Biotechnology Industry Research Assistance Council (BIRAC)

(A Govt. of India Enterprise)

Scaling Biotech Innovations for Global Impact

ABOUT BIRAC

BIRAC is a Not-for-Profit Section 8, Schedule B, Public Sector Enterprise, set up by Department of Biotechnology (DBT), Government of India as an interface agency to strengthen and empower the emerging biotech enterprise to undertake strategic research and innovation, addressing nationally relevant product development needs.

VISION

To stimulate, foster and enhance the strategic research and innovation capabilities of the Indian biotech industry, particularly start-ups and SMEs, for creation of affordable products addressing the unmet needs that are globally competitive.

KEY STRATEGIES

- **Foster innovation and entrepreneurship**
- **Contribute through partners for capability enhancement & diffusion of innovation**
- **Promote affordable innovation in key social sectors**
- **Enable commercialization of discovery**
- **Empowerment of start-ups & SMEs**
- **Facilitate global competitiveness of Indian enterprises**

BIRAC's aim is to play a transformative and catalytic role in building a US$ 150 billion Indian bioeconomy by 2024. We believe that the agents of change for building the Indian bioeconomy would be biotech start-ups & SMEs and hence our focus is on raising their capabilities, connecting them to global and local stakeholders such that they achieve global excellence.

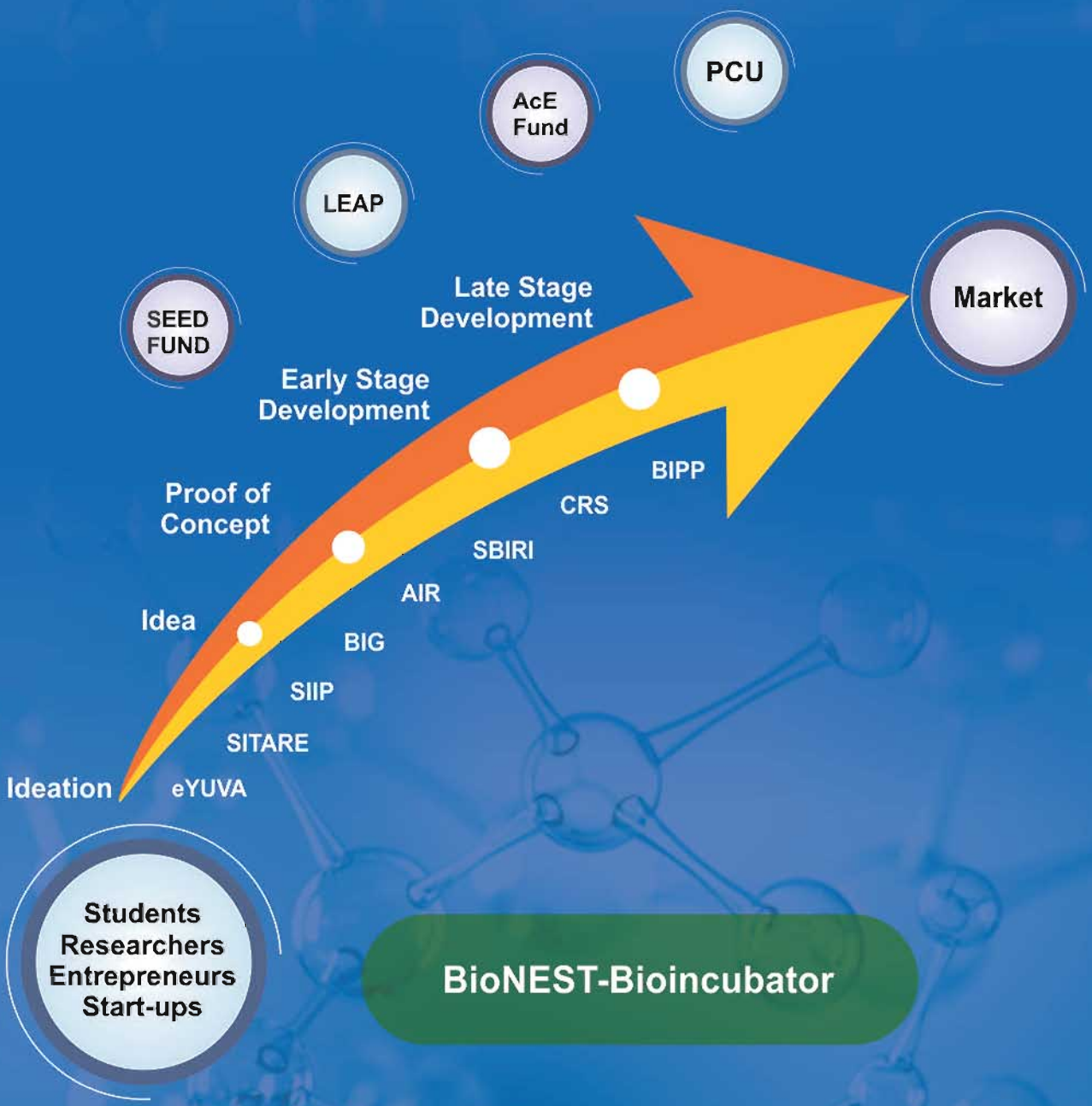
BIRAC - an Ecosystem Enabler
Funding and Beyond

