

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO. 651
ANSWERED ON 03/12/2025**

GROSS EXPENDITURE ON RESEARCH AND DEVELOPMENT

651. SHRI BAIJAYANT PANDA:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether country's Gross Expenditure on Research and Development (GERD) has shown significant growth during the last decade;**
- (b) if so, the key sectors and institutions contributing to this increase and the share of the Government and private sectors in total R&D spending;**
- (c) whether the Government has taken specific steps to encourage innovation, research output and patent filings in recent years;**
- (d) if so, the details thereof; and**
- (e) the manner in which country's rising R&D expenditure and increase in Science and Engineering PhDs are contributing to its goal of becoming a global innovation hub?**

ANSWER

**MINISTER OF STATE (INDEPENDENT CHARGE) OF THE
MINISTRY OF SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. JITENDRA SINGH)**

(a) Yes Sir. As per latest Research & Development Statistics, the Gross Expenditure on Research and Development (GERD) in the country has been consistently increasing over the years and has more than doubled from Rs. 60,196.75 crore in 2010-11 to Rs. 1,27,380.96 crore in 2020-21.

(b) The key sectors and institutions contributing to this increase include: government R&D labs/institutions, public & private sector industries and higher education institutions. In the industrial R&D, the dominant sectors are Drugs & Pharmaceuticals, Information Technology, Transportation, Defence Industries and Biotechnology. The share of government spending in total R&D is 63.6% and that of private sectors is 36.4%.

(c) to (d): The government has implemented several measures to encourage innovation, research output and patent filing with the aim to strengthen overall research and innovation ecosystem of the country. Some of the key measures/steps taken up by the government include:

- Launch of ₹1.0 lakh crore Research, Development and Innovation (RDI) Fund to provide financial support to private industries for research and innovation in the critical areas that are vital for national development and global competitiveness such as: Energy security and transition, and climate**

action; ‘Deep Technologies’ including quantum computing, robotics and space; Artificial intelligence; Biotechnology and medical devices; Digital economy including digital agriculture; etc. This scheme aims to catalyze private sector investment in R&D.

- Establishment of the Anusandhan National Research Foundation (ANRF) to provide high-level strategic directions for research, innovation and entrepreneurship in the diverse fields of sciences and engineering.**
 - Creation of state-of-art R&D infrastructure in academic and research institutions through programmes like: Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions (FIST); Promotion of University Research and Scientific Excellence (PURSE); Sophisticated Analytical Instrument Facilities (SAIF); Sophisticated Analytical & Technical Help Institute (SATHI); etc.**
 - Promotion of S&T based innovation and entrepreneurship in academic and research institutions through programme such as: National Initiative for Developing and Harnessing innovations (NIDHI); Biotechnology Industry Research Assistance Council (BIRAC) programmes; Innovations for Defence Excellence (iDEX); Technology Development Fund (TDF); TIDE 2.0 (Technology Incubation and Development of Entrepreneurs); etc.**
 - Implementation of mission mode programmes such as: National Quantum Missions (NQM); National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS); National Supercomputing Mission; Mission for Advancement in High-impact Areas (MAHA)-Electric Vehicles; etc. for technology development in specific areas.**
 - Creation of enabling mechanism for IP management and commercialization through various initiatives such as: establishment of Patent Facilitating Centre; Patent Information Centre to facilitate IPR related activities through State S&T Councils; publishing Intellectual Property Guidelines to facilitate seamless transfer of IP at academic institutes towards commercialization of technologies/products; establishment of Technology Transfer Offices (TTOs) to facilitate transfer of technologies from universities and research institutions to the industry; providing IP and technology management service through Biotechnology Industry Research Assistance Council (BIRAC); etc.**
- (e) India’s rising R&D investments and growth in science and engineering PhDs are directly contributing to its goal to become a global innovation hub and helped in strengthening research capacity, fueling innovation, boosting patent activity and enhancing global competitiveness which is reflected in India’s position in global rankings i.e. significant jump in its Global Innovation Index (GII) ranking from 81st (2015) to 38th (2025); 3rd position in number of startups; 3rd position in science and engineering publications; 4th position in number of PhDs in science & engineering; and 6th position in patent filing activity.**
