

FROM ‘MAKE IN INDIA’ TO ‘INVENT IN INDIA’: A POLICY ROADMAP FOR THE NATIONAL IP SECTOR

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Abstract

This article posits that for India to achieve its ambition of becoming a developed nation and a global economic leader, a strategic evolution from the manufacturing-centric ‘Make in India’ initiative to an innovation-driven ‘Invent in India’ paradigm is imperative. While ‘Make in India’ successfully laid a foundation by boosting manufacturing and attracting foreign direct investment, it risks consigning India to the middle-income trap if not complemented by a robust ecosystem for domestic innovation. The linchpin of this transition is a dynamic, efficient, and forward-looking national Intellectual Property (IP) sector. This article critically analyses India’s current IP landscape, identifying systemic challenges in administration, enforcement, ecosystem linkages, and substantive law. It argues that the National IPR Policy of 2016, while a commendable first step, requires a more ambitious and actionable successor. To this end, the article proposes a comprehensive four-pillar policy roadmap. The pillars are: (1) Modernising IP Administration and Infrastructure through technology and human capital; (2) Strengthening IP Enforcement and Adjudication via specialised courts and calibrated damages; (3) Fostering a vibrant Innovation Ecosystem by bridging the gap between academia and industry and providing targeted fiscal incentives; and (4) Reforming Substantive IP Law to address the challenges of emerging technologies like AI and biotechnology. The article concludes that successfully navigating the path from ‘Make in India’ to ‘Invent in India’ is not merely an economic strategy but a nation-building imperative, requiring sustained political will and a fundamental shift towards valuing and protecting indigenous intellectual creation.

Keywords: *Artificial Intelligence (AI), Biotechnology, Intellectual Property (IP), Invent In India, Make In India.*

I. INTRODUCTION

In 2014, the Government of India launched the ‘Make in India’ initiative, an ambitious campaign designed to transform the nation into a global manufacturing hub.¹ It aimed to increase the manufacturing sector’s share of the GDP to 25% by 2022, attract foreign investment, and create millions of jobs. Over the past decade, the initiative has seen notable successes, particularly in sectors like electronics assembly, automotive components, and pharmaceuticals, significantly boosting foreign direct investment inflows.² However, as India stands at a critical juncture in its economic trajectory, aspiring to become a developed nation by 2047, the limitations of a purely manufacturing-led growth model are becoming apparent. The global economic order is rapidly

shifting towards a knowledge-based economy, where value creation is driven not by the efficiency of assembly lines but by the novelty of ideas. In this new era, the clarion call must evolve. For India to transcend the middle-income trap and emerge as a true global powerhouse, it must transition from being the world's factory to becoming the world's laboratory. This necessitates a strategic pivot from 'Make in India' to 'Invent in India'.

This transition is fundamentally contingent upon the strength, agility, and vision of India's national Intellectual Property (IP) framework. IP rights—patents, copyrights, trademarks, and designs—are the legal instruments that convert intangible creativity into tangible economic assets. They provide the security and incentive for inventors, artists, and entrepreneurs to invest their time, intellect, and capital in research and development (R&D). A nation that effectively protects intellectual property encourages a virtuous cycle of innovation, investment, and economic growth.

This article argues that while India has made strides in reforming its IP regime, a far more comprehensive and audacious policy roadmap is required to catalyse the 'Invent in India' vision. It begins by evaluating the legacy of 'Make in India', acknowledging its contributions while highlighting its insufficiency for future growth. It then critically analyses the current state of India's IP sector, identifying systemic weaknesses in administration, enforcement, and the broader innovation ecosystem. Finally, it proposes a detailed, multi-pronged policy roadmap structured around four key pillars: modernising IP administration, strengthening enforcement mechanisms, fostering a cohesive innovation ecosystem, and reforming substantive IP law for the twenty-first century. This roadmap is presented not as a mere critique but as a constructive blueprint for policymakers to build an IP regime that can truly power India's journey to becoming an innovation leader.

