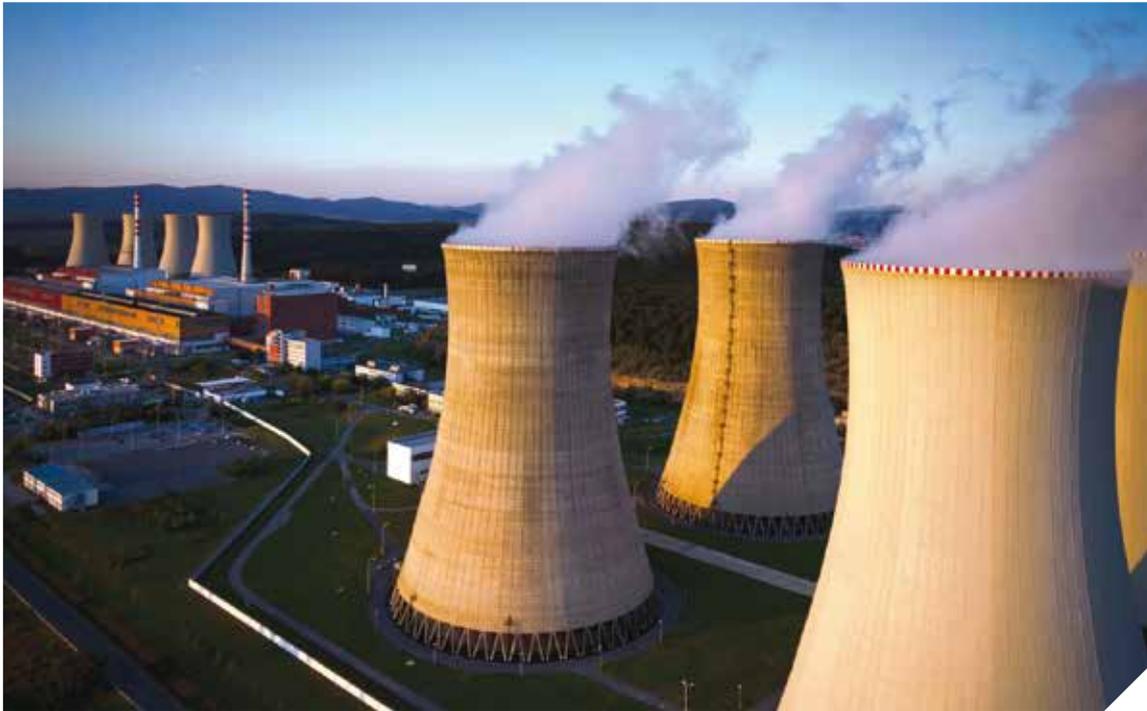


# The camera system at the Mochovce nuclear power plant provides safety and security.

Axis cameras help secure the facility and supervise its production.



Source: Slovenské elektrárne

**Organization:**  
Slovenské elektrárne, a.s.

**Location:**  
Slovakia

**Industry segment:**  
Critical infrastructure

**Application:**  
Safety and security,  
process and production  
monitoring

**Axis partner:**  
DeZ spol. s.r.o.

## Mission

In the south of Slovakia, between Nitra and Levice, there are the four units of the Mochovce nuclear power plant with VVER 440 / V-213 water-pressure reactors. The first unit has been supplying electric power since summer 1998 and the second one since the end of 1999. The building process of the third and fourth units is almost completed.

## Solution

The facility protection rules are defined by law since it is a nuclear facility. The cameras are irreplaceable, because the whole facility features intense movement of people, technology, and material, due to ongoing construction. They are usually installed so that they are clearly visible and play a preventative role. In critical areas featuring, for example, increased radioactivity, special cameras designed for extreme environments are used.

They are all monitored by cameras as well. Currently, Axis IP cameras from P and Q series are mostly used in the facility. The Axis brand has been selected on the basis of good experiences, reliability, and simple integration into the VMS used.

## Result

Gradual digitization and "automatic" operation represent significant financial savings. Even a smaller number of workers can do more work and have better control over multiple processes, which will also help the planned active use of video analytics in the near future. The economic benefits are obvious; however, this solution also has a big impact on higher security, as it can more easily detect possible risks and respond to incentives to avoid issues.



