Syngo Carbon Enterprise Access

Operator Manual
VA41A

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Legend

i	Indicates a hint Is used to provide information on how to avoid operating errors or information emphasizing important details
»	Indicates the solution of a problem Is used to provide troubleshooting information or answers to frequently asked questions
■	Indicates a list item
✓	Indicates a prerequisite Is used for a condition that has to be fulfilled before starting a particular operation
◆	Indicates a one-step operation
1 2 3	Indicates steps within operating sequences
Italic	Is used for references and for table or figure titles
→	Is used to identify a link to related information as well as previous or next steps
Bold	Is used to identify window titles, menu items, function names, buttons, and keys, for example, the Save button Is used for on-screen output of the system including code-related elements or commands
Orange	Is used to emphasize **particularly** important sections of the text
`Courier`	Is used to identify inputs you need to provide
Menu > Menu Item	Is used for the navigation to a certain submenu entry
<variable>	Is used to identify variables or parameters, for example, within a string
⚠ CAUTION	CAUTION Used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury or material damage. CAUTION consists of the following elements: • Information about the nature of a hazardous situation • Consequences of not avoiding a hazardous situation • Methods of avoiding a hazardous situation

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WARNING

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

WARNING consists of the following elements:

- Information about the nature of a hazardous situation
- Consequences of not avoiding a hazardous situation
- Methods of avoiding a hazardous situation

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1 Introduction

1.1 Documentation overview

At Siemens Healthineers, we want to address all genders equally in our Instructions for Use. It is not our intention to exclude anyone. We continue to update our documentation with this in mind.

1.2 Technical terms and notation

1.2.1 Generic document

This term refers to any non-DICOM file such as images produced by digital cameras or imaging applications (for example, JPEG, MPM, TIFF), as well as various text, video, and audio file formats (for example, PDF, DOC, MPEG4, MP3) produced by various external applications (for example, Microsoft Office, Adobe Acrobat).

Generic files are wrapped in generic containers, analogous to DICOM studies.

1.2.2 DICOM document

A DICOM document consists of at least one DICOM study, series, and instance.

DICOM documents are produced by medical imaging devices compliant with the DICOM standard.

- Study

  A DICOM study contains all the data of a medical examination during which image data is acquired. This includes the actual image data (for example, X-ray, CT, ultrasound) as well as the patient data and descriptions relevant to the examination (such as the examination date or type). A DICOM study contains 1-n DICOM series.

- Series

  A DICOM series usually equates to a specific type of data acquired/produced by a particular device or to the position of the patient during acquisition. A series contains 1-n DICOM instances.

- Instance

  A DICOM object instance (or simply DICOM instance) is the actual data captured by the device, such as an image or waveform object.

1.2.3 DICOM information

DICOM (Digital Imaging and Communications in Medicine) is a standardized file format used in medical imaging.

In addition to object data (typically image data), the DICOM format contains additional information such as patient name, admission date, device parameters, and physician’s name. The DICOM format also contains the information necessary for data exchange between DICOM-capable devices.

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1.2.4 EXIF information

EXIF (Exchangeable Image File Format) is a standardized data format generated by, for example, digital cameras when taking a picture.

In addition to the image data commonly contained in JPEG or TIFF format, the EXIF format contains additional information describing the image in more detail, such as date and time information or the type of device used for image capture.

1.2.5 Modality

An imaging modality is a device for acquiring medical images such as X-rays or CTs. In Enterprise Access, modalities are identified by abbreviations such as CR for Computed Radiography (for example, when searching).

1.2.6 Organizational unit

An organizational unit is an association of arbitrary actors in a medical organization, for example, a department, medical devices, or groups of people. Organizational units can be customized and expanded with more constituents as needed, and these constituents can be uniformly managed.

All data to be archived is allocated to exactly one organizational unit.

1.2.7 Entity

In Enterprise Access, entities are an alternative way to identify documents that do not belong to a patient or visit. This is useful e.g. for archiving documents from clinical studies and trials.

1.2.8 Hounsfield unit

Density calculations of body tissue with the density calculation tool use the Hounsfield scale. The following equation is used to calculate the attenuation coefficients of various body tissues in CTs. It is assumed that the absorption value of tissues and the physical density have a linear dependence (μ = linear attenuation coefficient):

$$HU = \left(\frac{(\mu Object - \mu Water)}{\mu Water}\right) \times 1000$$

Coefficient	Object
0	Water
1000 to 100	Bone
100 to 0	Liver/Muscle/Kidney
-100 to -200	Fat
-1000	Air

Relative attenuation coefficients of body tissues and water

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The relative attenuation values can be determined easily from any point or area of the image. Although it is technically possible to render any number of attenuation values in grayscale, the human eye is not equipped to distinguish between more than 20 shades of gray. Instead, the use of windowing is recommended in order to visually highlight different kinds of body tissue. (*Source: Th. Laubenberger/Laubenberger, J. (1999): Technik der medizinischen Radiologie. 7. überarbeitete Auflage, Köln: Deutscher Ärzte Verlag.*)

Read the safety notices, see (→ Page 8 *Safety notices*)

1.3 Safety notices

1.3.1 Image and result distribution

CAUTION

Use of inappropriate devices (like displays, printers, browsers) to review radiological images.

Incorrect review of images.

- Syngo Carbon Enterprise Accessis intended to be used as a diagnostic, reviewing, and analytic tool by trained professionals such as physicians, technologists and nurses. When interpreted by a trained physician, reviewed images may be used to support decision-making in diagnoses. It is the user's responsibility to ensure that the software has been installed on the appropriate hardware and that image quality is suitable for clinical use. This product may only be used with supported browsers. Mobile use of this product is not allowed on unsupported mobile devices.

CAUTION

Syngo Carbon Enterprise Access is not intended for diagnostic reading of Digital Pathology images.

Diagnosis may be wrong.

- Use a device that is intended for diagnostic reading of Digital Pathology images.

CAUTION

Lossy compressed images are insufficient for primary diagnosis.

The diagnosis and treatment may be made on the basis of insufficient information.

- Do not use lossy compressed images for primary diagnosis. A compression indicator "Lossy compressed image" is displayed in red color at the bottom center of the segment for lossy compressed images, which indicates "images are not of full diagnostic quality".

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1.3.2 Medical education

CAUTION

Access to the system by unqualified persons lead to system malfunction or unwanted manipulation of patient data.

Incorrect or Delayed diagnosis.

◆ Grant access only to qualified staff members for Enterprise Access.

1.3.3 Calculations accuracy and units

CAUTION

The measurement results may not reflect the exact situation, due to inaccurate calibration info.

Wrong interpretation of the patient situation, wrong diagnosis due to inaccurate measurement results.