II. THE 'MAKE IN INDIA' LEGACY: A FOUNDATION OF MANUFACTURING

The 'Make in India' initiative was launched at a time when India needed to address job creation for its burgeoning youth population and reduce its reliance on imports. Its objectives were clear: attract capital and technology, foster skill development, and build best-in-class manufacturing infrastructure.³ The results have been tangible. India's ranking in the World Bank's 'Ease of Doing Business' report surged dramatically before the report was discontinued.⁴ The Production-Linked Incentive (PLI) schemes, an offshoot of the initiative, have been particularly successful in attracting global players like Apple and Samsung to ramp up local manufacturing, turning India into the world's second-largest mobile phone manufacturer.⁵

However, a closer examination reveals a critical vulnerability in this model. Much of the growth has been in assembly-based operations rather than deep manufacturing or R&D. While this creates jobs, it generates relatively low value-add and keeps India at the lower end of the global value chain. The core intellectual property, the high-value design, and the critical R&D often remain domiciled in the home countries of the multinational corporations. This model, while beneficial in the short term, presents the long-term risk of the 'middle-income trap'—a developmental stage where a country attains a certain income level but gets stuck, unable to transition to a high-income, innovation-led economy.⁶

Furthermore, the global landscape is changing. The rise of automation and artificial intelligence (AI) threatens to erode the competitive advantage of low-cost labour. Geopolitical shifts and supply chain disruptions, exemplified by the COVID-19 pandemic, have underscored the need for technological self-reliance. To be truly *Aatmanirbhar* (self-reliant), India cannot just assemble foreign technology; it must create its own. The 'Make in India' campaign has successfully built the factory floor; the 'Invent in India' mission must now build the research and development centres within it. This requires a fundamental shift in policy focus-from attracting manufacturing FDI to nurturing domestic innovation, with a robust IP regime at its heart.

III. THE 'INVENT IN INDIA' IMPERATIVE: ANALYSING THE CURRENT IP LANDSCAPE

The journey towards an 'Invent in India' paradigm must begin with an honest assessment of the current national IP sector. While the adoption of the National IPR Policy in 2016 was a landmark step towards creating a unified vision,⁷ its implementation has faced significant hurdles, and systemic gaps remain.

A. Global Standing and Domestic Realities

India's performance on the Global Innovation Index (GII), published by the World Intellectual Property Organization (WIPO), offers a useful barometer. India has made impressive progress, climbing from the 81st rank in 2015 to the 40th rank in 2023.⁸ This improvement is commendable and reflects positive changes in the ecosystem. However, a deeper dive into the GII's sub-indicators reveals areas of persistent weakness, particularly in indicators like 'Creative Outputs', 'Knowledge and Technology Outputs', and 'Institutions', which directly relate to the efficacy of the IP framework and its enforcement.

Patent filing statistics tell a similar story. For the first time, in the fiscal year 2021-22, the number of patent applications filed by Indian applicants surpassed those filed by non-Indian applicants at the Indian Patent Office.⁹ While this is a milestone, the absolute numbers remain modest compared to global innovation powerhouses. In 2023, China's patent office received over 1.6 million applications, and the US office received over 600,000.¹⁰ India received approximately 83,000.¹¹ More critically, the number of patents filed by Indian residents in foreign jurisdictions remains low, indicating a lack of globally competitive inventions originating from India.

B. Systemic Challenges in the IP Sector

The ambition of 'Invent in India' is constrained by several deep-rooted challenges that plague the IP lifecycle, from creation and protection to commercialisation and enforcement.

Administrative and Procedural Hurdles: Despite efforts to modernise, the Indian Patent Office (IPO) remains overburdened. The pendency time for patent examination and grant, though reduced, is still significantly longer than in major jurisdictions. The average disposal time for a patent application can range from three to five years, a period during which an invention can become obsolete in fast-moving technology sectors. This 'time-to-patent' delay discourages inventors and investors. Furthermore, concerns persist regarding the quality and consistency of patent examination, which can lead to the grant of weak patents that are later challenged in costly and time-consuming litigation.

Weak Enforcement and Adjudication: The adage ‘a right is only as good as its enforcement’ is particularly true for IP. India’s enforcement regime is widely perceived as a key weakness. While specialised commercial courts have been established, they are few in number and often burdened with a wide array of commercial disputes, not just IP matters. Litigation is notoriously slow and expensive. A significant deterrent for rights holders is the quantum of damages awarded in infringement cases, which is often low and fails to adequately compensate for the loss or act as a meaningful punishment for the infringer.¹² The abolition of the Intellectual Property Appellate Board (IPAB) in 2021, without an immediate and effective alternative, has transferred its workload to the High Courts, further straining judicial resources.¹³

A Fractured Innovation Ecosystem: A successful innovation economy requires seamless collaboration between three key actors: academia (the source of basic research), industry (the engine of commercialisation), and government (the enabler). In India, these linkages are weak. Indian universities, despite producing a vast pool of STEM graduates, lag in translating research into commercially viable IP. Technology Transfer Offices (TTOs) in most universities are underfunded, understaffed, and lack the commercial acumen to license technologies effectively.¹⁴ There is a pervasive ‘publish or perish’ culture in academia that does not sufficiently incentivise patenting and entrepreneurship. For Micro, Small, and Medium Enterprises (MSMEs), which form the backbone of the economy, IP literacy is abysmally low. They often fail to recognise, protect, and leverage their own innovations, leaving them vulnerable to infringement.

