



सत्यमेव जयते

Department of Telecommunications  
Government of India



# Innovative Ecosystem - Digital India

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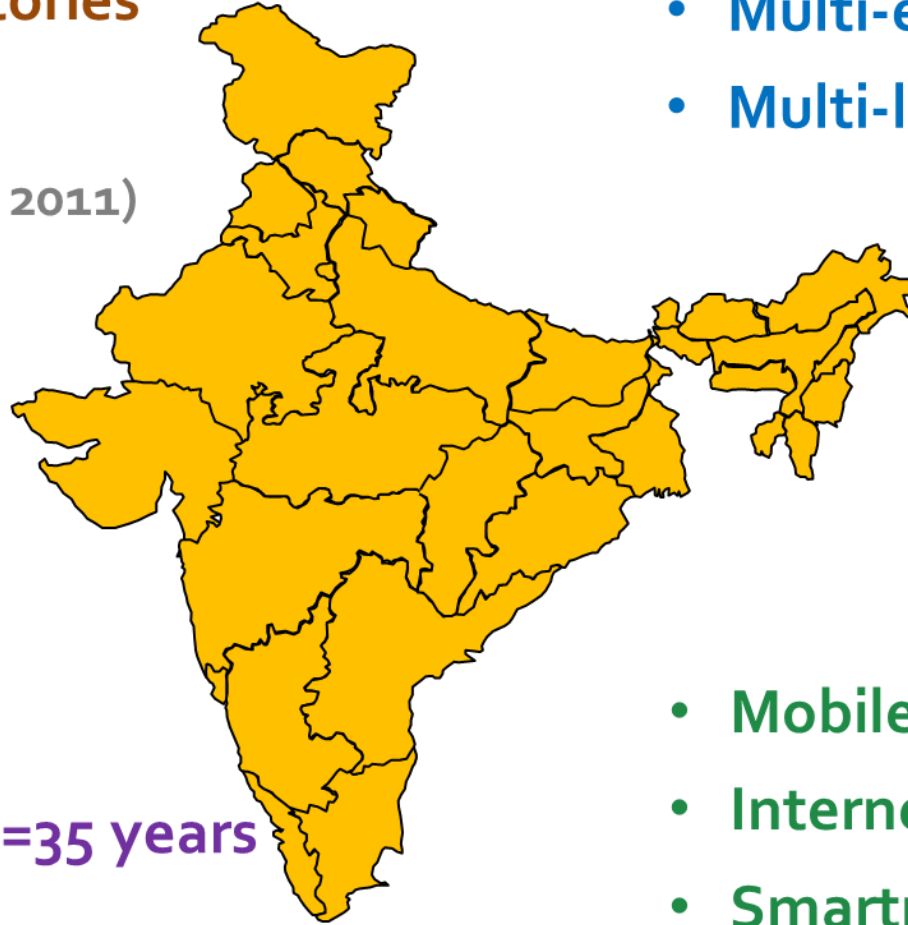
A presentation by

**Premjit Lal**

Digital India is the World's most  
*ambitious program for transforming  
governance and creating an equitable,  
inclusive and empowered society*  
using Digital Technologies

# India - Unique Perspective

- 29 States & 7 Union Territories
- 250,000 + Local Bodies
- 650,000+ villages (Census, 2011)



- Multi-ethnic, Multi-religious society
- Multi-lingual: 22 Official languages

- Population: 1.3+ billion
- 70% population with age  $\leq 35$  years
- 70% population rural

- Mobile Connections : 1.18 billion
- Internet user base : 500 million
- Smartphone : 400 million

# Digital India

To transform India into a digitally empowered society and knowledge economy

## Digital Infrastructure as a Utility to Every Citizen

- High speed internet
- Unique digital identity
- Mobile phone & bank account
- Common Services Centre
- Private space on Cloud
- Secure cyber-space

## Governance & Services on Demand

- Integrated services
- Online and Mobile Services
- Portable Citizen entitlements
- Ease of doing business
- Financial transactions electronic & cashless
- GIS as Decision Support System

## Digital Empowerment of Citizens

- Digital literacy
- Digital resources
- Indian languages
- Participatory Governance
- Electronic submission of documents



# Digital India Pillars



**Broadband**  
Highways



**Universal**  
access to phones



**Public Internet**  
Access Program



**e-Governance**  
Reforming government  
through technology



**eKranti**  
Electronic Delivery of services



**Make in India**  
Electronics + Software



**Digital Payments**



**Participatory**  
**Governance**



**Digital Skills**

# JAM Trinity : The Foundation of Digital India

**J**andhan  
(Bank Account)



**A**adhaar  
(Digital Identity)



**M**obile



Over the last 4 years, Digital India has laid a robust foundation for India to embark on Digital Transformation

# Mobile emerging as most important instrument for Citizen Empowerment

■ **Highest data consumption** in the world, ahead of USA and China

Source: Ookla

■ Mobile data **costs one of the lowest** in the world

■ **Growing mobile ecosystem** (manufacturing / mobile apps / services)



**1.18 Bn**  
Subscribers

Smartphone Users

**120 Mn**



**Jul 2014**

**400 Mn**



**May 2019**

**810 Mn**

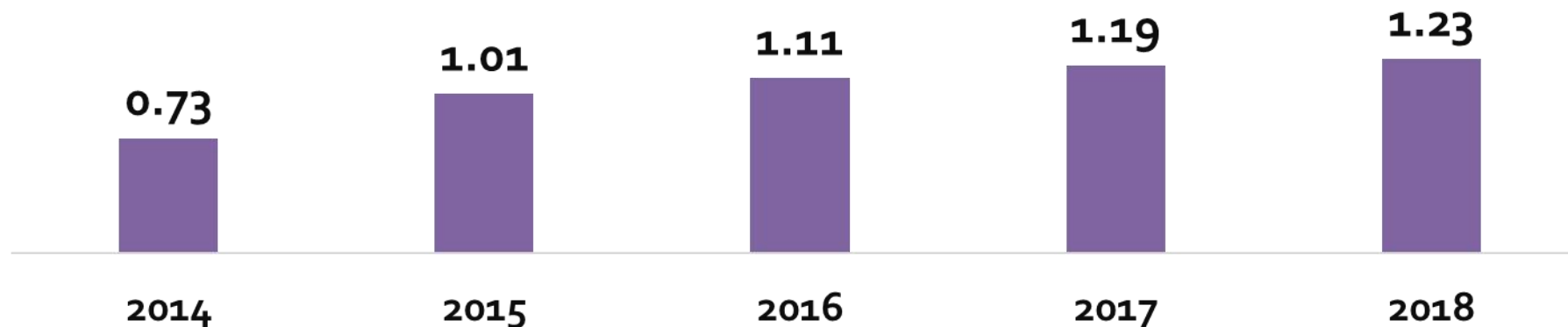


**2022**

# Aadhaar – Digital Identity

- **Cradle to grave digital identity** that is unique, lifelong, online, authenticable
- **Best possible authentication / de-duplication mechanism in India**
- Aadhaar Services: Proof of Identity & Online Auth
- Aadhaar enabled ecosystem: eSign, DBT, AEPS ...etc

**Population Covered (in Bn)**



# Jan Dhan Yojana – Bank Account for every family



Banking - PMJDY

Insurance – PMSBY, PMJJBY

Atal Pension Yojana

- Jan Dhan Yojana: PMJDY (Started in 2014)
- 356.5 Mn Beneficiaries
- \$ 14 Bn Balance in Beneficiary Accounts
- 126,000 Bank Mitras working in rural areas

