



**Biotechnology Industry Research  
Assistance Council (BIRAC)**

(A Govt. of India Enterprise)

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**Accelerating Innovations**  
*From Idea to Market*



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# About BIRAC

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 SME's, for creation of affordable products addressing the needs of the largest section of society”

”

# BIRAC Key Strategies

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



BIRAC's aim is to play a transformative and catalytic role in building a US\$100 billion Indian bioeconomy. We believe that the agents of change for building the Indian bioeconomy would be biotech startups & SMEs & hence our focus is on raising their capabilities



# BIRAC's Role and Activities



## Supporting early and late stage innovation research

- ▶▶ Ignite new Ideas-Biotechnology Ignition Grant (BIG)
  - ▶▶ Support early stage research for proof of concept validation-Small Business Innovation Research Initiative (SBIRI)
  - ▶▶ Partnership with industry for high risk discovery led innovation-Biotechnology Industry Partnership Programme (BIPP)
- ▶▶ Facilitating technology validation and development-Contract Research Scheme (CRS)



## Product innovation and commercialization for addressing Grand Challenges of national relevance

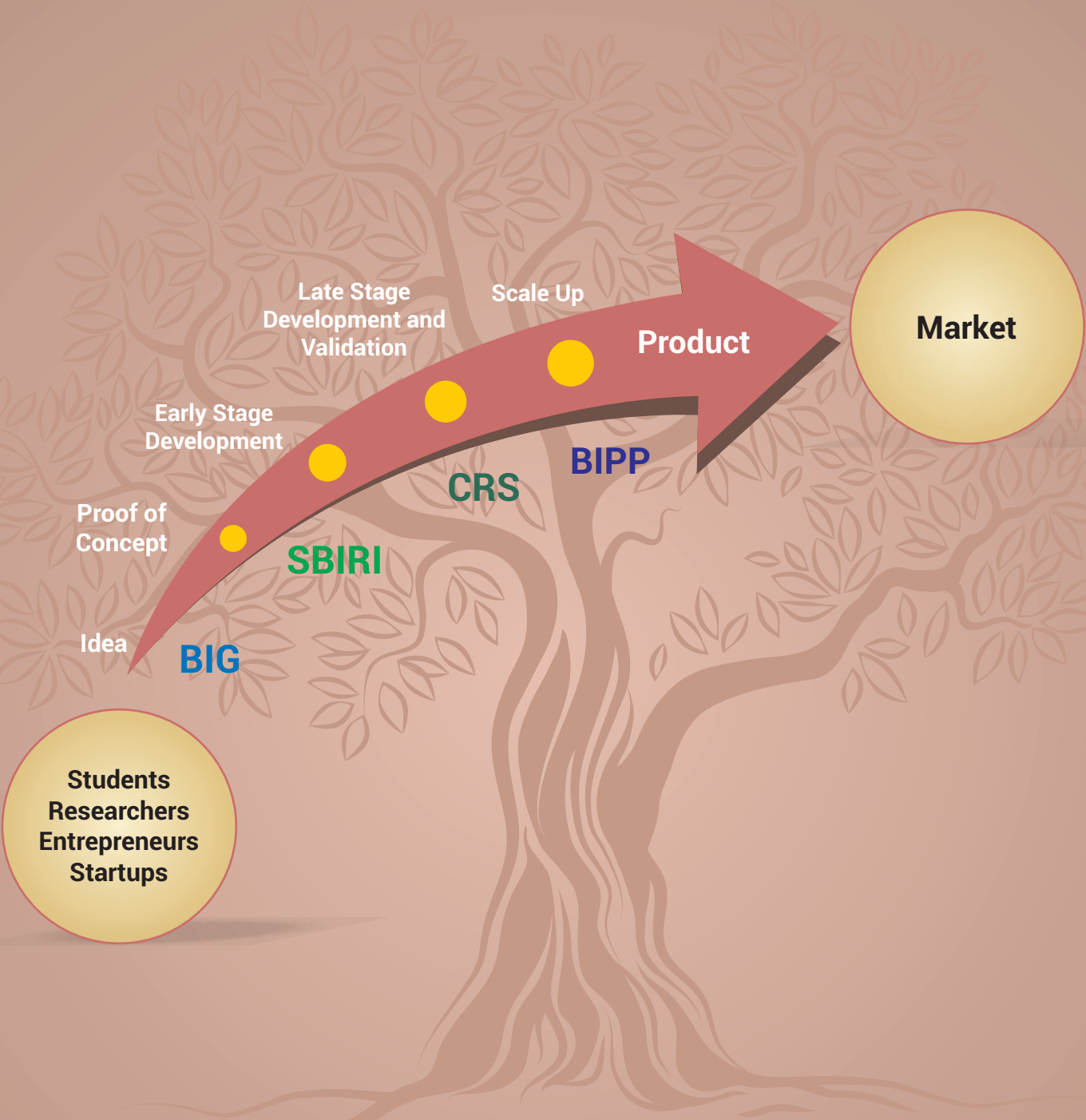
- ▶▶ Through National and International Strategic Partnerships
  - ▶▶ BIRAC-DBT-BMGF
  - ▶▶ Grand Challenges India
- ▶▶ SPARSH – Social Innovation
- ▶▶ Research Alliance for Product Innovation and Development (RAPID)