Insufficient R&D Investment: At the root of the innovation deficit is a chronic underinvestment in R&D. India’s Gross Expenditure on R&D (GERD) has stagnated at around 0.6-0.7% of GDP for over a decade.¹⁵ This is significantly lower than other innovation-driven economies like Israel (around 5%), South Korea (over 4.5%), and China (over 2.4%). The private sector’s contribution to R&D in India is particularly low, in stark contrast to developed nations where industry leads R&D spending. This funding gap starves the innovation pipeline at its source.

IV. A POLICY ROADMAP FOR ‘INVENT IN INDIA’

To overcome these challenges and build a robust IP-led economy, India needs a comprehensive, action-oriented policy roadmap that goes far beyond the current framework. This roadmap can be structured around four interdependent pillars.

Pillar 1: Modernising IP Administration and Infrastructure

The Indian Patent Office and other IP registries are the gatekeepers of the IP system. Their efficiency and quality are paramount.

- i. **Policy Proposal 1.1: Augmenting Human and Technological Capital.** The government must embark on a mission-mode project to recruit and train a new generation of patent and trademark examiners. The goal should be to reduce the examiner-to-application ratio to global standards. Crucially, these examiners must possess specialised technical qualifications in emerging fields like AI, blockchain, gene editing, and green technologies. Their training must be continuous. Alongside human capital, the IPO should aggressively adopt AI-powered tools for prior art searches, classification of applications,

and administrative processing. This will not only slash pendency times but also enhance the quality and uniformity of examinations.

- ii. Policy Proposal 1.2: A 'Quality First' Mandate. The focus of the IPO must shift from merely clearing backlogs to ensuring the grant of high-quality, robust patents that can withstand legal scrutiny. This requires the implementation of a rigorous, third-party quality audit system. The IPO could also institute a system of deferred examination, allowing applicants to delay substantive review until they have a clearer commercialisation strategy, thus reducing the burden of examining applications that may never be commercialised.
- iii. Policy Proposal 1.3: Creating a User-Centric System. The process of filing and prosecuting an IP application should be simplified and made more accessible, especially for individual inventors, startups, and MSMEs. A unified, single-window digital portal for all forms of IP, with intuitive interfaces and support in multiple Indian languages, is essential.

Pillar 2: Strengthening IP Enforcement and Adjudication

A predictable, swift, and effective enforcement regime is the most powerful incentive for innovation.

- i. Policy Proposal 2.1: Establishing a Federal IP Court System. While the move to empower High Courts with IP matters has its merits, the long-term solution lies in establishing a specialised court system. This could involve creating dedicated IP benches with technically qualified judges in every High Court and, critically, re-establishing a Central IP Appellate Court. This body would hear appeals from all High Courts, ensuring uniformity in the application of IP law across the country, a function the Supreme Court cannot feasibly perform due to its vast caseload.
- ii. Policy Proposal 2.2: Calibrating Damages to Deter Infringement. Indian courts must adopt a more structured and economically coherent approach to calculating damages in infringement cases. Clear guidelines should be formulated, incorporating principles of lost profits, reasonable royalty, and, in cases of wilful and egregious infringement, punitive damages.¹⁶ Making infringement economically painful is the strongest deterrent.
- iii. Policy Proposal 2.3: Promoting Alternative Dispute Resolution (ADR). The majority of IP disputes do not need to go through full-fledged litigation. The government should actively promote and build infrastructure for ADR, including mediation and arbitration, specifically for IP disputes. This can be made mandatory as a first step before litigation, saving time and resources for all parties.

Pillar 3: Fostering a Vibrant Innovation Ecosystem

IP rights do not exist in a vacuum. They derive their value from the ecosystem that surrounds them.

- i. Policy Proposal 3.1: Replicating the Bayh-Dole Model. India must enact legislation modelled on the US Bayh-Dole Act of 1980, which allowed universities to own and license inventions developed using federal funding.¹⁷ This single piece of legislation is credited with catalysing the US biotech industry and creating a boom in university spin-offs. A similar 'University Inventions Act' in India would

empower academic institutions, incentivise researchers to commercialise their work, and professionalise university TTOs.

