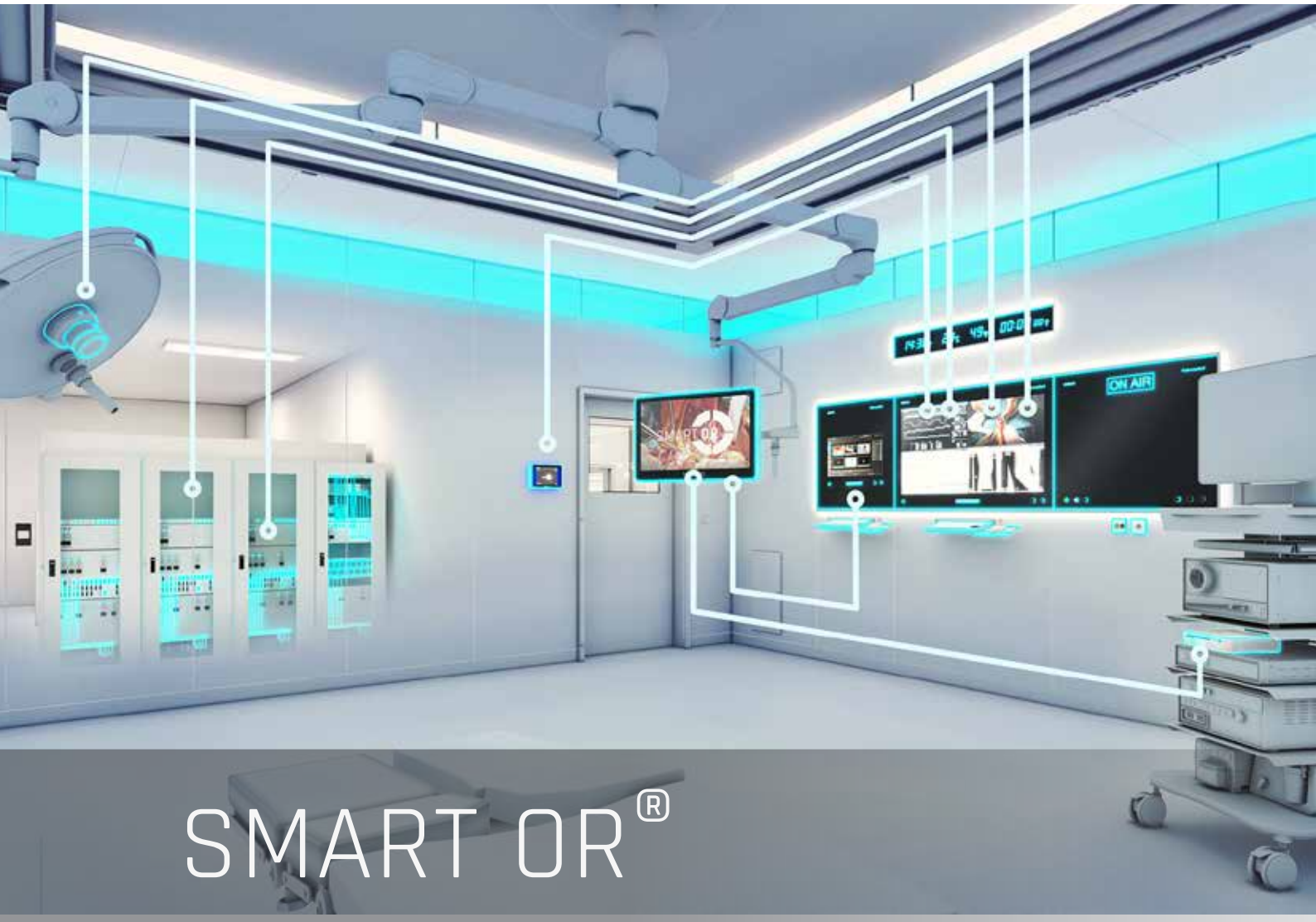
rein medical
a JVCKENWOOD Company



SMART OR®

DIGITAL IMAGE AND VIDEO MANAGEMENT
EFFICIENT SYSTEM AND COMPONENT MANAGEMENT
PROCESS OPTIMISATION - SOLUTIONS FROM A SINGLE SOURCE

www.reinmedical.com

Routing
Local AV signal distribution

Documentation
Patient and procedure-related documentation

Archiving
Central multi-level documentation archiving

Streaming
Bandwidth-efficient distribution in the IT network

Plug-ins
PACS, HIS, conference circuits and more

Exporting
Data can be retrieved and exported at any time

SMART OR

The operating room 4.0

Multimedia technologies are becoming increasingly important when it comes to planning modern surgical facilities. Image and video-assisted operations and examinations make work in the operating room safer, and more comfortable and provide new possibilities for documentation and interaction. However, the increasing number of different systems, their data and the complex distribution of signals and media necessitate an easy way to be controlled and processed. This is why we developed SMART OR.

