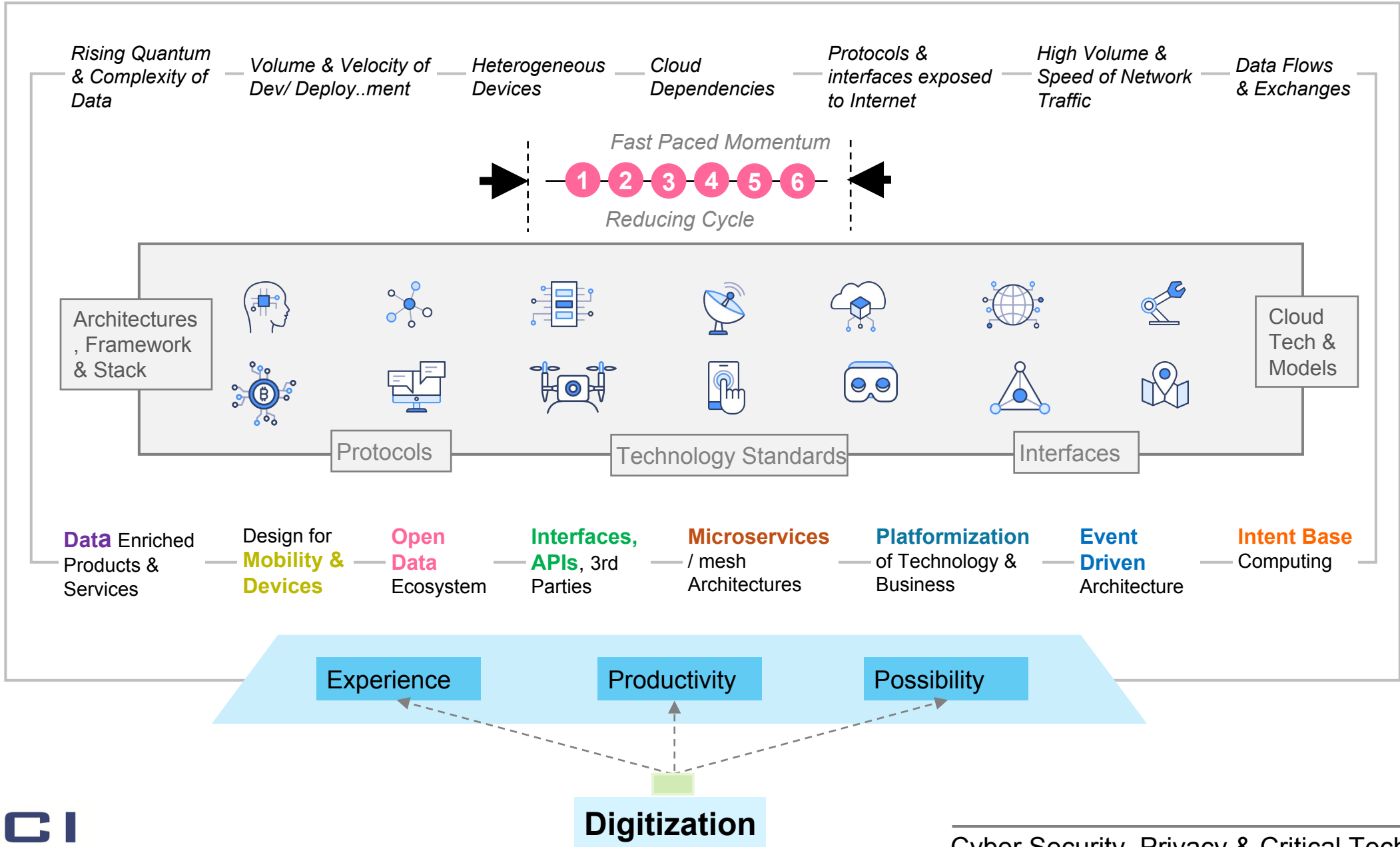


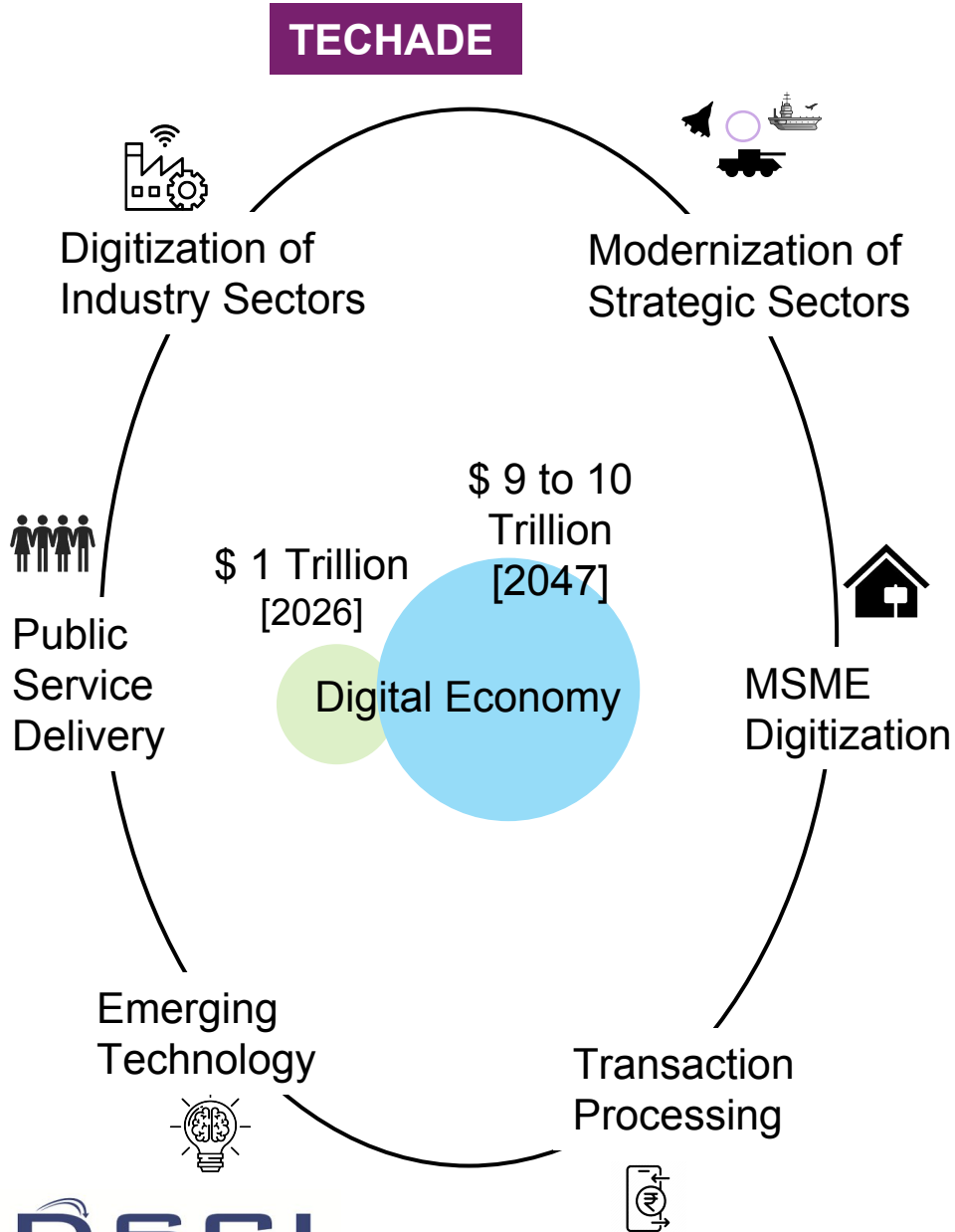
Cybersecurity, Digital Assurance  
and Financial Forensics

# Digital Trust

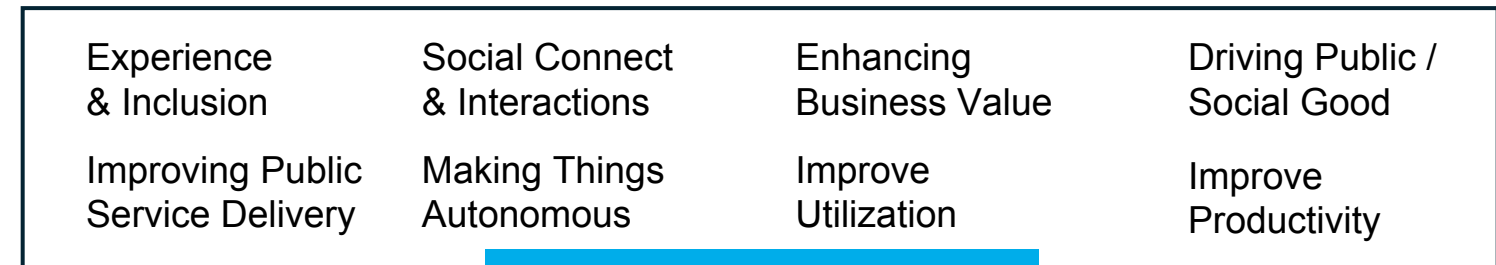
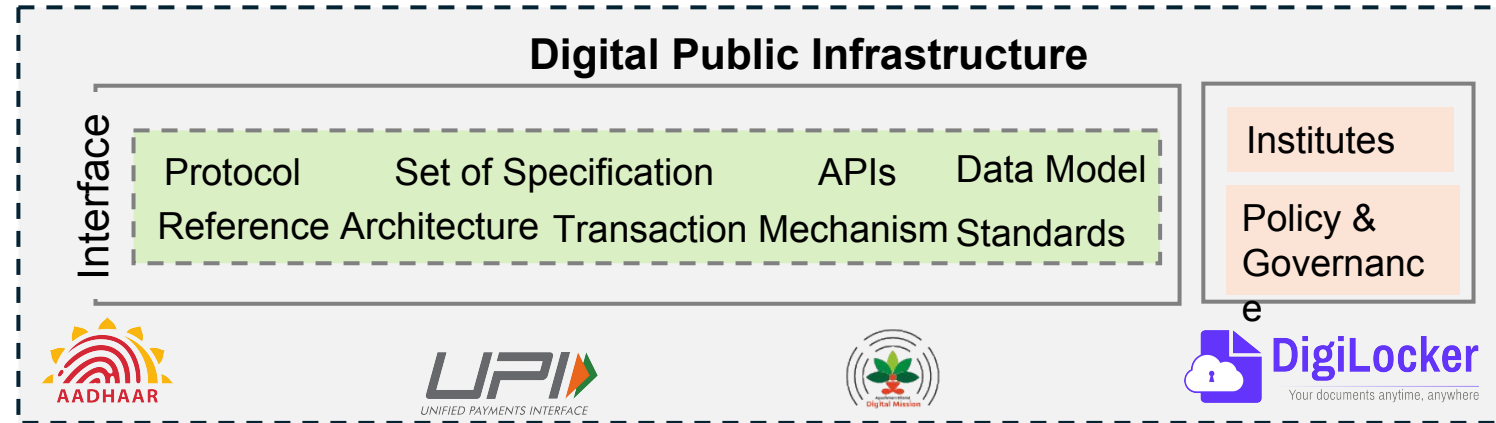
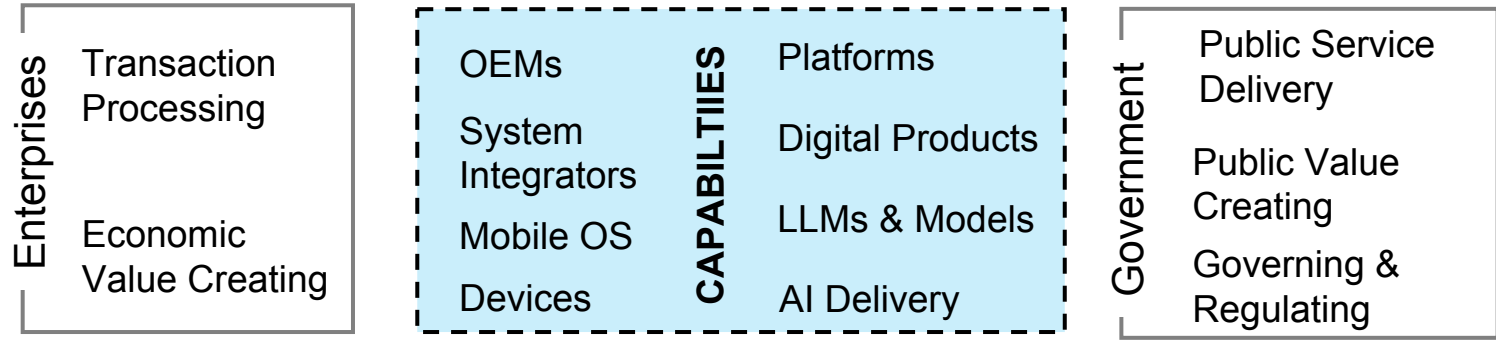
Vinayak Godse, CEO, Data Security Council of  
India



# Digitization of Economy



## Bigger Context for Cyber Security Technology



**Digital Economy [Goals]**

# API Driven Economy



Examples

Mark Sheets	Ration Card	Covid Vaccine	Driving License	Income Certificate	Vehicle Registration	Caste Certificate

Published APIs: 7700+

Publishers: 2400+

Consumer: 561+

Central Govt  
[128 orgs]

State Govt  
[1286 orgs]

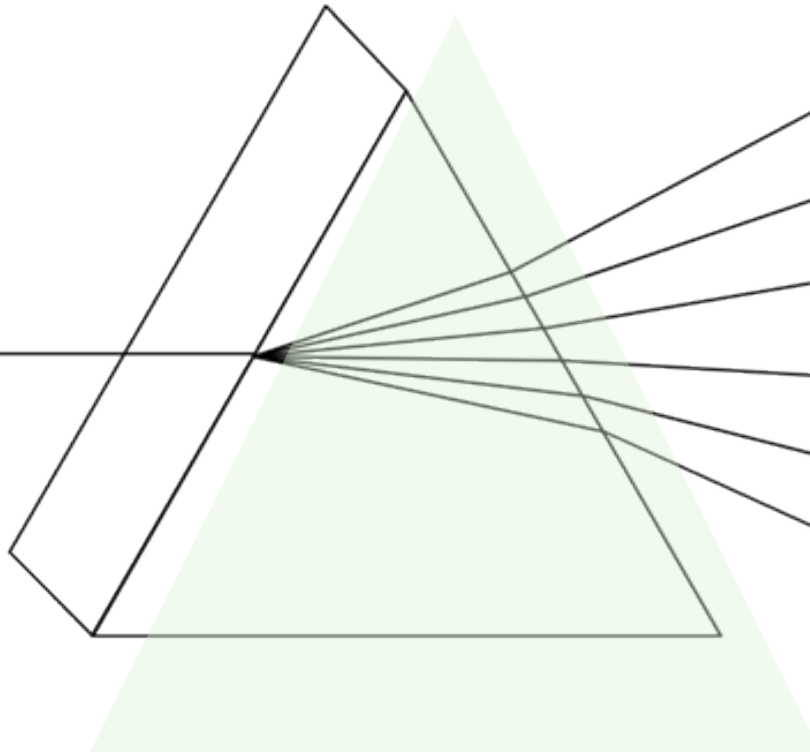
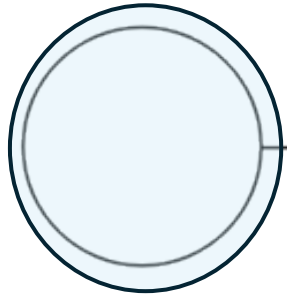
Industry & Private  
Sector [54 orgs]

## India Stack platforms

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# Digital Rails

**Digital Infrastructure**  
The backbone of India's digital transformation.



## Identity Rails

Aadhaar, e-KYC, face authentication for secure identity.



## Payment Rails

UPI, IMPS, cards, wallets for seamless transactions.



## Document Rails

DigiLocker, e-sign, digital certificates for document management.



## Data Rails

Account Aggregator, consent managers, open finance for data sharing.



