



5 | Economic development: All eyes on outcomes



Focusing on measurable progress, India drives towards sustainable growth with digital innovation, empowered industries and forward-looking policies.

India's economic development has been inspiring and is marked by strategic initiatives and forward-thinking policies. Economic development charts India's growth journey, focusing on core areas of success, digitisation, infrastructure advancements, empowerment of Micro, Small and Medium Enterprises (MSMEs) and policies for the future. With the country on the verge of attaining mega policymaker status in the global economy, it has moved from mere ambitions to measurable outcomes. This transition has been driven by sound government activities, technological developments and an increasingly dynamic business environment.

In this context, the six chapters under *Economic development: All eyes on outcomes* offer a comprehensive overview of India's economic trajectory. They explore key pillars of progress and provide a holistic look at the road ahead. As the country moves forward, the focus on outcomes, driven by digitisation, policy innovation and empowered organisations, will be key to sustaining growth and building a resilient economy ready for the future.

The chapter, *Setting the standards: Success stories*, features discussions on Telangana's development journey, Karnataka's growth story and the broader vision for *Viksit Bharat*. These stories are complemented by examples of top-performing industries and companies that have set benchmarks in excellence, innovation and scalability.

The chapter, *Make in India: A digital imperative*, explores how digital technologies, such as Digital Public Goods (DPGs), AI and open platforms,

are central to advancing the Make in India initiative. It highlights innovations that streamline trade, reduce coordination costs, personalise services and enable inclusive, scalable growth.

The chapter, *Empowering Indian organisations: Shaping efficient experiences with digital solutions*, focuses on how Indian businesses (large and small) adopt digital tools to drive operational efficiency, create seamless customer experiences and stay ahead in an increasingly competitive global market. It includes the essential takeaways from panel discussions on the *Power of Digital in Creating Experience and Organisational Efficiency*.

The chapter, *Digital solutions: The new building blocks for physical infrastructure development*, explores how digital tools are transforming the landscape of physical infrastructure development. It includes a panel discussion on *Bringing the Power of Digital to Physical & Social Infrastructure Development*.

The chapter, *Empowering MSMEs*, sheds light on how digital solutions and government initiatives empower MSMEs to overcome challenges such as access to finance, technology and skilled labour. It includes a *Manthan, Digital Enablement of MSMEs with the help of ONDC*.

The chapter, *Future-ready policies*, discusses the importance of forward-thinking policies that foster innovation, inclusivity and sustainability. It includes a *Manthan, Innovation in Policy Making to Realise Vision of India@2047*.

Together, these chapters provide a roadmap for India's outcome-driven economic development.

5a. Setting the standard: The success stories



Thumalla Nageshwara Rao

Minister for Agriculture,
Cooperation and Textiles,
Government of Telangana



Priyank Kharge

Minister for Electronics, IT & BT,
Rural Development and Panchayati
Raj, Government of Karnataka

India is witnessing a remarkable transformation driven by technological advancements, digital innovations and forward-thinking government policies. These factors are now converging to transform different sectors and accelerate development towards its ambitious vision of *Viksit Bharat 2047*. From agricultural productivity and sustainability with drones and digital technologies to the emerging start-up ecosystem, India is embracing innovation rapidly. These technological advancements are enhancing efficiency and transparency while playing a pivotal role in bridging the urban-rural divide.

The digital age has ushered in a transformative era, reshaping industries and societies worldwide. India's vision for a digital future is anchored in the belief that technology can empower its citizens, enhance access to information and promote socioeconomic equality. The government aims to create a more inclusive and sustainable future by integrating technology

into various aspects of society. *During Ārohaṇa: Growth with Impact*, ministers and bureaucrats from multiple states shared their success, highlighting the transformative impact of technology in their areas.

Telangana's journey towards agricultural excellence, driven by digital initiatives and policy reforms, is a prime example of how technology can revolutionise traditional sectors. Karnataka, a state renowned for its focus on innovation and skill development, is leading the way in technological advancements and economic prosperity. Meanwhile, the livestock sector is undergoing significant transformations, with technological advancements and policy initiatives paving the way for growth and sustainability.

These stories offer a glimpse into India's bright future. The leaders spoke about the key factors driving these transformations, including the mobilisation of rural communities, technological advancements and the adoption of sustainable practices. They also discussed how India is poised to achieve its ambitious goals and build a prosperous nation for all.

Leaders Speak: **Viksit Telangana**

Speaker:

Thumalla Nageshwara Rao, Minister for Agriculture, Cooperation and Textiles, Government of Telangana

In recent years, Telangana has emerged as a leader in agricultural transformation, overcoming challenges such as water scarcity and market fluctuations. The state's success is driven by digital innovation, policy reforms and collaborations among the government, private sector and farmers, with a strong emphasis on sustainability and resilience. Below are the key initiatives driving this transformation:

- **Ownership and clarity in landholding:** Telangana has introduced a system that automatically updates land ownership changes, ensuring real-time and accurate updates. This has increased transparency in landholdings and improved resource allocation.

- **Digital initiatives in agriculture:** Telangana is a pioneer in digital crop monitoring and has implemented systems covering both the Kharif and Rabi seasons. These systems track vital crop data, such as crop type and geographic formations, enhancing agricultural productivity and precision farming.
- **Government alignment and future focus:** Telangana aligns with the Government of India's digital accreditation initiatives, creating a comprehensive digital farming database that tracks farming operations. This will improve efficiency and streamline agricultural practices in the state.
- **Sustainability and future of agriculture:** The state's future-facing agricultural policies are centred on sustainability, promoting climate-resilient practices. Telangana aims to safeguard both the environment and farmer welfare while ensuring long-term economic viability for the sector.
- **Farmer welfare initiatives:** Several state schemes have been revamped to support farmers. The ITBAROSA initiative provides INR15,000 per acre annually to promote economic growth. At the same time, the *Pradhan Mantri Prasad Vimanyojana* offers financial protection against crop losses due to extreme weather conditions, ensuring farmer security.⁵
- **Collaboration with the private sector:** The private sector is pivotal in Telangana's agricultural growth, bringing expertise and resources. The state is looking to transition from AI-driven management systems to advanced supply chain solutions to streamline and modernise the sector.
- **AgriTech hub:** Telangana is fast becoming an AgriTech innovation hub, with the iFarm cultivation initiative operating in 31 districts. Nurseries have been set up in factory zones to provide high-quality seedlings to farmers, bolstering productivity.
- **Yield and market strategies:** Farmers in Telangana are achieving yields of 14 tonnes of Fresh Fruit Bunches (FFB) per acre using best farming practices. A recent increase in crude palm oil import duties is expected to raise FFB prices, benefiting local farmers. The state also ensures fair market prices by expanding storage and improving market integration.

Telangana has 2 lakh acres under iFarm cultivation, with 1.56 lakh acres under various farmer empowerment programmes. The government has floated various initiatives to improve agricultural resilience and economic stability for farmers.

- **Food processing and supply chain enhancement:** The state is developing fresh food processing zones across 10,000 acres to boost food production. The *Mahila Kisan Sashaktikaran Pariyojana* (MKSP) empowers women in agriculture by establishing 5,000 micro-food processing enterprises to boost the local economy. Additionally, the state enhances supply chains to connect local farmers directly with industries, maximising their market opportunities.

With the continued collaboration of the government, private sector and farmers, I am confident that we will build an agricultural sector that is sustainable, resilient and future-ready.

Thumalla Nageshwara Rao
Minister for Agriculture, Cooperation and Textiles, Government of Telangana

Leaders Speak: Karnataka Growth Story

Speaker:

Priyank Kharge, Minister for Electronics, IT & BT, Rural Development and Panchayati Raj, Government of Karnataka

Moderator:

Anand Shankar, Chief Transformation Officer, Deloitte India

⁵ <https://www.thehindu.com/news/national/telangana/telangana-govt-issues-guidelines-for-rythu-bharosa-lands-suitable-for-cultivation-only-will-be-eligible/article69092243.ece>

Karnataka is not just growing; it is thriving. The state's commitment to becoming a global hub for knowledge, skill and innovation is evident across sectors. It boasts about 450 engineering colleges, 70 medical institutions and 44 universities. With 1,777 industrial training institutes,⁶ Karnataka has solidified its position as a talent powerhouse, generating the highest number of graduates joining the workforce.

Our intent is to portray and anchor ourselves as a knowledge and skill city. That's why we are running so many centres of excellence: to be industry leaders.

Priyank Kharge
Minister for Electronics, IT & BT, Rural Development and Panchayati Raj,
Government of Karnataka

This has laid the groundwork for innovation and research, placing Karnataka as the undisputed leader in India's innovation ecosystem, ranking first in the India Innovation Index. The state's start-up culture is booming, with over 1,000 biotechnology start-ups, including 202 new start-ups, registered in 2023 alone.



A global technology hub

Bengaluru is now recognised as the fourth-largest technology cluster in the world, contributing significantly to India's tech revolution. The state accounts for 38 percent of India's Foreign Direct Investment (FDI), 40 percent of electronics design, 52 percent of machine tool manufacturing and 65 percent of aerospace and defence production. Bengaluru ranks fifth globally in the top 50 AI cities, showcasing its AI and deep tech leadership.⁷

⁶ Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

⁷ [https://pib.gov.in/PressReleasePage.aspx?PRID=1826946#:~:text=Karnataka%20is%20the%20top%20recipient,%25\)%20and%20Delhi%20\(14%25\).](https://pib.gov.in/PressReleasePage.aspx?PRID=1826946#:~:text=Karnataka%20is%20the%20top%20recipient,%25)%20and%20Delhi%20(14%25).)

⁸ Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

⁹ Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

Karnataka is also home to over 40 unicorns valued at US\$161 billion, while 38 percent of India's 435 soon-to-be unicorns are also based in the state. In 2023 alone, Karnataka saw a significant boost in venture capital, with a funding of US\$15.1 billion. The e-commerce and B2B sectors are thriving, with Bengaluru leading with a massive US\$40 billion in B2B exports, solidifying its global leadership position.⁸



Inclusivity and empowerment

Karnataka's growth story is not just about economic progress; it is also a story of inclusivity. The state leads in women-led start-ups, with over 1,100 female entrepreneurs founding start-ups that have collectively raised nearly US\$10 billion. These initiatives span beyond Bengaluru, with start-up ecosystems thriving in Mysuru and other regions, creating employment opportunities and fostering innovation throughout the state.⁹



We have the highest number of female employment talent in Bangalore. We have 1,100 women-led start-ups that are being founded in Bengaluru. And these women-led start-ups have raised close to 10 billion dollars.



