



## SUCCESS STORY

### PROFILE

- Subject : SCADA
- Process : Drinking water  
Water purification
- Client : Communities of Montluçon and Désertines
- Integrator : SIEAMD
- Date : 2007
- Installed base :
  - Panorama
  - Siemens S400 PLC

# Panorama goes with the flow



Settling pond at the Buissonnets treatment facility in Montluçon

### AIMS

Management of the production and distribution of drinking water and the collection and purification of wastewater.

Possessing a more powerful and effective remote processing system.

### BENEFITS

Improvement of SIEAMD's yield and responsiveness, and reduction of personnel shifts.

SIEAMD (the Syndicat Intercommunal Eau et Assainissement de Montluçon-Désertines, or The Intercommunal Office for Water and Drainage) chose Panorama SCADA software for its Cher river remote management facilities in Allier, France. The SIEAMD project, which began in 1994, covers the entire water cycle, from the production and distribution of drinking water, through the collection of wastewater and rainwater, to wastewater purification. Remote management has become an indispensable tool for SIEAMD as equipment is increasingly sophisticated, and processes a wide range of data.

### SIEAMD's brief

Despite current 'every man for himself' trends, the communities of Montluçon and Désertines decided to combine forces and create a single association for managing all phases of the water cycle in order to supply

their inhabitants with water of the highest quality at competitive prices. Since its foundation in 1983, SIEAMD's mission has been to manage the production and distribution of drinking water and the collection and purification of wastewater. In order



Panorama remote management center: remote administration and control

to perform these tasks, the association built two sophisticated plants : The first, located at Gour du Puy, upstream from Montluçon, manages drinking water. The plant handles the water processing cycle in several carefully controlled steps. Water is taken directly from the Cher river, as the water tables located near Montluçon do not meet local requirements. It then undergoes screening and sieving, flocculation and sedimentation, filtering, remineralization and sanitization, before being suitable for drinking. Numerous electrical pumps help carry the

water to lifting stations and storage reservoirs to satisfy the population's water requirements. The second plant, located at Buissonets, processes wastewater and rainwater. The water travels through sewer pipes to the treatment facility where it undergoes grit removal, biological and physico-chemical treatment, and sedimentation. After being cleansed of pollutants, water is returned to the Cher. It continues its journey from Montluçon to the next treatment facility, thereby preserving the aquatic environment. The sludge is also fully

**Why choose Panorama ?**  
**Time saving system.**  
**Improvement of SIEAMD's yield and responsiveness.**

processed, undergoing thickening, digestion, and finally dehydration treatments before then being fully recycled in the form of agricultural manure. A third process removes odors. Prior to 1994, SIEAMD was equipped with GYPHON systems. Today, with its 15 reservoirs, 3 water towers, and 18 storage sites, the association has a more powerful and effective remote processing system. In order to guarantee consistency, SIEAMD decided to adopt a single remote management tool: the Panorama SCADA.

**Outline of the Panorama remote management project**

SIEAMD faced numerous remote management challenges:

- to better control production and purification by centralizing all the data for each site, tank, valve, sensor, probe, etc;
- to view all events in real time accessible to users without xtensive IT expertise;
- to reduce the number of employees required and their working hours.

The Panorama remote management application was developed by Cegelec to meet the above requirements and SIEAMD adopted

the operations element of the software. The solution includes three different applications: one at the Gour du Puy plant for drinking water, a second at Buissonnets for purification, and the third for metrology. Metrology helps improve network operations. Sensors are installed in holding reservoirs in order to provide real-time measurements (flow rate, water depth, speed, etc.). The Buissonnets facility is also equipped with a laboratory for analyzing all of its data, and wastewater and sludge.

**Customer feedback**

The Panorama remote management solution improved SIEAMD's yield and responsiveness, and reduced personnel shifts, thus enabling the association to meet all of its objectives.

SIEAMD has 57 employees, including 7 dedicated to remote management. "Previously, data was collected by radio or received directly by hand. Since the remote management application was developed, operators can control valves and pumps remotely from the plant. Considering that the water distribution network covers over 250 km (155 miles), it is easy to imagine how much time is saved," said Magali

Mallet, Manager at the Gour du Puy plant.