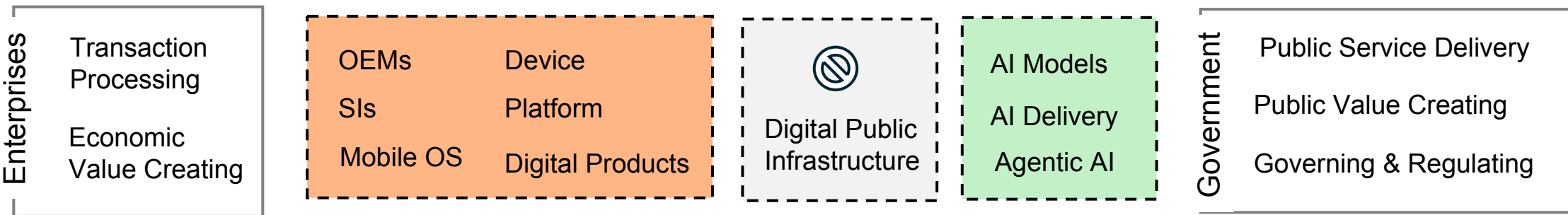
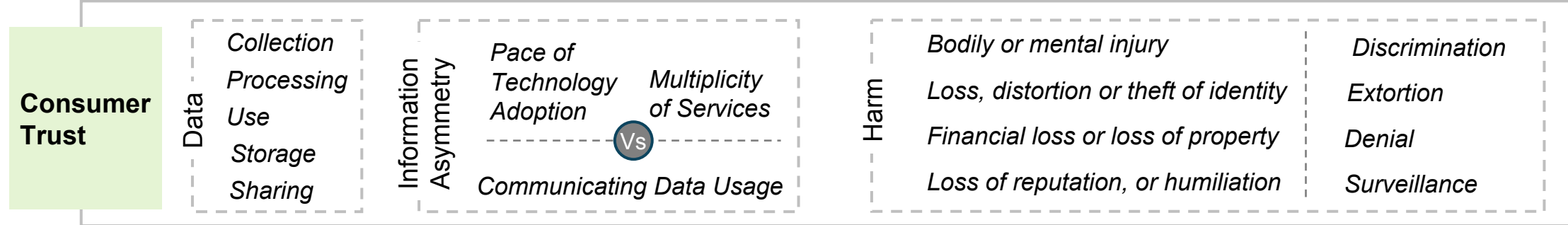
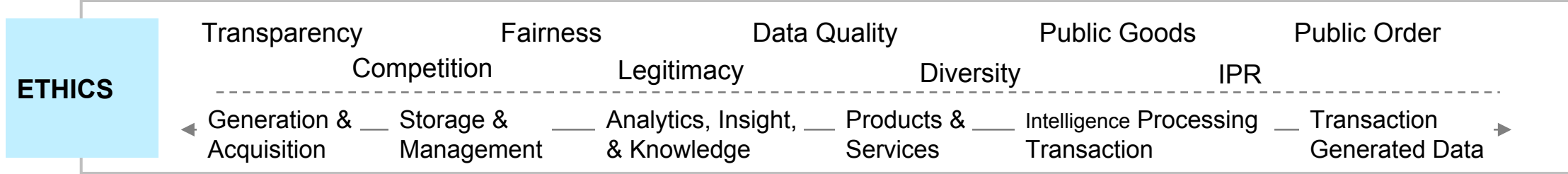
## Commerce Rails

ONDC, logistics, seller and buyer networks for e-commerce.

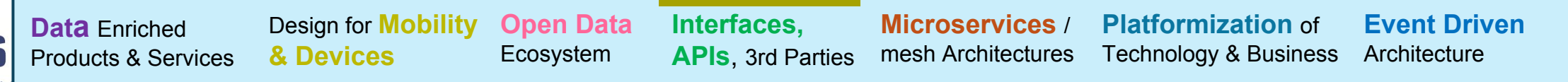


## Regulatory Rails

DPDP, KYC, AML, reporting obligations for compliance.



**DIGITIZATION**



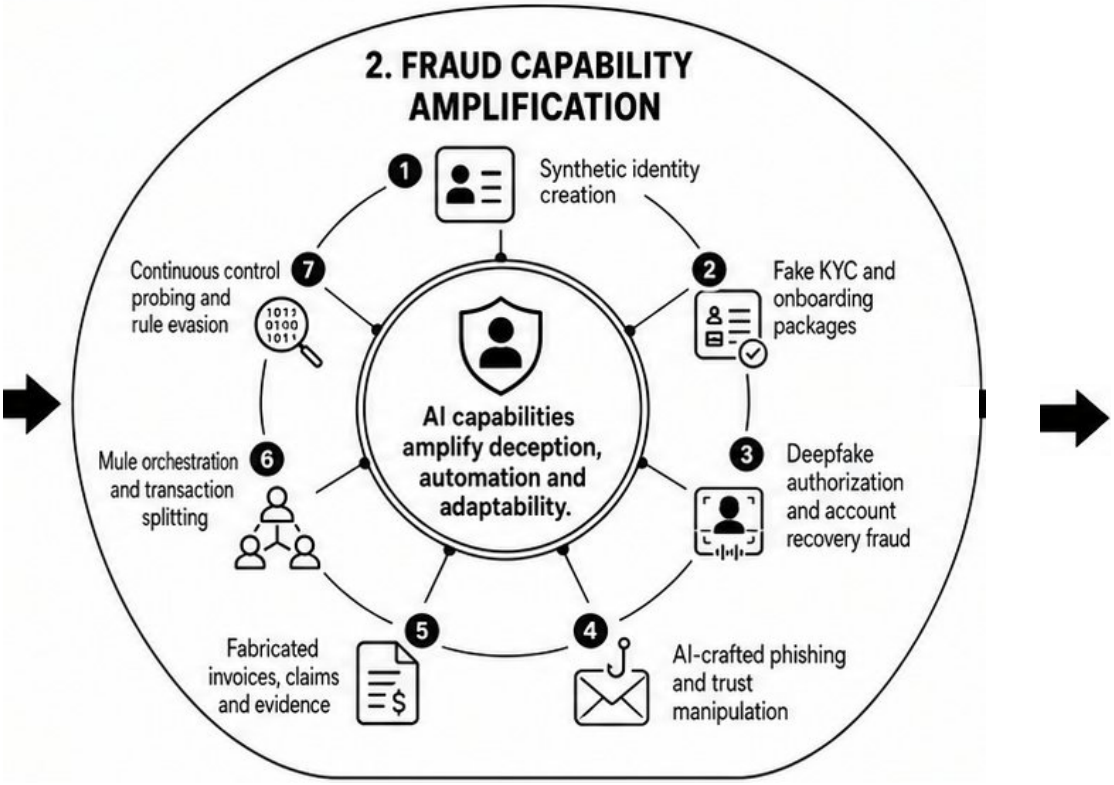
# FRAUD RAMIFICATIONS OF MYTHOS-CLASS AI MODELS

## How advancing AI capabilities industrialize fraud

AI capability growth turns fraud into a synthetic, personalized, scalable and adaptive operation.

### 1. AI CAPABILITY ADVANCES

- Synthetic Generation**  
Creates realistic text, images, voice, video and documents
- Long-Context Reasoning**  
Understands policies, eligibility rules and exception paths
- Personalization & Persuasion**  
Tailors deception to victim context, language and emotion
- Agentic Action**  
Fills forms, runs workflows, monitors responses and retries
- Scale & Parallel Experimentation**  
Tests thousands of variants cheaply and rapidly
- Multimodal Impersonation**  
Mimics people across voice, video, chat and documents
- Adaptive Evasion**  
Learns from rejection and changes tactics in real time



### 3. FRAUD DOMAINS AFFECTED

Identity & onboarding fraud	Payments & transaction fraud
Credit & lending fraud	Insurance & claims fraud
Procurement & invoice fraud	Customer support fraud
AML & mule networks	Insider collusion & policy abuse

### 4. IMPACTS

Financial loss	Customer harm
Regulatory exposure	Trust erosion
Investigation overload	Systemic fraud networks

Fraud becomes faster, harder to detect and more scalable.

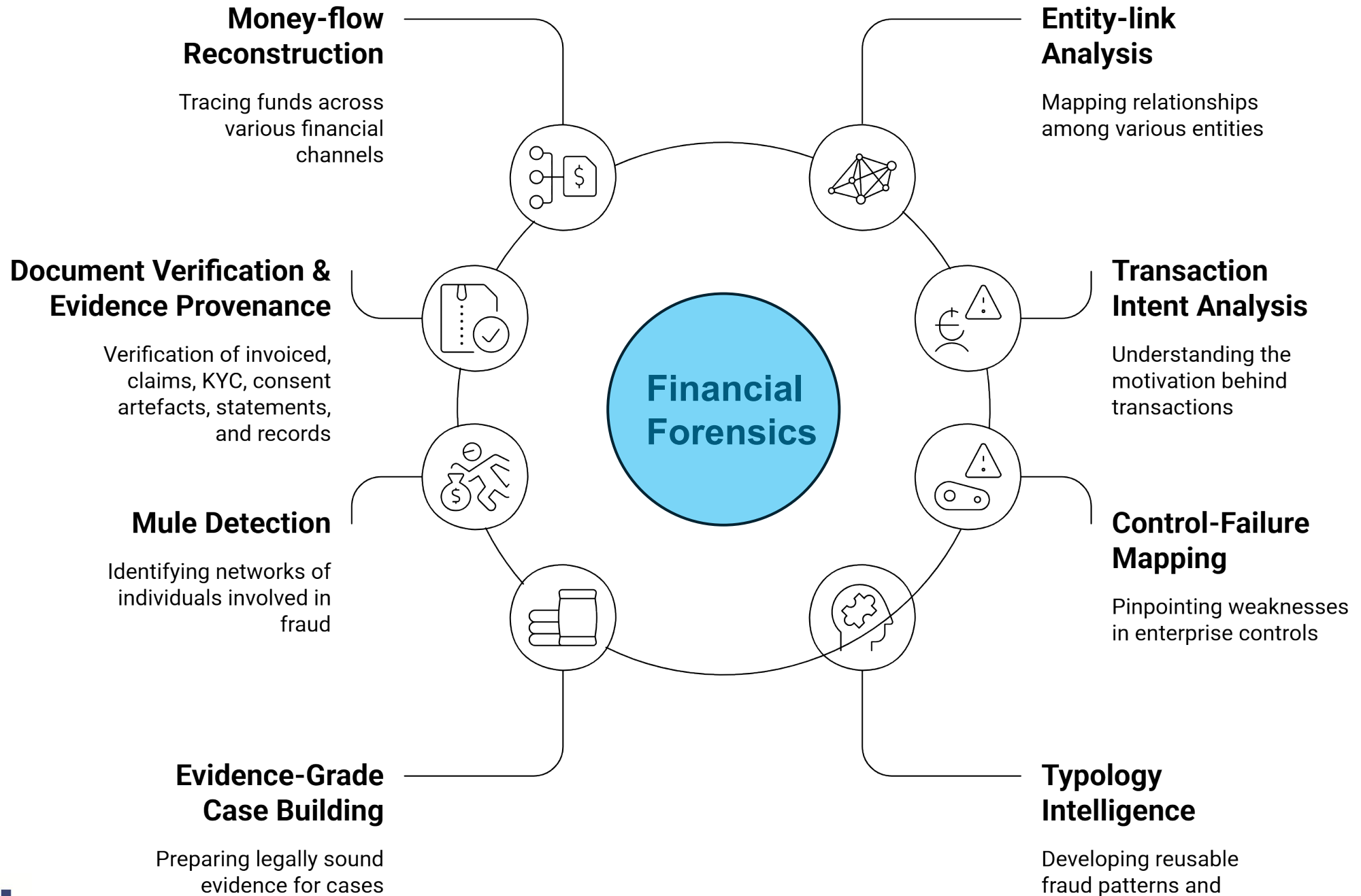
### 5. FRAUD-RESILIENCE CONTROLS

- Provenance & document verification
- Identity graph & entity linking
- Liveness & challenge-response
- Behavioral & device intelligence
- Transaction graph analytics
- Intent confirmation for high-risk actions
- Adaptive monitoring & fraud red-teaming
- Cross-channel case linking & intelligence sharing

### KEY TAKEAWAY

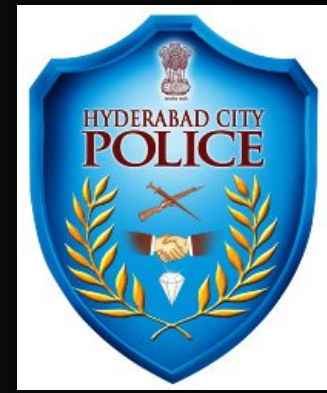
**Advanced AI turns fraud into a synthetic, personalized, scalable and adaptive operation.**

Fraud defence must move beyond rule-based checks to identity, intent, provenance, behavior and network-level assurance.





# Cybercrimes in the Digital Age



# The Modern Cybercrime Landscape

Understanding the scale, impact, and evolution of cyber threats in  
India

2024-2025 Data & Trends

# But Why?

## Greed & FOMO

Because 25% monthly returns is totally normal. Banks are just jealous of your Telegram investment guru.

He said 'double your money in 24 hours'. My FD said '6.5% in a year'. Obviously, the Bank was lying.

**Tech Illiteracy:** Link said 'Track your parcel'. I clicked. Now my bank account is tracking his new iPhone.

## On Romance/Digital

She was a Russian model stuck at Mumbai airport. I sent ₹2L for customs. True love has transaction fees.

Inspector on Skype said I'm in a money laundering case. The uniform was pixelated, but the fear was HD.

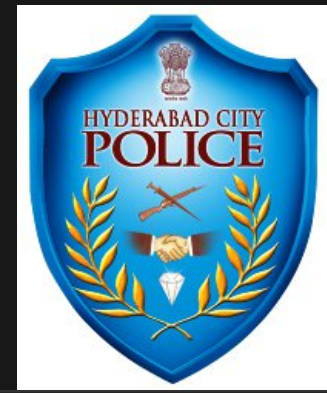
## On Overconfidence

I'm a CA. I can't be scammed. Also, I just shared my OTP to 'unblock' my GST portal.

We run SOC 24x7. Except between 2-4 PM when we click on 'Bonus.pdf.exe'.

Internal controls are robust. It's the human firewall that has 'allow all' settings.





# India's Cybercrime Crisis: By the Numbers

Total Cases Reported (2025)



## 28.15 Lakh

24% increase from 22.68 lakh in 2024

Financial Losses (2025)

Rs

## ₹22,495 Cr

Slightly down from ₹22,845 Cr in 2024 due to fund-blocking interventions

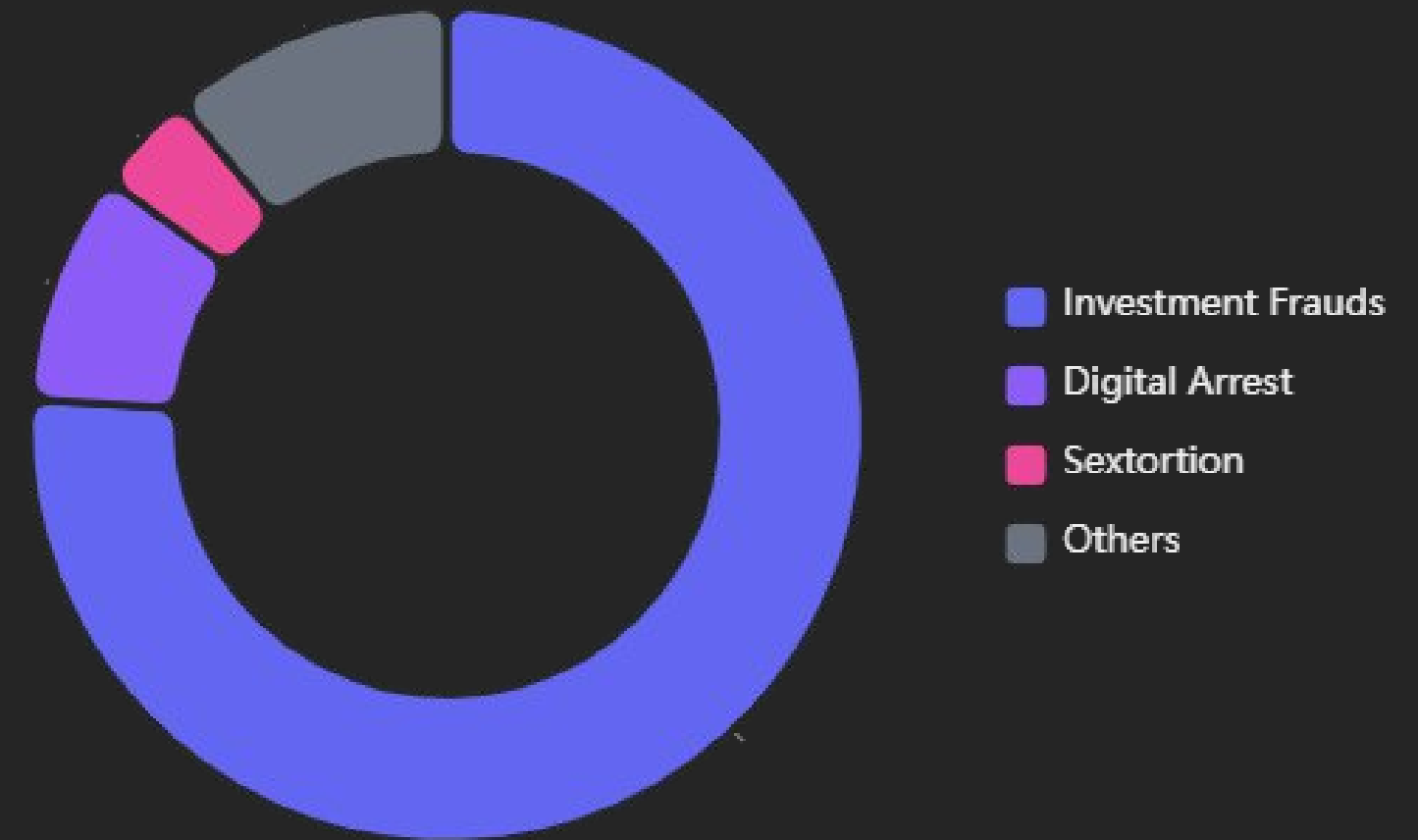
UPI Fraud Surge



## ₹1,087 Cr

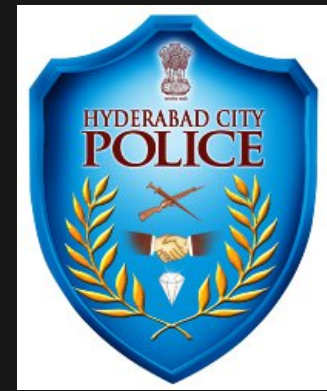
Lost in FY24 (85% YoY increase) • 13.42 lakh cases