Priyank Kharge
Minister for Electronics, IT & BT, Rural Development and Panchayati Raj,
Government of Karnataka

Focus on sustainability and the circular economy

Karnataka focuses on sustainability and social impact through various initiatives and summits, including the Social Innovation Summit, Urban Solutions Summit and Circular Economy Summit. These platforms

showcase groundbreaking technologies addressing real-world problems, from water portability to healthcare, with the government of Karnataka adopting these innovations as a first customer.



Karnataka is not just building a future; it is setting the benchmark for inclusive, innovation-led growth, where talent, technology and sustainability converge to shape a global powerhouse.

✓
Anand Shankar



A national and global leader

Karnataka's leadership in technology and innovation extends far beyond India. Karnataka's engineering R&D sector is set to contribute significantly to the global market, with India's share projected to rise from US\$44 billion to US\$170 billion by 2030.

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The state is home to 730 Global Capability Centres (GCCs), accounting for 40 percent of global technology centres. This makes Bengaluru the second-largest hub for AI development in the world.
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Bridging the urban-rural divide

Karnataka has emerged as the leading state in India in bridging the gap between rural development and high-tech innovation. With initiatives such as e-governance at the Panchayat level, the state is successfully bridging the digital divide, ensuring that the benefits of innovation and technology reach every corner of Karnataka.

¹⁰ Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

¹¹ <https://www.wam.ae/en/article/biudnfs-india-dominates-global-milk-market-contributing-25#:~:text=NEW%20DELHI%2025th%20March%2C%202025,said%20in%20a%20parliamentarian%20session>.

¹² <https://economictimes.indiatimes.com/industry/cons-products/food/amul-brands-fy25-revenue-rises-12-pc-to-rs-90000-cr-gcmmf-turnover-up-11-pc-at-rs-66000>

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Through significant technological advancements such as AI, geofencing and Natural Language Processing (NLP), the government is enhancing Panchayat-level systems to ensure accountability and foster inclusive growth. The state is positioning itself as an investment hub and a global leader in knowledge and skill development.
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Leaders Speak: Vision for Viksit Bharat

Speaker:

Alka Upadhyaya, Secretary, Department of Animal Husbandry & Dairying, Government of India

Moderator:

Sudeep Kumar Sinha, Partner, Deloitte India

India's livestock sector is on a transformative journey with ambitious short-, medium- and long-term goals set for 2047. Often referred to as the "sunrise sector," it plays a pivotal role in the country's agrarian economy. Livestock contributes 30 percent to total agricultural output and has recorded a CAGR of 12 percent.¹⁰

India has firmly established itself as a global leader in dairy. It is the largest milk producer in the world, contributing 25 percent of global milk production.¹¹ In addition, the country ranks second in global egg production and fifth in buffalo meat exports. One of the biggest dairy cooperatives exemplifies this success, with an impressive turnover of INR92,000 crore, supported by the White Revolution 2.0 announced on 19 September 2024.¹²

The livestock sector contributes INR17 lakh crore annually to the agriculture sector, while dairy alone contributes INR16 lakh crore. Investments in this sector have a multiplier effect, offering high returns, particularly to India's rural population.¹³

Our rural society, where 53 percent of the nation's population resides, depends heavily on livestock, fisheries and dairy, with 10 crore farmers relying on the dairy sector alone.

Alka Upadhyaya

Secretary, Department of Animal Husbandry & Dairying, Government of India



Mobilising women and cooperatives: Lessons from the White Revolution

The White Revolution of the 1970s revitalised India's dairy sector. Currently, 1.79 crore farmers, including a significant number of women, have been mobilised by cooperatives such as COMFED, OMFED and KMF.¹⁴ Yet, 62 percent of the sector remains unorganised. Alka Upadhyaya highlighted the need to organise this sector further, improve clean milking practices and expand the cooperative base. She emphasized that the daily cash flow from dairy and poultry goes directly into the hands of women, empowering them economically.

¹³ Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

¹⁴ COMFED (Bihar State Milk Co-operative Federation Ltd.), OMFED (Odisha State Cooperative Milk Producers' Federation Ltd.), and KMF (Karnataka Milk Federation) are state-level dairy cooperatives in India.

India's milk production, which averages 459 grams per person per day, exceeds the national requirement of 350 grams. However, better organisation and efficient distribution are needed to optimise this surplus.



Tech innovations in livestock

Technological innovations are set to redefine India's livestock sector. Space technology, drones and AI are being used to monitor and enhance road conditions, green cover and animal health. Digitisation efforts have led to the tagging of 25 crore animals, ensuring they are vaccinated and artificially inseminated.

Proper use of data can help prevent diseases and optimise animal husbandry practices.



Alka Upadhyaya
Secretary, Department of Animal Husbandry & Dairying, Government of India



The One Health approach and cluster development

Recognising the interconnectedness of human, animal and environmental health, the “One Health” approach addresses zoonotic diseases, which have tripled in the past decade. India is mitigating the risks associated with such diseases by closely monitoring the interaction among livestock, wildlife and human ecosystems.

India’s innovative cluster approach in rural areas is driving economic growth. For instance, poultry clusters initiated by a few entrepreneurs have led to the growth of integrated models that benefit entire value chains. Investments in logistics, mechanisation and value chain development are critical to further advancing this sector.

As India looks to the future, its livestock industry stands poised to unlock its vast potential, especially in exports. With continued adoption of emerging technologies, better organisational frameworks and deeper rural engagement, the sector is on track to become a global powerhouse, driving economic growth and sustainable development.



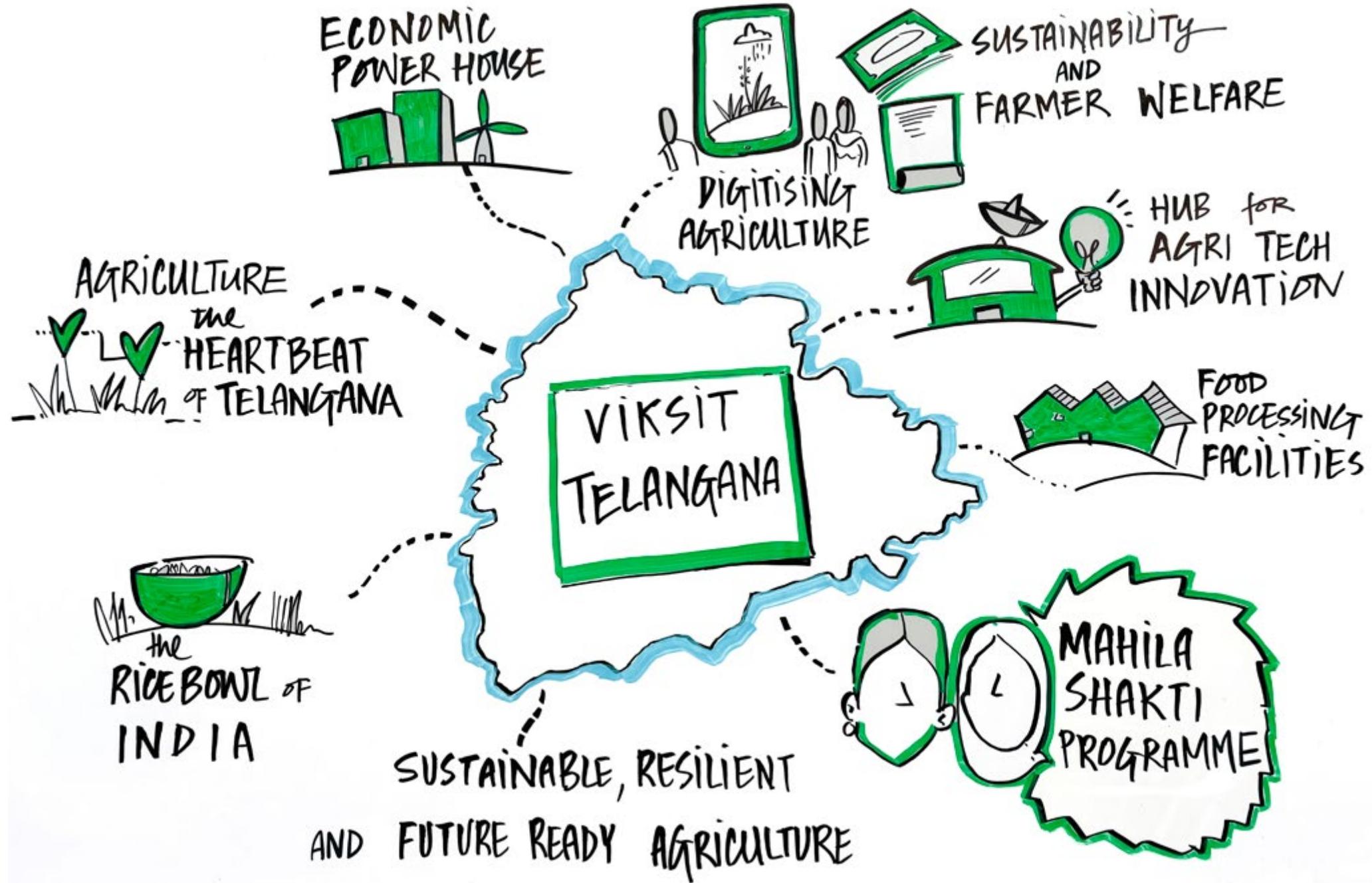
Key takeaways

- **Policy reforms for socioeconomic equality:** The Telangana government’s collaboration with the private sector and farmers drives agricultural growth and innovation. Meanwhile, Karnataka demonstrates a strong commitment to inclusivity by promoting women-led start-ups and initiatives that reduce the urban-rural gap. On a more nationwide scale, the government’s focus on livestock sector organisation and the “One Health” approach has also been pivotal to this overall ongoing transformation.
- **Sustainability focus:** Telangana’s agricultural policies emphasize sustainability, ensuring long-term economic viability and environmental protection. Similarly, Karnataka prioritises sustainability and social impact through key initiatives such as the Social Innovation Summit, the Circular Economy Summit and the Urban Solutions Summit.
- **Inclusive growth and women empowerment:** Karnataka stands out in promoting inclusivity, empowering women entrepreneurs and reducing rural-urban inequalities. Currently, in India, 1.79 crore farmers, including a significant number of women, are actively engaged in the milk production sector through cooperatives such as COMFED, OMFED and KMF.
- **Education and innovation:** Karnataka’s strong educational infrastructure and thriving start-up ecosystem have nurtured a culture of innovation and entrepreneurship, further strengthening its position as a leader in technology and development.
- **Digital innovation and growth:** As digital tools uplift agriculture, the livestock sector is becoming central to India’s agrarian growth. Karnataka, particularly Bengaluru, continues to lead in technology, attracting significant investment and talent.
- **A tech-centric approach to livestock management:** Technological innovations and digitisation initiatives are transforming India’s livestock sector by improving large-scale tagging and enhanced monitoring of animal health and conditions, leading to better vaccination and disease prevention.



