Customer Success Story

Ethernet switches

*reduce the cost
of traffic data collection in Milan*

WESTERMO®

*Robust Industrial Data Communications
– Made Easy*

Westermo's Ethernet switches reduce the cost of traffic data collection in Milan

The Ethernet standard dramatically decreases network costs. With Westermo's solutions, this advantage is clearly enabled in the railway environment. Its off-the-shelf equipment has been directly installed by the railway operator. Using the example of FERROVIE NORD MILANO the reliability of this railway approved equipment is seriously underlined.

FERROVIE NORD MILANO, Italy's second busiest railway company, is implementing WESTERMO Ethernet equipment to replace its analogic devices. Westermo enables data transmission from advanced PLCs, gathering information from track sensors, to the SARONNO city control center through fiber optics (red lines). Signalling in/out digital signals are transmitted from the track to the server SCADA center. Westermo supplies wire transmission devices, point to point and multipoint long distance wire and fibre optic data transmission devices, fiber optic Ethernet connections and fiber optic ring network, based on the railway approved L328 Switch.

Control rooms receive input regarding train status, position, speed, gates and shifters from many devices and systems that help ensure safety and high quality train service. Reliable connectivity among all devices is a key requirement for all railways. The majority of control and alarm systems are located far away from the communications devices in the stations. Multiple control and measurement devices spanning the railroad lines

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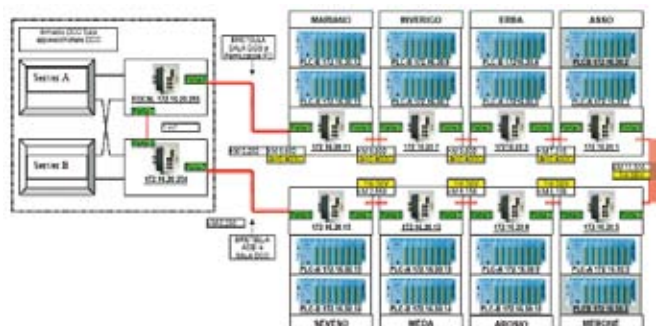A cost-effective solution enabling 100 Mbits data flow.

Previously, data collection was done with analogic systems. This involved many analogic devices, high engineering costs and very low data flow! Cost-effective Westermo switches enable a stunnning decrease in the equipment required as well as network and maintenance costs. Furthermore, because Westermo's equipment is easy to use and easy to install, FERROVIE NORD MILANO ESERCIZIO is able to install and maintain its network by itself.

A first line of 10 stations has been installed and two more lines are in the process of implementation, representing a project of 22 additional stations. This new order confirms the performance of Westermo's Ethernet switches.

High reliability and high availability

Westermo manufactures industrial Ethernet products for control applications, intelligent transport systems, railway signal systems and other open automation systems.

Westermo's Ethernet switches are based on a robust and reliable industrial design for maximum longevity and minimum lifetime costs. Applications of these switches in railways include station areas, signalling systems, train information systems and subways. FERROVIE NORD MILANO utilizes the LYNX 320 range of Ethernet switches. It fulfils the toughest industrial environmental requirements: full metal housing, IP40, temperature range of −40°C to 70°C, no mov-

ing parts, redundant power imput. The Fast Re-configuration of the Networks Topology (FRNT) concept enables high availability. It offers ultra fast reconfiguration (30 ms) of the network topology (the fastest solution on the market). The FRNT concept eliminates failures caused by network links and/or switches. Management of the switches is easily handled in the Windows based IP Configuration tool. The software tool is free and any of the Ethernet ports can be used for this purpose. Thus, no serial port is required for setting the configuration parameter on the switch. This means that the Lynx switch can be mounted and installed prior to configuration. High MTBF numbers make it the choice for applications where temperature, vibration and insulation are critical parameters.

Installed network features

1. Network length about 60 km
2. 10 Lynx 328 (railway approved)
3. Multidrop redundant ring
4. Data transmission speed 100 Mbits
5. SNMP network reconfiguration time <20 ms

WESTERMO's global solution

1. Local data communication, serial interface converters, fieldbus devices
2. Remote Access, PSTN, Multidrop V.23, GSM/GPRS, ISDN
3. Fibre optic long distance, singlemode, multimode.
   Serial RS-232, RS-485, 12 Mbit PROFIBUS
4. Unmanaged Ethernet switches, serial to Ethernet converters,
   Media converters
5. Managed Ethernet, fast recovery ring 20 ms FX, TX and BiDi
   (BiDirectional fiber)

PIERO BARSANINI, Westermo's Italian distributor, was founded in 1947. Piero Bersanini has been representing Westermo on the Italian market for many years. The company is headquartered in Milan and boasts a well-established sales network.

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.

Lynx Series – Compact high performance switch

The Lynx is a family of switches with different function levels and approvals. The switch can be configured with either 100 Mbit or Gbit transceivers offering transmission ranges up to 120 km. The Lynx is managed with four priority queues and features like Head of Line to blocking prevention ensure that the data is deterministic. The 400 and 1400 models are also equipped with the FRNT and RSTP redundancy protocol.

- Real time Ethernet
- Priority queues and priority scheduling
- FRNT/RSTP redundancy protocol
- Extensive line protection
- Wide temperature range (–40°C to +70°C)
- Galvanic isolation and transient protection