

NEXT IAS

**DAILY EDITORIAL
ANALYSIS**

TOPIC

INDIA'S INNOVATION MIRAGE

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In News / Context

- The India AI Impact Summit 2026 witnessed **large participation and high enthusiasm**. However, controversy arose after allegedly **imported technology products** were showcased as indigenous innovations, raising concerns about the quality and authenticity of India's innovation ecosystem.

India's Innovation Aspirations

- **India's aspirations** are anchored in becoming a **\$5 trillion economy** and a global high-tech hub.
- **IndiaAI Mission** which focuses on computer infrastructure, datasets and AI startups.
- **Digital India that led to** creation of digital public infrastructure (DPI) like UPI, Aadhaar and ONDC.
- **Startup India** is now the world's third-largest startup ecosystem with over 1 lakh recognized startups.
- **Atmanirbhar Bharat which** emphasis on domestic manufacturing and indigenisation.
- India climbed to **38th in the Global Innovation Index (GII) 2025**, a massive leap **from 81st in 2015**.
- India now ranks **4th in trademarks and 6th in patent filings globally**.
- **Also**, the government has operationalized the ₹1 lakh crore **Research, Development and Innovation (RDI) Fund** and the Anusandhan National Research Foundation (ANRF) to foster a culture of **"Viksit Bharat 2047."**

Structured Flaws in India's Innovation Ecosystem

- **The "Filing-to-Grant" Success Gap:** While IITs and NITs maintain a grant success rate of 40–65%, high-volume private universities often see rates below 3%. For example, institutions like LPU and Galgotias outpace the combined filings of all IITs, yet secure negligible grants.
- **Ranking Arbitrage:** The National Institutional Ranking Framework (NIRF) weights the quantity of patent filings (30% weight for Research & Professional Practice). Educational institutions receive an 80% reduction in filing fees. This creates a loop like filing cheap patents then boosting NIRF Rank and then attracting more students/revenue.
- **Weak Commercialisation:** Even where patents are granted there are still limited industry transfer, poor startup spin-offs & low revenue from technology licensing.
- **Low R&D Incentives:** India's R&D expenditure remains around 0.64– 0.7% of GDP, compared to the USA (3-4%), Israel (5.7%) & South Korea (4.8%). Low private sector participation further weakens deep-tech innovation.
- **Showcase Culture over Substance:** Public summits and events often highlight prototypes and announcements. Without rigorous validation and market testing, innovation risks becoming symbolic rather than transformative.

Implications for India's AI Ambition

- If innovation remains procedural rather than problem-solving, India's AI goals face significant risks:
 - ♦ **Dependence on Foreign Hardware:** As seen in the "robodog" case, India risks being a "software skin" over foreign-made "hardware bones."
 - ♦ **Credential Inflation:** A surplus of frivolous patents dilutes the brand of "Indian Innovation," making it harder for genuine deep-tech startups to attract global venture capital.
 - ♦ **Erosion of Trust:** Misrepresentation at international summits damages India's credibility as a reliable partner in the global AI supply chain.
- However, **India possesses strong fundamentals** like a large AI talent pool, expanding digital infrastructure & huge domestic data scale.

Lessons from China and the World

- **The Chinese Model:** Two decades ago, "Made in China" was synonymous with cheap imitations. However, through relentless iteration and a focus on process innovation, China moved from imitation to dominance in 6G, EVs, and high-speed rail. They focused on "disciplined progress" rather than "premature proclamation."

- **The South Korean Model:** A focus on Translational Research Centres (TRCs) that bridge the gap between labs and markets, supported by one of the world's highest R&D-to-GDP ratios.
- **Silicon Valley Model:** Focus on more venture capital ecosystem, deep university-industry linkages & high tolerance for failure but strict market validation.

Comprehensive Reforms Needed

- **Outcome-Linked Incentives:** Shift government reimbursements from the filing stage to the grant and commercialization stages.
- **NIRF Overhaul:** Transition from counting "Patents Filed" to "Patents Granted" and, more importantly, "Revenue from IP Licensing."
- **Auditing and Accountability:** Establish a regulatory mechanism to audit institutions with abnormal filing-to-grant ratios to deter frivolous IPR activity.
- **Increase Private R&D Investment:** Enhanced tax credits & risk capital for deep-tech sectors (AI hardware, semiconductors, biotech).

Conclusion

- To truly become an AI powerhouse, India must shift from volumetric compliance to substantive excellence, ensuring that the "Made in India" label represents rigorous research rather than just "patriotic lighting."

Source: BL

Daily Mains Practice Question

[Q] Despite a record-breaking surge in Intellectual Property (IP) filings, India continues to grapple with the 'Valley of Death' in its innovation lifecycle." In light of the Economic Survey 2025-26, discuss the systemic challenges in translating academic research into commercial success.