80% of adults have bank accounts in India





# Digital infrastructure

Universal, Affordable, Ubiquitous

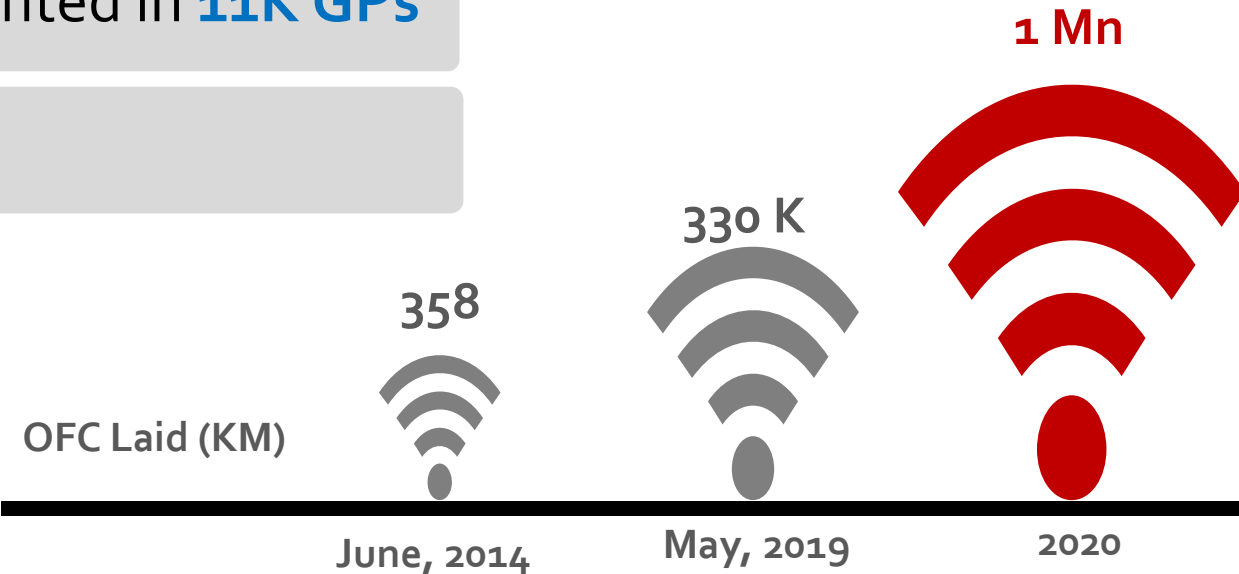
# BharatNet: Connecting Rural India

- **1 Million km** OFC to be laid to connect **250K GPs**
- OFC laid for **3,30,355 km**
- OFC laid in **1,27,588 Gram Panchayats**
- Wi-Fi planned in **1,05,000 GPs** and implemented in **11K GPs**
- **Wi-Fi** hot spots being setup on PPP mode

Phase 1: 100,000 GPs  
Phase 2: 150,000 GPs

1,18,919 GPs to which  
OFC Connected and  
Equipment Installed

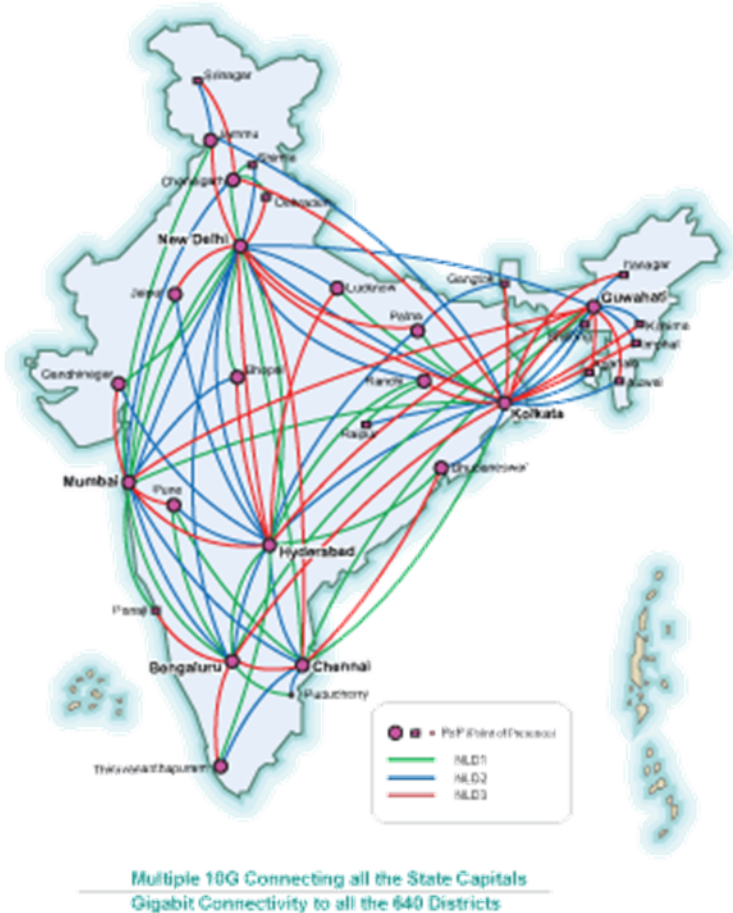
Partnership with States + Private Sector  
for Phase II