The solution

Comprehensive control and flexibility: Our SMART OR software manages all video sources and sinks in the OR and conveniently provides images, video, audio and procedure-relevant metadata within the IT network.
If images and videos need to be distributed, recorded or managed in the OR, SMART OR takes care of it. SMART OR is the right choice for everything from single-user solutions for documenting image and audio material from local sources to complex tasks within networked environments.

Monitoring
Access to status information and events

Environment Control
Control of a wide range of environmental components

Administration
Central system management and monitoring

Workflow support
Workplace and terminal-based event documentation

Interfacing
Data integration and exchange

Automation
Automation of procedural process steps

NETWORK

DICOM and HL7 for PACS and HIS connection

Feed patient and procedure data from central systems (RIS/HIS) via THE IT network to the documentation workstation and feedback on events that have taken place as well as generated media material.

Benefits:

- Patient/procedure imports
- Linking to generated documentation
- Enabling automated documentation

CONNECTION

Flexible signal networks

The configuration management of SMART OR lets you flexibly map the signal network according to individual conditions and then organises the corresponding optimal signal paths.

DICOM CONNECT

SMART OR DICOM CONNECT connects SMART OR with clinical DICOM communication. DICOM CONNECT lets you automatically transfer patient data from the worklist, send images generated in the operating theatre to the PACS and report on procedural events. The DICOM CONNECT interface can be flexibly adapted to individual and manufacturer-specific requirements.

HL7 CONNECT

SMART OR uses SMART OR HL7 CONNECT to provide a connection interface to the hospital information system (HIS) or central message servers to map even complex data exchange scenarios.
"Health Level Seven" (HL7 for short) not only enables communication and cooperation between health care institutions, but also between administration, treating physicians and all other parties involved within a hospital.

Easy source management

With just a few gestures, you can determine which image is displayed where on which monitor. Presets let you permanently save recurring layouts and recall them at any time. These presets can be specific to the room, the treatment or the doctor. The signals can also be displayed as PIP/POP or in quad mode.

Video routing and archiving from a single source

Multimedia technologies are becoming increasingly important when it comes to planning modern surgical facilities. Image and video-assisted operations and examinations make work in the operating room safer, and more comfortable and provide new possibilities for documentation and interaction.

The increasing number of different systems, their data and the complex distribution of signals and media necessitate an easy way to be controlled and processed.
SMART OR takes over this control and distributes it. It lets OR staff control videos, images and data accurately via an easy-to-use command centre.

Routing

The individually configurable routing paths give the OR team full control over the signal flow and the devices without the complex networking and elaborate technology being visible in the background.

Archiving & documentation

Centrally archived data can be retrieved, stored, linked and processed locally or by physically independent networked CLIENTS. The document management is adapted to the special needs of digital medical documentation and can be connected to HIS, RIS and PACS.

SMARTER

Accessible anytime and anywhere

SMART OR's web applications offer flexibility across devices and browsers, as well as location. This means that you can access available media material and procedural information at any time, whether in the office or from home. This is because the WEBCLIENT brings the patient data you need into your browser. It's not just the auto logoff function that provides the necessary security. Thanks to the technology used, the WEBCLIENT is secure, fast, robust and freely configurable.

