WIPO
ICT Leadership
Dialogue
(WILD)

Empowering IP Ecosystems through Data, Strategy and Governance

Dr. Vivek Kumar Singh
Senior Adviser, NITI Aayog

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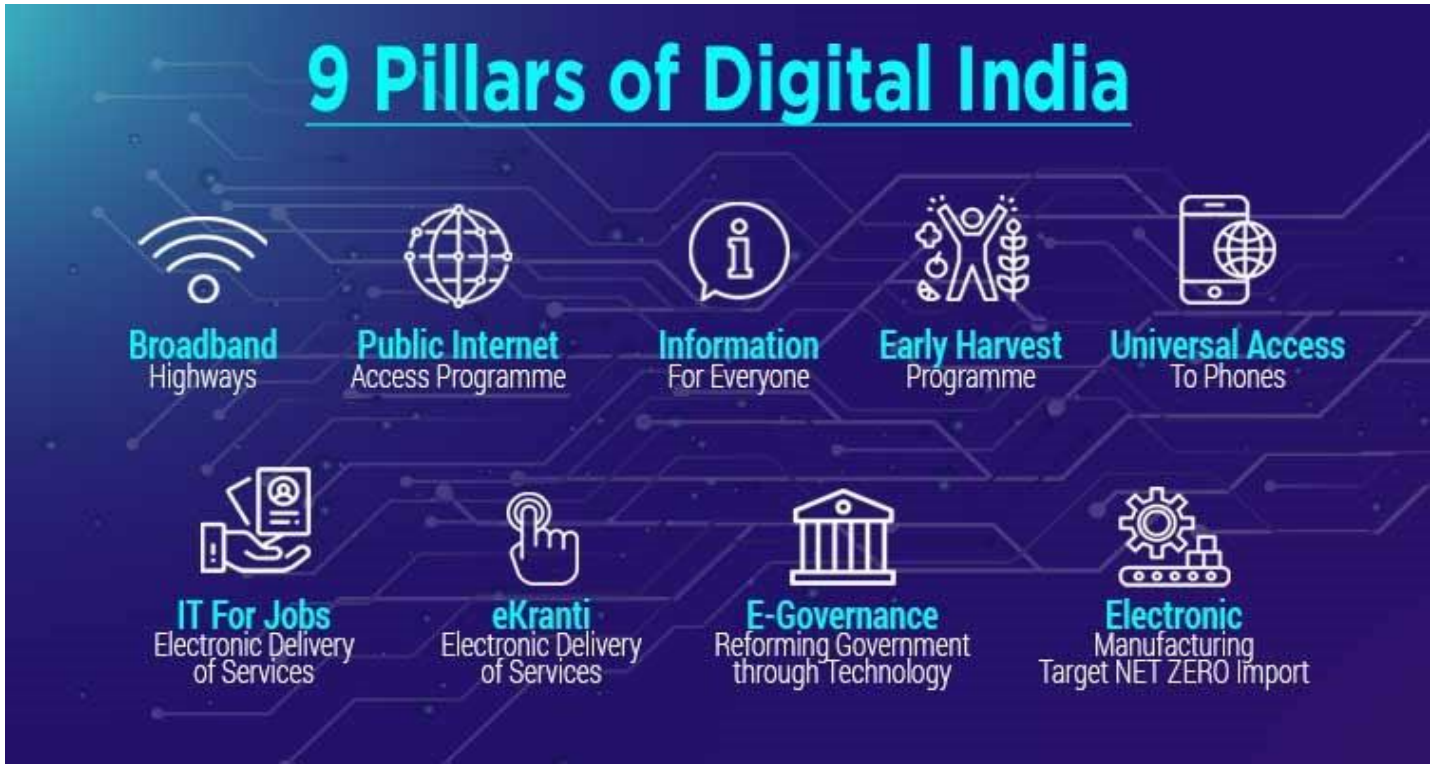
Digital India

The Digital India Initiative, launched in Jul. 2015, has three core components:

- development of secure and stable digital infrastructure,
- delivering government services digitally, and
- Empowering citizens through universal digital literacy.

From digital villages to e-districts, its impact is felt nationwide, **promoting digital literacy and financial inclusion**.

These technologies have catalyzed an **era of application-oriented research and entrepreneurship**.



AADHAAR UPI UNIFIED PAYMENTS INTERFACE DigiLocker Co-WIN Winning Over Covid-19 GSTN

Digital India Power To Empower BHASHINI FASTag Easy to Cruise DIKSHA ONDC Open Network for Digital Commerce

Leveraging IndiaStack for Seamless Interoperability

- India Stack is a **comprehensive set of open APIs and digital infrastructure layers** developed to facilitate the creation of secure, scalable, and interoperable systems.
- It empowers governments, businesses, startups, and developers to innovate and deliver digital services effectively.
- **India Stack is a prime example of a Digital Public Infrastructure (DPI)** that aims to address the challenges of financial inclusion, governance, and access to public services in a country as diverse and large as India.
- It integrates various digital technologies to create a seamless, citizen-centric ecosystem that simplifies processes, reduces inefficiencies, and promotes innovation.

