



The integrated OR concept



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Since its founding over 55 years ago, RICHARD WOLF Knittlingen has developed into one of the leading and most renowned concerns active in endoscopy. Numerous innovative products for minimally invasive surgery were developed or continuously further developed in the form of product systems and patented. RICHARD WOLF uniquely embodies almost 100 years of tradition and expertise in the successful development of technical medical products for many areas of human medicine.

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Preface

After more than 55 years RICHARD WOLF GmbH Knittlingen can look back on more than half a century of medical history. Endoscopy, the basis for all minimally invasive therapy, was always the speciality of the house of WOLF.

With the development of the extracorporeal lithotripter based on the principle of piezoelectric shock waves, the house of WOLF has made a further significant contribution to non-invasive stone therapy. Today, we offer an integrated OR of the next generation as a pioneering OR concept allowing modular expansion. This underlines our leading position as a high-tech manufacturer in endoscopy. The company's success is and was always based on the special relationship between engineering and medicine that developed due to close co-operation with doctors and friends of the house of WOLF. At this point, we would like to

thank all those who made this co-operation possible, who supported us with new ideas and during trials and who placed their trust in us.

At the same time, we promise that we will continue in our endeavours to develop innovative products tailored to the requirements of the various areas of application so that we will remain your partner for endoscopy, ESWL and integrated OR system solutions.



The founder of the company RICHARD WOLF

The Company



The house of WOLF has always been one of the initiators in endoscopy. This unique advantage in experience and know-how in endoscopy allows us to produce modular system solutions for all specialist medical areas. Brilliant new ideas for the development of products, innovative concepts for complex system solutions and the highest degree of functionality are the basis not only of perfected endoscopy systems but also the integrated operating room of the next generation. The latest manufacturing technology and over 1300 highly trained employees worldwide guarantee products and systems of exceptional quality ensuring maximum safety in their application. We were one of the first companies producing endoscopes

to be certified by an accredited test centre for medical equipment complying with EN ISO 9001. We are proud of this achievement attesting the quality of the products we supply to our customers. In the promotion of medical science we maintain a constant dialogue with experienced physicians to improve instruments and endoscopy systems for ever more efficient surgical methods. Our range of products impressively documents the successful symbiosis of the company and minimally invasive surgery to the benefit of the patient.

Quality Management



A reliable team for project management advises, develops proposals for solutions, configures according to the requirements of the specialist field and installs your **CORE** solution. This is followed by suitable training. Subsequent support is available through a worldwide service network. Our products are tested and optimised to ensure problem-free interaction in integrated networks. Motivating the commitment of our employees to quality work is one of the most important tasks of our management.

This company philosophy has always been the backbone of the house of RICHARD WOLF. Only when there is harmonious interleaving between people, product and team spirit can permanent quality be achieved.

We were one of the first companies producing endoscopes to be certified by an accredited test centre for medical equipment complying with EN ISO 9001. We are proud of this achievement attesting the quality of the products we supply to our customers. A convincing argument for all employees to do their very best every day.



National and international quality certifications document the high standards of our products.



An outstanding design for RICHARD WOLF products with an extremely high degree of functionality and excellent hygienic properties.

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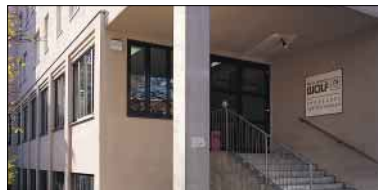
USA, RICHARD WOLF Medical Instruments Corp.



UNITED KINGDOM, RICHARD WOLF UK Ltd.



FRANCE , RICHARD WOLF France S.A.R.L



AUSTRIA , RICHARD WOLF Austria



BELGIUM , N.V. Endoscopie

CORE – Expertise through and through



Thanks to our many years of experience in endoscopy, the top-quality imaging systems we offer and our expert customer support worldwide, RICHARD WOLF GmbH has earned its reputation as a reliable partner and renowned high-tech company for solutions in minimally invasive surgery.

