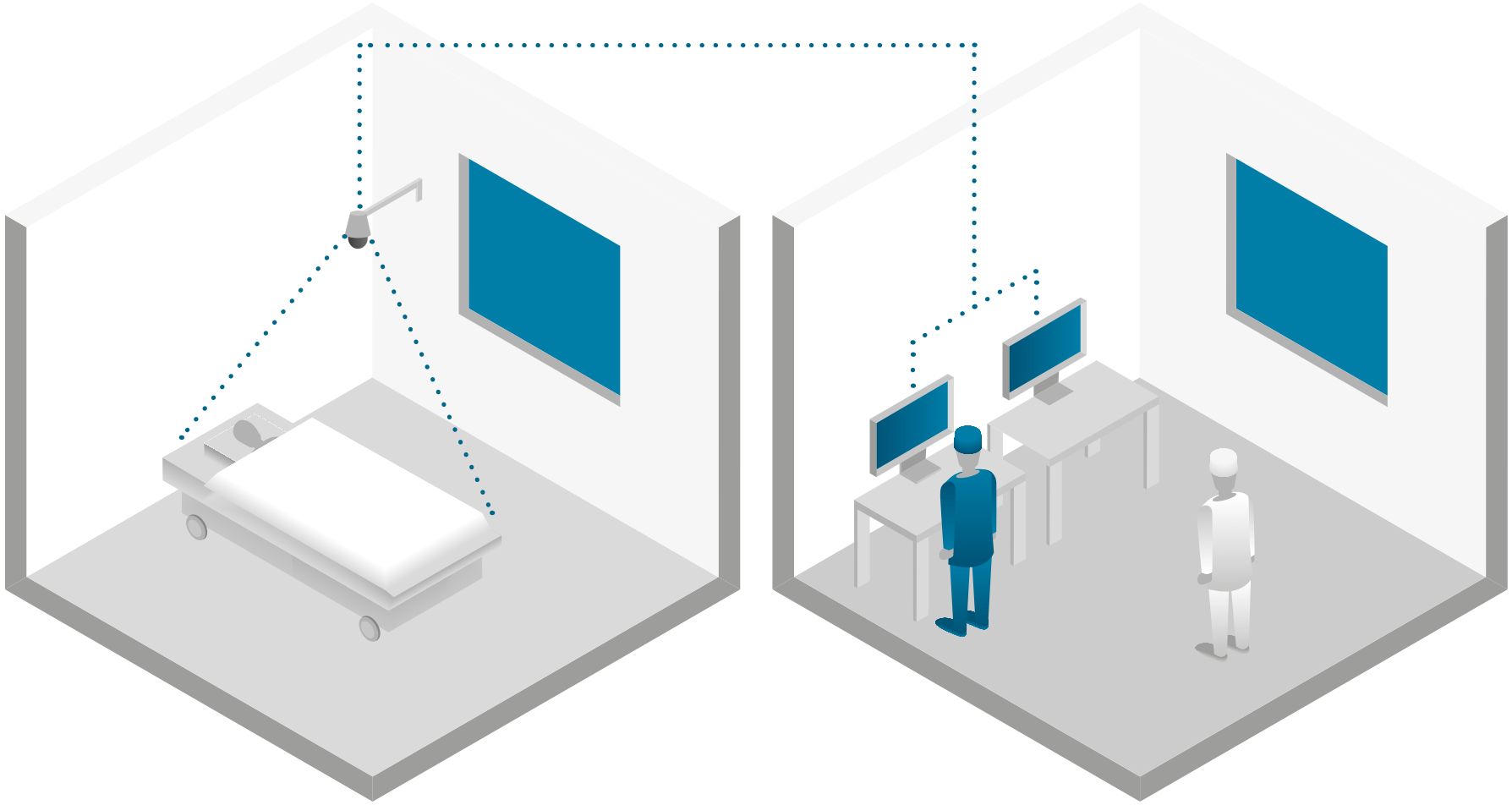
rein medical

# Patient Monitoring



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A solution from Rein Medical

# Patient Monitoring

The digital transformation process in clinics and hospitals enables patient monitoring that provides more flexibility, a better diagnostic procedure and more efficiency in everyday practice and hospital life.

Medical patient monitoring with a central archiving function and automated access to electronic patient records helps users keep track of the essentials, make effective decisions and minimise errors.