WEB CLIENT

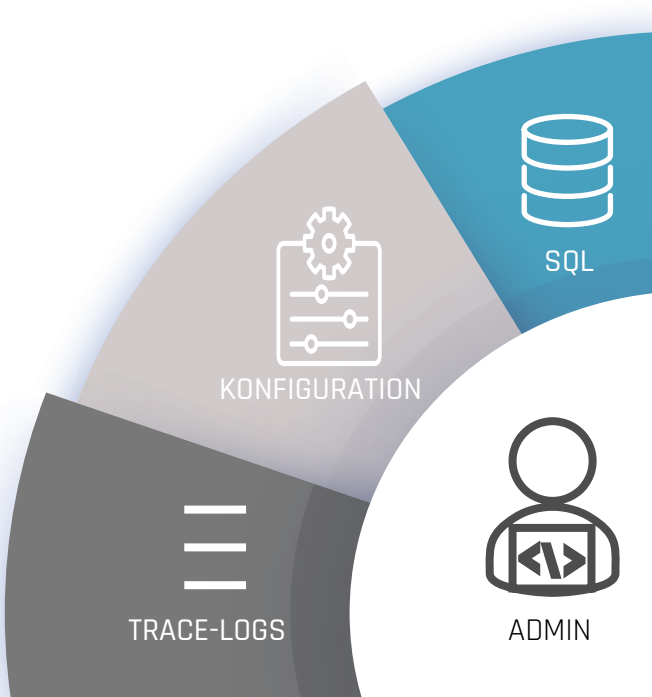
PATIENT DATA
Manually create and import patient data via the "DICOM Worklist" or HL7.

DOWNLOAD AND UPLOAD
Download or import media with one click

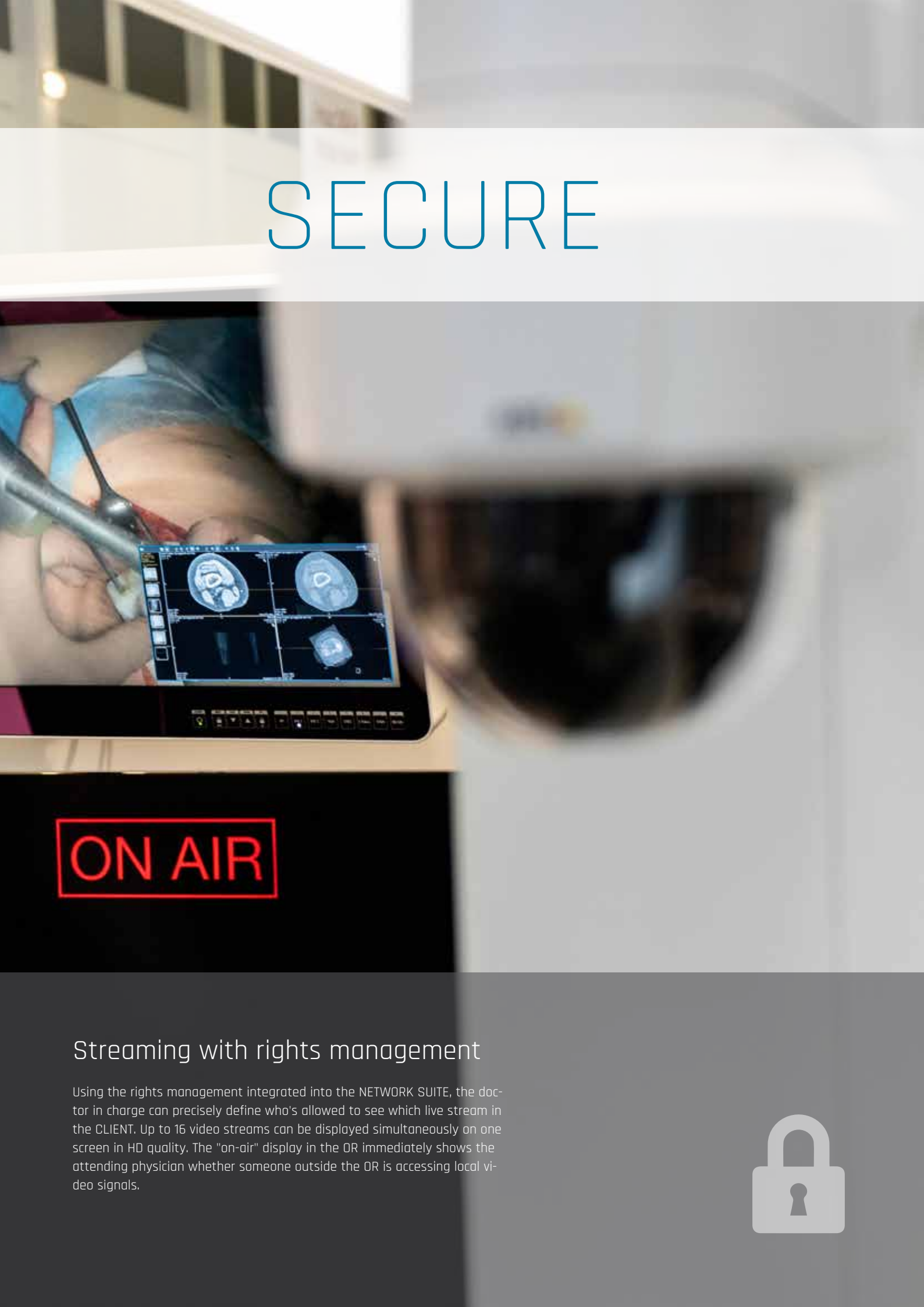
MEDIA
Extensive research options, easy viewing, and editing of images and videos