VISION FOR VIKSIT BHARAT





5b. Make in India: A digital imperative



Santosh Sarangi
Additional Secretary,
Ministry of Commerce

Technology is the foundation of modern economies and a powerful enabler of progress. For the Make in India initiative to thrive, the digital imperative is to streamline, simplify and scale through innovation.

India's journey towards becoming a global manufacturing hub has been spearheaded by the Make in India initiative. This approach aims to position India as a centre for manufacturing and innovation. However, to achieve these goals, the country must fully use the potential of the evolving digital economy. DPGs, AI and open platforms are critical components that enhance efficiency, reduce governance friction and promote transparency.

As the nation continues to build its digital infrastructure and align itself with global Industry 4.0 targets, the seamless integration of technology in areas such as trade, logistics, governance and healthcare becomes critical. This chapter, based on insights from an interactive Power Bytes session, explores the role of technology in positioning India as a global manufacturing leader while addressing key innovations, challenges and solutions driving this digital transformation.

Power Bytes: Driving DPGs as a National Agenda

Participants:

Santosh Sarangi, Additional Secretary, Ministry of Commerce; Viraj Tyagi, CEO, eGov Foundation; and Shalini Kapoor, Chief Technologist APJ, AWS

Moderator: Sreeram Ananthasayanam, Partner, Deloitte India



Enhancing trade efficiency with open digital platforms.

Platforms such as Trade Connect represent a transformative digital framework for India's manufacturing sector, ensuring transparency and efficiency in exports.

One of the most impactful drivers of the Make in India agenda is the use of technology to streamline trade processes. Platforms such as Trade Connect provide exporters with tools to explore global markets, identify relevant export products and even access Free Trade Agreement (FTA) tariff information for over 12,000 Harmonised System (HS) codes. With just a few clicks, exporters can now obtain a certificate of origin, a process that was once tedious, directly through the platform.

Trade Connect's potential to reduce friction in international trade makes it particularly innovative. Through Phase 2 of its development, it aims to incorporate services such as Export-Import (EXIM) finance and insurance, offering a one-stop solution for Indian exporters. This is not merely an evolution in logistics; it represents a new digital framework for India's manufacturing sector, ensuring that the export process is efficient and transparent.



Reducing the cost of coordination

The cost of coordination is very high. What DPIs and DPGs do is create an infrastructure where coordination becomes seamless, reducing friction for both government and citizens.

Viraj Tyagi

CEO, eGov Foundation

Large-scale initiatives such as Make in India involve multiple stakeholders across different levels of governance, leading to high coordination costs.

This complexity arises due to the involvement of multiple departments, geographies and tiers of government. DPI and DPGs address these inefficiencies by automating processes, streamlining approvals and fostering interdepartmental collaboration through built-in interoperability and the ability to integrate seamlessly with multiple systems.

For instance, eGov Foundation's open-source platforms enable real-time compliance checks for building plan approvals, significantly reducing bureaucratic delays.

These platforms automate processes that previously required manual intervention, enabling seamless coordination across departments. This eliminated months of back-and-forth approvals, empowering architects and reducing bureaucratic delays. This digital infrastructure enables faster approvals, access to unified data and real-time visibility into government processes, making governance more efficient and citizen-friendly.



AI and democratising innovation

AI is not just about big, complex models; it is about making technology more usable and secure for everyone.

Shalini Kapoor

Chief Technologist APJ, AWS

AI plays a crucial role in democratising innovation, enabling smaller companies and start-ups to actively participate in the Make in India movement. This is more understandable when we consider how AI-powered platforms, such as the national COVID-19 immunisation platform, demonstrated the capacity for immutable and scalable solutions to process millions of transactions with minimal complexity. In this regard, the cloud service provider helped the platform to scale on demand, and in a country with such a vast population, establishing simple processes like this is key to attaining operational efficiency.

Similarly, advanced AI tools have achieved ground-breaking strides in furthering consumer reach and service penetration. When promoting digital literacy or aiding less tech-savvy segments of society, AI has

become a ray of light for enabling that crucial last-mile delivery for holistic service access. One great way in which AI tools are achieving this is by providing personalised services, thus creating empathetic applications. For example, AI solutions are applied in healthcare to predict diseases based on patient data and logistics, where RFID-tagged containers' movement can be tracked in real time. Furthermore, certain health platforms enable start-ups to build on top of AI solutions, offering virtual patient care. AI applications in healthcare and logistics drive innovation and ensure that India remains competitive globally.



Open-source platforms and DPGs: A scalable model

India's DPG strategy focuses on technology, policy, innovation and localisation. The challenge now is to scale these strategies globally, bringing the benefits of digital transformation to other developing countries.

India's DPG strategy is central to its digital and economic transformation. For example, DigiYatra uses AI and facial recognition to enable contactless air travel through biometric identity verification. Additionally, DigiYatra aims to expand AI integration by incorporating a multilingual chatbot for user assistance and support. These are prime examples of how shared DPGs and AI can be integrated into any new platform, such as DigiYatra, and seamlessly scaled across sectors. By using existing DPI services such as Aadhaar, DPGs reduce government costs, stimulate private-sector innovation and simplify public access to essential services.

The open-source nature of DPGs is crucial to their success. By making technology accessible and free for anyone to use, the government is fostering innovation at scale. DPI initiatives such as ONEST (Open Network for Skilling Transactions) use other DPGs, such as Sunbird building

blocks, facilitated by not-for-profit organisations. These initiatives encourage start-ups to develop new models and applications, driving entrepreneurship and enabling job creation. In this way, India positions itself as a global leader in developing and deploying DPGs, setting an example for other countries.

India's success with DPGs is also being noticed globally. Countries in Africa and Southeast Asia are now adopting similar platforms, using India's experience to build their DPIs. The Global South benefits from India's advancements, as these platforms provide a model for how developing countries can leapfrog traditional, expensive infrastructure.



Revolutionising digital logistics

We are moving towards a paperless logistics system where the tracking and tracing of goods, from containers to individual products, will be seamless, secure and efficient.

Logistics plays a critical role in the Make in India vision. The digitisation of logistical systems, such as the previously mentioned RFID tracking for containers, ensures that every step of the manufacturing supply chain is monitored and optimised. IoT-enabled tracking allows real-time visibility of goods in transit, improving efficiency and security. As logistical innovations advance, tracking individual products within containers will soon be possible, further enhancing transparency.

International trade documentation is also going digital. One prominent example of how technology is helping to replace paper-based systems is the electronic transfer of Bills of Lading (B/L), made possible through India's collaboration with South Korea. This transition to a paperless

model will accelerate the logistics process and enhance the security, as documents are digitally verified and traceable.



Personalisation and culturally aware AI

Personalisation and cultural awareness in AI will ensure that India's digital transformation reaches every corner of its diverse population.

Personalisation is becoming more important as India continues to digitise and focus more on digital inclusivity. As a result, language and cultural adaptation for AI solutions is non-negotiable for sustainable mass adoption. For example, the Bhashini platform uses AI to provide translation services in 22 Indian languages, enabling equitable digital access to millions of Indian citizens.

The future of Make in India lies in this ability to personalise digital experiences. From healthcare applications analysing local dietary patterns to agricultural platforms offering localised weather updates, AI is critical in making technology accessible.

