

*Customer Success Story*



# *Highway tunnel*

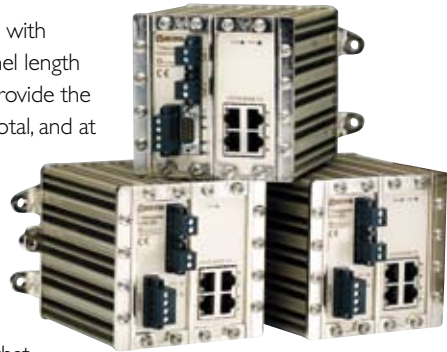
## *Highway tunnel emergency system*



# Highway tunnel emergency system

The A14 highway links the Paris business district of La Défense with Orgeval. The highway is mainly underground and the total tunnel length is more than 13 km. Technical supplier SDEL was selected to provide the tunnels with an emergency system. There are eight tunnels in total, and at each tunnel entrance SDEL designed a message sign and road barrier system to stop the traffic in case of an emergency.

A central redundant fibre network built with Lynx switches provides a backbone for a number of DDW-221 SHDSL sub-networks that control the message signs. The backbone network and the sub-networks all use the Westermo FRNT redundancy protocol. This design delivers a redundant system that provides high availability, reliability, and safety which were the major factors in the customer's decision to use the Westermo Lynx and DDW-221.



### Installed network features

- Lynx central redundant fibre network
- DDW-221 SHDSL sub-networks
- FRNT redundancy protocol





### 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.

### DDW-22x Ethernet Extenders

The DDW-22x is a set of three Ethernet Extenders in the Wolverine series with different function levels. The units utilise SHDSL technology over twisted pair cables to establish a high-speed remote connection between two Ethernet networks. All three units have a built-in four port switch and extended type approvals and depending on which unit you choose there are also features like FRNT/RSTP redundancy protocol, Serial to IP conversion and much more.

- ⌘ Up to 5.7 Mbit/s data transmission
- ⌘ Up to 15 km (9.3 mi) on twisted pair
- ⌘ FRNT/RSTP redundancy protocol
- ⌘ Extensive line protection
- ⌘ Wide temperature range (-40°C to +70°C)
- ⌘ Galvanic isolation and transient protection