# National Knowledge Network

## World's Largest Knowledge Network for Education + R&D



High speed connectivity to **1,696 institutions + Universities**

Linked to **Trans-Eurasian Information Network (TEIN)** – 40,000 Institutions

Connectivity with Research Institutions in **Singapore and Amsterdam**

Connectivity with Research Networks in **USA and CERN Geneva** being established

Linkage with **SAARC countries** being done

Multiple 2.5/10 Gb Connecting all State Capitals

Connected 500+ Districts



# India's Cloud Revolution (Meghraj)

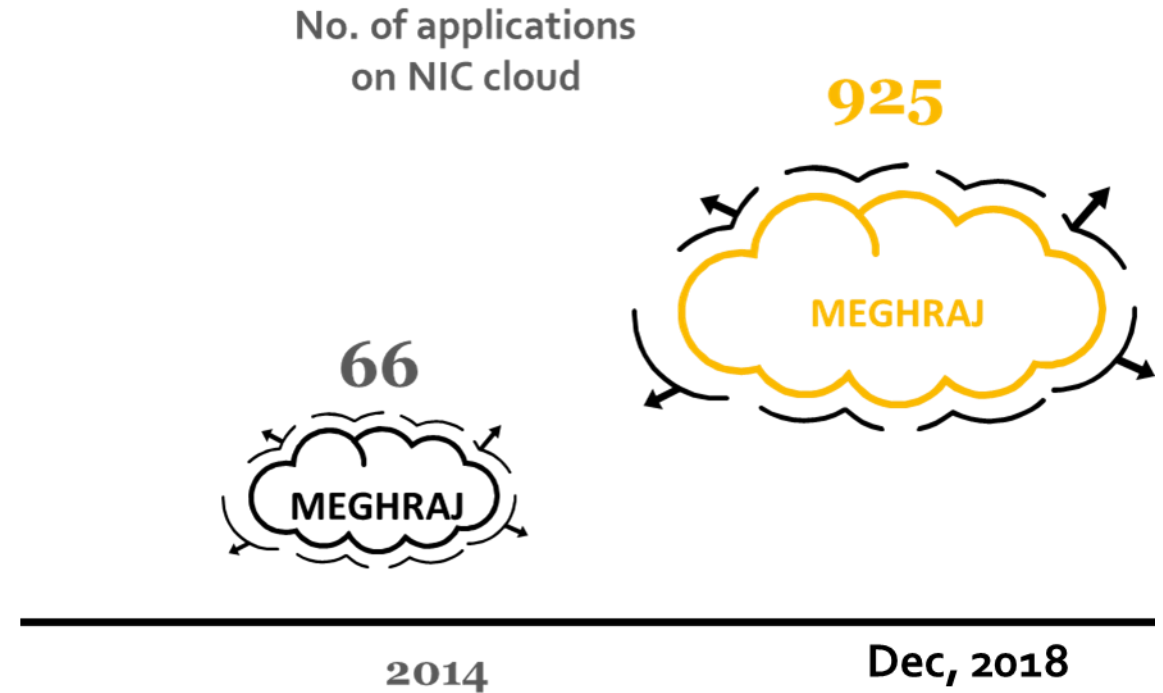
- **Cloud First** Policy

- **925 Applications** on NIC cloud; **15,825 virtual servers**

- **DigiLocker** provides dedicated cloud space to every citizen

- **13 Private Cloud Service Providers** empanelled

- **50+ Ministerial & PSU's applications on Pvt. Cloud**



# Common Services Centers: Employment & Access

## WORLD'S LARGEST RURAL eSERVICE FACILITIES

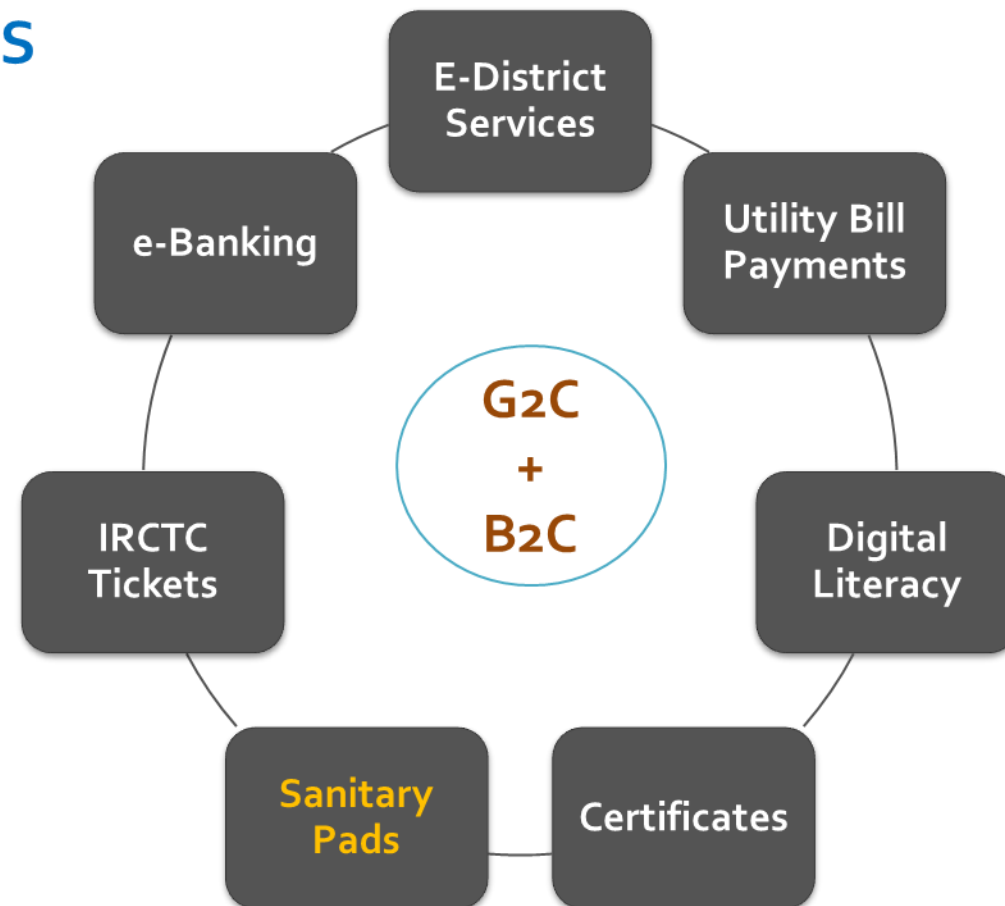
■ **347 K** CSCs Operational

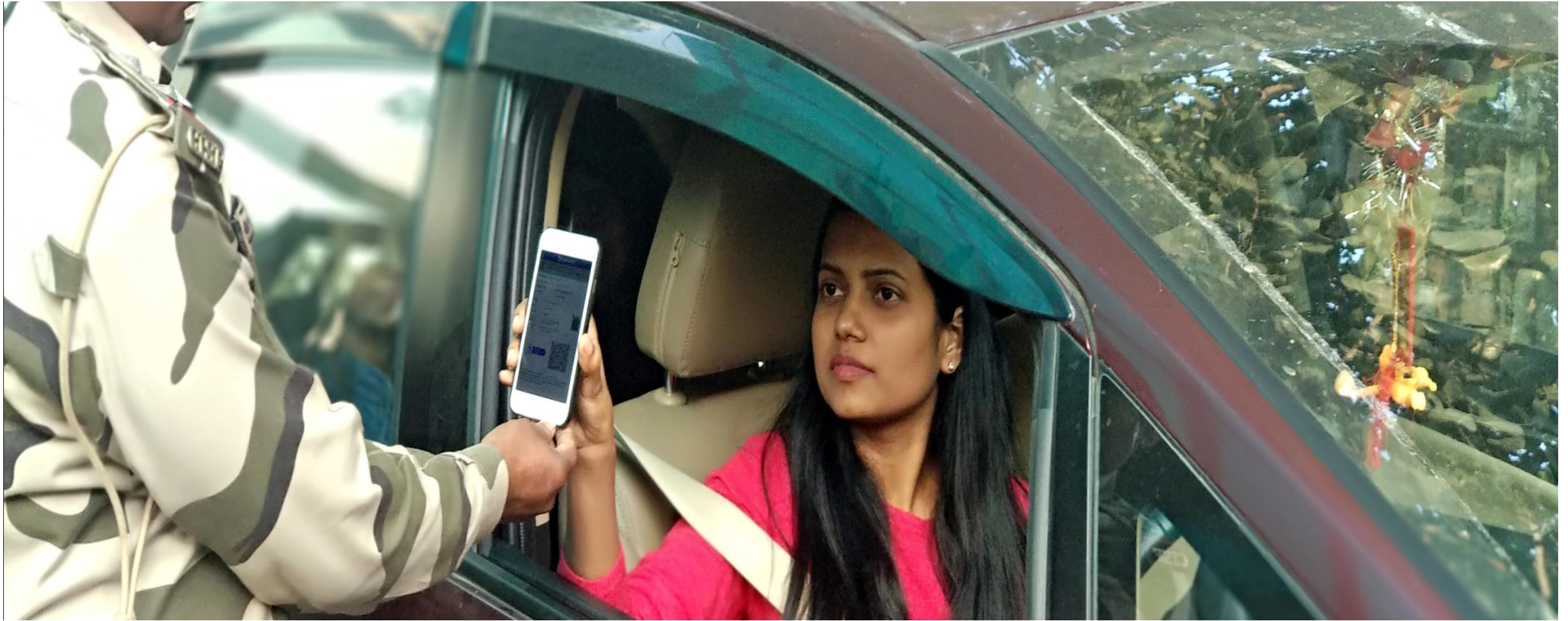
■ **230 K** CSCs Operational at GP level (Target: 250 K GPs)

■ **50** Central & **>300** State services offered

■ More than **13 Mn Transactions** in April'19

■ **1.2 Mn** employment generated





## e-Governance & Services / eKranti

# Mission Mode Projects (44 MMPs)

## CENTRAL MMPs (15)

- Banking
- Insurance
- Income Tax
- Central Excise
- MCA 21
- Pensions
- Passport
- National ID / UID
- Immigration / Visa
- e-office
- Posts
- NMEICT (Higher Edn)
- CAPF
- e-Bhasha
- e-Sansad

## STATE MMPs (17)

- Transport
- Land Records
- e-District
- Commercial Taxes
- Treasuries
- Municipalities
- Agriculture
- PDS
- Employment Exchange
- Education (School)
- Health
- Rural Development
- e-Panchayat
- CCTNS (Police)
- Agriculture 2.0
- e-Vidhaan
- Women & Child Develop.

