

TATA COMMUNICATIONS CONNECTED SOLUTIONS

Bringing an end to disconnected thinking



Over the last few years, we have been steadily marching towards a connected world, where billions of connected things communicate with each other, people and systems, almost seamlessly.

According to one Gartner Forecast, IT services for the IoT market will represent a 58 billion dollar opportunity in 2025, up at a 34 percent CAGR from 2020.

An Accenture study estimates that nearly 60 percent of organisations are already engaged in IoT projects. However, they often face significant challenges in deploying and managing an IoT solution, and most of these projects have not been able to deliver the promised benefits.

A foundational challenge is connectivity – ensuring that different devices spread across multiple regions can be connected in the most optimal and cost-effective manner.

With many vendors, OEMs and service providers, ensuring interoperability between different devices including legacy assets is another priority.

In many IoT use cases, endpoints are not adequately secured, making the entire system vulnerable. Securing these different devices across the entire IoT estate is a big challenge.

Moreover, leveraging the vast amount of data generated to make more informed business decisions requires an integrated data management platform.

At Tata Communications, we help our customers build the right IoT solutions for their business. We provide the platform, connectivity and expertise that brings together man, machines and materials.

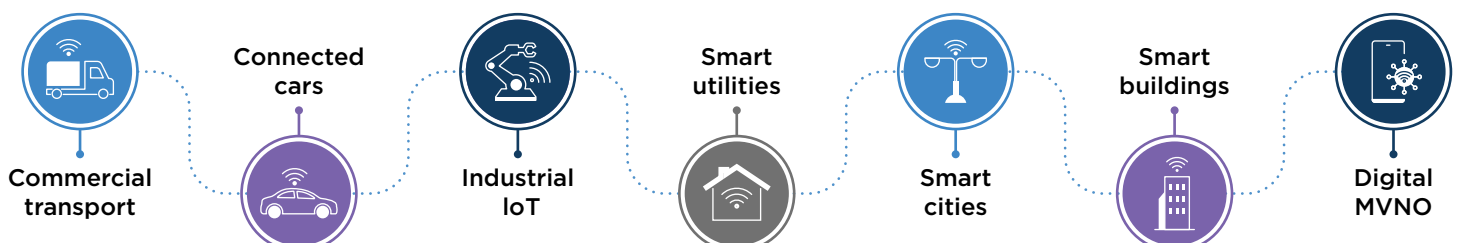


Greater control of your business through access-agnostic connectivity options using cellular technology, Private LTE/5G and LP-WAN (and opportunities to deploy mixed connectivity modes). Better visibility, control and analysis through our 'single pane of glass' approach that integrates information feeds from all networks Integrated data management platform that helps uncover insights through analytics and AI Secure and robust solution with our focus on multi-layered security.

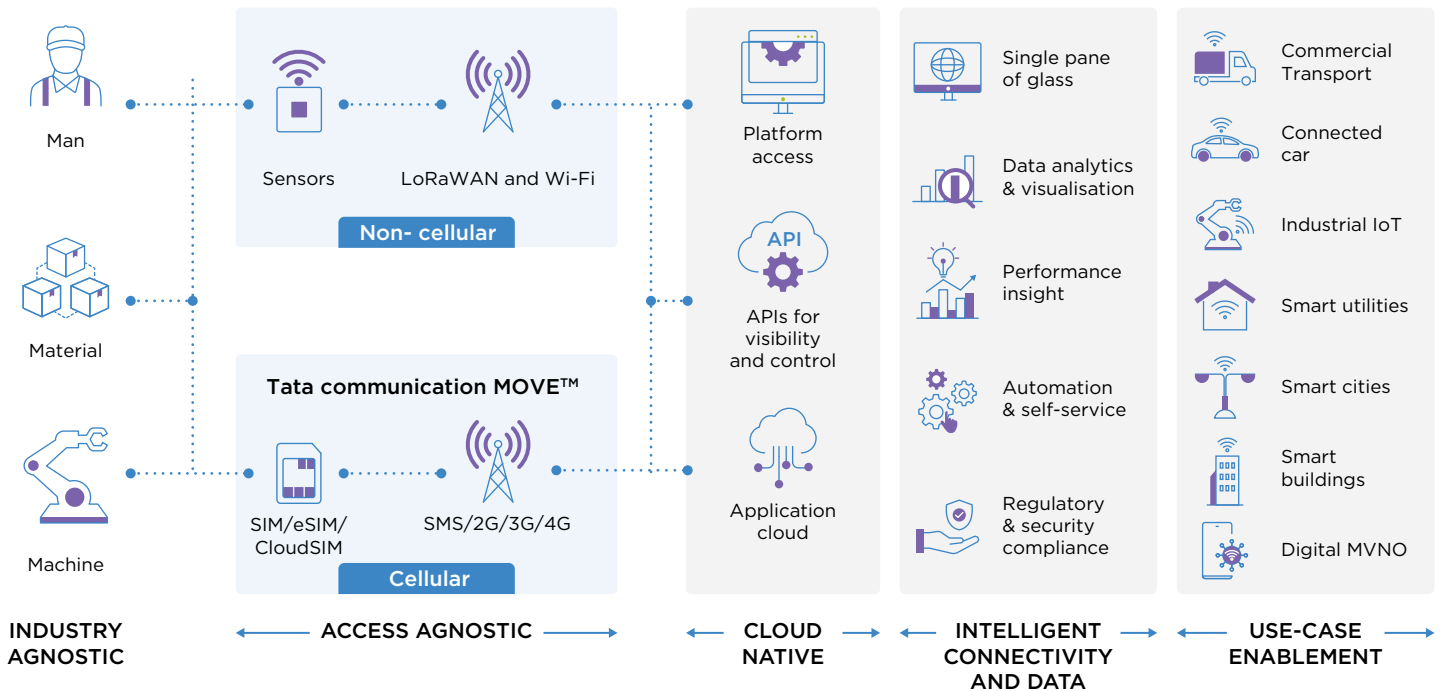


And we can integrate enterprise mobility with a range of complementary Tata Communications services, including SD-WAN, collaboration, security and cloud communications services to make deployment easier and faster.