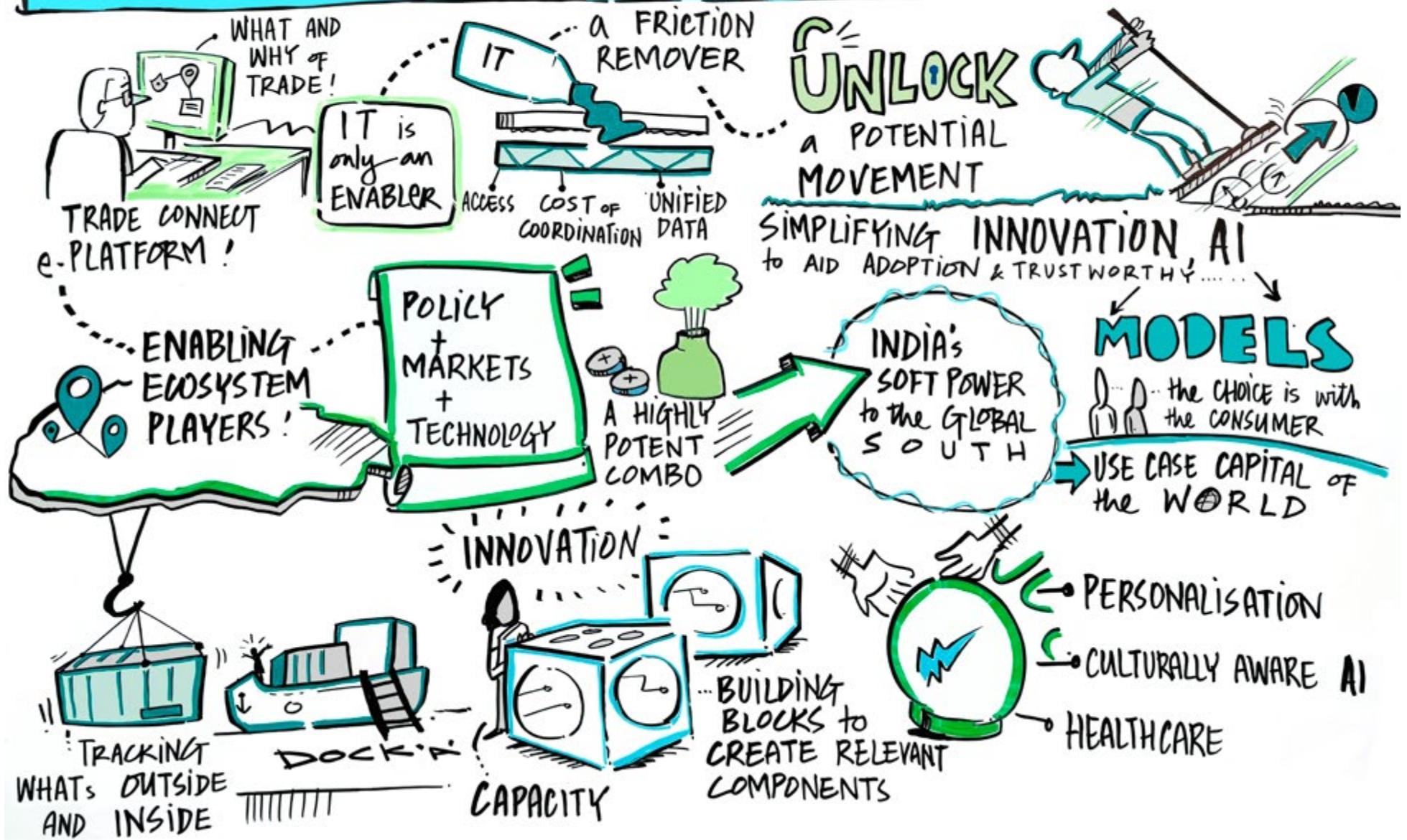


Key takeaways

- **Technology as a trade enabler:** Platforms such as Trade Connect streamline export processes, making global markets more accessible for Indian businesses.
- **Reducing coordination costs:** DPGs reduce government overheads, improving service efficiency.
- **Democratising innovation:** AI-powered platforms allow for the personalisation and scaling of services, making technology more accessible and fostering innovation across sectors such as healthcare and logistics.
- **Open digital platforms:** India's success with open DPGs provides a model for other countries, especially in the Global South, to develop scalable and cost-effective digital infrastructure.
- **Digitisation of logistics:** IoT-enabled logistics systems provide real-time tracking of goods, improving efficiency, security and transparency in the supply chain.
- **Culturally aware AI:** Localised AI solutions, such as Bhashini, ensure that digital transformation reaches every corner of India, promoting inclusivity.



DRIVING DIGITAL PUBLIC GOODS as NATIONAL AGENDA



5c. Empowering Indian organisations: Shaping efficient experiences with digital solutions



Dheeraj Rastogi
Executive Vice President,
GSTN Network



**Lieutenant General
Sadhna Saxena Nair**
VSM, DGMS (Army)

Telemedicine and AI are reshaping military healthcare, offering advanced care even in the country's most remote areas.

Digital solutions offer innovative ways to address traditional challenges and create new opportunities. Governance in India is undergoing a transformative shift, with the government eager to embrace technology to enhance organisational efficiency. Digital transformation has become a pivotal gateway for improving efficiency and elevating citizen experiences. Landmark achievements have been made in various government sectors, such as healthcare, public administration, aviation and tax management, with the integration of digital technologies.

The focus of this enlightening panel discussion was a deeper exploration of the role of digital tools in shaping the future of organisational efficiency and service delivery. With a strong focus on AI, automation and secure data management, various leaders across diverse sectors came forth to provide their views and insights on holistic digital transformation through innovative solutions.

Panel Discussions: Power of Digital in Creating Experience and Organisational Efficiency

Participants:

Dheeraj Rastogi, Executive Vice President, GSTN Network; Lieutenant General Sadhna Saxena Nair, VSM, DGMS (Army); Rajiv Bansal, CEO, NISG; Sanjay K Das, MD, WEBEL; Sandeep Sehgal, Director, India Public Sector and North Enterprise, ServiceNow Yatin Patil, Partner, Deloitte India

Moderator:

Yatin Patil, Partner, Deloitte India

With the adoption of drones, robotics and telemedicine, we are trying to push our medical care as far forward as possible.

Lieutenant General Sadhna S Nair
VSM DGMS (Army)

The Indian armed forces have adopted significant digital transformation initiatives in healthcare management. The COVID-19 pandemic acted as a catalyst, pushing military medical services to adopt new technologies. The armed forces' Secure Indigenous Messaging app enables real-time messaging and secure data sharing across a robust military network. This

app allows seamless communication among doctors, medical staff and remote field units.

Significant improvements in telemedicine technology have enabled doctors and healthcare specialists in secondary and tertiary care hospitals to reach soldiers in remote locations. Using telemedicine, doctors can assess patients' conditions and provide consultations without needing physical travel, which is often impossible in extreme conditions our soldiers serve in. Telemedicine ensures that even soldiers stationed in remote areas receive the best technologically aided care.

The Indian Army has set up a fully automated hospital in Jammu and Kashmir. In this hospital, AI-driven machines handle patient care, diagnostics and medicine dispensing with minimal human intervention. The military also enhances its Hospital Information System (HIS) to comply with international standards. This will help them move towards a paperless healthcare environment. Stage 2 of automation has been achieved for electronic medical records, while the goal is to achieve Stage 7.¹⁵

Integrating AI and robotics into healthcare aims to enhance the patient experience. For example, the military is experimenting with exoskeletons embedded with AI to help paraplegic soldiers regain mobility. They can be instrumental in rehabilitating injured soldiers. They can even enable some to return to active duty. It should be noted that these devices have potential applications in the military and civilian healthcare. AI-powered clinical decision support systems are also being developed for critical care, along with portable intensive care units connected to the Internet of Things (IoT) enabled devices that monitor patients' vitals in real time.



AI and automation in the aviation sector

AI-powered insights allow the aviation sector to adapt swiftly to demand fluctuations, optimise routes and ensure an unparalleled travel experience.

Rajiv Bansal
CEO, NISG

The Indian aviation industry's adoption of AI and automation is a remarkable journey towards operational excellence and seamless user experience. Airports operate around the clock and generate vast amounts of data from aircraft movement, maintenance schedules and passenger services. AI and data analytics are critical for processing this data in real time to ensure the safety of passengers and the aircraft's operational efficiency. Maintenance schedules, for instance, are meticulously tracked and managed through AI-driven platforms, which predict and prevent potential issues before they become critical, ensuring both safety and cost-efficiency.

Unmanned Aerial Vehicles (UAVs) and drones are seen as the next game-changers in the aviation sector. These vehicles are becoming essential for managing airspace and conducting operations that previously required significant human intervention. The number of companies operating in the drone and UAV space has grown exponentially, with about 400 businesses now working on these innovations. The next-generation drones will be integral to commercial operations and public services, including emergency medical deliveries.

¹⁵ Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

The launch of the DigiYatra app is a significant milestone in India's aviation sector. DigiYatra is a digital platform that ensures a seamless, paperless airport experience for passengers. Using facial recognition and biometrics, DigiYatra facilitates quick movement of passengers through check-in, security and boarding without physical documentation, thereby saving time. Implementing this at scale in a country as large and diverse as India was a tremendous challenge, but it has greatly enhanced operational efficiency and passenger experience.



Automation and big data in taxation

With GST analytics, taxpayers now have access to crucial compliance information before tax officers, empowering them to stay ahead of the curve.

Dheeraj Rastogi
Executive Vice President, GSTN Network

The rollout of India's Goods and Services Tax (GST) in 2017 marked a transformative milestone, revolutionising the nation's tax infrastructure by streamlining taxpayer compliance.¹⁶ GST has simplified the tax landscape, enabling businesses and individuals to navigate processes easily and transparently. Automation in GST filing and reconciliation has allowed taxpayers to fulfil compliance requirements more independently, reducing manual procedures and paving the way for real-time data access and seamless transactions.

With the advent of automated solutions and big data analytics in this sphere, GST has enhanced both the user experience and organisational

efficiency. Advanced tools such as AI-driven predictive analytics offer early insights into compliance trends and growth opportunities, empowering taxpayers while assisting tax administrators in providing timely, proactive support. This digital approach has transformed GST from being merely a tax system into a pillar of India's digital economy, facilitating smoother tax interactions, increasing transparency and fostering trust within the tax ecosystem.



Building digital infrastructure and ensuring data privacy

West Bengal has the greatest number of people with two mobile connections and two distinct internet connections. The state also has a growing number of rural women using the Internet.

Sanjay K Das
MD, WEBEL

With the proliferation of smartphones, internet usage is surging. A cutting-edge digital infrastructure is critical to ensuring safe operations and an efficient user experience. The West Bengal government is building critical digital infrastructure to support its growing population of internet users, particularly rural women and entrepreneurs.¹⁷ As more people come online, robust data centres are needed to store and manage vast amounts of information, making data privacy increasingly crucial. West Bengal has established three data centres that serve government operations and provide secure data services for start-ups, students and professionals.

¹⁶ <https://pib.gov.in/PressNoteDetails.aspx?NoteId=151915&ModuleId=3®=3&lang=1>

¹⁷ https://link.springer.com/chapter/10.1007/978-3-031-28930-9_11

With the rise of big data, particularly in public transactions, the need for strict guidelines on data retention and usage grows. Ensuring that data is not skewed and privacy is protected becomes increasingly important. So, anonymising public transactional data before sharing it with third parties such as start-ups is essential. This ensures that personal information is protected while allowing businesses to benefit from valuable data insights. Explicit permission from citizens before using their data, in line with the Supreme Court's guidelines on data privacy, is a crucial requirement.

West Bengal's initiative to create a Facebook page for NGOs and cooperatives aims to enable seamless data sharing among them. By building a collaborative platform, the government empowers different sectors to share information, collaborate and drive social development while maintaining stringent data security protocols.¹⁸



Streamlining government workflows



Today's citizens expect instant service delivery, and digital workflows are transforming how government agencies respond to these needs.

