SIX YEARS OF TRANSFORMATIVE REFORMS 2014-2020

December 2020

सत्यमेव जयते

Department of Biotechnology
Ministry of Science and Technology
Government of India

“My aim is to reform to transform. For me, reforms are those policies that transform the lives of ordinary citizens. In the last two years, we have taken a comprehensive package of reforms which go beyond mere economic reforms.”

- Narendra Modi, Hon’ble Prime Minister of India
2014-2020

“From the National Education Policy (NEP) to the Atmanirbhar Bharat Mission and other associated reforms, a serious attempt is being made to steer the country towards self-sufficiency, and adopting innovative solutions to foster sustainable growth, secure jobs, and increase competitive abilities. A wave of transformation is discernible in all sectors of the economy. It is in the same manner that we are fine-tuning the role of science, technology and innovation (STI) to tackle emerging social, economic and environmental challenges.”

- Dr Harsh Vardhan, Hon’ble Minster of Science and Technology

PREFACE

The Department of Biotechnology has made tremendous efforts in promoting Bioscience research, translational education and entrepreneurship. The Department has laid emphasis on the generation of biotech products, processes and technologies for enhanced efficiency, productivity and cost-effectiveness in the areas of agriculture, food and nutritional security; affordable health care and wellness; environmental safety; clean energy and biofuel: and bio- manufacturing. Skill development programmes have been developed in close coordination with State Governments. The policies announced by the Government have strengthened the Institutional Mechanisms for empowering innovation and ensuring scale up and sustainability. The emphasis has been on technology oriented research aimed at improving lives and living of millions by providing affordable solutions to public health problems impacting the society. The Department has contributed through its various programmes to the National Missions launched by the Hon'ble Prime Minister-Swasth Bharat, Swatch Bharat, Start-Up India, Make in India and Digital India.

To ease the processes, under the leadership of Hon'ble Prime Minister and Union Minister Minister for Science & Technology, Health & Family Welfare and Earth Sciences Dr. Harsh Vardhan, the Department has undertaken several reforms over the past 6 years with an overall goal to achieve US$150 billion bioeconomy by 2025. The extramural grant system is the backbone of the Department, an online Competitive grant management system was put in place to facilitate the processing of proposals in a span of 180 days. E-Promis Data base developed by the Department was a instrumental in the creation of online modules for the submission of a variety of proposals from different stakeholders. In addition all the administrative and establishment processed has been made completely online and paperless. Fellowship is being credited directly to the bank account of students. The Department had also framed rules and regulations to encourage development and commercialisation of inventions with in its 16 Autonomous Institutions. To provide world class scientific infrastructure to our students and researchers across the country, Scientific Infrastructure Access for Harnessing Academia University Research Joint Collaboration, (SAHAJ)' scheme was launched in 2018 which has benefited 1.8 Lakh users. To give a push to the Start-Up ecosystem in the country, a separate Biotech Equity fund- BIRAC AcE (Accelerating Entrepreneurs) Fund was launched which was instrumental in infusing INR 300 Cr private equity commitment. Major reforms were undertaken in Biotechnology Regulation for quick approvals, simplified and user friendly procedures, rapid response mechanisms to emerging situations etc. The Department is committed to take up many such reforms to make India a world leader in the Biotechnology sector.

Dr Renu Swarup
Secretary, Department of Biotechnology

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Major reforms to transform the Biosafety Regulatory process and strengthening of Biosafety Regulatory Framework: 2014-2020

The recombinant DNA technology has potential to offer solutions to various problems that exist in the areas of Healthcare, Agriculture and Environment. However, research and development activities on recombinant DNA technology, emerging biotechnologies and hazardous microorganisms require its regulation to ensure safety of the personnel working in the laboratory and environmental safety. Biosafety regulatory frameworks in India are established under the Environment (Protection) Act. 1986 and "Manufacture, Use/Import/Export and Storage of Hazardous Micro Organisms/ Genetically Engineered Organisms or Cells, Rules 1989 (Rules 1989). Out of six competent authorities constituted under the Rules 1989, two of them, Recombinant DNA Advisory Committee (RDAC), and Review Committee on Genetic Manipulation (RCGM) are functioning in the Department of Biotechnology (DBT). Further, Institutional Biosafety Committee (IBSC) which is constituted by a host institution handling hazardous microorganisms or genetically engineered organisms functions for ensuring implementation of biosafety regulation at site:

Need for the reforms: The need for reforms were felt with wider use of information and communication technology in day to day functioning and with new developments in Biotechnology. The Review Committee of Genetic Manipulation which functions in the Department of Biotechnology was conducting its meeting in every 45th day with submission of 23 copies of applications to Secretariat. These applications were circulated to the committee members alongwith the agenda in Hard copies. Prior to 2014, no action was taken for solving this issue. The Department of Biotechnology considering the focus of Government on digital India program started working towards development of an online portal i.e. Indian Biosafety Knowledge Portal for submission and review of applications and issuing of authorization.

Approach and present Impact: The portal i.e. IBKP http://ibkp.dbtindia.gov.in was launched in May, 2019. This action is saving time and papers and thereby increasing the overall efficiency on one hand and contributing towards

environment on other hand. Further, the Department of Biotechnology based on the stakeholders consultations which include industries, scientific organizations and research institutions come up with several other reforms to increase the overall efficiency of biotechnology regulatory framework. A major reforms in this regard was initiated in September, 2015 and after some time it has become a practice in the Department to review the Biosafety Regulatory Framework time to time in order to facilitate stakeholders for getting speedy approvals on import, export, transfer and carry on R&D including preclinical toxicity studies on recombinant DNA pharma products without compromising Biosafety aspect. During last 6 years, the time for taking decision on an application was reduced significantly from 90-180 days to 7-30 days depending on the type of application. The multi pronged strategy use by the Department has helped in bringing this transformational change in the Biosafety Regulatory System. The Department used online system for filing, increased the frequency of RCGM meetings from 45 days to 15 days at present and empowered Institutional IBSC committees to make the system efficient, transparent and more responsible. Department of Biotechnology has taken several proactive measures in the past 6 years to streamline and strengthen the biosafety regulatory process. The details are given below :

(i) Reduced timelines for approval process:

DBT-RCGM has streamlined the approval process of applications submitted to RCGM. In this regard, with support of an internal assessment unit and experts, the review of applications has been accelerated and time lines have been reduced from 90 days to 30 days. To further reduce the timelines, the RCGM meetings are now being conducted every fortnightly. With this multipronged strategy, DBT-RCGM is now able to dispose applications on import/export/ transfer in 7-10 days.

(ii) Indian Biosafety Knowledge Portal (IBKP):

In line with Government of India's ease of doing business and digital India, an online web portal namely India, Biosafety Knowledge Portal (IBKP), has been launched recently by the Department of Biotechnology. The platform provides new scientific information on biotechnology and allows online submission of forms and their tracking. IBKP also provide India's Biosafety Regulatory information for scientific community and for public as well. This online platform has also helped to maintain the transparency, accountability and timelines.

(iii) Simplified procedure for Import/Export and exchange of materials:

With a view to have a streamline regulatory approval process, Institutional Biosafety Committees have been empowered (IBSCs) to accord approval

for import, export, and exchange of lower quantities of model organism, polynucleotides, proteins, GE organisms for R&D purposes without compromising the biosafety. In this regard, a revised notification on Simplified Procedures & Guidelines on Exchange, Import & Export of GE organisms & Products thereof for R&D purpose has been issued by DBT on 17th January 2020.

(iv) Streamlining in Biopharma product development and its approval:

RCGM streamlined the approval process and to facilitate the product development, a notification was issued by DBT on 06.08.2020 on Regulation procedure of Biopharma Drug Development wherein several reforms were notified including a) Two times approval time points from RCGM has been reduced to one time submission; b) For PCT protocol approval the time lines have been fixed to 15 days; c) Earlier for any IND molecule, the number of consistency batch requirement was 05 which has now been reduced to 03 (like Similar Biologics) were notified.

