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Ignite • Innovate • Incubate



BIRAC responds to the COVID crisis



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Ignite Innovate Incubate

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



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Leader's Message



Dr Renu Swarup
Secretary DBT
& Chairperson BIRAC

Ever since the COVID pandemic unfolded itself, India ramped up its efforts to tackle this crisis and made concerted efforts in terms of preparedness and response measures. The Department of Biotechnology and its PSU Biotechnology Industry Research Assistance Council has been working to support the nations fight against COVID; working towards both, immediate as well as long term solutions. We have made constant efforts to introduce biotechnological interventions in various sectors to ease the life of common man and to build **Atma Nirbhar Bharat**.

In response to the clarion call by the Honorable Prime Minister; DBT-BIRAC strategized to fast track R & D efforts especially for vaccine development, diagnostics, therapeutics and testing with an aim to make India, self-reliant. The DBT-BIRAC COVID-19 Consortia Initiative has extended funding support to many Indian researchers, academia and industry partners to fast track and expedite indigenous manufacturing of interventions to mitigate this crisis. DBT supported AMTZ CoMMAND Consortium at Andhra Pradesh MedTech Zone under the National Biopharma Mission was aimed to augment the domestic manufacturing capacity for production of RT-PCR kits, antibodies, PPE's and ventilators. Through these Initiatives, we are now ready to manufacture nearly 2 lakh kits per day. We have been successful in building capacities for manufacture of RT-PCR kits, rapid serological kits, nucleic acid detection kits etc. Our indigenous vaccine portfolio is also impressive and consists of promising projects for development of DNA, mRNA, Recombinant BCG and lipid encapsulated mRNA-based vaccine candidates. Similarly, we strived to achieve self-reliance in the preventive and monitoring technologies segment and we were successful in mobilizing more than 100 solutions from our start-up and incubators network and about 20 of them are deployable.

The National Biomedical Resource Indigenization Consortium (NBRIC) established in a PPP model was another landmark step towards an Atma Nirbhar Bharat. This platform is aimed towards convergence of research and product resources, and technology services towards developing reagents, diagnostics, vaccines, and therapeutics across India for COVID-19 response. This make in India initiative is an important step towards building a self-reliant India.

Our effort is to strengthen the important components of the pipeline. We are confident that collectively our scientists, researchers, start-ups and industry will fight the major challenge.

Chief Editor's Take



Anju Bhalla

Joint Secretary, Department
of Science and Technology
& Managing Director, BIRAC

It is my pleasure to be a part of the BIRAC family. As Managing Director, I look forward to work with the team in this exciting journey of enabling innovations in India and beyond.

The outbreak of the novel coronavirus across the world, including India, has presented numerous challenges. As more countries, states, and cities choose how they respond to COVID-19 outbreaks, the consequences have been manifold, and have changed the world significantly.

The Department of Biotechnology and Biotechnology Industry Research Assistance Council (BIRAC) have been working relentlessly to address the COVID-19 global health crisis. A lot of efforts have been made to collaborate across the healthcare innovation ecosystem ranging from biotech companies to entrepreneurs to academic institutions coming up with innovations to address the COVID-19 global health care crisis.

Several new initiatives have been taken up to address this global pandemic. To support the preparedness, readiness and response for COVID-19, DBT & BIRAC announced a COVID-19 Research Consortium Call to support Diagnostics, Vaccines, Novel Therapeutics, Repurposing of Drugs or any other intervention for control of this pandemic. Tremendous response was received and funding support was extended to the short listed proposals. Further, a follow-up call has also been announced and the review process is in progress.

BIRAC has been at the forefront to come up with Initiatives like specialized legal compliances guidance workshop series, First Hub weekly sessions to address the queries of innovators, webinars, virtual- partnering event, deploying CSR funds to fund COVID solutions, the launch of NBRIC to drive indigenous innovation in Public-Private Partnership among others. A fast track review process has also been created to fund COVID solutions that are ready for immediate deployment. Few start-ups have already been funded under this programme.

Entrepreneurs and innovators across the country have responded quickly to the challenges posed by the COVID-19. The pandemic has brought a new sense of urgency to innovation efforts. All efforts have been taken to identify the Start-ups that can provide potential solutions to address COVID-19 challenges. Twenty In-Market solutions from BIRAC supported start-ups have already been prioritized for further facilitation by stakeholders. The solutions that India would offer would be important both nationally as well as globally.

This pandemic has brought the country to a cross roads but it has also made us come together to rally our greatest strength, the human spirit. India needs to sustain and enhance the entrepreneurial mindset to drive the next wave of innovations to continue the fight against COVID-19 and its consequences. There are many opportunities ahead of us - now is the time for vision, preparation and taking action.

We at BIRAC are committed to supporting the nation's fight against this pandemic.



BIRAC responds to the COVID crisis

Ever since the COVID pandemic unfolded itself, India ramped up its efforts to tackle this crisis and made concerted efforts in terms of preparedness and response measures. At the foremost is the ability to diagnose through different types of diagnostic tests, access to hospitals, special wards, ICU's, ventilators, and other medical supplies. The Department of Biotechnology and its PSU Biotechnology Industry Research Assistance Council has been working to support the nations fight against COVID.

DBT-BIRAC strategized to fast track R&D efforts especially for vaccine development, diagnostics, therapeutics and testing and announced a DBT-BIRAC COVID-19 Consortia initiative. To support the preparedness, readiness and response for COVID-19, Department of Biotechnology (DBT) and Biotechnology Industry Research Assistance Council (BIRAC) announced COVID-19 Research Consortium initiative. Letters of Intent (LoI) were sought for developing diagnostics, vaccines, novel therapeutics, repurposing of drugs and any other relevant intervention for control of COVID-19 outbreak by Industry/Academia/ Industry-Academia/NAI participation.

Under the first phase of the call about 73 proposals have been recommended funding support. The shortlisted proposals include 14 proposals on Vaccines R&D, 34 Diagnostics products or scale-up facilities, 11 Therapeutics options, 02 proposals on Drug Repurposing and 12 projects which are categorized as preventive interventions. Diagnostics portfolio consists of projects for development of RT-PCR kits, Rapid serological Kits, Nucleic Acid detection kits and AI based detection system. Vaccines portfolio consists of projects for development of DNA, mRNA, Recombinant BCG and lipid encapsulated mRNA-based vaccine candidates. Immunoglobulin Therapy and Organoid technology development projects are included in Therapeutics portfolio. Any Other Intervention category consists of projects based on Screening and monitoring devices, disinfection and sterilization platform technologies, personal protective equipment and ventilators. Major funding has been committed under the National Biopharma Mission besides Ind-CEPI. A follow up call was also launched where around 610 applications have been received and a stringent multi-tiered review is in progress.

DBT-BIRAC has supported the AMTZ CoMMAND Consortium at Andhra Pradesh MedTech Zone under its National Biopharma Mission to augment the domestic manufacturing capacity for production of RT-PCR kits, antibodies, PPE's and ventilators. There is a major push for indigenization. Through the DBT – BIRAC support for diagnostics and also manufacturing, we are now ready to manufacture nearly 2 lakh kits per day.

BIRAC is working to facilitate regulatory support to start-up's through its FIRST HUB initiative. In context of the COVID scenario regular weekly sessions have been held to address the queries of start-ups. Regulatory Information & Facilitations Centre (RIFC), is another initiative to help start-ups on regulatory and testing fronts. BIRAC has also been working towards mobilizing CSR funds through Invest India platform for COVID-19 Research Consortium. National Biomedical Resource Indigenization Consortium launched to drive indigenous innovation in a Public Private Partnership is yet another landmark step in our fight towards COVID-19. A virtual partnering platform has also been developed that aims to gather the global pharma industry to connect and help bring forward solutions against the novel coronavirus pandemic. More than 25 start-up solutions have been supported and many are deployed.

Considering the importance and urgency of the current crisis caused due to the COVID-19 pandemic, DBT-BIRAC has also created a provision to fund COVID solutions that are ready for immediate deployment under a 'Fast Track Review Process'. The Fast Track committee is committed to:



- Identify and review potential proposals for support from start-ups. Under this initiative following start-up solutions have been supported till now:

- 1 Startups with PPE solutions have been funded for manufacturing of Full body coverage suits (Aarna Biomedical Products - 10,000 kits)
- 2 Face Shields (Alpha Corpusles Pvt Ltd - 2000 units/shift)
- 3 MicroGo Hand Hygiene solution
- 4 Cistorn systems- PSA Medical Oxygen Generators



GOassure™



AAI-airports, IRCTC, Big Basket, TAJ, Tata Capital, Waycool.
(All COVID19).



