



DEPARTMENT OF BIOTECHNOLOGY  
Ministry of Science & Technology  
Government of India



Biotechnology Industry Research Assistance Council  
(A Govt. of India Enterprise)



# Global Bio-India 2021

**Transforming Lives**  
**Biosciences to Bioeconomy**

**1-3 March 2021**  
**Digital Platform**

**AGENDA**



# Program

Day 1					
Date	Time	Hall-ATGC	Hall-RNA	Hall - DNA	
1 March 2021 (Monday)	3:45 pm - 4:45 pm	<b>Inauguration of the Event</b> <b>Inauguration of the Exposition</b>			<b>BioPartnering</b> Virtual Meeting Rooms
	4:45 pm - 6:30 pm	<b>Atmanirbhar Bharat Conclave For India and the World</b> (High Level Policy Dialogue) Science & Technology Policy Implementation - Release of National Biotechnology Development Strategy 2025 National Priorities, Success stories, Future Road Map			
	6:30 pm - 7:30 pm	<b>India Fight COVID</b> The COVID-19 Vaccine Journey from Science to Delivery First-in-class   Bio-Manufacturing	<b>International Investors meet</b> Investment trends in India   Challenges & Opportunities	<b>MedTech Regulatory Workshop</b> (6.30 pm - 8.45 pm)	
	7:30 pm - 8:45 pm	<b>Additional focus: mRNA vaccine</b>	(6:30 pm - 8:30 pm)		
Day 2					
Date	Time	Hall-ATGC	Hall-RNA	Hall - DNA	
2 March 2021 (Tuesday)	3:00 pm - 4:00 pm	<b>Health Conclave</b> (Medtech, JANCare, Ayushman Bharat)	<b>Diagnostics - a success story</b>	<b>CEO Round Table</b> (By Invite - Invest India) (3:00 pm - 4:30 pm)	<b>Investors' Virtual Rooms:</b> Health/Medtech Virtual Zone Agritech Virtual Zone Growth Stage Companies Virtual Zone Social Impact solutions Virtual Zone
	4:00 pm - 5:00 pm	<b>Startup Conclave</b> <b>Product Launch - Startups</b>	<b>Phytopharma and Traditional knowledge</b>		
	5:00 pm - 6:00 pm	<b>Launch of Bioeconomy Report   Announcement for PDCs</b>		<b>FIRST HUB</b> (by invite) (6:30 pm - 8:00 pm) (Hall - Proton)	
	6:00 pm - 7:00 pm	<b>Country Focus for ecosystem connect</b> (Panel representing 5-7 countries)	<b>Clean Energy Conclave</b> (Energy - Health Nexus) (5.00 pm - 7.00 pm)	<b>Ensuring Quality: Overcoming CART cells CMC challenges</b> (6:00 pm - 7:30 pm) (Hall - Electron)	
	7:00 pm - 8:00 pm	<b>State Focus: Biotech Clusters</b>			
	7:00 pm - 8:00 pm	<b>Women Entrepreneurs Conclave</b> (7.00 pm - 8.30 pm)	<b>Blue Economy</b>	<b>Pioneer the Possible - Precision Health</b> (India-Sweden Dialogue on Precision Medicine and Data-Driven Life Sciences - by invite) (6:00 pm - 7:30 pm)	

Day 3					
Date	Time	Hall-ATGC	Hall-RNA	Hall - DNA	
3 March 2021 (Wednesday)	2:30 pm - 4:00 pm	<b>Building Capacities for Future India</b> Incubators   Technology Clusters Urjit Clusters   CONES N-BRIC   SAHAJ	<b>AMR &amp; Neglected Diseases</b> (2:30 pm - 3:30 pm)		<b>Bio Partnering:</b> Virtual Meeting Rooms
			<b>Building Entrepreneurial culture</b> Grassroot Innovations for Societal Good (Bharat Ke SITARE, EYUVA) (3:30 pm - 4:30 pm)	<b>Regulation and Policies for Global Convergence</b> (by invite - CDSCO) (3:00 pm - 5:00 pm) (Hall - Electron)	
	4:00 pm - 5:30 pm	<b>Agritech Conclave</b> Kissan Hub   Agri Biotech Cluster (4:00 pm - 5:30 pm)	<b>BIG LEAP</b> (Early stage success stories) (4:30 pm - 5:30 pm)	<b>Enhancing Capacities in MedTech Ecosystem</b> (4:00 pm - 5:30 pm)	
	5:30 pm - 6:30 pm	<b>Valedictory and Award Ceremony</b> Investment commitments to Startups   Announcements <b>GLOBAL BIO-INDIA 2021 AWARD CEREMONY</b> BIRAC's Innovators Awards Best BioIncubator Award Best Startup Award (5:30 pm - 6:00 pm)			
	6:30 pm - 7:30 pm	<b>Emerging Technologies</b> Health   Synthetic Meat   Alternate Dairy Products   Reduction in Carbon Footprint   Efficient Manufacturing   Waste to Value (6:00 pm - 7:30 pm)		<b>Learnings from Pandemic for Future Collaborations US-India in Bio- Pharmaceutical</b> (by invite - USISPF) (Hall - Electron) (6:30 pm - 7:30 pm)	
7:30 pm - 8:00 pm	<b>Global Bio-India 2021 Closing Ceremony</b>				

## **Session: Inauguration of the Global Bio India & Atmanirbhar Bharat Conclave**

*For India and the World*

**Day 1: Monday, 1<sup>st</sup> March 2021**

**Hall ATGC**

**3:45 pm – 6:15 pm (IST)**

*The session will discuss how India's campaign 'Make in India' has translated into "Atmanirbhar Bharat Abhiyaan" to provide resilience and self-sufficiency" to the country. The session will highlight National Priorities, examples from India's experience in turning Covid pandemic challenges into opportunities for developing domestic innovation ecosystem gaining self-sufficiency in requirements e.g., Vaccine, Drugs, Diagnostics, Personal protective equipment (PPE) kits, ventilators, thermal scanners, Masks etc.*

*The transition from the National Biotechnology Development Strategy (NBDS) 2015-20 to NBDS 2021-25 comes when India is aiming to become a USD 5 trillion economy; making for India and the world, ensuring ease of living for the citizens, skilling its youth to become entrepreneurs and job-creators and ensuring equitable and sustainable development. Department of Biotechnology remains committed to providing a special impetus to new knowledge generation and discovery, launching major strategically driven and directed missions, empowering the country's human resource scientifically and creating a strong ecosystem for research, development, translation and commercialization to create a robust bio-economy. The era of biotechnology-driven, socially relevant innovation and technology development becomes evident during COVID-19 outbreak. It will be the key driver of the NBDS 2021-25. We will get to know more as the Strategy document will be released during this session.*

### Minute-to-Minute Programme

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#### 3:45 pm – 4:45 pm Inaugural Session

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**3:45 pm** Arrival of **Hon'ble Union Minister Dr. Harsh Vardhan, Science & Technology; Health & Family Welfare and Earth Sciences** and **Hon'ble Union Minister of Finance & Corporate Affairs Smt. Nirmala Sitharaman** for the Inaugural

**3:45-3:50 pm** Opening Address **Dr. Renu Swarup**  
 Secretary  
 Department of Biotechnology

**3:50-3:55 pm** Global Bio-India Film

**3:55-4:00 pm** Address **Shri Chandrajit Banerjee**  
 Director General  
 Confederation of Indian Industry (CII)

**4:00-4:05 pm** Industry Perspective **Dr. Kiran Mazumdar Shaw**  
 Executive Chairperson, Biocon

**4:05-4:15 pm** Interaction with Start-ups 7 startups who have played an important role in contributing to the Biotech Sector and COVID 19

1. Pandorum Technologies Pvt. Ltd.
2. String Bio Private Ltd
3. Turtle Shell Technologies Private Limited
4. Flexmotiv Technologies Private Limited
5. Bugworks Research
6. ATGC Biotech Private Limited
7. Forus Health Pvt Ltd

**4:15-4:25 pm** Address by Guest of Honor **Hon'ble Union Minister Dr. Harsh Vardhan, Science & Technology; Health & Family Welfare and Earth Sciences**

**4:25-4:35 pm** Address by Chief Guest **Hon'ble Union Minister of Finance & Corporate Affairs Smt. Nirmala Sitharaman**

**4:35-4:45 pm**

- Release of National Biotechnology Development Strategy 2021-25
- Inauguration of the Global Bio-India 2021 and Virtual Exhibition of Global Bio-India by the **Guest of Honor and Chief Guest**

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**4:45 pm – 6:15 pm Atmanirbhar Bharat Conclave: For India and the World**


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<b>4:45-4:55 pm</b>	The Vision of a Atmanirbhar Bharat for India and the World	<b>Dr. Deepak Bagla</b> CEO, Invest India
<b>4:55-5:00 pm</b>	Global Perspective	<b>His Excellency Dr. Ralf Heckner</b> Ambassador, Embassy of Switzerland in India and Bhutan
<b>5:00-5:05 pm</b>	Global Perspective	<b>His Excellency Mr. Martin van den Berg</b> Ambassador, Embassy of Netherlands in India, Nepal and Bhutan
<b>5:05-5:15 pm</b>	Atmanirbhar Bharat – The India Success Story	<b>Dr. Vinod Paul</b> Member Health, NITI Aayog
<b>5:15-5:30 pm</b>	Atmanirbhar Bharat – Our National priorities	<b>Dr. V. K Saraswat</b> Member, NITI Aayog
<b>5:30-5:45 pm</b>	Atmanirbhar Bharat – The International Perspective	<b>Mr. Junaid Ahmad</b> Country Director, World Bank
<b>5:45-5:50 pm</b>	National Biotechnology Development Strategy 2021-25	<b>Prof. M Vidyasagar,</b> Chair, NBDS Formulation Group, Distinguished Prof IIT - Hyderabad
<b>5:50-6:00 pm</b>	Atmanirbhar Bharat – The Industry Perspective	<b>Dr. Kiran Mazumdar Shaw,</b> Executive Chairperson, Biocon Limited
<b>6:00 – 6:15 pm</b>	<b>Lab2Market</b> <ul style="list-style-type: none"> <li>• <b>Release of BIRAC’s Technical Compendium 2021</b></li> <li>• <b>Biotech Product Showcase <a href="http://www.biotech-solutions.com">www.biotech-solutions.com</a></b> In the presence of Ms Anju Bhalla, MD, BIRAC</li> </ul>	

**Closing Remarks: Dr Renu Swarup,** Secretary, Department of Biotechnology

**Moderator: Dr. Manish Diwan,** Head, Strategic Partnership and Entrepreneurship Development, BIRAC

## Session: *India Fights COVID*

*The COVID-19 Vaccine Journey from Science to Delivery  
 First in class | Biomanufacturing*

**Day 1: Monday, 1<sup>st</sup> March, 2021**

**6:30 pm - 7:30 pm (IST)**

*The session would showcase India's contribution in the Covid Vaccine development for India and for the World. Exemplar efforts would be showcased in both first-in-class (Covaxin) and Bio-manufacturing capacities (Covishield). Contribution of more players in the Biopharma sector would also be highlighted in R & D and manufacturing. Key National and International efforts have been leveraged by Government of India's efforts to boost vaccine development and manufacturing, catalyze India's vaccine development activities. Engagements with WHO, Coalition for Epidemic Preparedness Innovations (CEPI), Bill and Melinda Gates Foundation (BMGF), Wellcome Trust and Global Alliance for Vaccines and Immunizations (GAVI) have positioned India as key vaccine developer and manufacturer.*

*India is in a unique position of having a portfolio of vaccine candidates of different platforms. These will be discussed.*

