

birac

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Ignite • Innovate • Incubate

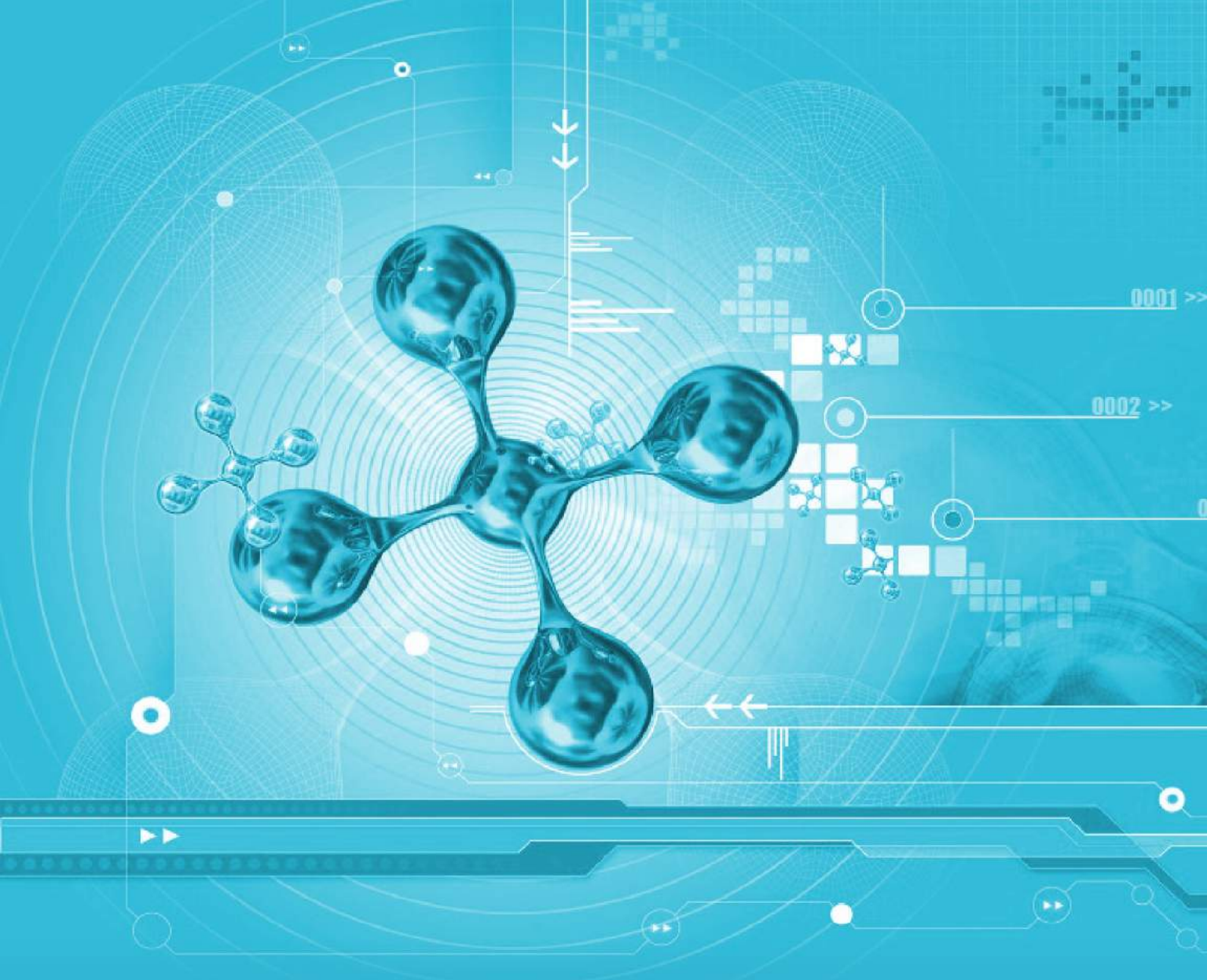
Celebrating



10th BIOTECH INNOVATORS MEET 2021

VIGYAN SE VIKAS





birac

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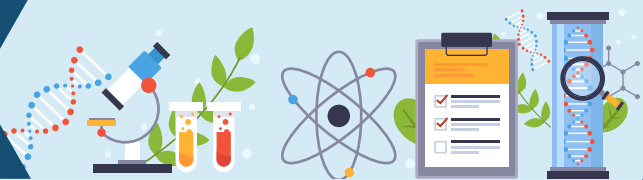
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Leader's Message



Dr. Renu Swarup

Secretary, DBT
& Chairperson, BIRAC

I strongly feel that focus will lead to depth, and depth will lead to excellence. BIRAC focuses on to Stimulate, foster and enhance the strategic research and innovation capabilities of the Indian biotech industry. Ensuring the global competitiveness of Indian enterprises in the biotech space will be the major activity in terms of focusing on raising the capabilities of biotech start-ups & SMEs. COVID pandemic has demonstrated - as vividly as possible, but multiple BIRAC supported startups and SMEs have attained attention for their product and technology development from institutions across the globe.

At forefront BIRAC has been tackling the global pandemic challenge. Several BIRACs supported startups come to the forefront to intercept the COVID-19 situation in the country. Innovators like Inactivated virus vaccine, Dozee, Hybrid multiply masks, PPE kits, Face shields, Automated hand sanitizer, Diagnostic kit, Bluetooth enabled smart stethoscope, showing the world an efficiency of India as "AtmaNirbharBharat".

DBT-BIRAC has organized its 4th Leadership Dialogue Series - is a step in establishing a dialogue forum wherein the national and international leaders on the platform provide an insight into the key opportunities, challenges and share their leadership experiences. The lecture was titled "Leadership in the Creation of a New Scientific Endeavour: Role of a Visionary and a Missionary." DBT-BIRAC's 10th Biotech Innovators Meet hosted on 28th September 2021 under the "Azadi Ka Amrit Mahotsav" banner recognizing 'Vigyan se Vikas'. Hon'ble Union Minister of State (Independent Charge) of the Ministry of Science and Technology and the Earth Sciences Dr Jitendra Singh announced the launch of a nationwide Grand Innovation challenge Program "Amrit Grand Challenge-जनCARE" by BIRAC themed as "Reimagining the Healthcare Delivery - Touching a billion lives". He motivated all the start-ups community and encouraged them to reach greater success. He also recognized growing proportion of biotech women founders that has improved to nearly 25%".

We put a lot of thrust on initiating the several schemes, networks and platforms that help to bridge the existing gaps in the industry-academia Innovation research and facilitate novel, high quality affordable products development through cutting edge technologies. BIRAC will remain committed to support the biotechnology industry in India and continuously seek and strive to do good, act better to achieve our goals and significant growth for the future.

Chief Editor's Take



Ms. Anju Bhalla

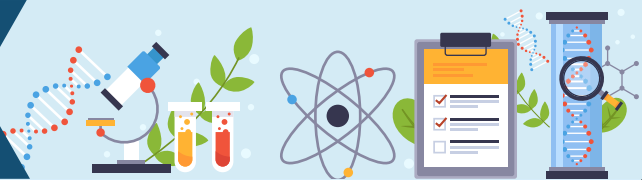
Joint Secretary-DST &
Managing Director-BIRAC

India is among the 12 top biotechnology destinations worldwide. DBT and BIRAC together have continued to facilitate and mentor the generation of innovative ideas of biotech products and services by innovative ecosystem, promote academia-industry collaboration, encourage technology entrepreneurs and enable the sustainability of viable bio enterprises even in this pandemic time.

It gives the feeling of pride as many of the BIRAC supported inventors have come forward with their innovative solutions to meet the challenge of COVID. BIRAC supported Bharat Biotech intranasal vaccine is the first nasal vaccine that has received regulatory approval for the Phase 2 trial. This is the first of its kind nasal COVID-19 jab to undergo human clinical trials in India. The advancement of biotechnology industry is becoming a leading destination for clinical trials, contract research, and manufacturing activities in the country. BIRAC hosted the 4th edition of DBT-BIRAC Leadership Dialogue Series which is a step forward in establishing a dialogue forum wherein the national and international leaders on the platform provide an insight into the key opportunities, challenges and share their leadership experiences.

DBT-BIRAC hosted its 10th Biotech Innovators Meet on 28th September 2021, under the Azadi Ka Amrit Mahotsav banner recognizing 'Vigyan se Vikas'. During meet, the launch of a nationwide Grand Innovation challenge program "Amrit Grand Challenge-जनCARE" by BIRAC themed as "Reimagining the Healthcare Delivery - Touching a billion lives" was also announced. DBT-BIRAC along with its incubation Centers is celebrating India's 75th year of Independence this year under the #AzadiKaAmritMahotsav theme.

At BIRAC our effort is to strengthen the Biotechnological Ecosystem and hopefully, we will continue with creating opportunities for scientific innovators through supporting and reshaping this vast sector of Biotechnology in the world economy.



BIRAC Innovators Meet

BIRAC hosted its 10th Biotech Innovators Meet on 28th September on a virtual platform. Hon'ble Union Minister of State (Independent Charge) of the Ministry of Science and Technology and the Earth Sciences Dr. Jitendra Singh graced the occasion.

At this occasion of BIRAC's 10th Innovators Meet, the Hon'ble minister announced a nationwide Grand Innovation challenge program "Amrit Grand Challenge-जनCARE" - "Reimagining the Healthcare Delivery - Touching a billion lives", envisioned to identify 75 Digital Healthtech Innovations in Telemedicine, Digital Health, mHealth with Big Data, AI ML, blockchain and other technologies from Start-ups/Individuals/Companies for strengthening the Healthcare ecosystem in India. This program is aimed to strengthen healthcare delivery in India in alignment with the National Digital Health Mission (NDHM). The Amrit Grand Challenge has been launched with the aim of fostering Indian innovation and research to develop affordable and sustainable solutions to improve health, in India and across the globe. Azaadi ka Amrit Mahotsav is being celebrated across states and ministries to commemorate 75 years of progressive India and its glorious history.

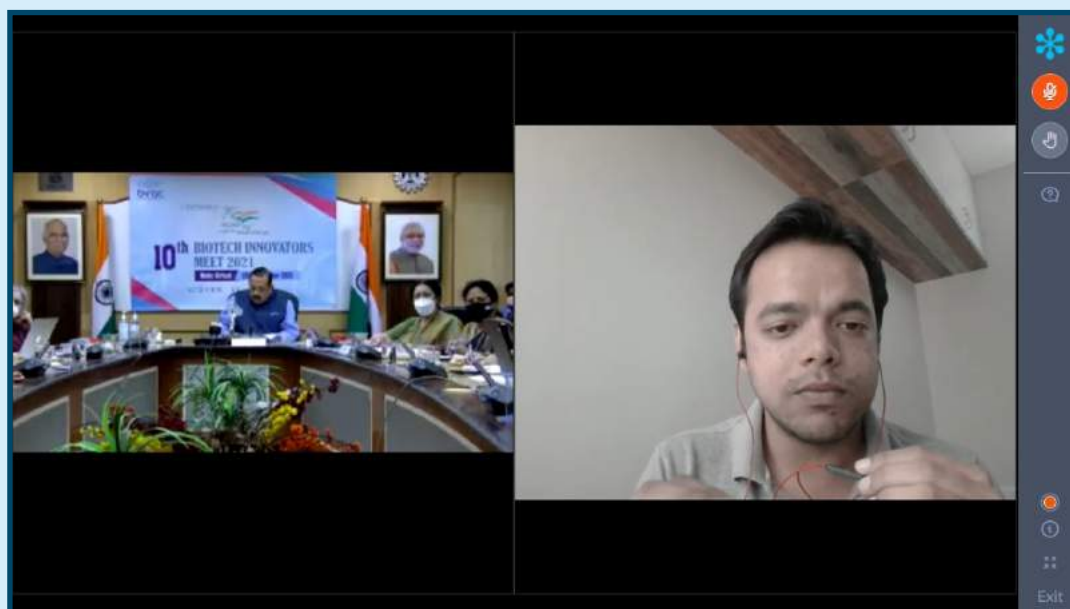
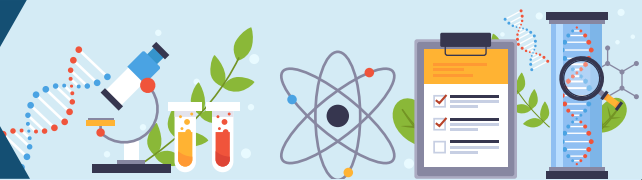
The Hon'ble Minister lauded the efforts of BIRAC and DBT to nurture the innovation ecosystem. He said that this year is all the more special since it coincides with the Azadi Ka Amrit Mahotsav, launched by the Hon'ble Prime Minister, a celebration of our nation's 75 years of independence. The spirit of this gathering and sector could not have been more appropriate, as it supports the spirit of Atmanirbhar Bharat. He also mentioned this challenge as very timely as it aligns with Pradhan Mantri's Digital Health Mission which was launched on 27th September 2021.