- Ignite new ideas- BIG, SITARE
- Support early stage research for proof-of-concept validation - SBIRI
- Promoting development of PoC for a product/process by Academia with or without industry - AIR
- Partnership with industry for high risk discovery led innovation - BIPP
- SPARSH, SIIP- Social Innovation
- Creation of incubation facilities - BioNEST, UIC
- National Biopharma Mission

- Product Commercialization Fund
- Equity Funds - SEED Fund, LEAP Fund, AcE Fund
- Facilitating technology validation and development - CRS
- Research Alliance for Product Innovation and Development (RAPID)
- Grand Challenges India, BIRAC-DBT-BMGF
- National and International Strategic Partnerships
- Make-in-India, Startup India

- IP Management
- Technology Transfer & Acquisition
- Access to Research Resources
- Shared Facilities for Product Development and Testing
- Mentoring & Capacity Building
- Access to Investors
- Connecting Innovation Ecosystem
- National Biopharma Mission
- Regulatory facilitation guidance
- Policy Initiatives
- Industry-Academia connect

Driving Product Development



Igniting New Ideas
-Promoting Entrepreneurship-

BIG
Kick Starting Entrepreneurship

BIG is a flagship programme of BIRAC, which provides the right admixture of funding fuel and mentoring support to young start-ups and individual entrepreneurs. BIG is the largest early stage biotech funding programme in India where innovators are awarded upto INR 50 Lakhs as grant-in-aid to progress their innovative ideas to proof-of-concept in 18 months.

BIG IMPACT

500+ Projects supported	**50+** Products/ technologies developed	**125+** New Start-Ups created
120+ IPs filed	**100+** Women Entrepreneurs	**4** BIG conclaves organized for networking

SNIPR (Smart Nanomolecules Induced Physiological Response) Technology for Agri Biologicals

Gamified arm rehabilitation device

Flexmo: All terrain, energy efficient Crutches

Dozee: Contactless sleep monitoring device

Device enabling early diagnosis of Pregnancy disorder, Preclampsia at an affordable cost

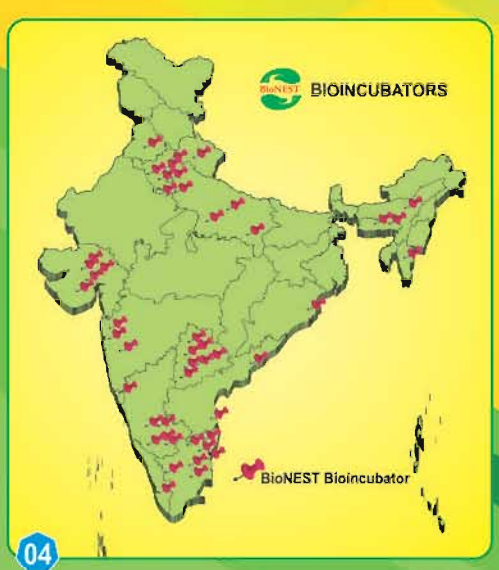
Device to convert conventional stethoscope into digital stethoscope

Transforming Indian Biotech Startup Ecosystem

BIOINCUBATORS NURTURING ENTREPRENEURS FOR SCALING TECHNOLOGIES

Under the BioNEST program, BIRAC has established 50 world-class Bioincubators across the country creating a total incubation space of 5,48,719 sq.ft. These specialized bio-incubation centers provide access to high end equipment, incubation facilities, mentoring by technical, business experts, regulatory guidance, investor and industry connect to entrepreneurs and start-ups. BIRAC provides both Capex and operational support for setting up and management of these incubators.

FOCUS



BioNEST IMPACT

STUDENTS INNOVATIONS FOR ADVANCEMENT OF RESEARCH EXPLORATIONS (SITARE)

SITARE

GYTI Awards
(INR 15 Lakhs to 15 students every year)

BIIS Workshops & Appreciation Awards
(3-4 week residential workshop for 40 students; ~10 students identified for appreciation award of INR 1 Lakh each)

- 60+ SITARE-GYTI Awardees
- 160+ Appreciation Awardees
- 150+ Students trained through BIIS Workshops

SITARE Partner: SRISTI, Ahmedabad

ENCOURAGING YOUTH FOR UNDERTAKING INNOVATIVE RESEARCH THROUGH VIBRANT ACCELERATION (eYUVA)

- An initiative to create a culture of innovation and entrepreneurship within the universities
- BIRAC innovation fellowships for Undergraduate, Graduate, Doctoral & Postdoctoral students in additions to innovation grant to conduct R&D
- Industry participation for training, mentoring, sponsored research, networking opportunities and IP & Technology Management

TNAU, Coimbatore | **UAS, Dharwad** | **University of Rajasthan, Jaipur** | **University of Punjab, Chandigarh** | **Anna University, Chennai**

* More E-Yuva centres are being inducted.