Close relations with customers and the precise implementation of user requirements resulted in numerous innovations that are considered standards in today's minimally invasive surgery. A fact that makes us rather proud of what we have achieved while at the same time serving as a challenge and responsibility for the future.

In the course of the continuous exchange of information with users, physicians and technicians, a **CORE** expertise developed that relates not only to the assembly of practical endoscopic systems but also to the design of a complete endoscopic workplace and integrated OR solutions optimised in terms of both ergonomics and workflow.

The design of such integrated OR solutions means new requirements profiles. The individual installation of the devices in ceiling mounted supply units, distributed nurse stations, mobile system trolleys and the integration of OR tables, OR lighting, HF devices as well as the interfacing to image management systems are today's prime objectives.

These are complex solutions that require expert consultation and planning. The main emphasis is on a practice-oriented selection and arrangement of the endoscopic equipment and ceiling supply units as well as the installation, commissioning and maintenance of the systems to guarantee efficient, problem-free daily routine in the OR.

"Everything from one source" – a requirement that is growing in importance all the time.



We at RICHARD WOLF GmbH, as the system integrator of the integrated OR CORE want to offer you this service from one source. With our know-how we can support you during all project phases, work with you to determine the requirements profile, design professional solutions and configure your system according to the tasks allocated to us. A reliable team then organises the installation, commissioning and training for your system solution and recommends service concepts tailored to your needs.

CORE IS MORE

CORE – THE system – THE team to support the individual and cost-effective design of your integrated OR.

CORE – Complete OR Endoscopy

- Top-quality endoscopy equipment
- Mobile unit trolleys, ceiling supply units
- Medical image management system, hospital network, DICOM 3.0, HL7
- Central system control and device management (RIWO CONTROL), nurse station
- Operating tables, OR lighting, HF surgery
- Solo surgery: Endoscope guidance systems
- Telecommunication, teleconference
- Remote maintenance





- With and without CAN-BUS system interface
- Mobile application, specialised endoscopy workplaces
- Digital patient image management
PACS system,
digital data import,
digital data export
- Central visualisation and
operator input concept,
control from a central
operator panel using
›touchscreen‹
›remote control‹
›voice control‹
speaker independent
- Transfer of images and
medical reports, ISDN,
DSL, IP network,
Ethernet LAN, modem
- Remote support and
telephone support
worldwide

CORE – The integrated OR of the next generation



1CCD ENDOCAM systems



Shaver systems



Insufflators





CORE – The CORE task

The CORE task –

Networking the individual devices in the OR

The modern OR of the future will contain numerous sophisticated, specialised devices for the widest range of applications. Just to mention a few: endoscopic camera systems, HF devices, insufflators, operating tables and lighting. The, at times, complicated operation of the various devices causes increasing strain on physicians and personnel. This can lead to results of an unsatisfactory quality. At RICHARD WOLF we therefore concentrate on simple and, as far as possible, self-explanatory operation of devices during the development of our products.

The aim –

Centralised system and device management

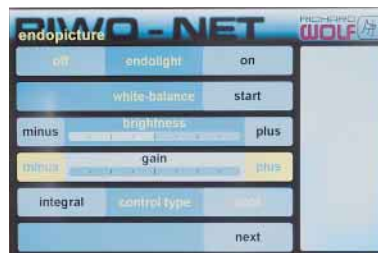
Even today, new technologies allow further improved solutions that we integrate into a modern, innovative control concept. A concept with simple, clear menu guidance and operation that sets new trends in central device control.

The solution –

Device networking with the CAN bus

Thanks to its standardization, the use of the CAN Open BUS protocol, a widely used communications standard, provides an excellent platform for continuous integration of further devices.

The networking of the devices and the straightforward menu guidance allow central system and device management from a central operator panel.