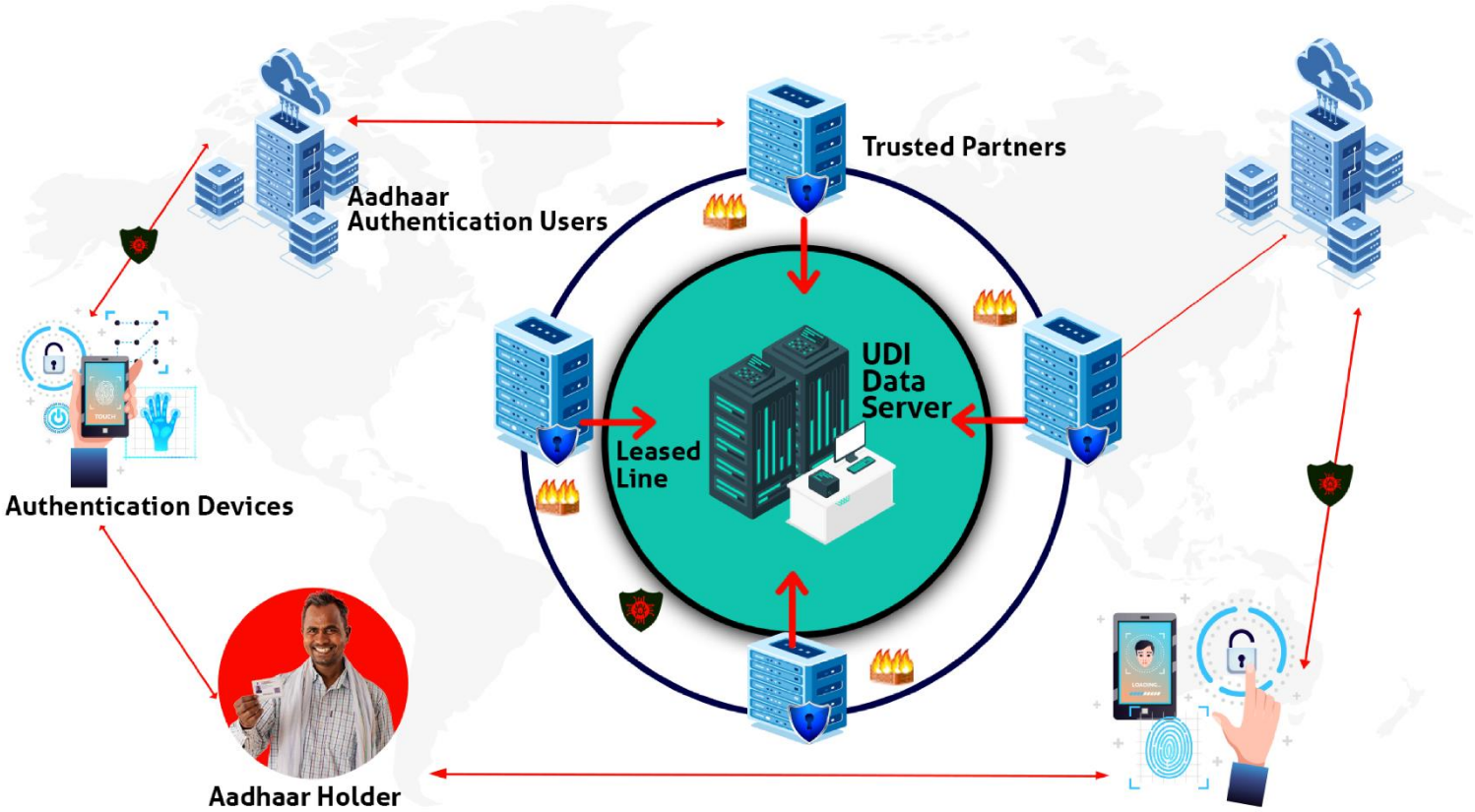
Statistics of Success

67 billion	14.05 trillion	8.6 billion	10
Total number of digital identity verifications	INR total value of monthly real-time mobile payments	Total volume of monthly real-time mobile payments	Operational Account Aggregators

Foundational Role of Aadhaar

Aadhaar is a **unique 12-digit identification number assigned to Indian citizens** based on their biometric and demographic data.

It is a foundation for various digital services, including authentication and eKYC (Know Your Customer) processes.



