NIACOM

TelcoLine-X

SOLUTIONS

Field Automation

Robust

Industrial

Vehicle Use

DataLogging

4G/5G Wireless

Industrial Routers

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USA & CANADA

EUROPE

AFRICA

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INDUSTRIAL ROUTERS >>> FIELD AUTOMATION

Empowering Field Automation with Niacom's 4G/5G Industrial Routers

In the era of Industry 4.0, seamless connectivity and real-time data exchange are paramount. Niacom's 4G/5G Industrial Routers are engineered to meet the rigorous demands of field automation, providing robust, secure, and high-speed wireless communication solutions. Leveraging over 25 years of expertise in telecommunications R&D, Niacom delivers cutting-edge products that enhance operational efficiency across various industrial sectors.

Field automation systems require reliable communication networks to monitor and control remote equipment effectively. Traditional wired networks often fall short in terms of scalability and flexibility. Niacom's industrial-grade routers offer wireless solutions that ensure uninterrupted connectivity, even in the most challenging environments.

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INDUSTRIAL ROUTERS >>> **FIELD AUTOMATION**

Key Features of Niacom's Industrial Routers

Dual Connectivity: Support for both 4G LTE and 5G NR ensures compatibility with existing networks and readiness for future upgrades.

Industrial Durability: Designed to withstand extreme temperatures, vibrations, and electromagnetic interference, making them ideal for harsh field conditions.

Secure Communication: Advanced encryption protocols and firewall protections safeguard data integrity and prevent unauthorized access. Cisco

Remote Management: Cloud-based platforms enable real-time monitoring, diagnostics, and firmware updates, reducing the need for on-site maintenance.

Flexible Interfaces: Multiple I/O ports, including Ethernet, serial, and USB, facilitate integration with a wide range of industrial equipment.

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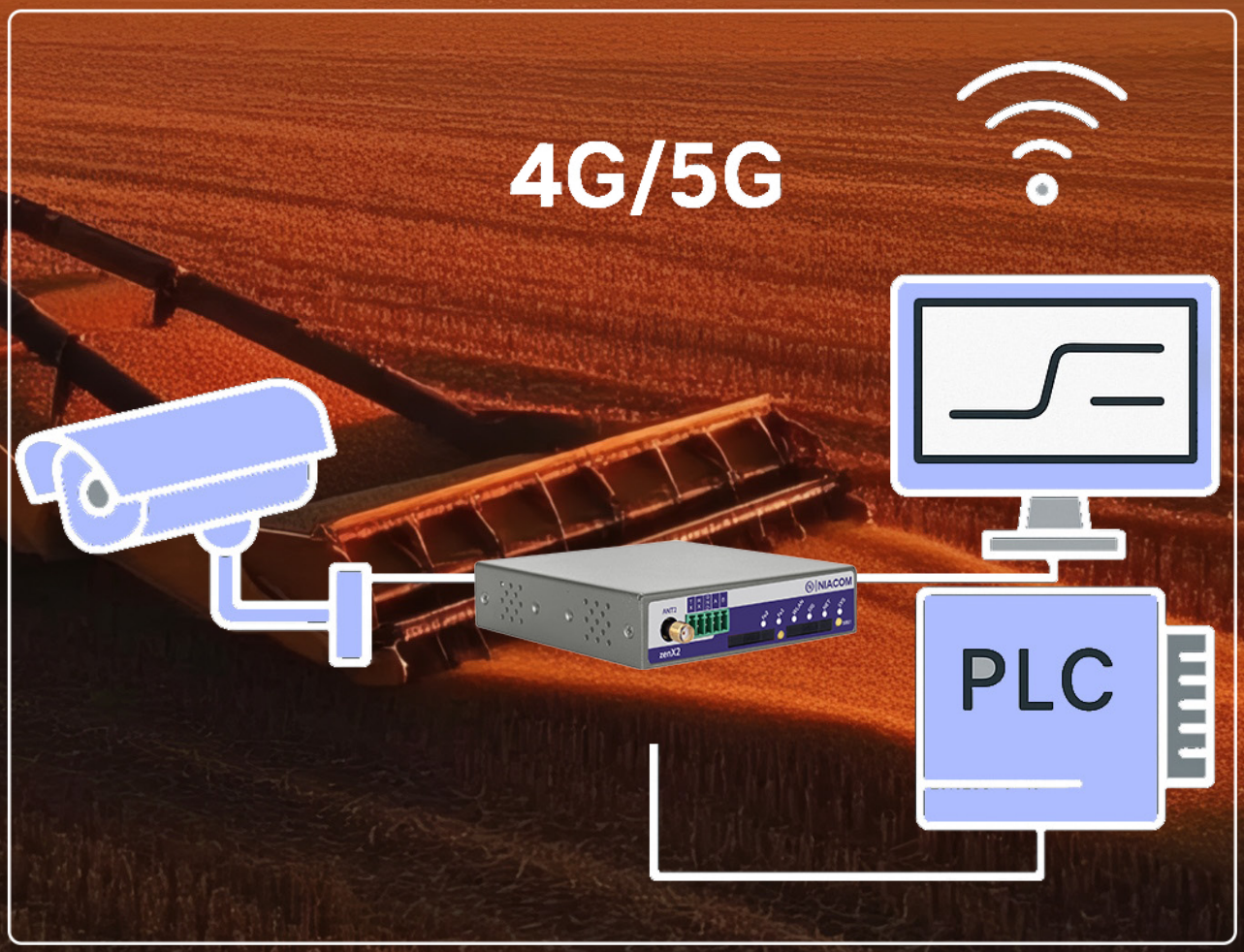
INDUSTRIAL ROUTERS Use Cases >>> FIELD AUTOMATION