### Minute to Minute Programme

<b>6:30 pm</b>	Welcome Address	<b>Dr. Madhavi Rao</b> , BIRAC
<b>6:30 pm-6:33 pm</b>	Opening Remarks	<b>Dr. Shirshendu Mukherjee</b> , Mission Director PMU, BIRAC
<b>6:33 pm-6:40 pm</b>	Talks	<b>Dr. Soumya Swaminathan</b> , Chief Scientist, WHO <b>Dr. S.S. Jadhav</b> - Serum Institute India Limited <b>Dr. Krishna Mohan</b> - Bharat Biotech India Limited
<b>6:40 pm-7:05 pm</b>	Panel Discussion <i>(Other COVID19 vaccine candidates and supporting ecosystem)</i>	<b>Dr. Pankaj Patel</b> - Cadila Healthcare Ltd <b>Dr. Vikram Paradkar</b> - Biological E <b>Dr. Prabuddha Kundu</b> - Genique/Premas Biotech <b>Dr. Amulya Panda</b> – National Institute of Immunology <b>Dr. Guruprasad Medigeshe</b> - Translational Health Science and Technology Institute <b>Dr. Vidya Arankale</b> - Interactive Research School of Health Sciences (IRSHA) <b>Moderator: Dr. Kavita Singh</b> , Ex-Mission Director, BIRAC



## Session: Additional Focus: mRNA Vaccine

**Day 1: Monday, 1<sup>st</sup> March 2021**

**Hall ATGC**

**7:30 pm – 8:45 pm (IST)**

**9:00am-10:15am (US Eastern Standard time)**

*While the concept of using mRNA to synthesize protein is logical and simple, it required decades of painstaking research for mRNA vaccines to overcome a series of hurdles. Scientists had to figure out how to modify mRNA so that it is not quickly destroyed by the cells, it did not produce harmful immune system reactions, make large amounts of the desired proteins, and finally how to deliver into the human body. When SARS-COV-2 pandemic hit in 2019, about 30 years of meticulous research allowed groups of scientists at a German based company BioNTech, worked with Pfizer, and a Massachusetts based company Moderna quickly brought mRNA vaccine technology to the threshold of actually working to prevent people from falling seriously ill or dying. An enormous resources and expertise were assembled quickly to run clinical trials for safety and efficacy of mRNA vaccine followed by a rapid but diligent approval by regulatory agencies worldwide. mRNA technology is now ready not only for the vaccines but also for the treatment of cancers and rare diseases. In this session, the experts in the field will discuss the aspects of mRNA technology, vaccines and beyond.*

### Minute to Minute Programme

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1. **Science by Academia - University of Penn**

**Dr. Norbert Pardi**, University of Pennsylvania who is at the forefront of mRNA technology development for vaccines and other application along with Dr. Drew Weissman (pioneering work)

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2. **Application by Industry - Moderna and Genovra**

**Dr. Andre Carfi**, from Moderna, VP & Head of Research, Infectious Disease at Moderna  
**Dr. Sanjay Singh** - CEO, Genovra Biopharmaceuticals Ltd

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3. **Regulators' view - FDA and DCGI**

**Dr. Philip Krause**, Deputy Director at FDA/CBER/OVRR  
**Mr. A K Pradhan**, Deputy Drugs Controller (I)

*Moderated by Dr. Sita Awasthi, University of Pennsylvania*

## Session: International Investors Meet

*Investment trends in India | Challenges & Opportunities*

**Day 1: Monday, 1<sup>st</sup> March 2021**

**Hall RNA**

**6:30 pm – 8:30 pm (IST)**

*To showcase the opportunities by the lens of Department of Biotechnology, BIRAC, Government of India, at large in Indian Biotechnology sector and discuss Investment trends, challenges & opportunities for Startups and Global Venture Capital, Private Equity Funds in the biotech/bio sciences category in India.*

### Minute to Minute Programme

Context Setting	<b>Dr Manish Diwan,</b> Head, Strategic Partnership and Entrepreneurship Development, BIRAC	<b>6.30-6.40pm</b>
An introduction to the Indian Startup Ecosystem	<b>Sh. Anil Aggarawal</b> Joint Secretary, DPIIT	<b>6.40-6.50pm</b>
Welcome Address	<b>Dr. Renu Swarup</b> Secretary, DBT and Chairperson, BIRAC	<b>6.50-6.55pm</b>
Mobilising Global Capital in Indian Startups	<b>Dr. Guruprasad Mohapatra,</b> Secretary, DPIIT	<b>6.55-7.00pm</b>
Presentation on Investment trends in India, Challenges and Opportunities in Biotech and Pharma – VC, PE Investments	<b>Mr. Sunil Thakur,</b> Partner, Quadria Capital	<b>7.00-7.15pm</b>
	<b>Global and Domestic Investors:</b>	
	<b>Mr. Ashish Venkataramani,</b> Eight Road Ventures	
	<b>Mr. Sameer Wagle,</b> Asian Healthcare Fund	
	<b>Ms. Rema Subramanian,</b> Ankur Capital	
Investors Townhall Discussion	<b>Mr. Ashwin Raguraman,</b> Bharat Innovation Fund	<b>7.15-8.25pm</b>
	<b>Ms. Nita Sachan,</b> Endiya Partners	
	<b>Ms. Padmaja Ruparel and Mr. Raman Roy ,</b> Indian Angel Network	
	<b>Mr. Manish Kumar,</b> Assistant Vice President, Kitven	
	<b>Mr. Sharad Ladha ,</b> Partner, Somerset Somerset Indus	

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Capital Partners

**Mr. Siddarth Pai**, Founding Partner, 3one4 capital

**Mr. Arpit**, Director, Blume Ventures

**Mr. Ravi Mathur**, Vice President, RVCF

**Mr. Manu Rikhye**, Managing Director, GrowX Ventures

**Mr. Vikram Gupta**, Founder & Managing Partner, IvyCap Ventures

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Closing Remarks

**Ms. Anju Bhalla**, Joint Secretary, Department of Science & Technology, Government of India, and Managing Director of BIRAC

**8.25-8.30pm**

## Session: MedTech Regulatory Workshop

**Day 1: Monday, 1<sup>st</sup> March 2021**

**Hall DNA**

**6:30 pm – 8:45 pm (IST)**

*Workshop is an intensive interactive course directed towards participants who wish to expand or update their understanding of global regulations, and medical device development. There will also be a discussion to address new regulatory changes happening in India, EU and USA and its impact in Make In India.*

*At present, the Medical Device Industry in India is evolving at a much faster pace and since there is constant innovation and research work driving the entire ecosystem, the Medical Devices and IVD are becoming more affordable and accessible in the market. And also the startups are doing extremely well in terms of maintaining the standards and are slowly changing people's mindset in the Medical Community. Since Medical Device Industry keeps fluctuating all the time in terms of product acceptability and technological advancements, implementation plays a vital role. However, with the help of Doctors and Healthcare Institutions, these startups are aiding the best possible results and are turning every idea into a real time medical application.*

*The workshop will focus on Changing Indian Regulatory Requirements for Manufacturing License, Performing Animal Study and Biological Risk Evaluation, Verification requirements for Proof-of-Concept device and Understanding Usability aspects before initiating the clinical validation.*

### **Who should attend?**

*Attendees should have an understanding of Medical Device Regulatory Affair, Clinical Trial and keen interest to market the device in India or export to EU, USA.*

*This course is developed for all the medtech start-ups who are at design phase, Proof-of Concept phase, manufacturing or marketing phase.*

- i) employees and management of medical device industry,*
- ii) Faculty new to the discipline of medical device development and*
- iii) those seeking more information to complement their regulatory, clinical, toxicological or marketing training.*

## Agenda

		Topic
Lecture 1	6:30 pm – 6:50 pm	Impact of Indian Medical Device Rule, 2020 (amended) on Medical Device and IVD Start-Ups
Lecture 2	7:00 pm -7:20 pm	Changing regulatory requirement of CE Certification as per MDR 2017/745 and IVDR 2017/746
Lecture 3	7:30 pm – 7:50 pm	Design Verification Requirement of POC device
Lecture 4	8:00 pm – 8:20 pm	Role of BIS in facilitating MedTech Start-ups
Lecture 5	8:30 pm – 8:45 pm	Role of GeM in facilitating MedTech Public Procurement
Final Conclusion		Summary and Conclusions
Vote of thanks		<b>Ms. Sonia Gandhi</b> , BIRAC

### Learning Objectives

Upon completion of the course, the participants should be able to:

- Become knowledgeable about the Indian Medical Device Rule, 2020 (amended)
- How to Classify the Medical Device and IVD
- Know about the requirement of Device Master File for Manufacturing License
- Understand about the registration process in cdscomonline portal
- Pre-requisite requirement for planning the Clinical Validation studies
- Have an understanding on Animal Studies and Biological Risk Evaluation as per ISO 10993-1:2018
- What is meant by Design Verification?
- Verification strategy for Proof-of-Concept Device
- Requirement of Software Verification as per IEC 62304

### Workshop Speakers

- **Mr. Siddharth Jain**, Chief Medical Device Regulatory Advisor, Symbiorph Clinical Trialogy
- **Mr. Navaneetha krishnan R**, Associate-Regulatory Affair, Symbiorph Clinical Trialogy
- **Mr. Sumit Kumar**, Scientist, Bureau of Indian Standards
- **Mr. Vikas Kulkarni**, Lead QMS, Comofi Medtech Pvt. Ltd.
- **Dr. Manju Sharma** and **Dr. Anurag Awasthi**, GeM

## Session: Health Conclave

(MedTech | JANcare | Aayushmaan Bharat)

**Day 2: Tuesday, 2<sup>nd</sup> March 2021**

**Hall ATGC**

**3:00 pm – 4:00 pm (IST)**

*The session will discuss how the COVID-19 pandemic has overwhelmed healthcare systems globally and has proved that an agile healthcare system and a healthy population is key to the economic and social wellbeing of a country. The pandemic also emphasized the significance of building Healthcare infrastructure that would enable access to the health tech solutions at remote and low resource settings. Major key topics of the session will be Ayushman Bharat Pradhan Mantri Jan Arogya Yojana of the Government of India.*

*Keeping in view the vision of our Hon'ble PM, this session will highlight on AatmaNirbhar Bharat and how it can help achieve health for all through Prioritizing Indian Innovations over foreign Innovations. The session will also highlight the affordable quality diagnostics available in the market as well as on the Import substitutions looked upon during the times of Covid-19. The session will also highlight on the topics; Marketing plan, Branding Strategy, Pricing strategy, Distribution Policy, Franchising, and Licensing and how the Innovative Medical Technologies would be commercialized.*

### Minute to Minute Programme

<b>3.00-3.05pm</b>	Opening Remarks	<b>Dr Jitendra Sharma</b> , CEO, AMTZ
<b>3.05-3.20pm</b>	Plenary Talk	<b>Ms. S. Aparna</b> , Secretary, Department of Pharmaceuticals, Govt. of India
<b>3.20-3.30pm</b>	National Pharma Focus – Contributions under National Biopharma Mission	<b>Dr Mirage Singh</b> , Program Manager, National Biopharma Mission
<b>3.30-4.00pm</b>	Panel Discussion  <b>Role of Med Tech in achieving Universal Health Coverage</b>	<b>Panel members:</b> <b>1. Mr Sashi Kumar</b> , Managing Director, Phoenix Medical Systems Pvt Ltd <b>2. Mr Manoj Madhavan</b> , Managing Director, Boston Scientific <b>3. Mr. Madan Krishnan</b> , Vice President and Managing Director-India, Medtronic <b>4. Mr Rajiv Nath</b> , Forum Coordinator, AIMED, Managing Director, Hindustan Syringes & Medical Devices Ltd <b>5. Dr Naveen Nischal</b> , Co-founder, Meddo   Cygnus   Voice of Healthcare <b>6. Mr Suresh Vazirani</b> , Chairman & Managing Director, Transasia - Erba Group Panel discussion moderated by Dr. Jitendra Sharma, CEO, AMTZ
	Vote of Thanks	<b>Dr. Artee</b> , BIRAC

## **Session: Diagnostics-*a success story***

**Day 2: Tuesday, 2<sup>nd</sup> March 2021**

**Hall RNA**

**3:00 pm – 4:00 pm (IST)**

*The disease COVID-19 caused by the SARS Coronavirus 2 (known as SARS-CoV-2) emerged in late 2019 and quickly turned into a worldwide pandemic. While India reported its first cases in January 2020, the number of cases quickly started rising across the country. In response to the rising number of cases and the measures initiated by the Government of India, it was evident that India would require a large number of diagnostic tests to screen, identify, diagnose, isolate and treat the infected individuals to contain the spread of the infection.*

