Science & Technology Industry Analysis

India's technology spending is projected to reach approximately US$ 54.5 billion (Rs. 4.49 trillion) by 2027, making it the highest in the Asia Pacific (APAC) region.

Explore Other Industries

ADVANTAGE INDIA

ROBUST DEMAND

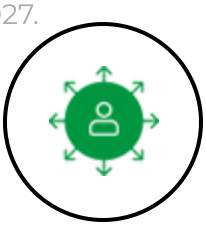
* As per the Economic Survey 2022, India's GERD as a percentage of GDP stood at 0.66%.
* There are 1,30,000 startups (besides unicorns) in December 2023 from 350 startups in 2014.
* As of September 2023, India was placed at 40th position among the top innovative economies globally as per Global Innovation Index (GII) 2023.
* The rate of artificial intelligence (AI) adoption in key industries across India reached approximately 48% in

ATTRACTIVE OPPORTUNITIES

* India is the top exporter of IT products, has the third-largest pharma sector and a fast-growing contract research segment.
* State University Research Excellence (SERB-SURE) to create a robust R&D ecosystem in state universities and colleges; Fund for Industrial Research Engagement (SERB-FIRE) to support research and development to solve critical problems that are relevant to industries in a public-private partnership mode.

FY2024, with expectations to expand by an additional 5-7% in FY25

* DeepTech increasingly becoming mainstream in the Indian tech start-up ecosystem with DeepTech startups raising US$ 586 million in funding in calendar year 2023.
* India's AI market is growing at a CAGR of 25-35% and is projected to reach around US$ 17 billion by 2027.

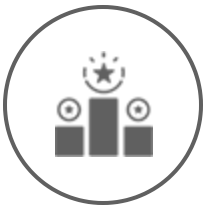


POLICY SUPPORT

RISING PRIVATE ACTIVITY

* In September 2021, India published the amended Patents Rules (2021) and reduced fees by 80% for educational institutions.
* DST has been a pioneer in establishing a network of Technology Business Incubators (TBI) and Science & Technology Entrepreneur's Parks (STEP) across the country under the National Initiative for Developing and Harnessing Innovations (NIDHI) program.

* Establishment of CoEs in various areas. NMITLI initiative on PPP basis.
* Increased investment by private players. Setting up R&D centres.
* India has witnessed an investment of over Rs.1,000 crore (US$ 120.21 million) in Space Startups in the last nine months between April to December 2023.



SNAPSHOT **SHOWCASE** **INFOGRAPHICS** **REPORTS**

RELATED NEWS

Last updated: Jul, 2024

SCIENCE AND TECHNOLOGY INDUSTRY REPORT
May, 2024

India comes in third place among the world's most desirable locations for technological investments. Being aware that science and technology are essential for economic prosperity, modern India has placed a major emphasis on them. India is ranked as one of the top five nations for space exploration, placing it among the top nations in the world for scientific research. India ranked 40th in the Global Innovation Index for 2023, which is an improvement from the 81st position in 2015. India also moved up to fifth rank in the Global R&D Funding Forecast 2021. The Government is extensively promoting research parks and technology business incubators, which would promote innovative ideas till they become commercial ventures. There are 1,39,018 as May 2024 startups from 350 startups in 2014. India has witnessed an investment of over Rs. 1,000 crore (US$ 120.21 million) in Space Startups in the last nine months between April to December 2023.

The rate of artificial intelligence (AI) adoption in key industries across India reached approximately 48% in FY2024, with expectations to expand by an additional 5-7% in FY25

The Indian Web 3.0 ecosystem has raised US$ 1.3 billion in funding through April 2022. A report by Vantage Market Research stated that the global Web 3.0 blockchain market revenue is expected to reach a value of US$ 23.3 billion in 2028.

The Indian DeepTech startups raised US$ 586 million in funding in calendar year 2023. 81% the funding in DeepTech startups has been in seed stage startups.

India’s AI market is growing at a CAGR of 25-35% and is projected to reach around US$ 17 billion by 2027

Spending in the Indian information technology (IT) sector is projected to reach US$ 138.9 billion in 2024, compared to US$ 122.6 billion last year, with a double-digit growth rate of 13.2%.

Entities in India spent US$ 1,703.8 million on AI in 2023. AI spending in India is expected to increase to US$ 5 billion with CAGR (compound annual growth rate) of 31.5% between 2023 to 2027.

India ranks 3rd in the world in terms of the number of PhDs in science and engineering. India remains among the top three countries in scientific publication in SCI journals as per the NSF database.

India's engineering R&D and product development market is anticipated to grow at a CAGR of 13% from 2019 to 2025, reaching US$ 63 billion from US$ 31 billion. IT spending in India will grow 10.7% YoY to reach US$ 124.6 billion in 2024, as forecasted by Gartner. In the Interim Budget 2024-25, the government announced corpus of Rs. 1 lakh crore (US$ 12 billion) to promote Innovation and StartUps coupled with a new scheme for Deep Tech StartUps in Defence.