1. Oil and Gas Pipeline Monitoring

Challenge: Ensuring the integrity of extensive pipeline networks in remote areas.

Solution: Niacom's routers provide real-time data transmission from sensors monitoring pressure, flow rates, and leak detection systems. This enables prompt response to anomalies, minimizing environmental risks and operational downtime.



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INDUSTRIAL ROUTERS **Use Cases** **>>> FIELD AUTOMATION**

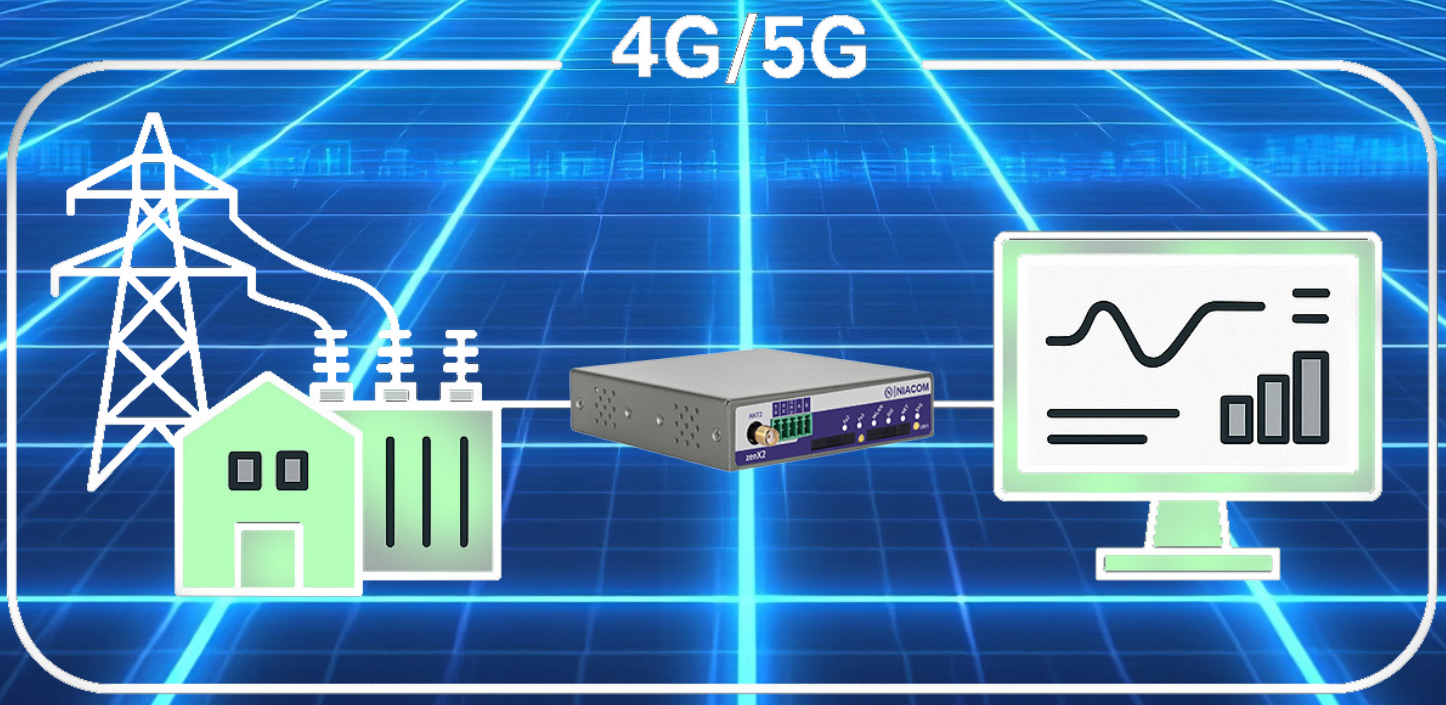
2. Remote Energy Grid Monitoring (Smart Grids)

