

Tata Communications Internet of Things Solutions

Building the foundation of the Internet of
Things in India



THE INTERNET OF THINGS IS NOT THE FUTURE - IT IS THE PRESENT

It is estimated that there are over 8.4 Billion connected "things" (devices, appliances, machines and others) in the world today. Do you wonder how your business can derive value from the Internet of Things?

Tata Communications Internet of Things - use cases



Asset tracking and management

- **Predictive assets monitoring:** Tracking and monitoring critical assets such as A.Cs, set-top boxes, UPS units
- **Airport/ harbor management:** Providing tracking of containers and equipment. Help identify containers within large yards
- **Container/ wagon/ pallet tracking:** Tracking of large movable assets such as train wagons as well as containers and pallets that are in transit
- **Warehouse/ cold storage management:** Managing the correct temperature inside cold storage/ warehouse units



Emergency services

- **Environment monitoring:** Monitoring ambient environment for harmful gasses or chemicals
- **Workforce management:** Wearable devices that can provide real-time location information of employees who may be working in Industrial plant.



Energy management

- **Meter management:** Remote monitoring and reading of water, gas and power meters
- **Liquid and gas level monitoring:** Monitoring liquid and gas levels in power transformers

- **Transformer health monitoring:** Provide 24x7 information regarding load parameters to ensure appropriate management of transformers



Smart cities and smart campus

- **Smart street lighting:** Managing street lights across a city
- **Smart waste bin management:** Remotely monitoring waste-bins and ensure optimal pickup schedules
- **Water quality management:** Tracking quality of water in water tanks across the city
- **Smart plugs:** Remote monitoring of power outlets to enable accurate and proactive diagnosis of potential failures
- **Building and campus management:** Centrally monitoring and managing building management assets such as locks, lights, HVACs, parking solutions, air conditioners etc.)
- **Temperature / humidity sensors:** Solutions that help in tracking weather data across a city or large campus
- **Others**



Human life safety and security



Telecom management



Supply chain management



Retail / consumer durables



Agriculture and environment management

IOT devices

Smart button device



- Calling help services
- Product ordering services

Door sensor device



- Tracking door movement of appliances, offices, data centres

Generic smart device



- Generic device for environment, location monitoring

Environment monitoring device



- Measuring temperature, humidity - indoor & outdoor

TATA COMMUNICATIONS - LORA WAN

LoRa is a highly secured wireless technology developed to create the low-power, wide-area networks (LPWANs) required for Internet of Things (IoT) applications. Tata Communications is the only company that is deploying the LoRa network in India. This network will be dedicated for IoT applications.

Key features of the Tata Communications LoRa WAN



Long range



Multi service capability



Highly secured



Low energy consumption

Operating on a 865-867 MHZ license free band

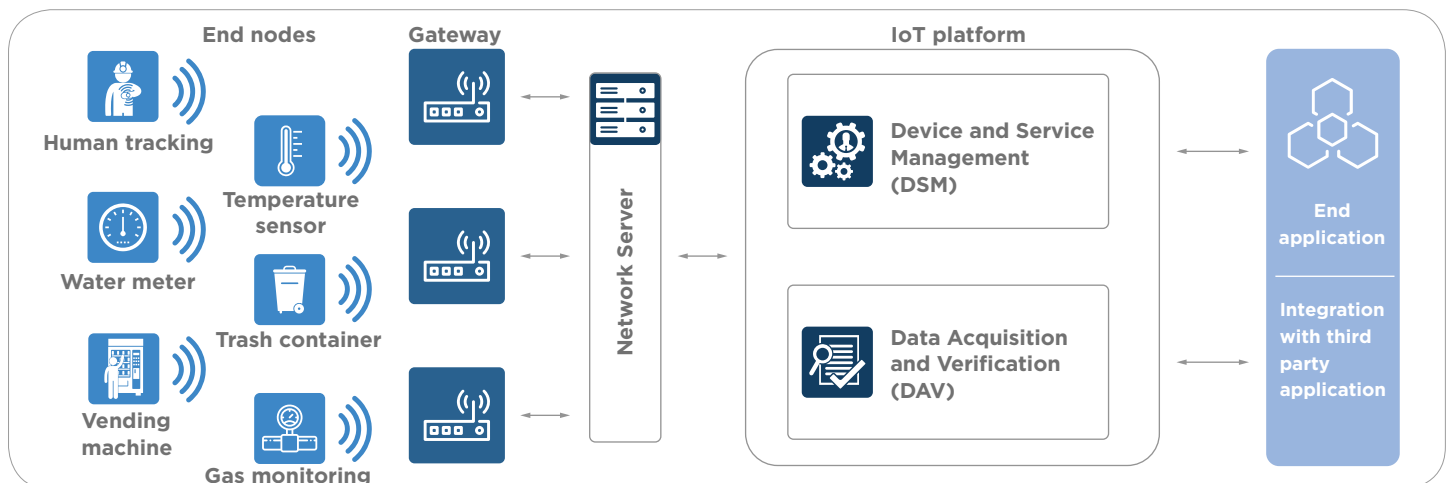
OUR IOT VISION:

Tata Communications will be the Indian core for connected devices enabling cost effective, innovative approaches towards applications for the betterment of society.

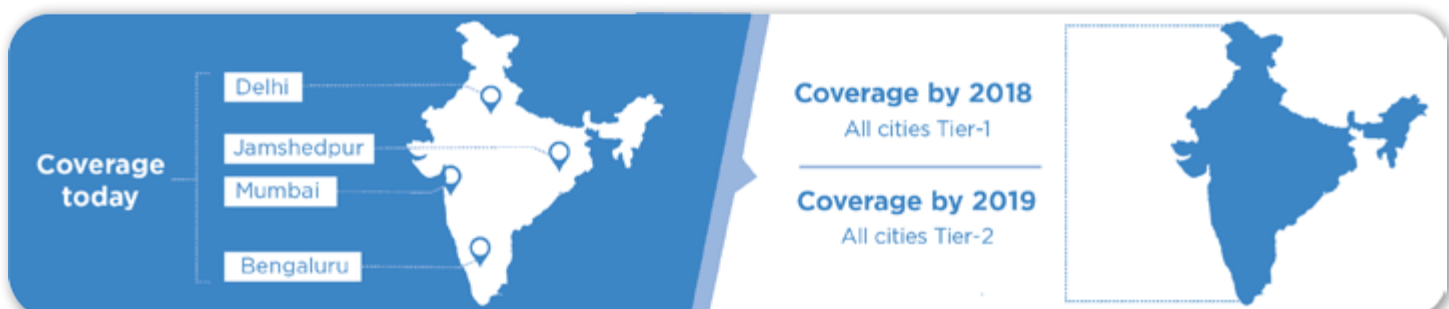
How Tata Communications can help you with your IoT journey

- Network Solution and provisioning: Tata Communications - LoRa network will provide you with the network foundation that will connect your devices to your applications
- Device integration and deployment: Tata Communications will identify the correct partner who will manufacture your LoRa enable devices
- Solution design: Architect your IoT solution on node-to-applications basis ensuring optimal performance
- Management and support: Monitor, administer and support the solution on an end-to-end basis

IOT ARCHITECTURE



Tata Communications LoRa network coverage



WHAT MAKES TATA COMMUNICATIONS - LORA NETWORK UNIQUE?

India has not seen too many large-scale IoT solutions, despite having a large ecosystem of solution providers and system integrators. The missing piece is a network that is suited for M2M communications that drives the Internet of Things. Over the last few years, IoT solutions have been implemented on traditional networks such as 3G or 4G. Also, the devices themselves have had to rely on a local power supply and local relay such as a smartphone or an internet box. This has rendered IoT solutions implemented in India largely unsuccessful, both technically and commercially.

IoT devices have 4 characteristics:

- They operate in extreme environments
- They communicate over long ranges
- They have low power requirements
- They have low throughput requirements

Therefore, IoT solutions require Low Power Wide Area Networks (LPWANs) that operate across long ranges. Tata Communications - LoRa network is an LPWAN that is dedicated to IoT networks.

About Tata Communications

Tata Communications Limited (CIN no: L64200MH1986PLC039266) along with its subsidiaries (Tata Communications) is a leading global provider of A New World of Communications™. With a leadership position in emerging markets, Tata Communications leverages its advanced solutions capabilities and domain expertise across its global and pan-India network to deliver managed solutions to multi-national enterprises, service providers and Indian consumers.

The Tata Communications global network includes one of the most advanced and largest submarine cable networks and a Tier-1 IP network, as well as nearly 1.5 million square feet of data centre and collocation space worldwide.

Tata Communications' depth and breadth of reach in emerging markets includes leadership in Indian enterprise data services and leadership in global international voice.

Tata Communications Limited is listed on the Bombay Stock Exchange and the National Stock Exchange of India.

For more information, visit us at www.tatacommunications.com or email us at enquiry.iot@tatacommunications.com

Contact us

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