

IMAGE AND PATIENT DATA WITHOUT TECHNOLOGICAL OBSTACLES:

Surgical Panel with Video-over-IP ensure comprehensive overviews in real time along with intuitive operation

New OR with state-of-the-art technology for Dornbirn Hospital
Flexible software enables simple integration in third-party IT environments

Until recently, Dornbirn Hospital in the Vorarlberg region of Austria was using conventional OR towers with only one monitor for visual support during medical interventions. Ideally however, surgeons and assisting staff should have separate displays to ensure an optimal overview. This is the reason why the new construction of the operating rooms at the end of 2018 was taken as an opportunity for Dornbirn Hospital to upgrade their imaging system, and they have since been using CuratOR Surgical Panel from EIZO GmbH. These are type SP2-46T-24 medical image viewing devices with a glass front, supplemented by smaller type SP1-24 displays. EIZO's user-friendly CuratOR Caliop software can be easily integrated in the existing IT infrastructure and supports all work processes in the hospital. Thanks to the installed Video-over-IP CuratOR Alipe technology, image and patient data can be transmitted to the respective operating rooms without any need for compression and with zero latency or loss. This makes it possible for the state-of-the-art video system to display various image sources at the same time and ensures comprehensive and fast access to all critical data.

Especially in high-stress situation, it is essential for imaging elements in the OR to be straightforward, fast and uncluttered so that medical personnel are not distracted from complicated interventions by the technology.



PETER PALOMBO

Technical Director
Dornbirn Hospital

"In our old operating rooms, handling the OR towers was often difficult, which is why we wanted to modernize our video systems alongside our new OR construction," said Peter Palombo, Technical Director of Dornbirn Hospital. "It was very important for us to acquire a system which is intuitive to operate, offers an optimal screen layout and straightforward system configuration."

With this in mind, Dornbirn Hospital released a top bidder tender for a new imaging system in the summer of 2017. Over the following weeks, various concepts from different bidders were presented at Dornbirn Hospital, with the most convincing one being the comprehensive EIZO package with the CuratOR Surgical Panel. The first phase of construction included the completion of four operating rooms, which successfully took up service in December 2018. The second construction phase for the remaining three ORs is scheduled for mid 2019.

HOSPITAL-SPECIFIC IMAGE DISPLAY WITH INTUITIVE OPERABILITY

At the heart of the new imaging system in each operating room are the type SP1-24 and SP2-46T-24 Surgical Panel. The SP1-24 forms the central control unit on a 24" screen.

"During development of the user interface, we always focus on particularly easy handling for OR personnel and ensure to fulfill the exact requirements of the user," explained the Vice President of the OR Solutions department at EIZO GmbH. "Third-party software integration is also possible thanks to our compatible system. We adapt to the hospital's workflow, not the other way around."

For example, EIZO supports common hospital standards such as DICOM and HL7, but can also easily

configure and customize the required data elements for the hospital. This means that hospital-specific applications can even be quickly integrated directly on site.

With the SP1-24 at the center, the system is completed by two type SP2-46T-24 screens measuring 46" and 24". The screens are designed as glass-fronted image viewing systems which are flush-mounted in the glass walls of the rooms and display both videos and images. The 46" display is equipped with an optional intuitive touch control, which is ideally suited for displaying images and video streams during surgery thanks to its generous size. The visual data can come from different sources at the same time. "A particularly user-friendly feature is the fully automated export of image data to our archiving system," said Palombo. "The menu navigation is designed to be highly intuitive, meaning that our personnel can concentrate fully on the intervention without being distracted by technological obstacles." The system even allows for direct access to and display of data from the hospital's central PACS and HIS. This ensures that OR personnel have access to all critical information at all times.

