

ANNUAL REPORT

2015-16



birac
Ignite Innovate Incubate

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

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About BIRAC

Vision

Stimulate, foster and enhance the strategic research and innovation capabilities of the Indian biotech industry, particularly start-ups and SMEs, for creation of affordable products addressing the needs of the largest section of society.

Mission

Facilitate and mentor the generation and translation of innovative ideas into biotech products and services by the industry, promote academia – industry collaboration, forge international linkages, encourage techno entrepreneurship and enable creation and sustainability of viable bio enterprises.

Focus

Empowering and Enabling the Biotech Innovation Ecosystem for affordable product development

Key Strategies

- Foster innovation and entrepreneurship in all places of research
- Promote affordable innovation in key social sectors
- Higher focus on start-ups & small and medium enterprises
- Contribute through partners for capability enhancement
- Encourage diffusion of innovation through partners
- Enable commercialization of discovery
- Ensure global competitiveness of Indian enterprises

Core Values

- Integrity
- Transparency
- Team work
- Excellence
- Commitment

BIRAC is a Section 8 'Not-for-profit Company' under the Companies Act, 2013 set up by Department of Biotechnology, Ministry of Science & Technology, Government of India as its interface agency to promote industry-academia interface. The mandate was to nurture and empower the biotech innovation ecosystem and transform all elements of the nascent biotechnology industry systems. A Schedule 'B' Public Sector Undertaking, BIRAC is guided by an independent Board of Directors comprising of Senior Scientists, Academicians, Policymakers and Industrialists. To serve various dimensions of its mandate, BIRAC operates mainly in 3 verticals. Investment schemes provide funding support to entrepreneurs, start-ups, SMEs and Biotech Companies for all stages of the product development value chain from discovery to proof of concept to early and late stage development to validation and scale up, right upto pre commercialization. There are also special product development missions. The second vertical is Entrepreneurship Development which focuses not only on the funding support, but also on making available the right infrastructure, mentoring and other networks for technology transfer and licensing, IP and business mentoring including regulatory guidance. Lastly BIRAC's Strategic Partnership group works closely with all partners – national and international which includes Government departments and Ministries both Central and State, industry organisations, international bilateral agencies, philanthropic organisations and corporate sector, to leverage the strength and expertise and mobilize resources and extend the outreach of its activities.

BIRAC was set up in 2012 as a Not-for-profit Section 8 Company and a Public Sector Undertaking under the Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India. BIRAC has worked on the critical components of the ecosystem to give shape and implement its mandate and more importantly show tangible outcomes that reflect the positive results catalysed by BIRAC.

In the last four years, BIRAC has played a pro-active role in nurturing the emerging biotechnology industry of the country.

BIRAC has made a special effort to reach out to all its stakeholders and launch special initiatives which cater to the needs of the growing enterprise and build and strengthen the Innovation Research Ecosystem. BIRAC's key strategies are aligned in a manner that the attention stays focused on 'Innovation Research for Affordable Product Development'. This includes inculcating and strengthening the Innovation Research Culture in young entrepreneurs, start-ups and SMEs. For this to happen effectively, the academia – industry interface has been strengthened and systems put in place to encourage academic research leads to move out of laboratories, through the translational phase to product development. 'Partnerships' are the key to success –

partnerships between academia and industry, between industry consortia, between national and international research groups and industries and also between Innovation – funding and development agencies – national, global, government philanthropic and corporate houses.

BIRAC's main mission is to bring together the likeminded organisations, create these network and provide the necessary synergies which are needed for product development partnership. While the attention stays focused on affordable and social innovation, the efforts continue to create capacity and strengths to build a globally competitive Indian 'Biotech Enterprise'.

BIRAC as a core 'development agency' focuses on the entire product development chain from

idea to proof of concept, to early stage - late stage validation, scale up, right up to commercialization. The emphasis is not only on providing the funding but complete handholding to help the entrepreneurs to grow and take their ideas forward to product development. It is important to build a framework to nurture entrepreneurs and support entrepreneurship development. BIRAC has been constantly working in this direction.

BIRAC works towards fulfilling this goal by starting at the base of the pyramid, where the base has to be the strongest – that is our student and young entrepreneurs, supporting novel ideas and taking them to proof of concept and then providing the essential support for early and late stage right upto scale up and pre-commercialization.

While funding is a critical component, it cannot be the only support mechanism. BIRAC is working towards strengthening the entire ecosystem, to encourage entrepreneurs to take up innovation research. BIRAC helps them to – ‘Ignite, Innovate and Incubate’.

As we move on, in 2016-17, BIRAC’s endeavour would be to consolidate what it has created and then pick on those critical components which need to be built upon. Staying focused on the 3 verticals, the effort would be to go deeper into each growth scale rather than growing horizontally and diversifying in new areas.

In the Investment vertical, funding from idea to PoC to early and late stage validation right upto pre-commercialization will be continued across the product development value chain; it will also be BIRAC’s endeavour to operationalise its Equity fund – AcE Fund and start investing along with other funds so that the critical gap on ‘Valley of Death’ for young innovators and entrepreneurs is addressed.

BIRAC will also now work toward addressing National and Global Challenge of the SDG through its SBIRI, BIPP and CRS Scheme. These schemes would also make more effort to engage

in Industry-Academia Partnership and move Research leads/Technologies from laboratories forward.

In the Ecosystem enablers, BIRAC will continue to support Young Entrepreneurs and start-ups in the Biotech sector and will aim to create an enabling ecosystem to have at least 2000 start-ups by 2020, i.e. at least 300-500 new start-ups each year. This will require funding, infrastructure and capacity building. BIRAC will aim to be a single window for Young start-ups and work through its partners and Regional Centers to not only facilitate start-up creation but to provide the network and create mentorship platform.

BIRAC will set up a new Regional Entrepreneurship Development and Mentorship Centre and create an online platform for start-up interaction and for mentorship. For expansion of BIG and scaling up the programme, BIRAC will seek partnership with philanthropic and CSR funds.

The IP & Technology Management will be a key focus. With DBT there will be an effort to create at least 20 TTO’s in the next year and scale up Bioincubation to at least 20 in the next year.

To focus on Affordable Product Development, BIRAC will operationalize Mission programmes under RAPID. One Such Mission is ‘Accelerating Biopharmaceutical Product Development’. The other mission is in Agriculture – ‘Heat Resilient Wheat’. Both these would be in partnership with International Funding organization.

International Partnerships for Affordable Product Development through Grand Challenges and other such schemes will be strengthened with BMGF, USAID, Wellcome Trust and others.

I. Nurturing Innovations

(i) SITARE (Students Innovations for Advancement of Research Explorations)

An initiative launched by BIRAC in collaboration with SRISTI – a voluntary organization at IIM Ahmedabad –

aiming at supporting the innovations and creativity at grassroot level among the university students, including individual innovators.

- ❑ Every year, BIRAC provides mini-seed funds of INR 15 lakhs to 15 ideas by the student teams with academic mentors to carry out R&D in-situ and 100 nascent ideas are awarded funding of INR 1 lakh each.

(ii) eYUVA (Encouraging Youth for Undertaking Innovative Research through Vibrant Acceleration)

- ❑ **University Innovation Clusters (UIC):** Pre-incubation innovation hubs created in universities to foster the culture of innovation and techno entrepreneurship in university students by five UICs have been initiated at:

- ❖ Anna University, Chennai
- ❖ Panjab University, Chandigarh
- ❖ Tamil Nadu Agricultural University, Coimbatore
- ❖ University of Rajasthan, Jaipur
- ❖ University of Agricultural Sciences, Dharwad

Features of UICs

- ❑ A Cluster for 5-6 students/young entrepreneurs to test their ideas/discoveries and take them to Proof of Concept
- ❑ An incubation space-2500-3000 sq.ft
- ❑ BIRAC Innovation Fellowships for two (2) Post Docs. and four (4) Post M.Sc. Fellows per university
- ❑ BIRAC Innovation Grant:
 - ❖ Post Doc. Fellow: BIRAC Innovation Fellowship @ Rs. 50,000/- p.m. & Innovation Grant of Rs. 5,00,000 p.a. for three years

- ❖ Post M.Sc. Fellows: BIRAC Innovation Fellowship @ Rs. 30,000/- p.m. & Innovation Grant of Rs. 2,00,000 p.a. for three years

- ❑ Industry Participation for training, mentoring, sponsored research and networking opportunities and IP & Technology Management; access to risk finance among others.

(iii) SIIP (Social Innovation Immersion Fellowship):

A fellowship programme that builds the next generation of social entrepreneurs by helping them 'immerse' and interface with communities to identify gaps and then work on bridging the gaps through an innovative product or service offering.

- ❑ SIIP clusters are operated by four Incubation Partners namely, Venture Center, Pune; THSTI, Faridabad; KIIT, Bhubaneswar; and Villgro, Chennai.
- ❑ Fellowship amounting to INR 35,000 to INR 50,000 per month to each innovator
- ❑ Mini kick start grant of INR 5 lakhs per innovator

(iv) BIG (Biotechnology Ignition Grant):

Flagship start-up funding programme of BIRAC which provides the right admixture of fuel and support to young start-ups and entrepreneurial individuals.

- ❑ For individuals, researchers from academia and start-ups
- ❑ Seed grant of up to INR 50 lakhs for research projects with commercialization potential with duration of up to 18 months
- ❑ Managed by Five BIG Partners - C-CAMP, Bangalore; IKP Knowledge Park, Hyderabad; FIIT, Delhi; Venture Center, Pune; and KIIT, Bhubaneswar

- Partners provide mentoring, monitoring, networking and other business development related activities

(v) **SPARSH (Social Innovation Programme for Products Affordable & Relevant to Societal Health):** Aims to develop innovations that would create direct impact in the society in the near to medium term future. Provides support to cutting edge innovations towards affordable product development that can bring significant social impact and address challenges of inclusive growth. Focus on areas such as Mother & Child Health and Waste Management. Programme supports affordable product development at various stages:

- Idea to Proof of Concept: Grant in aid assistance up to INR 50 lakhs for a period up to 18 months
- Proof of Concept to Validation: Grant in aid assistance up to INR 50 lakhs over the period up to 24 months
- Innovative pilot scale delivery models: Grant in aid for a period up to 24 months. The project cost sanctioned for the Company would be matched equally by BIRAC and the Company.

II. Funding Product and Process Development

(i) Early and Late Stage Funding

- **Small Business Innovation Research Initiative (SBIRI):** Early stage, innovation focused PPP initiative in the area of Biotechnology, aims at funding high risk innovative R&D beyond proof-of-concept.
 - ❖ Support in form of grant-in-aid for projects up to INR 100 lakhs in PPP mode
- **Biotechnology Industry Partnership Programme (BIPP):** Support for high

risk, accelerated technology development especially in futuristic technologies having major economic potential and focused on IP creation

- ❖ Provide for product evaluation and validation through support for limited and large scale field trial for agriculture products and clinical trials (Phase I, II, III) for health care products
- ❖ Financial support by BIRAC up to 50% of the approved project cost
- ❖ Funding support in form of grant-in-aid with corresponding obligation of royalty payment

□ **Contract Research Scheme (CRS):** Supports validation of academic research having commercialisation potential, by the industry.

- ❖ Funding is in the form of grant given to both the academic as well as industrial partners
- ❖ IP rights reside with the academia, the industry partner has first right of refusal for commercial exploitation of the new IP

(ii) Funding in Collaborative Models -National and International Partnerships

- **Indo-French Centre for the Promotion of Advanced Research (CEFIPRA):** Support high quality bilateral research, encourage and enable Indo-French collaboration between public, private research groups, industry, clinicians and end-users in the domain of red biotechnology
- **Wellcome Trust, UK:** Support innovations in translational medicine in the domain of diagnostics for infectious diseases
- **Grand Challenges India (GCI):** A consortium of DBT, Bill & Melinda

Gates Foundation, Wellcome Trust, USAID and BIRAC focussing on supporting innovations in the areas of maternal and child health, agriculture and nutrition, sanitation and infectious diseases

- ❑ **USAID and IKP Knowledge Park:** Support for new diagnostic tools for TB with funding commitment of INR 5 crores for 3 years
- ❑ **Horticulture Innovation Australia (HIA):** BIRAC-HIA joint funding programme for supporting innovative technologies and solutions for sustainable and productive horticulture at a global level
- ❑ **NESTA, UK:** BIRAC partnership with Nesta, a charity organization in UK, is aimed at supporting Discovery Awards Programme for innovators working for innovative diagnostics for anti-microbial resistance (AMR). This will create and innovators' pipeline for competing in the coveted Longitude Prize – a challenge programme having a prize fund of 10 million pound, to solve the problem of global antibiotic resistance
- ❑ **DeitY (Department of Electronics and Information technology):** Launched Industry Innovation programme on Medical Electronics (IIPME) for supporting innovations in medical electronics and med devices sector.
 - ❖ Support extended for – establishing PoC, validation and scale-up

(iii) BIRAC SEED Fund (Sustaining Enterprise and Entrepreneurship Development): Financial equity based support to start-ups and enterprises through bio-incubators for scaling enterprises.

- ❑ Incubators will be provided INR 100-200 Lakhs for investing in enterprises
- ❑ Investment in enterprise to the tune of INR 20-30 lakhs

(iv) BIRAC AcE Fund (Accelerating Enterprises): A Fund of Funds to scale up R&D and innovation in biotechnology domains of sectors such as healthcare, pharma, medical devices, agriculture, sanitation and many more. The fund will provide risk capital support to professionally managed Venture Funds and Angel Funds dedicated to domain areas of biotechnology.

III. Enablers for Scaling up the Ecosystem

- (i) BIRAC BioNEST (BIRAC – Bioincubation: Nurturing Entrepreneurs for Scaling up Technology):** Flagship programme of BIRAC has created 15 world-class bio-incubators
 - ❑ Provides incubation space, mentor networks, instrumentation facilities, IP and technology management support, resource mobilization and legal services
 - ❑ 1,75,000 sq. ft. of incubation space created
 - ❑ More than 200 innovators supported

Board of Directors



(L to R): Dr. Mohd. Aslam, Prof. Deepak Pental, Dr. Dinkar M. Salunke, Dr. Renu Swarup, Prof. K. VijayRaghavan, Dr. Gagandeep Kang, Prof. Ashok Jhunjhunwala

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AWARDS

Dainik Bhaskar has instituted 'INDIA PRIDE AWARDS' as a tribute to the contributions made and excellence determined by the PSUs in public services. The seventh edition of INDIA PRIDE AWARDS held on 4th April, 2016 at New Delhi was integrated with the concept 'Make in India'.

BIRAC won Excellence in India: Image Enhancement/Creating a Global Brand Award. Dr. Renu Swarup, Senior Adviser, DBT & MD, BIRAC received the award, given by Shri Ravi Shankar Prasad, Union Minister for Communications and Information Technology



Biotechnology Industry Research Assistance Council

CIN: U73100DL2012NPL233152

Regd office: 1st Floor, MTNL Building, 9, CGO Complex, Lodhi Road, New Delhi-110003
Website: www.birac.nic.in Email: birac.dbt@nic.in Tel: 011-24389600 Fax: 011-24389611

Notice

Notice is hereby given that the Fourth Annual General Meeting of the Company will be held on:

Day and Date: Tuesday, 20th September 2016

Time: 10:00 a.m.

Venue: 1st floor, MTNL Building, 9, CGO Complex, Lodhi Road, New Delhi – 110 003

for transacting the following business:

Ordinary Business:

1. To receive, consider and adopt the Audited Financial Statements of the Company as on March 31, 2016 together with the Reports of the Directors and Auditor thereon and comments of the Comptroller & Auditor General of India in terms of Section 143(6)(b) of the Companies Act, 2013
2. To fix the remuneration of the New Statutory Auditor for the financial year 2016-17, in terms of provisions of Section 142 of the Companies Act, 2013.

NOTES:

1. MEMBERS ENTITLED TO ATTEND AND VOTE MAY APPOINT ONE OR MORE PROXIES TO ATTEND AND VOTE INSTEAD OF THEMSELVES. PROXIES TO BE VALID MUST BE RECEIVED AT THE REGISTERED OFFICE OF THE COMPANY NOT LESS THAN FORTY-EIGHT HOURS BEFORE THE APPOINTED TIME OF THE MEETING.
2. Only bonafide members of the Company whose names appear in the Register of Members in possession of valid attendance slips duly filed and signed will be permitted to attend the meeting. The Company reserves its right to take all steps as may be deemed necessary to restrict non-members from attending the meeting.
3. It will be appreciated that queries, if any, on accounts and operations of the Company are sent to the registered office of the Company ten days in advance of the meeting so that the information may be made readily available.

By Order of the Board
Kavita Anandani
Company Secretary

Registered Office:

1st floor, MTNL Building, 9, CGO Complex,
Lodhi Road, New Delhi – 110 003

Date: 18th August, 2016



Chairman's Message

From its inception, over the last four years, BIRAC has made significant catalytic impact on the Indian biotechnology ecosystem. This impact has been created through a basic premise that collaboration helps deliver impact at scale. BIRAC has therefore focused on leveraging established and new partnerships to deliver impact and creating a multiplier effect.

Through a sustained effort and interface with stakeholders we have laid the foundation of a vibrant biotech start-up culture especially through our early stage funding programme such as BIG, SPARSH and IIPME as well as through our incubation programme BioNEST and University Innovation Cluster (UIC). This has resulted in making BIRAC one of the leading partners in the Government of India's Start up Action Plan that was launched in January 2016. We have now increased our activities in the early stages of innovation through our partnership with SRISTI Ahmedabad as well as a series of Ideathons and Hackathons that help BIRAC reach out to students and academics and create pathways for establishing an innovation society. Through our partnership with WISH Foundation, we are now bringing our startups and innovators and the health systems to interface and build bridges. Many of these startups are now pushing the boundaries of what is possible in India- validating new innovative products to be ready for the market.

Similarly, BIRAC, in partnership with the Department of Biotechnology has played an important role in the flagship Make in India programme. Our other flagship programmes such as SBIRI and BIPP continue to boost translational R&D in industry through a partnership mode. DBT has now established a focused Make in India 'Research and Facilitation' cell within BIRAC to co-ordinate the activities of Make in India but also Start up India programmes.

Over the last year, we have expanded our horizons and partnered with several aligned organisations such as with Nesta UK in building a pipeline of innovations for Longitude Prize in the critical challenge of anti-microbial resistance developing in micro-organisms and its impact to human health. We have also partnered with Tekes Finland for create entrepreneurial connections between our ecosystems and with Horticulture Innovation Australia to build joint funding of innovation R&D in important areas of horticulture which will impact human nutrition. We have continued to grow and expand our partnership with Bill & Melinda Gates Foundation, Wellcome Trust and the Department of Electronics & IT (DeitY).

BIRAC was rated "Excellent" for grading on the basis of Compliance with Guidelines on Corporate Governance for Central Public Sector Enterprises (CPSE) for the financial year 2014-15 by the Department of Public Enterprises.

As we look forward we intend to amplify our engagement with the community, understand the gaps that still exist and design new paradigms for impact. We look forward to continuing to deepen and expand our reach across India. BIRAC will align its goals to the National Biotech Development Strategy 2015. Over the course of next year we intend to support a BIRAC Regional Entrepreneurship Centre (BREC) as well as align more closely with the goals of the National Biotechnology Development Strategy 2015. BIRAC is poised to catalyse the transformation of the country through infusing energy in innovation, through our rigour and our commitment to excellence.



Managing Director's Message

It gives me immense pleasure to present before you the 4th Annual Report of BIRAC highlighting its role and activities in laying the foundation of a innovative and empowered S&T driven society.

Over the last four years, we have learned and listened to the people in the community and in response designed and delivered programmes that are truly world class. These programmes highlight the

immeasurable entrepreneurial energy that is tapped within our country. Through our pioneering start-up programmes such as Biotechnology Ignition Grant (BIG), SPARSH, IIPME, BIRAC-GYTI Awards (with SRISTI, SIIP Fellowship and UIC, we have seeded hundreds of exciting ideas which, if nurtured well, will change the landscape of innovation especially biotechnology innovation in India. We will create further impact through establishment of a BIRAC Incubator SEED programme that provides capital to our Incubators partners to invest in deserving growth startups as well as establish a BIRAC Regional Entrepreneurship Centre. The flagship programme of SBIRI, BIPP and Contract Research (CRS) have contributed immensely to connecting industry and academia and taking ideas to product development.

Through our efforts along with the partners, biotechnology is now considered to be one of the leading domains in the flagship programmes of the Indian Government especially 'Make in India' and 'Start up India'. BIRAC will also play an important role in implementation and delivery of the National Biotechnology Development Strategy 2015. This will be through a bridging role that BIRAC will play especially taking innovations from the laboratory to the agricultural farms or the bedside. We have started noticing the impact of our programmes especially through the 35 products that have been developed with our support. Besides, the products the impact of our programmes have been in training and skilling young entrepreneurs and their team members, helping Indian entrepreneurs connect with the world through platforms such as Innovator Meet and BIO-US to name a few.

Our programmes are now seamlessly aligned and we now notice the best of the BIG and SPARSH ideas transition from POC into productisation through support from SBIRI and BIPP. Our intention of making India a discovery led manufacturing centre has resulted in our working with our partners such as Nesta UK, HIA Australia, USAID, Bill & Melinda Gates Foundation, Wellcome Trust. We have initiated a mission on Accelerating Biopharmaceutical Innovation with World Bank and are strategizing to expand our Early Translation Accelerator (ETA) to take academic research to market.

As we look into the future, we wish to build on the existing foundation- extend our hands to collaborate with new partners and deliver innovative programmes to catalyse quantifiable change for India and humanity.

Board of Directors

Prof. K. VijayRaghavan : Chairman
Dr. Renu Swarup : Managing Director

Non-Official Independent Directors

Prof. Ashok Jhunjhunwala : Director
Dr. Gagandeep Kang : Director
Prof. Deepak Pental : Director
Dr. Dinakar M. Salunke : Director

Government Nominee
Dr. Mohd. Aslam : Director

Profile of Prof. VijayRaghavan

Professor K. VijayRaghavan is the Secretary, Department of Biotechnology, Government of India since January 28, 2013. Before that, he was the Director of the National Centre for Biological Sciences (NCBS) of the Tata Institute of Fundamental Research (TIFR) and the interim head of The Institute of Stem Cell Biology and Regenerative Medicine (inStem) a new autonomous institute of the Department of Biotechnology (DBT). Prof. VijayRaghavan's contributions in science, as a developmental biologist, have been recognized widely. He was conferred an honorary Doctor of Science degree by the University of Edinburgh in 2011. He is a J. C. Bose Fellow of the Department of Science and Technology. He gave the J.C. Bose Memorial Lecture at the Royal Society in 2010; was awarded the inaugural Infosys Prize in Life Sciences in 2009. He is a recipient of Shanti Swarup Bhatnagar Prize, India's most prestigious science award, in 1998. He is a fellow of The Indian National Science Academy and The Indian Academy of Sciences and served on the Council of the latter. Prof. VijayRaghavan is an Associate Member of the European Molecular Biology Organization. In 2012, Prof. VijayRaghavan was elected a Fellow of the Royal Society and in 2014, a Foreign Associate of the U. S. National Academy of Sciences



Profile of Dr. Renu Swarup

Dr. Renu Swarup is presently Senior Adviser to the Department of Biotechnology (DBT). She also holds additional charge of Managing Director, Biotechnology Industry Research Assistance Council (BIRAC) a Public Sector Undertaking of DBT setup to foster and nurture Innovation and Entrepreneurship Ecosystem in the Biotech system. A PhD in Genetics and Plant Breeding, Dr. Renu Swarup completed her Post-Doctoral at The John Innes Centre, Norwich UK, under Commonwealth Scholarship and returned to India to take up the assignment of a Science Manager in the Department of Biotechnology, Ministry of Science and Technology, GoI, in 1989. At DBT, she has been involved in developing, funding and monitoring programmes under the National Bioresource Development Board in the area of Energy Biosciences, Bio resource Development and Utilization and Plant Biotechnology - Bio prospecting, Tissue Culture and other Biomass associated programmes. As a Science Manager, issues related to policy planning and implementation are also a part of her assignment. She was actively engaged in formulation of the Biotechnology Vision in 2001, National Biotechnology Development Strategy in 2007 and Strategy-II 2015-2020 as the Member Secretary of the Expert Committee. She was also a member of the Task Force on Women in Science constituted by the Scientific Advisory Committee to the Prime Minister. She is a Member of the National Academy of Sciences India and was also awarded the 'Bio Spectrum Person of the Year Award' in 2012.



Prof. Ashok Jhunjunwala



Prof. Jhunjunwala is an Institute Professor at the Indian Institute of Technology, Madras, Department of Electrical Engineering. He received his B.Tech degree from Indian Institute of Technology, Kanpur, and his Master's Degree and PhD from the University of Maine, USA. From 1979 to 1981, he was with Washington State University and ever since then with Indian Institute of Technology, Madras, where he leads the Telecommunications and Computer Networks group (TeNeT). The group collaborates with various industries in the development of telecom, banking, IT and Power Systems (including solar) technologies relevant to India and has a special focus on technologies for rural upliftment. It has incubated more than seventy companies in the last twenty years. He chairs the IITM Incubation cell, Health Technology Innovation Center (HTIC), co-chairs Rural Technology and Business Incubator (RTBI) at IIT Madras and is professor in-charge for the IITM Research Park. He also chairs a MHRD committee named 'Quality Enhancement of Engineering Education (QEEE)' and a member of review committee of AICTE, which focuses on improvement of education quality for 500 Indian engineering colleges, other than IITs and NITs.

Prof. Ashok Jhunjunwala has been awarded Padma Shri in the year 2002. He has been awarded Dr. Vikram Sarabhai Research Award for the year 1997, Shanti Swarup Bhatnagar Award in 1998, Millennium Medal at Indian Science Congress in the year 2000, H. K. Firodia for 'Excellence in Science & Technology' for the year 2002, Shri Om Prakash Bhasin Foundation Award for Science & Technology for the year 2004, Jawaharlal Nehru Birth Centenary Lecture Award by INSA for the year 2006, IBM Innovation and Leadership Forum Award by IBM for the year 2006, Bernard Low Humanitarian Award in 2009, 'Bharat Asmita Vigyaan - Tantragyaan Shresththa Award' for the best use of Science & Technology through Innovation in 2010, and conferred with Honorary Doctorates by the Institute of Blekinge Institute of Technology, Sweden in 2008 and University of Maine, USA in 2010. In 2010, he was also awarded JC Bose Fellowship by Department of Science & Technology, Government of India, awarded Dronacharya (2011) by TiE and recently awarded the Top Innovator of Top 11 in 2011 Innovators Challenge. He is a Fellow of World Wireless Research forum, IEEE and Indian academies including INAE, IAS, INSA and NAS.

Prof. Jhunjunwala is a Director in the Board of Tata Teleservices (Maharashtra) Limited, Sasken, Tejas, Tata Communications, Exicom, Mahindra Reva Electrical Vehicles Pvt Ltd and Intellect Design Arena Limited. He is also a board member of several educational institutes and Section 8 companies including BIRAC. He was a member at the Prime Minister's Scientific Advisory Committee from 2004-14.

Dr. Gagandeep Kang

Dr. Gagandeep Kang is a Professor in the Division of Gastrointestinal Sciences at the Christian Medical College (CMC) in Vellore, India. She is the head of the Wellcome Trust Research Laboratory and the Division of Gastrointestinal Sciences at CMC.



Dr. Kang's research on enteric infections focuses on epidemiology, prevention and vaccine development. She has worked with the Indian Council of Medical Research and the National Institute of Epidemiology develop a network of Indian rotavirus clinical surveillance sites and laboratories. She heads the WHO Rotavirus Reference Laboratory for the South East Asian Region, coordinating efforts to ensure high quality investigations to support estimation of disease burden and prepare for monitoring the impact of vaccines. In addition, her group at CMC carries out clinical research on rotavirus and polio vaccines, conducting both complex field studies and laboratory assays for evaluation of vaccine performance. Complementary studies on gut function investigate the sequelae of enteric infections and effects on long term growth and development.

Dr. Kang's work has been supported by direct competitively obtained funding from the US National Institutes of Health, the Wellcome Trust, the Bill and Melinda Gates Foundation, the European Union and other international and national funding. Her work has resulted in over 200 publications, in national and international journals of high standing, and her academic contributions have been recognized, as the first woman and the first Indian to be invited to edit the prestigious Manson's Textbook of Tropical Medicine. The large body of research conducted by her group has led to practical interventions to prevent diarrhoeal disease, and continues to lay the groundwork for further interventions in the form of treatment techniques and vaccines.

She holds MBBS, MD and PhD degrees from CMC a Fellowship of the Royal College of Pathologists, London. She is an elected Fellow of the Indian Academy of Sciences, National Academy of Sciences, Indian National Science Academy and the American Academy of Microbiology. She chairs the Immunization Technical Advisory Group for the WHO's South East Asian Region. She serves on several Scientific Advisory Groups nationally and internationally and is a member of the WHO's Global Advisory Committee on Vaccine Safety and the Immunization and Vaccine Implementation Research Advisory Committee.

