

BRIC was extremely helpful to us in licensing a novel rice variety that was jointly developed by CSIR-CCMB and ICAR-IIRR. The professionalism and attention to detail shown by BRIC was very commendable. It was a pleasure to work with BRIC.

- Dr. Ramesh V. Sonti, Chief Scientist, CSIR-CCMB, Hyderabad



CLIENTSPEAK

Sree Chitra Tirunal Institute for Medical Sciences & Technology - Technology Business Incubator (SCTIMST-TIMed) greatly appreciates the support received from BRIC-IKP in dissemination of information about BIG and other schemes of BIRAC.

- Mr. Balram S., CEO at SCTIMST-TIMed & Scientist-G, SCTIMST, Thiruvananthapuram



Excellent knowledge and technical support in IP protection related to Med-tech. BRIC does a good job by bridging the gap between research and commercialization.

- Dr. Krupakar Parthasarathy, Scientist D, Center for Drug Discovery and Development (CDDD), Sathyabama University, Chennai



The BIRAC Regional Innovation Centre has been extremely useful for us, extending their support to connect with various mentors to get on our board, major guidance on grants and connecting us with the clinical community related to our work. It is a very productive initiative for startup companies.

- Ms. Bhavna Basu, Director and Co-founder, Jubeln Lifesciences Pvt. Ltd., Bangalore



I would like to acknowledge the fantastic support lent by BRIC and IKP Knowledge Park in Hyderabad during the early stages of my product development. They have built a fantastic ecosystem for biotech entrepreneurs.

- Mr. Ravi Bhogu, Founder, Monitra Healthcare Pvt. Ltd., Hyderabad



The patentability search service of BRIC was very impressive. It was a simple procedure, starting with the signing of a confidentiality agreement and sharing of a user-friendly invention disclosure form to share data. The report generated was extremely detailed and every document searched was listed in brief and a detailed version was attached thereafter. Most importantly, a teleconference was arranged where every section of the search was explained to help me understand the intricacies of the exercise. Very economical. I could successfully modulate my patent description only because of this search and file it.

- Dr. Pratap N. Mukhopadhyaya, Director, Wobble Base Bioresearch Pvt. Ltd., IKP BIG Grantee, Pune



Guidance from BRIC-IKP in areas of grant writing and IP have been very informative and helpful to move forward in our research efforts

- Mr. Sathish Kumar, Managing Director, Biospot Solutions Pvt. Ltd., Coimbatore



REPORT ON MAPPING REGIONAL LIFE SCIENCES INNOVATION SYSTEMS IN SOUTH INDIA - A CURTAIN RAISER

TABLE OF CONTENTS

EXECUTIVE SUMMARY

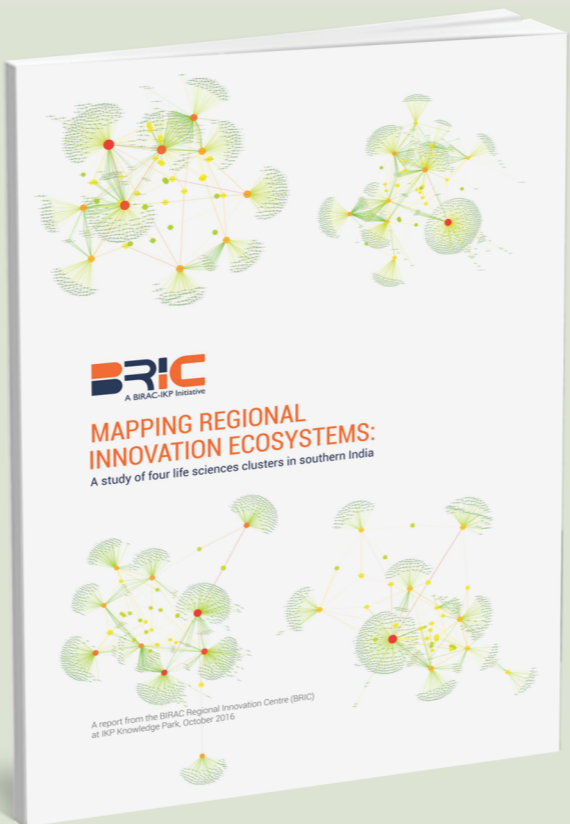
CHAPTER 1: Setting the context

- Overview
- An introductory note on innovation mapping
- Models for studying innovation
- Mapping innovation at various levels

