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Daily SARAANSH

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## VIKSIT BHARAT@2047: TRANSFORMATIVE REFORMS

India's vision for Viksit Bharat@2047 aims to transform the country into a USD 30 trillion, developed economy by its 100th year of independence, powered by reforms across all sectors. **Following reforms are imperative for India to realise this vision:**

### CIVIC – Governance & Bureaucracy Reforms

| C | I | V | I | C |
|---|---|---|---|---|
| **Cut the Compliance Burden** | **Institutions for Accountability** | **Voter & Electoral Reforms** | **Inclusive Cities & Federalism** | **Cyber & Digital Public Infra** |
| Reduce 69,000+ compliances, implement Regulatory Impact Assessment (RIA) for effective policies. | Modernize bureaucracy with lateral entry, independent Civil Services Board, and faster judicial processes. | Enhance voter education, improve electoral funding transparency. | Build livable cities with affordable housing and better GST cooperation for fiscal discipline. | Expand AI-enabled governance and secure digital infrastructure for inclusive growth. |

### LIBERATE – Economic Reforms

| | | |
|---|---|---|
| L | **Labour & Land** | Implement labour codes, streamline land acquisition. |
| I | **Inflation Targeting** | Strengthen CPI basket for price stability. |
| B | **Banks & Bankruptcy** | Strengthen banking system, speed up IBC resolutions. |
| E | **Ease of Doing Business** | Swift implementation of Jan Vishwas Act to decriminalize minor offences. |
| R | **Research & Development** | Raise R&D spending to 2% of GDP, involve private players in innovation. |
| A | **Asset Sales** | Disinvest loss-making PSUs to unlock capital. |
| T | **Tax Reform (GST)** | Simplify GST and include more sectors like fuel, electricity, and real estate. |
| E | **Empower Consumers & Investors** | Improve market transparency, strengthen protection and redressal systems. |

### MADE — Industrial & Manufacturing Reforms

| M | A | D | E |
|---|---|---|---|
| **MSMEs & Markets** | **Atmanirbhar in Defence** | **Deregulation** | **Energy & Exports** |
| Revive MSMEs, improve credit access, and allow global listings. | Increase defence spending to 3% of GDP, scale domestic production. | Streamline factory paperwork with a single-window system, simplify zoning laws. | Expand renewable energy capacity and promote international standards for high-value exports. |

### FARM – Agriculture Reforms

| F | A | R | M |
|---|---|---|---|
| **Finance & Fertility** | **Agri Markets & Export** | **Rural Livelihoods** | **Market & Land Security** |
| Improve farm credit access, replace subsidies with direct cash transfers. | Expand APMC coverage, allow private procurement, boost agricultural exports. | Promote dairying, poultry, and ethanol blending for farmers' income. | Replace MSP with comprehensive insurance, digitize land ownership via Blockchain. |

## LEARN – Education Reforms

| | | |
|---|---|---|
| **L** | **Literacy & Learning** | Spend 6% of GDP on education, focus on foundational skills and teacher training. |
| **E** | **Education Regulation** | Strengthen higher education regulators, reduce administrative burdens. |
| **A** | **Acquire Skills Early** | Integrate vocational training to bridge industry-academia gaps. |
| **R** | **Reach Global Standards** | Attract top foreign universities, improve sports infrastructure. |
| **N** | **Nurture Innovation & Digital Learning** | Promote digital learning and reforms in testing systems. |

## CURE – Health Reforms

| C | U | R | E |
|---|---|---|---|
| **Coverage & Care** | **Unified Standards** | **Records & Rights** | **Encourage Innovation** |
| Guarantee Universal Health Coverage under Ayushman Bharat. | Mandate hospital accreditation, improve health product labelling. | Ensure health data ownership and security under Ayushman Bharat Health Account (ABHA). | Promote domestic MedTech start-ups and create a national trauma care grid. |