## Enabling services for promoting the innovation ecosystem

- ▶▶ IP Management
- ▶▶ Technology Transfer and Acquisition
  - ▶▶ Access to Research Resources
  - ▶▶ Mentoring and Capacity Building

# Enabling Innovation Research



# Empowering the Enterprise

Access to Research Resources

IP & Technology Management

Incubation Space

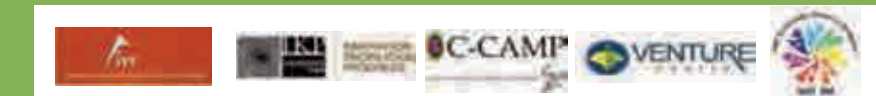
Mentoring

# Spurring a Startup Culture

BIRAC provides multitudes of early stage seed grants for entrepreneurial ideas and startups. Further BIRAC provides access to high end incubators and networking & mentoring platforms. This has transformed the biotech startup ecosystem in India



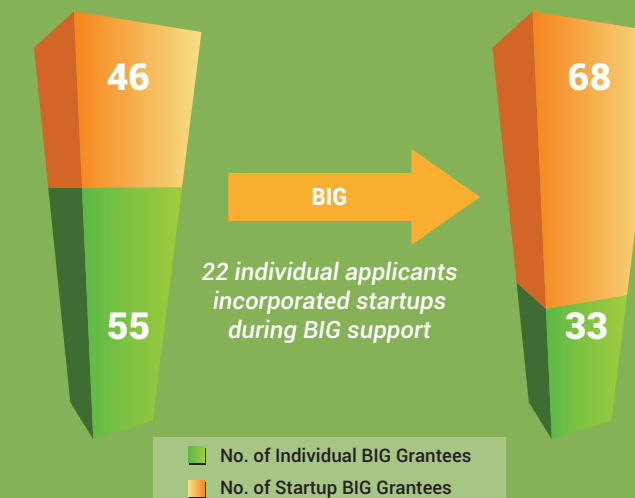
- Promoting Entrepreneurship through fostering innovative ideas of young startups & individuals
- Seed Grant up-to INR 50 Lakhs (~US\$ 100K)
- Support to 140 ideas in 5 calls
- Encouraging academic entrepreneurship
- Opportunity for BIG grantees to attend entrepreneurial boot camp at CfEL, University of Cambridge, UK
- Managed by 5 BIG Partners
- Partners provide business & technical mentorship & create networking opportunities



