

## Biotech/Biomed Innovation Ecosystem in Western India

## Leader's Advantage



**Premnath Venugopalan**  
Director  
Venture Center, Pune

Western India is the industrial and financial powerhouse of India. In biotechnology too, western India is the leader. As per the BioSpectrum ABLE Survey 2014, western India accounted for 43.3% of biotech revenues. Top biotech firms from western India included, Serum Institute of India, Reliance Life Sciences, Bharat Serums and Vaccines, GSK, Haffkine

Biopharmaceuticals etc. The region also included top agrobiotech firms such as Ajeet Seeds and Mahyco, top industrial biotech company Praj and leading diagnostics companies like Span Diagnostics. The region is also home to several medical devices and diagnostics companies. Maharashtra was the top biotech state of the country and companies from this state accounted for 38.2% of revenue. Of the top 6-biotech cities, 3 (Pune, Mumbai and Ahmedabad) were from western India. Not surprisingly, the top research and academic clusters in western India are in Pune, Mumbai and Ahmedabad; smaller clusters exist in Vadodara, Nagpur and Goa.

And in this biotech industry landscape, Pune holds a special place. In the 2014 survey, Pune was the home to the largest biotech company and largest biopharma company in India, namely, Serum Institute of India Ltd and the largest industrial biotech company in India, namely, Praj Industries. Pune has also the privilege of being home to several R&D institutions with strength in biotech/biomed/ medical studies including National Chemical Laboratory (CSIR), National Institute of Virology (ICMR), National AIDS Research Institute (ICMR), National Centre for Cell Sciences (DBT), Agharkar Research Institute (DST), various departments in Pune University, IISER – Pune, Armed Forces Medical College, BJ Medical College, BAIF Development Research Foundation, National Research Centre for Grapes (ICAR), Directorate of Onion and Garlic Research (ICAR), Vasantdada Sugar Institute etc. Pune is also home to multiple business incubators - Venture

Center, S&T Park of Pune University, MITCON Incubator etc.

Of the incubators in Pune, Venture Center has the greatest focus on biotech/biomed startups and is now home to 24 resident incubatee startups in the biotech/biomed space – which is probably the single largest concentrated cluster of innovative biotech/biomed startups in the country. The Venture Center innovation ecosystem is not only distinguished by the quantity and quality of startups but also close vicinity to R&D organizations – their people, facilities and networks, as well as a community that is probably second only to Bangalore in nurturing innovators and entrepreneurs. Besides the incubators in Pune, science entrepreneurship flourishes in incubators at IIT-Bombay (SINE), IIM-Ahmedabad (CIIE) and upcoming bioincubators at Savli near Vadodara and PERD at Ahmedabad.

With such a rich landscape of academia, research, startups and industry, western India in general and Pune in particular are poised to provide leadership in thought and action for the Indian biotech/ biomed industry. The fact that states in western India have nurtured biotech/biomed technology, innovation, entrepreneurship and industry with relatively lower support from the state governments (unlike the states in Southern India) indicates a latent potential that is yet to be exploited. If Bangalore promises to be India's Silicon Valley, Pune has all the makings to be the Route 128, Massachusetts! ■

Of the top 6-biotech cities, 3 (Pune, Mumbai and Ahmedabad) were from western India. Not surprisingly, the top research and academic clusters in western India are in Pune, Mumbai and Ahmedabad; smaller clusters exist in Vadodara, Nagpur and Goa.

## Hyderabad Life Sciences Innovation Ecosystem Many Nuances, **One Goal**



**Deepanwita Chattopadhyay**  
Chairman & CEO,  
IKP Knowledge Park

Understanding innovation ecosystems helps national and local governments frame enabling policies for innovation led entrepreneurship and growth. IKP Knowledge Park (IKP) has partnered with BIRAC to set up the BIRAC Regional Innovation Centre (BRIC) at IKP. Innovation activities often develop around a region, city or a cluster and one of the mandates of BRIC is to map the four life sciences clusters in Southern

India around Hyderabad, Bangalore, Chennai and Trivandrum.

Hyderabad's emergence as a pharmaceutical industry base can be traced to Biological E, a private biopharma company, and the state run Indian Drugs and Pharmaceuticals Limited (IDPL) plant in the city. The "Indian Patents Act" of 1970 opened a new frontier of entrepreneurship and encouraged young research managers like Dr. K. Anji Reddy who quit his job at IDPL in 1974 to start a generic pharma company called Uniloids, and later Standard Organics and Cheminor. In 1984 Dr. Reddy finally launched his research based pharma company, Dr. Reddy's Laboratories (DRL) that, along with some others pharma companies, converted Hyderabad into a pharma innovation hub by spawning hundreds of ventures along the entire value chain. Research institutes like

the CSIR-IICT provided chemistry research support and talent. Dr. K. I. Varaprasad Reddy, an electrical engineer by training, set an innovation milestone when he established Shantha Biotechnics in 1993 to indigenously produce affordable Hepatitis B vaccine by setting up an R&D unit at the Osmania University and later at the CSIR-CCMB till his independent facility was operational. Around the year 2000, the proactive State Government introduced a number of new initiatives, including announcing the Andhra Pradesh State Biotech Policy, with thrust in biopharma, vaccines and ag-biotech, forming the APIDC Venture Capital Fund and setting up the Genome Valley with the IKP Knowledge Park and the S.P. Biotech Park. This paved the way in transforming the pharma manufacturing hub into a leading life science innovation cluster in the country. The distribution of various stakeholders, including three Universities, 16 R&D institutions with departments /centres focusing on life sciences, 41 hospitals with R&D units, 5 Associations and 5 life science focussed incubators and science parks indicates a matured ecosystem.

