

When it counts: Training task forces for emergency scenarios with IP video.

Bavarian Center for Special Operations (BayZBE) uses video security technology and simulations for realistic training of emergency forces.



Organization:
Bavarian Center for
Special Operations

Location:
Windischeschenbach,
Germany

Industry segment:
Healthcare

Application:
Simulation recordings for
training purposes

Axis partner:
SIMStation

Mission

When disaster strikes, every minute counts. Special concepts and trainings are essential for civil protection authorities and aid organizations in order to be prepared for emergencies. In moments of crisis, cooperation between the individual organizations must function flawlessly. The Bavarian Center for Special Operations (Bayerische Zentrum für besondere Einsatzlagen, BayZBE) is a specialized facility that prepares for such emergencies. The center relies on innovative technology to evaluate the practical training sessions in the most structured way possible and to use them for training purposes. For example, a state-of-the-art audio and video system supports the simulation of the operations.

Solution

BayZBE relies on a total of three solutions from SIMStation, a specialist in video-based training solutions for training specialist personnel. The simulations are filmed, recorded and evaluated. Via microphone and loudspeaker, the trainers can also transmit information to the participants. The SIMStation installation at BayZBE comprises a stationary AV system with two control consoles and a mobile AV system.

The stationary installation uses dome network cameras and bullet cameras from Axis Communications. The dome cameras in the simulation rooms can be partially panned and tilted. This provides a full 360° view of what is happening, giving trainers a good basis for comprehensive viewing and evaluating of the operation. In addition, a bullet camera is installed in each of the training rooms, providing high playback quality in difficult lighting conditions.

Result

The installation of SIMStation creates a modern and professional training opportunity for skills enhancement of the emergency forces. Processes can be trained, analyzed and optimized. Excellent sound and image quality allow for timely and realistic presentation and reprocessing of the operational scenarios. A structured debriefing ensures continuous improvement of the CRM culture. Impressions and knowledge gained remain with the participants for a long time.



Natural disasters like floods and earthquakes, terrorist attacks or pandemic situations require fast, precise and coordinated action from first responders on site. Concepts and plans of action for emergency operations must be clearly defined and known to all. The helpers, often volunteers, need to know who is to do what and when. The primary goal of all aid organizations must therefore be to bundle (specialist) knowledge.

Specialized knowledge such as CBRNE hazards (chemical, biological, radiological, nuclear and explosive threats, including weapons) or the teaching of tactical medicine should have a special place in the basic and advanced training of command and emergency forces. However, this knowledge is not currently being taught across the board, e.g., in the educational institutions of aid organizations. However, a "Center for Special Operations" that operates across the board and acts as a pool for innovations and new ideas for coping with non-police emergency situations can bundle the respective needs and thus offer great added value for coping with life-threatening emergency situations.

The Bavarian Center for Special Operations was opened in December 2019 in Windischeschenbach in the Upper Palatinate region. Since then, practical training courses have been offered there for operational tactics, incident command, organization and communication, and tactical medicine. In addition, leadership simulation training with practical components and so-called skills training are held.

Realistic operational situations thanks to computer-aided systems

Training courses and practical training at BayZBE must clearly exceed the possibilities of decentralized site training. To achieve this, technological representations of various realistic operational situations are essential: computer-aided systems as well as video, audio and motion evaluations for analysis and action development of individual persons and units were therefore the focus of interest. The planning basis provided for equipping all rooms and areas with stationary as well as mobile systems.

This included not only possibilities for video recording, both during the day and at night, but also sound recording and playback, person and material tracking, radio technology as well as possibilities for video, sound and movement evaluation by the participants were required. In addition, it also had to be possible to play back changes in position via wall screens and loudspeakers within the training setting.

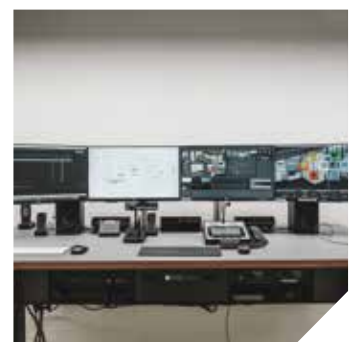
Mobile and stationary video-based training solutions

At the beginning of each training session, the trainers always prepare the participants for the course of the exercise and inform them about the technical and medical possibilities. Various scenarios, some of which build on each other, must then be worked through in assembled teams using realistic soundscapes and images on an LED wall. Why? The aim is to create a situation that is as true-to-life and authentic as possible.

