

Norvento.

Remote monitoring of power plants and security with Axis PTZ network cameras.



Organization:
Norvento

Location:
Galicia, Spain

Industry segment:
Utilities

Application:
Remote monitoring and
facility security

Axis partner:
Proxima Systems

Mission

Founded in 1981, Norvento Enerxia is a business group focusing on promoting, building and exploiting renewable power facilities. The company has been a pioneer in developing this type of energy in Spain, and it is the main Gallegan group in Galicia by installed power. Currently, it has more than a dozen hydroelectric, wind power, biomass and solar energy facilities, distributed throughout the Autonomous Galician Communities. Norvento has based its growth on its belief in renewable power, and has assigned significant resources to research, development and innovation projects. In 2008, it produced 500,000 MWh which is equivalent to the consumption of 100,000 inhabitants.

The company, through its subsidiary Norvento Operacion y Mantenimiento, performs operation and maintenance of its own facilities as well as of those belonging to their clients, employing maintenance personnel in charge of making regular visits to hydroelectric power plants facilities located in difficult access areas. These processes involve high costs in personnel and resources.

In these circumstances, Norvento began to search for a system that could allow them to see power plant operation in real time, and to remotely monitor some operational processes. Moreover, some of the power plants' owners wanted to enhance perimeter security in their facilities to reduce the risk of intrusion, theft, or accidents.

Solution

Norvento Operacion y Mantenimiento contacted Proxima Systems, whose product, Puma Industrial, fit perfectly with their requirements. Puma Industrial is a modular and adaptable product which provides monitoring, telemetry, video surveillance, and access control. The solution was configured based on Norvento's requirements, and it was installed in the facilities that were harder and more expensive to maintain and control because of their distance or access difficulty.

"The numerous configuration options that Axis' cameras offer are certainly important to me; I think it is amazing that, when needing some specific tool to verify something, the IP camera already has it."

Emmanuel Lázaro Pérez, Norvento Operation and Maintenance.

Puma Industrial includes a great precision sensor system, designated for the critical parameter readout of the power plants' processes. It allows monitoring the conditions, launching and stopping generator units, and testing the power that is being generated. Moreover, being an IP-based solution, it adds the option of integrating these data with video and sending them through the same communication channel.

Since it works through centralized protocols, this system ensures Norvento's clients perform precise control over their facilities, receiving information via GPRS of the events taking place in each one of them in real time. It also allows remote monitoring of electric equipment and even receiving technical alerts automatically through e-mail or SMS, with the option to add images and video to them.

Selecting the AXIS 213 PTZ Network Camera as an integral part of the system, was based on the camera's excellent integration capabilities and its multiple configuration options, the ease for programming events, and on being able to use its I/O ports to interoperate with different installation devices such as sensors. These cameras are able to perform visual control through Wi-Fi links, of events taking place in the facilities, including perimeter control, thanks to their horizontal and vertical movement and the zoom features. The system records what happens and sends a video signal directly to Norvento's Control Center.

Result

In their Lugo offices, Norvento set up a 24-hour control center, where operators are able to monitor what happens in each of their client's facilities. The cameras play a crucial role, for example on a wind farm, when performing outdoor maneuvers and having to visually identify that the maneuver has been successfully completed.

The main benefits that the system provides to Norvento's facilities are:

- > Greater facility management and maintenance efficiency. With all these configuration options, some of the equipment management has been automated. Schedules are set, certain positions are established, control rounds and the system are connected in pre-determined moments, and after making the relevant testing, they receive the information and disconnect on their own.
- > Reduction in the number of displacements, and related time and costs.
- > Cabling costs and public works minimized.
- > Reduction of losses caused by undetected faults.
- > Faster response time in the event of incidents.
- > Forecasting of events that may happen within a short period of time.
- > Increased productivity and facility security.
- > Useful tool to prevent labor risks. In electric plants, personnel safety takes precedence over economic issues and halting a facility is chosen over exposing workers to an eventual risk.

In the future, Norvento intends to install this system in two more plants, and adding it to the design phase for future engineering.

About Proxima Systems

Proxima Systems is an engineering company specialized in industrial applications for Information Technologies. It has a large multi-disciplinary team of professionals with extensive experience obtained in domestic and multi-national companies. It provides turn-key products and solutions to solve their clients' needs in the areas of: Monitoring and remote control of processes and industrial facilities, building automation, industrial computing, intelligent video surveillance in heterogeneous networks (GSM, UMTS, Internet, WiMax, WiFi, etc.), and access control.

