

# INNOVATION THROUGH CUSTOMER PROXIMITY

GAURAV ANAND, CHIEF MANAGER, JUSCO

&

MR LALIT MISHRA ASSOCIATE VICE PRESIDENT, SALES AND STRATEGIC INITIATIVES, INTERNET OF THINGS, TATA COMMUNICATIONS

**LoRaWAN® Live!**  
**New Delhi, India**  
**October 17, 2019**

# LALIT K MISHRA



**Lalit** is currently in charge of Sales for 'Internet of Things' Business Unit at Tata Communications. Prior to this, he spent two years heading Talent Acquisition delivery in the company. He has spent more than a decade working in technology driven solutions and services; leading digital transformation for sales, marketing and services effectiveness programs for global enterprises across industries.

## Associate Vice President

Sales and Strategic Initiatives

Internet of Things

TATA COMMUNICATIONS

# GAURAV ANAND



## Chief Manager

Jamshedpur Utilities and Services

As part of JUSCO **Anand** works on making Jamshedpur, an environment friendly city and is solely responsible for several initiatives in building mass awareness on sustainability, bringing IoT to Water, Waste and Energy management.

Other than work, Gaurav is a trainer, mentor and a change evangelist for sustainable living.

# Tata Communications is building an IoT ecosystem on LoRaWAN®. Here is why



Flexible deployment and customization of LoRaWAN® network at remote manufacturing plants



LoRaWAN® uses license free 865-867 MHz ISM bands



LoRaWAN® has very wide coverage range about 5 km in urban areas and 15 km in suburban areas



LoRaWAN® consumes less power and hence longer battery life



Each LoRaWAN® Gateway device is designed to handle 1000s of end devices or nodes

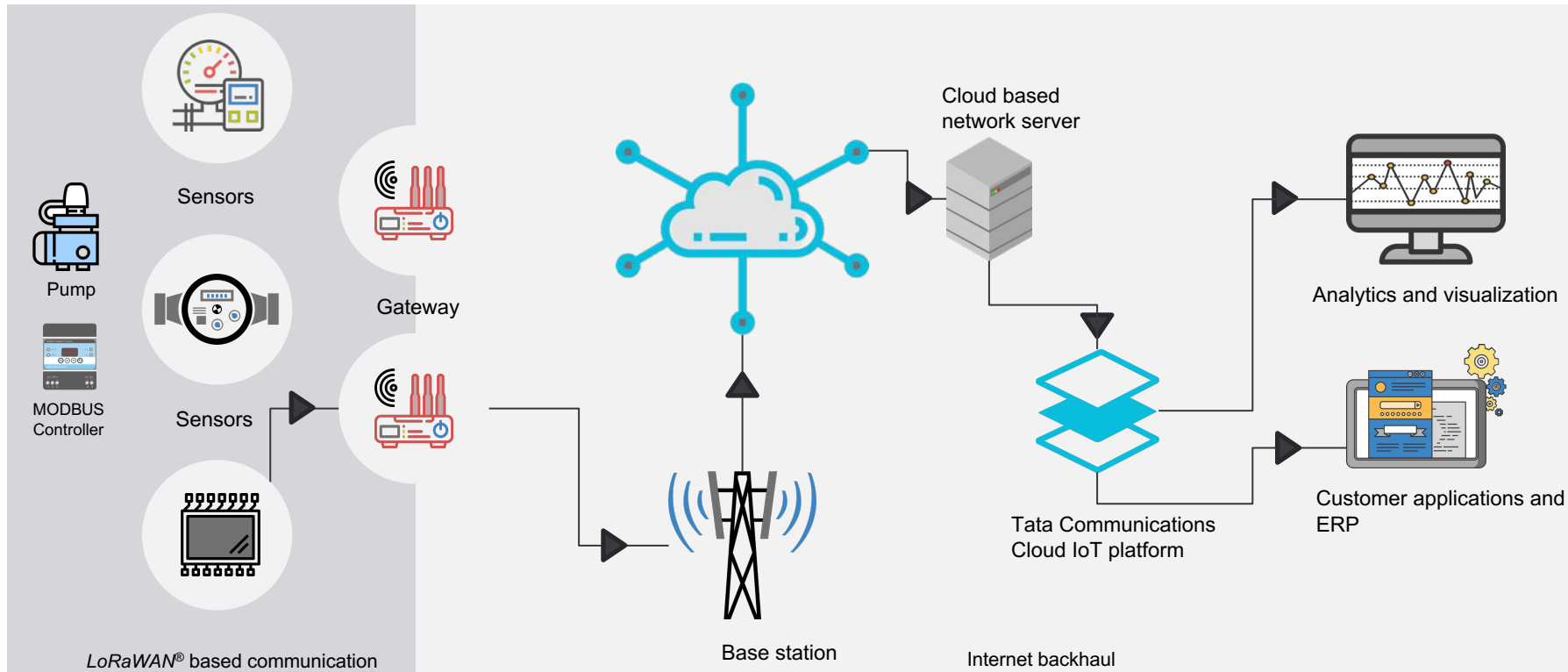
**Private customized LoRaWAN® IoT Network** setup exclusively for IoT applications across the manufacturing plant.

**Long Range** – Sensing devices can communicate with LoRa base stations installed 5-10 sq. kms across the plant without any signal boosters.

