Keeping Turin on track

Maintenance of the Turin Metro's 52 driverless vehicles, security systems, station facilities and central control centre is aided by CARL Transport Rhys Lewis

Leading European Computerised Maintenance Management Systems (CMMS) supplier CARL Software's choice of Turin for its first office outside its native France is no surprise: the Italian city is less than four hours from CARL's Lyon HQ and is the site of one of the firm's most successful collaborations – managing the maintenance of Turin's Metro system.

The Metropolitana di Torino opened in 2006 to coincide with the hosting of the Winter Olympics in the city, and four years on the number of passengers travelling along the 9.5km line has grown from nine million in 2006 to 22 million in 2010.

The driverless automatic light vehicle (VAL) system boasted a punctuality rate of 99.8 per cent in 2009 on top of a 99 per cent uptime for its fleet of 52 vehicles, and with the entire network controlled by a four-strong control-room team, managing maintenance is key to its operations.

CARL's transport-specific CMMS, CARL Master Transport, was deployed by Siemens Transportation Systems to monitor maintenance of the VAL trains, 14 stations and the central control centre.

The systems manage stock levels, can help locate one of 4000 spare parts in the Gruppo Torinese Trasporti (GTT) warehouses, and help keep uptime high by logging repairs and component orders to establish preventative maintenance cycles.

With the carriages clocking up 4.5 million kilometres between them in 2009, knowing the MKBF (mean kilometres between failure) of a component – be it a tyre, light, brake unit, smoke detector or security camera – lets GTT engineers perform some 300 preventative maintenance operations for every 15,000km travelled.

In the case of unexpected component failure, warnings to the control centre automatically become work orders, with the replacement parts ordered and engineer time scheduled.

This June, six additional stations will open to extend the Metro to 13.2km and further expansion is planned for 2014. By then, the ratio of preventative to corrective maintenance should be even higher than the current 2:1, and CARL's sales director Jean-Philippe Cesari says that the Metro's operations will by then have migrated to the browser-based CARL Source Transport, a modular solution which is more customisable and can link with other systems, such as GIS mapping, via XML.

GTT also manages the extensive bus, tram and train systems in the city and Cesari hopes these other sectors will eventually switch from their SAP-based CMMS to using CARL's systems.

CARL Transport manages maintenance of light-rail systems in Marseille, Seoul, New York and Madrid. Cesari reports that transport has been the company's biggest growth sector over the past three years.