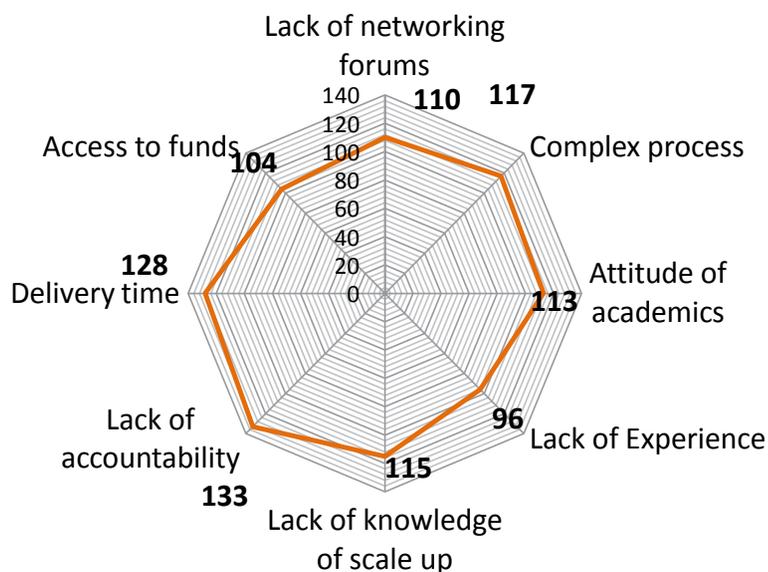
Similar fascinating events, initiatives and institutions are associated with the development of the Bangalore, Chennai and Trivandrum clusters. IISc and NCBS, for example, made Bangalore a more invention-led biotech ecosystem. In addition, the vibrant electronics, software and high-tech ecosystem and the venture capital industry make Bangalore most suitable as a hardware and medical technology hub. IKP's 20,000 sft makerspace, prototyping facility and incubator in Koramangala is the latest addition to this growing ecosystem.

The question is, are these ecosystems vibrant and creative enough? How can BIRAC leverage these ecosystems to generate more impactful innovations and help take them to the market.

A survey of 20 Hyderabad based innovative companies (with 50% start-ups less than 5 yrs old and 30% between 5 to 10 yrs) was conducted last year. When asked about the nature of collaborations with research institutions, it was largely limited to contract research, consultancy or use of facilities. The six most prominent challenges in collaborating were "Lack of accountability", "Delivery time", "Lack of knowledge of scale up", "Complex process", "Attitude of academics" and "Lack of networking forums". Access to funds and lack of experience were not considered as major challenges to collaboration.

The distribution of various stakeholders, including three Universities, 16 R&D institutions with departments /centres focusing on life sciences, 41 hospitals with R&D units, 5 Associations and 5 life science focussed incubators and science parks indicates a matured ecosystem.

### Challenges in collaboration



The respondents provided the following suggestions to improve the funding process:

- Fund incremental innovation/import substitution for national priority
- Engage with private investors; more early stage risk capital needed to fund operations and not just projects
- Need faster turnaround time; issuing something like Grant credit cards that can be debited
- Increase grant size
- Feedback on rejected proposals for improving proposal

We are in the process of conducting interviews/surveys in Bangalore and Chennai and the responses on “challenges to collaboration with academia” and “improving the funding process” seem to align with the above, despite the regional variations in the ecosystems. It is also well known that scientists and faculty from academic institutions do not find the industry problems stimulating enough. Networking forums as proposed could be a meeting ground, and more engagement of academia in startups seems to be a welcome solution. ■

### Biotech Ecosystem in and around Bangalore View from the Technology Hub

*Contd. from Pg. 14*

situated strategically with IBAB and CHG (Centre for Human Genetics) in the vicinity.

In North Karnataka and in Chennai, there are other organizations, that add significant value to the Bangalore ecosystem. These include CFTRI, UAS-Dharwad and IIT-Madras. The IIT-Madras Bio-incubator, IIT-Madras Research Park has a number of innovative biotech companies incubating while Healthcare Technology Innovation Centre is focused on developing healthcare technologies. Chennai also has Jubilee Park, TANUVAS etc.

Other than its associated start-ups, C-CAMP is in close proximity to the thriving biotech industry in the city with companies like Biocon, Strand Life Sciences, Advinus Therapeutics, Jubilant Life Sciences, Connexios Life Sciences, Aurigene Discoveries,

Strides Arcolab, Anthem Biosciences, Kemwell Biopharma, Ecron Accunova and many more. Start-ups at C-CAMP leverage these connections with established biotech companies and CRO’s. Other than the thriving entrepreneurship environment co-location with NCBS/inSTEM in the Bangalore Bio-cluster is a unique strength of C-CAMP as it provides an environment that fosters interactions between scientists and other experts on a day-to-day basis. C-CAMP has also forged relations with accelerators like Villgro, InnAccel and Axilor and investors like Unitus Seed Funds, IDG Ventures, Axilor etc to take the start-up technologies forward and help them with further funding.

C-CAMP is on its way to being a ‘one-stop-hub’ for budding entrepreneurs/start-ups to setup their ventures by providing all the necessary assistance and nurturing that is required with an aim of increasing their chances of success. ■

# birac

# i3

*Ignite • Innovate • Incubate*



## Nurturing the Innovation Ecosystem



**birac**

*Ignite Innovate Incubate*

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



September **2015**

No. 3 | Vol. 2