## GREEN – Environment & Sustainability Reforms

| | | |
|---|---|---|
| **G** | **Green Manufacturing & Hydrogen** | Promote eco-friendly industrial practices and green hydrogen adoption. |
| **R** | **Renewable Energy & Battery R&D** | Expand renewable energy and reduce dependence on energy storage imports. |
| **E** | **Emissions & Carbon Trading** | Develop structured carbon markets and policies to prevent fraud. |
| **E** | **Environmental Protection & Waste Management** | Improve air quality monitoring and e-waste management. |
| **N** | **Nature & Climate- Resilient Urban Planning** | Plan climate-resilient cities under the Smart Cities Mission. |

## TRIP – Infrastructure Reforms

| T | R | I | P |
|---|---|---|---|
| **Transport Modernisation** | **Regulate & Rationalise** | **Infrastructure Indexing** | **Ports & Logistics** |
| Invest in Hyperloop, bullet, and driverless trains, and improve public transport systems. | Promote green freight and multimodal hubs for logistics. | Create a public infrastructure dashboard for equitable development. | Develop world-class ports, digitized cargo systems, and efficient logistics hubs. |

## IDEAS – Tech & Digital Reforms

| | | |
|---|---|---|
| **I** | **Invest in AI & Emerging Tech** | Expand India's AI ecosystem, invest in domestic cloud and chip fabrication. |
| **D** | **Digital Rights & Consumer Protection** | Implement Digital Personal Data Protection Act for secure data management. |
| **E** | **Education & Skills for the Future** | Integrate ethics and digital civics into STEM education. |
| **A** | **Audits & Ethics in Technology** | Implement ethical AI laws and Tech Impact Assessments for start-ups. |
| **S** | **Security, Crypto & Innovation** | Modernize cybersecurity and set clear rules for cryptocurrency. |

# INDIA'S PATENT ECOSYSTEM

India's Make in India ambition is closely tied to innovation, and a robust patent ecosystem is essential for this.

### India's Patent Landscape: Key Trends

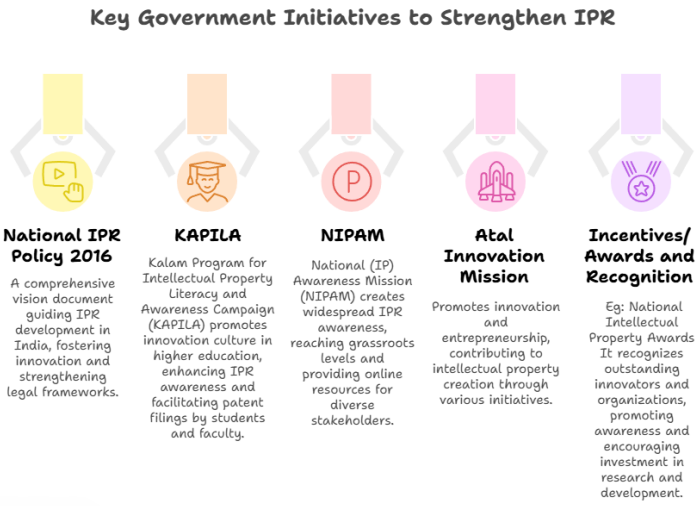
**Patent Filings**
- → India ranked 6th in global patent filings in 2023.
- → >1 lakh patents granted in FY24 – 17-fold increase since 2015.
- → In last five years, India saw a 44% rise in total IP filings – patents, trademarks, designs, and GIs.

**Role of Universities** → Educational institutions like IIT Madras are boosting the patent ecosystem, with IIT-M doubling its patents in 2022-2023.

**Growth in Trademarks** → India ranked 4th globally in trademarks (WIPO 2024), with applications growing from 2 lakh (2016-17) to 4.8 lakh (2023-24).