Sandeep Sehgal

Director, India Public Sector and North Enterprise, ServiceNow

Digital platforms can streamline government workflows to improve citizen services. In India, many government departments have digitised specific processes, but these systems often remain siloed, with little communication or integration between them. For example, various departments have portals where citizens can register complaints and

grievances. They can enter their data and raise a ticket. However, transparency regarding the status of the issue resolution is lacking. As a result, citizens are left wondering about the status of their complaints or requests after submitting them online. ServiceNow aims to solve this problem by connecting disparate digital systems in a seamless platform that allows citizens to track the progress of their requests in real time.

ServiceNow's platform integrates various government workflows, making it easier for departments to collaborate and share information. For example, a citizen who submits a complaint about a civic issue can receive regular updates as the request moves through different departments, from logging to resolution. This enhances the citizen experience and improves government accountability and efficiency. By providing transparency into government processes, ServiceNow helps bridge the gap between citizens and government bodies, ensuring faster resolution of issues and improving public trust in digital governance.



Moving forward

The digital transformation of India's infrastructure promises a resilient and sustainable future. By seamlessly integrating digital tools with physical systems, India creates an ecosystem where real-time data, AI-driven insights and cross-sector collaboration converge to address complex challenges across healthcare, transportation, sports and governance.

These advancements make infrastructure more efficient and adaptive and pave the way for more inclusive, transparent and citizen-centred services. As India continues to harness the power of digital innovation in physical infrastructure, it shapes a modern nation while setting new standards for growth, resilience and sustainability. The journey towards a digitally empowered India is well underway, establishing a foundation for a future that is prepared to meet the demands of tomorrow's world.

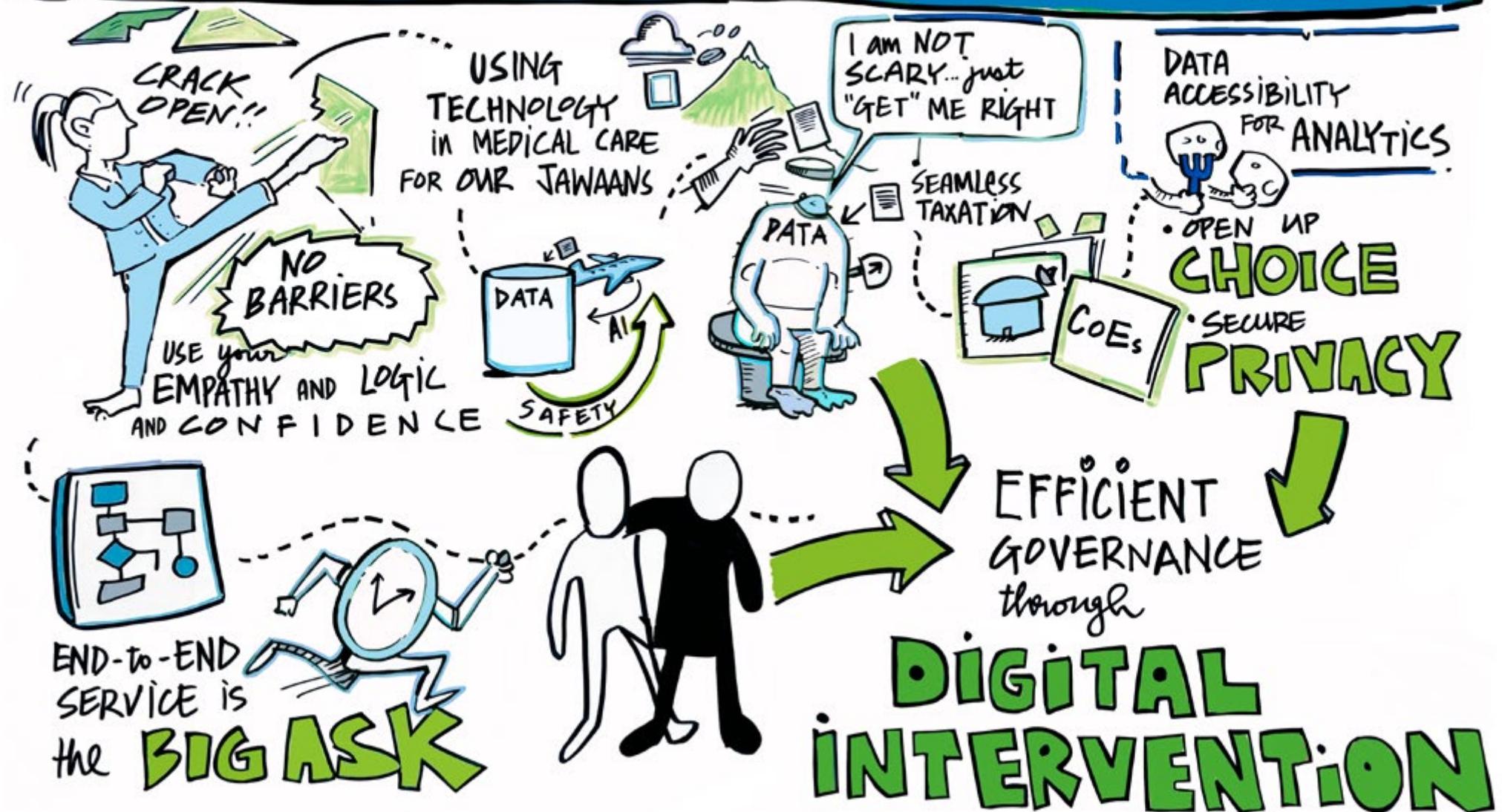
¹⁸ Data obtained from discussions during the "Ārohaṇa: Growth with Impact," in September 2024

Key takeaways

- **Telemedicine revolution:** The Indian armed forces have adopted telemedicine and AI-driven healthcare solutions to provide advanced medical care in remote, challenging locations. Telemedicine and automated systems enable soldiers in extreme conditions to receive expert consultations and real-time care.
- **AI in healthcare:** AI-driven exoskeletons and portable ICU units with IoT connectivity are revolutionising rehabilitation for injured soldiers, helping them regain mobility and even rejoin the armed forces.
- **AI and automation in aviation:** AI and big data analytics are transforming aviation by streamlining aircraft maintenance, improving safety protocols and enabling new technologies such as drones and UAVs.
- **GST automation and AI analytics:** Automation in GST has streamlined tax filing for taxpayers, enhancing efficiency and independence in compliance, while AI-driven analytics provide insights into sector trends, growth opportunities and proactive support for a transparent tax ecosystem.
- **Data infrastructure and privacy:** West Bengal is investing in digital infrastructure while ensuring that data privacy and security are prioritised, particularly as more people in rural areas gain internet access.
- **Connected government services:** Specialised platforms are helping governments integrate workflows across departments, allowing citizens to track their service requests in real time, improving efficiency and transparency.



POWER of DIGITAL in CREATING EXPERIENCE AND ORGANISATIONAL EFFICIENCY



5d. Digital solutions: The new building blocks for physical infrastructure development



Shashank Mani Tripathi
Member of Parliament, Deoria
Uttar Pradesh



Shikha Goel
IPS, Director General CID,
Telangana

In a nation with over 1.4 billion individuals, it is essential to develop solutions that resonate with all segments of society to ensure that the benefits of technology reach every citizen.

As India confidently moves into the digital age, integrating technology into physical and social infrastructure is key to fostering a truly inclusive society. Digital tools hold immense potential to bridge social gaps, offering access to information, services and opportunities that can transform lives, especially in rural areas where resources are often scarce. However, challenges such as language barriers and digital literacy must be resolved for these solutions to reach their full impact.

Today, urban residents enjoy seamless access to technology, yet many rural communities face obstacles that limit their engagement. In this regard, outreach programmes must go beyond just providing access to technology; they must empower individuals with the skills and knowledge to use digital tools meaningfully. By addressing these barriers, India can unlock the transformative potential of technology, building a foundation for equal opportunity and growth across communities.

Panel Discussions: Bringing the Power of Digital to Physical & Social Infrastructure Development

Participants:

Shashank Mani Tripathi, Member of Parliament, Deoria, Uttar Pradesh; Shri Kunal, Joint Secretary, Sports Development, Ministry of Youth Affairs and Sports; Shikha Goel, IPS, Director General CID, Telangana; Rahul Himalian, Director (Tourism & Marketing) at Indian Railway Catering and Tourism Corporation Limited (IRCTC Ltd); Vikas Arora, Director, Sales, Traditional Enterprise, Google Cloud, India

Moderator:

Shefali Goradia, Chairperson, Deloitte South Asia

Successful initiatives have already shown the transformative power of digital engagement, notably empowering women through internet connectivity and enabling them to pursue entrepreneurship, thereby breaking traditional barriers.

Empowering constituencies through digital integration is a critical objective of the digital transformation journey. Digital technology has the power to connect communities in profound ways, creating human-centric networks that promote emotional and social engagement. The vision, therefore, is to motivate individuals to harness available digital resources for personal and collective advancement.

If we want to get jobs, then there's a long way to go, there's no instant solution, but it's very important that we are holistic and humanistic. We have to democratise this thing, not dehumanise it.

Shashank Mani Tripathi

Member of Parliament, Deoria, Uttar Pradesh

A significant highlight of this empowerment is evidenced through successful initiatives targeted at women in rural areas, where connectivity has opened many economic opportunities. One such initiative connected 1.7 million women to the Internet, offering them avenues for entrepreneurship and economic independence. This success reflects the transformative capabilities of digital literacy in dismantling traditional barriers and empowering marginalised populations.



Current digital engagement levels

AI, cloud computing and data-driven decision-making are key to unlocking new efficiencies and personalisation in public services.

Vikas Arora

Director, Sales, Traditional Enterprise, Google Cloud, India

Despite wider access, many still use digital technology mainly for entertainment, not for personal or economic growth. This reality necessitates purposeful intervention, a strategy to ensure technology fosters active engagement, participation and a sense of community responsibility.

To shift entrenched perceptions of technology, the narrative must move beyond automation and focus on integration and human-centred outcomes. Automation can conjure fears of job loss and decreased human agency. Instead, the dialogue must embrace how technology enhances life and potential by unlocking new pathways for engagement. This is why any digital interventions should be framed in terms of purposefulness and personalisation, as they serve to uplift communities, enhance education and foster economic development. For example, initiatives aimed at digital entrepreneurship can promote job creation and economic stability, shifting the perception of technology from a threat to an asset.



