



Biotechnology Industry Research Assistance Council (A Government of India Enterprise)



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# birac

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Dr Rajesh S Gokhale Secretary DBT &

Chairperson BIRAC

## From the Leaders Desk

"Strong grassroots developments for the last 9 years have propelled India's young minds towards Innovation. The passion, energy, and capabilities of the children and youth today are India's big strengths. The India of today is moving forward in every direction that is necessary to become a Tech leader"- Hon'ble Prime Minister Shri Narendra Modi at the Inauguration of the National Technology Week 2023.

I echo the words of our Hon'ble Prime Minister that we need to tap the potential of the aspiring entrepreneurs since they are exceptionally suited to address society's most pressing challenges by developing cost effective, accessible, and sustainable solutions.

Technology has not only improved the standard of our living individually but has also brought revolutionary shifts in both national and global development. Today's era is rightly the "age of science and technology" as it has taken over every aspect of human life.

India's Global Innovation Index Rank has gone from 81<sup>st</sup> in 2014 to the 40<sup>th</sup> position in 2022. The number of Biotech Startups in the country have increased from 50 to over 5,300 in the last 9 years, because of the growing enabling ecosystem and prioritization by Government of India. It is expected to cross the figure of 10,000 by 2025.

BIRAC support students from a very nascent stage. One of the schemes of BIRAC, Students Innovations for Translation & Advancement of Research Explorations (SITARE) Scheme is aimed at supporting innovative student projects in the area of biotechnology. The scheme aims to promote and encourage young students for embracing translational research to develop innovative products and technologies addressing unmet needs.

We have come a long way in nurturing the talent pool, and providing opportunities to startups to seed, succeed and scale.

"Technology and Innovations" are going to be the Torchbearers of 2047 economy when India will celebrate 100 years of its independence.







**Dr Alka Sharma** Senior Advisor, DBT & Managing Director- BIRAC

# Chief Editor's Take

Since inception, BIRAC has been promoting products/ technology development, mainly by startups and SMEs, in different fields of biotechnology through its various funding schemes. One of the crucial elements in building an ecosystem is access to cutting edge technologies for Indian enterprises which can be leveraged in building globally competitive products. BIRAC continuously explores modalities to facilitate technology transfer in catalyzing technology transfer.

India is developing as a knowledge society; it is acting with equal force. Every year the National Technology Day is celebrated on 11<sup>th</sup> May 2023 to commemorate the country's

technological advancements. This year's theme was "School to Startup" and the focus of this momentous occasion is on Atal Innovation Mission, programs, and it showcased innovations from different sectors of the innovation lifecycle. As India entered Amrit Kaal, the key focus is on building a robust innovation ecosystem that nurtures and supports the next generation of innovators and entrepreneurs.

Over the past few years, India's bio-economy has grown from \$10 billion to \$80 billion, increasing the number of biotech startups to 5300. The Department of Biotechnology (DBT) & Biotechnology Industry Research Assistance Council (BIRAC) have supported over 5,000 startups and 2,500 companies, resulting in 1,200 IP filings and 800 biotech products reaching the market. India is now a global leader in vaccine development, with initiatives like Mission COVID Suraksha and the development of vaccines like Zydus Cadila (ZyCoV-D).

DBT-BIRAC has established a strong network of 75 specialized bio incubation centres across the country. There is a great potential for the Indian Biotech Sector to become a global hub for manufacturing of biologics; innovating novel, affordable vaccines, biosimilars and advanced immune-therapeutics that are accessible to all. The biotech innovation ecosystem is expected to contribute more affordable, accessible, and globally competitive solutions to address unmet needs of the society.

The Department of Biotechnology (DBT) and Biotechnology Industry Research Assistance Council (BIRAC) are focusing towards the development of the startups and innovations that are providing the facilities and addressing the pressing needs of the society's niche audience. We are confident that we at BIRAC will continue to make strides in technology, while contributing to global progress and energize the innovation ecosystem in the country.



# National Technology Week May 11-14, 2023

The National Technology Week, which took place from May 11<sup>th</sup> to May 14<sup>th</sup>, 2023 at Pragati Maidan in New Delhi, was a resounding success. Organized by the Technology Development Board and inaugurated by the Prime Minister, the event showcased a wide range of scientific innovations from participants and exhibitors representing 12 Ministries of the Government of India.