(v) Guidelines Developed/Revised

DBT has prepared and/or updated the following guidelines, checklists, simplified procedures, etc.:

- Confined Field Trials of GE Plants, 2015
- Guidelines on Similar Biologics, 2016
- DBT in consultation with stakeholders has prepared a 'Guidelines and standard operating procedures (SOPs) for the conduct of event selection trials (ESTs)' and was approved by GEAC in its 134th meeting. With this, IBSC has been authorized to accord approval of any EST conducted within Institutional own premises as such trials considering Institutional safety and security mechanism shall be followed during the trial.
- Guidelines for the Environmental Risk Assessment of Genetically Engineered Plants, 2016
- Risk Analysis Framework, 2016
- Regulations and Guidelines for Recombinant DNA Research and Biocontainment, 2017
- Checklist for information required in the Applications/ reports on Pre-Clinical Toxicity study of Similar Biologics, 2018
- Revised Simplified Procedures & Guidelines on Exchange, Import & Export of GE organisms & Products thereof for R&D purpose issued in January, 2020
- Handbook for Institutional Biosafety Committees (IBSCs), 2020 has been revised and the third revised edition has been notified on September 02, 2020

(vi) Rapid response to emerging situations:

Rapid Response Regulatory Framework for COVID-19 wherein the regulatory approval process of applications for development of vaccines, diagnostics, prophylactics and therapeutics have been framed in association with DBT-CDSCO to fast track approval process within 7 to 10 days. Further, to facilitate research and development activities on COVID-19 following Documents have been issued:

- Rapid Response Regulatory Framework for COVID 19 was issued in March, 2020
- Regulations and Guidelines for recombinant DNA Research & Biocontainment- Interim Guidelines of laboratory biosafety to handle COVID 19 specimen for R & D purpose, April, 2020.
- Rapid Response Regulatory Framework for COVID-19 Vaccine development, May, 2020

(vii) Facilitation of Online IBSC meetings, due to prevailing COVID-19 situation:

In order to facilitate seamless research on recombinant DNA technology in various research institutions and industry, DBT allowed IBSCs to conduct their meetings through video conferencing while ensuring the safety of laboratory personnel and the environment.

(viii) Online Interactive sessions for creating awareness for IBSCs:

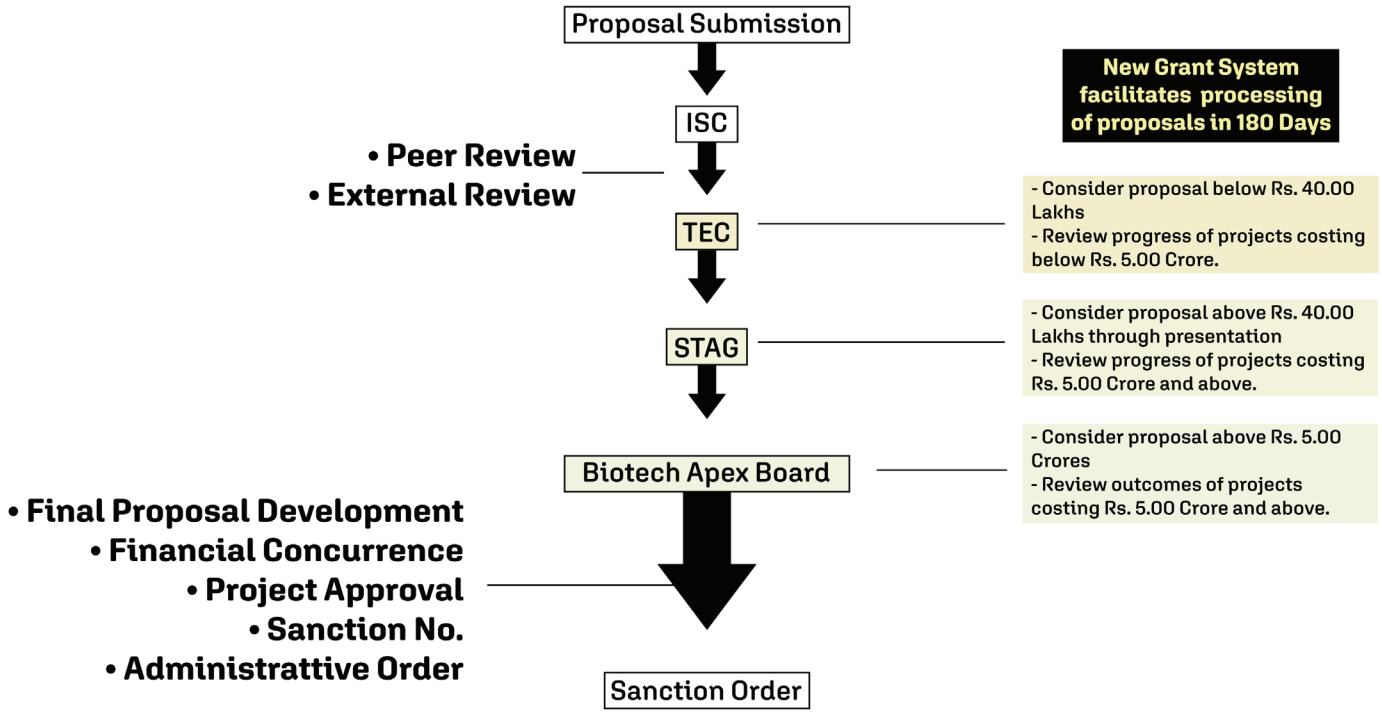
DBT is committed to promote the advancement of research and teaching activities. For the same, DBT initiated interaction with IBSCs through online sessions and workshops to create awareness towards biosafety and biosecurity among researchers. Seven interactive sessions for IBSCs registered on IBKP have been arranged so far. The session was primarily organized for making the IBSCs well versed with the current Rules and Guidelines. The interactive session was attended by more than 300 representatives of IBSCs from Universities, Institute and Private organizations. These session have become very popular and the question answer round are highly appreciated by everyone. These sessions will continue to cover all researchers working in biological sciences.

