Panorama at the Pellegrin Hospital Group

CHU - Pellegrin

AIMS

Ease the supervision of the technical installations.

Providing command-control functions for all the building service systems.

BENEFITS

Considerable time saving and operations improvement.

Better control over power consumption and air conditioning usage.

The Pellegrin Hospital, one of the Bordeaux teaching hospitals in France, chose Panorama Supervision to manage its building services (centralized technical management/building management system). The hospital selected Ineo Aquitaine Agence de Pessac to both design and to deploy the application. The supervision system went online in 2002 and benefits from continuous technical enhancements. With work scheduled through 2012, Panorama has become a vital tool for hospital operators to improve site management.

The Pellegrin teaching hospital before the project

Since the development of the Tripode complex in the 1970s, supervision of the technical installations has been very challenging. The 13-floor building with 3 wings thwarts security and hygiene. Today horizontal architectural designs are predominant, on only two to three levels. With 27 hectares (66 acres) of floor space in use and employees representing over 1,000 different trades, the Pellegrin teaching hospital (CHU) is a city within the city. Previously the CHU used a "hard-wired" technical management system designed with Staefa-Control hardware and software featuring a mimic diagram screen mounted on a wall in the power plant control room.

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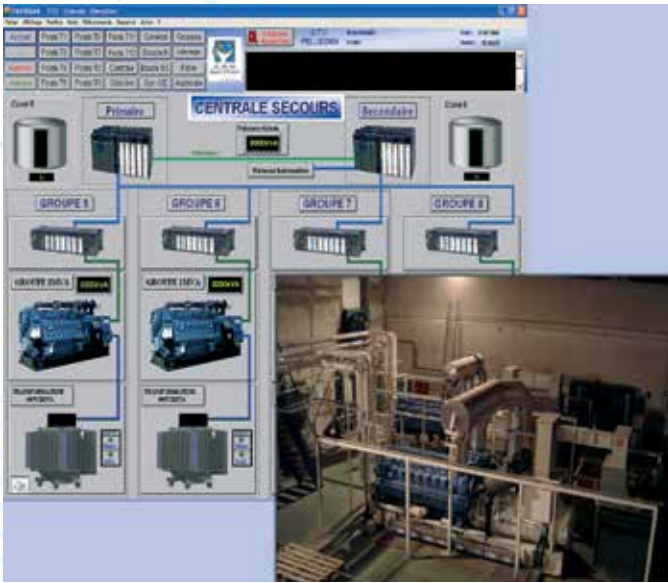
Panorama mimic diagram view for supervising the power plants at the Pellegrin hospital.

In 2001 the increasingly complex building services (water, power consumption, climate control, the treatment of ambient air, oxygen, and medical gases, etc.) called for a supervision system. Following a feasibility study, Panorama emerged as the natural choice. This open, non-proprietary, and easy-touse software provided Pellegrin CHU with a user-friendly, long-term supervision system.

Objectives

The goal of the Panorama SCADA (Supervisory Control And Data Acquisition) system is both to facilitate the management of the Pellegrin CHU's facilities and to provide command-control functions for all its building service systems. Panorama software:

- performs real-time acquisition and centralization of technical and security data,
- sends operator commands and operating instructions,
- controls and processes equipment status and alarms,
- offers real-time online help,
- creates archives for monitoring previous events at the facility,
- allows users view the archives via a built-in supervision tool,
- supports the development of custom functions and functional algorithms.

The Panorama SCADA system is also designed to offer CHU Technical Services a user-friendly, fast-access visualization system.

The SCADA System

The Panorama SCADA system was designed and installed by Ineo Aquitaine Agence de Pessac. It was set up in parallel to the legacy Staefa-Control system in order to monitor power distribution facilities and to provide continuous supervision and plant operations at the site. Initially three operator workstations were created: one near the control desk for the backup power plant; another in the Tripode central control room; and a third in the Tripode building management system room. The server architecture comprises a main server, a secondary server, and a Web (http) server. The Web server opens the Panorama SCADA network to the hospital's intranet, giving all employees fast access to the application. Both the main server and the Web server are installed in the Tripod centralized technical management room, while the secondary server is located a kilometer (1100 yards) away in the power plant control room. The wall-mounted mimic diagram display was kept to provide redundancy with the SCADA system.

Customer feedback

The Panorama SCADA system has been installed since 2001. Through constant technical and technological enhancements over the years, it has fulfilled all of Pellegrin CHU's objectives.