Prof. Deepak Pental

Professor Deepak Pental is former Vice-chancellor of University of Delhi and currently professor in the Department of Genetics at South Campus of the University. He did his undergraduate and postgraduate degrees from the Department of Botany, Panjab University and subsequently Ph.D. from Rutgers University, USA. He was a Postdoctoral and University Research Fellow at the University of Nottingham from 1978-84. Prof. Pental's research interests are in breeding of mustard and cotton. He has published more than seventy research papers in national and international peer reviewed journals and his work has led to significant breakthroughs in hybrid seed production technologies. He is an elected member of the National Academy of Agricultural Sciences, the National Academy of Sciences, the Indian Academy of Sciences and the Indian National Science Academy. Prof. Pental is recipient of many awards which include – Jawaharlal Nehru Fellowship in 2004; 'Officer Des Palmes Academiques' by the Government of Republic of France in 2007; Om Prakash Bhasin Award in 2008; J. C. Bose Fellowship from DST in 2010; FICCI award in 2010 for innovative R&D in Life Sciences and a D.Sc (hc) from the University of Nottingham in 2012.



Dr. Dinakar Masanu Salunke

Dr. Salunke is currently the Director at ICGB, New Delhi. He was earlier the executive Director of Regional Centre for Biotechnology.

After obtaining Ph. D. (1983) from Indian Institute of Science Bangalore, he carried out post-doctoral research at the Brandeis University in USA before returning to the National Institute of Immunology, New Delhi in 1988 from where he is currently on lien. Dr. Salunke's Research Interests are Structural Biology of Immune Recognition, Molecular Mimicry and Allergy. He is a Fellow of the Indian National Science Academy (2004), Indian Academy of Sciences (2001), and the National Academy of Sciences (India) (1995), The World Academy of Sciences (2014).

Dr. Salunke is recipient of many awards viz. GN Ramachandran Gold Medal for Excellence in Biological Sciences and Technology (2010), JC Bose National Fellowship Award (2007), Ranbaxy Research Award for Basic Research in Medical Sciences (2002), Shanti Swarup Bhatnagar Prize for Biological Sciences (2000), National Bioscience Award (1999), among others.



Government Nominee

Dr. Mohd. Aslam

Dr. Mohd. Aslam is currently Advisor (Scientist 'G') in the Department of Biotechnology (DBT). He is involved in planning, coordination and monitoring of various R&D programmes in plant biotechnology and allied areas. Currently, he is handling major programmes of DBT such as Centres of Excellence in Biotechnology, Translational Research in Products and Processed from Medicinal & Aromatic Plants and Technology Development in Silk. Dr. Aslam is the Member Secretary of the Technical Advisory Committee of Centres of Excellence in Biotechnology and DBT's Expert Groups on Translational Research in Products and Processed from Medicinal & Aromatic Plants and Technology Development in Silk. He is also working as the nodal officer in DBT for three autonomous institutions - National Institute of Immunology (NII), New Delhi; Institute of Bioresources and Sustainable Development (IBSD), Imphal, Manipur and International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi and also for Biotechnology Industry Research Assistance Council (BIRAC), New Delhi.



Corporate Information

Registered Office

1st floor, MTNL Building, 9, CGO Complex,
Lodhi Road, New Delhi – 110 003
CIN: U73100DL2012NPL233152
Website: www.birac.nic.in
Email: birac.dbt@nic.in Tel: +91-11-24389600
Fax: +91-11-24389611

Statutory Auditors

M/S SAMPRK&ASSOCIATES

Chartered Accountants

102-03/106/302, 3rd Floor, Neelkanth House
S-524, School Block
Shakarpur, Delhi – 110092
Phone No: +91-11-22481918, 22482446

Bankers

Corporation Bank Limited,
Block 11, CGO Complex
Lodi Road, New Delhi -110003.

State Bank of Hyderabad
Core 6, SCOPE Complex,
Lodi Road, New Delhi -110003.

Company Secretary

Ms. Kavita Anandani



Directors' Report



DIRECTORS' REPORT

To the Members,

1. ABOUT BIRAC

Biotechnology Industry Research Assistance Council (BIRAC) is a not-for-profit Section 8 company incorporated under the Companies Act, 2013 and a Schedule B, Public Sector Enterprise, set up by Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India as an interface agency to strengthen and empower the emerging biotech enterprise to undertake strategic research and innovation, addressing nationally relevant product development needs.

BIRAC is a new industry-academia interface and implements its mandate through a wide range of **impact initiatives**, be it providing access to risk capital through targeted funding, technology transfer, IP management and handholding schemes that help bring **innovation excellence** to the biotech firms and make them globally competitive. In its three years of existence, BIRAC has initiated several schemes, networks and platforms that help to **bridge the existing gaps** in the industry-academia innovation research and facilitate novel, high quality affordable products development through cutting edge technologies. BIRAC has initiated partnerships with several national and global partners to collaborate and deliver the salient features of its mandate.

2. OUR PHILOSOPHY & ACHIEVEMENTS

BIRAC's philosophy is rooted in its mission to 'trigger, transform and tend biotech start-ups to convert innovative research in public & private sector into

viable and competitive products and enterprises'. BIRAC aims to achieve the Vision and Mission, which have been enshrined in its charter, through various mechanisms that call for strategy involving multitudes of aligned partnerships such that bio-innovation takes root in start-ups, SMEs as well as in research institutes and academia.

Over the last 4 years, BIRAC has adhered to its core mission to 'trigger, transform and tend biotech startups to convert innovative research in public and private sector into viable and competitive products and enterprises'. Triggering, transforming and tending needs specialised programme design and implementations which have been categorised into SITARE, eYUVA, Funding for Product & Process Development and Enablers for Scaling the Ecosystem.

'Triggering': ideas and entrepreneurial journeys

The 'triggering' is conducted through programmes that not only encourage idea generation but also move the idea through one of its first big hurdles- proof of concept. The primordial bio-entrepreneurial energy is harnessed through multitudes of programmes grouped together under the umbrella of SITARE and eYUVA such as BIRAC-SRISTI GYTI awards. We have provided grants of INR 1 lakh to one hundred grassroots innovators and 22 student teams have received INR 15 lakhs working on translation ideas in-situ at different academic labs, Biotechnology Ignition Grant (BIG), the flagship biotech start-up grant of the nation, which provides up to INR 50 lakhs (>180 projects have been approved), University Innovation Cluster (UIC) that focuses on

translational R&D, at 5 universities, lead by post-doctoral and post masters fellows numbering around 20. In the previous year we have also taken the strategic decision to reach out to wider community of students and academic faculty to inculcate innovation thinking. For this BIRAC has decided to conduct Hackathons and Ideathons to allow students to begin ideating on finding solutions for different challenges that the nation faces and then build a rough pre-prototype.

Our partnership with SRISTI at Ahmedabad has gained strength and in March 2016, through two components of the partnership, 100 grassroots entrepreneurs have been selected who will receive INR 1.00 lakh for taking their ideas forward, while 15 student teams anchored by an expert faculty have been selected who will conduct R&D in-situ in academic labs to take their ideas towards translation. The BIRAC-GYTI Awards were announced in the verdant campus of Rashtrapati Bhavan during the Festival of Innovation organised by SRISTI.

The Biotechnology Ignition Grant (BIG) has now truly become the flagship national early stage funding programme for biotech startups in India. In FY 2016-17, BIRAC announced its 7th call (July 2015) and 8th call (January 2016). BIRAC allocated INR 20 crore for the BIG Programme in 2015-16. One of the markers of transition in the journey of entrepreneurship is the ability to establish an enterprise. Through BIG, BIRAC has given approval to approximately 170 entrepreneurial projects. BIG allows and encourages researchers to take steps towards enterprise and we now have 47 individuals who have established a biotech start-ups catalysed by BIG. Many BIG grantees are now moving to the next

stage of their entrepreneurial journeys and are raising follow on funds as well as clinically validating their products.

Social innovation is gaining traction as innovators try to find novel solutions to societal challenges such as public health and sanitation. The SPARSH programme, launched in 2013, has focused on building the social innovation potential in India through biotech tools and products. Within SPARSH, BIRAC has designed an immersion programme called SIIP that allows young fellows to immerse in various communities and hospitals and identify gaps that can be bridged by innovative solutions. 14 SIIP fellows have been working diligently to identify societal needs.

A key feature of putting policy into practice is to understand the landscape of innovation and pro-actively map existing capabilities as well as identify gaps. BIRAC through a partnership with IKP established BIRAC Regional Innovation Centre (BRIC) in 2013 to map the regional innovation in South India. In 2015-16, BRIC has proactively mapped the evolving biotech ecosystem at Bangalore, Chennai and Trivandrum. The findings will be captured and distilled.

We recognise that we have to reach out to greater numbers of stakeholders such that information regarding opportunities in biotechnology be disseminated across India and especially triggering vibrant newer ideas to take shape that will ultimately feed into the mission of transforming India. With this in mind, we initiated BIRAC's Hackathon & Ideathon series. The first Ideathon was conducted on March 19th 2016 regarding anti-microbial resistance (AMR) and it being an emerging threat to both developing and developed world.

Through a concerted effort BIRAC is sowing the seeds of new entrepreneurial culture in the realm of biotechnology.

'Transformation' of ideas into products through funding support, bridging Academia & Industry & partnerships

Supporting translation of ideas until its commercialisation is one of the core mandates of BIRAC and in this regard many of our flagship programmes (such as SBIRI and BIPP) provide impetus for pulling the idea past POC and taking it further along the innovation chain especially validation and scale. A wide gamut of cutting edge projects were supported via the two programmes covering areas such as drugs, bio-similars, stem cells, agriculture, device and diagnostics.

In SBIRI, a total of 204 projects have been supported overall while in BIPP, a total of 71 projects, including 17 new ones were supported. The product development component of SPARSH launched the 3rd call aiming at finding solutions for energy, water and sanitation aligning both with the Swachh Bharat Mission as well as Millennium Development Goals (MDG) and 4 projects have been selected. The first two calls had focused on Maternal & Child Health which have 16 ongoing projects.

BIRAC has taken solid steps in reducing the barriers between academia and industry to collaborate. Programmes such as SBIRI and BIPP reflect the essence of Public-Private Partnership (PPP). Besides these two, BIRAC has also implemented a targeted programme to bring industry and academia together called the Contract Research Scheme (CRS) which, since its inception, has supported 18 projects. In 2015-16 two calls were announced.

To provide further impetus to product development in biopharmaceuticals BIRAC has continued its partnership with IAVI where BIRAC has set up a Project Management Unit to map the needs of the biopharma sector such that future programmes can be implemented. Similarly, BIRAC has set up Early Translation Accelerator (ETA) to pull academic discoveries towards translation. An ETA focused on healthcare has been established at C-CAMP and the first project is progressing there.

During the previous year, BIRAC provided active support to Atal Innovation Mission and Startup India Mission as well as the Make in India programme. With support from DBT, BIRAC has created a Biotechnology Industry Facilitation Cell under the Make in India umbrella to identify key areas of growth for Make in India. We have continuously interacted with DIPP for supporting the Biotechnology component of Make in India. Our aim also has been to support the Start-up India programme. We have contributed to the Startup India action plan with a mix of deliverables that includes funding start-ups and supporting incubation for nascent biotech start-ups. BIRAC supported biotech start-ups accompanied Hon'ble PM's delegation to Silicon Valley in 2015.

Partnerships

BIRAC is cognisant of the fact that transformation of an idea to product would need efforts from other organisations. It is with this aim, that BIRAC has expanded its partnerships and alliances with both Indian and international agencies. Some of the partnerships provide funding while others open networks and knowledge for India's start-up and SME community.

Our partnership with Department of Electronics and IT (DeitY) in the area of medical electronics (Industry Innovation Programme on Medical Electronics) focuses on boosting innovation capabilities in electronics, software, algorithms and hardware. A total of 14 projects have been funded.

Our partnership with Bill & Melinda Gates Foundation has grown deeper roots in establishing Grand Challenges India where BIRAC is a project management partner in the tripartite collaboration between DBT, BMGF and BIRAC. Under this collaboration, three calls for Grand Challenges India have been launched including Achieving Healthy Growth through Agriculture and Nutrition, Reinvent the Toilet Challenge and All Children Thriving (which was launched in 2014). In total 18 projects have been awarded including 7 in All Children Thriving whose awards were announced in 2015-16.

Similarly BIRAC has strengthened its partnerships with the Indo-French agency CEFIPRA and BPI France, Wellcome Trust. BIRAC has a growing partnership with USAID and IKP in the realm of TB Diagnostics whose second call for new diagnostics for TB has supported six proposals for support in first phase.

Antimicrobial Resistance (AMR) is a rapidly emerging public health issue due to variety of factors including development of resistance in microbes due to improper use of antibiotics without prescriptions, usage in of antibiotics in animal feed industry and several other factors. This has led to an emerging crisis in development of mutated microbes which are resistant to known antibiotics (including multidrug resistance) that is

increasingly causing growing numbers of mortality as well as hospital acquired infections. Nesta UK has launched a global Longitude Prize aiming to find several solutions to AMR. We have established a partnership with Nesta UK in Longitude Prize especially in Early Discovery Awards to create pipeline of projects for AMR.

A whole set of partnerships established by BIRAC smoothen knowledge flows, encourage mobility and help in creation of national and international networks. Our continuing partnerships with the Judge Business School, University of Cambridge, UK connects our BIG innovators with the deep innovation ecosystem of Cambridge and beyond. In 2015-16, we sent five BIG grantees to Cambridge to train in business and technical aspects of their enterprises in the flagship Ignite workshop. Our new partnership with Tekes Finland would help in connecting Finnish innovation ecosystem with India. In 2015-16, we have also established partnerships with UK's nodal trade agency UKTI for exchange of biotech industry related information and networking opportunities. We have joined hands with TISS Mumbai to help our social innovators.

'Tending' Startups and SMEs for transitioning to the Next Level

BIRAC pro-actively nurtures emerging start-ups and SMEs through a variety of programmes. It actively engages with all stakeholders through seminars and workshops and many other platforms.

Each project is provided business and technical support by expert mentors either directly or through our partners. This helps our supported entrepreneurs to refine their R&D as well as business models.

Our BIG, UIC and SIIP partners not only monitor the progress of projects but also actively provide mentorship to our entrepreneurs and start-ups. Our partnership with the Judge Business School, University of Cambridge is also an example of mentorship provided to our start-ups.

In 2015-16, we conducted four Roadshows, Grant writing and IP workshops as well as four hands-on training workshops. Through support to our programme partners such as our BIG Partners and SIIP Partners we have conducted several seminars and workshops over the last year.

We have created platforms such as Innovators Meet (the 4th Innovator Meet was conducted in September 2015), Foundation Day (4th Foundation Day was organised in March 2016) and the 1st BIG Conclave with the intention of bringing together biotech start-ups to one platform, was organised in May 2015. Together, these platforms have allowed innovators to meet, share information and best practices, catalyse partnerships and network. We also actively participated in BIO 2015 as well as other platforms such as BIO Asia and Bangalore India BIO.

3i Portal

3i Portal has been providing a user friendly and convenient solution for effective management of various funding schemes of BIRAC. New features are added to the portal on regular basis in order to enhance the ease of use for all types of users. The portal is now being expanded to manage loan recoveries under BIPP and SBIRI. In addition, data mining and analysis has been made easier through number of newly added reports. The portal has assisted in conducting

surveys and generating reports based on the same. New features to be implemented in near future include sms alerts, advanced search options (such as single click view of all information related to a project) and development of mobile application. In addition, it is also envisaged to develop a networking portal as a platform to connect the biotech community (at national level as the first step and subsequently at global level). The networking portal shall provide information about products and services offered by various companies, key areas of active research being undertaken by companies/academic institutes/entrepreneurs, technologies available for licensing/sale etc.

BIRAC Grantees Awarded

- Cardea Labs won PRODUCT OF THE YEAR - 2016 Award by ASSOCHAM
- Swasti Agro

KEY ACHIEVEMENTS IN MAJOR THEMATIC AREAS

BIRAC provides support to all major areas of biotechnology sector i.e. Healthcare, Agriculture, Industrial biotechnology and Bioinformatics/Infrastructure as part of meeting its objective of promoting affordable innovation in key social sectors. Healthcare covers the areas of Drugs (including drug delivery), Bio-similars (including regenerative medicine), Vaccines/Clinical trials & Devices/diagnostics whereas Agriculture covers Marker assisted selection (MAS), RNAi, Transgenics & soil health management. Industrial biotechnology includes Industrial products/processes and secondary agriculture. BIRAC has made considerable progress in these areas during 2015-16 in addition to delivering seven products/technologies, ten early stage technologies and eight patent applications as detailed in the report.

Conclusion

We believe that the combination of 'Triggering, Transforming & Tending' will help in establishment of a truly dynamic and vibrant biotech ecosystem such that India becomes the leading destination in biotechnology innovation R&D such that new cutting edge products are ideated, designed and manufactured in India which then create a positive social impact as well as boost the Indian economy. This we hope would help India achieve its goal of being a US \$100B bioeconomy by 2025.

3. AUDIT COMMITTEE

BIRAC is registered under Section 8 Company of the Companies Act, 2013 as a not for profit company. It is a private limited company which is not listed on any stock exchange. The constitution of audit committee is not applicable to the company as it is not a public listed company. However, constitution of an Audit Committee is a requirement under the DPE Guidelines on Corporate Governance. Accordingly, an Audit committee of the Board was constituted with 3 directors, two of whom were independent.

4. FINANCIAL STATEMENT

The financial statement is made on accrual method of accounting under the historical cost convention, in accordance with the accounting standards issued by Institute of Chartered Accountants of India.

5. EXTRACT OF THE ANNUAL RETURN

In accordance with Section 134(3)(a) of the Companies Act, 2013, an extract of the Annual Return in the prescribed format is appended as Annexure 1 to the Directors' Report

6. NUMBER OF MEETINGS OF THE BOARD

The Board met six times during the financial year, the details of which are given in the Corporate Governance Report, which forms a part of the Annual Report. The intervening gap between any two meetings was as prescribed under the Companies Act, 2013 and the guidelines issued by the Department of Public Enterprises.

7. PARTICULARS OF CONTRACTS OR ARRANGEMENTS MADE WITH RELATED PARTIES

BIRAC has not entered into any contracts or arrangements with related parties as per the provisions of Section 188(1) of the Companies Act, 2013.

8. RTI

BIRAC follows all necessary procedures and processes in accordance with the Right to Information Act, 2005 as amended from time to time & Government Guidelines; it has appointed a CPIO and Appellate Authority. The details are available on its website (www.birac.nic.in).

9. RISK MANAGEMENT POLICY

BIRAC has in place a suitable Risk Management Policy duly approved by the Board

10. DISCLOSURE UNDER THE SEXUAL HARASSMENT OF WOMEN AT WORKPLACE (PREVENTION, PROHIBITION AND REDRESSAL) ACT, 2013

The Company has formed a Grievance Redressal Mechanism and constituted a Complaints committee with terms of reference as required under the CCS (Conduct) Rules and the Guidelines laid down by the Hon'ble Supreme Court in Vishaka and others Vs. The State of Rajasthan which will also serve as the Internal Complaints Committee (ICC) to redress complaints received regarding sexual harassment under the Sexual Harassment of

Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.

All employees (permanent, contractual, temporary, trainees) are covered under this policy. The Company has not received any grievances during the financial year 2015-16.

11. MEMORANDUM OF UNDERSTANDING (MoU)

BIRAC had entered into the second Memorandum of Understanding (MoU) for the year 2015-16 with the Administrative Ministry, the Department of Biotechnology (DBT), Ministry of Science & Technology on March 25, 2015, as per the Guidelines issued by the Department of Public Enterprises (DPE).



Signing of the DBT-BIRAC MoU

BIRAC was also awarded 'Excellent' grading for its achievements against the targets set out in the MoU for the year 2014-15 by the Department of Public Enterprises (DPE)

MoU 2015-16 Achievements

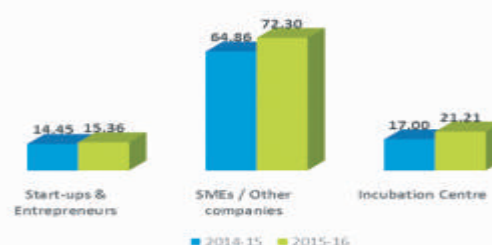
During the year, BIRAC disbursed Rs. 108.87 crores out of which **Rs. 15.36 crores** were disbursed to **Startups & Entrepreneurs**, **Rs. 72.30 crores** were disbursed to **SMEs and other companies** and **Rs. 21.21 crores** were disbursed towards **Incubation Centres**.

The total amount mobilized from sources other than grant in aid of Government

was Rs. 12.35 crores amounting to **11.88%** of the total resources mobilized.

BIRAC has recovered **19.23%** out of the amount due for more than one year amounting to **Rs. 4.48 crores** in addition to the recovery of **74.49%** of current year due amounting to **Rs. 24.94 crores**

Funding Support (in INR Crores)

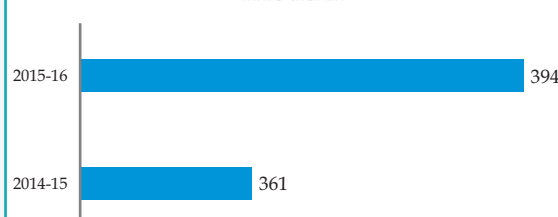


During the financial year 2015-16, 12 calls for proposals under various schemes were announced. The average decision making time to support a project for funding was **6 months**.

BIRAC supported 394 beneficiaries under its various schemes during the year 2015-16 out of which **150** beneficiaries were **Start-ups and Research Entrepreneurs** and **244** beneficiaries were **SMEs and other companies**. **56 women beneficiaries** were supported forming **14%** of the total beneficiaries supported.

Four regulatory workshops were conducted during the year benefitting **199 participants**. BIRAC entered into **partnerships with six organizations viz.**

NUMBER OF STAT-UPS, SME, ENTREPRENEURS SUPPORTED DURING THE YEAR



WISH Foundation, UK Trade and Investment (UKTI), Horticulture Innovation Australia (HIA), NESTA, TEKES & Tata Institute of Social Sciences (TISS) during the year.

Four Hands on training workshops in the areas of Industrial Biotechnology, bioinformatics and agriculture were conducted during the year and **two facilities** were developed viz. bioincubators at Healthcare Technology Innovation Centre (HTIC), Chennai and at Golden Jubilee Women Biotech Park, Chennai

Four Grant writing workshops were conducted for the purpose of creating awareness about the activities of BIRAC among the various stakeholders and **one skill development workshop** was conducted at Judge Business School, University of Cambridge.

12. DIRECTOR'S RESPONSIBILITY STATEMENT

In accordance with the provisions of Section 134(5) of the Companies Act, 2013, the Directors state that:

- in the preparation of the annual accounts, the applicable accounting standards had been followed along with proper explanation relating to material departures;
- the directors had selected such accounting policies and applied them consistently and made judgments and estimates that are reasonable and prudent so as to give a true and fair view of the state of affairs of the company at the end of the financial year and of the profit and loss of the company for that period;
- the directors had taken proper and sufficient care for the maintenance of adequate accounting records in accordance with the provisions of this

Act for safeguarding the assets of the company and for preventing and detecting fraud and other irregularities;

- the directors had prepared the annual accounts on a going concern basis; and
- the directors had devised proper systems to ensure compliance with the provisions of all applicable laws and that such systems were adequate and operating effectively.

13. CORPORATE GOVERNANCE

BIRAC was rated "Excellent" for grading on the basis of Compliance with Guidelines on Corporate Governance for Central Public Sector Enterprises (CPSE) for the financial year 2014-15 by the Department of Public Enterprises. A separate report on Corporate Governance is annexed with this report.

14. AUDITORS' REPORT

M/s. SAMPRK & Associates, Chartered Accountants are the Statutory Auditors of the Company appointed by the Comptroller and Auditor General of India for the period under review (Financial Year 2015-16). Auditors Report / CAG Report are appended to the Financial Statements and are self-explanatory and suitably explained in various Notes to the accounts

15. BANKERS

Bankers are

- Corporation Bank Limited, Block 11, CGO Complex, Lodhi Road, New Delhi -110003.
- State Bank of Hyderabad, Core 6, SCOPE Complex, Lodhi Road, New Delhi-110003

16. ABOUT DIRECTORS

BIRAC is guided by a board comprising of senior professionals, academicians, policy

makers and eminent professionals from the industry. Prof. K. VijayRaghavan, Secretary, Department of Biotechnology is the Chairman of the Board and Dr. Renu Swarup, Senior Adviser, Department of Biotechnology is the Managing Director.

The Board comprises of 4 Independent Directors viz. Prof. Ashok Jhunjhunwala, Professor, IIT Chennai, Dr. Gagandeep Kang, Professor & Head, Department of Gastrointestinal Sciences, Christian Medical College, Vellore, Prof. Deepak Pental, Department of Genetics, University of Delhi, Dr. Dinakar Mashnu Salunke, Director of International Centre for Genetic Engineering and Biotechnology New Delhi. Dr. Mohd. Aslam, Scientist 'G', Department of Biotechnology is the Government nominee director

17. CONSERVATION OF ENERGY, TECHNOLOGY ABSORPTION AND FOREIGN EXCHANGE EARNINGS AND OUTGO

The information pertaining to conservation of energy, technology absorption, foreign exchange earnings and outgo as required under Section 134 (3)(m) of the Companies Act, 2013 read with Rule 8(3) of the Companies (Accounts) Rules, 2014 is as follows:

A. Conservation of Energy

Disclosure regarding conservation of energy is not applicable to our Company.

B. Technology Absorption, Adoption and Innovation

Particulars required under Rule 8(3)(B) of the Companies (Accounts) Rules, 2014 has not been given since the company has no direct research and development activity. However, the main function of BIRAC is to facilitate and provide financial support for generation and translation of innovative ideas into biotech products/ technologies, foster innovation in all places of research and to encourage diffusion of innovation through partners. The details are provided in the Management Discussion and Analysis Report, Annexures 1 and 2

C. Foreign Exchange Earnings & Outgo

The foreign exchange earnings & outgo during the year are given below:-

Foreign Exchange Inflow in the form of Donations	Nil
Foreign Exchange outflow	
A. Books, Journal and Database Subscription	USD 55364, GBP 9825 (Rs. 45,80,547)
B. Foreign travel by employees	USD 3150, EURO 1925 (Rs. 3,39,273)
C. Entrepreneurial Development	USD 28587, GBP 17075, JPY 2000000 (Rs. 47,29,031)
D. Technology Transfer	AUD 251560 (Rs. 1,28,04,404)
CIF value of import	Nil

ACKNOWLEDGMENT

The Directors wish to place on record their appreciation for the valuable guidance and cooperation extended to the Auditors, Banks and various governmental agencies. The Directors also wish to place on record their appreciation for the sincere efforts put in by the executives and staff of the Company.