GOassurePH™



Small footprint
Low cost
Robust





- Identify Co-funding partners for implementation

BIRAC and IKP knowledge park under the Fast Track COVID fund have partnered for co-funding and have extended funding support to three start-ups up till now viz., Parisodhana Technologies Pvt Ltd for Hybrid multiply face mask, Turtle Shell Technologies Pvt. Ltd. for Dozee (health care monitor), Monitra Healthcare Pvt Ltd for UpBeat (biosensing platform for remote monitoring). C-CAMP for C-CIDA have also recently partnered to support upto 10 start-ups.



System of Alerts

Indication of when to seek medical help /move to hospital



Heart
Rate



Body
Temperature



Oxygen
Saturation



Respiration
Rate

System of alerts already in place based on set of **customizable** thresholds. This is already in use based on heart rate and rhythm. Newer parameters can be quickly added.

High > 120 bpm

Low < 45 bpm

High > 101 °F

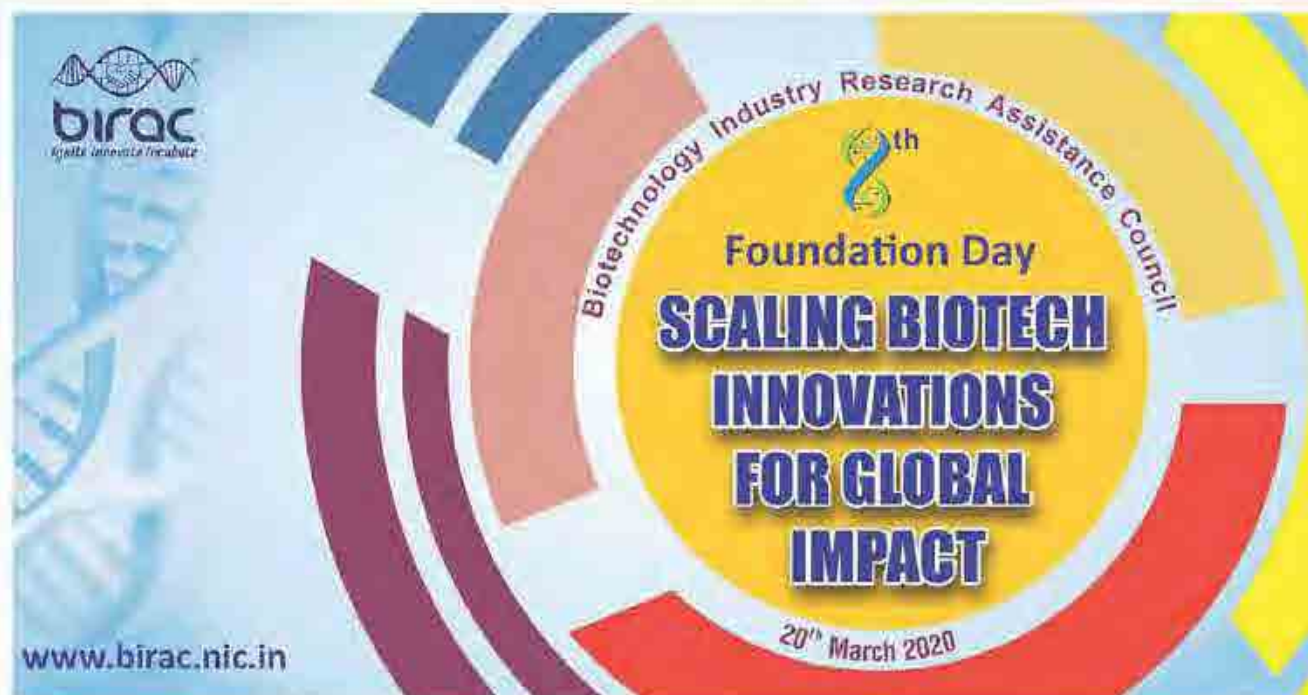
Low < 90%

High > 30 breaths
per minute



BIRAC's 8th Foundation Day

The 8th Foundation Day was celebrated on 20th March 2020 through virtual participation of BIRAC Stakeholders. The theme of the event was "Scaling Biotech Innovations for Global Impact".



The event started with the welcome address by Dr. Mohd. Aslam, MD BIRAC followed by Foundation Day Address from Dr. Renu Swarup, Secretary DBT & Chairperson BIRAC where she congratulated BIRAC for the 8th Foundation Day mentioning that with over 3500 Startups, 50 Bioincubators, 150 Products/Tech and Global & National Partnerships, we now have a strong base of innovation ecosystem in the country. With Bioeconomy clocking \$62.5 Bn in March 2020, Biotech innovation ecosystem is well poised to contribute towards achieving the national target of US\$ 150 bn by 2025.

Dr. Renu Swarup launched Sectoral Reports and BIRAC Publications during the event. Dr. Amit Kapoor, CEO, Institute of Competitiveness, joined the event through video conferencing for the launch of "Assessing the Regional Competitiveness of the Indian Bioeconomy: Moving Towards a Sustainable, Circular Model" report. He briefly mentioned that this report analyses the competitiveness of the overall Indian bioeconomy, its position among the peers, performance, policy drivers and core growth drivers with special emphasis on regional bio-clusters.

Mr. Narayanan Suresh, Chief Operating Officer, Association of Biotechnology-Led Enterprises also joined virtually for the release of the "Indian Bioeconomy Report 2020" and shared his insights about the report which is an effort to map India's BioEconomy, monitor the extent to which policies adapt to growth, resilience and sustainability needs. BIRAC's Corporate Brochure 2020, Make In India Facilitation Cell flyer, BIRAC's i3 Newsletter - March Edition 2020 were also launched during the event.



**Launch of "Assessing the Regional Competitiveness of the Launch of Indian Bioeconomy Report 2020
Indian Bioeconomy: Moving Towards a Sustainable, Circular Model" Report**



**Launch of BIRAC i3 Newsletter-March
2020 Edition**



Launch of BIRAC Brochure 2020



Launch of Make in India Flyer

Eight new products from BIRAC supported Startups were also launched virtually in the BIRAC's 8th Foundation Day 2020. These are (represented in below images):

1. Glanders Antibody based Rapid Test Kit, Genomixz molecular Diagnostics Pvt. Ltd & National Research Centres on Equines (NRCE).



2. SNIPR, BioPrimeAgri Solutions Pvt. Ltd.
3. Voxelgrids 1.5T Scanner, Voxelgrids Innovations Pvt. Ltd.
4. upBeat, Monitra Healthcare Pvt. Ltd.
5. UREGROW, Regrow Biosciences Pvt. Ltd.
6. Remmed VR teleeye care solution, Visint Healthcare Pvt. Ltd.
7. Cervastra, Ainda Systems Pvt. Ltd.
8. MALL's cordyceps, Capsule 7 Powder, Mallipatra Neutraceuticals Pvt. Ltd.



BIRAC supported Products' Launch



Awardees of 3rd edition of TiE WInER (*Women in Entrepreneurial Research*) were announced virtually during the event. The WInER Women Entrepreneurs awardees will be entitled for the following:

- » Prize money of INR 5 lakhs each
- » Access to expert mentor network of BIRAC & TiE
- » One year complimentary membership of TiE Delhi NCR
- » Access to TiE Startup Accelerator Programme
- » Opportunity to go through an Accelerator Programme and 3 final winners from Accelerator programme will be awarded 25 lakhs each

BIRAC-TiE WInER Awardees (represented in the below images):

1. Praapti Jayaswal, AarogyaAI Innovations Pvt. Ltd.
2. A Soumya Rao, Upsoil Technologies (OPC) Private Limited.
3. MenkaGurnani, Hidaa Life Science LLP
4. Akansha Agarwal, Agromorph Technosolutions Private Limited
5. Dr. Vaishali M. Kulkarni, KBCols Sciences Private Limited
6. Priyanka Maurya, SHC Shine Biotech Pvt Ltd
7. Rashi Verma, AgSmartic Technologies
8. Anuja Dukan, Suraitech Innovations LLP
9. Dr. Ruby, Duosis Bio-innovations Pvt Ltd
10. Dr. Tanushree Devi, CYGEN Consultancy Pvt. Ltd.
11. Dr. Varsha Singh, Medzak Healthcare Pvt. Ltd.
12. Dr. Mousumi Mondal, Mallipathra Nutraceutical Pvt. Ltd.
13. Divya Rathod, Silverynanos
14. Dr. Anusha Ashokan, Thanmatra Innovations Pvt Ltd
15. Rajwinder Kaur, Incredible Devices Pvt Ltd
16. Manasi Kulkarni, Innoweave Biocare Pvt Ltd



BIRAC-TiE WInER Awardees



BIRAC Innovation Challenge Award, **SoCH- Solutions for Community Health 2020**, was launched in association with Knowledge Partner Social Alpha and CEII BioNEST Incubator inviting proposals for *"Innovative, Efficient & Affordable Solutions for Clean Cooking in Rural and Community Settings"*.