The Pellegrin CHU needs to use the SCADA system both for operations and for configuration by some of the technical staff. Over 300 people with no special IT expertise – called "the shadow army" by François Bournet, the Maintenance Manager – appreciate Panorama because the specifications are easily "configured with the mouse", without any custom programming. Because the SCADA system is open to the

hospital intranet, CHU operators can quickly and easily access information, saving considerable time and improving operations.

Maintenance teams are more responsive thanks to the alarm management feature. Panorama timestamps data when it is received and stores the values of timestamped variables in the real-time database. They can be used both for managing alarms and archiving. Panorama triggers alarms when analog values change, enabling operators to prioritize and differentiate failures, and to adapt their display and processing according to the level of urgency. Panorama's new event management feature makes the Pellegrin CHU teams more pro-active and helps them manage their time according to priorities.

The data archiving features provide traces for operators to diagnose any type of problem. With the Replay feature, CHU operators can go back to any given point in time and view the exact conditions causing the problem. "For example, with an event list, we can now diagnose why a call

Why choose Panorama ? Because it is an open, non-proprietary and easy-to use software.

from a patient's bed did not work," said François Bournet. This helps eliminate litigation in an area where legislation requires factual proof.

Due to the size of the hospital's surface area and to the multitude of building service systems to be maintained, the Pellegrin CHU set up a 24/7 on-call system for the Ineo Aquitaine Agence de Pessac intervention teams. Panorama's on-call module provides on-line management of the on-call personnel schedule, sends audible warnings or e-mail messages to cell phones, and enables remote connection to the SCADA system from a portable PC. "Now our teams can intervene in less than 30 minutes after receiving a

signal from Panorama," said Alain Hanen, Department Manager for Ineo Aquitaine Agence de Pessac. Panorama gives the hospital center better control over power consumption and air conditioning usage to meet its requirements in real-time. "This is a considerable advantage, given that the Pellegrin CHU uses 30 Gwh of electrical power, 44 Gwh for hot water, and 220,000 m2 (7.8 million cubic feet) of municipal water each year," said Alain Guttman, Sub-Division Manager for Technical Services. Both for maintenance purposes and to ensure scalability for the work scheduled through to 2012, Panorama allows the Pellegrin CHU application to significantly extend the number of variables it manages, with no defined limits.

KEY FIGURES

- Urban area with a population of 600,000
- 4th largest public hospital in France
- The region's biggest employer
- 7,000 employees at Pellegrin
- Over 1,000 trades
- 27 hectares (66 acres) of floor space in use
- 1,500 beds
- Technical Service :
- 300 people
- 30 Gwh energy
- 44 Gwh hot water
- 220,000 m2 (7.8 million cubic feet) of municipal water
- 22,000 vehicles/day

Panorama mimic diagram view for supervising boilers at the Pellegrin hospital.

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Historical framework

During the 1970s hospitals were no longer in phase with the standards of the time. "Tripode" – a term from the architecture project – went into service in 1978. It was part of the master plan developed during the sixties and seventies, involving two phases :
• development of the Maternity and Midwifing School, a Tripode surgery project, and an institute for paramedical training.
• development of a second Tripode specializing in medicine and pediatrics.
The construction project for the first Tripode – perceived by some as the resurgence of "hospital cathedrals" – raised numerous objections. Both hospital and university authorities, confronted with unsuitable and antiquated facilities, pressured the Governing Council into carrying out the project between 1973 and 1978. Special projects regarding pediatrics services were very controversial, and the overall project was given a tough time: the Ministry of Public Health was opposed to the development of a second Tripode; furthermore, the conclusions of a socio-economic feasibility study carried out by CHU senior management revealed the futility of the master plan, which concentrated all of the general and technical hospital equipment and teaching facilities in one limited area. The master plan was modified in 1973, providing a broader, more balanced vision of the areas and equipment. This new plan not only enabled the development of the various regional hospital center projects but also ensured future developments, notably the creation of technical and scientific hospital centers, far removed from the concepts of the 1970s.

SYSTEM ARCHITECTURE

- 1 redundant main server
- 1 redundant secondary server
- 1 http Web server
- 5 powerful client workstations
- 2 redundant Quantum master PLCs
- 11 high-voltage PLCs
- 5,600 variables processed

From industrial SCADA to a global information system

Panorama P2

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