



19th-20th March 2015 at New Delhi

Theme: Accelerating Innovations: India the next Biotech Global hub

*BIRAC celebration for its 3rd Foundation Day
– Focused on Make in India*

Biotechnology Industry Research Assistance Council (BIRAC) is a Schedule B, not-for-profit PSU under the aegis of Department of Biotechnology, Ministry of Science & Technology, Government of India is organized a two day technical programme on its 3rd Foundation Day on 19th & 20th March 2015 at New Delhi. In March 2015, BIRAC completes 3 years of its journey towards enabling and empowering the Biotech Innovation Ecosystem with the mandate to foster and promote innovation research in biotech industries specially start-ups and SMEs. During these 3 years, BIRAC's effort has been not only to enhance the innovation research capacities within the biotech industries, but also to encourage young entrepreneurs to take their new innovation ideas forward to meet the country's challenge of Affordable Product Development without undermining the quality. Today, BIRAC has more than 100 Young Entrepreneurs, nearly 250 companies and start-ups and 15 incubators supported as an important part of the Innovation ecosystem of the country.

The event started with a video message from the Hon'ble Union Minister of Science & Technology & Earth Sciences, Dr Harsh Vardhan conveying his wishes to the participants and congratulating BIRAC for the role it has played in spurring and strengthening the Entrepreneurial ecosystem within the Biotech landscape of the country. He said that

the increasing number of success stories in the country's biotech sector, increased budgetary provisions for scientific innovations in the form of ATAL Innovation Mission (AIM) and Self Employment and Talent Utilization (SETU) make him optimistic that the biotech industry will achieve its target within the framed timelines.

The Hon'ble Minister of State for Science & Technology & Earth Sciences, Shri Y.S. Chowdary was the Chief Guest for the 3rd Foundation Day and inaugurated the event. In his address, Sh. Chowdary announced the launch of the equity based BIRAC AcE Fund for Accelerating Entrepreneurs. The Equity Fund is aimed at addressing the pressing needs of accelerating the growth of entrepreneurs, in the field of Biotechnology and will be operated by BIRAC with Incubators and Business Accelerators as its partners. During his address, Sh. Chowdary emphasized that his ministry is in talk with RBI, Finance Ministry and Ministry of MSMEs to declare biotechnology as a priority sector which could boost the lending and spending in the sector by both Government and private investors. The Minister highlighted the budgetary provisions for the biotech sector that are aimed at encouraging self-employment and start-ups. He also mentioned that a help-desk is proposed to be set up in his ministry for the stakeholders and entrepreneurs who are wanting to know of these programmes.



Thereafter, a documentary movie on the role, activities and impact of BIRAC on the innovation ecosystem was screened for the

audiences. Prof. K. VijayRaghavan, Secretary, DBT & Chairman, BIRAC, gave the keynote address highlighting the future roadmap that BIRAC could venture into for further catalysing the Indian biotech ecosystem. Dr. Renu Swarup, Senior Adviser, DBT & MD, BIRAC gave the Welcome Note and BIRAC's journey since its inception. She highlighted the BIRAC's achievements in the past 3 years in fostering the innovation ecosystem and provided the Vision for its future endeavours. Sh Y.S. Chowadary, Prof. K. VijayRaghavan and Dr. Renu Swarup also launched the BIRAC Brochure for the year 2015.



During the inaugural session, three BIRAC supported innovators (from Achira Labs, Pandorum Technologies and Navya Biologicals) showcased their success stories and journey to entrepreneurship with the support of BIRAC. The further event was designed in the form of panel discussions focused on discussing issues pertinent to make biotechnology one of the key drivers of the 'Make in India' Programme. The theme for the foundation day - 'Accelerating Innovations: India the Next Biotech Global Hub', clearly focused on the importance of innovations in Make in India initiative of the Government.

The first panel discussion in the evening themed, 'India the next Global Biotech Hub: The status of our readiness?' witnessed the participation of eminent speakers from the field of Biotechnology. The panel was moderated by Sh. Utkarsh Palnitkar, Partner, KPMG and the panellists were:

- Prof. K. VijayRaghavan, Secretary, DBT & Chairman, BIRAC
- Dr. MK Bhan, Former Secretary DBT & Founder Chairman BIRAC
- Prof. G. Padmanaban, INSA Senior Scientist & Senior Science & Innovation Adviser, BIRAC
- Sh. Amitabh Kant, Secretary, Department of Industrial Policy & Promotion
- Dr. VM Katoch, Former Director General, ICMR
- Dr. Kiran Mazumdar-Shaw, Chairman and Managing Director, Biocon
- Dr. Krishna M. Ella, Chairman and Managing Director, Bharat Biotech
- Sh. Pramod Chaudhari, Executive Chairman, Praj Industries

The panel deliberated on the policy changes and inherent modalities that would hasten the process of making India a destination of choice in the global biotech landscape. The scope of discussion was diversified over various issues including size and scale of biotech industry, financing landscape for biotech start-ups & SMEs, risk taking capabilities of Indian innovators & entrepreneurs, risk averse approach of investors, tax benefits and government initiatives to promote lending in the sector, and creation of a motivating entrepreneurial ecosystem at the university level in the country. The panel discussion kicked-off the technical programme and provided the platform and momentum for the discussions scheduled for Day II i.e. 20th March 2015.