- Images may contain calibrations. Please note that the accuracy of these calibrations correlates to the precision of the program or modality with which they were created. Calibrations must be checked according to the manufacturer's instructions. Calculations, calibrations, and results derived therefrom must be checked for plausibility by clinical professionals. Inaccuracies may arise during image capture by clinical professionals or due to the image capturing technology of a given modality. For instance, X-ray images may contain inaccuracies due to the fact that the X-rayed body part is projected onto a two-dimensional imaging surface. Inaccuracies during visualization may be due to browser or hardware settings.
- This product rounds calculations and displays results as follows: Length and area: 1 decimal place; density (HU): no decimal place; area density (HU): 1 decimal place. This product uses an interpolation algorithm for image display.
- The application Enterprise Access conforms to Directive 80/181/ EEC, which contains specifications related to units of calculation. Calibrated lengths are calculated in millimeters (mm). Uncalibrated lengths are calculated in pixels (pixel). Calibrated surface areas are calculated in square millimeters (mm2). Uncalibrated surface areas are calculated in square pixels (pixel2).
- For DICOM Whole Slide Images (WSI), the unit display changes to micrometers (µm) / square micrometers (µm2) if the length falls below 1 mm or the surface area falls below 0.1 mm2.
- Plane angles are calculated in degrees. Densities are calculated using the industry standard unit, Hounsfield units (HU), which are not regulated by Directive 80/181/EEC.

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1.3.4 Access restriction

CAUTION

Leaving applications open when you are away could invite illegal or unauthorized access.

Incorrect diagnosis

- Make sure to log out whenever you leave your work place to avoid unauthorized access to the system.

1.3.5 Printing of images

CAUTION

Image transformations are not necessarily interpreted by the external paper printer function.

Misinterpretation of the image printed on paper.

- To print,Enterprise Access transfers the data to the print function of the browser. There may be differences in the display of data comparing the Syngo Carbon Enterprise Access image area with the printout, for example, the image could be cut off, annotations could be incomplete or missing entirely. Possible transformations such as mirroring, rotation, and applied presentation states are not marked explicitly in the printout.

1.3.6 Effects of external programs

CAUTION

Installing other software on Syngo Carbon Enterprise Access servers may lead to critical modifications of Syngo Carbon Enterprise Access Enterprise Access application.

Malfunction of the system and possible loss of data.

- Do not install third-party applications that are not verified. The software manufacturer does not guarantee that third-party applications will not negatively affect the system. The standards of any external programs accessed by Syngo Carbon Enterprise Access are set by their respective manufacturers.

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1.3.7 Not intended for mammography

CAUTION

Enterprise Access is not intended for diagnostic reading of mammography images.

Diagnosis may be wrong.

◆ Use a device that is intended for diagnostic reading of mammography images.

1.3.8 Network security

CAUTION

Unauthorized access to the system and unauthorized manipulation of patient data.

Malfunction of the system, manipulation of data and loss of data leading to delayed/wrong diagnosis.

- Setup and maintain appropriate data security and protection measures for the site and for all optional infrastructure, such as desktop-virtualization environments.
- Ensure that only authenticated devices, for example devices within the enterprise, are connected to the network.
- Enable the automatic logout or lock screen feature to prevent any unauthorized access in case of inactivity for a defined period of time.
- Enable the Windows operating system auto logoff for user accounts and limit the time to auto logoff as appropriate.
- Configure firewalls and user-account password protections for both server and client. Follow site-recommended policy for configuring user-account passwords.
- Do not allow users without the necessary privileges to change configuration files.
- Update virus protection software in accordance with your site security policy.

CAUTION

Installing unapproved software on Syngo Carbon Enterprise Access servers may lead to critical modifications of the Syngo Carbon Enterprise Access, cause malfunctions of database, or loss of important data. Therefore, violations result in loss of all warranty rights and may even be illegal.

Malicious software can cause malfunctioning of the system and possible loss of data.

- Configure and regularly update the antivirus software in accordance with your site security policy.
- Problems caused by interference with external applications are not the responsibility of Siemens Healthineers.

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1.3.9 No mobile device reading

CAUTION

Enterprise Access on mobile devices has not been approved for diagnostic reading of images in the United States of America.

Diagnosis may be wrong.

◆ Do not use Enterprise Access on mobile devices for diagnostic reading of medical images in the United States of America.

CAUTION

Computers are not infallible and unexpected errors may occur. For example,in case of power failure, system update, or system maintenance, Syngo Carbon Enterprise Access might not be available for a certain time.

Delayed diagnosis due to system failure. For instance, the system may not be available for use to view the results data for the patient.

- Define system-breakdown scenarios.
- Define backup scan scenarios.
- Implement counter-measures, such as failover solutions or backup systems, and test the implemented measures periodically.
- Prepare a backup plan for response to non-availability of the system or the network. For instance, to use a system on a different network or to use printouts or films.

1.3.10 Further evidences required

CAUTION

Diagnostic reading of medical images alone may not be correct under all circumstances.

Incorrect diagnosis basis.

◆ Image reading supported by Enterprise Access should not be relied on solely for a therapy decision. It is recommended to take further evidence (for example, lab reports) into account for a holistic therapy decision.

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1.3.11 Consider JPEG quality during reading

CAUTION

Reduced display quality of images for reading

Wrong diagnosis basis

- Be aware of the reduced quality when changing the JPEG quality setting.
- Consider the current quality value which is shown as "Display : JPEG(xx)" in a text overlay for each image during the image reading.
- To view the image in loss less format, use the PNG option.

1.4 Network connection

Enterprise Access requires an active network connection. For IT security reasons, a (temporary) failure of the network connection may result in you being logged out and having to log in again.

1.5 Workstation accessibility

When using Enterprise Access make sure that you can operate the application at all times.

1.6 Supported file formats

Enterprise Access supports the viewing of various DICOM and generic files listed in the following.

1.6.1 DICOM storage SOP classes

Enterprise Access specifically supports the DICOM Storage SOP Classes listed below. In addition, Enterprise Access supports viewing of all SOP Classes used for the purpose of image and video storage. Technical limitations (for example, regarding the Transfer Syntax) may apply.