Launch of BIRAC Innovation Challenge Award, SoCH

BIRAC Partners' Bytes: BIRAC's stakeholder network including BIG Partners, Regional Centres, Bio-Incubators, WISH joined the event through Video Conferencing and congratulated BIRAC team for their constant efforts to encourage the Biotech Innovators across the country.



BIRAC Partners' Bytes

On the 8th Foundation Day, two new partnership MoUs were also announced. This was the first time when virtual MoU execution was done making it a memorable event for more than one reason.

- » **NASSCOM (National Association of Software and Services Companies):** BIRAC-NASSCOM partnership would provide Innovation platform for enterprises, enablers and innovators in emerging technologies of AI, ML, IoT, Big Data, Analytics, AR/VR and Robotics for Digital Transformation. It is aimed at improving accessibility, affordability and quality of healthcare by working with digital solution providers.



MoU Signing with NASSCOM

- » *UKRI (UK Research and Innovation), Innovate UK: BIRAC – UKRI partnership along with Innovate UK as implementing partner would facilitate Innovation Ecosystem connect between UK and India for Biotech Sector.*



MoU Signing with UKRI



BIRAC-Innovation Challenge Award-SoCH (Solution for Community Health) 2020-21

BIRAC in association with Social Alpha and BIRAC's Bio-NEST Incubator Clean Energy International Incubation Centre (CEIIC) has launched the 2nd call of the BIRAC-Innovation Challenge award, SoCH (Solution for Community Health) 2020-21 on its 8th Foundation Day. The challenge is envisioned to identify and facilitate Indian innovators working towards combating clean cooking-based challenges having national and global relevance. The award is focused for the theme *"Innovative, Efficient and Affordable Solutions for Clean Cooking in Rural and Community Settings"* and the proposals are invited in the areas of Biomass, Electricity, LPG, Solar and Biogas based cooking solutions on [MyGov/BIRAC online portal](https://mygov.in/birac). The selection process will be carried out in 3 stages; 10 applicants to be shortlisted in the 1st stage, 5 finalists to be selected in the 2nd stage and in the 3rd stage, 2 winners, after carrying out the user acceptance field trials, will be announced. These shortlisted/selected applicants will be assisted financially and through the incubation/mentorship support for further developing, designing and deploying their products. The final 2 winners selected will be further facilitated through a continued incubation support (if required) for ensuring effective after sales of the product post the deployment. This BIRAC-CEIIC-Social Alpha partnership will encourage national & international stakeholders to join hands in scaling and promoting the adoption of the clean cooking solutions across the country.

SOCIAL alpha **birac** **CEIIC**

Announces Launch of
BIRAC Innovation Challenge Award
SoCH
Solutions for Community Health

Biotechnology Industry Research Assistance Council
(A Govt. of India Enterprise)
invites proposals
in association with Knowledge Partner Social Alpha and
Bio-NEST Incubator Partner CEIIC
for
Innovative, Efficient and Affordable Solutions for
Clean Cooking in Rural and Community Settings

Biomass **Electricity** **LPG** **Solar** **Biogas**

Awards & Support

- 10 shortlisted applicants to receive ₹10 Lakhs each & incubation/mentorship support for developing prototypes.
- 5 finalists to receive ₹10 Lakhs each & incubation/mentorship support for product development, design & deployment to deliver final products.
- 2 winners selected after the user acceptance field trials to receive ₹10 Lakhs each.

Key Dates:
Start: 01/05/2021
Deadline for Applications: 31/05/2021
Finalist Selection: 15/06/2021
Winner Selection: 30/06/2021

For any query contact: energy@socialalpha.org & speid-3@birac.nic.in



Launch of BIRAC-Innovation Challenge Award-SoCH 2020-21
<https://innovate.mygov.in/birac/>

National Technology Day & Release of Compendium

National Technology Day is observed on 11th May and signifies the global technological advancements and innovations. In the present situation of the global health crisis, technology has been at the forefront of the battle against COVID-19.

Department of Science & Technology, Technology Development Board along with Confederation of Indian Industry (CII) organized a digital conference on this occasion, *"RE-START- Reboot the economy through Science, Technology and Research Translations"*.

The major objective of this digital conference was to bring together global innovators, technology leaders, entrepreneurs, policymakers, industry stalwarts and academicians to share their experiences and expertise that will help turn massive complexity into meaningful change.

Dr. Harsh Vardhan, Minister of Science and Technology, Health and Family Welfare and Earth Sciences, Government of India inaugurated the conference and delivered the National Technology Day address.

The one-day conference had four sessions that discussed different aspects of Science, Research and Technology namely Medicines & Medical Technologies for better preparedness to face Pandemics; Advanced Materials– New Technology Horizons; Advanced Manufacturing Technologies for Sustainable Future and Global Innovation & Technology Alliance for Global Economic Leadership. The conference was graced by the dignitaries including the Union Minister of Science and Technology, Health and Family Welfare and Earth Sciences, Dr. Harsh Vardhan; Member, NITI Aayog Dr. V K Saraswat; Principal Scientific Adviser Government of India, Prof. K Vijay Raghavan; Dr. Renu Swarup Secretary, Department of Biotechnology; Secretary, Department of Science & Technology Prof Ashutosh Sharma, Dr. Soumya Swaminathan, Deputy Director-General, World Health Organization and other officials from various departments.

Dr. Renu Swarup Secretary, Department of Biotechnology in the session *'Global Innovation & Technology Alliance for Global Economic Leadership'* emphasized that global partnerships are the key to long term technological solutions." Dr. Hafsa Ahmad and Ms. Ginny Bansal represented BIRAC in this digital exhibition.



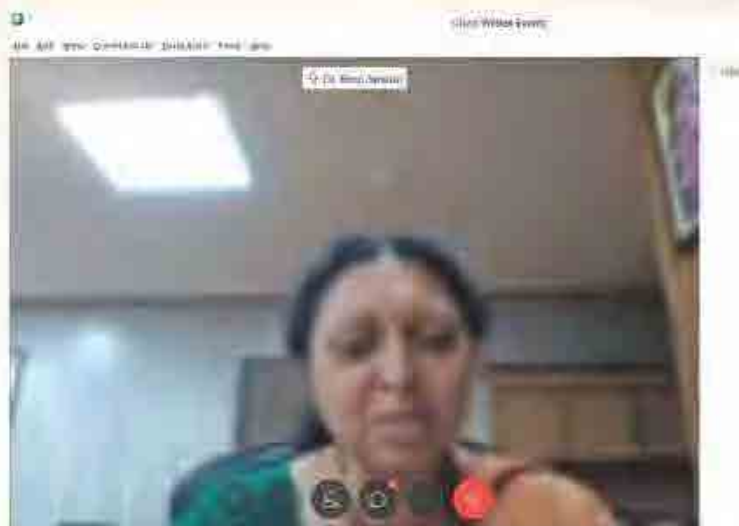
Inauguration of the exhibition



BIRAC stall



Dr Harsh Vardhan's Inaugural address on the 11th National Technology Day



**Dr Renu Swarup, Secretary DBT on the National Technology Day:
"Global partnerships are key to long term technological solutions"**

BIRAC released a Compendium of 60+ innovations on the occasion of 22nd National Technology Day, on 11th May 2020. These innovations are DBT-BIRAC supported products and technologies which can be used as potential solutions for COVID-19 pandemic. The listed innovations offer solutions in the areas of diagnostics, vaccines, therapeutics, preventive technologies, monitoring and assistive devices, and some other interventions.

The compendium showcases these innovations among the Biotech Community at large. It further offers a platform to the innovators to get connect with various stakeholders in the Indian healthcare ecosystem, like hospitals, government agencies, regulatory bodies, industries and investors, and to work coherently towards tackling COVID-19 at local as well as national level.

Innovations in the compendium are categorized as:

- Products In-market,
- Products to be In-market in 3-6 months, and
- COVID-19 Research Pipeline

The compendium also provides information about the additional facilitations offered by BIRAC to facilitate startups working towards combating COVID-19 solutions. For more details, please visit https://birac.nic.in/webcontent/Birac_Compendium_2020.pdf



**Launch of DBT-BIRAC supported products
& technologies compendium including
potential solutions for COVID-19**



**BIRAC released 20 In-market start-ups' products
as potential solutions for COVID-19**

Launch of Mobile Diagnostic Unit for COVID Testing: I-Lab

To promote last mile access of testing to rural India, DBT under the COVID-Command strategy supported by the National Biopharma Mission has supported building of mobile testing labs through AMTZ. The unique feature of these mobile testing labs is their utility in diagnosing other infectious diseases beyond the COVID period. The first I-lab was launched in New Delhi on 18th Jun, 2020 by Hon'ble Minister of H&FW, S&T and ES Dr. Harsh Vardhan in the presence of Secretary, DBT Dr. Renu Swarup. Dr. Swarup dedicated the mobile lab to the nation as a step towards realizing our efforts of being self-reliant. Dr. Jitendra Sharma, CEO, AMTZ virtually attended the event and deliberated upon the specifications of the mobile lab. Officers from the National Biopharma Mission, BIRAC and DBT and its AIs joined the event virtually along with other prominent members from ICMR.