Sparsh

Touching a billion lives

Social Innovation Programme for Products Affordable & Relevant to Societal Health

- Launched under the aegis of Department of Biotechnology, Ministry of Science & Technology, Government of India, SPARSH programme aims at finding innovative solution to society's most pressing social problems by developing various Products and Technologies in the area of Biotechnology
- So far, eight calls have been announced on socially significant themes such as Maternal and Child Health, Ageing and Health, Soil and Plant Health and Waste to Value
- Financial support is provided in the form of Grant-in-Aid to Companies/Start-ups/Limited Liability Partnerships (LLP) and Academic Institutions (in collaboration with Companies)

Some of the Products/Technologies developed under the scheme

SAANS developed by **Coeo Labs Pvt. Ltd.** is a Continuous Positive Airway Pressure (CPAP) device for newborns and infants

Rhino Digester is a robust, compact and cost-effective appliance for decentralized waste processing developed by ***Flycatcher Technologies LLP***

NEURO TOUCH- Innovative solution in medical diagnostics & wound care. Its a point of care screening device for Peripheral Neuropathy. With **NEURO TOUCH** following tests can be performed: graduated Monofilament Test (Protective Sensation Test), Vibration Perception Test, Hot and Cold Perception Test & Infrared Thermometry for Skin Temperature Measurement; Generate instant screening reports; Store, Collate & analyse the data

Neurosynaptic Communications Pvt. Ltd. has developed **ReMeDi-Nova**-CE certified affordable Wireless Diagnostic Technology with low energy Bluetooth enabled kit for 35 different point of care tests

Sparsh Centres
for
Social Innovation Immersion

SPARSH is the social innovation program of BIRAC and SIIP (Social Innovation Immersion Program) is one of its components under which a pool of "Social Innovators/SPARSH Fellows" is being created to identify and address the social problems through biotechnological interventions.

The program is being implemented through 14 SPARSH Centres to provide all the requisite support to Social Innovators in the following thematic areas:

- Maternal and Child Health
- Ageing and Health
- Food and Nutrition
- Waste to Value
- Combating Environmental Pollution
- Agri-Tech

Features

- Rs. 50,000 per month Fellowship
- Rs. 5 Lakhs mini kick-start Grant
- Clinical/Rural Immersion
- Access to BIRAC network
- Mentoring by experts
- Opportunities for future funding

Impact

- 34 SPARSH Fellows graduated till date
- More than 500 problem areas/gaps in the communities mapped
- 80% success rate with follow on funding for the SPARSH Fellows
- 30 start-ups created
- 70 SPARSH Fellows currently enrolled

SPARSH IMPLEMENTATION PARTNERS

IIM CALCUTTA INNOVATION PARK · IKP · FITT · IIT KANPUR · C-CAMP · PSG STEP · villgro · VENTURE CENTER · KIIT-TBI · TIMed · Venepoya Foundation for Technology Incubation · Healthcare Technology Innovation Centre · ATAL INCUBATION CENTRE CENTRE FOR CELLULAR & MOLECULAR BIOLOGY

SPECIALIZED SERVICES: INTELLECTUAL PROPERTY (IP) & TECHNOLOGY MANAGEMENT

BIRAC's in-house IP & Technology Management Cell conducts an IP evaluation for all the eligible proposals received under various public-private partnership funding schemes such as i4, PACE, BIG, GCI, National Bio-pharma Mission etc. In addition to this, the Cell also provides opinion on many of the IP and licensing related issues arising during collaborative research projects including international projects.

BIRAC started BIRAC-PATH (Patenting & Technology Transfer for Harnessing Innovations) scheme to offer support for Patenting & Technology Transfer for BIRAC funded Biotech Start-ups and SMEs.

To promote the innovation ecosystem in India and also to enable the commercialization of the technology, BIRAC offers a wide range of IP and Technology Management services to SME's, Start-ups, Academia and also to the Indian Biotech Industry.

Patent Searches

a. Patentability Search
b. Freedom-To-Operate Search/Clearance Search
c. Validity/Invalidity Search
d. State of the Art Search/Prior Art Search

Patent Drafting, Filing and Prosecution

Patent Analytics

a. Patent/Technology Landscaping
b. IP(Patent/Technology) Mapping

IP Policy Development and Process Set-up

Patent Portfolio Management

Technology Management offerings

a. Technology Evaluation
b. Technology Marketing
c. License Negotiation

IP and Technology Management awareness and capacity building programs

i4 Intensifying the Impact of Industrial Innovation

Supports biotechnological product/technology development by strengthening R&D capabilities of start-ups/companies/LLPs

The Programme is operated through two schemes based on Technology Readiness Level (TRL)

Small Business Innovation Research Initiative (SBIRI)

Scope

- Supports development and initial validation of new products and technologies
- The end point of the proposed study should be TRL6 or below

Funding

- 100% Grant from BIRAC for projects upto Rs. 50 Lakhs
- For projects more than Rs. 50 Lakhs, BIRAC grant would be Rs. 50 Lakhs + 50% of the cost exceeding Rs. 50 Lakhs