### Distribution of Major Cyber Frauds (2025)

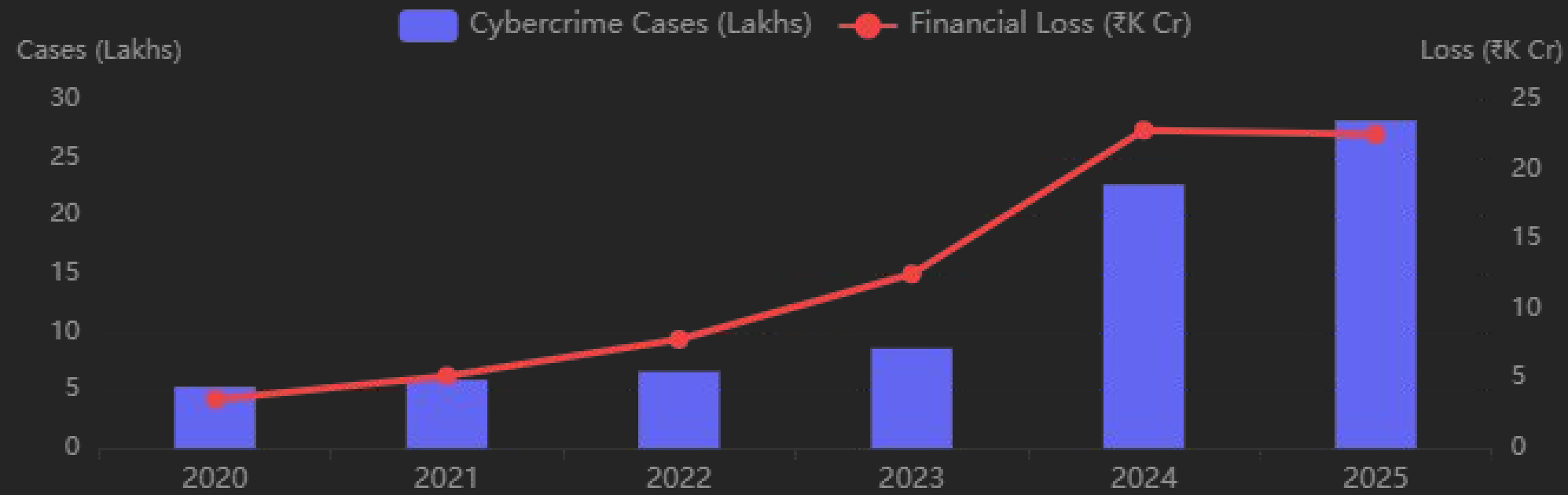


**Key Insight:** Despite increased awareness, cybercriminals are becoming more sophisticated. 95% of security breaches occur due to human error—making employee awareness the critical defense layer.

# Cybercrime in India & Telangana: 2024-2025



## National Cybercrime Trends



**28.15L**  
Cases in 2025

↑ 24% increase from 2024

**₹22,495Cr**  
Financial Loss 2025

76% from investment fraud

**Top 3**  
Telangana Ranking

Among highest cybercrime states

Amount Lost  
Hyderabad - 26 May

**70.20 Cr**

Amount Recovered

**₹3.41Cr**

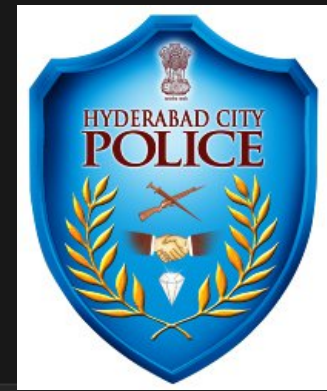
Trading Fraud

**₹48.51Cr**

A

Matrimonial +  
Honet Trap+  
Dating

**20.Cr**



# Financial Frauds: Investment, Loan & UPI Scams

## Investment Scams

76%

of total cybercrime financial losses

- > **Fake Stock Platforms:** Promising high returns with professional-looking apps
- > **Ponzi Schemes:** "Guaranteed" returns that collapse suddenly
- > **Crypto Traps:** Fake exchanges and investment groups on Telegram/WhatsApp

**Red Flag:** "Too good to be true" returns, pressure to recruit others, unregistered platforms

## Loan App Frauds

30-200%

Annual interest rates charged

- > **Instant Approval Traps:** "5-minute loan approval" with hidden fees
- > **Data Harvesting:** Apps demand Aadhaar, PAN, contacts, photos
- > **Blackmail & Harassment:** Threats to share data with contacts if unpaid

**Red Flag:** APK downloads outside Play Store, excessive permissions, no RBI registration

## UPI Frauds

₹1,087 Cr

Lost in FY24 • 13.42 lakh cases

- > **Fake Customer Care:** Calls claiming UPI issues requesting remote access
- > **Collect Request Scams:** "Approve this request to receive money" (actually sends money)
- > **QR Code Frauds:** Scammers share QR codes to "receive" payments

**Red Flag:** Requests to "verify" by entering UPI PIN, remote access apps, unsolicited collect requests



**Defense Strategy:** Use only RBI-registered lenders, verify apps on Play Store, never share UPI PIN, enable transaction alerts, verify customer care numbers independently.

# Your Digital Footprint: The Invisible Trail



## What is a Digital Footprint?

Every online action—social media posts, website visits, app usage, form submissions—creates **traceable data** that forms your digital identity.

### Active

Data you intentionally share: posts, comments, profile info

### Passive

Data collected without your knowledge: browsing history, location, device info

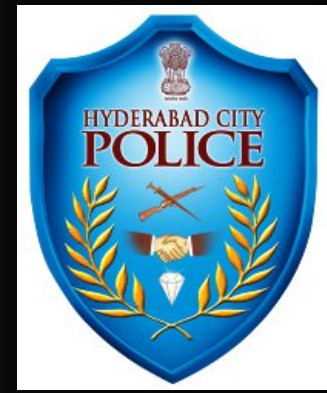
## How Cybercriminals Exploit It

- 1 Social Engineering:** Scammers study your interests, connections, and activities to craft personalized attacks
- 2 Password Guessing:** Personal info (birthdays, pet names) used to crack passwords
- 3 Impersonation:** Details from your profile used to impersonate you or your contacts

## Minimize Your Exposure

- ✓ Review Privacy Settings**  
Limit who can see your posts and personal information on all platforms
- ✓ Practice Data Minimization**  
Share only what's necessary. Avoid oversharing location, travel plans, or personal details
- ✓ Regular Digital Audits**  
Google yourself quarterly. Remove outdated or excessive personal information
- ✓ Use Separate Email Addresses**  
Keep work, personal, and shopping accounts separate
- ✓ Enable Two-Factor Authentication**  
Add an extra layer of security to all critical accounts

**! Remember:** Once data is online, it can be archived, shared, and exploited even after deletion. Think before you post.



## Chapter Three

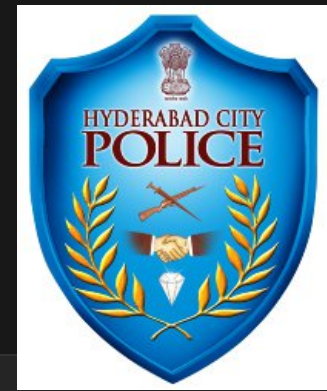
# AI-Powered Emerging Threats

The next generation of cyber attacks leveraging artificial intelligence

---

Deepfakes • Executive Spoofing • AI Phishing

# Technical Threats: APK, OTP & SIM-Swap Attacks



## APK File Scams

Malicious Android apps distributed outside official stores, bypassing security screening.

### Banking Malware

Intercepts SMS, OTPs, banking credentials

### Fake Government Apps

"8th Pay Commission Calculator" scams

**Warning Signs:** APK links in messages, requests to disable security, excessive permissions, apps not on Play Store



## OTP Fraud & 2FA Bypass

**Social Engineering:** Scammers extract OTPs by creating urgency or impersonating officials

**Real-Time Phishing:** Fake login pages that forward OTPs to attackers instantly

**SIM-Swap:** Hijacking your phone number to receive all OTPs and calls



## SIM-Swap & eSIM Fraud

### How It Works:

1. Fraudster obtains personal details
2. Contacts telecom provider
3. Convinces them to port number
4. Receives all OTPs and calls
5. Empties bank accounts

**Warning:** Sudden loss of mobile signal

**Action:** Contact bank immediately

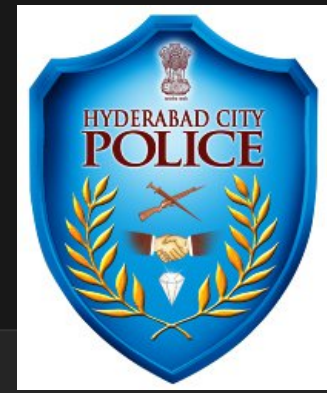
## Device Security Best Practices

- Install apps only from Play Store/App Store
- Review app permissions carefully
- Keep OS and apps updated
- Use mobile security software
- Enable app verification



**Golden Rule:** Never share OTPs with anyone—legitimate banks, government agencies, or companies will NEVER ask for your OTP, PIN, or passwords.

# Deepfakes & AI-Driven Cyber Attacks



## Deepfake Voice/Video Impersonation

AI-generated synthetic media that convincingly replicates a person's voice, face, and mannerisms in real-time.

### Real Case Study: Hong Kong Engineering Firm

# \$25 Million

Stolen via deepfake video conference where attackers impersonated the CFO and colleagues using AI-generated videos

**Executive Spoofing:** Fake CEO/CFO calls authorizing urgent wire transfers

**Fraudulent Approvals:** Deepfake videos approving transactions or policy changes

**Identity Theft:** Creating fake profiles using synthesized biometric data

## AI-Generated Phishing Emails

**Hyper-Personalization:** AI analyzes targets to craft emails referencing colleagues, projects, recent activities

**Perfect Grammar:** No more telltale signs like spelling errors or awkward phrasing

**Context Awareness:** Emails timed with business events, deadlines, or company news

## Account Takeover Attacks

### Credential Sources:

- Dark web marketplaces
- Previous data breaches
- Phishing campaigns
- Keyloggers & malware

**Automated Testing:** AI tools test stolen credentials across thousands of sites

**Credential Stuffing:** Using leaked username/password combinations

## Detection Challenges

- Real-time deepfakes are nearly indistinguishable
- AI phishing bypasses traditional filters
- Attacks scale automatically
- Human verification becomes critical

## Defense Protocols

- ✓ Verify unusual requests via separate channel
- ✓ Use secret verification questions
- ✓ Implement multi-person approval for large transfers

Stay Safe

# Protection & Reporting Mechanisms



## Core Defense Principles

### Verify, Don't Trust

Independently verify all requests through official channels

### Never Share Sensitive Info

OTPs, PINs, passwords, UPI credentials are for your eyes only

### Use Official App Stores Only

Never install APKs from links or unknown sources

### Enable All Security Features

Transaction alerts, MFA, strong unique passwords



### Sanchar Saathi - Chakshu

Report suspected fraud SMS/WhatsApp at [sancharsaathi.gov.in](https://sancharsaathi.gov.in)



### Time is Critical

Report fraud within the first hour for maximum recovery chances

## Why Just be part of Nation Building When you can Secure It too

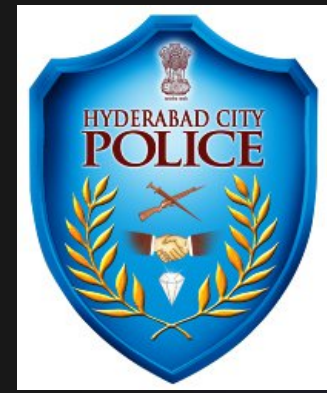
**Upskill – Cybersecurity, Governance, Ethical Hacking,  
Certifications – CEH, CISA, CISSP  
Learning – Institutes/ Online**

 **Forums – ISACA, ISC2, NULL**

**Volunteer – TGCSB, I4C, SCSC, HCSC**

**1930**

Save this number now



# Stay Safe, Stay Aware

Your awareness is your best defense against cyber threats



**Think Before You Click**  
Verify links, emails, and requests  
before taking action



**Verify Before You Trust**  
Independently confirm identities and  
requests



**Report Immediately**  
Don't hesitate to seek help if you  
suspect a crime



Helpline

**1930**



Website

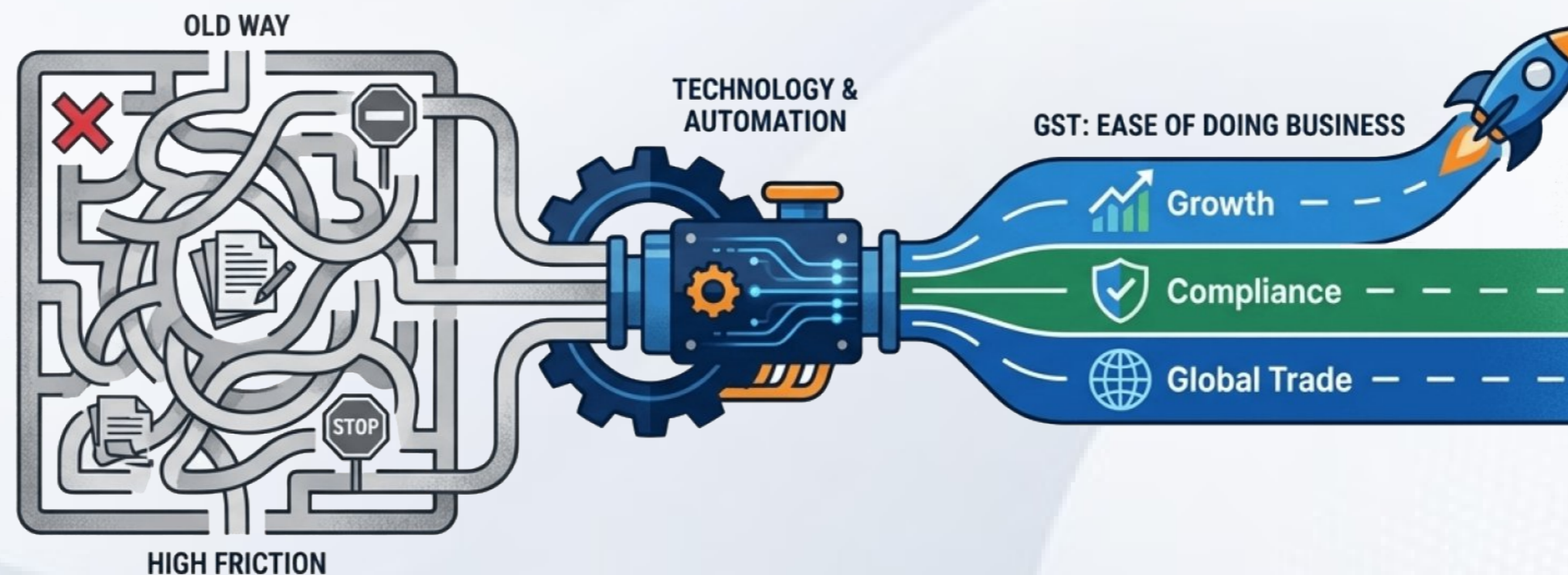
**cybercrime.gov.in**

Remember: Cybersecurity is everyone's responsibility

Protect Yourself • Protect Your Family • Protect Your Community

# From Data to Decisions

How GST as a transformational tax reforms shapes the economy!



Presentation by:

Shri Shikhar Pant

23<sup>th</sup> May 2026

**1. Pre-GST Era**

**2. The GST Revolution**

**3. GSTN as Digital Public Infrastructure**

**4. GST as a transformational tax reform**

**5. GST towards data driven policy making**



# **GST is the biggest and most transformative milestone for taxation in India yet, with consequences far beyond taxation!**

---

 Compliance

 Certainty

 Inclusiveness

 Stakeholder Confidence



# The Pre-GST Era: A Landscape of High Friction & Complexity (1/2)



GOODS AND SERVICES TAX NETWORK  
(A Government Enterprise)



**Multiple Tax Portals**  
States and Centre had separate systems, creating confusion and redundancy.



**Check-post Delays at State Borders**  
Movement of goods was subject to border check-posts, increasing logistics time and costs.



**Broken Credit Chain**  
No seamless flow of Input Tax Credit transfer.



**Multiple Compliances of Every State**  
Businesses had to file multiple returns for each state.



**Cascading Tax Effect**  
Taxes on taxes led to inflated prices for consumers.



**Limited Value Addition**  
The system discouraged a seamless value enhancement in the supply chain.

## Central Taxes

- Central Excise duty
- Additional duties of excise
- Excise duty levied under Medicinal & Toilet Preparation Act
- Additional duties of customs (CVD & SAD)
- Service Tax
- Surcharges & Cesses

## State Taxes

- State VAT / Sales Tax
- Central Sales Tax
- Purchase Tax
- Entertainment Tax (other than those levied by local bodies)
- Luxury Tax
- Entry Tax (All forms)
- Taxes on lottery, betting & gambling
- Surcharges & Cesses

+ 13 Cesses

GST



**Constitution amended to provide concurrent powers to both Centre & States to levy GST (Centre to tax sale of goods and States to tax provision of services)**

The 101<sup>st</sup> Constitutional Amendment introduced Articles 246A and 279A, creating the dual GST structure and the GST Council.

