



SUPER RIMIEZ WATER TREATMENT PLANT

PcVue manages water treatment process, pumping stations and secondary processing equipment.

The global water industry leader Veolia selected ARC Informatique PcVue Scada software as their solution to monitor and control services and operations at its Super Rimiez water treatment plant near Nice (South of France) – recognized as the one of the largest drinking water supply sites in Europe.

Performance, ease of use and lower total cost of ownership provided by ARC Informatique solutions were key factors in Veolia selecting the PcVue solution. Additionally, the 20 year relationship and trust between the two companies made the decision easier for Veolia.

The Veolia Super Rimiez water treatment plant is a cutting edge example of global water treatment technology. Constructed in 1972, the plant has seen a number of adaptations, including a total overhaul in 1998 and a systems update in 2007.

The Alpes Maritimes Secteur Nice facility covers twelve drinking water production sites with a total capacity of 460,000 m3 (122 million gallons) per day (and 3,400 km (over 2,000 miles) hydraulic network for the distribution of drinking water to 64 cities and towns with a total population of over 950,000 people.

Super Rimiez supplies the City of Nice (population of around 350,000) and surrounding area. Water is distributed to the population by a 1,200 km (745 mile) hydraulic network fitted with multiple valves, pumps and regulating equipment.

The Super Rimiez plant manages every stage of an extremely complex process that takes water all the way from collection points to household taps. Apart from the collection and distribution of water, Super Rimiez is also responsible for treating and storing the water in reservoirs located at elevated locations. This includes managing processes at the site itself, as well as all of the remote command and control functions for pumping stations and secondary processing installations located up and downstream, including 20 treatment works and the 90 telemetry stations forming part of the overall system.

To ensure the effective monitoring and smooth operation of such a complex infrastructure, Veolia uses a Supervisory Control and Data Acquisition (SCADA) system. For this, Veolia has chosen the ARC Informatique PcVue SCADA monitoring software package. The monitoring software gathers data, stores it in a central IT system and then the data is processed. PcVue directly processes the data and displays it as animations (called mimic panels) using symbols that can be instantiated (known as objects).

The information gathered is converted into standard PcVue objects and then stored in databases for subsequent use in associated spread sheet tools.



BUSINESS OBJECTIVE

- Manage every stage of an extremely complex process that takes water all the way from collection points to household taps
- Maximize performance, ease of use and lower total cost of ownership
- System should be self-sufficient in energy and water treatment services

At Super Rimiez, the software controls and monitors processes not just at the main site, but also at secondary sites. The remote control and monitoring service installed comprises no fewer than 26 SCADA terminals, which acquire around 50,000 variables from some 400 industrial PLCs (programmable logic controllers) and remote terminals. To achieve this, the team of engineers at Super Rimiez configured 1,800 mimic panels and 600 objects.

“In addition to ultra-high performance, a major benefit of the ARC Informatique PcVue is the user-friendly graphic interface, which enabled our team of development engineers to configure mimic panels and objects much more quickly than with a traditional SCADA solution. This helps to reduce costs and application roll-out times significantly”, explains Marc Pons, Veolia Water engineer and Head of the Control-Command department at the Côte d’Azur operational Center.

With regard to the data transmission network, the TCP/IP communication protocol is used throughout the plant, and at the 26 SCADA terminals.

The system is based on a virtual private network on ADSL lines and the GPRS network, with a satellite link for the main connections and RTC, GSM and SMS packet transmissions for time-stamped data stored by a secure archiving server.