# Initial situation

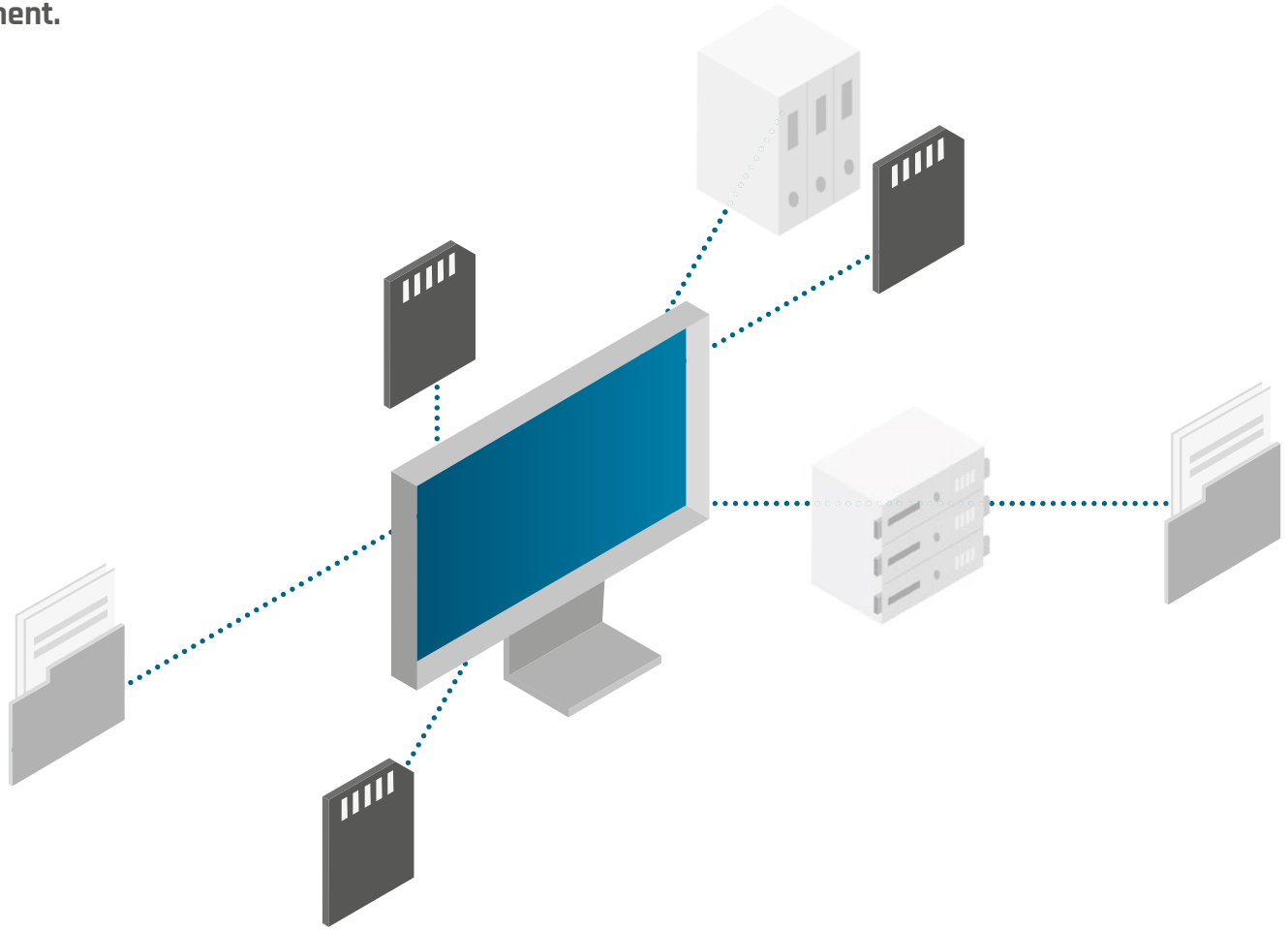
- Clinical observations in a new quality
- Better access to video and image material
- Integration of an existing IT infrastructure into the new system

Individually adapted hardware and software for patient monitoring can ensure clinical observations in a completely new quality and facilitate access to video and image material.

In addition, the data protection regulations, which are legally binding for clinics and practices with the introduction of the General Data Protection Regulation, can be better complied with. The cost pressure in the medical field is immense.

