

# India's patent landscape: universities as changemakers

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The country is steadily moving from being merely a consumer of global technology to becoming its creator

## DATA POINT

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For 'Make in India' to succeed, India must "first discover, then invent, and then make," said David Gross, American theoretical physicist and co-recipient of the 2004 Nobel Prize in Physics, at the inaugural Quantum India Bengaluru Summit 2025. Investment in research and development (R&D) and the strengthening of innovation capabilities are particularly relevant, given the growing uncertainty in global trade and financial flows.

How is India faring on the innovation front? Are we moving towards producing technology of our own? Statistics from the Office of the Controller General of Patents, Designs, and Trade Marks are telling. In the early 2000s, countries such as China, the U.S., Japan, Germany, and South Korea dominated global filings, with Indian institutions accounting for less than 20% of the patents filed domestically. That picture has shifted dramatically (Chart 1). For the first time in 2023, Indian-origin filings surpassed those from any single foreign country. Indian applicants accounted for 57% of all patent filings – a milestone marking India's growing role in the global intellectual property ecosystem. Even among granted patents, India's share has been rising, overtaking the U.S. as the second-largest recipient in 2021.

This transformation did not happen overnight. India is steadily moving from being merely a consumer of global technology to becoming its creator. This shift reflects the government's sustained efforts to build an innovation-friendly environment and support local inventors through initiatives such as the National Intellectual Property Rights (IPR) Policy and the Atal Innovation Mission, which

have encouraged startups, students, and researchers to think big and protect their ideas. Amendments to patent rules have introduced reforms such as expedited examinations for specific groups, simplified timelines, reduced application fees by 80% for educational institutions, MSMEs, and startups, and full digitalisation of filing and communication. With continued investment in faster, more efficient patent systems, stronger inventor support, and better linkage between patents and commercial value, India's innovation story could strengthen even further over the next two decades.

Historically, mechanical and chemical engineering dominated the patent landscape. By contrast, filings in computer science rose from just 1.27% in 2000 to 26.5% in 2023, while electrical engineering grew from 8.27% to 16.41%. Physics-related patents increased from 2% to 4%, and biomedical patents jumped from 0.6% to 10% over the same period.

Nearly 80% of patents filed in the past two years are still "awaiting decision," reflecting both rising volumes and bureaucratic and legal complexities. Nonetheless, processing times have improved. In the early 2000s, patent grants could take 8-10 years; by the late 2010s and early 2020s, many were approved within 2-3 years, with some granted in the same year of filing (Chart 2). This acceleration reflects the maturing of India's intellectual property infrastructure and its alignment with the government's innovation push.

Even the face of patent filers in India is changing. In 2000, about 43% of Indian patents were filed by companies. But by 2023, this share fell to under 17% (Chart 3). Meanwhile, the share of filings from individuals jumped from under 10% in 2000 to around 32% by 2023. Government bodies and hospitals remained minor contributors. Educational institutions also in-

creased their share steadily, reaching nearly 43% in recent years.

Government initiatives have helped drive this change. For example, KAPILA (Kalam Program for IP Literacy and Awareness), launched in 2020, promotes IP awareness in higher education institutions. The Atal Innovation Mission, launched in 2016 by NITI Aayog, fosters problem-solving skills and entrepreneurship within universities and research centres. Awards for outstanding patents by government and industry bodies further incentivise innovation.

Universities have also taken the lead by establishing dedicated IP cells and legal support units to assist faculty, researchers, and students with patent filing, technology transfer, and IP monetisation. For instance, IIT Madras doubled its patents granted from 156 in 2022 to 300 in 2023, while IIT Bombay led nationally in 2023-24 with 421 patents granted.

With government and universities creating an enabling environment, sustained increases in research funding are essential to maintain momentum. Foundational and technology-driven research often starts in university labs or early-stage startups – long before patenting. India's R&D expenditure currently stands at just 0.67% of GDP, far below the U.S. (3.5%) and China (2.5%). Raising this to around 2% of GDP is critical if India is to become a global knowledge leader. This investment is even more urgent in today's uncertain global trade and financial environment, as India must strive for self-sufficiency in both consumer and advanced technologies.

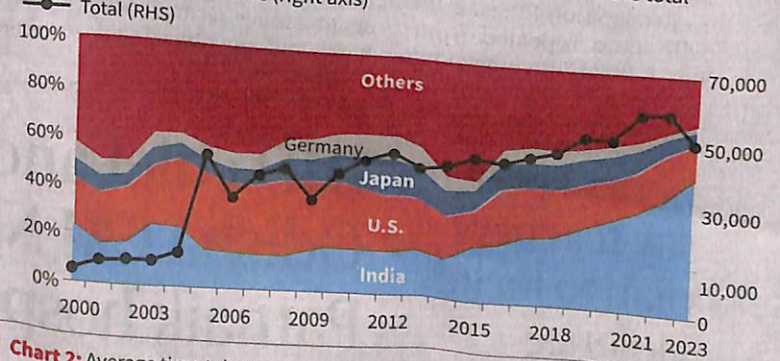
Finally, it is important to acknowledge the relentless efforts of professors and researchers, often working with limited resources, to expand the boundaries of knowledge. Strengthening their work through greater funding is not just support for academia; it is a strategic investment in India's long-term growth and global standing.

## Changing patent landscape

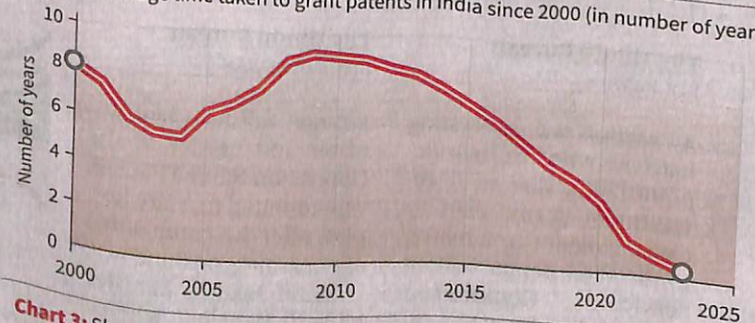
The data for the charts were sourced from the Office of the Controller General of Patents, Designs, and Trade Marks



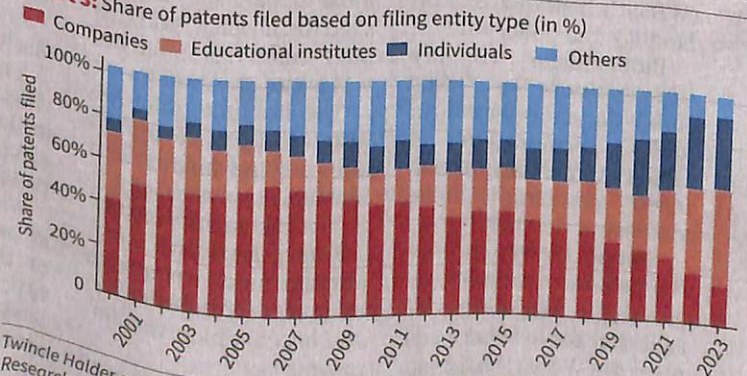
**Chart 1:** Country-wise share of patent filings (left axis, in %) and the total number of filings over time (right axis)



**Chart 2:** Average time taken to grant patents in India since 2000 (in number of years)



**Chart 3:** Share of patents filed based on filing entity type (in %)



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