To tackle this complex, technical undertaking, BayZBE relied on the long-standing expertise of SIMStation, an Austrian-based company specializing in video-based training solutions for training skilled personnel using simulation and video surveillance, which are used in more than 14 countries. SIMStation's customers include renowned university hospitals in London, Paris, Munich and Vienna. The portfolio of innovative audio-visual systems includes both permanently installed SIMStation systems and mobile, transportable systems.

Fully controllable 360° view of the situation

In close cooperation, BayZBE and SIMStation ultimately decided on three solutions in Windischeschenbach. One is a stationary AV system with two fixed control stations is used in the center for operation during training runs. This can be expanded by a third, mobile control station as well as by several mobile PTZ network cameras.





“The planning and implementation phases were coordinated and implemented by the project management teams of BayZBE and SIMStation. From our point of view, the close coordination of all relevant points as well as the perfectly coordinated cooperation with the architect’s office and all involved trades were flawless.”

Joachim Hilbrand, CEO of SIMStation.

In addition, a mobile AV system, on a rolling frame, is used outside the center. This can be used to access the SIMNet. It can also be used for decentralized deployment at BayZBE or on site at a customer, i.e., an aid organization.

A total of 23 AXIS Q6125-LE Network Cameras and 15 AXIS P14 Series cameras are used in the stationary system at BayZBE. One dome and one bullet camera are installed in each of the simulation rooms. The dome cameras, which are mounted on massive tripods, offer pan, tilt and zoom capabilities. This creates a fully controllable 360° all round view with very good video quality – important features as the cameras are in use for both the overall view of the situation and detailed views.

A tracking system enables the movement profiles of the participants in the scenario to be recorded via SIMStation software developed in-house. After the completed deployment training, debriefing takes place in four training rooms, on 85-inch smartboards. A total of 40 micro soundtracks are recorded during the training, which can also be evaluated later.

Integrated infrared lighting for nighttime situations

One AXIS P14 Series bullet camera is installed in each of the training rooms, providing high image quality with 4K Ultra HD, even in difficult lighting conditions. These network cameras are compact and easy to install. All models are equipped with day/night functionality and built-in IR illumination. This feature is important for the debriefing rooms in the center: they can be completely darkened to simulate night situations or loss of light in an extreme situation. In this case, the integrated infrared illumination in the cameras is used to record video material even in such conditions.

In addition, AXIS M1145-L, the PTZ network camera AXIS M5525-E and AXIS V5915 are used for live streaming.

The center also has a standard bus that is used specifically for terrorist and disaster drills – including in the open field. In addition to SIMStation technology, the bus also includes an AXIS M30 mini dome camera. The camera provides wide-angle views as well as excellent video quality of up to 12 MP, and enables full situational awareness with just one device.

Close cooperation across all trades

During the main installation phase and the service and expansion phase, there was a lively exchange between SIMStation and BayZBE. “The planning and implementation phases were coordinated and implemented by the project managers of BayZBE and SIMStation. The close coordination of all relevant points as well as the perfectly coordinated cooperation with the architect’s office and all trades involved were flawless. We resolved and eliminated any problems that arose in a targeted and economical manner. Thanks to the work flowing seamlessly, all issues could already be clarified during the installation phase,” says Joachim Hilbrand, CEO from SIMStation. Even afterwards, smooth operation of the entire system is guaranteed thanks to the service agreement with SIMStation.

SIMStation’s system provides a modern and professional training facility to enhance the skill level of the emergency services. Processes can thus be optimized, procedures trained and future operational scenarios supervised with greater routine. Excellent sound and image quality with the help of the Axis cameras enable the scenarios to be presented and processed in a timely and realistic manner. Impressions and knowledge gained thus remain with the participants even after a long time. This is also shown by the feedback of the training participants, which is consistently positive after more than one year of operation of the center.



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, intercom and audio systems. Axis has more than 3,800 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

For more information on Axis solutions, visit www.axis.com/healthcare
To find a reseller of Axis products & solutions, visit www.axis.com/where-to-buy

©2021 Axis Communications AB. AXIS COMMUNICATIONS, AXIS, ARTPEC and VAPIX are registered trademarks of Axis AB in various jurisdictions. All other trademarks are the property of their respective owners.