The Minister said that the Innovation and Startups support has resulted in more than 600 Plus Technologies and Products at different stages of Commercialisation. He also informed that the Startups ecosystem is also poised to scale to 10,000 biotech Startups propelling the innovation and knowledge translation into products that are Made in India – for India and for the World.



He released four publications at the 10th BIRAC Innovators Meet namely- BIRAC' Impact Report; Indian Bio-economy Report 2021; Make in India Brochure; BIRAC-BRIC Phase-3 Report.

BIRAC has established 60 world-class Bioincubators in the country. The Innovation and Startup support have resulted in more than 600+ Technologies and Products at different stages of Commercialisation. Interaction of Hon'ble Minister with the start-ups was also a part of this conclave. The 15 selected startups were from different



domains: Agriculture and allied areas; Covid Response; Industrial Biotechnology, Clean Energy & Environment; Medtech and Startups led by Women Founders.

The selected start-ups were: Leancrop Technology Solutions Pvt Ltd; Distinct Horizon Pvt Ltd.; Agsmartic Technologies Pvt Ltd.; Huwell Life Sciences; MyLab Discovery Solutions; DNA Xperts; 7. Kanpur Flowercycling; OmniBrx biotechnologies Pvt Ltd; Flycatcher Technologies LLP; Blackfrog Technologies; Voxelgrids Innovations Pvt. Ltd.; Turtle Shell Technologies Pvt Ltd; MicroGO LLP; Periwinkle Technologies Pvt Ltd and Mallipathra Nutraceutical Private Limited.

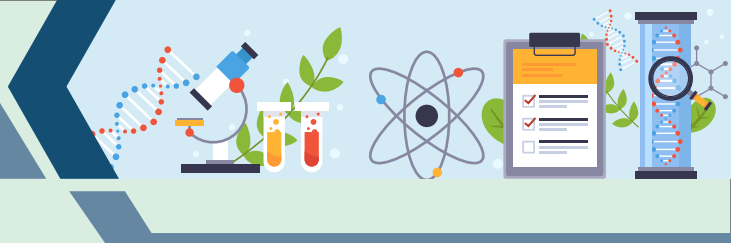
The Hon'ble minister interacted with the start-ups and said that the innovations from different arenas of biotech sub-sectors highlights the cross-disciplinary engagement of talent, knowledge which is critical for the ecosystem development and to address the unmet societal needs-may it be COVID solutions; startup solutions that are environment friendly and conscious of waste to value and recycling. He motivated the startups and encouraged them to keep up with the spirit of self-reliance. He encouraged women founders led star tups that have now about 27% representation and is growing further.

Secretary DBT, DST and Chairperson BIRAC, Dr Renu Swarup and Ms. Anju Bhalla, Joint Secretary (DST) and Managing Director, BIRAC were also present at this event.

Dr Renu Swarup said that it is extremely interesting to see how biracbarely started with 50 start-ups and now there are thousands of them. The primary goal is to scale this up to 7,000 start-ups in the coming future.

Senior officials from DBT, BIRAC, GCI, MeitY, NASSCOM, IKP and networks of several partners and a large congregation of start-ups, entrepreneurs, industry, investors, hospitals, incubator networks were also present at this virtual event.





4th Lecture in DBT-BIRAC Leadership Dialogue Series on Leadership in the Creation of a New Scientific Endeavour

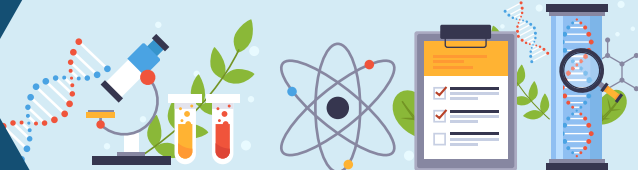
The Department of Biotechnology (DBT), Government of India along with Biotechnology Industry Research Assistance Council (BIRAC) organised a virtual lecture by Dr K Kasturirangan, Honorary Distinguished Advisor, ISRO and Emeritus Professor, National Institute of Advanced Studies. This was the fourth lecture in the DBT-BIRAC Leadership Dialogue Series - a platform where global leaders from various domains share their experiences and interact with the scientific community. The lecture was titled “Leadership in the Creation of a New Scientific Endeavour: Role of a Visionary and a Missionary.” The talk centred around the vision that Prof Vikram Sarabhai bequeathed to the nation to create a new dimension to India’s scientific and technological endeavour as an innovative instrument for National development- Space. The talk detailed the journey of two veterans of the Indian space program and how it led to long-term, cost-effective, and world-class scientific and technological achievements.

Dr Sundeep Sarin, Scientist G, Advisor, DBT welcomed the eminent speaker and the participants to this virtual edition of leadership dialogue series.



Dr Renu Swarup, Secretary, Department of Biotechnology gave an overview of the Leadership Dialogue Series. In her address she said, “this series is an initiative to help the scientific community and students to learn from the vast experiences of the stalwarts in various fields and start a dialogue to take the country to develop into a stable and robust bio-economy”.

Speaking at the occasion, Dr Kasturirangan said that, “The vision of Prof. Vikram Sarabhai bequeathed to the nation to create a new dimension to India’s scientific and technological endeavor as an innovative instrument for National development. The journey that stemmed from two veterans of the Indian space program led to long-term, cost-effective, and world-class scientific and technological achievements.”

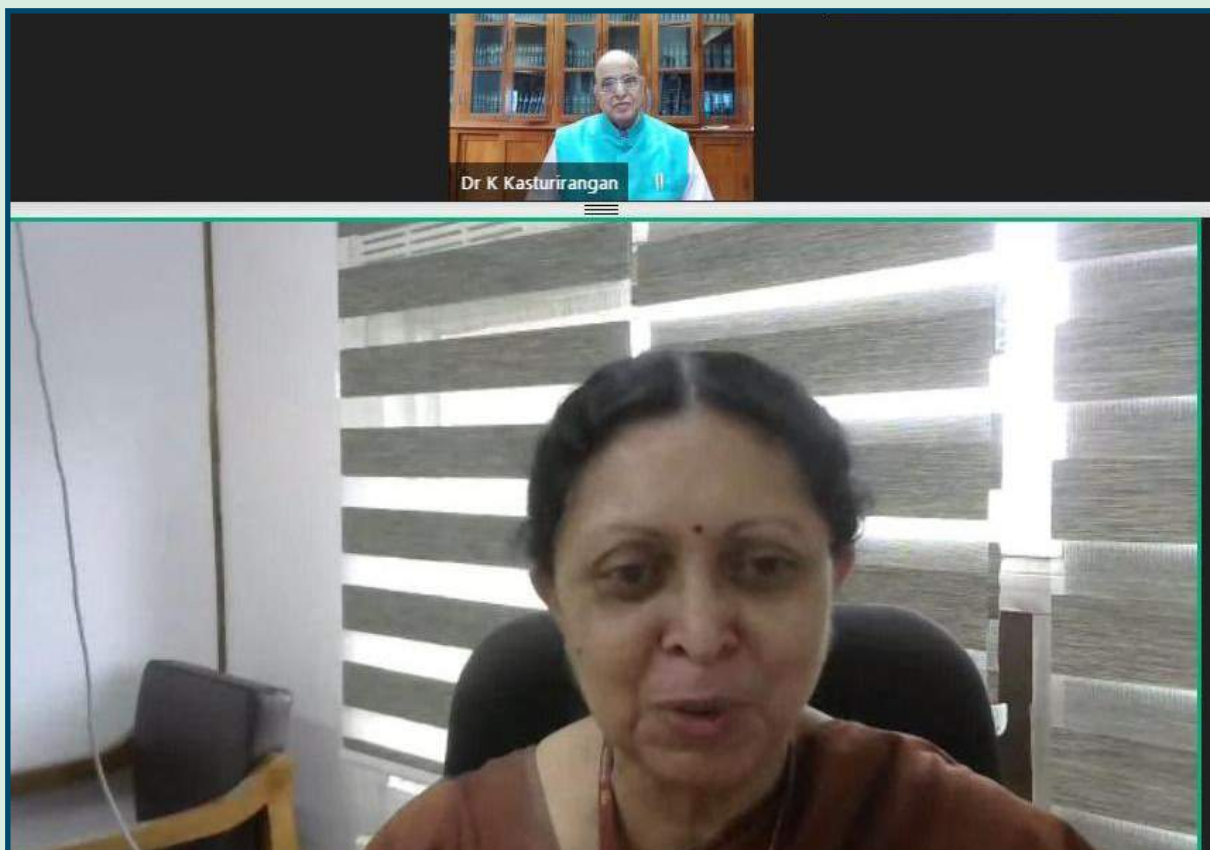


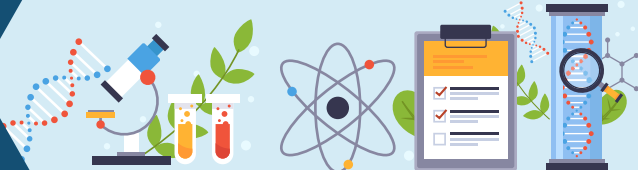
Dr. K Kasturirangan on Prof. Dhawan's strategy on the Aryabhata Program said, "Prof. Dhawan was always known to be a very thorough man and made us work on multiple possibilities and options. He always made us work on the pros and cons of every option and finally made us chose the best option, not the perfect option. These institutes are extremely unique and well thought out. The sustainability of this program, its utility, and its ability to go forward was all thought through by Prof. Satish Dhawan. Buying didn't simply mean buying, we needed to understand what we are buying, and to understand what we are buying we must do our research".

Dr Kasturirangan emphasised the crucial role India's rapidly emerging leadership in biotechnology will help India achieve health equity and take leadership in addressing global health challenges.

Dr Shirshendu Mukherjee, Mission Director, Grand Challenges India moderated a brief audience interaction with the distinguished speaker. The session later was opened to the general public for the questions and answers. The proceedings are available at <https://bit.ly/LDS4YT>.

Ms Anju Bhalla, JS, DST and MD BIRAC delivered the vote of thanks and in her closing remarks said, "Today's talk was a testament to the power of vision and mission, the role of creativity and the importance of creating institutions built on common ideals, in delivering a dream for a nation".

