Customer Success Story

Oilfield Automation

3G Router MRD-310

westermo®

Robust Industrial Data Communications – Made Easy

Oilfield Automation with MRD-310

Lufkin Automation was formed by the merger of two companies, the Delta X and Nabla Corporations, pioneers in the market for rod pump controls. Delta-X was an established leader in test and analysis systems for pumping processes using new innovative and user friendly methods. Nabla was also an established company in this field, and the developer of groundbreaking software solutions that in many ways has simplified the analysis and control of the pumping process.

Today these two companies are a part of Lufkin Automation oil field division and offer analysis, security and control solutions for rod pumping wells.

Oil fields are often situated in remote and demanding environments where extreme variations in temperature, moisture and other environmental variables can be an issue. To install the control and monitoring systems in these environments can be difficult as oil fields can consist of hundreds of pumps spread over large geographic areas.

The Lufkin-developed SAM Well Manager is the oil industry's most advanced technological solution for high-precision monitoring and control of rod-pumping wells. The SAM Well Manager allows the operator to optimise pump performance and reliability in a number of ways. Pump flow

SAM Well Manager

can be analysed, service and maintenance requirements can be calculated before the event of mechanical failure and energy consumption can be optimised.

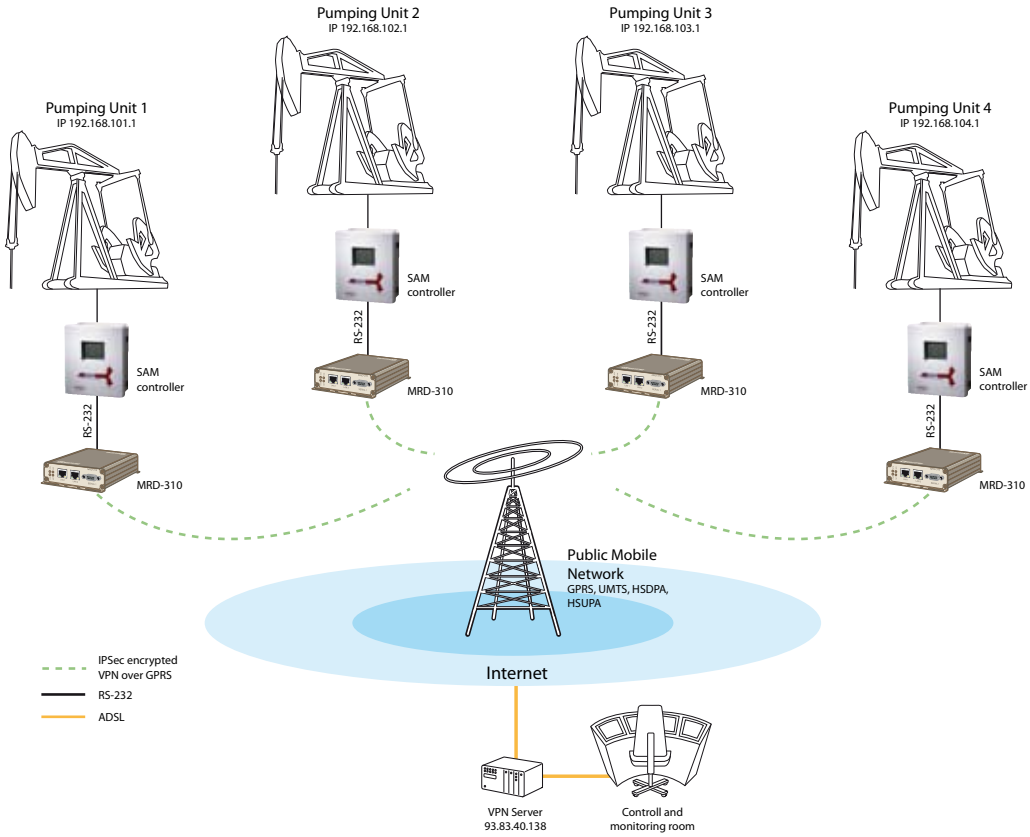
The SAM Well Manager can be configured to stop the pumping process at low oil levels and when maintenance or service are required. The system also creates a complete action history that can be used for further optimisation.

The SAM Well Manager is connected to the pump's SCADA system. To remotely control the system a variety of technologies such as copper, fibre and radio links have previously been used. Although Lufkin's European division has further enhanced the system and new solutions using mobile networks have been developed. Lufkin have decided to use the Westermo MRD-310 3G router in a series of pilot projects, mainly for the European and Asian markets.

The MRD-310 is perfectly suited for this type of application in many ways. Its support for the wide variety of mobile standards used globally allows installations in practically the whole world. It also supports IPSec encrypted VPN tunnels which is a requirement for safety critical applications that use unsecure public networks (The Internet). Furthermore, the MRD-310 provides a serial interface and serial to IP conversion, which is necessary to connect to the controller. The routers are also developed for extreme environments and can operate in temperatures from -40C to +60C.

Today, this application is installed in a number of pilot projects to demonstrate the potential for significant cost savings.

Application



Individual oil pumps can be easily be monitored and controlled from a central control room using the MRD-310. The MRD-310 is a 3G/GPRS router that allows a secure IP connection to be established using IPSec encrypted VPN tunnels.

A product range to meet every demand

Westermo provides a full range of data communication solutions for such demanding applications as railways, aeronautics, defence, water treatment, substation automation, roads and tunnels. The staff at Westermo can provide the highest levels of service and technical support to help our customers to choose, configure and install the best solution for each specific application requirement. Our knowledge goes far beyond our own product range; we have a unique competence regarding your environment whether it is on a train, in an aeroplane, on the seabed or in a substation. To ensure a close relationship with the customer, Westermo has a local presence in more than 35 countries. The Westermo product line includes more than one thousand different types and versions of our modems, switches, routers, time servers and converters.

Industrial 3G HSUPA Routers

The MRD-310 is a robust HSUPA router designed to provide remote connectivity across mobile networks. The unit features an on-board two port switch, up to three serial ports, and the possibility to four digital I/O providing the unit with versatile connection options.

The MRD-series supports a wide variety of wireless standards, thus providing connectivity in a vary of applications. Secure connectivity can be achieved using a VPN which creates secure tunnels over insecure networks.

- Dual-Band UMTS / HSDPA / HSUPA Router
- Quad-Band GSM / GPRS / EDGE
- Downlink rates up to 7.2 Mbit/s, Uplink rates up to 2 Mbit/s
- 10/100BaseT Ethernet switch with DHCP server
- Serial to IP conversion (RS-232) and digital I/O
- Stateful packet inspection Firewall
- VPN with IPSec, SSL, PPTP or L2TP encryption
- Made easy configuration and comprehensive diagnostic
- Extended temperature range (–20°C to +60°C), (–4°F to +140°F)
- 10 to 60 VDC power input

Product/Art. no	Description	Connectivity
MRD-310 3623-0001 	Industrial 3G router, built in Ethernet switch and RS-232 serial interface. DATA SHEET USER GUIDE WEB PAGE	RS-232 2 x 10/100BaseT SIM