Specifications of the I-lab:

- Automotive Chassis, Diagnostic Equipment, Clean Room, BSL-2 lab, bio-safety cabinets
- 25 Tests (RT-PCR) per I-Lab per Day
- 300 ELISA tests/day
- Additional test for other diseases for TB, HIV etc. to be costed as per CGHS rates





The first I-Lab dedicated to the nation on 18th June 2020



FIRST HUB Special Session on COVID – 19

FIRST HUB is a facilitation unit set up by BIRAC to address the queries of Innovators. In response to the prevailing situation around globe due to COVID-19, BIRAC decided to conduct special FIRST HUB COVID-19 sessions every Friday through video conference mode. Representatives from **CDSO, ICMR, NIB, GeM, KIIT, BIS, DBT and BIRAC** are available to take queries on Regulatory Pathways, Funding Opportunities, Public Procurement, IVD testing and validation, Standards and Specifications, Manufacturing and testing infrastructure support.



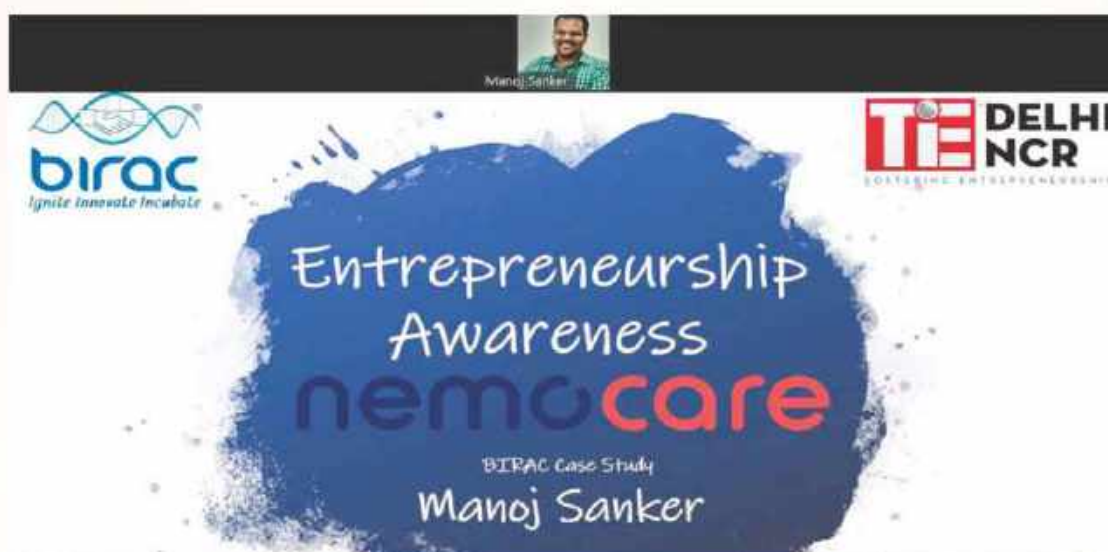
FIRST HUB has addressed 500+ queries of Innovators

BIRAC started these sessions from 03rd April 2020 and conducted 12 sessions till date. During these sessions 100+ queries are discussed and addressed by the experts. In addition, on demand of various research parks, Incubators and Industry associations a 45 minutes webinar was conducted on 17th April 2020, which has received more than 250 registrations from the participants.



BIRAC-TiE Entrepreneurship Awareness Webinars

BIRAC in collaboration with TiE Delhi NCR hosted 2 evangelisation webinars on 28th April and 4th June 2020. The initiative aimed to spread awareness about Bio-Entrepreneurship across the country. The webinars brought together several successful startup entrepreneurs to share their stories and experiences with students and young entrepreneurs. BIRAC's role in bolstering the Indian start-up culture was also highlighted. The webinars focused on how to develop an entrepreneurial mindset and smoother transition from a university environment to the real world. The speakers addressed various important factors in the start-up creation process – from ideation to venture creation and funding – and an introduction to business plans for start-ups, among other things, during the sessions. Around 700 students and entrepreneurs participated in the webinars."



Biotechnology Industry Research Assistance Council (BIRAC)

Biotech Sector is challenging
Investment Heavy | High Risk | Long Gestation | Low Success | High Reward

- Govt of India Enterprise, Section 8 not-for-profit company set up in 2012 by Department of Biotechnology, Ministry of Science and Technology
- Supports Startups, Entrepreneurs and SMEs to develop innovative affordable Biotech Products/ Technologies to address the unmet needs

Central agency
Empowers, Enables &
Accelerates
**Biotech Innovation Ecosystem
in India**

Entrepreneurship

Funding – Grants, Investment

Incubation

Mentorship – Technical, Business

Recognition – National, Global

Healthcare, Wellness, Agriculture, Industrial Biotech, Waste Management, Sanitation and Clean Energy



Women's Day 2020

International Women's Day is observed on March 8th every year celebrating the social, economic, cultural and political achievements of women. BIRAC also celebrated Women's Day where Dr. Renu Swarup, Secretary DBT & Chairperson BIRAC and Dr. Mohd. Aslam, Advisor (Scientist 'G') DBT & MD BIRAC addressed employees.

BIRAC celebrated exceptional work done by Indian women by remembering how Indian Women have broken gender barriers and worked hard for their rights and made progress in the field of politics, arts, science, law etc.

Employees of BIRAC also actively participated in the event by singing inspirational songs, poems and sharing their views on achievement on women's.





Training and Development

As per the provisions of "Sexual Harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013", BIRAC organises workshops and awareness programmes at regular intervals for sensitising the employees.

In-house training on Prevention of Sexual Harassment of Women at Workplace & Gender Sensitization has been organised on 05th March 2020 from National Academy of Human Resource Development (NAHRD).

The training is to appraise the employees about the implementation of laws and guidelines on the subject.

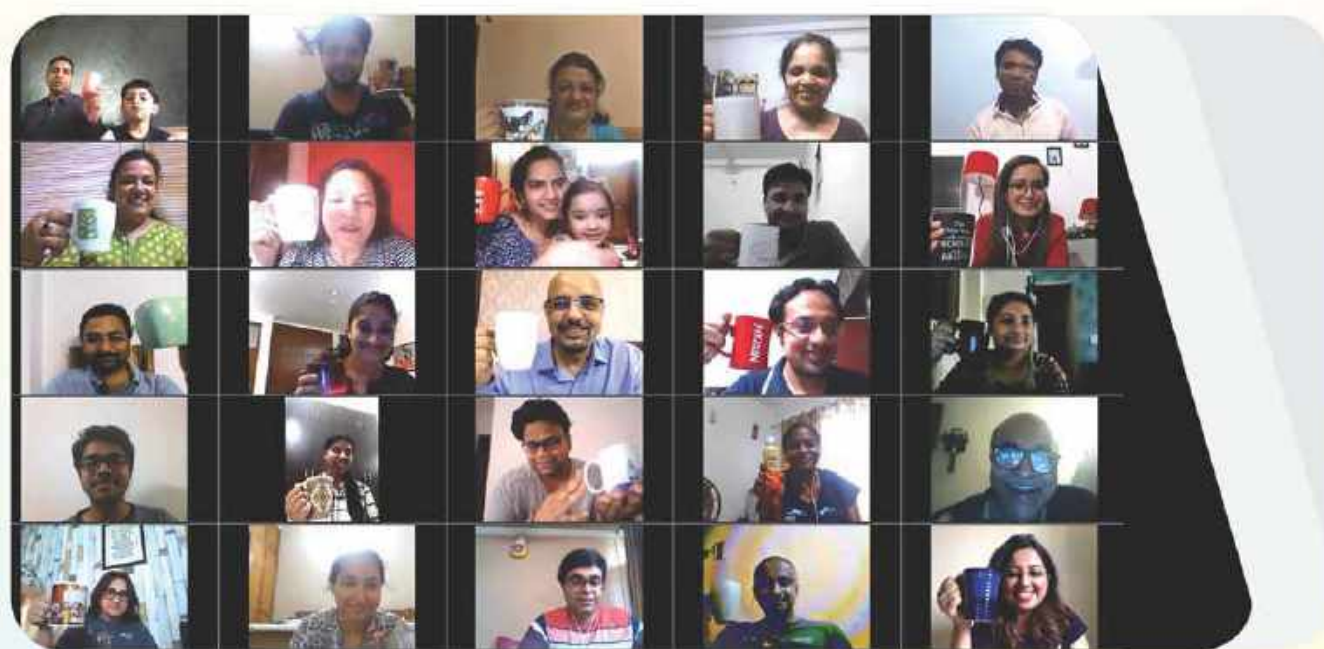




Employee Connect-Happy Hour

In order to ensure that employees feel connected, supported and informed during this difficult phase of remote work and pandemic situation, BIRAC organised Happy Hour for its employees on 12th June 2020. During this hour Dr. Renu Swarup, Secretary DBT & Chairperson BIRAC and Ms. Anju Bhalla, Joint Secretary DST & MD BIRAC interacted with employees and encouraged them to cope, build resilience and care for themselves and their families.