## INTEGRATED MMPs (12)

- India Portal
- CSC
- Financial Inclusion
- EDI (e-Trade)
- e-Courts
- e-Procurement
- e-Biz
- NSDG
- Social Benefits
- Road and Highways
- NGIS
- Urban Governance

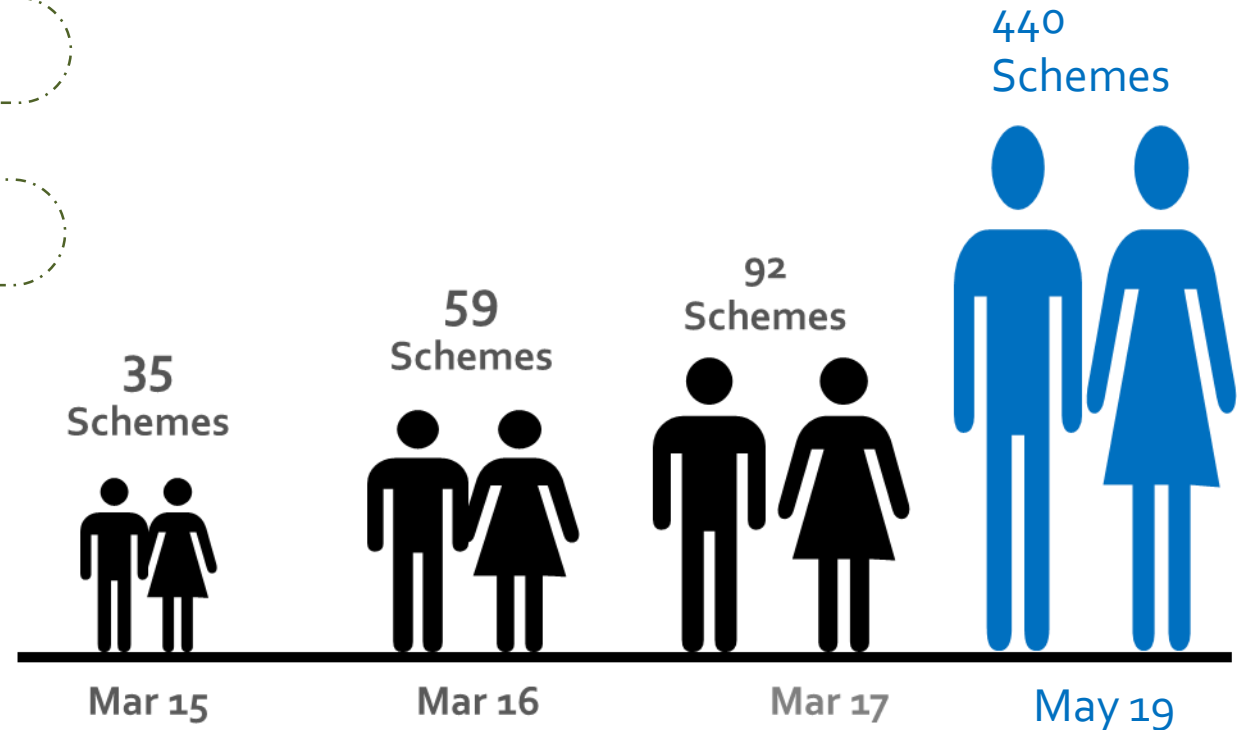
# Transforming Governance: Direct Benefits Transfer

● **440** Govt. schemes using DBT for disbursements

● **\$ 104 Billion** disbursed

● **\$ 17 Billion** savings

- \$ 8 Bn on LPG
- \$ 4.3 Bn on PDS
- \$ 2.9 Bn on MGNREGS
- \$ 1.4 Bn on Fertilizer Subsidy
- \$ 0.06 Bn on NSAP
- \$ 0.43 Cr on Others