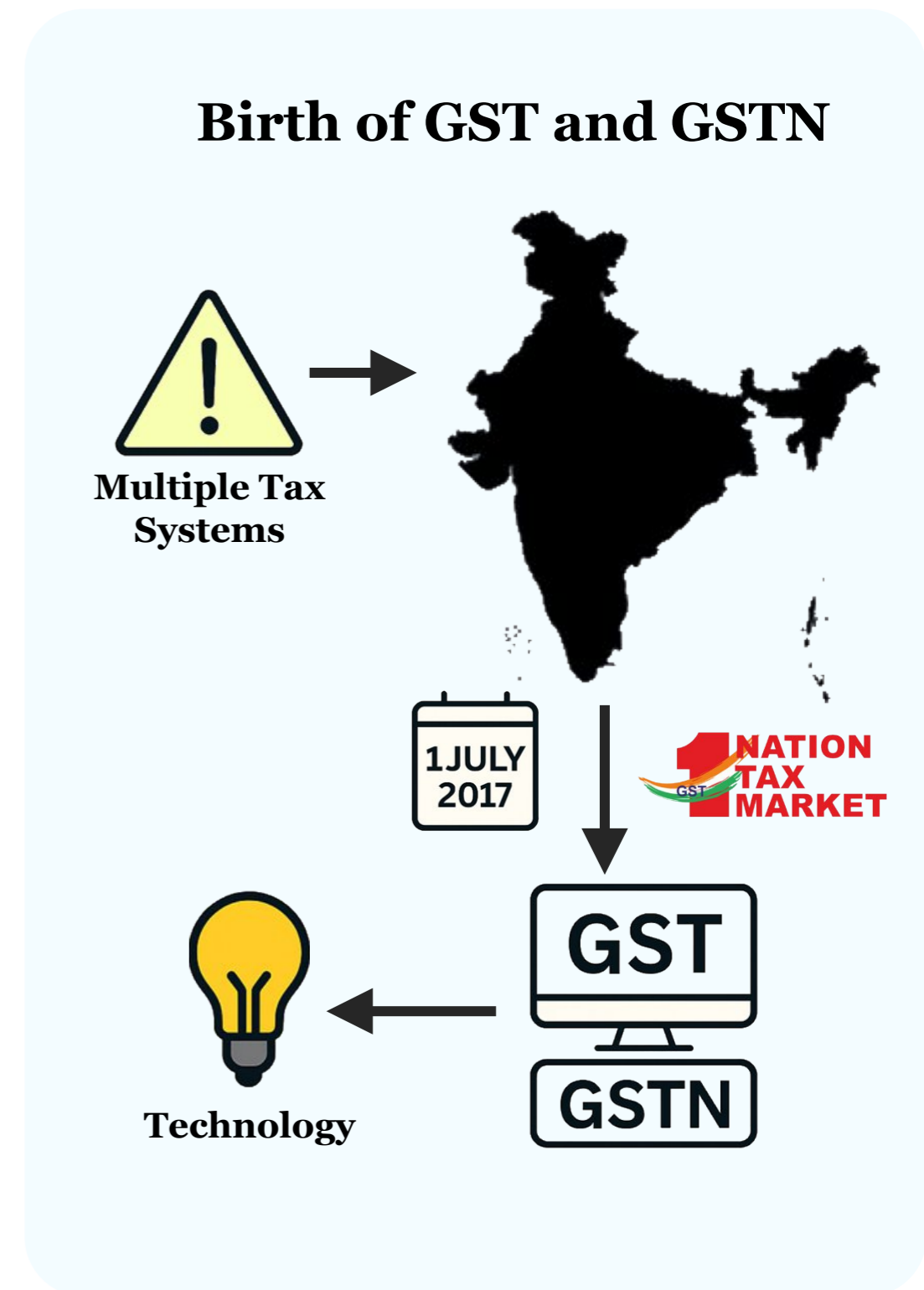
# The GST Revolution!

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# Birth of GST and GST System

- i. **Reform Vision:** "One Nation, One Market" with seamless credit flow.
- ii. **GST Introduction:** Rolled out in **July 2017** to unify the tax system.
- iii. **Need for Tech Backbone:** Essential to manage pan-India credit flow, compliance and manage single indirect tax interface.
- iv. **GST System:** Built to enable automation and real-time compliance.
- v. **GSTN Creation:** Established as a Special Purpose Vehicle (SPV) jointly owned by Centre and States.
- vi. **Role of GSTN:** Operates as a Tax Technology Digital Public Infrastructure (DPI) enabling GST operations across India.



## INDIA'S UNIQUE FEDERAL GST ARCHITECTURE

WHAT NO OTHER COUNTRY HAS ACHIEVED

### THE CHALLENGE:








**BALANCING STATE FISCAL SOVEREIGNTY WITH THE NEED FOR A SIMPLIFIED, UNIFIED TAX.**

### THE SOLUTION – IGST SETTLEMENT ENGINE:



**SINGLE-POINT TAX COLLECTION ON INTERSTATE TRADE → AUTOMATIC, RETURN-DRIVEN, DIGITALLY MEDIATED REVENUE SHARING BETWEEN CENTRE AND CONSUMING STATE.**

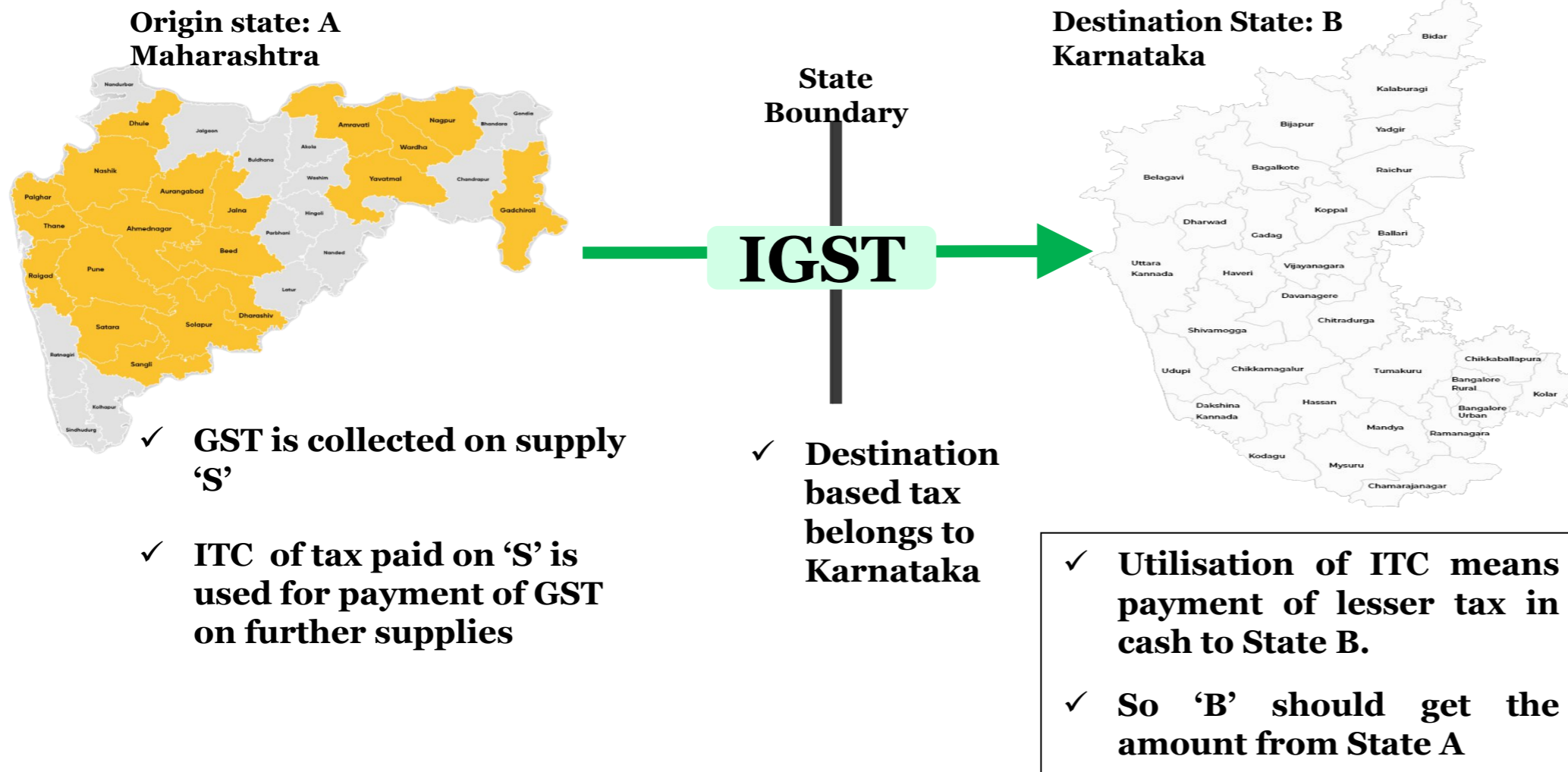
### WHAT MAKES INDIA'S GST GLOBALLY UNIQUE:

-  **ONE UNIFIED TAX AS A DUAL LEVY (CGST + SGST / IGST) ON EVERY TRANSACTION**
-  **COMMON TAX RATES ACROSS ALL STATES**
-  **COMMON LAW GOVERNING CENTRE AND STATES**
-  **ONE IT PLATFORM (GSTN) FOR ALL COMPLIANCE**
-  **ONE CONSTITUTIONAL BODY (GST COUNCIL) FOR ALL POLICY DECISIONS THROUGH COOPERATIVE FEDERALISM**






### KEY INSIGHT:

**160+ COUNTRIES HAVE VAT/GST – BUT NO OTHER FEDERAL NATION JOINTLY ADMINISTERS A SINGLE UNIFIED LEVY ACROSS CENTRE AND STATES. CANADA MAINTAINS SEPARATE FEDERAL AND PROVINCIAL LEVIES. INDIA'S IGST SETTLEMENT ENGINE IS ARGUABLY THE MOST SOPHISTICATED INTERGOVERNMENTAL TAX SETTLEMENT MECHANISM IN THE WORLD.**

## How would GST amount move from 'A' to 'B'

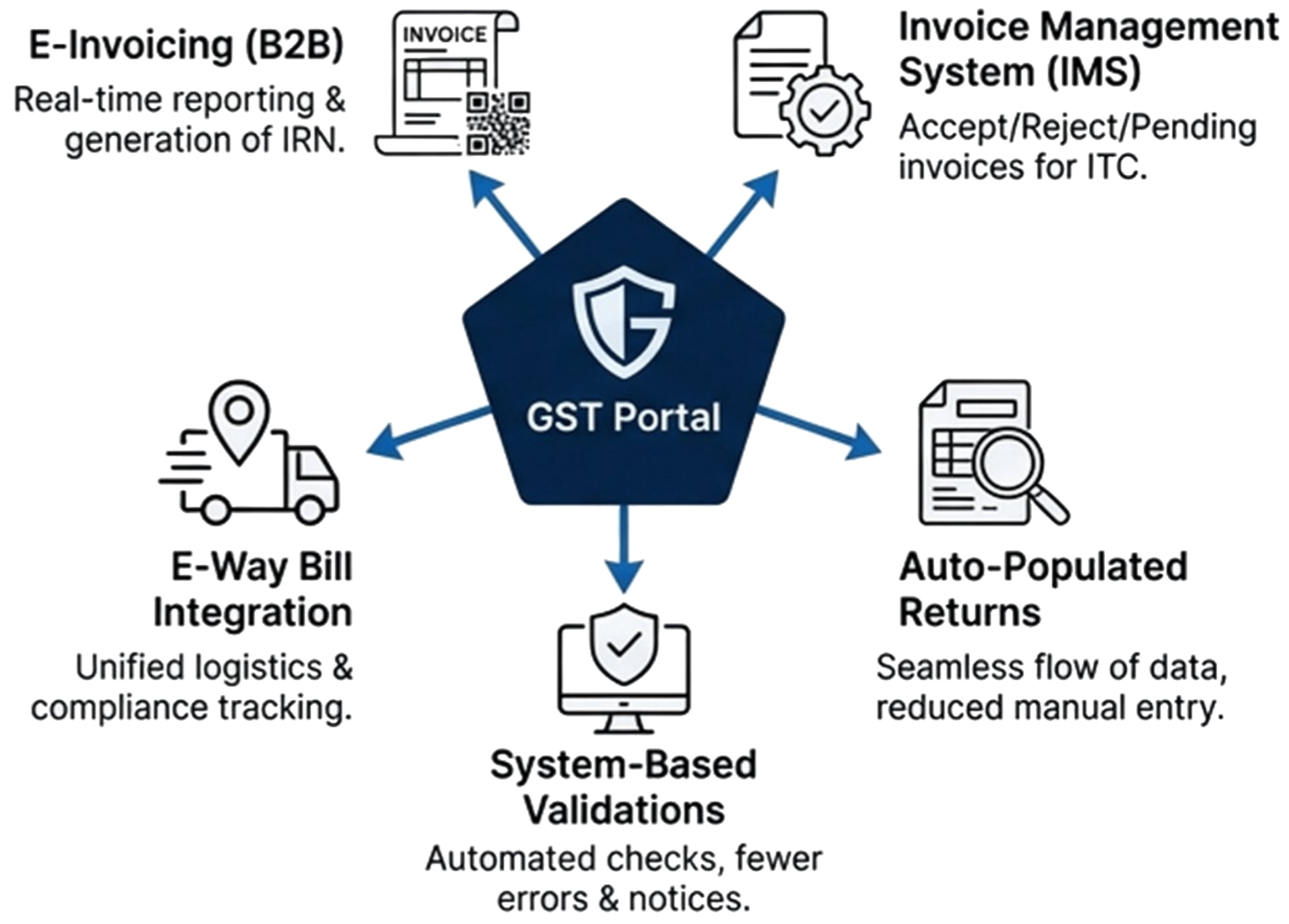
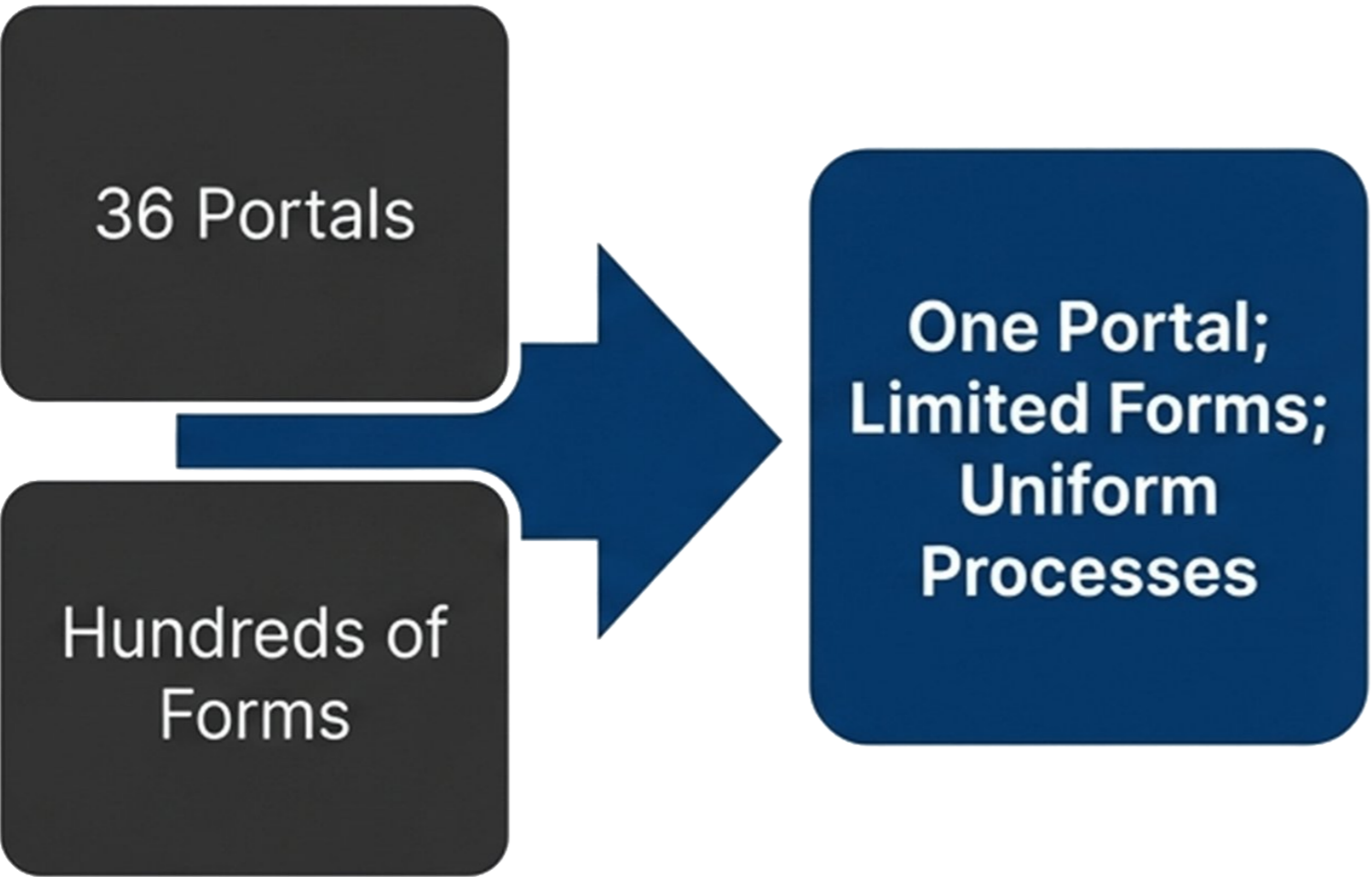