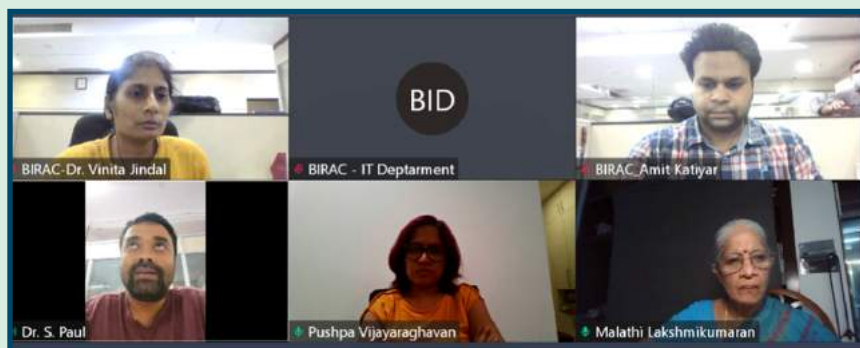


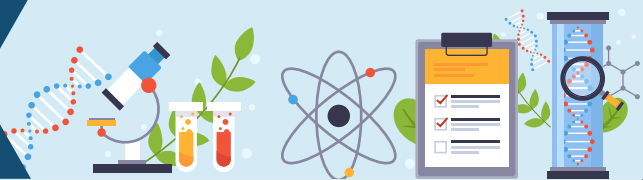


IP & Technology Management Law Clinic Connect

BIRAC conducted three (3) sessions of “**IP & Technology Management Law Clinic Connect**” program for the Startups, Institutes, and Entrepreneurs to advise and mentor on Patentability Criteria, Patentable subject matter as per Indian Patent Act, strategy for Foreign patent filing, Technology Transfer and Commercialization Process and Strategies. Sessions were well attended by 12 Start-ups and entrepreneurs as per their allotted slots.

The Clinic operates on Second Friday of every Month through Videoconferencing from 4 pm to 6 pm.





Launch of BIRAC E-office

Hon'ble Union Minister of State (Independent Charge) of the Ministry of Science and Technology and the Earth Sciences Dr. Jitendra Singh, launched the BIRAC e-office on 25th August at the CSIR Science Centre, New Delhi.

The hon'ble minister reviewed the BIRAC activities and lauded the efforts and initiatives taken by BIRAC in the fight against the pandemic. He appreciated the activities undertaken by BIRAC to nurture the innovation ecosystem and praised the innovators who have stepped forward to come up with potential solutions in the time of crisis. He also congratulated BIRAC for aligning so well with the Hon'ble Prime Minister's vision of AtmaNirbhar Bharat.

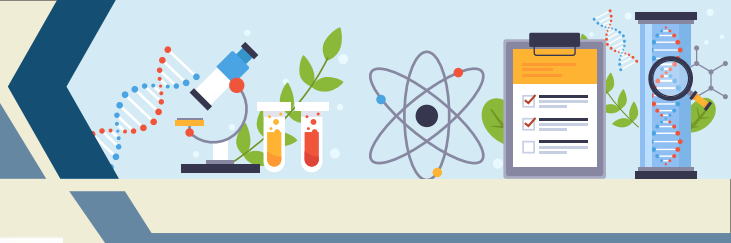


BIRAC has an inhouse BIRAC 3i portal to its credit, where all the applications and proposals are submitted online. This portal was launched in February 2010 and is a dynamic, robust, scalable application for Science and Innovative Research Fund Management wherein various stakeholders like Companies, Institutes and Individuals submit their proposals online.

BIRAC e-Office Lite software has been deployed on NICSi server in testing mode from 01st August 2021. BIRAC e-Office software was made live by the hon'ble minister and is now open for file movement system w.e.f. 25th August 2021. The Union Minister of State said that Digital India Mission is an ambitious project that will promote the country's prosperity by encouraging transparency and good governance.



Secretary DBT and Chairperson BIRAC, Dr Renu Swarup and Ms. Anju Bhalla, Joint Secretary, DST and Managing Director, BIRAC were also present at this event. Dr Renu Swarup said that implementation of the e-office system would help in bringing transparency and would ease the complete process of filing and monitoring the office management. The complete system would be digitized.



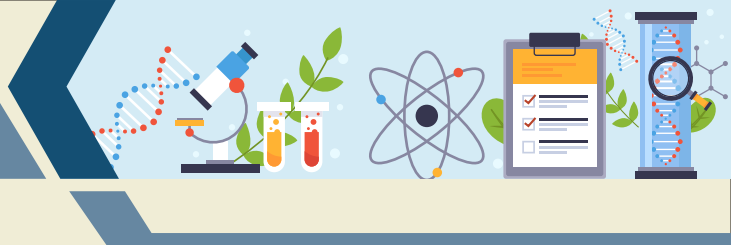
BIOVALLEY INCUBATION COUNCIL

About the Incubator: Bio valley Incubation Council is India's largest Medical Technology & Biotechnology focused incubator that supports start-ups through its unique ecosystem, providing unlimited access to cutting edge technologies, as well as market access assistance. Set up in a sprawling 270-acre campus of Andhra Pradesh MedTech Zone, Visakhapatnam and equipped with dedicated 22,500 square feet with cutting edge laboratories are amongst its key strength, making it the only incubation hub of India in the area of Biotechnology and Medical Technology. Biovalley incubation program ensures bringing the right blend of expert mentorship, access to venture funding, R&D facilitation, testing infrastructure, industry-academia collaboration, technology transfer platform etc. for its incubatees and offers them the right platform to launch their products, thus bettering their chances for product realization and commercial success.

- **Location-** I-hub, AMTZ Campus, Pragathi Maidan, Visakhapatnam, Andhra Pradesh, India.
- **Total space (Incubation, Lab space, common area etc)-** 22,500 Square feet.
- **No. of Incubatees supported till now -** 17
- **Total Products/technologies commercialized-**
 - a. Number of products commercialized = 04
 - b. Number of IP backed services offered by start-ups = 02
- **Total IPs facilitated-** 15
- **Rentals -** ₹ 25/- per Sqft per month.
₹ 50/- per Sqft for clean room per month.

Facilities offered and unique features-

General infrastructural services	The Biovalley Incubation Council provides plug and play office space & clean room facility (if required). Additionally, the start-ups and innovators can access the common meeting rooms, board rooms, conference rooms with projection equipment, warehouse and Kalam convention center.
Scientific support services	1) BIOME – Biomaterial Testing facility- The state-of-the-art laboratory for biomaterials has the following testing capabilities but not limited to this. <ul style="list-style-type: none"> i) Histopathology Evaluation ii) Physiochemical Evaluation iii) Chromatography Evaluation iv) Sterility Evaluation v) Accelerated aging vi) Package Validation. vii) Medical textile testing.

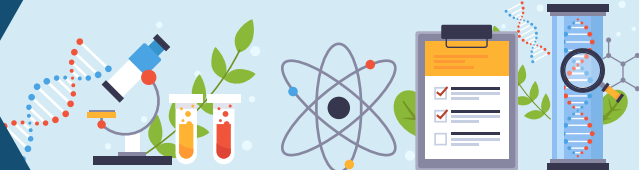


- 2) **ELECTRA – EMI/EMC Testing facility**– Advanced 10m RF Semi-Anechoic chamber with frequency range upto 40 GHz for Electromagnetic Compatibility (EMC) testing complying to IEC 60601-1-2, Precision grade Hemi-Acoustic chamber for testing medical alarms as per IEC 60601–1–8.

Having the following testing capabilities but not limited to this.

- i) Conducted Emission
- ii) Conducted Susceptibility
- iii) Radiated Emission
- iv) Radiated Susceptibility
- v) Harmonics & Flicker
- vi) Burst Immunity
- vii) Electrostatic Discharge (ESD)
- viii) Electrical safety lab
- ix) Reliability lab

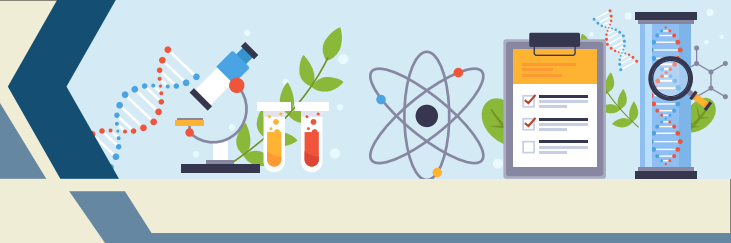
- 3) **Testing and Calibration lab** – It is equipped with state-of-the-art biomedical calibrators on par with national & international standards to test and calibrate 20+ medical devices with the current capability.
- 4) **Pre-Compliance TestingLab** – It is an affordable EMCpre-compliance testing facility which caters its services to incubates, innovators and manufacturers in the medical technology space.This lab is equipped with state-of-art equipment on par with the international standards. The test reportsissued by PCT lab will provide an insight into potential EMC problems and ways to reduce the risk of devicefailure.
- 5) **COBALTA** – Gamma Irradiation facility–It is first of its kind inAndhra Pradesh and the surrounding states and would caterto 15% (INR 4500 Crore) of the Indian Medical Device market.Maximum Design Capacity: 3 million Curies of Cobalt60. Maximum throughput achievable: 15 to 20 tons per hour.Panoramic Wet-Source Irradiator with product overlap designand split type source frame.Multipurpose plant designed to deliver doses, from as low as100Gy (agro/food), to as high as 25-40 kGy (medical devices).Can effectively process a wide variety of products composed ofdifferent materials, with varying densities, configurations, andorientations.
- 6) **STERILA** – ETO Sterilization centre – It is equipped with state-of-the-art 550 cubic feet chamber volume with capacity of 37-55°C cycle type & temperature.
- 7) **ADDIT** – 3D Printing facility–It is equipped with state-of-art equipment of 3D design unit with latest software for CAD design, organic modeling, medical modelling, design analysis, mes correction and reverse engineering, 3D scanning, 3D printing unit with FDM, SLA, SLS, RJP and metal 3D printing machines, Rapid tooling unit with CNC milling, 5 axis CNC machine and laser engraving machines and 3D – Bio Printing.






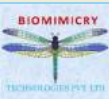

Advisory and mentoring services	<p>Support in</p> <ol style="list-style-type: none"> 1) Product development, Manufacturing, and Validation. 2) Regulatory assistance & product standard mapping. 3) Product Commercialization & Market access. 4) Support in IP filing & GeM Registration. 5) Conducting clinical trials and validation studies. 6) Recruitment advice and HR management strategies.
Information services (library, database access)	<ol style="list-style-type: none"> 1) Medical Device's Technical Compendium. 2) Market Research Report. 3) Health Technology Assessment (HTA). 4) EXIM Report. 5) Patenting activity Report. 6) Standards library Access.

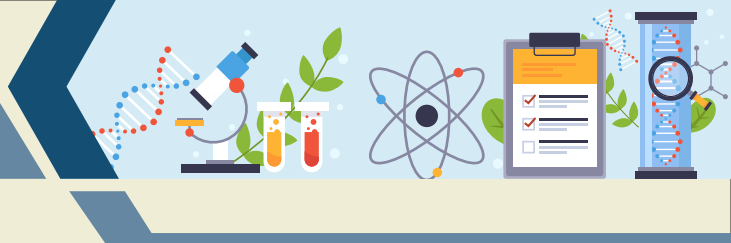
Collage of the facilities:





Star Incubatees of Incubator

Logo	Name of the Startup/Incubator	Name of Product/Technology developed/ commercialised
	DNA Xperts Pvt Ltd	IVDs, Bioinformatics, Molecular Diagnostics
	Foundry Medical Technologies Pvt Ltd.	Ventilators, PAPR, Glucometer.
	Akrivis Health Care Pvt Ltd.	Exosomes from Mesenchymal Stem Cells (MSC's).
	Biomimicry Technologies Pvt Ltd.	IR Thermometer, Pulse Oximeter, Oxygen Concentrator.
	Neuberg Diagnostics	Clinical diagnostic laboratory which include COVID19 sample testing



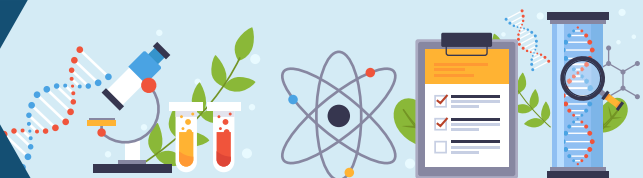
Bangalore Bioinnovation Centre (BBC)

About the Incubator: Bangalore Bioinnovation Centre (BBC) is a joint initiative of Department of Biotechnology, Government of India and Department of Electronics, IT, BT and S&T, Government of Karnataka. It works closely with Karnataka Innovation & Technology Society (KITS), a nodal centre for implementing schemes of the Department of Electronics, IT, BT and S&T, Government of Karnataka & its startups cell. It is a State-of-the-art translational research and entrepreneurship centre catering to all the needs of start-ups in life science.