# Agriculture Mission Mode Project for farmers

Ref. 25 May 2019

## Soil Health Card

### Cycle 1 (Kharif)

Samples Collected: 25,349,546

Samples Tested: 25,349,546

SHCs Dispatched: 107,389,421

### Cycle 2 (Rabi)

Samples Collected: 27,146,578

Samples Tested: 26,109,343

SHCs Dispatched: 91,706,109

## e-National Agricultural Mandis

### Market Coverage

585 Agricultural  
Mandis from 16  
States and 2 UTs

### Farmers' Coverage

16 Mn farmers  
covered

### Traders' Coverage

123K+ Traders

### Financial Impact

\$ 10 Bn Transacted

## mKisan

No. of SMSs

24, 62, 37, 10, 138

No. of Farmers

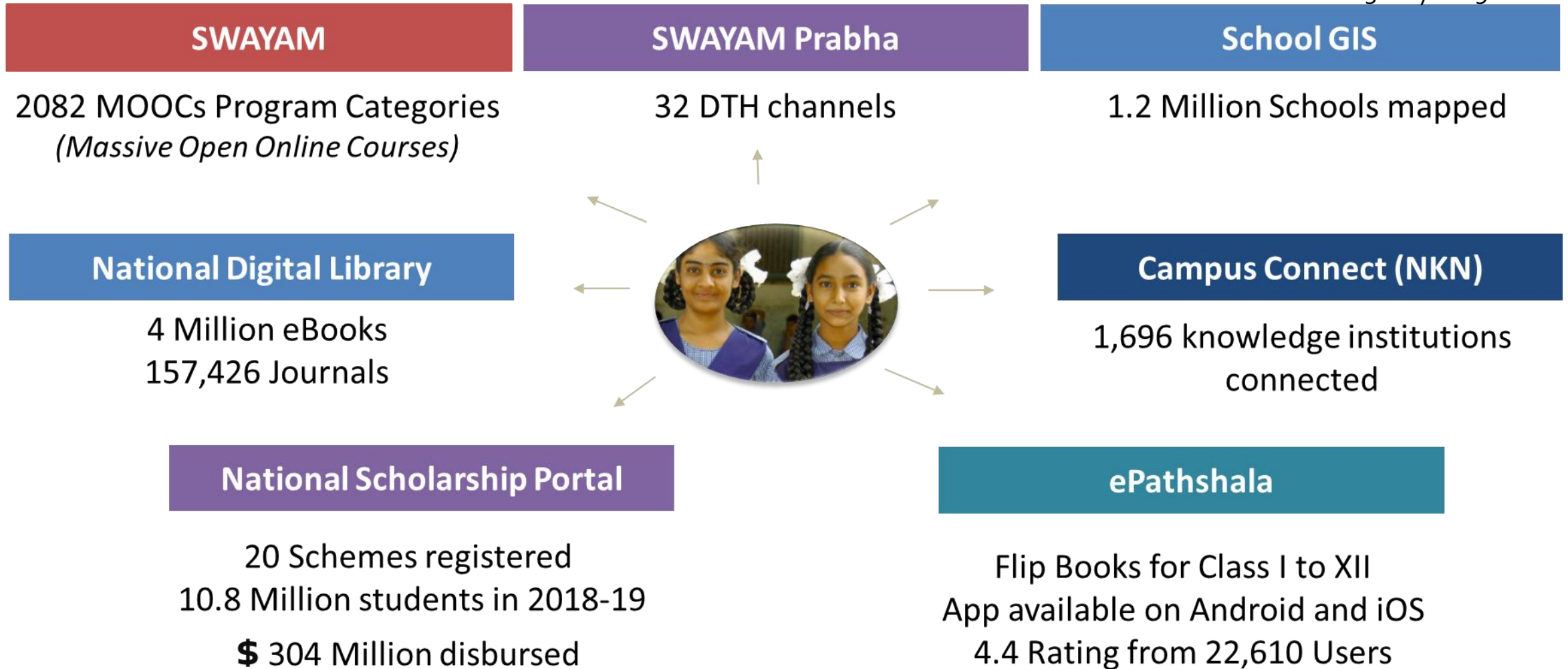
5, 16, 34, 628

Advisory Count

4, 20, 371

# Education – Expanding reach

Ref. 25 May 2019



# Towards a common **Health** platform

Ref. 25 May 2019



## **Reproductive and Child Health**

- **170 Mn women, 140 Mn children** registered



## **Health Insurance**

**(Rs. 500 K)**

- **Ayushman Bharat**
- 100 Mn families covered
- 2.6 Mn people availed benefits



## **eHospital**

- 322 Hospitals
- 98.38 Mn patients registration
- 20+ Modules available e.g. Patient registration, IPD, Pharmacy, Blood bank etc,



## **Online Appointments**

**ORS** (204 Hospitals,  
2.52 Mn appointments)



## **Telemedicine**

- Key private players – Apollo hospital, Nanavati, eVolko etc
- CSCs being used to deliver tele-medicine services in rural areas



# Digital Locker: Moving to Paperless Transactions

3.52 Billion documents made available through DigiLocker



200+ Types of Documents – Driving License, Passport, Pan, Voter Id, Caste Certificate, Class X/XII Passing Certificate etc

No. of available documents : 3.52+ Bn  
No. of Issuer Organizations : 124  
No. of Requester organizations: 34



Mauritius

Kazakhstan

Ghana

DigiLocker  
(users-Million)

1 Mn



Dec, 2015

23.2+ Mn



21 May, 2019

**Rule 9A.** Issuing Certificate in Digital Locker System and accepting certificate shared from Digital Locker Account **at par with Physical Documents**

# UMANG: Unified Mobile App for New Age Governance

- One Mobile App for Govt services – **1200 services**
- Multiple **Regional Languages** Support (13 no.s)
- Saving storage **space** | Built-in **Analytics**
- Customised branding for Departments/States
- **362 Services** Operational from 73 Dept(s) & 18 States
- **11 Mn+** download

'Best M Government Service' award from UAE Government

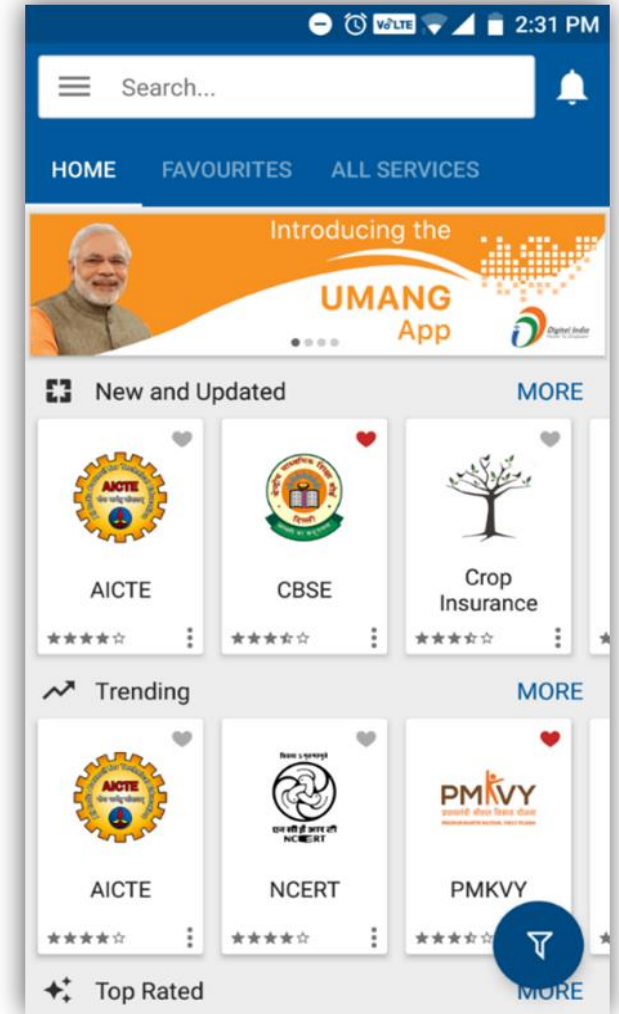
'IDC Digital Transformation Awards 2018'



Mauritius

Sri Lanka

UAE



# National Centre of Geo-Informatics (NCoG)

- GIS Platform developed
- Developed in-house using open source software
- 1:5000 scale basemap
- Compatible with multi-purpose geo-datasets
- **User can plot the assets and features on their own**

226 Applications from Central & States - Operational

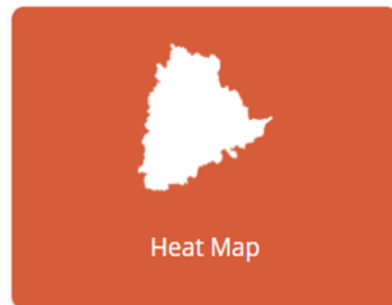
## Central GIS Projects **(161)**



...

## State GIS Projects **(65)**

### Telangana



### Nagaland



### Uttar Pradesh



### Haryana



...

# Rapid Assessment System



## Key Features



Multiple channels of feedback – SMS and Portal



Trigger based service integration with Dept. Process Flow



Localisation Support (Multiple languages)



