process industry. BCIL leverages its in-depth understanding about technology, manufacturing process, regulatory requirements, markets, government incentives etc. for executing specialised consultancy projects, project management and expeditious transfer of technologies.
- **Networking:** By virtue of its unique constitution, BCIL networks closely with all stakeholders viz. industry, entrepreneurs, academia, government, international organizations etc. and provides a platform for interaction on cross- sectoral topics. These linkages also facilitate collection of latest authentic information for professional execution of various assignments.
- **Finance management skills:** BCIL has adequate skills and expertise in ensuring compliance with financial and accounting norms in project management. The company has well defined administrative procedures to manage funds as per the guidelines provided by the sponsors.

Since almost three decades BCIL has assisted thousands of clients including scientists, technologists, research institutions, universities, first generation entrepreneurs, corporate sector, national and international organizations, ministries/departments of central government, various state governments, banks and financial institutions.



Networking with Stakeholders

Technology Transfer Office at BCIL

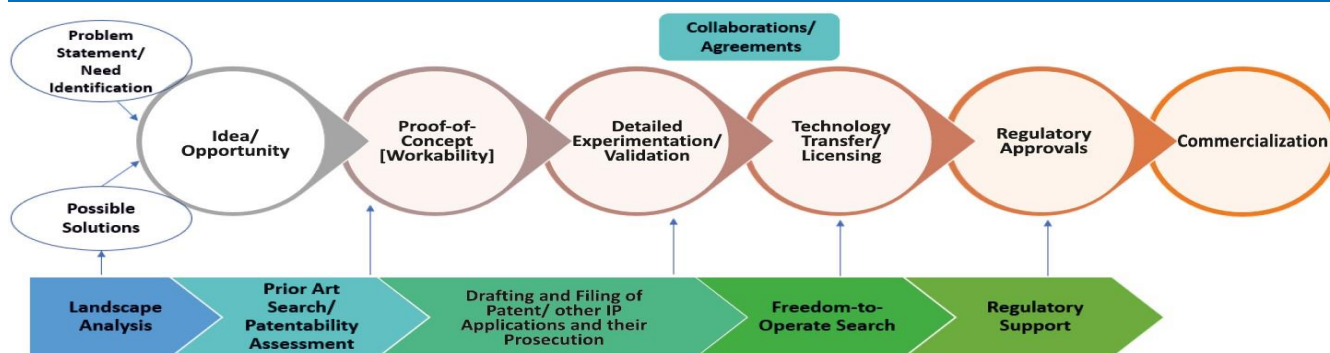


TTO at BCIL is the Technology Transfer Office of the Department of Biotechnology (DBT), Government of India – BIRAC (TTO at BCIL) with a mandate to provide technology transfer services to DBT autonomous institutes and DBT supported extramural projects.

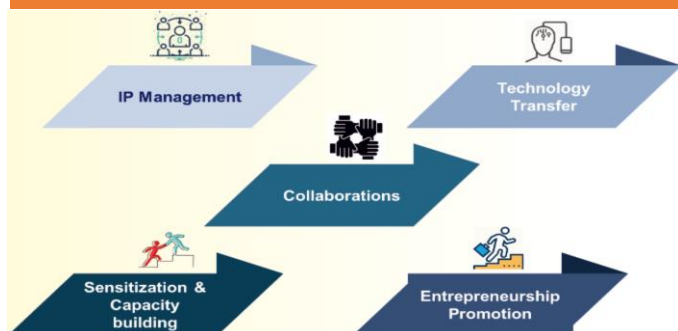
- Extensive experience and expertise in expeditious transfer of biotechnologies
- Transferred more than 82 technologies across all biotechnology sectors viz. Diagnostics, Vaccines, Recombinant therapeutics, Biomedical devices, Agri-technologies, etc.
- Trusted partner assisting DBT, ICMR, BIRAC, IITs, Public funded research institutes and Universities in transfer of their technologies
- Qualified and experienced professionals in different disciplines of life sciences

- Systematic approach adopted for identifying promising technologies, conducting due diligence to assess their potential followed by transfer to suitable licensee(s) and post-transfer monitoring
- Thorough understanding of the product development cycle in all verticals of biotechnology
- Deep insights into understanding of Technical, IP, Regulatory and Market aspects for evaluation and valuation of technologies and translation of laboratory scale biotechnologies into commercial ventures

Technology Transfer and Post-Transfer Monitoring Activities



TTO Services



Sectorwise Technologies Transferred by BCIL



- Medical Devices
- Agricultural Technologies
- Diagnostics
- Industrial Biotechnology
- Therapeutics
- Vaccines

BCIL was accorded the "Special National Award for Technology Transfer and Commercialization in Biotechnology" instituted by the Department of Biotechnology, Government of India in the first year of its inception.