Introduction session for the new members of BIRAC family has also been organised which is followed by some fun activities and Coffee rendezvous where employees brought their Own Coffee and enjoyed it with their colleagues.





Yoga Day

Sixth International Yoga Day was observed in BIRAC on 21st June 2020 with the theme "Ghar Ghar me Yog". The event commenced with the address of Ms. Anju Bhalla, Joint Secretary DST & MD BIRAC followed by a guided yoga session through online platform for BIRAC employees and their families.

The common yoga viz. Suksham Vyayam / Bramri / Nadi shodhan pranayam / Bhastrika pranayam / Chakra Meditation beneficial for stress busting, relaxing, increasing immunity, improving lung capacity and enhancing energy has been performed by the employees under the guidance of Yoga Instructor.

Employees were also encouraged to participate in Common Yoga Protocol (CYP) drill at 7.00 am on 21st June 2020, quiz and other competitions organized by Ministry of AYUSH.



Grand Challenges India



Grand Challenges India, Governing Board members meet remotely to review and forge establishment of new programs on COVID-19 and others

The first-ever virtual meeting of the GCI Governing Board was conducted recently to discuss a diverse range of health and developmental priorities. The Xth joint Joint Steering Committee and Executive Committee meeting proceedings were carried out remotely due to the current travel restrictions and to fulfil the requirement of social distancing due to the ongoing COVID-19 pandemic.

Dr. Shirshendu Mukherjee, Member Secretary to JSC, welcomed all the members and thanked the leadership of the joint EC Chairs and the JSC members for their valuable guidance and support.

Dr. Renu Swarup, Secretary, DBT & Chairperson, BIRAC, welcomed all the members, mentioning that GCI is an important partnership for the DBT and the work of the group has expanded over the last 7 years. She also brought attention to the fact that most of the new programs being proposed on the agenda were regarding Covid-19, given that that is the need of the hour.

Mr. Hari Menon, Country Director, India Office, Bill & Melinda Gates Foundation, remarked the work of the Grand Challenges India partnership in contributing to the body of evidence on health and innovation and that some of the programs being discussed certainly would contribute to the fight against Covid-19. He concluded his remarks by thanking all the members of the Department of Biotechnology, BMGF in Seattle, and all the team members.

Ms. Anju Bhalla, Joint Secretary, DST & MD, BIRAC; the JSC Co-chair, welcomed all the members and mentioned that it was heartening to hear that India was being viewed in the world as a destination for innovation. She stated that the partnership with DBT /BIRAC has been a very fruitful one we started with 3 programmes and today we have more than 20 programs under this partnership. She hoped that the new programs being proposed would be added to this partnership to support innovations for the global challenge.

Ms. Kedest Tesfagiorgis, Deputy Director, D&TS, BMGF also the JSC Co-chair, opened her remarks by stating that the partnership has been a fantastic one, one that has conducted some very important work and initiatives, some of which would hopefully help solve the current crisis.

The partnership put forward to co-create initiatives that build impact and to stay agile and ambitious to be well-positioned for expanding the pipeline of ideas for developing new preventive and curative therapies, piloting new technologies, and exploring new ideas by harnessing the potential of young as well as established investigators by supporting projects through a series of thematic call announcements or specialized initiatives.

The proposed new programs or modifications and extensions of on-going programs, based on current global and national public health challenges and opportunities for research and stakeholder input were presented and discussed.

The joint JSC and EC meeting reviewed, discussed, and approved the new COVID-19 and other related programs for implementation across sectors likely, accelerators grants in therapeutics, vaccines research, diagnostics, epidemiology, and Sero-surveillance studies, sewage surveillance studies among others. These research-driven and technology-based interventions will be initiated to fight out the outburst of the pandemic and the success of these programs will be achieved through several strategically important multi-way stakeholder specific approaches.

The Governing Board meeting concluded with a concurrence that the partnership has given excellent outputs so far and with the upcoming projects should have more positive outcomes.



Make in India Facilitation Cell for Biotechnology

Stakeholders' Meeting for a \$100 Bn Bio-Manufacturing Hub by FY 2024

A discussion meeting for \$100 Bn Bio-Manufacturing Hub establishment in India by FY 2024, was organized for DBT and BIRAC by Make in India Cell on 13th March 2020. Key stakeholders representing sub-sectors of Biotechnology participated in the discussions that were held under the Chairmanship of Dr. Renu Swarup, Secretary, DBT. The meeting was held through online audio-visual platform.

Industry Stakeholders from Bio-Pharma, Bio-Energy, Bio-Services, Med-Tech sectors suggested sector wise opportunities and existing gaps. This consultative meeting participants echoed that there is a potential for India to grow and attain a \$100 Bn Bio manufacturing Hub in next 5 years, with suitable interventions with respect to Budgetary considerations, Capacity Building, Skill Development, Infrastructural Support, Regulatory & IP Facilitation and other issues.

Dr. Swarup emphasized on the need for integrating academia, start-ups, industries to harness synergies. Knowledge Translational Clusters for Biotech being set up by DBT would be helpful in bringing Academia and Industry closer.

A working group under the Chairmanship of Dr. Kiran Mazumdar was recommended to prepare a white paper comprising of current sectoral gaps and the way to move forward for \$100 Bn Bio-Manufacturing Hub by FY 2024. Dr. Alka Sharma, Advisor DBT and Dr. Manish Diwan, BIRAC would coordinate this activity to create a strategy document and action plan.



Stakeholders' Meeting for a \$100 Bn Bio-Manufacturing Hub by FY 2024



COVID and impact on Startups' Sustenance: Risk Mitigation Stakeholder's Discussion Meeting

BIRAC organized a stakeholder Discussion Meeting on April 23, 2020 through VC to discuss current challenges faced by Startups & remedial measures to support Startup survival through this difficult time. Startup ecosystem stakeholders including Mentors, Experts, Angel Investors, Venture Funds, Incubators representatives, MD, BIRAC and Make in India, BIRAC officials participated in deliberations and shared their opinion on the subject matter. The meeting was chaired by Dr. Renu Swarup, Secretary DBT and Chairperson BIRAC.

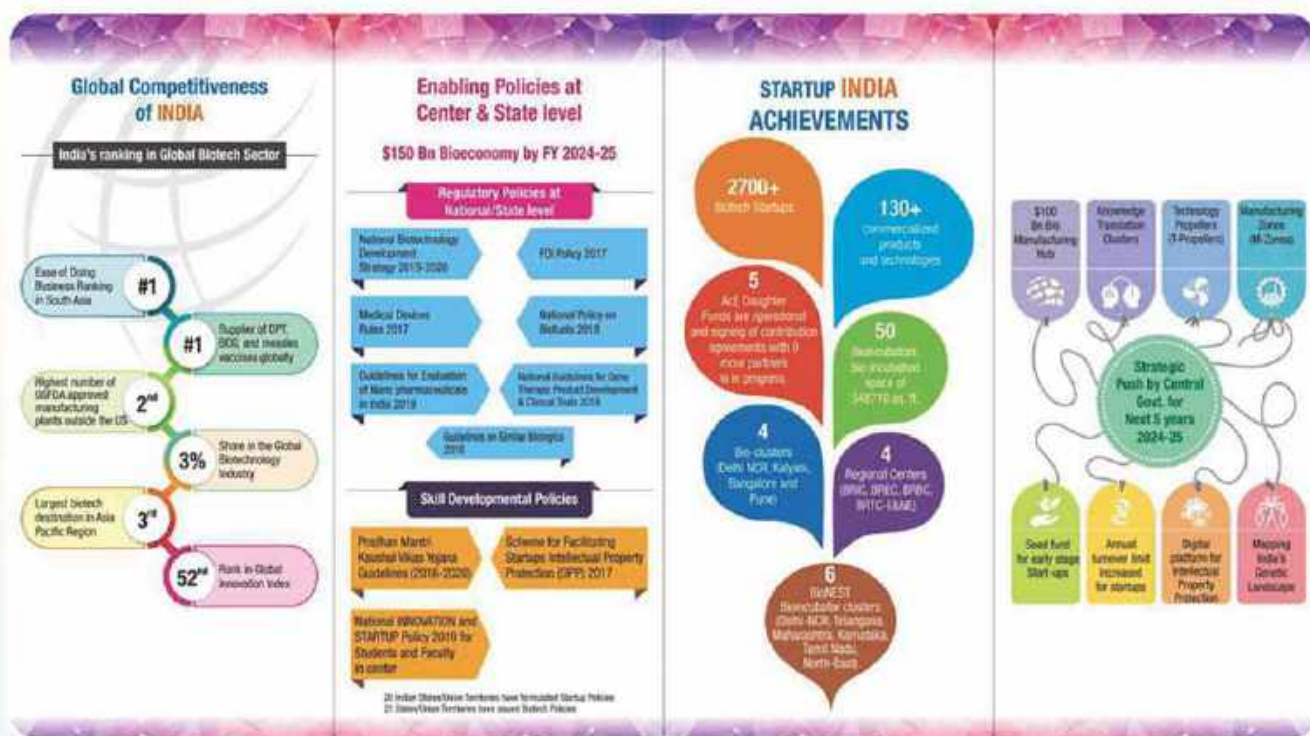
The Stakeholders deliberated upon the available and additional possible measures including fiscal relief package to support Startups. The recommendations from this stakeholders meeting were taken forward as inputs for cabinet level discussions through DBT.