The **second day** started with a Theme presentation - *Enabling Vibrant Biotech Hubs in India*, by Bain and Company, aimed at highlighting the role of critical components of the biotech ecosystem in India required for making India a choice destination for biotech industry. The pointers include mentoring, career flexibility, cross-sector networks, infrastructure and government policies.

Following session was a Plenary Talk on '*Make in India*': a perspective on the Biotech Sector: the opportunities, the enablers, and the challenges, by Dr. Kiran Mazumdar-Shaw, where she highlighted the importance of a strong connect between academia and industry to realize the commercial potential of biotech leads. She also urged biotech industries to go to capital market and get them listed which would increase the investors' confidence in the industry as a whole. Dr. Shaw mentioned that business cells should be created at academic institutes to ensure the right mix of science and business be created at right time for a successful venture.



Among the other themes for discussion were topics like - India a Bio-manufacturing Hub: Bridging the Paradigm for Quality and Affordability; and Leveraging Partnerships to Make in India: Collaborating with national and international partners for enhanced competency.

The **second day panel discussions** were summarized as recommendations and are listed below:

Panel Discussion I

India a Bio-manufacturing hub: Bridging the paradigm for quality & affordability

Several biologics would go off-patent in the next 5 years that have the combined sales of more than US\$60 billion. This represents a massive opportunity for India to develop as a biomanufacturing hub for affordable biosimilars and contribute to 'Make in India'. Biopharma (including vaccines and biosimilars) manufacturing is a more complex process than chemical generics and further India has to bridge the paradigm of combining affordability and high quality in biomanufacturing. The session deliberated on strategies to bridge the aforementioned paradigm. Key recommendations are:

- “ High quality at low cost should be the mantra to drive Indian industry.
- “ India needs to strengthen quality systems to meet global standards, and we need to be honest in calling out and penalizing poor quality.
- “ There is also a perception problem whereby India has received a bad reputation due to a few incidents, masking the presence of high quality organizations. Indian companies and industry associations should make efforts to build awareness about quality in India to overcome the perception problem.
- “ Cost reduction can be brought about by competition and use of innovative process and manufacturing technologies and does not have to compromise on quality. There is no fundamental contradiction between quality and affordability.
- “ Policy makers should be careful not to focus on prices excessively and drive down the prices so much as to make business unsustainable, prevent new

product development, lead to companies dying out, or create an incentive for compromises on quality. Beyond a point, patient affordability is not enhanced by lowering drug prices, since there are other factors to affordability including hospitals, doctors, etc.



“ Cost and quality of product is not limited to just the manufacturing of the drug. Quality parameters are also required for the entire supply chain of reagents and input materials ó production of high quality input materials should be encouraged in India. Cost of final product also often has large contribution of packaging and distribution. Low cost solutions in this area can help reduce the price of the final product to the consumer.

Panel Discussion II

Ecosystems & Platforms to accelerate the product pipeline: Facilitating transition to the next level

The innovation pipeline from the stage of idea until eventual marketing of product goes through several hurdles. One of the significant factors that influence the success of product development is the nature of the ecosystem surrounding the enterprise and the accessibility the enterprise has to both business platforms and technical platforms.



Several ecosystems are taking shape in India which will influence biotech landscape and in turn eventual product development. It is imperative that these ecosystems evolve to provide the best in class atmosphere. This panel discussion deliberated upon the gaps & challenges in the emerging biotech ecosystems and how communities surrounding an enterprise influence its trajectories. Points highlighted during the discussion are:

- “ Considering the increasing number of innovators and entrepreneurs in the ecosystem, there is urgent requirement for more incubation space and accelerators.
- “ Tapping the context of local ecosystem has become imperative for the rapid growth of the companies.
- “ The angel investors, PEs and VCs should be sensitized and encouraged to invest in Biotechnology.
- “ World is becoming a shrinking global village and competitive edge can be gained by leveraging the knowledge and expertise of the partners irrespective of geographies. Creation of such platforms in India should be encouraged, which are open to entrepreneurs from worldwide for across cultural networking and business.