Integration through APIs



Analytical Reports and Dashboards



Easy to configure by users

28

Integrated  
States / UTs

335

Integrated  
Departments

1887

Integrated Services

9,12,59,974

Requests for Feedback



# Learning Management System

## Main Features

Comprehensive e-Learning System

Virtual Classroom

Skill Gap and Competency Mapping

Assessment Mgmt

Classroom Training Management

Modular Design

32 Central and State Training organizations on-boarded

53 Courses available for e-Governance Competency Framework

110 webinars organized with a viewership of 1.5 million persons



<https://lms.negd.in/>



# Government e-Marketplace (GeM)

Ref. 25 May 2019



Launched in **Aug 2016**



End to end procurement cycle



Minimal human intervention



Leveraging e-commerce technology for Government procurement



Transparent and ease of buying



**35,724** Buyer Organizations **232,629** Sellers/Service providers **959,718** Products **\$3.6 Bn** Order



# Digital Payments

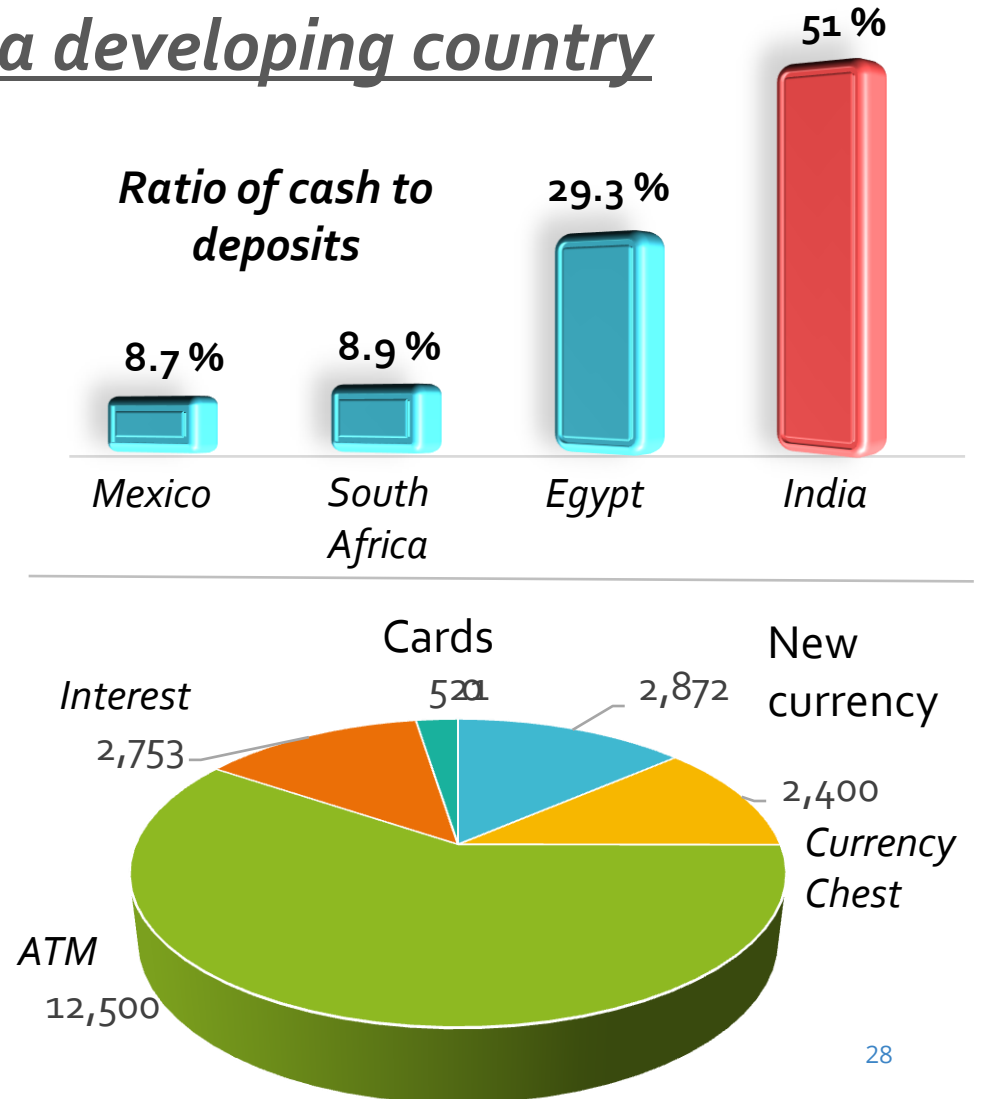


# Pre-Nov State

Highly cash intensive economy, even for a developing country

- **78%** retails payments in Cash
- Low **cash velocity - 1.5** as compared to 11 in USA
- **Cash is not free**  
Banking system spends **₹ 21,000 Cr** each year to handle cash

\* Source: Cost of Cash in India, TUFTS University





# Why Digital Payments?

Cost of parallel economy - **3.2%** of GDP  
~ ₹ 4 lakh cr / year

Cost of Cash - **1.7%** of GDP  
~ ₹ 2 lakh cr / year

Increased Tax Revenues

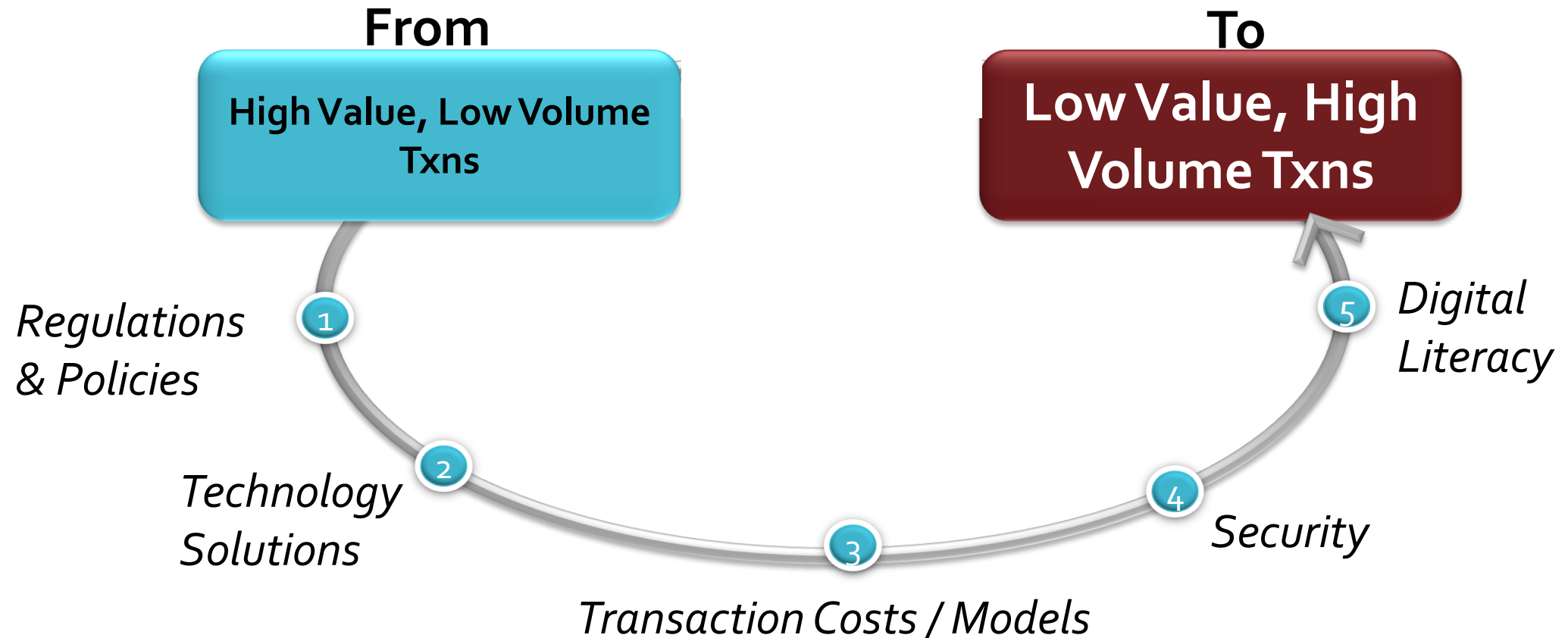
Greater Transparency

Better Law Enforcement

India to **save 6 lakh Cr per year** by moving to predominantly digital payment system\*

*\* Source: Moody's / Visa report on impact-of-electronic-payments-on-economic-growth, 2016, Analysis*

# Digital Payments Ecosystem needs to make a shift



Changes in Regulatory Framework + Business Models + Technology to enable this shift

Even though a late entrant, India set to  
**Leapfrog** in Digital Payments;  
**Bypassing** the era of cards and  
NetBanking