Date: August 18, 2016

Place: New Delhi

For and on behalf of Board

Prof. K. VijayRaghavan
Chairman

Annexure 1

EXTRACT OF ANNUAL RETURN
as on the financial year ended on March 31, 2016
[Pursuant to Section 92(3) of the Companies Act, 2013 and Rule 12(1) of the Companies (Management and Administration) Rules, 2014]

I. REGISTRATION AND OTHER DETAILS:

- i) CIN: **U73100DL2012NPL233152**
- ii) Registration Date: **March 20, 2012**
- iii) Name of the Company: **Biotechnology Industry Research Assistance Council**
- iv) Category / Sub-Category of the Company: Section 8 Private Limited Company limited by shares (Government Company)
- v) Address of the Registered office and contact details: 1st floor, MTNL Building, 9, CGO Complex, New Delhi – 110 003. Website: www.birac.nic.in Email: birac.dbt@nic.in Tel: +91-11-24389600
- vi) Whether listed company Yes / No: No
- vii) Name, Address and Contact details of Registrar and Transfer Agent, if any:
Skykine Financial Services Pvt. Ltd., D-153 A, 1st floor, Okhla Industrial Area, Phase - I, New Delhi – 110 020
Contact Person: Shri Virender Rana

II. PRINCIPAL BUSINESS ACTIVITIES OF THE COMPANY

All the business activities contributing 10% or more of the total turnover of the company shall be stated:-

Sl. No.	Name and Description of main products/services	NIC Code of the Product/service	% to total turnover of the company
1	Research and experimental development on natural sciences and engineering (NSE)	73100	100%

III. PARTICULARS OF HOLDING, SUBSIDIARY AND ASSOCIATE COMPANIES -

S. No.	Name and address of the company	CIN/GLN	Holding/ Subsidiary/ Associate	% of shares held	Applicable Section
1	N.A.	N.A.	N. A	N. A	N.A

IV. SHARE HOLDING PATTERN (Equity Share Capital Breakup as percentage of Total Equity)

- i) Category-wise Share Holding

Biotechnology Industry Research Assistance Council

Category of Shareholders	No. of Shares held at the beginning of the year				No. of Shares held at the end of the year				% Change during the year
	Demat	Physical	Total	% of Total Shares	Demat	Physical	Total	% of Total Shares	
A. Promoters									
(1) Indian									
i) Individual/ HUF	-	-	-	-	-	-	-	-	-
ii) Central Govt	10000	N.A.	10000	100	10000	N.A.	10000	100	NIL
iii) State Govt (s)	-	-	-	-	-	-	-	-	-
iv) Bodies Corp.	-	-	-	-	-	-	-	-	-
v) Banks/FI	-	-	-	-	-	-	-	-	-
vi) Any Other	-	-	-	-	-	-	-	-	-
Sub-total (A) (1):-	10000	N.A.	10000	100	10000	N.A.	10000	100	NIL
(2) Foreign									
a) NRIs - Individuals	-	-	-	-	-	-	-	-	-
b) Other - Individuals	-	-	-	-	-	-	-	-	-
c) Bodies Corp.	-	-	-	-	-	-	-	-	-
d) Banks / FI	-	-	-	-	-	-	-	-	-
e) Any Other....	-	-	-	-	-	-	-	-	-
Sub-total (A) (2):-	-	-	-	-	-	-	-	-	-
Total shareholding of Promoter (A) = (A)(1)+(A)(2)	10000	N.A.	10000	100	10000	N.A.	10000	100	NIL
B. Public Shareholding	-	-	-	-	-	-	-	-	-
1. Institutions	-	-	-	-	-	-	-	-	-
a) Mutual Funds	-	-	-	-	-	-	-	-	-
b) Banks/FI	-	-	-	-	-	-	-	-	-
c) Central Govt	-	-	-	-	-	-	-	-	-
d) State Govt(s)	-	-	-	-	-	-	-	-	-
e) Venture Capital Funds	-	-	-	-	-	-	-	-	-
f) Insurance Companies	-	-	-	-	-	-	-	-	-
g) FIIs -	-	-	-	-	-	-	-	-	-
h) Foreign Venture Capital Funds	-	-	-	-	-	-	-	-	-
i) Others (specify)	-	-	-	-	-	-	-	-	-
Sub-total (B)(1):-	-	-	-	-	-	-	-	-	-
2. Non-Institutions	-	-	-	-	-	-	-	-	-
a) Bodies Corp.	-	-	-	-	-	-	-	-	-
i) Indian									
i) Individual share-holders holding nominal share capital upto Rs. 1 lakh				-					

ii) Individual share-holders holding nominal share capital in excess of Rs 1 lakh	-	-	-	-	-	-	-	-	-
c) Others (specify)	-	-	-	-	-	-	-	-	-
Sub-total (B)(2):-	-	-	-	-	-	-	-	-	-
Total Public Share-holding (B) = (B)(1) + (B)(2)	-	-	-	-	-	-	-	-	-
C. Shares held by Custodian for GD Rs & ADRs	-	-	-	-	-	-	-	-	-
Grand Total (A+B+C)	10000	NA	10000	100	NA	10000	10000	100	NIL

(ii) Shareholding of Promoters

Sl. No.	Shareholder's Name	Shareholding at the beginning of the year			Shareholding at the end of the year			% change in Share-holding during the year
		No. of Shares	% of total Shares of the company	% of shares Pledged/encumbered to total shares	No. of Shares	% of total shares of the company	% of shares Pledged/encumbered to total shares	
1	President of India	9000	90%	Nil	9000	90%	Nil	Nil
2	Prof. K. VijayRaghavan, Secretary, DBT and Chairman, BIRAC (on behalf of the President of India)	900	10%	Nil	900	10%	Nil	Nil
3	Dr. Renu Swarup, MD, BIRAC (on behalf of the President of India)	100	1%	Nil	100	1%	Nil	Nil
	Total	10000	100%	Nil	10000	100%	Nil	Nil

(iii) Change in Promoters' Shareholding (please specify, if there is no change)

Sl. No.		Shareholding at the beginning of the year		Cumulative Shareholding during the year	
		No. of shares	% of total shares of the company	No. of shares	% of total shares of the company
	At the beginning of the year	NIL	NIL	NIL	NIL
	Date wise Increase/ Decrease in Promoters Shareholding during the year specifying the reasons for increase/decrease (e.g. allotment/transfer/bonus/sweat equity etc):	NIL	NIL	NIL	NIL
	At the End of the year	NIL	NIL	NIL	NIL

Biotechnology Industry Research Assistance Council

(iv) Shareholding Pattern of top ten Shareholders (other than Directors, Promoters and Holders of GDRs and ADRs):

Sl. No.		Shareholding at the beginning of the year		Cumulative Shareholding during the year	
	For each of the top 10 Shareholders	No. of shares	% of total shares of the company	No. of shares	% of total shares of the company
	At the beginning of the year	NIL	NIL	NIL	NIL
	Date wise Increase/Decrease in in Shareholding during the year specifying the reasons for increase/decrease (e.g. allotment/ transfer/ bonus/ sweat equity etc):	NIL	NIL	NIL	NIL
	At the End of the year (or on the date of separation, if separated during the year)	NIL	NIL	NIL	NIL

(v) Shareholding of Directors and Key Managerial Personnel

(A) Prof. K. VijayRaghavan, Chairman

Sl. No.		Shareholding at the beginning of the year		Cumulative Shareholding during the year	
	For Each of the Directors and KMP	No. of shares of the company	% of total shares	No. of shares	% of total shares of the company
	At the beginning of the year	900	9	900	9
	Date wise Increase / Decrease in Shareholding during the year specifying the reasons for increase/ decrease (e.g. allotment / transfer/ bonus/ sweat equity etc)	NIL	NIL	NIL	NIL
	At the End of the year	900	9	900	9

(B) Dr Renu Swarup, Managing Director

Sl. No.		Shareholding at the beginning of the year		Cumulative Shareholding during the year	
	For each of the Directors and KMP	No. of shares	% of total shares of the company	No. of shares	% of total shares of the company
	At the beginning of the year	100	1	100	1
	Date wise Increase / Decrease in Shareholding during the year specifying the reasons for increase/ decrease (e.g. allotment / transfer/ bonus/ sweat equity etc)	NIL	Nil	Nil	Nil
	At the end of the year	100	1	100	1

V. INDEBTEDNESS:

Indebtedness of the Company including interest outstanding/accrued but not due for payment

	Secured Loans excluding deposits	Unsecured Loans	Deposits	Total Indebtedness
Indebtedness at the beginning of the financial year	Nil	Nil	Nil	Nil
i) Principal Amount				
ii) Interest due but not paid				
iii) Interest accrued but not due				
Total (i+ii+iii)	Nil	Nil	Nil	Nil
Change in Indebtedness during the financial year	NA	NA	NA	NA
• Addition				
• Reduction				
Net Change	Nil	Nil	Nil	Nil
Indebtedness at the end of the financial year	Nil	Nil	Nil	Nil
i) Principal Amount				
ii) Interest due but not paid				
iii) Interest accrued but not due				
Total (i+ii+iii)	Nil	Nil	Nil	Nil

VI. REMUNERATION OF DIRECTORS AND KEY MANAGERIAL PERSONNEL

A. Remuneration to Managing Director, Whole-time Directors and/or Manager:

Sl. No.	Particulars of Remuneration	Name of MD/WTD/ Manager				Total Amount
		Dr. Renu Swarup , Managing Director				
1.	Gross salary	N.A as she is holding Additional Charge as Managing Director of BIRAC	-	-	-	-
	(a) Salary as per provisions contained in Section 17(1) of the Income-tax Act, 1961					
	(b) Value of perquisites u/s 17(2) Income-tax Act, 1961					
	(c) Profits in lieu of salary under Section 17(3) Income- tax Act, 1961					
2.	Stock Option	-	-	-	-	-
3.	Sweat Equity	-	-	-	-	-
4.	Commission - as % of profit - others, specify...	-	-	-	-	-
5.	Others, please specify	-	-	-	-	-
	Total (A)	-	-	-	-	-
	Ceiling as per the Act	-	-	-	-	-

Biotechnology Industry Research Assistance Council

B. Remuneration to other directors:

Sl. No.	Particulars of Remuneration	Name of Directors				Total Amount
		Dr. Ashok Jhunjhunwala	Dr. Deepak Pental	Dr. Gagandeep Kang	Dr. Dinakar M. Salunke	
1.	Independent Directors	44000	54000	24000	54000	176000
	• Fee for attending Board committee meetings (6 Meetings)					
	• Commission	-	-	-	-	-
	• Others, please specify					
	• Audit Committee (4 Meetings)	34000	-	-	34000	68000
	• Independent Directors' Meeting (1 Meeting)	-	-	-	-	-
	Total (1)	78000	54000	24000	88000	244000
2.	Other Non-Executive Directors	Dr. Mohd. Aslam (Government Nominee)	-	-	-	
	• Fee for attending board committee meetings	NIL	-	-	-	-
	• Commission	-	-	-	-	-
	• Others, please specify	-	-	-	-	-
	Total (2)	-	-	-	-	-
	Total (B) = (1 + 2)	78000	54000	24000	88000	244000
	Total Managerial Remuneration	78000	54000	24000	88000	244000
	Overall Ceiling as per the Act	N.A.	N.A.	N.A.	N.A.	N.A.

C. REMUNERATION TO KEY MANAGERIAL PERSONNEL OTHER THAN MD/MANAGER/WTD

Exempted from disclosure as BIRAC is a government company

Sl.	Particulars of Remuneration	Key Managerial Personnel			
		CEO	Company Secretary	CFO	Total
1.	Gross salary				
	(a) Salary as per provisions contained in Section 17(1) of the Income-tax Act, 1961	-	-	-	-
	(b) Value of perquisites u/s 17(2) Income-tax Act, 1961	-	-	-	-
	(c) Profits in lieu of salary under Section 17(3) Income-tax Act, 1961	-	-	-	-
2.	Stock Option	-	-	-	-
3.	Sweat Equity	-	-	-	-
4.	Commission				
	- as % of profit	-	-	-	-
	- others, specify...	-	-	-	-
5.	Others, please specify	-	-	-	-
	Total	-	-	-	-

VII. PENALTIES/PUNISHMENT/COMPOUNDING OF OFFENCES:

Type	Brief Description	Details of Penalty/Punishment Compounding fees imposed	Authority [RD/ NCLT/COURT]	Appeal made if any (give Details)
A. Company				
Penalty	Nil	Nil	Nil	Nil
Punishment	Nil	Nil	Nil	Nil
Compounding	Nil	Nil	Nil	Nil
B. Directors				
Penalty	Nil	Nil	Nil	Nil
Punishment	Nil	Nil	Nil	Nil
Compounding	Nil	Nil	Nil	Nil
C. Other officers in default				
Penalty	Nil	Nil	Nil	Nil
Punishment	Nil	Nil	Nil	Nil
Compounding	Nil	Nil	Nil	Nil



Management Discussion and Analysis Report

(Forming Part of the Directors' Report for 2015-16)



MANAGEMENT DISCUSSION AND ANALYSIS REPORT

(Forming Part of the Directors' Report for 2015-16)

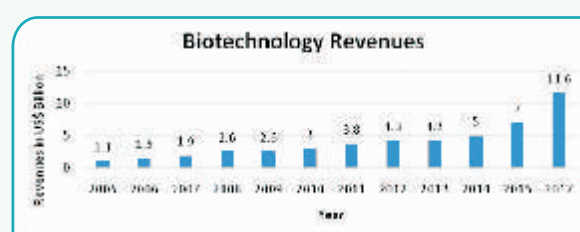
1. INDUSTRIAL STRUCTURE AND DEVELOPMENT

India proudly stands among the world's top 10 nations for the number of scientific publications. Among the nations that publish 50,000 or more papers, India ranks 17th in the number of citations received and 34th in the number of citations per paper across the science and technology space. Moreover, the credibility of India's innovation potential gets further impetus by its 12th standing in the number of patents filed.

It is imperative to emphasize here that Biotechnology plays an anchoring role in developing a robust yet economically viable innovation ecosystem in the country. Government's initiatives and role in harnessing the biotechnology potential of the country have been critical for strengthening the roots of the innovations and research and development. A string of programmes have been launched to promote investment and manufacturing in India. Programmes such as Make in India, Digital India and policies relating to FDI norms and tax incentives have paved the way for attracting investments in the diversified sectors and promoting entrepreneurship. Startup India Action Plan, announced on 16th January, 2016 is a flagship initiative of the Government. The initiative intends to develop, foster and nurture an ecosystem for supporting innovations having potential for propelling a sustainable economic growth for the country.

Biotechnology industry in India has been on a steady growth trajectory. From humble beginnings and US\$ 1.1 Billion revenues in 2005, the industry has grown to US\$ 7 Billion revenues at a CAGR of

20% in the last ten years and is expected to reach US\$ 11.6 Billion by 2017. The industry would need to shift to a higher growth trajectory (30% +) over the next 10 years to meet its ambitious target of US\$ 100 Billion by 2025.



Over the last 4 years, BIRAC has contributed immensely to the development of the biotech ecosystem that can fuel future growth through its various flagship programmes categorised in SITARE, eYUVA, Funding Product & Process Development and Enablers for Scaling up the Ecosystem such as BioNEST. The access to early stage capital especially through early seed money is now available and this has kickstarted a biotech start-up culture in the country. BIRAC's BIG programme has been instrumental in spurring the biotech start-up growth. Further several bioincubators have become operational in the aforementioned period and BIRAC's Bioincubation programme has been key to the growth of 15 bioincubation facilities across the country. Follow on funding especially via BIRAC (through its flagship SBIRI and BIPP) have been instrumental in validation, scale-up and commercialisation of products. Over the last 4 years, several venture capital, biotech/healthcare accelerators and early stage funders have become active in India-contributing to the growth story of the biotech industry.

The Indian Biotechnology sector has always been the flagbearer for showcasing the country's strength and advancement in the modern technology arena and the onus now is to handhold, mentor and harness the innovations that can contribute towards the economic and scientific development of the nation so as to cater to the basic needs such as healthcare, agriculture, food and nutrition of the masses at large. It is with this objective and focus that BIRAC has redoubled its efforts to deliver on the priority areas.

2. STRENGTH AND WEAKNESSES

The National Biotechnology Development Strategy that was announced by the Department of Biotechnology (DBT) in December 2015 aims to scale the focus on innovation R&D while deepening India's basic science research. BIRAC's vision and mission have direct alignment to NBDS 2015 strategy.

Since its inception three decades ago, DBT has focused on building infrastructural, basic and translational science capabilities which gathered pace in the last decade. This has resulted in creation of 15 world-class institutes and centres for research such as National Institute of Immunology (NII), National Centre for Cell Sciences (NCCS), National Institute of Plant Genome Research (NIPGR) to name a few. In the last decade, DBT has established cutting edge translational institutions such as inStem, Bangalore, Translational Health Sciences Technology Institute (THSTI) and technology platform organisations such as Centre for Cellular & Molecular Platforms (C-CAMP). BIRAC's strength lies in being connected to all of DBT autonomous institutes spread across the country.

Nationally, there is a renewed focus on entrepreneurship and innovation through national programmes such as 'Make in India', Start up India, Swachh Bharat and

Atal Innovation Mission. In all of these programmes, BIRAC is positioned to lead the way in the S&T especially biotechnology innovation in the country. BIRAC has actively interacted (and positively contributed to) with DIPP, Atal Innovation Mission, Ministry of Skill Development & Entrepreneurship, DeitY and ICMR aiming to start inter-agency dialogues for common goals. BIRAC active contributed to Make in India Biotech Strategy, Start up India strategy and Atal Innovation Mission Report in 2015-16. All these national missions mention BIRAC as the go-to partner in the realm of biotechnology.

While the infrastructure- both human resources and facilities have improved in the recent past, there still exists a gap between industry and academia especially in translation of fruits of academic research into products and processes for societal benefit (i.e. translational research). BIRAC is committed to work with academic institutes to catalyse translational research through establishment of Technology Transfer Offices (TTO's), incubators, industry-academia collaborative projects and deepen its commitment to early stage translation programmes.

The evolving situation in the regulatory landscape will be one of the key factors for future growth of the Indian biotechnology sector especially Ease of Doing Business, regulation in the realm of biosimilars, stem cells, medical technology, clinical trials and bio-agri products. BIRAC aims to provide key inputs to regulatory agencies in building a transparent, evidence based regulatory landscape in India.

3. RISK AND GOVERNANCE

The biotechnology innovation pathway has a long gestation period ranging from 6-10 years. This creates immense pressure on start-up enterprises that are attempting to build novel, high quality and affordable

products in India. For building an excellent bioeconomy founded on innovation, the industry needs an aligned strategy that integrates all aspects of biotechnology innovation- science, translational research, industry-academia partnerships, academic curricula, entrepreneurship & vibrant start-up and SMEs, incubators, early stage funding, angel funding, late stage VC funding, routes to IPO, ease of doing business, financial and technical regulation. All these elements need to come together.

BIRAC can extend its support in all areas, however there are areas such as regulation where BIRAC does not play the role of regulator. BIRAC can, however, extend its support to regulators in understanding the evolving technological changes such that clear regulations can be designed that does not impinge upon the growth of the industry.

One of the gaps in Indian biotech start-up is lack of extensive 'Angel Funding' especially in the range of INR 1.5 crores to INR 5 crores. This funding is crucial for start-ups to cross the valley of death. BIRAC intends to work with Angel Funding agencies such as Indian Angel Network (IAN) as well as other venture fund agencies such as Bharat Funds, numerous accelerators and aligned organisations to bridge this crucial gap.

One of the risk is the global economy and its health which is influenced by numerous factors as well as understanding the emerging paths of global biotech industries. This would need pro-actively connecting to the leading centres across the world- be it in the US, UK, Germany, Finland, Singapore or Japan. BIRAC's partners bring the knowledge of growth of biotech industry in other countries. BIRAC will proactively partner with other S&T knowledge agencies across the world such as Tekes, UKTI, BIO-US to name a few, learning

about the best practices in other geographies and leveraging our partnership to bring value for Indian companies.

4. SUPPORTING DISCOVERY TO PRODUCT DEVELOPMENT

BIRAC through its various schemes provides support for Innovation Research from Discovery to Product Development in all major areas of biotechnology i.e. Healthcare, Agriculture, Industrial biotechnology and Bioinformatics/ Infrastructure as part of meeting its objective of promoting affordable innovation in key social sectors. Healthcare covers the areas of Drugs (including drug delivery), Biosimilars (including regenerative medicine), Vaccines/Clinical trials & Devices/ diagnostics whereas Agriculture covers Marker assisted selection (MAS), RNAi, Transgenics & soil health management. Industrial biotechnology includes Industrial products/processes and secondary agriculture. 394 start-ups, SMEs and young entrepreneurs supported during the year have made considerable progress in these areas during 2015-16 in addition to delivering seven products/ technologies, ten early stage technologies and eight patent applications.

4.1 BIG Biotechnology Ignition Grants (BIG): 'Planting green shoots of biotech innovation'

Biotechnology Ignition Grant (BIG) is the flagship early stage funding from BIRAC for biotech start-ups and entrepreneurial individuals to support ideation and propel it towards the important milestone of proof-of-concept for ideas that have translational potential. BIG is aimed at creating a foundation of technology laid product focused biotech start-up culture in India. It is also aimed at scientist entrepreneurs from research institutes, academia and start-ups.

Activity/Programme description and objectives:

The purpose of the BIG Scheme is to:

- Foster generation of ideas with commercialisation potential
- Upscale and validation of proof of concept
- Encourage researchers to take technology closer to market through a start-up
- Stimulate enterprise formation

The scheme is managed by the five **BIG Partners** who work with the Ignition grantees (**BIG Innovators**) to not only disburse their project related funds and provide Technical Mentoring but also to provide mentoring and hand-holding for activities related to mobilizing resources, IP management, legal and contracts and other business development related activities for the BIG innovators.

BIRAC BIG Partners-

- Centre for Cellular and Molecular Platforms (C-CAMP), Bangalore;
- Foundation for Innovation and Technology Transfer (FITT), New Delhi;
- IKP Knowledge Park, Hyderabad
- KIIT-TBI, Bhubaneswar
- Venture Center-NCL, Pune

In FY 2015 – 2016, two calls BIG 7 and BIG 8 were launched on 1st July, 2015 and 1st January, 2016 respectively.

In BIG 6th call, a total of 15 proposals were supported while in BIG 7th call, a total of 16 projects were approved. In total, 31 projects were supported in FY 2015-16. BIRAC also published its 1st BIG report, outlining the seeding and growth of this flagship national programme for early stage funding.

In the FY 2015-16, a total of 20 Cr was released to BIG partners to be disbursed to BIG new and ongoing awardees.

1st BIG Conclave

BIRAC understands that for start-ups to move forward, a platform should be created wherein networking for growth and peer-to-peer learning can take place. It is with this vision that BIRAC initiated a focused forum called BIG Conclave. The first BIG conclave was organized on 26th and 27th May in collaboration with FITT, IIT Delhi at India Habitat Centre, New Delhi. A platform for start-ups to connect was organized for BIG funded applicants on 26th-27th May, 2015. Over a period of 2 days, more than 120 BIG grantees and experts interacted and discussed various aspects of biotech start-up issues including fund raising, IP and regulatory issues. The inaugural lecture was given by Prof. V Chauhan, former Director of ICGB and the plenary lecture was given by Shri Ajai Chowdhry, co-founder of the IT giant HCL. The platform provided opportunity to the BIG grantees to showcase their achievements and network with investors and other experts.

4.2 Small Business Innovation Research Initiative (SBIRI)

Since 2005, the year of its inception, SBIRI scheme has played a pivotal role in promoting research and innovation in the Indian biotech sector by fostering public-private partnership. It has been instrumental in nurturing Start-ups and SMEs in the field of biotechnology by facilitating and encouraging risk taking by small and medium companies.

Besides funding early stage high risk innovative research, SBIRI has filled the gap in the knowledge and leads developed through long years of research in public institutions by providing support towards product development and commercialization with active participation of private industry. The projects with high societal relevance supported under the scheme have resulted in prominent outcomes in the

form of products which have already reached the market and some promising research leads seeing ray of hope for commercialization. Till date 204 projects have been supported under this scheme.

During 2015-16, projects related to various thematic areas including Vaccines and Clinical trials, Drugs, Biosimilars and Stem cells, Agriculture, Device and Diagnostics, Bioinformatics and Industrial Biotechnology were supported and managed. The Mentoring and Monitoring of the projects was achieved through PMC site visits, online evaluation and presentations before Technical Expert Committees (TEC). In 2015-16, nearly Rs. 9.56 crores was disbursed as grant for the projects.

In the last financial year three calls for proposals were announced. The 28th & 29th calls were regular calls targeting major thematic research areas of biotechnology. Under these calls, 47 proposals were received out of which 7 proposals were recommended for financial support. The 30th call was a special call on 'Biopharmaceuticals' under which 25 proposals were received out of which three have been recommended by TEC for further consideration.

4.3 Biotechnology Industry Partnership Programme (BIPP)

Moving across the product development chain it is important to not only support early discovery and innovative research but also look at providing the necessary assistance which is critical across the product development pathway – from idea to discovery, right up to scale up and pre – commercialization. To achieve this goal, Biotechnology Industry Partnership Programme (BIPP) was launched by the Government in 2009 and today it is one of the best received initiatives which provides support across the product development chain.

BIPP is an advanced technology scheme and it supports high risk, high innovation accelerated technology development especially for futuristic areas of biotechnology. The scheme operates on a cost sharing basis with the industry and encourages collaborations and partnerships, between industry-academia and industry – industry.

Ever since its inception, BIPP has made a tremendous impact and has supported 157 projects involving 127 companies and 55 academic institutes. A total contribution of Rs. 966 crore has been committed under BIPP. This involves a mix of grant and loan shared by the private sector along with the government.

This clearly shows that India today has moved into the 'Innovation Club' and as we move on we see a steady growth in the number of young scientists and entrepreneurs moving into biotech sector. The de-risking of the innovation pathway by the Government through its various schemes has encouraged the private sector to come forward and invest in small and start-up enterprises. Another significant achievement of BIPP has been the impetus it has provided for initiating several modes of partnerships between industries as well as between industry and academia.

Proposals funded in BIPP are categorized under 7 thematic areas including Vaccines and Clinical Trials, Drugs, Biosimilars and Stem cells, Agriculture, Device and Diagnostics, Bioinformatics and Industrial Biotechnology. Regular monitoring and mentoring of the projects is carried out by reviewing them on a 6 monthly basis by getting the progress reports evaluated internally as well by external subject matter experts, through PMC visits or by presentations by the applicant companies and their respective collaborators before TEC. During 2015-16, approximately Rs. 30.5 crores were disbursed. 23 projects reached completion during this period.

In the last financial year, three calls for proposals were announced. The 35th and 36th call were regular calls targeting major thematic research areas of biotechnology. Under these calls, 44 proposals were received out of which 13 proposals were recommended for financial support. The 37th call was a special call on 'Biopharmaceuticals' under which 13 proposals were received out of which four have been recommended by TEC for further consideration.

BIRAC has partnered with Clinical Development Services Agency (CDSA) to strengthen its capabilities in project management related to clinical trials and regulatory requirements. Through this

partnership, CDSA would provide technical advice to BIRAC in the area of pre-clinical/clinical development to ensure quality of BIRAC funded projects and training of potential investigators. As part of this partnership, CDSA would offer the following:

- Review of clinical study protocol and other related documents
- Clinical site assessment
- Audit for clinical studies of drugs, devices, biologicals and vaccines

CDSA has already audited and submitted the report for the clinical study conducted for one of the BIRAC funded companies in 2014-15 as part of this initiative.



India's first Cellulosic Alcohol Technology Demonstration Plant inaugurated in Kashipur, Uttarakhand



India's first 2G or cellulosic ethanol demonstration plant with a capacity of 10 t/day erected at India Glycols Ltd., Kashipur

In response to the Government's initiatives on Make in India and Swachh Bharat Abhiyan, the Department of Biotechnology, Ministry of Science and Technology supported DBT-ICT Centre for Energy Biosciences at ICT, Mumbai has successfully demonstrated for the first time the production of ethanol from lignocellulosic biomass. India's first 2G or cellulosic ethanol (alcohol) demonstration plant with a capacity of 10 t/day erected at India Glycols Ltd., Kashipur was inaugurated by Dr. Harsh Vardhan, Minister of Science and Technology & Earth Sciences, on 22nd April 2016, at Kashipur. The demonstration plant has been built with the support from Department of Biotechnology, Ministry of Science and Technology and its Public Sector Undertaking – Biotechnology Industry Research Assistance Council (BIRAC).

4.4 Contract Research Scheme (CRS)

CRS applies innovation as a coherent plan to deliver academic capabilities of translational research towards product development. The scheme focuses on enabling validation of academia research that has commercialization potential and to engage the contract research and manufacturing (CRAMS) industry to carry out the validation of a process or a prototype.

The striking features of the scheme include:

- Provides academia with an opportunity to get its research leads validated by engaging the industry in contract research mode.
- Funds are provided as grant in aid to both academic as well as industrial partners. While funds are provided to academia for in-house research which forms a part of validation of the Proof of Concept (PoC), industrial partner is funded for validation of PoC.
- While IP rights reside with the academia, the industry partner has first right of refusal for commercial exploitation of the new IP

CRS scheme facilitates academia-industry partnership and takes the research leads of Universities and Research Institutes forward through validation and translation by industry. The scheme specifically involves the PoC with translational attributes. Ever since its inception, 18 projects involving 21 academia and 17 industries were supported under the scheme, and Rs.14.77 crores have been disbursed. During 2015-16, five new projects were initiated and a total grant of Rs. 6.59 crores was disbursed.

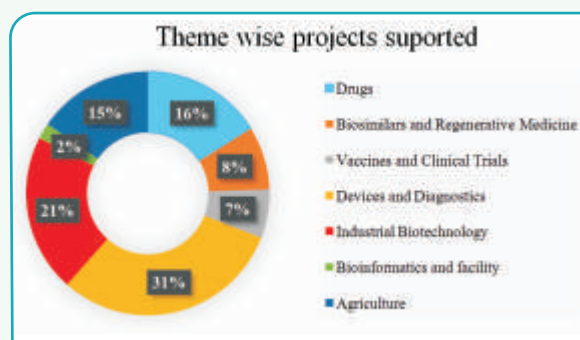
Under CRS, BIRAC facilitates FTO search, IP management, and preparation of Material Transfer Agreement (MTA), Memorandum of Understanding (MOU), Non-Disclosure and IP protection

contracts and licensing agreements as well as technology transfer for the academia

In 2015-16, two calls for proposals were announced under CRS scheme. In the 8th call, that closed on 15th September, 2015, 24 proposals were received out of which 3 were recommended by the Apex for financial support. In the 9th call, 16 proposals have been received.

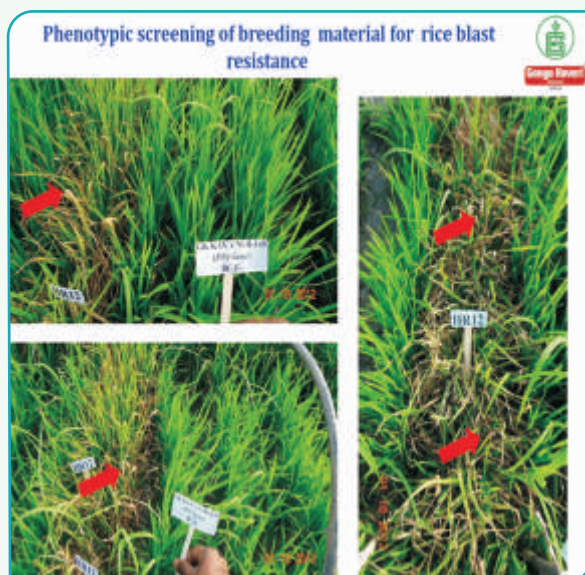
4.5 Key Achievements in Different Sectors

BIRAC has an inherent system of grading the project into 7 theme areas in order to understand the research preferences of the companies and to decide if special attention needs to be given to any specific theme area in order to promote innovation in that sector. Hence, the Pharmaceutical and Healthcare sector has been further categorized into Drugs (including drug delivery), Biosimilars and Regenerative Medicine and Vaccines and Clinical Trials and Devices and Diagnostics, the rest of the theme areas being Agriculture (including Aqua culture and Veterinary Sciences), Industrial Biotechnology (covering Industrial Processes, Industrial Products and Secondary Agriculture) and Bioinformatics and Facilities. BIRAC, till date, has supported 384 companies, 104 academic institutes and 70 entrepreneurs for a total of 583 projects.



i Agriculture:

BIRAC supports both innovation and product development in agriculture by funding projects in the key areas of agri-biotechnology such as Marker assisted



selection (MAS), transgenics, RNAi, soil health management, tissue culture, veterinary sciences, fisheries, etc. The projects funded range from the stage of Proof-of-Concept (PoC) to product development. Some of the major crops that are currently being investigated under various ongoing projects include cereals (rice, maize), vegetables (brassica, okra, tomato), fruits (banana), etc.

