GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
RAJYA SABHA
UNSTARRED QUESTION NO. 3170
ANSWERED ON 19/03/2026

RESEARCH AND INNOVATION ECOSYSTEM

3170 SHRI VIVEK K. TANKHA:

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

(a) India's performance on NITI Aayog indicators for R&D expenditure, citation impact, patenting and industry-academia collaboration vis-à-vis leading economies;

(b) the deficiencies identified in national research capacity and translational outcomes; and

(c) the time-bound strategies, funding commitments and mission-mode interventions formulated with NITI Aayog to enhance India's global research and innovation standing?

ANSWER

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

(a) India has made significant progress in strengthening its research and innovation ecosystem and has shown upward mobility in terms of different indicators. These trends include:

- India's Gross Expenditure on Research and Development has been consistently increasing over the years, it has risen from Rs. 60,197 crore in 2010-11 to Rs.1,27,381 crore in 2020-21.
- India has also improved its standing in the World Intellectual Property Organization (WIPO) Global Innovation Index (GII), reaching 38th position in 2025 from 81st in 2015 reflecting improvements in innovation capability, industry engagement and research outputs.
- India ranked at 6th globally in patents filing, as per WIPO Report, 2023. As per Indian Patent Office, patent filing in the country has increased from 56,484 in 2019–20 to 110,375 in 2024–25. Notably, during 2024–25, resident filing accounted for 62% of the total filings.
- India ranked at 3rd in number of research publications as per Science & Engineering Indicators 2024 published by National Science Foundation (NSF), USA. As per a study commissioned by the Department of Science and Technology (DST) based on the Scopus database, India ranked at 9th in 2018 in terms of the quality of scientific research, measured by the number of citations of scientific publications. The study also reported that academic–corporate collaboration accounted for 2.7% of India's total scientific research publications in 2016**.**

(b) to (c): The Government has undertaken several time-bound strategies and mission-mode initiatives to enhance India's global research and innovation standing. These include:

- Launch of ₹1.0 lakh crore Research, Development and Innovation (RDI) scheme over 6 years to incentivise private sector investment in R&D. The scheme aims to de-risk private R&D and support transformative projects at higher Technology Readiness

Levels (TRL 4 and above) through long-term, low-interest financing, including unsecured loans and, in select cases, equity-based support, particularly for start-ups. The scheme focuses on strategic sectors such as energy transition, deep technologies, artificial intelligence, biotechnology, pharmaceuticals, medical devices, and the digital economy.

- Establishment of the Anusandhan National Research Foundation (ANRF) with a budgetary provision of Rs. 14,000 crore from Central Government and the additional funding is to be explored and sourced from non-governmental sources like industry, philanthropists, etc.. mobilizing additional funding from non-governmental sources.
- Launch of National Missions such as National Quantum Mission to make India one of the leading nations in the development of Quantum Technologies & Applications (budget outlay: ₹6,003.65 crore), National Mission on Interdisciplinary Cyber Physical Systems (budget outlay ₹3,660 crore), National Supercomputing Mission, Electric Vehicle-Mission program under ANRF's MAHA (Mission for Advancement in High-impact Areas) programme, India Semiconductor Mission (₹76,000 crore) for building up semiconductor ecosystem in India, Deep Ocean Mission to explore and sustainably utilize the deep ocean's resources (budget outlay: ₹4077 crore), National Green Hydrogen Mission aimed at promoting the production, usage and export of green hydrogen and India AI Mission to strengthen AI capabilities (budget outlay: ₹10,372 crore).
- Promotion of Public–Private Partnerships (PPPs) and creation of Technology Hubs under National Mission on Interdisciplinary Cyber Physical Systems and National Quantum Mission to foster collaborative technology development.
- Introduction of enabling policy frameworks such as: National Geospatial Policy 2022, Indian Space Policy 2023 and BioE3 (Biotechnology for Economy, Environment and Employment) Policy 2024 which aims to foster high performance bio-manufacturing with the provisions for increased participation from private sector.

These initiatives collectively aim to increase R&D investments, strengthen industry-academia collaboration, support frontier technology research and enhance India's global standing in science, technology and innovation.

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