

## Modern technologies in retro style.

Axis network cameras secure an automotive museum.



**Organization:**  
UMMC Automotive  
Museum "20th Century  
AUTO"

**Location:**  
Verkhnyaya Pyshma,  
Russia

**Industry segment:**  
Commercial

**Application:**  
Safety and security

**Axis partner:**  
UMMC-Telecom,  
Milestone

### Mission

In May 2018, Verkhnyaya Pyshma welcomed the opening of the UMMC Automotive Museum "20th Century AUTO" housing the largest collection of retro cars, motorcycles and bicycles in Russia. A four-storied exhibition center dedicated to this museum covers an area of 12,000 square meters and represents more than 300 models with over a century background lying behind many of them. Since this collection is quite expensive and publicly available, it needs protection not only from deliberate vandalism and theft, but also from random damages caused by visitors.

### Solution

Apart from the construction of a permanent site for the museum UMMC-Telecom also took the lead on fitting the exhibition center with a security system. The focus was brought on a high-quality IP video surveillance system capable of integrating with various video management programs and having an extensive functionality enough to support the security staff and view the archived video files.

Finally, the museum management found Axis IP cameras to be the best solution for their challenges.

### Result

Now about 130 Axis IP cameras, including conventional dome and PTZ cameras as well as multi-sensor cameras, are installed inside the museum and along the perimeter of the exhibition center. The video surveillance system is integrated with automatic fire alarm system. The video streams from all the cameras are viewed in the CCTV control room providing 24/7 video surveillance managed by Milestone software (convenient setup via Milestone Optimizer) and also stored in the archive. In the nearest future UMMC plans to expand the museum and to use the advantages of the new video analysis capabilities of Axis network cameras.

**“In the museum the video surveillance system does the duties of several attendants and in many ways is more efficient than a human in monitoring the costly objects. For example, when the security operator detects an incident on the screen he can immediately take actions, e.g. by addressing the intruder via the loudspeaker or call the police. The video record archive can be used for forensic analysis in case of investigation. The reliability and excellent capabilities of Axis IP cameras guaranty the highest level of security for the museum exhibits.”**

Security operator at the “20th Century AUTO” Museum.

### Distinctive features of museum video surveillance

The choice and design of the security system was influenced by several distinctive features of the automotive museum. To begin with, the rare and expensive collection is represented literally within the arm's reach. It is all the more important to organize the proper supervision for all the objects in order to promptly remind the most curious visitors about the rules and in case of deliberate theft or property abuse call the security or guard just as quickly. In these cases the incident detection time is critical, therefore an operator monitoring all the museum areas from a suitable angle on the detailed image is usually more efficient than an attendant, who has a limited field of view and can be distracted.

Such violations as ticket-free entry, illegal trespassing the restricted museum area, smoking and alcohol drinking, illegal actions of the contract employees should also be prevented. In such situations, just recording the incident is not enough, you should also be ready to provide the forensic data, if requested, which adds value to the video archive. High-quality detailed images are not the only benefit of Axis network cameras, since they also feature the functionality to optimize the data transmission and reduce the video server load.

Since the museum occasionally changes its location and the scope of exhibitions, it is sometimes necessary to change the layout of the cameras by replacing the cables in use or running the new ones. Using Power over Ethernet (PoE) technology, which passes the electric power via Ethernet cable, makes this task easier.

### Scaling and video analysis

UMMC plans to expand the exhibition center located at the territory of the holding. Apart from the existing military and automotive museums exhibition halls dedicated to aviation and space as well as special-purpose machinery for ceremonial parades are planned to be created. Kart racing track, observatory and other sport and educational institutions will be arranged nearby. Clearly, each of these sites will also have a need for its own security system.

Looking at the perspectives of this project now it is worth noting the considerable importance of the video analysis capabilities for museums and exhibitions. For example, the camera can automatically send a signal in case of trespassing – regardless whether it's a fence around the building or the area around a valuable exhibit – while in combination with an IP loudspeaker the system can immediately playback the warning message. The video management system can support face recognition, which make it possible, for example, to search the intruders in the blacklist or give the employees access to restricted areas.

The UMMC management is now getting ready to integrate the Axis video surveillance system with a public address system in the museum, the next step being to get the new buildings equipped with network cameras.



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