Several technologies are at an advance stage of development and are expected to lead to a tangible product or a process. With regard to development of nutritionally improved transgenic Brassica, BRL2 trials have been completed and the data submitted to GEAC. Marker assisted selection has been used to develop nutritionally improved mustard having low erucic acid and low glucosinolate. Polymorphic markers for E1 locus for glucosinolate and validation of polymorphic SNP marker for E2 locus (controlling Erucic acid) is in progress. To control Bacterial leaf blight (BLB) in elite varieties of rice, restorer lines having Xa13 & Xa5 genes for BLB resistance and maintainer line possessing Xa21 gene have been generated. Foreground selection of these improved lines & phenotypic evaluation of BLB resistance

has been completed. In tomato, development of Tomato leaf curl virus (ToLCV) and tospovirus resistant lines using RNAi is in progress.

ii Healthcare

• Drugs (including Drug Delivery)

BIRAC supported projects for drug development, drug delivery and for the development of platform technologies in this sector. BIRAC's funding to Drugs sector focuses on development and validation of affordable technologies and products with a view to reduce their cost, increase their availability and accessibility to the society. The projects supported under drugs mainly deals with the indications such as Cancer, infectious diseases, inflammation and Neuro drugs etc. Many of the projects accomplished the objectives successfully and are ready to go to the next stage. Discovery and development of c-Met kinase inhibitors, clinical investigation of Galnobax® for the treatment of diabetic foot ulcer and novel inhibitors of fatty acid biosynthesis for the treatment of drug resistant *S. aureus* bacterial infections are some of the projects having potential to meet the objectives and to provide successful outcomes.

• Biosimilars & Regenerative Medicines:

BIRAC has supported a total of 48 projects, for developing novel biologicals & Regenerative medicines and for the process development of existing products in this area for increasing the present market share/output in the country. The projects supported in these areas addresses diseases like Cancer, Diabetes, Inflammatory diseases, Alzheimer's and platform technologies for producing monoclonal antibodies and different kind of Stem cells. Preparation of Stem cell Bank has also been funded.

- **Vaccines & Clinical Trials**

Vaccine development has played an important role in combating infectious diseases. By realizing this, BIRAC has supported a total of 30 projects in the area of Vaccine development and clinical trials encompassing Diabetes, Diarrhoea (Rotavirus), Cervical Cancer (HPV), Pneumococcal vaccine, Influenza, Vaccines for Cattle, Rabies and Meningitis.

Rotavirus vaccine (ROTAVAC), JE vaccine (JEEV) and H1N1 pandemic influenza vaccine (Pandyflu) have resulted from BIRAC funded projects and are in market. ROTAVAC has also been included by Government of India in National Immunization program, market license has been obtained for JEEV in India for the age group of >1 year to <3years and a total of 1,18,480 doses of Pandyflu vaccine have been supplied to Government of India in the year of 2011.

- **Devices & Diagnostics**

BIRAC along with the country has witnessed a positive wave of developments in the devices and diagnostics sector over the year. Lot of young individuals have ventured into the sector and started their entrepreneurship journey. BIRAC also promoted the 'Make in India' wave and invested around INR 223 Cr in Devices and Diagnostics through its flagship schemes.

These projects/ technologies vary from handheld PoC devices to high end Diagnostic Imaging devices. The trend shows attraction of young entrepreneurs towards real-time monitoring devices for various health parameters like ECG, EEG and Blood Glucose. Some examples are Cardea Biomedical Technologies Pvt. Ltd, Biosense Technologies Pvt. Ltd, Janacare Solutions Pvt. Limited, Axxonet System Technologies, Agatsa

Software Pvt. Ltd. etc. The analysis reflects that India has few companies working towards manufacturing of high end diagnostic imaging equipments like CT Scan and MRI. Panacea Medical Technologies Pvt. Ltd. is the one which is working on high end equipments like Flat Panel Computed Tomography (FPCT) machine, cone beam computer tomography imaging system and Radiation Field Analyzer.

- iii **Industrial Biotechnology (including secondary agriculture)**

Nature of projects emphasizing on technologies and processes which are being taken care by BIRAC majorly includes biofuels, speciality chemicals, industrial enzymes, secondary agriculture, nutraceuticals, bioremediation and many other fine chemicals.

A pilot plant for production of 3000 L ethanol per day from 10 ton lignocellulose has been commissioned in the continuous mode of operation. A technology for the production of Phenyl Acetyl carbinol has been successfully scaled up to 4 KL. A PAC concentration of 9.73 g/l has been achieved at 4 KL. A 10 ton Lignocellulosic biomass/day processing plant to produce about 3000 Litre ethanol/day has been commissioned. Further a technology for manufacturing effervescent granules (both sodium and potassium) in a co - rotating Twin screw processor has been successfully validated.

4.5.1 Affordable Products, Technologies and Intellectual Property

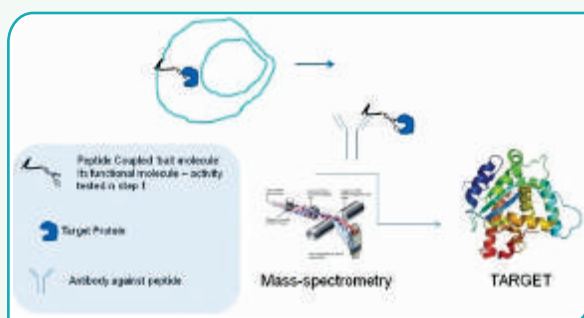
Category	Accomplished
New Technologies developed and products brought to market	07
Proof of concept of early stage technology and its validation	10
IP filed	08

New technologies developed and products brought to market/ Proof of concept of early stage technology and its validation and IP filed through BIRAC Funding

Technologies/Products:

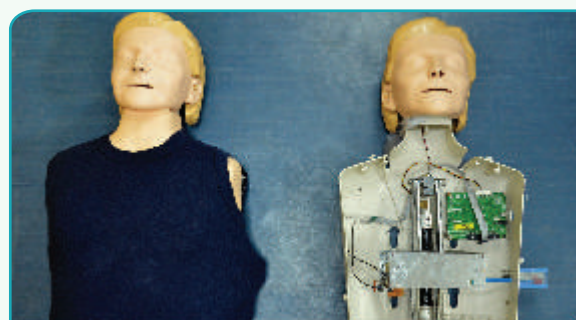
1. Validation of Small-molecule Target Identification Technology for its Versatility

Criteria	Traditional Method	Shantani's Method
Ability to Capture Primary Target	YES	YES
Capture from Native Cellular Environment	NO	YES
Capture using Functionally Relevant Ligand	NO	YES
Dynamic Range of Capture	High	Low
	Identify high & low affinity binding partners	(Only identify high affinity binding partner)
False Positive Capture	High	Low
Typical Confidence in Target Identity	Weak	Strong
Typical Cost of Technology	Low	Medium
Ability to Provide Decision Making Power in Drug Discovery Work-flow	Low	High



Shantani's sub-cellular location specific target capture technology utilizes a chemical biology coupled mass spectrometry based approach and identifies targets of bioactive small molecules.

2. Hi-fidelity affordable mannequin for effective CPR (Cardiopulmonary Resuscitation) Training



A full-body, interactive, in adult clothing, affordable mannequin and allows both training and periodic retraining to retain CPR skills.

3. Development & building indigenous capability for Balloon Catheter Manufacturing



Facility for manufacturing PTCA balloon catheters

4. SanGeniX: A comprehensive next generation sequence (NGS) data analysis solution

Designed to perform primary, secondary, and tertiary analysis of the Next Generation Sequencing (NGS) data. Automates all the multi-step processes

involved in data analysis and delivers end results in an affordable and user-friendly format.



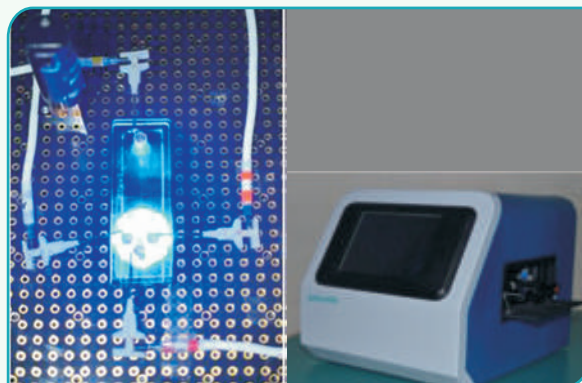
5. **Demonstration of conversion of Benzaldehyde to Phenylacetylcarbinol (PAC) with improved efficiency on scale of 4 KL (Phase-II)**



Technology for the production of R-Phenyl Acetyl Carbinol at 4KL by replacing existing whole cell biotransformation process with a genetically modified yeast based biotransformation process

6. **Electrophoretic pre-concentration to enable the fluorescence-based detection of ultra-low concentrations of analytes in human sera at the point-of-care**

A novel, low-cost electrophoretic preconcentration-enhanced immunoassay sensor for rapid, high-sensitivity and multiplexed detection of three thyroid hormones (TSH, Free-T3, and Free-T4) in human serum.



7. **Design and Development of field-testable prototypes of a large field of view, battery operated, easy-to-use Retinal Imaging Device for the diagnosis of Retinopathy of Prematurity (ROP) in premature infants**



Low cost Portable Smartphone enabled Retinal Imaging System, with validated Sensitivity of 94% and Specificity of 98% compared to Desktop Retinal Cameras. Useful to detect diabetic retinopathy early.

Proof of Concept of early stage technology

1. **Stem Cell Implant Bio-complexes for Periodontal Tissue Regeneration**

Cell-Implant bio-complex (Mesenchymal stem cells transdifferentiation on treated Titanium surface - An implant-cell biocomplex) as a biological bridge with role in Osseointegration and Proprioception.

2. **Development of platform technology for nitrilase catalyzed biotransformation processes (Phase I)**

Platform technology for nitrilase catalysed biotransformation processes. Nitrilase production was improved by five fold in optimized batch fermentations in shake flasks.

3. Development of HPV Vaccine

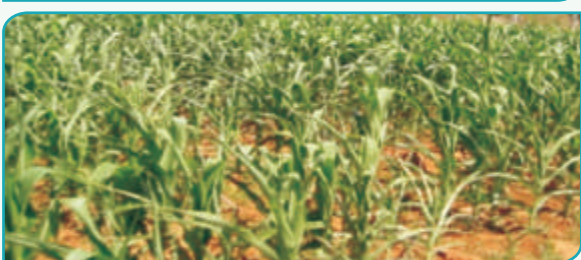


A tetravalent HPV vaccine that includes L1 VLPs of serotypes 6,11,16,18, and is expected to give a coverage of approximately 90% against Human papilloma virus prevalent in the developing world.

4. Sustainable and versatile microbial polymers: a bio-based prospect for India

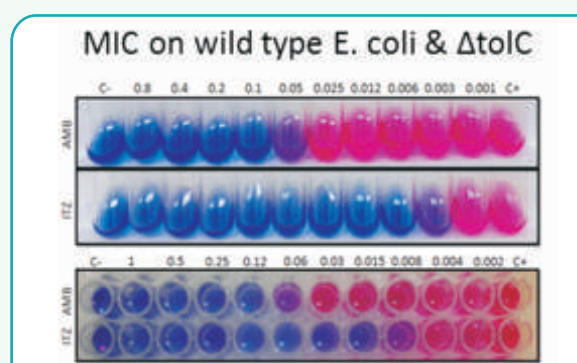
Early stage technology for microbial production of Hyaluronic acid at 7 L scale.

5. Association mapping and whole Genome marker assisted recurrent selection for development of Abiotic stress resilient Maize



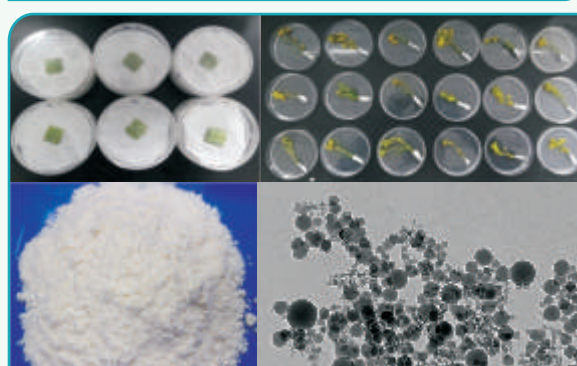
An association panel for development of drought resistant maize

6. Novel antibiotics for Gram negative bacteria: Structure based strategy to Ameliorate antibiotic efflux and enhance compound efficacy



Novel anti-bacterial leads that are not effluxed from Gram negative bacteria and having potency against wild type E. coli with an extended anti-bacterial spectrum.

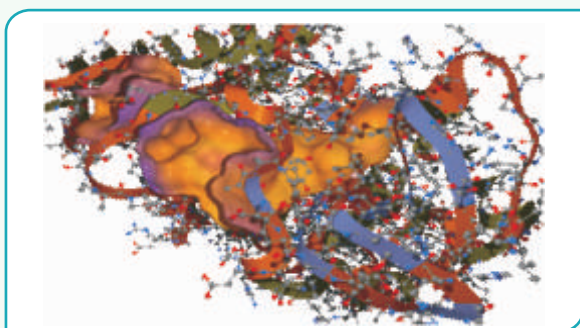
7. Commercial Scale Production of Nano-pesticides and Nano-fungicides for Indian Agro-industry



Nano pesticide activity was tested for stored grain pests and the results show that the nanoparticles are active when they

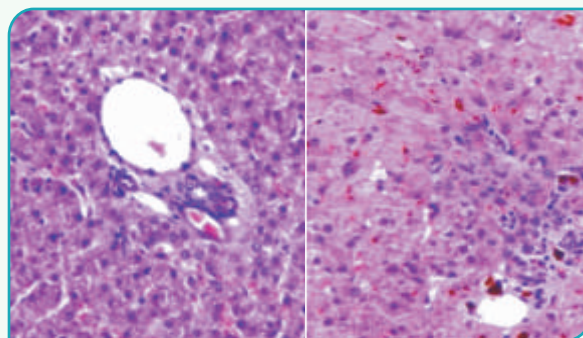
are on the seed surface & the hydrophilic nanoparticles are superior in treating the insects.

8. **To determine the safety, effective dose and frequency of application of Galnobax TM in 50 subjects during Phase I trial in the subjects suffering from diabetic foot ulcers**



Galnobax® is a gel formulation of Esmolol hydrochloride for the treatment of Diabetic Foot Ulcer (DFU). Completed Phase I & II clinical trial and ready for next phase.

9. **Clinical development of novel CCK receptor antagonists for the treatment of inflammatory pain**



PNB-001 is a cholecystokinin (CCK) specific receptor antagonist with binding to both isoforms of CCK, CCKA & CCKB.

10. **Development of Novel Cocktail of cellulolytic enzymes for Deconstruction of Lignocellulosic Feedstocks**

Platform for expression of mono-component cellulolytic enzymes and fungal host vector system for over expression of genes of interest.

Intellectual Property filed

The following Indian patents were filed,

1. A method for gene sequence coding for nitrilase polypeptide and uses thereof (IN2331/MUM/2015)
2. Heterocyclic compounds, methods for production and uses thereof (IN1426/CHE/2015)
3. Process for the over expression of dsRNA for the control of white spot syndrome virus (IN3848/CHE/2015)
4. Effervescent Compositions and Methods of making and using the same (PCT/IB2015/000400)
5. Alpha linolenic Acid enriched oil from silkworm for nutraceutical and cosmeceutical applications (3965/CHE/2015)
6. A method for obtaining a composition for biomass hydrolysis (1714/DEL/2015)
7. Carrier based nanogel formulation for skin targeting (IN110/MUMNP/2014)
8. Silicon incorporated oxazolidinone antibiotics with improved brain exposure (IN2015-NF-0090)

4.6 Social Innovation Programme for Products: Affordable & Relevant to Societal Health (SPARSH)

SPARSH is the 'Social Innovation for Program' of BIRAC which highlights the need for innovative solutions to society's most pressing social problems. Since its inception on 15th August 2013, the program has been investing in ideas and innovations that could improve health and provide affordable product development in social sector.

SPARSH through its Social Innovation Immersion Program (SIIP) provides fellowships to 'Social Innovators' for identifying and addressing specific needs and gaps in social sector. Currently managed by four SIIP Partners namely (i) Venture Center, Pune (ii) THSTI, Faridabad (iii) KIIT, Bhubaneswar and (iv) Villgro, Chennai, the Immersion program supports 14 social innovators who are trying to develop solutions for most pressing problems in the field of Maternal and Child Health (MCH).



Baby Monitoring alongwith SAANS - A Continuous Positive Airway Pressure (CPAP) device for neonates



Point-of-Care PCR for Neonatal & Maternal Screening

The SIIP partners provide the rural and clinical immersion to the innovators. The innovators are also mentored on process of systematic clinical & community observation, need assessment, refinement and affordable technology development. On completion, BIRAC expects the social innovators to reach a point where they either have a ready business plan to pitch to investors, or an advanced proposal with some preliminary results suitable for seed funding.

Under the affordable product development mandate, SPARSH has announced three calls. The first two calls were aligned with the UN Millennium Development Goal (MDG) 4 and 5 i.e., Reducing Child mortality and Improving Maternal Health. Currently, there are 16 ongoing projects from these two calls with a committed funding of Rs. 7.34 crores. Launched in August 2015, the third call is in line with MDG 7 which aims at halving the proportion of the world's population without safe drinking water and basic sanitation between 1990 and 2015 (UN, 2002)

The focus of SPARSH third call also reflects the mandate of Swachh Bharat Mission which aims at elimination of open defecation, conversion of unsanitary toilets to pour flush toilets, 100% collection and processing/ disposal/ reuse/ recycling of municipal solid waste and facilitating private-sector participation in capital expenditure and operation and maintenance costs for sanitary facilities. Under this call, 4 projects with a committed amount of Rs. 1.14 crores have been recommended for funding.

5. BUILDING STRATEGIC ALLIANCES

5.1 International Alliances

5.1.1 Grand Challenges India: DBT-BIRAC-GATES Foundation

The Department of Biotechnology and the Bill & Melinda Gates Foundation signed a Memorandum of Understanding ('MoU')

on June 18, 2012 to collaborate in scientific and technological research to alleviate some of the world's most critical global health and development issues for the benefit of people in India and developing countries worldwide. The collaboration under this MoU were a series of approved schematic calls or definite initiatives to be jointly funded by DBT and the foundation.

BIRAC, acting as the primary fiduciary agent for executing the partnership through Program Management Unit (PMU) announced three calls under Grand Challenges India framework.

1. Achieving Healthy Growth through Agriculture and Nutrition
2. Reinvent the Toilet Challenge
3. All Children Thriving

Achieving Healthy Growth through Agriculture and Nutrition

5 awards under Grand Challenges India's First initiative 'Achieving Healthy Growth through Agriculture and Nutrition' (2 Interventional Development Grant and 3 Seed Grant) were announced on the BIRAC 2nd Foundation Day. The disbursements of funds were made periodically and projects were successfully implemented in their respective sites. The 5 proposals which were selected were focussed on the development of innovative interventions that integrate agricultural practices with nutrition outcomes linked to improved health benefits of women and children for significant socio-economic impact. The projects have been closely monitored, three projects are on verge of completion.



Digital Education - Digital Green, conducted an external operational pilot study using a cluster randomized controlled trial (RCT) design in 30 villages to translate knowledge into optimal nutrition-sensitive agricultural and Maternal, Infant and Young Child Nutrition (MIYCN) practices, 6 videos have been produced.

Biofortification - Data generated indicate 7.68% & 4.74% increase in grain yield. Basal application of zinc was more effective than foliar applications.



Integrated Farming System - The endline assessment indicated the enhanced household income (of Rs. 16,635 by individual lowland women farmers & in wetland over a rice cropping season in a year and of Rs. 22,200 by individual upland women farmer within a farming year) has improved the purchasing ability of these 150 resource poor women farmers as seen from their behaviour.

Veggie Lite Express - The total number of beneficiaries (1,350 farmers) engaged in the project have been provided agricultural support products and services through the Agri entrepreneurs, who by now are well equipped with the farmer mobilization, procurement and marketing methodologies and ICT usage.



Solar Conduction Dryer- Standard Operating Procedure (SOP) has been formulated which includes detailed method of washing, cleaning, cutting, pre-treatment (if needed) and drying on the locally fabricated Solar Conduction Dryer (SCD).

Reinvent the Toilet Challenge

'Reinvent the Toilet Fair' was co-hosted by the Department of Biotechnology and the Bill & Melinda Gates Foundation in March 2014; during the event 2nd GCI initiative 'Reinvent the Toilet Challenge' was announced and six Indian innovators (1 in Field Trial Grant and 5 in Proof of Concept) with Indian and Global collaborations were awarded. The details of the awarded projects are as under:

Field testing of off-grid, self-sustained, modular, electronic toilet for houses and communities, with solar energy for Indian weather and integrated with mixed waste processing unit, with water, energy/fertilizer recovery

An Enterprise-Driven High Quality Community Toilet System Sustaining on Commercial Values Generated by Black Soldier Fly Larvae Grown on Human Faeces and by Fertilizer Derived from Urine

Use of viral agents, microbial fuel cell and effective recycling strategy to improve the economics of human waste disposal

Empowered Septic tank as decentralized wastewater treatment system

Eco-Toilet

Hygienic Water-Free Toilet

Achievements made so far:

- A prototype for fluidization with polypropylene balls has been developed.
- Bacteriophage library has been developed against 5 different target pathogens & Sulphur reducing bacteria
- Wastewater characterization has been carried out at several locations.

To take the Grand Challenges India initiative on 'Reinvent the Toilet' forward, BIRAC partnered the conference 'International Congress on Green Urban Futures - Urban Sanitation Challenges in the Developing World: Initiatives and Innovations In association with Centre for Urban Green Spaces', held in Bangalore, India in November 2014. One of the primary themes of the conference was 'Urban futures: Water and Sanitation'.

All Children Thriving

On October 7, 2014, at the 10th anniversary of Annual Grand Challenges Meeting, 'All Children Thriving' was launched under Grand Challenges framework. The program aims to ensure that all children not only survive, but also remain on the trajectory of healthy and productive lives. To effectively disseminate & to empower potential applicants with necessary tools for the Grant opportunity, a one day workshop was conducted in five cities.



Next Generation Toilets

Biotechnology Industry Research Assistance Council



Seven awards (1 Full Grant and 6 Seed Grant) were announced in BIRAC Innovators Meet 2015 by Prof. K. VijayRaghavan, Secretary DBT & Chairman, BIRAC which are:

Determining the effects on linear growth of children in low-income settings through household-supported, integrated biomedical nutritional, environmental (WASH) and care interventions in pregnancy and early childhood

Establishment of a healthy colonic microbiome in infants through an intergenerational prebiotic approach

Creation of a biorepository and imaging data bank for accelerating evidence generation long term stable systems to facilitate children to thrive

Measuring neutrophil counts and markers of inflammation in infants from birth to 24 weeks of life & to study the effect of vitamin D supplementation on inflammatory markers and association between neutrophil counts and immune responses to vaccines

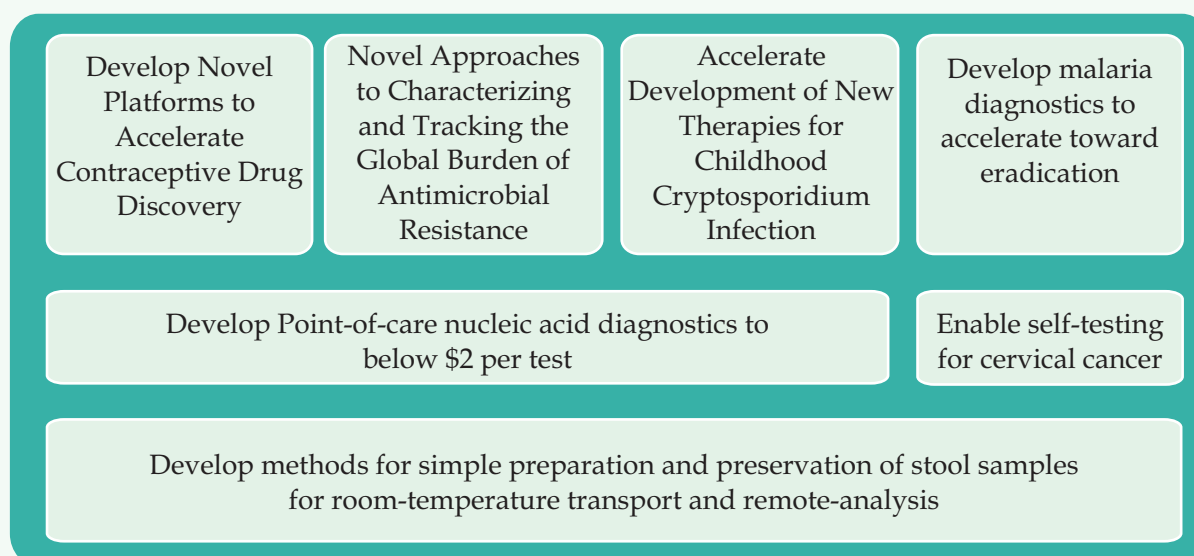
To contribute to the understanding of the causes of Stress outcomes on pregnancy, fetal growth and birth weight: Development of methods to identify mothers at risk of preterm birth and intrauterine growth restriction resulting from maternal stress

Enhancing nutritional security of pregnant women, infants and young children in rural households of Tamil Nadu, India through agricultural intervention

Determining the association and assess the performance of a salivary progesterone test for detecting the risk of preterm births in rural community settings of India

GCE-India first call was launched in May 2016 mirroring the Grand Challenges Explorations program of the Bill and Melinda Gates Foundation to address challenges specific to the Indian healthcare ecosystem with DBT, BMGF & BIRAC as funding partners and IKP as implementation partner.

Scope for the call is as hereunder:



Scientific Advisory Committee (SAC) Meeting

The first SAC meeting was held on 25th May 2016 to advise GCI on specific scientific challenges and strategic directions that will meet stakeholder's objectives. The SAC includes the stakeholders and experts from diverse fields including Public health, Agriculture and related areas.



SAC meeting, PMU

A Initiative on Healthy Birth, Growth and Development Knowledge integration (HBGDki) India Consortium- which will provide technical assistance and supplemental

funding to facilitate the collaborations to permit greater data sharing and collaborations to ensure leading projects and studies in India was announced

A Initiative on a Knowledge Synthesis, Transfer and Integration Platform Establishing a science based bridging platform as a virtual institution between researchers and policy makers to



KnIT SAC meeting

enable a structured process for knowledge synthesis and robust mechanism for timely transfer and integration (KnIT) to help accelerate impact in family health and support

state and federal governments in India to help design programs to facilitate integration of new interventions (encompassing all relevant areas) in a manner that promotes the comprehensive integrated development of the health system was announced and two domain centres were selected initially.

5.1.2 Wellcome Trust

BIRAC has collaborated with  Wellcome Trust, a global charity organization of UK, to scout and support innovations in translational medicine in the domain of diagnostics for infectious diseases. The objective of this initiative is to fund translational research projects to deliver safe and effective healthcare products for India at affordable costs through collaborative research. Two proposals have been funded from the first call. The proposal on 'High Sensitivity Multiplex point-of-care assay systems for the detection of blood borne infections in emergency setting' is pursued by THSTI-Designinnova-University of Turku-Kaviogen whereas the second proposal on 'A Benchside molecular assay for detection of carbapenem resistant gram negative bacteria' is pursued by VITAS Pharma. Kick-off meetings & monitoring of these projects are planned for 2016-17.

5.1.3 CEFIPRA-BPI France



BIRAC has joined hands with CEFIPRA – the Indo-French Centre for Promotion of Advanced Research in India to support high quality bilateral research, encourage and enable Indo-French collaboration between public, private research groups, industry, clinicians and end-users. Under this initiative, BIRAC has implemented two partnership programs with French

continent, one with French Embassy (2014-2015) and another with Bpifrance financement (2015-2016). The first call in collaboration with French Embassy was announced during 2014 and two projects were selected for funding in the areas of molecular diagnostics for cardiovascular diseases.

The second call with French Embassy was launched in the areas of Molecular diagnostics for prediction of Alzheimer's & other dementia, New assisting technologies for mobility of physically challenged (incl. prosthesis and robotics applications) and Biomaterials & cell engineering for health applications. The projects are expected to be shortlisted and awarded in 2016-17.

Bpifrance financement is a public investment bank which finances businesses from the seed phase to transfer to stock exchange listing through loans, guarantees and equity and provides support to innovation projects. The call for proposals has been launched in the area of digital health & individualized medicine and proposals are under evaluation.

5.1.4 TB Diagnostics Programme

BIRAC is supporting new diagnostics for TB in collaboration with IKP/USAID. IKP has entered into an agreement with USAID and secured a grant to support 'Innovations in tuberculosis (TB) control in India' at a 1:1 leverage with funds raised by IKP from other sources. The first call for proposals from IKP focussed on addressing the problem of treatment adherence in collaboration with BMGF.

