Virtual Operation Room by Video Conference

Video helps enable real-time support and collaboration between University Hospital Aachen and Maastricht University Hospital.

Case Study

Customer Name: University Hospital Aachen

Industry: Healthcare

Location: Germany, Netherlands

Number of Employees: 6000

Business Impact:

- Real-time sharing of expert knowledge
- Facilitation of collaboration between hospitals
- Improved teaching opportunities

Business Challenge

The University Hospital Aachen (UKA) is among the largest healthcare providers in Western Germany. Situated within one of Europe's most spectacular hospital buildings, 900 doctors treat nearly 300,000 patients here each year. The UKA is associated with Aachen's Rheinisch-Westfälische Technical University (RWTH), the country's top engineering university, which is also consistently ranked among the best of Germany's medical schools. At any point in time, up to 2500 students receive their medical or dentistry education at UKA.

In recent years, UKA has begun to collaborate with nearby hospitals in the Netherlands and Belgium. Particularly successful has been the collaboration with Maastricht University Hospital (UMC), 39 kilometres west of Aachen. Aiming to co-operate on an operational level several medical faculties were merged between the two organisations, with one head of department in charge at both ends, who splits his time between the facilities.

One of the first departments to benefit from these so-called "bi-location" solutions was the vascular surgery unit, led by internationally renowned expert Professor Michael Jacobs. It was clear from the outset that a high-quality and reliable video communications infrastructure would be indispensable.

The challenge was to help ensure that Jacobs could communicate effectively between the Aachen and Maastricht sites, even under the most demanding circumstances.

"I have to be able to see my team every day, at any moment, be it from the operation room or during consultation hours," says Jacobs. Udo Malchus, solution designer and project engineer at UKA, adds: "For a collaboration like this to work, you need a regular face-to-face exchange of ideas. And Maastricht is too far away for a staff member to drive back and forth all the time. That is why we considered video conferencing solutions."

During the early project stages, UKA tested a variety of different suppliers. Cisco suggested a solution that would allow both traditional video conferences from the participants' offices as well as visual transmissions from within the operating rooms. In the end, the user-friendliness and reliability of Cisco products made the difference. "Cisco products are so intuitive that it required next to no time for our staff to adapt to the equipment," says Malchus. "Also, the system's stability was extremely impressive. Other suppliers often had problems just establishing connections."

Medizinische Fakultät RWTH UNIVERSITÄTSKLINIKUM AACHEN

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CISCO

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Continued

Case Study

Solution and Results

UKA acquired a Cisco TelePresence® System Profile 6000 MXP for the central conferencing studio.

A Cisco® TelePresence System 2000MXP endpoint connects Jacobs's Aachen office to a Cisco TelePresence System 1500 MXP unit based in Maastricht, which he now uses every day for the morning meeting with his team. "Every morning at 7.30 am, when I am in Maastricht and my senior physicians and assistants are in Aachen, we use a video conference to discuss all patients and plan the day," says Jacobs. "My whole bi-location depends on the video conferencing system."

However, Jacobs relies on Cisco technology not only for regular staff meetings. He also uses video conferencing to help ensure his expert knowledge is available during procedures that he is unable to attend to himself. "Often, someone calls me up from the operation room while an operation is in progress and zooms in with the camera to share the situation at hand. I am then able to give my opinion based on the video footage, after which the procedure continues according to my input," says Jacobs.

In addition, Jacobs benefits from being able to see his team when planning the staffing of operations. "It is extremely important to see the body language of my team," he says. "I can see if someone is worried or a bit unsure of himself, and this may affect my decision about who I assign to an operation that day. This is the kind of thing I would not be able to pick up on during a phone call."

As a pioneer of video conferencing in a hospital setting, Jacobs believes that the technology plays a vital role. "For me, video conferencing has become an absolute necessity," he says. "It would be impossible for me to do my job without it."

According to Malchus, a key part of the successful collaboration with Cisco is the comprehensive support offered, even though the system's stability means he does not have to make use of Cisco assistance very often. "Since 2005, we had only two or three cases which required support, and those were dealt with within a heartbeat," he says. "But it is vital to know I always have a contact person for technical issues."

Looking forward, UKA has plenty of concepts and ideas about how to develop video conferencing as a positive force. Already the Cisco TelePresence studio is being used to increase UKA's links around the world. Recently, a Brazilian partner university's classroom connected to UKA's video conference room for remote lectures. In addition, several partner institutions in rural India use ISDN connections to get support from UKA's specialists, based on visual data. According to Malchus, these areas will be developed further. Requests from partners in Russia and China are in progress. Further hospital departments have already started using TelePresence C40-Codec systems. Soon remaining PAL-based systems are to be replaced with HD-capable devices.

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To find out more about Cisco TelePresence, go to www.cisco.com/web/telepresence