*Initially, the country was depended on imported kits as there were no approved kits from Indian manufacturers for COVID-19 diagnosis. However, the Start-ups, Academia and industry quickly rose to the challenge facing the country. In parallel to the rapid spreading of the disease, this ecosystem responded with greater measures to not only fulfill the need of the country, but to make India an overall export-oriented destination. Today, more than 100 kits from Indian manufacturers representing different technologies (RT-PCR, LAMP, ELISA, Rapid tests) for detection of viral RNA, antigens and antibodies are approved for use and sale in India.*

*This success story of the developers and manufacturers has been ably supported by various Government initiatives such as grants, activation of testing centers, fast track approvals, regulatory facilitation etc. coming together in a synergistic manner. This progress and co-operation is a shining example of the capability, resilience and adaptability of the Indian medical device & diagnostics ecosystem.*

### Minute-to-Minute Programme

<b>3:00-3:15 pm</b>	Welcome & opening remarks	<b>Ms. Veena Kohli</b> , President, Association of Diagnostics Manufacturers of India
	ICMR Perspective – India’s Diagnostic Ecosystem.	<b>Dr. Nivedita Gupta</b> Head Virology UNIT, Indian Council of Medical Research, New Delhi
	DBT & BIRAC as enabler	<b>Dr. Alka Sharma</b> Adviser/Scientist ‘G’ Department of Biotechnology
<b>3:15-3:35 pm</b>	Perspectives	<b>Padma Shri Navin Khanna</b> , ICGEB – Academia Perspective <b>Ms. Veena Kohli</b> , ADMI – Industry Perspective <b>Dr. Madhur Gupta</b> , WHO <b>Dr. GSK Vellu</b> , Trivitron Healthcare Pvt. Ltd.
<b>3:35-4:00 pm</b>	Pivoting of Innovation Ecosystem (Sharing the success story)	<b>Dr. Sriram Natarajan</b> , Molbio Diagnostics Pvt. Ltd. <b>Mr. Has Mukh Rawal</b> , Mylab Discovery Solutions Pvt. Ltd. <b>Dr. Pazhanimuthu Annamalai</b> , Aura Biotechnologies Pvt. Ltd. <b>Dr. Rachana Tripathi</b> , Huwel Lifesciences Pvt. Ltd. <b>Dr. Girish Mahajan</b> , HiMedia Laboratories Pvt. Ltd. <b>Dr. Savita Sekhri</b> , Oscar Medicare Pvt. Ltd. <b>Dr. V. I. Bishor</b> , ubio Biotechnology Systems Pvt. Ltd.
<b>4:00 pm</b>	Conclusion and Vote of Thanks	<b>Ms. Sonia Gandhi</b> , BIRAC



## Session: CEO Roundtable

Day 2: Tuesday, 2<sup>nd</sup> March 2021

Hall DNA

3:00 pm – 4:30 pm (IST)

CEO roundtable will be convened including the representatives from the Indian government and Biotech Industries for a discussion focused on how India is making progress to become a Global Biotechnology destination for the whole world. The discussion would revolve around:

- To strengthen a strong education, research and translation ecosystem across the country
- To position India as a strong bio-manufacturing hub for innovative, affordable and accessible products for the society and also for global markets.

TIME	ACTIVITY
3:00-3:02 pm	<b>WELCOME Remarks</b> Mr. Deepak Bagla, MD & CEO, Invest India
3:02-3:05 pm	<b>Opening Remarks</b> Dr. Renu Swarup, Secretary, Department of Biotechnology
3:05-3:10 pm	<b>Special Address</b> Dr. Peter Singer, Special Adviser to DG, WHO
3:10-3:50 pm	<b>DISCUSSION THEME 1</b> Strengthening a strong education, research and translation ecosystem across the country
3:50-4:20 pm	<b>DISCUSSION THEME 2</b> Positioning India as a strong bio-manufacturing hub for innovative, affordable and accessible products for the society and also for global markets
4:20-4:25 pm	<b>NEXT STEPS AND WAY FORWARD</b> Dr. Manish Diwan, Head-SPED, BIRAC Dr. Bhuvnesh Shrivastava, Manager, Make-in-India Cell, BIRAC
4:25-4:30 pm	<b>CLOSING REMARKS</b> Ms. Srividhya, Invest India

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**Speaking Order of Industry  
Representatives**

- **Dr. Kiran Mazumdar Shaw**  
Executive Chairperson, Biocon
- **Dr. Douglas Ry Wagner**  
President, International AgriBusiness, Alga Energy
- **Dr. Harvey L. Glick**  
Senior Director, APAC  
Regulatory Scientific Affairs, Bayer (Singapore)
- **Mr. Jasvir Singh**  
Regulatory- Scientific and Government Affairs Leader South Asia,  
DuPont India Pvt Ltd (IFF - International Flavors & Fragrances)
- **Mr. Faizur Rehman**  
Head - Bio2X India, Fortum
- **Mr. Sumit Jamuar**  
Chairman and CEO, GlobalGeneCorp
- **Ms. Jyotsna Ghoshal**  
Member of the President's Council and Head of Government  
Affairs and Policy, Johnson & Johnson India
- **Mr Sangeet Jain**  
GM – India, LanzaTech
- **Ms. Usha Zehr Barwale**  
Director and CTO, Mahyco
- **Mr. Yash Goyal**  
MD, MSD Health
- **Mr. Krishna Mohan Puvvada**  
Regional President, Novozymes
- **Mr Peeyush Kaushik**  
Head – HIC & Business Leader – Mobile Surgery,  
Philips Healthcare
- **Dr Pramod Kumbhar**  
CTO and President, Praj Industries
- **Mr. Bhargav Kotadia**  
MD, Sahajanand Medical Technologies Private Limited
- **Ms. Annapurna Das**  
Country Head, Sanofi Pasteur
- **Mr. Amit Chopra**  
Managing Director – India and South Asia  
Thermo Fisher Scientific
- **Mr. Ranjan Chakrabarti**  
Vice President – Scientific Outreach, Biologics,  
United States Pharmacopeial Convention India
- **Dr Frederik Kristensen**  
Deputy CEO, CEPI
- **Mr Dhananjay Patankar**  
Vice President - Biologics & Pharmaceutical Development,  
Syngene International Limited

## **Session: Startup Conclave**

Innovation Driven Bioeconomy

**Day 2: Tuesday, 2<sup>nd</sup> March 2021**

**Hall ATGC**

**4:00 pm – 7:00 pm (IST)**

*The potential of biotech innovation ecosystem and its rapid growth have been well recognized as the key contributors to the growth of global bioeconomy. Globally there has been a major thrust towards encouraging the growth of the Start-ups, entrepreneurs, academia, and industry that are further steering the development of the Indian Biotechnology ecosystem.*

*The Indian biotechnology industry is on the cusp of entering a new era when it can provide significant economic growth and development to the people of India and around the world. The consolidated Indian Bioeconomy report (Indian Bio Economy Report (IBER) based on latest data representing the Biotech Sector contribution to the Bioeconomy would be released during this special session. This release will be followed by regular updates unto 2024-25 to track the progress and an overview of Roadmap for the Indian Biotechnology Industry to see if there is a room to accelerate through policy initiatives, what are the gaps and grey areas that can either accentuate or stump Indian Biotech Sector's USD 150 Billion Bioeconomy journey to 2025.*

*This would be followed by announcement of The Project Development Cell (PDC) jointly implemented by DBT, BIRAC & Invest India, which will function to identify potential investors in the biotechnology sector within & outside India. The cell would guide the investors and innovators both onto the gamut of business-related issues, investment opportunities, investible project development etc. The PDC would closely work with Invest India, the National Investment Promotion and Facilitation agency, which focuses on sector-specific investor targeting and development of new partnerships to enable sustainable investments in India.*

*With a focus to facilitate innovations on the entire product development chain, this session will also highlight the BIRAC's e-portal BIOTECH SHOWCASE which is created to enhance outreach for the startups and offer them a right visibility with the relevant stakeholders at national and international levels. This dynamic portal was launched by the Hon'ble Minister of Railways and Commerce, Government of India, Shri Piyush Goyal in 2019 presently features 150+ BIRAC supported Biotech Product/Technologies. This part of the session will highlight the success stories of the top 10 BIRAC supported commercialized startups working among the different sectors; Healthcare, Agriculture, Environment, and Industrial Biotech.*

*The session will move forward towards Country Focus for ecosystem connect. This international fragment of the session will provide a forum to interact with national (government & private) and international representatives. The forum would highlight the best practices, activities, initiatives, achievements of the partner country's Biotechnology sector and will provide an opportunity to showcase representative countries as a sourcing and exporting destination to Indian as well as International Biotechnology industry. This will be considerate for attracting joint ventures and collaborations.*

*Leveraging India's ever-growing Biotechnology sector, the State focused Biotech Cluster session shall bring forth a special segment on 'Opportunities and Incentives provided by State Governments' in India. This session shall present an opportunity for companies to understand extant and upcoming policies, incentive packages, industrial clusters, regulatory ecosystem, research & development opportunities, and other details, which are imperative to their investment decisions.*

**Section 1 - 4:00 – 04:45 pm**  
**Innovation focus, Policy Initiatives, Startup showcase**  
**Address by Chief Guest**

<b>4:00-4:02 pm</b>	<b>Welcome Address</b> Dr. Manish Diwan Head Strategic Partnership and Entrepreneurship Development, BIRAC
<b>4:02-4:05 pm</b>	<b>Bioeconomy updates</b> Dr. Suresh Narayanan, Chief Operating Officer, Association of Biotechnology-Led Enterprises (ABLE) (Slide deck presentation)
<b>4:05- 4:07 pm</b>	<b>Project Development Cell for Biotechnology</b> (Short Video)- Invest India
<b>4:07-4:12 pm</b>	<b>About the Biotech Startup Ecosystem and Formal Announcement of Project Development Cell for Biotechnology</b> Dr. Renu Swarup Secretary, Department of Biotechnology
<b>4:12-4:30 pm</b>	<b>Release of:</b> <ul style="list-style-type: none"> <li>• Indian Bioeconomy Report (IBER 2021) by ABLE, and</li> <li>• Biotech Investment Potential for Indian States Report by IFC;</li> </ul> <b>Product Launch of 5 Startups</b> <ol style="list-style-type: none"> <li>1. <b>Emvolio</b> - A portable, battery-powered refrigerator for Vaccine delivery from Blackfrog Technologies Pvt. Ltd.</li> <li>2. <b>Grippy</b> - Battery powered prosthetic hand with a sense of touch and multi-grip control from Bionic Hope Pvt. Ltd.</li> </ol>

3. **KEYAR** - Wireless intrapartum monitoring device with *DAKSH* mobile application for monitoring risky pregnancies from Janitri Innovations Pvt. Ltd.
4. **easyNav** - Computer-guided Surgical navigation system for neuro-surgery Happy Reliable Surgeries Pvt Ltd
5. **VoDCa** - Vortex Devices based on Cavitation Technology for waste water treatment by Vivira Process Technologies Pvt. Ltd

**Launch of TechOla**, single window e- market place app designed by Kalam Institute of Health Technology (KIHT)

**By Chief Guest- Shri Piyush Goyal**, Hon'ble Union Minister of Railways, Commerce and Industry and Minister of Consumer Affairs, Food and Public Distribution, Government of India

**4:30 - 4:45 pm**

Address by Chief Guest:

**Shri Piyush Goyal**, Hon'ble Union Minister of Railways, Commerce and Industry and Minister of Consumer Affairs, Food and Public Distribution, Government of India