- 12-lead ECG Waveform Storage (1.2.840.10008.5.1.4.1.1.9.1.1)
- General ECG Waveform Storage (1.2.840.10008.5.1.4.1.1.9.1.2)
- Grayscale Softcopy Presentation State Storage (1.2.840.10008.5.1.4.1.1.11.1)
- VL Whole Slide Microscopy Image Storage (1.2.840.10008.5.1.4.1.1.77.1.6)
- Basic Text SR Storage (1.2.840.10008.5.1.4.1.1.88.11)
- Encapsulated PDF Storage (1.2.840.10008.5.1.4.1.1.104.1)

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- Key Object Selection Document Storage (1.2.840.10008.5.1.4.1.1.88.59)

1.6.2 Generic files

Enterprise Access supports the following generic files for viewing:

Images

BMP	JPEG-LS	JPEG 2000	TIFF	GIF
PNG	PNM	PCX	WBMP	JPEG (JFIF)

Video/Audio

Enterprise Access supports the playback of various video and audio file formats that use the following codecs

AAC	FLAC	H.264	H.265	PCM
INDEO2	INDEO3	INDEO4	MP3	MPEG1
MPEG2	MPEG4	OPUS	VP8	VP9
WMA	WMV1	WMV2	WMV3	

This means that Enterprise Access supports the playback of e.g. M4A audio files that use AAC codec or MPEG video files that use the MPEG-2 codec.

Text

CDA	JSON	TXT
CSV	PDF	XML

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2 General information

This chapter describes the general information about Syngo Carbon Enterprise Access.

2.1 Intended purpose

Intended Purpose Statement under the European Medical Device Regulation 2017/745:

Software solutions intended to process, communicate, display, read, and archive medical data for informing and driving clinical management.

2.2 Intended use

Syngo Carbon Enterprise Access is a software intended to be used in clinical image and result distribution for diagnostic purposes by trained medical professionals and provides standardized generic interfaces to connect to medical devices without controlling or altering their functions.

2.3 Patient population

If not limited or specified otherwise within this document then Syngo Carbon Enterprise Access has neither limitations concerning the patient population (for example, age, weight, health, condition) nor limitations concerning region of body or tissue type.

2.4 Indications

Enterprise Access is indicated for display and rendering of medical data within healthcare institutions.

2.5 Contraindications

Enterprise Access is not intended

- for diagnosis of digital mammography images.
- for diagnosis of digital pathology images.
- to be used for diagnostic purpose on mobile devices in the USA.
- to be used as a sole basis for clinical decisions.

2.6 IT security information

To learn more about the security of your Syngo Carbon Enterprise Access medical devices and to obtain the Manufacturer Disclosure Statement for Medical Device Security (MDS), contact your Siemens Healthineers representative and ask for the document entitled Product & Solution Security Whitepaper and MDS[2].

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2.7 Incident reporting

According to the European Medical Device Regulation 2017/745 (MDR), any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the EU Member State in which the user and/or patient is established.

2.8 Clinical benefits

Syngo Carbon Enterprise Access provides the clinical benefits that result & image distribution is facilitated with a wide range of supported file formats and tools.

2.9 Integration scenarios and interoperability

Syngo Carbon Enterprise Access integrates into your IT infrastructure and communicates with other systems. Examples of such systems are as follows:

- RIS, HIS, EHR and EMR systems
- DICOM workstation

2.10 User interface

The graphical user interface is available in German, English, French, and Spanish. The default language is English.

2.11 User roles

The use of Syngo Carbon Enterprise Access is intended for specific operator and user roles. The roles listed below may vary in practice depending on the organization (hospital), qualification, and personal responsibilities and can be considered as a general guideline only.

The following table provides the user roles and profiles that are identified for Syngo Carbon Enterprise Access.

User role	Tasks required	Competency profile
Medical Professional (includes but not limited to radiologist, clinician, physician, dentist, technologist, nurse, chiropractor, optometrist, physical or occupational therapist, other trained caregiver)	• Evaluate procedure results • Review results/Reports	• Professional Education in medical profession • Work experience • Product training certificate or comparable product experience
Clinical Administrator	• Application maintenance • Clinical Data maintenance	• Professional Education or Work experience • Product training certificate or comparable product experience

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User role	Tasks required	Competency profile
IT Administrator	• IT infrastructure maintenance	• Professional Education or work experience • English language skills (proficient or advanced level) • Product training certificate or comparable product experience
Application Specialist	• Configuration of software • Perform user training • Troubleshooting	• Professional Education or work experience • Product training certificate or comparable • Product experience
Service Technician	• Troubleshooting - Hardware and Software	• Professional education or work experience • Product training certificate or comparable • Product experience
Implementation Engineer	• Initial installation and configuration of software • Integration on site to customer IT environment	• Professional education or work experience or university education • Product training certificate or comparable • Product experience
Product Vendor /Business Unit	• Define, implement and distribute the final end customer product	Usually Siemens Healthcare Business Units

Within this document, the term "Administrator" refers to "Clinical Administrator" and "IT Administrator"

2.12 Training

To ensure that healthcare personnel are equipped with the relevant expertise, and to improve their productivity, mandatory education services tailored to your specific needs are provided. Siemens Healthineers offers training for administrators as part of the overall education Services tailored to your specific needs. The training provided follows the blended learning approach, utilizing various methods including, but not limited to, onsite training, remote training, or e-learning contents that best fit the situation for your enterprise.

For more information, refer to one of the following:

- Contact your local Siemens Healthineers sales representative.
- Healthcare professionals have access to PEPconnect, the Siemens Healthineers learning platform, where they can brush up their knowledge at their own pace, anytime, anywhere. Go to pep.siemens-info.com, and search for Syngo Carbon Enterprise Access to see relevant e-learning contents.
- See https://www.siemens-healthineers.com/. Select your country and then select the category **Education & Training**.

3 Usage instructions

3.1 Notes Regarding the Usage of Enterprise Access

3.1.1 Brief differences of document statuses

For system performance improvement reasons, the status of documents in Enterprise Access may briefly differ between the individual user and the archive. Search results always reflect the document status in the archive at the precise moment of the query. Note that the results list is not updated automatically if you or another user make changes to documents after you have triggered the search. Either rerun the search manually or set an automatic update interval for the results list (see (→ Page 38 *Setting automatic updates for the results list*)) to see the most recent data.

3.1.2 Cache of document data

When viewing documents, note that the document data is cached for a maximum of 10 minutes by default. This caching speeds up reopening documents and applying tools, e.g. windowing of DICOM images. Changes to cached documents only become visible when the data is automatically removed from the cache. Enterprise Access documents are cached on the user level.

3.1.3 Browser zoom

Enterprise Access is not optimized for use with activated browser zoom. Please disable any zoom settings in your browser preferences.

3.1.4 Browser-dependent differences

Different web browsers render websites differently, which might lead to slight differences in the display of Enterprise Access. These display differences do not affect the functionality of Enterprise Access diagnostic. However, certain proprietary browser features, e.g. picture-in-picture display of videos or auto-fill, might interfere with the user interface of Enterprise Access. Enterprise Access cannot control these browser features; you may have to turn them off in the browser settings.