## IGST: Key Points

-  **Tailored to India's federal structure**
-  **Integrates state and central taxes, respects state autonomy**
-  **Potential model for other federations**
-  **Automatic Settlement at the end of month**
-  **Remarkable achievement in pursuit of One Nation One Tax One Market**

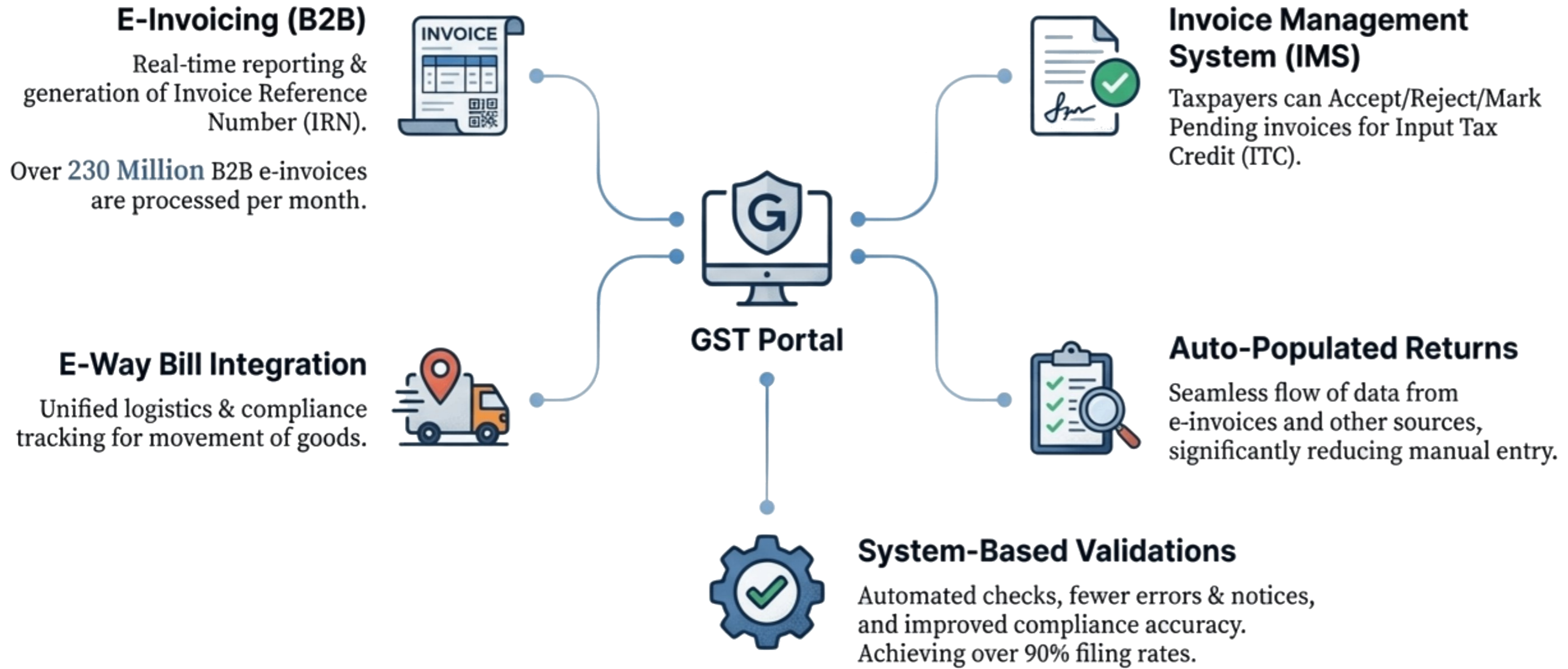
- ✓ Similar model between nations would be challenging to implement.
- ✓ For controlling cross border VAT loss, invoice information exchange is critical.
- ✓ One innovative idea can be – for exporting country to pay VAT refund on export after collection of VAT in the importing country.

# The GST Revolution: From 36 Portals to One Digital Foundation



- ✓ 1. No more double taxation
- ✓ 2. Seamless flow of credit
- ✓ 3. Elimination of States' check-posts (e-way bill system)

# The Digital Foundation: A Fully Automated GST Ecosystem





GOODS AND SERVICES TAX NETWORK  
(A Government Enterprise)

# **GST: Powerhouse of Data**

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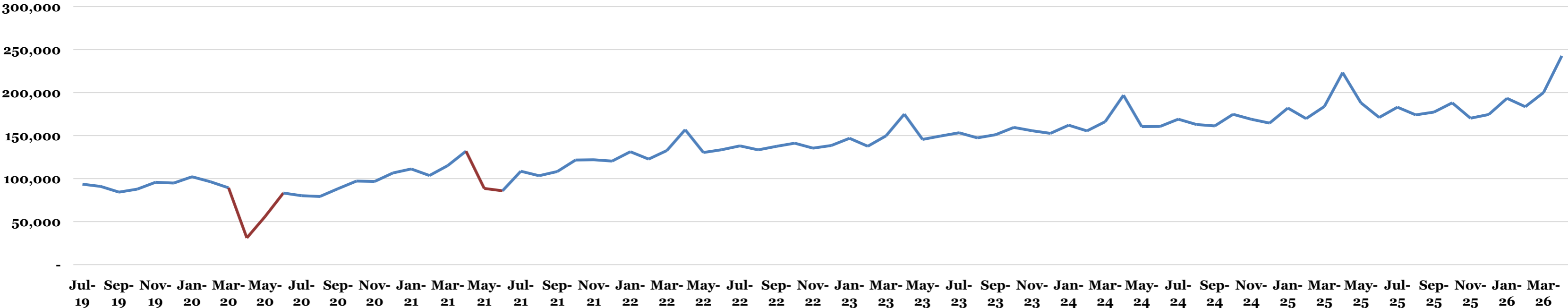


# Key Statistics (As on 31<sup>st</sup> March 2026 Return Period)

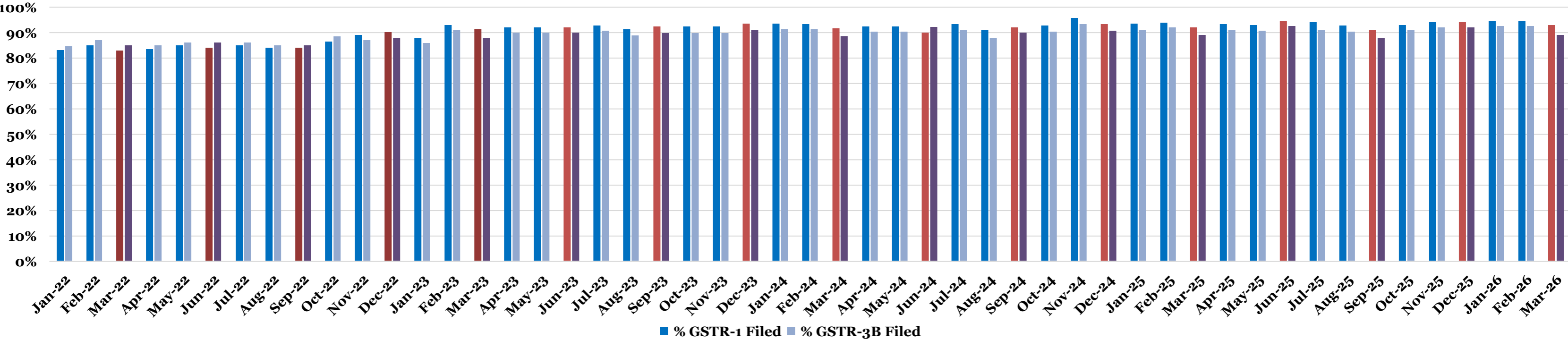


GOODS AND SERVICES TAX NETWORK  
(A Government Enterprise)

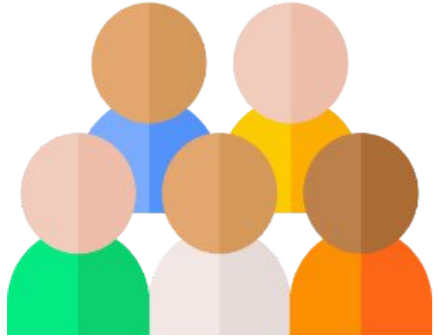
Total Tax collection since July 2019



GSTR 1 and GSTR 3B % filing



# GST Ecosystem in Numbers (As on 30<sup>th</sup> April 2026)



**1.64 Cr.**

Registered Taxpayers



**187.56 Cr.\***

Total Returns Filed



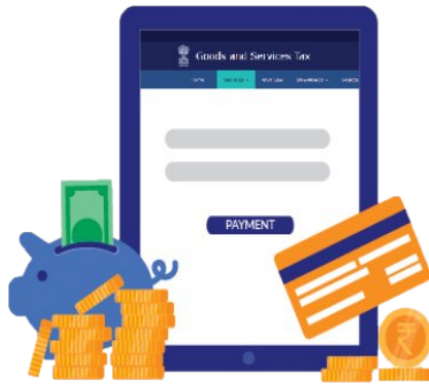
**764.49 Cr.\***

E-way Bill



**2,848 Cr.\***

Total Invoice Upload



**107.64 Lakh Cr.\***

Payment Through the Portal



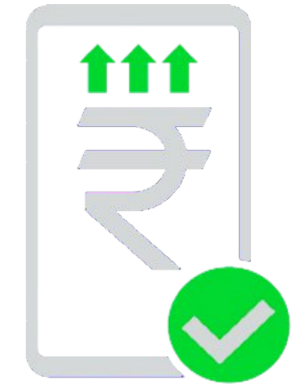
**~46.52 Cr.\***

Total No. of Payment Transactions



**43.51 Lakh**

Highest Returns Transactions in a day



**14.96 Lakh**

Highest Payment Transactions in a day

\* Cumulative figure



# **GSTN: Digital Public Infrastructure**

---



# 4. GSTN's Origin & Formation (2010-2012)



GOODS AND SERVICES TAX NETWORK  
(A Government Enterprise)

## GSTN Formation Timeline

### 2010 (Early)

Need for robust IT system discussed in 4th meeting of Empowered Committee (EC) of State Finance Ministers

### 2010 (Mid)

Empowered Group (EG) on IT Infrastructure formed under **Dr. Nandan Nilekani**

### March 2010

TAGUP recommended National Information Utilities (NIUs) with public purpose

### 2010-2011

EG recommended SPV creation with 49% government equity (Centre 24.5%, States 24.5%)

### October 2011

Empowered Committee endorsed the recommendations for GSTN formation

### April 2012

Union Government approved SPV creation with ₹315 Cr initial funding for 3 years

## Background & Leadership

### Initial Discussion

Need for a robust IT system was first discussed in the 4th meeting of the Empowered Committee (EC) in 2010, recognizing the complexity of integrating multiple tax systems.

### Leadership

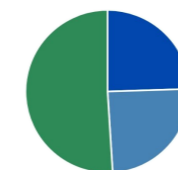
An Empowered Group (EG) on IT Infrastructure was formed under the leadership of Dr Nandan Nilekani to develop recommendations for the GST system architecture

## Key Recommendations & Approvals

### SPV Creation

The Empowered Group recommended creating a Special Purpose Vehicle (SPV) named GSTN to build and operate the common GST portal.

### Equity Structure



**Government:** 49% (Centre 24.5%, States 24.5%)

**Private Institutions:** 51%

# Goods and Services Tax Network (GSTN)-Role

## Technology Backbone For GST In India



**Critical National Information Infrastructure**



**Indirect Taxation Platform**



**Unified Interface**



**Stakeholder Services**



**Integrated System**



**Robust IT Backbone**

GSTN is the premier **National Information Utility (NIU)** providing the technology backbone for indirect taxation in India.



**Front Office for Taxpayers**

**Back Office for Tax Officers**

# Core Principles of GSTN Architecture

## 1 Scalability



- Proven open-source technologies at scale
- Distributed, loosely coupled systems

## 3 Accessibility



- Responsive web design
- Multiple touchpoints: Web, Offline tools, GSPs



## 2 Security



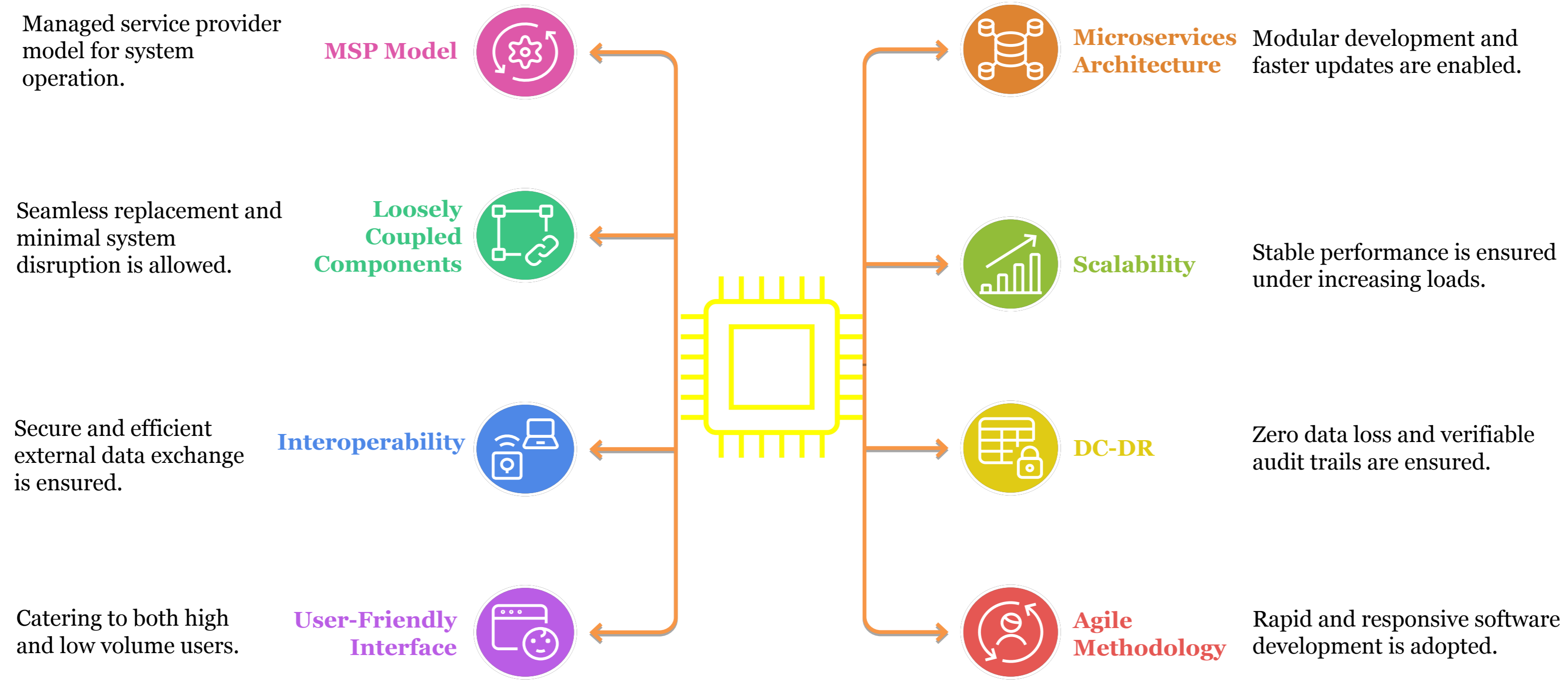
- Multi-layered secure architecture
- Standards: ISMS, ISO 27001, CERT-In compliant

## 4 Availability



- Multi-data centre design
- Zero data loss
- High-performance, fault-tolerant

# GST System: Design Principles & Development Methodology

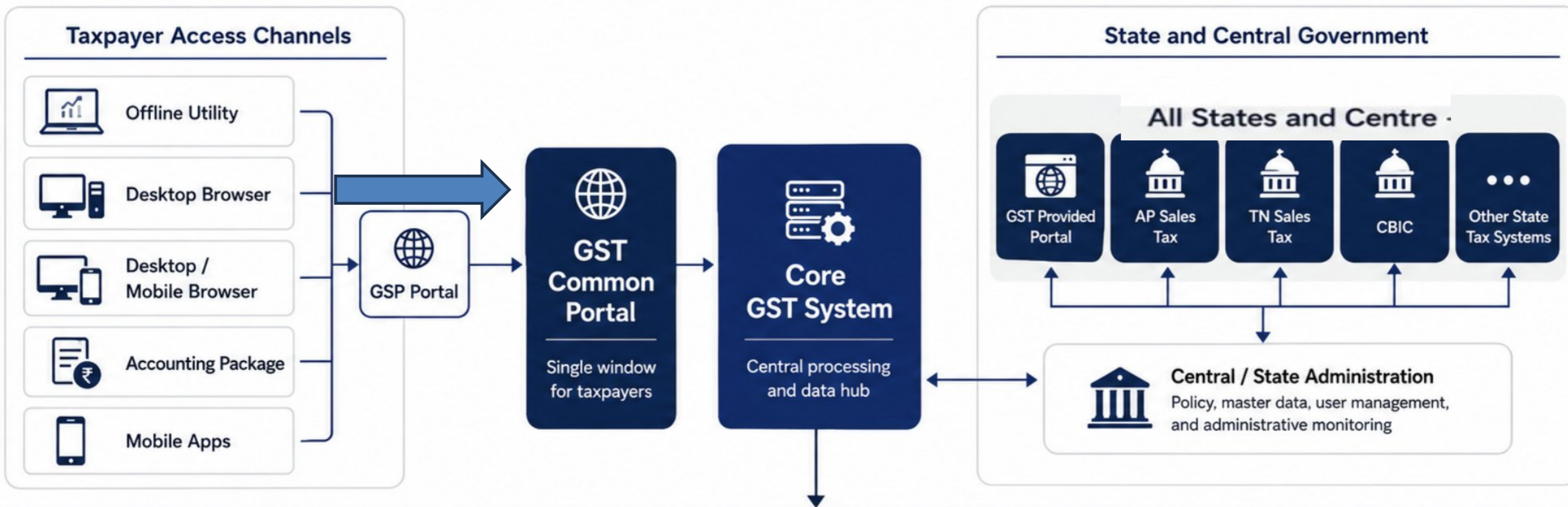


# GSTN Architecture Overview

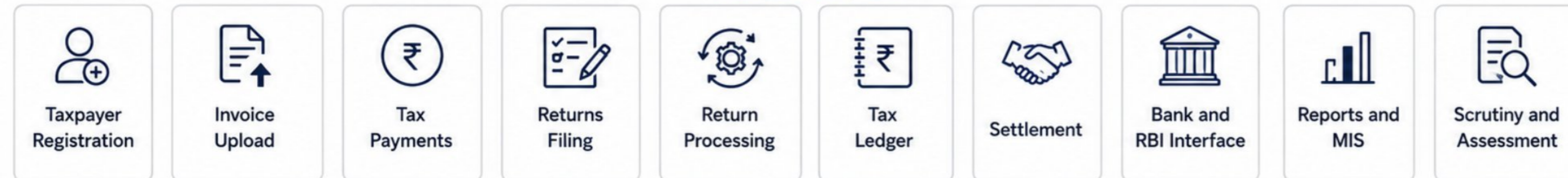
Unified taxpayer access, core GST processing, and government integration