**Session 2 – 4:45 – 6:00 pm**

**Country Focus For Ecosystem Connect | Moderated by Dr Kalaiwani Ganesan, DBT**

**4:45 – 5:13 pm**

1. **Jeevtronics Pvt Ltd** founded by **Mr. Ashish Gawade & Mr. Aniruddha Atre.**
2. **OmniBrx Biotechnologies Pvt. Ltd.** founded by **Mrs. Ravindra Patel**
3. **Indius Medical Technologies** founded by **Dr. Aditya Ingalhalikar.**
4. **FIB-SOL Life Technologies Private Limited** founded by **Dr. Kavitha & Dr. Anant.**
5. **CISGEN BIOTECH DISCOVERIES PRIVATE LIMITED** founded by **Dr. Maroudam Veerasami.**
6. **Bonayu Lifesciences Pvt. Ltd.** founded by **Mr. Vishal Kataria.**
7. **Ayu devices** founded by **Mr. Adarsha K.**
8. **MicroGO LLP** founded by **Dr. Rachna Dave.**
9. **Innaumation Medical Devices LLP** founded by **Dr. Vishal Rao.**
10. **PathShodh Healthcare Private Limited** founded by **Dr. Navakanta Bhat, Mr. Gautam Sharma and Dr. Vinay Kumar.**
11. **Aarna Biomedical Products – A Social Enterprise** founded by **Dr. Pawan Mehrotra.**
12. **Cutting Edge Medical Devices Private Limited** founded by **Dr. Pankaj Parashar**
13. **Coeo Labs, a division of InnAccel Technologies Pvt Ltd** founded by **Mr. Siraj Dhanani and A. Vijayrajan..**
14. **BioPrime Agrisolutions Pvt Ltd.** founded by **Dr. Renuka Diwan**
15. **Module Innovations Pvt Ltd** founded by **Mr. Sachin Dubey**

**5:13 - 5:15 p.m.**

Release of Book **“The Ventilator Project”** by Srikant Sastri and Dr. Amitabha Bandyopadhyay

<b>5:15 – 5:20 pm</b>	<b>Mr. Michael Altorfer</b> CEO, Swiss Biotech Association, Switzerland
<b>5:20 – 5:25 pm</b>	<b>Mr. Freek Jan Frerichs</b> Innovation Counsellor Embassy of Netherlands
<b>5:25 – 5:30 pm</b>	<b>Ms. Daina Klepone,</b> MD of Enterprise Lithuania
<b>5:30 – 5:35 pm</b>	<b>Dr Jenni Nordborg</b> National Coordinator & Director of the Office for Life Sciences at the Government Offices of Sweden
<b>5:35 – 5:40 pm</b>	<b>Mr. Eero Silvennoinen</b> Head of International Innovation Collaboration, Business Finland
<b>5:40 - 5:45 pm</b>	<b>Mr. David Golding,</b> Head of Global Innovation Partnership, UKRI Innovate UK
<b>5:45 –5:50 pm</b>	<b>Mr Adrián GUTIÉRREZ ,</b> Science & Technology Counsellor, Embassy of Spain , Representative of CDTI   India, South & Southeast Asia   Overseas Network
<b>5:50– 5:55 pm</b>	<b>Mr. Philipp von Ritter,</b> Science Counsellor German Embassy New Delhi Deutsche Forschungsgemeinschaft, (DFG), India office
<b>5:55 – 5:57 pm</b>	<b>Mr. Sriniv. KAVERI</b> Director, CNRS Office in India , Embassy of France
<b>5:57 pm- 6:00 pm</b>	<b>Dr. Alexander Melerzanov MD, PhD</b> Deputy Director for Postdiploma Education and International affairs, MIPT Moscow, Russia

**Session 3 – 6:00 – 7:00 pm**  
**State Focus: Biotech Clusters**

<b>6:00 –6:05 pm</b>	Welcome Remarks	<b>Mr. Dushyant Thakor</b> Vice President, Invest India
<b>6:05 pm – 6:10 pm</b>	Context Setting <ul style="list-style-type: none"> <li>• Growth of Indian Biotechnology Ecosystem</li> <li>• Make in India initiative</li> </ul>	<b>Dr. Manish Diwan</b> Head – Strategic Partnerships and Entrepreneurship Development, Biotechnology Industry Research Assistance Council
<b>6:10 pm – 6:58 pm</b>	<b>State Sessions</b>	
<b>6:10 pm - 6:22 pm</b>	Presentation by Karnataka	Smt. Meena Nagaraj C.N , IAS Director - Department of Electronics, IT, BT and S&T Managing Director - Karnataka Innovation and Technology Society (KITS)

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<b>6:22 pm - 6:34pm</b>	Presentation by Odisha	<b>Shri Santosh Kumar Sarangi</b> Principal Sec., Dept. of Science & Technology
<b>6:34 pm - 6:46pm</b>	Presentation by Punjab	<b>Dr. (Mrs.) Vandana Awasthi</b> Scientist & Deputy Quality Manager Punjab Biotechnology Incubator, Govt. of Punjab
<b>6:46 pm - 6:58 pm</b>	Presentation by Telangana	<b>Mr. Jayesh Ranjan</b> Principal Secretary, IT, Electronics & Industries, Government of Telangana
<b>6:58 pm – 7:00 pm</b>	Closing Remarks	<b>Ms. Srividhya</b> , Invest India

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## Session: Phytopharma and Traditional Knowledge

Day 2: Tuesday, 2<sup>nd</sup> March 2021

Hall RNA

4:00 pm – 5:00 pm (IST)

*The session will provide the insights on the phytopharmaceuticals and Traditional Knowledge from AYUSH perspective focusing on the opportunities of innovation from business and regulatory aspects, and process of drug development through Traditional systems as well as scope and challenges prevalent in this sector.*

*Since Traditional Systems have long history of herbal usage in the management of diseases, the success rate of their development as therapeutics is comparatively higher than that of the synthetic counterparts. In recent times, AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-Rigpa and Homeopathy) sector has shown tremendous growth and phyto-pharmaceuticals have created a platform for innovation for the development of new drugs from botanicals. It has opened new avenues for finding better health solutions and enhanced business opportunities.*

### Minute to Minute Programme

<b>4:00 - 4:10 pm</b>	<b>Welcome Remarks</b>  <b>Dr. Mohd. Aslam</b> Ex-Adviser Department of Biotechnology, Govt. of India
<b>4:10 -4:20 pm</b>	<b>Development of Business opportunities in AYUSH sector: Scope and Challenges</b>  <b>Dr. J.L.N. Sastry</b> Chief Executive Officer , National Medicinal Plants Board, Ministry of AYUSH, Government of India
<b>4:20 – 4:27 pm</b>	<b>Drugs from our ancestors and nature - evidence based validation</b>  <b>Dr. Pulok Kumar Mukherjee</b> Director, Institute of Bioresources and Sustainable Development (IBSD), Imphal
<b>4:27 -4:34 pm</b>	<b>Phytopharmaceuticals and COVID-19</b>  <b>Dr. Madhu Dikshit</b> National Chair, Translational Health Science and Technology Institute, Fardidabad
<b>4:34– 4:41 pm</b>	<b>Phytopharmaceuticals: Silverline for enhancing productivity of Pharmaceutical</b>



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**R&Ds**

**Dr CK Katiyar**

CEO-Healthcare (Technical), Emami Ltd., Kolkata

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**4:41-4:48 pm**

**Phytopharmaceuticals and Traditional Ayurvedic Medicines: Can they Progress All Together?**

**Prof. Anand Chaudhary**

Department of Rasa Shastra, & Bhaishajya Kalpana, Banaras Hindu University (BHU)

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**4:48-4:55pm**

**Traditional Knowledge and Ayurvedic Drug Development**

**Dr. Ravindra Singh**

Assistant Director (Chemistry), Central Council for Research in Ayurvedic Sciences (CCRAS)

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**4:55-5:00 pm**

**Concluding Remarks**

**Dr. Mohd. Aslam**

Ex-Adviser Department of Biotechnology, Govt. of India

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**Vote of Thanks: Dr Manoj Modi, DBT, GoI**

**Moderator: Dr Shruti Khanduri**, Research officer (Ayurveda), Central Council for Research in Ayurvedic Sciences

## **Session: Clean Energy Conclave**

*Energy-Health Nexus*

**Day 2: Tuesday, 2<sup>nd</sup> March 2021**

**Hall RNA**

**5:00 pm – 7:00 pm (IST)**

*Nearly 35 million citizens in rural India rely on PHCs for primary health services not connected to the grid, while an even greater number of health facilities face irregular power supply. In the absence of electricity and reliable energy, services catered by health institution gets severely affected.*

*On the other hand, many billion people worldwide, rely on wood, coal, charcoal or animal waste for cooking and heating. As per an estimate by World Health organization, Household air pollution leads to around four million deaths every year. Therefore, looking for clean cooking solutions against traditional cookstoves and fuels is one of the world's most pressing health and environmental problems. Increased energy consumption is leading to more air pollution, resulting in negative health impacts in a society. Better health is also a measure of progress in diverse dimensions of sustainable energy, cities and transport systems.*

*Access to reliable affordable and clean energy can have an immediate and transformative impact on quality of life, access to basic services (e.g., health, education) and livelihoods. Decentralised off-grid energy solutions are emerging as a mainstream solution to expand access to modern energy services in a timely and environmentally sustainable manner.*

*The clean energy conclave will focus on the nexus that exists between the health of an individual and how can it be affected by providing clean energy and environment. The link between clean energy and health, customized solutions and innovative approaches will be discussed. Role of innovation on the intersection of clean energy and human health will be explored followed by showcasing some examples.*

### Minute-to-Minute Programme

<b>5:00 – 5:05 pm</b>	Welcome and Initiatives by DBT-BIRAC in the area of clean energy	<b>Dr. Sangita Kasture</b> , Scientist 'F', Department of Biotechnology, Govt of India
<b>5:05 – 5:15 pm</b>	Opening Address	<b>Dr. Renu Swarup</b> , Secretary, Department of Biotechnology, Govt of India
<b>5:15-5:25 pm</b>	Distinguished speaker - Perspective of the European Commission for Research and Innovation	<b>Mr Patrick Child</b> Deputy Director-General Research and Innovation European Commission
<b>5:25 – 5:30 pm</b>	Announcement of SoCH awardees by Chief Guest, <b>Shri Dharmendra Pradhan</b> , Hon'ble Minister for Petroleum and Natural Gas and Steel, Govt of India.	
<b>5:30 – 5:45 pm</b>	Address by Chief Guest	<b>Shri Dharmendra Pradhan</b> , Hon'ble Minister for Petroleum and Natural Gas and Steel, Govt of India
<b>5:45 – 5:55 pm</b>	Plenary talk	<b>Mr. Shashi Shekhar</b> Ex – Secretary, Ministry of Water Resources Current PSA Fellow
<b>5:55 – 6:10 pm</b>	Startup Showcase	<b>Mr Mayur Shetty</b> , Blackfrog Technologies <b>Mr Abhishek</b> , Himalayan rocket stove <b>Mr Aashish Dutt</b> , Saaf Biogas <b>Mr Ravi Kaushik</b> , Airth Research <b>Mr Tushar Devidayal</b> , Devidayal Solar Solutions
<b>6:10 -7:00 pm</b>	Panel discussion: Improving health outcomes through clean energy	<ol style="list-style-type: none"> <li>1. <b>Ms. Gauri Singh</b>, Dy Director General, IRENA</li> <li>2. <b>Dr Ravi Kant</b>, Founder, Doctors for You</li> <li>3. <b>Prof Ambuj Sagar</b>, IIT Delhi</li> <li>4. <b>Mr. Neeraj Jain</b>, Country Director, PATH</li> <li>5. <b>Prof Ajay Pillarisetti</b>, Department of Environmental Health, Emory university</li> <li>6. <b>Dr. Laurel Harmon</b>, Vice President, Lanzatech</li> </ol> Moderated by <b>Dr Harish Hande</b> , Founder, Selco Foundation

## Session: First Hub

**Day 2: Tuesday, 2<sup>nd</sup> March 2021**

**Hall Proton**

**6:30 pm – 8:00 pm (IST)**

*Biotechnology Industry Research Assistance Council, a PSU of Dept. of Biotechnology, Ministry of Science & Technology, GOI, has established a facilitation unit namely FIRST HUB. Primary objective of this unit is to address the queries of Startups, Entrepreneurs, Researchers, Academicians, Incubation Centres, SMEs etc. The FIRST HUB Session during the event would resolve queries related to Regulatory pathways and Regulation, Funding opportunities, Mentorship, Investment opportunities, Market access, Industry Academia partnerships, Intellectual Property and would provide an opportunity to interact with Officers from DBT, BIRAC, ICMR, CDSCO, BIS, NIB and other relevant government organization.*

