Advantech Smart Condition-based Monitoring (CbM) Solution in Compressed/Clean Dry Air (CDA) System

Location: **Taiwan**

Background

In a competitive semiconductor industry, where high volume and maximum efficiency mean everything, a high reliable wireless technology used in remote facility monitoring application may be a suitable processing aid.

Compressed/clean dry air (CDA) is employed in fabs to drive pneumatic components of manufacturing process equipment, control valve functioning, or clean materials/equipment. To smooth the manufacturing processes, CDA system must to be monitored by facility maintenance department.

System Requirements

Customer required a plug and play, remote facility monitoring, controlling and inspection wireless solution. To achieve this goal, we provide Advantech LoRaWAN solution. In this solution, we provide WISE-2410, vibration sensor, for compressor inspection and WISE-4610 with its' WISE-S617 flexible I/O for environment and facility current power monitoring.

Project Implementation

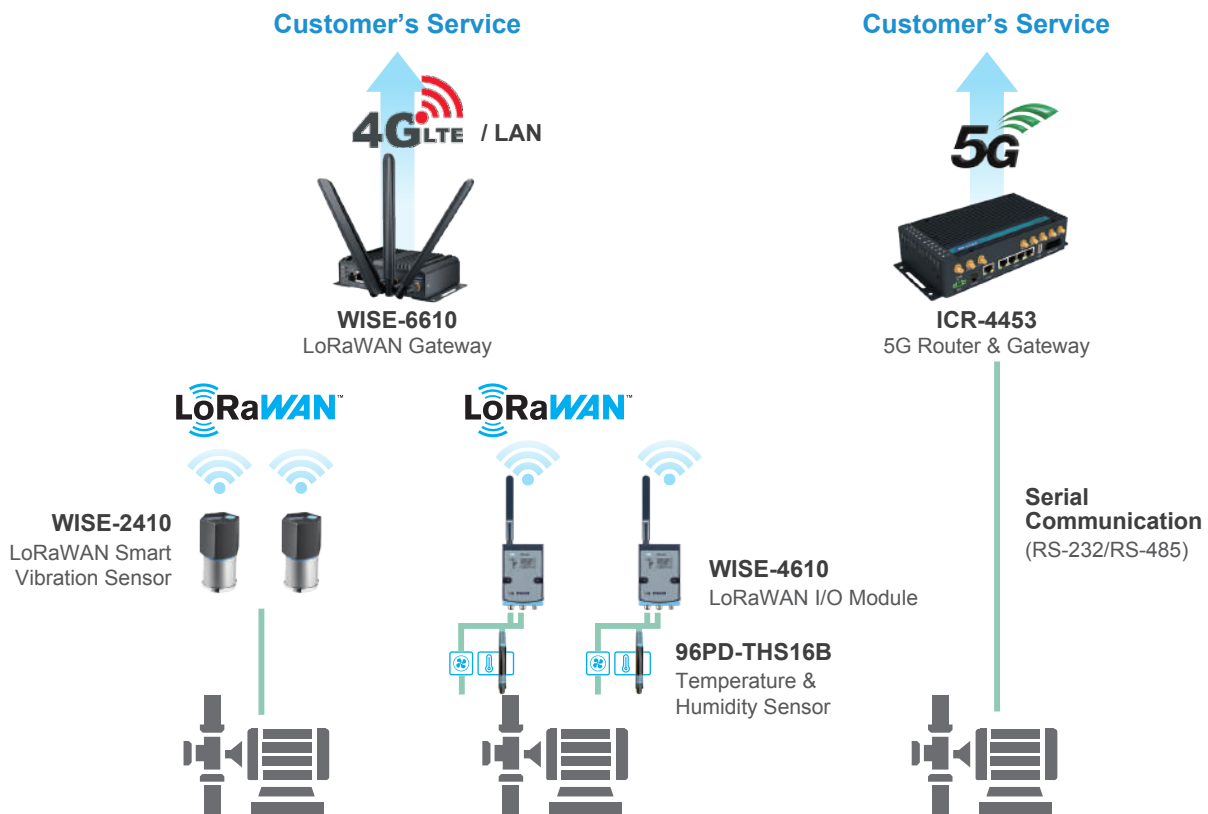| **WISE-6610**	**WISE-2410**	**WISE-4610**	**WISE-S617T**	**96PD-THS16B**	**ICR-4453**
Hardened LoRaWAN 8-Channel Gateway	LoRaWAN Wireless Vibration Sensor	LoRaWAN IoT Wireless Modular I/O	2AI/2DI/1DO Wireless Modular I/O with 1RS-485	Temperature & Humidity Sensor	Ultra High-Speed 5G Router & Edge Computing Gateway

System Description

WISE-6610 is a LoRaWAN gateway which supports Modbus TCP protocol can connect to any SCADA system in the world.

WISE-2410 offers an easy way for rotating facility inspection application by following ISO-10816 standard. Moreover, WISE-2410 also supports 3-axis vibration detection and with IP66 rating, wide temperature design can conquer harsh environment where compressor located.

WISE-4610 with its' WISE-S617 flexible I/O solution fulfill different kinds of remote facility monitoring and controlling application. It has DO for switch control and has AI/DI/RS-485 channels for sensor and plc connection.

System Diagram

Customer's Service

4GLTE / LAN

WISE-6610
LoRaWAN Gateway

LoRaWAN

WISE-2410
LoRaWAN Smart
Vibration Sensor

LoRaWAN

WISE-4610
LoRaWAN I/O Module

96PD-THS16B
Temperature &
Humidity Sensor

Customer's Service

5G

ICR-4453
5G Router & Gateway

**Serial
Communication**
(RS-232/RS-485)

Why Advantech?

Advantech LoRaWAN solution provides an easy, reliable and cost affective private network environment for different kinds of facility monitoring application in semiconductor industry.