

# FROM START-UP TO SCALE-UP

THE ROLE OF DIGITAL INDIA  
AND OPPORTUNITIES AHEAD







**Shri S. Krishnan**

**Secretary**

Ministry of Electronics and  
Information Technology



In this digital age, we have witnessed a monumental transformation, where technology has become an essential driver of progress and prosperity. The Digital India initiative, launched on July 1, 2015, by the Government of India, has played a pivotal role in shaping the future of our country. It has ushered in an era of digital empowerment, enabling us to harness the immense potential of technology for the benefit of every citizen.

Over the years, with a focussed approach India has developed world-class Digital Public Infrastructure to support its development goals. The set of shared digital building blocks and platforms, powered by interoperable open standards or specifications, referred to as India Stack consists of three different layers—unique identity (Aadhaar), complimentary payments systems (Unified Payments Interface, Aadhaar Payments Bridge, Aadhaar Enabled Payment Service), and data exchange (DigiLocker and Account Aggregator).

Digital India's impact has been far-reaching as witnessed alone by a paradigm shift to a cashless society through UPI/BHIM. Today 40% of global real-time digital payments occur in India.

Digital India has also streamlined government services through various e-governance initiatives. Accessing services and information seamlessly is now possible through platforms like UMANG which offers over 1,782 government services. With over 5.21L Common Service Centers (CSCs) spread across the country and Village Level Entrepreneurs (VLEs) today delivery of digital services is equitably happening across urban and rural areas.

The JAM Trinity of Jan Dhan Bank Account, Mobile Phone, and Aadhaar ID has transformed Direct Benefit Transfer (DBT), with a staggering INR 32.75 lakh crore transferred directly to citizens' bank accounts. Additionally, over 207 million Indians have joined India's DigiLocker, securing access to government-issued documents like licenses, degrees, and property papers.

Digital India has not only transformed governance but also revolutionized education. It has democratized access to quality education through platforms like SWAYAM, DIKSHA, and e-learning resources. Students from every corner of our nation can now access world-class educational content, fostering a knowledge-driven society.

The entrepreneurial landscape in India has also witnessed a significant boost due to Digital India. The launch of initiatives like "Start-up India" and "Stand-up India" has created a conducive environment for start-ups to thrive. Today, India proudly stands as the third-largest start-up ecosystem globally, with over 114,000 start-ups and more than 100 unicorns. These tech-driven ventures are not only fuelling innovation but also generating employment opportunities and contributing to our economy's growth.

Together, we have laid a strong foundation for India to become a global leader in technology and innovation. Let us continue to ride the digital wave, empower ourselves, and work tirelessly towards building a technologically advanced India, where every citizen can thrive and contribute to our collective progress.

With unwavering determination, let us shape the future and create a digitally empowered India!

I congratulate STPI on bringing out this insightful report. This report will be a valuable source of information for start-ups, academia, industry, investors, and government departments and agencies working in the start-up ecosystem.







**Shri Arvind Kumar**

**Director General**

Software Technology  
Parks of India

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Over the years, Digital India has emerged as a powerful catalyst, creating a nurturing environment for start-ups to flourish, innovate, and contribute to the nation's progress. It has revolutionized the way start-ups operate, providing them with an extensive digital infrastructure and a conducive ecosystem to thrive. One of the key elements of this program is the promotion of digital literacy, enabling entrepreneurs to access information, acquire skills, and leverage technology to their advantage. By bridging the digital divide, we have empowered millions of aspiring entrepreneurs, regardless of their location or background, to embark on their entrepreneurial journey.

The availability of affordable smartphones, High-speed internet connectivity and world's lowest data tariffs has opened up vast opportunities for start-ups to reach a wider customer base. E-commerce platforms, such as GeM, ONDC have revolutionized the way businesses operate, transforming the traditional retail landscape. These platforms have provided a level playing field for small and medium enterprises (SMEs), enabling them to showcase their products and services to a global audience. Start-ups have leveraged the digital payment systems such as UPI to provide innovative solutions and expand their customer base under financial inclusion. All these digital technologies are used by start-ups to address societal challenges, enhance efficiency, and improve the quality of life for millions in emerging sectors also such as fintech, edtech, healthtech, and agritech.

Furthermore, the Government of India has launched various initiatives such as Start-up India, Centres of Entrepreneurship (CoEs), SAMRIDH, NGIS, GENESIS and many more. These initiatives provide a host of benefits, including funding, mentorship, and tax incentives to start-ups and promote innovation and entrepreneurship. Today, India has emerged as the third-largest start-up ecosystem with more than 100 unicorns.

As we witness the remarkable growth of our start-up ecosystem, it is essential to recognize the role of Digital India in creating a conducive environment for innovation, entrepreneurship, and job creation. The program has empowered start-ups to leverage technology, access markets, and scale their operations like never before.

I would also like to express my heartfelt gratitude to the esteemed industry leaders, experts, investors, and entrepreneurs who generously contributed their valuable insights and expertise during the preparation of this report. Together, let us build a digitally empowered India, where every aspiring entrepreneur has the opportunity to realize their dreams and contribute to our nation's progress.

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**Dr. Devesh Tyagi**

**Senior Director**

Software Technology  
Parks of India



Our visionary initiative “To transform India into a digitally empowered society and knowledge economy”, combined with the exceptional contributions of Software Technology Parks of India (STPI), has been a catalyst for unprecedented growth and innovation.

The impact of Digital India is visible in every sector of our economy. The penetration of internet services and the proliferation of smartphones have brought digital literacy to millions of previously underserved individuals. As a result, e-governance initiatives have streamlined administrative processes, making them more transparent, efficient, and accessible. Examples such as the Digital Locker System, Aadhaar, and e-Office have transformed citizen-government interactions, reduced bureaucracy and ensuring seamless service delivery.

One of the key pillars supporting the growth of the start-up ecosystem in our country has been the Software Technology Parks of India. STPI, with its network of technology parks across the nation, has nurtured innovation and provided a nurturing environment for aspiring entrepreneurs to turn their dreams into reality. By offering state-of-the-art infrastructure, incubation facilities, and a supportive ecosystem, STPI has empowered countless start-ups to thrive and scale new heights.

STPI's support extends far beyond providing physical infrastructure. They have played a pivotal role in facilitating access to a robust network of industry experts, mentors, and investors, creating an ecosystem that fosters collaboration, learning, and growth. Their initiatives, such as the Electropreneur Park, CoE IoT, and various incubation programs, have acted as a launchpad for several successful start-ups, propelling India onto the global stage of innovation.

But it doesn't stop there! From fintech to agritech, from artificial intelligence to blockchain, the diversity and scale of start-ups emerging are awe-inspiring. These start-ups are not just creating jobs but are also serving as catalysts for transformation, addressing social challenges, and pioneering solutions for a sustainable future.

Today, I am delighted to share with you an engaging report that sheds light on the transformative power of Digital India as a driving force behind the remarkable growth of India's start-up ecosystem. The report highlights how Digital India has served as a catalyst, creating an environment that fosters entrepreneurship, empowers individuals, and propels economic growth. This report not only celebrates our achievements but also explores the immense opportunities that lie ahead, as we continue to harness the potential of Digital India to propel our nation's innovation landscape to new heights.

As we move forward on this remarkable journey, let us reaffirm our commitment to fostering a conducive environment for innovation, entrepreneurship, and technological advancement.

I would like to congratulate team STPI/STPINEXT for their concerted effort in bringing this report together for individuals, start-ups, industry, academia and policy makers.





**Shri Subodh Sachan**

**Director**

Software Technology  
Parks of India

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In today's fast-paced and interconnected world, digital transformation has emerged as a defining force, reshaping industries, economies, and societies. At the heart of this revolution lies Digital India, a visionary initiative that has sparked a remarkable wave of innovation and entrepreneurship across our nation. By harnessing the power of technology, Digital India has become an enabler, a catalyst that is driving our start-up ecosystem towards unprecedented growth and achievements.

Through this report, we explore how Digital India has provided a solid foundation for start-ups to thrive, igniting a spirit of entrepreneurship and unlocking opportunities that were once unimaginable. It delves into the transformative power of initiatives such as India Global Stack, the JAM Trinity (Jan Dhan Yojana, Aadhaar, and Mobile Connectivity) and the digital infrastructure that has bridged the digital divide, empowering millions with access to essential services and financial inclusion.

The report “From Start-up to Scale-up: The Role of Digital India and Opportunities Ahead” underscores how Digital India has paved the way for start-ups to leverage cutting-edge technologies, such as artificial intelligence, blockchain, and data analytics, enabling them to disrupt traditional industries, reimagine business models, and scale new heights. It showcases success stories of start-ups that have harnessed the potential of Digital India to create innovative solutions that address societal challenges, while also driving economic growth and job creation. It also unveils how Digital India has paved the way for a multitude of opportunities across various sectors, be it healthcare, agriculture, education, finance, or e-commerce. It showcases success stories of start-ups that have harnessed the power of digitalization to address critical challenges and drive inclusive growth, making a tangible impact on the lives of millions of Indians.

I also express my appreciation to the start-up community, the driving force behind our nation's progress. Your audacity, resilience, and relentless pursuit of excellence are shaping the future of India. Your spirit of innovation inspires us all.

I urge policymakers, industry leaders, investors, and stakeholders to leverage the insights presented in this report to chart a path that propels the start-up ecosystem to new heights. Let us continue to foster an environment that nurtures and supports start-ups, encouraging collaboration, facilitating access to capital, and providing the necessary infrastructure for innovation to flourish.

Together, let us create an ecosystem where start-ups & innovation thrives so that India emerges as a global powerhouse of technology and entrepreneurship.

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## Impact of Digital India on the start-up ecosystem in India

- Digital India is a program launched by the Government of India to **provide electronic access to government services, improve online infrastructure, increase internet connectivity, and promote digital empowerment and literacy**
- Digital India boosts businesses and start-ups through its focus on three core components: **digital infrastructure, e-governance, and universal digital literacy**
- The Indian start-up ecosystem is the **3rd largest in the world** with a total of **1.14L** recognised start-ups; **30.4K+ start-ups** were added to the ecosystem in **CY23** (as of Oct 2023)
- **India stack and the JAM trinity** together have created a conducive environment for start-ups to use public digital goods (like APIs and open networks) and cater to a large serviceable market
- Start-ups are increasingly exploring and **embracing open networks**, with ONDC leading the way in the adoption
- Start-ups also benefit from the immense potential of **India's young population** along with the **largely untapped rural Indian market**
  - Within a projected rise in urbanization, start-ups can leverage rural India (~70% of population) and the ancillary benefits of its steady urbanization
- **India's 4G infra covers >98% population**, enabling a larger user base for internet services by start-ups and the government; India has the **world's 2nd largest internet user base** which is continuing to rapidly grow - majorly **benefiting online-first start-ups**
- **Affordable mobile data and rising mobile data usage** also create a highly conducive environment for online-first start-ups in India
- World Bank's latest 'Doing Business 2020' report showcases how India's ease of doing business bettered placing it at the **63rd** easiest country to do business in the world from 142 in 2014; Since then, India has taken proactive measures to enhance ease of doing business by **simplifying and digitalizing processes, reducing time requirements, and creating a favorable business environment**



## Start-ups powering Digital India

- Start-ups are **transforming their business models** and **operations** to leverage digital ecosystems and redefine value propositions; **Social commerce** and **sharing models** are examples of business model and operational transformation among start-ups
- Start-ups power Digital India with cutting-edge innovations, job opportunities, **empowered skills** and **game-changing digital solutions for inclusive growth**
- Start-ups fuel transformation in Tier 2+ cities with **innovation, enhanced services, and a thriving job market**
- In turn, Tier 2+ cities play an important role along with start-ups and supercharge Digital India through **tech adoption, lucrative market prospects, entrepreneurial spirit, skill development & digital literacy**
- Start-ups and companies have directly and indirectly interacted with the pillars of Digital India, **leveraging technology, empowering communities, and driving innovation**
- Start-ups have dynamically contributed to empower Digital India with **cutting-edge innovations, job opportunities, empowered skills** and **game-changing digital solutions for inclusive growth**

## Emerging areas of focus

- Key opportunities for start-ups lie in **leveraging government support, tapping the underserved rural India market and digitizing operations**
- Focus on **user experience, innovation ecosystem, modernized cybersecurity, sustainability, workforce enablement, and supportive policies** will be the drivers of 'India's Techade' - a goal to have India reach a US\$ 1T digital economy by 2026
- Government, businesses, and citizens will embrace **digital innovation, adapt to disruptive models, & acquire digital literacy** for a thriving digital landscape
- Going forward, start-ups must leverage **telecom investments, inclusive initiatives, data abundance, and ethical considerations** to succeed





# Agenda

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**Overview: Digital India and the 9-pillar framework**

Current landscape of start-up ecosystem

Digital India enabling start-ups

Emerging areas of focus: By start-ups & Digital India



# The vision of Digital India Programme is to transform India into a digitally empowered society and knowledge economy



- Flagship programme launched by the Gol to **provide electronic access to government services, improve online infrastructure, increase internet connectivity, and promote digital empowerment and literacy**
- Focuses on three core components: digital infrastructure, e-governance, and universal digital literacy.

## Vision areas

### 1 Digital Infrastructure as a core utility to Every Citizen



- **High-speed internet** for delivery of services
- Unique, permanent & authenticable **digital identity**
- **Mobile phone & bank account** enabling participation in digital & financial space
- Easy access to a **Common Service Centre** for digital services
- Shareable **private space** on a **public cloud** for secured data storage
- **Safe and secure** cyber-space

### 2 Governance & Services On Demand



- **Integrated services** across departments/jurisdictions
- Availability of services in **real-time** online & on mobile
- All citizen entitlements to be portable & available on the cloud
- **Digitally transformed services** for ease of doing business
- Making financial transactions **electronic & cashless**
- Leveraging **GIS** for decision support & development

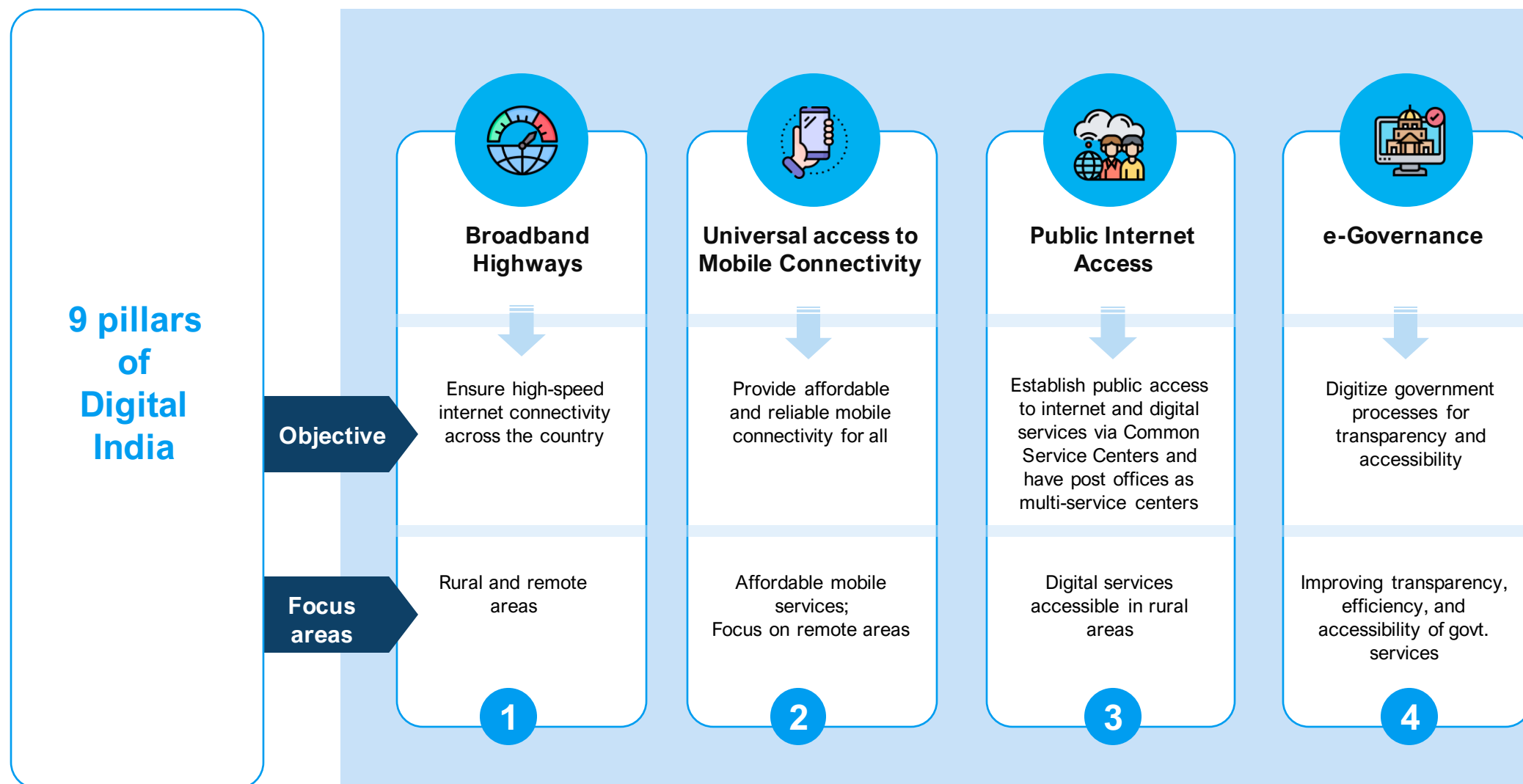
### 3 Digital Empowerment of Citizens



- Universal **digital literacy**
- Universally accessible **digital resources**
- Availability of **digital info** in **Indian languages**
- **Collaborative digital platforms** for participative governance
- Citizens are **NOT required** to physically submit Govt. documents/certificates



# Digital India's 9 Pillars pave the way for a thriving start-up ecosystem with pervasive and affordable digital infrastructure





### e-Kranti



Deliver government services digitally, reducing paperwork

Enhancing delivery of govt. services, and reducing paperwork

5



### Information for all



Establish a secure digital infrastructure for 2-way information flow: an open government data platform and a citizen feedback platform

Open-source access to government info

6



### Electronics Manufacturing



Promote domestic electronics manufacturing and reduce imports while targeting net zero imports

Favorable domestic environment for electronics manufacturing

7



### IT for Jobs



Train youth in digital skills for employment and entrepreneurship

Skilled workforce to support economic growth

8



### Early Harvest Programmes


















































Rapidly deliver key services digitally to showcase benefits DI initiative

Building momentum for the initiative via short fuse projects that can quickly demonstrate benefits

9



# Actively driven by MeitY, the Digital India programme shows significant progress across the 9 pillars with most initiatives partially or fully implemented