### **EXPERTS**

**Mr. Assem Sahu**, Deputy Drugs Controller (I), North Zone, CDSCO

**Dr. Pradeep Dua**, Scientist, BIS

**Dr. Jerin Jose Cherian**, Scientist-D, ICMR

**Mr. Dilip Kumar**, Scientist -D and Head- Standards & Innovations, AMTZ

**Mr.P.S.Chandranand**, Scientist E, Kalam Institute Of Health Technology

**Dr. Kalaivani Ganesan**, Scientist E, DBT

**Dr. PKS Sarma**, Head & GM, BIRAC

**Dr. Shirshendu Mukherjee**, Mission Director, BIRAC

### **FIRST HUB Secretariat**

**Ms. Sonia Gandhi**, Chief Manager, BIRAC

**Dr. Chandra Madhavi**, Sr. Manager, GCI, BIRAC

**Dr. Hardeep Vora**, Manager, NBM, BIRAC

**Dr. Bhuvnesh Shrivastava**, Manager -Make-in-India BIRAC

## Session: Ensuring Quality: Overcoming CART cells CMC Challenges

Day 2: Tuesday, 2<sup>nd</sup> March 2021

Hall Electron

6:00 pm – 7:30 pm (IST)

### *CAR-T Cell Therapy activities in India: Addressing CMC challenges for quality product development.*

*CAR-T cell therapies despite showing promising results in clinical settings, requires robustness, scalability, and standardization of the manufacturing processes, to reduce costs and establish safety and efficacy. Key considerations for ensuring manufacturing consistency and quality in product development are control of the quality of raw material components and control of procedures and analytical methods to reduce the non-biological sources of variability.*

*USP has been working actively in this area, with an initial focus on best practices applicable to raw materials used in manufacturing of these therapies. As a result, USP published a series of general chapters, documentary, and physical Reference Standards, with support from Expert Committees and Panels. To support the standards setting activities and engage with stakeholders in this space, USP organized and delivered courses, and workshops on advanced therapies to bring together experts to debate and determine solutions to common problems.*

*With India's biotech industry entering the field of advanced therapies, the session organized by USP, will focus on addressing challenges in product characterization and discuss potential strategies to maintain product consistency, regulatory compliance to ensure continued production of quality products.*

*The expected outcome is to get answer on the following questions –*

- *Status of CAR-T Cell Therapy activities in India*
- *Quality attributes for maintaining product's quality, safety and potency*  
*Qualification of Raw materials to demonstrate that they are high quality and fit for purpose*  
*Characterization of the CART cells -quality*  
*Tumor burden*  
*Person's immunity*
- *Learning from real world case studies in cell therapy, gene therapy, and tissue-based products*
- *Pharmacopeial standards as tools for compliance with regulatory requirements*  
*What kind of standards are needed for harmonizing characterization efforts for faster regulatory approvals?*
- *India Govt's plan to help/nurture this Nascent Industry.*

### Minute-to-Minute Program

<b>6:00-6:05 pm</b>	Welcome and Introduction	<b>Dr Ranjan Chakrabarti</b> US Pharmacopeia
<b>6:05-6:15 pm</b>	Overcoming CMC Challenges.	<b>Prof. Bruce L. Levine,</b> University of Pennsylvania Perelman School of Medicine
<b>6:15-6:20 pm</b>	Overview of CAR-T Cell Therapy activities in India and role of Government of India	<b>Dr. Alka Sharma,</b> Scientist G, DBT
<b>6.20-6.25pm</b>	Overview of public standards to support quality product development	<b>Dr Fouad Atouf</b> US Pharmacopeia
<b>6.25-7.25 pm</b>	<p><b>Panel Discussion:</b> “Overcoming CMC challenges to ensure product’s quality, safety and potency”</p> <ul style="list-style-type: none"> <li>• <b>Dr. Alka Sharma,</b> Scientist G, DBT</li> <li>• <b>Prof. Bruce L. Levine,</b> PhD, Professor, University of Pennsylvania Perelman School of Medicine</li> <li>• <b>Dr Sharat Damodar,</b> Vice chairman – Oncology services, Clinical Director – MSMC, Senior Consultant &amp; head of Adult Haematology &amp; BMT, NH Multispecialty Hospital, Mazumdar Shaw Cancer Center, Bangalore</li> <li>• <b>Dr. Fouad Atouf,</b> VP, Global biologics, USP</li> <li>• <b>Dr. (Surg Cdr) Gaurav Narula,</b> Professor Pediatric Oncology &amp; Health Sciences, Tata Memorial Center, HBNI, Mumbai</li> <li>• <b>Dr. Rahul Purwar,</b> Department of Biosciences &amp; Bioengineering IIT Bombay,</li> <li>• <b>Dr. Shashwati Basak,</b> Head, Quality and Regulatory Operations, Immuneel Therapeutics Ltd, Bangalore</li> <li>• <b>Dr. Ranjan Chakrabarti,</b> VP-outreach programs biologics, USP</li> </ul> <p>Moderator: <b>Dr. Narender Chirmule,</b> CEO SymphonyTech Biologics.</p>	
<b>7.25-7.30 pm</b>	<b>Closing Remarks : Dr. Madhavi Rao,</b> BIRAC	

## Session: Pioneer the Possible - Precision Health

Day 2: Tuesday, 2<sup>nd</sup> March 2021

Hall DNA

6:00 pm – 7:30 pm (IST)

*The world is facing a wide spectrum of challenges related to health and well-being. Precision medicine targets diagnosis and treatment tailored to the individual. Joint efforts in this area will result in improved health, strengthened international competitiveness for all stakeholders, increased export, and new investments.*

*Given the diverse population, India has a particular need for precision medicine. Infectious diseases, cardio-metabolic diseases, cancer, and rare genetic disorders have been identified as priority areas for precision medicine – areas where Sweden has renowned expertise. This opens doors for Sweden to work jointly with India to address this challenge and co-develop the future of precision medicine.*

*India's burgeoning biotechnology sector, a thriving culture of start-ups, a large skilled workforce, and an openness to embrace new ideas, all make India, 'the place to be'. With many Indian companies now developing ambitious precision medicine research activities, the time is just right to partner up with Sweden and its strengths in areas such as molecular profiling and AI solutions. By showcasing Indian and Swedish life science solutions, benefits of sharing platform technology and information.*

*Similarly, Sweden has much to gain from joint policy learnings and concrete R&D partnerships and projects with India. For example, in the current implementation of its Life Science strategy. There is a potential to exchange research insights and data between Indian and Swedish organisations and engage in joint training and education programmes to help embed precision medicine principles in research practice, as well as at clinical, industry and policy levels.*

*With the above background, under the aegis of the Sweden-India Innovation Partnership, both countries are organising a dialogue on "PIONEER THE POSSIBLE – PRECISION HEALTH - Precision medicine and data-driven life sciences at the upcoming Global Bio-India Summit 2021 to be hosted by Department of Biotechnology, BIRAC, ABLE and CII.*

**Objective** – The objectives of the dialogue are:

- To explore collaboration opportunities between Indian and Swedish industry, researchers, agencies, incubators and start-ups in Precision Medicine and Data-Driven Life Sciences (DDLs).
- To enable policy development and learning between Sweden and India.

**Moderator: Mr Niclas Jacobson**, Deputy Director-General and Head of the Division for European Union and International Affairs, Ministry of Health and Social Affairs, Government of Sweden

## AGENDA

**Moderator welcomes everyone – 2 min**

**Welcome remarks – 10 min**

- H.E. Ambassador **Klas Molin**, Embassy of Sweden in India (2 min)
- H.E. Ambassador **Tanmaya Lal**, Indian Embassy in Sweden (2 min)
- **Dr Renu Swarup**, Secretary, Department of Biotechnology (5 min)

**Introduction to the topic and purpose of roundtable – 8 min**

- **Dr Jenni Nordborg**, National Coordinator & Director of the Office for Life Sciences at the Government Offices of Sweden (5 min)
- **Dr Alka Sharma**, Senior Adviser, Department of Biotechnology (3min)

**Scene setter reflections to introduce thematic areas– 20 min (each speaker is asked for a 5 min reflection)**

- Implementation of precision medicine and health data – short intro by the moderator
  - i. **Dr Richard Rosenquist Brandell**, Director, Science for Life Laboratory (SciLifeLab) and Coordinator, Genomic Medicine Sweden
  - ii. **Dr Anurag Agarwal**, Director, CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB), India
- New innovation platforms for Precision medicine – short intro by the moderator
  - i. **Dr Lotta Ljungquist**, CEO, Cytiva and Testa Center
  - ii. **Dr Sudeep Gupta**, Director, Tata Memorial Centre Advanced Centre for Treatment, Research and Education in Cancer (TMC-ACTREC), India

**Moderated discussion – 40 min**

- i. **Professor Ingemar Ernberg**, Professor Karolinska Institute
- ii. **Dr. Sudeep Gupta**, Director ACTREC, Mumbai
- iii. **Mr. Anders Blanck**, CEO/Director General at The Swedish Association of the Pharmaceutical Industry, LIF
- iv. **Dr Björn Arvidsson**, Managing Director STUNS Life science
- v. **Professor Ollie Kallieniemi**, Director of Science for Life Laboratory, Professor of Molecular Precision Medicine, Karolinska Institute
- vi. **Ms. Malin Petersen**, Vinnova
- vii. **Ms. Anuradha Acharya**, CEO Mapmygenome
- viii. **Dr. Lars Hammarström**, Vinnova Swedish Innovation Agency

*Questions to be explored:*

- What developments do you see within precision medicine? What examples of precision medicine can you share from your organization?
- What collaborations would you like to see between India and Sweden within precision medicine and what are the potential opportunities?



- What governmental support would be required to attract more industry-academia and B2B collaboration in this domain? What infrastructure is required to enable collaborations?
- What role can industry play to strategically promote precision medicine in India and Sweden?
- What do you bring with you from this discussion and how will you be able to contribute to a better collaboration between Sweden and Indian in the field of precision medicine?

**Q&A – 5 min**

**Conclusions by moderator – 2 min**

## Session: Women Entrepreneurs Conclave

Day 2: Tuesday, 2<sup>nd</sup> March 2021

Hall ATGC

7:00 pm – 8:30 pm (IST)

*Entrepreneurship among women has the power to change the economic and social trajectory of any country. Today, India has 13.5–15.7 million women-owned enterprises, representing 20% of all enterprises. Women have excelled in India's Bioscience sector, be it as an innovator, entrepreneur, or essential knowledge workforce. Several eminent women have proven their mettle and have become role models for everyone, from the government to the private sector. While there are prominent examples of successful women entrepreneurs, the numbers need to be boosted. As per a report by Google and Bain & Company released in February 2020, despite improvements in social parameters, India's growth does not translate to the economic inclusion and development of women. If accelerated to its full quantity and quality, women entrepreneurship can create over 30 million women-owned enterprises and can generate around 150–170 million jobs. Another study by Mckinsey Global Institute in 2015 shows that India's GDP could rise by between 16-60% by 2025 if women participated equally with men in the economy.*

*The session will highlight various initiatives and measures taken by India to boost women entrepreneurship. This session would also bring together women leaders from across the globe who will share their experiences highlighting the challenges and learnings from their respective experiences.*

### Minute to Minute Programme

<b>7:00-7:02 pm</b>	Welcome Address	<b>Ms. Geetika Dayal</b> Executive Director, TiE Delhi NCR
<b>7:02- 7:45 pm</b>	Experience Sharing by Women Leaders across the Globe	<ul style="list-style-type: none"> <li>• <b>Ms. Kavitha Iyer Rodrigues</b>, CEO, Zumutor Biologics, India</li> <li>• <b>Ms. Mamta Kohli</b>, Senior Social Development Advisor, FCDO, UK</li> <li>• <b>Ms. Agnė Vaitkevičienė</b>, Vice President, Lithuanian Biotechnology Association, Lithuania</li> <li>• <b>Ms. Anupam Nayak</b>, Eindhoven medical robotics, Netherlands</li> <li>• <b>Ms. Iris Good</b>, Chairman and MD of Good Relations India, UK</li> <li>• <b>Ms. Anat Bernstein-Reich</b>, Managing Director, A&amp;G Partners, Israel</li> </ul> <p>Moderated by Ms. <b>Geetika Dayal</b>, Executive Director, TiE Delhi NCR</p>
<b>Award Function</b>		
<b>7:45-7:50 pm</b>	Opening Address	<b>Dr. Renu Swarup</b> Secretary, Department of Biotechnology, Govt of India
<b>7:50-7:55 pm</b>	From a small start-up to a billionaire Business Woman	<b>Dr. Kiran Mazumdar Shaw</b> Executive Chairperson, Biocon
<b>7:55 – 8:10 pm</b>	My Startup Journey	3 WInER (Women in Entrepreneurial Research) Awardees
<b>8:10 – 8:20 pm</b>	WInER Awards	Felicitation of WInER Awards to Biotech Women Entrepreneurs hosted by BIRAC-TiE Delhi NCR
<b>8:20 -8:30 pm</b>		<b>Dr. Renu Swarup</b> Secretary, Department of Biotechnology, Govt of India
		<b>Dr. Renu Swarup</b> Secretary, Department of Biotechnology, Govt of India
	Vote of Thanks by <b>Taranjeet Kaur</b> , BIRAC	