3.1.5 Scope of functions described

These usage instructions provide a comprehensive description of the functions of Enterprise Access. Due to the configuration settings of your organization or missing permissions, some of these functions may not be available to you. If you have any questions, please contact your system administrator.

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3.2 Getting started

3.2.1 Accessing Enterprise Access

Enterprise Access can be accessed using the internet browser. To configure and access Enterprise Access, contact your system administrator.

3.2.2 Accessing the instructions for use on your system

You can view the Enterprise Access application help for further information and assistance about the application.

✓ You know the correct name and version of your medical device.

Perform the following steps to open the Enterprise Access application help.

1 Click the logged-on user icon on the access bar.

2 Click **Help**.

3 If you require any other document, click the **Library** icon in the **Categories** section and set the filter to the required document type, for example, **Operator Manual**.

4 From the result list, select the required document.

3.2.3 Login and logout

On the login screen, enter your user name and password, select the domain (if applicable) and click on Login

To log out, select Logout from the drop-down menu next to your user name. Always terminate your sessions by logging out in order to prevent unauthorized access.

Not all options may be available for your institution or workstation, meaning that you may not see some or any of these messages and/or the logout option.

At or after login, the following events may occur:

Login message

You may be shown a login message. Click Accept to finish logging in to Enterprise Access. If you accept the message once, you will not receive it again. If you click Decline, your login will be canceled.

Incorrect password entry

If you enter your password incorrectly too often, your user account will be locked for security reasons. The lock can only be undone by your system administrator.

Screen lock or automatic logout

Syngo Carbon Enterprise Access may engage a lock screen or initiate an automatic logout to prevent unauthorized access. The time remaining until screen lock or logout is visualized next to your user name.

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Screen lock This function will blur the screen and display the lock screen. To continue working, enter your password on the lock screen. This unlocks Enterprise Access and you will see the current status of your work. You can also log out the current user on the lock screen in order to allow another registered user to log in.

Note that logging out the current user means that this user's unsaved work will be lost.

Automatic logout Automatic logout logs out the current user, and the login screen is displayed.

3.2.4 Main menu

Use the main menu at the top to access to the main features of Enterprise Access:

- Patient Search

  In the Patient Search tab, you can search for documents within a patient context. See (➔ Page 25 *Patient search*)

- Entity Search

  In the Entity Search tab, you can search for documents within an entity context. An entity is an alternative way of identifying documents in syngo.share, e.g. for clinical studies. See (➔ Page 26 *Entity Search*)

- Inbox

  In the Inbox tab, you can access all the documents that have been shared with you. See (➔ Page 64 *Inbox*) for more information

- Archive

  In the Archive tab, you can archive documents. See (➔ Page 66 *Archiving documents*)

- Patient Banner/Viewer

  This tab only appears when you open at least one document for viewing. In the Viewer, you can view the document in detail and perform various actions. See (➔ Page 40 *Opening Documents*)and (➔ Page 52 *Screen layout of Enterprise Access*) for more information.

- Job queue

  The Job Queue tab provides a list of potentially time-intensive operations. See (➔ Page 67 *Job Queue*) for more information.

- User Menu

  The user menu opens when you click on your user name. It contains various functions, including the settings (see (➔ Page 23 *User settings*) for more information), the logout option and product information.

3.2.5 Adjusting the User Interface

- You can hide or display certain parts of the user interface using small buttons.

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3.2.6 Full screen mode

Enterprise Access can also be used in full-screen mode. You can activate and deactivate the full-screen mode by clicking on your user name and selecting from the drop-down menu.

3.2.7 Roles and permissions

Roles with permissions must be assigned to users or user groups in order to perform tasks in the Enterprise Access.

User roles and permissions can be managed in Syngo Carbon IDM configuration portal.

For more information, refer *syngo*.share core - Online Help.

The tables in the following sections provide an overview of the user permissions and the corresponding authorized tasks enabled in Enterprise Access.

Deleting or changing the name of a predefined role or task may break the correlation with work items or prevent clinical users from performing specific tasks.

By default, every user role is authorized to perform the following basic functionality in Enterprise Access without any user permissions explicitly assigned to them in Syngo Carbon IDM configuration portal.

- Customize tools on the Tool bar for the current user
- Configure monitor settings in **Settings**

CAUTION

Unauthorized access to the system and unauthorized manipulation of patient data

Malfunction of the system, manipulation of data, and loss of data leading to delayed or wrong diagnosis

- ◆ Set up and maintain appropriate data security and protection measures for the site, and for all optional infrastructure, such as desktop-virtualization environments.
- ◆ Ensure that only authenticated devices, for example, devices within the enterprise, are connected to the network.
- ◆ Enable the Windows operating system auto logoff for user accounts and limit the to auto logoff as appropriate.
- ◆ Configure firewalls and user-account password protections for both server and client. Follow site-recommended policy for configuring user-account passwords.
- ◆ Do not allow users without the necessary privileges to change configuration files.
- ◆ Update virus protection software in accordance with your site security policy.

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CAUTION

Access to the system by unqualified persons lead to system malfunction or unwanted manipulation of patient data.

Incorrect or Delayed diagnosis.

◆ Grant access only to qualified staff members for Enterprise Access.

Functional Permissions

Functional permissions refer to functions in Enterprise Access and are independent from Organizational Units. The following table describes the available functional permissions.

User permission	Operation
Change patient metadata	Allows to change patient metadata
Export document from post inbox	Allows to export documents from the inbox without having general export rights
Manage document log	Allows to view and clean up the document log
Recipient	Allows to use the inbox. If a user group has this permission, it is also displayed in the list of recipients
Show patient jacket	Allows to open Patient Jacket and view further information regarding the present study context
Access XDS-I domain	The user is allowed to perform a query for external documents (in a XDS Affinity Domain)
Use MPR/MIP	The user is allowed to use the MPR/MIP function.

Document Permissions

Document permissions are permissions on Organizational Units defined in *syngo*.share core. Having a specific permission on an Organizational Unit allows the user to access/edit data archived in this Organizational Unit. The following table describes the available document permissions.