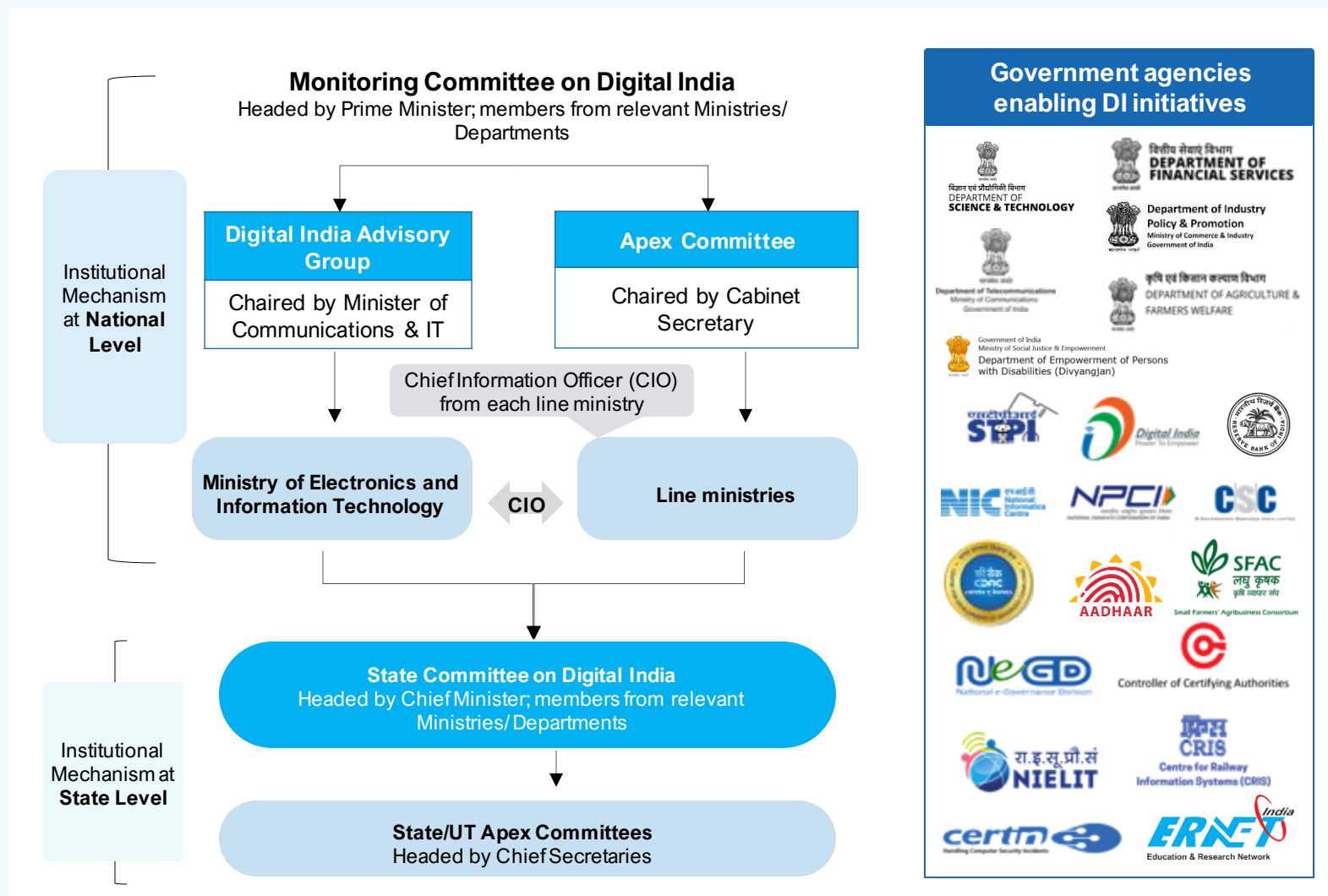
Pillars	Nodal dept. in-charge	Key initiatives	Level of implementation	Status of completion
 <b>Broadband Highways</b>	MeitY & DoT	   		<ul style="list-style-type: none"> <li>80%+ of gram panchayats targeted are connected; remaining gram panchayats are in different stages of implementation</li> <li>~1.7+ institutions connected through NKN (115% of target)</li> </ul>
 <b>Universal Access to Mobile Connectivity</b>	DoT & Dept. of Posts	  <b>CTDP</b> Comprehensive Telecom Development Plan		<ul style="list-style-type: none"> <li>95%+ inhabited villages in India have mobile connectivity and Internet</li> <li>&lt;25K out of 6.5L villages are yet to be covered with internet services</li> </ul>
 <b>Public Internet Access</b>	MeitY	  <b>CSC</b> Common Service Centres  Department of Posts Ministry of Communications Government of India		<ul style="list-style-type: none"> <li>~98% gram panchayats have at least 1 CSC (target is 100%)</li> <li>Focus is now on bridging gaps in North-east India</li> </ul>
 <b>e-Governance</b>	MeitY	   		<ul style="list-style-type: none"> <li>Launch of a plethora of platforms including Aadhar, DigiLocker, e-Sign, MyGov, CO-WIN</li> </ul>
 <b>e-Kranti</b>	MeitY	  		<ul style="list-style-type: none"> <li>&gt;60% of the 44 mission mode projects have been implemented &amp; started either full or partial range of envisaged services</li> </ul>
 <b>Information for All</b>	MeitY	   <b>DIP</b> Digitize India Platform		<ul style="list-style-type: none"> <li>Launch of MyGov.in along with other apps in collaboration with ministries for two-way communication</li> <li>DigiLocker for access &amp; storage of Government issued documents</li> </ul>
 <b>Electronics Manufacturing</b>	MeitY	  <b>EMCs</b> Electronics Manufacturing Clusters		<ul style="list-style-type: none"> <li>Implementation of multiple schemes, funds and clusters to encourage exports</li> <li>Focus is now on promoting domestic manufacturing</li> </ul>
 <b>IT for Jobs</b>	MeitY & DoT	     		<ul style="list-style-type: none"> <li>Multiple schemes implemented including National Digital Literacy Mission &amp; National Skill Development Mission helped surpassing the target of upskilling 5L rural youth</li> <li>FutureSkills Prime focuses on 155+ skills spanning across 70+ job roles on 10 emerging technologies</li> <li>Focus is now on wider reach, physical infra and industry tie-ups</li> </ul>
 <b>Early Harvest Programmes</b>	MeitY and other depts.	  		Not applicable since Early Harvest Programmes are short term projects which can be classified under the other 8 pillars; New projects are also continuously added to the roster

Note(s): MeitY: Ministry of Electronics & Information Technology; DoT: Department of Telecommunications; NKN: National Knowledge Network; CSC: Common Service Centres; CO-WIN: COVID Vaccine Intelligence Network  
Source(s): Press Information Bureau, Digital India website, 1Latitude analysis

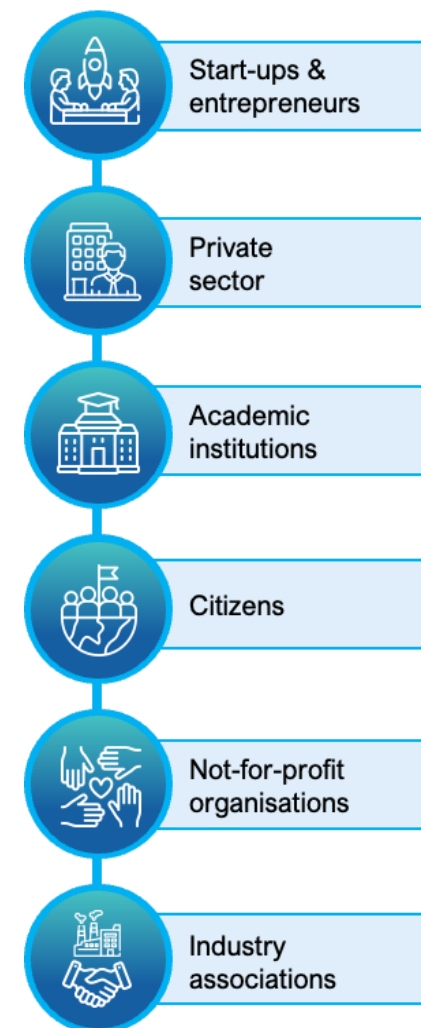
Low  High  
Level of implementation

# Governments at the national and state level are key stakeholders of Digital India while others include start-ups, citizens, private sector, NPO's & others

## Government stakeholders and enablers









## Other stakeholders



# Proactive policies, PPPs, digital infrastructure, start-ups, training programs, and inclusion initiatives like Jan Dhan Yojana, Aadhaar, & UPI drive the growth of Digital India

## Key growth drivers of Digital India

Growth drivers	Description	Examples
 <p><b>Emergence of start-ups</b></p>	<ul style="list-style-type: none"> <li>Start-ups are playing a significant role in <b>driving innovation, entrepreneurship, and job creation in the digital space, driving digital transformation</b> across sectors</li> </ul>	<ul style="list-style-type: none"> <li>India ranks <b>3rd globally in start-up ecosystem</b> with diverse solutions across 56 sectors - key sectors with start-ups include <b>IT services (12%), healthcare (9%), education (6%), agriculture (5%), and food &amp; beverages (5%)</b></li> </ul>
 <p><b>Digital literacy &amp; skill development</b></p>	<ul style="list-style-type: none"> <li>Programs focused on <b>training individuals, particularly in rural areas, have empowered them to participate in the digital economy and take advantage of digital opportunities</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Skill India program:</b> Multiple reskilling and upskilling schemes to fulfill industry skill demand; Under PMKVY (Pradhan Mantri Kaushal Vikas Yojana), about 1.4Cr people trained (&gt;80% certified) and ~60L placed as of now</li> <li><b>Atal Tinkering Labs:</b> &gt;10K innovation labs across 35 states and union territories (722 districts) India being set up in schools with educational and learning DIY kits &amp; equipment on – electronics, robotics, sensors and 3D printers and computers; 75L+ students are actively engaged in ATLS</li> </ul>
 <p><b>Financial inclusion and digital payments</b></p>	<ul style="list-style-type: none"> <li>Initiatives such as <b>Jan Dhan Yojana, Aadhaar, and Unified Payments Interface (UPI)</b> have facilitated access to banking services, simplified transactions, and promote a cashless economy</li> </ul>	<ul style="list-style-type: none"> <li><b>Pradhan Mantri Jan Dhan Yojana (PMJDY):</b> Yojana led to current count of ~506M bank accounts across India</li> <li><b>UPI:</b> Payment system allowing users to make instant payments via mobile phones accounts for ~80% of all transaction volume as of Aug 2023</li> <li><b>Aadhar:</b> ~1.4B total individuals have a digital identity through Aadhar</li> </ul>

Growth drivers	Description	Examples
 <p><b>Government policies</b></p>	<ul style="list-style-type: none"> <li>Proactive policies <b>promoting digital infrastructure development, digital literacy programs, ease of doing business, and digital payments</b> have provided a conducive environment for digital growth</li> </ul>	<ul style="list-style-type: none"> <li><b>Start-up India initiative:</b> Provided several incentives to start-ups, such as tax benefits, funding, and mentorship</li> <li><b>National Data Centre Policy:</b> Created a framework for the development of data centers in India</li> <li><b>Digital India Act 2023:</b> Future legislation to replace the IT Act &amp; support India's Techade goals</li> <li><b>PLI for Drone and drone components:</b> INR 30Cr disbursed in FY23 to promote the drone industry in India</li> </ul>
 <p><b>Public-private partnerships</b></p>	<ul style="list-style-type: none"> <li>PPPs have facilitated the <b>sharing of resources, expertise, and investments in technology innovation, enabling faster implementation of projects</b> and leveraged the strengths of both sectors</li> </ul>	<ul style="list-style-type: none"> <li><b>BharatNet project:</b> Connecting all ~2.5L gram panchayats in India with optical fiber, with 80% of target completed</li> <li><b>Digilocker:</b> Secure platform for storing and accessing important documents, including certificates and government IDs</li> </ul>
 <p><b>Digital infrastructure development</b></p>	<ul style="list-style-type: none"> <li>Digital infrastructure <b>enables connectivity, expands internet access, and fosters the adoption of digital services</b>, e-commerce, and online transactions</li> <li>It consists of three different layers: <ul style="list-style-type: none"> <li><b>Unique identity</b> (Aadhaar)</li> <li><b>Complimentary payments systems</b> (UPI, APB, AEPS)</li> <li><b>Data exchange</b> (DigiLocker and Account Aggregator)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><b>India Stack:</b> This is a set of open-source APIs that enable the development of digital services in India</li> <li><b>Government e Marketplace:</b> Online platform for transparent government procurement</li> <li><b>GSTN:</b> Technology infrastructure for simplified taxation</li> <li><b>GatiShakti:</b> Multi-modal logistics initiative for efficient goods movement</li> </ul>



**Rahul Shah**

**Founder**

Averisco Natural Solutions LLP

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The Start-up India website leads you to multiple opportunities like the National Start-up Awards, grants and other schemes. What has helped us the most was the MAARG portal. The easy-to-use portal enables you to network with other founders and find mentorship. We found ourselves a mentor as well.

Our venture focuses on men's makeup, with a significant customer base located in Tier 2 / 3 cities. I attribute this to multiple digitization efforts taken by the Government. Individuals in Tier 2 / 3 cities use UPI to make payments, so we have observed a decrease in cash on delivery (COD) orders and a rise in prepaid orders. Previously, COD orders from rural areas presented uncertainties, as we couldn't be sure if the product would be returned. However, the advent of digital payments, particularly UPI, has alleviated these concerns. Logistically, we've been able to reach remote villages as well to deliver our products.

E-commerce and D2C brands would be looking forward to improve their services in rural areas. With a soaring influx of internet users and unbelievably low tariffs, you can now effortlessly connect with customers via WhatsApp. In fact, customers share a selfie, entrusting us to expertly address their skin concerns.

I believe that we are heading in the right direction, and further advancements in this realm will undoubtedly benefit not only our brand but also other D2C brands.

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Overview: Digital India and the 9-pillar framework

**Current landscape of start-up ecosystem**

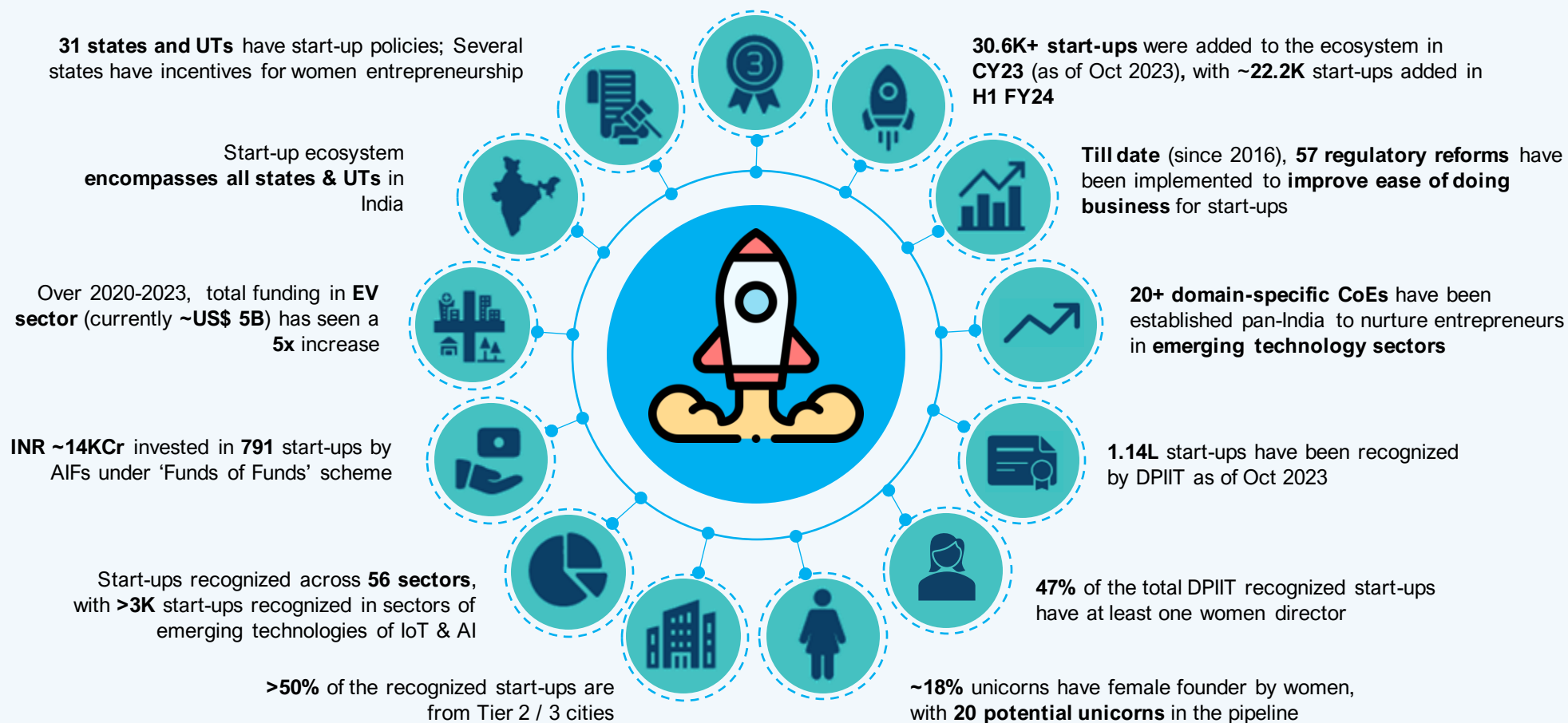
Digital India enabling start-ups

Emerging areas of focus: By start-ups & Digital India



# Indian start-up ecosystem at a glance

**3<sup>rd</sup> largest start-up ecosystem in the world**



# Digital India powers start-up success with connectivity, payments, streamlined processes, policies, skills, innovation and collaboration

## Enablers of growth for the start-up ecosystem due to Digital India initiatives

### Collaborative Ecosystem

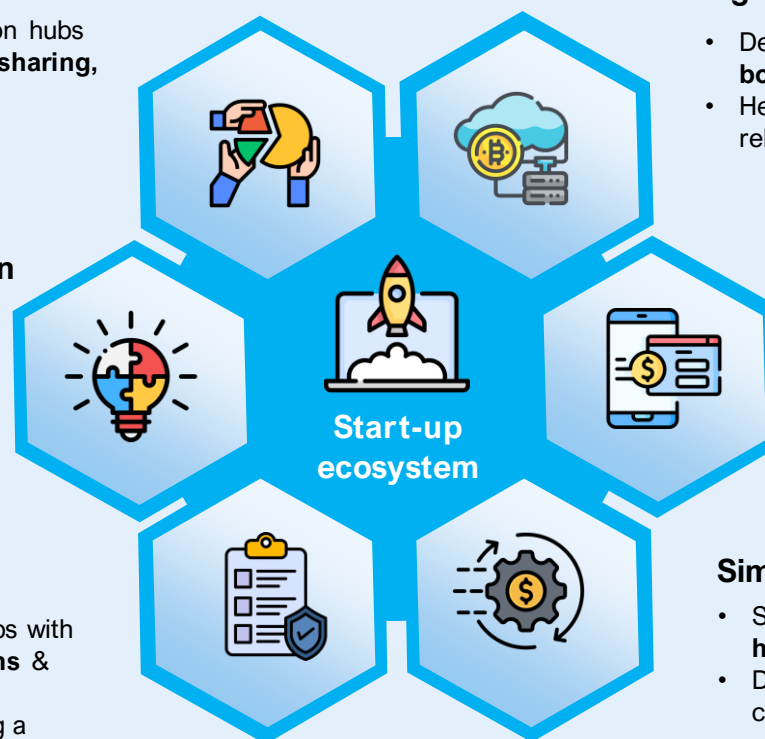
- Incubation centers, accelerators, & innovation hubs create an ecosystem, fostering **knowledge sharing, mentorship, and networking** for start-ups
- Start-ups benefit from **industry veterans, investors, and mentors** - gaining expertise, support, and accelerated growth

### Focus on Skill Development & Innovation

- **Skill development and innovation initiatives** ( e.g., Skill India, Atal Innovation Mission, National Digital Literacy Mission) nurture a **skilled workforce**, fostering creativity, enabling start-ups to **develop innovative solutions and products**

### Supportive Policy Environment

- The Start-up India initiative provided start-ups with supportive policies, including **tax exemptions & funding support**
- Encourages entrepreneurial spirit & creating a favorable ecosystem



### Digital Infrastructure

- Development of robust digital infrastructure, **both hardware and software**
- Helps in increasing internet penetration and reliable connectivity











### Power of Digital Payments

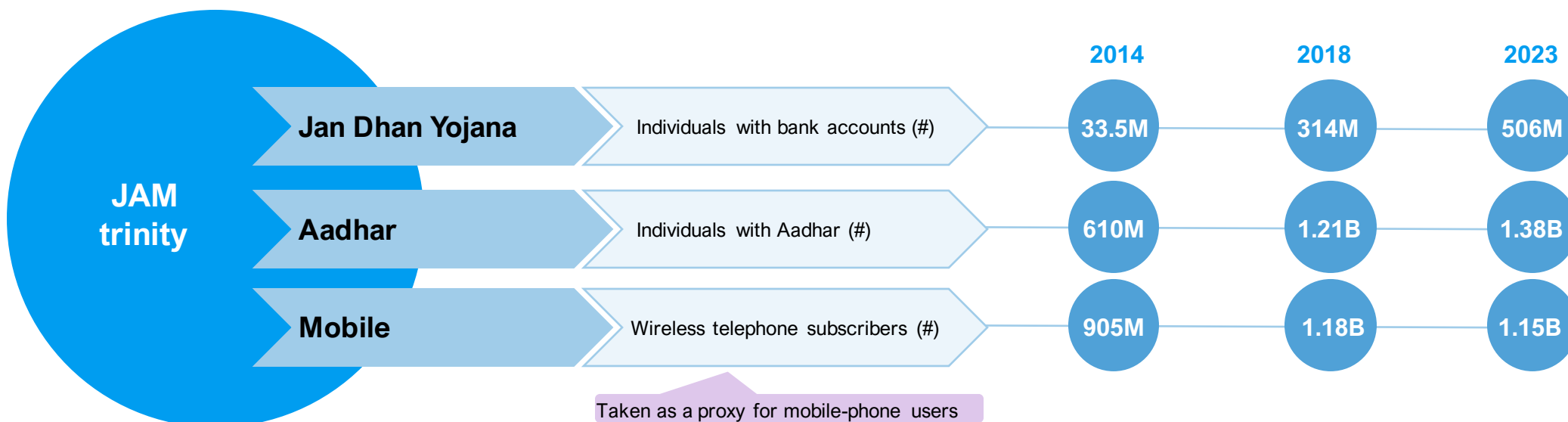
- The **convenience, security, and efficiency of digital payment systems** have operationally transformed businesses
- Embracing **digital payment systems like UPI** has been crucial for start-ups due to the sheer volume of users and rate of adoption

### Simplified Regulatory Processes

- Simplified regulatory processes have **reduced hurdles** for start-ups
- Digitized government services, such as online company registration & tax filings **saved time and resources for start-ups**, allowing them to focus on core business activities

# India stack and the JAM trinity have created a conducive environment for start-ups to use public digital goods (like APIs and open networks) and cater to a large serviceable market

Over the years					<div></div> <div>Future of India stack</div> <ul style="list-style-type: none"><li>• Taking India Stack global</li><li>• Focusing on integrating existing APIs on open networks</li></ul>
<div>India stack</div> <div>First national public digital infrastructure providing open APIs for developers to build applications on</div>	<div>Identity</div> <div>Giving every resident a unique ID and enabling them to prove “I am who I claim to be”</div>	<div></div> <div>eKYC</div> <div></div> <div>eSign</div> <div></div> <div>GOODS AND SERVICES TAX NETWORK</div> <div>Udyam</div>			
	<div>Payments</div> <div>Allowing anyone to pay anyone else; Interoperable, fast and cheap – not just smartphones</div>	<div></div> <div>IMPS</div> <div>IMMEDIATE PAYMENT SERVICE</div> <div></div> <div>AAPS</div> <div>AADHAAR ENABLED PAYMENT SYSTEM</div> <div>APBS</div> <div></div> <div>UPI</div> <div>UNIFIED PAYMENTS INTERFACE</div> <div></div> <div>BBPS</div> <div>BHARAT BILL PAYMENT SYSTEM</div>			
	<div>Data empowerment</div> <div>To enable secure sharing of data</div>	<div></div> <div>DigiLocker</div> <div>Your documents anytime, anywhere</div> <div>Account aggregator</div> <div></div> <div>ONDC</div> <div>Open Network for Digital Commerce</div> <div>OCEN</div> <div>NDHM</div>			