Dr. Purnima Sharma, MD, BCIL being awarded the STEM Fellow (F-STEM) certificate as a recognition for her sustained and significant contribution in the realm of Intellectual property management and knowledge transfer during the STEM Summit 2022.

Management of Intellectual Property Rights



- Intellectual Property Facilitation Cell of BCIL is recognized by the Ministry of Micro, Small and Medium Enterprises (MSME), Govt. of India
- Extensive experience and expertise in conducting Intellectual Property (IP) analytics, IP due diligence, drafting and filing of IP applications in India and abroad
- Access to state of the art patent and scientific databases
- Servicing over 500 clients including research institutions/universities, first generation entrepreneurs and the corporate sector

Scope of IP Services

IP Analytics <ul style="list-style-type: none">• Novelty and Patentability Search• Landscape Analysis• State of the Art Search• Freedom-to-Operate Search• Invalidation/ Opposition Search	Patent Filing, Prosecution & Maintenance <ul style="list-style-type: none">• Drafting of Patent Applications• Filing in suitable jurisdictions based on potential markets• Seeking National Biodiversity Authority (NBA) approval for filing patents using bioresources	Securing IP Rights through other tools <ul style="list-style-type: none">• Protection of Plant Varieties• Trademarks• Designs• Copyrights• Geographical Indications
Agreements <ul style="list-style-type: none">• Technology Transfer Agreements• Collaboration Agreements• Non-Disclosure/ Confidentiality Agreements• Material Transfer Agreements	IP Advisory <ul style="list-style-type: none">• Pre-filing advisory• Advisory on Access and Benefit sharing (ABS) for use of biosources for research and commercial use• Advisory on disclosure and publications• IP Policy Adherence	Capacity Building <ul style="list-style-type: none">• IP awareness and sensitization programmes• IP workshops and training programs• Capacity building in ABS issues

Key Clients (IP and Technology Transfer)



- **Biotechnology Industry Research Assistance Council (BIRAC)**
- **Indian Council of Medical Research (ICMR)**
- **DBT Autonomous Institutions (NII, NIPGR, NIAB, NBRC, NCCS, NIBG, NABI, ILS, IBSD, CDFD, CIAB, ICGB, THSTI, RCB & RGC)**
- **Indian Institute of Technology (IITs), Kanpur, Roorkee, Madras, Mandi**

Scope of Services

- Feasibility studies, sectoral studies, market surveys, diversification plans in areas viz. vaccines, therapeutics, diagnostics, biofertilizers, biopesticides, tissue culture, genetic engineering etc.
- Analytical studies on issues and perspectives at national and regional level, independent assessment of impact of long term programs on R&D, HRD, Capacity Building etc.
- Detailed Project Reports (DPR) for specialised facilities viz. Biotech Parks and Incubators, Centres of Excellence etc.

Biotech Parks and Incubators

- Assisting State Governments in identifying and prioritization of the biotechnology sectors for which the State offers unique advantages, recommending specialized biotech facilities to promote entrepreneurship and attract investments, suggesting management model and working out financial feasibility, etc.
- Prepared DPRs/Feasibility Reports/Business Plans for 22 Biotech Parks in 16 States
- Assisting State Governments in operationalization of Biotech Parks/Incubators



Bioincubator Support Services



SERVICES TO INCUBATORS

- Selection of suitable Incubatees
- Widespread awareness creation
- Review of Business Plans
- Execution of Agreements between Incubator and Incubatees
- Monitoring Progress of Incubatees

SERVICES TO INCUBATEES

- Mentoring services
 - Access to technical expertise for trouble shooting
 - Guidance for accessing fund sources
- Training
 - IP Management
 - Business management
- Advisory on market access
- Techno-legal Management

Scope of Services

- Project management from conception to planning, designing and execution with timely deliverables conforming to required quality standards
- Key biotech projects of national relevance successfully managed by BCIL (listed below)



Regulatory Services



Biosafety Support

- Actively engaged in biosafety issues related to Genetically Modified Organisms (GMOs) and new gene technologies
 - Working closely with the nodal ministries and other concerned agencies
 - Capacity building activities for multiple stakeholders through organizing conferences, workshops, technical trainings, consultations, publications, e-learning courses
 - Assistance in preparation of guidelines, manuals and resource documents
 - Assisting organizations in regulatory data generation and compliance
 - Expertise in preparation of well researched publications in multiple languages, newsletters, e-learning courses and websites for creating awareness
- Implementation of capacity building projects