CHAPTER 2: Analysis of four life science clusters

- Framework and rationale used for the study
- Citywise comparison of data
- Key findings from KOL survey

CHAPTER 3: Summarising current status and recommendations



ABOUT THE ORGANISATIONS



www.birac.nic.in

Biotechnology Industrial Research Assistance Council (BIRAC) is a Section 8 (not-for-profit) company set up by the Department of Biotechnology (DBT), GoI in 2012 to stimulate, foster and enhance strategic research and innovation capabilities of the Indian Biotech Industry and to serve as DBT's interface agency for supporting Industry-Academia interaction. BIRAC's mandates include providing targeted funding, technical and business mentoring, infrastructural and IP support, creating and providing access to global and national networks for bio-innovation.

IKP Knowledge Park (IKP) is a science park and incubator in Hyderabad and Bengaluru. IKP has over fifteen years of experience in promoting research-based companies and creating an ecosystem for fostering leading-edge innovation. IKP has partnered with BIRAC on several programmes including the Biotechnology Ignition Grant (BIG), Biotechnology Incubation Support Scheme, Grand Challenges in TB Control and Grand Challenges Explorations in health.



www.ikpknowledgepark.com; www.ikpeden.com



IMPACT 2013-16

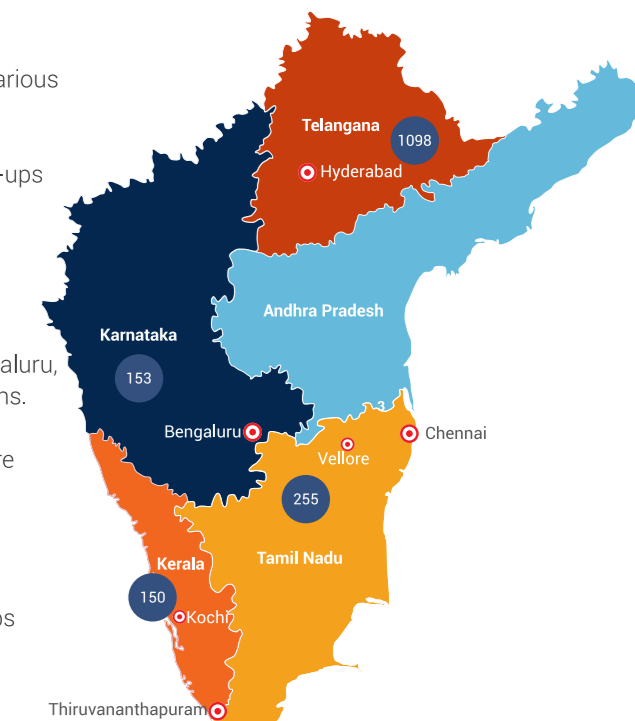
About BRIC

BRIC's mandates are to

- Map Regional Life Sciences Innovation Systems to understand the networks and gaps among the various stakeholders promoting innovation in a region and recommend policy interventions
- Build IP awareness and provide IP services to start-ups and innovators
- Promote entrepreneurship in academia and help build an entrepreneurial culture

BRIC started by focusing on four life sciences clusters in southern India around Hyderabad and Bengaluru, Chennai-Vellore and Thiruvananthapuram-Kochi regions. The focus was largely to map innovations related to biopharmaceuticals, medical technology and healthcare (hereafter termed as biopharma cluster). The activities were first launched in Hyderabad and later taken to the other three clusters.

BRIC has so far impacted 1,656 innovators and startups either directly through its services or indirectly through workshops, panel discussions and technology shows.



RIS mapping of the life sciences clusters was taken up with an aim to map the key regional stakeholders - industry, start-ups, academia and enablers (science parks and incubators, tech transfer offices, IP firms, funding agencies like venture capital firms, angel investors, banks, and other agencies that foster innovation in a region), study networks and gaps among the stakeholders and use the learnings to recommend policy interventions to make these regions more innovation-oriented.