## The BIG Impact

Call 1 to 4

Encouraging Individuals to take the Startup Leap  
Impact of BIG Call 1 to 4



- Total no of proposals received : **644**
- Total no of projects supported : **101**
- Total Fund in Cr : **41.77**
- Individual to Start up conversion : **22**
- Employment Generated : **231**
- IP Generated : **20**
- Women Entrepreneurs : **17**





# Spurring a Startup Culture

## Bioincubation: Nesting Grounds for big take-offs

- Strengthening and up-grading existing Bio-Incubators and to establish new state-of-the-art facilities at 124,000 Sq. Ft of incubation space created
- 15 incubators (6 Biotech Parks, 3 IITs, 4 Academic Institutes, 2 Bio Clusters) providing access to high-tech equipment, mentor networks and hand-holding
- Enabling 199 startups/ entrepreneurs with incubation support
- INR 100.00 Crores sanctioned under the Programme

## UIC (University Innovation Cluster): Germinating Innovations in Universities

- An innovation centre within the university system that is connected to various stakeholders both within & outside the university
- A Cluster for 5-6 students to test their ideas/discoveries and take them to Proof of Concept
- An incubation space-2500-3000 Sq.ft
- BIRAC Innovation Fellowships for two post doctoral and four post M.Sc. Fellows in addition to Innovation Grant
- Industry Participation for training, mentoring, sponsored research and networking opportunities and IP & Technology Management



## BIRAC Regional Innovation Centre (BRIC) at IKP Knowledge Park: Mapping & Analysis of Innovation Ecosystem

- BRIC maps bio-innovation across Southern India in academia & industry
- Support to start ups for IP & technology transfer
- Networking opportunities for startups, industry & academia



## BIRAC-SRISTI Gandhian Young Technology Innovation: Watering the grass roots innovation seedlings

- Partnership with SRISTI at IIM Ahmedabad to identify bio-entrepreneurial ideas that are fermenting at institutional level and provide mini seed funds
- Supporting 100 nascent ideas across the country with micro-funds

# Invigorating Industrial R&D Through Innovation Funding

## SBIRI

## SBIRI: Taking Startups & SMEs to the next level of funding support

- India's first biotech focused PPP funding scheme that took shape in 2007
- Early stage funding for high risk innovative research by industry
- Support extended to 155 companies in diverse fields of frontier biotechnology



## BIPP

## BIPP : Catapulting high risk innovations through industry partnership

- Government partnership with Industries for support on a cost sharing basis
- Support for high risk, highly innovative accelerated technology development
- Support extended to 106 companies that are attempting to bring high quality products through cutting edge R&D through 124 projects

# Connecting Two Foundations of Innovation: Industry & Academia

## Contract Research Scheme : A direct bridge between Industry & Academia

- ✦ Bridging Industry-Academia gap
- ✦ Support to Academia for Validation and Translation
- ✦ Industry acts as Validation Partner with IP rights with Academia
- ✦ 13 industry-academia joint projects active

## Diverse Models of Industry - Academia Connect



# Innovations for Societal Impact



**S**ocial Innovation **P**rogramme for **P**roducts  
**A**ffordable & **R**elevant to **S**ocietal Health

*Touching a billion lives*



### Sparsh

Scheme aims to invest in ideas and innovations that improve health care of all Indians and provide affordable product development in social sector.

First two calls focused on maternal & child health

Ten projects ranging from microfluidics based maternal screen to development of iron rich rice bran proteins have been supported

### SIIP Partners



### Social Innovation Immersion Programme (SIIP) Fellowships

SIIP is a 18 months immersion fellowship scheme under SPARSH which intends to create a pool of social innovators in the biotech arena who can identify specific needs and gaps in healthcare of different communities which can then be bridged and serviced through innovative product development and services. The fellowship is managed by SIIP partners



# Accelerating Discovery Innovations

## Early Translation Accelerator: Fostering Early Translational Discoveries in Academia

BIRAC has conceptualized Early Translational Accelerator (ETA) which identifies early academic discoveries with possible commercial and societal impact and processes them to industry ready technologies. Under this initiative, a Healthcare focused Early Translational Accelerator at C-CAMP, Bangalore, has been funded

