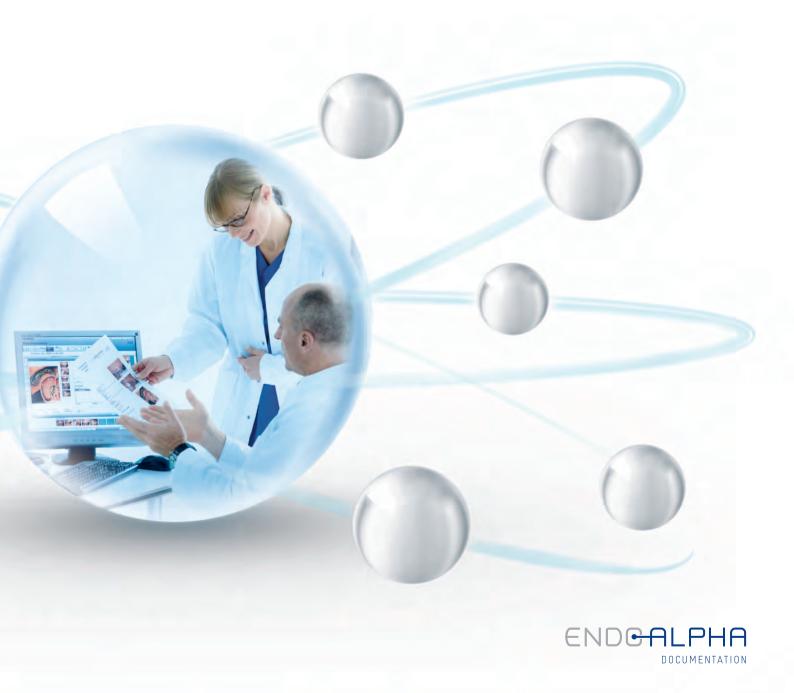


SYSTEMS INTEGRATION

**ENDOALPHA** Documentation

# Integrated documentation system: all information at your fingertips



# ENDCALPHA

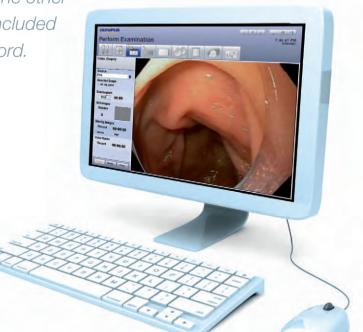
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# Information is efficiently captured, readily available and easy to access and use for reference or analysis

The ENDOALPHA Documentation system captures all information relevant to clinical procedures such as patient data, procedure data, logistical data, video, and still images into a centralized database. These are readily accessible from anywhere in the hospital. Automatic exchange of information between new and existing systems (PACS, HIS) eliminates the inefficiency of double entries and increases accuracy. Traceability is greatly improved with automatic scope recognition and capture of re-processing information.

Reporting of procedures is much easier, more detailed and standardised. Videos and still images can be captured from the procedure room at the touch of a button on the scope and additional images from the other

hospital sources are easily included in the report and patient record.



# Seamless integration within the hospital IT environment



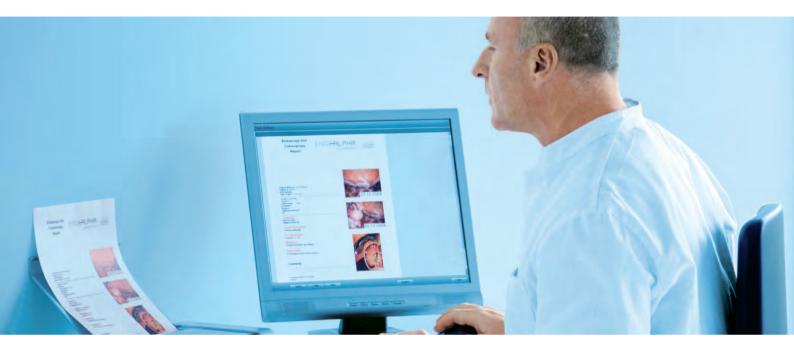


ANDREAS TILGNER HEAD OF EDP ISRAELITIC HOSPITAL HAMBURG, GERMANY

One of the major advantages of the system is the full integration with our existing hospital IT environment. Proven and established HL7 and DICOM interfaces made the implementation fast and efficient. The system creates a very valuable central information source for all departments performing endoscopy. Our staff are able to bring up any and all information related to endoscopy easily from anywhere in the network.

