# Better security in healthcare facility through Axis network cameras.

## Interconnection of smart technologies in action: Cameras and chips ensure security and help patients.



**Organization:**
Rehabilitation Institute Hrabyně

**Location:**
Czech Republic

**Industry segment:**
Healthcare

**Application:**
Safety and security, motion detection, patient monitoring, access control

**Axis partner:**
COMIMPEX spol. s.r.o., Brno

## Mission

The Rehabilitation Institute Hrabyně needed to replace its original analog surveillance system, which no longer met its current requirements for a cohesive access control and surveillance system and at the same time, further connection to the hospital information system.

## Solution

The access control system is connected with both the hospital information system and the surveillance system. Axis cameras are thus only connected to the access control system through the surveillance system. This ensures detailed records of passages with RFID chip bracelets and cards, which are provided to patients, personnel and visitors of the institute. The surveillance system complements this solution with the possibility of visual identification of specific individuals and preview in the case of unexpected hazardous events.

## Result

After creating a patient card in the hospital information system and registration of the assigned RFID chip, data about this new user is submitted to the access control system. Based on settings, the system detects which parts of the hospital are accessible for the patient and which parts are restricted – doors will either open or closed based on these rights. In the surveillance center it is possible to check which person is of concern and in case of need verify this through the video recording preview, which is retained for 3 days. The name of a person who has just passed through a door will be displayed in the video. The entrances to the individual departments all have an intercom system available, which is monitored by a camera. This enables the department personnel to visually inspect the person requesting entry and open the door remotely through the intercom.

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*"There is added value in the integrated data from the surveillance and access control system, as opposed to the more complex assembly of information from several sources and their evaluation without context."*

David Střelec from COMIMPEX spol. s r.o.

## Simple and ethical data records

The system for recording passages complemented with a surveillance system with motion detection was installed in the Rehabilitation Institute in Hrabyně in April 2015. The configuration of the access control system with distribution and implementation of RFID tags to employees and patients took quite some time. However, the surveillance system was in use right after handover. There are 33 AXIS P3364-V (interior) and P3364-VE (exterior) Network Cameras in the rehabilitation institute. Camera records are kept for a maximum of 3 days due to the respective legal measures for privacy protection. Live camera recording is accessible through an integrated client. In the case of appropriately allocated rights for system operation, it is possible to export a selected video recording from a certain time range and monitor the movement of specific individuals using data from their assigned RFID chips. By using a software filter, it is then possible to categorize the collected data into various criteria, such as the priority of a person and their name, time or selected gate. It is also possible to filter events with an incident flag, or a critical moment. The system also records a summary of unauthorised passage, e.g. when an unauthorised individual equipped with a chip passes through a particular gate together with a person that has authorization.

## Proprietary software solution integrates several functions including video

A concierge desk or security surveillance site sees the output of all cameras in the building, while medical staff see the images of cameras at entrances to the relevant department. The surveillance system utilises the integrated Axis camera functions for simple motion detection. No sophisticated tools and smart functions are currently used in the institute in Hrabyně. COMIMPEX, who is an authorised system integrator of Axis cameras, uses its own software called CxC to operate the cameras. It has already been in development for several years and is primarily designed for Axis cameras. It is also possible to connect devices compatible to Axis cameras to the software, or modify the interface for connection of other cameras upon customer request.

The software for the access control system using RFID bracelets, called CxA, works independently. As the Rehabilitation Institute in Hrabyně needed an integrated tool to control the system as a whole, the CxC and CxA tools were interconnected and a new client software was set up to enable connection to both servers.

## The system thinks of patients with mobility disabilities, assists and protects

Before the implementation of the new registration system, the movement of individuals around the premises of the Institute had not been monitored in any way. The new provision will increase patient security in particular locations of the institute. A pass-through gate always precedes entry to a certain area. Therefore, in the case of a crisis situation it is always possible to see where there are people with a handicap that may be unable to call for help in case of a fall, to escape, e.g., in case of fire or other similar situations. Both Institute employees and visitors are equipped with ID cards, which also fulfils the function of property protection at the facility, including the belongings of patients in the wards. The system works simply and effectively, as even patients who have mobility problems and are dependent on assistive aids are equipped with a special bracelet with an RFID chip. As they approach a door that they have permission to enter, the door will automatically open. But if they don't have permission, the door will not open and an unauthorized entry attempt is registered in the access control system. Another important feature is the detection of a long-opened door. If the opening time is longer than a minute, the system interprets this as an exception and automatically displays live video from the location where the anomaly has occurred at the surveillance centre. The same situation also occurs if the system detects a door that is open for a longer time and a particular person identified by a chip. It can thus quickly prevent, for example, serious consequences of an injury to a patient who has been involved in a collision in the area.





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