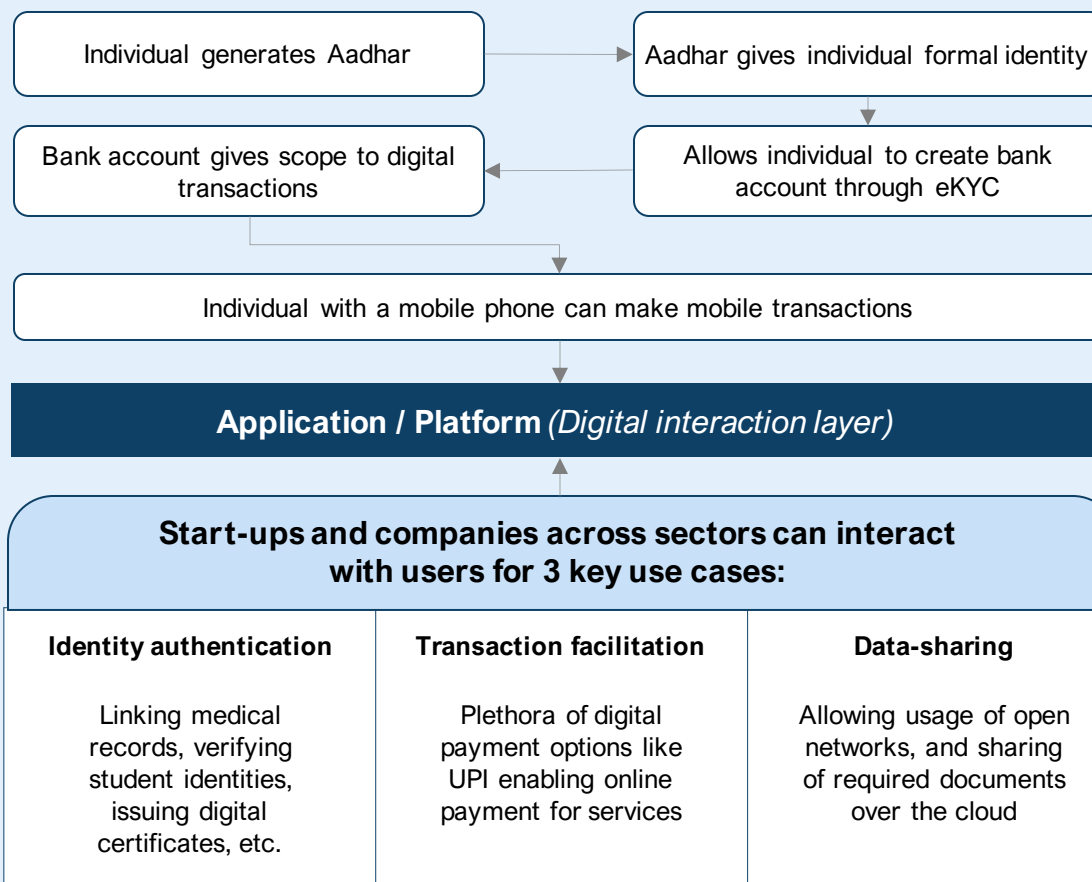




# Start-ups directly benefit from the India stack and JAM trinity due to easier verification, convenience of digital mobile transactions; Open networks are being increasingly adopted

India Stack & JAM trinity are foundational to the evolution of a digital economy in India

## India stack + JAM value creation flow



Note(s): eKYC: e-Know Your Customer, JAM: Jan Dhan-Aadhaar-Mobile  
Source(s): IMF, 1Lattice analysis

India Stack & JAM trinity directly empower start-ups & companies

## Key areas start-ups provide services by leveraging India Stack

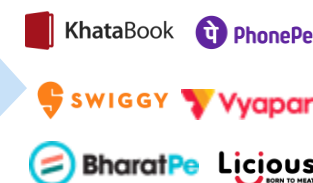
### Verification and documentation

Start-ups use eKYC, Aadhar, Digilocker, etc. to verify identities and store documents



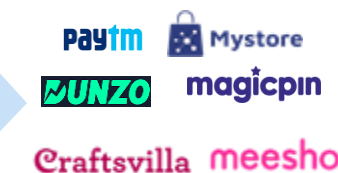
### Digital financial solution

Usage of UPI, IMPS, AEPS, and wallets for digital payments along with GSTN for digitized taxation



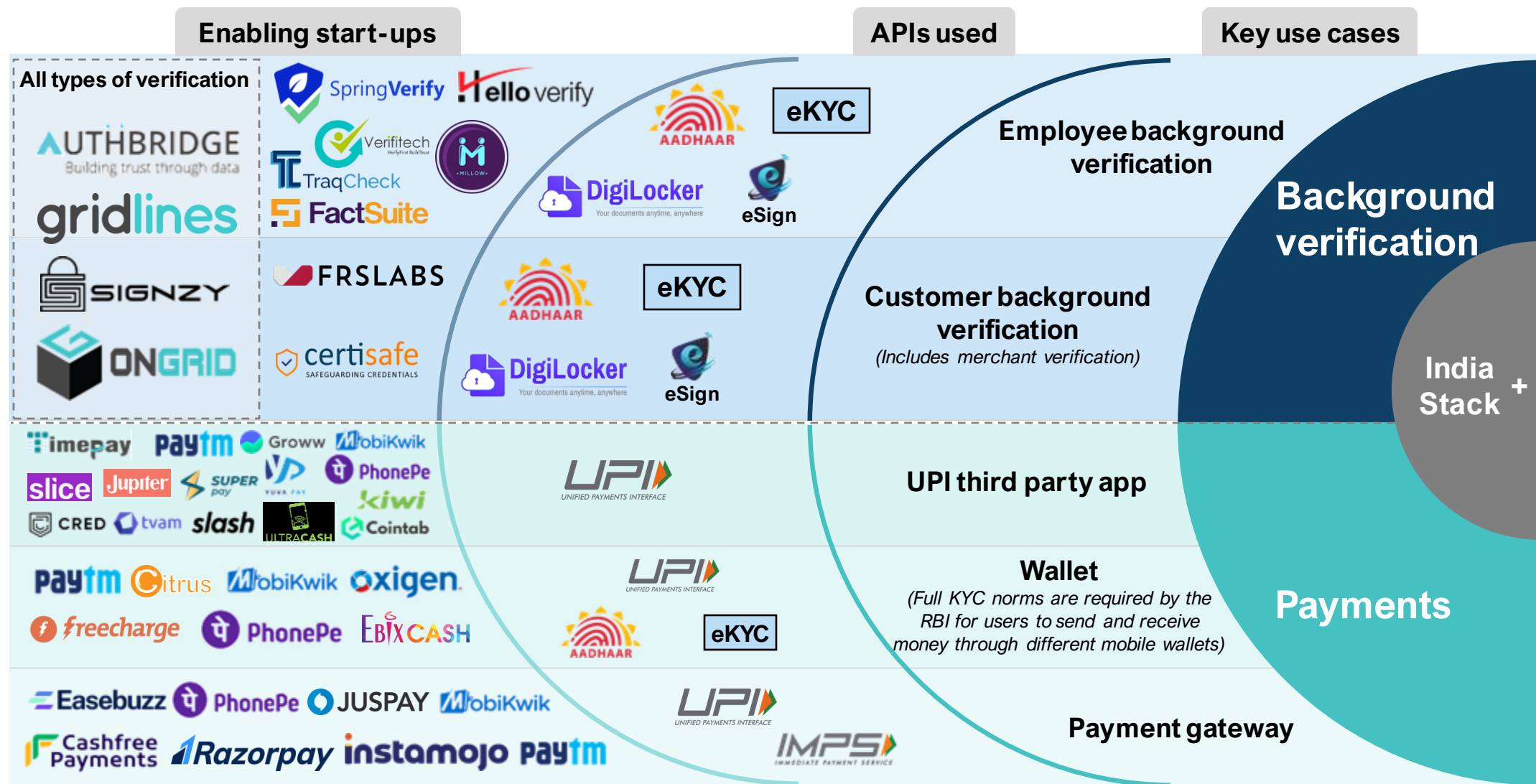
### Open networks

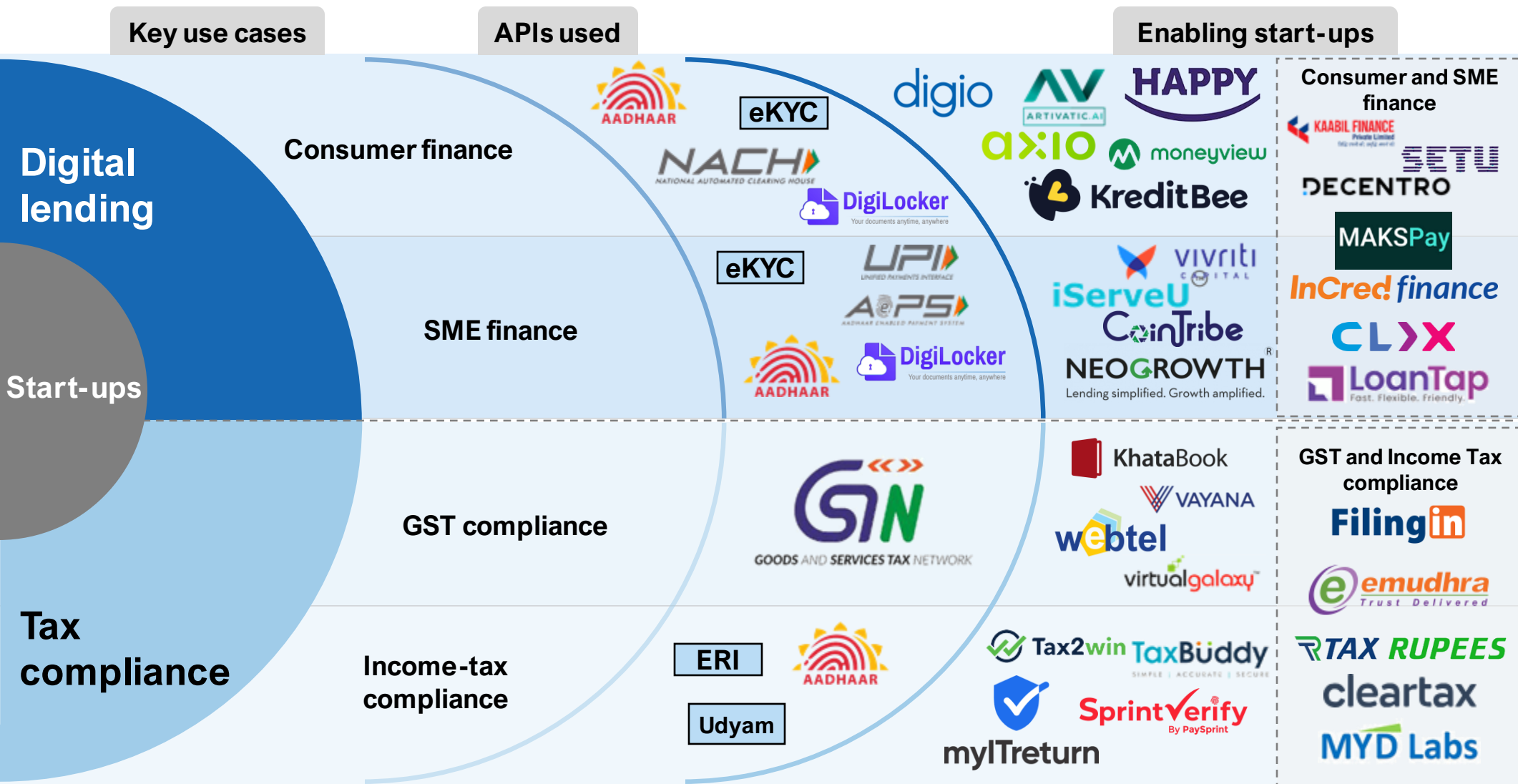
Leveraging open networks like ONDC, OCEN, and elements of NDHM to grow and service individuals





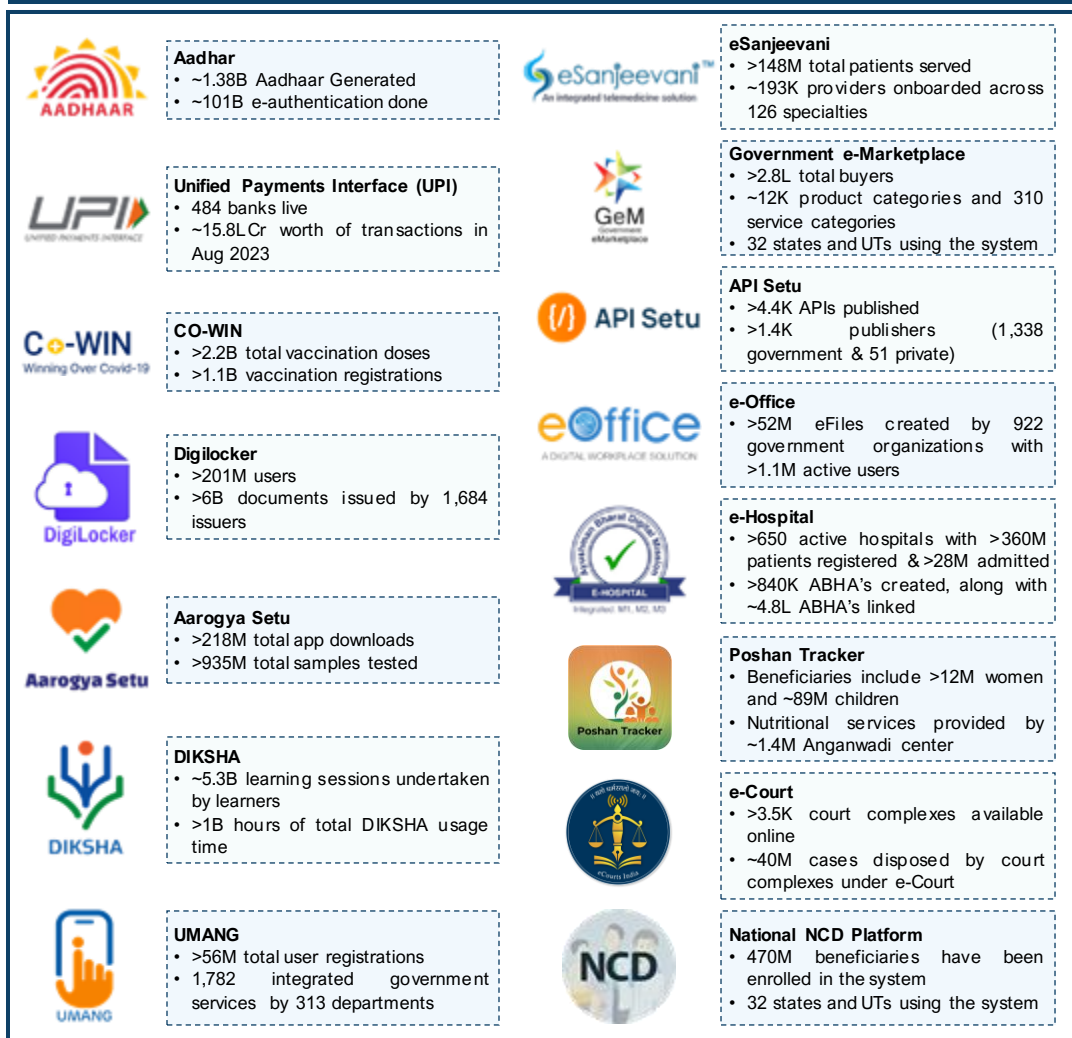
# Plethora of start-ups utilize India Stack APIs to enable cardinal functions of verifying users, enabling payments, lending & tax compliance





# Digital Global Goods contribute to building open network tech stacks and benefit start-ups participating in the Indian digital ecosystem

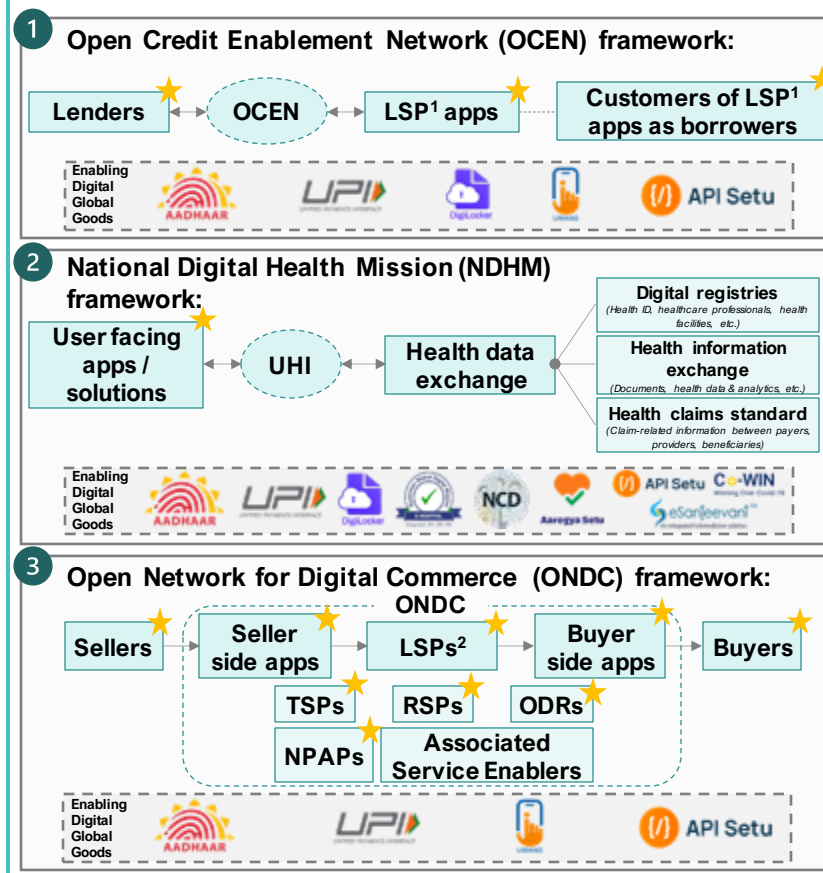
## Digital Global Goods part of India Stack



Note(s): ABHA: Ayushman Bharat Health Account; NCD: Non-Communicable Diseases; UT: Union Territory; LSP<sup>1</sup>: Loan Service Provider; UHI: Unified Health Interface; LSP<sup>2</sup>: Logistics Service Provider; TSP: Technology Service Provider; RSP: Reconciliation Service Provider; ODR: Online Dispute Resolution Service Providers; NPAP: Network Participant Account Providers  
Source(s): India Stack, 1Lattice analysis

## Open networks part of India Stack

Digital global goods, with their specific functionalities, foster *open networks* that create a level playing field, facilitating the active participation of start-ups



Enabling Digital  
Global Goods

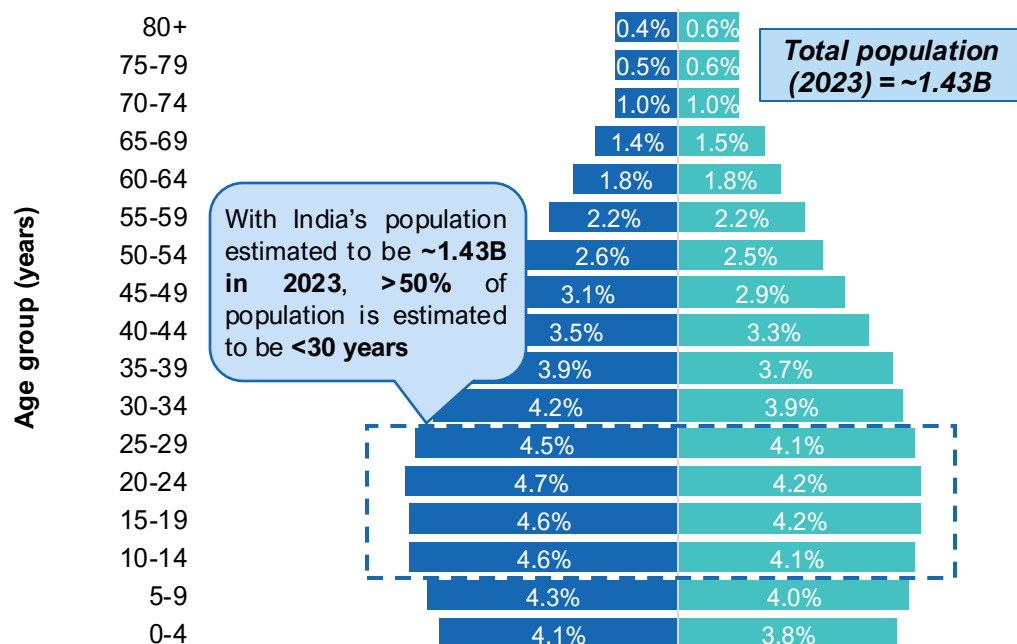
★ Indicator of scope  
for start-ups

# Start-ups in India benefit from the immense potential of India's young population along with expected urbanization

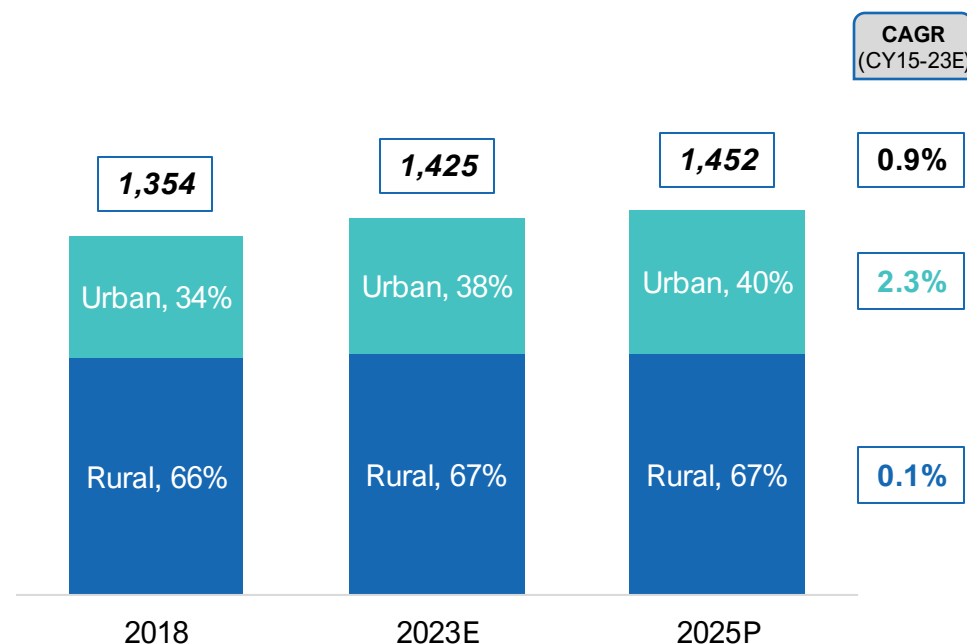
India's young population represents a vast pool of talent and potential