Challenge: Energy companies require reliable, real-time connectivity to monitor and control substations, transformers, and grid components in dispersed, remote areas.

Solution: Niacom's ruggedized 4G/5G routers are deployed in outdoor cabinets and substations to provide secure IP connectivity to SCADA systems.

Embedded VPN and firewall features ensure encrypted communication back to central control centers.

The routers support dual-SIM and failover for uninterrupted operations.



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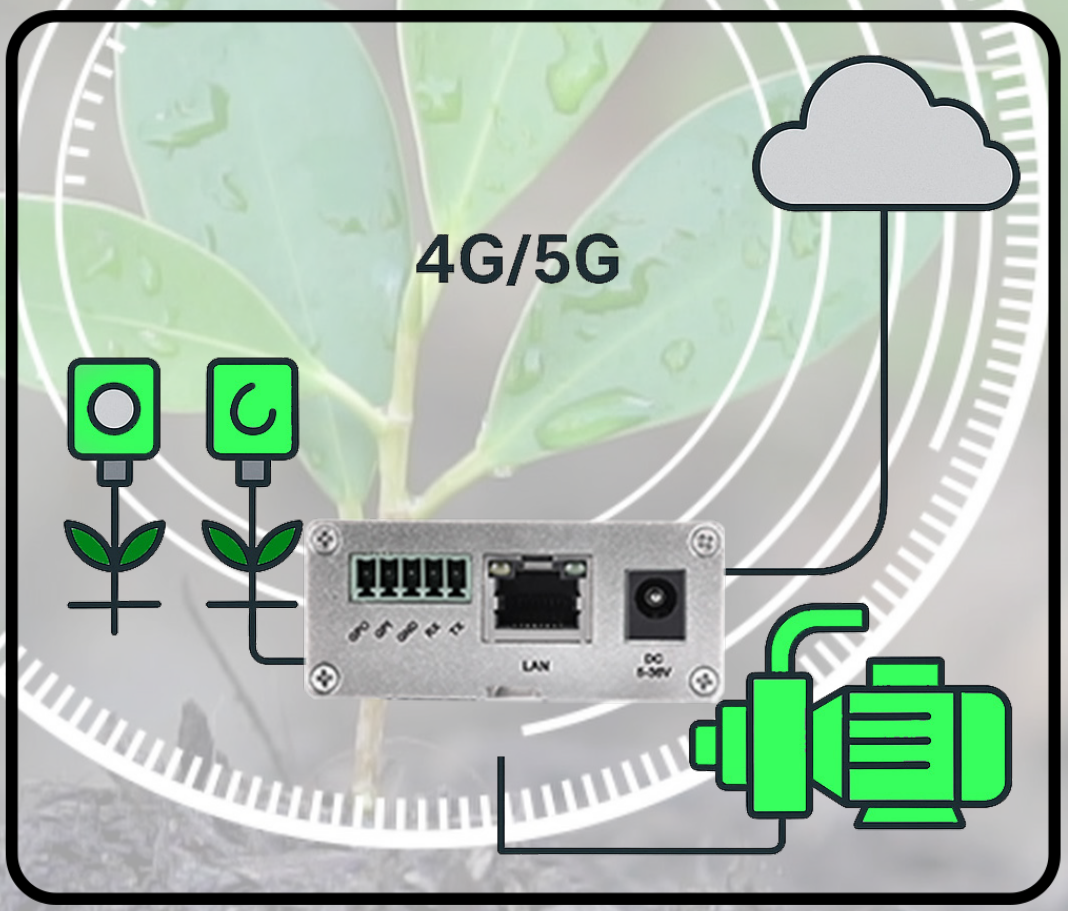
3. Smart Agriculture and Irrigation Automation

Challenge: Modern farms need to automate irrigation and environmental monitoring across vast lands with limited wired infrastructure.