ROOM STATUS
Monitor current procedure events and statuses

E-MAIL & CONFERENCING
Communication



SECURE



Streaming with rights management

Using the rights management integrated into the NETWORK SUITE, the doctor in charge can precisely define who's allowed to see which live stream in the CLIENT. Up to 16 video streams can be displayed simultaneously on one screen in HD quality. The "on-air" display in the OR immediately shows the attending physician whether someone outside the OR is accessing local video signals.

FLEXIBLE

Access all content at any time with SMART OR CLIENTs

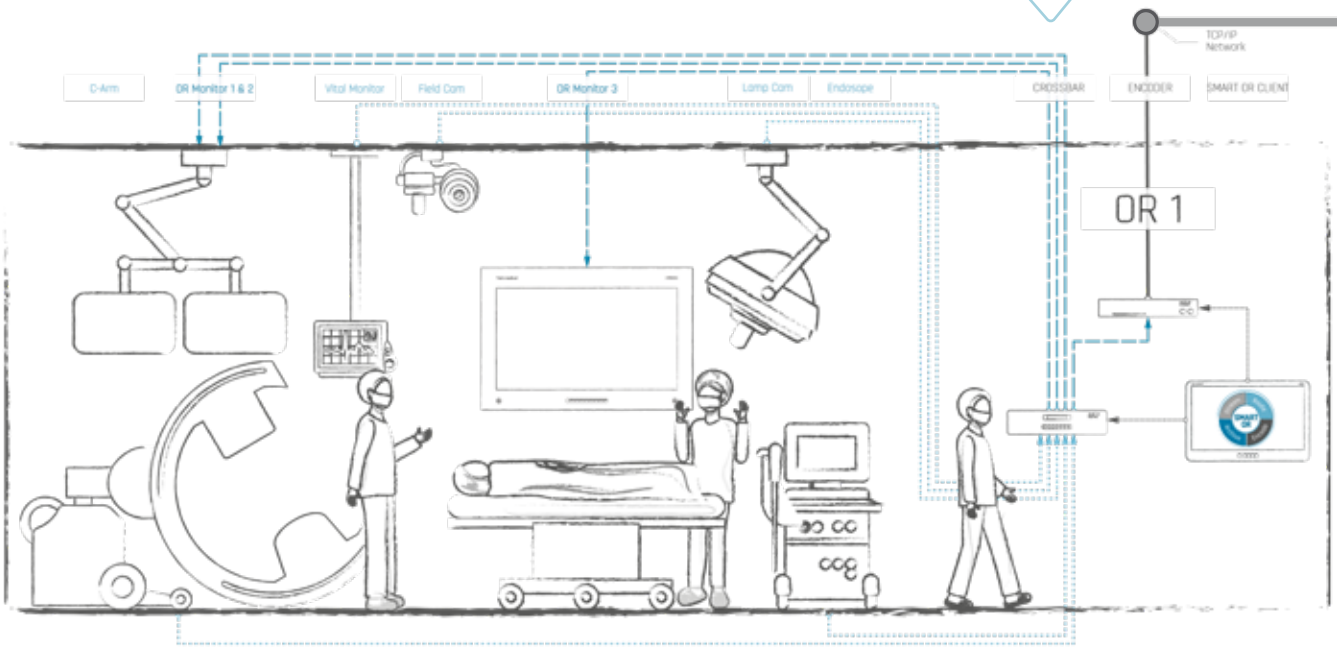
The CLIENTS provide the user interfaces for those working with SMART OR. They have access to the central video management functions via the network. For example, once the OR team has given its approval, the head physician or the students in the lecture theatre can follow the OR without having to be present themselves.

