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India drives biotech innovation

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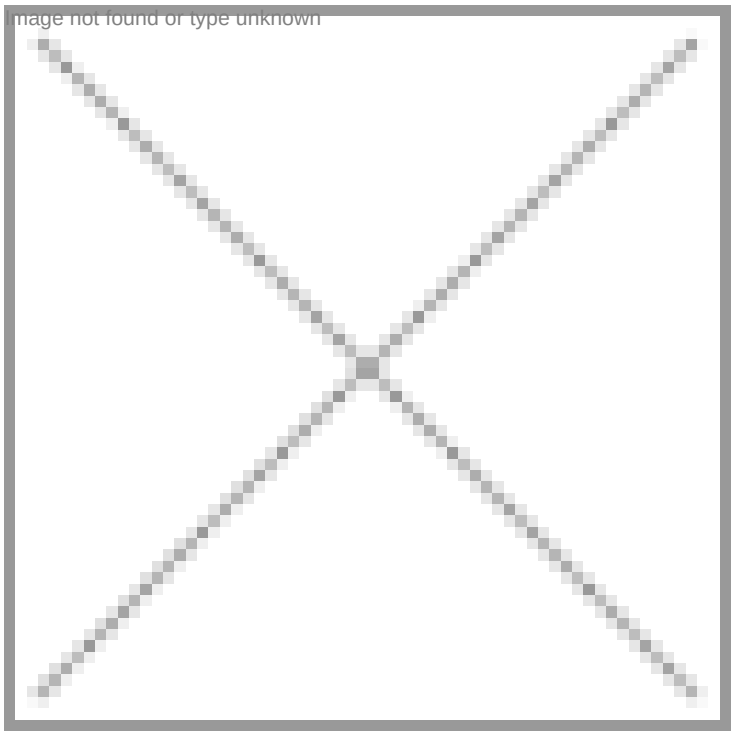
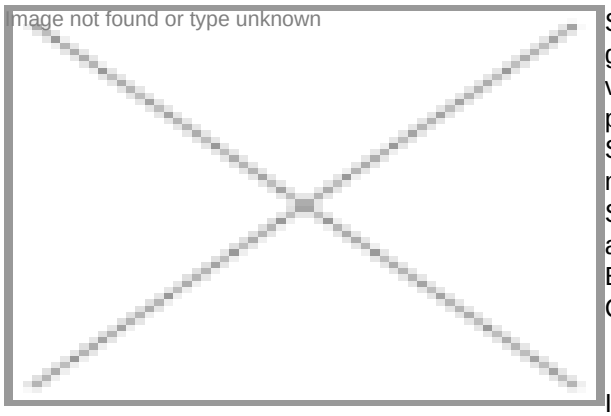


The government of India has implemented several funding initiatives to strengthen the growth of biotech sector in the country. All these efforts are aimed at driving innovation in biotech R&D. An overview on major government funding initiatives



Several government funding agencies offer different types of research grants, fellowships through soft loans or equity, to conduct research in various fields of biotechnology, and commercialize indigenous biotech products. There are three major departments under the Ministry of Science and Technology, Government of India; each with its own mandate and funding programs. These include the Department of Science and Technology (DST), the Department of Biotechnology (DBT) and the Department of Scientific and Industrial Research (DSIR). Besides that Indian Council for Medical Research (ICMR) and the Council for Scientific and Industrial Research (CSIR) play a major role in

In 1971, the Government of India set up the DST with the objective of promoting new areas of science and technology; and it plays an important and central role in organizing, coordinating and promoting science and technology in the country. It has many funding programs to foster innovation in R&D in biotechnology.
DBT was established in 1986 to give impetus to the development of modern biology and biotechnology in India. Since then, the DBT has actively promoted and accelerated the pace of biotechnology, by providing adequate infrastructure facilities.

The DBT is responsible for formulating policy and promoting biotechnology in the country. It has been spending around 1,300 crore a year, to support R&D and innovation. India plans to spend around 700 crore in the next two years, to boost

production of biopharmaceutical firms, even as the local industry gears up for a global boom. The government is focusing on developing infrastructure for enhancing drug production, using biotechnology applications.

The DBT had alloted 1,000 crore (Plan) and 24 crore (Non-Plan) for fiscal 2009-10, as compared to 865.03 crore in the previous fiscal. This was later revised to 902 crore (Plan) and 23.90 crore (Non-Plan). The budget allocation for 2010-11 is 1,200 crore (Plan) and 22 crore (Non-Plan). Speaking exclusively to BioSpectrum, Dr S Natesh, senior advisor, DBT, says, "About 30 percent of the total funding goes into the public-private partnerships (PPP). So far, 11.78 crore has been spent in the PPP. The DBT will also spend around 42 crore for the creation of Centres of Excellence." While sharing DBT's vision of establishing a new breed of institutes to promote the multi-disciplinary approach to education and research,

Dr Natesh says, "We are in the learning curve, and have plans to do many exciting things in the days to come. There has been good progress on the work towards the development of the Faridabad Cluster, and the recent establishment of the cluster board, this year. Besides that, the development of Mohali and Bangalore Cluster is also going on, and we can expect many more centres of excellence in the future."

The DBT currently operates three funding schemes—Small Business Innovation Research Initiative (SBIRI), Biotechnology Industry Partnership Program (BIPP) and Biotechnology Industry Research and Assistance Program (BIRAP). In the fiscal year ended March 31, 2010, the grant to all three schemes was 120 crore.