## Session: Blue Economy

**Day 2: Tuesday, 2<sup>nd</sup> March 2021**

**Hall RNA**

**7:00 pm – 8:00 pm (IST)**

*The Blue economy is the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, while preserving the health of ocean ecosystem. It involves programmes for sustainable harnessing of ocean resources, R&D in oceanography, assessment of stock marine resources like minerals, introduction of marine aquaculture, deep sea/long line fishing and biotechnology and development of human resources. United Nations agenda on sustainable development (Projected SDG Goal-14 by 2030) is on conservation, sustainability and use of oceans, seas and marine resources for increasing the economic benefits to Small Island developing states and least developed countries for sustainable use of marine resources, including sustainable management of fisheries, aquaculture and tourism.*

*As a part of the Blue Economy, the Department of Biotechnology (DBT) has developed a consortium programme/virtual centres of Marine Sciences with strong linkages proposed to the 'Advanced Marine Station for Ocean Biology', which is part of the Deep Ocean Mission of Ministry of Earth Sciences.*

### Minute to Minute Programme

<b>7:00 pm</b>	Welcome Address	<b>Dr. Shilpi Gupta</b> , BIRAC
<b>7.00 - 7.10 pm</b>	Exploration of Marine Microbial Resources for blue economy	<b>Dr. Yogesh Shouche</b> Emeritus Scientist, National Centre for Cell Science, Pune
<b>7.10 - 7.20 pm</b>	Science & Technology options for coastal area prosperity	<b>Dr Ajay Parida</b> Director, Institute of Life Sciences, Bhubneshwar
<b>7: 20 - 7:30 pm</b>	Marine natural compounds- biotechnological prospective	<b>Dr. G. Dharani</b> , Scientist F, National Institute of Ocean Technology, Chennai
<b>7: 30 - 7:40 pm</b>	Deep-sea and distant water living resources: Potential and prospects	<b>Dr. Hashim Manjibrayakath</b> , Scientist D, Centre for Marine Living Resources Ecology, Kochi.
<b>7: 40 - 7:50 pm</b>	Marine Fishery Advisory Services for Blue Economy	<b>Dr. Uday Bhaskar</b> Scientist F, Indian National Centre for Ocean Information Services, Hyderabad.
<b>7: 50 - 8:00 pm</b>	Transforming lives - Open Sea Cage fish culture and Seaweed culture technologies - Prospects and Opportunities in India	<b>Dr. N. Vinith Kumar</b> , Scientist F, National Institute of Ocean Technology, Chennai

## Session: Building Capacities for Future India

*Incubators | Tehcnology | Urjit Clusters | CONES*

**Day 3: Wednesday, 3<sup>rd</sup> March 2021**

**Hall ATGC**

**2:30 pm – 4:00 pm (IST)**

*India has become the Global hub for the Biotech ecosystem. The technological change in the industry requires continuous innovation, which derives from academic research through a transformation process that converts science-oriented knowledge to marketable products. The Govt of India through its various Ministries and agencies has built the ecosystem that currently nurtures more than 3000 startups in Biotechnology. With a target to support 10,000 startups by 2025 we need to further strengthen the ecosystem.*

*The session would highlight and showcase the existing initiatives and extensive contribution towards capacity building. The session would draw recommendations for building India as the Global Biomanufacturing Hub in the near future.*

### Minute to Minute Programme

<b>2:30-2:40 pm</b>	<b>Welcome address and Talk on DBT's role in Building Capacities - Biotech Parks, Urjit Clusters, CONES, SAHAJ"</b> Dr. Alka Sharma, Scientist G, Department of Biotechnology
<b>2:40-2:53 pm</b>	<b>Lead Talk</b> Dr. Lynda Stuart, Deputy Director, Vaccines & Human Immunobiology
<b>2:53-3:00 pm</b>	<b>E-inauguration of Facilities under National Biopharma Mission</b> In the presence of Ms. Anju Bhalla, JS, DST and MD, BIRAC
<b>3:00-3:08 pm</b>	<b>BIRAC's role in energizing the Biotech Innovation Ecosystem</b> Dr. Manish Diwan, Head Strategic Partnerships & Entrepreneurship Development, BIRAC
<b>3:08-3:15 pm</b>	<b>Integration of Digital sciences, Artificial Intelligence, Digital Technologies in the Innovation Ecosystem</b> Mr. Sanjeev Malhotra, CEO, CoE-IoT, Nasscom
<b>3:15-3:20 pm</b>	<b>Overview-National Biomedical Resources Indigenization Consortium (NBRIC)</b> Dr. Taslimarif Saiyed, CEO and Director, C-CAMP
<b>3:20-3:30 pm</b>	<b>DST's role in nurturing the Innovation Ecosystem</b> Dr. Anita Gupta, Scientist G, Adviser and Head-NSTEDB, DST
<b>3:30-3:40 pm</b>	<b>Overview-Atal Tinkering Labs and Atal Incubation Centres</b> Shri R. Ramanan. Mission Director, Atal Innovation Mission
<b>3:40-3:58 pm</b>	<b>Special address</b> by Shri Kris Gopalakrishnan, <i>Chairman Axilor Ventures &amp; Co-founder Infosys</i>
<b>3:58-4:00 pm</b>	<b>Vote of Thanks by Dr. Chhaya Chauhan, BIRAC</b>

## Session: AMR & Neglected Diseases

Day 3: Wednesday, 3<sup>rd</sup> March 2021

Hall RNA

2:30 pm – 3:30 pm (IST)

*Strategic partnership for medical innovation in India: Addressing critical treatment gaps for neglected tropical diseases and drug-resistant bacterial infections.*

*The session will discuss feasible strategies to support innovative technological interventions to tackle problems associated with Neglected Tropical Diseases (NTDs), Antimicrobial Resistance (AMR), and other infectious diseases in India. The Department is willing to expand its strategic partnerships by collaborating with Drugs for Neglected Diseases initiative (DNDi) and Global Antibiotic Research and Development Partnership (GARDP) to support affordable medical innovations that meets the treatment needs of patients affected by NTDs, AMR, and other infectious diseases.*

*Considering AMR as a National priority under the National Action Plan endorsed by the Government of India, the Department of Biotechnology (DBT) has initiated a major Mission on Antimicrobial Resistance. As envisioned under this Mission, the Department in collaboration with the WHO Country Office for India has developed the AMR-specific Indian Pathogen Priority List (IPPL), which will help in prioritizing the research and innovation needed to target AMR pathogens according to national as well as international needs.*

*In the backdrop of recent COVID-19 pandemic, there is a discrete need to rethink AMR's position as part of the global health agenda as COVID-19 will affect the global response to AMR in both positive and negative ways. Hence the strategic partnerships and the India specific pathogen priority list will help strategize the future R&D roadmap of infectious diseases to address the national as well as global needs.*

### Minute-to-Minute Programme

<b>2;30 pm - 2:35 pm</b>	Opening Address, DBT's Vision for innovation in infectious diseases post Covid19 and Announcement of MoU of DBT through BIRAC with DNDi & GARDP	<b>Dr. Sundeep Sarin,</b> Advisor, Department of Biotechnology, Govt of India
<b>2:35 pm - 2:40 pm</b>	AMR Pathogen Priority List and WHO's vision for AMR and neglected diseases	<b>Dr. Roderico H. Ofrin,</b> WHO Representative in India
<b>2;40 pm - 2:45 pm</b>	DNDi's alternative innovation model and end-to-end approach for R&D in India	<b>Dr. Bernard Pecoul,</b> Executive Director, DNDi
<b>2;45 pm - 2:50 pm</b>	GARDP's Vision: From Discovery to Access in India and Beyond	<b>Dr. Manica Balasegaram,</b> Executive Director, GARDP
<b>2;50 pm - 2:55 pm</b>	Role of Industry for innovation in India	<b>Mr. Pankaj Patel,</b> Chairman, Zydus Cadila
<b>2;55 pm - 3:25 pm</b>	Panel Discussion: "Fostering Innovation and R&D to address infectious diseases in India and beyond" <ul style="list-style-type: none"> <li>• CDSCO: <b>Mr. A K Pradhan</b></li> <li>• MSFAccess: <b>Ms. Leena Menghaney</b></li> <li>• DNDi: <b>Mr. Charles Mowbray</b></li> <li>• GARDP: <b>Dr. Seamus O' Brien</b></li> <li>• BIRAC: <b>Dr. S Mukherjee</b></li> <li>• Bugworks- <b>Anand Anandkumar</b></li> <li>• ETH Zürich- <b>Dr. Thomas Van Boeckel</b></li> </ul> Moderated by <b>Dr. Harish Iyer,</b> BMGF	
<b>3:25 pm - 3:30 pm</b>	Closing Remarks by <b>Dr. Sandeep Sarin,</b> Department of Biotechnology, Govt of India	



## Session: Building Entrepreneurial Culture

*Grassroot Innovations for Societal Good (Bharat ke SITARE, EYUVA)*

**Day 3: Wednesday, 3<sup>rd</sup> March 2021**

**Hall RNA**

**3:30 pm – 4:30 pm (IST)**

*Having built 3<sup>rd</sup> largest start up ecosystem in the world, India is home to more than 60,000 startups. Entrepreneurial culture is set to define the growth trajectory of the country in the coming years. Inculcating and spreading this culture amongst the youth right in the early years of education is need of the hour.*

*Grassroot innovations or community led solutions can offer promising sustainable solutions for larger societal good.*

*The session would discuss the initiatives, opportunities and challenges towards building a strong entrepreneurial culture with special focus on grassroot innovations.*

### Minute-to-Minute Programme

<b>3:30-3:32 pm</b>	Welcome Address	<b>Prof. Anil Gupta</b> Founder, Honey Bee Network, SRISTI, GIAN & NIF
<b>3:32-3:37 pm</b>	Role of DBT as an enabler	<b>Dr. Renu Swarup</b> Secretary Department of Biotechnology, Govt of India
<b>3:37-3:45 pm</b>	Special Address	<b>Dr. Shekhar Mande</b> DG, CSIR
<b>3:45-3:55 pm</b>	Leap-frogging Pole-vaulting	to <b>Dr. R A Mashelkar</b> National Research Professor and Former DG-CSIR
<b>3:55-4:00 pm</b>	Social Entrepreneurship	<b>Prof Satyajit Majumdar</b> Centre for Social Entrepreneurship, School of Management and Labour Studies, Tata Institute of Social Studies
<b>4:05-4:10 pm</b>	Integrating innovations to the last mile	<b>Ms. Reema Nanavati</b> Self-Employed Women's Association of India (SEWA)
<b>4:10-4:30 pm</b>	Panel discussion by grass root innovators <b>Dharambir Kamboj</b> , Farmer Innovator & Entrepreneur, Haryana <b>Paresh Panchal</b> , Grassroot Innovator, Gujarat <b>Ami ben Patel</b> , Algae based bioentrepreneur, SIIE <b>Santosh Pachar</b> , Innovator of high yielding variety of carrot, Sikar, Rajasthan <b>Yash Bhatt</b> , Brook & Bloom, Upscaling floral waste for craft, colour & fertiliser Moderated by <b>Prof. Anil Gupta</b>	

## Session: Regulation and Policies for Global Convergence

Close door session (by invite CDSCO)

**Day 3: Wednesday, 3<sup>rd</sup> March 2021**

**Hall Electron**

**3:00 pm – 5:00 pm (IST)**

*The affordability and accessibility of medicines with quality is an area of concern for both developing and developed countries. Though, the regulators and policy makers across world are finding innovative ways to enhance the quality of medicines by framing the regulatory approval processes transparent and more efficient, there is a need for collaboration for harmonizing regulations and policies across different nations.*

*The regulatory cooperation and convergence is the need of the current times. “Regulatory convergence” represents a process whereby the regulatory requirements and approaches across countries and regions become aligned over time so that harmonized technical guidance documents, standards and scientific principles are adopted and similar regulatory practices and procedures are introduced. This session is focused towards discussing the possible ways of harmonizing the current regulatory practices of different countries.*

### Minute-to-Minute Programme

#### Setting the Scene :

Introduction to the Indian regulatory systems.