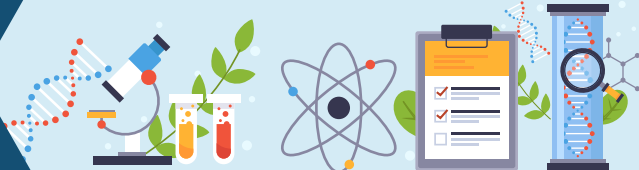
- Location- Bangalore
- Total space (Incubation, Lab space, common area etc)- 5000 sqft
- No. of Incubatee supported till now - 29
- Total Products/technologies commercialized-
 - a. Number of products commercialized = 15
 - b. Number of IP backed services offered by start-ups = 28
- Total IPs facilitated- 15
- Rentals– 6000/-Rs Per Bench space

Facilities offered and unique features-

General infrastructural services	<ul style="list-style-type: none"> • Central Equipment facility • Incubation Facility <p>MedTech Centre by BIRAC under BioNEST. MedTech-Centre offers Electronics prototyping Lab</p> <ul style="list-style-type: none"> - Embedded system Boards - Display boards - PnP prototyping module - Biomedical instruments - Measurement devices - Small Board Computers - Wireless devices <p>Software lab</p> <ul style="list-style-type: none"> - COMSOL Multiphysics - National Instruments (Software/ Hardware) - Solid Works Dassault systems - Proteous - MATLAB- Mathworks
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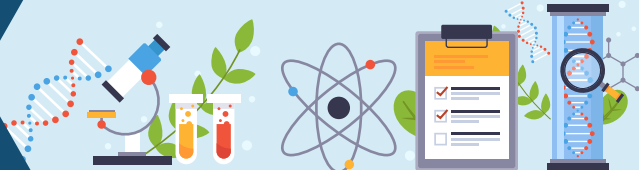
	<ul style="list-style-type: none"> - Fusion 360 - Pico Oscilloscope <p>Mechanical lab</p> <ul style="list-style-type: none"> - Lathe Machine and Accessories - Radial Drilling Machine and Accessories - Milling Machine and Accessories - Shaping Machine and Accessories - Bench Grinding Machine and Accessories - Hacksaw Machine - Hydraulic Unit for Hacksaw Machine - Electricals, Guard, Blade and Vice for Hacksaw Machine.
Scientific support services	<ul style="list-style-type: none"> • Mentorship • Funding • IP Cell • IT services • Environmental health and safety • Training in Bio-entrepreneurship. • Consulting in Agriculture Food and Nutrition
Advisory and mentoring services	<p>Bangalore Bioinnovation Centre (BBC) has launched “Karnataka Startups Advancement Programme (K-SAP Bio-50) to mentor and hand-hold select 50 bio-startups during the three years of the programme period through structured mentorship to increase their odds of success. K-SAP Bio 50 is an acceleration program and does not include incubation. Also advises through (TARG - Technical Advisory Resource Group) committee.</p>
Information services (library, database access)	<p>Currently, incubatees use library services offered by academic institutions in the campus, Institute of Bioinformatics and applied Biotechnology (IBAB) and Centre for Human Genetics (CHG).</p>











About the Team

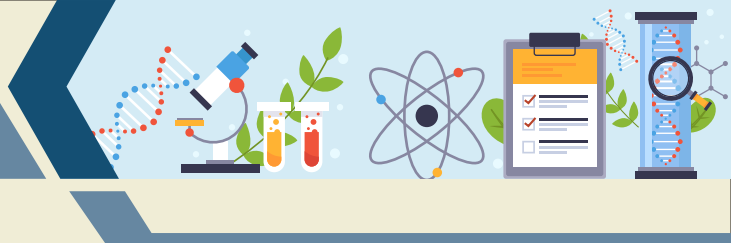
- Dr Jitendra Kumar, Managing Director - Dr Kumar holds a PhD degree in Biotechnology from Institute of Microbial Technology, Chandigarh, a prestigious national laboratory affiliated to Jawahar Lal Nehru University, New Delhi. He holds a MBA degree from prestigious Fisher College of Business at Ohio State University. Currently he is working as Managing Director of Bangalore Bioinnovation Centre. He is working closely with Karnataka Biotechnology and Information Technology Services(KBITS), Department of IT, BT and S&T, Govt of Karnataka, to create a vibrant Life Sciences Innovation cluster in Bangalore.
- Mr Adarsh DP, Project Co-ordinator -BE (Medical Electronics) & Mtech (Nanotechnology) He has 7 years' experience in the field of Bio-Medical engineering. He started his career with Coherent Medical Systems. Then he got placed at Fortis Hospital, Bannerghatta Road, Bangalore as a Senior Biomedical Supervisor which is JCI (Joint commission International) and NABH (National Accreditation Board for Hospitals) approved hospital. He also worked at Dr Malathi Manipal Hospitals which is also a NABH approved hospital as a Head of Biomedical department.





Star Incubatees in Incubator

Logo & Picture	Description about the startup & technology/product
	Development of devices for detection of blood glucose, Haemoglobinetc
	Use Artificial Intelligence and machine learning to develop diagnosis of cervical cancer
	Development of Device for detection of Diabetic neuropathy
	Development of Point of care device for blood analysis
	Development of 3 D bio-printer and technology for 3 D bio-skin production
	MEDEV Plus is engaged in redefine diagnostics and therapeutics by developing deep technology devices that can be accessed from anywhere and anytime. To reduce progressive blindness by detecting Glaucoma
	Alfaleus is involved in the innovation of the device C3FA is the worldfirst clinically validated portable visual field perimeter. The Visual Fieldperimeter testisperformedinawearableheadsetformatandisadministered using a tablet. It is a modern-day equipment replacing old-fashioned technology for visual perimeter testing and helps to measure all are as ofyour eyesight, including your side, orperipheral, vision.
	Prayastais engaged in the development of the medical grade silicone printer to manufacture personalized breast prostheses and implants and they have developed the silicone 3D printer and assembled it too and are ready to start printing the personalized breast prostheses for mastectomy survivors.



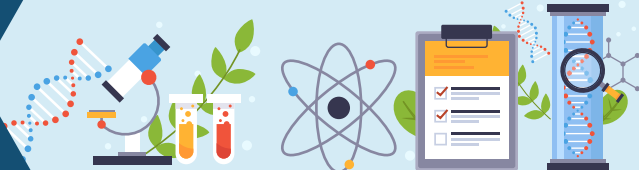
Foundation for Innovation and Technology Transfer IIT Delhi

About the Incubator: FITT is the foremost Technology Commercialization unit and a prominent incubator in the country which leads the northern cluster of BioNEST incubators. IIT Delhi created FITT as a special purpose vehicle to facilitate research translation, technology development, technology transfer & commercialization, industry engagement, project management, startup incubation & mentoring activities. FITT commenced its mission in 1992 and has been actively contributing to the ecosystem for almost three decades. It facilitates the National Biopharma Mission's Innovation Technology Transfer regional office (iTTO) and is also a partner in various BIRAC programs like the Biotechnology Ignition Grant, SEED, LEAP, and SPARSH SIIP. It is sector neutral, however, the central focus areas of the bio-incubator are Medical devices and diagnostics.

- **Location-** Indian Institute of Technology Delhi, Hauz Khas, New Delhi 110016
- **Total space (Incubation, Lab space, common area, etc.)-** The current BioNEST, the Biotechnology Business Incubation Facility, spans 4500 sq. ft. A site of about 25,000 sq. ft. is dedicated to the new BioNEST facility in the Research and Innovation Park building of IIT Delhi. Out of this space, 12700 sq. ft. is leasable to the startups. The lab area with shared facilities shall comprise another 7300 Sq. ft. and the remaining 5000 sq. ft. space includes the meeting and convention facilities.
- **No. of Incubatees supported till now—40**
- **Total Products/technologies commercialized-**
 - a. Number of products commercialized = 40+
 - b. Number of IP backed services offered by start-ups = 2
- **Total IPs facilitated- 35+**
- **Rentals—INR 100/Sq. Ft of space allocated.**

Facilities offered and unique features-

General infrastructural services	The FITT-BioNEST 2.0 has a dedicated area of 25,000 sq. ft. (including shared facilities) at the R&I Park in the IIT Delhi Campus. The new setup has 24 dedicated lab cum office spaces and 36 workbenches for startups and individual innovators. The facility of a shared biology lab, fabrication lab, and calibration lab for medical devices are being created to accelerate the product development by meeting most of the requirements of prototyping in-house at the incubator.
Scientific support services	FITT works in various aspects of technology commercialization and provides comprehensive support to academic startups and first-gen-entrepreneurs. Each startup is linked to a faculty member at IIT Delhi to facilitate technical mentoring. Engineering and prototyping facilities in the same building shall complement the Instrumentation available at BioNEST, and the advanced central instrumentation facilities at the Institute are also made available for startup use.



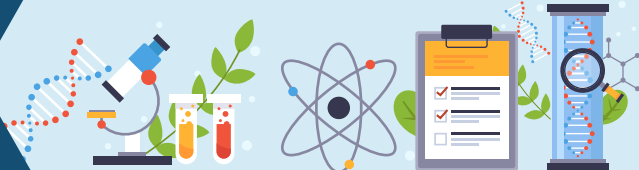
Advisory and mentoring services	End-to-end IPR and tech transfer, technology development support through the innovation Technology Transfer Office, relevant Industry connections, regulatory and legal guidance, access to mentors.
Information services (library, database access)	<p>As part of the institute community, the startups can use the intranet to access online library resources, including many academic journals and databases.</p> <p>The startups are also able to use the High-Performance Computing platform of the Institute for their R&D work.</p>

Collage of the facilities



Upcoming Building:





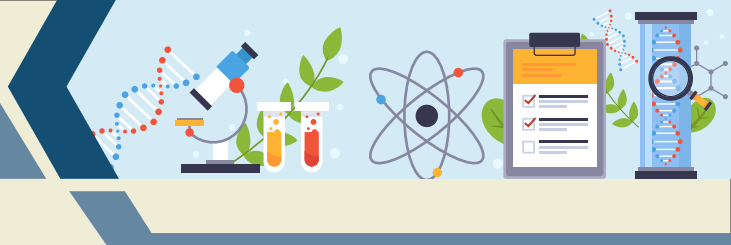
About the Team

The FITT team is led by its MD, Dr. Anil Wali, a seasoned professional with two decades of industry experience and more than 15 years of experience as the head of FITT. Besides having strategic customer and quality orientation, he has multifaceted expertise for R&D management, technology development and licensing, infrastructure & project issues, opportunity assessment, entrepreneurship, IPR policy and strategy, open innovation, training, etc.





The BioNEST team comprises four members working full time and managing the Bioincubation and related programs. The team members are technically qualified in the Biotechnology sector and have multiple years of experience managing incubator operations. FITT's other members from iTTO (IPR and legal support), finance team (accounting and financial management) complement the team.