Biotechnology Industry Partnership Programme (BIPP)

Scope

- Supports validation, demonstration and pre-commercialization of products and technologies
- The end point of the proposed study should be TRL7 or above

Funding

- Irrespective of the amount, BIRAC's contribution to the total project cost will not exceed 50%

Salient features

- No ceiling with regard to overall project cost
- The entire cost to the collaborating academic institution (if any), would be borne by BIRAC
- Single or consortia of Indian Company(ies) or Limited Liability Partnership with/without an academic partner are eligible to apply
- Royalty would be admissible as per BIRAC guidelines

Small Business Innovation Research Initiative (SBIRI)

SBIRI was launched in 2005 to boost Public-Private-Partnership (PPP) efforts in the country. It is a first of its kind early stage, innovation focused initiative in the area of Biotechnology.

Key Features

- Supports Proof-of-Concept establishment & Early stage validation
- Supports indigenous Product/Technology development
- Creates opportunities for starting new technology-based or knowledge-based businesses by start-ups
- Encourages Industry-Academia collaboration
- Mentoring: Technical, IP and Regulatory

Theme areas supported

- Drugs (including Drug Delivery)
- Biopharmaceuticals and Regenerative Medicines (Including stem cells)
- Vaccines
- Devices and Diagnostics
- Agriculture (Including Aquaculture/Fisheries & Veterinary Sciences)
- Industrial Biotechnology (Industrial Products & Process) and Secondary Agriculture
- Bioinformatics (Including Artificial intelligence, Big Data Analysis, IoT, Software Development, etc.)

Biotechnology Industry Partnership Programme (BIPP)

BIPP, a Public-Private Partnership scheme, promotes innovative research for development of transformational products/technologies in the Biotech sector. The scheme serves as a launch pad for scaling and commercializing high risk innovations through cost sharing between BIRAC and the industry

Categories for support

CATEGORY I
Areas with major social relevance but uncertain market driven demand

CATEGORY II
High risk discovery and innovation research

CATEGORY III A
Clinical trials

CATEGORY III B
Agriculture field trials

CATEGORY IV
Facility development

Impact of BIPP

- Projects supported: 210
- Products/ technologies developed: 49
- 8 Facilities created
- 32 IPs generated

Key attractions

- Support till pre-commercialization
- Technical mentorship
- IP and regulatory guidance
- Access to networking platforms

Call Calendar

- 15th February – 31st March
- 15th June – 31st July
- 15th October – 30th November

*Regular and Challenge based calls are announced alternately

Promoting Academic Research Conversion to Enterprise (PACE)

The scheme supports academia to develop products and technologies (up to PoC stage) of societal/ national importance and their subsequent validation by an industrial partner

Components of Scheme

Academic Innovation Research (AIR)

Promotes development of Proof-of-concept (PoC) for a process/product with proof of principle by academia with or without the involvement of industry

- ✓ Grant upto Rs. 50 Lakhs
- ✓ Project duration: 18 Months

Contract Research Scheme (CRS)

Aims at validation of a process or prototype by the industrial partner developed by the academia

- ✓ No ceiling of project duration and Grant-in-Aid to both the partners

Salient features of Scheme

- Academic Institute, University, NGO or Research Foundation, registered/accredited by a government body are eligible to apply either alone, or in partnership with academia or industry (while involvement of industry is optional for AIR scheme, it is mandatory to have an industrial partner for CRS)
- IP rights reside with the academia with the industry partner having first right of refusal for commercial exploitation of the new IP
- Facilitates grantee in mentoring technical, IP and regulatory aspects of the proposal
- 3 calls for proposals are announced each year

Impact of Scheme

- **>100** Projects supported
- **85** Academic institutes supported
- **33** Companies supported
- **06** IP generated
- **07** Technologies/ products developed

Early Translation Accelerator (ETA)

Catalyzing translation of academic discoveries to commercially viable ventures

Eligible Entities

- Bioincubators
- National Research Laboratories
- Government funded Laboratories
- National Institutes with demonstrated experience in performing translational activities

Discoveries from Healthcare, Agriculture, Industrial biotechnology and other important areas of Biotechnology

Early engagement with industry and investors to help drive the discoveries and validated technologies towards successful commercialization

Rs. 1 Crore for Core ETA in addition to a maximum of Rs. 2 Crores for each project

ETAs Supported

C-CAMP
Centre for Cellular and Molecular Platforms

IITM Bioincubator

BETIC

Achievements so far

4 market ready technologies & 1 Provisional patent

Biotech FIRST HUB

Facilitation of Innovation & Regulation for Start-ups and Innovators

A facilitation unit, set up by BIRAC, to address the queries of Start-ups, Entrepreneurs, Researchers, Academicians, Incubation Centres, SMEs, etc.