# Innovative Digital Payments Platforms

New payment modes  
launched to cater to  
varying payment  
needs



- BHIM Unified Payments Interface (UPI) (Launched in Aug 2016)
- BHIM USSD (Launched in Dec 2016)



- Aadhaar Enabled Payment System (Launched in 2013)
- BHIM Aadhaar for Merchants (Launched on 14<sup>th</sup> April 2017)



- Low-cost interoperable acceptance mechanism (Launched in Feb 2017)



- 469 Toll Plazas as of Nov 2018



- Bharat Bill Payment System for Utility bill Payments (Launched in Sep 2016)

**Wallets**

- 48 Non bank Pre Paid Instrument Providers licensed by RBI

**Other Key Products**

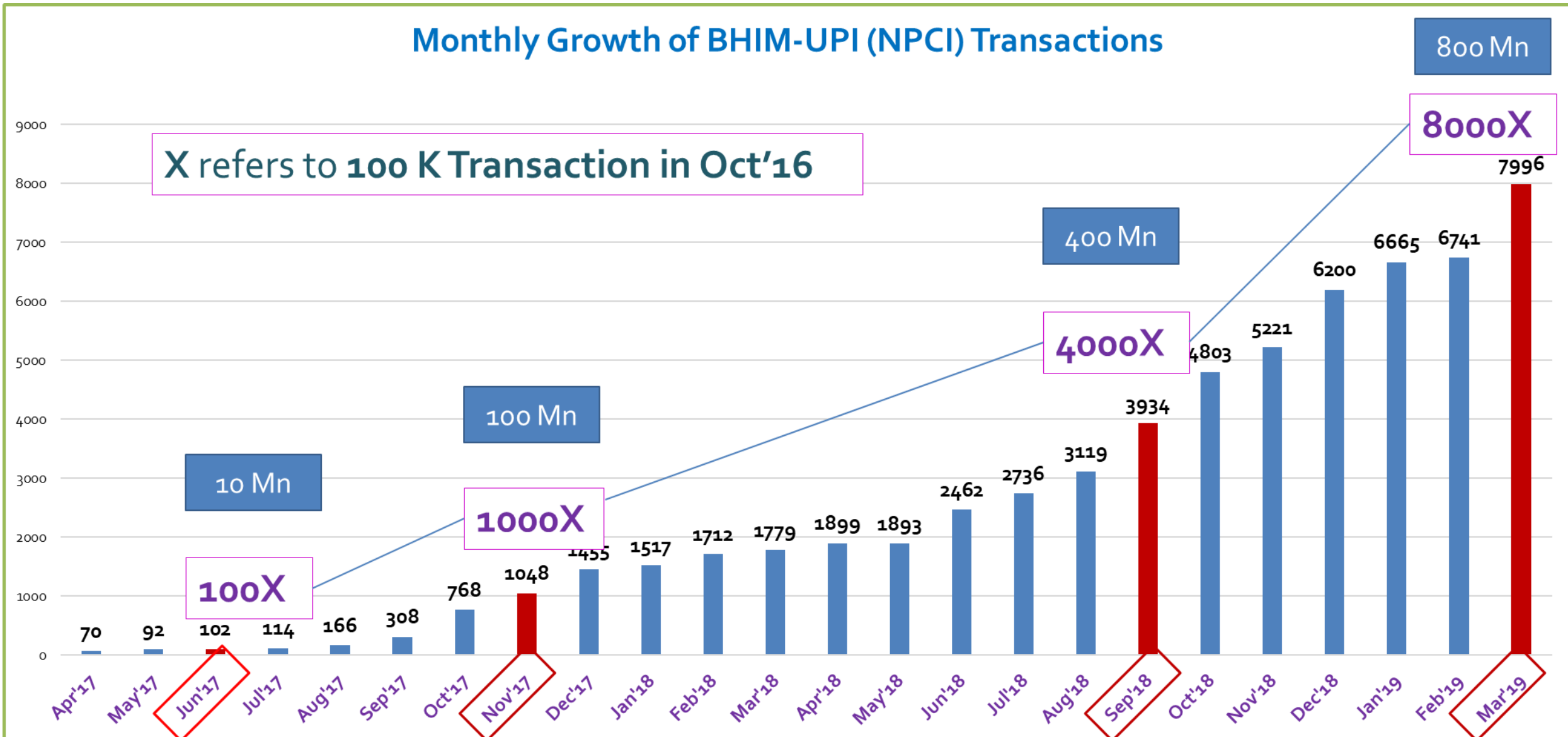
- RuPay Card
- National Common Mobility Card - Standards



# Digital Payment

## Monthly Growth of BHIM-UPI (NPCI) Transactions

X refers to 100 K Transaction in Oct'16





# Citizen Empowerment



# Digital Literacy

Ref. 25 May 2019

## DISHA

- **Digital Saksharta Abhiyan** (2014)
- Target **5.25 Mn** in 4 years
- Trained **8.27 Mn** in 2.5 years
- Project's target completed by **2017**

## Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)

- New Scheme initiated in 2017
- Target to train **60 Mn new** beneficiaries in rural areas
- Target is to make one person digitally literate per family

## PMGDISHA

Training Partners

636



Create channel for physical delivery of the digital literacy training

Registered Candidates

22532906



Monitor physical delivery of digital literacy program

Training Completed

22113091



Ensure physical delivery of the digital literacy training

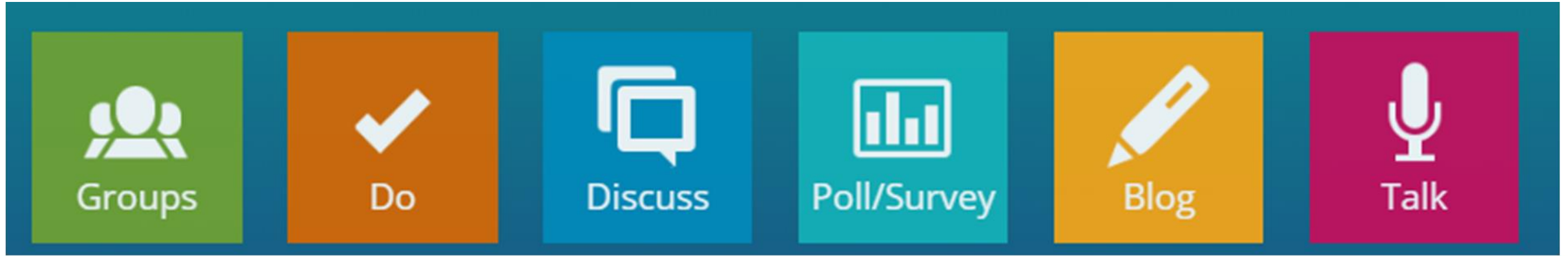
Certified Students

13109453




Beneficiary of the digital literacy training

# MyGov: Participatory Governance



 **8051.35K**  
Registered Members of  
MyGov

 **224.60K**  
Submissions in 811 Tasks

 **3918.83K**  
Comments in 799  
Discussions

 **19.47K**  
Participation in 263 Poll &  
Survey

**Mann Ki Baat Programme**

Ref. 25 May 2019

**Self4Society**

 **177**  
Organisations

 **4383**  
Initiatives

 **71205**  
Volunteers

 **145081**  
Hours Logged



# India BPO Scheme and North East BPO Scheme

- Unique Policy for Incentivizing BPO employment in **smaller towns** (in Tier 2/3 towns)
- **India BPO Scheme: 108 Cities** covered and **276 units** approved, **51,297 seats** allocated, **41,535 seats** operational and **26,331 direct employment** generated
- **North East BPO Scheme: 12 Cities** covered and **21 units** approved, **1,675 seats** allocated, **1,175 seats** operational and **527 direct employment** generated
- Major players including TCS, Amazon and Karvy Data have opened BPO Centres
- Expected **160 K jobs** creation in small towns