User permission	Operation
Administrate reference pointer	Allows to register a reference pointer manually (re-send HL7 reference pointer to external system)
Change document meta data	Change the metadata/properties of a document
Change keyword	Allows to add or remove keywords to/from a document
Change thin slice state	Allows to manually change thin slice state
Change workflow state	Allows to change the workflow state
Copy document	Allows to copy a document. To insert the document somewhere else, the **Import document** permission is required
Delete document from archive	Allows to delete a document from the archive
Export document	Allows the export of a document

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User permission	Operation
Export document minimized	Allows the export of a document only in minimized form
Import document	Allows to insert a document after a copy operation
Move document	Allows to move a document to another Organizational Unit. To insert the document there, the permission **Import document** permission is required
Print document	Allows to print a document via the system paper printer
Rearrange instances	Allows to rearrange (cut and paste) a study to another study, a series to a study, and a series to another series
Reassign document	Allows to reassign a document to another patient or visit
Register document to patient portal	Allows to manually register documents to Patient Access
Send document	Allows to send DICOM and generic documents
Share document	Allows to share a document with another user via the inbox. The receiving user must have the **Recipient** permission
View document	Allows to search for and view documents
View restricted document part	Allows to view series and generic files that are marked as restricted

3.3 User settings

You can open the settings window from the user menu.

All settings changes (except for a password change) have to be confirmed by clicking the **OK** button. Some changes require a page reload to become effective.

3.3.1 General

User profile

Password Click **Edit** and enter your old as well as your new password in the respective fields. Click **Confirm** to save.

Follow the instructions on changing your password. These may inform you that your password needs to contain certain characters or be of a certain length. The Confirm button is only set to active if you fulfill all password conditions. Note that passwords are case-sensitive. If the Edit button is deactivated, this means that your user access is managed by an external system (for example, LDAP) and you are not allowed to change your password. Please contact your system administrator.

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Language and Date

Language

- By default, Enterprise Access uses the browser language. You can change the language by clicking your user name and selecting **Settings** from the drop-down list. Click **OK** to confirm your changes and reload the page.

Date Format

- By default, Enterprise Access uses the date format of the tenant. You can change the date format by clicking your user name and selecting **Settings** from the drop-down list. Click **OK** to confirm your changes and reload the page.

Open Documents

- Double-click

  You can choose if a double-click on a document opens a viewer tab or a pop-up window. This setting is overruled if your system administrator has configured an external application to open on double-click for that specific case.

- Pop-ups

  You can choose if a new pop-up window is opened for each document or if newly opened documents are displayed in an already open pop-up window.

Screen Test

- Enterprise Access offers a screen test feature to help you calibrate your screen for an optimum viewing experience. You can perform the screen test by clicking your user name and selecting **Settings** from the drop-down list. Follow the instructions to calibrate your screen. It is recommended to perform the screen test prior to working with Enterprise Access.

3.3.2 Search

Other examinations

You can choose the position of the initial examination in the Viewer when comparing with an other examination (see (➔ Page 38 *Other examinations*)).

3.3.3 Tools

Mouse

You can map certain tools to the mouse buttons. Open the drop-down menu for each mouse button to assign one of the available tools. Mouse buttons not supported by your hardware are grayed out. For more details, see (➔ Page 55 *Viewport Area*).

3.3.4 Viewer

Image display settings

You can adjust the display quality of images for viewing and editing. This is particularly useful when you are accessing Enterprise Access over a slower network connection. You can change the settings under **Settings Viewer**. Ensure that you read the Safety Notices before adjusting the settings.

JPEG quality for interaction

Here you can choose between Manual and Adaptive. Selecting Manual allows you to determine all image quality settings yourself. Selecting Adaptive ensures that Enterprise Access continuously adjusts the display quality for interactions depending on your network connection.

JPEG quality value for interaction

If you set the display quality to Manual, you can move the slider to select the quality value for interactions. When you perform continuous actions such as zooming, scrolling, or windowing in the Viewer, the quality of the displayed image is adjusted to this value.

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JPEG quality value for final display

Move the slider to set the regular display quality. When you stop performing continuous actions in the Viewer, the quality of the displayed image is adjusted to this value.

Playback

Playback provides you the following settings:

- DICOM image playback FPS

  You can set a standard FPS rate for DICOM multiframe series playback. In cases where the DICOM multiframe instance already contains a recommended FPS value, this recommended value will be preferred.

- Autoplay DICOM modalities

  You can enable autoplay for certain DICOM modalities. Only the selected modalities will enter automatic playback when loaded.

- Autoplay videos

  You can enable or disable autoplay for all videos on a general level. If enabled, all kinds of videos, regardless of their modality or whether they are DICOM or generic, will play back automatically.

Visualization

- Viewport coloring per document

  You can switch on and off the color-coding of viewports for multiple documents of the same patient. For details on viewport coloring, see (➔ Page 54 *Document Preview*) and (➔ Page 55 *Viewport Area*).

3.4 Searching for documents

Enterprise Access offers two ways of searching for documents:

- Patient Search

  In the Patient Search tab, you can search for documents within a patient context. See (➔ Page 25 *Patient search*).

- Entity Search

  In the Entity Search tab, you can search for documents within an entity context. An entity is an alternative way of identifying documents in *syngo*.share, for example. for clinical studies. See (➔ Page 26 *Entity Search*) .

3.4.1 Patient search

To start a patient search, perform the following steps:

1. The Patient Search tab is active by default when you log in to Enterprise Access.
2. Select a search mode (see (➔ Page 27 *Search modes*)).
3. Enter your search terms. You can refine or broaden your search by combining different terms. You can clear a search term by clicking x in the search field, or clear the entire search at once by clicking .
4. You may have more than one archive available for searching. In this case, you have to select at least one archive before you can start the search. Click **Sources** to select one or multiple archives.

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5 Press **Enter** or click **Search** to start the search. You can cancel the in-progress search at any time by clicking **Cancel**.

6 The results will be displayed in the results list below the search area. See (➔ Page 35 *Results list*) for information on customizing and working with the results list.

When you run a search in third-party archives, certain search fields either cannot be considered or are unavailable.

3.4.2 Entity Search

The entity search works in a similar way to the patient search but offers entity-specific search fields. To start an entity search, perform the following steps:

1 Click on the **Entity Search** tab and select an entity from the drop-down menu.

2 Enter your search terms. The available fields depend on the selected entity.

3 Press **Enter** or click **Search** to start the search. You can cancel the in-progress search at any time by clicking **Cancel**.

4 The results will be displayed in the results list below the search area. See (➔ Page 35 *Results list*) for information on customizing and working with the results list.

3.4.3 Wildcards and further actions

Use the following characters as wildcards (placeholders) for all search terms:

- % and * stand in for any number of characters.
- _ and ? stand in for a single character.

% is also automatically appended to the search term, except in ID search fields (for example, Patient ID, Accession Number, Visit ID). This avoids false positives when you search for patients using a barcode scanner.

Example 1: Using %

Searching for “M%er” will provide results such as Mustermann and Musterfrau, but also Meier, Mayer, Moser or similar. If you only enter “m”, % is automatically appended and Enterprise Access searches for all records that begin with “m”.

Example 2: Using the _

Searching for “m_ier” will provide results such as Meier and Maier. Because % is automatically appended, results like Meierle and Maierle will also be found.