Implementation of capacity building projects

Publications, websites, e-learning courses, newsletters

Regulatory dossier preparation

Guidelines, manuals, studies and surveys

Technical trainings, workshops, consultations, conferences

Clinical Development Support

BCIL adopts an integrated approach for facilitating preclinical and clinical development (Phase-I to IV) of healthcare innovations covering identification of jurisdictions with market potential and ensuring generation of regulatory data in conformity with the specific regulations for time and cost-effective clinical development of the product

Medical Devices

Drug Delivery Systems

Combination products

Biologicals

Vaccines

Biosimilars

Phyto-pharmaceuticals

New Chemical Entities

Ayurvedic Products

Services Offered

- Identification of most suitable regulatory pathway for the new product taking into consideration
 - o Jurisdictions for marketing of the product
 - o Waiver/exemption available as per current regulations
 - o Minimum data compliance in view of approved products
- Filing of investigative new drug (IND) application with the relevant regulatory authorities
- Developing detailed plan for preclinical and clinical development and its implementation conforming strictly to the timelines
- Initiation and implementation of the study in a timeline-based manner for expedited product launch

Information Services



- Acted as 'Distributed Information Sub-Centre (DISC)' of DBT for more than 25 years
- Actively engaged in creating commercially relevant databases
- Bringing out periodicals of topical interest

Skill Enhancement Programmes

BCIL has extensive experience in Human Resource Development, specifically in industrial training of students and researchers to acquire industrial skill sets.

- Managed DBT-Biotech Industrial Training Program (BITP) from 1993 to 2021. Over 700 students trained every year in more than 100 companies
- Managed Junior Research Fellowships programme of Department of Biotechnology from 2015 to 2020. Conducted Biotechnology Eligibility Test (BET) upto 2019.
- Conducting training of African candidates on commercial plant tissue culture since 2017 with the support of Ministry of External Affairs, Government of India and DBT's



guidance. More than 200 candidates from 24 African countries trained including students, tissue culture companies, scientists, progressive farmers, potential entrepreneurs etc.

Capacity Building Workshops



Workshops/Seminars on Intellectual Property Rights, Technology Licensing, Biosafety, Biodiversity Access and Benefit Sharing, Grant-Writing etc. for fostering innovation eco-system

Entrepreneurship Development Programmes

BCIL acts as a hub to impart skills and knowledge to orient students towards entrepreneurship

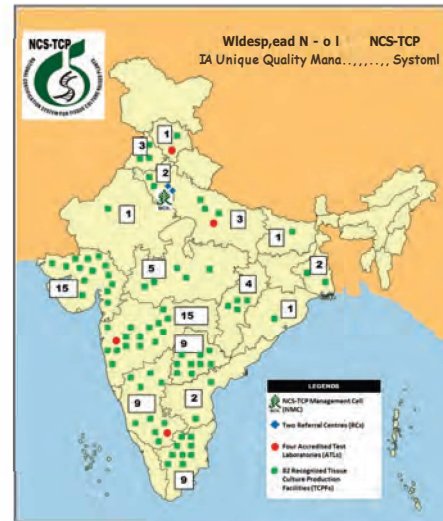
Specially designed entrepreneurship development programmes including bootcamps, hackathons, business plan competitions, sensitization workshops, advanced hands-on workshops, etc. are organised to

- Nurture a startup ecosystem for knowledge-based and innovation led enterprises
- Motivate, support and mentor students for identification, development and commercialization of their innovative ideas
- Equip the budding entrepreneurs with technical, IP, regulatory, finance, marketing and managerial skills for enterprise creation and management
- Create awareness about entrepreneurial pathway, models for entrepreneurship development, funding schemes, entrepreneurial support systems etc.
- Disseminate information about availability of wide array of deep science as well as grassroot technologies for pursuing entrepreneurship

Glimpses of a few Projects

National Certification System for Tissue Culture Raised Plants (NCS-TCP) (2006 to 2021)

- NCS-TCP is a certification system of DBT mandated under the Seeds Act 1966 for ensuring production and distribution of quality tissue culture planting material for DBT
- As the NCS-TCP Management Cell, BCIL was responsible for coordinating activities for recognition of tissue culture production companies, accreditation of test laboratories and interaction with all stakeholders to ensure efficient implementation of the programme
- NCS-TCP has played key role in strengthening production capacities of tissue culture companies and improving their market reach.