Source: Slovenské elektrárne

## Property protection & technology monitoring

In the facility, there is a great movement of people, technology, and material due to the ongoing construction. The cameras are used to monitor the perimeter, protect the facility and remote buildings (including the buildings outside the NPP premises), monitor technological devices and production processes, and also in the training room (control room) to support the training, testing and documentation of personnel training.

### Video analytics

The camera system is interconnected with the VMS and alarm system. The power plant also includes several technological facilities nearby, such as its water pumping station. On one occasion, the river froze, and large icebergs floated on its surface. A large piece of ice reached the inlet and water could not reach the pumps. The solution to the situation was rather complicated, and the correction took a few hours of hard work. Based on this incident, a camera was installed that monitors the river level. Using the camera for monitoring and prevention means tremendous savings.

Thanks to visual control, it is possible to actively prevent potential issues, and eliminate worries about possible consequences. There is a discussion underway to add intelligent video analytics that would automatically warn of items floating in the river and additional plans to use video analytics more often in the future. The standard motion detection in image or camera alarms are commonly used (e.g. when a camera is sabotaged).

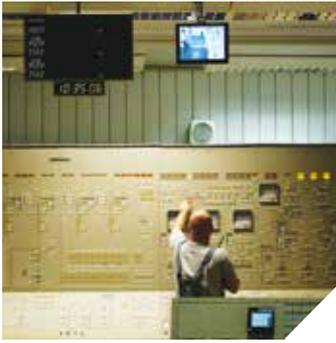
The entire premises are quite large, and hundreds of cars pass through them every day. It is planned to implement the video analytics measuring allowed speed limit for cars on premises of the power plant. Since the camera system is already installed throughout the premises, it would only be a software extension and installation of analytical applications into the relevant cameras.

Some cameras are also used to monitor perimeter outside the NPP area, where several small incidents have been resolved. There was an incident where two people argued, and one of them deliberately damaged the other person's car at a parking lot. It was thanks to the camera system that the perpetrator was immediately detected, and the evidence was handed over to the police.

Cases successfully resolved by the cameras also include an accidental exchange of the same jacket outside a dining room. It was also possible to find money lost by a distracted person while he was making an ATM withdrawal close to the premises. The ATM does not feature its own camera; however, the incident was recorded by a camera located in its vicinity and a parking lot camera. On that basis, it was possible to quickly find the person who took the money and return it to its original owner.



Source: Slovenské elektrárne



Source: Slovenské elektrárne

### Critical video monitoring

Special cameras operate continuously even at high temperatures, humid levels up to 100%. In these critical conditions, a camera is most useful because, for example, in the event of a fault or defect of any of its sensors, it is able to apply visual control and observe an actual situation faster than through some remote measuring device located at a critical spot.

With the camera's help, it is also possible in such critical situations to remotely monitor the entire process and respond to the current situation of any device without having to physically interrupt the entire production process, which could cause damages worth hundreds of thousands of euros. When you do not have to shut down or off any process because you keep it under control thanks to your cameras, it means tremendous financial savings.

In the near future, the system is to be expanded with new thermal cameras. The existing original cameras using encoders are to be integrated and the system is to be gradually upgraded with new Axis network cameras.

**“The replacement of analog cameras with digital ones represents a huge leap in quality and capabilities.**

**The new cameras feature more detailed functions and allow better identification.**

**We appreciate the high reliability of the Axis brand, which is extremely important to us. If we have a solution that will work reliably for several years, it is, in the long run, cheaper than a seemingly inexpensive solution that we need to service constantly.”**

Dušan Stožek, Technical Manager, DeZ spol. s r.o.



Source: Slovenské elektrárne

 SLOVENSKÉ ELEKTRÁRNE

 DeZ spol. s r. o.

# About Axis Communications

Axis enables a smarter and safer world by creating network solutions that provide insights for improving security and new ways of doing business. As the industry leader in network video, Axis offers products and services for video surveillance and analytics, access control, and audio systems. Axis has more than 3,500 dedicated employees in over 50 countries and collaborates with partners worldwide to deliver customer solutions. Axis was founded in 1984 and has its headquarters in Lund, Sweden.

For more information about Axis, please visit our website [www.axis.com](http://www.axis.com).

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