Clinic-wide streaming

The number of imaging instruments and applications in modern ORs is constantly increasing: SMART OR makes it easy to manage this wealth of information and display it clearly. Our ultra-fast and resource-saving network streaming allows for high-quality live transmissions and space-saving archiving. CLIENTS connected elsewhere via a suitable network can access the multimedia streams and communicate with each other bidirectionally.

SMART OR NETWORK SUITE

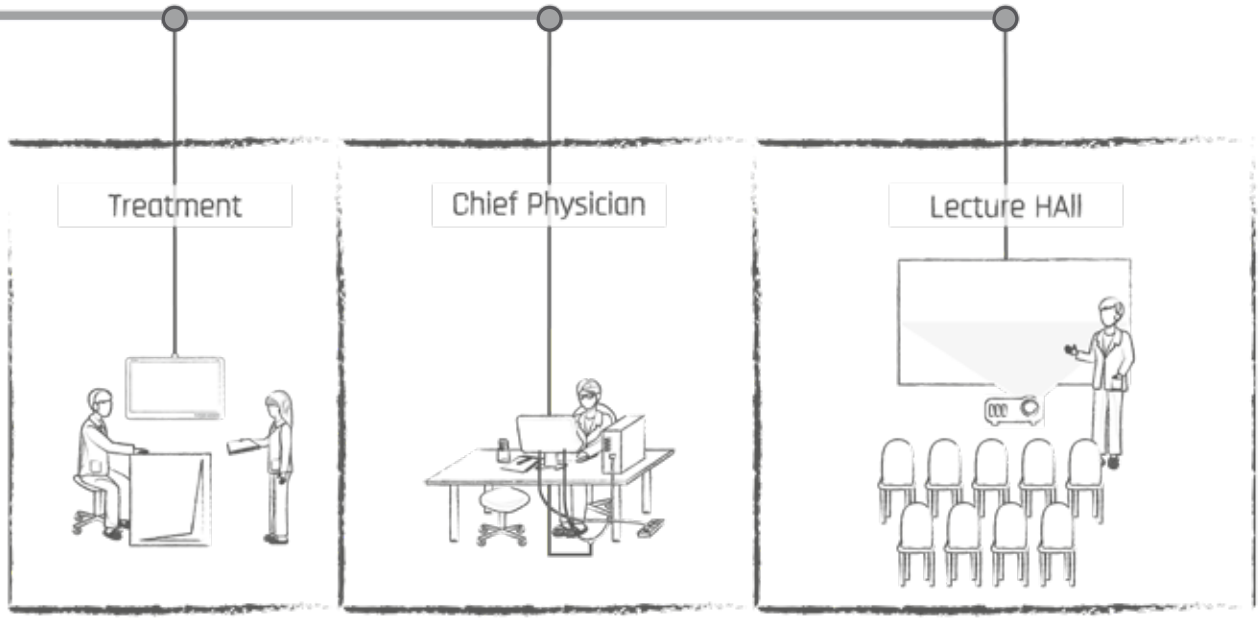
You can control the crossbar directly using the SMART OR CLIENT. The crossbar is a device that collects image data from different sources such as OR cameras, endoscopes or vital signs monitors and sends this information to various monitors and to the hardware encoder.



The FOF CLIENT guarantees that the SMART OR routing functions will still be available even if the server or network is down. For use when you require extra security and availability.

With the communication module, the CLIENTS exchange messages with one another via text, audio and video. Audio transmission allows, for example, students in a lecture hall to follow an attending doctor's 'live' commentary during a procedure.

The SMART OR hardware encoders compress image data to a minimum without compromising image quality.

