Perugia’s Minimetro

BOSCH
Invented for life

Industry:
Transportation

End User:
Perugia’s Minimetro

In 1998, the City of Perugia established Minimetrò S.p.A, a stock company with majority public capital. The new company was set up to design, implement and manage a light subway system for the city of Perugia. This new, innovative and alternative public transport system includes the Pian di Massa-Monteluce route, which covers a total of 3.8 km (2.3 miles), with a total investment of over EUR 80 million.

Business Objective:
The objective of Minimetrò S.p.A. is to halve the amount of traffic in the city by creating an alternative public transport system that employs highly innovative technologies. The 'Minimetrò' effectively connects parts of the city which are isolated due to inadequate infrastructure and increases pedestrian mobility.
Thirty years after the creation of the escalators in Perugia, the new Minimetrò has become the reference point for alternative mobility solutions in Italy and in Europe.

Solution:
Umbra Control, a partner of Bosch Security Systems, provided the heart of the solution: the Building Management system which allows the integrated management of services. The company has also provided a series of Bosch systems, including, CCTV in the stations, audio communication and emergency systems, as well as a smoke detection system for technical and control rooms.

Furthermore, Umbra Control were also involved in the provision of intercom stations for emergency distress calls, a broadcasting service for communicating to the public on service panels, telephone systems and access control systems for the public and service associates.

All of the aforementioned systems communicate with each other via LAN networks and use digital technologies to communicate over IP.

Two macro systems form the video surveillance system. The first consists of an analog system for monitoring the stations, and the second an IP system for the connection lines. Over one hundred of Bosch's Dinion and AutoDome cameras have been installed, as well as Bosch's Allegiant matrixes, Divar-2 digital video recorders and NAS units with iSCSI technology, integrated on the LAN through SDK software. The digital Praesideo Audio Evacuation system uses the CobraNet protocol to communicate via the LAN with seven of the route's stations. Finally, the BZ500 station centers are responsible for the smoke detection system. The centers are in turn are inspected and managed through the network.

Minimetro, Perugia

The focal point of the system's management is the central control center, where certain operators are always present:
- Controller A: management of transport systems
- Controller B: transport security
- Controller C: station and route security
- Controller D: access lift and escalator security

Result:
A closed cable type system has been employed, extending along a route that is approximately 3050 meters (1.9 miles) long. The speed of rope pulling varies from 1 to 7 m/sec. This unique solution offers a high level of service to passengers, with waiting times of just 30 to 90 seconds at each stop. Two of the seven stations on the route are main stations, while the others are transit stations. A total of 26 shuttles operate on the system. The shuttles can be automatically 'recalled' into service according to passenger flows.
The Minimetrò has thus been integrated into a coherent strategy of transport by making use of existing structures (mechanized routes, lifts, escalators), and by employing the urban planning objectives adopted with the New City Development Plan.

Bosch video surveillance products feature in this highly technical solution that focuses on the safety of people traveling from one part of Perugia to another, or within the city itself.

Installed by:
Umbra Control S.r.l.
Via G. Benucci 58, Z.I. Molinaccio
06087 Ponte San Giovanni (Perugia) - Italy
www.umbracontrol.it

Bosch Security Systems S.p.A.
Via M.A. Colonna 35
20149 Milan – Italy
+39 02 3696 36921
www.boschsecurity,it