NavigateWorx

Case Study 002
Remote Pump Station Monitoring for wastewater

Customer Background

Our end customer is Klepp Kommune, which is located in Norway and is part of the Government Industry. They are mainly focus on wastewater treatment.

In recent years, environmental monitoring business with deep and environmental requirements of the situation, monitoring capability is not strong, the level of monitoring hysteresis, monitoring equipment and other issues of aging gradually exposed, has become a constraining the development of the important factors of environmental monitoring. Environmental monitoring development and reform is urgently needed.

Customer Needs

Advances in low-cost sensors, as well as communications, are enabling a move to continuous monitoring for many applications. This entails in-situ sensors combined with local processing and communications for logging, processing, storing, and communicating data to Environmental Monitoring Data Center.

Citect SCADA system is connected to outstations for water/waste water monitoring. The outstations are equipped with controllers or RTUs. The communication is based on MODBUS and have been changed from radio to 4G.

Why Navigateworx?

- **Saving Construction Costs**

Compare with radio deployment, cellular network infrastructure is ready, only need to install the SIM card into the router.

- **Reliable Network Communication**

NR300 router provides reliable low latency communications between PLC and center.
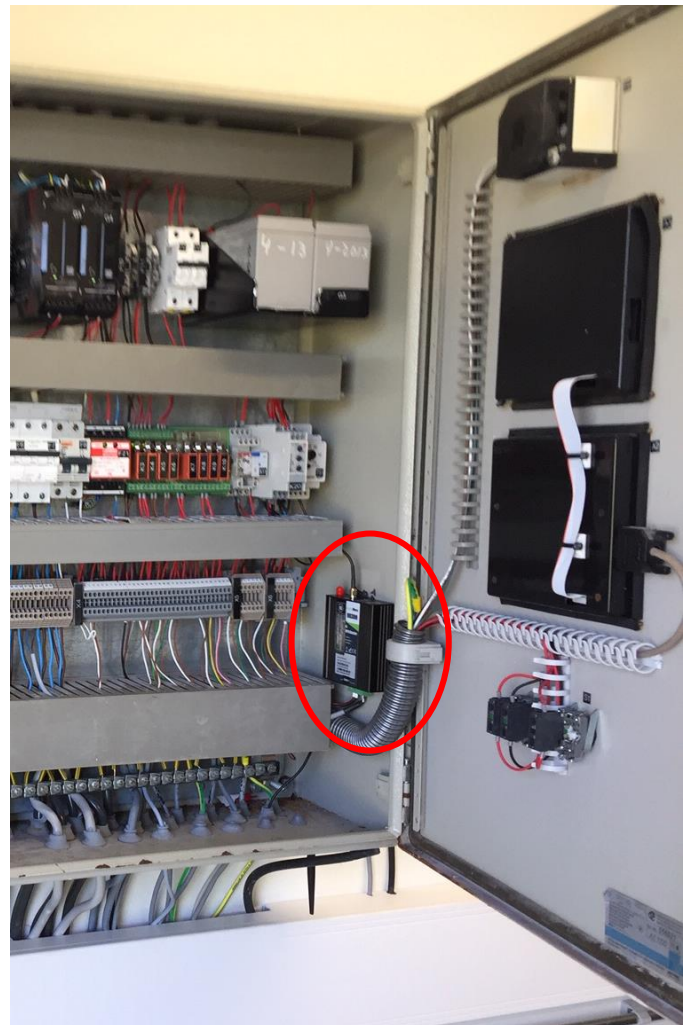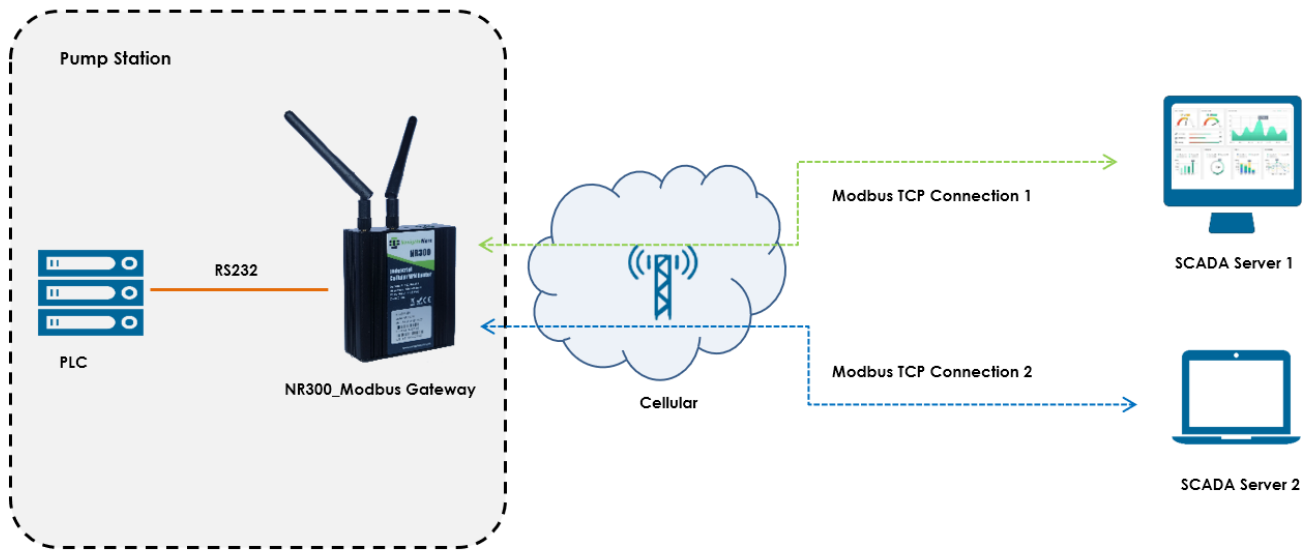
- **Working in Harsh Environment**

Industrial hardware design makes it robust enough to work in high EMC environment.

Solution Application

Solution Advantage

- Develop "PPP" connection mode on 4G cellular connection, in most of carriers only support DHCP mode to request IP address.

- Develop Enhanced Modbus Gateway feature, which allow 5 Modbus Masters communicating simultaneously against a Modbus slave.

- On this application, customer use one connection for programming the PLC connected to the RS232 side of NR300.

- Another SCADA Server is used to read the data from PLC which connected to the RS232 side of NR300.

Customer Feedback

We has now installed NR300 in 53 pump stations and all is working perfect!

NR300 is a good product to this type of application.

-- SAID BY MR. ARILD GUNDERSEN

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 an 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.