Within a projected rise in urbanization, start-ups can leverage rural India (~70% of population) and the ancillary benefits of its steady urbanization

India – 2023 Population by age (%)



India – 2023 Population by gender and area (#M)



- Various government skilling initiatives like Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and Deen Dayal Upadhyaya Grameen Kaushalya Yojna (DDU-GKY) were introduced in light of the youths' impact on **work participation and dependency ratios**
- India is expected to account for ~24% of the **global workforce growth** in the next decade
- Urbanization in India brings benefits as studies show a direct correlation between **urbanization and consumption**, with improved employment opportunities and access to consumer goods

## Start-up examples



B2B2C start-up enables rural entrepreneurs to sell services & products by SMEs, banks, government, & NGOs

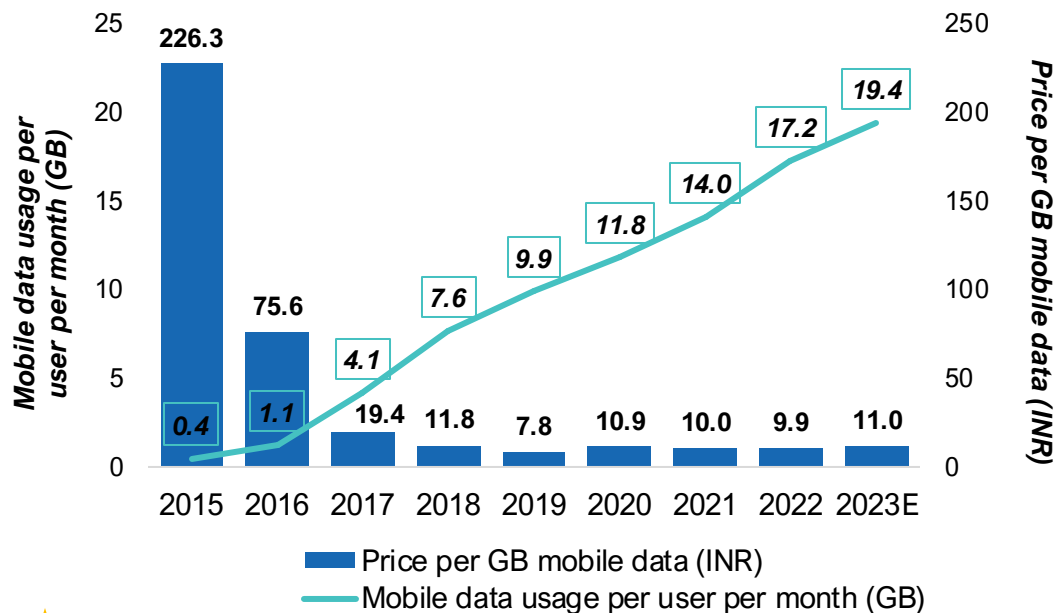


Reseller-model start-up enables rural women entrepreneurs to launch and grow online businesses

# India's 4G coverage reaches most of the population, enabling a larger user base for internet services by start-ups and the government

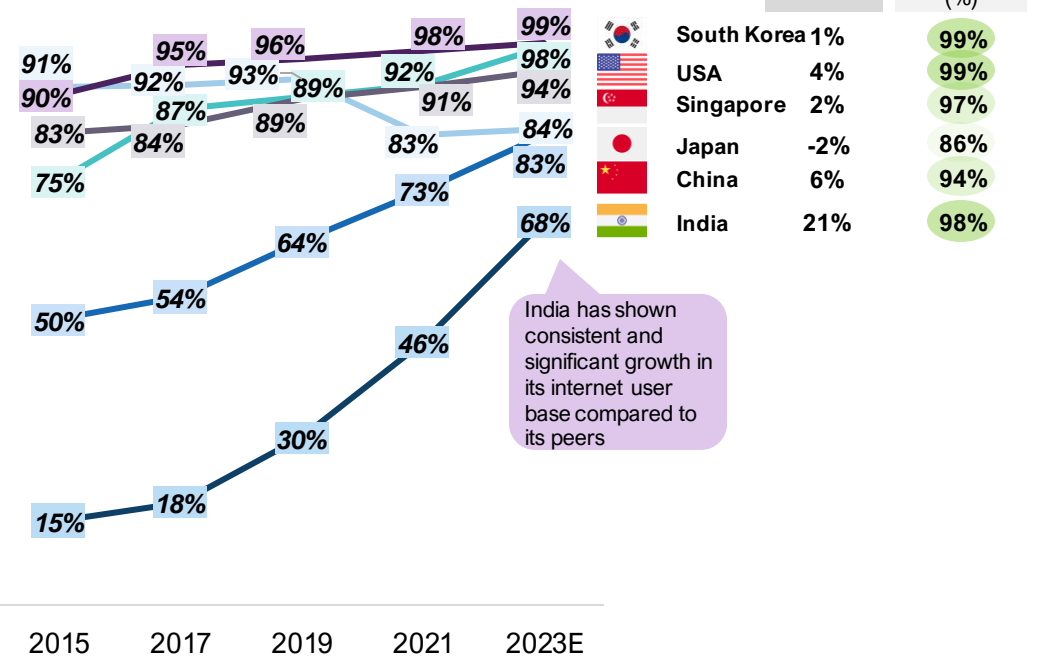
Mobile data prices decreased by >95% from CY15-23E while mobile data usage jumped 48.5x

Price per GB mobile data vs Mobile data usage per user per month (CY15-23E, INR, GB)



India has the world's 2nd largest internet user base which is continuing to rapidly grow - majorly benefiting online-first start-ups

Individuals using Internet (% population, CY15-23E)



- >99% of pin codes in India have seen e-commerce adoption; >60% of orders in India come from Tier 2 cities & smaller towns
- 5G to surpass 50% mobile subscriptions by 2028, spurring digital inclusion, empowering start-ups in IoT, education, health, agriculture, logistics, with **faster data transfer** and **lower latency**

## Growth in social platform apps

- Out of a total of >2K social platforms based out of India, ~1.8K (~87% of total) were founded in and after 2014
- Sector has received a total funding of ~US\$ 4.4B, with ~85% of the funding coming post 2020

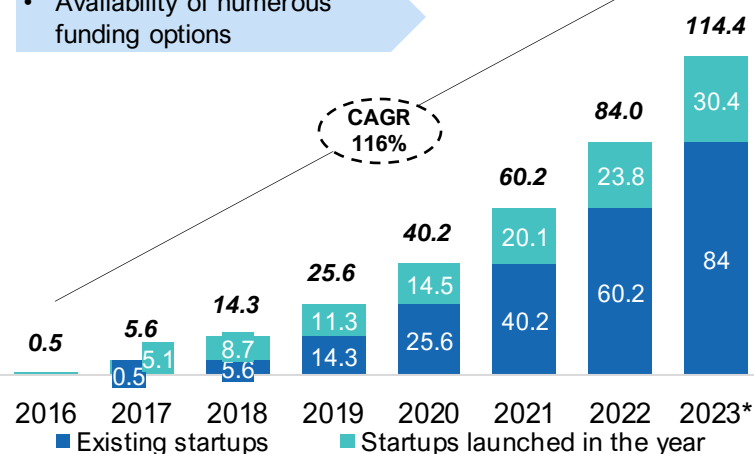


# Digital India enhanced ease of doing business and fostered the start-up landscape in India through digital infrastructure and government support

Number of total start-ups in India have skyrocketed at a CAGR of ~116% from 2016 to 2023\*

## India – Number of DPIIT recognized start-ups (#K, CY16-23)

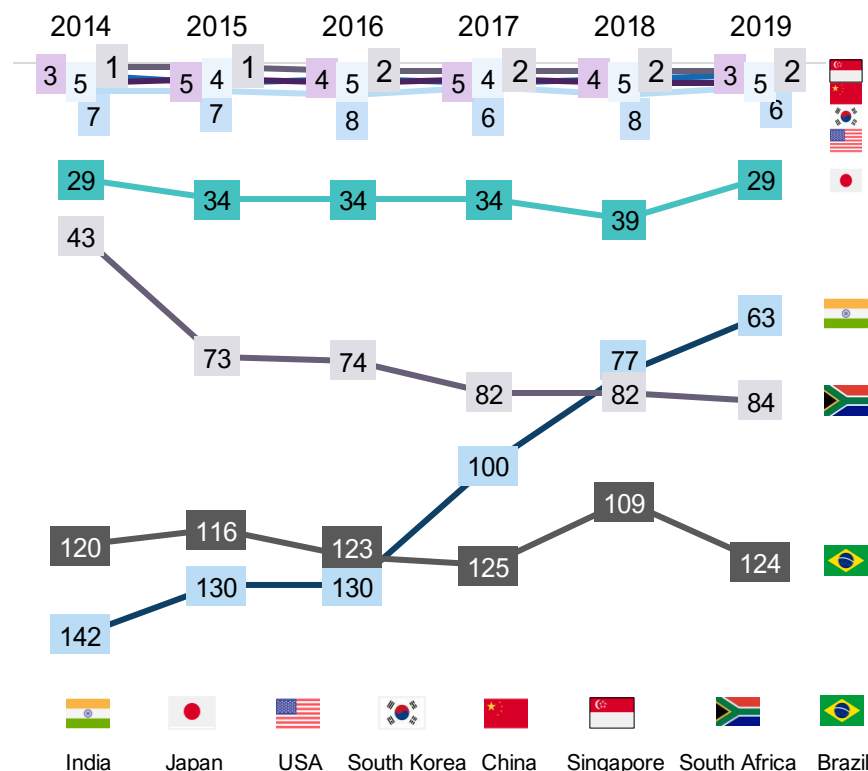
- Increase in serviceable consumers due to digital infrastructure
- Supportive entrepreneurial ecosystem
- Availability of numerous funding options



- DPIIT-recognized start-ups have created 9L+ direct jobs - a 64% increase from 2022
- As of FY23, nearly half of the total start-ups are from Tier 2 / 3 cities, showcasing significant potential

India has consistently made doing business easier through a plethora of measures, allowing the country to climb >60 ranks in 3 years (CY16–19)

## World Bank Group - Ease of doing business rankings (#, CY14-19)



### Trend of reverse-flipping

- **Reverse flipping**, where Indian companies relocate their headquarters from overseas to India, is a growing trend; **PhonePe's** relocation from Singapore to India initiated this trend, and several start-ups, including **Razorpay**, are considering a similar move
- To **accelerate reverse flipping**, GoI streamlined IMB certification for start-ups, simplified ESOP taxation, reduced tax complexities, eased capital flow procedures, fosters collaborations, and promotes incubation and funding support

# Proactive measures are being taken to enhance ease of doing business by simplifying and digitalizing processes, reducing time requirements, and creating a favorable business environment

## Parameter

## Developments in ease of doing business

### Starting a business

*Procedures, time, cost and paid-in minimum capital to start a company*



- Ministry of Corporate Affairs (MCA) introduced **SPICe+** (Simplified Proforma for Incorporating Company Electronically) and **AGILE PRO-S** forms to simplify the process of incorporating a company
- These forms consolidate services such as **PAN, TAN, Director Identification Number (DIN), GSTN**
- No fee is charged for the incorporation of companies** with authorized capital up to Rs. 15 lakh or with up to 20 members where no share capital is applicable
- 11 services** provided on SPICe+:

Number of days to start a business has gone down from **>30 days in 2018** to **<10 days in 2023**

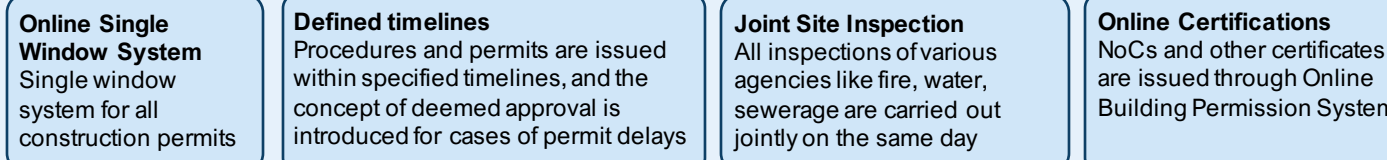


### Dealing with construction permits

*Procedures, time and cost to complete all formalities to build a warehouse and the quality control and safety mechanisms in the construction permitting system*



- Online Building Permission System (OBPS) is an **online Single Window for obtaining all building permissions**
- OBPS has been fully implemented in **19 states and Union Territories** with **2,530 Urban Local Bodies** across the country adopting it
- Streamlined processes due to OBPS:**



★ World Bank's latest 'Doing Business 2020' report showcases how India's ease of doing business bettered till 2019 placing it at the 63<sup>rd</sup> easiest place to do business in the world. Since then, India has taken larger steps to make doing business easier, especially for start-ups.

## Parameter

## Developments in ease of doing business

### Enforcing contracts

Time and cost to resolve a commercial dispute and the quality of judicial processes



- eCourts Services app launched in 2019 for iOS and Android platforms and currently has **>1.5Cr downloads**; eCourt Services portal (website) is also available
- High Courts have completed **>37.51M proceedings** in total while District courts have completed **~3M proceedings** in only September 2023
- 7 case-related services** are provided on eCourt Services:

Access to laws, regulations and case law

Access to forms to be submitted to the court

Case-related notifications

Case status tracking

Case document viewing and management (briefs, motions)

Filing of briefs & documents with the court

Viewing of court orders decisions in a particular case

### Trading across borders

Time and cost associated with the logistical process of exporting and importing goods



- Export and import processes have become faster and more cost-effective through electronic container sealing, port infrastructure upgrades, and the use of digitally signed supporting documents
- India Customs Electronic Gateway (ICEGATE)** allows traders the facility to lodge their clearance documents online at a single point
- >1.6L users are registered** with ICEGATE and **>12.5L importers and exporters** are using ICEGATE
- Key services provided on ICEGATE:

Electronic filing of Bill of Entry

Shipping bill

E-payment of custom duty

Web-based Common Signer utility for signing all the Customs Documents

End-to-end electronic IGST Refund

Facility to file online supporting documents through eSanchit

### Resolving insolvency

Time, cost, outcome and recovery rate for a commercial insolvency and the strength of the legal framework for insolvency



- The Insolvency and Bankruptcy Code (IBC) of India, enacted in 2016, transformed insolvency resolution by prioritizing reorganization of assets over liquidation
- In FY23, financial creditors recovered **36% of admitted claims, up from 23% in FY22** and 17% in FY21; This improvement was driven by increased NCLT sittings and higher offers from bidders amidst better economic prospects
- Till FY23, **~6.7K companies** used the new law with **~2.0K companies commencing liquidation** and **~0.7 companies having an approved resolution plan**





# Agenda

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Overview: Digital India and the 9-pillar framework

Current landscape of start-up ecosystem

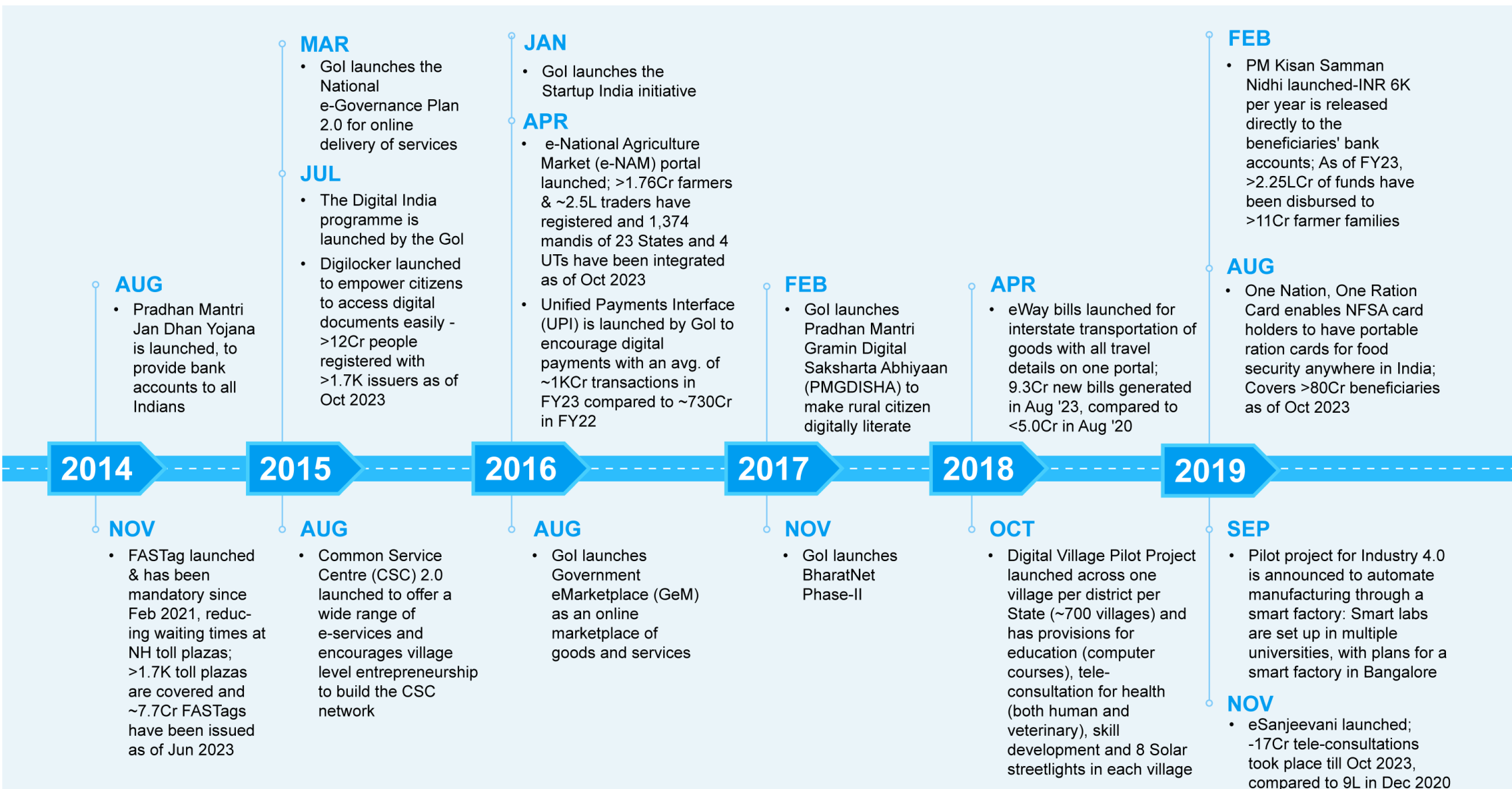
**Digital India enabling start-ups**

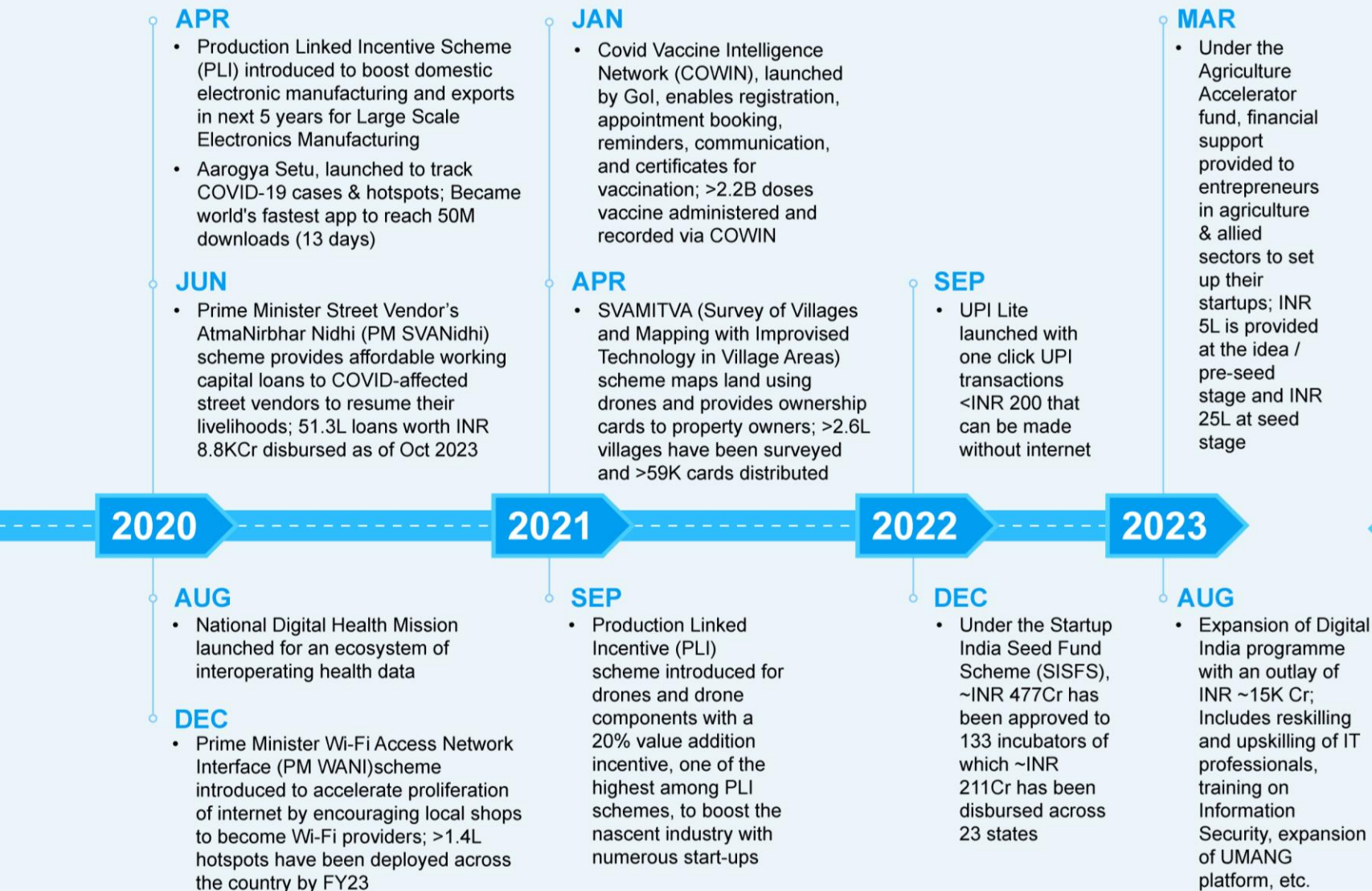
Emerging areas of focus: By start-ups & Digital India





