



## SUCCESS STORY

### PROFILE

- Subject : SCADA
- Process : FM/BMS
- Client : Sanofi
- Integrator : INEO Industrie Aquitaine Gradignan office
- Date : 2009
- Installed base :
  - Panorama E<sup>2</sup>
  - 1 server
  - 25.000 variables
  - 4 client workstations
  - 1 ORACLE data server
  - Dedicated VLAN
  - OPC Communications
  - BACnet Communications
  - 60 Siemens controllers
  - 6 Wago controllers

# Sanofi controls its energy consumption



The Sanofi plant at Ambarès: monitoring all the building services over more than 13 ha.

### AIMS

Monitoring and optimization of energy consumption.

An open, scalable BMS/FM application.

### BENEFITS

Monitors energy consumption by zone for the entire plant.

Increases energy efficiency and performance.

Improves ease of use.

Raises awareness of energy consumption.

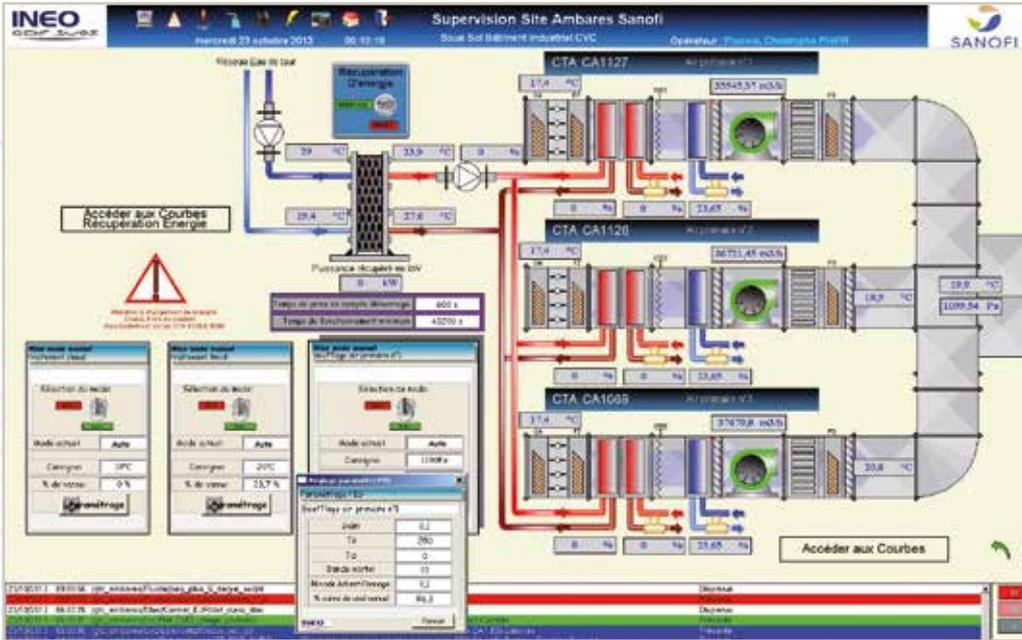
Sanofi Ambarès, a major unit of the Sanofi Group specialized in drug manufacturing and packaging, has set up a robust FM/BMS solution powered by Panorama E<sup>2</sup>. The application was developed by the Gradignan office of INEO Industrie Aquitaine and deployed in 2009. By displaying information in real time, monitoring and ensuring the optimal configuration of the building services, and generating energy consumption reports, it meets the Group's energy efficiency needs.

The Ambarès site, inaugurated in 1968, is a major manufacturing and specialized packaging plant for dry powder medication (pills, coated tablets, capsules) and injectable solutions in ampules. The plant manages complex processes such as the production of controlled-release micro-granules,

continuous dry granulation, and slugging. The Spacing Support, and Industrial Launch Center (IDSL) is recognized for its expertise and innovation. Its mission: to continually improve industrial know-how for the benefit of patients.

The Sanofi plant at Ambarès is certified by health

authorities in numerous countries worldwide and exports to markets in the US, Asia, LATAM, and Europe. It has obtained approval from many organizations including the FDA (Food and Drug Administration in the United States), PMDA (Pharmaceuticals Medical Devices Agency in Japan) and EMEA (European Me-



Energy recovery and CTA configuration.

decines Agency).

### Choosing the Panorama solution

A key challenge facing our generation is the control of energy consumption. The Sanofi Group has implemented a strict environmental policy concerning renewable energy, waste reduction, and energy savings. A work group was set up at the Ambarès plant to launch a general discussion on this topic, and it identified several areas for improvement. The group recommended the installation of a powerful, open, and scalable FM/BMS system in order to visualize the complete site's energy consumption.

The Sanofi technical staff wanted an open solution enabling total control over the plant. The open design would make it possible to enhance the application by adapting it to user requirements and would ensure its long-term evolution. After issuing a request for proposal followed by a rigorous selection procedure, Sanofi chose the Panorama E<sup>2</sup> SCADA solution as it matched their selection criteria perfectly.

Codra is a French company that publishes Panorama solutions. We are close to our clients, attentive to their needs, and we are pro-active. Codra is recognized as a key player in the

SCADA market; The Panorama solutions have been implemented in France for over 20 years and Codra has been supplying licenses internationally since 2008. This reflects our long-term stability, a must for major international corporations.