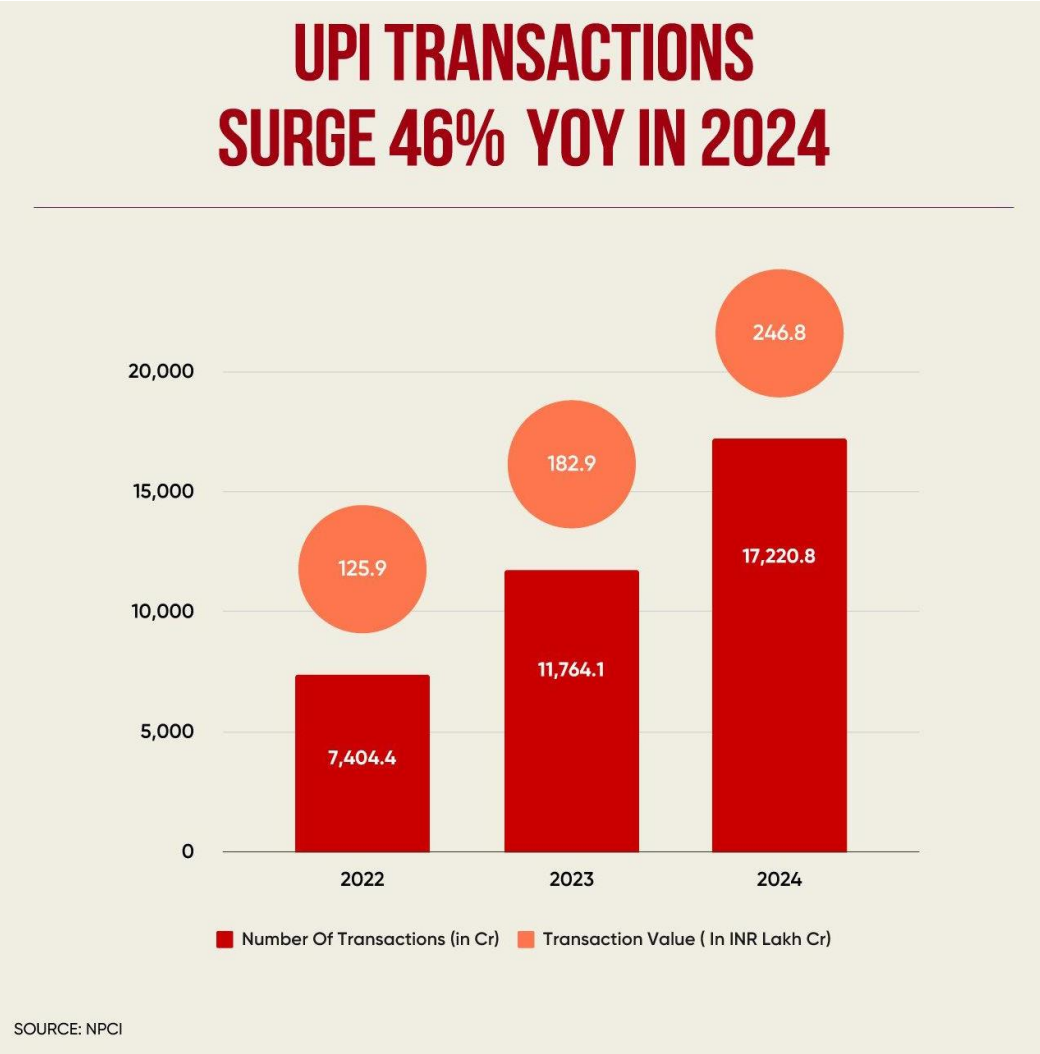
Enrolment	Update	Authentication	eKYC
1,411,808,522	1,072,773,864	128,418,641,151	21,804,757,459
Aadhaar Generated	Aadhaar Updated	Authentication Done	eKYC Done

UPI - Revolutionizing Digital Payments

Unified Payment Interface (UPI) is a real-time payment system that facilitates instant fund transfers between bank accounts using mobile phones.

It simplifies peer-to-peer transactions and enables cashless payments.

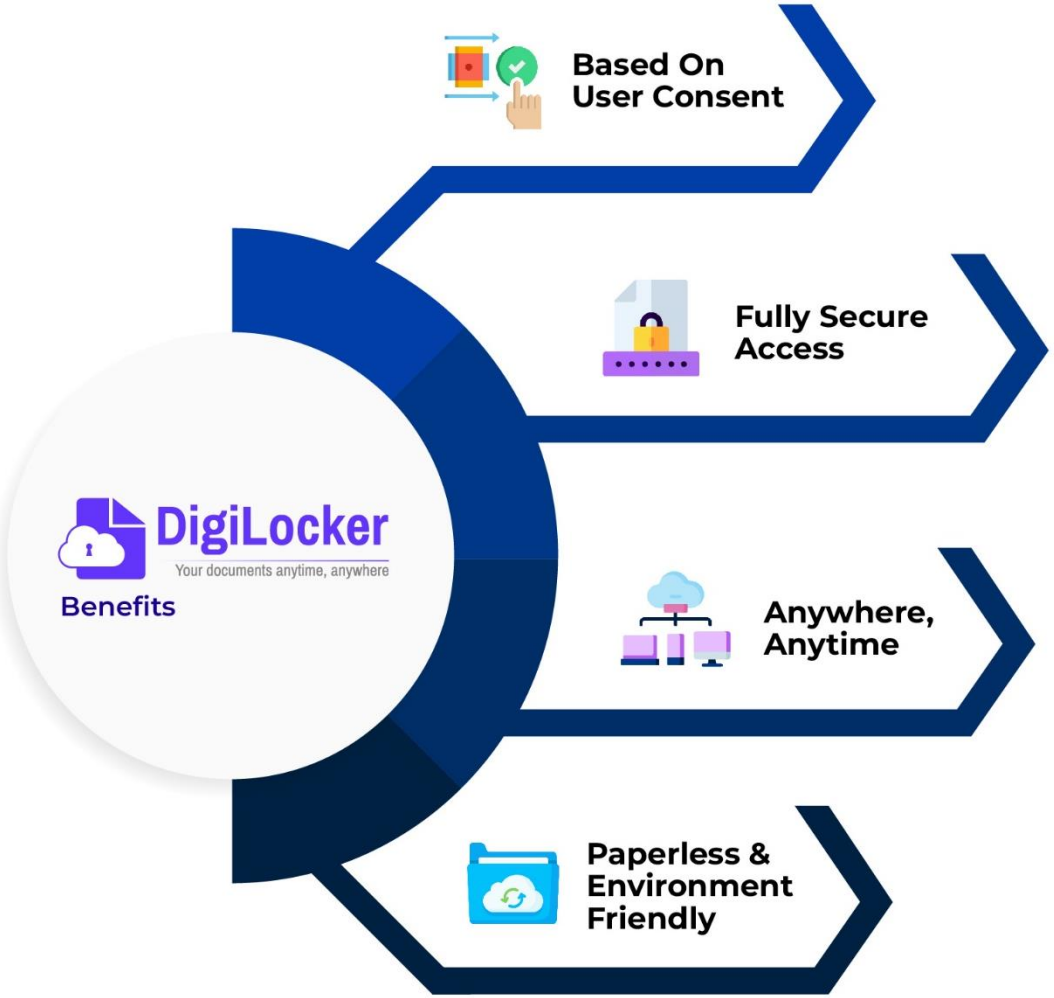
Overseas markets accepting UPI payments include Bhutan, France, Mauritius, Nepal, Singapore, Sri Lanka, UAE, to name a few.