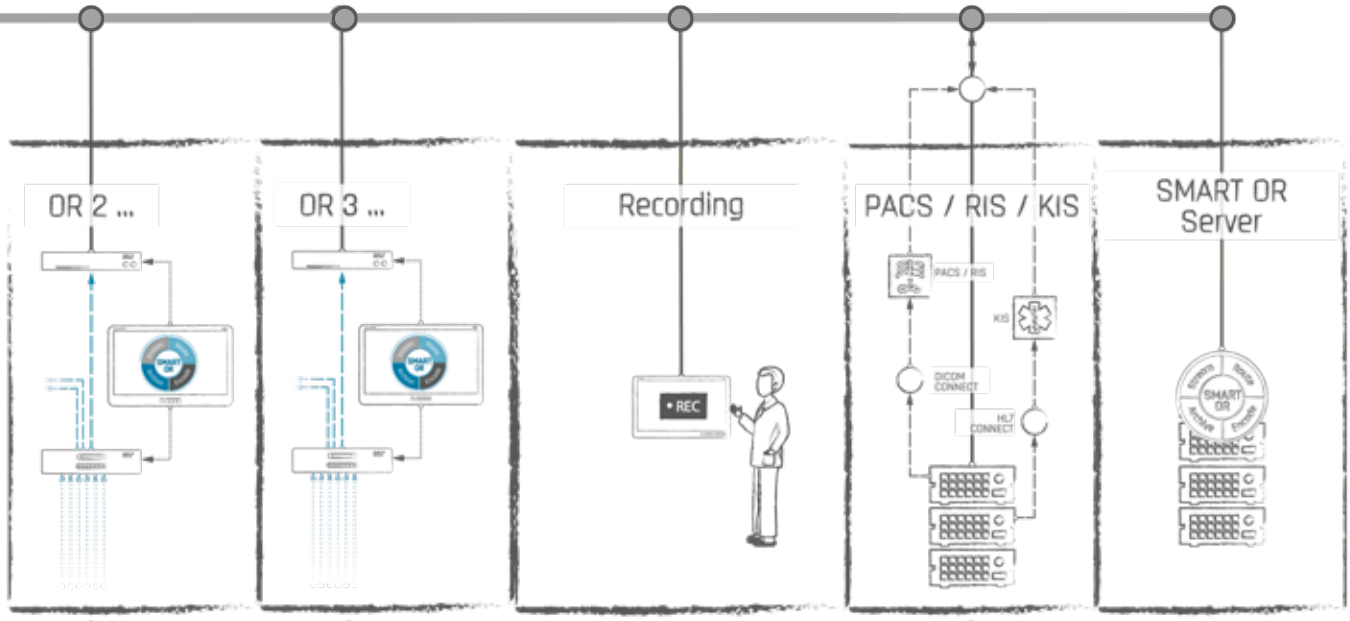


The video streams created in the OR can be accessed throughout a clinic. This means you can also display the images captured in the OR in treatment rooms or in lecture halls. Doctors, lecturers and nurses can use a CLIENT connected to the network to access image archives. The number of CLIENTS is practically unlimited.

There is also no limit on the number of ORs that can be integrated into the network. The efficient compression of data ensures that the network is not overloaded.

Each CLIENT can begin recording one or more live streams – you can even record multiple streams in parallel. The CLIENTS can also export any video or image data to USB media, or onto DVD or Blu-ray.