Under the theme **"From School to Startup: Igniting Young Minds to Innovate,"** the event offered a distinctive platform for students from schools and colleges across India to interact with e-Yuva and SPARSH centres. These centres, part of BIRAC's scheme, are dedicated to nurturing a community of social innovators in the biotech field. During the event, these students actively participated and shared their technologically innovative ideas. Moreover, the event offered visitors an exclusive opportunity to connect with student innovators, explore innovation zones, engage with entrepreneurs and discover the programs and initiatives of BIRAC aimed at empowering innovators and entrepreneurs nationwide.

The exhibition experienced an active participation of school students, a diverse range of visitors, exhibitors, student exhibitors, and startups from various sectors. These participants showcased their ground-breaking innovations and products. Honourable Prime Minister addressed and shared encouraging news about the success of the ATAL tinkering labs, stating that over 10,000 labs



Secretary DBT and Chairman BIRAC, Dr. Rajesh S. Gokhale with BIRAC officials



across 700 districts have become innovation nurseries, with 60 percent of these labs located in government and rural schools.

During the event, Dr. Jitendra presented the National Technology Awards. The exhibition featured an innovation zone comprising of 12 pavilions, each representing a specific ministry and housing 30-35 individual start-ups, incubators, and institutes. The DBT pavilion had representation of BIRAC-supported innovators and DBT institutes. A total of 14 innovators, supported by BIRAC, displayed their cutting-edge products and technologies in the fields of medical devices and diagnostics, industrial biotech, and agriculture. Among these 14 innovators, the top three showcased their innovative healthcare-related products in inauguration hall, which was inaugurated and visited by the honourable Prime Minister. Additionally, two SPARSH centers presented their progress and programs, with a special focus on the SIIP program of BIRAC.

BIRAC stall was visited by start-ups, students, academicians and researchers having interest in various schemes and initiatives of BIRAC and explored possibilities of collaborations in different capacities.

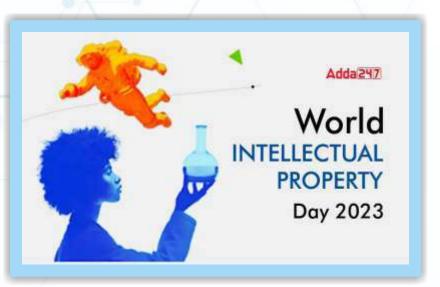


Secretary DBT and Dr. Jitendra Singh, Minister of State (I/C) for Science & Technology, Earth Sciences, MoS PMO, Department of Space, Atomic Energy, and Department of Personnel and Training interacting with BIRAC supported start-ups.





## **World Intellectual Property Day**



The World Intellectual Property Day is celebrated every year on April 26. The event is conducted to raise awareness of how patents, copyrights, trademarks and designs create an impact on our daily life and it is more to celebrate creativity, and the contribution made by creators and innovators to the development of economies and societies across the globe. This year, the theme for the World Intellectual Property Day was **"Women and IP: Accelerating Innovation and Creativity"** to celebrate the "Can do" attitude of women inventors, creators and entrepreneurs around the World and their ground-breaking work. To celebrate the World Intellectual Property Day-2023, BIRAC participated in different programs and also the Managing Director (MD) BIRAC moderated a session on **"Role of IP in the innovation ecosystem and strategies to protect innovations and creations"**.

BIRAC has set-up an in-house Intellectual Property & Technology Management group to facilitate and mentor the entrepreneurs, scientists and start-up companies. Over a period of time, the group has started different programmes to support the innovators such as BIRAC-PATH scheme, IP & Technology Management Law Clinic connect programme and conducts capacity building and sensitization program to aware the entrepreneurs, start-ups on nitty-gritties of IPR and Commercialization. BIRAC-PATH program was started to provide financial assistance for Intellectual Property Protection in India as well as for PCT and Convention filing. IP & Technology Management Law Clinic connect is a mentoring program started to guide the innovators, entrepreneurs and start-ups on various aspects related to the IPR and Commercialization. In this program, a 15-minute slot is given to the innovators to discuss their queries with the experts.

With regard to the Commercialization and to promote the technology transfer, BIRAC-NBM has set-up seven (7) Regional Technology Transfer Offices (RTTOs) across India along with defined jurisdictions to RTTOs. In addition to this, BIRAC-PATH program also facilitate the transfer of technology for its grantees through empaneled firms.