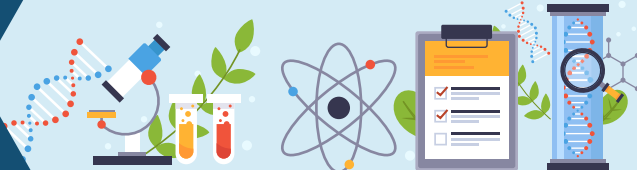


BiONEST Team at FITT, Left to right: Mr. Gautm Kumar, Dr. Ashutosh Pastor, Dr. Anil Wali, Ms. Sanskriti Pawan, Ms. Namrata Tyagi and Ms. Surbhi Awasthi.



Star Incubatees of Incubator

Logo & Picture	Description About the startup & technology/product
	<p>WrigNanosystems</p> <p>WrigNanosystems, a Bioelectronics and Biosensors company launched the the True Hb Hemometerbased on the principle of reflectance photometry.This compact device can provide quick digital readings of hemoglobin levels from blood sample and can be used in household settings. WrigNanosystems raised more than INR 15 Cr. of investments and has employed close to 100 people in recent times.</p>
	<p>Clensta International</p> <p>Clensta International is working towards providing accessible hygiene with their major products the waterless body bath and waterless shampoo. Defense forces, patients, and adventure enthusiasts who often may not have the option to take a bath with water find the product useful. The team is also working on edible toothpaste and homecare products in concentrate forms to reduce plastic waste. Clensta has cumulatively raised about INR 8 Cr. of funding and has employed more than 25 people</p>
	<p>Redroom Technology</p> <p>Redroom Technology, popularly known as Sanfe,provides feminine hygiene solutions starting with their product Stand and pee for women to prevent UTIs due to dirty toilets. The team has since then launched various products for feminine hygiene. The startup has raised more than INR 10 Cr. and employed more than 40 people.</p>
	<p>Flexmotiv Technologies</p> <p>Flexmotiv Technologies, working in assistive technologies space, has developed a self-standing axillary crutch, a unique crutch designed to mimic the human leg and foot. The crutch improves the surface adaptability and can operate in various terrains where the round tip crutch could not navigate. Apart from specially abled, the product is also helpful for patients having spinal cord injury, fracture, and arthroplasty of Knee and hips joints.</p>



विज्ञान से विकास-प्रौद्योगिकी से प्रगति

Road Shows organized by BIRAC

ROLE OF INNOVATIVE TECHNOLOGIES TO HELP RESOLVE MALNUTRITION IN INDIA

Organised by, SINE-IITB

Date: 9th July, 2021, 4:00 PM

The webinar organized by SINE-IITB, highlighted the role of innovative technologies in combating India's **malnutrition issues** in the context of government policies and funding opportunities provided by DBT and BIRAC.

The panelists shared their experiences and insights and helped entrepreneurs to identify the key challenges and opportunities available to them in this domain. A young start-up in the field shared its experience in innovating solutions to improve nutritional health in mothers and young children. The webinar brought into focus on the key unmet needs in Indian society, so that entrepreneurs can develop solutions that have a far-reaching social impact. The webinar covered the challenges in overcoming the malnutrition issues while also highlighting the governmental policies and funding opportunities that exist to help young innovators come up with deployable solutions.

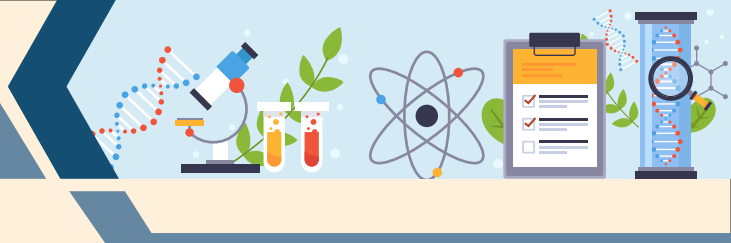


Power Hour with SINE
Biotech Series

Azadi Ka Amrit Mahotsav

			
Prof. Satish Agnihotri Professor, CTARA IIT Bombay	Dr. Manish Diwan Head - Strategy Partnership & Entrepreneurship Development (SPED) BIRAC, DBT	Dr. Saugandha Das Co-Founder Edhao innovations	Dr. Anant Bhan Adjunct Professor, Yenepoya University MODERATOR

Role of innovative technologies to help resolve malnutrition in India



VIGYAN SE VIKAS- SHOWCASING POTENTIAL, JOURNEY AND IMPACT OF BIOTECHNOLOGY ON THE SOCIETY

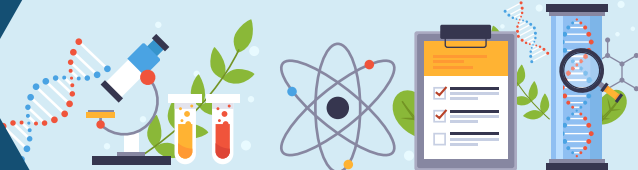
Organised by, C-CAMP

Date: 14th July, 2021

C-CAMP organized the event “**Vigyan se Vikas - Showcasing Potential, Journey and Impact of Biotechnology on the society**” on 14th July, 2021 under the banner of “**Azadi Ka Amrit Mahotsav**” to highlight the facilities, infrastructure and different models of BioNEST start-up ecosystem enablers in Karnataka and their functioning models. C-CAMP partnered with all the BioNEST incubators of Karnataka to showcase the bio-incubators and its facilities.

The event impacted the scientific community by encouraging them to take up entrepreneurship at early level. The sessions highlighted the roadmap to create innovation and scaling up. The availabilities of resources enabled participants with more information under diverse focus area of science.





HTIC HEALTHCARE CONCLAVE

Organised by, IITM HTIC MedTech Incubator

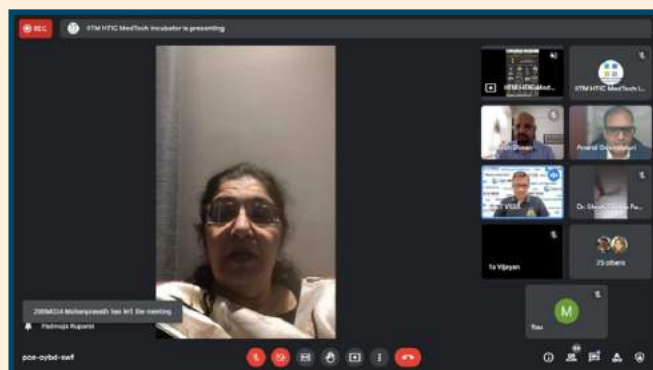
Date: 21st July, 2021, 10AM

HTIC MedTech Incubator launched the “HTIC Healthcare Conclave” series in April 2021 and the second conclave was held on 21st July, 2021. The series is aimed to bring successful entrepreneurs, technical and business experts from different domains under healthcare to share insights and to discuss the upcoming trends, Innovation, technologies, and bottlenecks.

The conclave had following two panel discussions:

- Building start-up ecosystem through academic institutions (Student and Faculty Startups: Infrastructure, Industry Mentorship and Government Initiatives)
- Digital Solution and Digital Wearable's in Healthcare.

Technology is one of the prime sectors focused by the **Azadi ka Amrit Mahotsav**, hence, the objective of the conclave is to develop technology start-ups in India which would result in bringing newer technologies and solution to the Indian ecosystem eventually making the nation self-reliant in the healthcare space.



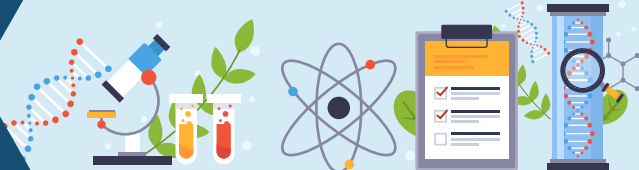
OPPORTUNITIES IN AGRICULTURE ENTREPRENEURSHIP

Organised by, DBT-ILS Bioincubator

Date: 11th August, 10.00 AM

BIRAC supported DBT-ILS bioincubator organized an event “opportunities in agriculture entrepreneurship” with the aim of contribution to “विज्ञान से विकास—प्रौद्योगिकी से प्रगति” by creating awareness in the field of agriculture entrepreneurship, highlighting the interventions and innovations existing in the field, and thereby opportunities available to aspiring entrepreneurs.

The aim of the event was to show new ways for the aspiring and existing entrepreneurs. With a goal to build awareness around the broad array of opportunities and current innovation trends in agriculture biotechnology available to start-ups,



researchers and academicians at DBT- ILS as well as other organizations in the region. Benefitting the participants from a free interactive session with eminent experts in the area of agro technology.



BETTER WITH BIOTECHNOLOGY

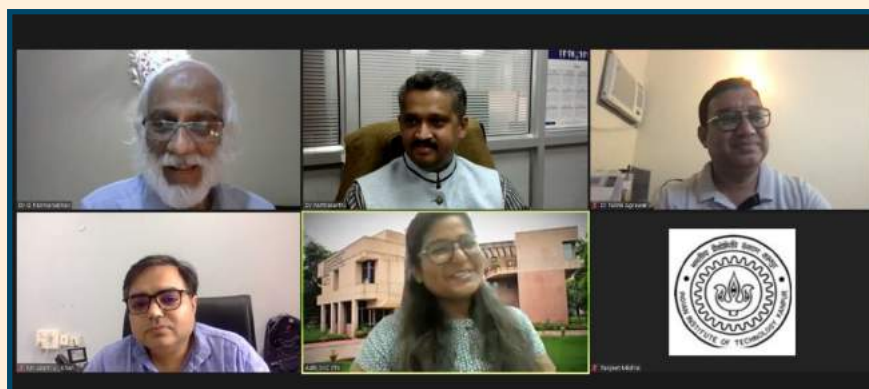
Organised by, IIT Kanpur Bioincubator

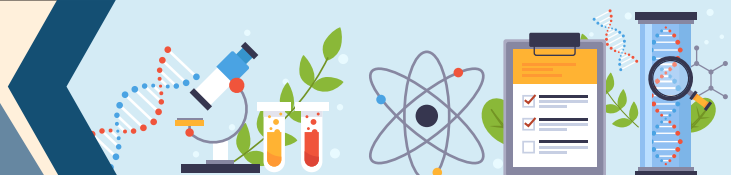
Date: 11-13th August, 201, 5:00 PM

The three-days event was organized by IIT Kanpur bioincubator to celebrate and highlight the important role played by Biotechnology Industry in boosting India's economy post independence, relating the event to "Azadi ka Amrit Mahotsav". The event focused on highlighting the ecosystem established by BIRAC to support Bio-entrepreneurs in North region and showcasing Biotech based start-ups in the regions.

The event had three keynote sessions on:

- Journey and Impact of Biotechnology on Indian society
- India 2.0 | Unleashing the potential of Biotechnology for covidized India
- Emerging trends in Biotechnology that will rule the industry for next 25 years.





SCIENCE SETUStartup SERIES

Organised by, BSC BioNEST Bio-Incubator (BBB)

Date: 20th August, 2021, 12.00 PM

The online virtual, **Science SetuStartup Series** event was organized by BSC BioNEST Bio-Incubator on the topic “**Entrepreneurship Challenges & Opportunities**” to showcase the ‘Success Stories of Indian Biotech Start-ups’ and also focusing on the journey of an entrepreneur and the challenges faced on the way. The event involved 120 participants. The event generated awareness about entrepreneurship and current start-up ecosystem of the country. And also provided new direction to the future entrepreneurs of the country.