GOODS AND SERVICES TAX NETWORK  
(A Government Enterprise)

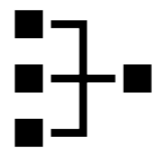
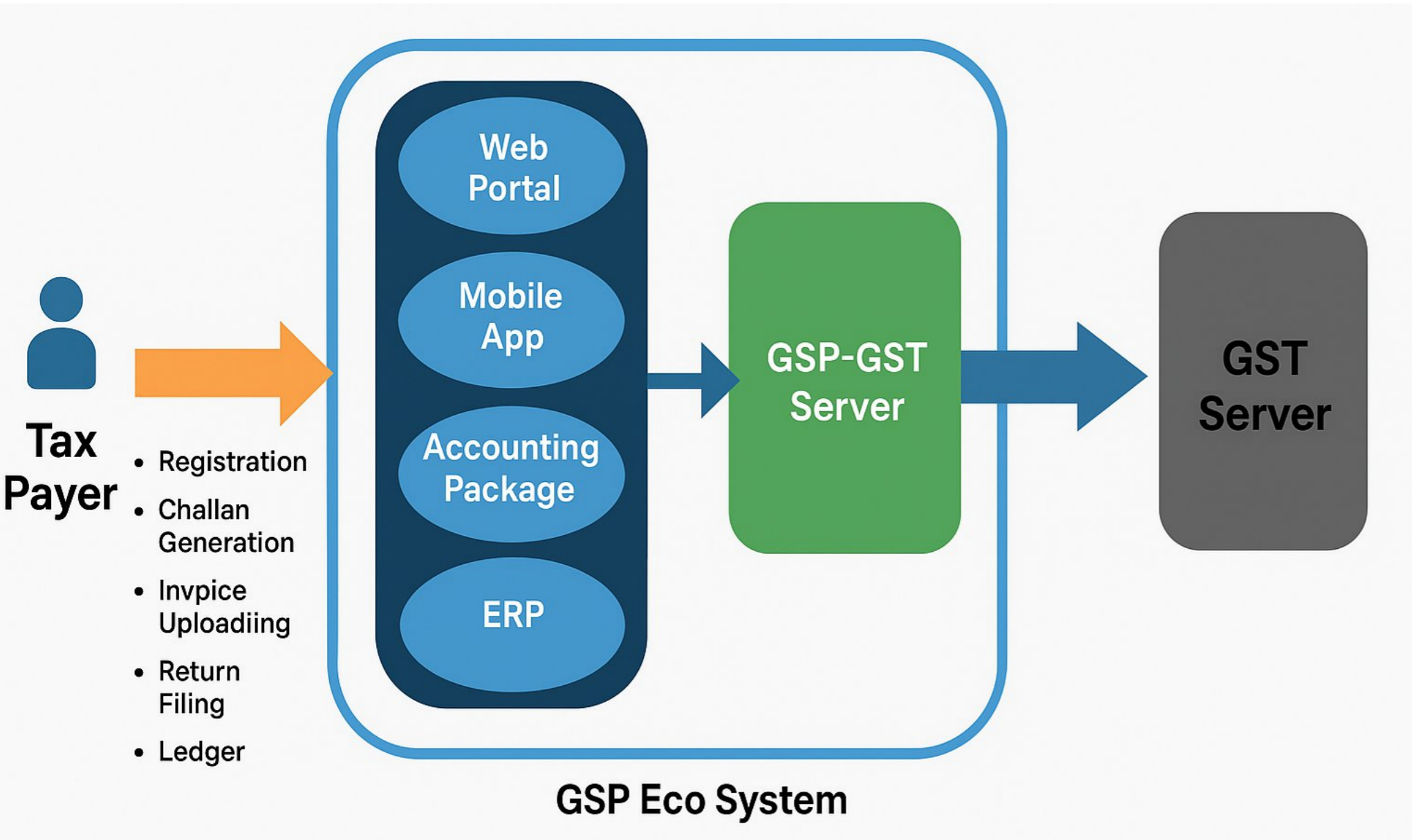


## Core GST Services



		<b>Leading e-Comm Operator</b>
<b>4200 (Filings/Min)</b>	<b>2,000 (tickets/min)- Y'22</b> courtesy <a href="https://contents.irctc.co.in/en/IRCTC_Marketing_Statistics.pdf">https://contents.irctc.co.in/en/IRCTC_Marketing_Statistics.pdf</a>	<b>1,100 (orders/min)- Y'20</b> Courtesy <a href="https://landingcube.com/amazon-statistics/">https://landingcube.com/amazon-statistics/</a>

# GST Suvidha Provider (GSPs)



Enable third-party service providers to offer value-added services for GST compliance.



Secure API Exposure via MPLS Network



Seamless ERP Integration



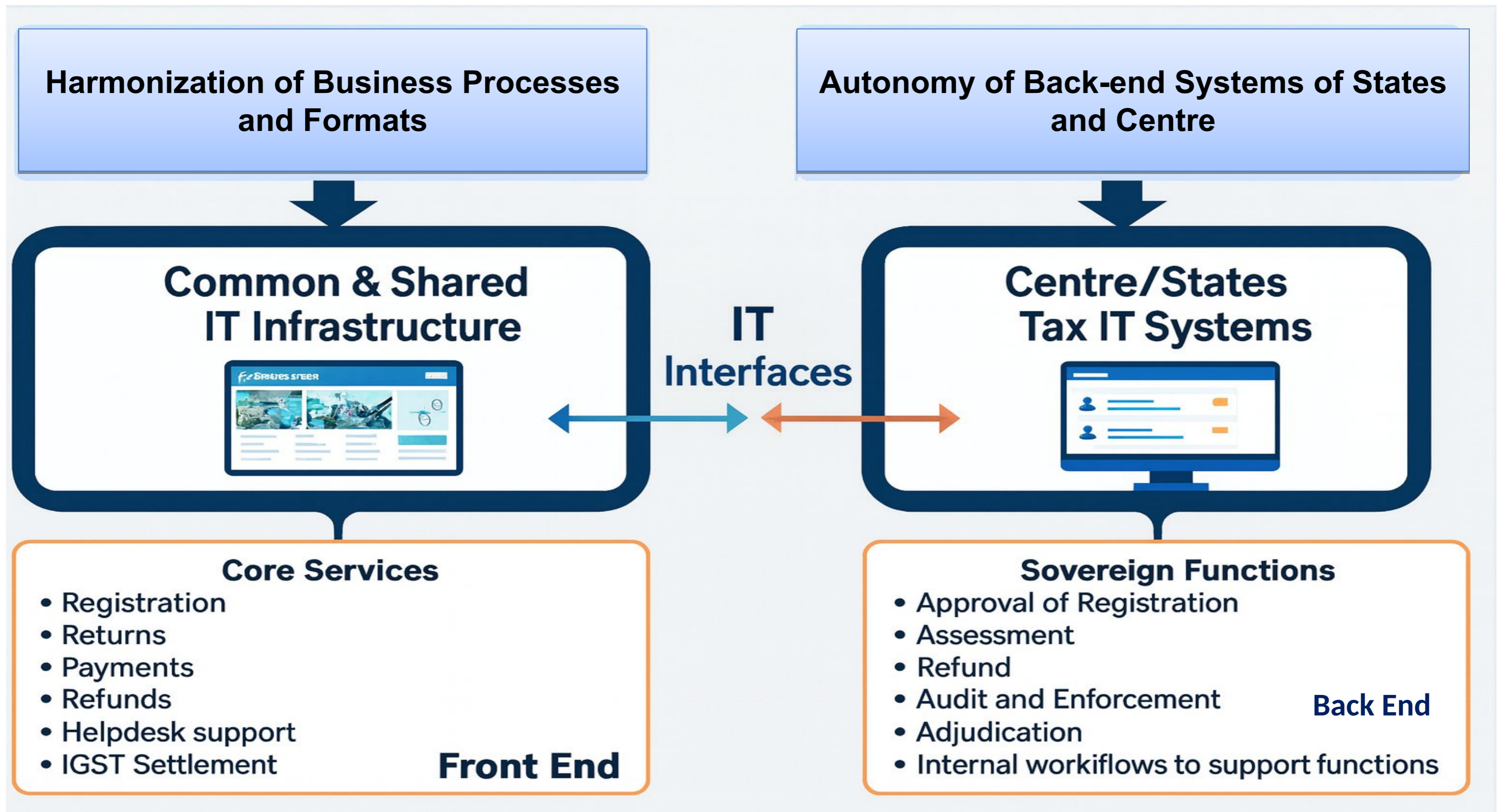
Support for Market-based Solutions



Multiple Channels for Return Filing



# GST IT Strategy – Information Flow




# GST Portal: Front Office (FO-Taxpayer)



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Skip to Main Content ⌵ A+ A-

 **Goods and Services Tax**  
Government of India, States and Union Territories

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### News and Updates [VIEW ALL](#)

**Introduction of "Pending" Option for Credit Notes and declaration of Reversal amount in IMS**

Oct 17th, 2025

RETURNS

**FAQs on GSTR -9/9C for FY 2024-25**

Oct 16th, 2025

RETURNS

**Advisory for GSTR 9/9C for FY 2024-25**

Oct 15th, 2025

RETURNS

### Popular Help Topics

- [How do I register with GST? >](#)
- [How do I apply for refund? >](#)
- [How do I file returns? >](#)
- [How can I use Returns Offline Tool? >](#)
- [How do I file an appeal? >](#)
- [How do I file intimation about voluntary payment? >](#)

Help Desk Number: **1800-103-4786** | [Log/Track Your Issues here](#)  
[Grievance Redressal](#)

### Upcoming Due Dates [DOWNLOAD PDF](#)

Monthly      Quarterly      Other Due Dates

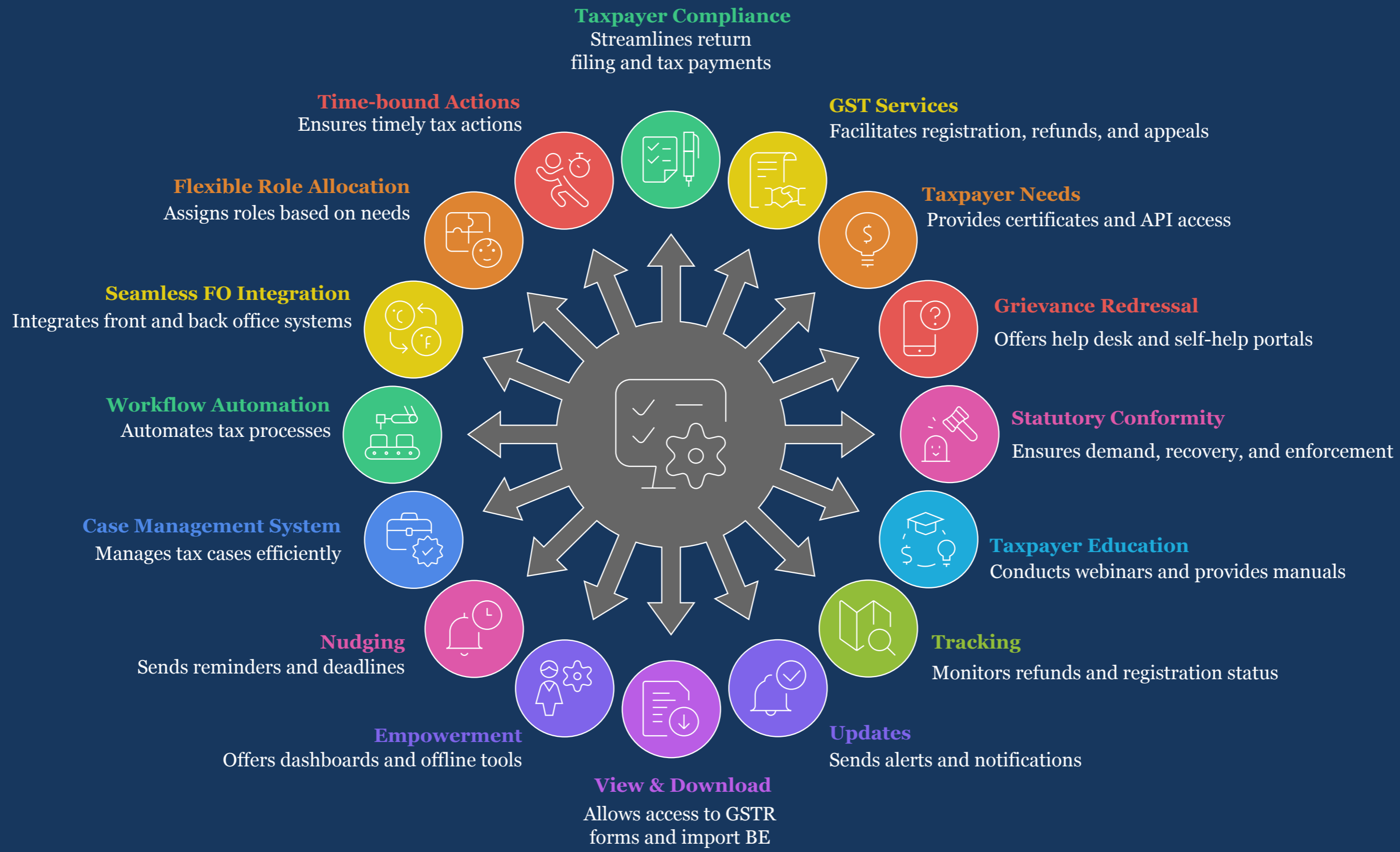
### GST Media [VIEW ALL](#)

 Know more about Man-based Geocoding in the

# GST System: Features in Front Office



GOODS AND SERVICES TAX NETWORK  
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# GST Portal: Back Office (BO)



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**Goods and Services Tax** Login

Registration Payments MIS Services Help Grievances Refund Statutory Functions e-Way Bill System

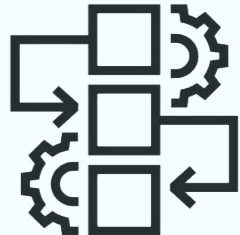
**Summary**

Registration 17	Refund 05	Enforcement 247	DCR 16	Appeal & Revision 172
Advance Ruling 00	Recovery 05	Assessment & Adjudication 03	Revision Effect	

## Salient Features of Back Office



**Case Management System**



**Workflow Automation**



**Seamless FO Integration**



**Flexible Role Allocation**



**Time-bound Actions**

**65 K\***  
Reg. Tax Officers







**45 K\***  
Active Tax Officers

\*Approximate Data

# Back Office (BO-Tax Officer): Features



\*Map not to Scale

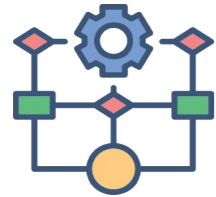
-  36 States/UTs using Uniform Model-2 BO Interface
-  Consolidated Taxpayer Data & Role Based Access
-  Pre-created Data Analytics
-  API Access for Raw Data
-  Comprehensive Help Section
-  Dedicated Officer Helpdesk

\* Initially, States, UTs, and the Centre could either use GSTN's back-office (Model-2) or build their own via GSTN APIs. Most built their own, but gradually all migrated to GSTN's back-office for uniformity and ease.

# Seamless Integration & Auto population in GST



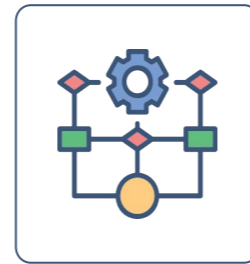
GOODS AND SERVICES TAX NETWORK  
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Data Auto Population



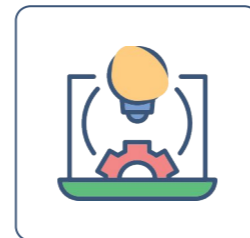
E-Way Bill



Pre-filled Return/ Invoice matching tool



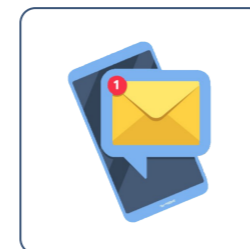
B2B e-Invoice data auto-populated hourly for all taxpayers.



