SCIENCE AND TECHNOLOGY

MARKET SIZE

R&D spending In India

- FY17: 15.37 (0.67%)
- FY18: 17.66 (0.66%)
- FY19: 17.89 (0.66%)
- FY20: 18.84 (0.66%)
- FY21: 17.40 (0.64%)
- FY22: 21.75 (0.65%)
- FY24: 15.34 (0.39%)

Legend: R&D spending (US$ billion) | % of GDP
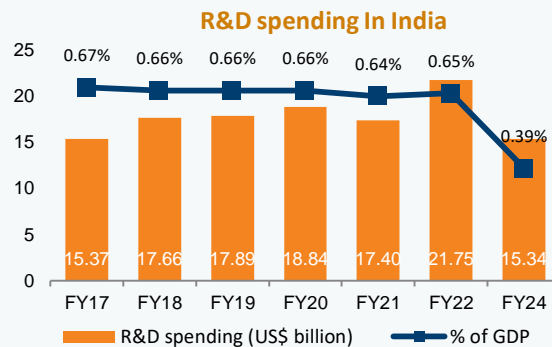
Engineering R&D and product development (US$ billion)

- 2019: 31
- 2025F: 63
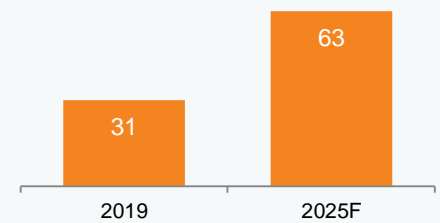
Note: F-Forecasted

SECTOR COMPOSITION

Sector-wise R&D spending

- Central government: 43.70%
- Private Sector Industry: 36.40%
- State Sector: 6.70%
- Public Sector Industry: 4.40%
- Higher Eduction Sector: 8.80%

Global Rank (2022)

- Scientific and Technical Manpower: 3
- Scientific Publications: 3
- Resident Patent Applications: 6
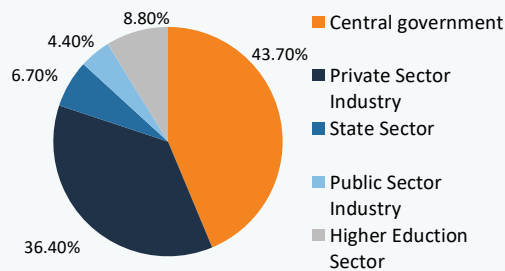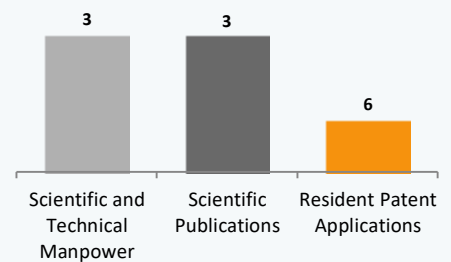
KEY TRENDS

R&D spending by top pharma companies in FY25 (US$ million)

- Sun: 376
- Dr. Reddy: 317
- Cipla: 176
- Lupin: 204
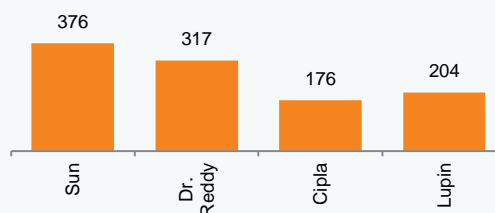
Indian Technology Revenue (US$ billion)

- FY22: 226
- FY23: 245
- FY24: 269
- FY25: 283
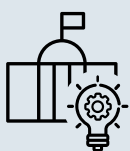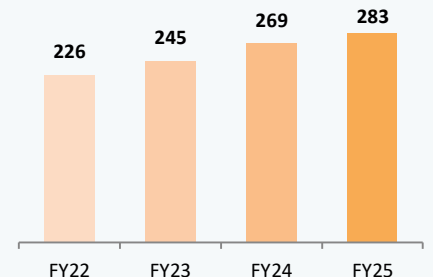
GOVERNMENT INITIATIVES

- Strengthening, Upscaling & Nurturing Local Innovations for Livelihood (SUNIL) Programme, 2023
- Technology Interventions for Disabled and Elderly (TIDE) programme, 2023
- CSIR technologies for rural development
- National Quantum Mission (NQM) for scientific and industrial R&D in Quantum Technology

ADVANTAGE INDIA

- **Robust demand:** India is rapidly emerging as a global hub for space sector engagement according to the Science and Technology Minister, emphasizing the country's growing capabilities in space technology and innovation.
- **Rising Private Activity:** Under the IndiaAI Mission, startups like Sarvam AI, Soket AI, Gnani AI, and Gan AI are building open-source models, backed by affordable GPUs, datasets, and global programmes to drive AI solutions in key sectors.
- **Policy support**: India has active bilateral science and technology (S&T) programs of cooperation with more than 45 countries, including dedicated programs for Africa, ASEAN, BRICS, EU and neighboring countries. The Union Cabinet approved a Rs. 99,771 crore (US$ 11.65 billion) scheme under Anusandhan National Research Foundation (ANRF) to boost deep-tech R&D. India's ambitious vision towards 2047 in science and technology emphasizing self-reliance and innovation-led growth, underscoring ongoing positive momentum in policy support.
- **Attractive opportunities**: India is the top exporter of IT products, has the third largest pharma sector and a fast-growing contract research segment. India's drone market could grow from Rs. 35,696 crore (US$ 4.2 billion) in 2025 to Rs. 1,95,477 crore (US$ 23 billion) by 2030, as per the EY-FICCI report "Making India the Drone Hub of the World." Between 2010 and 2025, over 86,000 AI-related patents were filed in India, representing more than 25% of all technology patents in the country. The number of AI patents filed from 2021 to 2025 was seven times higher than the filings between 2010 and 2015. Of these, 63% originated in India. Union Minister Dr. Jitendra Singh launched new tools on MoES' 19th Foundation Day to boost climate resilience and forecasting.