CDSCO, ICMR, NIB, BIS, GeM, DBT and BIRAC representatives will be available for taking queries

REGULATORY PATHWAYS & REGULATIONS

FUNDING OPPORTUNITIES

MENTORSHIP

INVESTMENT OPPORTUNITIES

MARKET ACCESS

INDUSTRY ACADEMIA PARTNERSHIPS

INTELLECTUAL PROPERTY

FIRST HUB will be open every first friday of the month at BIRAC office from 3:00pm - 5:00pm

- Queries can be submited through online portal at BIRAC website www.birac.nic.in
- Prior appointment is essential as only 5-6 innovator slots are available

COMPLETED FIRST YEAR OF OPERATIONS AND ADDRESSED MORE THAN 300 QUERIES OF INNOVATORS

BIRAC REGULATORY CELL

Facilitates the process of interpreting the rules and regulations and helps entrepreneurs pass through regulatory hurdles

Testing and Standardization Services

BIRAC in collaboration with KIHT facilitates testing and standardization of Medical Devices for start-ups, entrepreneurs, researchers, academicians, incubation centres & SMEs

Standards that can be tested:

- Electromagnetic Interference (IEC 60601 Series)
- Electromagnetic Compatibility (IEC 60601-1-2 Series)
- Electrical Safety Testing
- Biocompatibility (ISO 10993)
- GMP (ISO 13485)
- Software Testing (IEC 62304)
- Material Testing (Relevant ASTM Standards)
- Radiation Protection (IEC 60601-1-3)

Additional Services :

- Rapid Prototyping
- Health Technology Assessment
- NIPUN Certificate application

Cost will vary depending on parameters, such as :

- Duration of Testing
- Testing Chamber Configurations
- No. of units required to be tested

The testing charges are subsidised for BIRAC referred Start-ups to an extent of 40%-70%

Advocacy with the regulatory bodies

- One to One interaction with regulators
- In-person sessions with Industry leaders in regulatory domain
- Access to Network of Regulatory experts in the area of Drugs, Biopharmaceuticals, Vaccines, Devices & Diagnostics, Agriculture and Industrial Biotechnology

Capacity building through trainings and awareness

BIRAC regularly organizes workshops for capacity building in regulatory domain:

- 15 National Regulatory Workshops organized across India in Collaboration with Clinical Development Services Agency (CDSA)
- Third series of National workshops witnessed participation from close to 700 participants and 350 institutions

Guidance on Regulatory Compliances

BIRAC Regulatory Advisory panel consists of regulatory experts from all the subject areas, identifies the regulatory gaps and helps in resolution for successful execution of BIRAC supported projects

EQUITY FUNDING

FUND OF FUNDS
BIOTECHNOLOGY INNOVATION FUND

AcE FUND (ACCELERATING ENTREPRENEURS FUND)

₹ 7 Cr/Start-up

Biotechnology Innovation Fund (Accelerating Entrepreneurs) is an equity based "Fund of Funds" exclusively for Biotech Start-ups. AcE Daughter Funds are SEBI registered private funds to invest equity in start-ups for providing the risk capital to undertake innovation, research and product development.

₹ 150 Cr	₹ 300 Cr+	5
Committed in AcE Daughter Funds	Mobilized for Biotech Start-ups	AcE Daughter Funds (more in pipeline)

Potential Biotech Startup

LEAP Fund (Launching Entrepreneurial Driven Affordable Products Fund)

₹ 1 Cr/Start-up

The Fund enables potential biotech start-ups to pilot/ commercialize their products/ Technologies

6 LEAP Fund Partners

PoC Stage to Pilot Stage

SEED Fund (Sustainable Entrepreneurship and Enterprise Development Fund)

₹ 30 Lakhs /Start-up

BIRAC in partnership with BioNEST Incubators provides equity support upto INR 30 lakhs/ Start-up

16 SEED Fund Partner Incubators

PoC Stage: First Equity Exposure

PRODUCT COMMERCIALIZATION PROGRAM FUND (PCP-FUND)

for

BIRAC Supported Start-ups and Other Indian Start-ups with Validated (TRL ≥7 in BIRAC Scale) Products/Technologies of high Commercial Potential and National relevance.

To deal with additional financial requirements for preparing the ground for market launch, test-validation in targeted markets and large scale commercialization of successfully validated products/technologies

Areas Supported under PCP-Fund

- **Drugs** (including drug delivery)
- **Biosimilars**
- **Regenerative Medicine**
- **Vaccines**
- **Devices and Diagnostics**
- **Agriculture**
- **Aquaculture/ Fisheries**
- **Veterinary Sciences**
- **Industrial Biotechnology** (covering Industrial Products & Processes)
- **Secondary Agriculture**
- **Bioinformatics & software** (including Artificial Intelligence, Big Data Analysis, IoTs, software development etc.)
- **Any other relevant areas under Biotechnology**

Highlights

- Need based financial assistance in the form of Grant-in-Aid, as per expert recommendations
- Online Application submission
- Support up to 24 months

Promoting Women Entrepreneurship
WInER Award for Women in Entrepreneurial Research

BIRAC has played a catalytic role in promoting women entrepreneurship across the country through customized programs and infusing new opportunities for women led enterprises. One such effort is WInER (Women In Entrepreneurial Research) Award to recognize and reward women entrepreneurs in the Indian biotech ecosystem