## **Joining of New Managing Director**



Dr Jitendra Kumar Managing Director, BIRAC We are very pleased to announce the joining of new member in our BIRAC family i.e., Dr Jitendra Kumar, as a MD, BIRAC.

**BIRAC Reports** 

Dr Jitendra Kumar, an internationally acclaimed thinker and advisor on Biotech Innovations and entrepreneurship, has been appointed as MD, BIRAC effective 9<sup>th</sup> June 2023. Dr Kumar holds a PhD degree in Biotechnology from Institute of Microbial Technology, Chandigarh. Subsequently, he moved to University of Illinois at Chicago, where he worked on leukaemia. He also holds an MBA degree from the Fisher College of Business at Ohio State University, US.

After returning from US, he joined as a Vice- President of Life Science Incubator at IKP Knowledge Park, Hyderabad where he was involved in actively mentoring incubate companies, creating pipeline of entrepreneurs through innovative models of team building around the technologies, working with public R&D

laboratories and universities to create entrepreneurial models of commercialization. Later, he took charge as the Director & Head of Bangalore Bioinnovation Centre with a focus on incubating innovations in agriculture, food and nutrition, biofuel/bio-energy and pharma/healthcare. He has worked closely with Department of Biotechnology, Government of India and the Department of Electronics, IT, BT and S&T, Government of Karnataka, to create a vibrant Life Sciences Innovation cluster in Bangalore. He is an Internationally acclaimed thinker and advisor on Biotech Innovations and entrepreneurship. He has been invited as a speaker at various conferences in USA, South Korea and the Netherlands to represent India and Karnataka. He has around 20 years of experience in research and innovation management in the area of life sciences. He has around 25 peer reviewed publications and around 45 products have been launched under his mentorship. After returning from US, he joined as a Vice- President of Life Science Incubator at IKP Knowledge Park, Hyderabad where he was involved in actively mentoring incubatee companies, creating pipeline of entrepreneurs through innovative models of team building around the technologies, working with public R&D laboratories and universities to create entrepreneurial models of commercialisation. Later, he took charge as the Director & Head of Bangalore Bioinnovation Centre with a focus on incubating innovations in agriculture, food and nutrition, biofuel/bio-energy and pharma/healthcare. He has worked closely with Department of Biotechnology, Government of India and the Department of Electronics, IT, BT and S&T, Government of Karnataka, to create a vibrant Life Sciences Innovation cluster in Bangalore. Possessing a rare combination of both research knowledge and business acumen, Dr. Kumar has been instrumental in creating a pipeline of entrepreneurs and fostering commercialization in India.

We are very confident that Dr Jitendra Kumar's deep experience & knowledge is expected to bring fresh energy into the functioning of BIRAC and under his guidance, we will continue to deliver great value, support, innovation and envision a great future for BIRAC.



## **BIRAC** at

## BIO International Convention 2023 June 5-8, 2023 Boston Convention & Exhibition Center - Boston, MA

BIRAC participated in BIO International Convention held at Boston, MA from 5<sup>th</sup> -8<sup>th</sup> June 2023.

The India Pavilion was inaugurated by DBT Secretary and chairman BIRAC, Dr Rajesh S Gokhale in the large presence of Indian Industry. He was accompanied by his DBT colleagues, (Dr Alka Sharma, Senior Advisor, DBT and MD, BIRAC, Dr Sanjay Mishra (DBT), Scientist H, Dr Dhananjay Tiwary, S&T Counsellor in India Embassy in Washington DC) and his team from BIRAC comprising of Dr PKS Sarma, Dr Manish Diwan, Dr Amita Joshi and Dr Aparna Sharma. This apart 65+ Indian biotech / life sciences companies were seen participating Business Forum (One-on-One Bio Partnering) or attending the convention. The India Pavilion had high-level Indian delegation comprising senior Government officers from the Centre and State, CEOs of leading Biotech companies, Academic Heads, and Startups. Post inauguration, Dr Rajesh S Gokhale, Secretary DBT and Chairman BIRAC released a special publication, India Biotech Handbook 2023.

A brain storming session was held to understand the Global manufacturing practices, existing challenges and to discuss the policy requirements to enable "High Performance Biomanufacturing" globally. There was participation from EU, UK, USA, Poland, Africa, Ireland and global and Indian Agencies Like NIH, USFDA, ABLE and BIRAC.

