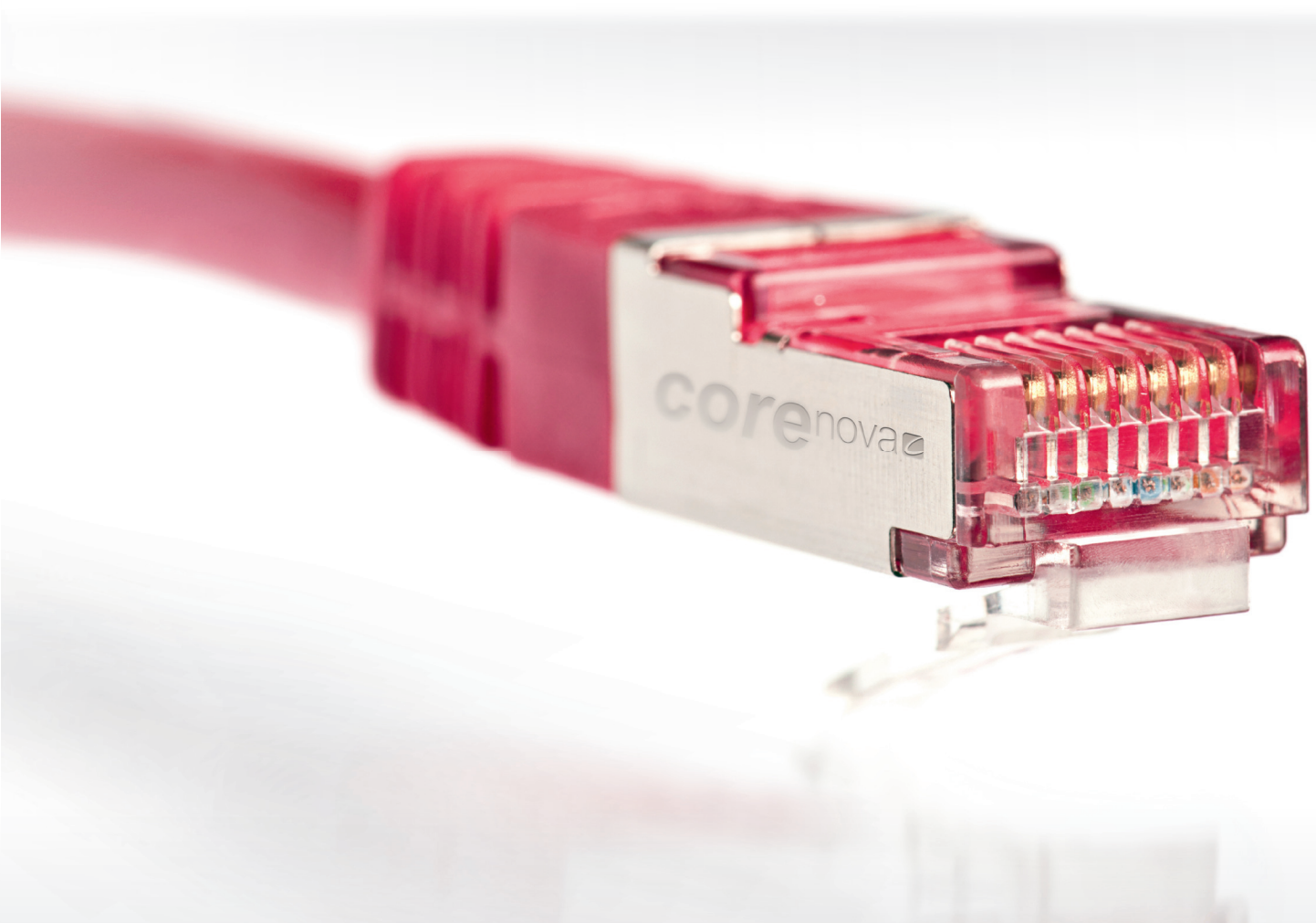# The first fully network-based integrated OR

corenova

The new generation

core nova

Integration as the future model

Integrated solutions are extremely promising concepts for effective Operating Room Management to meet the challenges of the future. A future-proof system solution is only created for the hospital when planning, performance and monitoring are merged safely and dependably. This holds true for small units and major centers.

Integration as key

Solutions in hospital management are required for the following future challenges:

- Improvement in the utilization of Operating Room capacity
- Reduction of complexity
- Lower costs for installation and operation
- Reduction of resources required for documentation
- Compliance with data security and data protection
- More flexibility in configuration of equipment

The integrated Operating Room from Richard Wolf is the solution to these challenges.

Progress through experience

The Developer Team at Richard Wolf set up Operating Room Integration on a completely new technology platform based on its own long track record of experience.

core nova features consistent implementation of the system on powerful and safe network technologies. Networking now has the capability to offer more than ever before.

Key elements of *core* nova are based on software modules to make the system future-proof and expandable. The system complies equally with customer requirements, international standards and technological developments.