The second call for proposals aimed at supporting new diagnostics for TB in collaboration with BIRAC. The duration of the program is for 3 years spread over two phases. Six proposals focusing on methods for sample collection and detection of the infection have been selected for funding in

the first phase of the program i.e. in 2015-16. Three promising projects with demonstrated proof of concept (after one year) will be selected for second phase in 2016-17.

5.2 NATIONAL ALLIANCES

5.2.1 DeitY-BIRAC Industry Innovation Program on Medical Electronics

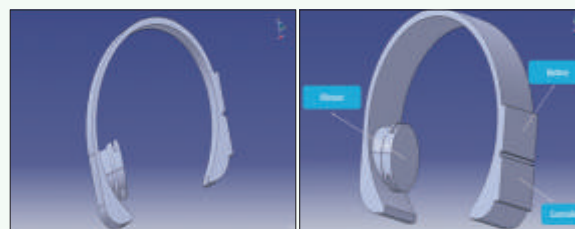
The project 'Industry Innovation Programme on Medical Electronics' is a 'collaborative project between the 'Department of Electronics and Information Technology', Ministry of Communications and Information Technology, Government of India and 'Biotechnology Industry Research Assistance Council', Department of Biotechnology, Ministry of Science and Technology, Government of India.

The project goal is to fund a portfolio of Indian led pilot Projects targeting innovations in the multi-disciplinary areas comprising of electronics, engineering, medical devices, healthcare, software, algorithms and information technology. The project will help to address the challenges of Medical electronics fraternity and will bring in fast pace research and development in the less explored area. The call for proposals was announced in the following areas:

- Imaging and navigation
- Technologies for chronic diseases
- Convergence of medical device and bioinformatics
- Increasing the Outreach through Medical electronics



Wireless Dry Sensors & mobile based ECG and Cloud based remote consultancy platform



An electro-larynx for voice restoration in post-operative throat cancer patients

Fourteen projects were funded in three categories i.e. Seed grant (Idea to PoC), Early Transition and Transition to Scale. The proposals focus on developing devices, mobile applications, point of care tests that are affordable and can be used in low resource settings. The Monitoring/mentoring for these projects are to be started during 2016-17.

6 AFFORDABLE PRODUCT DEVELOPMENT - DISCOVERY RESEARCH TRANSLATION

6.1 Mission Program on Accelerating Biopharmaceutical Innovation in India

The vision of the Program is to enable and nurture an ecosystem for preparing India's technological and product development capabilities in biopharmaceuticals to a level that will be globally competitive over the next decade, and transform the health standards of India's population. The objective of the program is to generate affordable biotech products, efficient processes and innovative technologies by bridging critical gaps in skill and infrastructure, building scientific leadership, fostering a sustainable environment for translational life science research.

BIRAC is proposing to establish a PDP consortium network in collaboration with World Bank to achieve the proposed objective by interlinking the isolated CoE (focused on skill or disease), academia and industry, validation and bio-manufacturing facilities (with training and service facility), cell line repositories and clinical trial units to fulfil the present

needs for discovery, discovery validation, bio-manufacturing and clinical validation.

BIRAC would facilitate the program by:

- Selecting and Engaging with multiple partners (in-country & global network of research entities) and aligning their goals with the common interest
- Providing access to experts /mentors /advisors (global and Indian) at different stages of product development
- Utilization of existing indigenous, potential resources and infrastructure
- Development of technical and non-technical skills for product innovation
- Ensuring next-generation technology acquisition and adaptation
- Building a non-competitive environment promoting industry-academia collaboration accelerating translational research
- Engaging with regulatory authorities
- Safeguarding IPR and technology management policies for all the parties involved

6.2 Early Translation Accelerator (ETA)

BIRAC is supporting Early Translation Accelerators (ETAs) to focus on catalyzing transformation of young academic discoveries (publications/patents) with possible commercial and societal impact into economically viable ventures and technologies. The aim of ETA is to add translational component to establish proof-of-concept/validation and to attract industry to take these validated technologies further in terms of development and is expected to collaborate with academic investigators, engage industry and to leverage international translation ecosystems. The ETA already established at C-CAMP in the area of healthcare is pursuing its first project on achieving higher production of erythropoietin and darbepoetin and expected to complete translational work in 2016-17.

BIRAC is planning to initiate ETA in the area of Industrial Biotechnology in 2016-17.

6.3 Niche Area Meetings

BIRAC organizes discussion meetings in niche areas by inviting experts from academia, industry and Government organizations to identify requirements and to formulate strategies accordingly.

Two meetings, one on 'HPV' and the other on 'Waste to Energy' were organized during 2013-14 and the recommendations emerged from these meetings were taken forward during 2014-15. A special call was announced by inviting proposals in the area of 'HPV' as part of BIPP scheme and the proposals so recommended are funded. A mission program has been conceptualized in the area of 'Waste to Energy' as per the recommendations of the discussion meeting and the efforts to launch the program in collaboration with MoUD are in progress.

6.4 New Initiatives

6.4.1 Research Alliance for Product Innovation and Development (RAPID)

Under the RAPID initiative of BIRAC, the focus is on accelerating rapid development of nationally important technologies and products that need co-ordinated efforts from understanding national & market needs, policy & milieu surrounding a technology/product to technology acquisition and development.

6.4.1.1 USAID -Wheat Project

BIRAC is supporting a project on 'Feed the Future Food Security Innovation Lab: Improved Wheat for Heat Tolerance and Climate Resilience' for five years in collaboration with USAID which addresses a very crucial area of crop biotechnology under the RAPID initiative. Food security in the Indo-Gangetic plains has become important considering the increasing population in this area, deteriorating soil quality, continuously and unsustainably sinking water table

coupled with high proportion of population below the poverty line. The main aim of the proposed project is to develop high yielding heat tolerant wheat cultivars for the Indo-Gangetic plains.

The following are the anticipated specific deliverables of the project

1. Heat-tolerant varieties of wheat and heat tolerant wheat germplasm
2. Genes and QTLs controlling heat tolerance and the corresponding user-friendly DNA markers
3. A system of high throughput phenotyping of heat tolerant wheat varieties under controlled environment and simulated field conditions
4. Establishment of physiological and enzymatic assays to associate with heat tolerance in wheat
5. Establishment of national genotyping and doubled haploid production facilities
6. Optimization of various new breeding and crop improvement approaches including MABS, MAFB, high-throughput biochemical and enzymatic assays
7. Training of students and scientists

6.4.1.2 Waste to Energy Mission Program

BIRAC has initiated a mission program for conversion of MSW to energy with an intention to promote biotechnological intervention for the conversion of municipal solid waste to energy. The mission program aims to seek Expression of Interest (EOI) to set up pilot scale facilities for treatment of MSW in a Public Private Partnership (PPP) model. Projects may take a multi-process approach which could involve segregation as well as extracting value-added products from the waste but the major focus will be energy generation. The aim will be to fund a portfolio of Indian-led pilot projects that can be incorporated into a process of

sustainable waste management

Expression of interest document for mixed waste and modalities of funding are being finalized. Stakeholder meetings have been held and priority areas have been identified.

A minimum of 2-3 demonstration plants to be supported with a budget up to Rs. 100 lakhs for each plant. BIRAC is planning to mobilize funds for this activity by approaching relevant ministries like Ministry of Urban Development (MoUD) and Ministry of Drinking Water and Sanitation (MDWS) in 2016-17.

6.4.2 Anti-Microbial Resistance (AMR) - A PPP Consortia for Innovation Research

BIRAC proposes a mission program on anti-microbial resistance (AMR). The mission would be to tackle the problem of antimicrobial resistance focusing on discovery, development and diffusion of new drugs, diagnostics, infection-treatment options and other tools with the following components,

- Discovery research, molecular - epidemiology, and early stage translational programmes involving academia and industry
- Develop opportunities to support spin-outs
- Building of capabilities and resources for the above
- Connecting with similar global consortia

Partnership with various stakeholders to accomplish the objectives of the mission not only from India but also from overseas is envisaged. This partnership would be mainly to bring together Global Organizations with a keen interest to promote this important initiative. Stakeholders would partner for:

- Collaborative Research
- Human Resource Training and Skill Development

BIRAC Organized a workshop as part of UK-India AMR focused joint initiatives and initiated efforts on 'AMR Innovation Fund'. Towards achieving this, BIRAC and NESTA, a charity organization in UK, have initiated collaborative measures to populate the innovators' pipeline for competing in the Longitude Prize, a challenge programme having a prize fund of 10 million pound, to help solve the problem of global antibiotic resistance. BIRAC has committed £100,000 towards the longitude Prize Discovery Awards fund for Indian teams.

6.5 Bio-toilets in Schools in North East India

An initiative to address the problem of sanitation in India and for the development of safe and affordable sanitation was laid down when DBT/BIRAC partnered with Bill and Melinda Gates Foundation in announcing the Reinvent the Toilet Challenge-India. BIRAC has already supported 6 projects under the RTTC-India initiative.

However, it is important to look for other existing solutions available within the country as well. In this regard, a proposal was received from The Energy and Resources Institute, Northeastern Regional Centre, Guwahati for installation of 100 toilets in schools in north eastern region of India. This is a programme of societal relevance covering children from all three sectors (SC, ST, Women). DBT funded this program and BIRAC is responsible for overall coordination by setting up a program management cell for,

- Overall management and co-ordination of the entire project
- Implementation

The key feature of the proposed initiative is the integrated approach that is formulated for interlinking school toilets with anaerobic digester for maintaining hygiene and resource recovery education to the students to remove the

misconception on usage of biogas from human waste.

6.6 Make in India

Objective and vision

'Make in India' initiative was launched on September 25, 2014 by the Government of India with an aim to give Indian economy global recognition. The programme includes major new initiatives designed to facilitate investment, foster innovation, protect intellectual property and build best-in-class manufacturing infrastructure.

DBT has entrusted BIRAC with the responsibility of creating a facilitating ecosystem in the country for promoting the manufacturing capabilities of the Indian biotech sector. Hence, BIRAC has established a Make in India Facilitation Cell for disseminating the relevant information in context to Make in India and attracting investments in the sector.

The objectives of Make in India Facilitation Cell at BIRAC are:

- Contribute to Make in India growth through identifying and promoting new areas in Biotechnology
- Co-ordinate activities of Make in India with DIPP, Government of India
- Catalyse the growth of manufacturing industry by mapping incentives and opportunities provided by Central and State Governments
- Facilitate Start-ups, SMEs and companies by communicating the policies and incentives extended by the Government for the programme
- Support the Make in India Programme by addressing the queries from various stakeholders

Under the Make in India Action Plan, BIRAC has set targets and objectives to achieve:

- Prioritize injection of capital in segments such as Biosimilars, MedTech, BioAgri, BioPharma, Big

data analytics, Genomics, Chemical Ecology, Marine Biotechnology: More than 65 projects have been identified and supported under various programmes of BIRAC

- Budgetary allocation with earmarked funds through empowering special purpose vehicles such as BIRAC; INR 1000 crore for Bio-manufacturing, INR 750 crore for scaling up Indian biotech SMEs and start-ups: INR 1500 crore funding has been approved by DEA and World Bank for launching Vaccine, Biopharma, Biomedical device R&D, product development and facility
- Set up infrastructure for product development including facilities: One Translational Facility (Early Translational Accelerator (ETA) at C-CAMP, Bangalore) has been operationalized. Funds have been released for Golden Jubilee park (Chennai) and Healthcare Technology Innovation Centre (HTIC).
- Facilitate research and nurturing of skilled graduates at a university level; increase absorption of academia and young talent into industry (train and liberate); Formalized support mechanisms for nurturing skilled graduates through University Innovation Clusters and Social Innovation Immersion Partners. Provided research infrastructure to 9 supported partners and selected 15 Entrepreneurial students for nurturing.

BIRAC's Report on Make in India Opportunity

BIRAC initiated a detailed report on the opportunities that exist in the biotech arena (biopharma, vaccines, bioindustrial, bioinformatics, bioagri and other areas) in India especially highlighting issues that will impinge upon the Make in India programme. Several consultative interviews were conducted and the final

report will be released in September 2016.

The report summarizes the present status and galore of opportunities India has within the biotechnology sector. The report highlights are:

- Biotechnology is one of the sunrise sectors and an intrinsic component of the 21st century knowledge economy. Indian Biotechnology industry has set an ambitious target of US\$ 100 Bn by 2025. Achieving this target would enable the Biotechnology industry to increase its share of India's GDP from 0.35% to 2.5% of India's potential \$ 4 Trillion economy in 2025.
- Specific opportunities within Biotechnology which are amenable to High Value Manufacturing include
- Biologics / biosimilars / vaccines especially for next generation of
 - ❖ Synthetic biology and manipulation of organisms for production of bio-polymers/biomaterials
 - ❖ Regenerative Medicine & Stem cells
 - ❖ Medtech Manufacturing including high end 3D printing & design
 - ❖ Secondary agriculture
 - ❖ Biofuel production using second generation technologies/ advanced processes
 - ❖ Contract manufacturing of drugs, bio-chemicals including bio polymers
- Make in India campaign can have rippling effects on job creation, foreign investments, export revenues, and import substitutions
- To realise the objectives set and achieve high growth rates in biotech sector, certain challenges need to be addressed – strong and transparent regulations, skill enhancement, increased seed funding, access to world class manufacturing facilities, single

window clearance for start-ups, and incentives in the form of conducive tax policies.

6.7 Startup India

The Prime Minister of India, Shri Narendra Modi had announced the 'Startup India' initiative in his Independence Day speech this year. This initiative aims at fostering entrepreneurship and promoting innovation by creating an ecosystem that is conducive for growth of start-ups. The Prime Minister of India formerly launched the initiative on **January 16, 2016**.

The Action Plan for Startup India has been formulated and Biotechnology sector has been highlighted in Point no.17. The main features of the action point are as follows:

- Biotech Equity Fund – BIRAC AcE Fund in partnership with National and Global Equity Funds (Bharat Fund, India Aspiration Fund amongst others) will provide financial assistance to young Biotech start-ups. Encouraging and leveraging global partnerships.
- Bengaluru-Boston Biotech Gateway to India has been formed. Letter of Intent has been signed between DBT, GoI and Department of IT, Government of Karnataka for the same. Through this initiative, a range of institutes in Boston (Harvard/ MIT) and Bengaluru will be able to connect to share ideas and mentor the entrepreneurs especially in the areas of Genomics, Computational Biology, Drug Discovery and new vaccines.



Indian start-ups, including BIRAC supported ones, with Hon'ble PM Shri Narendra Modi at Silicon Valley

Objectives

To foster and facilitate bio entrepreneurship

Roles and Responsibilities:

DBT endeavours to scale up the number of start-ups in the sector by nurturing approximately 300-500 new start-ups each year to have around 2,000 start-ups by 2020. In order to promote start-ups in the sector, DBT shall be implementing the following measures along with BIRAC:

Bio-incubators, Seed Fund and Equity Funding:

- 5 new Bio-clusters, 50 new Bio-Incubators, 150 technology transfer offices and 20 Bio-Connect offices will be set up in research institutes and universities across India.

- Amplification of Bio-entrepreneurship through BIRAC Regional Entrepreneurship Centres (BREC). The BREC aims to impart bio-entrepreneurs with the necessary knowledge and skills required for converting innovative ideas into successful ventures. Department of Biotechnology shall set up 5 Regional centres or Mini-BIRACs in the next 5 years.

7 ENTREPRENEURSHIP DEVELOPMENT

7.1 BioNEST

Bio-incubation allows harnessing of the entrepreneurial potential of start-ups by providing access to infrastructure as well as mentoring and networking platforms

that the start-ups could use during their fledgling days.

BIRAC has upgraded and strengthened existing incubation facilities at certain strategic locations in the country. It would intend to establish world class bio-incubation facilities. Ideally it is envisaged that the new bio-incubation centres would be established around DBT clusters

There are total of 15 Bioincubators that have received approved funding from BIRAC.

In the FY 2015-2016 BIRAC approved two new bio-incubators as mentioned below:

Healthcare Technology Innovation Centre (HTIC), Chennai: A multi-disciplinary R&D centre at IIT Madras Research Park. BIRAC approved HTIC for creating an incubation facility supported by a core R&D and knowledge management facility for nurturing start-ups in Medtech sector.

Total project has been approved for Rs 2892 lakhs for 5 years.

Golden Jubilee Women Biotech Park, Chennai was also approved by BIRAC for Rs. 540 lakhs for a period of five years. This park will focus on startups initiated by women bioentrepreneur-ship.

In addition, Entrepreneurship Development Center (EDC), at Venture Center, Pune was also supported for phase 2. The new addition under this project was support for Tinkering Lab for Med-devices. This facility will offer fabrication and other training opportunities to interested applicants.

By FY-2015-2016 BIRAC has supported a total incubation space of 181071 sq.ft. Out of this 100000 sq.ft of space is active space that is being occupied by start-ups and other common facilities. A total of 78 residential incubatees were supported through BIS Facilities.

INR 18.04 Cr was released for new and ongoing proposals.



Common Lab Supported by BioNEST



Alexandria Knowledge Park, SBTIC, Hyderabad

7.2 eYUVA (Encouraging Youth for Undertaking Innovative Research through Vibrant Acceleration)

University Innovation Cluster (UIC): In partnership with industry: A public private partnership model

In order to nurture a culture of applied research and need-oriented (societal or industry) innovation among researchers and to catch them young, provide professional mentoring and support needed, it is imperative that there be a focus on fostering local ecosystems.

BIRAC launched University Innovation Cluster (UIC) to foster a culture of innovation and techno-entrepreneurship in Indian Universities.

Five University clusters as mentioned below have been identified to establish UIC:

1. Anna University, Chennai

2. Panjab University, Chandigarh
3. Tamil Nadu Agricultural University, Coimbatore
4. University of Rajasthan, Jaipur
5. University of Agricultural Sciences, Dharwad



UIC Event at Panjab University



UIC Event at University of Rajasthan, Jaipur

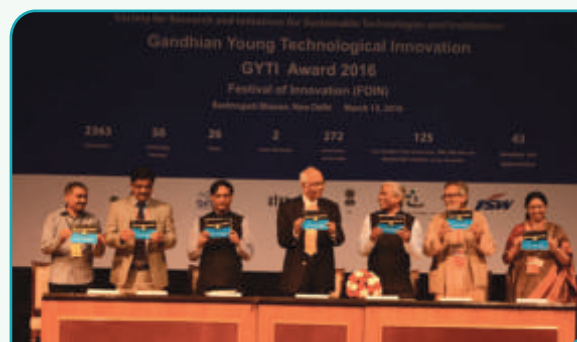
Each UIC has an incubation space of 2000-3000 sqft that houses common laboratory facilities and postdoctoral and postmasters Innovation fellows conduct translation R&D at each of the UIC supported by dedicated staff who help UIC fellows to understand commercialization pathways.

All the UICs are operational and working towards their milestones. Nine BIRAC Innovation Fellows have joined and initiated translational R&D activities. Five workshops have been conducted at different locations. Advertisements for the remaining fellows were floated and fellows will join by May 2016.

7.3 SITARE (Students Innovations for Advancement of Research Explorations)

Collaborating with SRISTI for promoting Grass root Innovations

BIRAC has collaborated with Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI) to support grass-root level innovations at the university /college level from among the students. Two categories of Awards – BIRAC-SRISTI GYTI Awards and BIRAC-SRISTI GYTI Appreciation Awards – have been constituted to support and mentor the young innovators. The awards are aimed at nurturing the grass-root innovations to make them ready for next level of funding to take the innovation to a PoC stage. In March 2015, 4 innovators have been awarded with BIRAC-SRISTI GYTI Awards during the Festival of Innovations organized by National Innovation foundation at Rashtrapati Bhavan. In March 2016, 15 innovators were selected for the BIRAC-SRISTI GYTI Awards, and 100 innovators were shortlisted for BIRAC-SRISTI GYTI Appreciation Awards.



7.4 BIRAC Regional Innovation Centre (BRIC) at IKP Knowledge Park, Hyderabad

BIRAC's reach is pan-India and to further strengthen its linkages with regional ecosystems, BIRAC has launched its first Regional Innovation Centre called BRIC at IKP-Knowledge Park, Hyderabad. BRIC is mandated to help start-ups and SMEs in the region through services such as IP and technology transfer. The initial mandate of BRIC is also to conduct an extensive

regional innovation system (RIS) mapping in South India where more than 70% of biotechnology firms are located. The special emphasis on providing the necessary networking opportunity to the start-ups/young entrepreneurs is an important component and this helps young researchers who are setting up their own enterprise to connect with academia and large companies.

A detailed RIS Mapping has been conducted for Hyderabad, Bangalore, Chennai and Trivandrum regions highlighting the characteristics of each of the hubs. The mapping also has identified all the stakeholders including enablers for each of the city. The R&D scenario especially in biotech realm through analysis of publication data as well as IP data has also been studied revealing important insights such as collaboration between industry and academia as well as indicating translational capabilities in several institutions. The final report will be prepared by September 2016 which will provide a comprehensive analysis including gaps and opportunities in Southern India. Further, BRIC has also conducted numerous workshops for entrepreneurship, IP awareness and technology showcasing and BRIC has helped many start-ups in providing specific information that were sought. Cumulatively more than 1200 relevant persons have interacted with BRIC through its various activities.

7.5 BIRAC Equity Funds

BIRAC SEED Fund (Sustaining Enterprise and Entrepreneurship Development) and BIRAC AcE - Equity Fund

For helping biotech start-ups bridge the valley of death, BIRAC has initiated two equity funding programmes viz. BIRAC AcE Fund & BIRAC SEED Fund.

BIRAC AcE Fund that seeks to invest in young startups for an equity share was

announced in March 2015. BIRAC is in discussion with financial agencies, incubators and accelerators for operationalization modalities of AcE Fund. The fund aims to support the start-ups looking out for financial aid for expanding their operations, with eventual pitch to venture capitalists.

BIRAC aims to provide capital to BIRAC supported Bioincubators which will be invested into biotech start-ups by bioincubators wherein BIRAC will also hold equity. The details of the project are being worked out.

8 PARTNERSHIPS

BIRAC has always emphasised on building collaborative frameworks for fostering and nurturing the Indian Innovation ecosystem. During the year 2015-16 BIRAC continued its efforts for establishing partnerships with like-minded organizations and culminated six such collaborations:

8.1 BIRAC - WISH Foundation

BIRAC collaborated with WISH foundation - a non-profit organization involved in taking innovations to the end users-to scale up the innovations supported by BIRAC. Through this partnership, BIRAC aims to commercialize the innovations supported by its programmes, by leveraging the networks and established SCALE programme of WISH, which aims to scale up the innovations in primary healthcare sector through the route of State Governments.

8.2 BIRAC-UK Trade and Investment (UKTI)

BIRAC partnered with UKTI to enable BIRAC supported innovators to access the UK and other European markets through the online portal of the UKTI. The partnerships intends to enhance the networking opportunities and market access for the BIRAC supported innovators.

8.3 BIRAC-Horticulture Innovation Australia (HIA)

For promoting sustainable Horticulture, BIRAC and HIA have



collaborated for a joint funding programme for supporting innovative technologies and solutions for sustainable and productive horticulture at global level. The focus of the joint call is to undertake horticultural research in order to develop and deploy modern tools of plant biotechnology to improve crop productivity. The funding commitment from BIRAC and Hort Innovation is up to AUD 6 Million over a period of 3 years.

8.4 BIRAC-Nesta

BIRAC and Nesta, a charity organization in UK, have initiated the collaborative measures to populate the innovators' pipeline for competing in the coveted Longitude Prize-a challenge programme having a prize fund of 10 million pound, to help solve the problem of global antibiotic resistance. BIRAC has committed an amount of £100,000 for the Discovery Awards that intends to support the teams working in the AMR domain and this could eventually lead to their participation in the Longitude Prize.



8.5 BIRAC-Tekes

BIRAC has signed a letter of intent with Tekes- Finnish Funding Agency for Innovation, to explore opportunities for improving competitiveness of Indian and Finnish industries through promoting collaboration in different phases of knowledge innovation chain.



8.6 BIRAC-TISS

BIRAC AND Tata Institute of Social Sciences (TISS) have come together to mentor the social



innovators supported by BIRAC, so as to help them evolve in the social entrepreneurship arena. TISS will also support BIRAC in assessing the impact of its social innovation initiatives and strengthen the impact of same.

9 MENTORING AND CAPACITY BUILDING

9.1 Regulatory Facilitation

BIRAC in collaboration with Clinical Development Services Agency (CDSA) has planned to organize a set of four Regulatory Workshops under the series 'Demystifying Indian Drug regulations for Product Approvals' in North and South India. The four workshops in North India have already been organised in first phase.

These workshops covering Regulations of 'New drugs', 'Biopharmaceuticals', 'Phytopharmaceuticals' and 'Medical Devices & Diagnostics' have been organized in South India also during 2015-16 and ~200 participants have benefited from these regulatory events.

• *Demystifying Indian Drug Regulations for New Drug Approvals:*

The objective of the workshop was to demystify Indian drug regulations for new drug approvals and provide a direct, relevant and valuable information on key aspects of new drug approvals including its regulations in India. Challenges faced, research strategy and development path for new drug were discussed in this workshop.

Regulatory Requirements for Biopharmaceuticals - From Science to Commercialization:

The objective of the workshop was to provide direct, relevant and valuable information on key scientific aspects of Biopharmaceuticals including its regulations in India. This workshop focused on sharing the updates on regulatory developments and guidance documents, review approval process, real time experience in filing and seeking

approval, step-wise development process, standard format and content of IND submissions, including regulatory and scientific requirements, pre-clinical and clinical needs in the area of biopharmaceutical development. This workshop gave ample opportunity to interact with the regulators and clarify doubts through networking and Q & A sessions.

Emerging Needs & Regulations on Phytopharmaceuticals



Participants at the Workshop on Emerging Needs & Regulations on Phytopharmaceuticals

The objective of the workshop was to provide direct, relevant and valuable information on the key aspects of phytopharmaceuticals including its regulations in India. Various issues related to the sector like current updates on regulatory developments and guidance in India, the technical parameters in the Phytopharmaceuticals development process, deliberation on Gazette Notification G.S.R 702 (E) 'Phytopharmaceuticals Drugs dated 24th October, 2013 and approval process at CDSCO for Phytopharmaceuticals Drugs, and latest G.S.R. 918 (E) dated 30th November, 2015 on Phytopharmaceutical drugs, research strategy and development path for phytopharmaceuticals were discussed in this workshop. This workshop provided ample opportunities to the participants to interact with senior regulators and experts in clarifying their queries through networking and Q & A sessions.

Current Regulations on Medical Devices and in vitro Diagnostic kits:

The objective of this workshop was to provide direct, relevant and valuable information on medical devices and in vitro diagnostic (IVD) kits including its regulations in India. This workshop focused on sharing the updates on regulatory developments (discussion on the salient features of the Draft Bill) and guidance documents, review and approval process, step-wise development process,

including regulatory and scientific requirements, pre-clinical and clinical needs specifically in the area of medical devices. This workshop gave ample opportunities to the participants to interact with senior regulators and clarify doubts through networking and Q & A sessions.

9.2 BIRAC-University of Cambridge Entrepreneurship Education Programme

BIRAC has channelized the participation of 5 BIG grantees to participate in the CfEL's mentorship and capacity building programme in July 2015. The programme



BIRAC BIG-Ignite fellow at Judge Business School, University of Cambridge, UK

constitutes a two week long entrepreneurial boot-camp aimed at – developing the business skills among the entrepreneurs through interaction with eminent leaders in the industry, provide a platform for the entrepreneurs to share their ideas and seek collaborations from suitable partners, and pitch their ideas to investors.

The response from the previous batches has been good and it has been emphasized by the participants that the programme has helped them in honing their business skills, improvising their business plans and networking for the advancement of their innovation to next level. BIRAC plans to continue its participation in the Ignite programme.

9.3 BIRAC Roadshows and Grant Writing Workshops

BIRAC is keen to achieve its mandate of creating awareness among the stakeholders about the activities of BIRAC by conducting Grant Writing Workshops. Four such workshops were organized in 2015-16:

- University of Calcutta, Kolkata
- IISER, Bhopal
- Anna University, Chennai and
- BITS Pilani, Goa Campus, Goa

These workshops focussed on sensitizing the participants about the BIRAC initiatives for promoting the innovation ecosystem, imparting effective grant writing skills necessary for writing winning proposals to funding agencies, and disseminating information on the aspects of IP, importance of IP, leveraging IP for business ventures and management of IP. The talks are delivered by the experts in the respective field and law firms are also invited so that the audience can gain first hand insights on matters of IP and technology management and exploitation. Nearly 200 stakeholders participated in these workshops.

Ideathon

On the sidelines of 4th Foundation day, BIRAC organized an Ideathon initiative aimed at promoting translational research in Anti-microbial (AMR) diagnostics. The Ideathon was held on 19th and 20th March, 2016 and was dedicated to generating a focused idea by different teams of students, selected from across the country, on the relevant theme of AMR Diagnostics. This event was open to team of students and/or faculty which were not previously supported by BIRAC. Of the 27 applications that were received, 10 were shortlisted and 8 participated. The teams presented their innovative ideas to the jury consisting of eminent academic and industry experts. The jury selected two winners:



BIRAC Ideathon Winners

- Department of Microbiology, University of Delhi South Campus – Priyanka Bajaj (Team Leader), Abhishikha Srivastava and Bandana Kumari, Department of Biophysics, University of Delhi South Campus, Shalu Sharma, CSIR-Institute of Genomics and Integrative Biology. The prize money of one lakh rupees was conferred upon to the team.
- Central Electrochemical Research Institute, CSIR – Praveen Kumar and R. Rajaram. The team received the prize money of one lakh rupees, equally contributed by BIRAC & Villgro.

