

Smart Manufacturing

Areas of Operation

Filling Lines
Packing of Goods
Cabinets for machinery
Remote Sites & Equipment
Machine States
Detecting Possibilities of failures

Plants

**Cement | Steel | Mining | Pulp & Paper | Metal
Power | Chemical | Food Processing | Pharmaceuticals**

Repeatable Turnkey Solutions

Non-Invasive Deployments

Asset Health Solution Deployed at Food Processing Plant in North Carolina

TechData Vendor Partners Deliver Non-Invasive Industry 4.0 Solution From Edge to Dashboard

Data Source
Multi-Vendor Sensors

Monitored
Vibration
Temperature
Pressure
Contacts (open/closed doors)
Motors: Voltage On/Off
For
- Refrigeration units
- Conveyor Belt



Smart Connect Edge Enclosure
On factory floor



Comprises:
Smart Connect Gateway Software
Running on
Intel X86 Gateway Hardware
(DELL, CISCO, ASUS,
Advantech ...)



TRM IoT Edge
Solution

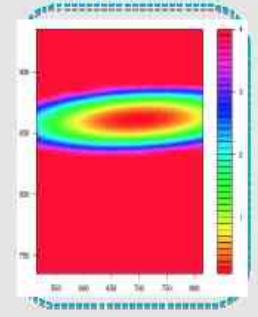


On Prem



Cloud

IBM
MAXIMO Asset
Health Solution
Offered by
TRM



Anywhere, Anytime



Job Orders
Reports
At finger tip



Smart Manufacturing: Reducing Downtime & Increasing Efficiencies

Asset Management

- Gain visibility into asset usage across multiple sites
- Manage preventive, predictive, and conditioned-based maintenance from a single platform
- Effectively manage inventories of supplies, replacement parts, and equipment by
- Automating procurement, contracts, and work orders

Operational Efficiencies

- Align processes, resources, and functions
- Improve energy management of machinery
- Establish early warning systems
- Integrate remote, automated video monitoring
- Track multiple MTBFs from a single system

Sensor Data Points:

All sensors that PLCs, DCS, HMI, SCADA systems are connected to

All sensors that monitor and control field equipment, manufacturing and production processes

Temperature Sensors

Torque Sensors

Vibration Sensors

Water Quantity Sensors

Fluid Property Sensors

Force Sensors

Photo Optic Sensors

Pressure Sensors

Energy Usage Sensors

Motors

Diesel Engines

Sound/Noise – Decibel Sensors

Condition-monitoring Sensors

Humidity Sensors

Ultrasonic Sensors

Water Quality Sensors

Flow Sensors

Automation & Control Sensors

Level Sensors

Industrial Position Sensors

Rate and Inertial Sensors

Proximity Sensors

Drives

Sequence Sensors

Telematics Sensors

Cameras