Efficiency at its peak with 180 million e-Invoices processed monthly.



80 million E-Way Bill processed monthly.



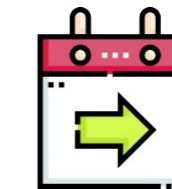
SMS based NIL filing



Validations



Automations



Facilitation



E-invoicing



Account Aggregator Framework



Biometric Aadhaar Authentication

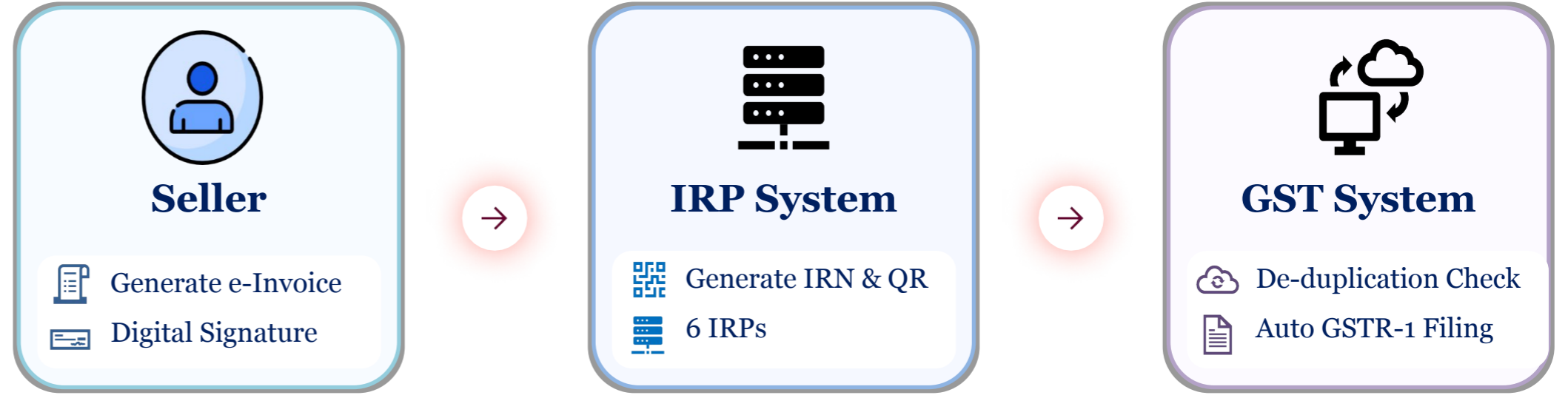
Key Benefits

- i. System-Based Validations:** Reducing manual errors and enhancing compliance accuracy.
- ii. Integration with Third-Party Data:** Leveraging external data for comprehensive risk assessment and analytics.
- iii. Improved Compliance:** Achieving over 90% filing rates, setting a benchmark for international standards.



# Three-Corner Model

India's **B2B** e-Invoicing Model



# e-Invoicing in India

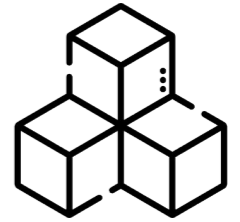


**200 Million**  
B2B e-Invoices are processed / Month



## Applicability

B2B transactions only.



## Three-corner model

Taxpayer, IRP, and GST System.



## Adoption

B2B e-Invoicing has matured in India.



## B2C e-Invoicing

India plans to launch it in voluntary mode in near future

# **GST as a transformational tax reform!**



## Benefits for Common Person, Taxpayers and Governments



## Transforming the Taxpayer-State Relationship

From Adversarial to Transparent



### Digital by Design

GST operates on an integrated electronic platform where every registration, invoice, and return flows through a single system.



### Algorithmic Oversight

Discrepancies and fraud patterns are flagged by algorithms, eliminating the need for unannounced physical warehouse inspections.



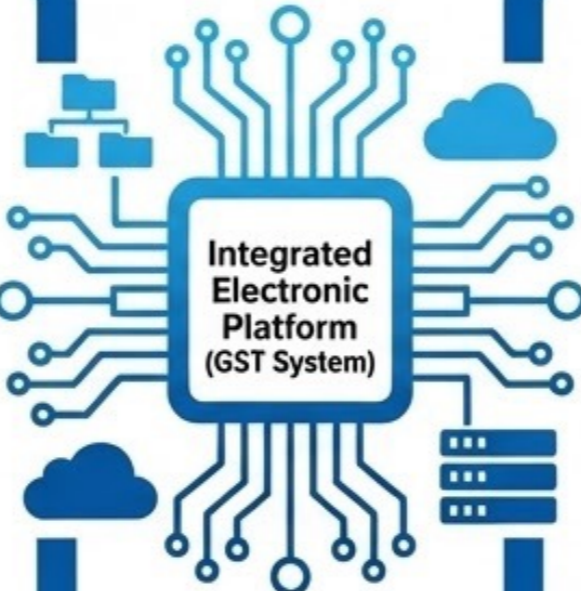
### Verification Over Trust

The digital engine automatically populates input tax credit (ITC) for the buyer based on the supplier's logged data.



### Frictionless Filing

Return forms are pre-populated from invoice data, turning the act of filing from a complex construction into a simple confirmation.



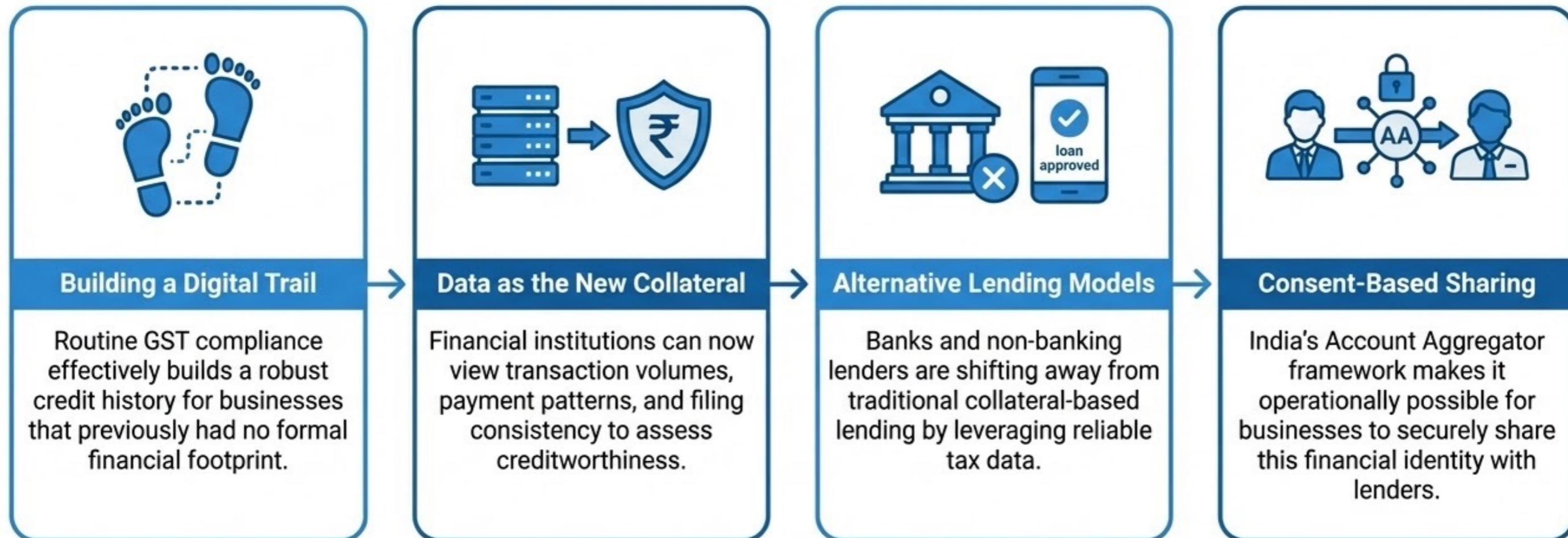
Adversarial Relationship



TRANSPARENT RELATIONSHIP

## GST Compliance as a Financial Identity

Unlocking Credit for Millions of Businesses



**GST towards data driven policy making and transforming the economy!**

# Pre-rollout Analytical Base

## CEA Report on RNR and Rate Structure



1

### Three RNR Estimation Approaches

The CEA committee used three RNR estimation approaches to assess the Revenue Neutral Rate (RNR).



2

### Revised State VAT Base Using Extensive Data

Revised the State VAT base using data from 16 States covering **78.5%** of the VAT base.



3

### Extensive Consultations

Consulted World Bank, IMF, NIPFP and other experts and stakeholders to incorporate global best practices and evidence.



4

### RNR Range Recommendation

Recommended an RNR range of **15%–15.5%**, with a strong preference for the lower end (15%).



5

### Modelled Inflation and Standard-Rate Outcomes

Modelled the impact of inflation and various standard-rate scenarios to understand revenue and economic outcomes.



This report provides the **foundational analytical base** for early GST fitment and rate architecture debates; it is **not** a GST Council decision document.



# 27th Meeting of GST Council held on 04.05.2018

## Creation of a data-analysis culture inside the GST Council process

A foundational example is the 27<sup>th</sup> GST Council Meeting, where the Council discussion explicitly recognised that GSTN data should be used for State-level analysis and the policy formulation backed by such analysis



**Policy significance:** this was not a rate change or rule change by itself, but it marks the **institutional shift** from GST as a filing portal to GST as a policy intelligence platform.



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# Agenda to GST Council 27th Meeting held on 04.05.2018



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10.3. The Secretary stated that the issue of data sharing was discussed during the officers meeting held on 9 March, 2018 and the GSTN had indicated that it would provide GSTR-2 data for every State for data analysis at State level. The Hon'ble Minister from Jammu & Kashmir suggested to set up a research and analysis wing in GST Council to do a proper data analysis and that its results should be brought before the Council to formulate policies. The Secretary informed that GSTN and CBEC had started detailed data analytics across a number of data sets available with them. The outcome of preliminary data analysis had given some interesting insights like variance between the amount of IGST and Compensation Cess paid by importers at Customs ports and input tax credit of the same claimed in GSTR-3B; and major data gaps between self-declared liability in FORMGSTR-1 and FORM GSTR-3B. The Secretary further stated that an Analytic and Research Management Wing had been created in CBEC and they would be making regular presentations to him on specific issues and statistics. The Hon'ble Minister from Kerala also emphasised the importance of data analytics and research and stated that the Economic Survey had given a lot of insights through data analytics. The Hon'ble Chairperson observed that all relevant data must be shared with the States.

# GST System: Tax Administrations Need BI & Fraud Analytics

## ✓ **Enhanced Revenue Collection**

Identify underpayments and tax gaps

## ✓ **Compliance Improvement**

Encourage voluntary compliance

## ✓ **Real-time Monitoring**

Track GST ecosystem trends

## ✓ **Resource Optimisation**

Allocate staff and resources efficiently

## ✓ **Policy Insights**

Inform decisions with data-driven insights

## ✓ **Fraud Detection**

Uncover complex fraud scheme

## ✓ **Risk Assessment & Intervention**

Prioritise high-risk taxpayers for audits

## ✓ **Inter-State Analysis**

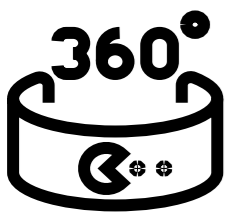
Detect IGST frauds and mismatches

**Artificial Intelligence and  
Machine Learning (AIML)  
algorithm based**

**Rule based and feedback on  
modus operandi prevalent in  
the field**

**Network Graph based visualization for  
holistic view of value chain  
(ITC/Refunds)**

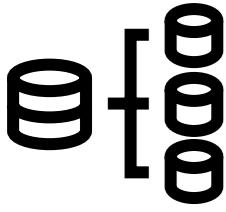
# Business Intelligence and Fraud Analytics (BIFA): Benefits



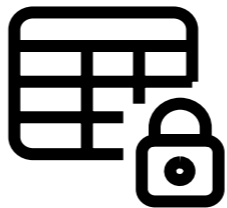
**Unified Analytical Platform:** 360° view of taxpayer data through integrated returns, e-invoices, registration, and payments.



**Effective Enforcement Support:** Helps detect tax evasion; widely used by agencies to flag red alerts and generate leads.



**Centralized Data & Compute:** Single source of truth with scalable compute for real-time, system-wide analytics.



**Secure & Controlled Access:** Restricted data access ensures privacy, security, and audit readiness.



**Risk-Based Decision Making:** Flags only high-risk taxpayers, reducing unnecessary interventions.



**Dynamic Risk Scoring:** Generates internal risk scores to guide audits and compliance actions.

## Agenda Item 6: Analysis of Revenue Gap of select States and Union Territory of Puducherry for information of the Council

### I. Jammu & Kashmir (J&K)

18. There should be a focused attention on non-filers of GSTR-3B Return. A systematic effort is needed to make them file GSTR-3B, particularly the bigger tax payers.

### II. Punjab

15. In Punjab since a larger proportion of revenue comes from small taxpayers, examination of returns filed by small taxpayers should also be given emphasis. Data analysis tools should be used to identify taxpayers suspected to be under-reporting their sales. State administration is taking up data analytics and the Central administration should also commence the same. Both administrations can also collaborate for data analytics.

## Agenda Item 6: Analysis of Revenue Gap of select States and Union Territory of Puducherry for information of the Council

### IV. Puducherry

18. Data analytics should be extensively used to identify the tax evaders and carry on enforcement exercise based on risk assessment and data available in GSTR-3B/GSTR-1 and GSTR-2A. Cross

#### I. Bihar

18. Non-filers of returns are reported to be around 23%. Data analytics should be carried out (such as their tax behaviour in the VAT regime and e-Way Bill generation) to identify those non-filers who have good revenue potential and they should be persuaded vigorously to file returns.

24. Data analytics should be undertaken in a big way to identify risk prone taxpayers as gradually more data and MIS reports are being made available by GSTN to Model 2 States. The newly registered taxpayers need to be subjected to risk analysis to ascertain that they are paying the tax due.

## The Problem

- ✓ There was a recurring mismatch between the liability declared in:
  - i. GSTR-1 (outward supply statement)
  - ii. GSTR-3B (summary return filed by the taxpayer)

This mismatch indicated that some taxpayers were **under-reporting their liabilities** in GSTR-3B compared to what they declared in GSTR-1.



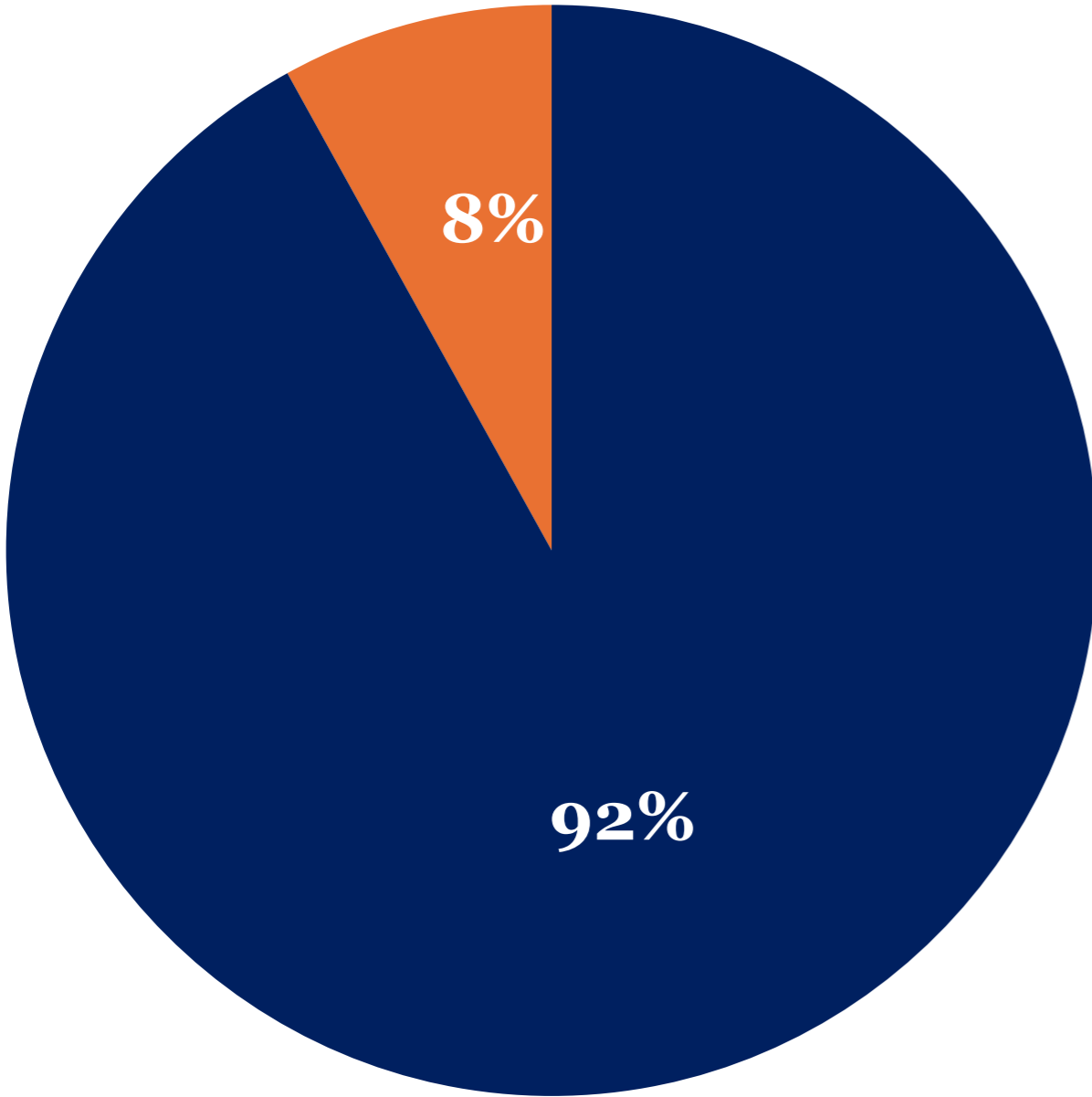
## The Solution: System Nudging

- ✓ GSTN designed an automated mechanism where the system:
  - i. Detected mismatches between GSTR-1 and GSTR-3B
  - ii. Sent system-generated messages to taxpayers

Nudged them to:

- i. Explain the difference, or
- ii. Pay the differential amount





## Why This Matters

**Better Self-Compliance** → Taxpayers fix errors on their own.

**Reduced Manual Notices** → Saves time and effort for tax officers.

**Win-Win** → Easier compliance for taxpayers, cleaner data for the administration.

■ Difference Explained or Cash Paid  
■ Pending for processing



## **Table Agenda 10 (i): Interim recommendations of Committee of Officers on Risk Based Management of taxpayers under GST regime**

As a follow up of a presentation by the Member (Investigation), CBIC on the Fake Invoices & Fraudulent Availment of ITC, IGST Refunds and Drawback in the officers meeting held on 20.06.2019, it was decided to constitute a Committee of Officers (CoO ) on risk-based management of taxpayers with a intent to establish certain checks and balance on the risky taxpayers such as follows:

- a. To initiate the Aadhar based verification process of all new taxpayers.
- b. Develop modalities and timelines for similar verification of all the existing taxpayers.
- c. In absence of Aadhar validation, compulsory physical verification of premises.