Panel Discussion III

Leveraging Partnerships to Make in India: Collaborating with national and international partners for enhanced competency

In the biotechnology arena of 'Make in India', the country should leverage the power of partnerships for reducing risks during product development and increasing India's capabilities in biotech product development. The modalities and intricacies of collaborations was deliberated by the panel including the best practices on knowledge sharing in collaborative projects. Following areas emerged out of discussion.

- ~ The key Principles of successful partnership are: Trust, Transparency and Commitment
- ~ Diverse and inclusive models of funding should be explored: Bilateral, Multi-lateral, Multi stakeholder
- ~ Focus domains could be:
 - Research and discovery
 - Transition to scale
 - Pilot scale
 - Product development
 - Market access
 - Training and skill development: Universities to be the major hub of innovation
 - Joint programs for enabling the grantees to have large exposure for funding of product development life cycle
- ~ Type of partnerships that can be promoted -
 - Industry-academia
 - Industry-entrepreneur
- ~ Development of online portal for organization of common interests to

leverage the knowledge and resources available with the partners



Panel Discussion IV

Scaling Innovation through market creation & diffusion: Effective Role of stakeholders

A major factor for success of affordable and high quality bio-innovation would be scaling strategies through market creation and adoption by end users. The panel focused on discussing the role of different stakeholders in creation of markets and diffusion of innovation such that scalable impact is



achieved, and highlighted the key action points as:

- ~ Government should play an important active role in diffusion of technologies in market by creating models for enabling Innovators to enter Govt. Health Procurement Systems
- ~ Mapping of Healthcare Innovators and technologies should be done to ensure a ready database availability for stakeholders interested in commercializing the available technologies

- “ Laws and Regulations needs to be revised to make it more Innovator friendly
- “ Large amount of funding corpus is required for scaling and diffusion of technologies in market
- “ Merging innovations of scale up potential with policy should be ensured by the policymakers

- “ Market creation and diffusion knowledge should be introduced at the universities level so as to create an understanding right at the beginning of entrepreneurial journey

The event was highly successful as it witnessed the participation from over 250 stakeholders including scientists, industry, academia, incubators, accelerators, angel investors and entrepreneurs. ■



The BIRAC Team

Annexure: Programme Agenda

3rd BIRAC Foundation Day

Accelerating Innovations: India the next Biotech Global hub

19th -20th March, 2015

New Delhi

Day I: 19th March, 2015 – Multi Purpose Hall, Gate No.1, India International Centre, #40 Max Mueller Marg, New Delhi

02:00-04:00 PM

Registration

04:00- 07:00PM

Inaugural Session

Welcome: The journey so far. Dr. Renu Swarup, Senior Adviser, DBT & MD, BIRAC

BIRAC Start-Ups: Entrepreneurial Journey

Dr. Dhananjay Dendukuri, Achira Labs

Dr. Tuhin Bhowmick, Pandorum Technologies

Sh. Vinay Konaje, Navya Biologicals

Keynote Address: Prof. K. VijayRaghavan, Secretary, DBT & Chairman, BIRAC

Inaugural Address: *Shri Y. S. Chowdary, Hon'ble Minister of State for Science & Technology & Earth Sciences, Government of India*

Vote of Thanks: Dr. Satya Prakash Dash, Head SPED, BIRAC

Panel Discussion

India the next Global Biotech Hub: The status of our readiness?

The biotechnology industry is set to grow globally and would impact all aspects of humankind- healthcare, food & nutrition and energy. For India to capture the opportunities of this industry and become a global bio-innovation destination, it is important to build upon the existing foundations and have a focused policy approach. This session would deliberate up on the policy instruments that would hasten the process of making India a destination of choice in the global biotech landscape.

Moderator: Sh. Utkarsh Palnitkar, Partner, KPMG

Panellists:

Prof. K. VijayRaghavan, Secretary, DBT & Chairman, BIRAC

Dr. MK Bhan, Former Secretary DBT & Founder Chairman BIRAC

Prof. G. Padmanaban, INSA Senior Scientist & Senior Science & Innovation Adviser, BIRAC