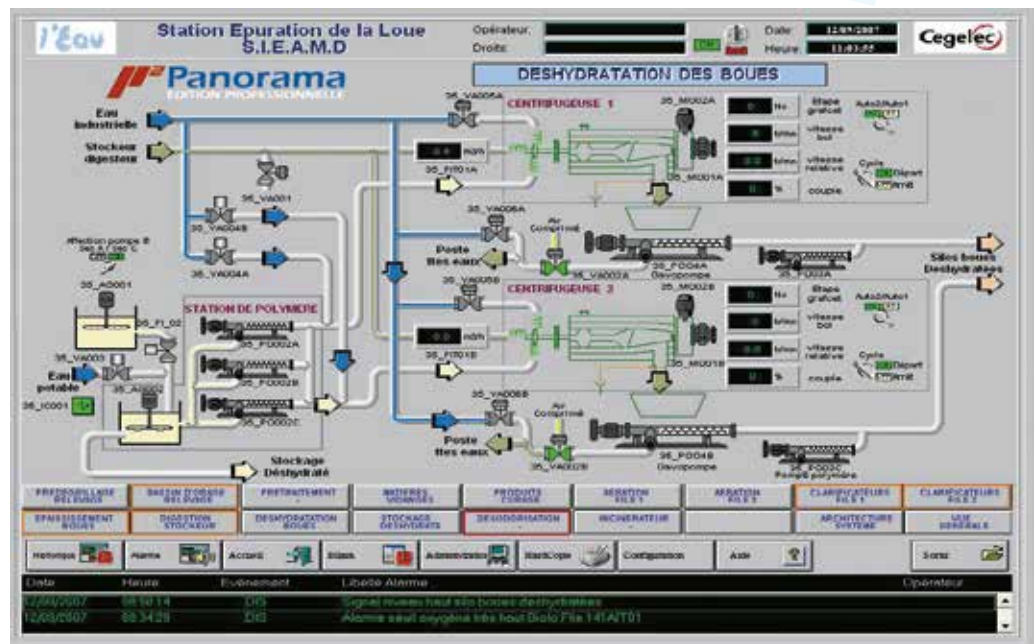
Since connections were established between Siemens S400 PLC and Panorama, all data is collected by the SCADA. SIEAMD has clearly improved productivity, at both a technical and human level.

Now only 7 people are required to manage both plants during the day, including one person on 24-hour call. "Before we installed the Panorama solution, our Technical Department had a staff of 16 working three 8-hour shifts. We obtained an excellent return on our investment," said Sylvain-Foucheyrand, Director of SIEAMD. The person "on call" is informed of any problem in real time using the Panora-

ma "on-call" management module. Agents receive a summary voice message on their cell phones, and then use a portable PC to connect to the remote site; depending on the information displayed, they determine whether intervention is necessary. Panorama is also a good water-quality management tool. "The water processing facility has its own laboratory. Our staff can query the remote management system to obtain physico-chemical parameters directly from reservoirs or other facilities," said Mr Patrick Jacquet, Manager of the Buissonnets facility. Today SIEAMD produces 4.7 million cubic meters (165 million cubic feet) of water for the 44,000 residents of two towns, representing over 21,900

- SYSTEM ARCHITECTURE**
- 1 SCADA PC at the Gour du Puy plant
  - 1 SCADA PC at the Buissonnets facility
  - 1 SCADA PC for metrology
  - Siemens S400 PLC

Panorama mini-diagram to monitor and control real-time application





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customers. "The next step for SIEAMD is to improve yield, which currently stands at around 65%-70%," said Mr Raymond Meunier, President of SIEAMD. A call for tender is underway for the end of 2007, with a provisional budget of €200,000 for equipping secondary

facilities. Magali Mallet would like to introduce a live video system, useful in case of intrusion at one of the numerous remotely managed sites. This solution would also comply with France's Vigipirate national security alert system. A vulnerability study is underway.

### KEY FIGURES

- 165 million cubic feet of drinking water produced
- 247 million cubic feet of wastewater collected
- 22,000 subscribers
- 44,000 residents supplied in 2 towns
- 18 reservoirs, including 3 water towers
- 10 pumping stations
- 6,000 inlets
- 250 km (155 miles) of pipes
- 6-hectare (14.8-acre) facility
- 57 agents, including 7 in the Technical Dept

Drinking water plant located at Gour du Puy, Montluçon - France



Drinking water, wastewater and rainwater processes



From industrial SCADA to a global information system



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