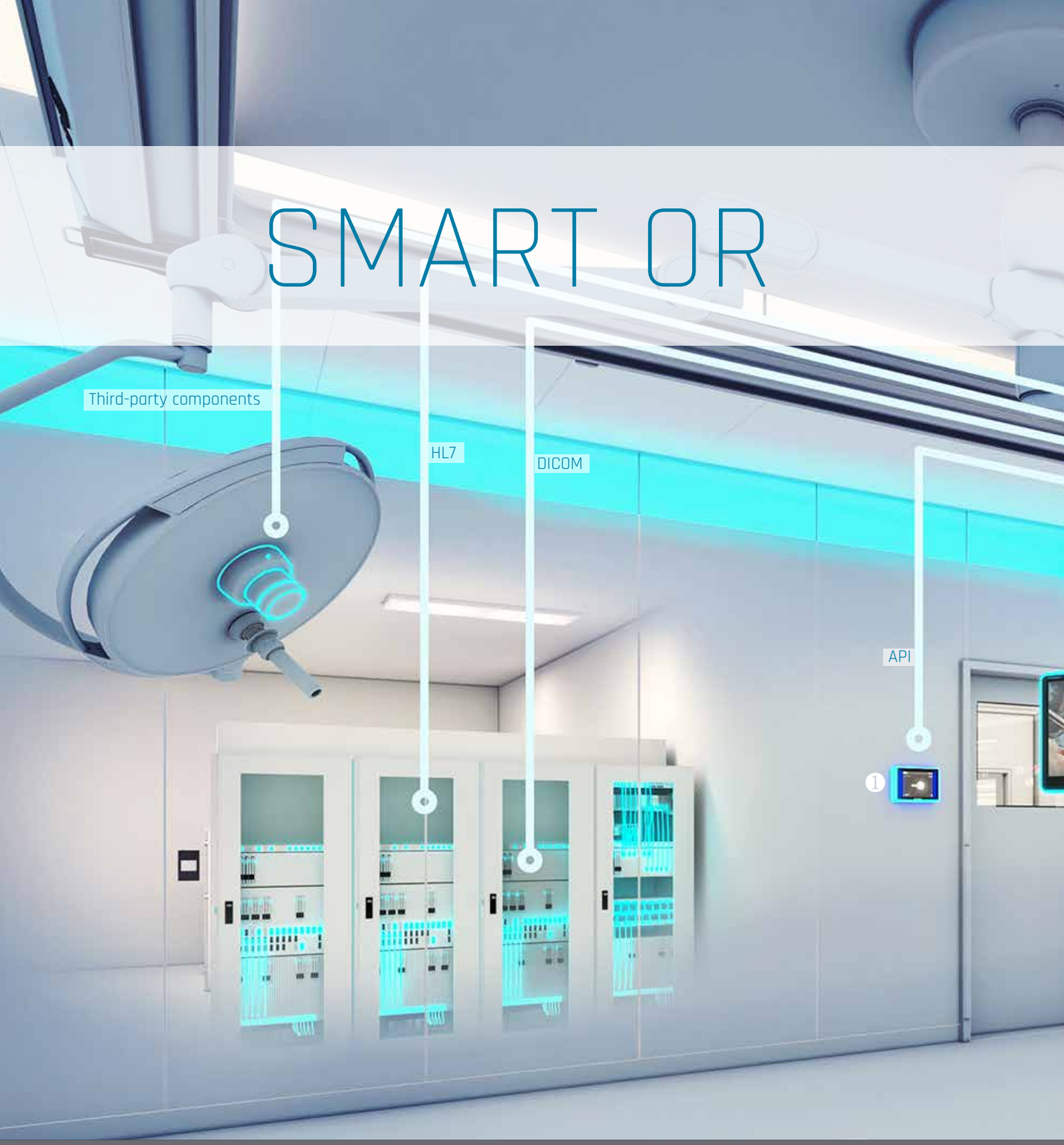
The SMART OR NETWORK does not just connect all CLIENTS to one another – it also links them to the Net Video Recorder (NVR). In addition, it provides you with access to image-producing video sources in the OR.



You can create separate user profiles for every OR, meaning you can create profiles specifically tailored to a procedure, a room or a user. Prepared worklists are transferred and displayed in the OR. Images and findings collected during treatment can be linked to the information in PACS and viewed there.

The HL7 CONNECT and DICOM CONNECT plug-ins allow you to link the data available in the PACS, HIS and RIS with image data collected from the OR. You can then access both images and information across the entire network.

SMART OR



Connectivity options

If SMART OR MANAGER is available as a central communication node within a video management integration, it can also be used to connect Rein Medical devices. Third-party components such as OR field cameras or luminaire cameras can also be connected and controlled. The data connection can be established to the PACS, HIS, RIS and other subsystems via DICOM, HL7 or API and provides straightforward data exchange.