LOSS-FREE TRANSMISSION WITHOUT LATENCY VIA VIDEO-OVER-IP TECHNOLOGY WITH FIBER OPTIC CABLES

EIZO uses Video-over-IP technology for fast transmission of video data in real time. This makes it possible to transmit the enormous quantities of data inherent in full HD and 4K video signals without delay or compression. To achieve this, fiber optic cables were installed, which will in future be able to transmit even higher resolutions such as 8K and 16K. However, laying these cables posed a significant challenge. "Fiber optic cables are

made of glass. In operating rooms, they are often located in moveable media supply units – for example on the ceiling. This means that special attention must be paid to the risk of cable breakage,” explained the Vice President of EIZO OR solutions. “Thankfully, our on-site partner has extensive experience in laying fiber optic cables and took on the challenging task.”

Another challenge for the installation of the video system is posed by the incorporation of third-party hardware, such as internal hospital network switches. “The flexibility of our project management makes it possible to adapt to customer-specific requirements and previously undefined interfaces,” said the Vice President of EIZO OR solutions. “We were therefore able to quickly incorporate all existing components - from C-arm to endoscope to mobile OR tools. Our user-friendly system also allows for subsequent integration of new components via plug-and-play.” The in-house software CuratOR Caliop functions as the superordinate control system for the Video-over-IP solution with CuratOR Alipe. For data security reasons, the video signal is only processed within a closed network in each operating room. Once approved by the personnel responsible, the data can be encrypted and transmitted to external recipients – for example another operating room or a conference room.

CUSTOMER-ORIENTED CARE AND FAST SUPPORT

Before the system went live, all OR personnel participated in comprehensive training courses held by the experts from EIZO and its partner. Spread over four days, there were two dates each for all employees during which they had the chance to become accustomed to the new devices and discover the possibilities they offer. For the first few days of operation, Dornbirn Hospital received on-site support, meaning that immediate assistance was available in case of feedback or change requests. “Our staff is extremely

enthusiastic about the video systems,” said Palombo. “The individual elements are easy to operate, fast and clearly structured. We can now access a vast amount of features, with no need to change our work processes. The EIZO system fits perfectly into our OR routine.” After-Sale Service is provided for Dornbirn Hospital in form of an all inclusive package which offers full maintenance for five years. The local partner serves as the direct contact on site and can be reached around the clock in order to react quickly to problems. If necessary, EIZO can also connect with the systems via remote access. This ensures faster and more effective support.

More information available at:

www.eizo-or.com and
www.krankenhaus.dornbirn.at

THE HOSPITAL, WHICH WAS DEDICATED IN 1983,

is now the only municipal hospital in Vorarlberg, Austria. It has 280 beds and numerous specialist departments, from orthopedics, to general surgery, to an obstetrics ward that sees approximately 1500 births per year. There is also an aftercare ward with 30 beds. The hospital is currently staffed with 900 professionals.



EIZO GmbH, headquartered in Ruelzheim, Germany and with a subsidiary in Plauen, Germany, is one of the world's leading manufacturers of high-end monitor solutions for medical imaging, with more than 50 years of experience in this area. Its company portfolio includes color monitors with a resolution of one to eight megapixels and screen sizes up to 58", as well as image management systems and accessories. The products are used primarily in the areas of surgery, cardiology, and interventional radiology. The manufacturing facility in Plauen is dedicated exclusively to the design, production, and sale of innovative, forward-looking solutions for the OR. It offers intelligent device and video management systems, including integration, service, and maintenance, tailored both to customer requirements and the operating room to be equipped.

EIZO has 150 employees working in Development, Product and Quality Management, Production, Sales, and Service.



MORE INFORMATION FOR THE READER/VIEWER/ INTERESTED PARTIES:

DORNBIRN HOSPITAL
Lustenauer Str. 4 | 6850 Dornbirn | Austria
Tel.: +43 (0) 5572 303-0
Fax: +43 (0) 5572 303-109
E-Mail: verwaltung.kh@dornbirn.at
Web: www.krankenhaus.dornbirn.at

EIZO GmbH
OR Solutions
Plauen branch office
Kopernikusstraße 80 | 08523 Plauen | Germany
Tel.: +49 (0) 3741 42365-0
Fax: +49 (0) 3741 42365-199
E-Mail: info@eizo-or.com
Web: www.eizo-or.com