The forum echoed the concern that COVID and post-COVID period is likely to constraint environment for Startups survival and sustenance. The forum strongly recommended that one must act on priority to implement a stimulus package otherwise the Startup ecosystem may witness severe downfall. The detailed recommendations note based on this meeting was submitted to DBT.





Publications





Publications

India BioEconomy Report 2020

Summary

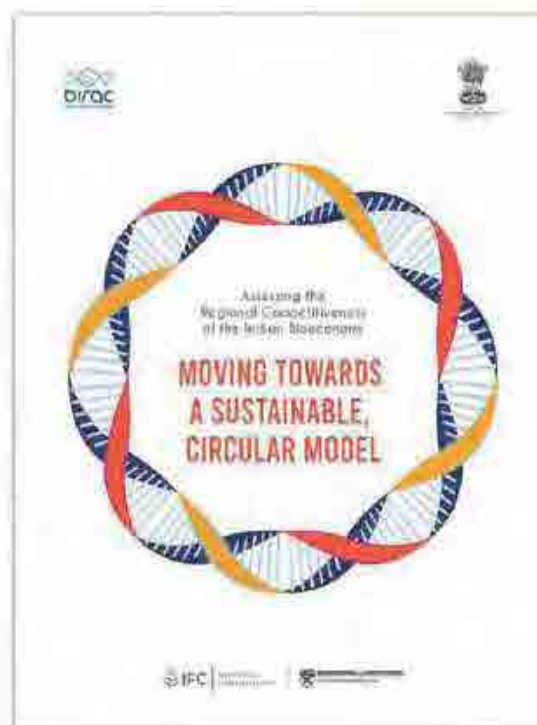
- The India BioEconomy Report (IBER) is an effort to map India's BioEconomy and monitor the extent to which policies adapt to growth, resilience and sustainability needs.
- Efficient policies are essential to meet increasing demand for better health, fuel, and feed in a sustainable way.
- While growth in demand presents significant opportunities for application of biotechnology, government policies have a proactive role in addressing challenges such as increasing productivity growth, enhancing environmental performance and adaptation to climate change, and improving resilience of unforeseen circumstances.
- Further, Policy evaluation provides needed evidence for governments to ensure that these policies address these challenges properly.
- Policy packages are also needed to be coherent and efficient to enable the sector to develop to its full potential and achieve key public policy objectives.



Assessing the Regional Competitiveness of Indian BioEconomy

Summary

- The world is moving towards more sustainable forms of production spurred by global changes in the form of climate change, and ecological degradation.
- There has been rising pressure on food, health, energy resources and basic amenities propelled by an increasing population, especially in India.
- One of the ways to meet such challenges would be to shift away from a fossil-fuel development paradigm to bio based resources dominated trajectory ensuring India to continue its high growth trajectory without completely depleting its natural resource base. Considering the growth potential of this sector, it is expected that during the next five years, the Indian Bioeconomy will grow to \$150 Billion by 2025. Within this broader domain, the Indian bio-manufacturing would contribute to 66.7% of the projected growth by 2024.



Webinar on "Start-Up Ecosystem: Navigating Through COVID-19 Crisis"

BIRAC through its Make-in-India Facilitation Cell for Biotechnology organized a webinar on "Start-up Ecosystem: Navigating through COVID-19 Crisis". The webinar was conducted on 28th May 2020 with Start-ups, Investors, Incubators, Mentors, Industry, Policy makers as the target audience. Speakers from Indian Angel Network, Social Alpha, Airvent Capital, Endiya Partners and Kotak Group discussed to re-strategize our current strategies for sustaining start-ups through next 6-12 months and the measures to manage budgets in reduced fund in-flows current times.

The webinar concluded with the Panel's advice for the start-ups to conserve cash, minimize capex expenses, co-operate with other start-ups by combining strengths, collaborate with industry and hospitals and connect with the partners for business continuity through this crisis.



WEBINAR



STARTUP ECOSYSTEM: NAVIGATING THROUGH COVID-19 CRISIS





28th may at 11:00am-12:30pm

Topic of Discussion

Sustaining through next 6-12 months → Re-strategize

Target Audience

Startups, Investors, Incubators, Mentors, Industry, Policy makers



Mr. Anurag Kumar
Social Alpha



Ms. Priyanka Rajgopal
IIS



Mr. Nisha Chakravarti
Kamit Group



Dr. Ramesh S. Ramesh
Endiya Partners



Dr. Anurag Kumar
Airvent Capital



Dr. Anurag Kumar
BIRAC

For any queries, please contact:
spod3.birac@nic.in



Webinar on " New Trends in Investment for Healthcare Start-ups: Investors Perspectives"

Make-in-India Facilitation Cell at BIRAC organized a webinar on " New trends in investment for healthcare start-ups: Investors perspectives" on 29th May 2020. The discussion topic of the webinar was what COVID-19 has changed, what would be the new normal and how to generate funding for COVID and Non- COVID solutions.

The panellists from Indian Angel Network, GVFL Limited, Stakeboat Capital, Platforma Ventures, Bharat Innovation Fund and Ankur Capital gave their views on the Investors' Investment strategy i.e short-term, long-term funding opportunities and umbrella investment strategy, new opportunities in the healthcare sector and suggested start-ups to build Revenue generating Business model. The webinar concluded with the note for the start-ups to stay agile, adapt and deploy new technologies, attract investors and customers, align with the complimentary start-ups and keep innovating to survive this challenging phase of COVID-19.




WEBINAR

New Trends in Investment for Healthcare Startups: Investors' Perspectives



 **29th may at 3:00pm-4:30pm**

DISCUSSION TOPIC

↓

WHAT COVID-19 HAS CHANGED
WHAT WOULD BE THE NEW NORMAL
HOW TO BE GENERATE FUNDING FOR COVID AND NON-COVID SOLUTIONS

SPEAKERS



Mr. Ramon Roy
IAN



Mr. Chandrasekar Kandassamy
Stakeboat Capital



Mr. Rajiv Aiyappa
Platforma Ventures



Mr. Ashwin Raghuraman
Bharat Innovation Fund



Ms. Verna Subramanian
Ankur Capital



Mr. Sanjay Ramdhar
GVFL



Dr. Manish Diwan (Moderator)
BIRAC

For any queries, please contact: sped3.birac@nic.in



First Hub Webinar on COVID-19

BIRAC's Make in India Cell organized a special Webinar session of FIRST HUB dedicated for queries seeking regulatory guidance for the development of COVID-19 solutions. It was conducted on 17th April 2020. About 350 Start-ups registered to seek Regulatory guidance for development of COVID solutions from CDSCO, ICMR, BIS, NIB, DBT, BIRAC and eGEM.

The webinar addressed several queries related to Regulatory Pathways, Public Procurement, Funding Opportunities, IVD Testing & Validation, Standards, Specifications and Manufacturing & Testing Infrastructure Support, Funding Opportunities, Fast Track Review and others.



17th april
From 4:15-5:00pm

**#FIRST HUB
WEBINAR ON
#COVID-19**

Representatives from CDSCO, ICMR, NIB,
GeM, KIHT, BIS, DBT and BIRAC
will be available to take queries on:

**Regulatory Pathways, Funding Opportunities,
Public Procurement, IVD Testing & Validation,
Standards & Specifications,
Manufacturing & Testing Infrastructure Support**

*Register by clicking on the following link:
<https://attendee.gotowebinar.com/register/3022686513869896972>
*Webinar ID: 666-070-043
*For more queries, write to: sgandhi.birac@nic.in, mil01.birac@nic.in



National Biopharma Mission

National Biomedical Resource Indigenization Consortium (NBRIC)

Pilot N-BRIC - National Biomedical Resource Indigenization Consortium (NBRIC) was launched to drive indigenous innovation in a Public Private Partnership with DBT, NBM-BIRAC, ABLE and is being hosted at C-CAMP. It is a make in India initiative for biomedical research and innovative products towards import substitution and exports. It is envisaged to be a nationwide platform for convergence of research and product resources and technology services towards developing reagents, diagnostics, vaccines and therapeutics across India for COVID-19 response. The consortium aims to build 1-1.5 million COVID testing reagents within a month and exponentially scale up onwards. A meeting to discuss on the future roadmap of NBRIC was held on 8th May 2020 via online platform, with subsequent meetings held on 14th and 22nd May 2020 to discuss the outline of the NBRIC proposal.