CONNECTS

Networked Rein Medical family

1 DOORSIGN - Terminal Application

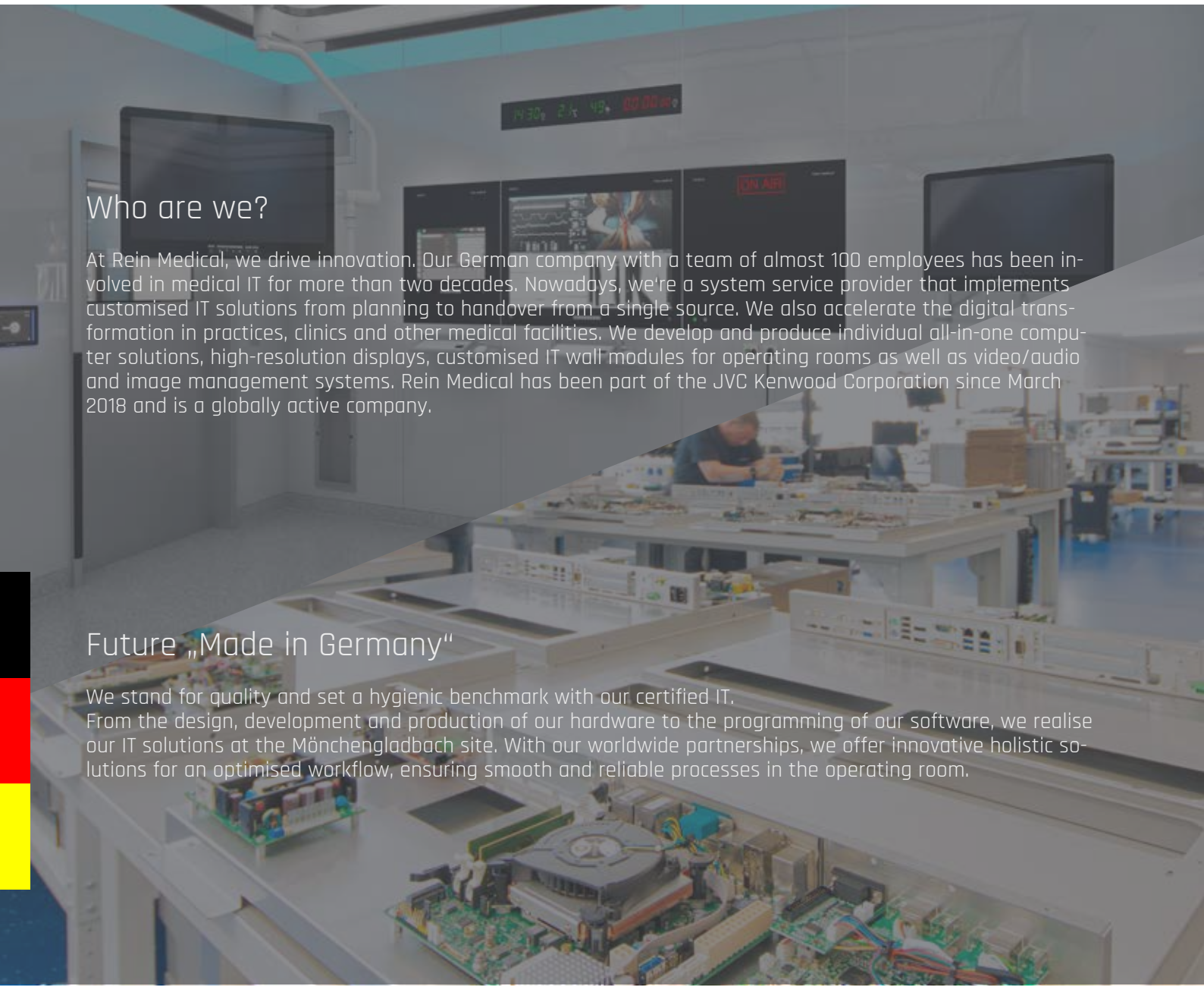
2 CLINIO - Monitor, All-in-One-Computer, Computer

3 OPERION - Wall-integrated monitor with optional PC system

4 OPERION HUB- Media distributor

5 INFOBAR - Information display

6 iOi - Encoder and decoder



Who are we?

At Rein Medical, we drive innovation. Our German company with a team of almost 100 employees has been involved in medical IT for more than two decades. Nowadays, we're a system service provider that implements customised IT solutions from planning to handover from a single source. We also accelerate the digital transformation in practices, clinics and other medical facilities. We develop and produce individual all-in-one computer solutions, high-resolution displays, customised IT wall modules for operating rooms as well as video/audio and image management systems. Rein Medical has been part of the JVC Kenwood Corporation since March 2018 and is a globally active company.

Future „Made in Germany“

We stand for quality and set a hygienic benchmark with our certified IT.
From the design, development and production of our hardware to the programming of our software, we realise our IT solutions at the Mönchengladbach site. With our worldwide partnerships, we offer innovative holistic solutions for an optimised workflow, ensuring smooth and reliable processes in the operating room.

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