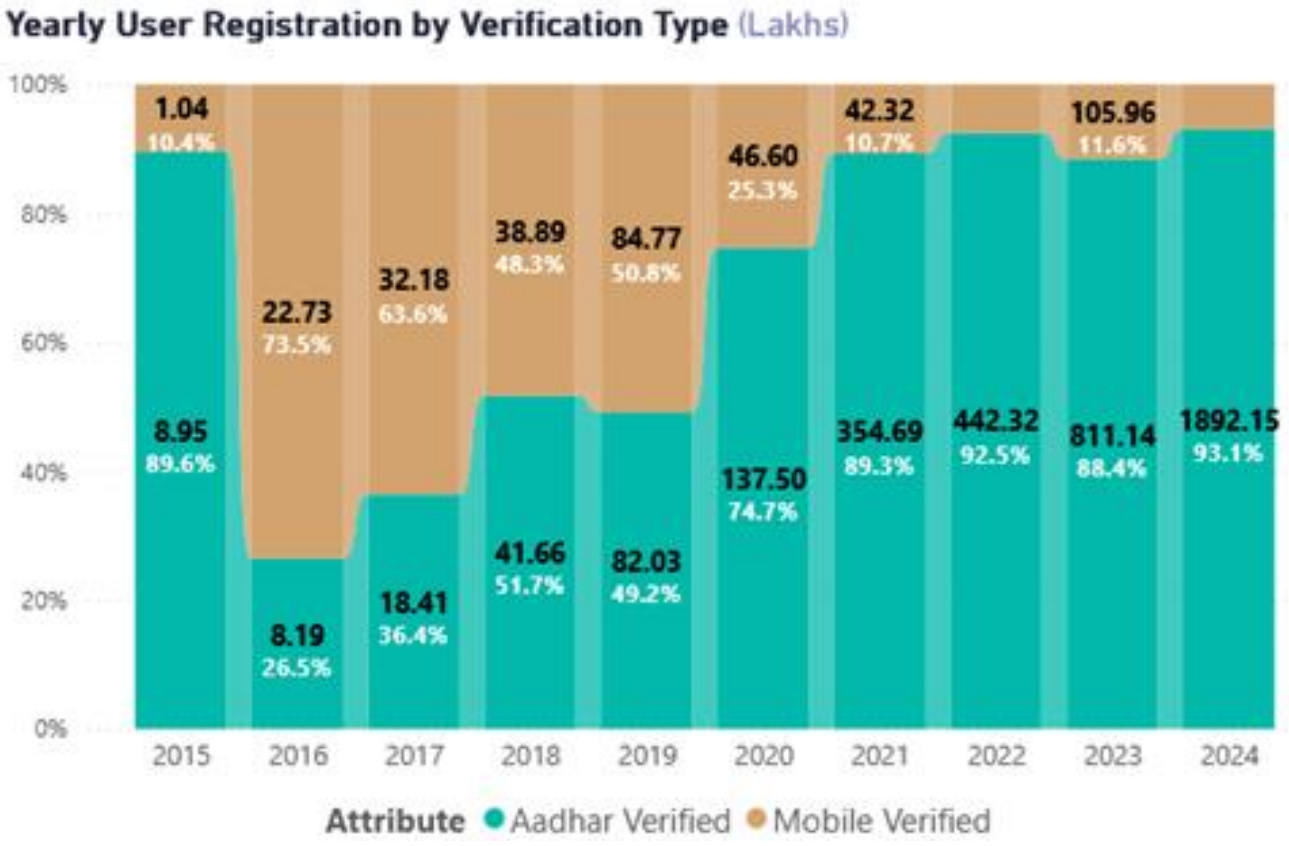


UPI hits record with **₹18.30 billion** in transactions in March 2025

Source: NPCI Data

DigiLocker – Enabling Paperless Governance



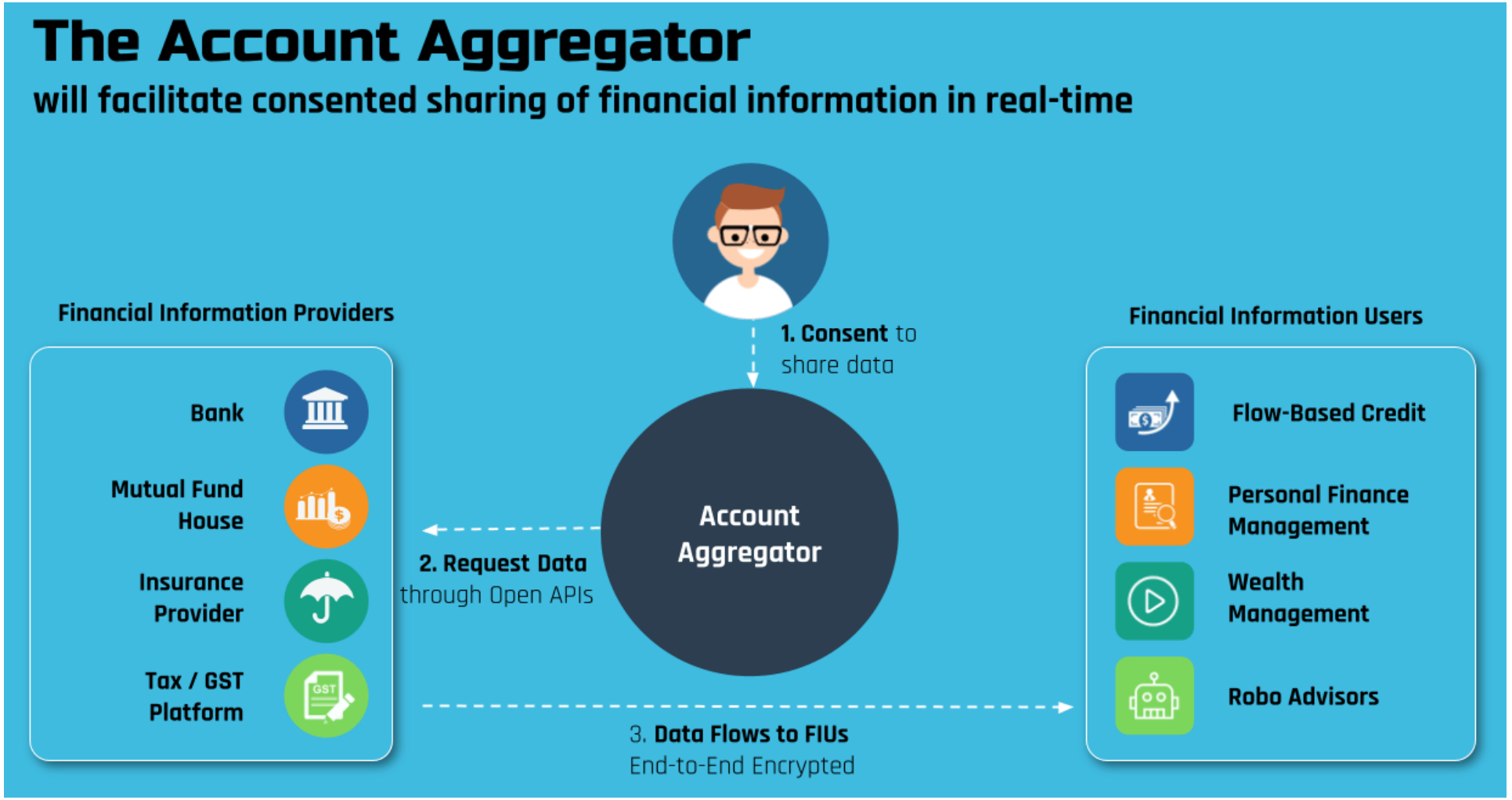


DigiLocker allows individuals to store and share their documents and certificates electronically and securely. It reduces the need for physical documents and streamlines administrative processes.

Data Empowerment and Protection Architecture (DEPA)

DEPA represents India's attempt at creating ***'a secure consent-based data sharing framework'*** to accelerate the financial inclusion of its citizens.