Educational initiatives and infrastructural development

Collaborative digital infrastructure bridges gaps across healthcare, education and law enforcement, enhancing access and efficiency for every citizen.

Education is one of the most powerful tools for transforming lives, and integrating digital resources into the education system can revolutionise learning. Currently, the challenges faced by rural students, such as a lack of access to quality education and resources, call for innovative strategies. One such innovative idea suggests connecting the most qualified educators to students via digital means. By identifying the best instructors and enabling them to provide online guidance, schoolchildren in underserved areas can benefit significantly from advanced curricula and personalised instruction. This shows that the educational gap can be closed with the right resources, and students can access essential knowledge without geographical constraints.

Furthermore, enhancing teacher training through digital platforms ensures educators can navigate these new landscapes. Technology-driven assessments can identify the training needs of teachers, leading to tailored professional development that aligns with the demands of contemporary education. Incorporating AI into educational frameworks can provide real-time feedback and facilitate personalised learning experiences. This can tremendously improve learning outcomes for both teachers and students.

Using analytics, stakeholders can monitor educational interventions, assess their effectiveness and identify gaps that need addressing. This data-driven approach will help create adaptive learning paths tailored to learners' unique needs. Lastly, implementing robust data collection methods ensures accountability within the education system. By establishing measurable benchmarks, stakeholders can continuously refine their strategies to meet the educational needs of all segments of society.



Creating an inclusive sports ecosystem through digitisation



The National Sports Repository System provides a real-time database for tracking three lakh players and 30,000 coaches, using technology to optimise athlete development at every level.

Shri Kunal

Joint Secretary, Sports Development, Ministry of Youth Affairs and Sports

The integration of digital technology presents significant opportunities for nurturing a vibrant sports ecosystem in India. Initiatives that emphasize grassroots talent identification and development and use digital platforms to track individual performance and guide training strategies are vital in this regard. Such initiatives enhance inclusivity within sports by extending opportunities to diverse groups across the country.

Through technology, India can provide training and competition avenues to those who may have faced barriers to entry in sports. Access to digital platforms creates a culture of inclusivity and excellence, enabling aspiring athletes from all backgrounds to make their mark and represent India on global platforms.



Indian Railways setting the benchmark



From 25 tickets in 2002 to over 13 lakh bookings daily, IRCTC's digital evolution redefines user experience in railway services.

Rahul Himalian

Director (Tourism & Marketing) at Indian Railway Catering and Tourism Corporation Limited (IRCTC Ltd)

The Indian Railway Catering and Tourism Corporation (IRCTC) plays an exemplary role in bringing the power of digital to physical infrastructure development through innovative initiatives. Delivering a range of services that include ticketing, catering and tourism management, it has evolved significantly since its inception. With the advent of online ticketing, IRCTC revolutionised how millions of passengers book tickets. This advancement streamlined the process and made it accessible to a broader audience, reflecting the corporation's commitment to enhancing customer experiences.

Moreover, by integrating various services such as food delivery, travel insurance and hospitality, IRCTC has created a comprehensive travel ecosystem. Initiatives such as e-catering services further illustrate the corporation's customer-centric approach, allowing passengers to order meals from a selection of restaurants for delivery to their seats during travel. Similarly, the launch of Urban Pods has redefined accommodation while travelling by starting the accommodation cycles when a traveller checks in, rather than following the prevalent noon-to-noon cycle.



Cybersecurity and the role of police



Telangana's "She Cyber Labs" and 1930 cybercrime helpline demonstrate how digital tools can empower law enforcement to tackle gender-based violence and cyberthreats.

Shikha Goel

IPS Director General CID, Telangana

Although the role of the police is often not felt directly in economic development, its role in maintaining law and order is critical for the prosperity of any economy. The role of police in the digital era is becoming increasingly significant as law enforcement agencies adapt to the demands of a connected society. The integration of technology into policing practices enhances operational efficiency and ensures that police forces can effectively address crime and public safety challenges. Police cybercrime departments are now using data analytics, AI and smart tools to improve crime prevention through pre-emptive actions.



Cybersecurity and data solving have become very critical concerns for both the public as well as private sectors. Ensuring that data is secure, compliant with all local regulations and protected from cyber threats is now a top priority.

Shefali Goradia

Moreover, the emphasis on community engagement through digital platforms transforms the relationship between law enforcement and the public. By using social media and mobile applications, police can communicate more effectively with citizens, fostering trust and transparency. Initiatives aimed at improving citizen reporting and feedback through digital channels empower communities to collaborate with the police in maintaining safety and security.



Collaboration for enhanced digital governance

Every year, the Indian government proves the sceptics wrong by demonstrating that collaborative public innovation can rival even the world's largest digital platforms.

Enhancing digital initiatives across India requires collaboration among stakeholders, including state and federal entities, educational institutions and sporting bodies. This cooperative framework focuses on aligning shared objectives, pooling resources and using expertise to efficiently implement digital solutions.

PPPs have been particularly effective in driving innovation and ensuring infrastructure development aligns with community needs. By harnessing the capabilities of both sectors, the nation can maximise the benefits of digital technologies across multiple spheres, enhancing service delivery and access for citizens.

Key takeaways

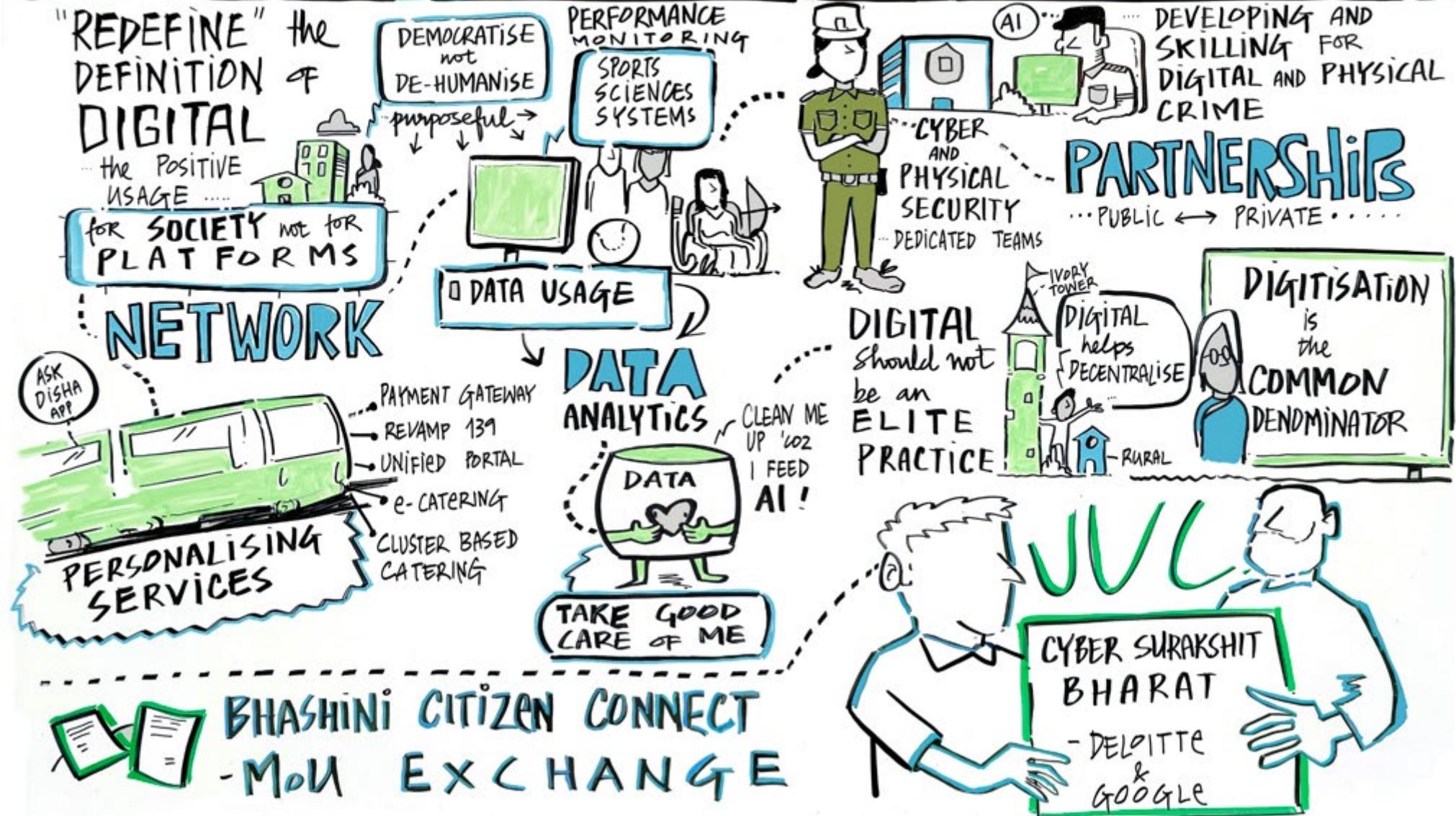
- **Digital inclusion as a priority:** Bridging the urban-rural divide through digital technology is vital for ensuring equitable access to information, services and opportunities. The need for initiatives addressing barriers such as language and accessibility is essential.
- **Focus on skill development:** Initiatives that promote digital literacy and skill development are essential for enabling individuals, particularly youth and marginalised groups, to thrive in a technology-driven economy.
- **Data-driven education:** Using data analytics within educational systems allows for personalised learning experiences, helping identify student skill gaps and tailoring interventions accordingly.
- **Sports and digital ecosystems:** The integration of digital technologies into sports initiatives enhances talent development and promotes inclusivity, ensuring that individuals from various backgrounds can engage in athletics.
- **Digital transformation in Indian Railways:** Digital innovation in IRCTC, from online ticketing to services such as e-catering and Urban Pods, has transformed railway travel into a more accessible and customer-centric experience.
- **Digitally-enabled law enforcement:** From AI-powered crime prevention to citizen-friendly platforms such as cyber helplines, technology is reshaping how police maintain safety and build public trust.
- **Measurable outcomes as a goal:** Establishing clear metrics and benchmarks will help evaluate the success of digital initiatives,

ensuring accountability and continuous improvement in service delivery and educational outcomes.