Success Stories of SBIRI

The SBIRI was launched in 2005 by the DBT to boost public-private partnerships, support high-risk pre-proof-of-concept research and late-stage development in small-and-medium companies, led by innovators with science background, which is unique in nature to support private industries, and to get them involved in the development of such products and processes that have high societal relevance.

Commenting on the response to SBIRI, Dr Natesh says, "Since its launch, SBIRI scheme has been well received by the industry. So far, 694 project proposals have been received and there have been 71 successful applicants with this scheme. Also 13 batches have passed under this excellent scheme, and currently the application process is on for the 14th batch."

A large number of products with great commercial value came out from various SBIRI projects. At the moment, there are six new products or technologies under consideration.

The DSIR has a wide mandate to encompass the support of project, which promote trade in technologies, showcase Indian R&D and technology capabilities in the country or abroad; to promote collaborative R&D and technology development projects. The Technology Development Board (TDB), created in 1996, manages the fund for technology development and application. TDB invests in equity capital or gives soft loans as per the requirement of the industries, cooperatives and other agencies, which are involved in the development and commercial application of indigenous technology, or adapting imported technology to wider domestic applications.

Technology Information Forecasting and Assessment Council (TIFAC) is an autonomous organization under the DST, withan aim to keep a technology watch on global trends, formulate preferred technology options for India, promote key technologies and provide information on technologies. Falling under the ambit of TIFAC, the home-grown technology program, aims to give financial, techno-managerial and patent-related support to deserving technology development projects, for pilot operations and/or significant improvement to existing ones. The Program aimed at Technological Self- Reliance (PATSER) is supporting industry for technology absorption, development and demonstration. PATSER also helps to enhance indigenous capabilities for the development and commercialization of contemporary products and processes of high impact. PATSER attracts the involvement of national research organizations in joint projects with the industry.

Technopreneur Promotion Program (TePP) is jointly operated by DSIR and DST. It has the mandate of tapping the existing innovative potentials of Indian entrepreneurs, to assist innovators to become technology-savvy; and to assist in networking and forging links for the commercialization of their developments. Scheme to Enhance the Efficacy of Transfer of Technology (SEETOT) supports technology acquisition and management. The National Register of Foreign Collaborations (NRFC) has a major objective to facilitate acquisition and management of technology in the country more efficiently. Transfer and Trading in Technology (TATT) is catalyzing technology-intensive export efforts of industry/R&D through grants and technical assistance.

The Indian Council for Medical research (ICMR), one of the oldest medical research bodies in the world, has been involvedin the funding of projects in formulation, coordination and promotion of biomedical research. The ICMR is funded by the Government of India through the Department of Health Research (DHR), Ministry of Health and Family Welfare. ICMR promotes biomedical research in the country through intramural, as well as extramural research.

Dr VM Katoch, director general, ICMR, says, "During the Tenth Five Year Plan period, ICMR gave priority to develop

infrastructure for conducting fundamental and strategic research. This has resulted in the conduct of research, which has provided encouraging leads for development of new products."

"In the Eleventh Five Year Plan period, efforts are being made to pursue the leads for product development. The list of programs which have the potential to translate into the national healthcare program or clinical practice, were obtained from the directors of institutes. From this list, 53 top priority technologies/programs out of 103, were identified, and short-listed to carry forward on a priority basis, so that the technologies so developed could be utilized into the healthcare system at the earliest," adds Dr Katoch.

Considered as the novel initiative, the Open Source Drug Discovery (OSDD) program, introduced by the Government of India, is a CSIR-led team India consortium with global partnerships. OSDD focuses on discovering drugs for tuberculosis, and making them available to patients at an affordable cost, through collaborative research involving scientists, medical professionals, researchers, students and others who can meaningfully contribute to drug discovery.

Another initiative from the CSIR, the New Millennium Indian Technology Leadership Initiative (NMITLI) was formed to facilitate grant allotment for public institutions, and soft loans for private sector companies. Small, medium and large scale companies involved in R&D; and public institutes are eligible for the grant amount under NMITLI.

The government's initiatives to support the emerging biotechnology industry through different programs, schemes and projects under different agencies, will go long way in meeting the immediate funding needs of the companies.

Tax incentives from government

Besides the regular funding, the Government of India provides rebates in customs, central excise, service tax and income tax to steer the growth of the biotechnology industry. Rebates include concessional rate of five percent customs duty and zero countervailing duty (CVD) provided on import of specified items, by public-funded R&D institutes.

There is an exemption from excise duty, subject to conditions, extended to specific items, when domestically procured, for the purpose of research by institutions registered with the DSIR. Also, the water purification equipment working on the membrane-based technologies developed by institutes and organizations under DSIR, have been fully-exempted from excise duty.

The service tax of 12.24 percent has been exempted on clinical research services. This includes new drugs, vaccines and herbal medicines. Among the income tax rebates, weighted deduction of 150 percent was sanctioned for expenditure related to in-house R&D until March 31, 2012. Also, there is an exemption for certain incomes of a venture capital company, specified businesses or industries engaged in the business of nanotechnology, biofuels and all the areas of biotechnology.

DoP to create VC fund

In an attempt to push research in pharmaceutical sector, the Department of Pharmaceuticals (DoP) is planning to set up a 10,000 crore venture capital (VC) fund, to provide the much-needed financial assistance to the players. The DoP will contribute 15 percent under a public-private partnership model, and the rest would be raised from other interested investors.

The funds would be raised in three phases – 3,000 crore in fiscal 2011-12; 5,000 crore by 2013 and 2,000 crore by 2015. The complete fund will get utilized by 2015. The plan is to provide financing for new drug discovery projects and for biopharmaceutical products in the country.

Rahul Koul in New Delhi