Panorama E<sup>2</sup> is an object-oriented program used to create models grouping functions and interactions. The Sanofi application was first developed for an air conditioning system. The objects created (models and instances) were duplicated with or without pre-configured values. This method was then applied to all the plant's equipment used in the application. "We could not do without Panorama! It is so easy to use and a real boost for users," said Philippe Perrichon, who has followed the project since its inception and is currently the head of the plant's Metrology unit. "We continue to receive requests from other departments, such as the Quality Control team, wishing to access the data stored in order to perform more detailed searches." The Ambarès Information Service Department (ISD)

has also been involved in the project from the outset. A VLAN is dedicated exclusively to FM/BMS in order to provide an independent IT network. The ISD at the Sanofi Floirac plant works on the project as well. It is responsible for implementing IT solutions adapted to the Group's industrial activities, and it controls the Oracle server at Ambarès used to store data history.

Several user profiles are defined for the application, based on an LDAP Directory that runs under Active Directory. The manual log has been eliminated. Now everything is stored in Panorama: changes to schedules, application stoppages, voluntary interventions, etc. Furthermore, an audit trail is available for checking user logins and behavior.

### Energy performance

The Panorama application developed by INEO Industrie Aquitaine includes five groups :

- Fluids (production of purified water, vapor, a cooling unit, nitrogen, compressed air, etc.),
- Heating-Ventilation-Air Conditioning (HVAC),

- Gas,
- Electricity,
- Health, Safety and Environment (HSE).

The Panorama FM/BMS controls all the plant's building services. It triggers air conditioners, opens valves, manages HVAC for all fresh and recycled air, improves fluid production, controls the consumption of electricity/gas/vapor, regulates temperatures by zone, secures the site via intrusion protection (based on HSE standards ), and increases fire safety.

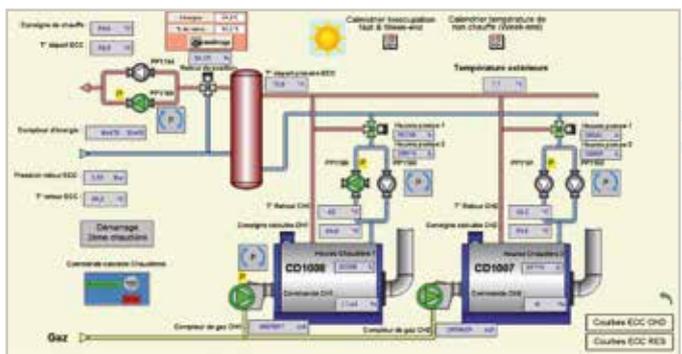
These applications are managed by standard industrial controllers. Sanofi chose this option since it is more open than traditional HVAC controllers.

"The Panorama E<sup>2</sup> philosophy is ideal for integrating a multi-function BMS. Sanofi has become a showcase for INEO — it's a major success! After visiting the site, clients like BEM (the Bordeaux Management School) were convinced of the possibilities of Panorama E<sup>2</sup>," said

Stéphane Tessier, Chargé d'Affaires at the Gradignan office of INEO Industrie Aquitaine, a Codra partner for over 15 years.

Power distribution at the site is based on full BACnet communications. This international object-oriented protocol is fully integrated in Panorama E<sup>2</sup>, providing the application with total control over the network and meeting the need for an open, scalable application.

Panorama E<sup>2</sup> helps optimize equipment operation (modules, operating cycles) and extends the equipment life cycle. This preventive maintenance is possible due to daily use of the Process Viewer. Intervention teams correct problems as they arise, they quickly react to failures and thereby improve the maintenance and monitoring conditions for the plant's equipment by proactively reacting to any changes in the plant's condition. Both the investment in new equipment and the



**KEY FIGURES**

**SANOFI IN FRANCE :**

- 49 sites nationwide, including 26 manufacturing sites
- 28 000 employees (1/4 of the staff worldwide)
- 1/3 of the jobs in the French pharmaceutical industry
- € 3.5 billion invested over the past five years

**AMBARES SITE:**

- 745 people
- Site surface area: 13.6 hectares
- Production : 4.2 billion pills
- 181 million packaged boxes
- 26 million injectable ampules
- 758 different finished goods (including 110 sold in bulk)

By consulting the Process Viewer on a daily basis, Sanofi optimizes equipment operation and extends equipment service life.



Continuous granulation.

installation of the Panorama FM/BMS are part of the company's energy saving plan. In three years these measures have reduced the plant's electricity consumption to 37 GWh from 40 GWh. Controlling energy consumption is the Corporate goal of the Sanofi group.

"A machine's yield is calculated in real time every 10 minutes.

For example, a compressed air leak on a given machine can be detected quickly; previously it would have required an entire weekend," said Christophe Piccolo, Project Manager

for new high- and low-power projects. "Energy recovery was another area for improvement: we use the calories collected at some units to heat or cool our workshops. Panorama lets us both control plant operations and measure the resulting benefits," he added. Thanks to Panorama, Sanofi also optimizes the operation of its boilers and reduces gas consumption.

The collected data is edited in reports provided on a regular basis to management and to the Energy Savings Steering Committee. To date, the use of Panorama has saved an estimated 1GWh/year, thus helping to continuously improve productivity at the Ambarès plant. "We are very satisfied with our application. Panorama deserves to be widely recognized within the Sanofi Group," said Philippe Perrichon.

#### What's next

The Panorama application meets all Sanofi's requirements. The Codra development team is continuously improving the software, and listens carefully to users' opinions and needs. Today the application does much more than the FM/BMS system planned initially. Sanofi is starting to use Panorama to visualize the solvent level in storage tanks, monitor the solar production of hot water, and forward weather information.

Panorama adapts to absolutely any type of requirement.

From industrial SCADA to a global information system