- **Community-centric solutions:** Designing digital initiatives with a focus on community needs and involvement will enhance participation and effectiveness, ensuring that the benefits of technology reach those who need them most.



BRINGING the POWER of DIGITAL to PHYSICAL AND SOCIAL INFRASTRUCTURE DEVELOPMENT



5e. Empowering MSMEs

Bringing MSMEs into the digital economy involves onboarding them and ensuring their sustained success through continuous nurturing and support.

Micro, Small and Medium Enterprises (MSMEs) are essential to India's economy, contributing to employment, industry output and Gross Domestic Product (GDP) growth. However, despite their economic importance, many MSMEs face challenges in accessing larger, digitally driven markets. MSME aims to use the ONDC to democratise e-commerce through a decentralised network. This initiative, backed by the Government of India, helps MSMEs overcome challenges posed by large e-commerce platforms.

ONDC empowers MSMEs to sell their products and services without being constrained by the restrictive policies and high commission fees of large e-commerce giants. Eliminating platform monopolies reduces dependence on dominant marketplaces and creates a more level playing field. Further, ONDC lowers customer acquisition costs and expands market reach for MSMEs as products become accessible across multiple buyer apps. ONDC addresses the challenge of setting up online stores, which many small businesses struggle with due to technological complexities.

By fostering innovation, ONDC enables businesses to explore diverse pricing models, personalised delivery options and enhanced customer service. Beyond driving MSME growth, it also strengthens the Atmanirbhar Bharat vision by reducing reliance on foreign e-commerce players and promoting a more inclusive digital economy.

Ankita Pandey
IRS, Director (IC & WEC), Ministry of MSME

The *Manthan*, led by the Ministry of MSME, examined how the ONDC can use digital commerce for MSMEs in India. The government has approved the Trade Enablement and Marketing (TEAM) initiative to support MSME onboarding onto the ONDC (and has other similar initiatives in the pipeline); this unique discussion focused on identifying potential hurdles that may arise during the digital transition. Key stakeholders united around a shared vision for an inclusive e-commerce ecosystem, addressing challenges such as digital literacy, technology access and logistical barriers. The aim was to create a sustainable digital marketplace that enhances livelihood opportunities for MSMEs nationwide.

Manthan: Digital Enablement of MSMEs via the ONDC

Participants:

Ankita Pandey, IRS, Director (IC & WEC) at Ministry of MSME, Government of India; Vidya Sagar Singh, Senior General Manager (IT), Digital Services Facilitation, NSIC; Zahra Cader, Partner, ESG and Government and Public Sector, Deloitte Sri Lanka; and others

Guru:

Viswanathan Ravichandran, Partner, Deloitte India

Digital awareness and readiness for adoption have been key issues for MSMEs in their ONDC onboarding endeavours. Many MSMEs in rural areas face challenges due to limited digital and financial literacy, inadequate technological infrastructure and a lack of entrepreneurial skills, which hinder their ability to tap into e-commerce opportunities. India's MSMEs need to be digitally competent. However, many of today's enterprises lack basic digital awareness.

Societal obstacles further intensify the challenges for female-owned MSMEs, underscoring the need to raise awareness about the advantages of engaging in the digital economy.

Digital literacy, e-commerce catalogue management and online transaction handling are vital training programmes that can improve the digital preparedness of MSMEs. Moreover, providing support in local languages and simplifying onboarding processes could assist enterprises in rural areas with their transitions.



Building trust and overcoming apprehensions

Even when the government offers subsidies, many MSMEs hesitate to engage due to deep-rooted trust issues with digital platforms.

Trust remains a critical issue for MSMEs. The complexities of online transactions, fear of fraud and additional taxation can cause hesitation for many MSMEs, preventing them from using these online platforms. This is particularly concerning due to the oligopolistic nature of traditional e-commerce platforms, which many MSMEs believe favour larger sellers and more established brands. The ONDC's decentralised structure attempts to alleviate these concerns by unbundling e-commerce processes and allowing businesses to act as sellers, aggregators or intermediaries without being shackled to just one platform.

The challenge is to get MSMEs on digital platforms and ensure they are prepared to maintain their presence and grow.

Viswanathan Ravichandran

Building trust with MSMEs on the ONDC platform requires sharing success stories from similar businesses and demonstrating how they can thrive alongside larger players. By highlighting these achievements, the ONDC can help MSMEs build credibility and establish a strong reputation for quality in e-commerce. Quality and reliability are essential in the online marketplace, and MSMEs must uphold these standards to unlock substantial growth opportunities. Additionally, the government offers various schemes to support MSMEs in enhancing product quality, which these enterprises can use to strengthen their market presence and competitiveness on the ONDC.



Access to market

Expanding market access is crucial to the growth of MSMEs, allowing them to compete in broader markets and tap into previously unreachable opportunities. By onboarding onto the ONDC, MSMEs

can reach wider geographies, expanding their customer base beyond local limitations and into diverse, distant markets that were traditionally inaccessible.

The ONDC ecosystem also offers MSMEs new pathways to use advanced technologies, such as GenAI, which can streamline cataloguing, branding and customer engagement. This allows businesses to enhance their visibility and appeal within competitive online spaces. These advancements equip MSMEs to navigate and thrive in the dynamic e-commerce landscape, making their products accessible to a larger audience while optimising their operations.



Using financial resources and logistics

MSMEs can expand their market reach without increasing their physical footprint; digital platforms offer that potential, but the journey requires careful navigation.

Vidya Sagar Singh

Senior General Manager (IT), Digital Services Facilitation, NSIC

To take advantage of the ONDC, MSMEs need reliable financial and logistical support. Access to credit or loans on affordable terms is very hard for many enterprises that lack the capacity to take their businesses to the next level. Logistics is also critical, as e-commerce heavily relies on efficient delivery systems that MSMEs often lack.

This gap can be bridged by integrating financial literacy programmes into e-commerce onboarding processes. The ONDC can collaborate with

financial institutions to introduce tailored financial products, such as working capital loans or credit lines, especially for MSMEs. Also, MSMEs can collaborate with local logistics providers and aggregators to reduce the per-unit cost of deliveries and make them more efficient.



Ensuring sustainability through clusters and mentorship

Organising MSMEs into clusters allows businesses to share resources, ideas and infrastructure, ensuring they thrive collectively in a competitive digital environment.

The digital enablement of MSMEs on the ONDC is only part of the solution; establishing a sustainable ecosystem also requires a framework to support and mentor MSMEs in this new digital marketplace. Clustering is quite beneficial as it helps MSMEs achieve more with less by building synergies among businesses in the same geographical or sectoral region, allowing them to improve their digital capabilities in mutually beneficial ways. Clusters can act as a cooperative network of mutual learning opportunities where businesses can share best practices, resources and infrastructure. This helps reduce the burden on individual MSMEs and boosts their confidence in navigating a digital transition independently.

It also introduces mentorship programmes, where successful MSME players empower other entrepreneurs on their ONDC onboarding and scaling journey via community-driven support. PPPs could play a significant role in establishing these mentorship frameworks.



Navigating taxation and regulatory frameworks

Many MSMEs fear that going digital will expose them to greater tax scrutiny; there is a need for clearer communication about the benefits and exemptions available.

Zahra Cader

A prevalent concern faced by several MSMEs is increased scrutiny by tax authorities, which often prevents them from participating in formal digital ecosystems. Many small enterprises' informal operations can raise concerns about potential tax burdens after transitioning to the ONDC. Clarity in regulatory frameworks, simplified taxation processes and transparent communication regarding compliance requirements are essential to facilitate MSMEs' entry into the formal digital economy.

Educating MSMEs about tax benefits, especially for schemes meant for small businesses, is crucial. By addressing their formalisation concerns, MSMEs can better focus on scaling through the ONDC.



Fostering women-led MSMEs

While we have already made great strides in onboarding MSMEs to digital platforms, we have barely scratched the surface of what is possible.

Ankita Pandey

IRS, Director (IC & WEC), Ministry of MSME

Despite the growth of the MSME sector, women entrepreneurs face unique challenges in securing funds to expand their businesses. Societal norms, particularly restrictions on financial inclusion, limit their opportunities. In this context, the most significant change for women-led MSMEs is the wider market access through the ONDC, especially in non-urban areas where existing traditional opportunities are more limited.

Furthermore, special incentives can be designed for women entrepreneurs on the ONDC, such as reduced platform fees, access to finance, mentorship programmes and additional marketing support. These initiatives can encourage more women to step forward, use digital platforms and create sustainable businesses that empower entire communities. One prominent example of this is the proposed *Yashaswani* initiative. While this is like the TEAM initiative mentioned earlier, the *Yashaswini* project primarily supports women-led businesses by allowing them easier and more efficient access to financial resources and trading opportunities.