3CCD ENDOCAM systems



Light sources 180 W xenon
Light sources 300 W xenon



Pump systems

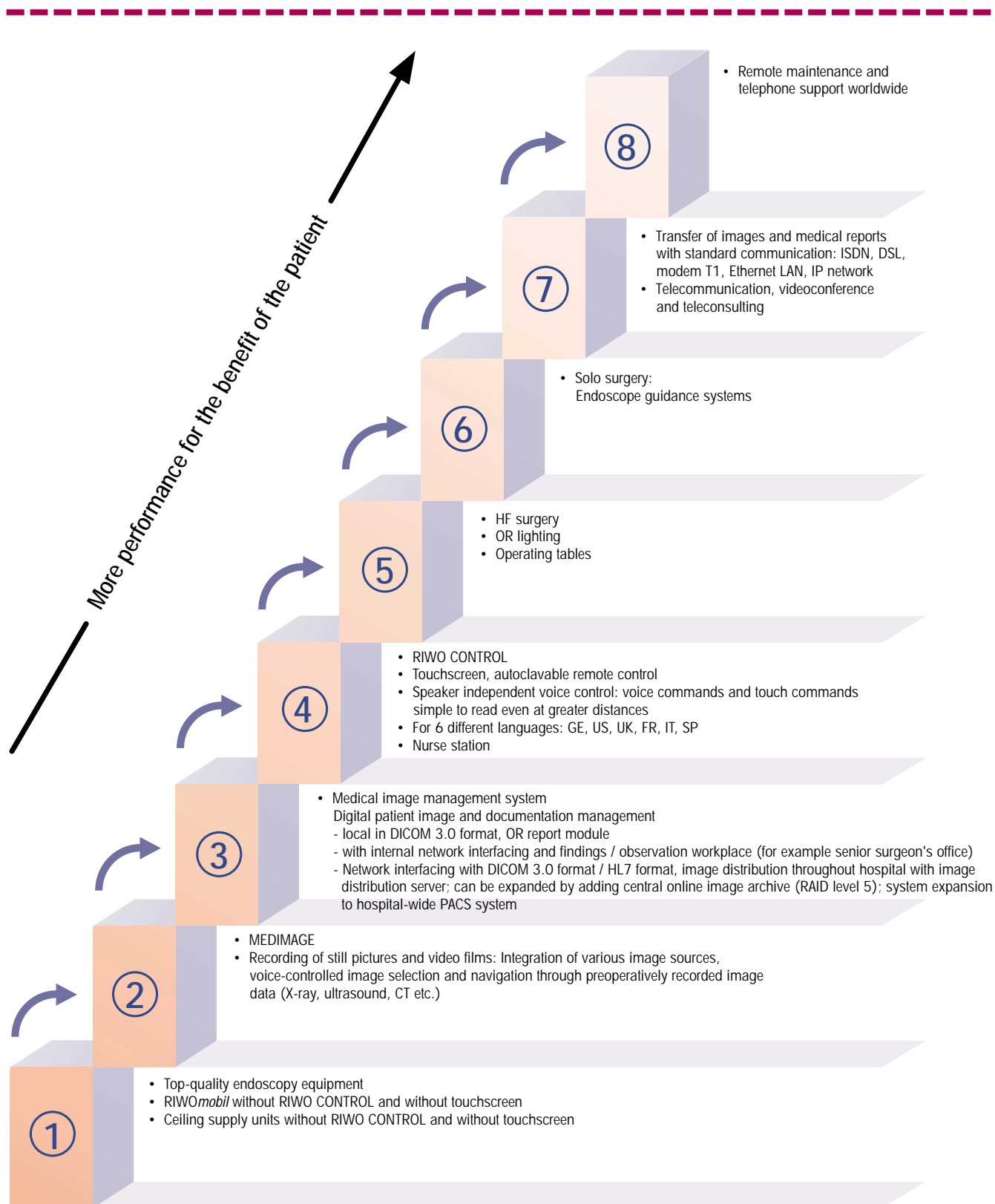
To operate the devices integrated in the system the following controls

- **touchscreen**
- **autoclavable remote control**
- **speaker independent voice control**