State University Research Excellence (SERB-SURE) to create a robust R&D ecosystem in state universities and colleges; Fund for Industrial Research Engagement (SERB-FIRE) to support research and development to solve critical problems relevant to industries in a public-private partnership mode.

India's gross expenditure on R&D (GERD) as a percentage of GDP has remained stagnant at around 0.7% for about a decade, lower than Brazil (1.16%), South Africa (0.83%) and others.

India’s bioeconomy was valued at US$ 137 billion in 2022 and aims to achieve US$ 300 billion mark by 2030.

In India, there are more than 1,580 Global Capability Centres (GCCs), where companies can outsource their product development and receive product engineering services, with the GCC market size crossing US$ 46 billion (as of FY23). These GCCs are home to some of the largest companies, many of which have their largest or second-largest R&D centres located in the country.

India's per capita income is likely to grow by nearly 70% to US$ 4,000 by FY 2030 from US$ 2,450 in fiscal 2023.

With support from the Government, considerable investment and development has been incurred in different sectors such as agriculture, healthcare, space research, and nuclear power through scientific research. For instance, India is gradually becoming self-reliant in nuclear technology. India also offers various opportunities for research & development and innovations. As of 2021, >70% of the 50 most innovative firms across the world have a research and development centre in India.

The Indian Patent Office has crossed the one lakh mark for the first time this year, with 1,01,311 patents being granted by the department between March 15, 2023, to March 14 2024, reflecting the government efforts to enhance the intellectual property rights framework.

India is ranked in 7th position in terms of Resident Patent Filing activity in the world

A total of 192 training programs were organized under this Scheme during the year 2022 and around 8,573 researchers have been trained under Synergistic Training program Utilizing the Scientific and Technological Infrastructure (STUTI).

Tata Electronics, with Powerchip Semiconductor Manufacturing Corp (PSMC) Taiwan, will establish a US$ 11 billion (Rs. 91,000 crore) semiconductor unit in Gujarat, generating 20,000 skilled jobs. Additionally, Tata's TSAT, along with two large American conglomerates, will invest US$ 3.3 billion (Rs. 27,000 crore) in a semiconductor plant in Assam, creating 27,000 jobs. CG Power, in partnership with Renesas Electronics Corporation, Japan, and Stars Microelectronics, Thailand, will set up a semiconductor unit in Gujarat with an investment of ~US$ 915 million (Rs. 7,600 crore).

In November 2023, Lupin Ltd. unveiled world’s first fixed-dose triple combination drug for managing chronic obstructive pulmonary disease (COPD).

In October 2023, Glenmark Pharmaceuticals introduced Zita, a cost-effective triple combination drug for Type 2 diabetes treatment, enhancing glycemic control in diabetic patients.

Under the National Mission on Interdisciplinary Cyber Physical System (NM-ICPS), 25 Technology Innovation Hubs (TIHs) have been established in the areas of advanced technologies which carry out their activities under 4 major categories, i.e. Technology

Development, Human Resource Development, Entrepreneurship Development and Industrial Collaborations. Mission has developed 311 technologies, 549 technology products, 63000+ Human Resource, 1200 Jobs creation and nearly 124 international collaborations till December 2023.

In 2023, The National Quantum Mission (NQM) was launched with a budget of ~US$ 726 million (Rs. 6003.65 crore) spanning from 2023-24 to 2030-31 aimed at fostering scientific and industrial R&D in Quantum Technology, propelling India's leadership in Quantum Technologies & Applications.

In October 2023, the Anusandhan National Research Foundation (NRF) will promote the culture of research and innovation throughout India's universities, colleges, research

than 1,000 CORS stations across India.

In September 2023, Agri start-ups were recommended for technical & financial support from pool of Rs. 20 crore (US$ 2.40 million).

Union Minister of Chemicals and Fertilizers, Dr Mansukh Mandaviya launches National Policy on Research and Development and Innovation in Pharma-MedTech Sector in India and Scheme for promotion of Research and Innovation in Pharma MedTech Sector (PRIP) in September 2023.

Actis, a global investor in sustainable infrastructure, is planning to invest over US$ 700 million to acquire and expand assets for its platform aimed at offering real estate to tenants in the life sciences and allied sectors in India. Coforge, a provider of digital services and solutions, opened a centre of excellence (CoE) for the Metaverse and Web3 technologies in India, with the aim to train and upskill over 1,000 people.

The government has announced plans to establish 75 science technology & innovation hubs in India for scheduled castes (SCs) and scheduled tribes (STs) and empower them to contribute to the socio-economic improvement of the country. The government has also launched the 'AmritGrand Challenge Programme' called 'JANCARE.' This programme has been launched to identify 75 start-ups in several sectors such as telemedicine, digital health and mHealth with Big Data, AI, blockchain and other technologies.