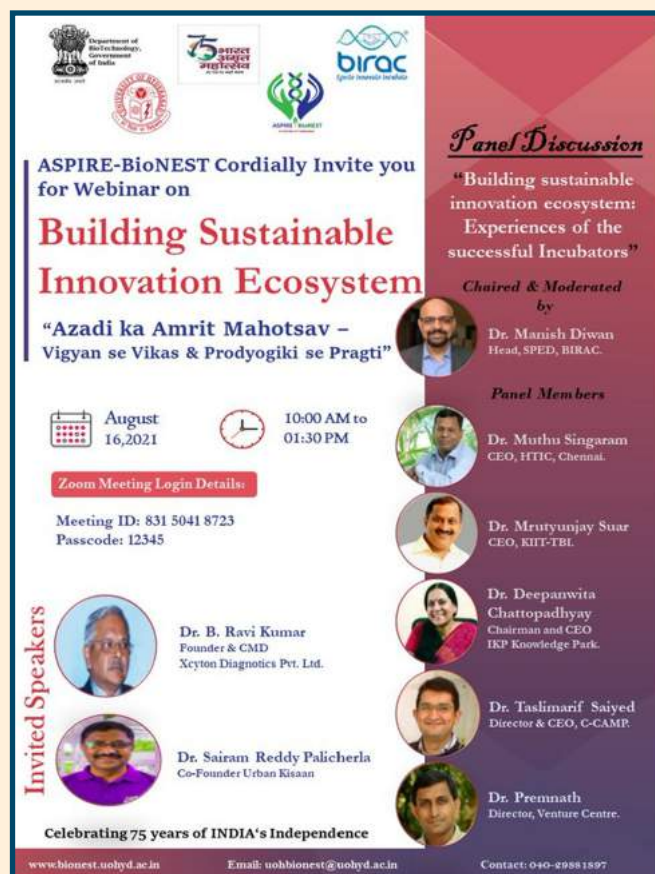
BUILDING SUSTAINABLE INNOVATION ECOSYSTEM

Organised by, ASPIRE-BioNEST, University of Hyderabad

Date: 16th August, 2021, 10:00 AM

The event discussed about the support ecosystem provided by the Govt. funding bodies to nurture and encourage the budding entrepreneurs in creating wealth from indigenous innovations.

The event consisted two components; 2-3 expert lectures by successful industrialists, and a panel discussion on “Building sustainable innovation ecosystem: Experiences of the successful Incubators”. The panel discussion was moderated by HeadSPED BIRAC Dr. Manish Diwan and expert panel members were the heads of 5 leading incubator who are supported by BIRAC i.e., Venture Center – Pune, KIIT-TBI Bhubaneswar, IKP-Hyderabad, HTIC-Chennai, C-CAMP – Bangalore. Invited Experts were the recently grown start-ups and who are successfully running the business. Hence, the event involved sharing the experiences of successful start-ups who took the help from the generated ecosystem and discussing the nuances of establishing and troubleshooting, for creation of successful incubator.



ASPIRE-BioNEST Cordially Invite you for Webinar on

Building Sustainable Innovation Ecosystem

“Azadi ka Amrit Mahotsav – Vigyan se Vikas & Prodyogiki se Pragti”

August 16, 2021 | **10:00 AM to 01:30 PM**

Zoom Meeting Login Details:
Meeting ID: 831 5041 8723
Passcode: 12345

Invited Speakers

- Dr. B. Ravi Kumar**
Founder & CMD
Xcyon Diagnostics Pvt. Ltd.
- Dr. Sairam Reddy Palicherla**
Co-Founder Urban Kisaan

Panel Discussion
“Building sustainable innovation ecosystem: Experiences of the successful Incubators”
Chaired & Moderated by

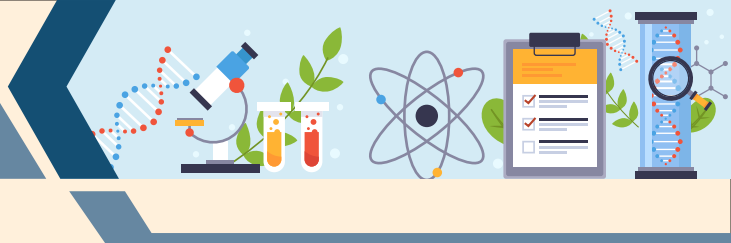
Dr. Manish Diwan
Head, SPED, BIRAC.

Panel Members

- Dr. Muthu Singaram**
CEO, HTIC, Chennai.
- Dr. Mrutyunjay Suar**
CEO, KIIT-TBI.
- Dr. Deepanwita Chattopadhyay**
Chairman and CEO
IKP Knowledge Park.
- Dr. Taslimarif Saiyed**
Director & CEO, C-CAMP.
- Dr. Premnath**
Director, Venture Centre.

Celebrating 75 years of INDIA's Independence

www.bionest.uohyd.ac.in | Email: uohbionest@uohyd.ac.in | Contact: 040-29881897



WEBINAR ON “FROM A RESEARCHER TO AN ENTREPRENEUR”

Organised by, BioNEST-BHU, Banaras Hindu University, Varanasi

Date: 21st August, 2021, 3:30 PM

BioNEST-BHU organized an expert talk through webinar on 21st August 2021, with an aim to help, promote, support, and mentor the potential innovators and entrepreneurs. Guest speaker of the webinar was Prof. Anil K. Gupta, former Professor, IIM Ahmedabad and IIT Bombay. Ph.D. (Management), MSc. Biochemical Genetics. The event involved participation of students, faculty members, researchers, innovators, aspiring entrepreneurs. The objective of the event was to contribute towards Atma Nirbhar Bharat by creating awareness on entrepreneurship and promoting start ups in the area of biotechnology and help in the building of “Atma Nirbhar Bharat”.



From a Researcher to an Entrepreneur

Are you aspiring to become an innovator or entrepreneur, and willing to contribute towards 'Atma Nirbhar Bharat'? In our aim to help, promote, support and mentor the potential innovators and entrepreneurs, BioNEST-BHU invites you to join a webinar on,

**Research, Innovation & Entrepreneurship:
Redefining Imaginative Landscape**

Speaker:
Prof. Anil K Gupta, Founder, The Honey Bee Network, National Innovation Foundation, SRISTI and GIAN, Ahmedabad

Welcome Address:
Prof. Anil K Tripathi
Coordinator BioNEST-BHU
Director, Institute of Science
Banaras Hindu University, Varanasi.

Contact: Saikat Sen, Chief Executive Officer, BioNEST-BHU, biocest@bhu.ac.in, www.bionestbhu.org

Registration link: <https://forms.gle/87z7FeU8Sd1oJ2UK6>

Time & Date: 21st August 2021 (Saturday) 15:30 hrs

LAUNCH OF HEALTHXCEL - ACCELERATED PRE INCUBATION PROGRAM

Organised by, BITS BIRAC BioNEST, Goa

Date: 7th September, 2021, 5:30 PM

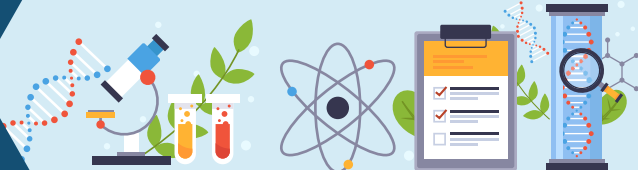


Grand Launch of HealthXcel
ACCELERATED PREINCUBATION PROGRAM FOR HEALTHCARE STARTUPS

5:30 PM : 7th SEP 2021
REGISTER NOW
https://bit.ly/healthxcel_launch

VIGYAN SE VIKAS
Fireside chat with
Vibhav Joshi
Co-founder & Director,
Child & Maternal Health, India

BITS BIRAC BioNEST Goa, launched “HealthXcel - Accelerated Preincubation Program”. on the occasion of 75 years of India's Independence celebration as it relates good health to a freedom from illness. It is a 12 Week hard-touch program with advanced start-up tool kits helping idea stage entrepreneurs to validate and scale their innovations. The initiative is believed to showcase the potential & impact of the healthcare start-ups in India. It would help in generating awareness among the participants about various schemes and opportunities of DBT-BIRAC and other government programs. The program encouraged handholding of around 12-15 ideas/start-ups, partnerships between Innovators and Corporate/ Government and capacity building of aspiring entrepreneurs.



FROM GLORY TO GLORIOUS: EMPOWERING SOCIETY THROUGH INNOVATIONS

Organised by, TIDES Bioincubator, IIT Roorkee

Date: 24th September, 2021, 03:00 PM

The event was organized to commemorate the journey and the impact of life science innovations in the development of Indian society. And to provide the opportunity and a platform for academicians, researchers, students, and common people of India to discuss and learn about the glorious past of Indian science. The analysis of past and future development requirements will pave the path to bring new innovations in the life science domain.

Post independence of India, the continuous advancement in the Life science domain has been instrumental in changing the Indian society at large. Hence, the event was aligned with **Azadi Ka Amrit Mahotsav** as it was mainly related to remembering the achievement of Indian life science, biotechnology, the medical field and related fields with an aim of refining the need and targets for the future, which would lead to **“AtmaNirbhar Bharat.”**



TIDES Bio Incubator
Indian Institute of Technology Roorkee

From Glory to Glorious: Empowering Society Through Innovations

Azadi Ka Amrit Mahotsav
Celebrating 75 years of India's Independence

24th September 2021 | 03:00 PM-05:00PM

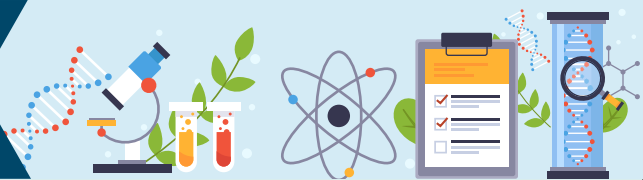
Speakers

			
Prof. Pravindra Kumar HOD-Biosciences and Bioengineering, IIT Roorkee	Dr. Javed Khan Senior Principal Scientist at Bristol Myers Squibb, Princeton, USA	Prof. Rajat Agrawal Associate Dean Innovation and Incubation, IIT Roorkee	Mr. Utkarsh Mathur Manager - Business Development, BIRAC

Panel Discussion

		
Dr. Roop Bhusan Kalia Professor, AIIMS, Rishikesh & Founder-Virbhadra Implants Pvt. Ltd.	Dr. Jagdish Chaturvedi ENT Surgeon, Innovator, Author and Stand-up Comedian	Ms. Bhavya Kaur Co-Founder at Clinikk Chester Healthcare Services Pvt. Ltd.



Yoga Day 2021

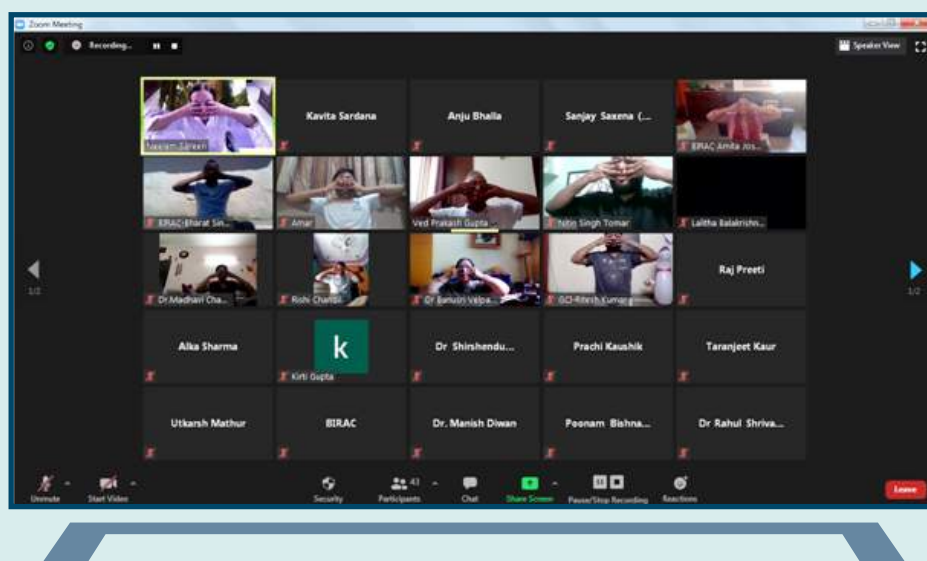
Biotechnology Industry Research Assistance Council (BIRAC) observed 7th International Yoga Day on 21st June 2021.