In a nutshell, DEPA empowers people to seamlessly and securely access their data and share it with third-party institutions.



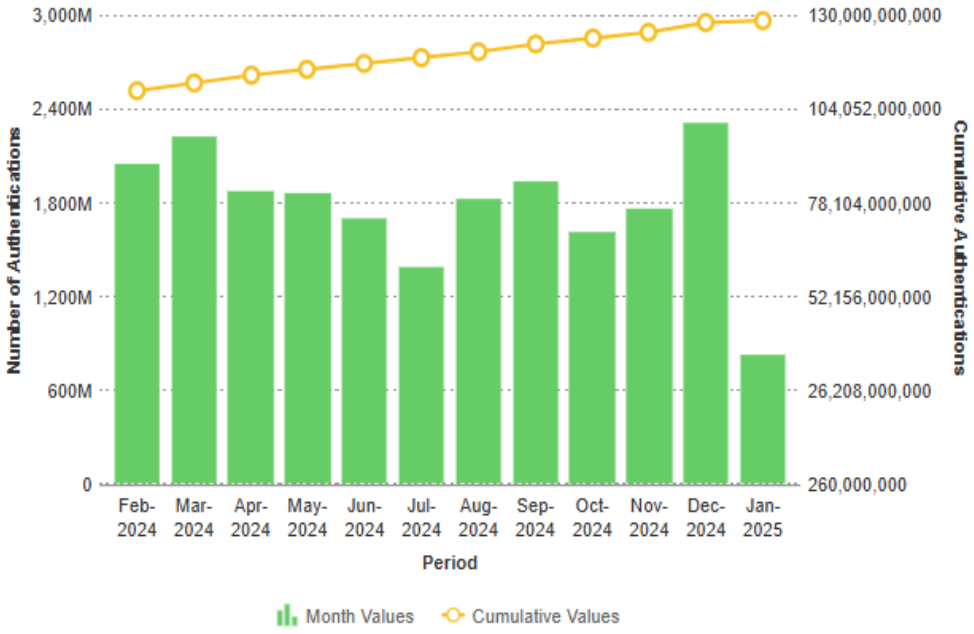
An “India Way” for the World on Data

DEPA is a transformative platform that shows a **new India model** of data protection, sharing, consent, and privacy quite distinct from other models around the world.

The India model of data governance is one that is **inclusive, sensitive to the needs of the poor, technologically innovative and robust**, and continues to drive and stimulate economic and business value.