The modernisation of the network structure is always associated with costs that must be kept in perspective. Already in the planning phase it should therefore be considered which optimisation potentials are possible with the implementation and what extent the existing IT infrastructure, with existing cable ducts and camera technology, can be integrated into the new system.

**Data are often quite unclear and difficult to collect at the moment.**



# Challenge

- > Better overview
- > Greater data protection and data security
- > Archiving of the data material

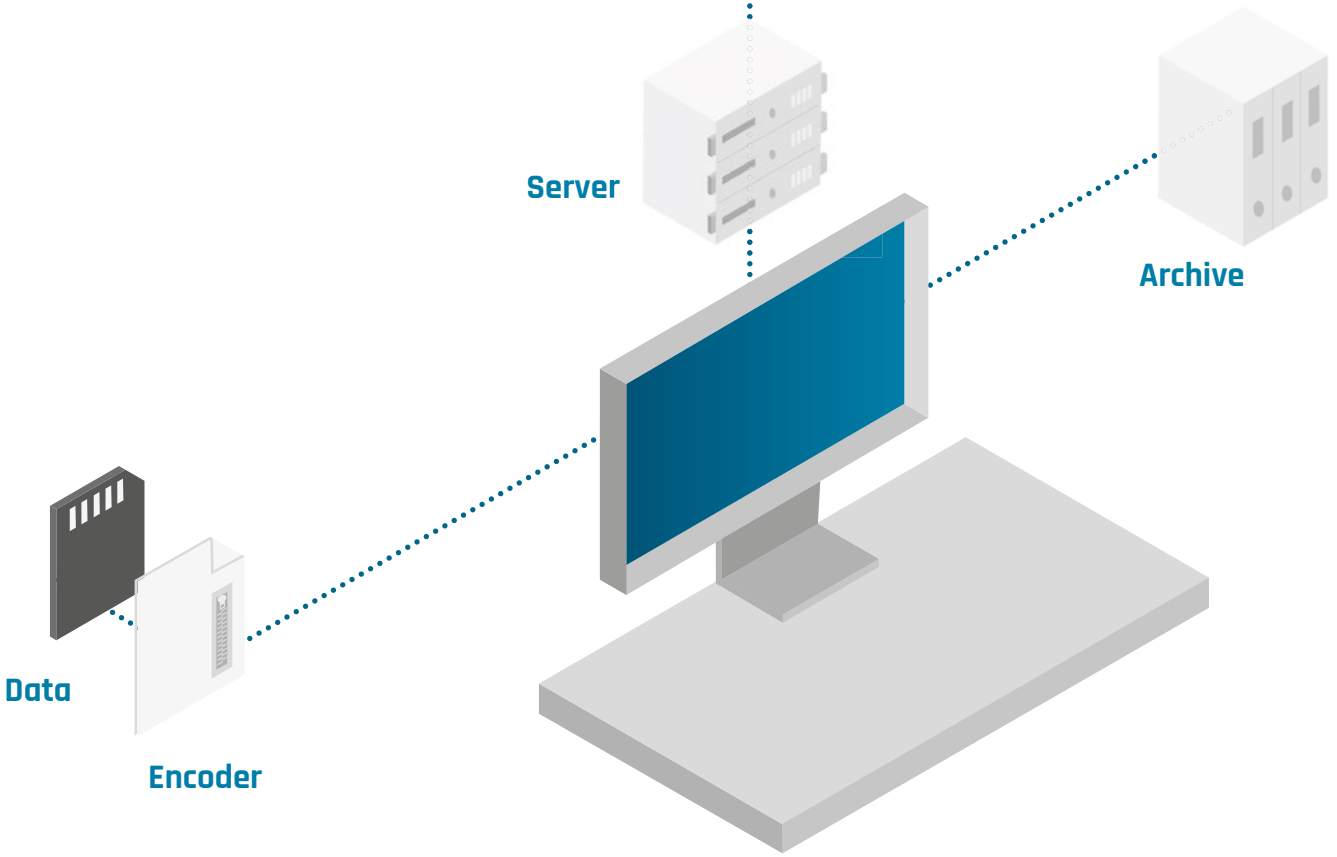
In many places, video and image recordings are still recorded on video recorders by a „ring buffer“ (FIFO).

The relevant video material is very often archived on data media. There is no systematic assignment to the respective patient file. The capacity is limited, the recordings are often archived at different locations on different data media depending on the user.