Sh. Amitabh Kant, Secretary, Department of Industrial Policy & Promotion

Dr. VM Katoch, Former Director General, ICMR

Dr. Kiran Mazumdar-Shaw, Chairman and Managing Director, Biocon

Dr. Krishna M. Ella, Chairman and Managing Director, Bharat Biotech

Sh. Pramod Chaudhari, Executive Chairman, Praj Industries

07:00 PM Onwards

Dinner at Fountain Lawn, India International Centre

Day II: 20th March 2015 – SCOPE Convention Centre, SCOPE Complex, 7 Lodi Road New Delhi	
09:00 –09:30 AM	Theme Presentation - Enabling Vibrant Biotech Hubs in India Sh. Anant Bhagwati, Bain & Company
09:30 –10:00 AM	Session I Plenary Talk 'Make in India': a perspective on the Biotech Sector : the opportunities ,the enablers, and the challenges Dr. Kiran Mazumdar-Shaw, Chairman and Managing Director, Biocon
10:00–11:15 AM	Panel Discussion I India a Bio-manufacturing hub: Bridging the paradigm for quality & affordability Several biologics would go off-patent in the next 5 years that have the combined sales of more than US\$60 billion. This represents a massive opportunity for India to develop as a biomanufacturing hub for affordable biosimilars and contribute to 'Make in India'. Biopharma (including vaccines and biosimilars) manufacturing is a more complex process than chemical generics and further India has to bridge the paradigm of combining affordability and high quality in biomanufacturing. The session would deliberate on strategies to bridge the aforementioned paradigm. <i>Moderator:</i> Dr. Dhananjay Patankar, Syngene <i>Panellists:</i> Dr. Sudha Chivukula, Shantha, Sanofi Dr. Suresh Jadhav, Serum Institute of India Dr. Amulya Panda, NII Dr. Ajith Kamath, Pfizer India Prof. Anurag Rathore, IIT Delhi Sh. Vinay Konaje, Navya Biologicals
11:15-11:45 AM	Tea

11:45 AM-01:00 PM

Panel Discussion II

Ecosystems & Platforms to accelerate the product pipeline: Facilitating transition to the next level

The innovation pipeline from the stage of idea until eventual marketing of product goes through several hurdles. One of the significant factors that influence the success of in product development is the nature of the ecosystem surrounding the enterprise and the accessibility the enterprise has to both business platforms and technical platforms.

Several ecosystems are taking shape in India which will influence biotech landscape and in turn eventual product development. It is imperative that these ecosystems evolve to provide the best in class atmosphere. The panel discussion would touch upon the gaps & challenges in the emerging biotech ecosystems and how communities surrounding an enterprise influence its trajectories and the role of BIRAC.

Moderator: Ms. Deepanwita Chattopadhyay, IKP Knowledge Park

Panellists:

Prof. S Ramaswamy, C-CAMP

Dr. P.M. Murali, ABLE

Dr. Premnath Venugopalan, Venture Center

Sh. Ravi Jain, VentureEast

Sh. Siraj Dhanani, InnAccel

01:00-02:00 PM	Lunch
02:00-03:30 PM	<p data-bbox="440 268 688 296">Panel Discussion III</p> <p data-bbox="440 380 1305 443">Leveraging Partnerships to Make in India: Collaborating with national and international partners for enhanced competency</p> <p data-bbox="440 527 1365 726">In the biotechnology arena of ‘Make in India’, the country should leverage the power of partnerships for reducing risks during product development and increasing India’s capabilities in biotech product development. The modalities and intricacies of collaborations would be deliberated by the panel. Further the panel would deliberate on the best practices on knowledge sharing in collaborative projects.</p> <p data-bbox="440 810 1179 837"><i>Moderator:</i> Dr. Renu Swarup, Senior Adviser, DBT & MD, BIRAC</p> <p data-bbox="440 921 558 949"><i>Panellists:</i></p> <p data-bbox="440 970 899 997">Dr. Balram Bhargava, AIIMS, New Delhi</p> <p data-bbox="440 1024 769 1052">Dr. Steve Buchsbaum, BMGF</p> <p data-bbox="440 1079 1045 1106">Sh. Mark Sinclair, UK Science & Innovation Network</p> <p data-bbox="440 1134 938 1161">Dr. Karlee Silver, Grand Challenges Canada</p> <p data-bbox="440 1188 678 1215">Dr. Auli Pere, TEKES</p> <p data-bbox="440 1243 764 1270">Dr. Melissa Freeman, USAID</p>

03:30-04:45 PM	<p>Panel Discussion IV</p> <p>Scaling Innovation through market creation & diffusion: Effective Role of stakeholders</p> <p>A major factor for success of affordable and high quality bio-innovation would be scaling strategies through market creation and adoption by end users. The panel would discuss the role of different stakeholders in creation of markets and diffusion of innovation such that scalable impact is achieved.</p> <p><i>Moderator:</i> Ms. Anjali Nayyar, Global Health Strategies</p> <p><i>Panellists:</i></p> <p>Sh. Shrikumar Suryanarayan, Sea6 Energy</p> <p>Sh. Soumitro Ghosh, WISH Foundation</p> <p>Dr. Shirshendu Mukherjee, Wellcome Trust</p> <p>Sh. K Puhazhendi, Perfint</p> <p>Ms. Mukta Arora, Eli Lilly India</p>
04:45-05:30 PM	<p>Closing Session: Key Recommendations</p>