**NO SIM Card** – Embedded LoRa RF Module communicates with the base station on license free band (865 MHz -867 MHz) in India

**Longer Battery Life** for wireless sensing devices – More than 1-5 years (based on data frequency set) for a non-rechargeable battery

# DECODING OUR IOT – IOT ARCHITECTURE



# JAMSHEDPUR – FROM SMART TO SMART



WITH  
THE INTERNET OF THINGS

A 21st Century **Eco-Smart** City





# JAMSHEDPUR – FROM SMART TO SMARTer



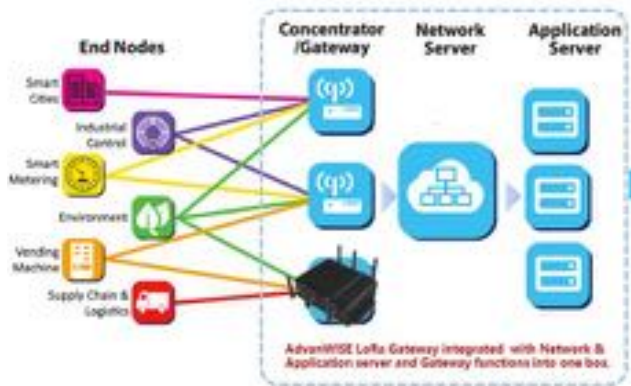
# FACT FILE

- ❖ **Area serviced** : **64 Sq. Km.**
- ❖ **Population covered** : **One Million plus**  
*(Tata Group family constitute only 2.5 Lakhs out of the total population)*
- ❖ **Power Demand** : **400 MVA, 3200 Million Units (Yearly)**
- ❖ **Power availability** : **99.9%**
- ❖ **Avg. daily water supply** : **190 MLD**  
*(250 LPCD as compared to National avg. of 132 LPCD)*
- ❖ **Length of Water Mains** : **640 Km**
- ❖ **Length of Sewer Lines** : **475 Km**
- ❖ **Length of Drains** : **900 Km**
- ❖ **Length of Roads** : **700 Km**
- ❖ **Green cover** : **37.2% (highest green cover in industrial city)**



# WATER AND WASTE WATER

- Online water quality monitoring at consumer end
- Water tower automation
- Smart manhole monitoring system
- Conversion of manual water meter to smart meter
- Water pipeline leakage monitoring
- Security - Intrusion Detection System



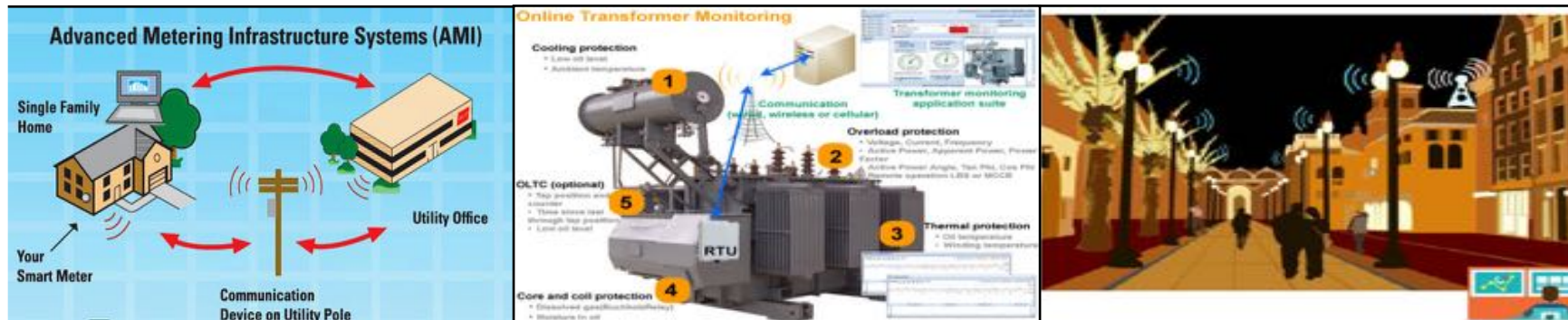
LoRaWAN® (Long Range Wide Area Network)  
First of its kind in India for City Management Services



Level monitoring sensor under a manhole cover

# POWER DISTRIBUTION

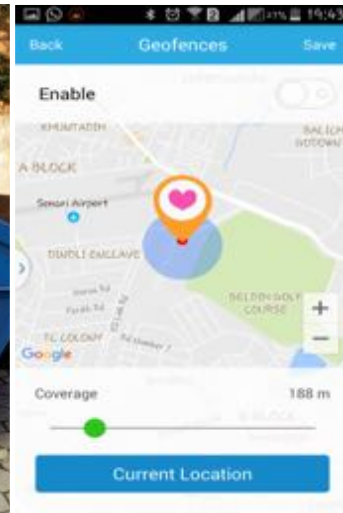
- Advanced Metering Infrastructure System (AMIS)
- Transformer monitoring system
- Automation of Street Light operations
- Feeder – Pillar Monitoring system



# SWM AND WASTE MANAGEMENT

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- Digital Smart Bins
- Workforce Tracking System
- GPS Tracking of Fleets



**THANK YOU**

# LoRaWAN® Live!

## New Delhi, India

### October 17, 2019



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