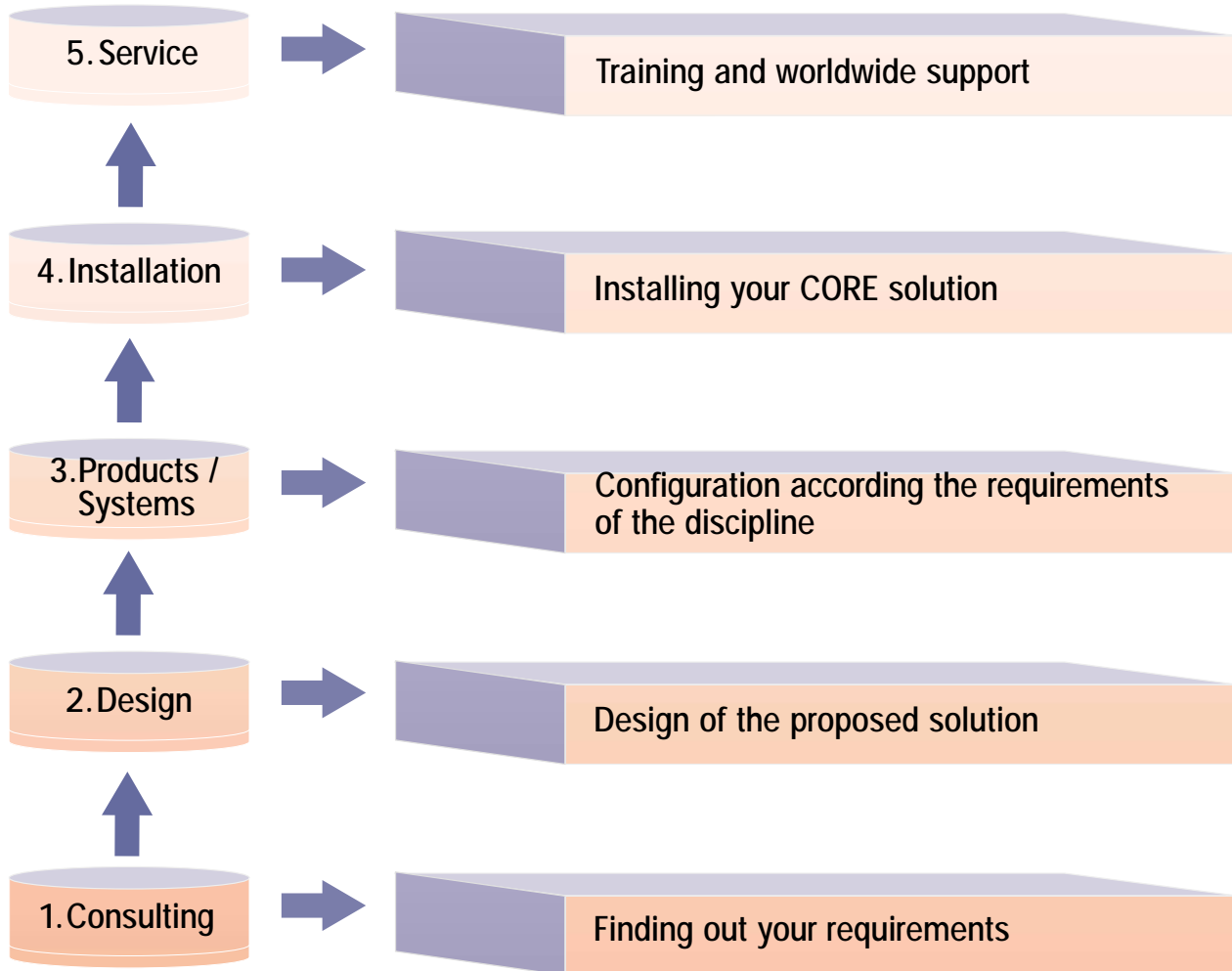
are available and can be individually combined and upgraded.