HIGHLIGHTS

- 15 Winners will be awarded INR 5 Lakhs each
- Access to expert mentor network of BIRAC & TiE
- 1 year complimentary membership of TiE Delhi NCR
- Access to TiE Start-up Accelerator Programme
- Opportunity to go through a customized intensive Accelerator Programme
- 3 Final winners will be awarded INR 25 Lakhs each

15 winners of 2nd edition of WInER Award

WInER Awardees at Residential Accelerator Programme

3 Final winners of WInER Award

Two editions conducted successfully

DEPARTMENT OF BIOTECHNOLOGY
GOVERNMENT OF INDIA

WORLD BANK GROUP

NATIONAL BIOPHARMA MISSION (NBM)

Industry-Academia Collaborative Mission For ***Accelerating Discovery Research To Early Development For Biopharmaceuticals*** - "Innovate in India (i3)"

VISION: To enable and nurture an ecosystem for preparing India's technological and product development capabilities in biopharmaceuticals to a level that will be globally competitive over the next decade, and transform the health standards of India's population.

		DEVELOPING SPECIFIC PRODUCTS		
		Vaccines	**Biosimilars**	**Medical Devices**
ECOSYSTEM STRENGTHENING	Facilities	GCLP Lab for Clinical immunogenicity, Cell line Repository, PDL + GMP	GLP Lab for Biologics, Cell line Repository, PDL + GMP	EMI/EMC testing facility, Large animal testing facility, Prototyping facilities
	Translational Research Consortia	Viral Repositories High throughput Assays Animal Models	Raw Materials Novel Biologics	Centres of Excellence
	Technology Platforms	Animal Models Novel Assays	Novel Cell Lines, Indigenous Technologies for affordable biomanufacturing	Core Technology Development
	Clinical Trial Capacity Enhancement	Field Site Capacities for Clinical Trials	Hospital based Clinical Trial Networks	Hospital based Clinical Trial Networks
	Skill Development	~400 people trained per year		
	Technology Transfer Offices	Establish Technology Transfer Offices		
		AFFORDABLE PRODUCTS		

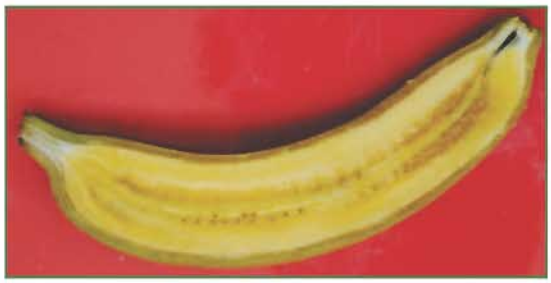
BIRAC-QUT, Australia-Bio-fortification & Disease resistance in Banana

BIRAC has supported a technology development and transfer program of bio-fortified and disease resistant banana from Queensland University of Technology (QUT), Australia to be translated by five Indian research organizations (NABI, Mohali; NRCB, Tiruchirapalli; IIHR, Bangalore; BARC, Mumbai and TNAU, Coimbatore).

Using various gene constructs provided by QUT, the Indian partners are working towards development of transgenic bio-fortified (Iron and Provitamin A-PVA) and disease resistant (Bunchy top virus and *Fusarium* Wilt) banana plants of two Indian cultivars namely, Grand Naine and Rasthali. Presently, the transgenic plants are at different stages of development and evaluation.

Several transgenic lines having PVA content ≥ 20µg/g dry wt have been identified. Certain promising transgenic lines with enhanced level of iron have also been identified. Work on traits like disease resistance (Bunchy top virus and *Fusarium* Wilt) is also in progress.

Based on the expression of the transgenes, the transgenic events would be further evaluated for various agronomic traits.



Promising lines of GM Banana over expressing PVA gene

Trainings conducted under the National Biopharma Mission

(Building and strengthening domain specific knowledge and management skills)

Skill development is one of the key mandates under the National Biopharma Mission. As on date, about 1120 participants have benefitted under different trainings and workshops supported by the mission (data up to Feb 2020). Workshops and lecture series in the areas of Clinical Research (03 Workshops), Regulatory Compliances (06 workshops), Technology Transfer (03 Trainings), Biopharmaceuticals (03 Workshops) and Medical Devices (04 Workshops) have been organized in collaboration with different institutes of repute. Workshops have provided an ideal platform to interact with National and International experts, exchange knowledge and learn from pioneers in the field.