This also applies to image and video material, which is increasingly brought along by patients from their private sphere in the form of mobile phone videos, USB sticks, etc. Archiving the data material at different storage locations creates a confusion that is counterproductive and costs time. The evaluation of image and video data is often workplace-dependent and limited to only a few workstations. This limits mobility.

The „uncontrolled growth“ of storage options makes data protection and data security more difficult, although the general data protection regulation has significantly tightened the documentation obligation for archiving personal data. The ongoing digitization process requires a higher and verifiable security standard, which can hardly be guaranteed with old video technology and conventional data storage media.

A complex, functional data processing system is required.



# Our solution

FOR BETTER

mobility

Hygiene

efficiency

A video server with Rein Medical's SMART OR software manages all video sources in the network and makes the videos available throughout the network.

SMART OR also enables the archiving of video streams and the connection to the hospital information system (HIS). The video encoder H.264 used guarantees digital videos with high resolution as standard. The codec, based on the H.264 standard, compresses a video file in such a way that only half as much space is required as with MPEG-2 (DVD standard) - with the same video quality. SMART OR enables access to the functions of a central image and video management system via the network.

For the user, it does not matter where the image and video material is stored: the content is centrally available, access from anywhere is possible.

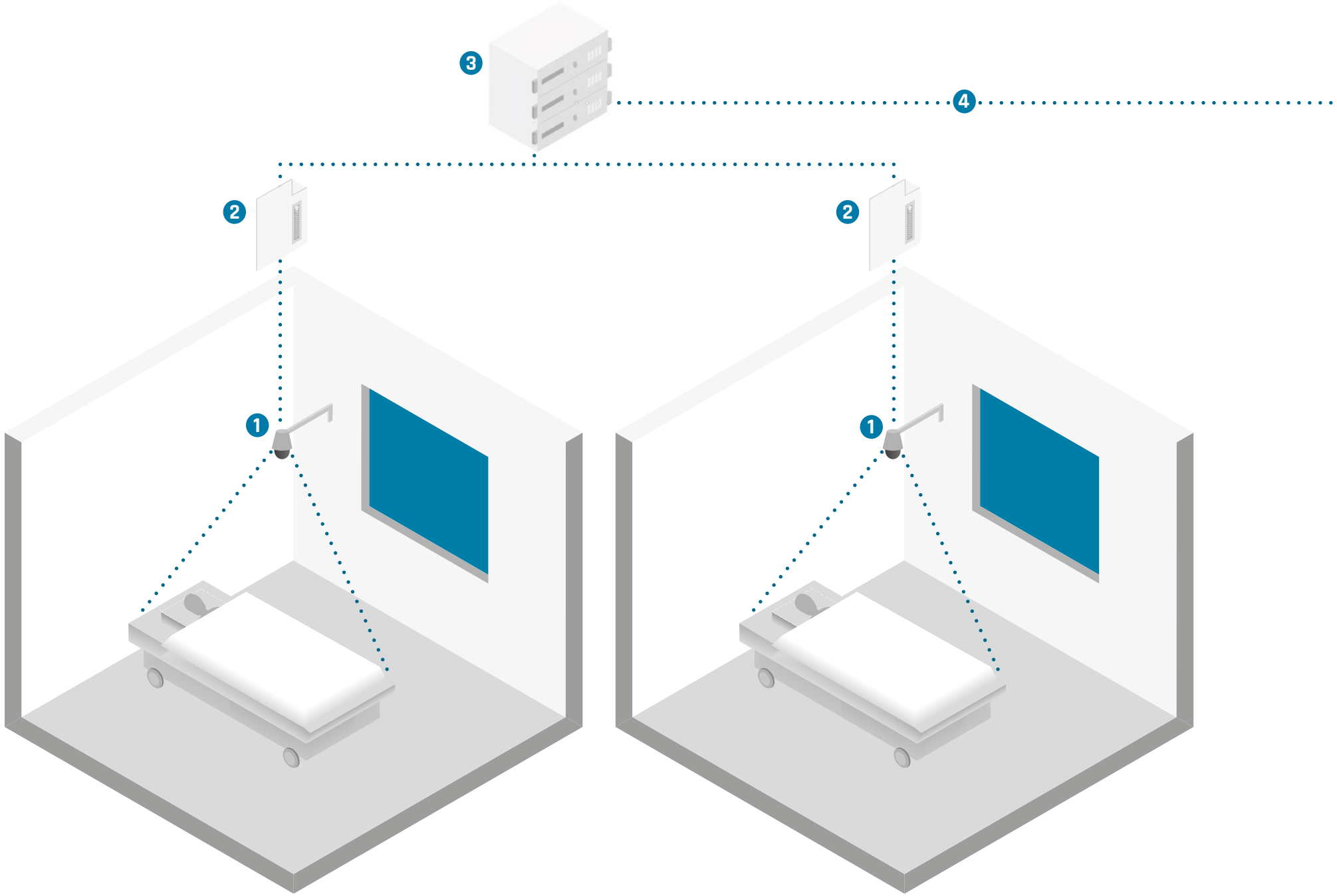
Every workstation and every PC can be equipped with SMART OR. With the CLINIO series, Rein Medical offers an all-in-one PC, with which relevant recordings can be edited out of the entire data material. The upload of image and video material, which is made available by patients themselves, can be carried out from different locations and automatically assigned to the respective patient file.