# Digital India: Catalyzing new India's Techade, providing the necessary support and infrastructure for start-ups and innovations









## India's Techade Goals



- Everyone connected to the internet
- All government services online, available to everyone
- Benefits of yojanas directly available to those need them
- Electronic products made in India to be exported globally
- Mushroom of startups in AI, semiconductors, drones, blockchain, etc.
- India - a global tech hub powered by skilled IT talent from rural areas
- US\$ 1T digital economy by 2026

# Start-ups and companies have emerged around the pillars of Digital India, leveraging technology, empowering communities, and driving innovation

## Digital India pillars that facilitate DIRECT participation by start-ups

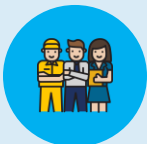


Pillars	e-Kranti	Information for All	Electronics Manufacturing	IT for Jobs
<b>Key industry of start-up emergence</b>	<ul style="list-style-type: none"> <li>Fintech</li> </ul>	<ul style="list-style-type: none"> <li>EdTech: Online Education</li> </ul>	<ul style="list-style-type: none"> <li>FMCD: Consumer electronics</li> </ul>	<ul style="list-style-type: none"> <li>EdTech: Training and upskilling</li> </ul>
<b>Contribution by start-ups</b>	<ul style="list-style-type: none"> <li>Enabling seamless online transactions, digital signatures, &amp; accessibility to government &amp; private services</li> </ul>	<ul style="list-style-type: none"> <li>Equalizing access to quality education, multilingual content, and vocational training, catering to diverse learning needs</li> </ul>	<ul style="list-style-type: none"> <li>Contributing to growth of local manufacturing, innovation, and creating employment opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Leveraging IT across industries and addressing evolving needs of job market, enabling individuals to acquire skills and access job opportunities</li> </ul>
<b>Demographic mix focus</b>	<ul style="list-style-type: none"> <li>Citizens seeking convenient access to government services and digital payment solutions</li> </ul>	<ul style="list-style-type: none"> <li>Diverse demographic groups, incl. students &amp; professionals seeking online education</li> </ul>	<ul style="list-style-type: none"> <li>Consumers and businesses seeking affordable and innovative electronic products</li> </ul>	<ul style="list-style-type: none"> <li>Job seekers, professionals, and individuals looking to upskill or find employment opportunities</li> </ul>
<b>Start-up examples</b>				
<b>Benefit to start-ups</b>	<ul style="list-style-type: none"> <li>Growing demand for digital payment solutions &amp; online marketplaces</li> </ul>	<ul style="list-style-type: none"> <li>Opportunities to access info and resources</li> </ul>	<ul style="list-style-type: none"> <li>Access to manufacturing facilities, incentives, rebates, and resources</li> </ul>	<ul style="list-style-type: none"> <li>Opportunities to cater to the job market</li> </ul>

## Digital India pillars that facilitate INDIRECT participation by start-ups




Pillars	Broadband Highways	Universal access to Mobile Connectivity	e-Governance
<b>Key industry of start-up emergence</b>	<ul style="list-style-type: none"> <li>Telecommunications</li> </ul>	<ul style="list-style-type: none"> <li>Telecommunications</li> </ul>	<ul style="list-style-type: none"> <li>IT &amp; ITeS: Software, Cloud Computing</li> </ul>
<b>Benefit to start-ups</b>	<ul style="list-style-type: none"> <li>Leveraging existing infrastructure to expand broadband access &amp; provide internet connectivity to underserved regions</li> </ul>	<ul style="list-style-type: none"> <li>Introducing affordable mobile plans and data services to improve network coverage and capacity</li> </ul>	<ul style="list-style-type: none"> <li>Facilitating online citizen-government interactions, digital document management, and secure data storage solutions</li> </ul>
<b>Demographic mix focus</b>	<ul style="list-style-type: none"> <li>Rural and remote communities with limited internet access</li> </ul>	<ul style="list-style-type: none"> <li>Mobile users, including urban, semi-urban, and rural populations</li> </ul>	<ul style="list-style-type: none"> <li>Citizens &amp; govt. agencies, to improve efficiency in service delivery</li> </ul>
<b>Examples of start-ups indirectly impacted</b>			
<b>Benefit to start-ups</b>	<ul style="list-style-type: none"> <li>Easier to reach customers and partners across the country</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of customer base in rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Simplified and streamlined regulatory processes</li> </ul>

# Unleashing the power of start-ups: Transforming digital India with cutting-edge innovations, job opportunities, empowered skills and game-changing digital solutions for inclusive growth

## Unveiling the Dynamic Contributions of Start-ups in Empowering Digital India

Growth drivers	Description	Examples
 <p><b>Job Creation and Skill Development</b></p>	<ul style="list-style-type: none"> <li>• <b>Employment &amp; upskilling opportunities</b> in areas like software development, data analytics &amp; digital marketing</li> <li>• Creation of over <b>9L job opportunities</b> by DPIIT recognized start-ups</li> <li>• Provision of <b>employment opportunities</b> in not only metro but <b>rural areas</b></li> </ul>	<ul style="list-style-type: none"> <li>• Start-ups have created over <b>9L+</b> direct jobs as of FY23</li> <li>• Jobs in start-ups like Swiggy, Zomata, Ola, Uber, etc. for people with only a driving license</li> <li>• Upskilling courses provided to working professionals by start-ups like BridgeLabz, UpGrad, Simplilearn, etc.</li> </ul>
 <p><b>Financial Inclusion</b></p>	<ul style="list-style-type: none"> <li>• <b>Digital financial services &amp; platforms</b> that promote financial inclusion</li> <li>• Enabling individuals, <b>especially in underserved areas</b>, to access banking, payment, and other financial services digitally</li> <li>• Establishment of <b>84 digital banking units (DBUs)</b> across 75 districts in India by government</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Disruption of traditional banking system</b> by start-ups like <b>Paytm, PhonePe, and Razorpay</b> <ul style="list-style-type: none"> <li>– Development of online payment platforms that are easy to use and accessible to people across the country</li> </ul> </li> <li>• <b>Increase in financial inclusion</b> by <b>Jan Dhan Yojana</b> in India <ul style="list-style-type: none"> <li>– <b>New bank account enrollment</b> of beneficiaries for direct benefits transfer and accessibility to a host of financial services apps</li> </ul> </li> </ul>
 <p><b>Digital Governance and Citizen Services</b></p>	<ul style="list-style-type: none"> <li>• Collaboration with the government to <b>develop &amp; promote services</b> that enhance citizen-government engagement</li> <li>• Presence of <b>nearly 150+ GovTech start-ups</b> working actively to <b>solve pressing issues in India</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Staqu</b>: AI based start-up for security and enterprise big analytics through video analytics, big data and auditing tools</li> <li>• <b>Transverse Technologies</b>: Civic tech start-up providing geospatial tech-based SaaS solutions to help map geographic locations and structures in cities and ease revenue and tax collection process</li> <li>• <b>India Action Project</b>: Awareness and addressal of challenges of rural India by facilitating meaningful conversation channels and leveraging data intelligence through team of Jan Saathis</li> </ul>



Growth drivers	Description	Examples
 <p><b>Collaboration and Partnerships</b></p>	<ul style="list-style-type: none"> <li>• Collaboration with <b>companies, government agencies, &amp; other stakeholders</b> to drive innovation, share resources, &amp; strengthen the digital ecosystem</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Suzuki Motors and T-Hub:</b> Partnership between Automobile giant Suzuki Motor Corporation and T-Hub, an innovation hub and ecosystem enabler <ul style="list-style-type: none"> <li>– Mentoring and support to Indian entrepreneurs and start-ups to access Japan's ecosystem</li> </ul> </li> <li>• <b>ISRO and Microsoft:</b> Partnership between ISRO and Microsoft for Start-ups Founders Hub platform <ul style="list-style-type: none"> <li>– Support to space tech start-ups at every stage of their journey</li> </ul> </li> </ul>
 <p><b>Development of Digital Solutions</b></p>	<ul style="list-style-type: none"> <li>• Development of <b>innovative digital solutions &amp; services</b>, also acting as a <b>sandbox</b> for government initiatives</li> <li>• <b>Adoption rate of 52%</b> of digital solutions in India</li> </ul>	<ul style="list-style-type: none"> <li>• <b>BIG Scheme:</b> Program by Department of Biotechnology (DBT) to provide financial assistance, mentoring, and other support to early-stage biotechnology start-ups</li> </ul>
 <p><b>Technology Adoption and Digital Transformation</b></p>	<ul style="list-style-type: none"> <li>• <b>Adoption</b> of digital technologies <b>by users and the ecosystem</b>, catalyzing digital transformation</li> <li>• Spending of <b>more than 10% of revenue on technology</b> by nearly 35% of small and medium businesses (SMBs)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Cloud service start-ups:</b> Provision and adoption of cloud services through start-ups like cloud service consumers (Ola Cabs, Bigbasket) and cloud service providers (Practo, Freshdesk)</li> </ul>

# Transformation of business models due to Digital India; New business models to be prevalent in India's Techade

## New business models and operations to be prevalent in India's Techade

### Transformation in business model

- **Leverage technology** to deliver innovative products, services, & customer experiences

E.g., **Bagmo** has monitored **200K+ blood bags** through their blood bank management system in Kerala and Tamil Nadu, assisting in blood supply requirements and reducing wastage by checking safety of blood samples

- **Redefine value propositions** that users can connect with

E.g., **WayCool** provides a full tech stack for products from soil-to-sale, digitizing the entire supply chain; Works with a network of **>200K farmers** and **>169K retailers** supplying **2K+ tons** of food every day

### Transformation in operations












- **Enable agile, scalable, and customer-centric approaches**

E.g., **Aagyo** started as a delivery app in the Tier V city of Nanakmatta, Uttarakhand, and is now scaling to Tier 3+ cities across India

- **Leverage data** for informed decision-making

E.g., **Saras Analytics** utilizes >100 e-commerce data connectors to build extensive datasets of consumers with custom dashboards to help e-commerce, retail and D2C brands build their own analytics backed solution

## Social commerce and sharing models are examples of business model and operational transformation among start-ups

Model example	Start-up examples	Description
Social commerce	    	<ul style="list-style-type: none"> <li>• Driven by increasing internet penetration, smartphone and <b>social media usage</b> in <b>local languages</b> as well</li> <li>• Offers <b>entrepreneurial avenues for sellers</b>, allowing them to tap into a <b>wider audience</b> and captivate potential customers, benefiting both sellers and start-ups</li> </ul>
Sharing economy models	     	<ul style="list-style-type: none"> <li>• Platforms facilitate the <b>sharing of goods, services, or experiences</b></li> <li>• Sharing economy models include <b>P2P lending, crowdfunding, hiring freelancers, coworking, sharing fashion, or renting apartments and homes</b></li> </ul>



**Shikhar Srivastava**

**Vice President - Public Health**

Tricog Healthcare Services Pvt. Ltd.

“

Over the past 6-7 years, we have witnessed a transformation in healthcare requirements as part of Tricog's journey. There has been a significant increase in the adoption of digital health systems and the interconnectedness of devices within the ecosystem.

When we introduced our first product in 2014, only a few hospitals had a Hospital Information System (HIS). However, today, hospitals have connected systems, and some even inquire about integrating data from our device into their HIS. In general, across the healthcare sector, there's been a clear pull towards digital transformation, especially in how data is captured and used.

The National Digital Health Mission is a commendable initiative, and numerous start-ups are working on various healthcare-related areas. Ultimately, when it comes to patient care, having more data available to healthcare providers leads to improved diagnosis. Through this Mission, regardless of the patient's location, their medical history will flow seamlessly among providers via their Health ID, resulting in enhanced diagnosis and treatment.

”

# Fueling Digital India's Rise: Unlocking the potential of Tier 2 / 3 cities through tech adoption, lucrative market prospects, entrepreneurial spirit, skill development & digital literacy

## Market opportunities for businesses

- Provision of vast customer base and untapped opportunities for businesses through Tier 2 / 3 cities as digital infrastructure and connectivity reach these cities
- In 2023, **3 in 5 new e-commerce consumers** hailed from **Tier 3+ cities**
- By **2030, 60%** of online urban shoppers are projected to live in Tier 2 / 3 cities
- **50%** of recognized start-ups based out of Tier 2 / 3 cities in India

## Entrepreneurial potential

- Availability of talent, lower costs of operation, and growing support infrastructure encourage the establishment of start-ups and small businesses
- Rise in digitization and no/low code platforms has enabled the youth to lead the start-up revolution
- Setup of agriculture accelerator fund to support agri-start-ups in rural areas

## Participation in government initiatives

- **~7.2Cr** candidates trained in digital literacy in rural India through PMGDISHA
- **NGIS** has been launched from **12 Tier 2 cities** for supporting start-ups across India with **CHUNAUTI 5.0** launched in **2023**, looking to identify and support start-ups in emerging tech
- **GENESIS (Gen-Next Support for Innovative Start-ups)** is targeting to promote **>10K start-ups** in Tier 2 / 3 cities in India

## Expanding technology usage and connectivity

- Increased internet penetration, smartphone usage, and access to digital services – bolstering the overall digital ecosystem
- In 2023, **3 in 5 new** e-commerce consumers hailed from **Tier 3+ cities**
- Presence of **~399M** active internet users in rural India

## Local content creation

- Active contribution in **regional languages** through blogs, vlogs and social media (e.g., Dailyhunt, Moj, ShareChat, Vokal, etc.)
  - Spreading digital awareness and literacy at the grassroots level
- **'BhashaDaan'** initiative in India asking people to contribute datasets in their regional languages to develop Large Language Models (LLMs) for the same



# Transforming Lives: Start-ups fuel transformation in Tier 2 / 3 cities with innovation, enhanced services, and a thriving job market

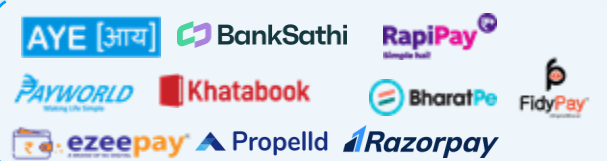
## E-commerce and Hyperlocal Delivery

- Providing **access to wide range of products** eliminating need to go to larger cities to make purchases making shopping more convenient and inclusive
- **Enhancing** e-commerce and online delivery **options** and **convenience**



## Digital Payments and Financial Inclusion

- Providing **easy access to financial services** in Tier 2 / 3 cities, allowing digital transactions, bill payments, and money transfers
- Introducing **innovative models** such as agent banking and mobile-based accounts, allowing access to basic banking services conveniently



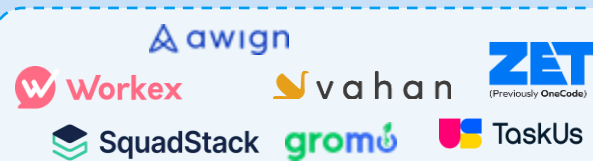
## Healthcare and Telemedicine

- Connecting patients with doctors through **video consultations** & providing **diagnostic services at home** reducing need for long-distance travel
- Offering accessible **educational content, health tips, and guidance** on various health conditions, empowering people to make informed decisions



## Remote work through gig platforms

- Allowing individuals in Tier 2 / 3 cities to **access job opportunities** that were **traditionally limited** to urban areas
- Facilitating utilization of diverse skills through gig platforms, allowing individuals to **showcase talents & provide services to a global client base**



## Online learning solutions

- Digital-first start-ups offer **affordable online education content** in **low bandwidth areas**
- They curate content in categories like rhymes, NCERT syllabus, professional courses, and competitive exams in **vernacular languages**
- Start-ups assist educators with **data and insights from their platforms**



## Agricultural Technology

- Providing **innovative farming techniques**, solutions for enhancing agricultural productivity
- Offering **easy access to credit**
- **Connecting farmers directly to consumers & markets** through online platforms, eliminating intermediaries, ensuring fair prices, and improving farmers' incomes



Examples of companies



# Success story 1: UPI transforms payments in India, fosters inclusion, increases cashless transactions



**Launch year**  
2016



**Banks live on UPI**  
484 banks (Oct 2023)



**Value of transaction**  
INR 158T (Oct 2023)



**Countries allowing cross-border payments via UPI**  
5 countries (Oct 2023)

Includes Bhutan, Singapore, Nepal, UAE & Mauritius

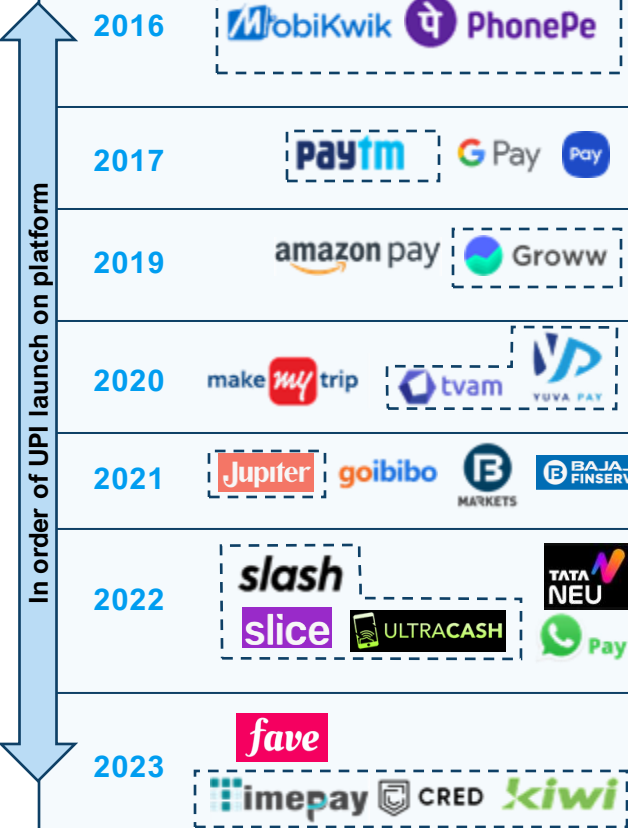
## Milestones

- Apr 2016** NPCI launches UPI
- Aug 2016** PhonePe, a UPI-based platform, becomes operational
- Dec 2016** “BHIM UPI”, developed by NPCI is launched
- Sep 2017** “Google” launches UPI enable app Tez, which is later named “Google Pay”
- Aug 2018** NPCI introduces UPI 2.0, with new features and enhancement
- Feb 2019** Amazon launches Amazon Pay UPI in partnership with Axis Bank
- Feb 2022** NPCI internationalized UPI to make transactions abroad
- Sep 2022** NPCI launched UPI LITE

**UPI LITE:** One click UPI transactions <INR 200 can be made w/o internet

>50% of third-party UPI apps are by start-ups

## Third-party UPI apps



Start-ups\*

## Key success factors

- Ease of transferring money:** UPI offers the convenience of transferring money from one person to another with only their phone number
- On-phone accessibility:** Mobile phone accessibility enables direct transactions, eliminating the need for cash or cards
- No charges for interbank transactions:** There are no charges applicable on a transaction
- Link multiple bank accounts:** Can link multiple bank accounts to make transactions and transfer money between the banks