## Mission for Accelerating Discovery Research to Early Development of Biopharmaceuticals

The aim is to accelerate the process such that India emerges as a hub for design and development of novel, affordable and effective bio-pharmaceutical products

# Mentoring and Capacity Building: Providing Access to Information, Mentors & Networks

## BIRAC Fellows at University of Cambridge CfEL's Ignite Programme: Connecting with global entrepreneurs

- Partnership with Centre of Entrepreneurial Learning (CfEL) at Judge Business School, University of Cambridge. Five selected BIG grantees participate in two weeks intensive entrepreneurial boot-camp
- Opportunities for peer learning on business models, connecting and networking with participants from across the globe as well as with the entrepreneurial ecosystem in University of Cambridge, UK

## BIRAC Roadshows & IP Workshops: Enhancing Outreach & Delivering Relevant Information

- BIRAC regularly organizes Roadshows and IP Management Workshops across India
- Aim to spread awareness about BIRAC programmes among entrepreneurs, would-be entrepreneurs and other stakeholders
- Workshops with relevant talks by experts on issues related to IP, business and technology

## BIRAC Regulatory Workshops: Optimal Information to navigate Regulatory Maze

BIRAC organises several regulatory workshops for start ups and SMEs to understand and navigate the regulatory maze both in India as well as other markets in the USA and Europe. Regulatory workshops in Phytopharmaceuticals and Medical Devices were organised last year

## Entrepreneurship Workshops in Partnership with ABLE: Infusing Entrepreneurial thinking

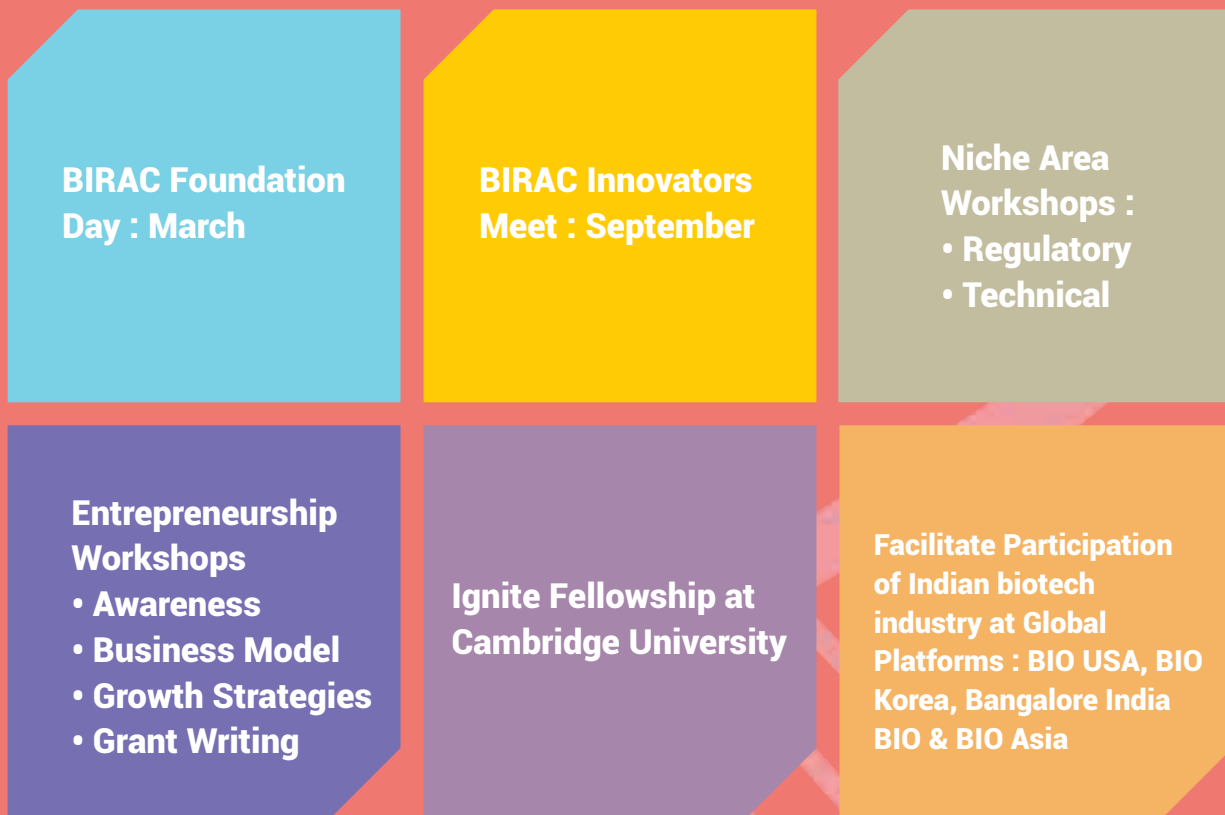
BIRAC strives for infusing and nurturing the entrepreneurial will among the university students and aspiring innovators through directed workshops

