DIGITIZATION OF ASSETS FOR THERMAL AND ENVIRONMENTAL MONITORING IN MANUFACTURING, PHARMA AND PROCESS INDUSTRIES

MULTITECH, ONENETWORK, FACLON LABS

LoRaWAN® Live!
New Delhi, India
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Introduction

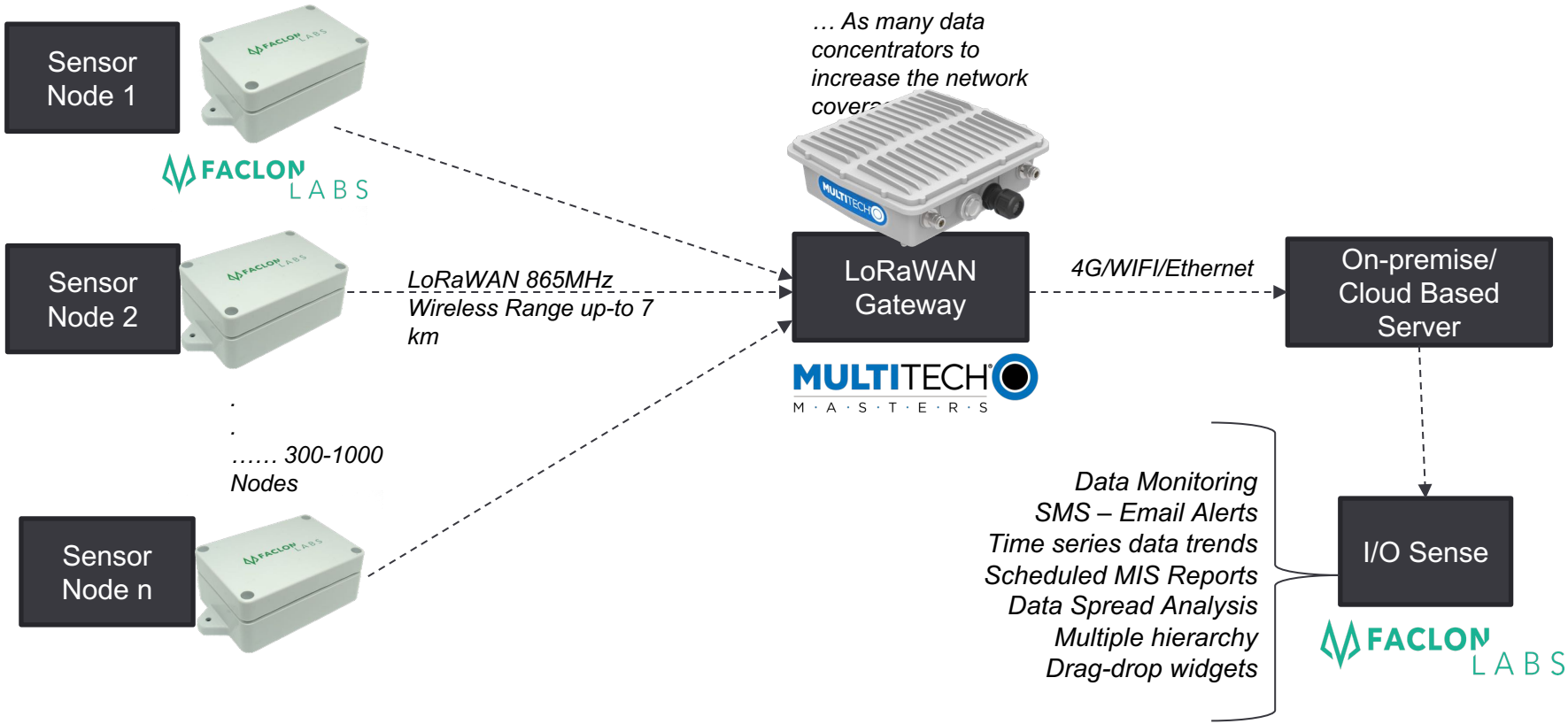
Faclon Labs is a Mumbai-based IoT company started by IIT-Bombay graduates. Faclon provides multiple IoT applications using their cloud based product I/O Sense to drive operational excellence & digitization

MultiTech designs, develops and manufactures data communications equipment for the industrial Internet of Things — connecting physical assets to business processes to deliver enhanced value.

Key Applications

Infrastructure	Data	Value
Cold Chain	Ambient Temperature	• To maintain and improve the shelf-life & quality of temperature-controlled pharma & agro-products • Real-time monitoring and alerts for enabling pro-active management in order to reduce wastage
Substations and Electric Panels	Surface Temperature	• To reduce downtimes, electrical failure & equipment damage due to heating • Data monitoring, trends & alerts of switch gears, bus-bars will help the electrical operator to smartly prioritize the maintenance
Offices, Classrooms	Ambient Temperature, Humidity, VOC & CO2	• Air quality monitoring to ensure health, productivity & performance for the employees & students • The data also serves as in important metric for HVAC and air conditioning operators to prioritize their maintenance and reduce operating cost

LoRaWAN® Solution Architecture



USP

- **Energy Efficient:** Battery Based Runtime > 5 years. No external power required.
- **Installation Effectiveness:** No location constraints due to long range. No wiring/cabling for communication and power supply.
- **Stable Data Connectivity:** Private Wireless LoRaWAN Network with 100% uptime.
- **Long Range:** LoRaWAN offers very long range compared to other RF-technologies. Providing much needed flexibility and network coverage.
- **Wireless Communication:** Wireless and long range offers cost-effectiveness. Also, star topology offers lesser number of internet connections (gateways).
- **Cost-effectiveness:** Lesser stakeholders, equipment, skill & time required for end-to-end implementation.
- **Value focused features:** Easily consumable UI/UX, features are enabled to drive clear value & ROI.

Case Study: L&T

Surface Temperature profiling of Busbars in HT-LT panels using enterprise private LoRaWAN network for data collection

Key Advantage

- **Problem:** Equipment damage & un-planned trips in Busbars due to over heating & high currents
- **Implementation:** Cost effective & Maintenance friendly with battery based nodes (Temperature transmitters), long range & wireless LoRaWAN network
- **Solution:** Alerts & escalation to proactively resolve the critical temperature conditions
- **Results:** Reduced electrical downtimes and equipment damage
- **ROI:** 6 Months

CASE STUDY: HERO

Ambient Temperature, humidity & VOC profiling of paintshops of Hero using enterprise private LoRaWAN network for data collection

Key Advantage

- **Problem:** Damage caused painted vessels due to un-favourable ambient conditions
- **Implementation:** Cost effective & Maintenance friendly with battery based nodes, long range & wireless LoRaWAN network
- **Solution:** Data monitoring, trends, reporting, alerts & escalation to proactively resolve/manage the critical ambient conditions
- **Results:** Reduced wastage
- **ROI:** 3 Months

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