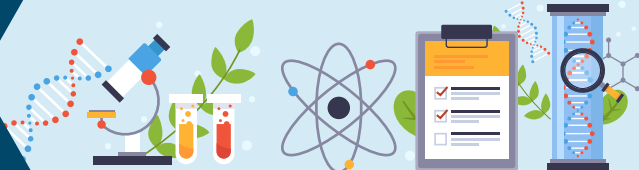
A guided Yoga session through a virtual platform was organized for BIRAC workforce and Yoga's were performed as per the Common Yoga Protocol (CYP) issued by Ministry of AYUSH, Government of India

All officials practiced yoga with enthusiasm as guided by the Yoga instructor, who alongwith guiding through the series of yogasans enriched the emoloyees with the value and benefits of this ancient and modern practice.

Officials were also encouraged to participate in activities being organized by the Ministry of AYUSH.

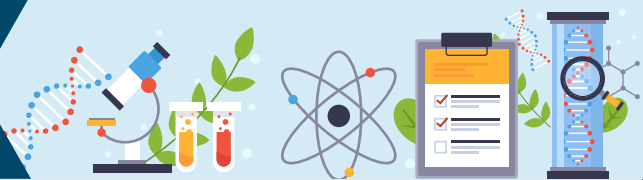
Few glimpses of the activities in regard to Yoga day at BIRAC is given below:





In addition to this, coverage of Yoga Day was uploaded on Twitter handle and Website of BIRAC.

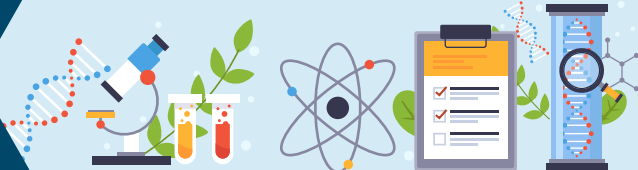




Workshop on Prevention of Sexual Harassment at the workplace [POSH]

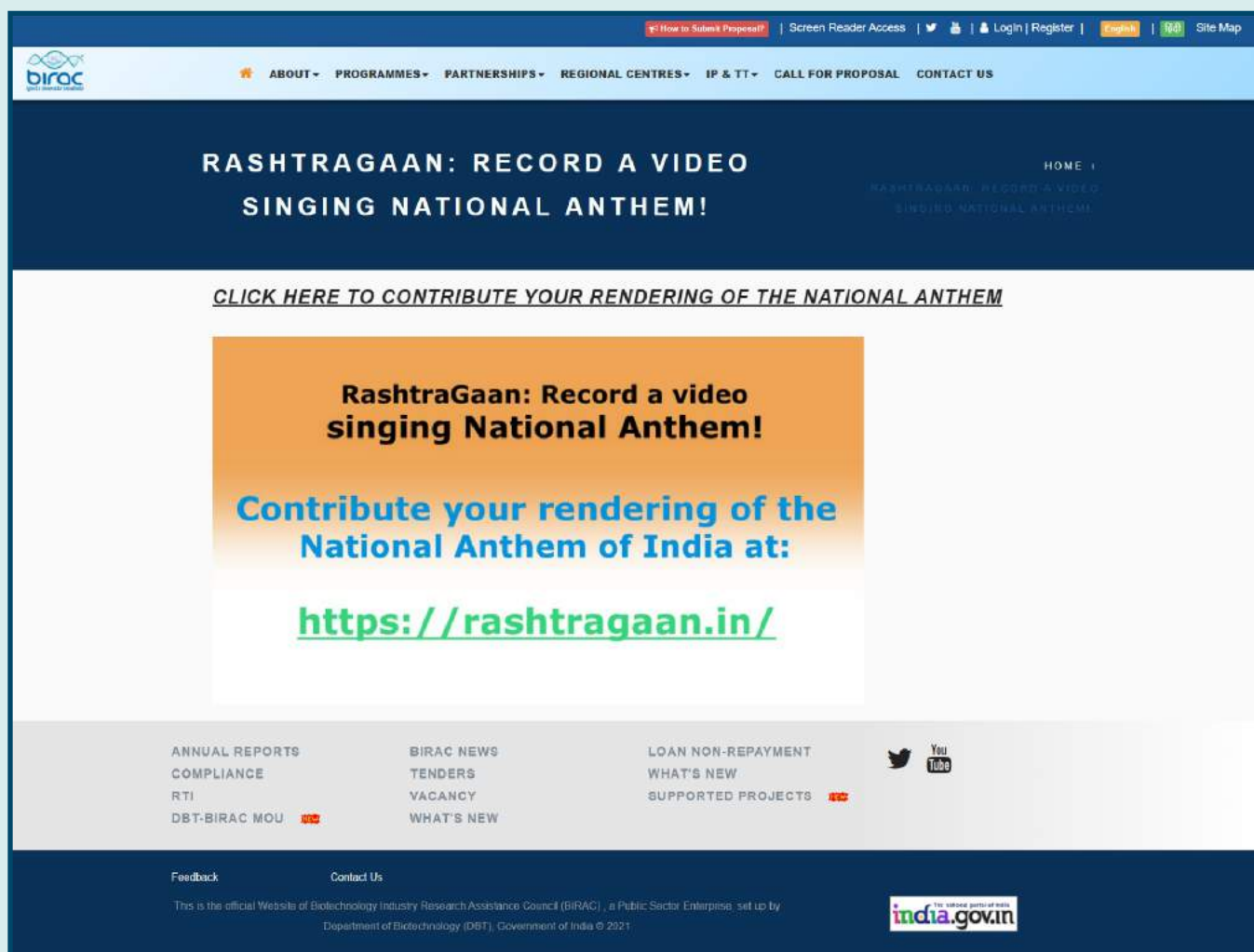
As per the provisions of “Sexual Harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013”, BIRAC organises workshops and awareness programmes at regular intervals for sensitising officials. In-house Workshop on Prevention of Sexual Harassment at Workplace has been organised on 13th August 2021. The workshop equipped officials with necessary skills to combat sexual harassment faced in their daily working life and create a stress free work environment conducive for higher performance. It also helped to understand the legal framework for addressing sexual harassment at the workplace.



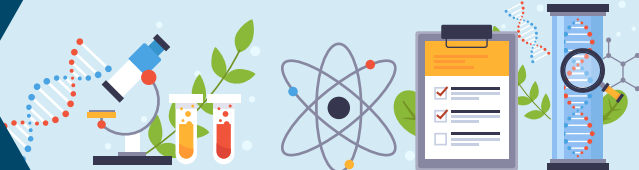


Azadi ka Amrit Mahotsav

BIRAC celebrated Azadi ka Amrit Mahotsav by rendering the "National Anthem of India". Officials of BIRAC recorded the National Anthem on a dedicated portal of Department of Culture. BIRAC disseminated the information by running a band/ticker 'Contribute your rendering of the National Anthem of India at: <https://rashtragaan.in/>' on its website in order to promote the campaign at a large scale.



The screenshot displays the BIRAC website with a prominent banner for the 'RashtraGaan: Record a video singing National Anthem!' campaign. The banner includes the BIRAC logo, navigation links (ABOUT, PROGRAMMES, PARTNERSHIPS, REGIONAL CENTRES, IP & TT, CALL FOR PROPOSAL, CONTACT US), and a call to action to contribute to the National Anthem at <https://rashtragaan.in/>. Below the banner, there are links to various resources such as Annual Reports, Compliance, RTI, DBT-BIRAC MOU, BIRAC News, Tenders, Vacancy, What's New, Loan Non-Repayment, What's New, Supported Projects, and a Twitter/YouTube icon. The footer contains a feedback link, contact information, and the BIRAC logo.



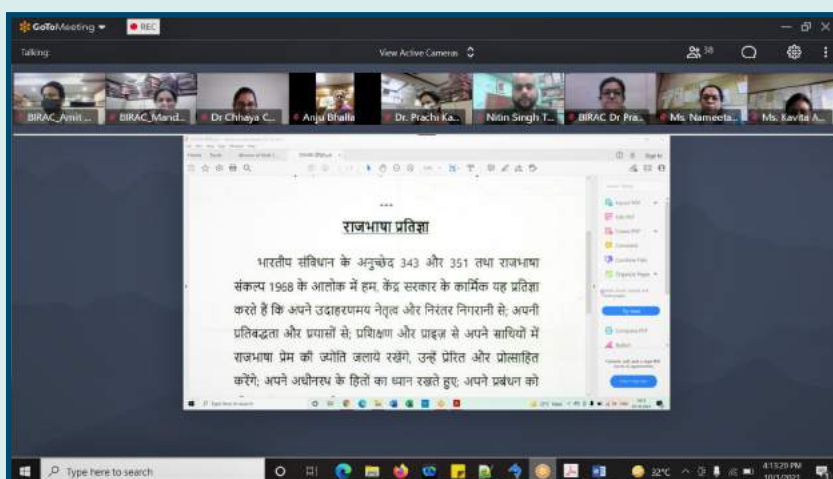
Hindi Pakhwada 2021

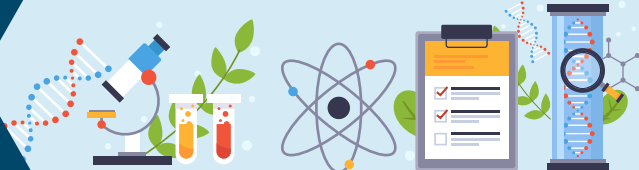
Hindi Diwas is celebrated on 14 September with great pride and vigour as Hindi was adopted as the Official Language of our nation on September 14, 1949.

This year BIRAC observed Hindi Pakhwada from 10th September 2021 to 30th September 2021. To promote and propagate the use of official language, following competitions / activities were organized online during the Hindi month:

1. Hindi workshop on "Importance of Official Language" for the launch of Hindi Pakhwada.
2. Competition on Slogan Writing and Translation of administrative terminology & phrases.
3. Maximum Hindi email communication till **30 September 2021**.

The closing ceremony of the Pakhwada was held on 01st October 2021. Managing Director BIRAC administered the 'Rajbhasha Pratigya' where officials of BIRAC pledged to use, promote and propagate Hindi. All officials participated with great enthusiasm in this event.





Grand Challenges India

Mobile Diagnostic Laboratory - A gift from Maharashtra to Kerala on Ganesh Chaturthi

The DBT and Gates Foundation through the Grand Challenges India mechanism has considered to support and fund the three Mobile Diagnostics labs. The shared investment will support to the 4 buses in 2 investments to establish proof of concept of Mobile Diagnostics Labs. and to consider infrastructure to set up 4 mobile labs, supported by BMGF and DBT. These labs were supported under the Mobile Diagnostic Program for COVID-19 efforts to address the shortage of critical healthcare technologies in India and will enhance country's capabilities in fighting COVID-19.

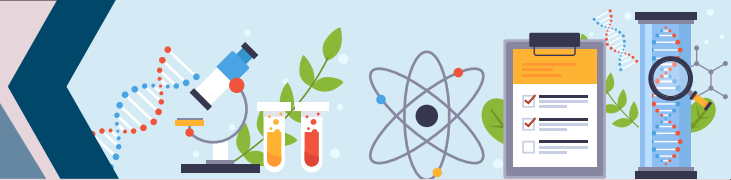
The first investment has supported the private labs models, one is of the labs Pvt Ltd. supported by DBT, which is functional at THSTI and another is that of Kawach, which is designed and developed by a private company based in Mumbai, SciencebyDesignLabsystems (I) Pvt. Ltd., has been sanctioned funds for the fabrication of the mobile testing lab for COVID testing in rural and inaccessible areas of the country.