Solution: Niacom routers are integrated with IoT sensors and irrigation controllers.

Cellular communication is used to relay soil moisture, weather data, and pump status to cloud platforms.

Scheduled and remote-controlled irrigation improves water efficiency.



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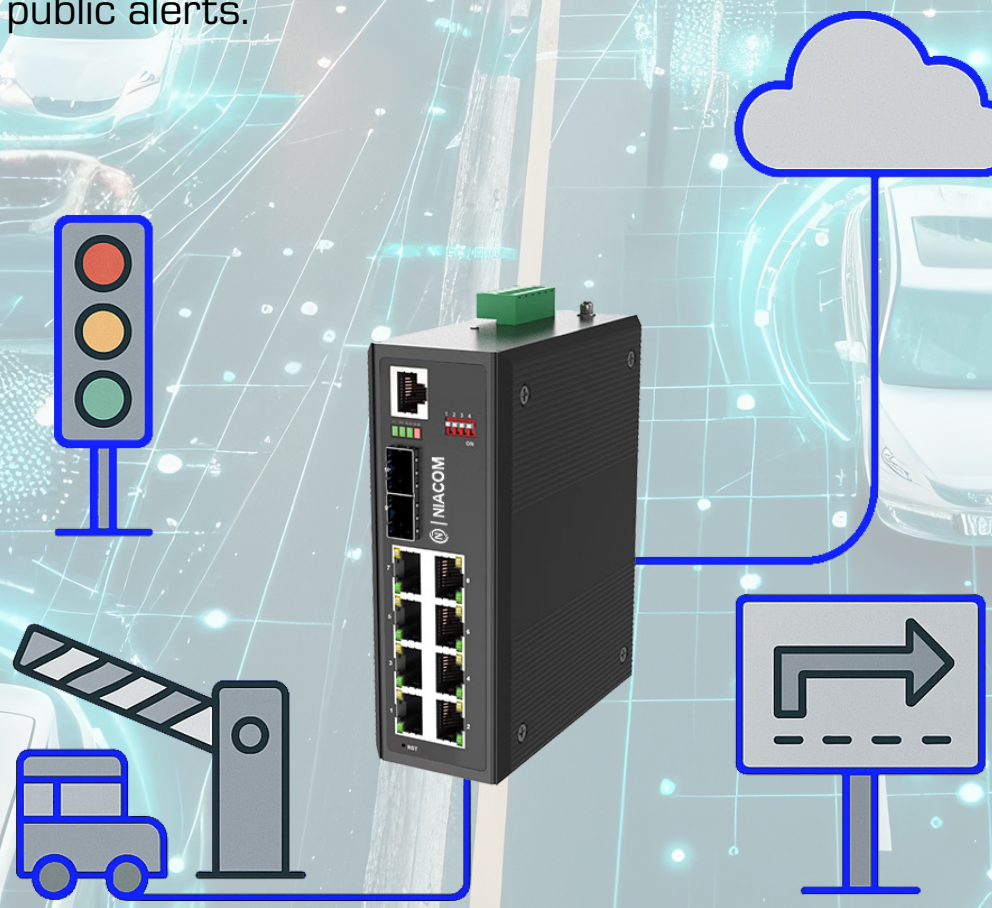
INDUSTRIAL ROUTERS **Use Cases** **>>> FIELD AUTOMATION**

4. Intelligent Transportation systems (ITS)

Challenge: Municipalities and transport authorities require constant data from traffic lights, toll booths, and digital signage across wide geographic areas.

Solution: Niacom routers installed at roadside units deliver LTE/5G-based backhaul for V2X applications.

Bandwidth-efficient communication ensures low latency control of smart signals and public alerts.



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