



NavigateWorx

Case Study 005

Smart Power Grid

Monitoring SCADA System

via LTE Wireless

Customer Background

Customer from Europe, which represents the story behind electricity, proposing and offering a full range of services such as energy audit and technical design, production of electrical equipment (low and medium voltage), general contracting, maintenance and operation services. The company develops projects in the energy services market, delivering innovative and sustainable energy solutions, designed to meet customers` specific needs.



Customer Needs

There is Power Meter which is located on a Remote Power Distribution station. Frequent meter polling is required by the SCADA Center to monitor the status of remote site in real time. Meanwhile, Industrial-grade PLC is used as sophisticated computers to connect a variety of remote equipment with SCADA systems which also need integrate wireless communications to enable remote management for security, reliability and manageability.

Why Navigateworx?

- Working In Industrial-grade construction

NR300 LTE VPN Routers are deployed as part of the SCADA system which is ruggedized solution, capable of withstanding a number of extreme environmental conditions

- Reliable Network Communication

NR300 LTE VPN Routers provides reliable compelling connectivity option between Power Meter / PLC and the SCADA Center. Router employ watchdog timers and data retry algorithms to maintain session persistence.

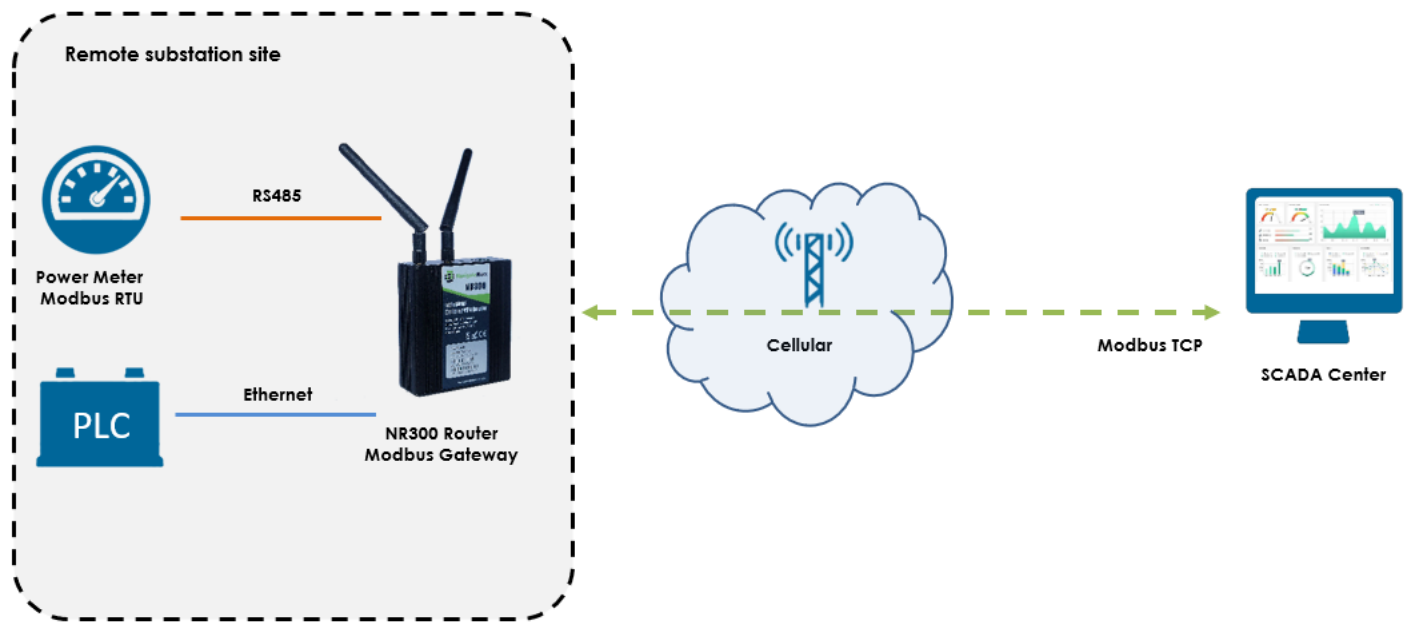
- Flexible Industrial Interfaces and protocols

NR300 LTE VPN Routers has 1 x Ethernet ports, 1 x RS232 and 1 x RS485 interfaces with incorporating flexible protocols to communicate with Power Meter / PLC and convert data traffic to IP.

- Saving Costs

Navigateworx help engineers monitor real-time operation of the machines, response to faults with shortened time, and plan for preventive maintenance, and firmware is upgraded to add new features, enhance security, or maintain compliance with the latest wireless communication standards.

Solution Application



Solution Advantage

- NR300 router meet industrial-grade specifications with integrated wireless connectivity are far more rugged and tamperproof, and our solution with embedded wireless capabilities are also likely to have more tightly integrated remote management functionality.
- NR300 router provides reliable low latency communications on 4G network, maintain the TCP connection for Modbus RTU convert to Modbus TCP.
- The information from the power meter and PLC is transmitted via Modbus RTU to NR300, then NR300 is transmitting via 4G connection to the Internet, where we are hosting SCADA system at remote center, so the customer can see the remote substation site status.
- NR300 router can be upgraded efficiently over-the-air, via software patches, which embed ample intelligence and flexibility into the power meter and PLC to reduce total cost of ownership over the life of Smart Grid System.

Product Highlights - NR300

Data Ports	1 x RJ45 + 4G Modem Serial port: RS232 + RS485
Wide Range Power input	9 to 36 VDC
Housing	Aluminum casing and din-rail installation
VPN Features	IPSec, GRE, PPTP, L2TP, OpenVPN
Routing	Static, RIP, OSPF, BGP
Modbus Gateway	Convert the serial and TCP/IP data by Modbus protocol



About Navigateworx

Guangzhou Navigateworx Technologies Co., Ltd is a dedicated IIoT / M2M Hardware Manufacturer and Solution Provider. Since its establishment on the forefront of the evolving IIoT / M2M Industry, she offers a unique combination of extremely talented Wireless and Wireline Experts to help you navigate the overwhelmingly complicated IIoT / M2M Industry.

We continue to learn and embrace the front line of advanced technology in the IIoT / M2M Space and bring practical and dependable Solutions to our customers. We have enhanced and utilized the most effective and efficient Technologies, Processes, and Procedures in the IIoT / M2M Market to continuously develop, deploy, manage our products and services to our customers.

NavigateWorx Hardware and Solutions had been widely used in different vertical markets like Energy (e.g. Wind Turbine Generator Monitoring), Retail (e.g. Vending Machines / Kiosk), Smart City (e.g. Video Surveillance), Environment (e.g. Weather Station Remote Monitoring), Transportation (e.g. Intelligent Traffic System), Industrial Automation (e.g. Package Machines Remote Monitoring) etc. With the great help of Global Distribution Network, our Routers had been shipped to more than 80 Countries and we're proud to contribute our effort into IIoT / M2M Market.

NavigateWorx would continually concentrate on IIoT / M2M Industry and bring more and more reliable, trustable Solution for our clients. That is NavigateWorx.