DPI making the Government more Efficient

Authentication Trends



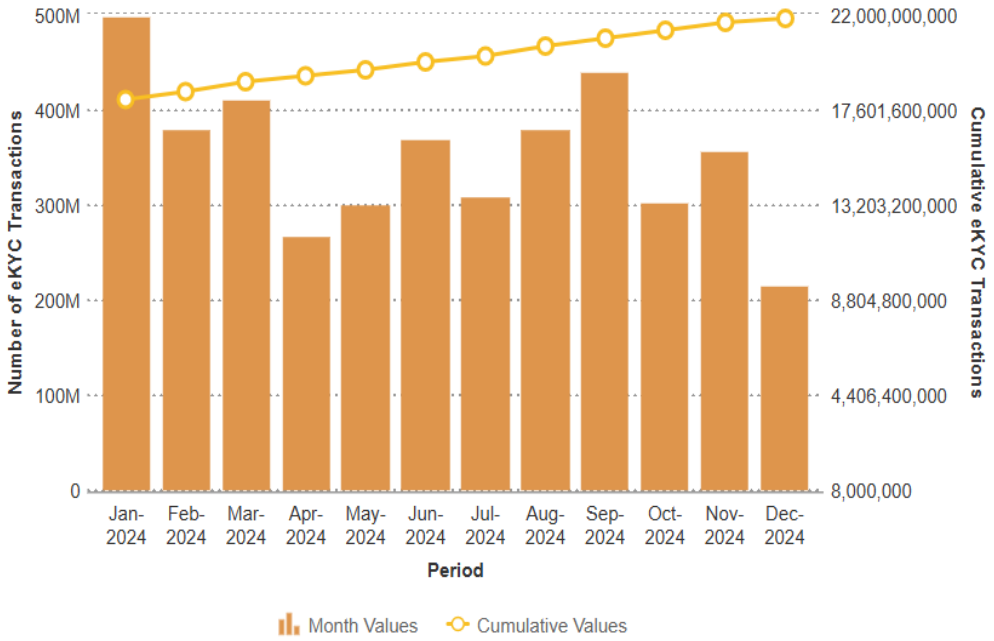
130 Billion
Cumulative Authentications

2.5 Billion
Monthly Authentications

$350 Billion
Direct Benefit Transfer

1.2 Billion
Beneficiary Transactions

eKYC Trends



4.3x Growth
in Tax Collection

3.9x GDP Growth
(FY10 to FY24)

Why Data Matters for India's IP Ecosystem

Context

- India’s push to become a global innovation and knowledge economy.
- Increasing volume and complexity of IP filings across sectors.
- Need for evidence-based policymaking and responsive service delivery.

Key Drivers

- Government policies fostering digital inclusion and innovation.
- Rising stakeholder expectations for faster, transparent IP processes.
- Robust digital infrastructure supporting seamless growth.

Focus

- India Stack: The backbone of digital growth and inclusive economy.
- Enabling efficient, secure services like identity, payments and data exchange.
- Unlocking possibilities for seamless IP service delivery and public access

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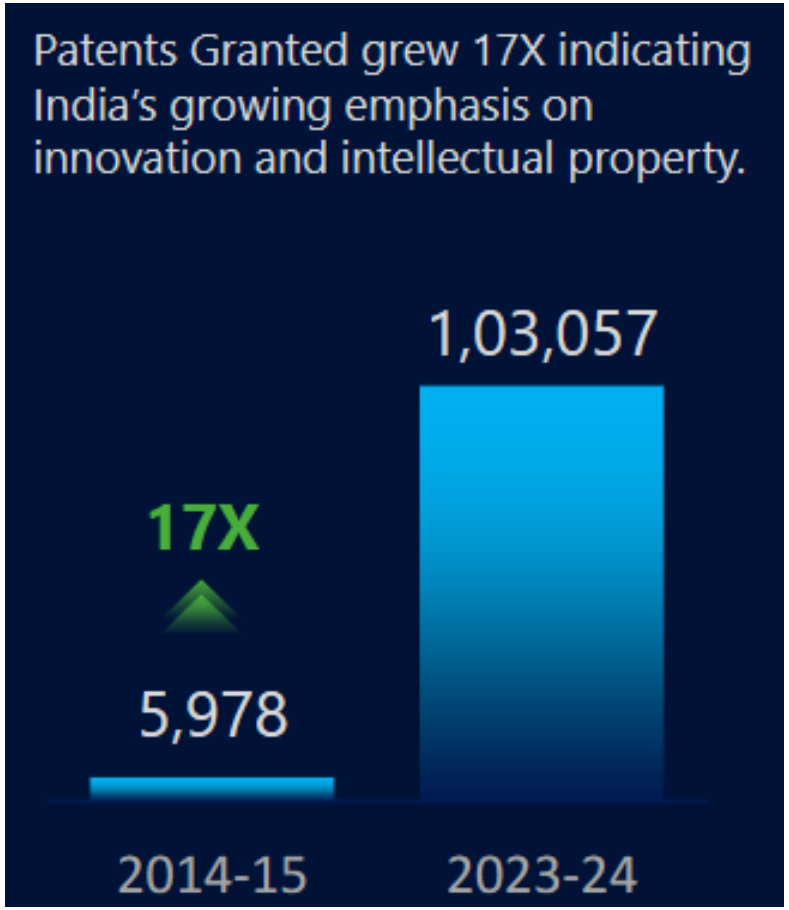
India’s growing Research Output

- India’s research publication has increased significantly during the last 10-15 years. The growth rate during 2010-2020 was 9.4% (against the world average of 4.3%).
- India’s global publications share increased from 3.1% in 2010 to 5.1% in 2020.
- Patent applications from Indian residents has increased from 25.5% (in 2013-14) to 56% (in 2023-24).
- India’s Patent-to-GDP ratio rose from 144 (in 2013) to 381 (in 2023).



