



Steel Plant Communication Network for Hot Rolling Transport Vehicles & Remote Control

Ensuring Wireless Remote Control and Real-Time Monitoring of Transport Vehicles

In the hot rolling workshop, track-bound transport vehicles move steel coils. Traditional wired systems are limited by fixed wiring and require costly rewiring with layout changes.

This project uses a wireless communication system to connect vehicles and the remote console, enabling real-time monitoring and precise control, improving efficiency and flexibility.

GPSENKE Recommend



Industrial Access Point



Wireless Client

Core Objective:

- **Wireless Control:** Remote control of transport vehicles.
- **Signal Stability:** Reliable communication in harsh environments.
- **Real-Time Monitoring:** Vehicle location and status tracking.
- **Flexible Deployment:** Easy layout adjustments, no rewiring needed.

Technical Challenges:

- **High Real-Time Requirements:** The PLC on the transport vehicle is sensitive to communication delays, requiring millisecond-level response.
- **Complex Industrial Environment:** Metal obstructions in the hot rolling workshop cause multipath interference and signal attenuation.
- **Wide Coverage Challenge:** Transport vehicles move across multiple areas, requiring continuous, stable wireless network coverage without interruptions.

GPSENKE Recommend



Industrial PoE SW

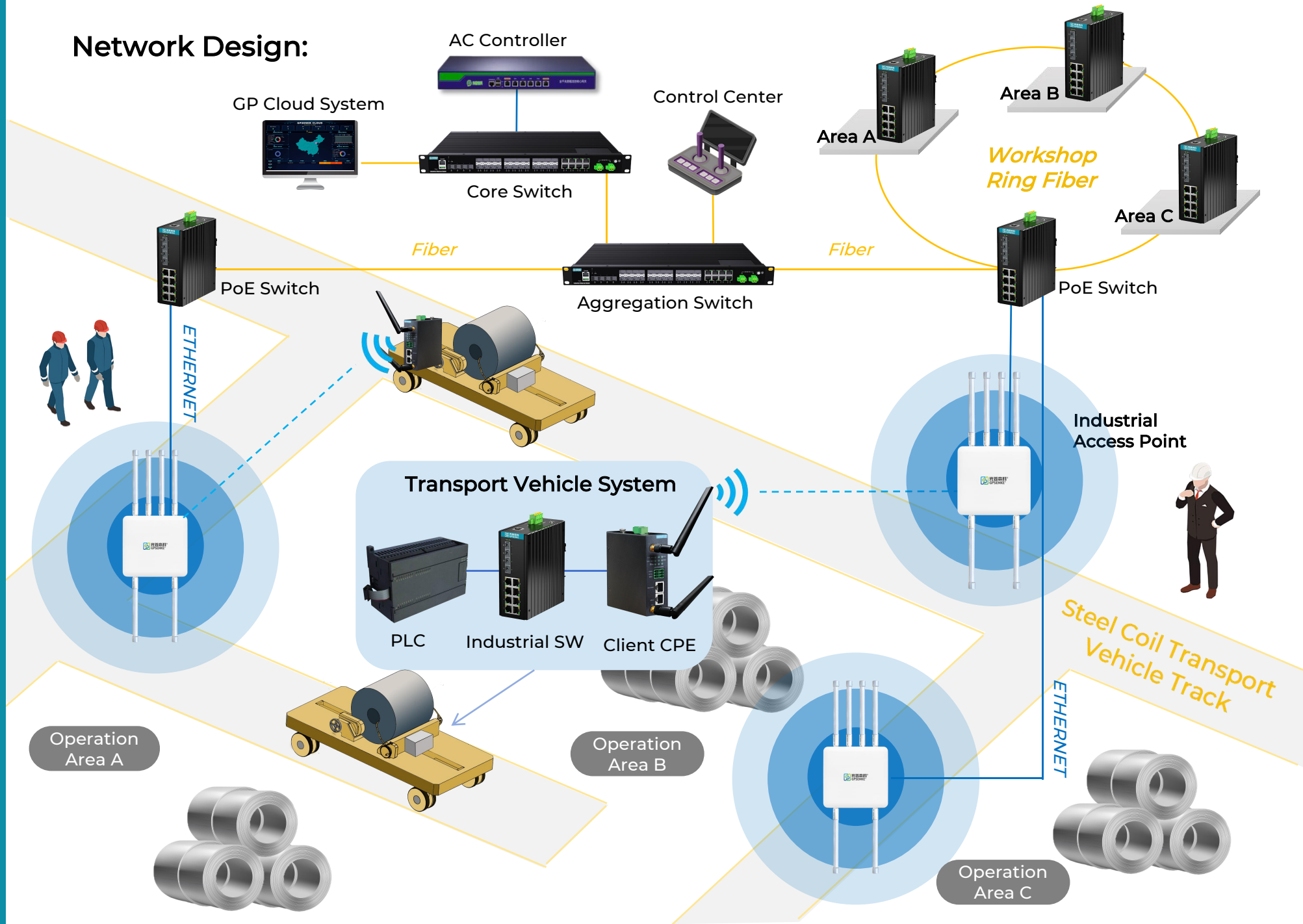


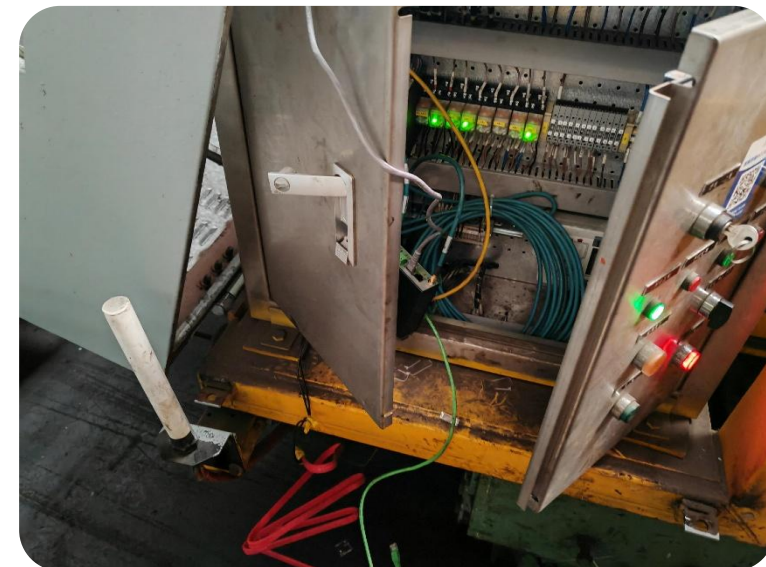
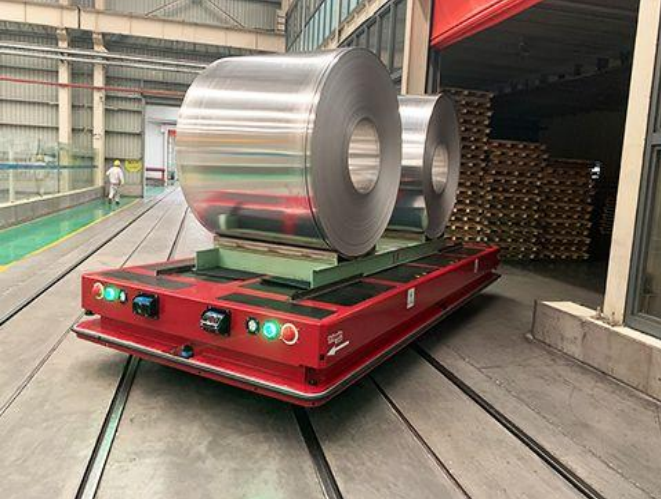
Industrial Managed SW



GPSENEK Cloud System

Network Design:





Project Case - Shougang Group

Project Location: Shougang
Jingtang Hot Rolling Workshop

Project Timeline: 2024

Industry: Metallurgical Steel Plant

Company Headquarters: Tangshan
Caofeidian, China

Project Duration: 20 Days

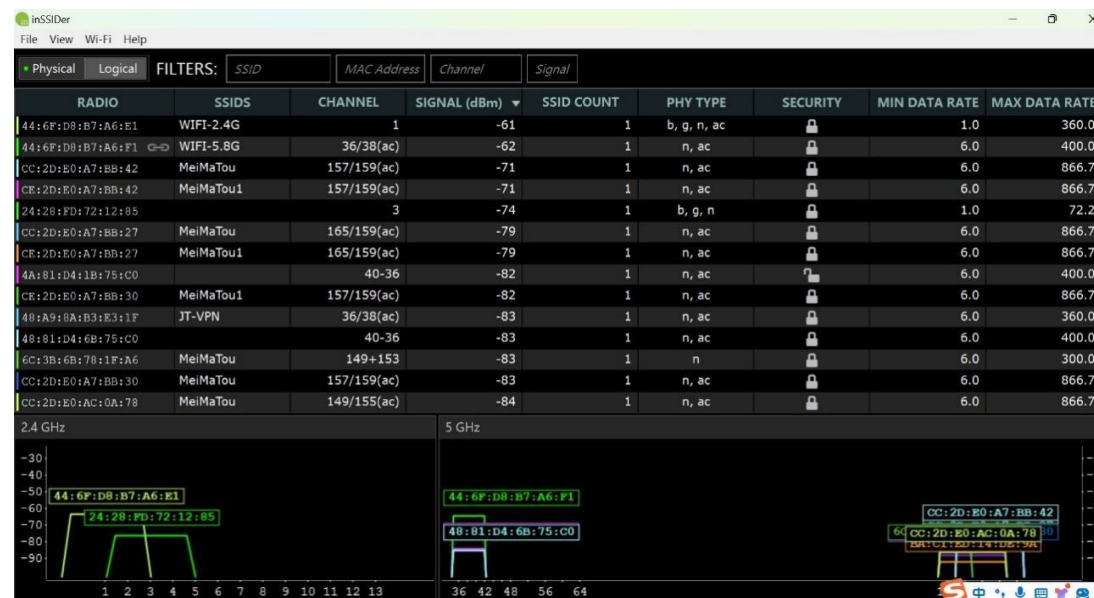
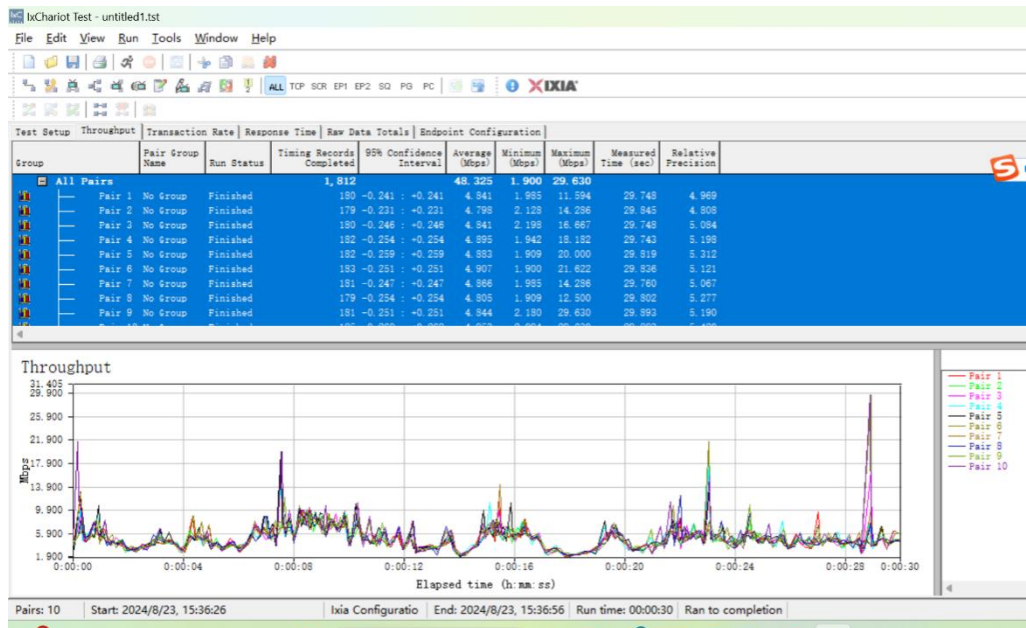


Actual project results and customer feedback

- ✓ Real-time remote control of track vehicles, no lag, node delay < 30ms
- ✓ Stable operation with remote control, positioning error < 1cm
- ✓ 90% reduction in system maintenance workload, no on-site fault checks

Client Feedback: Since system launch, it has run stably without any failures. The client highly recognizes the communication quality and project implementation capabilities!

✓ Actual on-site PING packet delay operation status



✓ Actual On-Site Bandwidth Operating Status