The content relevant for physicians is thus automatically transferred to the computer centre and stored in the respective patient file. The HL7 interface is crucial for transferring the video material to the patient file. HL7 creates international standards for the exchange between systems, facilities and clinical documents.

In principle, the use of a modern patient monitoring system with SMART OR is possible in all medical areas, where you want to have the corresponding medical procedures documented. These include sleep laboratories and psychiatric clinics, but also intensive medical care facilities.

Encrypted and secure data transmission ensures a high level of security.

The „FAIL-OVER-FUNCTION“ guarantees reliability. This extension ensures that all essential tasks are available even if the network or the server should fail. Modern patient monitoring systems enable a competent handling of data and facilitate documentation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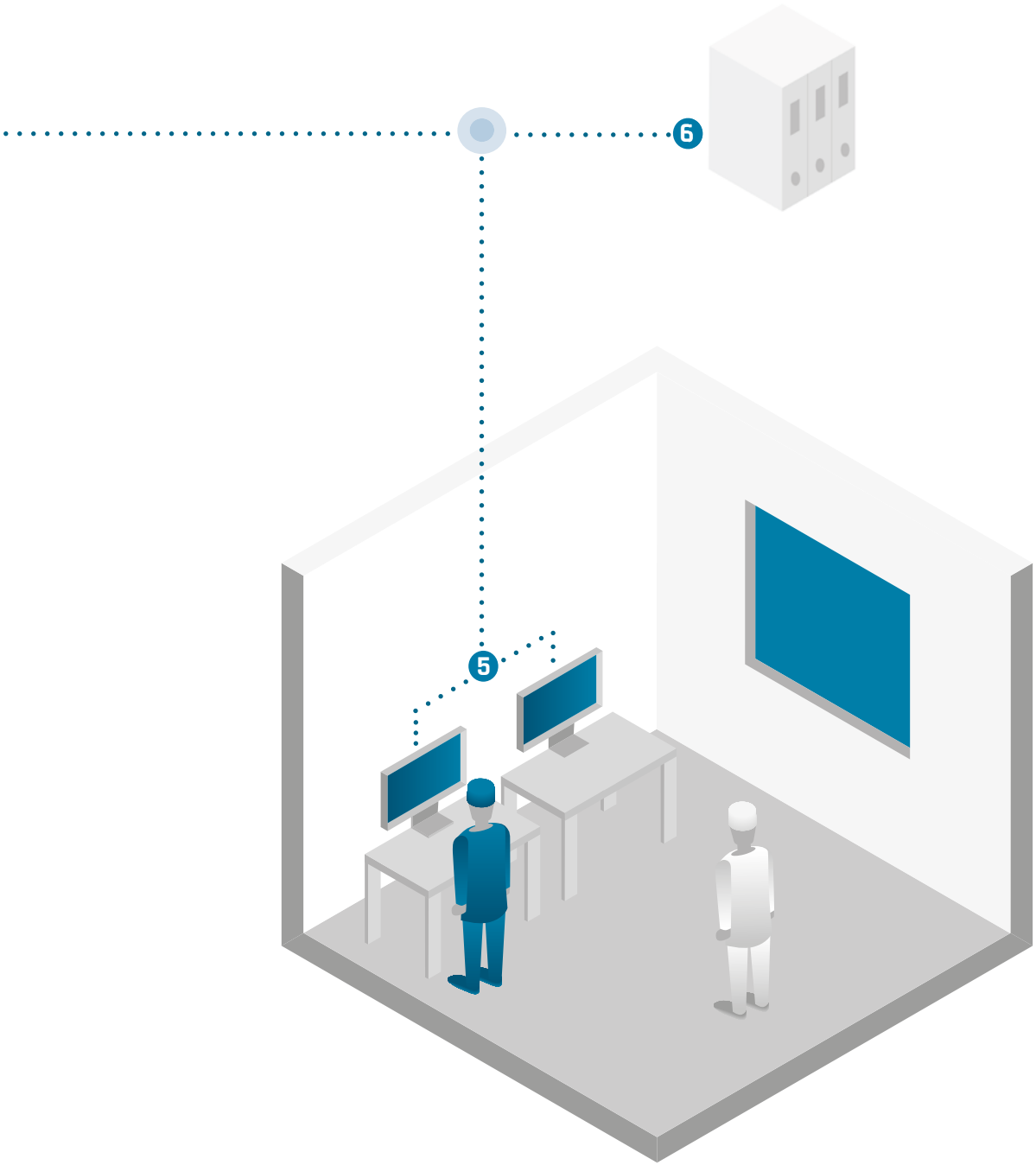


