

**GOVERNMENT OF INDIA  
SCIENCE AND TECHNOLOGY  
LOK SABHA**

UNSTARRED QUESTION NO:5066  
ANSWERED ON:13.08.2014  
INNOVATION IN SCIENCE AND TECHNOLOGY  
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**Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:**

- (a) whether the Government has taken any measures for demand-inspired research aimed at innovation inspired by the strategic agendas of industry and societal organizations;
- (b) if so, the details thereof and the programmes devised to accelerate innovation in science and technology including enhancing the research quality in India;
- (c) whether the Government has identified the spheres where the trends will start to scale and shape business models, innovation and affect everyday life; and
- (d) if so, the details thereof including its financial implications?

**Answer**

MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF SCIENCE AND TECHNOLOGY; MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF EARTH SCIENCES; MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE; AND MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS (DR. JITENDRA SINGH)

(a) The Government has initiated various research programs to meet the requirements of the country including industry and society. For example institutions like International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Agharkar Research Institute (ARI) are involved in development and promotion of innovations for industry as well as society. Programs such as Technology Foresight for Automotive Research (TFAR), Collaborative Automotive R&D (CAR), TIFAC-SIDBI Technology Innovation Programme (SRIJAN) have been supporting innovation by way of identifying and promoting industry demand based R&D activities. An initiative on 'Security Technologies' to ensure the security of citizens, data and installations is being implemented by the Department of Science and Technology (DST). Innovative products resulting out of projects funded by the Ministry of Science and Technology include an anti-malarial drug "SYNRIAM", H1N1 pandemic influenza vaccine, procedure for tumor ablation using Maxico, Oral Rota virus vaccine etc.

Department of Health Research (DHR) and Indian Council of Medical Research (ICMR) have been promoting innovations in area of health research to develop affordable health technologies/ devices for the benefit of the society in line with the national health priorities. The Department of Biotechnology (DBT) has set up a not-for-profit public sector company 'Biotechnology Industry Research Assistance Council (BIRAC)' for promoting and nurturing industry and innovation research in the field of Biotechnology. Research and Development efforts in space technology and its applications have yielded many spin-off technologies which have been commercially exploited by Indian Industries. The Government has articulated a National action plan for Climate change and has identified several national missions to conduct demand-inspired research. Council of Scientific and Industrial Research is implementing 'New Millennium Indian Technology Leadership Initiative (CSIR-NMITLI) to catalyze innovation centered scientific and technological developments.

(b) Department of Biotechnology has been supporting various programs such as such as Biotechnology Ignition Grant (BIG), Biotechnology Industry Partnership Programme (BIPP), Small Business Innovation Research Initiative (SBIRI) to accelerate and translate R&D efforts in biotechnology domain. The Technology Development Board set up by the Government provides financial assistance in form of equity, loan or grants to industrial concerns for commercialization of indigenous technologies and innovations. DST is implementing a program on 'Technology Business Incubator' (TBI) for fostering innovative and knowledge based start-ups by involving interactions from academia, providing specialized support services, early stage financing and networking among stake holders. The Department of Information Technology supports 'Software Technology Parks of India to accelerate the development of new products and services in Information and Communication Technology domain. The Ministry of Micro, Small and Medium Enterprises (MSME) is setting up a dedicated fund 'India Inclusive Innovation Fund (IIF)' for promoting grassroots innovations with social returns. To enhance the research quality and support innovations in the emerging area of Nano Technology, the Nano Mission under DST is supporting number of programs. To stimulate excellence in scientific research, DST has initiated a scheme on 'Promotion of University Research and Scientific Excellence (PURSE)'. This has resulted in increase in qualitative and quantitative improvement of publications by the Universities.

(c) & (d): Government has declared 2010-2020 as the "Decade of Innovations" which is aimed to develop an appropriate innovation eco-system aligned to the needs of the country. Identification of priority areas is a dynamic process and depending upon the societal

needs and the market demands, these areas change with time. The current focus sectors are Energy particularly solar energy, safe drinking water, Information and Communication technologies, affordable health care including drug delivery and diagnostics, Automotive sector, Agriculture, applications of Nano Technology (paints, smart textiles, electronics, targeted drug delivery etc.), manufacturing sector. The funds for all the above initiatives are provided through the planned schemes of the respective departments. These efforts by the various departments of the Government are likely to improve the position of India in Global Innovation Index.