Future Impact: A streamlined regulatory system with no red tape along with rapid response to the stakeholders and offering the World's best services.

Competitive Grant System Online: Time Bound Decision Making

Need for the reforms: The Department has introduced a new online Competitive Grant System w.e.f. October, 2018 to streamline the competitive grant process including competitive grant guidelines and resolve the issues related to overlapping in project funding based on collective inputs. The standard operating procedures (SOPs) have been prepared for competitive grant functioning with timelines to ensure a cycle time of not more than six-months. The new Competitive Grant System is facilitating efficiency for processing of proposals as per scheduled timelines and milestones to ensure a cycle time of not more than six months.

In comparison to earlier Task Force based system which comprised of more than 20 Committees functioning based on the requirement, the new system has not only reduced the number of Committees but also infused a factor of systematic planning in the process. After introduction of this new Competitive Grant System, the pendency of proposals came down drastically. This also provides an online proposal tracking system. This reform has also strengthened the process as all major proposals are reviewed by three committees including APEX Board.



Approach and present Impact: The new Competitive Grant System has a three-tier mechanism for evaluation of proposals through Technical Evaluation Committees (TECs), Scientific and Technical Appraisal and Advisory Groups (STAGs) and Biotechnology Apex Board. Submissions of proposals are done through online only. This entire review process and decision making is done electronically. All the proposals received under Competitive Grant System are initially screened by Internal Screening Committee (ISC). Project received under specific call for proposal, International Collaborations programmes, NER programme etc. are screened by programme specific Expert Committee. Projects screened by Internal Screening Committee / programme specific Expert Committee are sent to 3-5 subject experts for peer review. The main discussions and decision-making process of projects are driven by identified primary and secondary discussant members in Technical Expert Committee. The total project cycle time from zero day of each cycle for processing will be 180 days and there are two cycles each year. All the projects received between 1st January to 30th June to be finalised by 31st December and all the projects received between 1st July to 31st December are to be finalised by 30th June of next year.

Future Impact: With the implementation of three–tier competitive Grant Research Funding mechanism, the efficiency of whole process has been greatly enhanced transparency and scientific vigour.

Launch of SAHAJ "National Service Facility/ Research Resource / Platform"

Need for the reforms: The success of any research programme depends upon how well it is supported by cutting edge infrastructure. The Department, over the years, has funded a plethora of equipments ranging from minor project-specific equipments to state-of –the art mega research facilities and service platforms. A need was felt to consolidate these equipments through a single window or a portal which would enable researchers from both academia and the industry to know about the location of these equipment, rules governing the accessibility, user charges and other related information was perceived from different stakeholders. To increase the outreach and a crucial step towards ensuring Science for All, the basic contours of this reform took shape.