A brief on the regulatory requirements for import and export of the medicines to various parts of world. Highlighting the challenges and bottlenecks faced by the Bio-pharmaceutical Industry.

What are the major regulatory challenges faced by Bio-pharmaceutical Industry in the approval process (All product categories)?

Are there any potential recommendations to address the bottlenecks?

<b>3:00 – 3:08 pm</b>	Welcome Address	<b>Dr. Nitin Jain</b> , Scientist-F Department of Biotechnology, GoI
<b>3:08 – 3:30 pm</b>	(Context and Purpose of session) Regulatory Approval Process– India	<b>Dr. V. G. Somani</b> Drugs Controller General of India Central Drugs Standard Control Organisation (CDSCO)
<b>3:30 – 3:50 pm</b>	Industry Perspective	<b>Dr. Akshaya Odak</b> Head – Regulatory Lupin Biotech
	Industry Perspective	<b>Dr. Krishna Prasad</b> General Manager MJ Biopharma

Industry Perspective	<b>Dr. Bobby George</b> Head – Regulatory Reliance Life Sciences
Perspective	<b>Dr. Anurag Rathore</b> Centre of Excellence on Bio-Pharmaceutical IIT- Delhi

**Regulators perspectives:**

The regulatory practices followed by regulators across various countries and the efforts taken by the regulators to harmonize and make the regulatory process transparent.

Is there a need to harmonize the regulatory approval process of different countries?

In India, different agencies are involved in the regulatory approval process. Is it possible to develop a regulatory network of national bodies to facilitate the approval process?

<b>3:50 – 4:35 pm</b>	UK	<b>Ms. Pallavi Trivedi</b> Global Regulatory Affairs, RAPS EU COUNCIL
	WHO	<b>Dr. Manisha Shridhar</b> , Regional Advisor, World Health Organization- South East Asia Regional Office WHO-SEARO, India
	Switzerland	<b>Dr. Claus Bolte</b> Head of Authorisation Swissmedic
	DBT	<b>Dr. Alka Sharma</b> Adviser/Scientist ‘G’ Department of Biotechnology, GoI
	CPCSEA	<b>Dr. S K Dutta</b> Joint Commissioner (Animal Welfare) & Member Secretary (CPCSEA)
	BIS	<b>Dr. Sumit Kumar &amp; Dr. Pradeep Dua</b> Scientist, Bureau of Indian Standards
	GeM	<b>Sh Rajeev Kandpal</b> CFO, Government e-Market Place

**Enhancing the regulatory facilitation for Global Convergence**

To achieve the mandate of global convergence, it is important to develop a strong and cohesive regulatory network which can be utilized for developing and strengthening the regulatory ecosystem across nations.

**4:35 – 5:00 pm**

**Open house discussion**

How can we enhance the regulatory facilitation across various stakeholders?

Are there any policy level changes required to harmonize the regulatory process for global convergence?

What are the barriers in effective use and adoption of standards/ guidelines?

**Q&A**

## **Session: Agritech Conclave**

*Kissan Hub | AgriBiotech Cluster*

**Day 3: Wednesday, 3<sup>rd</sup> March 2021**

**Hall ATGC**

**4:00 pm – 5:30 pm (IST)**

*Agritech start-ups have started to show their impact in improving the livelihood of smallholder farmers and fostering local economic growth. There are still miles to go to fully transform the agricultural sector, but the foundation for an agritech start-up evolution has been firmly laid. There are still many challenges towards achieving this goal especially given the time it takes to commercialize technologies, gaps in technology transfer and application, and lack of access to facilities that are critical to start-ups and SMEs for technology refinement, manufacturing hubs, marketing, and regulatory compliances.*

*The Department of Biotechnology offers two solutions to these challenges: the ongoing Biotech-KISSAN Hubs program and the upcoming Agri-Biotech Clusters. The Hubs offers an alternate channel for testing novel ideas and technologies directly with farmers thereby minimizing the time involved in trials and validating the use-cases and adoption of proven technologies through large-scale field demonstrations at the grassroots level.*

*On the other hand, the existing business incubation centers provide the nurturing ground for ideas to be translated into Proof-of-Concept (POC). To move into the commercialization stage, start-ups need to go through the pivotal pilot stage and need access to plug-and-play facilities. The envisaged nation-wide network of Clusters will provide start-ups and enterprises with such services (technology propellers) and facilities (SME manufacturing zones).*

*Together, these initiatives can lead towards better translation of technologies from lab to land, facilitate job creation in the rural economy, improving livelihood opportunities to the millions depending on agricultural and allied sectors, and create a sustainable research and development pathway in the agri-biotechnology domain.*

*The session will provide an overview of this approach along with plans to link up with initiatives in the agricultural sector. The panel discussions with agritech start-up ecosystem leaders and stakeholders will cover how Kissan Hub and Agri Biotech Cluster can be leveraged to further the growth of agribusiness-based start-ups and SMEs in the country that can better address the needs of our farmers for Atmanirbhar Bharat Abhiyaan.*

**Minute to Minute Programme**

<b>04:00-04:05 pm</b>	Welcome Address	<b>Dr Sanjay Saxena</b> General Manager & Head (Investment), BIRAC
<b>04:05-04:10 pm</b>	Context setting of the Session	<b>Dr Kiran K Sharma</b> Chief Executive Officer, Agribusiness & Innovation Platform, ICRISAT Director, CGIAR Research Program on Grain Legumes & Dryland Cereals (CRP-GLDC)
<b>04:10-04:25 pm</b>	Keynote Address	<b>Dr Maurice Moloney</b> Founder and Managing Partner, Agritecknowledge LLC, Spain
<b>04:25-04:35 pm</b>	Plenary Speaker	<b>Professor Neena Mitter</b> FTSE Director, QAAFI Centre for Horticultural Science Director, ARC Research Hub for Sustainable Crop Protection
<b>04:35-04:50 pm</b>	The journey so far: Impression from start-ups	<ul style="list-style-type: none"> <li>• Dr Renuka Karandikar, Bio-Prime Agrisolutions Pvt Ltd (BioPrime)</li> <li>• Dr Abhishek Sinha, Agsmartic Technologies Pvt Ltd (AgSmartic)</li> <li>• Dr Shailendra Tiwari, Wolkus Technology Solutions Pvt Ltd (Fasal)</li> <li>• Dr Sandeep Kondaji, Krishitantra</li> <li>• Mr. Shyam Katta, Smart Farmingtech</li> </ul>
<b>04:50-05:30 pm</b>	Panel discussion on KISSAN Hub and Agbiotech Cluster  Moderated by: Dr Kiran K Sharma	<b>LEAD SPEAKER</b>
		<b>Mr. Ram Kaundinya</b> Director General, Federation of Seed Industry of India
		<b>Mr. Hemendra Mathur</b> Venture Partner, Bharat Innovation Fund
		<b>Mr. S Baskar Reddy</b> Country Director, Syngenta Foundation India
		<b>Mr. Ramesh Ramachandran</b> Senior Vice President - Farming as a Service & Head of Farm Sector Strategy, Mahindra & Mahindra
		<b>Mr. Kunal Prasad,</b> Co-founder & COO CropIn Technology Solutions
		<b>Dr Srinivas Kondapi</b> Principal Scientist, Research Management Division; CEO, a-IDEA, ICAR – National Academy of Agricultural Research Management
		<b>Mr. Shyam Katta</b> Advisor/Director, Smart FarmingTech, India
	Vote of Thanks	<b>Dr Amita Joshi</b> Chief Manager Technical BIRAC

## Session: Enhancing Capacities in MedTech Ecosystem

Day 3: Wednesday, 3<sup>rd</sup> March 2021

Hall DNA

4:00 pm – 5:30 pm (IST)

*The National Biopharma Mission (NBM) of Dept. of Biotechnology and support from the World Bank, has supported MedTech facilities across the country to cater to the increasing demand of quality indigenous medical devices. 4 prototyping facilities have been supported for development of early stage prototypes of medical devices for various applications using different materials while 3 testing facilities will help with in-vitro and in-vivo testing of medical devices. The manufacturing and scale-up facilities had been supported primarily to help in the fight against COVID-19 pandemic but are equipped to support the overall medical device ecosystem.*

*These service facilities have been established and are now accessible to researchers, start-ups and large companies/ manufacturers developing medical devices for supporting product development. To enable the better visualization of the capability and capacity of these facilities with the goal to ensure accessibility to affordable services, a discussion has been organized of all the MedTech prototyping, testing, manufacturing and scale-up facilities during the Global Bio-India 2021 so that each facility gets an opportunity to display their capacity and exhibit their respective services.*

*The discussion will engage speakers representing the funded facilities to provide relevant information and details about the capabilities of the facility. A panel discussion wherein discussions on the possible gaps in the medical device industry and the solutions provided by the facilities to address those specific gaps would be undertaken. The panellists would comprise of facility representatives and moderated by an expert in the area of medical devices. The intended outcome of this session would eventually be a much wider outreach for the facilities and assistance to the medical device innovators to develop innovative and indigenous products at affordable costs. The intended audience of the webinar would be researchers, start-ups and large companies that are developing novel medical devices; technical experts and other medical devices industry stakeholders.*

### Minute to Minute Programme

<b>4:00 – 4:05 pm</b>	Opening Remarks	<b>Dr. Kalaivani Ganesan</b> , DBT
<b>4:05 – 4:15 pm</b>	Introduction to the MedTech Facilities	<b>Dr. Hardeep Vora</b> , National Biopharma Mission.
<b>4:15 – 5:00 pm</b>	Panel Discussion  MedTech Capacities in India.	<p><b>Prof. B. Ravi</b>, BETiC Lab, IIT Bombay – <b>Moderator.</b></p> <p><b>Dr. V. Premnath</b>, Venture Center, Pune-Co <b>Moderator</b></p> <p><b>Prof. J. Ramkumar</b>, IIT Kanpur</p> <p><b>Prof. Akhter Hussein</b>, Yenepoyya University</p> <p><b>Dr. Feroz Mustafa</b>, Center for Cellular and Molecular Platforms</p> <p><b>Mr. Vishwas Kurundkar</b>, Netra Accelerator Foundation</p> <p><b>Dr. Jaleel Akhtar</b>, IIT Kanpur</p> <p><b>Mr. Milind Joshi</b>, SAMEER – Mumbai</p> <p><b>Dr. Ramamoorthy</b>, Palamur Bioscience Pvt. Ltd.</p>
<b>5:00 – 5:25 pm</b>	Q&A from audience	Session moderator- Prof. B. Ravi
<b>5:25 – 5:30 pm</b>	Closing Remarks	Session moderator- Prof. B. Ravi

## Session: BIG Leap

(Early stage success story)

Day 3: Wednesday, 3<sup>rd</sup> March 2021

Hall RNA

4:30 pm – 5:30 pm (IST)

*The Biotech start-up ecosystem received a major push by favorable Government policies and initiatives announced during last 4-5 years. Availability of early stage funding is one of the major challenges faced by Biotech Start-Ups in addition to others like access to specialized infrastructure and equipment, long gestation period, technical and business mentorship, regulatory guidance etc.*

***Biotech Ignition Grant (BIG)** launched by DBT/BIRAC in 2012 is one of the rare opportunities available to individual entrepreneurs and early stage start-ups for funding risky innovative ideas. BIG has revolutionized the landscape of early stage funding in biotech sector by supporting 550+ innovative ideas. Many of these have reached the market and have created intellectual wealth, raised investments, won national and international awards & accolades.*