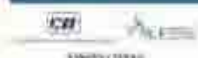
NATIONAL BIOMEDICAL RESOURCE INDIGENIZATION CONSORTIUM

If you are a manufacturer of reagents or consumables for COVID-19 RT-PCR testing kits please fill <https://bit.ly/2VcRnGI>

More information at www.nbric.in

A nation-wide effort to converge indigenous resources, products and services needed for developing diagnostics, vaccines and therapeutics for COVID-19 research and innovation

Make-in-India Initiative



Trainings and Workshops under the National Biopharma Mission Supported Ecosystem

With an aim to strengthen the technology transfer capabilities in the country, five Technology Transfer Offices have been established under the National Biopharma Mission at IKP Knowledge Park; Hyderabad, Centre for Cellular and Molecular Platforms (C-CAMP); Bangalore, KIIT Technology Business incubator; Bhubaneswar, Biotechnology Business Incubation Facility (BBIF), Foundation for Innovation and Technology Transfer (FITT); New Delhi and Entrepreneurship Development Center (EDC), Pune

The Entrepreneurship Development Center (EDC) at Venture Centre, Pune have made significant efforts over the last quarter. Center for BioPharma Analysis (CBA) is an initiative of Venture Center supported by the National Biopharma Mission. The Venture Center is a technology business incubator hosted by CSIR-National Chemical Laboratory, Pune. It is a state-of-art GLP compliant facility with high-end

instrumentation and industry-linked personals provides globally acceptable analysis of biopharmaceuticals. It provides open access cutting-edge technologies for Biopharmaceutical Analysis and would emerge as resource center for Characterization of Biopharmaceuticals. The facility aims to cater all academics, small to medium size biosimilar developers through-out the India and the world.

A CBA Technical Workshop Series, Online Training Program on "SARS-CoV-2: What You Need to Know - Wave 1" was conducted on 16th April 2020. This workshop was meant for scientists; clinicians & lab technicians at the frontline of COVID crisis. The workshop illustrated upon the virus morphology to help researchers design effective diagnosis methods and also select or design drug molecules. It focused on structural details of SARS-CoV-2 virus, Real time PCR platform for detection of SARS-CoV-2 virus, practical requirements of facilities and PPE's in a diagnostic lab. It also focused on the precautions that need to be taken while handling the samples. A total of 49 participants attended the online training. Dr. Narendra Chirmule, CEO of Symphony Tech Biologics deliberated upon 'structure and biology of the SARS-CoV-2 virus'. Dr. Kalpana Joshi, Professor & Head, Dept. of Biotechnology, SCOE discussed the basic understanding of real time PCR platform for SARS-CoV2 diagnosis and data interpretation. Dr. Tejas Shah, Assistant Manager, CBA, Venture Center explained the recommended biosafety and biosecurity precautions.



CBA Technical Workshop series (2020/02)
Online Training Program

SARS-CoV-2: What You Need to Know - Wave 1
-- Workshop for Scientists, Clinicians & Lab Technicians at the Frontline --

(Thurs) 16 Apr 2020 | 10:00 am - 11:30 am

SARS-CoV-2 structure | **Is my lab ready to be a COVID-19 diagnostic lab?** | **How the COVID-19 diagnosis test is done?**

Scientists, Clinicians, Lab Managers/in-charge and Technicians from approved laboratories (Govt. & Private) for COVID-19 testing from the ICMR-DHR.

Technical queries: Tejas Shah (8806658955)
email: tejas@venturecenter.co.in

Registration related: Lipika Biswas (020-25855877/75/76)
email: eventsdesk@venturecenter.co.in

Apply online : <https://forms.gle/NBzF8Wt1WtW85q7>
More details on: <https://www.vventurecenter.co.in/biopharma-training>

A CBA Technical Workshop Series, Online Training Program on "Chromatographic Techniques for Characterization of Biotherapeutics" was conducted on 23rd May 2020. This training focused on principles and applications of chromatographic techniques for characterization of critical quality attributes of biotherapeutics. Around 77 participants attended this online training. Dr. Chaitanya Saxena, CEO, Shantani Proteome Analytics Pvt. Ltd. deliberated upon Post Translational Modifications characterization by RP-LC. Dr. Sandeep Kale, Director, QbD Purple Advanced Technologies (QPAT) Pvt. Ltd. discussed the characterization of charge variants by IEX while Dr. Smita Kale, Associate Manager- Incubation Operations, Venture Center explained how SEC can work as a tool for aggregation analysis.



CBA **VENTURE CENTER**

Online Workshop: Chromatographic Techniques for Characterization of Biopharmaceuticals

Characterization of Charge Variants by IEX

SEC as a tool for aggregation analysis

Dr. Smriti Kato
smriti.kato@venturecenter.co.in

Total No. of Participants: 77
May 23, 2020

Shantani **QPAT** **biroc**

VENTURE CENTER **CBA** **biroc** **ibm**

CBA Technical Workshop series (2020/03)
Online Training Program

Chromatographic techniques for Characterization of Biotherapeutics

(Sat) 23 May 2020 | 10:00 am – 12:00 noon

Understand principles and applications of chromatographic techniques for characterization of critical quality attributes of Biotherapeutics

RPLC **IEX** **SEC**

Scientists, Research Scholars, Lab Managers/in-charge, & Academicians

Technical queries: Smriti Kato (9923147592)
email: smriti@venturecenter.co.in

Registration related: Yashodhan Shende (7755920096)
email: yashodhan@venturecenter.co.in

Apply online: <https://forms.gle/olivYvnp9S3J73s>
More details on: <https://www.vventurecenter.co.in/biopharma-training>

After the successful completion of this training on chromatographic techniques, a Wave 2 of the same series was conducted on 6th June 2020, where a total of 86 participants attended the session.

CBA **VENTURE CENTER**

Online Workshop: Chromatographic Techniques for Characterization of Biopharmaceuticals – Wave 2

Characterization of Charge Variants by IEX

SEC as a tool for aggregation analysis

Dr. Smriti Kato
smriti.kato@venturecenter.co.in

Total No. of Participants: 86
June 06, 2020

Shantani **QPAT** **biroc**

VENTURE CENTER **CBA**

CBA Technical Workshop (2020/04)
Online Training Program

Chromatographic Techniques for Characterization of Biotherapeutics (Wave 2)

Saturday, June 06, 2020 | 10:00 am to 12:00 noon

Session 1: PDI characterization by RPLC by Dr. Chaitanya Suresh

Session 2: Characterization of charge variants by IEX by Dr. Sandesh Kato

Session 3: SEC as a tool for aggregation analysis by Dr. Smriti Kato

Scientists, Research Scholars, Lab Managers/in-charge, & Academicians

Technical queries: Smriti Kato (9923147592) | email: smriti@venturecenter.co.in

Registration Related: Yashodhan Shende (7755920096)
Email: yashodhan@venturecenter.co.in

Apply Online: <https://forms.gle/MgVW4gertH6XG5>
More Details on: <https://www.vventurecenter.co.in/biopharma-training>

biroc

TECHEX. IN is a Technology Transfer Hub operated by Venture Center, Pune, India and supported by the National Biopharma Mission (Govt of India). TECHEX.IN aims to help technology developers and technology commercialization entities find each other, forge partnerships and advance the technology closer to the market in a win-win partnership. The TECHEX.IN is based in the western part of India. While its focus is on organization's in Maharashtra, Gujarat and Goa states of India, it welcomes technology developers and technology commercialization entities from any part of the world. An online session on 'Negotiation Techniques for Technology Entrepreneurs and Innovation Managers' was conducted on 30th May 2020.

The TechEx.In and Task Force on Repurposing of Drugs for COVID-19 (TFORD-COVID-19) further conducted an online session on "COVID-19 drug candidates: Understanding patent landscapes and navigating patent barriers" on 8th June 2020.




Online Session on NEGOTIATION TECHNIQUES FOR TECHNOLOGY ENTREPRENEURS AND INNOVATION MANAGERS

Learn the necessary negotiation principles that can help you at work



Haseo Gern

For Whom: Entrepreneurs, Young Innovators, IP Practitioners, Tech Transfer Professionals, Incubation Managers and Technology Managers.