The award winners will also work with

BIRAC partners – FITT, Delhi and Villgro, Chennai, for a period on one month to build upon the business acumen and technical competence.

9.4 Hands on Training for Skill Development

Enhancing the research and innovation capabilities of the Indian biotech industry particularly start-ups and SMEs for creation of affordable products by providing mentoring support is the main aim of BIRAC. BIRAC intends to organize a series of training/workshops technology for enhancing the innovation capabilities of the start-ups and SMEs. BIRAC realized that it is important to conduct hands-on training workshops for upgrading the technical skills of the industry personnel.

Four workshops-two in the area of Industrial biotechnology, one in the area of Bioinformatics and the other in the area of Agriculture have been organized during 2015-16 and more than 100 entrepreneurs benefited from these workshops.

10 OUTREACH INITIATIVES

10.1 BIRACi3 – The Quarterly Newsletter of BIRAC

BIRACi3, the quarterly newsletter of BIRAC entered into the 2nd year in 2015-16 since its launch. The newsletter has been successful in communicating BIRAC's initiatives for the biotech innovation ecosystem to the concerned stakeholders. The newsletter will continue to enrich the experience of its readers by communicating the updates and opinions of the industry leaders

10.2 Hannover Messe 2015

Hannover Messe 2015 was ceremoniously opened by German Chancellor Angela Merkel together with Indian Prime Minister Shri Narendra Modi. The fair, where India was granted the coveted 'Partner Country Status', had 'Make In India'-theme splashed all over, which was visible all over the fair ground and the city

of Hannover. More than 300 Indian companies participated in the fair as exhibitors.



Hannover Messe 2015

Living upto the hope of 'Opening many doors' as envisaged by the Prime Minister of India, Shri Narendra Modi in his inaugural address on the evening of April 12, the 5 days at Hannover Messe 2015 not only saw the 'Make In India' movement take a global dimension but also paved the path for several new investment avenues and stronger economic engagement with India.

BIRAC and Department of Biotechnology's booth at the Hannover Messe 2015 saw many visitors both from Germany as well as Indians living in Germany. An environment of enthusiasm, promising exchange of ideas and investment in the new resurgent India prevailed at the India Pavilion that was crafted to portray the economic potential of the country's most fertile sectors-biotechnology, renewable energy, space, IT & BPM, industrial corridors and smart cities, wellness, and the demographic dividend it aims to reap. A positive revivalist fervor prevailed as senior Indian government officials and business leaders reached out to representatives of German and European industries and technology institutions to ink MoUs aimed at scaling up the country's manufacturing.

10.3 BIRAC's presence at BIOtech Japan 2015

BIOtech Japan 2015 was an international

biotechnology conference and event held at Tokyo, Japan from May 13-15. The conference was a Life sciences event comprising of Bio tech Japan, PMex Japan 2015 and PHARCON Japan 2015. The three events are organised under one roof with representation of companies from all over the world in the area of Biotechnology, Personalised Medicine & Diagnostics and Pharmaceutical & Diagnostics respectively. BIRAC represented in Biotech Japan 2015 in the Indian Pavilion.



Biotech Japan, 2015

The platform provided an opportunity to showcase India's strengths and capabilities in the biotechnology sector. The focus of the participation was to promote international trade co-operation, and networking of the Indian organisations with the counterparts from Japan and other countries.

10.4 BIRAC's presence at BIO International Convention 2015, Philadelphia, USA

The 2015 BIO International Convention was convened from 15-18 June at Philadelphia, USA. The Convention was a platform for an aggregation of scientists, researchers, academicians, universities, start-ups, entrepreneurs, SMEs, industries, cities and countries from across the globe, to network share and exchange the info-knowledge in the biotechnology arena. The convention provided the required showcase opportunities for the industries and Universities to present their technologies/research leads to potential takers.

BIRAC had put up a booth at the convention and also participated in the discussions and sessions focused on showcasing the capabilities and capacity of India as a biotech nation.



*Bio International Convention 2015,
Philadelphia, USA*

11 INDUSTRY ACADEMIC INTERACTION

11.1 Innovators' Meet

BIRAC organized its 4th Innovators Meet at Heritage Village, Manesar, Gurgaon, on 15th-16th September 2015. Attended by over 250 delegates from Government, academia, industry, start-ups and budding entrepreneurs, the theme of the meet was 'Invigorating the Biotech Innovation Ecosystem'.

The Keynote Lecture was given by Dr. M.K. Bhan, Former Secretary, DBT & Former Chairman, BIRAC. Dr. Bhan spoke about the maturing of the global biotechnology domain as it connects to other innovation domains.

The inaugural session was followed by announcement of the prestigious BIRAC Innovator Awards. The follow-on sessions were planned on focussed parallel discussions in Healthcare (AMR and Big Data Analytics), Agriculture Electronics and Clean Energy domains.

In the domain of AMR, the discussion points highlighted the need to emphasise on innovative ideas for new vaccine development, challenge calls for diagnostics and drug discovery, strong



policy formulations, initiatives to be extended to agriculture and poultry industries to check the problem of AMR, and need for more awareness among the stakeholders.

well defined policy for data standards in agriculture sector.

Discussions on Clean Energy culminated in evolving points for focus on waste



The panel on big data analytics discussed about the use of data for developing technologies for personalized medicines, essentiality of genomics based diagnostics and strong collaboration between industry and academia. Agri-electronics panel highlighted the need for developing IT based digital technologies for managing risks and opportunities and developing

management, gaseous fermentation, and skilled manpower requirement in the sector.

11.2 BIRAC Foundation Day

BIRAC celebrated its 4th Foundation day at India Habitat Centre, New Delhi on 20th - 21st March 2016. The occasion was celebrated with great enthusiasm by the



BIRAC community along with dignitaries representing the Government, academia, industry, start-ups and budding entrepreneurs. The theme of the event was **Scaling Bio-Entrepreneurship: Foundation for Sustainable Future**. Four new strategic partnerships were announced: Nesta – the UK's Innovation Charity; Tekes – Finnish Funding Agency for innovation; Horticulture Innovation Australia (HIA); and Tata Institute of Social Sciences (TISS). The new partnerships will supplement BIRAC's role in reaching out to the world for sustainable impact

Plenary Talk was delivered by Prof. Ashok Jhunjhunwala, from IIT Madras, and Foundation Day Lecture was delivered by Mr. Kris Gopalakrishnan, Co-Founder of Infosys.

The event witnessed buzzing panel discussions on issues and challenges related to Scaling of bio-enterprises, raising of seed and venture capital by the innovators/entrepreneurs, the prevalent incubation models and importance of mentoring for setting up a sustainable venture, and raising CSR funds for

development of the innovation ecosystem.

12 INTELLECTUAL PROPERTY AND TECHNICAL MANAGEMENT SUPPORT: SAFEGUARDING THE INDIAN BIOTECH INNOVATION

12.1 Intellectual Property

- The in house IP & Technology Management cell in BIRAC provides support to start ups and SMEs on various aspects of IP & Technology Management (landscaping, patent filing, freedom to operate, Technology evaluation and assessment). BIRAC undertakes an extensive IP evaluation of proposals that it receives for its flagship funding programmes such as BIPP, CRS, SBIRI, BMGF, Wellcome Trust, SPARSH, IIPME and BIG as well as providing clarity on many of the IP and licensing issues in collaborative projects including international projects. Additionally, BIRAC IP Cell facilitates the IP & Technology Management between Academia and Industry in the collaborative projects. Cumulatively, more than 200 projects were analysed for various aspects of IP especially issues regarding patentability, FTO, licensing potential among other issues.
- BIRAC extends support to emerging intellectual property from innovative R&D projects from start-ups & SMEs funded by BIRAC. In this regard, BIRAC started 'Patent Assistance Scheme' to support the Intellectual Property Protection which was launched in 2013. Under this scheme, two industries have been supported.
- In order to enhance the proportion of Life science invention coming out of Public Institutes that can be translated, BIRAC has initiated technology mapping of DBT institutes. Apart from the various IP services, the IP cell also helps to formulate Patent policies of universities & organizations.

- BIRAC has set up an Intellectual Property Management and Technology Commercialization (IPM-TC) unit at DBT-ICT Centre for Energy Bio-Sciences and envisages setting up similar units in different institutes/universities which can provide competent IP and Technology Transfer services to the local ecosystem.
- BIRAC IP & Technology Management cell also organizes several capacity building and awareness workshops on various aspects of IP and Technology Transfer. In 2015-16, four (4) IP awareness workshops have been conducted at different locations such as Kolkata, Bhopal, Chennai and Goa. These workshops were conducted by experts from the IP field who provided information and knowledge regarding various aspects of IP and its strategic use by entrepreneurs and academic researchers. The workshop elicited a lot of enthusiasm from faculty, SMEs and start-ups.
- BIRAC also interacted with faculty, students and postdoctoral students at National Brain Research Centre (NBRC) at Manesar, Haryana to discuss the various IPs that are emerging out of the centre including a visit to several laboratories within the institute

12.2 Patent Assistance Scheme

To facilitate the protection of entrepreneurs, industries and SMEs Intellectual Property, BIRAC has initiated a Patent Assistance Scheme (PAS) to encourage the technological innovation in the country. To implement the scheme, BIRAC has also empanelled technically competent and experienced IP & Technology Transfer (TT) firms who could provide assistance for Patent search, filing, drafting and commercialization of such technologies if required. BIRAC had supported projects under BIG, SBIRI and BIPP and had provided assistance in supporting IP generated in the funded program. A total of two patents have been

supported through the Patent Assistance Scheme (PAS). Patent filing support has been extended for national phase entries in different countries such as US, EU, Australia and India. These patent applications are filed mainly in the area of secondary agriculture and healthcare.

12.3 DBT-ICT Centre for IP & Technology Transfer activities

BIRAC has set up an IP Management and Technology Commercialization (IPM-TC) unit at DBT-ICT Centre for Energy Bio-Sciences at Mumbai and intends to set up similar centres in different institutes which can provide competent IP & Technology Management related activities to the local ecosystem in India. Specific objectives of the Centre are to protect the technologies generated at the centre which have commercial potential; IP Management with regard to technology transfer, drafting MoUs and other relevant agreements and Generating awareness related to IP protection within and outside the Centre, assistance on IP related issues within ICT and outside ICT. DBT-ICT IPM-TC Unit has filed more than 20 Patent applications at the Indian Patent Office out of which 3 patent applications have entered the national phase of many countries such as US, EP, AU, JP, Pakistan, Korea etc. IPM-TC Unit has also carried out patentability searches for more than 30 projects and has signed MoUs, CDA with Industries to take the research forward.

12.4 BIRAC -QUT Australia - Bio-fortification and disease resistance in Banana

Queensland University of Technology, Australia has developed bio-fortified banana under the Grand Challenges in Global Health Program to alleviate vitamin A and iron deficiency in Uganda. They have also developed technologies related to Banana Bunchy Top Virus (BBTV) and Fusarium Wilt resistance in banana. QUT is willing to share these technologies with India. An agreement

was signed between BIRAC on the behalf of Government of India and QUT, Australia for 'Development and Transfer of Technology from Queensland University of Technology, Australia to India for Bio fortification and Disease Resistance in Banana' on 24th August, 2012.

The Technology Transfer for Bio-fortified Banana from QUT, Australia, would be to 5 Indian Partners

1. National Agri-Food Biotechnology Institute, Mohali, Punjab
2. National Research Centre for Banana, Trichy, Tamil Nadu
3. Bhabha Atomic Research Centre, Trombay, Mumbai
4. Tamil Nadu Agricultural University, Centre for Plant Molecular Biology & Biotechnology, Coimbatore
5. Indian Institute of Horticultural Research, Bangalore, Karnataka

In the last financial year 2015-16, third annual meeting with QUT, Australia and Indian Partners was conducted in 23-24 November, 2015 at BIRAC. Strategy for the future activities was decided with respect to the Indian Partners.

Indian partners were sent to QUT for a Stewardship training program for transformation and regeneration methodology of Banana with respect to Pro- Vitamin A and Iron analysis. This Stewardship was organized from 11th - 18th October, 2015 at QUT, Australia.

13. LEGAL ADVISORY SUPPORT

The Legal cell of BIRAC provides a wide array of advisory and support services including drafting, reviewing, executing and modifying contracts, agreements and internal policies and ensure that they are in compliance with all statutory or legal requirements.

The services of the Legal Cell also includes providing legal guidance for the on-going

and new funding programs, providing legal protection and risk management advice to management, managing the legal due diligence process pertaining to the various funding schemes, advising the management on the modalities of national and International Co-funding initiatives facilitating technology acquisition, promoting Alternative dispute resolution etc.

14. INTERNAL CONTROL SYSTEM AND THEIR ADEQUACY

The Company has established systems providing adequate internal controls, commensurate with its size and nature of the business. Such systems have been appropriately documented. There is very clear policy to maintain confidentiality and ensure No-Conflict of Interest

15. HUMAN RESOURCES

BIRAC has an efficiently run Human Resources department which provides our organization with structure and the ability to meet organizational needs through managing our Company's most valuable resources – its employees. During the year, several employee centric policies were launched to cater to the needs of the work force and also to maintain Company's pace with external certainties. The Company initiated multiple actions to keep the workforce engaged. Actions are being taken to increase gender diversity, providing greater amenities and a cross-functional environment.

Over the past year, the department has focused on continuous improvement to increase efficiency and accountability, while improving services and streamlining administration. The department also continues to provide leadership and service delivery by playing a critical role in ensuring that we have a high-performing and engaged workforce equipped to deliver best output.

BIRAC focuses on retaining the talent and knowledge held by their workforce as new



hiring entails a high cost. HR department strives to offer benefits that will appeal to workers, thus reducing the risk of losing corporate knowledge.

HR Department reviews the performance of employees in a systematic way & take it as a developmental tool for all round development of the employee and the organization. The performance is measured against such factors as job knowledge, quality and quantity of output, initiative, leadership abilities, supervision, dependability, co-operation, judgment, versatility. Assessment is confined to past as well as potential performance on the basis of which an action plan is set up for each employee in terms of training and development needs.

BIRAC focusses on enhancing skill development of its employees by organizing in-house trainings and identifying domain specific training in

reputed training institutes. In 2015-2016, a total of **104 Mandays training** was conducted for employees on various aspects reaching **115 % actualization**. Also **three gender sensitization workshops** have been conducted.

Human Resource & Administration Department in BIRAC strives on implementing employee engagement activities to encourage employee contribution/involvement thereby increasing productivity, to bring down attrition through Team building, commitment, employee satisfaction etc. The national events such as Vigilance Awareness Week, Swachhta Pakhwada, Hindi Divas, Anti-terrorism day, Women's Day, Fire Safety Awareness are also observed with fervor and zeal.

1. Swachhta Pakhwada

Cleanliness in office is though observed throughout the year by BIRAC, but

significantly during the period of Swachhta Pakhwada (16th June – 30th June), all employees contributed towards the mission and the various activities such as an Essay writing competition, pledge on swachhta, cleanliness drive were undertaken.

2. Hindi Divas

Hindi Diwas is celebrated in BIRAC to show the importance of Hindi language 'our mother tongue'. Hindi Diwas is organized in BIRAC with the unique programs and competitions related to Hindi poems, story recitations, vocabulary quizzes etc, emphasizing Hindi as the better mode of communication among the people in India so it should be promoted among each other.

3. Women's Day

Women's Day is celebrated in BIRAC by organizing variety of programs like competitive activities, luncheons, women's issues, including other women rights, promotional activities, exchange of gifts etc. It is celebrated to enhance the worldwide awareness about women, their rights, contributions, importance of education, career opportunities etc.

4. Anti-Terrorism Day

The staff observed Anti-Terrorism Day by pledging to work for promoting peace.

The objective behind the observance of Anti-Terrorism Day is to deter away the people from terrorism and violence. On the occasion, debates are held on the dangers of terrorism and violence. The Day is observed to generate awareness in the country among all sections of people, about the menace of terrorism and violence and its effect on the people, society and the country as a whole. A joint pledge is taken by all employees against Terrorism.

5. Fire Safety Awareness

In March 2016, a lecture and practical training on fire safety awareness and measures to control the fire was undertaken, where all Officers were given hands-on training for the use of Fire Extinguishers and other measures to control fire, minimizing risk of fire, escape plan etc. Emphases were laid on general fire safety precautions one should follow regardless of where you live.

16. FUTURE OUTLOOK

Over the last few years, BIRAC's efforts have created a foundation of a vibrant translational ecosystem for biotech innovation in the country encompassing all the categories of innovation funnel including ideation to proof of concept to validation and finally scale up and commercialisation. This has resulted from our ability to sense the emerging needs in the ecosystem, consult with wider stakeholders and design programmes that fill this gap.

As we move forward, we are committed to help achieve the goals mentioned in the National Biotechnology Development Strategy-II, Make in India and Startup India thus aiming to take the Indian biotechnology sector to the next level.

Focus on programmes in Entrepreneurship

We will deploy new programmes such as BIRAC Incubator Seed Funding and BIRAC AcE fund in 2016-17 which will hopefully help to bridge the 'valley of death' that most of our start-ups encounter. We are also committed to focus on increasing the number of high quality incubators across the country through our support and hopefully we will be able to extend our support to 7-8 more incubators across the country. Our focus is also on increasing the touch points with the community such that we increase awareness about 'innovation research' in

the community especially through focused themed Hackathons.

Mapping and sensing of the emerging biotech ecosystem across the country is important and we intend to extend the reach of our mapping through BIRAC Regional Innovation Centre (BRIC) to geographical areas such as Mumbai, Pune, Ahmedabad, Baroda and Bhubaneswar.

Our footprint across the nation has significantly increased and to provide greater emphasis on entrepreneurship development, we will create BIRAC Regional Entrepreneurship Centre (BREC) at C-CAMP, Bangalore.

Secondary Agriculture

Several potentially high impact technologies in terms of value added products from agriculture produce are presently at different stages of development and a coordinated effort could benefit the scale up of their production and dissemination. BIRAC is interested in accelerating the development of newer technologies and value added products from agro-produces, by-products and enhance professional expertise of Indian scientists and knowledge base in food processing, by-products utilization and biofuels. To take this forward, BIRAC is in the process of engaging institutes focusing on Secondary agriculture.

BIRAC proposes to develop a Secondary Agriculture Bio-cluster (SAB)/Bio-incubator with the aim of benefiting the district level small and medium enterprises. Two locations based on the need have been identified in the northern region of India for setting up of a bio-cluster and bio-incubator at Punjab and

Haryana respectively.

To achieve this, BIRAC intends to collaborate with Ministry of Food Processing Industries (MoFPI) and the initiative is expected to bring a quantum of change in the value added agriculture for the benefit of farmers.

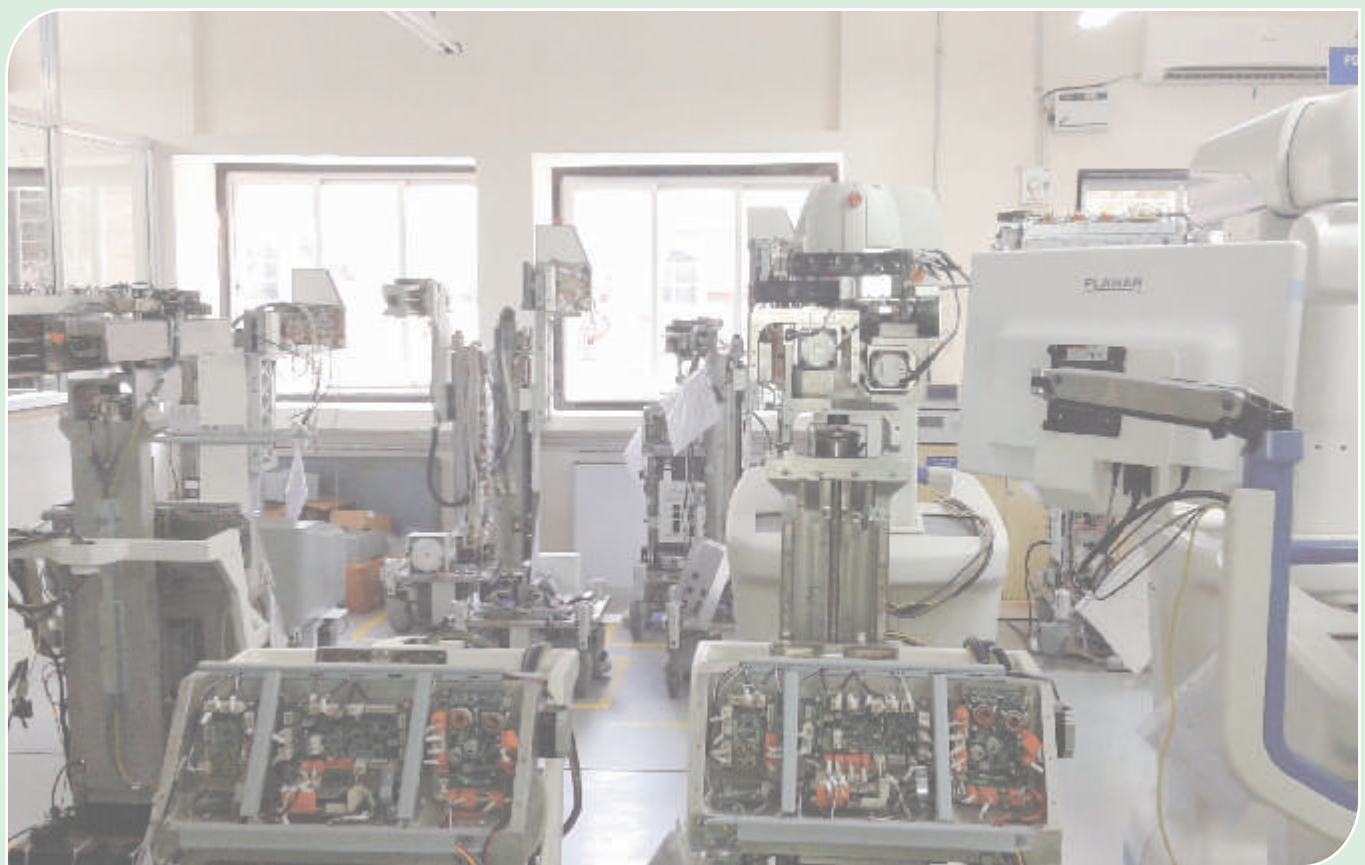
Agri Electronics

Agriculture in India is fast approaching a plateau in its growth curve as many of the benefits of green revolution like fertilisation, irrigation and seed selection have already been realised. Hence, a new impetus in the form of a technology intervention is needed to reboot the system of growth and development.

One such technology intervention to be considered is Agri Electronics, which is an emerging and multidisciplinary frontier of advanced research - a potential vehicle for digitisation of green revolution which will usher an era of engineering of new systems and e-devices for improvement in crop productivity, quality and value.

Considering Agri Electronics as a technology intervention to enable public private partnerships with cross disciplinary approach and align with government's broader initiative of 'MAKE IN INDIA' and BIRAC intends to take this initiative forward.

As we move forward, BIRAC will work towards strengthening its partnerships both National and Global. We will also deepen our support for the Innovation Ecosystem and expand our reach to broaden the ecosystem by including students, researchers, entrepreneurs and start-ups across the country and connecting them to the stakeholders.



Report on Corporate Governance



REPORT ON CORPORATE GOVERNANCE

1. BIRAC PHILOSOPHY ON GUIDELINES ON CORPORATE GOVERNANCE

Corporate Governance refers to the set of systems, principles and processes by which a company is governed. They provide the guidelines as to how the company can be directed or controlled such that it can fulfill its goals and objectives in a manner that adds to the value of the company and is also beneficial for all stakeholders in the long term. Stakeholders in this case would include everyone ranging from the board of directors, management, shareholders to customers, employees and society. BIRAC is committed to sound principles of Corporate Governance with respect to all its policies, practices and procedures. The Company's policy clearly reflects its values of transparency, professionalism and accountability. BIRAC constantly strives to uphold these values so as to generate long term economic value to all the stakeholders

2. BOARD OF DIRECTORS

The Board of Directors consists of seven directors viz. an Executive Chairman, an Executive Managing Director, 4 independent Directors and 1 Government Nominee director. Six board meetings of the Company were held on the following dates: June 26, 2015, August 19, 2015, November 17, 2015, December 10, 2015, January 21, 2016 and March 14, 2016

The details of Directors and Board meetings attended are as follows:

Name of the director	Category	Directorships in other companies	Member/Chairman of of Committees in other companies		Board Meetings attended (Nos.)	Attendance at last AGM
			Member	Chairman		
Prof. K. VijayRaghavan	Chairman (Executive)	3	NIL	NIL	6	Yes
Dr. Renu Swarup	Managing Director (Executive)	1	NIL	NIL	6	Yes
Dr. Ashok Jhunjhunwala	Independent Director	10	2	2	5	NA
Dr. Deepak Pental	Independent Director	NIL	NIL	NIL	6	NA
Dr. Dinakar Masanu Salunke	Independent Director	NIL	NIL	NIL	6	NA
Dr. Gagandeep Kang	Independent Director	1	NIL	NIL	3	NA
Dr. Mohd. Aslam	Government Nominee	1	NIL	NIL	6	NA

None of the Directors are members of more than 10 committees and or act as Chairman of more than 5 committees as prescribed under the Guidelines on Corporate Governance for Central Public Sector Enterprises (CPSEs) issued by the Department of Public Enterprises (DPE)

There are no pecuniary relationships or transactions of the non-executive directors of the Company.

3. AUDIT COMMITTEE

The Audit Committee consists of 3 directors, Prof. Ashok Jhunjhunwala, Dr. Dinakar Mashnu Salunke, who are independent and Dr. Renu Swarup, who is the Managing Director of the Company. Dr. Dinakar Salunke is the Chairman of the Committee. Four audit committee meetings were held during the year on the following dates: June 26, 2015, August 18, 2015, November 17, 2015 and March 14, 2016. The details of attendance of the directors at the Audit Committee meetings are as follows:

Name of the Director	No. of audit committee meetings attended
Dr. Dinakar Mashnu Salunke	4
Prof. Ashok Jhunjhunwala	4
Dr. Renu Swarup	4

The Company Secretary acts as the Secretary to the Committee.

4. BOARD PROCEDURE

The meeting of the board of directors are generally held at the Company's registered office in New Delhi. The Company complies with the statutory requirements for holding board meetings. Apart from the statutory matters requiring the Board's approval, all major decisions including financial results, actual operations, feedback reports and minutes of meetings are regularly placed before the Board.

5. SHAREHOLDER INFORMATION AS ON MARCH 31, 2016

Category Code	Category of shareholders	Total no. of shares	Total value of shares (in ₹)	Total Shareholding as a percentage of total number of shares
Shareholding of Promoter and Promoter Category	President of India	9000	90,00,000	100
	Dr. (Prof.) K. VijayRaghavan (held on behalf of President of India)	900	900000	
	Dr. Renu Swarup (held on behalf of President of India)	100	100000	
	GRAND TOTAL	10000	1,00,00,000	100

The Company received its International Securities Identification Number (ISIN) under the depository system on 13th April 2015.

6. GENERAL BODY MEETINGS

The details of the Annual General Meetings & Extraordinary General Meetings are as follows:

a) Annual General Meetings

Period ended on	Venue	Date	Time
31.03.2014	MTNL Building, 1st floor, 9 CGO Complex, Lodi Road, New Delhi - 110 003	30.09.2014	10.00 a.m.
31.03.2015	MTNL Building, 1st floor, 9 CGO Complex, Lodi Road, New Delhi - 110 003	09.09.2015	4.30 p.m.
31.03.2016	MTNL Building, 1st floor, 9 CGO Complex, Lodi Road, New Delhi - 110 003	20.09.2016	10:00 a.m.

No special resolutions had been passed at the last Annual General Meeting.

b) Extraordinary General Meetings (EGM)

Period ended on	Venue	Date	Time passed	Details of Special Resolutions
31.03.2016	2, CGO Complex, 7th Floor Lodhi Road, New Delhi -110003	28.03.2016	10.00 am	Approval of shareholders under section 186 of the Companies Act 2013

7. DISCLOSURES (AS PER DPE GUIDELINES)

- 1 Company has not entered into any material, financial or commercial transaction with the Directors or the management or their relatives in which they are either directly or through their relatives interested as directors and/or partners
- 2 The Company has complied with applicable rules and regulations and no penalties or strictures were imposed on the Company by any statutory authority during the last two years.
3. The Company has complied with the applicable provisions of the guidelines of Corporate Governance.
4. Department of Public Enterprises vide its OM dated 29.07.2010 advised all CPSEs to submit an annual compliance report on implementation of policies and guidelines issues by DPE by 30th June every year. In compliance to directives of DPE, BIRAC submitted its Compliance Report to Department of Biotechnology for onward transmission to DPE.
5. No item of expenditure was debited in the Books of Accounts which was not for the purpose of the organization.
6. No expenses of personal nature of the Members of the Board of Directors were incurred out of the funds of the Company.
- 7 BIRAC has in place a suitable Risk Management Policy

8. MEANS OF COMMUNICATION

Members/Shareholders are apprised about the performance of the Company at each Annual General Meeting. The Company is an unlisted, private limited Section 8 company and therefore, the need to communicate its quarterly or half-yearly results does not arise.

