

More efficient fire rescue operations thanks to a networked security solution.

Copenhagen emergency services uses innovative Axis technology to streamline their life saving work.



Organization:
Hovedstadens Beredskab/
Greater Copenhagen Fire
Department

Location:
Copenhagen, Denmark

Industry segment:
Healthcare

Application:
Safety and security, real-
time remote monitoring

Axis partner:
Incendium

Mission

The emergency services in Copenhagen, Denmark, wanted to be more efficient and improve their rescue operations to ensure victims get a better and faster response.

Solution

Axis partner Incendium installed a streaming solution using AXIS P12 Network Cameras together with a loud-speaker and microphone in selected fire engines, images are streamed in real time to the internal operations center for the emergency services. The operations center can then assess whether reinforcements need to be sent to the incident, and ascertain what type of reinforcements will be required. For example, the emergency services may need to assess whether buildings are at risk of collapse or people need to be evacuated.

Result

The solution has streamlined the work of the emergency services and therefore contributes to saving lives. The internal operations management can communicate with the rapid intervention team more quickly and more efficiently. In addition, the emergency services can communicate externally more quickly with the people affected and provide better public service information by quickly alerting via social media in the event of fire.



Unique streaming solution saves lives

The emergency services in Copenhagen have around 1000 employees distributed between 13 different addresses in the Danish capital. The emergency services provide firefighting support for around one million citizens in eight municipalities, to prevent injuries to people and damage to property.

Previously the emergency services had a traditional system using radio to communicate with the internal operations center during rescue operations.

"Communication under very stressful conditions is difficult," says Magnus Mattsson, Operation Commander, Emergency Services in Copenhagen. "It can be difficult to get all of the important information out quickly in the initial chaotic phase of a fire, and many decisions have to be made quickly."

The emergency services wanted help with a streaming video solution to streamline their work. Amongst other things, the internal operations center wanted to be able to send reinforcements and to support the rapid intervention team more quickly, in the event of a need for additional vehicles and personnel.

Major support in stressful situations

The emergency services engaged Incendium, who supply technology for streaming solutions in real time. In the rear hatch of the vehicle an AXIS P12 Series camera was installed together with an AXIS P8221 Network I/O Audio Module and an AXIS T83 Microphone. The camera automatically triggers via the I/O module to start a live stream to the Command Central when the rear hatch opens and stops streaming when the rear hatch is closed. The images are transmitted to the operations centre using a VPN solution. The users login via a computer.

"The streaming of images in real time allows the incident commander to immediately share important information about the extent and nature of an accident, including information that may be difficult to communicate via radio. The internal operations center gets a good overview and information to allow them to act quickly," says Asger Plaehn, Sales Manager at Incendium.

A technical challenge was that the image transmission should not be abruptly interrupted. The solution uses a normal mobile network, but is based on being able to use mobile networks from several different operators simultaneously, using four SIM cards, adapted and optimized for video streaming. This way, an uninterrupted image stream and video signal in HD quality at high speed are ensured, even out in the countryside. It is an easily-accessible solution that does not make any major technical demands of the staff, but is simple to use.

"We often work under very stressed conditions so it is important that we can fully focus on the rescue operation itself," says Magnus Mattsson.

Each command and control vehicle has two cameras: one in the windscreen and one fitted at the rear of the vehicle.

"When we stop the vehicle, the camera in the vehicle's windscreen can film what things look like when we arrive at the accident site, where the fire is burning and how intense it is. The operations centre is provided with all of the information and we can communicate with operations command at the same time," says Magnus Mattsson.

Fitting cameras to vehicles that move quickly and are exposed to difficult weather conditions places great demands on the cameras, such as withstanding vibration and large temperature variations between cold and heat.

"Axis cameras are stable, reliable in operation, dependable, have sharp image quality and good wide range, are simple to install and have an unobtrusive design", says Asger Plaehn.





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Magnus Mattsson, Operation Commander, Emergency Services in Copenhagen.

The cameras are very sensitive to light, which is necessary when filming fire at night when there are great differences in light in the same individual image. Asger Plaehn also highlights the support staff amongst the advantages of using Axis: "Axis support is very helpful, fast and good at finding the right type of solutions."

Simplicity in focus

When a fire alarm sounds, the incident commander starts the streaming with a simple press on the first camera. The co-workers in the operations centre and other key personnel can then follow events via the front camera in real time, from the moment the emergency response vehicles rolled out of the fire station.

The incident commander's rear camera is aimed at a whiteboard at the rear of the vehicle, and it starts filming automatically when the tailgate is opened.

The incident commander uses the whiteboard to create an overview of the situation with sketches and satellite images, assembles the emergency services personnel and goes through the rescue operation.

"The internal operations management can see the whole course of events in both cameras and also make a longer-term assessment, how the fire may be expected to develop in one or two hours' time and what action needs to be taken," says Magnus Mattsson.

The operations center can assess whether reinforcements are needed, analyse the risks of fire spreading and start evacuation of people in adjacent buildings, if necessary.

"Sometimes you need to call in an external expert. For example, if we suspect a building may collapse then a building engineer can be given access to the video images and analyse them to determine whether we need to evacuate a property. If we can avoid evacuation, we save troubling the people involved as well as save money," says Magnus Mattsson.

More efficient emergency services and improved public service information

"Using video images has made a fantastic difference. The solution has provided incredibly huge benefits and has given us completely new opportunities to streamline our work so that we can save more lives," says Magnus Mattsson.

The camera solution also allows an improved analysis and evaluation after the event as well as documentation of the course of events and the response operation. The emergency services can better plan the resources needed in the long term.

The internal operations management can more quickly inform the people affected and alert the general public.

"In general, there is a great need for information in society on how citizens and society are affected in the event of a fire or accident. Now the internal operations management can quickly use social media to send out a tweet if they assess something is important public service information," says Mattsson.

In addition, the solution has meant an increased focus on how the emergency services personnel act and react in pressured situations.

"Before you start filming, it's of great importance to have an internal discussion on morals and ethics. In extremely pressured situations, you sometimes say things that may be misunderstood and which are risky to use out of context. Everything is included when the communication is streamed live," says Mattsson.

Copenhagen emergency services currently have around 80 emergency response vehicles and they plan to install a streaming solution in all vehicles, and in all fire engines during the first phase.

"Video is a fantastically effective way of conveying what's happening. I believe that streaming solutions will become even more widespread during the coming years," says Magnus Mattsson.



About Axis Communications

Axis offers intelligent security solutions that enable a smarter, safer world. As the market leader in network video, Axis is driving the industry by continually launching innovative network products based on an open platform - delivering high value to customers through a global partner network. Axis has long-term relationships with partners and provides them with knowledge and ground-breaking network products in existing and new markets.

Axis has more than 2,600 dedicated employees in more than 50 countries around the world, supported by a global network of over 90,000 partners. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ Stockholm under the ticker AXIS.

For more information about Axis, please visit our website www.axis.com.