



# TOULOUSE TRAMWAY

*PcVue platform integrates centralized maintenance, signaling, automatic vehicle location system and closed circuit TV into a unified system.*

The railway systems integrator Roiret Transport, subsidiary of the Vinci Group, has selected the PcVue software solution from publisher Arc Informatique to supervise the centralized technical management (CTM) of the new Toulouse tramway.

After the Lyon tramway and the Singapore and Santiago (Chile) undergrounds, it is the thirtieth urban system to opt for this solution. Every day PcVue manages the information necessary for the transportation of more than 10 million passengers around the world.

PcVue is a centralized supervision (SCADA) software with an installed base of more than 38,000 licenses around the world.

In its railway version it is used to supervise the CTM (centralized technical management) equipment, i.e. the trackside equipment of the network.

This equipment includes electricity substations, stations (ticketing, traveler information terminals, etc.), intercom, CCTV, and sometimes even the track signaling systems.

In practical terms, if a ticket machine is faulty, for example, the software sends an alarm to the operator in the central control room so that the most appropriate corrective action can be taken.

In the case of the Toulouse tramway, PcVue will interface with some thirty controllers (including one for each of the 18 stations).

The software manages 15,000 to 20,000 information items in real time. It can also run applications handling larger volumes, with up to several hundred thousand managed variables.

*"We first appreciated the ability of Arc Informatique to develop specific protocols, particularly for the CCTV. This enables us to interface with the network supervision PCs that have 'business' protocols and thus ensure the continuity of the installation. Next, PcVue provides a 'VCR' function which records the events. For example, if an incident occurs at a junction, the entire scenario leading up to the incident can be played back. Lastly, the IntraVue module enables PcVue to supervise and integrate equipment such as the CCTV cameras directly on a TCP/IP network. It is no longer necessary to use a dedicated PC for each type of equipment."* said Mr. Clarenne, Business Manager at Roiret Transport.

In a central control room there is usually a computer work station for the signaling, another for the CTM, and yet another for the AVLS (automatic vehicle location system).