Workshop Organized at ICT Mumbai on Biopharmaceutical Product Development from 3-7 February 2020

Workshop Organized at IIT Kanpur on Medical Device Prototyping from 13-17 January 2020

Ministry of Electronics and Information Technology Govt. of India

ELECTRONICS INDIA

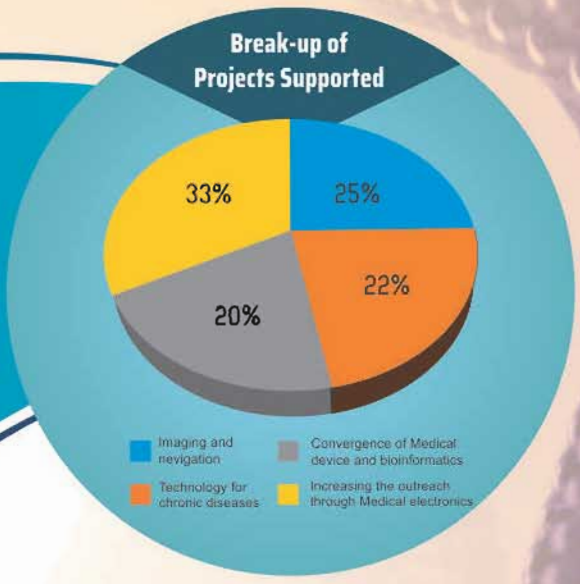
birac ignite innovate incubate

INDUSTRY INNOVATION PROGRAMME ON MEDICAL ELECTRONICS (IIPME)

Aim is to support cutting edge technologies in multi-disciptinary areas of Medical Electronics

FOCUS ON :

- **Imaging and Navigation**
  - Improvements in minimally invasive techniques and therapy delivery
- **Technologies for chronic diseases**
  - Cost effective and accurate chronic disease management with focus on disease states, such as obesity and diabetes
- **Convergence of medical device and bioinformatics**
  - Results in early and faster diagnosis, better prognosis and tailored therapy
- **Increasing the outreach through Medical electronics**
  - Innovative service models, portable home based pack medical electronics, community health programs



Few Technology/Products supported :

Neonatal hearing screening device | Artificial Larynx | Non-invasive opto-glucometre | Hand-cranked Defibrillator

X-ray to 3D Software | Hexapod Patient Couch | Laparoscopy Surgical Training Simulator

Highlights

- Number of calls - **2**
- Number of proposals received - **288**
- Projects supported - **36**
- Total Funding Committed - **₹ 15.48 Cr**
- Products commercially launched - **5**
- Validated Technologies/Products - **12**
- IP filed on supported technologies - **5**
- Total Manpower Supported - **140**

Secondary Agriculture Entrepreneurial Network (SAEN) in Punjab

Focus

To Support Industry and Promote Start-Ups in Agri-Food Sector in Punjab

PARTNERS :

- Punjab State Biotech Corporation (PSBC)
- Centre of Innovative & Applied Bio Processing (CIAB)
- National Agri-Food Biotechnology Institute (NABI)
- Bio-NEST - Punjab University (Bio-NEST-PU)

OBJECTIVES:

- Technology Mapping & IP Landscaping of Research leads from R&D Institutions/Organizations
- Assessment of unmet needs of Agri / Food industry & Development of Technological Solutions to Address the same.
- Pre-commercial Validation/Scale up / Demonstration / Commercialization of R&D leads through proposed Early Translation Accelerator.
- Creating The Pipeline of Incubatees and Entrepreneurs.
- Capacity Building for Entrepreneurship Development

Common features

- Mapping of Potential R&D Leads
- Early Translation Accelerator to Validate Technologies having commercial Potential
- IP Inventory of Innovations from Punjab
- Agri-Food Innovation Fellowships
- Technology Showcasing
- Annual Punjab Start up Fest
- Web Portal & knowledge Bulletin
- Support System For Existing Industrial Units
  - Solutions for Addressing Unmet Technology Needs
  - Networking with Centers of Excellence
  - Capacity Building on:
    - (a) Protection of Intellectual Property Rights
    - (b) Funding options available with Govt Agencies
- Support System for Start-ups
  - Incubation Space
  - Mentorship
  - Instrumentation Support
  - Access to Funding by BIRAC under Focused secondary Agriculture Call for State of Punjab

Supported by

Biotechnology Industry Research Assistance Council

Implemented by

Centre of Innovative & Applied Bioprocessing

National Agri-Food Biotechnology Institute

Bio-NEST Panjab University

Grand Challenges India

Grand Challenges India

Grand Challenges India (GCI) was born out of the partnership between the Department of Biotechnology (DBT), Government of India and the Bill & Melinda Gates Foundation in 2012 with the aim to encourage Indian innovation and research to develop affordable and sustainable solutions to improve health and well-being in India and then across the globe. In 2016, Wellcome Trust also joined the partnership.

GCI was launched with the aim of directing funding and research to address some of the greatest public health challenges that India faces today. GCI is committed to seeking and rewarding established researchers, young entrepreneurs and innovators from both academia and industry.

GCI works across a range of health and developmental priorities ranging from agriculture, nutrition, sanitation, maternal and child health to infectious diseases. Presently GCI supports a range of research and development activities. We have supported basic research, translational research, intervention trials, clinical trials, data integration and analysis, product and technology development. GCI also funds projects at various stages in their lifecycle; from basic science research in laboratories, to proof-of-concept projects and potentially to scale-up to innovation projects. GCI is currently working to expand the funding arenas and mechanisms.

GCI is housed at Biotechnology Industry Research Assistance Council (BIRAC) as a Program Management Unit (PMU). PMU-BIRAC was set up to execute, manage, and provide technical and financial oversight of the program.

Grand Challenges India runs open calls as well as specialised programs.