It was discussed that international collaborations are important for bio-manufacturing which can enable solving different issues associated with availability of raw material, sustainable manufacturing, innovation and accessibility and flexibility of manufacturing capacities. The importance of revision of existing regulatory framework, supply chain, piolet scale to large scale up and lab scale to industry scale were recognized as common challenges.



Inauguration of India Pavilion (Booth No. 3545). DBT Secretary, Dr Rajesh S Gokhale releases India Biotech Handbook 2023



It was concluded that challenges associated with Bio manufacturing issues are common for building this sector. The leads generated under thus initiative should be affordable to the masses.

The critical mass of information which includes mapping entire landscape, weaving the public private partnership into the framework, capacity building and important strategies should be accessible globally.

This 4 days worldclass event gave immense opportunity to visit different CDMOs in Process Development and GMP Contract Manufacturing of Biologics.

BIRAC stall attracted many visitors who were interested in understanding the various initiatives of BIRAC for promoting entrepreneurship in India.



Brainstorming session was held to understand the Global manufacturing practices



Discussion with Startups and Companies





## Swachhata Pakhwada 2023

BIRAC observed **Swachhata Pakhwada** from 1<sup>st</sup> **May to 15<sup>th</sup> May 2023**. On this occasion, Dr. Rajesh S Gokhale, Secretary-DBT and Chairman-BIRAC and Dr. Alka Sharma, Senior Adviser-DBT and Managing Director - BIRAC participated with all BIRAC employees.

Swachhata pledge was administered by Dr. Alka Sharma, Managing Director in Hindi and by Dr. Subhra R. Chakrabarti, Director (Operations) in English along with BIRAC employees with the key message among other things to devote 100 hours in a year as **'Shramadaan'** to ensure cleanliness of the work area & surroundings. The message and the objectives of **'Swachh Bharat Mission'** were shared among all the employees.



**HR & Admin Activities** 

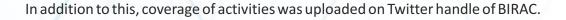
In order to contain spread of COVID-19 at workplace, routine cleaning and disinfection of office premises especially high-touch surfaces are being carried out in timely manner in BIRAC.

Safeguarding the health of employees is BIRAC's top priority, therefore, sanitization of the entire office premises is being carried out on weekly basis.

BIRAC has also educated its workforce by issuing Circulars in line with Government Guidelines and regularly communicated with its employees.

Also, the process for a paperless office has been initiated by implementation of E-Office platform in BIRAC, which shall not only reduce carbon footprints by limiting the printouts and photocopies but it's significant for contributing to a sustainable society.







बाडरॅंक

birac

#### Tweet

OBT-BIRAC @BIRAC\_2012

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**HR & Admin Activities** 

@BIRAC\_2012 observed #SwachhtaDiwas today. #BIRAC officials engaged themselves in cleanliness drive.

Managing Director, BIRAC @dralkasharma25 participated in this initiative along with all the employees.

#### @DBTIndia @swachhbharat



3:10 pm · 13 May 2023 · 595 Views



# Workshop on Official Language Act

Hindi workshop is organized in every quarter to increase the knowledge and clarity of the Official Language of the Union Government. In line with the implementation of Official Language Act at BIRAC, a workshop on Official Language was organized on **26<sup>th</sup> May, 2023** through Prof. Puran Chand Tandon on **"Noting/Drafting in Office"** to acquaint the employees with the importance and provisions of the Official Language.

The workshop helped employees in understanding the constitutional provisions of Official Language Act and on implementing official language in day-to-day official correspondence.