## Key vertical coverage



### E-commerce

UPI has gained traction in the e-commerce sector, and it accounts for 50% of the total digital transaction



### BFSI

UPI witnessed growth in transaction volume within BFSI, UPI accounts for ~50% of all digital transactions in BFSI

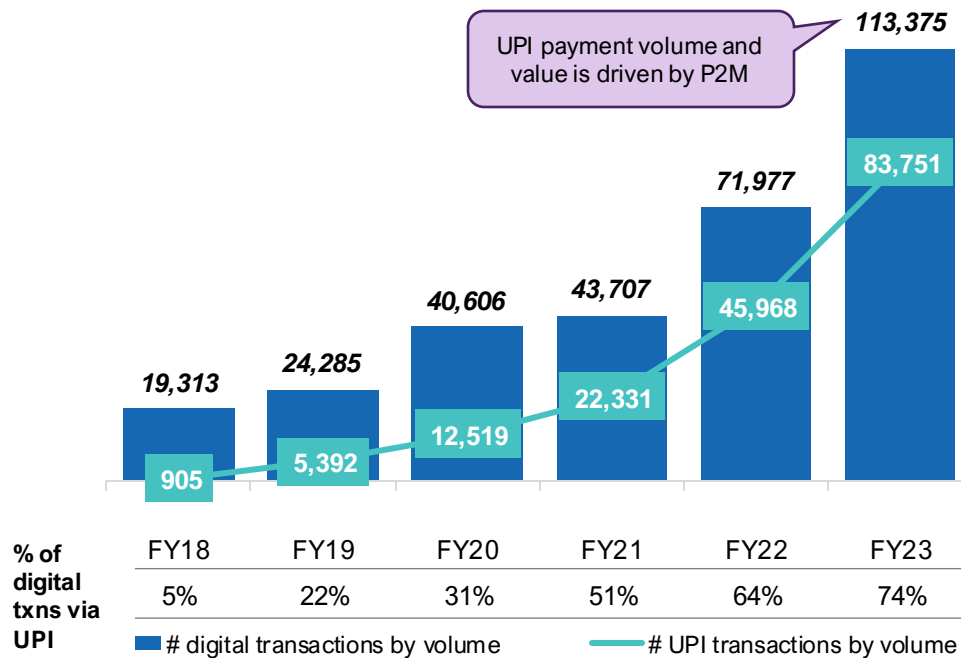


### Retail & small businesses

UPI witnessed significant adoption among SME merchants, 30-40% of all retail transactions are conducted through UPI

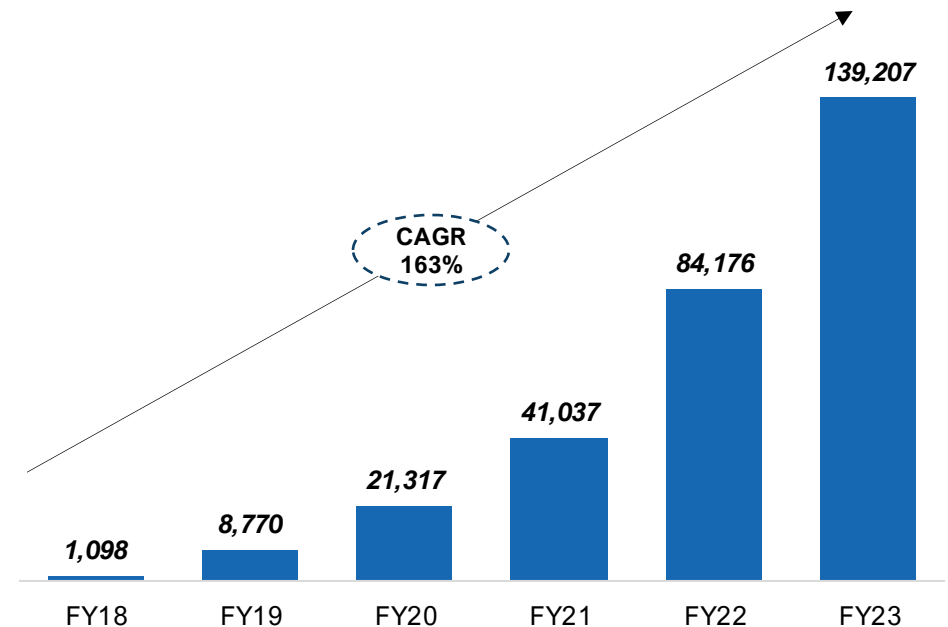
## No. of UPI transactions accounts for ~74% of the total digital transactions

Digital and UPI transaction volume (#M)



## Total value of UPI transactions have grown significantly at a CAGR of ~163% from FY18 to FY23

UPI transactions by value (INR B)



### Key segments impacted

#### E-commerce players:

Higher UPI driven digital payments allow e-commerce players like Moglix, DealShare, Meesho to benefit with reduced sales to cash cycles

#### Fintechs:

UPI expands horizons beyond payments, enabling opportunities in POS sales, microfinance, P2P lending, loan collection, crowdfunding, & more

#### Offline merchants and businesses:

QR codes and POS machines enable offline businesses to instantly accept payments using the customers UPI-enabled app

### UPI P2P and P2M Transactions

Month	Total		P2P		P2M	
	Volume (B)	Value (K Cr)	Volume (B)	Value (K Cr)	Volume (B)	Value (K Cr)
Jun '21	2.8	547.4	1.5	447.8	1.3	99.6
Jun '23	9.4	1,475.4	4.0	1,125.4	5.4	350.0
Growth	3.3x	2.7x	2.6x	2.5x	4.3x	3.5x

# Success story 2: Common Service Centers bridge digital divide, enabling start-ups to bring services to remote/rural India



# Centers: 5,21,150 (May 2023)



# Transaction: 313.66L (Apr 2023)

## Milestones

- Sep 2014** • CSC became an integral part of **Digital India initiative**
- Apr 2015** • **Commenced offering banking services** in addition to the existing Aadhaar enrolment services
- Aug 2015** • **CSC 2.0** launched to set up more than 1 CSC in each of the 2.5L Gram Panchayats (GP)
- May 2016** • CSC SPV launches **Digital Seva Portal**, an online platform for VLEs
- Jul 2017** • Became **access point for delivering government benefits**
- May 2018** • CSC academy is **established to provide digital literacy**
- Mar 2020** • Delivered essential services during Covid-19
- Dec 2021** • **Integrated with BBPS**

CSC integration with Digital India

## Key success factors

<b>Bank partners</b>		Collaborated with CSC to offer <b>banking services and financial inclusion initiatives to citizens</b> through CSCs
<b>Telemedicine partner</b>		Subsidiary of Apollo Hospitals has partnered with CSC to <b>provide telemedicine and healthcare services</b>
<b>E-commerce partner</b>		<b>Enable rural entrepreneurs to become Amazon India Distribution Centers</b>
<b>Payment partner</b>		Partnered with CSC to offer <b>digital payment services</b> through CSCs
<b>Telecom partner</b>		Partnered with CSC to <b>provide telecom and mobile services</b> , including SIM card activation, recharge, and other related services

## Benefits of CSCs to start-up ecosystem



### Servicing rural/remote India

CSCs in India provide start-ups with access to a large customer base in rural & semi-urban areas, expanding their reach in underserved markets



### Skill and talent development

CSCs conduct digital literacy programs & skill development initiatives creating rural employment opportunities



### Growth of rural entrepreneurs

Rural entrepreneurs for services like company registration, tax filings, licenses, permits, certifications, etc., without the need to visit multiple offices

## CSCs and their impact on rural India

### Promoting rural entrepreneurship

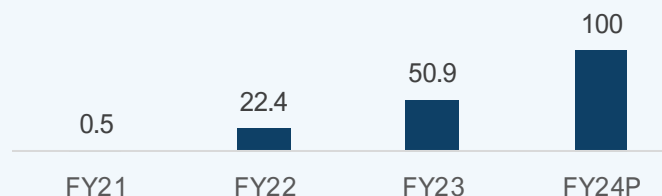
CSCs **inspire individuals to become VLEs** who are central to the functioning of a CSC in the area

VLEs offer predominantly **banking, education, and healthcare** services in a cost-effective manner – allowing **start-ups and companies to service rural India**

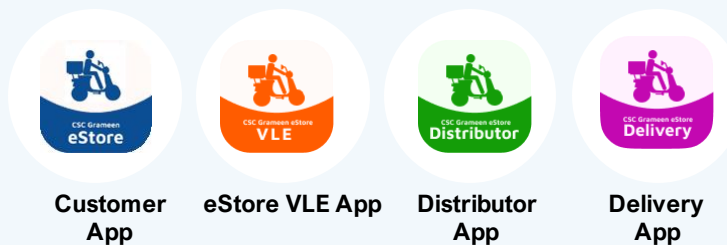
VLEs **revolutionize digital literacy** amongst **disadvantaged communities** and **train women** through PMGDISHA to make them self-dependant

### CSCs enable e-commerce in rural India through Grameen eStores initiative

Grameen eStore GMV (INR Cr, FY21-24P)



### CSC Grameen eStore Apps



With >4L CSC Grameen stores across India, customers can order online, and the distribution is handled through village level entrepreneurs (VLEs) who procures, manages the inventory, and employs Digital Cadets to deliver products to the customer's doorstep

### Justice through tele-law

Tele-Law scheme in CSCs

Rural India can avail free legal services and guidance at their nearest CSC

>54L individuals have received legal aid and advice under the Tele-Law scheme

# Success story 3: Government e-Marketplace promotes transparency, competition, value in purchases, supports MSMEs and start-ups



# Sellers & service providers  
73.41L+

# MSE Sellers  
8.35L+



% order value via MSE  
>55%

## Milestones

- Aug 2016** • GeM launched
- Sep 2018** • National Mission on GeM launched to accelerate GeM adoption by central ministries, state governments, and agencies
- Feb 2019** • SWAYATT initiative launched to promote Start-ups, Women, & Youth Advantage
- Sep 2020** • GeM 4.0 launched
- Jun 2021** • GeM SAHAY app launched to help MSMEs get loans against their purchase orders
- Oct 2022** • Jiobook made available to government employees via the GeM portal

## Key partners of GeM

### Financial institutions / Banks

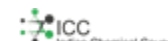
Establishing e-payment system to be integrated with GeM for banking services



(+ 14 more institutions)

### Industry associations / Partners

Setting up institutional mechanisms for interactions between different industries and GeM



(+ 15 more institutions)

### Other institutions

Setting up institutional mechanisms to leverage capabilities of various institutions



## Benefits of GeM to start-up ecosystem



### Increased Market Access

GeM provides start-ups with direct access to government procurement opportunities, expanding their market reach and opening doors to new business opportunities



### Equal Competition

GeM promotes a levelled playing field, allowing start-ups to compete with established vendors based on their merit



### Digitalized Processes

GeM streamlines the procurement process by digitizing various stages like vendor registration, product listing, order placement, etc. reducing the hassle for start-ups

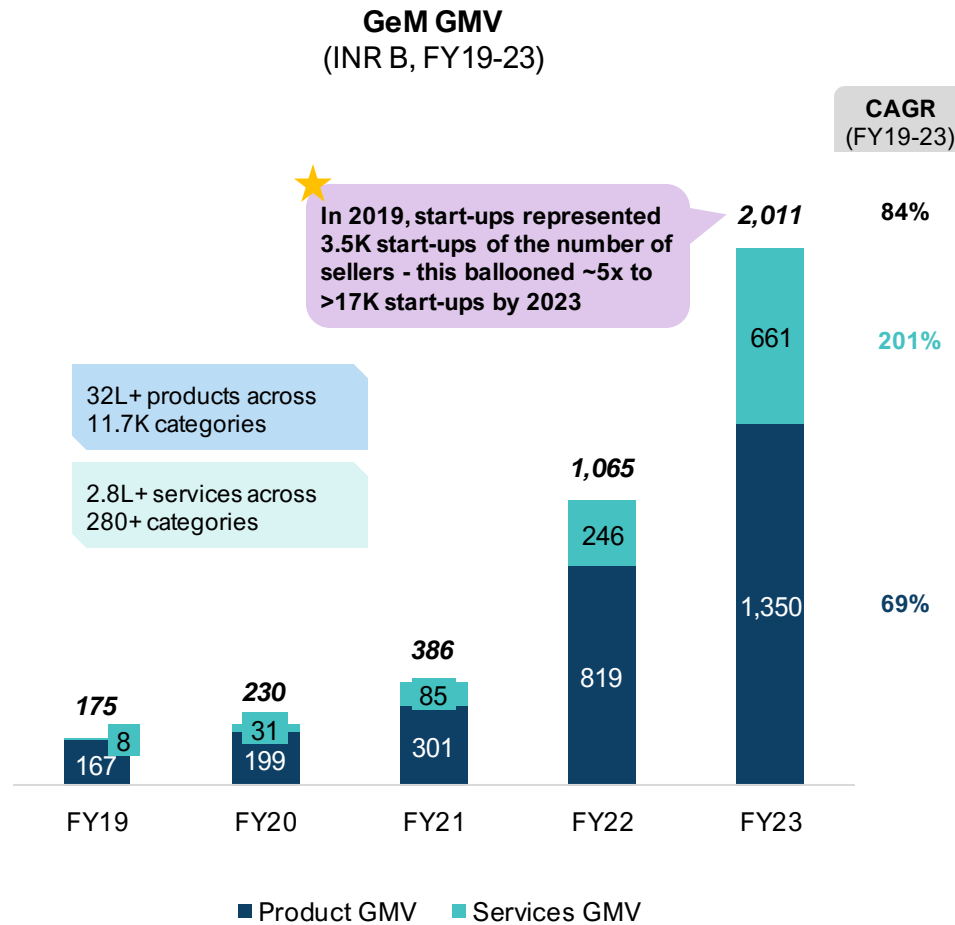


### Innovative Solutions

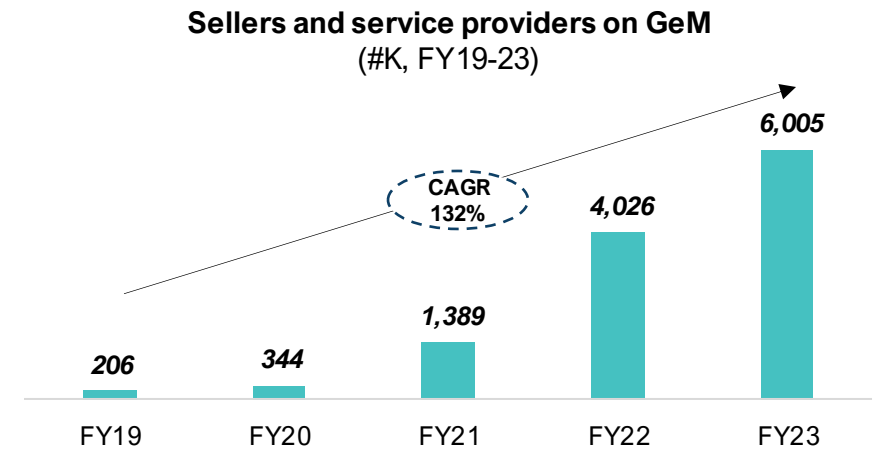
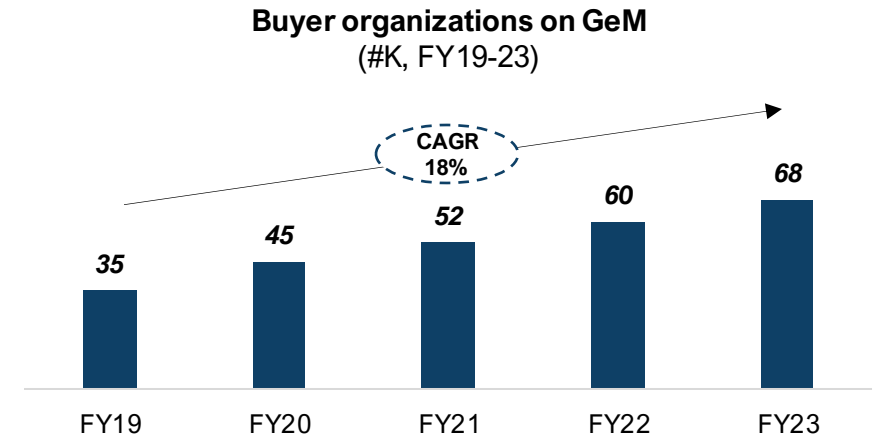
GeM allows start-ups to showcase innovative solutions in emerging technologies including robotics, AI, blockchain, consumer electronics, cybersecurity, edtech, healthtech, agritech, and more



## GeM GMV in FY23 is >INR 2T with an increasing services to product GMV ratio



## GeM witnesses' steady growth in buyer organizations and sellers on the platform







# Agenda

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Overview: Digital India and the 9-pillar framework





Current landscape of start-up ecosystem

Digital India enabling start-ups




**Emerging areas of focus: By start-ups & Digital India**



# Key opportunities for start-ups lie in leveraging government support, tapping underserved Indian market & adopting tech advancements – [1/2]







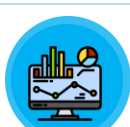
Opportunities	Description	Key sectors impacted
<b>Government infrastructure and initiatives</b>	 <b>Disruptive open networks</b> <ul style="list-style-type: none"> <li>Open networks like Open Network for Digital Commerce (ONDC), Open Credit Enablement Network (OCEN) and Unified Health Interface (UHI) allow start-ups to leverage standardized platforms, access vast user bases, and collaborate with stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>E-commerce</li> <li>Financial services</li> <li>Healthcare</li> <li>Logistics</li> </ul>
	 <b>Favourable regulatory environment</b> <ul style="list-style-type: none"> <li>80% rebates in filing patents, 50% rebates in trademarks and fast-tracked patent applications are provided to start-ups</li> <li>A three-year tax exemption is granted to eligible start-ups to be used within the first 10 years of their incorporation</li> </ul>	<ul style="list-style-type: none"> <li>All start-ups, especially nascent stage start-ups</li> </ul>
	 <b>Incubation and incentives</b> <ul style="list-style-type: none"> <li>Number of DPIIT recognized start-up incubators has grown from ~140 in 2017 to 1,139 (as of Oct 2023), with &gt;60% catering to emerging technology solutions</li> <li>176 MSMEs are PLI beneficiaries; ~INR 3KCr was released to beneficiaries of the PLI scheme (till FY23), which included disbursements to emerging technology like drone manufacturers (~INR 30Cr)</li> <li>PLI Scheme for LSEM till 2026 introduced to boost domestic electronics manufacturing and exports; Of the US\$ 101B total electronics production in FY23, smartphones constitute US\$ 44B including US\$ 11B as exports</li> </ul>	<ul style="list-style-type: none"> <li>Agritech</li> <li>Healthtech</li> <li>Edtech</li> <li>Logistics tech</li> <li>Deep tech</li> <li>Social entrepreneurship</li> </ul>
	 <b>Digital public infrastructure</b> <ul style="list-style-type: none"> <li>While digital transactions account for 99.7% of total transactions by volume, UPI accounts for ~80% of those digital transactions (by volume), supporting the payments infrastructure in India</li> <li>GeM promoting a transparent &amp; level playing field for start-ups, has &gt;17K start-ups selling in 2023</li> <li>Most of the e-commerce apps on the seller and buyer sides are provided by start-ups, as are the technology, reconciliation, and dispute resolution services offered by ONDC</li> </ul>	<ul style="list-style-type: none"> <li>All online-first start-ups</li> </ul>

Note(s): LSEM: Large Scale Electronics Manufacturing; GeM: Government e-Marketplace; The app economy includes the development and sale of mobile apps, in-app purchases, subscriptions, ads, public relations, and the hardware and software that apps run on  
Source(s): Department of Industries and Commerce, Ayushman Bharat Digital Mission (ABDM), Ministry of Micro, Small and Medium Enterprises, NASSCOM, Securities and Exchange Board of India, Press Information Bureau, India e-Conomy report 2023, INDIAai, Tracxn, 1Lattice analysis

Opportunities	Description	Key sectors impacted
Technological trends	 <b>Emerging technologies</b> <ul style="list-style-type: none"> <li>• &gt;80 generative AI start-ups operate in India across a variety of industry verticals as of May 2023, with this number having more than doubled between 2021 and 2023</li> <li>• In India, there are 550+ Web3 start-ups that raised US\$ 1.3B in funding over 2 years. They focus on DeFi, NFTs, and the metaverse, employing 75K+ professionals, capitalizing on India's digital talent pool and young population</li> <li>• 3.2K+ start-ups are into deep tech, and since the field is capital intensive, government is providing multiple schemes like TIDE 2.0 Scheme, SAMRIDH Scheme, Next Generation Incubation Scheme (NGIS), Support for International Patent Protection in E&amp;IT (SIP-EIT) Scheme and GENESIS (Gen-Next Support for Innovative Start-ups)</li> <li>• ~77% of the total EV start-ups have been founded from 2016-2023; The funding in the EV sector has witnessed a 5x increase from 2020 to 2023, reaching a total of ~US\$ 5.2B</li> </ul>	<ul style="list-style-type: none"> <li>• Deep tech start-ups</li> </ul>
	 <b>App-ification</b> <ul style="list-style-type: none"> <li>• India's app economy is expected to be US\$ ~0.8T by 2030 contributing to 12% of the estimated GDP by then</li> <li>• The app economy is estimated to grow at a CAGR of 32% till 2030, ~4x the estimated GDP growth with smartphone users and digital literacy acting as key enablers</li> </ul>	<ul style="list-style-type: none"> <li>• All online-first start-ups</li> </ul>
	 <b>Advanced computing technologies</b> <ul style="list-style-type: none"> <li>• India's latest supercomputer – AIRAWAT (installed in May 2023) is the largest and fastest supercomputer in India and 75<sup>th</sup> fastest in the world; PARAM supercomputers will also benefit start-ups in India with their abilities to perform complex data calculations and analyses using artificial intelligence and machine learning</li> <li>• The Government announced 'National Quantum Mission' with an investment of &gt;INR 6KCr aiming to boost scientific and industrial research and development in the field of quantum technology</li> </ul>	<ul style="list-style-type: none"> <li>• Deep tech start-ups</li> </ul>