*The session would discuss the successful case studies of few early stage start-ups supported through BIG and deliberate on the current challenges faced by them.*

### Minute-to-Minute Programme

<b>4:30-4:35 pm</b>	Welcome and Highlights of BIG Scheme	<b>Ms. Taranjeet Kaur</b> Manager, Entrepreneurship Development, BIRAC
<b>4:35-4:45 pm</b>	Special Address	<b>Prof. Rishikesh T. Krishnan</b> Director, IIM-Bangalore
<b>4:45-4:55 pm</b>	Keynote Address	<b>Prof. G. Padmanaban</b> Former Director, IISc & Senior Science Innovation Adviser
<b>4:55-5:25 pm</b>	Panel discussion: Opportunities and challenges for early stage Start ups: Investors' & Mentors' Perspective	Introduction to the session by <b>Ms. Deepanwita Chattopadhyay</b> , CEO, IKP Knowledge Park  <ul style="list-style-type: none"> <li>• <b>Mr. Rajeev Aiyappa/Mr. Nitin Deshmukh</b></li> <li>• <b>Dr. Rohit Srivastava</b>, IITB</li> <li>• <b>Dr. Manish Diwan</b>, Head, SPED, BIRAC</li> <li>• <b>Mr. Mudit Dandwate</b>, Dozee</li> <li>• <b>Mr. Sachin Dubey</b>, Module Innovations</li> <li>• <b>Mr. Arvind S</b>, Flexmotiv</li> <li>• <b>Mr. Partha Pratim Das</b>, EzeRx Health Tech</li> <li>• <b>Ms. Renuka Diwan</b>, Bioprime AgriSolutions</li> </ul> moderated by <b>Ms. Deepanwita Chattopadhyay</b>
<b>5:25-5:30 pm</b>	Applauding BIG Mentor Community & Vote of Thanks	<b>Ms. Shilpy Kochhar</b> , BIRAC



## Session: Valedictory & Award Ceremony

Global Bio India 2021 Awards

Day 3: Wednesday, 3<sup>rd</sup> March 2021

Hall

5:30 pm – 6:00 pm (IST)

*The session would showcase and acknowledge the achievements of the start-ups. The session comprises of the Launch of innovative Products by Startups; Launch of BIRAC supported MedTech facilities; Annual Innovator Awards in the area of Healthcare, Agriculture and Industrial Biotechnology; Best Bioincubator Awards and the Best Start-up Awards.*

### Minute-to-Minute Programme

5:30-5:32 pm	Welcome Remarks	<b>Dr. Renu Swarup</b> Secretary Department of Biotechnology, Govt. of India
5:32- 5:55 pm	<b>GLOBAL BIO-INDIA 2021 AWARD CEREMONY</b>	
	<b>By Hon'ble Vice President and Hon'ble Minister S&amp;T</b>	
	<b>In the company of</b> <b>Shri Chandrajit Banerjee</b> Director General, CII	
	<b>Dr. Kiran Mazumdar Shaw</b> Executive Chairperson, Biocon Ltd.	
5:32-5:37 pm	<b>BIRAC's Innovators Awards</b> in the area of Healthcare, Agriculture and Industrial Biotechnology (6)	
5:37-5:40 pm	<b>Best Start-up awards (3)</b>	
5:40-5:42 pm	<b>Best BioIncubator Awards (2)</b>	
5:42-5:47 pm	<b>Address and Release of Indian Pathogen Priority List</b> (in the presence of WHO representative) by <b>Dr. Harsh Vardhan</b> Hon'ble Union Minister of Science & Technology; Health & Family Welfare and Minister of Earth Sciences	
5:47-6:00 pm	Address by <b>Sh. Venkaiah Naidu</b> Hon'ble Vice President of India	
6:00 pm	<b>Vote of Thanks, Dr. Manish Diwan, BIRAC</b>	

## Session: Emerging Technologies

*Health | Synthetic Meat | Alternate Dairy Products | Reduction in Carbon Footprints |  
Efficient Manufacturing | Waste to Value*

**Day 3: Wednesday, 3<sup>rd</sup> March 2021**

**Hall ATGC**

**6:00 pm – 7:30 pm (IST)**

*This session will be focusing on various emerging technologies under biotechnology covering areas including Health, Food, Energy and Environment.*

### Minute-to-Minute Programme

<b>6.00 - 6.03 pm</b>	Welcome and Opening Remarks by <b>Dr. Suchita Ninawe</b> , Department of Biotechnology
<b>6:03 - 6:08 pm</b>	Introductory Note and Context Setting by <b>Dr. Prabuddha Kundu</b> , Managing Director, Premas Biotech Pvt. Ltd
<b>6:08 - 6:18 pm</b>	<b>Lead Talk</b> by <b>Prof. Melanie J Welham</b> , Executive Chair, BBSRC, UKRI <b>Engineering Biology: an emerging biotechnology</b>
<b>6:18 - 6:28 pm</b>	Talk by <b>Mr Nadav Kidron</b> , CEO & President, Oramed Pharmaceuticals Inc.
	<b>Ingesting vs Injecting – The future of administering therapies</b>
<b>6:28 - 6:38 pm</b>	Talk by <b>Dr Ori Cohavi</b> , Co-Founder & CTO, Remilk.
	<b>Precision Fermentation-Based Dairy Products</b>
<b>6:38 - 6:48 pm</b>	Talk by <b>Mr. Varun Deshpande</b> , Managing Director, Good Food Institute India
	<b>Smart Proteins</b>
<b>6:48 - 6:58 pm</b>	Talk by <b>Dr. Kapil Khullar</b> , Senior Director - Chromatography and Mass Spectrometry Division, Thermo Fisher Scientific India Pvt Ltd
	<b>Emerging Analytical Technologies for Biologics R&amp;D and QA/QC</b>
<b>6:58 - 7:08 pm</b>	Talk by <b>Dr. Sovan Sarkar</b> , Birmingham Fellow, Institute of Cancer and Genomic Sciences, University of Birmingham
	<b>Harnessing human stem cell based platforms for therapeutic exploitation of autophagy in human diseases.</b>
<b>7:08 - 7:18 pm</b>	Talk by <b>Mr Swapan Mehra</b> , Vice President, Invest India
	<b>Waste to Wealth</b>
<b>7:18 - 7: 28 pm</b>	Discussion and Q&A Moderator: <b>Dr. Prabuddha Kundu</b> , Premas Biotech
<b>7: 28 - 7:30 pm</b>	Closing remarks- <b>Dr. Saishyam Narayanan</b> , BIRAC

## **Session: Learnings for Pandemic for Future Collaborations US-India in Bio-pharmaceutical**

*(by invite- USISPF)*

**Day 3: Wednesday, 3<sup>rd</sup> March 2021**

**Hall Electron**

**6:30 pm – 7:30 pm (IST)**

*The economic ties between the United States and India lie at the heart of strategic interests, especially in the area of biotechnology. With multiple common challenges, both the nations have potential to develop an even stronger partnership.*

*India ranks amongst the top 12 biotech destinations in the world and aspire to grow to USD150 Bn by FY25. To achieve the ambitious targets quality assurance of Indian products as per international standards, strengthening regulations, research academic partnership and enhancing investment are few focus areas for Government. Large reservoir of scientific human resource, cost-effective manufacturing, and vibrant ecosystem of more than 3500 biotech start-ups, vast human gene pools, fast developing clinical capabilities and contract research are few of the opportunities for US to collaborate with India to innovate new products and make them affordable.*

*US being the global leader in biotechnology with a market size of over USD 200 bn with an expected growth at a CAGR of 7.4% between 2020-2026. Investment capacity in R&D, mature system for safeguarding innovations, robust regulatory framework in the areas of healthcare, crop production and agriculture could be potential areas of collaboration for India to build regulatory capacities and link to global value chain.*

*While both the countries are taking myriad of policy measures to rampant evolving landscape towards manufacturing resilience, improving affordability, accessibility and quality of care, USISPF is working with government and industry of both sides to support them in exploring new partnerships and business models. USISPF Session during Global Bio 2021 will be a discussion between policy maker and US Biotechnology industry on the theme of “**Learnings from Pandemic and Future of US- India Collaborations in Bio-Pharmaceuticals**” to discuss opportunities and industry views to establish win-win partnerships in biopharmaceutical sector.*

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**Minute to Minute Programme**

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**6:30 pm**Welcome **Dr Mukesh Aghi**, President and CEO USISPF

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**6:35 pm**

Opening Remarks by:

**Dr Renu Swarup**, Secretary DBT, Ministry of Science and Technology, Govt. of India/  
**Dr. Alka Sharma**, DBT/ **Dr. Jyoti Logani**, DBT**Dr. Shirshendu Mukherjee**, Mission Director PMU, BIRAC/  
**Dr. Manish Diwan**, Head, Strategic Partnership and Entrepreneurship  
Development, BIRAC**Dr V G Somani**, DCGI, CDSCO, MOHFW, Govt. of India**Dr Manohar Agnani**, Additional Secretary, Ministry of Health and Family  
Welfare, Govt. of India

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**6.50 pm**Interactive discussion between: **Govt of India and US Biopharmaceutical Industry on “Learnings from Pandemic and Future of US- India Biotech Collaborations”**

- **Ms Kate Beale**, Associate Vice President, The Pharmaceutical Research and manufacturers of America (PhRMA)
- **Mr Tim Fenton**, VP – Global Government Relations and Public Affairs, Thermo Fisher Scientific.
- **Mr Sharad Goswami**, Senior Director, Pfizer
- **Dr Shekhar S Dawkhar**, Senior Director, Clinical Costing, Enterprise Client Solutions, Covance India Pharmaceutical Services Private Limited
- **Dr Manjunath Ramarao**, Executive Director, Site Leader, BBRC R&ED, Head of Discovery and Translational Medicine, Bristol Myers Squibb
- **Ms Jyotsna Ghoshal**, Executive Director / Enterprise Lead Government Affairs & Policy, India, Johnson & Johnson
- **Dr Ram Mandalam**, President & CEO, Cellerant Therapeutics
- **Mr Raghavendra Vaggu**, GM - Biopharma -Cytiva  
**Dr Ashish Gawde**, Country Medical Director, Bayer Pharmaceuticals Pvt Ltd

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**7:30 pm**

Vote of Thanks by USISPF

## Session: Closing Ceremony

Day 3: Wednesday, 3<sup>rd</sup> March 2021

Hall ATGC

7:30 pm – 8:00 pm (IST)

### Minute to Minute Programme

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#### 7:30 pm – 8:00 pm Closing Ceremony

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7:30 – 7:32 pm	Opening Remarks <b>Dr. Sundeep Sarin, DBT</b>
7:32 - 7:40 pm	Global Bio-India 2021 -Event Summary <b>Dr. Manish Diwan, BIRAC</b>
Closing Remarks	
7:40 - 7:43 pm	<b>Ms. Anju Bhalla</b> Joint Secretary, DST & MD, BIRAC
7:43 – 7:46 pm	<b>Shri Chandrajit Banerjee</b> Director General, CII
7:46 – 7:48 pm	<b>Mr. Varun Sood</b> CEO, Invest India
7:48 – 7:54 pm	<b>Dr. Renu Swarup</b> Secretary, Department of Biotechnology
7:54 – 7:58 pm	Make In India, Secretariat Global Bio-India 2021 Vote of Thanks <b>Dr. Bhuvnesh Shrivastava, BIRAC</b>
7:58 – 8:00 pm	Special moments from Global Bio-India 2021 (pictures)



**Transforming Lives**  
**Biosciences to Bioeconomy**

**1-3 March 2021**  
**Digital Platform**

**Global Bio-India Secretariat**

Make in India Cell

Biotechnology Industry Research Assistance Council

1st Floor, MTNL Building, 9, CGO Complex, Lodhi Road, New Delhi-110003

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..... **Organisers** .....



**DEPARTMENT OF BIOTECHNOLOGY**  
Ministry of Science & Technology  
Government of India



**Biotechnology Industry Research Assistance Council**  
(A Govt. of India Enterprise)



**Confederation of Indian Industry**



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