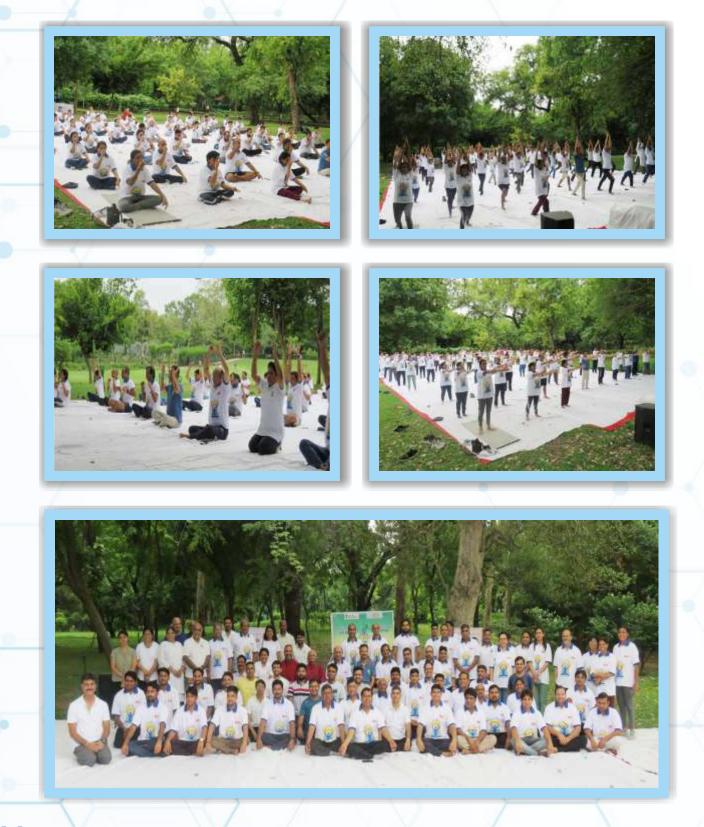
## **International Yoga Day**

International Yoga Day is observed every year on June 21 to raise awareness about this ancient practice and to celebrate the physical and spiritual prowess that yoga has brought to the world. Yoga is a physical, mental and spiritual practice. It plays an important role in relaxing the mind and body and boosting people's immune system. Besides improving employee health, such Yoga also help employees to become more satisfied and motivated in their work and personal lives. Biotechnology Industry Research Assistance Council (BIRAC) celebrated the 9<sup>th</sup> edition of the International Day of Yoga on **21<sup>st</sup> June 2023**. The theme for this year was **"Yoga for Vasudhaiva Kutumbakam"**. The Domestic tagline for IDY 2023 was **"Har Aangan Yog"** being propagated to bring Yoga to every household at the grass root level. Yoga Day Programme was organised at Lodhi Garden, New Delhi. Officials from BIRAC and DBT gatherd early in the morning and practiced guided yoga with enthusiasm alongwith Secretary DBT & Chairman BIRAC and Managing Director BIRAC.

The Programme had two sessions. In first session, the Yoga Instructor guided officials through a series of yogasans and enriched the employees with the value and benefits of this ancient and modern practice. During the second session, there was a lecture on Four Noble Truth and Eightfold path of Buddha. This session helped officials naturally improve their ability to stay focused on the present moment without distraction and addressing the root cause of burnout and stress, thus improving productivity and motivation.



Few glimpses of the Yoga Day 2023 is given below:





# **Training on Right to Information Act (RTI)**

As RTI (Right to Information) is a mandatory Compliance for all Government Companies and Organizations, BIRAC has organised a one day training for its officials to impart knowledge about Provisions & Procedures under the RTI Act and to improve the drafting skills of RTI appeals through renowned trainer, Sh. Mahabir Singh Kasana, in the field of Right to Information. The training covered salient features RTI Act, 2005, Rights conferred to citizens under RTI Act, Roles & Functions of Various Officials and Exemptions and Executions under RTI Act etc. Further, Various Case Laws were discussed during the training in order to equip officials in handling the RTI Applications.









## **Grand Challenges** Learning & Evaluation Meeting

The 2023 Grand Challenges Learning & Evaluation Meeting was held on April 20-21, 2023, in Seattle, WA, USA. The meeting was hosted by the Bill & Melinda Gates Foundation and was attended by Dr Shirshendu Mukherjee, Mission Director, Grand Challenges India.

Representatives from the Global Grand Challenges (GC) Network Partners, such as GC Canada, GC Africa, GC South Africa, GC Brazil, GC Peru, GC Ethiopia, GC Korea, and GC Europe, among others, attended the meeting. In addition, representatives from USAID, the GIF, The World Academy of Sciences, and The World Bank Group, National Academy of Medicine etc. attended the meeting.

The two-day meeting provided an interactive platform for the GC Network Community to share their approaches and evaluation practices for cross-country learning. The collective conversation at the meeting identified Climate & Agriculture Adaptation / Climate & Health and Data Analysis & Modeling themes for potential GC in alignment with country-led priorities.

### 2023 Multi-omics for Mother and Infants (MOMI) Consortium Convening

The 2023 Multi-omics for Mother and Infants (MOMI) Consortium Convening was held from May 23 to 26, at Seattle, Washington. The meeting was hosted by Bill & Melinda Gates Foundation in collaboration with six international sites and was attended by Arshi Mehboob, Senior Manager (Programmes), Grand Challenges India.