1. Every room is equipped with a camera that monitors the sleeping behaviour of the patients. The camera sends the uncompressed video signal to the encoder.

2. The encoder compresses the video signal and converts it so that it can be transmitted over the network.

3. The media servers are designed in such a way that they can temporarily store the video data of all rooms of a department for at least one week. Employees of the clinic sift and edit the material.

4. All data between encoders, media servers and long-term archive is transferred via the in-house and already existing LAN network.

5. For the user, it does not matter where the image and video material is stored, whether on the media servers or in the long-term archive: the content is centrally available and can be accessed at any time and from anywhere. Every PC workstation can be equipped with SMART OR.

6. Selected video streams are stored for an unlimited time in the long-term archive. This data, from any client, can be accessed and retrieved at any time.

# Advantages at a glance

- Better overview via a central
- Better mobility: access is possible from anywhere
- Automatic assignment to the patient file
- Encrypted and secure data transmission

# CLINO®

## Systems that pay off

- All-In-One-PC for the medical sector
- Individual and versatile configuration according to requirement profile
- Class 1 medical device (according to MDD 93/42-EWG appendix IX regulation 12)
- PCIOe-16x slot for expansions
- Blu-ray or DVD drive for reading and writing optical media
- Easy to clean and disinfect
- No air exchange with the surroundings, comes with germicidal coating

The CLINIO series comprises hygienic and versatile all-in-one PCs for the medical sector. The CLINIO is a Class 1 medical device (according to MDD 93/42-EWG Annex IX Regulation 12) and meets all conditions required for use in a patient-oriented environment. Each CLINIO is configured according to the requirement profile and are manufactured and configured accordingly. Design, construction and manufacturing are carried out in Germany. This guarantees highest quality.

# SMART OR®

## Software that streams, manages and archives

- Conversion of image data into an AVC/H.264 Livestream in Full HD quality
- Management of all video sources in the OR
- Complete integration into the network
- Availability on all current output devices
- Intuitive user interface and direct access on ceiling and room cameras and other modalities
- Integrated rights administration
- Easy to use archiving system
- Medical Document Management

SMART OR is a pure medical software solution that enables video and signal management from a single source. The software handles the routing and streaming of audio and video data and manages all video sources in the OR area. SMART OR transmits all signals to the network.

The OR personnel control videos, images and data via an intuitively operated command centre. The archived data can be retrieved, stored, linked and further processed. Document management is tailored to the special needs of medicine.

SMART OR is individually configurable and can be used both at the single workstation and in the OR as a multi-station system.

With this software a rapid exchange with physicians and colleagues is easily and comfortably possible.

easy to operate

efficient Livestreaming

scalable configuration

# Everything from a single source: from planning to commissioning

- Better overview through central image and video management
- More mobility: access is possible from anywhere
- Automatic assignment to the patient file
- Encrypted and secure data transmission

With CLINIO and SMART OR, Rein Medical offers a holistic solution for modern patient monitoring. A requirements profile is created in the planning phase. In addition to inventory of the spatial conditions and the existing technical equipment as well as the expected data volume, the appropriate hardware and software is put together in close consultation with the client. In the installation phase, necessary adjustments are made, and system tests carried out.