9. MEETING OF INDEPENDENT DIRECTORS

The meeting was held on March 14, 2016 and was attended by majority of the independent Directors

10. COMPLIANCE CERTIFICATE

In terms of Clause 8.2 of the DPE guidelines on Corporate Governance, a certificate from a practising Company Secretary, M/s. Neelam Gupta & Associates, New Delhi confirming the compliance with the provisions of Corporate Governance forms a part of the report on Corporate Governance

11. CODE OF CONDUCT

BIRAC is committed to conduct business in accordance with the highest standards of business ethics and compliance with the applicable laws, rules and regulations. A Code of Business Conduct & Ethics in accordance with the DPE Guidelines has been laid down for all the Board members and senior management.

All the members of the Board and senior management personnel have affirmed compliance with the same for the financial year 2015-16. The Code of Business Conduct & Ethics has also been put up on the website of the Company (www.birac.nic.in)

DECLARATION AS REQUIRED UNDER THE DPE GUIDELINES ON CORPORATE GOVERNANCE

“All the members of the Board and Senior Management Personnel have affirmed compliance of the **Code of Business Conduct & Ethics for Board Members and Senior Management** for the financial year ended on March 31, 2016”

Sd/-

Dr. Renu Swarup
Managing Director

Biotechnology Industry Research Assistance Council

CERTIFICATE OF COMPLIANCE OF CORPORATE GOVERNANCE AS PER THE GUIDELINES OF DEPARTMENT OF PUBLIC ENTERPRISES (DPE) BY A COMPANY SECRETARY IN WHOLE TIME PRACTICE.

To the members of Biotechnology Industry Research Assistance Council (BIRAC)

We have examined the compliance of the conditions of Corporate Governance by Biotechnology Industry Research Assistance Council ("the Company") for the year ended on March 31, 2016, as stipulated in the guidelines of Corporate Governance for Central Public Sector Enterprises (CPSEs) issued by Department of Public Enterprises (DPE) vide its order dated May 14, 2010.

The compliance of the conditions of Corporate Governance is the responsibility of the Management. Our examination was carried out in accordance with the provisions of the guidelines of DPE and limited to a review of the procedures and implementation thereof, adopted by the Company, for ensuring the compliance of the conditions of Corporate Governance. It is neither an audit nor an expression of opinion of the financial statement of the Corporation.

In our opinion and to the best of our information and according to the explanations given to us, and according to the records and documents maintained by the Company, we certify that the Company has complied with the conditions of Corporate Governance, as stipulated in the guidelines of DPE.

We further state that such compliance is neither an assurance as to the future viability of the Company nor the efficiency or effectiveness with which the management has conducted the affairs of the Company.

For Neelam Gupta & Associates
Company Secretaries

(Neelam Gupta)
Practicing Company Secretary

Date: July 20, 2016
Place: New Delhi

Proprietor
PCS 6950

Auditors' Report & Annual Accounts



SAMPRK & ASSOCIATES CHARTERED ACCOUNTANTS

INDEPENDENT AUDITOR'S REPORT

To The Members of
BIOTECHNOLOGY INDUSTRY RESEARCH ASSISTANCE COUNCIL

Report on the Financial Statements

We have audited the accompanying financial statements of BIOTECHNOLOGY INDUSTRY RESEARCH ASSISTANCE COUNCIL ("the Company"), which comprise the Balance Sheet as at March 31, 2016, the statement of Profit and loss accounts, the Cash Flow Statement for Year ended 31 March, 2016, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

The Company's Board of Directors is responsible for the matters stated in Section 134(5) of the Companies Act, 2013 ("the Act") with respect to preparation and presentation of these financial statements that give a true and fair view of financial position, financial performance and Cash Flows of the company in accordance with the accounting principles generally accepted in India including the Accounting Standard specified under section 133 of the Act, read with rule 7 of the Companies (Accounts) Rules, 2014. The responsibility also includes maintenance of adequate accounting records in accordance with the provision of Act for safeguarding the Assets of the Company and for preventing and detecting frauds and other irregularities: selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of accounting standard, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatements, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We have taken into account the provisions of the Act and the Rules made there under including the accounting standards and matters which are required to be included in the audit report.

We have conducted our audit in accordance with the Standards on Auditing specified under section 143(10) of the Act and other applicable authoritative pronouncements issued by the Institute of Chartered Accountants of India. Those Standards and pronouncements require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Company's preparation of the financial

statements that give a true and fair view, in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates ' made by the Company's Directors, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

- a) In our opinion and to the best of our information and according to the explanations given to us, the financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India of the state of affairs of the Company as on 31st March 2016, its Income and Expenditure Account and its Cash Flow Statement for the year ended on that date.

Report on Other Legal and Regulatory Requirements

1. As required by the Companies (Auditor's Report) Order 2016, issued by the Central Government of India in terms of sub-section (11) of Section 143 of the Act, are not applicable.
2. As required by Section 143(3) of the Act, we report that:
 - a) we have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;
 - b) in our opinion proper books of account as required by law have been kept by the Company so far as appears from our examination of those books;
 - c) the Balance Sheet, Statement of Income and Expenditure and Cash Flow Statement Account dealt with by this Report are in agreement with the books of account;
 - d) In our opinion, the Balance Sheet, Statement of Income and Expenditure Account, comply with the Accounting Standards specified under section 133 of the Act, read with Rule 7 of the Companies (Accounts) Rules 2014);
 - e) With respect to adequacy of the internal financial controls over financial reporting of the Company and the operating effectiveness of such controls, refer to our separate Report in "Annexure "A";
 - f) With respect to the other matter to be included in the Auditor's Report in accordance with Rule 11 of the Companies (Audit and Auditors) Rules, 2014, in our opinion and to the best of our information and according to the explanations give to us:
 - 1) The Company does not have any pending litigation which would impact its financial position
 - 2) The Company did not have any long-term contracts including derivatives contracts or which there were any material foreseeable losses.

Further as per the direction of Comptroller and Auditor General of India we are reporting on the points as asked for u/s 143(5) as given below:-

Biotechnology Industry Research Assistance Council

S.No.	Directions u/s 143(5)	Reply
1	Whether the company has clear title /lease deeds for freehold and lease hold land respectively? If not please state the area of freehold and leasehold land for which title/lease deeds are not available.	Not Applicable
2.	Whether there are any cases of waiver / write off of debts/loans/interest etc., if yes, the reasons there for and the amount involved	Yes. Waiver of additional interest amounting to Rs. 37.41 Lakhs have been approved vide involved. Board resolution dated 14.3.2016 on reschedulement of two loan during the financial year 2015-16. The reason for waiver of additional interest and reschedulement has been attributed to the fact that the companies struggled hard to commercialise product.
3.	Whether proper records are maintained for inventories lying with third parties & assets received as gift/ grant(s) from Government or other authorities.	Not Applicable

For **SAMPRK & ASSOCIATES**
Chartered Accountants
Firm Registration No. 013022N

Sd/-
CA. Pankaj Sharma
Partner
Membership No. 093446

Place: New Delhi
Dated: 09/06/2016

Office:-102-03/106/302, Neelkanth House, S-524, School Block, Shakarpur, Delhi-110092
Phone: 011-22481918, 22483689, Mobile: 9810955575, 9212343336, 9891745705
Email: sharmapanjul@gmail.com/sharmapanjul@rediffmail.com
Adm Office: 302, 3rd Floor, Neelkanth House, S-524, School Block, Shakarpur, Delhi - 110092

SAMPRK & ASSOCIATES CHARTERED ACCOUNTANTS

Annexure-A to the Independent Auditor's Report, Report on the Internal Financial Controls

We have audited the internal financial controls over financial reporting of **BIOTECHNOLOGY INDUSTRY RESEARCH ASSISTANCE COUNCIL** ("the Company") as of March 31, 2016 in conjunction with our audit of the financial statements of the Company for the year ended on that date.

Management's Responsibility for Internal Financial Controls

The Company's management is responsible for establishing and maintaining internal financial controls based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls over Financial Reporting issued by the Institute of Chartered Accountants of India. These responsibilities include the design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the orderly and efficient conduct of its business, including adherence to company's policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records, and the timely preparation of reliable financial information, as required under the Companies Act, 2013.

Auditors' Responsibility

Our responsibility is to express an opinion on the Company's internal financial controls over financial reporting based on our audit. We conducted our audit in accordance with the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting (the "Guidance Note") and the Standards on Auditing, issued by ICAI and deemed to be prescribed under section 143(10) of the Companies Act, 2013, to the extent applicable to an audit of internal financial controls, both applicable to an audit of Internal Financial Controls and, both issued by the Institute of Chartered Accountants of India. Those Standards and the Guidance Note require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether adequate internal financial controls over financial reporting was established and maintained and if such controls operated effectively in all material respects.

Our audit involves performing procedures to obtain audit evidence about the adequacy of the internal financial controls system over financial reporting and their operating effectiveness. Our audit of internal financial controls over financial reporting included obtaining an understanding of internal financial controls over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the Company's internal financial controls system over financial reporting.

Meaning of Internal Financial Controls Over Financial Reporting

A company's internal financial control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal financial control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Inherent Limitations of Internal Financial Controls over Financial Reporting

Because of the inherent limitations of internal financial controls over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of the internal financial controls over financial reporting to future periods are subject to the risk that the internal financial control over financial reporting may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

In our opinion, the Company has, in all material respects, an adequate internal financial controls system over financial reporting and such internal financial controls over financial reporting were operating effectively as at March 31, 2016, based on the internal control over financial reporting criteria established by the Company considering the essential components of internal control stated in the Guidance Note on Audit of Internal Financial Controls Over Financial Reporting issued by the Institute of Chartered Accountants of India.

For **SAMPRK & ASSOCIATES**
Chartered Accountants
Firm Registration No. 013022N

Sd/-
CA. Pankaj Sharma
Partner
Membership No. 093446

Place: New Delhi
Dated: 09/06/2016

Office:-102-03/106/302, Neelkanth House, S-524, School Block, Shakarpur, Delhi-110092
Phone: 011-22481918, 22483689, Mobile: 9810955575, 9212343336, 9891745705
Email: sharmapanjul@gmail.com/sharmapanjul@rediffmail.com
Adm Office: 302, 3rd Floor, Neelkanth House, S-524, School Block, Shakarpur, Delhi - 110092

Biotechnology Industry Research Assistance Council (BIRAC)			
Balance Sheet As at 31st March, 2016			
(Amount in ₹)			
Particulars	Note No.	As at 31.03.2016	As at 31.03.2015
I EQUITY AND LIABILITIES			
(1) Shareholder's Funds			
(a) Share Capital	1	1,00,00,000	1,00,00,000
(b) Reserves and Surplus	2	2,63,88,26,682	2,72,93,40,718
CURRENT LIABILITIES			
Current Liabilities	3	18,42,40,193	22,65,11,051
TOTAL		2,83,30,66,875	2,96,58,51,769
II ASSETS			
(1) Non-Current Assets			
Fixed Assets	4		
(a) Tangible Assets		1,76,58,318	2,40,10,521
(b) Intangible Assets		6,989	51,135
Long-Term Loans and Advances	5	1,83,73,26,651	2,06,72,86,658
Current Assets			
(a) Cash and Cash Equivalents	6	39,78,99,480	31,77,35,589
(b) Other Current Assets	7	58,01,75,437	55,67,67,865
TOTAL		2,83,30,66,875	2,96,58,51,769
Significant Accounting Policies and the accompanying Notes to Accounts	13 & 14		

For and on behalf of Board of Directors

Kavita Anandani
(Company Secretary)

Renu Swarup
(Managing Director)
Din No. 01264943

K. VijayRaghavan
(Chairman)
Din No. 02721859

Auditors Report
As per our report of even date attached
Sd/-
For SAMPRK & Associates
Chartered Accountants
Firm Reg.No. 013022N

CA. Pankaj Sharma
(Partner)
Membership No.093446

Place : New Delhi
Date : 09/06/2016

Biotechnology Industry Research Assistance Council

Biotechnology Industry Research Assistance Council (BIRAC)				
STATEMENT OF INCOME & EXPENDITURE FOR THE PERIOD ENDED 31st MARCH, 2016				
(Amount in ₹)				
Particulars	Note No.	For the Year ended 31.03.2016	For the Year ended 31.03.2015	
(1) INCOME:				
Grants Received as Utilised	8	91,04,28,612	74,83,45,941	
Other Income	9	2,81,45,121	1,16,24,247	
Total Revenue (A)		93,85,73,733	75,99,70,188	
(2) EXPENDITURE:				
Programme Expenditure	10	80,13,54,655	63,19,14,165	
Employee Benefit Expenses	11	3,70,03,633	2,77,28,579	
Depreciation & Amortisation Expenses	4	68,97,626	49,31,239	
Other Expenses	12	6,65,20,178	8,73,32,223	
Total Expenses (B)		91,17,76,092	75,19,06,206	
(3) Surplus of Income over Expenditure before exceptional and extraordinary items C=(A-B)		2,67,97,640	80,63,982	
(4) Add/Less: Prior Period Income expenditure (net) (D)		(8,89,661)	36,693	
(5) Surplus before extraordinary items (E = C+D)		2,59,07,979	81,00,675	
(6) Extraordinary Items (F)		-	-	
(7) Income Before Tax (G = E-F)		2,59,07,979	81,00,675	
Add: Depreciation adjusted from Capital Reserve		68,97,626	60,27,983	
		3,28,05,605	1,41,28,658	
Less: Provision for Income Tax		-	-	
Surplus for the Year Carried Forward to Reserve & Surplus A/c		3,28,05,605	1,41,28,658	
Earnings per equity share:				
(1) Basic		3,281	1,413	
(2) Diluted		3,281	1,413	
Significant Accounting Policies and the accompanying Notes to Account	13 & 14			

For and on behalf of Board of Directors

Kavita Anandani
(Company Secretary)

Renu Swarup
(Managing Director)
Din No. 01264943

K. VijayRaghavan
(Chairman)
Din No. 02721859

Auditors Report

As per our report of even date attached

Sd/-

For SAMPRK & Associates

Chartered Accountants

Firm Reg.No. 013022N

CA. Pankaj Sharma

(Partner)

Membership No.093446

Place : New Delhi

Date : 09/06/2016

Biotechnology Industry Research Assistance Council (BIRAC)		
Cash Flow Statement for the Year Ended March 31, 2016		
	(Amount in ₹)	
Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
Cash Flow from Operating Activities:		
Net Surplus as per Income & Expenditure Account	2,59,07,979	80,63,982
Adjustments for :		
Depreciation	68,97,626	49,31,239
Management Expenses - BMGF	(1,95,216)	(11,86,786)
Foreign Exchange Fluctuation	(3,23,922)	(37,707)
Interest Income	(2,05,54,944)	(1,03,69,398)
	(1,41,76,456)	(66,62,652)
Increase/ (Decrease) in Provisions & Payables	14,39,49,386	73,12,666
Increase/ (Decrease) in Grant Utilisation	(4,56,23,086)	(5,24,05,048)
Increase/ (Decrease) in Long Term Liabilities	-	(64,436)
Increase In Capital Reserve (Non Recurring)	5,01,307	24,580,763
Fund Utilisation Towards I & M Sector (Net)	2,33,49,915	14,29,45,258
Provision for Sub-Standard Assets	(14,02,73,237)	-
(Increase)/ Decrease in Current Assets - Securities	-	17,06,073
(Increase)/ Decrease in Other Current Assets -Recoverable	(86,47,611)	3,18,60,894
Increase in Advances I & M Sector (Net)	7,51,22,026	(8,81,39,480)
	4,83,78,700	6,77,96,690
Cash Generated from / (used in) Operations	6,01,10,223	6,91,98,020
Income Tax Refund / (Paid)	-	-
Net Cash from (Used in) Operating Activities (A)	6,01,10,223	6,91,98,020
Cash Flow From/ (Used In) Investing Activities:		
Purchase of Fixed Assets	(5,01,277)	(2,45,80,763)
Net Cash from (Used in) Fixed Assets (B)	(5,01,277)	(2,45,80,763)
Cash Flow From/ (Used In) Financing Activities:		
Interest	2,05,54,944	1,03,69,398
Net Cash from (Used in) Financing Activities (C)	2,05,54,944	1,03,69,398
Net Increase in Cash and Cash Equivalents D=(A+B+C)	8,01,63,890	5,49,86,655
Cash and Cash Equivalent at beginning of the year (E)	31,77,35,589	26,27,48,934
Cash and Cash Equivalent at end of the year F=(D+E)	39,78,99,480	31,77,35,589

For and on behalf of Board of Directors

Kavita Anandani
(Company Secretary)

Renu Swarup
(Managing Director)
Din No. 01264943

K. VijayRaghavan
(Chairman)
Din No. 02721859

Auditors Report
As per our report of even date attached
For SAMPRK & Associates
Chartered Accountants
Firm Reg.No. 013022N

CA. Pankaj Sharma
(Partner)
Membership No.093446

Place : New Delhi
Date : 09/06/2016

Biotechnology Industry Research Assistance Council

Biotechnology Industry Research Assistance Council (BIRAC)

Notes to Financial Statements

1.Share Capital

(Amount in ₹)

Particulars	As at 31.03.2016	As at 31.03.2015
A. Authorised		
10,000 (10,000) Equity shares of ₹ 1000/-each	1,00,00,000	1,00,00,000
B. Issued,Subscribed & Fully paid		
10,000 (10,000) Equity shares of ₹ 1000/-Each fully paid up	1,00,00,000	1,00,00,000
Subscribed but not fully paid	Nil	Nil
TOTAL	1,00,00,000	1,00,00,000

C. Reconciliation of Number of Shares

Particulars	As at 31.03.2016 No of shares	As at 31.03.2015 No of shares
Number of equity shares at the beginning	10,000	10,000
Add: Equity shares issued during the year	-	-
Number of equity shares at the end (closing balance)	10,000	10,000

D. Details of Shareholder's holding more than 5% in equity shares of the company

Name of Shareholder	As at 31.03.2016		As at 31.03.2015	
	No. of fully paid up shares	% of shares held	No. of fully paid up shares	% of shares held
President of India	9,000	90%	9,000	90%
Dr. (Prof.) K VijayRaghavan (held on behalf of President of India)	900	9%	900	9%
Dr. Renu Swarup (held on behalf of President of India)	100	1%	100	1%
TOTAL	10,000	100%	10,000	100%

E. Other details and Rights

- The company has only one class of equity shares issued at par value of Rs.1000 each.
- Each Equity shareholder has right to one vote per share
- The shares do not have dividend rights
- Shares carry no distribution right in the event of liquidation

2. Reserves and Surplus		(Amount in ₹)
Particulars	As at 31.03.2016	As at 31.03.2015
I. Capital Reserve		
BIRAC Fund (Non Recurring)		
Opening Balance	2,40,61,626	55,08,846
Add: On Account of Capital Expenditure during the year	5,01,307	2,45,80,763
	2,45,62,933	3,00,89,609
Less: Depreciation on Capital Expenditure (Refer Note No.4.1)	68,97,626	60,27,983
(A)	1,76,65,307	2,40,61,626
II. Other Reserves		
(A) Pre-BIRAC Funding by DBT		
Pre-BIRAC Unrealised Portfolio*	1,97,46,19,548	2,26,90,07,696
Less: Rectification due to excess application of accrued interest in earlier years	-	64,436
(B) Funds Utilised for Loans under I&M Sector after 31/03/2014(#)	54,10,57,083	32,18,55,395
	2,51,56,76,631	2,59,07,98,655
Less: Provision for Sub-Standard	14,02,73,237	-
	2,37,54,03,394	2,59,07,98,655
Pre-BIRAC Portfolio Realised	56,17,16,240	26,73,92,527
Less: Funds Utilised towards BIRAC, I & M, Programme	37,47,61,910	17,89,10,137
	2,56,23,57,724	2,67,92,81,046
Add: Adjustment on account of excess fund utilised during the previous year	2,22,23,359	-
(B)	2,58,45,81,083	2,67,92,81,046
(C) General Reserve Surplus		
Opening Balance	2,59,98,046	1,18,69,388
Appropriation		
Less: Adjustment on account of excess fund utilised during the previous year	2,22,23,359	-
Add: Transfer from Statement of Income & Expenditure	3,28,05,605	1,41,28,658
(C)	3,65,80,292	2,59,98,046
TOTAL (A+B+C)	2,63,88,26,682	2,72,93,40,718

* DBT portfolio taken in account by BIRAC from BCIL as on 31/03/2014 vide DBT Transfer order dated 25th September 2012 and as per Board Approval dated 17th December, 2013.

(#) Includes Accrued Interest not yet realisable.

Biotechnology Industry Research Assistance Council

3. Current Liabilities (*)		(Amount in ₹)
Particulars	As at 31.03.2016	As at 31.03.2015
Unutilised grant (DBT/ Wellcome Trust Programme)	12,59,44,696	11,69,11,122
Unutilised grant (DBT-BMGF PMU)	1,43,44,115	5,33,00,246
Unutilised grant (DeitY (IIPME))	1,80,45,600	3,50,00,000
Unutilised grant (Make in India Facilitation Cell)	4,83,871	-
Unutilised grant (Bio-toilets in schools from North East Region)	7,70,000	-
	15,95,88,282	20,52,11,368
Other Payables		
Statutory Liabilities	20,22,114	9,48,918
Liability under DBT-BMGF-PMU	99,27,152	60,10,350
Liability under DBT- Wellcome Trust	27,18,799	27,18,799
Creditors for Expenses	99,83,846	1,16,21,616
	2,46,51,911	2,12,99,683
TOTAL	18,42,40,193	22,65,11,051

(*) Refer Notes 14.13 and 14.16

4. Schedule of Fixed Assets									
Particulars Asset Description	Gross Block			Depreciation			Net Block		
	As at 1-Apr-2015	Addition 2015-16	Sales/ Adjustments 2015-16	As at 31-Mar-2016	As at 1-Apr-2015	For the Year 2015-16	Adjustments 2015-16	As at 31-Mar-2016	WDV as at 31-Mar-2016
Tangible Assets									
Furniture & Fixtures	2,60,59,325	1,38,048	-	2,61,97,373	33,91,385	59,02,150	-	92,93,535	1,69,03,838
Office Equipment	2,37,793	26,380	11,380	2,52,793	84,271	74,627	-	1,58,898	93,895
Computers	30,66,502	3,58,379	10,150	34,14,731	18,77,443	8,76,703	-	27,54,146	6,60,585
Total Tangible Assets	2,93,63,620	5,22,807	21,530	2,98,64,897	53,53,099	68,53,480	-	1,22,06,579	1,76,58,318
Intangible Assets	7,26,019	1,09,950	1,09,950	7,26,019	6,74,884	44,146	-	7,19,030	6,989
Total Intangible Assets	7,26,019	1,09,950	1,09,950	7,26,019	6,74,884	44,146	-	7,19,030	6,989
Total	3,00,89,639	6,32,757	1,31,480	3,05,90,916	60,27,983	68,97,626	-	1,29,25,609	1,76,65,307
Previous Year Figures	55,08,876	3,13,29,208	67,48,445	3,00,89,639	10,96,744	49,31,239	-	60,27,983	2,40,61,656
									44,12,132

Biotechnology Industry Research Assistance Council

5. Long Term Loans & Advances

(Amount in ₹)

Particulars	As at 31.03.2016	As at 31.03.2015
Security Deposits - MTNL Premises	94,08,300	94,08,300
Security Deposit - BCIL	6,74,242	6,74,242
Long Term Loans and Advances (Secured against Bank Guarantee/ Hypothecation / Personal Guarantee) *		
Loans Portfolio (Including Interest on Loan Accounts (I&M)- Not yet realisable)#	2,51,55,91,600	2,59,07,13,625
Less: Current portion of Long Term Loans & advances reflected under Current assets (\$) (Refer Note No 7)	54,80,74,254	53,35,09,509
	1,96,75,17,346	2,05,72,04,116
Less: Provision for Sub-Standard Assets (Refer Note No 14.4)	14,02,73,237	-
	1,82,72,44,109	2,05,72,04,116
TOTAL	1,83,73,26,651	2,06,72,86,658

* Refer 14.3 for classification of asset.

Interest not yet realisable amounting to Rs. 14,11,35,617/- upto 31.03.16. (Previous year Rs. 14,37,89,512/-)

(§) The current portion of Long term Loans & Advances of Rs. **54,80,74,254/-** includes the overdues as per Note no. 14.4 of Notes to Accounts.

6. Cash & Cash Equivalents

Particulars	As at 31.03.2016	As at 31.03.2015
Cash in Hand	16,138	14,330
<u>Balances with Banks:</u>		
Corporation Bank (BIRAC)	1,11,21,601	1,68,15,585
State Bank of Hyderabad (I & M)	1,26,79,652	2,18,50,891
State Bank of Hyderabad - FD	22,66,20,105	10,51,81,873
State Bank of Hyderabad - (DBT / Wellcome Trust)	11,50,961	11,06,097
State Bank of Hyderabad - FD (DBT / Wellcome Trust)	12,22,61,893	11,34,56,217
State Bank of Hyderabad - (DBT / BMGF PMU)	2,40,49,130	5,93,10,596
TOTAL	39,78,99,480	31,77,35,589

7. Other Current Assets

(Amount in ₹)

Particulars	As at 31.03.2016	As at 31.03.2015
Current Portion of Long Term Loans and Advances: (Secured against Bank Guarantee/Hypothecation/ Personal Guarantee - Considered Good)	54,80,74,254	53,35,09,509
Other Assets:		
(Unsecured - Considered Good)		
Accrued Interest-FD & Saving Account (I&M, DBT / Wellcome Trust)	78,11,985	46,70,034
Recoverable from Government Agencies (Tax Credit)	64,93,201	25,61,033
Prepaid Expenses	20,15,619	31,95,769
Recoverable from BCIL	37,30,807	37,30,807
Recoverable from DBT - BMGF Fund	93,24,583	58,88,066
Recoverable from DBT - Wellcome Trust Fund	27,18,799	27,18,799
Other advances Recoverable	6,189	4,93,848
TOTAL	58,01,75,437	55,67,67,865

8. Income

(Amount in ₹)

Grants Received as Utilised	For the Year ended 31.03.2016	For the Year ended 31.03.2015
<u>I & M Schemes:</u>		
- Biotechnology Industry Partnership Programme	17,65,00,082	15,07,86,019
- Bio Incubator Support Scheme	18,32,20,328	10,40,58,042
- Small Business Innovation Research Initiative	6,97,87,248	6,73,21,676
- Biotechnology Ignition Grant	20,71,58,709	14,90,32,201
- Contract Research Scheme	7,08,69,265	5,45,99,401
- Early Translational Accelerator	-	62,06,292
- University Innovation Cluster	1,37,487	3,94,84,942
BIRAC Activities	9,37,08,183	6,03,98,946
Manpower Expenses	3,70,03,633	2,77,28,579
Recurring Expenses	6,74,09,839	8,73,32,223
Refund of Unspent Grant and Additional Interest - (I&M)	46,33,838	13,97,621
TOTAL	91,04,28,612	74,83,45,941

(*) Refer Notes 14.13 & 14.16

Biotechnology Industry Research Assistance Council

9. Other Income

(Amount in ₹)

Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
Interest Received - Bank Accounts	2,28,10,253	1,03,82,600
Management Expenses - BMGF	1,95,216	11,86,786
Foreign Exchange Fluctuation	3,23,922	37,707
Miscellaneous Income	48,15,730	17,154
TOTAL	2,81,45,121	1,16,24,247

10. Programme Expenditure (*)

(Amount in ₹)

Particulars	For the ear ended 31.03.2016	For the Year ended 31.03.2015
<u>GRANTS DISBURSED (I&M Sector)</u>		
Biotechnology Industry Partnership Programme (BIPP)	15,81,04,119	12,97,06,000
Small Business Innovation Research Initiative (SBIRI)	6,06,54,856	5,77,60,516
Bio Incubators Support Scheme (BISS)	18,04,65,000	10,30,13,000
Biotech Ignition Grants - (BIG)	20,00,00,000	14,22,00,000
University Innovation Cluster - (UIC)	-	3,81,00,000
Early Translational Accelerator (ETA)	-	62,04,000
Contract Research Scheme - (CRS)	6,59,40,400	5,04,98,900
Total Grants Disbursed (A)	66,51,64,375	52,74,82,416
<u>ACTIVITIES (BIRAC)</u>		
Partnership Programmes	4,86,08,039	2,57,80,605
Capacity Building	41,26,684	69,30,944
Technology Transfer & Acquisition	2,63,58,145	1,06,63,904
Intellectual Property Services	23,98,130	1,06,32,030
Entrepreneurial Development / Regional Centre	1,22,17,185	63,91,463
Total Activities (B)	9,37,08,183	6,03,98,946
<u>Programme Expenditure</u>		
(Operational expenditure on Advertisement, Meeting and PMC)		
I&M Sector	4,24,82,097	4,40,32,803
Total Programme Expenditure (C)	4,24,82,097	4,40,32,803
Total (A+B+C)	80,13,54,655	63,19,14,165

(*) Refer Note 14.14

10A. Programme Management Unit DBT & BMGF
(Amount in ₹)

Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
Programme Expenditure (GCI)	13,38,05,923	1,94,36,000
Operational Expenditure	2,04,63,034	2,69,18,927
Operational Non Recurring Expenditure	2,82,080	67,64,645
(A)	15,45,51,037	5,31,19,572
<u>Less:</u>		
Programme Funds from DBT (GCI)	1,65,68,915	88,98,000
Programme Funds from BMGF (GCI)	6,79,42,239	88,99,000
Programme Funds from US AID (GCI)	4,92,94,769	16,39,000
(B)	13,38,05,923	1,94,36,000
<u>Less:</u>		
Operational Fund from DBT	51,14,000	91,18,701
Operational Non Recurring Fund from DBT	1,31,480	22,48,445
Operational Fund from BMGF	1,53,49,034	1,78,00,226
Operational Non Recurring Fund from BMGF	1,50,600	45,16,200
(C)	2,07,45,114	3,36,83,572
(Refer to Note : 14.14.3)	(A-B-C)	-

10B. Programme Management Unit BIRAC & DeitY
(Amount in ₹)

Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
Programme Expenditure	1,39,54,400	-
Operational Expenditure	30,00,000	-
(A)	1,69,54,400	
<u>Less:</u>		
Programme Funds from DeitY	1,39,54,400	-
(B)	1,39,54,400	-
<u>Less:</u>		
Operational Fund from DeitY	30,00,000	-
(C)	30,00,000	-
(Refer to Note : 14.14.5)	(A-B-C)	-

10C. Programme Management Unit BIRAC & Make In India
(Amount in ₹)

Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
Programme Expenditure	-	-
Operational Expenditure	17,16,129	-
(A)	17,16,129	
<u>Less:</u>		
Programme Funds from Make in India	-	-
(B)	-	-
<u>Less:</u>		
Operational Fund from Make in India	17,16,129	-
(C)	17,16,129	-
(Refer to Note : 14.14.6)	(A-B-C)	-

Biotechnology Industry Research Assistance Council

10D. Programme Management Unit BIRAC & Biotoilets in Schools from NER (Amount in ₹)

Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
Programme Expenditure	1,20,30,000	-
Operational Expenditure	19,10,000	-
(A)	1,39,40,000	
Less:		
Programme Funds from Biotoilets in NER School	1,20,30,000	-
(B)	1,20,30,000	-
Less:		
Operational Fund from Biotoilets in NER School	19,10,000	-
(C)	19,10,000	-
(Refer to Note: 14.14.7) (A-B-C)	-	-

11. Employees Benefit Expenses (Amount in ₹)

Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
Salary & Allowances to Staff	3,50,31,053	2,60,81,444
Employer's Contribution to Provident Fund	19,72,580	16,47,135
TOTAL	3,70,03,633	2,77,28,579

12. Other Expenses (Amount in ₹)

Particulars	For the Year ended 31.03.2016	For the Year ended 31.03.2015
(A) Rent	3,59,63,260	4,54,41,910
(B) Advertisement & Publication	43,69,792	19,05,356
(C) Journal & Subscription	67,79,918	1,95,25,809
(D) Meetings:		
Meetings & Conferences	39,44,723	53,77,544
Sitting Fees & TA and DA	5,58,972	6,87,801
(E) Office and Administration Expenditure:		
Travel	38,31,841	45,38,675
Office Expenses	42,80,655	33,06,367
AMC Computer	7,78,394	5,14,180
Legal & Professional	9,28,104	16,53,828
Postage & Telephone Expenses	6,30,948	4,99,699
Power & Electricity	18,10,691	19,19,464
Printing & Stationery	1,59,941	2,81,636
Internet Expenses	16,85,489	10,72,333
(F) Training Expenses	6,17,194	3,52,271
(G) Statutory Audit Fees	1,48,203	1,41,349
(H) Miscellaneous Expenses	32,054	1,14,002
TOTAL	6,65,20,178	8,73,32,223

Refer Notes: 14.16 List of Abbreviations used in Financial Statement:

13. **Significant Accounting Policies:**

1. **Corporate Information :**

Biotechnology Industry Research Assistance Council (BIRAC) “the Company” is a Section 25 “Not-for-Profit Company” incorporated under the provisions of the Companies Act 1956 (Section 8 under the Companies Act 2013), having CIN U73100D12012NP1233152 dated 20th March 2012. BIRAC is also registered under Section 12A of the Income Tax Act 1961. The Company is engaged in nurturing, promoting and mentoring Research and Development in Biotech Sector.