MAPPING REGIONAL INNOVATION SYSTEM (RIS)

The mapping exercise was carried out by a combination of interviews of Key Opinion Leaders (KOLs) in the region and analysis of data collected from secondary sources. Since the biopharma innovation ecosystem in India is not yet mature, publications, collaborative research and patents were used as surrogate markers to assess innovation capability and information flow, rather than output parameters such as innovative products and services from industry and their impact.

The various aspects addressed in the mapping exercise are:

- Cluster-specific features helping or hindering innovation
- Collaboration among stakeholders
- Funding available at various stages of entrepreneurial journey
- IP landscape and technology licensing
- Regulatory hurdles
- Government policies

HOW CLUSTERS FARED IN KOL INTERVIEW

The study revealed that the stakeholders have several expectations from each RIS. These have been categorised as national, state level and stakeholder level depending on the nature of action needed. Bengaluru emerges as the most evolved biopharma innovation cluster among the four, but still has several weaknesses that need to be addressed. Bengaluru, Hyderabad and Chennai-Vellore have a lot of commonalities. Thiruvananthapuram-Kochi is an emerging cluster that is yet to build a critical mass of life science industry and start-ups and falls short in most innovation indicators.

Innovation Indicators	Bengaluru	Chennai+Vellore	Hyderabad	Thiruvananthapuram+ Kochi
Strong research institutes	😊😊	😊😊	😊😊	😊
Business schools	😊		😊	
Clinical community for large animal and biocompatibility studies				😊😊
Strong clinical community	😊😊	😊😊	😊	😊
Presence of investors	😊😊	😊	😊	
Community Investments			😊	
Good presence of industries in all areas of biotech	😊			
Mature markets and customers	😊			
Strong manufacturing sector		😊😊		
Pharma industry		😊	😊😊	
Strength of IT sector	😊😊	😊	😊	😊
Vibrant start-up community	😊😊😊	😊😊	😊😊	
Networking forums	😊😊	😊	😊	
Job availability in diverse streams	😊😊		😊	
Talent pool	😊	😊	😊	
Mentors with global experience	😊😊			
Legal and CA community	😊😊😊	😊😊	😊😊	
Incubation	😊😊	😊	😊😊	
Infrastructure		😊	😊	
Support for women entrepreneurs		😊		
Supplier and vendor base	😊	😊	😊	
Government support	😊😊	😊	😊😊	😊
Weather	😊😊			



Stakeholder meeting at IKMC 2014, Hyderabad

GAPS IN THE ECOSYSTEM THAT HINDER INNOVATION: KOL FEEDBACK

	Industry		Academia	Enablers
	Startups	SMEs/Large companies		
Funding	😞😞	😞		
Sales / Marketing expertise	😞			
Compliances	😞😞	😞😞	😞😞	😞😞
Duty and taxation	😞😞	😞😞		😞
Vendor base	😞			😞
Innovation talent	😞	😞	😞😞	😞
Awareness on commercialisation, IP & regulations	😞		😞😞	
Perception of working with other stakeholders	😞	😞	😞😞	
Collaboration with other stakeholders	😞		😞😞	😞

EXPECTATIONS OF STAKEHOLDERS FOR IMPROVING THE INNOVATION ECOSYSTEM

National level: Policy incentives from Government, funding in development phase, taxation, regulations, IPR, duty anomaly between raw materials and finished products, change in metrics of success in academia

State level: Ease of doing business, infrastructure, skill-education-talent, labour laws

Stakeholder level: Need to define specific focus sectors within life sciences, promote culture of collaboration across stakeholders, link with national programmes

IP CELL ACTIVITIES

The IP cell at BRIC provides high-quality IP services at a nominal cost to innovators. In addition, it works actively towards building IP awareness in academia and start-ups. 87 IP searches/studies have been conducted so far.