## Registration



1. AADHAAR authentication
2. Face/ Biometric authentication
3. Risk score
4. Integration with third-party data
5. Bank Account Validation

## Returns



1. Identification of risky dealers
2. Auto population of Returns
3. Sequential filing of Returns
4. Automated suspensions
5. Automated self-compliance
6. Reports & other analytics

# From Data to Decisions : Returns

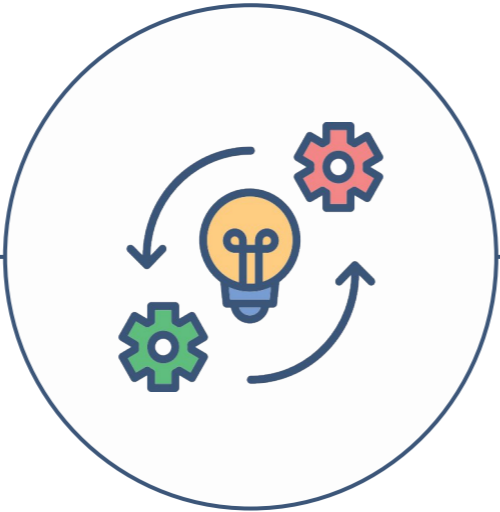


GOODS AND SERVICES TAX NETWORK  
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## Auto Population

Auto population of Returns and sequential filing



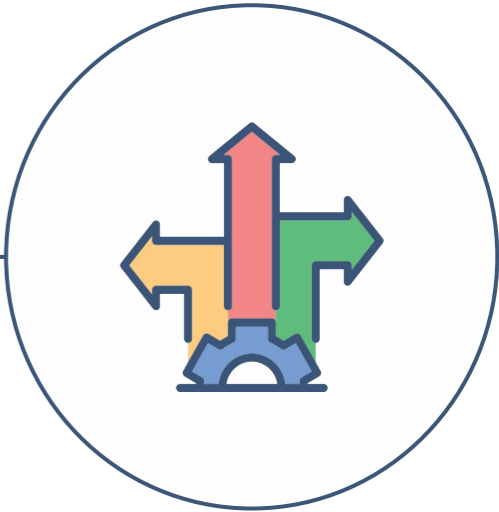
## Auto Suspension

Automated suspension for non-compliance and reactivation on completing compliance



## Self-Compliance

Automated self-compliance in cases of differences in Liability



## IMS

Invoice Management System (IMS) for Accept / Reject / Keep Pending functionality



1. **Decision of GIC by Circulation on 26<sup>th</sup> April, 2023 on GST Data sharing request by Ministry of Textiles**
  
2. **Decision of GIC by Circulation on 28th June, 2023 on GST Data sharing with Ministry of Railways**
  
3. **Decision of GIC by Circulation on 06th July, 2023 on Sharing of GSTN data with National Statistics Commission, Ministry of Statistics and Programme Implementation**
  - a. In the agenda note received from Department of Revenue, it was mentioned that the request was received for sharing of GSTN data with National Statistics Commission, M/o Statistics and

**Monday Special** 12 lakh 'dead' people eating free govt grain in MP: Big company owners, taxpayers also availing ration; Centre finds irregularities

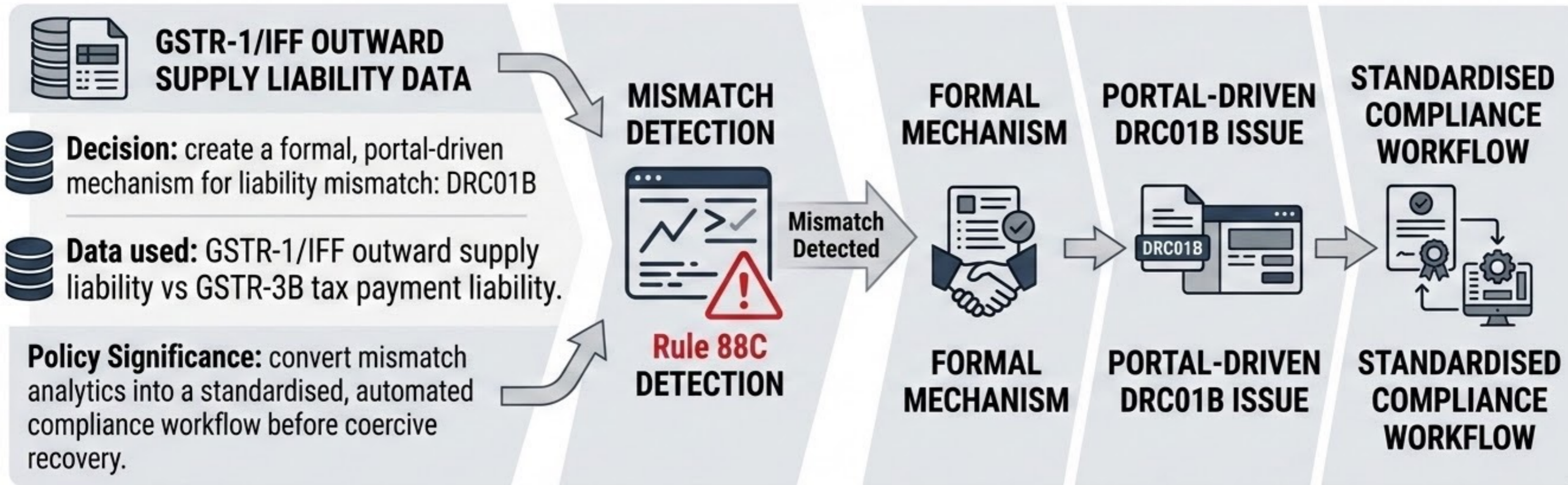
**Govt digitisation drive removes 58 million fake ration cards from PDS**

*The ministry has deployed 5.33 lakh e-PoS devices across fair price shops nationwide, enabling Aadhaar-based authentication during distribution and ensuring the rightful targeting of beneficiaries*

**MoSPI to use GST data for services production index**

Ministry of Statistics and Programme Implementation plans to use GST data to build a high-frequency services production index for better GDP tracking.

## GST RULE 88C: LIABILITY MISMATCH ANALYTICS & WORKFLOW



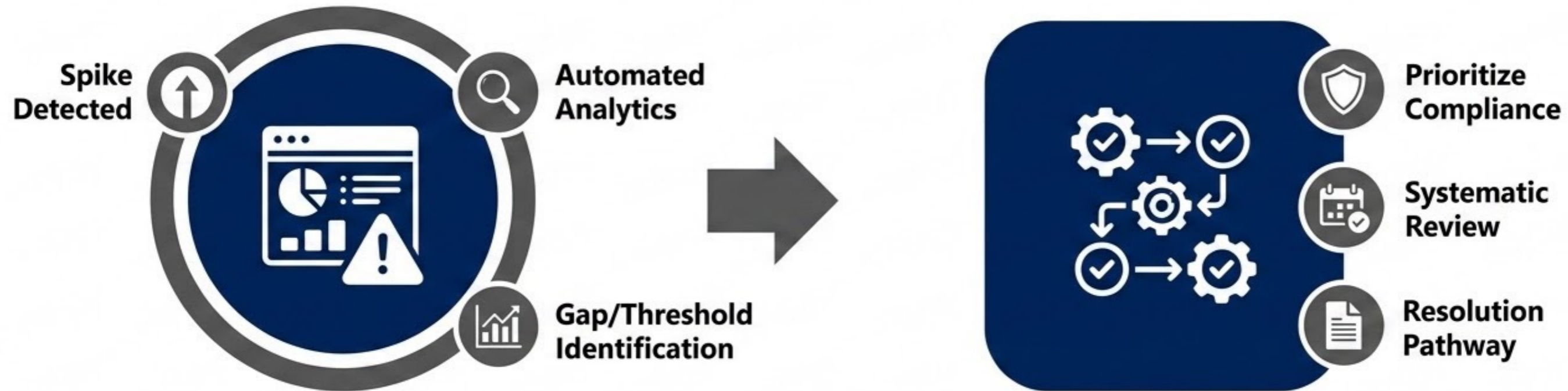
### POLICY SIGNIFICANCE

**CONVERT MISMATCH ANALYTICS INTO A STANDARDISED, AUTOMATED COMPLIANCE WORKFLOW**

**... BEFORE COERCIVE RECOVERY.** 

## SPIKE RULE FOR GSTR-2A/2B VS GSTR-3B ITC MISMATCH

POLICY LOGIC: STANDARDISED, AUTOMATED COMPLIANCE WORKFLOW



**GoM RECOMMENDATION:** System intervention on significant ITC gaps. Suggested threshold:  $\geq$  ₹25 lakh.

**POLICY GOAL:** Systematic, standardized workflow **BEFORE** coercive recovery.



### DATA INSIGHT

Data-flow non to work but in data insights flow secure by data analytics.



### AUTOMATED RULES

Automated rules paramanated brase data fondentality and automate rerentions.



### COMPLIANCE PATH

Compliance path enslagement to complante vetoent and coercive recovoy.

## **C. Amendments in CGST Act, 2017 to restrict filing of returns/statements after completion of specified time in view of data archival policy**

8.8.4 Principal Commissioner, GST Policy mentioned that GST System has completed more than five years. GSTN has informed that the huge data size of all these years is putting an excessive load on the server and compromising performance. Keeping massive data available online slows down the GST system applications and impacts return filing, especially during peak filing days. Therefore, GSTN proposed a data archival policy for the smooth functioning of the GST Portal and also to provide superior experience to the taxpayers.

8.8.5 While deliberating on the proposed data archival policy for GST portal, the Law Committee recommended that the maximum time limit for filing returns/statements be fixed as three years beyond the due date of filing and accordingly, CGST Act, 2017 be amended by inserting sub-section (5) in Section 37 and sub-section (11) in Section 39 of the CGST Act, 2017. Law committee also recommended inserting sub-section (2) in Section 44 and sub-section (15) in Section 52 of the CGST Act, 2017.

**The Council agreed with the recommendation of the Law Committee.**

# “GST 2.0” technology-driven compliance architecture

*From manual scrutiny to intelligence-led fast-tracking*

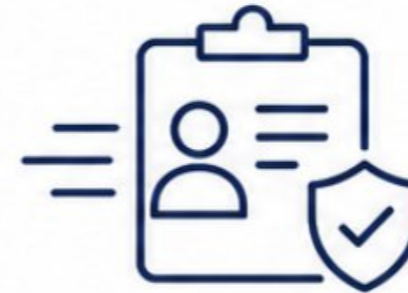
## Refund Reform



### Automated provisional refund sanction under amended Rule 91(2)

- System identifies and evaluates refund risk
- Low-risk claims can be sanctioned automatically on a provisional basis
- Faster processing and reduced manual intervention

## Registration Reform



### Rule 9A and Rule 14A — risk-based fast-track GST registration

- Registration risk score is revamped for better assessment
- Supports optional simplified registration process
- Compliant taxpayers can be fast-tracked while risky cases are flagged

**1 Old approach**  
Scrutinise everyone manually



**2 System intelligence**  
Use risk scoring and automated decision support



**3 New approach**  
Fast-track compliant taxpayers and concentrate enforcement on high-risk entities



These reforms shift GST administration from ‘scrutinise everyone manually’ to ‘use system intelligence to fast-track compliant taxpayers and concentrate enforcement on high-risk entities.’

# GST Rate Policy Is Becoming More Evidence-Based

Rate decisions increasingly rely on revenue, refund, ITC and sectoral analytics—not only ad hoc rate cuts.



## Revenue Analytics

Rate changes are assessed against revenue buoyancy, compensation needs and tax-base expansion.



## Inverted Duty Analysis

High input-tax accumulation helps identify input-output rate mismatches that need correction.



## Refund Data

Persistent refund outflows and blocked ITC can signal structural rate anomalies.



## Sectoral Impact

Industry cost structure, competitiveness and consumer impact are considered in fitment decisions.



## Compliance Feedback

Return data, e-invoice and e-way bill trends help detect distortion, leakage and classification disputes.



## Illustrative example

September 2025 rate rationalisation sought to simplify slabs, remove anomalies and make the system easier for businesses and consumers.




















## GST rate policy is moving from static classification to evidence-based calibration.

Data on revenue, refunds, ITC accumulation and sectoral patterns is increasingly used to correct distortions and improve compliance.

# From Data to Decisions




























GOODS AND SERVICES TAX NETWORK  
(A Government Enterprise)

 GST layer	 Principal datasets	 Common formats and standards	 Key integration points	 High-value decision uses
 Registration and taxpayer master	GSTIN, PAN-linked identity, addresses, uploaded proofs, status history	 Portal form data, uploaded documents, officer workflows	 GST portal, back office, linked validation/risk datasets	 Registration risk scoring, segmentation, lifecycle monitoring
 Returns and ledgers	GSTR-1/1A/IFF, GSTR-3B, GSTR-6, GSTR-7, GSTR-8, cash and credit ledgers	 Portal forms, offline utilities, APIs	 Counterparty data, officer systems, taxpayer dashboards	 Liability reconciliation, ITC assurance, compliance monitoring
 Recipient ITC layer	GSTR-2A and GSTR-2B	 Auto-drafted system statements	 Supplier returns, ISD data, ICEGATE import data	 ITC eligibility checks, mismatch analytics, audit selection

# From Data to Decisions



GOODS AND SERVICES TAX NETWORK  
(A Government Enterprise)

 GST layer	 Principal datasets	 Common formats and standards	 Key integration points	 High-value decision uses
 <b>E-invoicing</b>	 IRN, signed JSON, QR code, document metadata, HSN and tax values	 INV-01 schema in JSON, IRP validation and signature	 ERP/accounting systems, IRPs, GST system, GSTR-1	 Real-time or near-real-time supply analytics, fake invoice controls, rate analysis
 <b>E-way bill</b>	 Consignment, item, transporter, route, vehicle and timing data	 Portal/API payloads	 e-Way Bill system, GST portal, GSTR-1 import features	 Logistics plausibility, suspicious movement analytics, trade-flow intelligence
 <b>Customs linkage</b>	 Bill of Entry, import-related data, export invoice status	 Customs system records integrated into GST views	 ICEGATE ↔ GST portal	 Import ITC matching, refund support, export-risk analytics
 <b>TDS/TCS</b>	 GSTR-7 and GSTR-8 data, recipient credit status	 Portal forms, auto-populated statements	 Counterparty compliance and ledgers	 Cash-flow assurance, platform-network analysis, withholding compliance

# Key Takeaway!

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# GST Policymaking Is More Data-Driven Than It Appears

India's GST system has created a continuous feedback loop in which data increasingly shapes policy design, enforcement, facilitation and reform.



## 1. Compliance Architecture

E-way bills, e-invoicing, return design and invoice matching improve transparency and control.



## 2. Revenue Protection

Compensation trends, leakage analytics and settlement monitoring strengthen fiscal oversight.



## 3. Rate & Inversion Correction

Sectoral refund pressure, ITC accumulation and revenue impact guide course correction.



## 4. Risk-Based Administration

Risk scores support automated provisional refunds and simplified registration pathways.



**Not every GST decision** is purely data-led—  
but the policy ecosystem is *increasingly evidence-informed*.



**India's GST journey is evolving from a tax reform into a data-enabled governance platform.**





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**THANK YOU!!**