You can also do the following:

- Switch between search modes (see (➔ Page 27 *Search modes*)).
- Convert searches from one mode to another (see (➔ Page 27 *Search modes*))
- Customize your search with a variety of search fields (see (➔ Page 30 *Classic Search*))
- Save custom search queries (see (➔ Page 34 *Saving a search query*))

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- Edit your saved search queries (see (→ Page 35 *Editing a saved search query*))
- Set a saved search query as default (see (→ Page 35 *Setting a search query as standard*))

3.4.4 Search modes

The Patient Search offers two search modes:

- Smart search

  The Smart search mode lets you quickly and easily search for documents by recognizing your inputs and offering search field suggestions for selection. You can run searches using only your keyboard. No additional search field customization is necessary. The Smart Search supports the most common search fields. See Smart Search for more information.

- Classic search

  The classic search mode offers a variety of search fields that you can customize according to your needs. Input methods vary depending on the type of search field. See (→ Page 30 *Classic Search*) for more information.

You can switch between the classic and Smart Search mode by clicking Search mode and selecting the desired mode. In this manner, you can also convert existing searches (see (→ Page 34 *Saving a search query*)).

Since the Smart Search supports a limited number of search fields, not all searches can be fully converted. If you choose to convert a classic search with filled search fields that are not supported by the Smart Search, these fields will be ignored. If your classic search contains invalid search terms, it cannot be converted until you correct those search terms.

Smart Search

The Smart Search supports the most common search fields (see (→ Page 27 *Supported search fields in the Smart Search*)). When you enter a search term, the Smart Search suggests appropriate search fields in the form of a drop-down list. Use the arrow keys to select the desired field for your search term and press Enter to add the term to the Smart Search (you can also make your selection with the mouse).

Smart Search suggestions are based on several criteria, such as whether the search term is an exact match for a field. The Smart Search will offer more refined suggestions the more you use it, that is, if you select particular fields more often, these fields will be ranked higher as a suggestion. To receive the last suggestion, click .

If you have selected the local archive as a data source, the Smart Search provides the predicted number of results in the local archive before you execute the search. If this predicted number is high, you may want to refine your search terms before executing the search. Since the predicted number is based on data in the local archive, the actual number of search results may differ if you have selected more data sources (see (→ Page 25 *Patient search*)).

Supported search fields in the Smart Search

Table 2 lists the currently supported search fields and the inputs that will cause them to be presented as suggestions. If a search field is not available in the Smart Search, please select classic mode for searching.

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the Smart Search recognizes your inputs based on the current language and date format settings (see (➔ Page 24 *Language and Date*)). Input matching for suggestions is not case-sensitive.

The Smart Search automatically corrects certain inputs such as invalid dates. For example, if you enter “29.02.2022” as a birth date, the Smart Search converts your input to the next valid date, in this case, “01.03.2022”.

Search Field	Input	Additional Information
Accession Number	String/Number	Enter a number for this field to be ranked higher as a suggestion.
Assigned Patient Location	String	Multi-selection is possible. Use HL7 notation for this field to be ranked higher as a suggestion.
Birth Name	String	-
Body Part	String	-
Date of Birth	Date	Only selectable when the Patient Age field is not selected.
Description	String	-
Document Workflow State	Fixed list	Multi-selection is possible.
First Name	String	Only selectable when the Name is not selected.
Keyword Fields	String	Multi-selection is possible
Last Name	String	Only selectable when the Name field is not selected.
Modality	Fixed list[1)]	Multi-selection is possible
Mother’s Maiden Name	String	Only selectable when you have already selected at least one of the following search fields: First Name, Last Name or Name. If the name contains one or more special characters listed in Table 5, please use a wildcard (see (➔ Page 26 *Wildcards and further actions*)).

1) Search field is suggested when you enter a string that matches a term on the fixed list of this search field, e.g. if you enter ”CT”, the search field Modality will be suggested since ”CT” is on the fixed list for this search field.

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Search Field	Input	Additional Information
Name	String	Combination name field. Only selectable when you have not selected First Name or Last Name. For details on valid inputs, see (➔ Page 32 *Special search fields*).
Patient Age	Number + Time unit	Only selectable when the field Date of Birth is not selected. For the available time units see (➔ Page 32 *Special search fields*).
Patient ID	String/Number	Enter a number for this field to be ranked higher as a suggestion.
Producer	Fixed list	Multi-selection is possible; available producers depend on your permissions
Sex	Fixed list	Suggested when you enter "Male", "Female", "Other" or "Unknown".
SSN	String/Number	Enter a number for this field to be ranked higher as a suggestion.
Station Name	String	
Study Age	Number + Time unit	Only selectable when the field Study Date is not selected. For the available time units see (➔ Page 32 *Special search fields*) .
Study Date	Date/fixed list	Specify dates or time periods by entering a date and selecting "on", "from", "to" or "between" from the suggestions. To receive "between" as a suggestion, you have to enter two dates separated by - or a space. Search for recent documents with relative terms like "last 4/8/12/24 hours", "yesterday", "today", "last 2/3/7/30 days". Only selectable when the field Study Age is not selected.

Search Field	Input	Additional Information
Visit ID	String/Number	Enter a number for this field to be ranked higher as a suggestion.
XAD Patient ID	String/Number	Enter a number for this field to be ranked higher as a suggestion.

Classic Search

The classic search offers a wide variety of search fields in the categories Patient, Document, Order, Series, Visit, and Keywords (if defined). You can show or hide these search fields according to your needs. To customize your search, perform the following steps:

1. Click **Configure search fields**. The configuration window shows the available search fields and the displayed search fields. For details on the various kinds of search fields, see (➔ Page 30 *Types of search fields in the classic search*) in the Classic Search.
2. Add or remove a search field by selecting it in the appropriate column and clicking on  or  .
   - To select multiple entries at once, press Shift or Ctrl while clicking.
   - To add a search field at a specific position, additionally select an entry in the displayed search fields column. The new search field will be added directly below this entry.
3. Change the order of the displayed search fields by selecting the fields you want to rearrange and clicking  or  .
4. Optionally, you can preview your changes by clicking **Preview**.
   - To undo your unsaved changes, click **Reset**.
   - To completely revert all customization, click **Restore default** .
5. Click **OK** to save your changes by or reject them by clicking **Cancel** .

Types of search fields in the classic search

Each search field is of a certain type that determines how you can enter your search terms. The following types of search fields are available in the classic search:

Free text

Most search fields are free text fields, such as Last Name, First Name or Patient ID. You can enter your search term directly or paste text from the clipboard by pressing **Ctrl + V**. Leading and/or trailing spaces and/or tab characters are removed automatically. Free text fields are not case-sensitive for searches in *syngo*.share core.