IP Services offered:

- Patentability search
- Patent landscape
- Freedom to operate study
- Quick IP report



Technology transfer from CCMB to Metahelix, Hyderabad, 2015



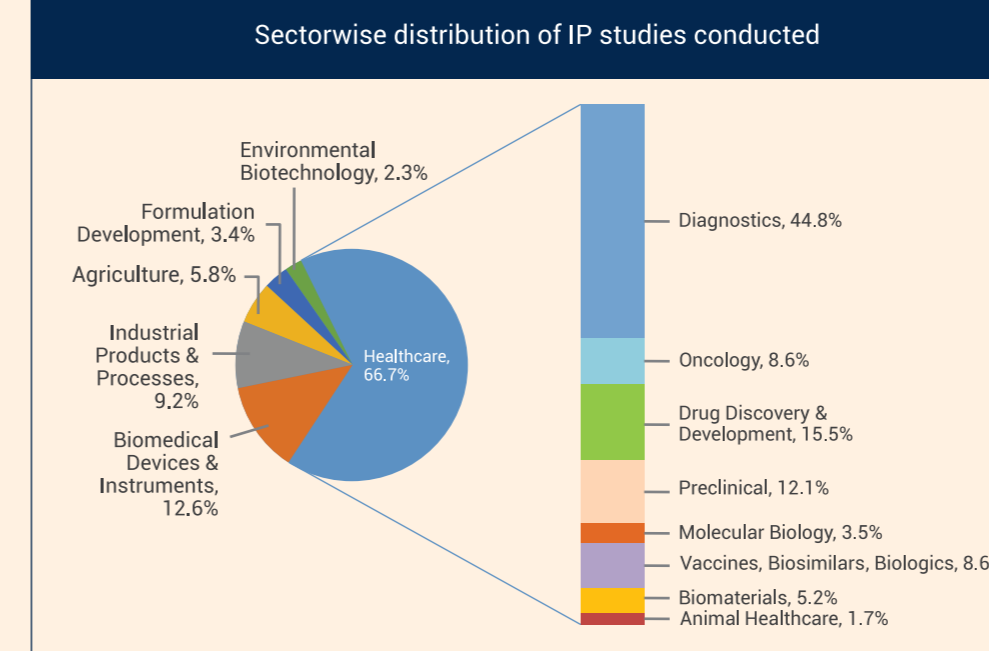
Technology showcase at Bio Asia, Hyderabad, 2016

ENTREPRENEURSHIP DEVELOPMENT ACTIVITIES

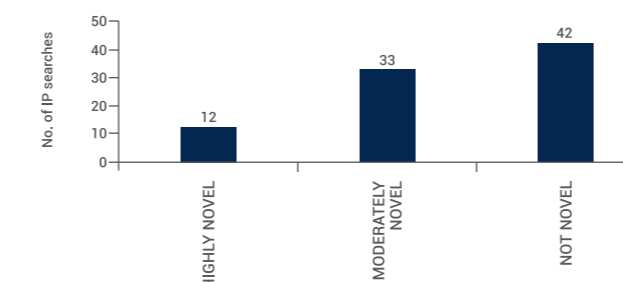
BRIC helps academia and start-ups in their entrepreneurial journey by increasing awareness and enabling proof-of-concept and scale up of innovations.

The support includes but is not limited to:

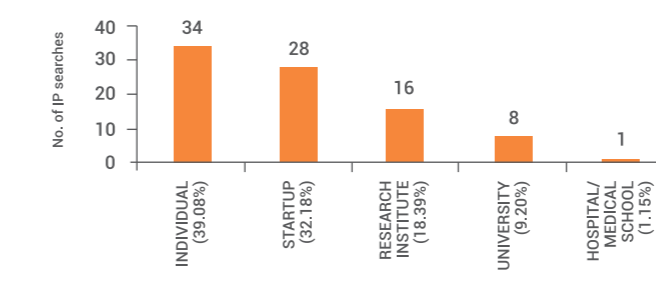
- Workshops to create awareness on IP, licensing, commercialisation, regulatory compliances, pitching to investors etc.
- Sessions to interact with other entrepreneurs to gain from their experience
- Advice on follow-on funding
- Connecting to mentors
- Showcasing technologies through display of posters and prototypes at conferences and exhibitions
- Facilitating technology licensing
- Identifying partners, suitable CMOs and CROs for scale up
- Facilitating partnership with clinical community



Result of IP searches on Novelty of technology



Profile of innovators requesting IP searches



Workshop on Funding and Commercialisation, SCTIMST, Thiruvananthapuram, 2016



Technology Showcase Workshop at IKP-EDEN, Bengaluru, 2016

Stakeholder meeting at IKMC 2015, Hyderabad