CORE concept



Planning / Consultation

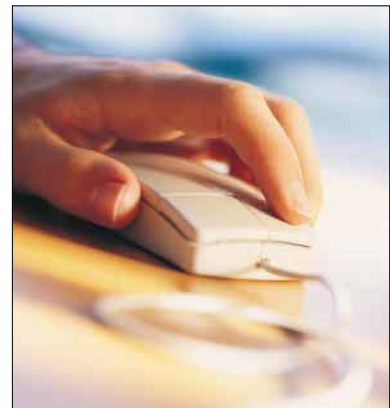


"An essential part of our company philosophy is to maintain close customer contact and to ensure precise implementation of customer needs. Solutions in which usefulness and efficiency are in the foreground."

To be able to fulfill this claim, RICHARD WOLF as system integrator of the OR concept CORE supports you with top-class and innovative products as well as specialist consultation and planning

services by the CORE team. Supplementary services are the organization of the installation and commissioning of your system solution and the preparation of practical service concepts tailored to your particular needs.

CORE – THE team to support the individual and cost-effective design of your integrated OR.



RIWO-NET*mobil*



RIWO-NET*mobil*

The integrated OR, a commonly quoted approach as a solution to meet the new requirements in health services and within our OR landscape, is taking on greater importance in the new millennium.

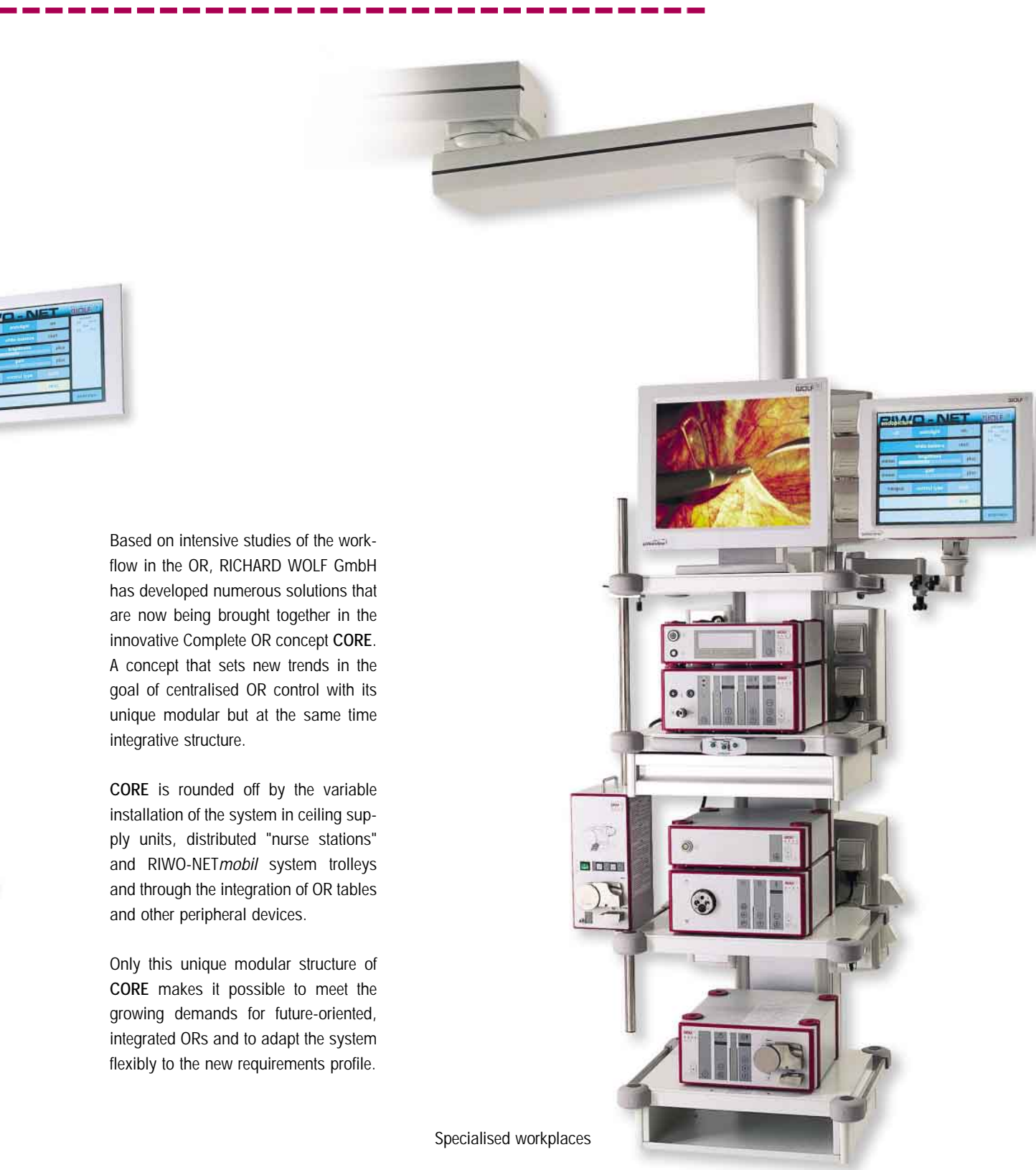
Considering the continuously rising pressure to contain costs, solutions for more efficient OR procedures and predictable, reduced operating costs while at the same time improving the working conditions for physicians, nurses and medical staff are being sought for.