Approach and present Impact: The Department launched the DBT-Scientific Infrastructure Access for Harnessing Academia University Research Joint Collaboration **(DBT-SAHAJ)** Infrastructure in 2018-19. The primarily aim was to create "National Service Facility/ Research Resource/ Platform" and facilitate access to resources that could not be provided by any single researcher's laboratory or scientific department to cater the needs of a larger community. While there is no cap on the upper limit of the grant, the Department has ensured that a self-sustainable revenue

DNA sequencing Facility at UDSC, New Delhi

No. of Equipment/ Service Facilities	**465**
No. of Users	**1.8 Lakhs**

model at the end of support is mentioned in each application.

The DBT-SAHAJ portal was launched in 2018-19 and has led to the consolidation of all facilities supported and established by the department. Through the SAHAJ portal, potential users/individuals can obtain information and access to these facilities through a single window. More importantly, through the DBT-SAHAJ, the Department has been able to reach out to researchers who do not have any government support or financial aid for carrying out their research. Such researchers are now supported by the department for an amount up to 10 lakhs based on the research proposal. The grant is provided on competitive basis, to the host institute to allow these students/ researchers to access the infrastructure. The Director of the Institute hosting the facility is responsible for review of such applications and the decision reached is conveyed in a time bound manner not exceeding 4 weeks.

Presently there are 465 different equipment / service facilities enlisted on the SAHAJ portal (https://dbtepromis.nic.in/frminstrumentusability.aspx) with the charges for academia and industry, location details and contact details of the concerned instrument / service facility in charge. Further, in order to ensure better user-friendliness of the SAHAJ portal, the Department has ensured that the list of equipment / service facilities can be further sorted State-wise or instrument-wise, making it easier for any user to locate his / her desired equipment / service facility while also providing the options for other alternatives.

The response to SAHAJ portal has been immense and can be witnessed from the fact that **1.80** have accessed the equipment/services listed under the SAHAJ portal since its inception. Further, **Rs 6.28 crores revenue was generated. Significantly, 53,685 users have utilized the SAHAJ portal (from April to September 2020) generating revenue** around **Rs. 2.00 crores** despite the restrictions of 4 months due to Covid-19 pandemic. Further analysis revealed that while **38,501 users** were from the institutes where this equipment are hosted, **5284 users** were external users from other institutes and industry partners.

The reforms initiated through the DBT SAHAJ are an ongoing process and the Department continues to make concerted efforts to maximize outreach, training and building capacity, further strengthening of the SAHAJ portal.

The Department envisages that the launch of SAHAJ shall have cascading impact in the years to come. The SAHAJ portal shall go a long way

in encouraging usage of resources created in their vicinity of remote Institutions and colleges rather than creating stress on the public funds by duplication of major facilities. The revenue generated, which is also expected to grow as the Department continues to strive efforts to fund more mega research facilities across the country, shall be ploughed back towards the maintenance cost of these mega-facilities. This step, in turn, shall contribute towards reducing the dependence on the public money for both funding and maintaining this equipment.

Future Impact: The SAHAJ grant shall enable researchers from Tier II, Tier III cities and also from the Aspirational districts to have easy and equal access to state-of-art research facilities which in turn is expected to further boost the vibrant research scenario of the country.

Further to this direction, DBT envisages identifying existing gaps in terms of infrastructure, conduct needs assessment and then establish national Facilities across the country to facilitate cutting edge research under DBT-SAHAJ. This shall therefore be an enabler and guide not onlyf or the Department but also other government agencies to strategize investment based on needs-assessment, avoid duplication of funding for multiple clones of same equipment/facility, accelerate the industry-academia partnership and catalyse translational needs-based research.

SAHAJ is an ambitious multifaceted initiative of the Department, which in the coming years shall ensure that the state-of-art research facilities are available for researchers across the country, irrespective of their location or socio-economic profile, the established facilities are widely utilized and self-sustainable after the initial round of support and the ultimate fruition shall be reached when India shall create its own footprint as a global leader in terms of housing state-of-art research infrastructure.