3rd Largest
producer of academic research papers globally

1.3 Million
Papers published between 2017 and 2022

(Source: IP India)

Building Institutional Capacity for a Data-driven IP Ecosystem

Strategic Pillars

- Centralized & Standardized Data Architecture
- Real-Time Insights & Predictive Analytics
- Integrated Data Systems across Verticals
- Open & Usable Public IP Datasets
- Policy Development through Data Forecasting

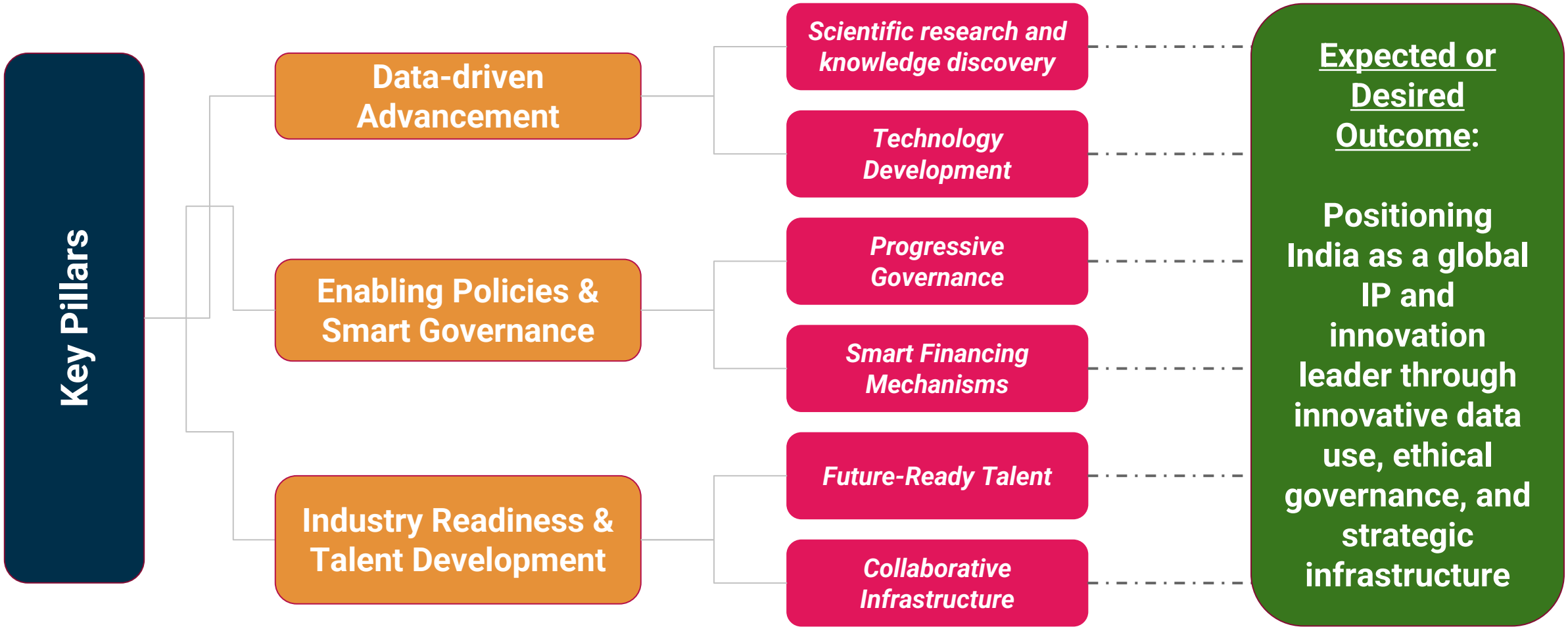
Institutional Enablers

- Skilling & Data Literacy across IP Offices
- Modern Infrastructure for Storage & Analysis
- Cross-Agency Collaboration & Standards
- Institutionalized M&E for Data-driven Reform
- Innovation Labs for Agile Experimentation

A strong data foundation, backed by institutional readiness, can transform a nation's IP system into a knowledgeable and future-ready ecosystem.

Towards Viksit Bharat: Data-led Transformation of the IP Ecosystem

Viksit Bharat @ 2047 encapsulates the Hon'ble Prime Minister's Vision for India's transformation into a developed nation by 2047. Strengthening the IP ecosystem through data, governance, and digital infrastructure will be key to driving scientific growth, technological leadership, and inclusive development.



Governance for Transparency and Trust: India’s Approach

The **Digital Personal Data Protection Act, 2023** upholds individuals' rights to safeguard their personal data, incorporating established principles for data protection.

Key principles include obtaining consent, limiting data use to specified purposes, minimizing collection, ensuring accuracy, restricting storage duration, implementing strong security, and enforcing accountability through penalties.

- Additionally, the Act imposes stringent protections on personal data transfers, as exemplified by the Reserve Bank of India's directive under Section 10(2) and Section 18 of the Payment and Settlement Systems Act, 2007, mandating the storage of payment system data within India.
- These provisions underscore the Act's commitment to **robust data protection standards and restrictions on personal data transfers**, which remain in effect under its framework.

India’s IP Initiatives: Building a Future-Ready Ecosystem (1)

- **Scheme for Startups Intellectual Property Protection (SIPP)**

Launched in 2016, the SIPP scheme promotes innovation among startups by providing them access to high-quality IP services. The **government bears the cost of professional fees for IP filings, enabling startups to protect and commercialize emerging technologies**. Extended in phases due to its success, SIPP is being implemented through the Office of the Controller General of Patents, Designs, and Trademarks.

- **National Intellectual Property Rights (IPR) Policy**

Introduced in 2016, the policy aims to create a vibrant IP ecosystem under the vision of “Creative India; Innovative India.” It **establishes an institutional framework for IP promotion, protection, and enforcement, aligned with global standards** such as the WTO-TRIPS Agreement. The policy emphasizes awareness, legal reforms, commercialization, and human capital development.

India’s IP Initiatives: Building a Future-Ready Ecosystem (2)

❑ National Intellectual Property Awareness Mission (NIPAM)

Launched in December 2021, NIPAM aims to **sensitize over 1 million students across schools and universities on IP rights**. By fostering a culture of innovation from an early age, the mission enhances awareness of creativity, protection mechanisms, and the value of original work.