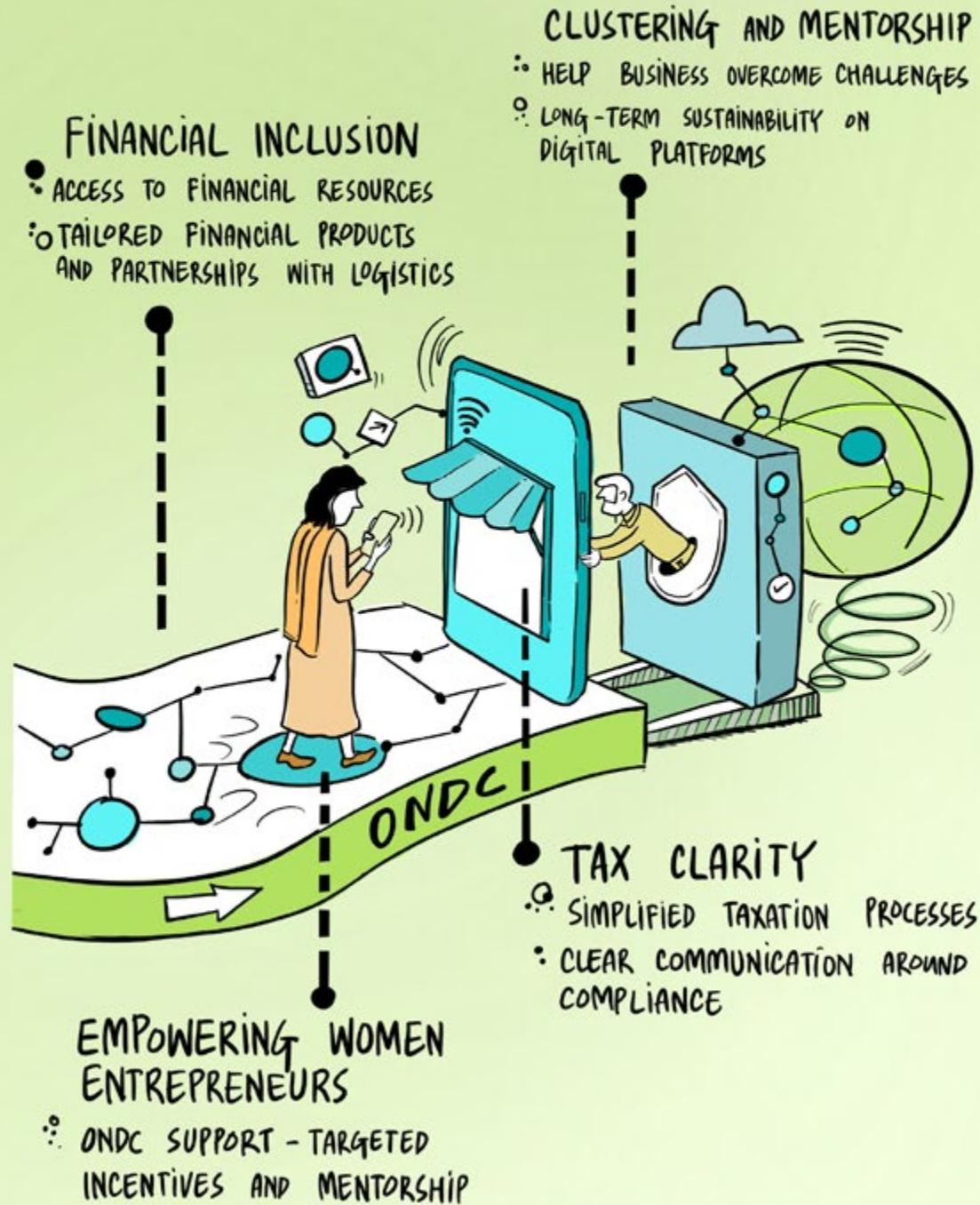
By addressing these challenges through targeted interventions, the ONDC can transform the MSME landscape in India. It can enhance digital inclusivity and create a sustainable ecosystem that enables MSMEs to thrive in a competitive digital economy, contributing to the country's overall economic growth.

Key takeaways

- **Digital awareness:** Digital literacy and training programmes are essential for MSMEs to benefit from the ONDC. Programmes focusing on digital skills must be tailored to MSMEs' needs, particularly in rural areas.
- **Building trust:** Success stories of MSMEs that have scaled through the ONDC can be shared widely to foster trust and alleviate apprehensions about digital platforms.
- **Financial inclusion:** MSMEs need better access to financial resources to participate effectively in e-commerce. Tailored financial products and collaboration with logistics providers are key to their success.
- **Clustering and mentorship:** Establishing MSME clusters and mentorship networks can help businesses overcome challenges collectively, ensuring long-term sustainability on digital platforms.
- **Compliance enablement:** Simplified taxation processes and clear communication around compliance requirements can help MSMEs transition smoothly to formal digital ecosystems without fearing legal or financial repercussions.
- **Empowering women entrepreneurs:** The ONDC offers a unique opportunity to support women-led MSMEs with targeted incentives and mentorship, which can boost their participation in e-commerce.



DIGITAL ENABLEMENT OF MSMES VIA ONDC



5f. Future-ready policies

The vision of *Viksit Bharat@2047* emphasizes the need for a spirited, equitable and ICT-enabled nation. Achieving this vision requires a revolutionary change in policymaking paradigms. Outdated bureaucratic structures can impede progress as the world becomes more interconnected. India must adopt transformative policy changes that address public needs and reflect global evidence.

Ārohaṇa: Growth with Impact convened leaders for a *Manthan on Innovation in Policymaking to Realise the Vision of India@2047*. It provided a platform to discuss how innovation can shape future-ready policies, enabling more efficient governance, informed decision-making and enhanced stakeholder engagements. The session focused on innovative and

sustainable policymaking to support the Government of India's vision of *Viksit Bharat@2047*.

Participants addressed strategic perspectives and tolerant approaches to emerging socioeconomic challenges. They highlighted the importance of tech-enabled governance and how reforming obsolete policy frameworks is a necessity and a strategic imperative for economic resilience and national progress. Collaboration between governments and businesses was identified as crucial for future development.

Manthan: Innovation in Policymaking to Realise the Vision of India @ 2047

Participants:

Bikas Kr. Singh, Vice President & India Head, Government Affairs, SAP; Pankaj Banarase, Partner, Deloitte India; Bishakha Bhattacharya-AWS; Rakesh Maheshwari, former director at the Ministry of Electronics and IT (MeitY); Dr Preet Deep Singh, Vice President apna; Dr Dhawal Gupta, Group Business Director, Chase India; and Anirban Deb, Senior Manager, Chase India

Gurus:

Goldie Dhama, Partner, Deloitte India; Neha Aggarwal Jain, Partner, Deloitte India

Innovative policymaking is crucial for fostering sustainable development. Such innovations enable governments to respond effectively to rapid changes in their environment. As digital tools evolve, their growing impact on policy formulation and implementation will enhance the capabilities of the government, industry and civil society. Conventional solutions are often insufficient for addressing complex societal problems. This *Manthan* explored how a proactive stance towards policy development can drive change.



The role of digital solutions

Digital tools, such as the Government of Andhra Pradesh's SAP dashboard, enable real-time governance but require broader integration.

Digital systems and solutions are central to modern governance, enhancing efficiency, accountability and citizen participation. Integrating information technology into policymaking allows for informed decisions that better address the diverse needs of today's population.

Goldie Dhami emphasized the importance of Information and Communication Technology (ICT). ICT tools can streamline processes, making them faster and more accessible to citizens. Moreover, Data, when combined with ICT tools, significantly enhances policymaking. ICT tools facilitate the collection, analysis and dissemination of vast amounts of data, providing real-time insights and enabling evidence-based decisions. This technology also improves the flow of information between government organisations and the public, ensuring transparency and engagement.



Public-Private Partnerships

Public-private partnerships have been both a hit and a miss in this country. Sometimes, it ends up being a single-vendor situation.

Neha Aggarwal Jain

Both governmental and non-governmental organisations play key roles in policy implementation. Collaboration between these sectors uses their respective strengths to drive innovation. Moreover, PPPs facilitate risk-sharing, ensuring that both sectors are invested in the successful implementation of policies. At the session, case studies highlighted the positive outcomes of such collaborations.

Neha Aggarwal noted that private entities bring technological expertise to the table. This expertise can support public institutions in designing efficient service delivery structures. By combining strengths, these collaborations can result in policies that effectively address the broader population's needs, ensuring impactful and sustainable solutions.



Inclusivity in policymaking

Any policy must account for India's diverse demography. Inclusivity is vital to ensuring that everyone has equal opportunities. During the session, techniques for engaging different stakeholders in policy decisions were a key focus.

Chase India's Anirban Deb emphasized the importance of amplifying citizen voices in policymaking. The consensus was that policies developed with community involvement are more likely to succeed. Engaging citizens in policy formulation fosters a sense of ownership, leading to higher compliance and better outcomes. Involving the broader population is crucial to shaping effective and sustainable policies.



Addressing future challenges

Future policies need regular reviews and flexibility to adapt to evolving business and societal needs.

This analysis highlights the evolving nature of policymaking. ICT addresses contemporary business challenges by using emerging technologies. Future policies must be proactive to anticipate and overcome potential obstacles.

During the discussions, experts highlighted several key areas for focus. These included climate change, digital literacy and the economic divide. Addressing these issues in policy formulation is crucial for developing reliable and future-proof strategies. Aligning these factors within policies will help create sustainable and effective approaches to future challenges.



Building a collaborative ecosystem

Creating an environment conducive to innovation requires collaboration across sectors. The session served as a reminder of the power of collective efforts. By working together, stakeholders can share knowledge and resources.



The key to effective collaboration is listening to as many people as possible, but not thinking that your view is the only view.

Goldie Dhama

The dialogue focused heavily on continuous training. Authorities must remain open to new ideas and practices. This flexibility will enable them to adapt to evolving conditions and integrate innovations effectively into their practices. Embracing change is essential for creating policies that stay relevant and responsive to future challenges.

Key takeaways

- **Transformative policy approaches:** To realise the vision of *Viksit Bharat@2047*, India needs a revolutionary shift in its policymaking paradigms. Traditional bureaucratic approaches may hinder progress

in a connected, ICT-enabled world. A transformative approach that is responsive to citizens' needs and aligned with global policies is essential.

- **ICT integration in governance:** The use of ICT in policymaking enhances efficiency, accountability and citizen involvement. Digital systems enable informed decision-making and improve communication between government bodies and the public.
- **Public-private collaboration:** Successful policy implementation requires strong collaboration between governmental and non-governmental organisations. The *Manthan* highlights how private entities, particularly in technology, can assist the public sector in designing structures for effective service delivery.
- **Inclusivity in policy formulation:** Policy formulation must consider India's diverse demography. Engaging citizens in the decision-making process increases compliance and ensures that policies reflect the needs of all segments of society.
- **Focus on emerging issues:** Experts at the conference identified critical areas for future-ready policies, including climate change, digital literacy and bridging the economic divide. Addressing these issues in policy development is crucial for creating resilient and proactive strategies for the future.
- **Continuous learning and adaptation:** Stakeholders must embrace continuous training and remain receptive to new ideas and practices. Innovation can be institutionalised through cross-sector collaboration when authorities and organisations embrace flexibility. This adaptability ensures policies remain relevant as challenges evolve.



INNOVATION IN POLICY MAKING TO REALIZE VISION OF INDIA @ 2047