Tailormade solutions

core nova offers lots of entry options into Operating Room Integration. For example, intraoperative documentation is provided through the endoscopic camera, professional media management or control of medical instruments. *core* nova can be expanded at any time independently of the initial configuration. The resources required for expansion are minimal due to network technologies and modularity.

Modularity and scalability mean that practical solutions are possible in any dimension.

core nova **on the video cart**

Compact, mobile solution on the video cart

- Standardized
- Touchscreen operation
- Ergonomic manual input of patient data
- Image capture and documentation on USB data devices
- Optional, small-scale video routing

Expanded functions through central services

- Scalable server carries out functions across several Operating Rooms
- Equipment management
- User-specific presets including video distribution
- Safe video streaming
- Image and video processing
- Simple planning for Operating Rooms
- Remote services

Link-up with existing systems in the hospital

- Hospital information system (HL7)
- Operating Room planning (HL7)
- Radiology information system and image archive (DICOM)
- User register
- Patient register

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Network of new possibilities

core nova offers appropriate modules for any phase of the surgical workflow. Through the use of networking can hardware and software components be made available to all users securely and without complex cabling.

Intraoperative

equipment control

core nova is based on local control. All the items of medical equipment and components linked to the system can be controlled from any workstation

- Several operating terminals synchronized together can be operated from touchscreens. Upgradable at any time without the need for additional cabling
- Capability for controlling all Richard Wolf endoscopic equipment or devices from other manufacturers
- Machine-to-machine communication between the devices for new functionalities throughout the system
- Transparent display of all instrument functions and current status information.
- Central and overarching error management
- Central administration and application of user-specific presets

Operating Room planning

core nova offers different upgrade stages for handling patient information in the Operating Room:

- Manual input of patient data in mobile scenarios
- Preoperative manual input of planned operations via a web interface and subsequent selection during the operation

- Link-up of existing information systems for import of patient data with multiple IDs or planned operations
- Support for established communication standards (HL7 and DICOM)
- Development and provision of proprietary, customer-specific links
- Archiving of catalog information, such as Operating Rooms, surgical personnel or types of operation

Media management

The **core.**media component offers comprehensive performance features in a very compact design enabling users to handle different image sources in the Operating Room.

- Distribution of four 3G-SDI video sources on up to four monitors in the Operating Room
- Preview of the video sources
- Transparent integration of incoming video streams into image distribution
- Maintenance of video distribution of an input even in the event of a power failure
- Simultaneous image capturing of four video inputs and video recording of two video inputs
- Option of picture-in-picture and quad split presentation
- Generation of a video stream for teleconsultation or training including talkback function
- High level of data protection by anonymization of the video stream data and explicit access check by personnel in the Operating Room

Data capture and documentation

core nova provides seamless data capture during the intervention and this information can be forwarded to all linked IT systems. The capture, storage and forwarding of data is subject to the same protection against unauthorized access and modification as device communication.

- Automated assignment of all captured data to previously input patient data
- Simultaneous capture of several image and video sources by the endoscope camera and **core.**media components from Richard Wolf
- Processing of video data in the Operating Room or later via the web interface
- Capture of previously defined or customer-specific forms or checklists. Automated generation of reports

- Progress documentation from the Operating Room for optimization of patient movements
- Link-up of existing information systems for importing captured data
- Simultaneous distribution of captured data to several data storage devices, e.g. hospital information systems and mobile USB memory devices

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Maximum safety and efficiency through innovation

The requirements for patient safety are continually increasing. Data security and data protection are rightly a top priority for patients and users. The setup and maintenance of a system operation is becoming increasingly complex as a result of rising complexity for operators in all areas.

core nova therefore offers all participants a safe, scalable and efficient system architecture.

Safety and data protection

The comprehensive safety concept already ensures compliance with the tougher requirements of today. All intraoperative hardware and software modules are approved medical products.

- Integrated, uniform security concept from the device to hospital IT with the option of remote maintenance
- Unambiguous identification and authentication of all network users based on digital certificates
- Integration of existing user registers
- Authorization and access check on devices and in applications

- Continuous monitoring of availability of all network participants with immediate status information. A log of system events is automatically maintained
- Selectable transmission of patient case study - with or without patient information. Provides complete and secure control of patient confidentiality especially when making open presentations
- Telemedicine and video conferences under the complete control of Operating Room personnel
- Options for anonymizing data when data is forwarded to video portals or business intelligence systems

Total operating costs

The total operating costs for the overall system are very low. Any combinations of hardware and software modules can be linked up to the network. An advanced *core* nova operating theater can already be set up today with a low initial investment. The system can be continuously upgraded at any time through the link-up and the safe plug-and-play procedure without the need for complex configurations.

- Low space footprint and reduction of power consumption with fewer hardware components and efficient modules
- Safe, centralized administrative and update management
- Reduction of downtime by the remote maintenance service from Richard Wolf
- Integration within existing monitoring systems at local level
- Support for implementation of a Risk Management System in conformity with IEC80001 through event histories, authentication and monitoring of all network users

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