As a result, centralised, future-oriented solutions have taken on a new meaning in the day-to-day running of hospitals and in coping with current problems such as the lack of newly qualified physicians and the demands for universal deployment of OR personnel.



Nurse station

Specialised workplaces



Based on intensive studies of the work-flow in the OR, RICHARD WOLF GmbH has developed numerous solutions that are now being brought together in the innovative Complete OR concept **CORE**. A concept that sets new trends in the goal of centralised OR control with its unique modular but at the same time integrative structure.

CORE is rounded off by the variable installation of the system in ceiling supply units, distributed "nurse stations" and **RIWO-NETmobil** system trolleys and through the integration of OR tables and other peripheral devices.

Only this unique modular structure of **CORE** makes it possible to meet the growing demands for future-oriented, integrated ORs and to adapt the system flexibly to the new requirements profile.

Specialised workplaces

CORE – modular, universal, unique

The heart of CORE is the central system and device management by RIWO CONTROL and the clearly arranged user menu.

Maximum functionality of the individual devices and the simplest possible control of the entire system are the main aims of CORE.

This has already been implemented in the basic version with simple, intuitive menu guidance. All the devices networked in the system by the CAN bus are visualised in a uniform user menu on the monitor. The symbolic display of device functions found normally has been replaced on the touchscreen by simple, readable text in various languages.

The indisputable advantage of this solution becomes clear in the "voice control" version. The easy-to-read device functions are also used as the terms for voice control of the system. This is the only way to achieve speaker independent voice control of the system.

An additional autoclavable remote control is available which has function keys with the same color scheme as the user menu.

RIWO-NET*mobil*

comprising:

RIWO*mobil*, back wall – closable,
RIWO-NET basic electrical fittings,
transformer module,

support arm for 15 inch LCD Touch,
keyboard drawer

230 V a.c.32115.001

100-120 V a.c.32115.011

RIWO-CONTROL

comprising:

RIWO CONTROL computer for RIWO-NET*mobil* including operating system and RIWO-NET software

230 V a.c.5590.001

100-120 V a.c.5590.011

RIWO-CONTROL Compact

comprising:

RIWO-CONTROL computer including operating system and RIWO-NET software, desktop casing with securing plate for the remote control / microphone connection module

230 V a.c.5590.002

100-120 V a.c.5590.012

15" LCD Touch

incl. TFT connecting cable

Resolution:

1024 x 768 pixels.....5590.201

Connection module remote control / microphone

with integrated loudspeaker and volume control, module for connecting the RIWO-NET manual control and the headset with microphone5590.811

RIWO-NET manual control

operated with 6 buttons,

autoclavable5590.961

Headset

basic headset with microphone

.....5590.911

Headset SHURE SM10A

ergonomic headset

with microphone5590.912

Voice-control software

Language:

German.....5590.971

American English5590.972

French.....5590.973

Italian5590.974

Spanish.....5590.975

British English5590.976

Connecting cable for

printer5590.982

Connecting cable for

recorder5590.983



Medical Image Management System

A further important aspect of **CORE** is the availability and integration of various solutions for recording surgical operations. **RICHARD WOLF** therefore provides various systems for documentation on digital media as well as a complete multimedia image management system (PACS).