Basically, the seamless integration with our existing IT environment was a prerequisite for our overall decision to choose ENDOALPHA Documentation. Now, after 20 months of day-to-day operations, we are very satisfied and confident that the system will also match our future requirements. "Our staff are able to bring up any and all information related to endoscopy easily from anywhere in the network."

# Better information into and out of the procedure room





DR. MED. ULRICH ROSIEN HEAD OF MEDICINE DEPARTMENT ISRAELITIC HOSPITAL HAMBURG, GERMANY

The fact that the relevant procedure information is waiting for us when we start a procedure and that the data and images captured during the procedure are automatically added to the right record really helps us to be more efficient. We were able to significantly speed up processes while having access to more useful information, because we have immediate and hospital-wide access to patient data and stored images.

The creation of examination reports has become nearly effortless while the quality of the reports has improved! So much information can be added with just a few clicks, and the easy inclusion of images and graphics into the reports has been useful for us and the referring doctors; it is also much appreciated by the patients themselves. "We were able to significantly speed up processes while having access to more useful information."

# Information flows effortlessly to and from the room during the procedure

During set-up, patient and procedure data can be retrieved automatically from the HIS for increased efficiency and accuracy. All data captured or added during the procedure automatically becomes part of the electronic patient record, such as the scope used, start and stop times and more. This invaluable data can be kept in a departmental database and/or exported selectively to centralised hospital record systems.

Videos and still images can be taken during the procedure and included in the patient record effortlessly. With a touch on the camera head, foot switch or touch screen, still images can be captured or video recording started and stopped. Milestones can be easily established and then recorded with time stamps and image capture to create a well structured record of the key events of a given procedure, like a colonoscopy screening.



## Features

### Data capture

- Patient data such as name, address, patient identification etc. can be retrieved automatically from the HIS or entered manually.
- All relevant procedure data such as type, room, attending physician, medication, indication, endoscope used (automatic identification for OLYMPUS EVIS EXERA endoscopes), diagnosis and the start/end times of the procedure are stored in the central database.
- Required and optional fields are readily configurable by department.

### Image and video management

- HDTV and standard definition still images and videos can be captured.
- Captured images are available anywhere to authorised users in the hospital network upon finishing the procedure.
- The real-time display of the live image can be used as an additional reference monitor.
- Captured images can be automatically included in the PACS.
- Any image source in the room can be recorded. All imaging and ultrasound devices using accepted video standards are fully supported.
- Images and videos are conveniently captured via the scope buttons, foot pedals, mouse or touch panel.
- Easy transfer of stored information to USB, DVD or other removable media.

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# Features

## Full HD video chain

ENDOALPHA Documentation offers the option to record images and videos with best possible image quality in HD.

- Complete HD image chain with Olympus image processors
- Recording of HD images and videos in unlimited length
- Output of reference still images on second monitor in SD/HD (e.g. the last captured image during procedures or images from your PACS)



With 1080i HDTV life-like definition and clarity





With conventional resolution pixelation effect

# Centralised information management and faster, better reporting

Management of all information related to a procedure is improved with the creation of a central database of patient and records. Authorised personnel can access a centralised database from anywhere in the hospital network with all relevant information related to the procedure, including patient data, procedure codes, images and videos for reference. Relevant images can be brought into the database from other hospital systems or sources via DICOM and other standard formats.

Reporting can be standardised and carried out more quickly and completely with the use of structured texts and other automation tools. Relevant, standardised reports can be generated with a few clicks and then personalised if necessary with an easy-touse editing program. Images captured during the procedure or retrieved from other sources are readily available in the patient file and can be dragged and dropped for the creation of multimedia reports.

Data is automatically structured during the procedure and reporting processes. This structure allows analysis of the data for scientific, financial, legal or administrative purposes.

Before the procedure begins and after it is completed, data is automatically exchanged with the hospital IT systems via standard protocols like HL7, eliminating the need to enter data multiple times, saving time and increasing accuracy. Information is available both within the department and throughout the hospital network to create a single comprehensive integrated information system.

Images are also readily available at the departmental and hospital level by the sharing of images via DICOM, the standard protocol for hospital PACS (Picture Archiving and Communication System). Images can be automatically sent to the centralised hospital systems or brought from these systems into the departmental database for reference, planning or inclusion in reports.