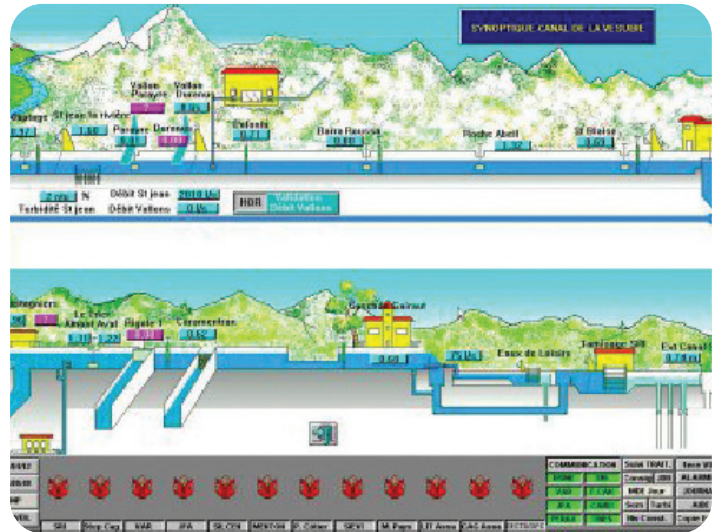
The network serves around 450 monitoring sites and is capable of issuing an average of 8,000 remote commands and acknowledging and supervising 7,000 alerts every month.

“The performance, ease of use and application roll-out cost reduction associated with using the PcVue software were certainly key deciding factors in Veolia opting for this solution. But it is also very important for us to have total confidence in the companies we work with, and this has been the case between Veolia and ARC Informatique for nearly twenty years now”, explains Marc Pons of Veolia.

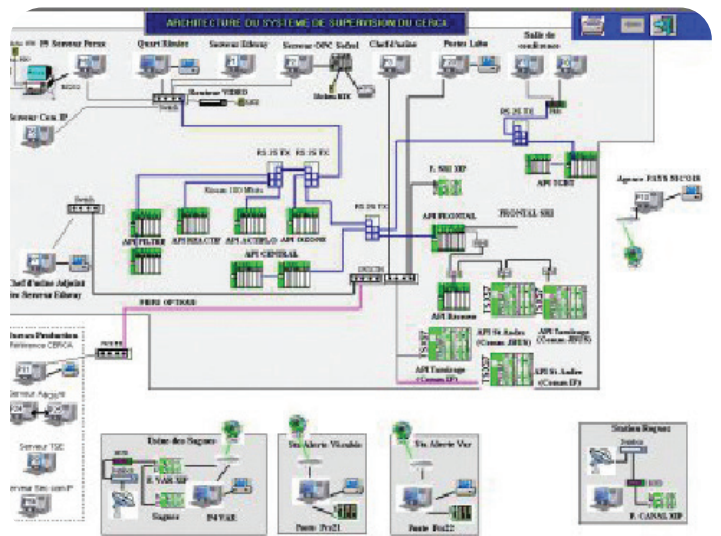
The authorities of the urban communities of Nice intend to be self-sufficient in energy and water treatment services. They are producing electricity from the potential energy generated by a cascade of water. In order to reduce greenhouse gas emissions, the City of Nice is installing 4 micro-turbines in the water supply system for converting potential energy into useable electric power.

Untreated water coming down from the mountains is channeled to Super Rimiez above the city and 280m (900 ft) above sea level. The head pressure achieved in this way, which can be up to 17 bars (nearly 250 psi), is converted into electric power by the micro-turbines.

This solution for producing renewable energy makes it possible to generate over 12 GWh of electric power per year – the equivalent of the average electricity consumption of over 3,000 households.



Mimic panel representing a drinking water pipeline feeding into the Super Rimiez plant



Mimic panel of the monitoring and control architecture

KEYS TO SUCCESS

- Efficiently manage 26 SCADA stations, 50,000 variables from 400 PLC's and RTU's
- Ultra-high performance system with user-friendly graphic interface
- Effective development tools that minimize costs and application roll-out times
- Long history of trust between Veolia and ARC Informatique Group allowing for close collaboration



RESULTS

PcVue manages 4 micro-turbines in the water supply and the solution produces 12 GWh of electric power per year


PcVue manages the treatment plant processes as well as remote control of pumping stations and secondary treatment facilities






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