Application story

Data Communication Solution

Factory Automation

The global factory automation market size is expected to reach $368,372.4 million in 2025, from $190,882.2 million in 2017 growing at a CAGR of 8.8% from 2018 to 2025. Factory automation using the automatic technology control devices to increase efficiency of product and the quality with lower cost.

Project challenges/goals

To keep its competitive advantages in the market, a Tire Factory in China has also worked on improving its factory automation system by integrating HMI, SCADA and other data acquisition systems, which normally require Modbus Gateways for data communication at different subsystems and stations of the factory. The biggest challenge though for the system integrator has been finding devices with switch that will be able to resist the environmental conditions, such as high moisture, high resistance EMI/EMS, wide voltage and temperature ranges. In addition, in the factory field, most of communication devices is installed in the one cabinet and with DIN-Rail. Hence the compact size and with DIN-Rail clip is also required for the project

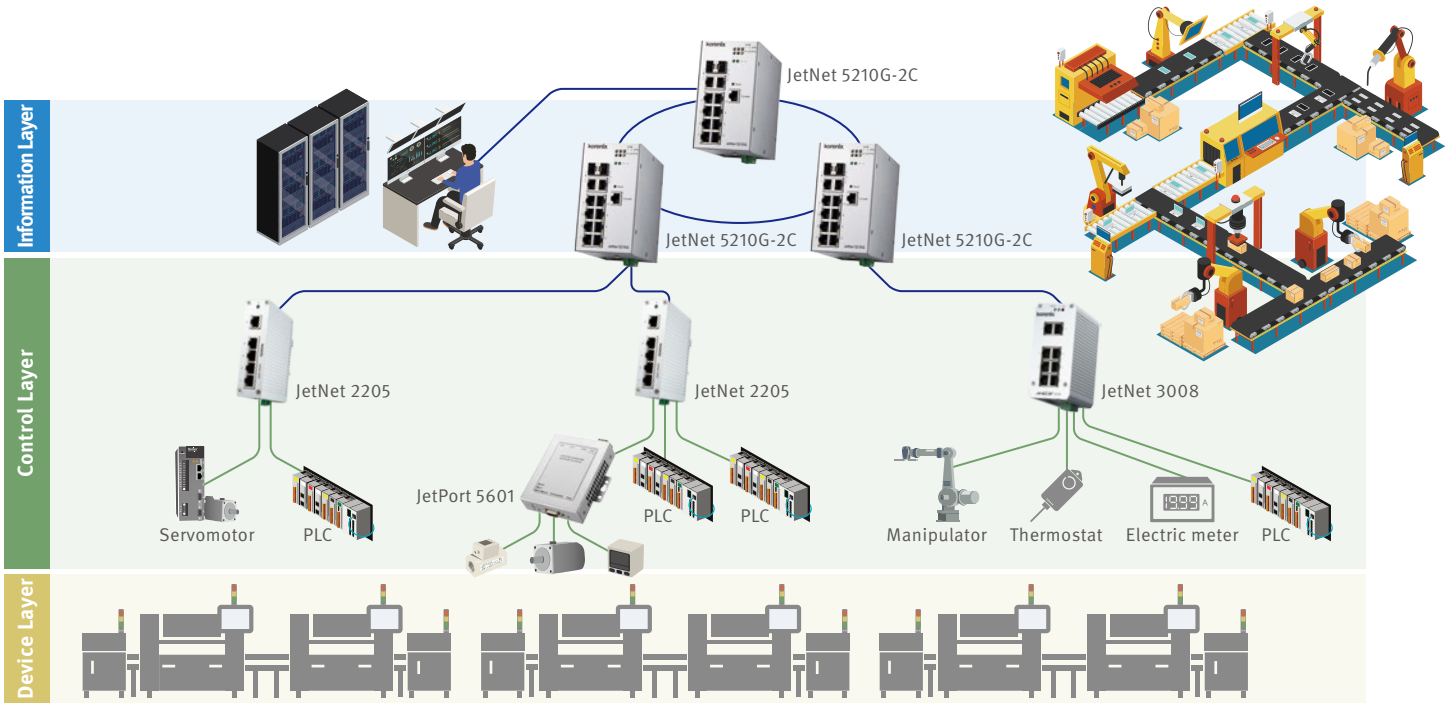
Solution overview

Factory automation network Architecture usually divided three levels, which is device layer, control layer and information layer. Korenix has won the project by offering a complete solution that ensures effective operation of tire factory's assets.

The three layers need different switch to connect the end of the device layer to the management layer.

The device layer it usually connected with meter, sensor whose data usually is serial data such as RS232, RS422, RS485. In the device layer, the JetBox 5630 compact computers were installed in small spaces in factory fields to collect data from various networking equipment, PLCs, signal and digital controlling devices, saving physical media costs. Working as Modbus RTU to Modbus TCP gateways, they efficiently communicated data from the stations to the upper level.

In the control layer, switches connect with HMI, Remote IO. Inverter, PC station and other Ethernet based devices. Korenix has different port combination and speed for customer to choose as per their request. The JetNet 5210G switches have been chosen for their fiber ports, which allowed communicating and extending data between different facility subsystems (TBM Process, Steam control station, Power station.....) that are located in wide areas. Due to their robust design users were able to prevent EMI/ EMS distrubance in the factories, while the wide operating temperature ranges made the switches suitable to resist the extreme temperature ranges available in factory floors.



Why Beijer Electronics/Korenix?

- DIN Rail Clip and anti-vibration design suit for harsh environment.
- Fully portfolio covers unmanaged, Layer2, Layer 3Fast, Fast/ Giga, Full Giga Ethernet models
- Harsh environment design for wide operating temp.
- Combo ports design for SFP modules flexible.
- Flexible model options for various system assembly, totally 17 models for system architect selection.
- Comprehensive Redundant Solutions-ERPS V2 or MSR and the recovery time is less than 50ms.

About Beijer Electronics

Beijer Electronics is a multinational, cross-industry innovator that connects people and technologies to optimize processes for business-critical applications. Our offer includes operator communication, automation solutions, digitalization, display solutions and support. As experts in user-friendly software, hardware and services for the Industrial Internet of Things, we empower you to meet your challenges through leading-edge solutions.

About Korenix Technology

Korenix Technology, a Beijer group company within the Industrial Communication business area, is a global leading manufacturer providing innovative, market-oriented, value-focused Industrial Wired and Wireless Networking Solutions. With decades of experiences in the industry, we have developed various product lines, including, Industrial Ethernet/PoE Switch, Industrial Wireless & Cellular Solution, Industrial Media Converter, network management software and etc.

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