DEPARTMENT OF BIOTECHNOLOGY
GOVERNMENT OF INDIA

birac
Ignite innovate incubate

MAKE IN INDIA FACILITATION CELL FOR BIOTECHNOLOGY

The **'Make in India'** programme was launched on September 25, 2014 with an aim to make India a global hub for manufacturing, research and innovation and an integral part of the global supply chain.

START-UP INDIA

- 2700 Biotech Start-ups
- 50 Bio-NEST Bioincubators
- AcE Fund of Funds (5 Daughter Funds)
- 6 Bio-clusters
- 4 BIRAC Regional Centres

Global Bio-India | State Connect Conclaves | Policy Recommendations | National and International Showcasing Opportunities | Strategy Documents, White papers | Regulatory Guidance Facilitation | Investment Facilitation | Lab to Market Catalogue | E-portal www.biotech-solutions.com (Biotech Showcase) | Promote Make in India & Startup India initiatives of GoI in Biotechnology sector | Strategy Meetings/ Consultative Meets

BIRAC Regional Centres

BRIC
A BIRAC-IKP Initiative

BIRAC Regional Innovation Centre

BREC
A BIRAC – C-CAMP Initiative

BIRAC Regional Entrepreneurship Centre

BRBC
BIRAC Regional Bio-Innovation Center

BIRAC Regional Bio-Innovation Centre

BRTC
A BIRAC - KIIT-TBI Initiative

BIRAC Regional Techno-Entrepreneurship Centre (for East & NE)

BIRAC Regional Innovation Centre (BRIC)

Mandate of BRIC:

- Mapping of Regional Innovation Ecosystems
- Mentoring on IP & Technology Management to start-ups & innovators
- Promote Entrepreneurship development

BRIC Impact

- Pan India 22 clusters covered
- 800+ Innovators engaged
- 250+ Key Opinion Leaders (KOLs) connected
- 65+ workshops, idea expositions and networking meetings on IP, funding opportunities, regulatory guidance and capacity building through Incubation in Tier II and III cities

BIRAC Regional Entrepreneurship Centre (BREC)

- National Life Science Entrepreneurship Awareness Programme
- Entrepreneurship Development Workshops
- Meet the Investors Series
- National Bio-Entrepreneurship Boot Camp
- National Bio-Entrepreneurship Competition

Impact

- 1900+ Students inspired for biotech entrepreneurship as a career
- 6000+ Registrations for NBEC from across 32 States, Cash prizes and investment opportunities worth INR 6 Crore mobilized
- 175+ Entrepreneurs and start-ups mentored through intense training
- 500+ One-on-one meetings between investors & start-ups
- 600+ Entrepreneurs/start- ups provided specialized domain knowledge

BIRAC Regional Bio-Innovation Centre (BRBC)

- Venture Mentoring Services
- Venture Base camps
- Regulatory Information and Facilitation Center
- Bioincubation Practice School for western regions

Impact

- 250+ Entrepreneurs connected with mentors
- 100+ One to one follow up meetings
- 160+ Participants provided domain knowledge through Venture Base camps
- 35+ Incubation managers trained
- 250+ Students/ entrepreneurs provided insights into essentials of scientific entrepreneurship
- 130+ Start-ups assisted for solving regulatory queries

BIRAC Regional Techno-Entrepreneurship Centre East and North East Region (BRTC-E & NE)

Mining and assessment of Techno-commercial resource pool in East & North East Region	Roadshows on Essentials of Techno-Entrepreneurship	Capacity building training programs	Training programs for rural women entrepreneurs	North East Immersion Program
	North East showcase Event	Design Workshop	Incubation Practice School	

BRTC Impact So Far:

- 900 + Innovators evangelized through awareness programs
- Forged collaborations with 7 institutes from East and North East for promoting entrepreneurship and technology development
- Amplified biotech entrepreneurial ecosystem in Shillong, Agartala, Assam, Chhattisgarh, Kolkata, Manipur, Bihar and Jharkhand
- 30+ Innovators were provided one-on-one mentoring sessions for idea development and raising funding through 2 days extensive training workshop
- 50+ Students registered as BRTC Volunteers to promote innovation and entrepreneurship ecosystem

birac
ignite innovate incubate

Impact

1000+
Beneficiaries supported

50
Bioincubators supported

4
Regional & Entrepreneurship Development Centres

Funding support by BIRAC
INR 1,090 Cr.

Industry Commitment
INR 973 Cr.

209
Academic institutes Supported

Ignite Innovate Incubate

INR 350 Cr +
Partnered funding raised by Start-ups

10,000+
Manpower supported for high end skills

5,48,719 sq. ft.
of Incubation space created

INR 200 Cr +
Committed through Equity fund

653
Companies supported

16
Bioincubators supported under Equity based SEED Fund, LEAP funds

200+
IPs filed

150+
Products & Technologies developed

1500+
Start-ups and Entrepreneurs supported

OUR PARTNERS

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Biotechnology Industry Research Assistance Council (BIRAC)

(A Govt. of India Enterprise)

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BIRAC_2012