Axis network cameras support clinical sleep observations.

Medical staff at the UZ Leuven Sleep Center assess patients' conditions better during sleep with high resolution Axis cameras.

Organization:
UZ Leuven

Location:
Leuven, Belgium

Industry segment:
Healthcare

Application:
Remote monitoring, real-time images

Axis partner:
Medatec

Mission

When the medical sleep-monitoring equipment was due for renewal, it was also time to renew the camera monitoring system. The medical staff were looking for higher resolution cameras that were easier to operate and provided images that were easier to scan through. Above all, the ICT department wanted cameras that could be integrated smoothly into the network.

Solution

The Sleep Center opted for AXIS P5534 Network Cameras in combination with Medatec polysomnographs with integral Axis control modules.

Result

Thanks to the new cameras, the medical staff can assess the patient's condition better during sleep, and adjust the image in real time if any anomalies are detected. During the day, when analyzing the biomedical data, it is easier to search through the stored images and archive the relevant image material. In addition, the software supplied ensures the necessary security and privacy.

AXIS COMMUNICATIONS

UZ Leuven, with 1,995 beds and over 8,800 staff, is one of the largest hospitals in Belgium. UZ Leuven's strengths lie in its combination of research, training and multidisciplinary patient care. The multidisciplinary center for Sleep Monitoring, CPAP and home ventilation systems – usually known as the Sleep Lab – is a good example. Patients' sleeping behavior and patterns are analyzed thoroughly and scientifically. Video recordings form an important support element here.

"When our polysomnographs (the machines that are connected to the patient, to measure sleep patterns and bodily functions) were due for renewal in 2012, we thought it would be useful to install new video cameras at the same time," explains Pascal Borzée, Senior Nurse at the Center for Sleep and Waking Disorders in UZ Leuven. "The cameras we were using before were around ten years old. There was only one wall-mounted camera, which supplied analog non-HD images and could not be operated remotely. We were also confident that an installation with two cameras would provide better support for the clinical observations."

Time for a new generation
The tender specification took particular account of the latest developments on the market for monitoring cameras that might be suitable for UZ Leuven's specific needs. The hospital wanted secure images with HD resolution, but also infrared options for filming in the dark. The possibility of remote manual camera operation (pan-tilt-zoom) was an absolute must. Finally, the IT staff insisted on an Ethernet camera with a PoE facility (Power over Ethernet).

The decision to choose Axis was driven, among other factors, by the knowledge that Medatec, the supplier of the polysomnographs, had an integral control module for these cameras. "This proved to be the right choice," adds Pascal Borzée. "The cameras meet all criteria. We were confident that by choosing Axis cameras, we were securing our needs for the coming years."

Long build-up, rapid installation
In the spring of 2013, two Axis cameras were installed in each of the ten bedrooms. "We chose a two-pronged solution: in each room, one of the two cameras has a microphone to capture auditory information, while the other is used solely to establish visual information."

"The installation itself was extremely quick, and was over within two days," recalled Pascal Borzée, "but that was preceded by a whole series of trial setups, to ensure that the cameras would be placed so that they could record as much visual information as possible in support of the clinical observations. We needed to carry out these trials because we had to decide on the precise location, in consultation with the medical staff. But once the choice was made, the actual installation took place very quickly and smoothly."

Real-time remote control
The new cameras and associated network infrastructure ensure that the medical and nursing staff in the control room can obtain visual support with a synchronization of less than one second with the signals currently being recorded by the polysomnograph. They can observe the patient using the camera, and if necessary pan or zoom with the camera. "That is sometimes very useful, for example to check remotely whether an irregularity in the breathing has been caused by a poorly positioned mouth mask," explains Pascal Borzée. This is further supported by the high image quality, the infrared function for better images in a dark room, and the improved autofocus function in the new cameras.

The pictures are not available to the rest of the hospital, mainly for privacy reasons, according to Pascal Borzée. "Privacy is also the reason why the recorded images can only be viewed with our in-house software. Here again, we can promise our patients that their pictures will never be used without their consent. And if we do use the pictures for a professional conference, for example, we ensure that the patients remain unidentifiable."

Easier scanning

Every night, every camera produces around ten gigabytes of image material. "Since this is digital material with time data, it has become much easier to analyze these images by day as a function of the information from the polysomnograph," explains Pascal Borzée. "The relevant images are copied from the image stream and archived, and the rest of the images are automatically deleted."

No messing around with cables

Use of IP addresses for the cameras also brings extra benefits, continues Pascal Borzée: "Previously, there was a direct analog connection from the room to the PC on which the images were monitored. Now as you can see, the right camera is coupled to the right address but the connection between camera and PC no longer depends on a physical cable. So you're not tied to the location as much as before, and we could easily consider moving our control room to another site without having to mess around with laying cables."

Better visual support

The new Axis network cameras have made life considerably easier for the Sleep Center staff, and improved the quality of research. That is Pascal Borzée's conclusion, almost a year after they were brought into use.

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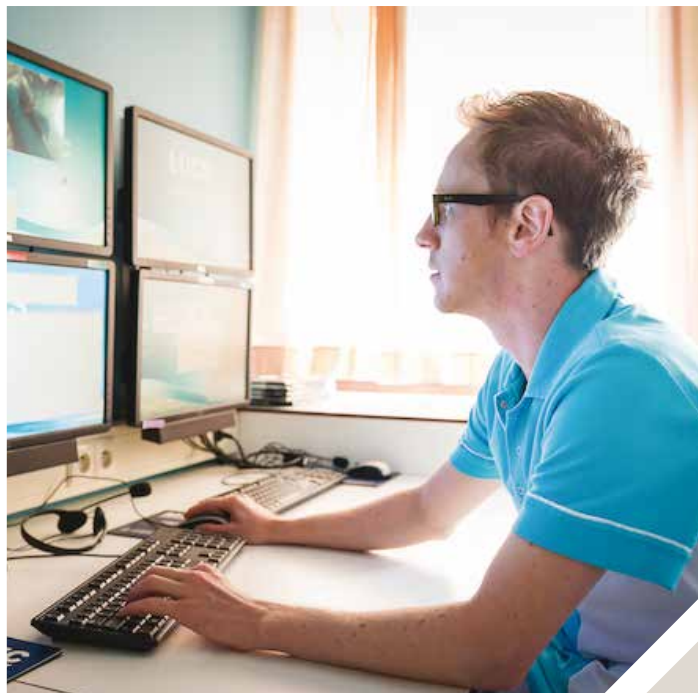
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Axis offers intelligent security solutions that enable a smarter, safer world. As the global market leader in network video, Axis is driving the industry by continually launching innovative network products based on an open platform - delivering high value to its customers and carried 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 1,800 dedicated employees in more than 40 countries around the world, supported by a network of over 70,000 partners across 179 countries. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ OMX Stockholm under the ticker AXIS.

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