Reforms for encouraging Development and commercialisations of Inventions and Innovation

Need for the reforms: Promoting scientific enterprises is the key indicator of the effectiveness of a national innovation system. This in-turn requires translation of inventions and innovations into commercializable knowledge. Many developed nations world over encourage and enable their researchers to involve with scientific enterprises while in profession. Such measures are expected to ensure continued involvement of the researcher in translating the inventions or innovations to commercializable knowledge.

Approach and present Impact: With a view to promote and enable the researchers to involve with such science driven Scientific enterprises, Rules and Regulations for encouraging development and commercialization's of Inventions and Innovation have been laid out. It has been a major reform to facilitate the scientists and researchers to invest their knowledge base as equity and thus creates an opportunity to work in collaboration with Industries.

These reforms help in
a. Permitting the researchers to have an equity stake in scientific enterprises/spin offs while in professional employment with their research and academic organizations

b. Permitting the Scientific Establishments to invest knowledge base as equity in the enterprises: One of the ways to ease the burden of initial investment of a Scientific Enterprise is to offer of Knowledge Base of a particular institute in exchange for equity in the Scientific Enterprise. Recognizing the in tangible benefits, this reform permits Scientific Institutions to invest their Knowledge Base and/or the cost of support services as equity in a company/Entity.

c. Encouraging the Scientific Establishment to set up incubation centers; Nurturing early stage innovations and developing them into technologies is a measure of the strength of the National Innovation System (NIS).

Translating early stage innovations into technologies associated with considerable risks, requires large risk capital, in addition to sound technical expertise and sustained effort by the entrepreneur. The concept of Bioincubators has served well in moving innovations to market place and thus limiting the initial capital investments by the entrepreneur. Recognizing the fact, multipurpose Bioincubators will be developed with an aim to provide high quality infrastructure and ecosystem to entrepreneurs so as to help nurture start-up Companies / Entities through appropriate hand holding mechanisms. The objectives of these incubators are as follows:

- to accelerate the commercialization of new inventions and innovations.
- to nucleate, nurture and mentor new Scientific Enterprises, mainly in the area of Secondary Agriculture & Bioprocessing.
- to assist new Scientific Enterprises to forge appropriate linkages with other companies, academia and government.
- to encourage techno-preneurship in the country.

d. Facilitating the nobility of researchers between industry and Scientific Establishment: Building newer skills, competencies and capabilities in scientists is a continuous endeavour of all Scientific Establishments. One of the effective ways of building such skills is “mobility” of researchers from one organization to another. Temporary movement of scientists from one Scientific Establishment to other and to industry and vice versa is termed as “mobility” of researchers. Mobility helps in seamless transfer of knowledge, skills and competencies across the spectrum. For example, scientists working in one of the DBT Autonomous Institutions might acquire entrepreneurial skills with the exposure to industrial working environment; similarly, shortage of competent manpower may be eased in newer institutes temporarily. This provision will cover personnel engaged in research, teaching, R&D activities including further development of innovation and inventions, as well as associated functions such as technology dissemination & diffusion, business development, knowledge management, technology & IP management, quality assurance etc. This policy initiative has given impetus to the Departments Autonomous Institutions towards product development for addressal problems afflicting our society. As a matter of pride, some Start-ups have emerged as a spin-off of R&D efforts apart from development of several technologies. The Department is also in the forefront in our countries battle for the mitigation of COVID-19 pandemic through development of COVID-19 diagnostics along with COVID-19 Vaccine candidates that are at various stages of development.

Future Impact: These reforms will give scope for developing robust and vibrant Start up and Innovative Ecosystem and facilitate the process and product development, which will help the public and nation as a whole. It will help to realize the objective of national programmes like *'National innovation mission'*, *'Atal Incubation centre'* and *'Atma Nirbhar Bharat Abiyan'*.