Professional operation is ensured through training and documentation. The transfer is complete when a confident handling of hardware and software as well as error-free operation is guaranteed.

# This is who we are!

Rein Medical GmbH, founded in 1994 and headquartered in Mönchengladbach, is a manufacturer and developer of Soft- and hardware solutions in the field of medical IT. The spectrum of services ranges from medical computer systems to diagnostic and viewing systems to clinic-wide image and video management.

Rein Medical is a system service provider that can implement holistic IT solutions for clinics and practices from planning to implementation. Around 50 employees work in Germany, Switzerland and Spain.

Since April 2018 Rein Medical GmbH has belonged to the international electronics group JVCKenwood.

# Contact us for more details

Need an individual solution for your clinic or hospital?

Then contact us! Our employees are at your disposal at all times and will advise you personally.

Simply make an appointment for a free initial consultation at www.reinmedical.com. Alternatively, write us an email at info@reinmedical.de or call us at +49 2161 6984-0

We look forward to serving you!

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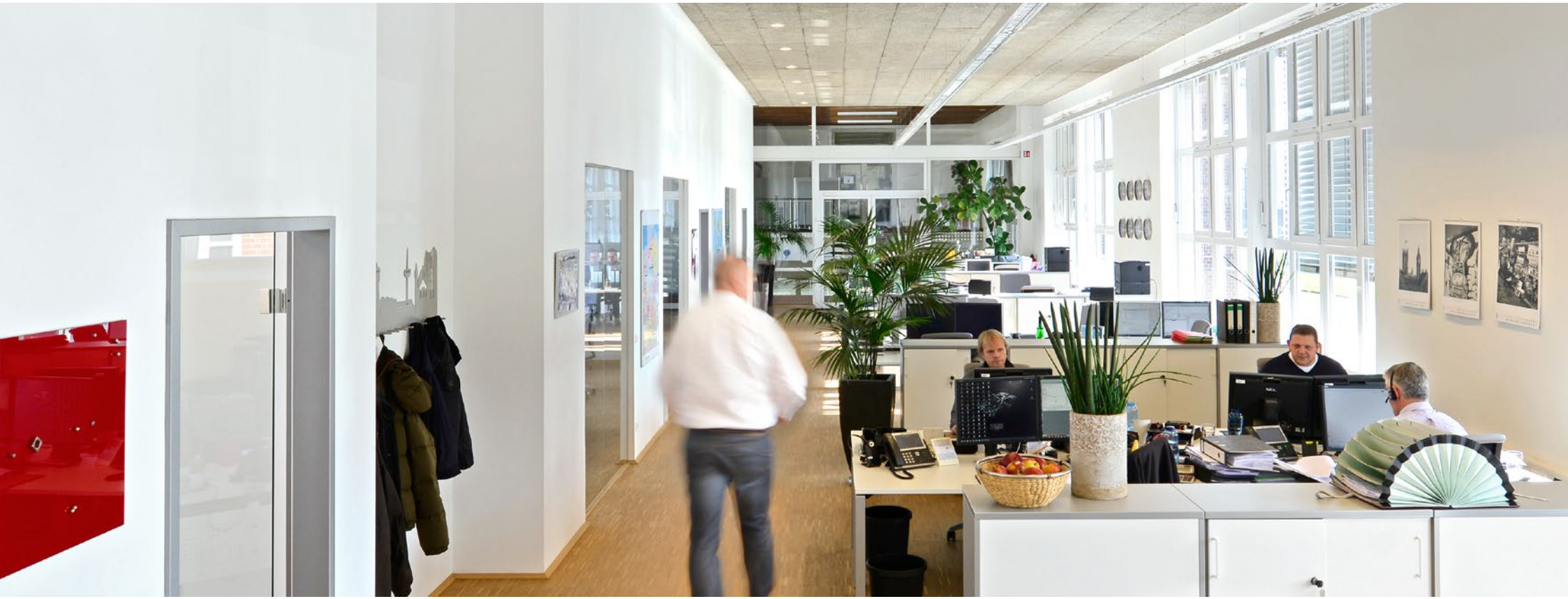

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