## CLOG — Challenges in India's Patent Pipeline

- **C —** Concentrated on Foreign Filings: 74% of patents granted in India are to foreign entities, overshadowing Indian innovation.
- **L —** Low R&D Investment: India spends just 0.67% of GDP on R&D, limiting the creation of high-quality patents.
- **O —** Overburdened & Outdated Processes: Patent approval in India takes an average of 58 months, far longer than 20 months in China and 21 months in the US.
- **G —** Gaps in Enforcement: Inadequate IP protection, slow judicial processes, and rising digital piracy hinders safeguarding of creators' rights in India.




## REFORM — Strategy to Transform the Patent Ecosystem

- **R —** Regulatory & Legal Reforms: Establish dedicated IP courts and review outdated laws (Patents Act, 1970) to facilitate the patenting of emerging technologies like AI.
- **E —** Ecosystem Building: Foster partnerships between academia, industry, and govt to establish innovation hubs and incubators that promote research and patent filings.
- **F —** Fuel R&D Investment: Robust tax incentives and venture capital funding to boost private sector investment in R&D.
- **O —** Optimize Processes: Modernize the patent office with digital portals and use AI for prior-art searches to streamline the patenting process.
- **R —** Resource Mobilization: Expand the number of skilled examiners and upgrade patent offices with AI-enabled tools for faster processing.
- **M —** Mobilize Global Partnerships: Engage in int'l collaborations like with WIPO for cross-border filings and attracting foreign investment.

# SATELLITE INTERNET

Starlink has received a Unified Licence to provide satellite internet services in India.

- Satellite internet uses orbiting satellites (or mega-constellations) to transmit data between user terminals on Earth and space-based infrastructure. Satellites deployed in 3 mains orbits:

> **Contextual Reference:** Commercial satellite internet services are not yet operational in India.

| ORBIT | ALTITUDE | LATENCY | COVERAGE | EXAMPLES |
|---|---|---|---|---|
| Geostationary (GEO) | ~35,786 km above equator | High | ~1/3rdof Earth's surface | Viasat Global Xpress |
| Medium Earth Orbit (MEO) | 2,000–35,786 km | Lower than GEO | Requires constellations for global coverage | O3b MEO |
| Low Earth Orbit (LEO) | > 2,000 km | Very low | Smaller coverage per satellite | Starlink |

## Key Potential Applications

- Connectivity & Communications: Provides internet in remote areas via compact user terminals.
- Transport & Logistics: Enhances navigation, supports autonomous vehicles, improves logistics, early warning systems, and coordinated disaster response.
- Healthcare & Agriculture: Facilitates telemedicine, remote monitoring, precision farming, and optimized resource use.
- Strategic & Environmental Uses: Aids defense operations, energy exploration, and environmental monitoring.

### Key Satellite Internet Projects

- Starlink – SpaceX (LEO)
- Qianfan or G60 Starlink Constellation – China (Planned, LEO)
- OneWeb – Eutelsat, France (2nd largest satellite constellation)
- Project Kuiper – Amazon (LEO)

## GOLDEN DOME MISSILE DEFENSE SYSTEM

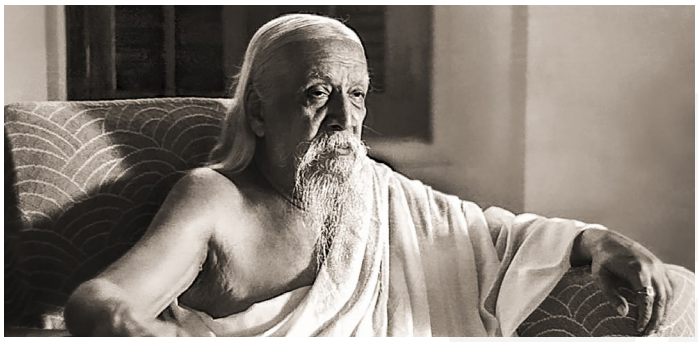
The **US has finalized the design of the Golden Dome**, an **advanced multilayered missile defense system** that uses **satellite-based sensors** and interceptors to **intercept missiles during the boost phase.**