Launch of BIRAC AcE (Accelerating Entrepreneurs) Fund

Need for the reforms: The Department is committed to support Biotech Start-up Ecosystem in the country to enable the product development cycle towards 'Make In India'. There are several bottlenecks to achieve this goal. The major challenge is to provide risk funding to young enterprises to undertake research and development in high priority technological areas. These start-ups have to encounter "Valley of Death", which is essentially a technology that is presumed to be promising but carries lot of risk for its validation. Start-ups need to negotiate "Valley of Death" in order to achieve some level of success towards product development.

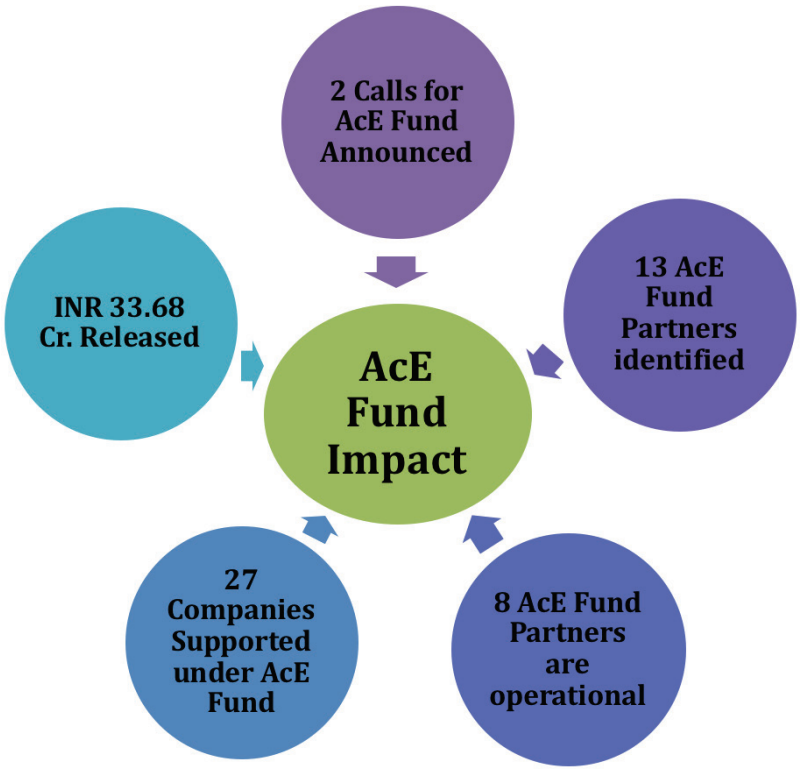
Approach and present Impact: Biotechnology Innovation Fund - AcE (Accelerating Entrepreneurs) Fund of Funds is the First Venture Fund being promoted by DBT under the aegis of Make in India initiative through BIRAC as the implementing agency. AcE Fund aims to foster R&D and innovation in Biotechnology domains including areas such as Healthcare, Pharma, Industrial Biotechnology, Agriculture, Waste

management, Sanitation, Clean energy. AcE Fund invests and partners with SEBI registered AIFs (i.e. Venture Funds and Angel Funds), which are professionally managed and desirous of investing in biotech & related sectors. AcE Fund plugs the gap of the "Valley of Death" encountered by the Biotech Start-Ups during their product development cycle and growth phase by providing investment of upto INR 7 Cr/Start-Up. AcE Fund enables ecosystem by providing risk capital to young enterprises to undertake research and development in high priority technology areas. Hence in the process, it will enrich the intellectual property wealth creation in the country and encourage more entrepreneurs to work towards product and technology development of high quality at affordable economies in sustainable manner.

13 AcE fund partners identified have committed to invest at least INR 300 Cr in Biotech sector Start-Ups. So far, 27 Start-Up companies have received support from AcE fund partners. BIRAC has disbursed Rs. 33.68 Cr as per the drawdown requests received from the partners.

Biotechnology Innovation Fund – AcE has been able to attract applications from 20+ Venture Funds to partner who are willing to invest in the Biotech Start-Ups. This is a very encouraging change that this Fund of Funds scheme has been able to trigger. It reflects a willingness of private equity to venture into the high-risk area of Biotech Start-Ups.