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Selection List

- In fields of the type selection list, for example, Modality, Document Type, or Producer, you select an entry by clicking the arrow symbol and selecting from the predefined list.

  Some selection lists allow the selection of multiple entries (for example, Modality, or Producer): Simply select one entry after the other. To remove an entry, click the next to it.

  Special Selection List Search Fields

  – Producer

    – The department (organizational unit) that produced the images/documents. Only departments of which you are a member are displayed.

Date

- In date fields, you can either enter the date directly or select it from the calendar. When you select the date from the calendar, you can see the currently valid date format.

  Special date search fields

  – Study Date

    – This search field combines a selection list with a date search. First, select a time period from the selection list. If the time period is related to the present day or the current time, no further input is required. However, if you want to search for a specific date (“on”, “from”, “to”) or a date range (“between”), one or more date fields will open after you have selected the time period. There, you can enter the required dates manually or select them from a calendar.

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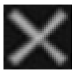
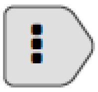
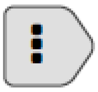
Keyword

In keyword fields, you can enter a keyword manually or select it from the associated keyword catalogs. To remove a particular keyword, click  right next to it.

- If you enter a string and select a keyword from the suggestions in the drop-down menu, the search will only include this exact keyword. If you enter a string and simply press Enter, your input will be shown in italics and the search will include all keywords containing this string.
- To use the keyword catalogs, click  . The catalogs show the keywords in hierarchical order. Click  to expand further hierarchical levels. To filter the catalog, enter part of the desired keyword.

  In case  is not displayed, the loading of keywords has been restricted to improve performance. Use the filter option as described to find the desired keyword.

  Click on an entry in the catalog to add it to the search field. You can add more than one keyword to a search. The search automatically includes all keywords that are hierarchically below the selected level.

  Example 3: Selecting hierarchical keywords

  If you select "J00-J06 Acute upper respiratory infections" from the ICD-10 catalog, all diseases/ keywords in that section are included. If you select "J01.4 Acute pansinusitis" on the lowest level, only results matching that exact keyword will be shown.

  Automatically included keywords are marked with a square, keywords you select yourself are marked with a checkmark.

  – Keywords of the ICOTAGS catalog might appear crossed out. This means that the keyword is deprecated. You can still search for this keyword, but it may not be used for tagging anymore.

  Note that if you run a search with a set keyword, the results will only include documents that have been tagged with this keyword on at least one tagging level.

  For more information on keywords, see (➔ Page 47 *Keyword tagging*).

Special search fields

Most search fields are straightforward to fill, however, certain search fields function in particular ways and/or require particular inputs.

Body Part

- Here, you can filter for the part of the body examined (contents of the DICOM tag `BodyPartExamined`).

Description

- Description of an examination/study (contents of the DICOM tag `StudyDescription`). The placeholder % is automatically prepended and appended to the search term.

Mother's maiden name

- The mother’s maiden name may contain special characters. Due to technical reasons, the search field does not support some of these special characters. If the name you are searching for contains one or more of the special characters described in (➔ Page 46 *Mother’s maiden name*), please use a wildcard at this position to conduct your search (see (➔ Page 26 *Wildcards and further actions*)).

Name

- This search field allows you to search for last name and/ or first name and different combinations thereof. The following searches are valid and will be mapped correctly to the fields first name and last name of the database:
  - firstname lastname
  - lastname, firstname
  - lastname,
  - , firstname
  - lastname
  - DICOM notation:
    - `lastname^firstname`
    - `lastname^`
    - `^firstname`
    - `lastname^firstname^^^`
    - `lastname^^^^`
    - `^firstname^^^`
    - Any other combination of `firstname` and `lastname` with up to four carets that follows the standard DICOM notation (i.e. `lastname` always before `firstname`, always one caret preceding `firstname`).

Patient age/study age

- These fields require a particular syntax. In addition to entering the desired number, you have to indicate the desired unit of time (y = years, w = weeks, d = days, and h = hours). If no unit of time is indicated, years are presumed as unit. Units of time may not be combined. By adding > or <, >= or <=, you can search for certain age ranges. Without a relational operator, the search will only include the precise age.

  Example 4:

  - Searching for patients younger than 20 weeks: <20w
  - Searching for patients exactly 70 years of age: 70y
  - Searching for studies of the past week: <=1w

Producer

- The department (Organizational Unit) which produced the images/documents. Only departments of which you are a member are displayed.

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Study date

- This search field combines a selection list with a date search. First, select a time period from the selection list. You can search for time periods related to the present by selecting "last 4/8/12/24 hours", "yesterday", "today", "last 2/3/7/30 days". When you want to search for a specific date or time period, select "on", "from", "to" or "between". In these cases, one or more date fields will open after selecting the time period. Enter the desired dates manually or select them from a calendar.

---

i Spelling in the list above represents the way search terms have to be entered. If first name and last name are not separated by a comma or a caret, they may only consist of one word each because the space marks the separation between the two in this case. Names containing hyphens or other special characters are considered as one word, for example, Smith-Miller or O'Brien.

3.4.5 Saving a search query

You can save frequently used search queries in order to avoid having to re-enter them every time.

Example 3: Search Query: Display all CTs of a given day in the results list

If you have a daily CT meeting and want to see all CTs of that particular day in the results list, you can create a CT_Meeting search query, save it, and execute it by clicking its name.

1 Select the search fields needed from the search settings menu > **Configure search fields**.

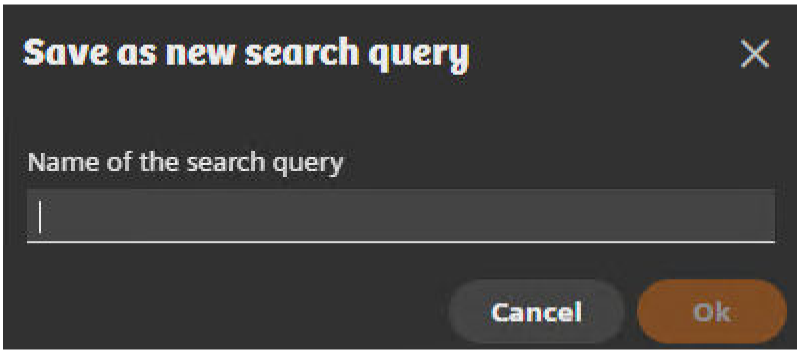
2 Fill in the required search fields in the search area.

3 Execute the search query.

4 Adjust the display of the results list (see (➔ Page 37 *Adjusting results list columns*)) if necessary.

5 If you are satisfied with the result, click **Save as** to save the search query.

The **Save as new search query** dialog box is displayed.



