CASE STUDY

Motorola Systems Help Guard Hungary's Fleet of Power Stations

Overview: Hungary National Disaster Management Agency

Located in Central Europe, Hungary has a population of nearly 10 million and covers 93,000 square kilometers. The country generates power from fossil fuels, nuclear energy and hydropower, and distributes it to communities and businesses. The Hungarian government owns and operates all of the power facilities. As part of their overall charter, Hungary's National Disaster Management Agency is charged with emergency oversight for the country's power stations.

The challenge: safeguard power stations and ensure compliance with EU regulatory requirements

Following a series of chemical accidents in the late 1970s, the EU adopted legislation called the *Seveso Directive* aimed at the prevention and control of industrial disasters. The policies combine a range of best practices, mandatory processes and measures that are designed to prevent and, should the worst happen, mitigate the impact of any crisis. A core requirement of *Seveso II* is ongoing site surveillance to ensure that problems are spotted quickly and contingency plans immediately launched. In Hungary, the National Disaster Management Agency wanted to construct a system to safeguard 21 power stations located across the country.

The solution: a cost-effective, reliable IP based real-time monitoring and early warning system

Together with their system integrator, Fercom, the National Disaster Management Agency used a comprehensive approach to ensure the safety of the power stations. A Motorola Supervisory Control and Data Acquisition (SCADA) solution known as MOSCAD was deployed at each of the 21 power stations. MOSCAD monitors hundreds of remote sensors ranging from everyday maintenance requirements, such as warning when a sensor's battery is low, to unauthorized entry. When problems are encountered, MOSCAD pre-empts emergencies by collecting and collating the data and then sending it, via Hungary's nationwide TETRA network, to the agency's local and national control rooms.

Ensuring continuous operations should the TETRA network experience service interruption was also of paramount importance for the National Disaster Management Agency. A backup network that easily integrated with MOSCAD, the siren systems and control centers was essential.

Fercom first considered wired alternatives for the backup network. Since the power stations are located across a wide geographic area, however, wired solutions proved to be too expensive. Motorola's wi4 Fixed Point-to-Multipoint Canopy® wireless broadband system proved ideal for the parallel network.

CUSTOMER PROFILE

Agency
National Disaster Management Agency

Integrator
Fercom

Industry
Government

MOTOwi4 solutions

- wi4 Fixed
  - Canopy platform
  - Point-to-Point equipment
- MOSCAD system

Solution features

- High-speed IP connectivity
- SCADA applications
- Visibility of sensors
- Integration with TETRA

Benefits

- Compliance with Seveso II
- Centralized monitoring and control
- Increased safety and security

MOTOwi4™

"You can't be too rigorous with site safety and we've invested in the Motorola equipment for its rugged, fail-safe operation complemented by the ability to easily upgrade the system."

— László Bartuska, Operations Director, Fercom

ABOUT FERCOM

Established in 1994, Fercom is one of the leading suppliers and installers of professional wireless communications in Hungary. The company operates a nationwide dealer network, holds supplier accreditation from bodies such as NATO and is expanding its business internationally with new and innovative wireless projects.

Should any issues be encountered with the TETRA network, the Canopy wireless broadband system switches into action immediately.

Canopy is delivering strong returns. As a wireless system, it's simple to install and operate. Moreover, since Canopy is based on an IP architecture with modular components, it's scalable and easy to maintain thereby providing the versatility to build coverage inexpensively across a wide area. Coverage is complemented by performance. Designed for carrier grade robustness, Canopy technology delivers the highly reliable operation that's vital to safety applications.

The Canopy system operates at 5.4 GHz and is comprised of access points that broadcast wireless coverage to subscriber modules that, in turn, provide the local wireless links to the MOSCAD equipment. Where there is a large distance between power station sites, Motorola Point-to-Point equipment provides the broadband connectivity. The control teams can also use the Canopy network to broadcast specific voice instructions to site workers and local residents and activate sirens remotely.

The benefits: improved safety and security, greater control and visibility and increased protection

Safety was the primary driver behind the Seveso II Directive and the power plant project. Real-time monitoring systems serve to lessen the impact of any crisis by immediately spotting and providing the location of a potential problem. Contingency plans can be launched quickly and, should the need arise, local residents alerted. With the new MOSCAD and Canopy networks, Hungarian residents can rest assured that their power plants are monitored and controlled with the latest advancements in technology necessary to protect against catastrophic events.

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