

Barcelona, Spain



Ensuring
the safety and
mobility of citizens

Advanced automated solutions improve mobility on the Barcelona metro

Transports Metropolitans de Barcelona

TMB has been transporting people in Barcelona for 75 years. Today, 287 million passengers annually rely on one of its five lines for travel, and the whole network stretches over a distance of 81.2 kilometres. Aside from the shuttle trains, the metro system includes escalators and lifts, ventilation systems in the stations and tunnels, water drainage and electricity supply to stations from its transformer centre.

Customer challenge

TMB needed to modernise its system to ensure safety and efficiency, and guarantee better, faster customer service. It was using dated relay-based technology, and control was decentralised, resulting in complex programming needs and slower responsiveness to maintenance issues. TMB also could not visualise all of its applications to efficiently monitor its stations and tunnels in real time, which made it difficult to quickly detect and service maintenance issues. Furthermore, it also owned its electricity network so it needed a system that could minimise any vulnerability to power fluctuations.

Solution

GE Fanuc delivered a powerful solution with centralised control and visualisation to provide TMB with a holistic view of its entire system. The solution includes over 1500 Series 90™-30 GE Fanuc PLC controllers and Proficy™ HMI/SCADA - CIMPLICITY™ software, whereby controllers in the individual areas (e.g., escalators) of a station can send data to a central controller to be converted into valuable information for control and monitoring.

The solution's superior visualisation and control has resulted in simpler maintenance, faster responsiveness to issues, and improved reliability. TMB can detect and respond to functional breakdowns such as the failure of an escalator, in a much more timely manner, reducing maintenance times and leading to significantly improved passenger service. Other benefits include increased communication stability and robust redundancy capabilities to ensure the highest level of availability at all times.

For more information

GE Fanuc Intelligent Platforms
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GE imagination at work