

Customer Success Story



Streetlight Automation

With MRD-310 Industrial 3G Router



Wireless solution maximises streetlight efficiency

SK Forsyning A/S is the company responsible for the power, water and heating supply in the municipality of Slagelse located about 80 km south-west of Copenhagen in Denmark. Another area of responsibility is the city streetlights. The local authority has just recently replaced all airborne electric cable with new underground ones to provide electrical power to the streetlights. With the new cable network installed, they also wanted to upgrade the streetlight automation management system. They found that the most effective way of linking the remote streetlights back to the community fibre backbone network was by using wireless Westermo 3G routers. This solution allowed operational cost savings and was also environmentally friendly.

A streetlight loop can consist of up to 40 lights, and all the lights in a loop are powered and controlled by a nearby distribution box. In total there are about 150 different loops and distribution boxes in Slagelse scattered over a large geographical area. The previous system required manual maintenance to control the streetlight settings.

In the new wireless solution a MRD-310 3G Router has been installed in all distribution boxes to provide communication between the streetlight control units and the head office. The MRD-310 communicates over the GPRS network to a MPLS server (Multiprotocol Label

Manufacturer:

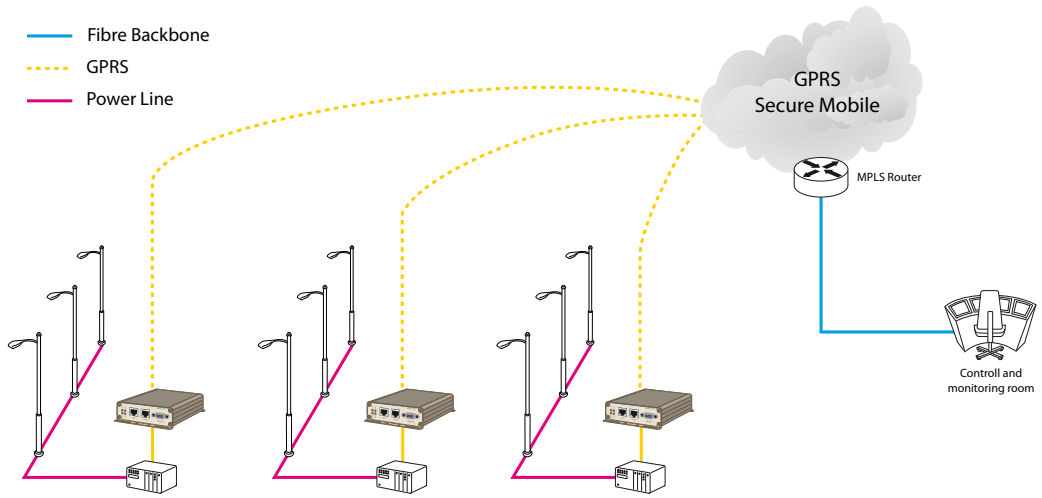


SK Forsyning A/S

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Product provider

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Quality In Communications



Switching) at the head end. This makes it possible to control and monitor all streetlights from a remote location. There are also override functions for activation and deactivation of the lighting by the maintenance personnel using a mobile phone.

The major improvement lies partly in the increased control and that much manual work can be avoided, but also in that the energy consumption can be optimised.

There are a variety of features for lighting optimisation and power consumption diagnostics which can be logged and later analysed. The router provides continuous operational information and alarms can be triggered to warn of events of abnormal energy consumption.

For additional efficiency the system has the ability to be programmed to reduce power consumption at times when less intense lighting will still provide a good level of visibility. The system currently supports two modes of lighting. During "Evening light mode" all lights are lit and for "Night light mode" only every second lamp is lit.

SK Forsyning's choice to go with a Westermo solution was based on previous successful projects. SK Forsyning also argued that when creating applications for the public sector there is a responsibility to achieve the highest quality solution possible.



The control station cabinet holds all the streetlight equipment to control the. One station can handle up to 40 individual lights.



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 |