The Kawach - Mobile Infectious Disease Diagnostic Laboratory has been deployed through the DBT testing hubs at Rajiv Gandhi Centre for Biotechnology, Trivandrum on 10 September 2021, for mobilization to remote regions of Kerala for COVID testing. This lab will accelerate the efforts of the DBT & BIRAC in tackling the COVID pandemic and in the near future with all these collective and cooperative efforts, India will achieve self-sufficiency in healthcare technologies leading towards 'AtmaNirbhar Bharat'.

The mobile lab is a BSL-2 facility with on-site ELISA, RT-PCR, Biochemistry analysers. The current format allows for approximately 100 samples to be tested in 4 hours, which means 200 samples in an 8-hour shift. It can be deployed in remote areas and can be lifted from automotive Chassis and can be put on a goods train for sending to any location in the country. The BSL -2 Lab is as per NABL specifications and is being attached to DBT's certified Testing centres. The unique feature of these mobile testing labs is their utility in diagnosing other infectious diseases beyond the Covid period.

The facility is equipped with Healthcare Monitoring Solution which enables better patient management leading access to personalized care.





National Biopharma Mission

NBM-BIRAC RTTO's playing a critical role in commercialization of technologies and fostering national innovation ecosystem.

The National Biopharma Mission also caters to support the establishment and strengthening of Technology Transfer Offices (TTOs) that are less addressed, but vitally needed requirement of academic research bodies and innovation clusters to build institutional capacity in Innovation management and Technology transfer. Technology transfer strengthening is a long-time commitment and NBM has dedicated significant resources for creation of technology transfer office framework and strengthening technology transfer professionals for the advancement of publicly funded research.

7TTO's, designated as Regional Technology Transfer Offices (RTTOs) have been established by NBM to focus on defined territories to function as strategic drivers of innovation and vitally engage with number of affiliate and non-affiliate institutions to bring in transformative approach for recognition of the value of academic research results and assist in their translation to markets.

Since its inception, NBM has been supporting many capacity-building initiatives with the Society for Technology Management (STEM), the Indian association of technology transfer professionals, and a member of the Alliance of Technology Transfer Professionals (ATTP). This has led to expanding the pool of Registered Technology Transfer professionals in India and till date, NBM has supported **17 members** in attaining their RTTP certifications.

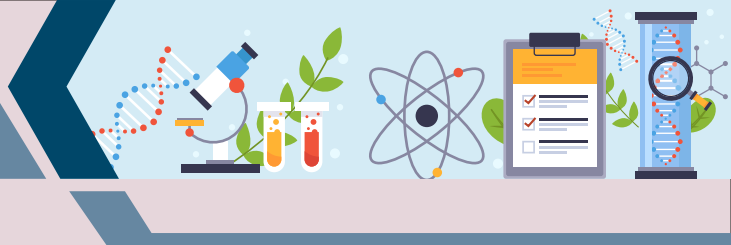
The RTTOs have been supporting commercialization of several technologies across life sciences including Pharma, MedTech and Agribio including technologies related to COVID-19 management through technology showcasing events and discussions with several potential partners. The RTTOs have been engaging with several academic institutes and industries that have led to the commercialization of some of these technologies as indicated below:

TechEx.in:

In July 2021, TechEx.in, the RTTO operated by Venture Center, Pune and supported by BIRAC under the National Biopharma Mission, actively facilitated and successfully closed an option agreement or evaluation license between a National laboratory and a Mumbai based Startup company for novel anti-viral molecules. This agreement marks the first technology transfer agreement for the National laboratory involving a patent portfolio. As part of the arrangement, the licensee shall be bearing all patent costs for the portfolio.

TTO@BCIL:

Technology for 'White Rust Resistant Oilseed Mustard (Brassica juncea) developed by the University of Delhi, South Campus (UDSC) with the support of Department of Biotechnology (DBT) has been licensed to M/s Pioneer Hi-bred Private Limited, India in June, 2021. Technology Transfer Office at Biotech Consortium India Limited (BCIL) facilitated licensing of the technology assigned by Biotechnology Industry Research Assistance Council (BIRAC) to BCIL for transfer to seed companies.



i-TT0:

Sub-surface porous vessel with hybridized composting”, a Rural Technology Action Group (RuTAG) funded technology on “Controlled porosity frustum shaped subsurface vessel with hybridized compost patch” at the Indian Institute of Technology Delhi, was licensed to a start-up created based on this technology, M/s. Unnada Private Limited. The licensing was done through RuTAG's management agency, the Innovation-Technology Transfer Office.

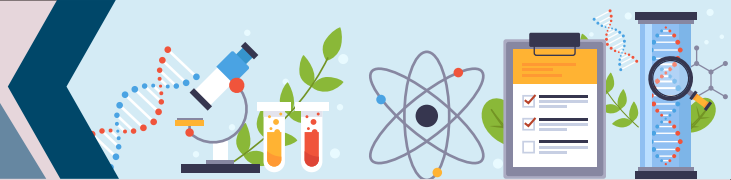
OTT:

Technology from InStem concerns bee venom fractions for dermatological applications. The know-how for isolating and purifying non-toxic fractions from bee venom that has anti-inflammatory molecules and therefore confers dermatological benefits, has been licensed to a spin off company, Aiyon Products Private Ltd. Regulatory clearances of the product are being completed before it is launched in the commercial market.

KIIT-TBI:

Microfluidics based chip development for real time PCR” was developed at KIIT School of Biotechnology, Bhubaneswar by Prof. Mrutyunjay Suar (Principal Investigator, Licensor) and was transferred to Huwel LifeSciences Pvt Ltd, Hyderabad (Licensee) in an exclusive royalty free license agreement by the Technology Transfer Office at KIIT-TBI.





Asia specific 15 valent Pneumococcal Polysaccharide - CRM197 Protein Conjugate Vaccine

1. Introduction about the company and product

Tergene Biotech Private Limited is a start-up company in Hyderabad, India developing a 15-valent Pneumococcal Conjugate Vaccine (PCV-15). PCV project was initiated in the year 2010. The company is promoted by Dr M Kuppusamy, a scientist who has been working on vaccines for almost 40 years since start of his career. The Vision of the company is to deliver quality and cost-effective biologics to cater the unmet medical needs of our country and the Mission is to improve the quality of life and create a healthier world.

To establish the proof of concept of PCV -15, Tergene received funding from DBT, Govt. of India and demonstrated the technology successfully to DBT in a span of two years' time. Recognizing the novelty of the technology, Tergene was awarded the "BIRAC's Innovator Award – 2013". In the year 2015, Tergene became a subsidiary of Aurobindo Pharma Ltd.

Phase I and II Clinical studies of PCV-15 have been successfully completed and



PCV Vial Line

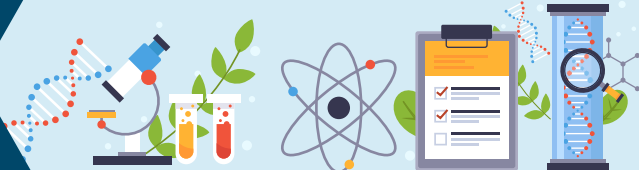


5_Pneuteger15

the studies have been funded by BIRAC under the National Biopharma Mission(NBM). Further clinical development is also funded under NBM. Tergene has now initiated the Phase III Clinical trial of PCV-15 in June 2021 post receiving DCGI approval. The vaccine is being targeted for WHO PQ in order to qualify for Indian Govt/ UN supply as PCV falls under the high priority vaccines list of Indian Government and WHO. Commercial manufacturing facility for PCV is ready with a capacity of 100 Million doses, which can roll out the product once marketing approval is issued.

2. Innovation, National/ Societal Relevance

The process technology of PCV is developed in-house. Technology involves production of antigens and formulation of a 15-valent PCV which will give nearly 80% protection in the Asian region. Tergene has chosen (CRM-197) as carrier protein which is nontoxic and has proven immunogenicity. Tergene has been able to produce non-recombinant CRM-197 whose cost of production is several times cheaper than recombinant-DNA based production technology.

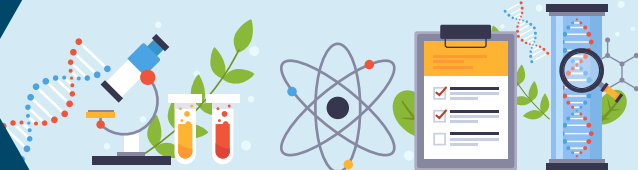


Every year, Pneumonia kills more than 8 lakh children under five, globally and India contributes about 16% (1.27 lakh) of deaths. The project will ensure sustainable and committed supply of affordable PCV vaccine for public immunization in India. With the expansion of full immunization coverage in India under Mission Indradhanush, societal impact will include gradually averting all pneumonia caused deaths in the vaccinated birth cohorts; and potentially averting all deaths in children below five. Finally, the broader serotype coverage with inclusion of two additional serotypes in Tergene's PCV15 vs the currently available products PCV13 and PCV10 will ensure protection that is more robust for the Indian population and will offer a more effective protection vs this deadly bacterial disease that is caused by more than 90 serotypes.



PCV Manufacturing Plant

With respect to pricing for public health programs, Tergene will match lowest contracted price for GAVI procurement but offer at the same price a 15 valent vaccine with broader coverage.



MAKE IN INDIA FACILITATION CELL FOR BIOTECHNOLOGY



BIRAC's 10th Innovators Meet

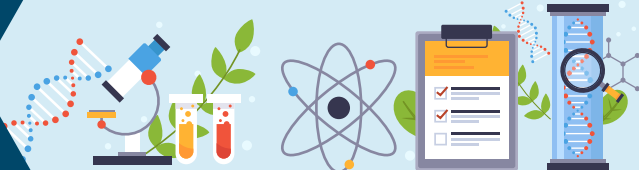
India's bioeconomy increased from \$28 billion in first quarter of year 2021 to \$53 billion in the third quarter as per the latest update provided by Association of Biotechnology Led Enterprises (ABLE). The number of startups have also grown from 4237 in the year 2020 to 5079 in 2021.

- Make In India Facilitation Cell for Biotechnology released three sectoral reports/publications at BIRAC's 10th Innovators Meet held on 28th September 2021, through a Virtual Platform. Hon'ble Minister Dr. Jitendra Singh, Minister of State (Independent Charge) of the Ministry of Science & Technology and Earth Science along with Dr. Renu Swarup, Secretary DBT and Chairperson, BIRAC and Ms. Anju Bhalla, Managing Director, BIRAC, in the presence of officials from DBT & BIRAC, unveiled the three sectoral reports/publications:

INDIA BIOECONOMY REPORT (IBER) 2021 (JAN-SEPT) provides an overview of Biotech sector's performance and economy.



Make In India Brochure



MAKE IN INDIA BROCHURE, showcases the key activities towards implementation of National Missions such as, Make In India, Startup India and Policy Support from Government of India for the Biotech Sector.

BIRAC's IMPACT BOOKLET provides the current status and growth perspective of India's Biotech Startup Ecosystem.

- Stakeholders Meeting for Link for access to reports: MII Reports Telemedicine, mHealth, Digital Health Grand Challenge: A brain storming meeting of experts was organized by Make In India Cell on 21st September 2021 for formulation of the Grand Challenges Program to support 75 Innovations on Telemedicine/ mhealth/ digital. Several subject matter experts & ecosystem enabling stakeholders participated in the meeting to deliberate upon the matter. key thematic areas recommended the RFP for this challenge include alignment with Ayushman Bharat, National Digital health mission program. Priority can be given to innovations that are affordable, scalable and have potential to impact the healthcare delivery. The challenge to support 75 innovations was launched at BIRAC's 10th Innovator Meet on 28th September 2021.



India Bioeconomy Report (IBER) 2021



BIRAC's Impact Booklet



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