Our portfolio comprises a range of platform-based IoT services and connectivity solutions, to help our customers connect and manage their assets. Some of the use cases we have enabled include:



Tata Communications Connected Solutions



Tata Communications Connected Solutions – Our Portfolio

Tata Communications MOVE™

Our MOVE™ platform delivers transformational IoT connectivity solutions to address a range of business needs across multiple segments, with a network-independent approach. We let our customers focus on their IoT-enabled projects, while we take care of the connections, security and platform management. Our customers benefit from systems and applications that interact seamlessly, while automating routine tasks. The result is a seamless, secure, platform-based approach, encompassing the use of AI and with a focus on data management and analytics to ensure that our customers can run their businesses as efficiently as possible.

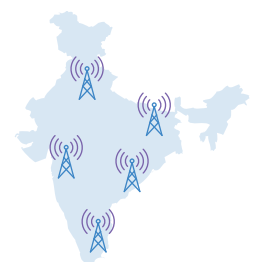
- **Bring Your Own Agreement** – for minimum disruption to business
- **Global IP Network** – represents the most efficient way to move mobile data traffic around the world and to applications in the cloud
- **Unique eSIM hub** – delivers eSIM interoperability across any SIM provider or network
- **Extensive API suite** – ensures ease of integration with back-office and third-party systems
- **Local SIM profile options** – means our customers can comply with local regulations, where permanent roaming is not permitted



Tata Communications LoRa LP-WAN

In India, Tata Communications has developed an IoT ecosystem, complete with its own network, devices and applications. We are now successfully deploying our LoRaWAN services outside of India as well. LoRa is a long range, low power technology, which is ideal for battery-operated devices that might have a relatively low data throughput. The technology complements existing wireless networks and cellular, and LoRa can be successfully deployed together – offering the synergies associated with low power and high capacity, where required.

- IoT marketplace-based approach, including network, applications and hardware
- Localised deployment options for specific projects outside of India
- Ready-made solutions including asset tracking; employee safety; smart metres; smart street lighting; industrial automation; access management; temperature and humidity sensing; smart buttons



Tata Communications MOVE™ – Private Network

The Tata Communications Private Network services encompass both LTE and 5G capabilities. The Private Network itself delivers a digital ecosystem, which is designed to help our customers realise their digital transformation journeys. We present a fully managed private cellular network, suitable for industrial campuses, educational facilities, retail malls, seaports, airports, extractive industries and sport venues. We offer a complete project-based approach, encompassing planning, engineering, installation, commissioning, operations and management.



- Managed service offering
- Extensive partnership ecosystem including leading hardware equipment and BSS/OSS providers
- Business case consultation, including ROI review
- Customer experience/co-innovation centre, supporting Private Network trials and co-creation
- Multi-layered security approach, encompassing end points, cloud platform, application and APIs, network RAN and core, orchestration layer, zero-trust principles
- Options for integration with Tata Communications MOVE™ services for private/public network handover
- Platform-based approach for the management of legacy technologies with 5G

Customer case studies

Tata Communications helped a pharma & chemicals giant transform worker safety

With our Safepass solution, the customer was able to connect over 8000 employees through wearable devices. This helped them enhance worker safety through capabilities like geo-fencing to avoid overcrowding, and visitor and location tracking. It not only eliminated the need for a manual headcount but also helped enhance worker efficiency and productivity

Customer data point examples



A Middle East based airline achieved:

- 50 percent reduction in baggage related complaints
- 50 percent improvement in baggage transfer time
- Halved check-in reporting time for customers



A smart street light project in Saudi Arabia achieved:

- 20 percent energy savings post implementation
- 80 percent operational savings in time required for physical checks of street lights
- The project covers 83,000 lamps, hung on 64,000 lamp posts



An India smart city initiative achieved:

- Convenience of central control across a range of services including smart parking, water management, traffic congestion and street lighting
- 27 percent energy consumption saving for 15,000 street lights
- ROI achieved in less than three years

“We selected Tata Communications as they made it easy to partner with them. There were no up-front costs or complicated compliance processes.”

David Henderson, CEO DRVR

“With Tata Communications MOVE™ network, we achieve meaningful savings on international data costs, diversify and strengthen our global vSIM network, and secure new MVNO and operator relationships. Ultimately, it means our mobile customers get an enhanced global connectivity experience.”

Yukui Yang, Purchasing Director, Skyroam

“The Tata Communications software-defined network offers reliable and secure global coverage, while the company's born-connected mindset shows it really understands IoT business needs.”

Gary Wong, Director, Links Field Networks

“Tata Communications MOVE™ platform has enabled a seamless global roll-out of end-to-end 4G connectivity that does not require complex management or connectivity inconsistency, allowing us to focus on our customer service and ensuring patients receive the best possible attention.”

Representative, European Healthcare Technology Provider