## Features

### Centralised information

- Electronic patient history makes all related images, videos, voice notes and other captured data available from a single screen.
- Patient overview shows in a single view which information is available according to patient and procedure including type and date of exams, related images, reports, videos etc.
- Images can be imported to or exported from other databases, including central PACS, via DICOM for inclusion in the patient or procedure record.
- All information can be viewed via a web-based interface.
- Export of information to other network hard drives or removable media.
- Data, images and reports can be acquired offline and then automatically included in the central database when reconnected to the network.





# Features

## Reporting

- The report writer facilitates the creation of high-quality, standardised procedure reports including text and images in less time.
- Drag and drop images into procedure reports.
- Reports can be transferred to the HIS automatically including links to relevant videos or images contained in the database.
- Video editing.
- Special colouring and drawn or written annotations can be included in still images and saved.

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Aumin	stration
Persons / Users	Tables
Log File	Archiving
Patient Data Merge	Customization
Mandatory Fields	Data Import
Report	PCI
Reprocessing	Labelling
	Statistics

#### Administration

- PCI (billing, procedure and diagnosis) codes can be integrated for efficient, standardised administration and billing.
- Diagnosis and billing information can be automatically transferred to the HIS.
- A scope history including patients with whom the scope has been used is readily available.
- Overall data capture allows detailed statistical analysis.

# Information as the cornerstone of integration



The ENDOALPHA system is the total integration solution for procedural documentation, consisting of modular components that are combined for the hospital's individual needs. Each room and department is equipped with components that create an ergonomic environment with optimised workflows and maximum efficiency. ENDOALPHA Documentation, Video Management and Control are selectively installed according to Olympus' goldstandard specifications and maintained with top-quality service. When the efficient, reliable exchange of information is one of the primary goals of an integration project, a common platform for that exchange is the cornerstone of any project. The platform forms part of the hospital information infrastructure as a whole, contributing to and exchanging with the overall information base of the hospital. Readily accessible, centralised information about patients, procedures and support processes opens up new possibilities for understanding these processes, improved collaboration between departments, time savings for staff and, ultimately, better treatment for patients.

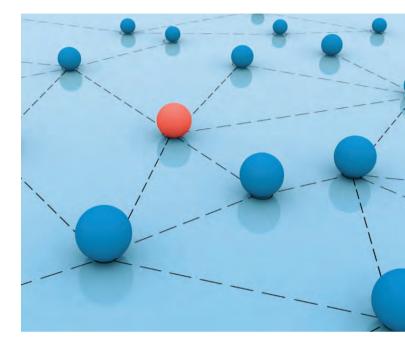




# Data and images are exchanged automatically with hospital data (HIS) and image storage (PACS) systems

Before the procedure begins and after it is completed, data is automatically exchanged with the hospital IT via standard protocols like HL7, eliminating the need to enter data multiple times, saving time and increasing accuracy. Information is available both within the department and throughout the hospital network as needed to create a single comprehensive integrated information system.

Images are also readily available at departmental and hospital level by the sharing of images via DICOM, the standard protocol for hospital PACS (Picture Archiving and Communication System). Images can be automatically sent to the centralised hospital systems or brought from these systems into the departmental database for reference, planning or inclusion in reports.



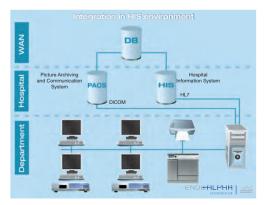
## Features

## HL7 compatibility

- Communication and bi-directional exchange of data with the HIS (Hospital Information System), ensuring a high data quality and improving efficiency.
- File-based or TCP/IP-based exchange of data.
- Custom integration of electronic Hospital Information Systems (HIS) for non-standard HL7 and DICOM available.
- Automatic linking from the patient record in the HIS to videos, pictures and reports.

## ■ DICOM compatibility

- Any image from sources within the room like endoscopes can be converted to DICOM format.
- Imported non-DICOM images can be assigned names and procedure data, converting them to DICOM images and completing the patient record.
- Images can be automatically, included in the PACS.
- Patient and procedure data can be received automatically, directly from a central DICOM worklist server.
- Functionality as an autonomous DICOM worklist server, providing the stored information to other IT systems in the hospital.