❑ Simplified IP Filing Processes

India’s IP filing ecosystem has undergone a digital transformation, **reduced application timelines, and simplified procedures**. The IP India e-filing system offers an intuitive interface for submitting patent, trademark, and copyright applications, making the process faster, cheaper, and more transparent.

Trends in Last Five Years with Respect to Filing of IP Applications:

2019-20 2020-21 2021-22 2022-23 2023-24

	2019-20	2020-21	2021-22	2022-23	2023-24
Patent	56,267	58,503	66,440	82,811	92,168
Designs	14,290	14,241	22,699	22,698	30,389
Trade Marks	334,805	431,213	447,805	466,580	476,089
Geographical Indications	42	58	116	211	134
Copyrights	21,905	24,451	30,988	29,466	36,726
Semiconductor Integrated Circuits Layout Designs (SCILD)	0	5	1	23	2
Total	427,309	528,471	568,049	601,789	635,508

(Source: IP India)

Evolving Trends in IP Ecosystems: Strategic & Inclusive Futures

- **Digital IP Infrastructure:** Adoption of secure, user-friendly online platforms is streamlining IP filings and access.
- **Agile Institutions & Skilled Talent:** Modernized IP offices and trained professionals are key to managing rising demand.
- **Embedded in Innovation Ecosystems:** Stronger IP linkages with incubators, academia, and R&D ensure value creation.
- **Global Alignment:** Interoperability with global frameworks (like TRIPS/WIPO) enhances consistency.
- **Access for All:** Simplified systems are making IP more inclusive and affordable for diverse innovators.
- **Development Enabler:** IP is driving broader goals – economic growth, sustainability, and digital progress.

Integrating Responsible & Trustworthy AI

Responsible & Trustworthy AI refers to the development and deployment of artificial intelligence systems that are reliable, transparent, ethical, and accountable.

Balancing Benefits and Risks

- The goal of trustworthy AI is to maximize AI's benefits while minimizing potential risks, ensuring that its use does not lead to unintended harm.

Ethical Considerations

- A truly trustworthy AI system must avoid ethical pitfalls such as unfair discrimination, violations of data protection, or the inequitable distribution of resources.

Role of Policymakers

- Policymakers must determine the appropriate level of intervention to regulate AI-driven industries, ensuring alignment with ethical and societal values.

Industry Responsibility

- Businesses and industries must assess the commercial risks associated with AI deployment while maintaining ethical integrity and compliance with regulatory standards.

Responsible AI in IP Systems

Key requirements that AI systems should meet to be considered responsible & trustworthy:

1. **Human Oversight:** AI should support – not replace – human judgment, especially in sensitive or high-stakes IP decisions.

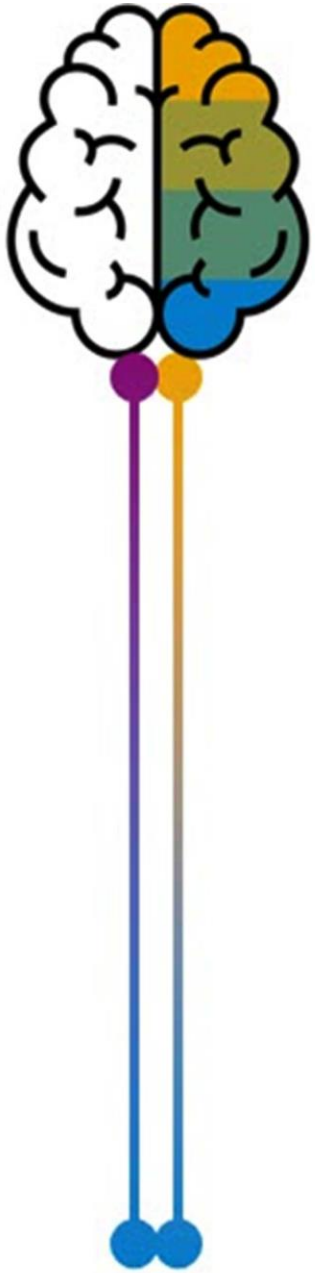
2. **Technical Robustness & Safety:** Systems must be reliable, secure, and equipped with fail-safes to prevent unintended harm.

3. **Privacy & Data Governance:** Strong safeguards for personal data, with clear policies on data quality, integrity, and access.

4. **Transparency & Fairness:** AI decisions should be explainable, fair, and free from systemic biases.

5. **Sustainability & Accountability:** AI must promote societal good, with clear responsibility mechanisms for oversight and redress.

AI in Data Privacy and Protection



AI- Detrimental to Data Privacy and Protection

- Automated Profiling and Decision Making
- Lack of Transparency and Accountability
- Excessive Data Collection and Storage for Training Data
- Bias in Training Data leading to Discrimination and Profiling
- Inference and Correlation

AI- Enhancing Data Privacy and Protection

- Data Masking and Anonymization
- Privacy Compliance Checking
- Automated Data Subject Request
- Sensitive Data Identification, Classification and Access Control
- Anomaly Detection and Data Minimization

The Way Forward

Privacy by Design: Embed privacy into the architecture of IP data systems – ensure minimal data collection, informed consent, and transparency to build public trust.

Data Security and Transparency: Adopt secure, interoperable, and open-source frameworks with federated data models to strengthen transparency, auditability, and user protection.

Cybersecurity as a Priority: Recognize IP and data platforms as critical digital infrastructure – prioritize robust cybersecurity protocols to safeguard national interests and innovation ecosystems.

Thank You

- Thank you for your attention!
- Contact us at <WILD Meeting> ict-leadership@wipo.int

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Q & A

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