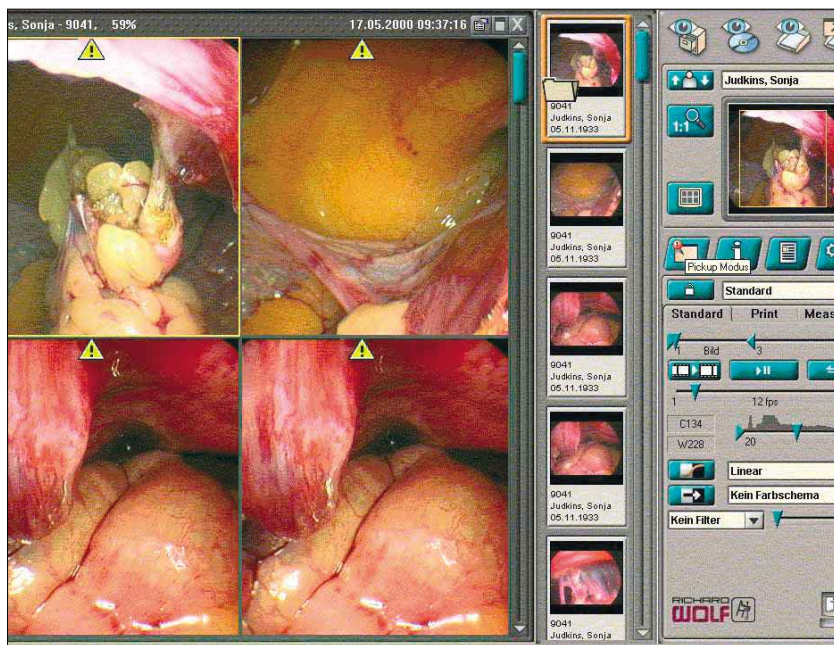
LCAP Motion: The CD recorder for simple recording of video films in various formats

MEDIMAGE®: The complete image management system (PACS)

With **MEDIMAGE**, complete digital patient image and document management is possible. Starting from workstations for picture acquisition, processing and archiving and progressing to server, network and telecommunications solutions it provides every form of image management as well as tailored, customised solutions.

MEDIMAGE encompasses all types of images, films and reports from surgery, radiology, cardiology or other specialist departments. **MEDIMAGE** also offers the option of intraoperative display of preoperative X-ray images and the simple recording of images and film sequences in DICOM format.

The central operator control in **CORE** allows the surgeon to navigate voice controlled through the available image data, to record still pictures and film sequences and to create the operation



report directly. Practically all types of imaging systems can be integrated. The consistent use of this module ensures immediate postoperative availability of the electronic operation report including images of the findings. This means that **CORE** leads to a reduction in costs and increases efficiency of the documentation for forensic purposes.

With its currently unique functionality, **MEDIMAGE** combines and guarantees the following:

- Recording of still pictures and video films (endoscopy, X-ray, ultrasound, etc.)
- Display of preoperative image data (for example X-ray pictures) on suitable monitors at your endoscopic workplace
- User-friendly, voice-controlled storage

of image data from within the sterile area

- Fast creation of operation reports with pictures
- Simplest creation of patient CDs or DVDs in the DICOM, JPEG, TIF and AVI formats
- Expanded network components for PACS, RIS and KIS
- DICOM worklist for transferring the patient's basic data
- DICOM-SEND for distributing the DICOM image data in PACS systems
- DICOM-STORE for acquiring DICOM image data made available by PACS networks and modern imaging medical devices (for example X-ray, CT, MRT etc.)