# Vibrant Indian Start-up Ecosystem

Source: NASSCOM

	7200-7700	# of Start-ups incepted during 2013-18, overall base growing at 12-15%
	1200+	# of Start-ups added in 2018; steady and sustained growth in new Start-ups
	8	# of Unicorns added in 2018; Highest addition in a single calendar year ever!!!
	\$ 4.3 Bn	Total funding received by Start-ups in 2018 (Jan-Sep); More than 100% YoY growth

## Current - Top 3 Areas

- Internet Software and Services
- eCommerce and Marketplace
- Food Technology Companies

**26**  
Unicorns  
in India

## Next Promising - Top 3 Areas

- Fin-Tech
- Healthcare
- AI, Robotics and Business Intelligence



# Cyber Security



# Securing Cyberspace

- Sectoral and State specific Incident and Response Team

National Cyber  
Coordination  
Centre (CERT-IN)

- ₹ 770 Cr project
- Phase 1 operational **since July '17**
- **Phase 2** being initiated

Sectoral + State  
CSIRTs  
(CERT-IN)

Botnet Cleaning and  
Malware Analysis  
Centre

(Cyber Swachhta Kendra)

- Made operational in December '16

- Training for **114 K persons** cybersecurity
- Training for **15 K persons** on cyber forensics
- Cyber Surakshit Bharat – **1400 CISOs**

Capacity Building

STQC Testing  
Facilities

- **10** new STQC centres approved (**3** centres operational)



# Way Forward



# UNDP: eGov Development Index

## Progress

Year	2010	2012	2014	2016	2018
Rank for India	119	125	118	107	96

## 2016 Survey

107	India	Southern Asia	0.4637	0.7464	0.1430	0.5019
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## 2018 Survey

Rank	Country	Sub-region	EGDI	Online Service Component	Telecomm. Infrastructure Component	Human Capital Component
96	India	Southern Asia	0.5669	0.9514	0.2009	0.5484

# National Policy on Software Products

**Develop India as a Software Product Nation**

**Achieve 10 fold increase in India's share in global software product market by 2025**

**Nurture 10,000 software product startups; Develop 20 product development clusters**

**Create a million strong talent pool for software product industry**

Think  
Digital

**Digital Services**  
**Digital Products**

Think  
India

# National Programme on Artificial Intelligence



# Initiatives on Emerging Technologies

## Internet of Things



Centres of Excellence  
Agriculture  
Education

## Blockchain



National Strategy  
Land Records  
Financial Services

## Artificial Intelligence



NPAI  
Traffic Management  
Agriculture

## Robotics



Automobiles  
Banking  
Sewage Cleaning

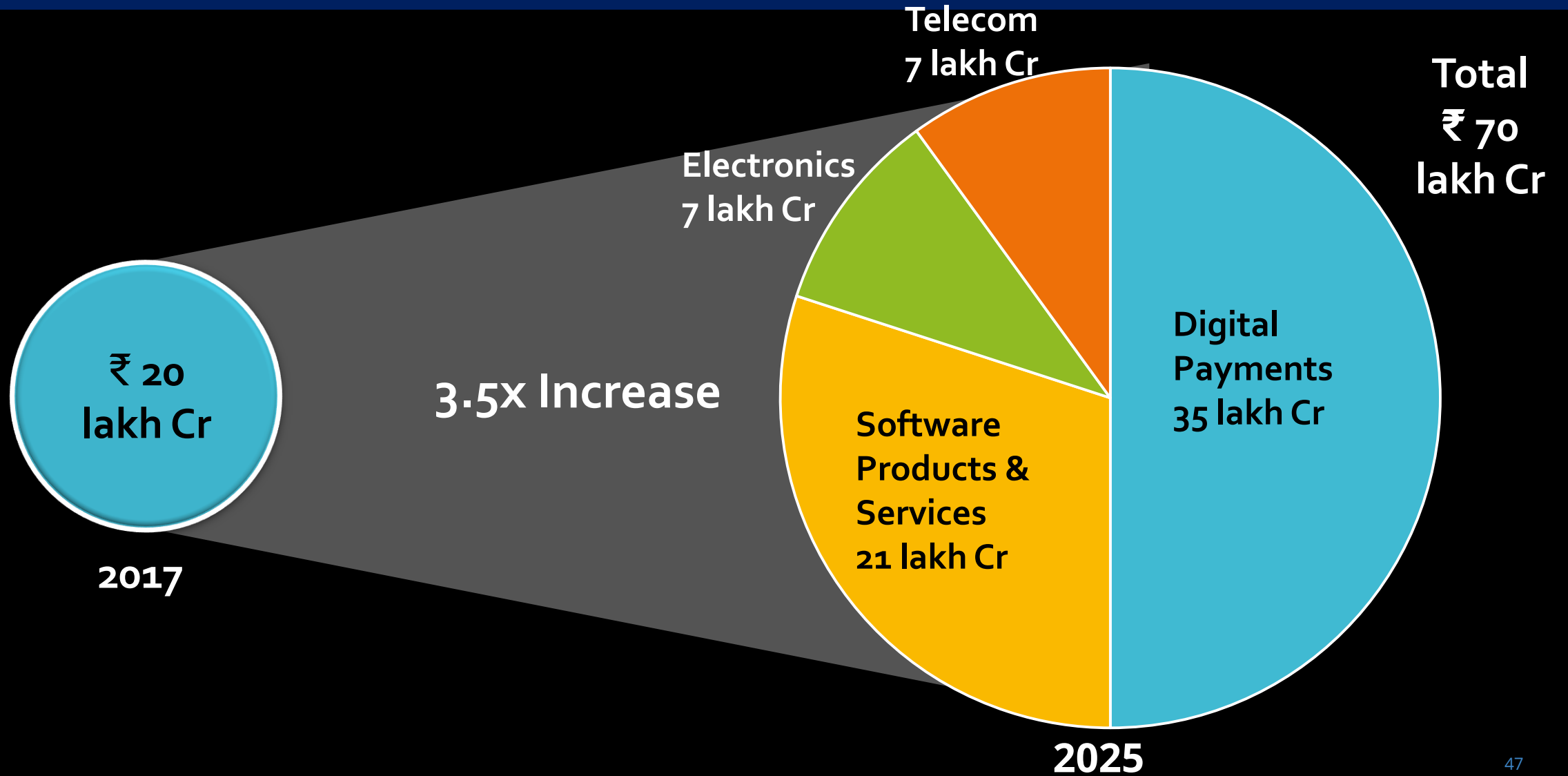


# Trillion Dollar Digital Economy

- Defining Digital Transformation



# New India, New Economy 2025 : \$ 1 Tn Digital Economy





**2014**

Digital India  
started

**Digital  
Infrastructure**

BharatNet

NKN

CSCs ...

**Digital Services**

MMPs

Digital  
Payments

NCoG ...

**Digital  
Empowerment**

PMGDISHA

UMANG

MyGov ...

**2019**  
**Digital India**

IndEA and Digital Service Standard

National Policy on Software Products

Emerging Technologies – AI, Blockchain..

MeitY Startup Hub and TIDE

Trillion Dollar Digital Economy



# THANK YOU