The Department of Health Research (DHR) and the Indian Council of Medical Research (ICMR) have launched the ICMR-DHR Centers of Excellence (CoE) for promoting medical technology breakthroughs at seven IITs.

The Indian Space Policy-2023: It was approved by the Cabinet Committee on Security on April 6, also permits non-government entities (NGEs) to offer national and international space-based communication services, through self-owned, procured or leased geostationary orbit (GSO) and non-geostationary satellite orbit (NGSO) satellite systems.

NGSO is a reference to low earth orbit or medium earth orbits that are home to satellites providing broadband internet services from space.

The policy also encourages NGEs to establish and operate ground facilities for space object operations, such as telemetry, tracking and command (TT&C) Earth Stations and Satellite Control Centres (SCCs).

The Ministry of Science and Technology and the Ministry of Earth Sciences, in association with Vijnana Bharati (VIBHA), launched the India International Science Festival 2021, a unique platform, with its theme being a celebration of creativity in science, technology and innovation for a prosperous India. The government has also launched the Indian Space Association (ISpA) to accelerate technology advancements and strengthen the space sector in the country.

INDIAai and NASSCOM have launched the first edition of the Lab2Market initiative to boost industry-academia collaboration.

Under the Union Budget 2023-24, the government announced the allocation of Rs. 16,361 crore (US$ 1.99 billion) to the Department of Science and Technology.

In Union Budget 2023-24 grants of US$ 12.02 billion(Rs.1 lakh crore) for technology research, to funds for deep-tech in the Defence sector, to emphasis on building a digital infrastructure for tech adoption.

DST and GE India are likely to collaborate for Advanced Technology Research, according to the Science and Engineering Research Board. Over the next five years, academic institutes will get up to US$ 2.68 million in funding for research in the fields of energy, healthcare, and aviation.

Indian Space Research Organization (ISRO) will launch its first Indian human mission by 2022.

References *- Media reports, Press Releases, Press Information Bureau (PIB), Union Budget 2023-24*

SCIENCE AND TECHNOLOGY INDUSTRY REPORT
May, 2024

Major Indian States for Science and Technology

Maharashtra

Gujarat

Industry Contacts

- National Academy of Sciences
- Indian Science Congress Association

NCR

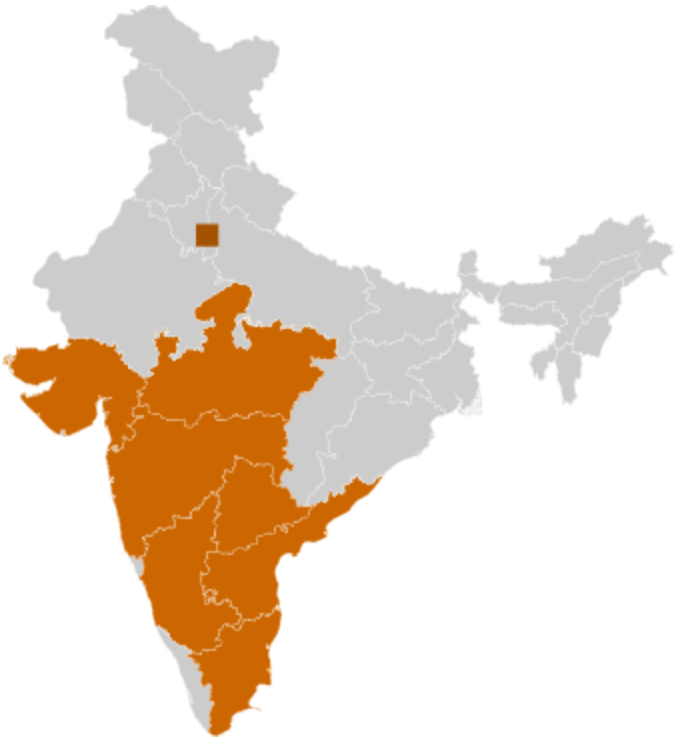
Karnataka

Tamil Nadu

Telangana

Andhra Pradesh

Madhya Pradesh



- Indian National Science Academy
- Indian Academy of Sciences
- Department of Science and Technology
- Indian National Academy of Engineering

POSTERS

MORE >

A WORLD LEADER

India is the only country to reach mars in the first attempt.

IBEF CAMPAIGNS

MORE >

Aatmanirbhar Bharat Utsav 2024

Union Minister of External Affairs, Dr. S. Jaishankar and Union Commerce an...

Bharat Mobility 2024

Bharat Mobility Global Expo 2024 1 – 3 Feb 2024, Bharat Mandapam, ...

CASE STUDIES

MORE >

IBEF BLOG

MORE >

Partners


GeM
Government
e Marketplace


india.gov.in
The national portal of India


स्वच्छ