### Global Missile Defence Systems

| SYSTEM | RANGE (KM) | FEATURES |
|---|---|---|
| **Iron Dome (Israel)** | 70 | Intercepts rockets and drones targeting populated areas; **radar-based detection** |
| **S-400 Triumph (Russia)** | 400 | **Multi-missile system;** engages stealth aircraft, cruise missiles, and multiple targets |
| **Barak-8 (Israel/India)** | 70–100 | Land and naval system; **360° protection** against aircraft, missiles, and UAVs |
| **HQ-9 (China)** | 125 | Inspired by S-300; intercepts **UAVs,** aircraft, ballistic and cruise missiles |

## PERSONALITY IN NEWS:

## AUROBINDO GHOSE



- **Born:** 15th August 1872, Calcutta
- **Died:** 5th December 1950, Pondicherry
- **Revolutionary Career:** Advocated radical nationalism; Criticized Congress' moderate approach in *New Lamps for Old*; Arrested in the **Alipore Bomb Case (1908) - defended by Chittaranjan Das**
- **Spiritual Contributions:** Founded **Sri Aurobindo Ashram (1926)**, collaborated with **The Mother (Mirra Alfassa)** to establish **Auroville**
- **Literary Works:** *The Life Divine, Savitri, Essays on the Gita, The Synthesis of Yoga, Defense of Indian Culture*
- **Journals & Movements:** Contributed to **Bande Mataram, Jugantar, Karmayogi;** Associated with **Anushilan Samiti**
- Legacy: Early proponent of India as a Vishwa Guru, emphasizing spiritual leadership, decolonization, and pride in Indian civilization

## PLACE IN NEWS:

## DIBRU-SAIKHOWA NATIONAL PARK


**7 NATIONAL PARKS IN ASSAM**

- 6th : Raimona National Park (Notified in 2021)
- 7th : Dihing Patkai National Park (Notified in June 2021)

DSNP is witnessing ecological changes due to native *(simalu, ajar)* and invasive plant species *(Chromolaena odorata, Parthenium, etc.)*.

- **Location: Assam**, bounded by **Brahmaputra** and **Lohit Rivers** (north), **Dibru River** (south).
- **Vegetation & Climate:** Semi-evergreen, deciduous, **largest Salix swamp forest** in northeast India. Tropical monsoon climate.
- **Key Species: Only habitat of feral horses** in India, Bengal florican (critically endangered), hog deer (endangered), and swamp grass babbler (endangered)
- **Protected Status: Biosphere Reserve** (1997), **Important Bird Area (IBA)**

## US-RUSSIA ALASKA SUMMIT

The **summit ended without a final agreement**, leaving the **Russia-Ukraine conflict** unresolved. The potential impacts of the failure of this summit include:

- **Geopolitical Impact:** Complicates global diplomatic efforts and prolongs the uncertainty around the Russia-Ukraine conflict, with concerns over security guarantees, territorial concessions, and the **NATO**'s role.
- **Disruption in India-US Trade Ties:** The US is targeting countries like India (which imports 35-40% of its oil from Russia) to reduce Russia's oil revenue (US imposed a 50% tariff on Indian exports).
  - A proposed 500% tariff bill in the US Congress could target nations aiding Russia's war economy.

## ESCHERICHIA COLI BACTERIA

Researchers have **genetically engineered *E. coli* bacteria (gram negative)** into self-powered chemical sensors.

- **Unlike fragile, costly enzyme-based biosensors**, this whole cell biosensor is cheaper, robust, self-repairing, and functions well in complex environments.
- **Applications:** Can detect water toxins, monitor pollution, assess health risks, integrate with portable electronics, and advance bioelectronics.

> Most E. coli strains are harmless, but **Shiga toxin-producing E. coli (STEC)** can cause severe illness, transmitted through contaminated meat, milk, and vegetables.