**Stimulating Bio-Entrepreneurs Talk** organized at four academic institutions – University of Rajasthan, Jaipur; Panjab University, Punjab; University of Agricultural Sciences at Dharwad and Tamil Nadu Agriculture University, Coimbatore

**Nascent Entrepreneurs Development Workshops** were organized at Delhi, Chennai and Ahmedabad, targeted at young innovators who need help in go-to market strategies, business model and competitive positioning

# Networking Platforms: Creating Opportunities to Connect & Collaborate

BIRAC provides high level platforms for startups and SMEs to connect with each other as well as with other national and global stakeholders including high level experts from academia and industry



# Amplifying Impact through Partnerships

## DBT-BIRAC-Bill & Melinda Gates Foundation: Seeding Grand Challenges in India

BIRAC is the Project Management Unit in this trilateral partnership amongst DBT, BMGF & BIRAC. The partnerships strives to work in the areas of maternal and child health, agriculture and nutrition, sanitation and infectious diseases. Three calls announced:

- Achieving healthy Growth through Agriculture and Nutrition
- Reinvent the Toilet Challenge
- All Children Thriving
- 11 projects supported

## USAID: Joining hands with Grand Challenges India

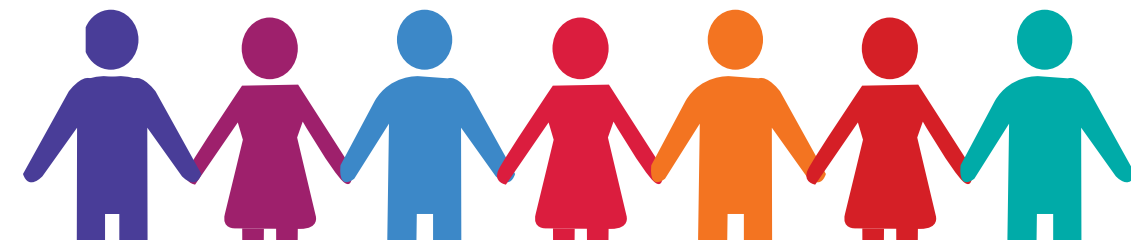
USAID has joined hands with DBT-BMGF-BIRAC to collectively promote innovation for affordable solution under the Grand Challenges India programme for – “Achieving Healthy Growth Through Agriculture and Nutrition” and “All Children Thriving”

## BIRAC-Wellcome Trust, UK: Catching Infectious Diseases Early

- Launched a joint call in Translation Medicine with the theme of “Diagnostics for Infectious Diseases”
- Call leverages the capabilities and capacities of partners from both the countries to develop innovative and affordable solutions for diagnostics for infectious diseases

## CEFIPRA & French Embassy : Detection of Chronic Health Conditions

- Launched call for proposals in March 2014 in Red Biotechnology area especially in bridging common healthcare challenges that both France & India face. The call is implemented by CEFIPRA
- Seeking solutions in specific arena of molecular diagnostics for prediction of cardiac diseases, Alzheimer’s disease and/or dementia, cerebral palsy and generation of new assistive technologies for mobility of the physically challenged
- Each partner organization has contributed €100,000 (INR 80 lakhs) for 2 years for the call





