

IP video improves safety and processes at SEAT.

Axis network cameras improve safety and production processes at one of the most modern automobile factories in Europe.



Organization:
SEAT, Volkswagen Group

Location:
Martorell, Barcelona,
Spain

Industry segment:
Industrial

Application:
Production management,
safety and security

Axis partners:
Fibratel, Milestone
Systems

Mission

The SEAT factory in Martorell is among the most important factories in Spain. Its annual production surpassed 375,000 vehicles in 2012 with a direct labor force of nearly 12,000 employees. In 2008, due in part to the outdated nature of its analog security system, the company decided to implement a new approach unifying the design, management and maintenance of security systems at all of their locations. In doing so, they discovered additional capabilities provided by IP video that have further improved their production processes.

Solution

After completing audits of the Security, Maintenance and Engineering departments, Fibratel, an Axis partner, was contracted to install an advanced IP network infrastructure to be used for all aspects related to video surveillance management. It should be mentioned that the plant's Engineering Department, which is responsible for the migration from the old software platform, carried out the design and development work for this project.

Result

Due to the complexity and scope of the project, development has taken place in annual phases and is currently in its fifth year. The video security system is 100% IP and made up of more than 100 Axis network cameras. Additionally, another system is used to supervise and monitor production processes using an additional 100 Axis cameras at all sites. Future expansion of both video systems is planned.



The SEAT plant in Martorell is a highly competitive and adaptable three million square meter industrial complex. It opened in 1993 after 34 months of construction with an investment of nearly €1.5 billion. Implemented as part of a Just-In-Time production system, two internal rail-road lines complete the logistics cycle - one to receive supplies, and the other to transport finished vehicles to the Port of Barcelona duty-free zone. Martorell produces models for SEAT and Volkswagen Group, which it became part of in 1986. Production began here in 2011 of the Audi Q3 - the first luxury car assembled in Spain.

Design and development of future Volkswagen Group models also takes place in the Martorell complex. Nearly 1,000 engineers focus on innovation at the plant's Technical Center, where strict security standards are necessary in order to keep information confidential.

Infrastructure, equipment and human capital

Protection of factory personnel and goods is the responsibility of the SEAT Security Department. The IP video system was installed under the direction of the Plant Engineering Department, while an interdisciplinary team of personnel from the Security, Maintenance and Systems departments also participated. The Security Department is a crucial internal element of the organization, involved in 90% of all company activities.

Given its industrial nature, the complex also includes loudspeaker systems; smoke and fire detectors; and anti-intrusion detectors that use methods such as infrared, magnetism, scanning, etc. There are also three fully-equipped firefighting units. Human capital, however, is the company's most important resource and includes an experienced team of individuals who have the capacity and intuition to resolve any incident.

Security surveillance video

A network of more than 100 devices combining fixed cameras, dome cameras, and interior and exterior-ready Axis PTZ dome cameras delivering HDTV resolution is deployed for these security tasks. The AXIS P1344/-E, AXIS P3367, AXIS Q6034/-E and AXIS Q6035/-E are among the models installed.

This video system was developed using the corporate network architecture running on Cisco Systems equipment that optimizes Gigabit Ethernet broadband and configures virtual networks for the Security Department. The principal security tasks of the IP video network are:

- > Monitoring access to the grounds, buildings and perimeter
- > Surveillance of loading docks in Martorell and at the Port of Barcelona duty-free zone
- > Monitoring of loading operations and transit of spare parts and vehicles on trucks and trains.
- > Security surveillance of the SEAT Technical Center
- > Monitoring of communications rooms and specific areas of buildings
- > Monitoring of high-risk areas (where combustible and flammable materials are used)

Time savings in production processes

The SEAT factory tracks the production process of each vehicle using a barcode attached to the body of the car. To facilitate work and avoid delays in this process, the Plant Engineering Department implemented a visual verification system using Axis cameras to complement the existing scanning system. Using more than 100 cameras, images taken of barcodes that may contain potential errors are sent to an emergency data-entry computer, providing a visual verification system that serves as a backup to the scanned barcodes. This saves operators time since, in the event of a barcode scanning error, vehicles don't have to be physically moved in order to re-scan them.





Axis cameras are also used to monitor the transport of new SEAT Leon car bodies throughout the plant. The entire route of the automatic transport system is overseen: from the body shops, throughout the automated assembly facilities (where the cameras are also used to verify sequencing), all the way through to the final stations of the assembly lines.

Control Center

In operation since 2011, the Control Center is responsible for the implementation of the security systems. This center allows managers - who facilitate the oversight and monitoring of all safety installations put in place under the new concept - to adapt and centralize technologies via the corporate networks.

All installed cameras send images to the SEAT plant's Control Center, which are in turn projected onto a video wall made up of ten 42-inch screens. The center is outfitted with 8 servers and 90 terabytes of storage. This allows all images to be saved and referred to and/or retrieved for up to 15 days in order to resolve any incident or legal matter. The control center uses Milestone Systems XProtect® Corporate software for all work related to the viewing management, storage and treatment of images.

"With the strategic location of Axis IP cameras, we have implemented the added efficiency of remote surveillance to our existing motion detection and continuous video recording systems. The company has improved its monitoring of restricted access areas and its capacity to detect and analyze incidents. This helps us keep watch over remote and difficult-to-access areas at our plants more efficiently and effectively."

Joan Roda, Director of Security - SEAT.

Next steps

Expansion and improvement of IP video systems will continue in annual phases. New infrared-enabled HDTV cameras will be installed. The addition of tablets and surveillance cameras for mobile security units is planned. License plate recognition systems will be put in place to monitor vehicles entering the plant. Additionally, the use of thermal imaging cameras is also being considered.



"IP video has proven to be a very useful tool for optimizing some of our production processes. Today we are very satisfied with our installation and convinced that the use of IP video technology is providing us with benefits that were unattainable with analog video."

Joan Roda, Director of Security - SEAT.



About Axis Communications

As the market leader in network video, Axis is leading the way to a smarter, safer, more secure world — driving the shift from analog to digital video surveillance. Offering network video solutions for professional installations, Axis' products and solutions are based on an innovative, open technology platform.

Axis has more than 1,500 dedicated employees in 40 locations around the world and cooperates with partners covering 179 countries. Founded in 1984, Axis is a Sweden-based IT company listed on NASDAQ OMX Stockholm under the ticker AXIS. For more information about Axis, please visit our website www.axis.com