

Project Automation

Ingegneria dei sistemi

Dublin L.R.T. System

In the summer of 2004 Dublin, the largest city in Ireland, extended its transport system with two tramway lines, A-C and B, connecting the outskirts to the city centre.

The design and realization process that lasted for 5 years managed to safeguard the historical environment while meeting the growing demand for public transport.

The building of the two lines involved extended interventions on street traffic, in particular with the creation of more than fifty centralized traffic lights which, together with the Centralized Supervision System of the metro-tramway, manage the circulation of forty low-floor cars along the two directions.

The route has an overall length of about 21 Km, divided between the two directions.

The functional features of the technological installations allow to achieve a transport capacity of over 3000 passengers per hour/direction, with travelling times of 42 minutes for the line A-C and 22 minutes for the line B, and frequency, at peak times, of 5 minutes.

In the context of this project, Project Automation was commissioned to realize, install and start up the technological systems for Signalling, Supervision and Operation Services, together with the infrastructures related to the optical fibre and the digital radio TETRA coverage for voice/data communication with the vehicles and the passenger information devices installed at the stops.

For the centralized management of the aspects concerning the operation, the tested client-server platform SMARTRAMS® was used, integrating the main functions of the metro-tramway in one IT environment.

The Localization and Interlock functions are performed by dual-processor static equipment installed along the line for the protection of the tramcar progress, and in the two depots for the car parking, while providing the Control Centres with the location and movement data needed for the coordination of the traffic, passenger information onboard and at stop, and finally for the management of traffic light priority at the intersections with street traffic.

In the case of Dublin, the priority management of 55 traffic light intersections is achieved giving the tramcars a condition of privilege on the basis of their early or delay status, so as not to penalize private traffic unless necessary.



In case of Control Centre failure the cars are able to independently make up for the lack of localization and coordination functions, which are temporarily carried out on the basis of the standard timetable and the processing resources of the on-board SMARTRAMS® modules.

The infrastructures of the traction network are remotely monitored and controlled by a special module of SMARTRAMS® system. Moreover, Video surveillance system arranged at the stops integrates with the Emergency SOS calls, providing for the safety of the passengers.