When: Saturday, May 30, 2020

Time: 4:00 pm to 6:30 pm

Organized by: TechEx.in
(A Technology Transfer Hub at Venture Center) & Venture Center

Registration Link:
<https://tinyurl.com/3D9eywag2>

This is a free event, but registration is compulsory.



V. Prasad



Rohit Chandra







Online Session on COVID-19 Drug Candidates: Understanding Patent Landscapes & Navigating Patent Barriers

**Monday, June 08, 2020
3:30 pm to 5:35 pm**

Registration Link:
<http://www.techex.in/online-e-session-on-covid-19-drug-candidates/>



Dr. Jayashree Mah



Anirudh Kumar



Anirudh Kumar



Ramesh George



Premnath Venugopalan



Vidula Wafinbar







An online training programme on 'Understanding and Negotiating Non-disclosure Agreements (NDAs) and Material Transfer Agreements (MTAs)' was conducted on 13th June 2020 under Techex and CBA. The program was aimed at providing an insight into the intricacies of the NDA and MTAs. The online session highlighted the common mistakes made by signing parties, pitfalls and emphasized on the precautions to be taken while signing the NDA or MTA. About 84 participants attended this training session.





VENTURE CENTER
Online Training Program

UNDERSTANDING & NEGOTIATING NON-DISCLOSURE AGREEMENTS (NDAs) & MATERIAL TRANSFER AGREEMENTS (MTAs)

Organized by TechEx.in & Center for BioPharma Analysis
Supported by Venture Center, LegalLogic,
National Biopharma Mission, & BIRAC

Purpose: To provide an insight into the intricacies of the Non Disclosure Agreements (NDA) and Material Transfer Agreements (MTA). The online session aims to provide the common mistakes made by signing parties, pitfalls and precautions to be taken while signing the NDA or MTA.

For Whom: Technology Entrepreneurs, Researchers/Inventors, Startups/organizations offering scientific services to corporates.

When: Saturday, June 13, 2020 (from 11:00 am to 1:00 pm)

Registration Link: <https://tinyurl.com/73june20>

This is a FREE Event, but Registration is MANDATORY.

Speaker



Vivek Sadhale
Founder, LegalLogic







The National Biopharma Mission aims to enable and nurture India's technological and product development capabilities in biopharmaceuticals to a globally competitive level over the next decade and transform the health standards of India's population through affordable product development. The Mission has therefore supported creation of several shared facilities across the country to catalyze and create an enabling pathway for product development.

Centre for Advanced Protein Studies (CAPS) facility, is a state-of-the-art national facility located at Syngene campus, Bangalore supported by the National Biopharma Mission. It provides both end-to-end as well as modular analytical characterization services.

A two-day advanced analytical training programme (online) with a view to advance product development in the country was held on 15th-16th June 2020.



Putting Science to Work



National Biopharma Mission



Centre for Advanced Protein Studies
(Supported by NBM – BIRAC)

Advanced Analytical Training

(Free Online Training Sessions)
Advanced Skill Development





Session A
Introduction to Capillary Electrophoresis and Image Capillary Electrophoresis [45 mins]
Prashant [Syngene], Sakshi Chatterjee, Pooja Joshi and Praveena [Syngene]
Basic Principles and Biopharma Applications of Capillary Electrophoresis (CE)
• Capillary Gel Electrophoresis for Proteins (IgG and SDS)
• Charge Heterogeneity Analysis (IEF and CZE)



Session B
Introduction to Surface Plasmon Resonance [Binding Studies] [45 mins]
Shashank [Syngene], Jyotsna Singh, Harsh Kumar, Prashant [Syngene]
• Introduction to Surface Plasmon Resonance - BiAcore technology
• Case Study: FcRn binding analysis overview
• Technical Discussions

 **Recorded Training Sessions Available From: 15th June 2020 onwards**

 **Who will be Benefitted:** Ph.D Students, Academic researchers, Industry Professionals, Analytical Team leaders

Participation certificate will be provided upon request.

Program Coordinator: Dr. Ravi Krovadi – Head, CAPS

 www.syngeneintl.com/CAPS

 email_CAPS@syngeneintl.com



**DEPARTMENT OF BIOTECHNOLOGY (DBT)
&
BIOTECHNOLOGY INDUSTRY RESEARCH
ASSISTANCE COUNCIL (BIRAC)**



Announces

CALL FOR PROPOSALS

**Anti- SARS-CoV-2 /nCoV-2 Virus Studies
using Botanical Ingredients and Traditional Formulations**

Companies, LLPs and Academic Institutes can apply either individually or jointly)*

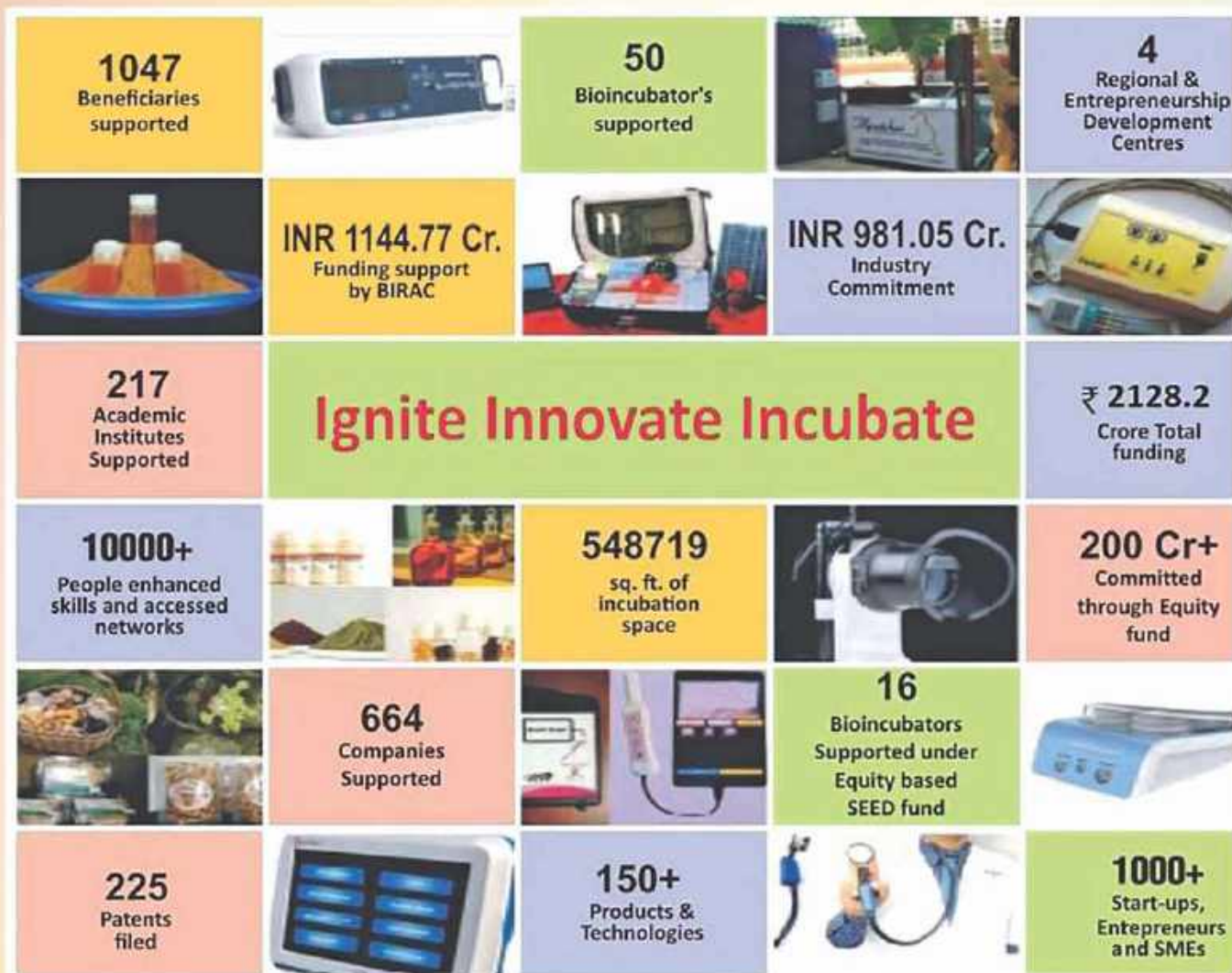
Call closes on: 3rd July 2020 at 5:30 pm

CONTACT:

- Dr Prechi Kaushik, Manager (Investment), BIRAC: pkaushik.birac@nic.in
- Dr Sanjay Saxena, GM & Head (Investment), BIRAC: investment.birac@gov.in
- Dr. Manoj K. Modi, Scientist 'E' DBT: manoj.modi@nic.in

*For more information visit:

www.birac.nic.in and <http://dbtindia.gov.in>



For further information please contact:
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 E-mail: birac.dbt@nic.in | Web: www.birac.nic.in
 Follow us on Twitter : @BIRAC_2012