2. **Basis of Preparation of Financial Statements:**

The Financial Statements of the Company are prepared in accordance with Generally Accepted Accounting Principles in India (Indian GAAP). These are in compliance, in all material respects, with the Accounting Standards notified under the Companies (Accounting Standards) Rules, 2006, (as amended) and the relevant provisions of the Companies Act 2013. The Financial Statements are prepared on accrual basis and under the historical cost convention.

Preparation of Financial Statement requires the Management to make estimates and assumptions in regard to the reported amount of assets, liabilities, expenses and income of the reporting period. The estimates used in preparation of the Financial Statement are prudent and reasonable. The difference between the actual results and estimates, if any, are recognised in the reporting period in which the results are known and / or materialised.

2.1 **Revenue Recognition**

i) Interest:

a) Interest on loan granted is recognised on a time proportion basis taking into account the amount outstanding and applicable rate of interest. Interest Accrued, not yet realizable during the year on loans under various schemes are shown under other Reserves. Additional interest on the delayed payment is recognised on receipt basis.

b) Interest against time deposits with banks are accounted on accrual basis.

ii) Royalty is recognised on accrual basis on acknowledgement of amount due by the beneficiary.

iii) Management Fee is recognised on accrual basis in accordance with the terms of the relevant agreement.

2.2 **Grants-in-Aid:**

Income by way of grants-in-aid has been recognised under Matching Principle of Accounting. All expenditure incurred out of the grants-in-aid, comprising of grants disbursed and other programmatic expenditure are matched with equal amount of income and adjusted against the grants- in -aid. Unspent balance of Grants- in -aid are carried forward as liability to be utilised in subsequent years.

The application of funds for disbursement of loans under different schemes is shown as Loans and Advances under Non-Current Assets. Loans disbursed during the year under different scheme are shown under other reserves as per Matching Principle of Accounting.

2.3 **Expenditure:**

All expenses are accounted for on accrual basis.

Funds released as grants-in-aid are treated as expenditure in the Income & Expenditure Account. Further, amount unutilised as per the Utilisation Certificates received on completion of the projects are accounted as Income.

2.4 Reserve & Surplus:

- a) Assets acquired are treated as Capital Reserve and amortised every year with depreciation charged.
- b) DBT portfolio taken in account by BIRAC from BCIL as on 31/03/2014 vide DBT Transfer order dated 25th September 2012 and approved by Board dated 17th December, 2013 is classified as "Other Reserves".
- c) Loans disbursed and interest accrued, but not realisable during the financial year has been shown under "Other Reserve".
- d) Loans which are past due as per the norms fixed for regulating the payment, are treated as Substandard and interest applied in the current year is reversed in such loan accounts. Further, provision for such substandard loans is adjusted from the balance under "Other Reserves"

2.5 Fixed Assets:

Fixed Assets are stated at cost, net of accumulated depreciation and accumulated impairment losses, if any. Gains or losses arising from disposal of fixed assets are measured as the difference between the net disposal proceeds and the carrying amount of the assets disposed of

2.6 Depreciation and Amortisation:

Depreciation on assets is provided on useful life basis on written down value method as prescribed under Schedule II to the Companies Act, 2013.

Depreciation on fixed assets added/disposed of during the year/period is provided on prorata basis with reference to the date of addition/disposal.

2.7 Intangible Assets:

Intangible assets acquired are measured separately at cost. Intangible assets are carried at cost less accumulated amortization and accumulated impairment losses, if any. Internally generated intangible assets are not capitalized and expensed off in the Statement of Income and Expenditure in the year in which the expenditure is incurred.

Intangible assets are amortized over a period of five years as per Accounting Standard - 26 as no useful life provided in Schedule II to the Companies Act, 2013.

2.8 Foreign Exchange Transactions/Translation:

Foreign currency transactions and balances: Foreign Currency Transfer is made as per the approved Government guidelines. For any contribution being received from foreign entities, the necessary approval is obtained under the Foreign Contribution (Regulation) Act, 2010.

- (i) **Initial Recognition:** Foreign currency transactions are recorded in the reporting currency by applying the exchange rate between the reporting currency and the foreign currency at the date of the transaction.

- (ii) **Conversion:** Foreign Currency monetary items are retranslated using the exchange rate prevailing at the reporting date.
- (iii) **Exchange Difference:** Exchange differences arising on long-term foreign currency monetary items related to acquisition of a fixed asset are capitalized and depreciated over the remaining useful life of the asset. The exchange differences on other foreign currency monetary items are accumulated in 'Foreign Currency Monetary Item Translation Difference Account' and amortized over the remaining life of the concerned monetary item.

All other exchange differences are recognized as income or as expenses in the period in which they arise.

2.9 Employees Benefits:

- a) All the employees of the Company are on contractual basis. Provision of Employer's contribution is made as per the provisions of Employees Provident Fund Act, 1952.
- b) Gratuity to employees shall be accounted as and when it becomes due.

2.10 Provisions & Contingent Liabilities

- a) Funds sanctioned and yet to be released till the reporting period due to timing difference of milestone are not taken as liability, these are accounted as expenses on actual release of payment.
- b) Provisioning on substandard Asset has been provided as per the approved classification of asset based on recoverability.
- d) A provision is recognized when the company has present obligations as a result of past event. It is probable that an outflow of resources embodying economic benefits will be required to settle the obligations and reliable estimate can be made of amount of the obligation. Provisions are not discounted at their present value and are determined based on the best estimate required to settle the obligation at the reporting date. These estimates are reviewed at each reporting date and adjusted to reflect the current best estimates.

2.11 Earning Per Share:

The company is a section 8 "Not for Profit Company". It does not generate any income/revenue from its activities. It does not distribute any dividend to its shareholders. However for the compliance of AS-20 the company has computed EPS as under:

- a) Basic earnings per share are calculated by dividing the net income or loss for the period attributable to equity shareholders by weighted average number of equity shares outstanding during the period.
- b) For the purpose of calculating diluted earnings per share, the net profit or loss for the period attributable to equity shareholders and the weighted average number of shares outstanding during the period are adjusted for the effects of all diluting potential equity shares.

Biotechnology Industry Research Assistance Council

14. Notes to Accounts for the period ended March 31, 2016

14.1 Biotechnology Industry Research Assistance Council(BIRAC) receives funds from Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India by way of grant-in-aid for its operation.

14.2 During the current financial year BIRAC disbursed 84.77 Crores in various schemes under I&M Sector & Rs. 9.37 crores under BIRAC Activities. Disbursement under I&M Sector includes an amount of Rs. 18.25 Crores disbursed as loans under BIPP & SBIRI scheme.

Table I

(Amount in Rs. lacs)

I&M Sector Scheme	Disbursement For the year 2015-16	Disbursement For the year 2014-15
Biotechnology Industry Partnership Programme (BIPP)	3,056.87	3,660.49
Small Business Innovation Research Initiatives (SBIRI)	956.12	954.37
Bio-Incubators support Scheme (BISS)	1,804.65	1,03,013
Biotech Ignition Grant (BIG)	2,000.00	1,422.00
University Innovation Cluster (UIC)	-	381.00
Early Translational Accelerator (ETA)	-	62.04
Contract Research Scheme (CRS)	659.40	504.99
Total	8,477.04	8,015.02
BIRAC ACTIVITIES		
Partnership Program	486.08	257.81
Capacity Building & Awareness	41.27	69.31
Technology Transfer / Acquisition	263.58	106.63
IP Services	23.98	106.32
Entrepreneurial Development / Regional Centres	122.17	63.91
Total	937.08	603.98

14.3 As on 31.03.2016, the details of the loan portfolio under the schemes designated as BIPP & SBIRI under I & M Sector, classified in four categories as approved by Board are as under:

Table II

Particulars	Standard Assets	Standard Assets- Rescheduled	Sub Standard Assets	Doubtful Assets	Total
Loans & Advances	1,73,56,50,447	21,88,48,208	56,10,92,946	-	2,51,55,91,600
Provisions	-	-	14,02,73,236	-	14,02,73,236
Total	1,73,56,50,447	21,88,48,208	42,08,19,709	-	2,37,53,18,364

14.4 During the year, 2 Loan accounts have been rescheduled wherein accrued interest up to 31.03.2016 amounting to Rs 0.70 Crore has been capitalised in principal Outstanding of respective loan account. Provisioning of Rs 14.02 crore on account of classification of Loan account as substandard asset and reversal of interest applied during the financial year on

these asset has been charged from “Other Reserve”. The loan & advances are secured by way of Bank Guarantee/ Hypothecation / Personal Guarantee. The current maturities of the loan & advances amounting to Rs 54.81 crore includes overdue amounts as per table III and are disclosed under “Other Current Assets: (Refer to Notes to Financial Statement 7)

Table III

Age Wise Overdue position	Balance as on 31.3.2016	Balance as on 31.3.2015
Upto one year (A)	96,12,199	10,61,60,139
More than one year (accumulated)(B)	26,43,30,134	17,25,78,185
Total(A+B)	27,39,42,333	27,87,38,324

14.5 Suit Filed Accounts:

14.5.1 Suits filed by the company: 1

14.5.2 Suits filed against the company: Nil

14.6 Programme Management Unit - DBT and BMGF

Department of Biotechnology (DBT) and Bill Melinda Gates Foundation (BMGF) have signed an MOU for supporting priority areas of research. BIRAC has been entrusted the responsibility to be the “Technical Management Unit”. In this regard, BIRAC established a Programme Management Unit to administer programmes, of affordable product development in the area of Health Care and Agriculture. **Refer Notes 14.14.3**

14.7 DBT-Wellcome Trust programme

The amount received from Department of Biotechnology under DBT - Wellcome Trust Programme amounting to Rs.10.25 crore received in the financial year 2012-13 along with interest amount is kept in a separate bank account. Board has approved a joint call on “Translational Medicines’. MOU has been signed with Wellcome Trust. **Refer Notes 14.14.4**

14.8 BIRAC - Extra Mural Programme

DeitY(IIPME): Industry innovation programme on Medical electronics has been initiated by BIRAC in collaboration with Department of Electronics and Information Technology (DeitY), Ministry of Science & Technology, Government of India. **Refer Notes 14.14.5**

Make in India Facilitation Cell: BIRAC has established a programme management unit for Biotechnology Industry Facilitation - Make in India Cell to channelize investment in India. **Refer Note 14.14.6**

Bio-toilets in schools from North East Region: BIRAC is undertaking a programme on Bio toilets in schools from North East Region for benchtop demonstration of anaerobic digester for biogas generation and its utilization. **Refer Note 14.14.7**

14.9 Prior Period adjustment

The prior period items are accounted for in accordance with Accounting Standard - 5. The previous year figures are reclassified and regrouped in accordance with the requirements applicable in the current financial year.

Biotechnology Industry Research Assistance Council

14.10 Related party disclosure:

The provisions of Accounting Standard-18 are not applicable as there is no transaction between a reporting enterprise and its related parties.

14.11 Provision for Tax:

No Provision for Income Tax has been made in the current year since the company has been registered as a charitable entity u/s 12A of Income Tax Act, 1961 vide order No. 2974 dated 12th May, 2014.

14.12 Foreign Exchange Transactions:

During the current financial year the following income/ expenditure has been incurred.

A. Income: NIL

B. Expenditure:

(i) Technology Transfer; Rs. 1,28,04,404/-

(ii) Books, Journal and Database Subscription: Rs. 45,80,547/-

(iii) Entrepreneurship Development: Rs. 47,29,031/-

(iv) Foreign Travel: Rs 3,39,273/-

C. CIF Value of import is NIL for the current financial year.

14.13 Details of Grant Utilisation

S.No.	Particulars	Fund Available	Fund Utilised	Balance
1.	BIRAC	19,86,22,962	19,86,22,962	-
2.	I & M Funds	89,01,85,772	89,01,85,772	-
3.	PMU - DBT/BMGF:			
	(i) Operational	2,62,51,478	1,75,62,179	86,89,299
	BMGF	2,54,04,62	1,23,16,699	1,30,87,925
	DBT Operational	95,299	51,14,000	(50,18,701)
	DBT - Non Recurring	7,51,555	1,31,480	6,20,075
	(ii) Projects	13,94,60,739	13,38,05,923	56,54,816
	BMGF	6,38,81,436	6,79,42,239	(40,60,803)
	DBT	1,11,02,000	1,65,68,915	(54,66,915)
	USAID	6,44,77,303	4,92,94,769	1,51,82,534
		16,57,12,217	15,13,68,102	1,43,44,115
4.	Wellcome Trust	12,59,44,696	-	12,59,44,696
5.	DeitY (IIPME)	3,50,00,000	1,69,54,400	1,80,45,600
6.	Make in India Facilitation Cell	22,00,000	17,16,129	4,83,871
7.	Biotoilets in schools from North	1,47,10,000	1,39,40,000	7,70,000
	East Region			

14.14 Supplementary Schedules on Scheme Balances As On 31.03.16

BIRAC (I&M) Sector Funds

(Amount in ₹)

Particulars		As on 31.03.16	As on 31.03.15
Opening Balance		-	11,08,09,529
Add: Funds received from DBT	68,41,85,000	55,37,00,000	
Less: Recovery of funds utilised from available resources	(15,44,72,408)		
Add: Recoveries from unspent grant	79,34,629	53,76,47,221	2,65,52,882
		53,76,47,221	69,10,62,411
Add: Funds Utilised from available resources*		35,25,38,551	154,472,408
		89,01,85,772	84,55,34,819
Less: Amount disbursed during the year :			
Grants Disbursed	66,51,64,375		52,74,82,416
Loans Disbursed	18,25,39,300		27,40,19,600
Programme Expenses	4,24,82,097	89,01,85,772	4,40,32,803
Unutilised Balance Carried Forward		-	-

*DBT vide order dated 16th May, 2016 has permitted to carry forward an amount of Rs. (-)3463.49 lakhs to the Financial Year 2016-17 as against utilisation from the available funds during the year.

14.14.2

BIRAC FUNDS

(Amount in ₹)

Particulars		As on 31.03.16	As on 31.03.15
Opening Balance	-		2,55,76,135
Recurring	-		2,10,84,981
Non Recurring	-		44,91,154
Add: Interest Income		8,63,979	-
Add: Received from DBT		20,00,00,000	15,00,00,000
Adjustment of Funds Utilised from available resources*		(2,44,64,376)	-
Add: Carried forward balance adjusted against General Reserves		2,22,23,359	-
		19,86,22,962	17,55,76,135
Add: Funds Utilised from available resources*		-	2,44,64,376
		19,86,22,962	20,00,40,511
Less: Amount disbursed for Grants			
Partnership Programmes	4,86,08,039		2,57,80,605
Technology Transfer & Acquisition	2,63,58,145		1,06,63,904
Intellectual Property	23,98,130		1,06,32,030
Entrepreneurial Development	1,22,17,185		63,91,463
Sponsorships and Workshops	41,26,684	9,37,08,183	69,30,944
		10,49,14,779	13,96,41,565
Less: Utilisation towards:			
Manpower Expenses	3,70,03,633		2,77,28,579
Non Recurring Expenses	5,01,307		2,45,80,763
Recurring Expenses	6,74,09,839	10,49,14,779	8,73,32,223
Unutilised Balance Carried Forward		-	-

Biotechnology Industry Research Assistance Council

14.14.3

BMGF PMU

(Amount in ₹)

Particulars		As on 31.03.16	As on 31.03.15
Opening Balance		5,33,00,246	1,12,97,260
Operations Fund	1,16,64,087		2,05,07,324
Project Fund	4,16,36,159		(92,10,064)
Add: Received From BMGF - Project	3,82,27,677		3,45,52,759
Received From BMGF - Operations	1,45,87,391		2,08,69,181
Received From DBT - Non Recurring	-		30,00,000
Received From DBT - Operations	-		92,14,000
Received From DBT - Project	-		2,00,00,000
US AID - Project	5,95,96,903	11,24,11,971	65,19,400
Add: Bank Interest	31,82,935	31,82,935	9,67,218
		16,88,95,152	10,64,19,818
Less: Project Disbursement			
GCI: Agriculture-Nutrition Projects	1,88,22,759		1,10,55,000
GCI: ACT Projects	7,26,82,324		83,81,000
GCI: IKP Projects	2,52,00,000		-
GCI: RTTC Projects	1,71,00,840	13,38,05,923	-
Less: Expenditure			
Manpower Expense	30,13,050		38,50,076
Meeting Expenses	42,48,963		1,03,75,274
Expenses for Space	83,10,240		1,32,42,260
Administrative Expenses	46,95,565		27,64,531
Equipment Expenses	2,82,080		22,64,645
Management Expenses	4,37,622		11,86,786
Management Expenses -PY	(2,42,406)	2,07,45,114	-
Balance Fund			
BMGF - Projects	(40,60,803)		2,56,53,759
DBT - Projects	(54,66,915)		1,11,02,000
USAID - Projects	1,51,82,534		48,80,400
BMGF - Operations	1,30,87,925		2,00,27,297
DBT - Operations	(43,98,626)	1,43,44,115	(83,63,210)
		1,43,44,115	5,33,00,246

***Details of Equipment Expenses:**

Particulars	As on 31.03.16	As on 31.03.15
Office Equipment	1,61,980	22,48,445
Computers	10,150	16,200
Intangible Assets	1,09,950	-
Total	2,82,080	22,64,645

Overhead Expenses charged under the extra-mural programme is considered as Misc. Income.

14.14.4

DBT- Wellcome Trust Programme

(Amount in ₹)

Particulars	As on 31.03.16	As on 31.03.15
Opening Balance	11,69,11,122	10,99,33,492
Add: FDR & Saving A/c Interest	90,33,574	96,96,429
Total	12,59,44,696	11,96,29,921
Less: Advertisement & Other Expenditure	-	27,18,799
Unutilised Balance Carried Forward	12,59,44,696	11,69,11,122

14.14.5

DeitY (IIPME)

(Amount in ₹)

Particulars	As on 31.03.16	As on 31.03.15
Opening Balance	3,50,00,000	-
Received During the Year	-	3,50,00,000
	3,50,00,000	3,50,00,000
Add: Bank Interest	-	-
	3,50,00,000	3,50,00,000
Less: Programme Expenditure	1,39,54,400	
Operational Expenditure	30,00,000	-
Unutilised Balance Carried Forward	1,80,45,600	3,50,00,000

Overhead Expenses charged under the extra-mural programme is considered as Misc. Income

14.14.6

Make in India Facilitation Cell

(Amount in ₹)

Particulars	As on 31.03.16	As on 31.03.15
Opening Balance	-	-
Received During the Year	22,00,000	-
	22,00,000	-
Add: Bank Interest	-	-
	22,00,000	-
Less: Operational Expenditure	17,16,129	-
Unutilised Balance Carried Forward	4,83,871	-

Previous year figures are not applicable as the programme has commenced during the financial year 2015-2016.

Overhead Expenses charged under the extra-mural programme is considered as Misc. Income

Biotechnology Industry Research Assistance Council

14.14.7

Bio-toilets in schools from North East Region

(Amount in ₹)

Particulars		As on 31.03.16	As on 31.03.15
Opening Balance		-	-
Received During the Year		1,47,10,000	-
		1,47,10,000	-
Add: Bank Interest	-	-	-
		1,47,10,000	-
Less: Programme Expenditure	1,20,30,000	-	-
Operational Expenditure	19,10,000	1,39,40,000	-
Unutilised Balance Carried Forward		7,70,000	-

Previous year figures are not applicable as the programme has commenced during the financial year 2015-2016.

Overhead Expenses charged under the extra-mural programme is considered as Misc. Income.

14.15 No amendment has been made in the significant accounting policies during the period.

14.16 List of Abbreviations used in Financial Statement:

S. No.	Abbreviation	Description
1	BIRAC	Biotechnology Industry Research Assistance Council
2	BMGF	Bill Melinda Gates Foundation
3	BISS	Bio Incubator Support Scheme
4	BCIL	Biotech Consortium India Limited
5	BIG	Biotechnology Ignition Grant
6	BIPP	Biotechnology Industry Partnership Programme
7	CRS	Contract Research Scheme
8	DBT	Department of Biotechnology, Ministry of Science & Technology, Government of India
9	DeitY	Department of Electronics and Information Technology
10	ETA	Early Translational Accelerator
11	FD	Fixed Deposit
12	GCI	Grand Challenges of India
13	I&M	Industry and Manufacturing
14	IIPME	Industry Innovation Programme on Medical Electronics
15	IP	Intellectual Property
16	MTNL	Mahanagar Telephone Nigam Limited
17	Misc	Miscellaneous
18	PMU	Programme Management Unit
19	PMC	Projects Monitoring committee
20	SBIRI	Small Business Innovation Research Initiative
21	SBH	State Bank of Hyderabad
22	TA & DA	Travel Allowance & Diem Allowance
23	UIC	University Innovation Cluster
24	WT	Wellcome Trust

14.17 The previous year's figures are reclassified and regrouped in accordance with the requirements applicable in the current financial year to make item comparable.

COMMENTS OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA UNDER SECTION 143(6)(b.) OF THE COMPANIES ACT, 2013 ON THE FINANCIAL STATEMENTS OF BIOTECHNOLOGY INDUSTRY RESEARCH ASSISTANCE FOR THE YEAR ENDED 31 MARCH 2016

The preparation of financial statements of Biotechnology Industry Research Assistance Council for the Year ended 31 March 2016 in accordance with the financial reporting framework prescribed under the Companies Act, 2013 (Act.) is the responsibility of the management of the company. The statutory auditor/auditors by the Comptroller And Auditor General of India under section 139(5) of the Act is are responsible for expressing opinion on the financial statement under section 143 of the Act based on independent audit in accordance with standards on auditing prescribed under section 143(10) of the Act. This is stated to have been done by them vide their Audit Report dated 09.06.2016

I, on the behalf of the Comptroller and Auditor General of India, have conducted a supplementary audit under section 143(6)(a) of the Act of the financial statement of Biotechnology Industry Research Assistance Council for the year ended 31 March 2016. This supplementary audit has been carried out independently without access to the working papers of the statutory auditors and limited primarily to inquiries of the statutory auditors and company personnel and a selective examination of some of the accounting records. On the basis of my audit nothing significant has come to my knowledge which would give rise to any comment upon or supplement to statutory auditors' report.

For and on the behalf of the
Comptroller & Auditor General of India
Sd/-

(Dr. Ashutosh Sharma)
Principal Director of Commercial Audit &
Ex-Officio Member. Audit Board-IV

Place: Delhi
Date: 22.07.2016

Biotechnology Industry Research Assistance Council



Regd. Office: 1st Floor, MTNL Building, 9, CGO Complex, Lodhi Road, New Delhi-110003

Website: www.birac.nic.in Email: birac.dbt@nic.in Tel: 011-24389600 Fax: 011-24389611

CIN NO: U73100DL2012NPL233152

Attendance Slip

Name of the Member / proxy (In Block Letters)	
Address of Member / Proxy:	
Folio No. :	
No of Shares Held	

I certify that I am a member / proxy for the member of the Company.

I hereby record my presence at the 4th Annual General Meeting of the Company held on Tuesday, 20th September 2016 at 10:00a.m. at MTNL Building, 1st Floor, 9 CGO Complex, Lodi Road, New Delhi-110003

.....
Member's / Proxy's Signature

Regd. Office: 1st Floor, MTNL Building, 9, CGO Complex,

Lodhi Road, New Delhi-110003 E-mail: birac.dbt@nic.in Website: www.birac.nic.in, Tel: +91-11-24389600

CIN NO: U73100DL2012NPL233152

PROXY FORM

[Pursuant to Section 105(6) of the Companies Act, 2013 and Rule 19 (3) of the Companies (Management and Administration) Rules, 2014]

Name of the Member(s)		E-mail ID:
Registered Address		Folio No. :

I/We, being the member(s) of shares of the above named Company, hereby appoint:

- (1) Name:
Address:
E-mail Id:
Signature: or failing him/her;

as my/our proxy to attend and vote (on a poll) for me/us and on my/our behalf at the 4th Annual General Meeting of the Company, to be held on Tuesday, 20th September 2016 at 10:00 a.m. at MTNL Building, 1st Floor, 9 CGO Complex, Lodi Road, New Delhi-110003 and at any adjournment thereof in respect of such resolutions as are indicated below:

S.No	Resolutions	For	Against
1.	Ordinary Business To receive, consider and adopt the Audited Financial Statement of the Company as on March 31, 2016 together with the Reports of the Directors and Auditor thereon and comments of the Comptroller & Auditor General of India in terms of Section 143(6)(b) of the Companies Act, 2013		
2.	To fix the remuneration, of the New Statutory Auditor for the financial year 2016-17, in terms of provisions of Section 139 of the Companies Act, 2013		

Signed this day of 2016. Signature of the Shareholder

Signature of first proxy holder

Signature of Second proxy holder

* Applicable for investors holding shares in electronic form.

Affix
Revenue
Stamp

Notes:

- MEMBERS ENTITLED TO ATTEND AND VOTE MAY APPOINT ONE OR MORE PROXIES TO ATTEND AND VOTE INSTEAD OF THEMSELVES. PROXIES TO BE VALID MUST BE RECEIVED AT THE REGISTERED OFFICE OF THE COMPANY NOT LESS THAN FORTY-EIGHT HOURS BEFORE THE APPOINTED TIME OF THE MEETING
- Only bonafide members of the Company whose names appear on the Register of Members in possession of valid attendance slips duly filed and signed will be permitted to attend the meeting. The company reserves its right to take all steps as may be deemed necessary to restrict non-members from attending the meeting.





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

Ist Floor, MTNL Building, 9 CGO Complex, Lodhi Road, New Delhi - 110003
Email : birac.dbt@nic.in, Website : www.birac.nic.in