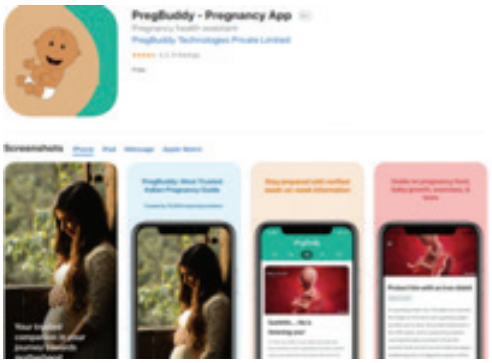
Impact of the No. of products are placed below:



Examples of AcE Funded Supported Start-upsz

Clensta International Pvt. Ltd
An innovative waterless healthcare solution to make hygiene accessible for anyone, anytime and anywhere

Farmers Freshzone Private Limited
Provides Online marketplace FarmersFZ (Fresh Zone), where growers sell vegetables, fruit & related products



Pregbuddy Technologies Private Limited
A software development company aims to provide round-the-clock personalised care to expectant mothers by connecting them to health experts and doctors.

Monitra Healthcare Private Limited
A med-tech company developing solutions that capture cardiac events anytime anywhere. The products detect heart rhythm disorders at real-time for pre-emptive treatments.

Future Impact: Biotech Equity fund support Start-Ups/SMEs which have matured to be able to attract Angel/early VC funding. Today there are nearly 3500+ Start-Ups in the biotech sector which is likely to increase to 10,000 by 2024-25. As we see the sector growing, nearly 30-40% of these Start-Ups would be in a position to seek early venture funding. This would become the potential target beneficiaries.

Reforms in E-Governance systems

In consonance with Government of India's ease of doing business and digital India initiatives, dissemination of information assumes highest importance. Hence, the Department has bought in IT into its processes in almost every sphere of work functions to increase efficiency and for prompt delivery of services to a multiple array of stakeholders. eOffice is being used to make a path for paper less transactions in a time bound manner. The guiding principles for this endeavour are- form simplification and field reduction, online applications and tracking, Online submission of R & D proposals doing away with hard copies, Integration of platforms for disbursal of fellowships etc.

Need for the reforms: The information with respect to the R & D projects, their status, fund release, decisions of expert committees and many such matters were required to be made available online with the click of a button i.e through IT based platforms. The Department recognized the need to develop various web applications, web-portals and websites with latest technologies. The other main motto was to keep a tab on the achievements of the research funded by the Department by dynamic capturing of the data with respect to publications, project fellows, patents filed, technologies developed and commercialized and the societal beneficiaries etc.

Approach and present Impact: The Department initiated major reforms in the eGovernance systems and all applications have been made online. Development of different portals like eProMIS -PI Module; eProMIS- Creation of new area to invite proposals; eProMIS Award Application New module developed to invite applications for various awards; eProMIS- Delay Report to monitor the status of the proposals submitted and to pinpoint delays; digital portals for applications for:-

Programmes:

- Electronic Project Management & Information System (eProMIS) – revamping with user-friendly approach
- JRF & RA scholarships Test
- Conference, Travel, Exhibition and Popular Lecture (CTEP)
- Research Resource Platform
- Ramalingaswami Scholarship
- India Bio-Safety Knowledge Portal (IBKP)
- Star College Scheme

• National Certification System for Tissue Culture Plantation (NCS-TCP), linked with payment gateway

Outreach:
• Biotech- KISAN (Krishi Innovation Science Application Network)

Administration:
• Online APAR and IPR portals for Scientists (SPARROW)
• Implementation of eoffice (efile)
• Dashboards: Development of Departments and Ministers Dashboard with APIs developed to push data from eProMIS/ and other database directly to Minister and PMO Dashboards. Data is pushed for PMO- Prayas Dashboard also.
• Revamping of Department website

While being user friendly and promoting concept of paperless office, these online services have helped in easy tracking, timely submission of reports, reduction in timelines for disposal and also effective monitoring of different activities.

Future Impact: The Department reforms with respect to eGovernance will make the electronic platforms a necessary tool for seamless functioning at various hierarchical levels. With greater image of web platforms more robust models would be developed for Direct Benefit transfer and dissemination of information. Furthermore, paperless transactions would have a positive impact on the environment and also decrease our carbon footprint.

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