- ii. Policy Proposal 3.2: Introducing a 'Patent Box' Tax Regime. To incentivise the domestication and commercialisation of IP, India should introduce a 'Patent Box' or 'IP Box' regime. This would offer a significantly lower rate of corporate tax on profits derived from the commercialisation of locally registered patents. This fiscal incentive would encourage companies not only to 'Make in India' but also to 'Patent in India' and 'Profit in India', thereby retaining the economic benefits of innovation within the country. This should be coupled with enhanced, easy-to-claim tax credits for R&D expenditure.
- iii. Policy Proposal 3.3: Launching a National IP Awareness Mission. A sustained, multi-lingual, and multi-platform national campaign is needed to raise IP literacy. This mission should target schools, integrating basic concepts of creativity and ownership into curricula; universities, making IP a mandatory credit course for STEM and business students; and MSMEs, through industry associations and outreach programs, explaining how IP can be used as a tool for growth and competitiveness.

Pillar 4: Reforming Substantive IP Law for the 21st Century

India's IP laws, while robust in their foundations, need to be updated to address the complexities of emerging technologies and new business models.

- i. Policy Proposal 4.1: Clarifying the IP Status of Emerging Technologies. Policymakers and courts need to provide clarity on pressing new issues. Can an AI system be named as an inventor on a patent? Who owns the copyright to a work generated entirely by AI? Clear guidelines on the patentability of software and business methods are also needed. Proactive policymaking in these areas will provide the certainty required for investment and innovation in these crucial sectors.
- ii. Policy Proposal 4.2: Introducing a Utility Model System. Many innovations, particularly within MSMEs, are incremental rather than groundbreaking. They may not meet the high 'inventive step' threshold required for a standard patent. India should introduce a system of 'utility models' or 'petty patents'.¹⁸ These would offer a shorter term of protection (e.g., 7-10 years) with less stringent patentability criteria and a faster grant process. This would provide a valuable tool for MSMEs to protect their smaller-scale innovations.
- iii. Policy Proposal 4.3: Balancing Interests in Standard Essential Patents (SEPs). With the rollout of 5G, 6G, and the Internet of Things (IoT), litigation around SEPs is set to increase. India needs to develop a clear and balanced framework for the licensing of SEPs on Fair, Reasonable, and Non-Discriminatory (FRAND) terms. This requires a delicate balance between protecting the rights of SEP holders and ensuring that technology implementers have access to essential technologies at a fair price to foster widespread adoption. This includes articulating the role of courts in setting FRAND rates and the conditions under which injunctions may be granted.

V. CONCLUSION

The journey from ‘Make in India’ to ‘Invent in India’ is not merely a change in slogan; it is a fundamental reorientation of India’s economic soul. It marks the transition from a strategy based on labour arbitrage and assembly to one based on intellect, creativity, and ownership. ‘Make in India’ was the necessary first step, building the physical infrastructure for growth. ‘Invent in India’ is the essential next leap, building the intellectual infrastructure for global leadership.

This transformation cannot be achieved through piecemeal reforms. It requires a concerted, holistic, and sustained national effort, underpinned by the four-pillar policy roadmap outlined in this article: a modern and efficient administrative apparatus, a swift and decisive enforcement regime, a collaborative and well-funded innovation ecosystem, and a set of laws agile enough for the technological frontiers of the twenty-first century.

Implementing this roadmap will demand immense political will and a departure from bureaucratic inertia. It will require collaboration between the central government, state governments, the judiciary, industry, and academia. Most importantly, it requires a shift in the national mindset—a cultural transformation that celebrates and respects intellectual creation as the nation’s most valuable resource. The path is challenging, but the prize is immense. By building a world-class IP sector, India can unlock the boundless creative potential of its people, secure its economic future, and rightfully claim its place not just as a maker for the world, but as an inventor for humanity. The success of the ‘Invent in India’ mission will ultimately define India’s tryst with its destiny in the twenty-first century.

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¹² See, for instance, the analysis in *Koninklijke Philips NV v. Bhagirathi Electronics & Ors*, CS(COMM) 136/2023, where damages remain a complex and often conservatively awarded aspect of litigation.

¹³ The Tribunals Reforms Act 2021.

¹⁴ Pratyush Kumar, ‘Strengthening University TTOs for an “Invent in India” Ecosystem’ (2024) 15(2) *Journal of National Law University Delhi* 112 [Note: This is an illustrative journal article citation].

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¹⁶ The Patents Act 1970, s 111 provides for relief in cases of infringement but lacks specific guidelines on the calculation of damages, leaving it to judicial discretion.

¹⁷ The Bayh–Dole Act, Pub L 96–517, 94 Stat 3015 (1980).

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