# Statistical analyses of any information with a few clicks

Procedural and administrative data collected with the ENDOALPHA Documentation system can be easily and immediately evaluated. Accurate, up-to-the-minute reports are available whenever needed. These reports greatly increase the transparency and provide information for efficiency improvements.

With the statistics module all procedure data in ENDOALPHA Documentation can be analysed based on user definable criteria. Based on those queries, reports can be created which exactly provide the relevant information. In addition those reports can be easily used for all kind of medical studies.



# Features

## Statistical Analyses

- High flexibility of analyses based on user definable criteria.
- Easy collection of data for all kind of studies.
- Statistic analyses offer full access to all related and relevant procedure data.
- Queries for analyses can be saved and run with just a few clicks at any time.



# Full ENDOALPHA documentation management of EndoCapsule procedures

ENDOALPHA integration enables comprehensive management of EndoCapsule procedures, taking full advantage of the benefits of HIS and PACS integration. Capturing of images and videos for further processing, reporting and centralised storage of all patient and procedure information.



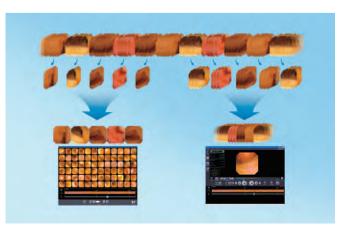


# Features

## EndoCapsule Integration

- Full system control and data management of EndoCapsule procedures.
- Capturing of relevant images and videos.
- Easy connection, configuration and data transfer to hospital server.





# Modules at a glance

Functionality	Details
Scheduler	Detailed user-configurable overview, checklist, filter/sort function, event scheduler, capacity indication, patient CD/DVD recording.
Patient data	Name, address, home doctor, patient identification number, admission number, risk indication, indication for former operations, information on health insurance company, data entry: manually or via HL7.
Procedural data	Procedure type and room, procedure number, start/end time, examiner/surgeon, attending physicians/nurses, scope (automatic scope identification for OLYMPUS EXERA scopes), premedication, indication, main diagnosis.
Image recording	Video images in SD via FireWire, Y / C or with Matrox VIO in SDI, Y / C, RGBS, HD-SDI, HD-RGBS.
Video recording	Video images in SD via FireWire, Y / C or with Matrox VIO in SDI, Y / C, RGBS, HD-SDI, HD-RGBS.
Post examination	Image viewing, review of video sequences, selection of images for the report, image enhancement and video editing, import/export of images/videos, anatomic graphic, creation of laboratory requests.
Report writer	Creation of a report incl. related images based on user-definable templates, reporting by free text or predefined text blocks. multiple reports possible, transfer of reports to the Hospital Information System via HL7.
Procedure code identification	Integration of different types of codes for procedure and diagnosis, setting of user-definable standards, automatic transfer of procedure codes to the Hospital Information System via HL7.
Patient history	Overview of all procedure and patient-related data and images/videos.
Statistics	User-definable queries on medical and statistical data as well as for images, set-up of standard queries for multiple use.
Labelling	Printing of user-definable labels with bar-codes.
HL7	Full integration with HIS, with patient, procedure data exchange, sending of lab requests, receiving of lab results, sending of billing, diagnosis and procedure codes, sending of reports.
DICOM	Full integration to PACS, import of still images, manual/automatic export of still images, manual/automatic export of moving images.
EndoView	Browser-based application that allows viewing of the complete patient file with all reports, images and videos throughout the hospital.

Availability of detailed product specification depending on country. Please contact your local Olympus representative for further details.

Specifications, design and accessories are subject to change without any notice or obligation on the part of the manufacturer.



OLYMPUS SINGAPORE PTE LTD. 491B, River Valley Road #12-01/04, Valley Point Office Tower, Singapore 248373, Singapore OLYMPUS KOREA CO., LTD. 8F, Hyundai Marines Bldg., 646-1, Yeoksam-Dong, Kangnam-Gu, Seoul 135-080, Korea OLYMPUS (BEIJING) SALES & SERVICE, CO., LTD. R1202, NCI Tower, A12 Jianguomenwai Dajie, Chaoyangqu Beijing 100022, China OLYMPUS HONG KONG AND CHINA LTD. For a complete listing of sales and distribution locations visit WWW.olympus.com

L43, Office Tower, Langham Place, 8 Argyle Street, Mongkok, Kowloon, Hong Kong, China