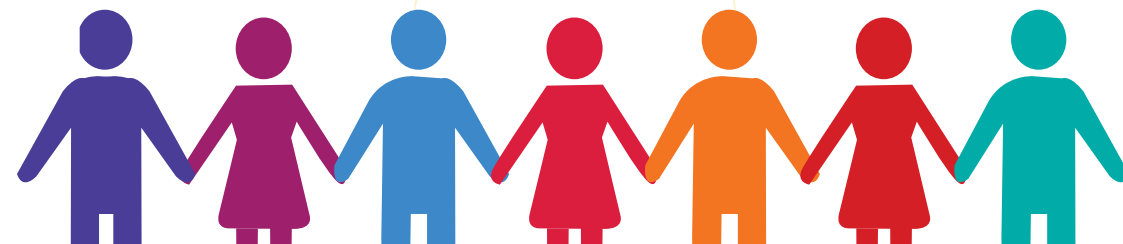
# Amplifying Impact through Partnerships

## BIRAC-DeitY Partnership: Promoting Make in India in Medical Electronics

- BIRAC has collaborated with Department of Electronics and Information Technology (DeitY), Ministry of Communication & IT, Government of India, to launch an Industry Innovation Programme for Medical Electronics.
- DeitY has pledged INR 10.5 crores for promoting innovation in Medical electronics, while BIRAC will manage the entire programme

## USAID and IKP. Joint Partnership in Rapid Diagnostics for TB

BIRAC partnered with USAID to fund a joint programme on TB Diagnostics which will be managed by IKP Knowledge Park, Hyderabad. The programme call is planned to aim at supporting new diagnostics for TB in collaboration with BIRAC. IKP proposes to allot a total of USD 2.0 million for this call with a funding of USD 1.0 million each from BIRAC and USAID



# BIRAC's Impact: Tilling the Ground of Indian Bio-innovation

## We Created

- 24 Intellectual Property
- 124,000 sq. ft. of incubation space
- 5 University Innovation Clusters
- 1 Regional Innovation Centre
- 3 Bio-Industrial Facilities
- 2 Contract Service Facilities

## We Supported

- 270 Companies
- 360 Projects
- 140 Scientists & Entrepreneurs
- 113 Incubatees
- US \$ 225 million

## We Delivered

- 17 Affordable products
- 11 New technologies

## Snapshot of Products Supported by BIRAC

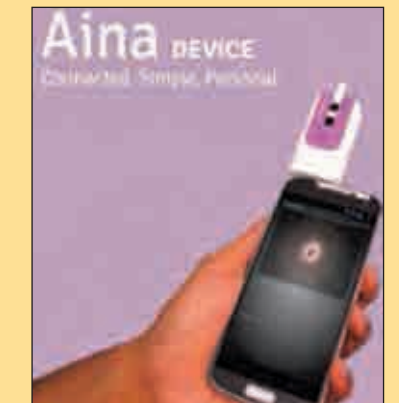
**Affordable Fluorescence Reader**  
to detect multiple infections simultaneously in remote settings