MAP with NCSTCP

Biosafety Capacity Building Projects in India and other countries

- BCIL served as the Project Coordination Unit for UNEP/GEF supported Phase I Capacity Building Project on Biosafety implemented by the Ministry of Environment, Forest and Climate Change (from 2012 - 2018). Also associated with implementation of activities under Phase I Project supported by World Bank/GEF
- Provided support for capacity needs assessment, preparation of guidelines and resource documents for UNEP/GEF supported biosafety capacity building project in Bhutan
- Associated with capacity building activities in Bangladesh through South Asia Biosafety Programme since 2005
- Providing Specialized technical assistance to Food and Agriculture Organization (FAO), Sri Lanka for the project on "Implementation of the National Biosafety Framework in accordance with the Cartagena Protocol" in Sri Lanka
- Provided training to regulators and scientists under GEF supported projects in Malaysia

New Gene Technologies

- Implementing projects on enhancing outreach engagement for new gene technologies such as gene editing and gene drives at Agriculture Universities and Research Institutions
- Resource materials in easy to understand language and newsletter under preparation

School of International Biodesign (SIB) (2009 onwards)

- SIB programme includes interdisciplinary, team-based, hands-on training wherein physicians, engineers, designers and researchers come together to identify unmet clinical needs of the healthcare system in India and develop innovative solution(s) with a frugal approach in Medtech domain.
- Project management by BCIL covers techno-legal management including IP and technology transfer management, facilitating international and industry collaborations, nurturing start-ups by providing mentorship/ hand-holding support for commercialization of SIB technologies



International Collaborations

- Stanford University, USA
- Queensland University of Technology, Australia
- Tottori University, Japan
- Hiroshima University, Japan

In Country Collaborations

- AIIMS
- IIT-Delhi

Industry Collaborations

- Johnson & Johnson (COSAT)
- Siemens Information System Limited
- Siemens Healthineers Pvt. Ltd. (SHPL)

North Eastern Region Biotechnology Programme Management Cell (NER-BPMC) (2010 to 2020)

- NER-BPMC of DBT is aimed at biotech based holistic development of North Eastern Region of India
- As NER-BPMC Management Cell, BCIL assisted DBT in implementation, mentoring and monitoring of innovative programmes in NER

Key Outcomes

Skill Development

- > 200 Over seas Associate-ships awarded
- 126 biotech hubs established >1700 students trained
- > 30 visiting research professor ships awarded
- Biotech laboratories established at 88 senior secondary schools

Innovative R & D

- 650 twinning projects supported
- 1500 scientific man power trained
- Network Programmes on Chemical Ecology, MDR-TB, Scented Rice (Joha & Black Rice), etc.
- >400 scientific papers published in peer reviewed journals

Infrastructure Development

- Centre for Excellence in Agri biotech (Jorhat) and Fisheries Biotechnology (Tripura)
- 32 units of excellence in R&D
- Facilities for advanced R&D on Yak, Mithun and Pig
- Molecular diagnostic labs at 11 medical colleges
- Production facilities for value addition in jackfruit and citrus



Dr. Harsh Vardhan, Hon'ble Union Minister of Science & Technology and Earth Sciences, inaugurating the FAB-CoE under NER-BPMC at College of Fisheries, Central Agricultural University, Tripura

Services offered by BCIL-At a Glance

INDUSTRY & ENTREPRENEURS

- **Consultancy for**
 - Investment opportunities
 - Sources of financial assistance
 - Regulatory requirements
 - Government incentives/subsidies
 - Suitable biotech parks/incubators for starting Operations
- **Preparation of Business Plans, Detailed Project Reports, feasibility studies**
- **Sourcing of Technologies**
- **Management of Intellectual Property Rights**
- **Preparation of Biosafety dossiers**
- **Techno legal support services**

ACADEMIA AND RESEARCH INSTITUTES

- **Management of Intellectual Property Rights**
- **Transfer of technologies**
- **Preparation of regulatory/ biosafety dossiers**
- **Identifying suitable industry partners for technology scale up/commercialization**
- **Capacity building**

GOVERNMENT/ DEVELOPMENTAL ORGANIZATIONS

- **Management of specialized Programmes/ Projects**
- **Consultancy Services**
 - Impact assessment studies
 - Sectoral studies
 - Product specific technology landscape studies, market searches
 - Independent evaluation reports
- **Preparation of Detailed Project Reports for Biotech Parks, Incubators and Sector Specific Specialized Facilities**
- **Human Resource Development through training, organising sector specific workshops**
- **Preparation of technology and market updates**

FOREIGN INVESTORS

- **Facilitate**
 - Joint venture/partnerships with Indian industry
 - Collaboration with Indian research organizations
- **Consultancy**
 - IP and regulatory requirements
 - Suitable biotech parks/incubators for starting operations
 - Financial incentives (tax exemptions, subsidies, etc)
- **Preparation of Business Plans, Market Reports**

BCIL Biotechnology Club

Biotech club of BCIL has members from industry, research institutions, universities and individuals who are kept abreast with the latest developments in biotechnology through BCIL's publications such as Biotech Bulletin; Biotech Weekly News Update; Quick Updates on technological developments; funding schemes; fellowships; awards; national and international events, and many more. Visit BCIL website for more details.



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