# Key opportunities for start-ups lie in leveraging government support, tapping underserved Indian market & adopting tech advancements – [2/2]





Opportunities	Description		Key sectors impacted
Tapping T2+ and Rural Market Potential	 <b>Localisation and regionalisation</b>	<ul style="list-style-type: none"> <li>500M (out of 700M) internet users in India are non-English literate, half of which are urban users indicating necessity to bring products and services around non-English content</li> </ul>	<ul style="list-style-type: none"> <li>Media</li> <li>Logistics</li> <li>Education</li> <li>E-commerce</li> </ul>
	 <b>Formalization of industries</b>	<ul style="list-style-type: none"> <li>Industries like finance and healthcare have immense potential to by provision of formal credit and banking options; and by digitizing health records and integrating user into India's tech stack</li> </ul>	<ul style="list-style-type: none"> <li>Financial services</li> <li>Healthcare</li> <li>Logistics</li> </ul>
	 <b>Online marketplaces</b>	<ul style="list-style-type: none"> <li>Low-code/no-code platforms empower MSMEs to directly sell to end customers, eliminating the need for intermediaries or middle agents</li> </ul>	<ul style="list-style-type: none"> <li>E-commerce</li> <li>Logistics</li> <li>Financial services</li> </ul>
	 <b>Digital customers</b>	<ul style="list-style-type: none"> <li>Across sectors, high levels digital adoption are seen; Among 700M internet users, there are 470M social media users, 350M digital payments users, while 220M shopped online, 65M ordered food online and 15M have paid for an online course</li> </ul>	<ul style="list-style-type: none"> <li>Online-first start-ups serving urban and rural India</li> </ul>
Operational efficiency through digitalization	 <b>Natural Language Processing</b>	<ul style="list-style-type: none"> <li>Deployment of multilingual virtual assistants powered by natural language processing models to support customers across the customer lifecycle, helping in achieving cost savings</li> </ul>	<ul style="list-style-type: none"> <li>Telecom</li> <li>Financial services</li> </ul>
	 <b>Robotic Process Automation</b>	<ul style="list-style-type: none"> <li>Usage of RPA to automate operations, including in finance, supply chains and tax reconciliation</li> </ul>	<ul style="list-style-type: none"> <li>Financial services</li> <li>Healthcare</li> <li>Logistics</li> </ul>
	 <b>Big data analytics</b>	<ul style="list-style-type: none"> <li>Collection, standardization and utilization of data to form meaningful insights</li> </ul>	<ul style="list-style-type: none"> <li>Retail</li> <li>Financial services</li> <li>Media</li> </ul>



# HealthTech ventures can seize opportunities in wearables & women's health; Edtech start-ups can capitalize on vernacular content & gamification

HealthTech opportunities lie in sustained rural India focus, continuous monitoring, and emphasis on women's health

EdTech opportunities lie in creating vernacular content for Tier 2+ cities and gamifying the learning interface

Emerging opportunities in Healthtech	
Non-invasive monitoring devices	FemTech*
<ul style="list-style-type: none"> <li>Opportunity to provide wearables / devices to use <b>health status and provide inputs on lifestyle choices</b></li> <li><b>BlueSemi</b> launched <b>India's first 'Made in India' non-invasive diabetes device, eliminating blood pricking</b> during testing</li> <li>As of FY23, ~100 start-ups founded since <b>2016</b>, with most funding towards wearable devices for <b>cardiac &amp; diabetic monitoring</b></li> </ul>	<ul style="list-style-type: none"> <li>Opportunity to grow in <b>teleconsultation and niche online community platforms</b> (around women health, parenting, etc.) - especially in vernacular languages</li> <li>As of FY23, <b>226 out of 314</b> total FemTech companies were founded after <b>2016</b> with <b>135</b> being founded after <b>2020</b> with <b>most funding</b> towards <b>menstrual hygiene solutions</b></li> </ul>
Start-up examples	Start-up examples
 Start-up has devices for remote patient monitoring – for at home & at hospital  Start-up provides a device to continuously monitor ECG, pulse, respiration, posture, fall & temperature	 Pregnancy & parenting platform for e-commerce & social networking - in English & 7+ Indian languages  Start-up uses AI & thermal imaging for non-invasive early breast cancer detection

## Supportive government initiatives







Medical Device Parks promotes production of indigenous medical devices; offers incentives like regulatory streamlining, R&D; and attracts investments in healthtech start-ups



ABDM enables start-ups to enter the digital health ecosystem with electronic health records; Start-ups can also play a key role in the growth of the UHI



3 STPI CoEs are supporting Healthtech start-ups from all over India; Focus of areas are ICTs, health informatics, medical electronics & IoT

Emerging opportunities in Edtech	
Language learning tech	Gamification in education
<ul style="list-style-type: none"> <li>Opportunity to provide content in <b>vernacular languages</b> to make material widely accessible – applicable for <b>K-12 prep, test prep, online courses</b> and more</li> <li>Moving away from focusing on delivering educational content in <b>only English and/or Hindi</b></li> <li>As of FY23, ~250 start-ups were founded in this space in India since 2016 with ~150 being started since <b>2020</b></li> </ul>	<ul style="list-style-type: none"> <li>Adaptive, personalized, and <b>gamified learning</b> with optional <b>DIY kits and STEM toys</b></li> <li>Opportunity to evolve from short-term tactical solution to <b>long-term strategic engagement tool</b> in <b>K-12 prep, test prep, reskilling, language</b> and more</li> <li>As of FY23, ~135 start-ups were founded in this space since 2016 with <b>most funding towards pre-K &amp; K-12 based solutions</b></li> </ul>
Start-up examples	Start-up examples
 Vernacular government test preparation app  Doubt solving app that can read questions in 16 Indian languages along with English	 Gamified app teaching numeracy, language, motor skills, etc. for ages 3-10 years  App with gamified curriculum for grades 8-12; Has content for Olympiads and IIT-JEE

## Supportive government initiatives



Launched in Jul 2022, provides Indian language-based technology solutions, benefiting start-ups and fostering ecosystem development through AI/ML, NLP, and open-source tools

## National Digital Education Architecture

Digital infrastructure for the education ecosystem

Architectural blueprint for education ecosystem with government reference applications on the NDEAR solution ecosystem - apps can be built on top by start-ups and existing EdTech companies

Note(s): UHI: Unified Health Interface; CoE: Centre of Entrepreneurship; IoT: Internet of Things; ICT: Information and communication technologies; ABDM: Ayushman Bharat Digital Mission,





\*FemTech refers to digital solutions, including software, connected devices, and technology-enabled services, specifically designed to address women's and infant health needs





Source(s): Press Information Bureau, Tracxn, 1Latice analysis



# Opportunities abound for logistics tech in IoT, telematics and developing rural distribution models; Agritech start-ups will benefit on optimizing value chains and providing easier access to agri-inputs

## Logistics tech can enhance rural logistics by filling digital and physical infrastructure gaps with IoT and telematics

## Agritech start-ups can optimize value chains for various types of agriculture and facilitate agri-inputs for farmers

Emerging opportunities in Logistics tech	
Rural logistics	IoT-based solutions
<ul style="list-style-type: none"> <li>• Opportunity to cater to a <b>rural population</b> which has a <b>rising number of active internet users and media consumers</b></li> <li>• Remote population has ability to view products, but <b>logistical gaps</b> still exist <b>across platforms and services</b></li> <li>• Few logistics start-ups have started <b>informal or community-based distribution models</b> in rural India indicating a clear gap</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to provide multiple <b>real-time logistical solutions</b> in <b>tracking &amp; visibility; cold chain monitoring; inventory, fleet &amp; driver management</b> and more</li> <li>• <b>~58% of the total funding</b> received by logistics tech start-ups providing IoT based solutions was in <b>2022 and 2023</b></li> <li>• Most funding has been directed towards <b>fleet and driver management</b> solutions</li> </ul>
<p><b>Start-up examples</b></p> <div>  <p>B2B platform connects 400+ FMCG &amp; grocery brands with 10M+ stores across 80K+ villages</p> </div> <div>  <p>P2P rural-commerce start-up enables &gt;10M micro-entrepreneurs to sell 5K+ SKUs to end-users</p> </div>	<p><b>Start-up examples</b></p> <div>  <p>Pregnancy &amp; parenting platform for e-commerce &amp; social networking - in English &amp; 7+ Indian languages</p> </div> <div>  <p>Start-up uses telematics for fleet &amp; driver management with 1L+ engine problems solved</p> </div>

Emerging opportunities in Agritech	
Value chain optimization	Agri-input marketplace
<ul style="list-style-type: none"> <li>• Opportunity to cater to <b>farmers &amp; Farmer Produce Organizations (FPOs) / agri-businesses</b> to digitise the value chain</li> <li>• Farmers need better <b>market linkages</b> with <b>shared logistical solutions</b>, while FPOs/agri-businesses require improved <b>supply chain visibility &amp; control</b></li> <li>• Agritech start-ups into <b>e-commerce</b> are also offering value chain optimization solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to serve marginal and underserved farmers with <b>agri-inputs</b> like <b>machinery, equipment, seeds, fertilizers</b>, and even <b>credit</b></li> <li>• <b>Limited product selection, inefficient sourcing and working capital pressure</b> would need to be solved</li> <li>• As of FY23, <b>~350 start-ups</b> are into agri-input e-commerce with <b>&gt;95% such start-ups in crop farming inputs</b></li> </ul>
<p><b>Start-up examples</b></p> <div>  <p>D2C tech start-up empowers farmers (20K+ till FY23) and has served 10L+ consumers</p> </div> <div>  <p>Start-up digitizes agribusiness operations across the entire value chain with digital modules</p> </div>	<p><b>Start-up examples</b></p> <div>  <p>B2B agri-input app connecting 1L+ retailers &amp; manufacturers in 18K+ cities &amp; villages</p> </div> <div>  <p>B2B agri-input marketplace app providing machinery, finance, crop nutrients, etc. to 50L+ farmers</p> </div>

Supportive government initiatives	
 <p>Gati Shakti initiative centralizes infrastructural initiatives of 16 ministries and departments via a portal to reduce logistics costs, which are &gt;12% of India's GDP, compared to the global average of 8%</p>	 <p>Launched in 2022, Unified Logistics Interface Platform (ULIP) allows organisations to access 1.8K+ logistical data fields on 35 systems from 8 ministries with over 113 APIs to connect with</p>

Supportive government initiatives	
 <p>Ecosystem with farmers' database, geo-referenced plots, &amp; real-time crop surveys with an objective to provide high-quality data access to 2K+ agritech start-ups</p>	 <p>AIF has mobilized &gt;INR 30KCr for post-harvest infrastructure &amp; community farming assets, supporting farmers, agri-entrepreneurs, and farmer groups</p>
	 <p>3 STPI CoEs are supporting Agritech start-ups from all over India; Focus of areas are digital farming, predictive analytics &amp; IoT</p>

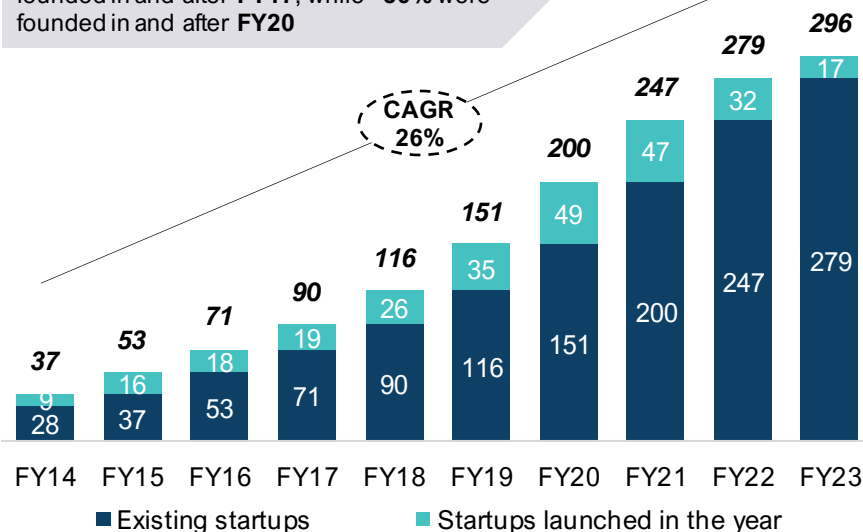


# India is witnessing a surge in domestic drone players, due to government support & adoption of emerging drone applications across various sectors

No. of companies in drone space has increased exponentially @ a CAGR of 26% from FY14-23

India – Number of drone companies  
(#, FY14-FY23)

>75% of existing Indian drone companies were founded in and after FY17, while ~50% were founded in and after FY20



## Key government initiatives and policies:

- To position India as a global drone hub by 2030, Gol introduced the **PLI scheme for drones and drone component** companies in Sep 2021 to foster **drone manufacturing** in the country
- Drone Shakti program**, launched in 2021, promotes the **Drone-as-a-Service model amongst start-ups** & encourages collaboration between manufacturers and service providers

## Drones are finding diverse applications in industries, with government support driving participation

### Agriculture:

- Drone spraying:** Drones can be used to spray fertilizers and pesticides in **1/16<sup>th</sup> of the time it takes spray manually**
- Seeding:** This method reduces costs by >85% and boosts efficiency
- Insurance:** Drones offer precise data to insurance companies, aiding in risk identification & quantification
- Crop monitoring:** Drones enable swift crop monitoring for timely fertilizer application, pest attack detection, and weather impact assessment

### Construction and Real Estate:

- Under **SVAMITVA scheme**, drones are surveying **~6.6L villages** in India from 2021 to 2025, providing "**Record of Rights**" to village household owners, **2.5L+ villages** are already covered as of Jun 2023

### Utilities:

- Inspection:** Tower, powerline, wind & solar farm, power plant inspection
- Power Grid India** adopted drone technology to patrol Extra High Voltage (EHV) transmission lines, using high-resolution cameras to detect defect
- Uttar Pradesh Power Transmission Corporation** monitors two transmission lines in Prayagraj using drones, and plans on covering all the transmission lines soon

### Public safety:

- Drones can help in **locating missing individuals, combatting fires, inspecting damage, monitoring traffic**, and more
- Bengaluru traffic police** uses drones in FY23 to conduct surveillance trials and **monitor traffic density** at junctions

### Logistics:

- In Jun 2023, Kandhamal district, Odisha launched Kandhamal healthcare drone delivery network to transport **medicines & vaccines** to **remote rural health facilities**
- Swiggy** is working with government regulators and drone partners to conduct **trials and pilot tests** of **mid-mile delivery** in **Gurugram** and **Bengaluru**





**Ankit Mehta**

**Co-founder and CEO**

IdeaForge

“

The Government of India's Digital India and other technology-related initiatives have definitely brought a positive change for businesses and citizens of the country.

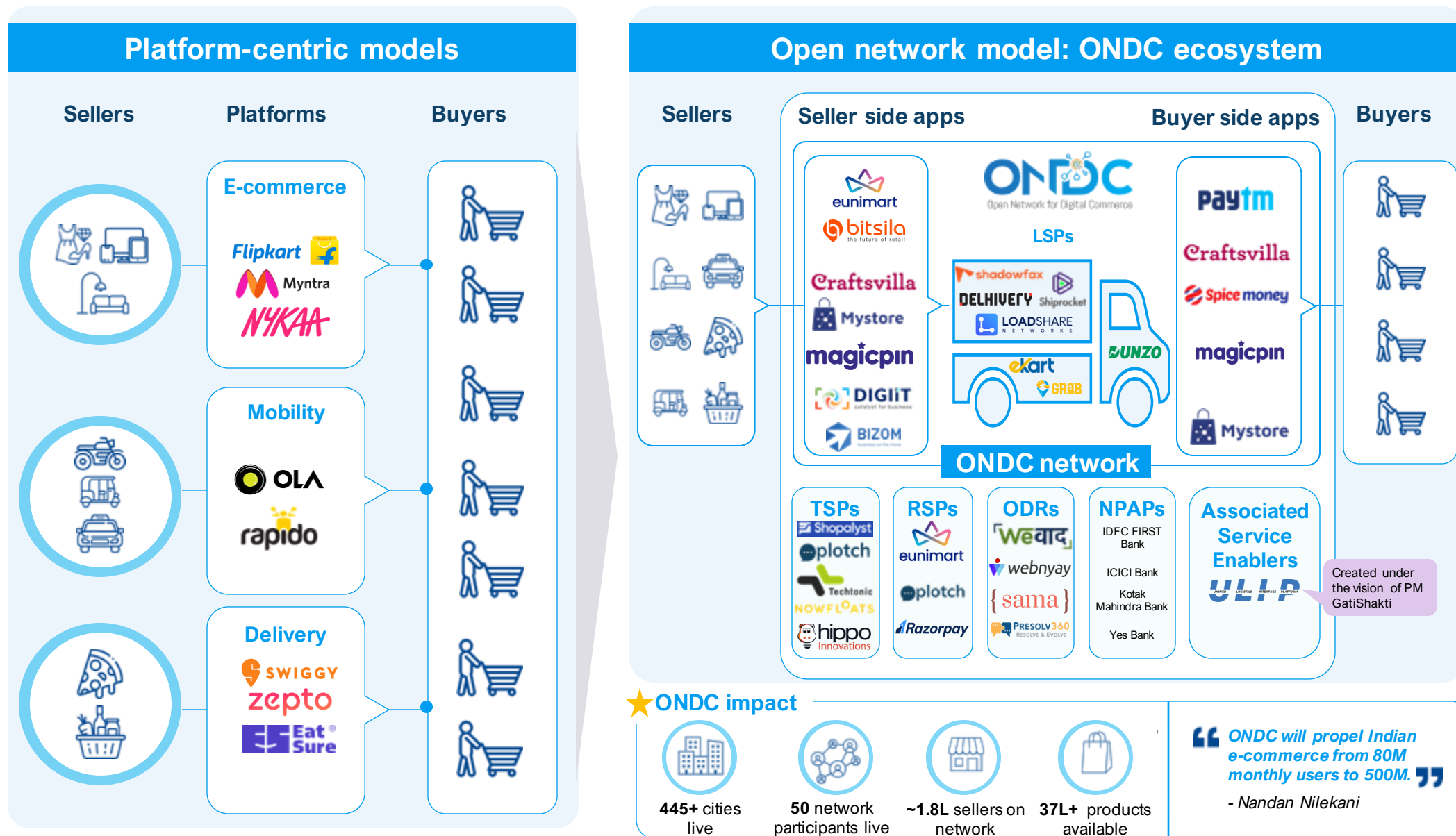
Initiatives like the 'SVAMITVA Scheme', which aims to leverage drone technology for land records digitization has created a unique environment for the UAV ecosystem to develop and mature for survey purposes.

'Smart Cities Mission' is another program where the UAV industry will get a platform to innovate in areas like mobility & logistics solutions, law enforcement & public safety.

The use of technology has also helped in ease of doing business and created a level playing field. Online platforms like 'Government e-Marketplace (GeM)' & 'e-procurement system' have made the procurement process more transparent and efficient. Through these platforms, start-ups, entrepreneurs and small businesses get an equal opportunity to compete with established players.