**Fibroheal**  
Face mask for burn wound management. In use at AIIMS, New Delhi



**Aina**  
to measure blood glucose, HbA1C, lipids (HDL, LDL, TrG), Creatinine and Haemoglobin



## Snapshot of Products Supported by BIRAC

**Photo Dynamic Therapy (PDT)**  
Laser System for cancer treatment. Ready for clinical trials



**ROTAVAC®**  
India's first indigenously developed oral Rotavirus Vaccine



**Pandyflu®**  
H1N1 Pandemic influenza vaccine



**A rapid POC diagnostic kit**  
with micro PCR for Diagnoses of Malaria, Dengue & Typhoid



**Maxico**  
Device for tumor ablation using Maxico. Marketed and secured USFDA clearance



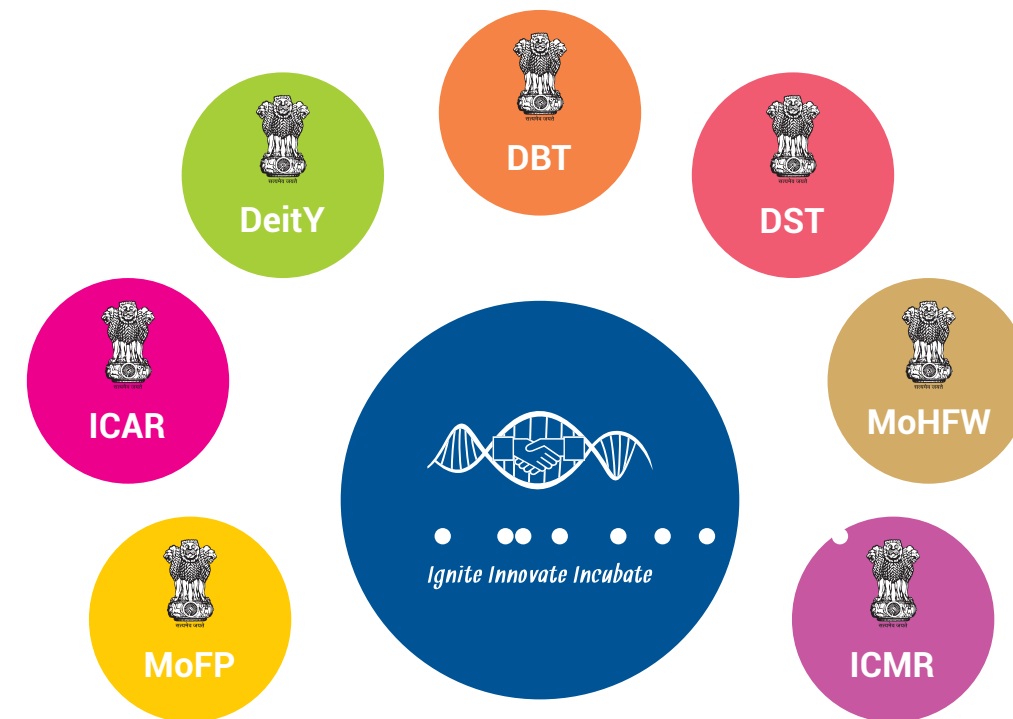
**ONCOSCAN**  
Digital Oncopathology Slide Scanner  
Offers complete digital pathology solution with ease of operations, scalability, security at an affordable cost.



**PCR kit for Aquaculture industry**  
Robust & Economical Indigenous single tube nested PCR kit for WSSV, IHNV & YHV



## Our Partners: Joining hands to build a better world





# Insights into the Future

Amplify entrepreneurial opportunities and bridge the 'valley of death'

Endeavour to establish India as a Global BioManufacturing Hub

Advance early discovery and strengthen translation in academia

Accelerate development of affordable products of national and societal relevance in the paradigm of 'Affordable Excellence'

Facilitate product diffusion and scale

Deepen, Quicken & Expand footprint through aligned partnerships



*BIRAC endeavours to build a collaborative scientific enterprise that aims to strengthen Make in India biotechnology products which bridge the paradigm of affordable excellence and create prodigious impact nationally and globally. Its sight is fixed in building the Indian bioeconomy that is world class through optimal support to all components of Indian biotechnology ecosystem. BIRAC is committed to playing a transformational and catalytic role to build the Indian bioeconomy*



SMEs  
Catalyst **R&D** Startups **Impact** *Expand*  
Bridge Ecosystem *Networks*

**INNOVATION**

Collaboration Connector Incubation Amplify  
**Deepen** *Accelerate* **Entrepreneurship**

Manufacturing Affordable Diffusion  
**Translation** Social-Innovation  
**Excellence**