## BUSINESS OBJECTIVE

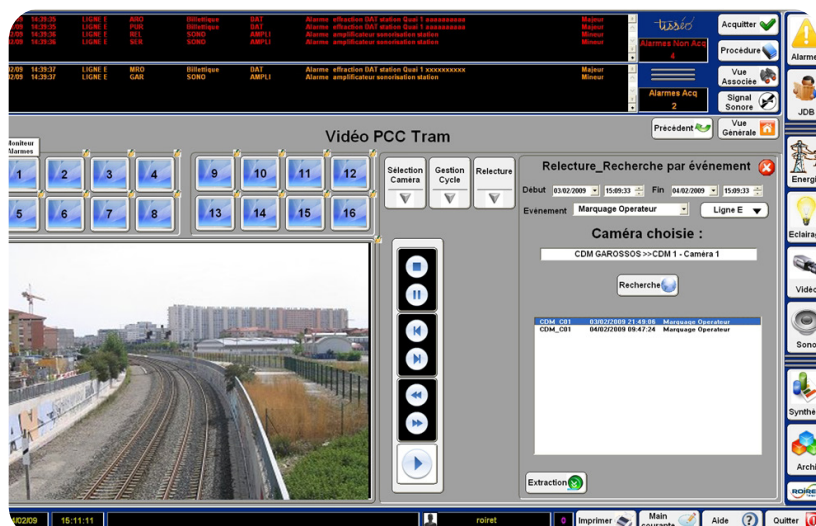
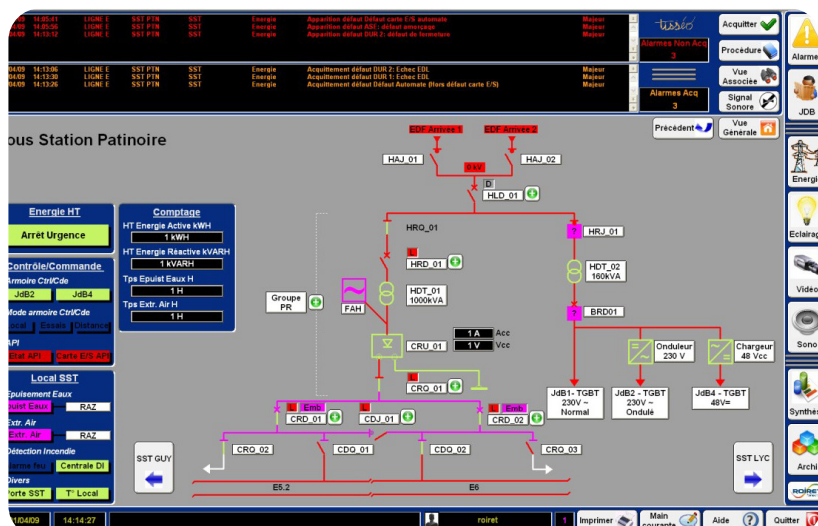
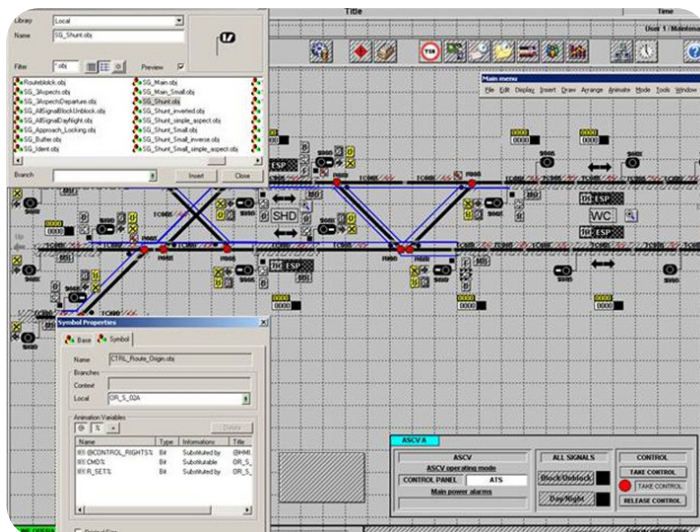
Safe Supervise the Centralized Technical Management (CTM) of trackside equipment for the new Toulouse tramway

The standout feature of PcVue is that it can integrate everything. Signaling functions can be included on the CTM screen. In this case, with only two screens, the operator supervises the CCTV, the intercom with the trains or the stations, etc.

PcVue also provides native management of multi-screen displays and video walls.

Animated graphics managing the combinations required for object coloring are supplied in the form of libraries (track circuits, switches, signals, etc.).

Development kits are available as standard for interfacing with third-party applications (train tracking, space-time plots, etc.).



## KEYS TO SUCCESS

- Manage Interface with some thirty controllers and manage 15,000 to 20,000 information items in real time
- Integrate signaling functions on the CTM screen
- Interface with the network supervision PCs that have «business» protocols and thus ensure continuity
- Native management of multi-screen displays and video walls
- Animated graphics managing the combinations required for object coloring are supplied in the form of libraries (track circuits, switches, signals, etc.)
- Development kits are available as standard for interfacing with third-party applications (train tracking, space-time plots, etc.)

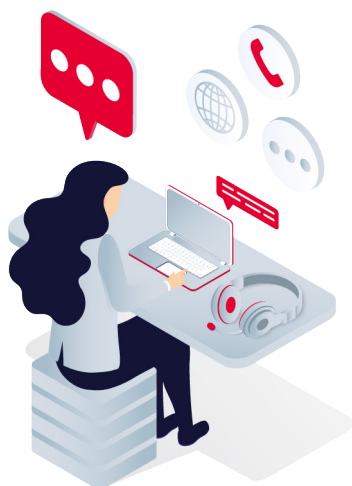


## RESULTS

PcVue platform provides integrated CTM and CCTV supervision

PcVue platform's VCR function records the events in the system


PcVue platform manages the industrial TCP/IP network for reliability and performance







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