

Customer Success Story



Traffic Warning System

Saves Lives

Application



Traffic Warning System Saves Lives

Throughout the busy Danish road network there are a number of recently installed advanced traffic management solutions that keep the traffic moving freely and above all safely. The Danish Ministry of Traffic have the ultimate responsibility for the roads in Denmark, but many of the safety and automation solutions are designed and installed by companies like Swarco.

Swarco were founded in Austria at the end of the 60's, but have grown to be a global provider of traffic automation solutions. Today the Swarco group consists of more than 60 companies located all over the world. Their core business is to provide modern traffic safety and automation solutions.

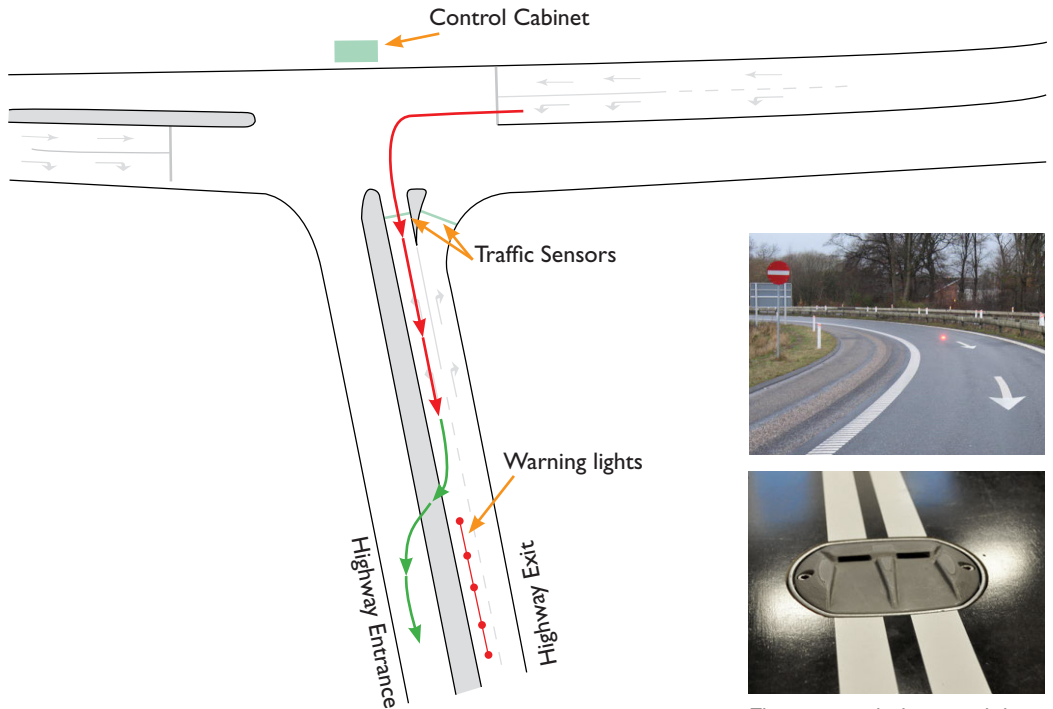
In Denmark, Swarco has specialised in smart solutions for traffic and infrastructure, and are now considered the market leader for intelligent transport systems. Installations can be found all over Denmark on roads, railway and in car parks. The company contribution to society is increased mobility, improved road safety and solutions that have a positive impact on the environment.

Manufacturer:



Product provider



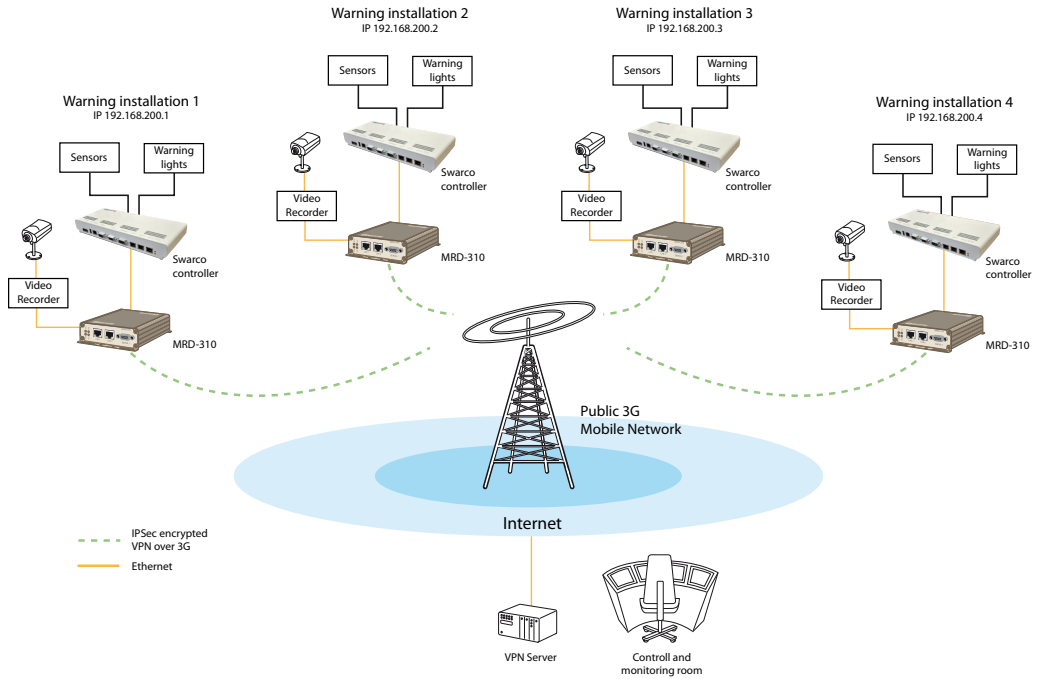


The countersunk warning lights are only visible to vehicles coming from “wrong” direction.

One of the many requirements from the Danish Ministry of Traffic was improvement of the safety at several multi-lane highway entries where serious accidents had occurred in the past. Despite numerous warning signs, there were still occasions where drivers have made a wrong turn when entering the highway and ended up driving into the oncoming traffic, particularly at night or in bad weather. A system has been developed to help guide drivers onto the correct lane if possible. At sites where it is not possible to change lane, the flashing lights will get the drivers attention who hopefully stops the car. This system has been installed in seven different locations and has already been put to the test on several occasions.

A sensor in the road at the beginning of the highway entry triggers an alarm if a car passes it from the wrong direction. Emergency warning lights in the road are immediately activated and start flashing to notify the “wrong turners” that they are driving in the wrong direction. When the system activates, an alarm could be sent via email and SMS to the control centre where the situation can be monitored with traffic surveillance cameras.

Application



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

A cabinet at the side of the road holds the control system. A Swarco designed controller, manages all the local control and communications. For remote connectivity, Swarco has chosen the Westermo MRD-310 industrial 3G router. The transparent 3G router provides easy remote access to the controller over a secure IPSec encrypted VPN tunnel. Using the HSUPA (High Speed Uplink Packet Access) protocol, the downlink capacity is up to 7.2 Mbit/s allowing high bandwidth devices like video recorders to be used on the system.

Over a seven month period on the seven sites, four cases of wrong turns have been reported. In three of the cases the vehicles changed lane when the warning system activated and in the final case the situation could be immediately monitored and action taken to minimise the risk to the road users. The seven installations are being tested until 2013, but with these positive outcomes and potentially lives saved, it is likely that this solution will be deployed at many more sites in Denmark.



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