MEDIMAGE

Image acquisition and patient screen form

- Simply and clearly arranged structure
- The criteria selected for the patient screen form are adopted directly as search terms in the patient archive

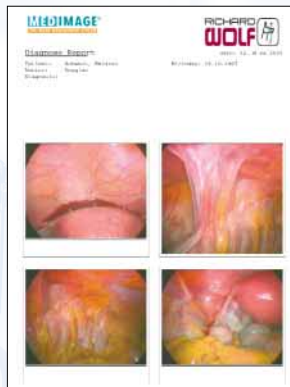


Data import from KIS and RIS, DICOM Worklist Management

- allows direct import of available basic patient data and identification numbers (ID) provided by the hospital administration systems (HIS, RIS) for example using DICOM Worklist or HL7

The **OR report module** allows lightning fast creation of OR reports and unites text and image in one document.

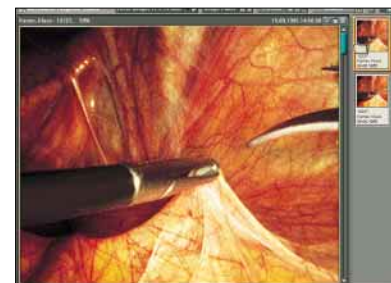
Our contribution for your fast and efficient documentation.

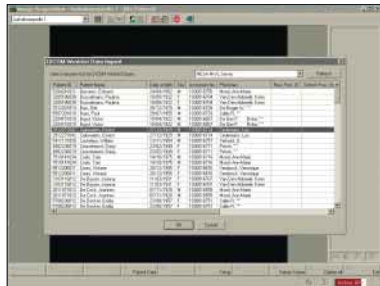


Stored image files can be exported in the following formats:

- DICOM
- AVI, MPEG
- TIF, JPEG, etc.

on CD or DVD.





The DICOM Store functionality of MEDIMAGE allows both the acquisition of DICOM image files

- from PACS networks and
- from modern medical imaging devices

The archived images can now be displayed to the surgeon intraoperatively on suitable monitors.



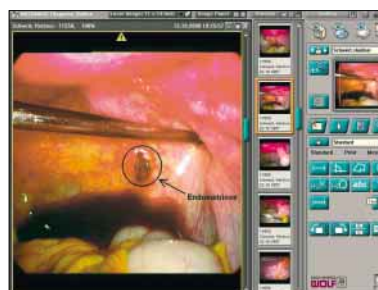
The archive manager

- Simple and clearly arranged database structure
- With individually selectable search filters, you can find every image belonging to every patient
- Allows simple structuring and evaluation of individual and group scientific studies

The DICOM Send functionality of MEDIMAGE allows distribution of the image data archived in the DICOM format to

- suitable hospital networks,
- dedicated RAID servers or jukeboxes,

and is the basis for image distribution throughout the entire hospital.



Editing images

- MEDIMAGE allows fast and intuitive editing of images
- Editing archived images allows additional information to be added to images without modifying the original

Installation / Commissioning

We include the installation and commissioning of the **CORE** solution as a service from one source. With many years of experience in international business and know-how in project management, we have everything it takes to organise complex projects. The handling of such projects is supported by our worldwide network of distributors and partners. Experienced employees install the modular system components locally

based on the agreed **CORE** solution. All products offered comply with the required standards. We are happy to implement individual settings and configurations for a specific contract. These professional methods assure you of quality and stability in everyday clinical routine. User satisfaction is a central factor in the projects of every **CORE** solution.



Service Concepts and Maintenance



Service and training are considered to have high priority at RICHARD WOLF. Worldwide marketing demands worldwide service. The parent company, subsidiaries, distributors and partners guarantee the user of RICHARD WOLF integrated OR solutions a high service presence and availability. New service options have opened up with remote maintenance and user-friendly software updates.

The most modern communication technologies can be used to help the user with graphic and easy-to-follow instructions. Basic and advanced training courses ensure that you have well-informed and highly qualified staff and are prepared for the challenges of ever faster technical progress.



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