”

# ONDC leads open networks in enabling start-up market entry, shared resource utilization, and platform interoperability



Note(s): Logos used are representative, not exhaustive; LSP: Logistics Service Provider; TSP: Technology Service Provider; RSP: Reconciliation Service Provider; ODR: Online Dispute Resolution Service Providers; NPAP: Network Participant Account Providers  
Source(s): ONDC, 1Latitude analysis

# Drivers of 'India's Techade' include focus on user experience, innovation ecosystem, modernized cybersecurity, sustainability, workforce enablement, and supportive policies

## Key enablers for continued growth / emerging opportunities

### Focus on user experience on platforms

- User experience on platforms prioritized to **instill public confidence** in digital interactions and services
- **Scaling of platforms** carried out while prioritizing optimum user experience

### Public-Private partnerships for sustainability goals

- **Leveraging of resources and expertise from both private and public sectors** to address sustainability goals effectively
- Utilization of emerging technologies to **capture and analyze real-time environmental data** for quick decision-making

### Focused policy support

- Focused policy frameworks that **enable and support tech growth while protecting all stakeholders** are essential to foster continued innovation, entrepreneurship, and investment in the digital space

### Ecosystem of Innovation

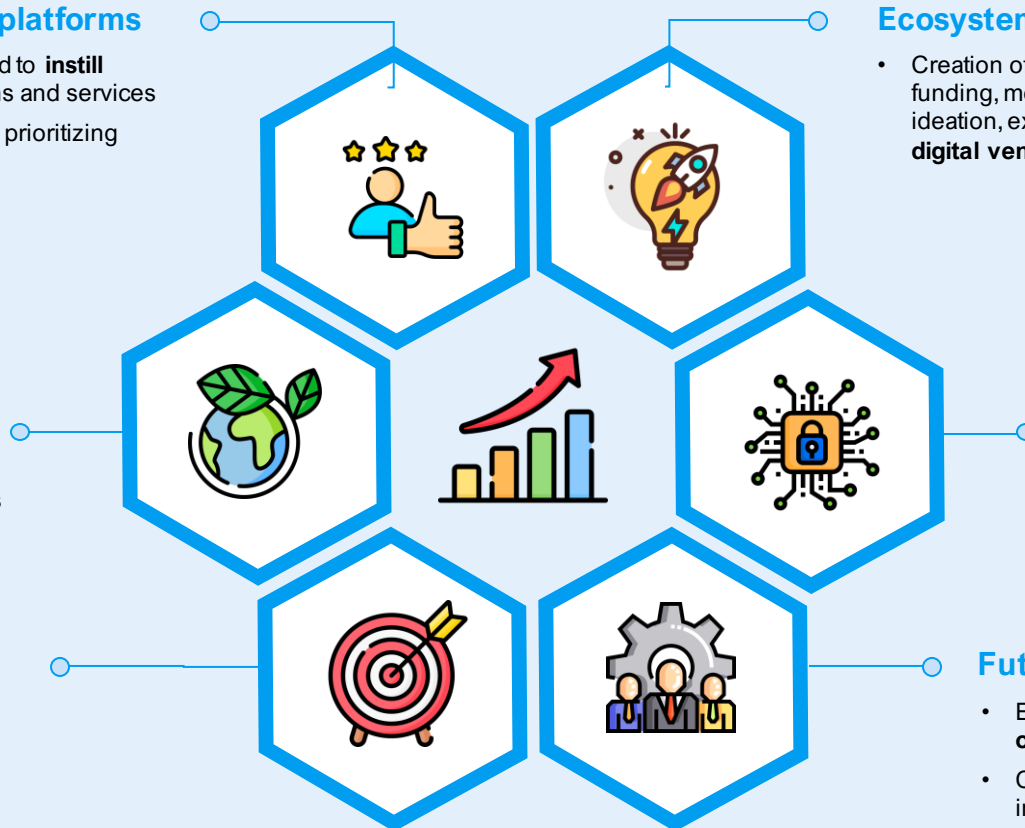
- Creation of an innovation ecosystem with funding, mentorship, and networking for ideation, experimentation, and **scaling of digital ventures in deep tech**

### Enhanced cybersecurity

- Allocation of resources for security and IT operations to **strengthen defenses as operations scale**
- **Simple and consistent** cybersecurity tools and practices for **easier management**

### Future workforce enablement

- Enablement of **remote and gig job opportunities**
- Continued collaborations between industry, academia, and the government to facilitate effective **reskilling and upskilling initiatives**

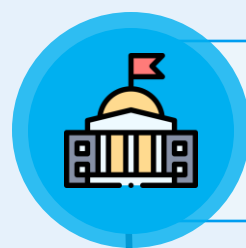


# Government, businesses, and citizens will embrace digital innovation, adapt to disruptive models, & acquire digital literacy for a thriving digital landscape

## Stakeholder

## Focus of current role

## ★ Focus of potential role



### Government & government agencies

- Formulating policies and regulations that promote digital innovation
- Building and improving digital infrastructure across the country
- Partnering with the private sector to drive digitization

- Addressing evolving challenges of **cybersecurity** while ensuring **ethical use of technology** as part of creating digital literacy
- Fostering a regulatory environment that encourages digital adoption and prioritizes **protection of citizens' privacy rights**
- Facilitating the **evolution of labor markets** in industries disrupted by automation



### Businesses

- Leveraging India stack to onboard and better the customer journey along with digitizing the experience
- Making use of the regulatory environment for manufacturing, funding and growth

- **Adapting current business models** and **adopting new, disruptive ones** especially because of the scale in India and the rapid pace of digitization
- Matching customer **expectations of convenience & speed** by making themselves digital-first organizations
- Leveraging digital infrastructure to also **expand it in the last-mile of rural areas**



### Citizens

- Becoming a part of the India stack by establishing a digital identity, participating in e-payment, e-governance and much more

- Understanding how automation **may change work and what skills would be needed** to thrive in the future
- Knowing how to **utilize and extract data** while **protecting personal information**





# STPI, founded in 1991, offers several value-added services for start-ups, including incubators, infrastructure, mentorship, funding, investment, etc. – [1/3]



**Founded  
1991**  
Under MeitY

**Software  
Technology  
Parks of India  
(STPI)**

- Promote the **development and export of software and software services** including IT Enabled Services/Bio-IT
- Provide statutory and other **promotional services** to the exporters **by implementing Software Technology Park/Electronics and Hardware Technology Park Schemes**
- Provide **data communication services** including value-added services to IT/IT enabled services related industries
- Promote **micro, small and medium entrepreneurs** by creating a conducive environment for entrepreneurship

## Infrastructure

- **Ready to work** 'Plug and Play' space
- Health Informatics Lab/IoT Lab, Fab Lab, AI/Data Analytics Lab
- **Year-around operational** workspace
- Testing and validation facility

Facilities include fully air-conditioned incubation spaces, uninterrupted power supply, 24x7 security, workstations, cubicles, conference halls, internet bandwidth etc.

## Marketing

- Support in **end-to-end marketing plans** to attract visibility
- Technical & business knowledge sessions, road shows, networking events, social media outreach
- **Partnerships** with key international promotional agencies for cross-border collaboration

## Intellectual Property Rights

- MoU with NRDC for filing Intellectual Property Rights
- **Patenting** (drafting & filing), **Trademark**, **Copyright** and other related legal or statutory support

## Monitoring

- **Monitoring and guiding** through dedicated portfolio managers and start-up support executives
- **Reviewing and monitoring** the progress and performance periodically
- Taking necessary actions as and when required

## Mentorship

- Needs-based **mentoring sessions** on legal, compliance, branding, cybersecurity, tech
- Transformation from idea level to prototype level, prototype level to MVP (Minimum Viable Product) level, MVP level to GTM (Go-To Market) level, and **graduating the start-ups** into full-fledged company status
- **Networking with other players** in the ecosystem












## Funding & Investment




- **Support in raising funds** by leveraging connections with potential investors
- **Networking** with HNI (High Net Income) individuals, VCs (Venture Capitalists), corporates as per the size of start-ups
- Grants, equity, debt

# Centers of Entrepreneurship (CoEs) are technology incubators set up for building India's start-ups leadership – [2/3]

## Centre of Entrepreneurship (CoE)

- **Centers of Entrepreneurship (CoEs) are technology incubators** which have been established by STPI for building India's start-ups leadership
- A CoE is a facility where **the highest standards and best practices** are made available for specific focus areas

CoE	Location	Technology area	Start-ups Incubated (#)
 Electropreneur™ PARK	New Delhi	Electronics Systems Design and Manufacturing	59
	Bengaluru	Internet of Things	57
		IoT in Health & Pharmaceuticals	30
 Electropreneur™ PARK	Bhubaneswar	Electronics Systems Design and Manufacturing	27
		Virtual & Augmented Reality	9
		Analytics, Machine learning and AI	Selection underway
 FinBlue A FinTech Centre of Entrepreneurship by STPI	Chennai	Financial Technology	47
 NEURON A Startup Punjab Hub @ STPI	Mohali	AI/Data analytics, Internet of Things	42
	Pune	Autonomous Connected Electric & Shared Mobility	32
	Hyderabad	Gaming, Animation, VFX, Computer Vision, AI	30
	Gurugram	Blockchain	26

CoE	Location	Technology area	Start-ups Incubated (#)
 MedTech	Lucknow	Medical Technology	25
	Guwahati	Internet of Things in Agriculture	27
	Shillong	Animation	
	Imphal	Emerging technology (Augmented/Virtual Reality)	
	Itanagar	Geographic Information System	
	Aizwal	Gaming Technology	
	Kohima	Graphic Designing	
	Gangtok	IT application in Healthcare & Agritech Technology	
	Agartala	Data Analytics	
	Akola	Internet of Things in Agriculture	27
	Visakhapatnam	Industry 4.0	4

# NGIS scheme, launched by STPI, is a comprehensive incubation scheme that has provided seed investment of INR ~20.45Cr to 91 start-ups to date – [3/3]



Launched by  
STPI under MeitY





A futuristic and  
comprehensive  
incubation scheme

Focusing on  
12 Tier 2 locations

Aim to support **300 start-ups** in the field  
of IT/ITeS/ESDM

Budgetary outlay of  
**INR 95Cr** for 3 years

Locations include Agartala, Bhilai, Bhopal, Bhubaneswar, Dehradun, Guwahati, Jaipur, Lucknow, Prayagraj, Mohali, Patna & Vijayawada

Incentives	Description
 <b>Physical incentives</b>	<ul style="list-style-type: none"> <li>Ready to work <b>P&amp;P incubation</b> within the constraint of lockdown &amp; thereafter</li> <li>Full-fledged <b>security &amp; vulnerability testing</b> of software products through Software Product Security Testing (SPST) facility</li> <li><b>Additional facilities and services</b> of the pan-India domain-specific CoEs of STPI may be leveraged</li> </ul>
 <b>Soft support</b>	<ul style="list-style-type: none"> <li><b>Mentoring</b> support</li> <li><b>Access to VCs</b> for funding support</li> <li>Networking opportunities/Industry connect and <b>go-to market</b> support for exhibiting/showcasing products/solutions through various National / International events/workshops/exhibitions</li> <li><b>Facilitation support</b> for IRP/Patent filling</li> </ul>
 <b>Financial incentives</b>	<ul style="list-style-type: none"> <li><b>Cloud Credits</b> from leading third-party service providers</li> <li><b>Pre-incubation programs</b> and mentoring for up to six months with <b>stipend support</b> of upto <b>INR 30K per month</b></li> <li><b>Seed funding of up to INR 25L</b> available to beneficiary/supported start-ups based on innovativeness of idea, novelty of solutions, strength of team &amp; soundness of business proposal</li> </ul>
 <b>CHUNAUTI</b>	<ul style="list-style-type: none"> <li><b>Challenge Hunt Under NGIS for Advanced Uninhibited Technology Intervention</b> is a series of online challenges under NGIS for the selection of start-ups working towards <b>developing of products/solutions in Emerging Tech</b></li> <li>Currently, <b>screening and evaluation of applications</b> received for <b>15th challenge program</b> is underway</li> </ul>



## Outcomes

- Created a start-up support ecosystem comprising of **128 mentors and 48 knowledge partners**
- Total **384** beneficiary start-ups have generated **3,500+ jobs**
- About **44%** of the beneficiary start-ups are **women-led entrepreneurs**
- Beneficiary start-ups have contributed significantly to **IP generation and product creation**
- 91** start-ups have received **seed investments of INR ~20.45Cr**

# Start-ups must leverage broadband investments, inclusive initiatives, data abundance, and ethical considerations to succeed

## Importance of digital infrastructure

- Broadband investments **connect millions, fostering economic growth, social development, and business opportunities** through digital infrastructure, including data centers



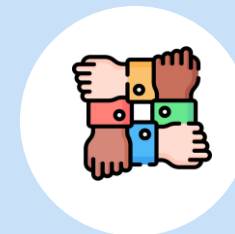
## Power of digital education

- Government and corporate initiatives have bridged the educational divide, **enabling rural students to access quality education on par with their urban counterparts**



## Importance of digital inclusion

- Inclusive initiatives bridge the digital divide, **enabling equal access to digital technology benefits** for all Indians, regardless of location or income, aiding in the digital economy growth



## Need for a coordinated approach

- India's Techade **requires government, private sector, and civil society coordination** to facilitate innovation, offer financial support, develop digital technologies, raise awareness & advocate for inclusive policies



## Importance of data

- Data abundance calls for a strategic approach from start-ups and policymakers to learn to harness data **for enhancing services, informed decision-making, and innovative product/service creation**



## Importance of ethical considerations

- Digital technology poses ethical concerns: privacy, data protection, discrimination; **Policy makers must establish guidelines for ethical use** of digital technology by all stakeholders to address these issues



# Case study 1: Shared digital platforms, smart towns, & sensor platforms are key learnings from Singapore's digital transformation

Singapore



**Total Population**  
6M



**% Internet users**  
96.9%



**# Mobile connections**  
9.22M



**# Online shoppers**  
33.3M

## Key learnings

### Shared digital platform

- The digital platform between government agencies and private sectors
- Develop better, faster, and more cost-effective digital services

### Smart Town

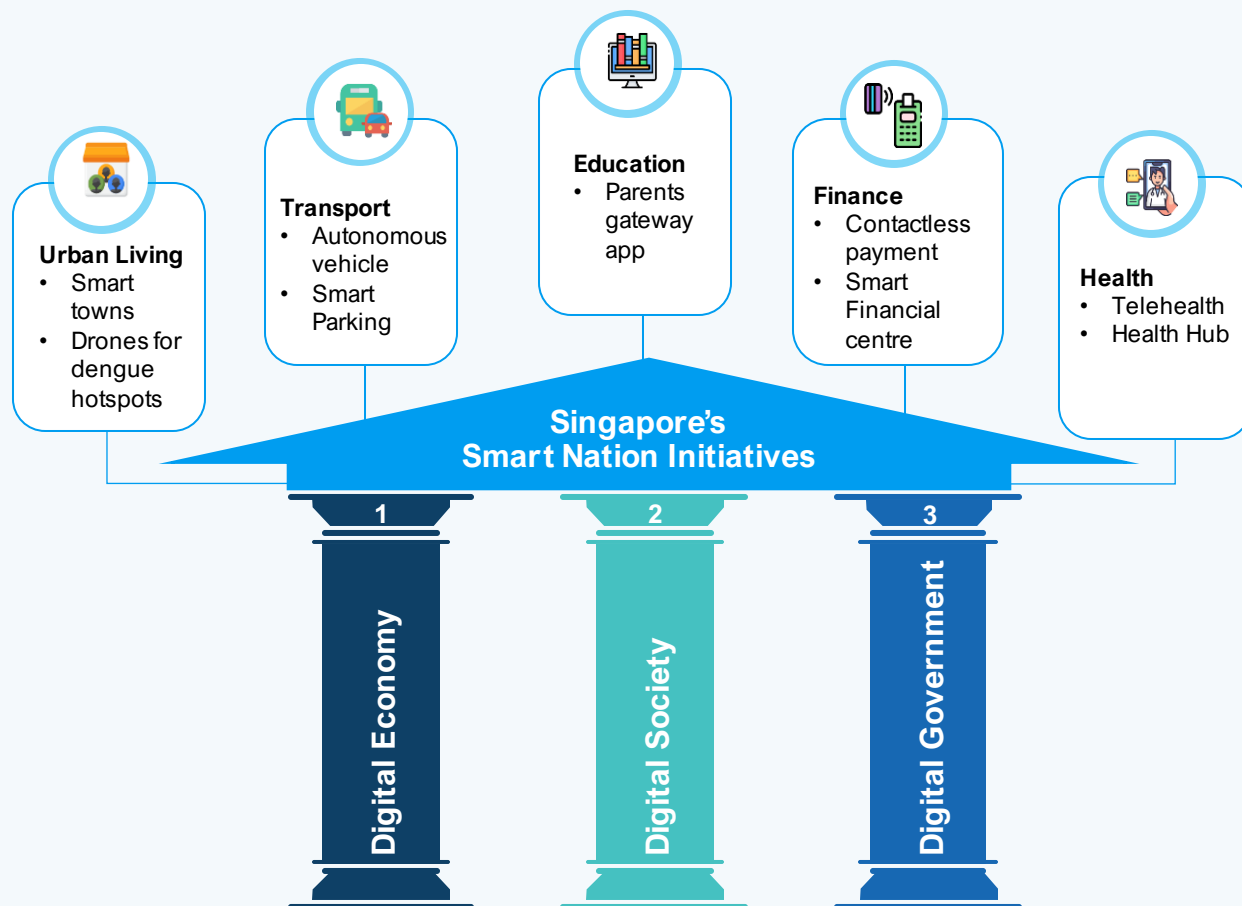
- Singapore unites academia, industry, and the community for a technologically advanced society
- Singapore fosters innovation, drives growth, and enhances citizens' lives in a digital environment

### Smart Nation Sensor Platform

An integrated, nationwide sensor-based platform collects essential data for smart solutions

- Tracking Water usage and Leaks
- Drowning detection system
- Personal Alert Button for the Elderly
- Smart Lamp Posts for Urban Planning

## Singapore has adopted a 3-pillar strategy for digital transformation





# Case study 2: South Korea has adopted the Digital New Deal resulting in data collection and utilization for creating innovative AI services

South Korea



**Total population**  
51.80M



**% Internet users**  
97.6%



**# Mobile connections**  
80M+



**# Online shoppers**  
37M+

## Key learnings

### Data collection

- Data is collected from the public and private sectors using 5G, IoT, Sensors, and Robots

### Data standardization

- Data will be standardized and combined with one other

### Data Utilization

- Data is utilized to create innovative AI services



**Smart factory**



**AI-based virus detection**



**Autonomous vehicle**



**Dust reduction**



**Energy conservation**



**Intelligent Crime Analysis**

## South Korea has adopted the Digital New Deal to accelerate digital transformation



### Economic Growth

- Promote collection, sharing, and use of data
- Apply 5G and AI to all industries
- 5G and AI-based government
- Establish K-security System



### Digital Infrastructure

- Establish Digital infrastructure for elementary middle and high school
- Improve online learning environments of Universities and Job training centers



### Contactless services

- Establish smart healthcare and caregiving infrastructure
- Promotes remote working at SMEs
- Support micro enterprises online businesses



### Smart cities

- Establish a digital management system for critical infrastructure in four major sectors
- Digital innovation of urban areas and industrial complexes
- Establish a smart logistic system

# Case study 3: E-residency, e-schoolbag, and cybersecurity are unique initiatives undertaken by Digital Estonia and are key learning areas

Estonia



**Total population**  
1.32M



**% Internet users**  
92.4%



**# Mobile connections**  
1.94M+



**# Online shoppers**  
1.1M+

## Key learnings

### E-residency



- Streamlined online business formation in 1 day
- Location-independent company online for entrepreneurs

### E- schooling



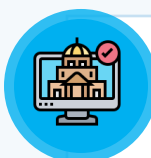
- Implementation of "e-Schoolbag" program,
- Enhances student learning by incorporating digital devices

### Cybersecurity



- Implementation of robust cybersecurity measures to protect sensitive data and infrastructure along with scale

## Components of Digital Estonia



### E-Government

"E-Estonia" is a strong e-government system with digital signatures, secure identities, and online portals for public services.



### Data exchange platform

"X-Road" enables secure data sharing among government agencies, ensuring efficient delivery of public services. It forms the backbone of e-governance initiatives



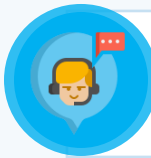
### Start-up support

Estonia's convenient procedures make business easy for people and companies worldwide. The number of active "e-residents" surpasses permanent residents



### Digital Skills

The education system is extensively integrated with technology. It introduces the "e-Schoolbag" program to enhance student's learning with digital devices



### Virtual assistance

'Bürokratt" improves the digital experience for citizens by assisting with permits, e-Identity applications, health schemes, family benefits, tax filing, and more





## Transmittal Disclaimer

- This report has been prepared for Software Technology Parks of India (STPI) by 1Lattice (which is the trade name of Lattice Technologies Private Limited referred as “1Lattice” hereunder) with the intent to showcase the capability and disseminate learnings to start-ups, industry, policy makers & potential partners/associates
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## About STPI

Software Technology Parks of India (STPI) is a premier S&T organization under Ministry of Electronics and Information Technology (MeitY) engaged in promoting IT/ITES Industry, innovation, R&D, start-ups, product/IP creation in the field of emerging technologies like IoT, Blockchain, Artificial Intelligence (AI), Machine Learning (ML), Computer Vision, Robotics, Robotics Process Automation (RPA), Augmented & Virtual Reality, Animation & Visual effect, Data Science & Analytics for various domains like Gaming, FinTech, Agritech, MedTech, Autonomous Connected Electric & Shared(ACES) Mobility, ESDM, Cyber Security, Industry 4.0, Drone, Efficiency Augmentation, etc.

Since its inception in 1991, STPI has been working towards equitable and inclusive IT-led growth pan-India which in turn has helped promoting Software exports, Science, Technology & Innovation (STI) and Software product development. With 11 jurisdictional directorates and 62 centers, STPI has expanded its presence pan-India to support IT/ITeS Industry. Working closely with all stakeholders, STPI has played a key role in transforming the country as the preferred IT destination.



## About AIC STPINEXT INITIATIVES

AIC STPINEXT INITIATIVES, a Special Purpose Vehicle set up by STPI, is aligned with STPI's vision to promote and grow the culture of innovation leading to successful start-ups & entrepreneurs. AIC STPINEXT INITIATIVES acts as the nodal agency and common implementation vehicle for various start-up and entrepreneurship activities at STPI.

To download the report, scan the below QR code



**'STPI KnowledgeUp Series'** aims at building up awareness, knowledge and information stack to all relevant stakeholders of the Technology Ecosystem. The reports in the series are being published with focus on a sector, domain, technology, adoption, government policy and initiatives etc. Each report captures trends & its analysis, current status, growth enablers & inhibitors, gaps & opportunities etc. Thus, it aims to be a pragmatic report for start-ups, corporates, policy-makers, state/central government departments, funding agencies/investors, academia, research institutes and other ecosystem players.

**Knowledge  
Partner**