The meeting had representation from AMANHI, GAPPs, ZAPP, and analytics partners associated with the program; that include Government units/councils; prominent academic institutes; research organisations; and development innovation organization that are corroborating breakthrough research and innovation. The platform builds off an existing pregnancy biobank - Garhblni Cohort at THSTI, which is one of six international sites.

The three-day convening discussed advanced research on available samples and clinical phenotypic data from three large pregnancy surveillance studies that combined represent a large, diverse dataset, to discover and validate causal pathways and predictive biomarkers for adverse pregnancy outcomes (PTB, Stillbirth, PE, SGA). The meeting concluded with framing key milestones and timelines, finalize harmonized definitions of key outcomes, scale-up study design and sampling approach for nutrient analysis, epigenomics, and common bio-analytes and prioritize near-term and long-term consortium wide goals and continue to build healthy and productive research culture.

Challenges



Multi-omics for Mother and Infants (MOMI) Consortium Convening

#### **WINGS** Dissemination Meeting

The Department of Biotechnology (DBT), Government of India, and the Bill & Melinda Gates Foundation (BMGF) jointly supported the Women and Infant Integrated Interventions for Growth Study (WINGS) that was implemented under the Grand Challenges India ambit. The study demonstrated the benefits of addressing key factors known to limit child growth and development concurrently, from pre- and peri-conception to early childhood. The findings provide important learning and guidance for states to help improve children's nutrition and health status.

The DBT, BIRAC along with ICMR convened a dissemination meeting on 1 June 2023 to share key findings and lessons learned from the study. The meeting was attended by all relevant stakeholders and representatives from relevant ministries to discuss the study's findings as well as potential strategies for broadening the scope of interventions across states.





# G20 3<sup>rd</sup> Health Working Group Meeting Expo

DBT-BIRAC actively engaged in the 3<sup>rd</sup> Health Working Group Meeting Expo held at the Novotel Hotel in Hyderabad from 4<sup>th</sup> to June 6<sup>th</sup>, 2023. The primary objective of this exhibition was to highlight India's prowess in the research and development of therapeutic solutions, vaccines, and diagnostic tools. The overarching theme of the event, "One Earth, One Family, One Future" in alignment with the G20 presidency's vision of Vasudeva Kutumbakam, brought together various ministries related to health and research to present their capabilities within India's robust healthcare system.

As part of this expo, BIRAC made a significant contribution by setting up an informative booth that showcased BIRAC's various schemes, programs, supported technologies, innovative initiatives, and partnerships. The primary goal was to ensure that this valuable information reached as many individuals as possible and BIRAC's commitment to advancing healthcare innovation and research in India.

BIRAC was represented at the expo by a distinguished group of officials, including Dr. Subhra Ranjan Chakravarthy, Director of Operations, Dr. Shirshendu Mukherjee, Mission Director at GCI, Dr. Prachi Aggarwal, Chief Manager, and Dr. B. B. V. Bindu, Senior Program Officer.





**National Programmes** 



# Anti-Microbial Resistance (AMR) Call Launch

Given critical need to tackle Anti-Microbial Resistance (AMR) and to boost the ongoing efforts in India for development of innovative diagnostics and therapeutics, the National Biopharma Mission launched the call on **"Development of candidate therapeutics and diagnostics against Anti-Microbial Resistant pathogens"** on **24<sup>th</sup> March 2023** and closed on **10<sup>th</sup> April 2023**. Please find attached a copy of the 'Request for Proposals (RFP) document.

For wide outreach of the call, webinars were conducted. More than 200 participants joined in these 2 webinars. In addition to online webinars, a talk on the call was delivered at C-CAMP Bangalore which is the hub of start-ups and companies working in AMR domain.

As an outcome of these efforts, 66 proposals were received, and 34 have been shortlisted for next stage of evaluation by the Scientific Advisory Group for further shortlisting.





## Follow-on Funding Call for Biotherapeutics and Related infrastructure for Projects previously supported by BIRAC:

National Biopharma Mission Launched a call on 17<sup>th</sup> April 2023 and closed on 17<sup>th</sup> May 2023 "Follow-on Funding for Biotherapeutics and Related infrastructure for Projects previously supported by BIRAC". A total of 50 proposals were received under the call and first round of evaluation was completed on 15<sup>th</sup> and 16<sup>th</sup> June, 2023.



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