6 Enter the name of the search query in the **Name of the search query** field.

7 Click **Ok**.

You will find the saved search query as a new tab above the search area. Clicking it will execute the saved query.

Setting a search query as standard

- You can set a saved search query to be executed automatically as soon as you log on to Enterprise Access. Select the required search query tab, open the search settings menu and set the search query as your default. When you next log on, Enterprise Access will automatically switch to the archive search and load the results list of the standard search query.

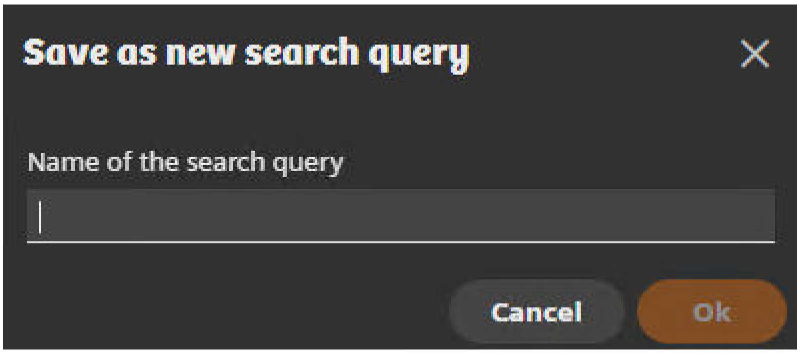
Editing a saved search query

To edit saved search queries, apply the changes needed (for example, hide/show search fields, enter additional search parameters) and start the search.

Click **Save** to save the updated query under the same name.

Click the down arrow button next to the Save button and click Save as to save the query with a different name.

The **Save as new search query** dialog box is displayed.



Enter the name of the search query in the **Name of the search query** field.

Click **Ok**.

3.5 Results list

When the search is complete, a results list is displayed corresponding to the entered search criteria. A result can be a DICOM study (examination) or a generic document (generic container).

Specify more filters to further refine the displayed results.

Depending on permissions and/or system settings, the results list might not show all documents or document parts matching your query. If you find that results are missing, contact your system administrator to check your permissions and/or settings.

You can set an automatic update interval for the results list. For more information, see (➔ Page 38 *Setting automatic updates for the results list*).

The results list is static between two searches.

If the results list update is deactivated, changes to data in the background (for example, deletion of a file from the archive) are not automatically shown in the list. In this case, click **Search** to update the results list manually. The changes that you make to the search results (for example, setting a new workflow state) are shown immediately.

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Exporting Search Results

Click **CSV** to export the search results to a CSV file.

If you apply a filter to the search results and then export the CSV file, only the filtered results are exported.

You can also copy individual column entries to the clipboard for further use, for example, when filling out a form or spreadsheet. Right-click on the desired entry and select **Copy to clipboard** from the context menu.

Previewing Documents

When you select an entry, the series contained in it are loaded into the **Series** tab. The **References** tab lists generic documents linked to the study, provided that such documents exist (see (➔ Page 38 *References*)). You can switch between a list view and thumbnail view in both tabs.

In the image preview below, you can switch between a list view of all images contained in the series and a preview image. By default, the first image in the selected series is shown in the preview.

You can scroll backward and forward through series and multiframe images simply by pressing and holding down the left mouse button and moving it up or down.

You can also use the scroll tool to directly jump to instances that have been tagged with keywords. The instance tagged with keywords are displayed as bold dots on the scroller.

The functions described above are also available for generic containers and their files.

3.5.1 Results list columns

The results list contains several columns, for example, patient ID, name, date of birth, modality, producer, and many more. You can show and hide columns according to your needs (see (➔ Page 37 *Adjusting results list columns*)). Your view is saved automatically. Saved search queries (see (➔ Page 34 *Saving a search query*)) also save a changed display of the results list, which will be applied automatically when the search query is executed.

The content of the columns is self-explanatory in most cases. An explanation of some columns is provided below:

Online Information

- The availability status of a document differs depending on whether the document is stored in *syngo*.share core or in a DICOM archive. An overview of the various states is given below.

Status		***syngo*.share core**		**DICOM archive**
Online	Green	Data is physically available in *syngo*.share core.	Green	Data is immediately available from the Retrieve AET.

Status		*syngo*.share core		DICOM archive
Nearline	Orange	Data is stored in a third-party VNA or an LTA; metadata is available in *syngo*.share core. The document can be restored and viewed in Enterprise Access by double-clicking it.	Orange	Data can be retrieved but is stored on relatively slow media and retrieval may take some time.
Offline		-	Red	Manual intervention is needed to retrieve the document.
Partially Online	Green/Orange	Parts of the study or series have the status "Online", other parts have the status "Nearline".		-
Unavailable		-	Red	The document cannot be retrieved.
Unknown		-	Gray	The third-party archive does not provide the instance availability.

LTA State

- The LTA state is displayed if a document has to be loaded from the long-term archive. If the document is online or was successfully retrieved, there is no entry in the column.

3.5.2 Adjusting results list columns

The results list can be adjusted in many ways. You can switch between a list view grouped by patients or documents. For each view, the following adjustments are available:

- Move the columns freely by simply dragging them with the mouse.
- Adjust the column width by clicking and dragging with the mouse.
- Sort the columns by clicking the arrow shown when you point to a column header and selecting the sorting icons.

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- Sort the columns quickly by clicking the column header.
- Show/hide the columns as required. Click the arrow shown when you point to a column header and (de)select the required columns in the **Columns** list.

These settings are saved automatically. Note that for saved search queries, you will have to save any changes that you make manually. For more information on saved search queries, see (➔ Page 34 *Saving a search query*).

It is not always possible to sort columns. This occurs when the system pre-groups and pre-sorts the results in the background. In these cases, subsequent manual sorting would interfere with this arrangement.

3.5.3 Setting automatic updates for the results list

Enterprise Access automatically updates the results list if you set an update interval. You can select among several intervals.

The results list update interval selected is valid for saved search queries as well as for manual searches. If a saved search query is set as default, the update interval starts when you log on to Enterprise Access.

Automatic updating of the results list causes a higher system load. The shorter the update interval, the higher the load. To avoid an unnecessarily high system load, use a longer duration between updates, or, if it is not needed, disable the automatic update function.

3.5.4 References

The References tab in the preview area displays generic documents that are linked to the selected document, such as reports or discharge letters that have been associated with a DICOM study.

References are limited to documents from the same patient (based on the patient ID). Just like in the Series tab, you can switch between a list view and a thumbnail view (see (➔ Page 35 *Results list*)).

References are ordered by their generic file type. References without an assigned generic file type are listed in a separate section at the bottom of the list. You can assign or change the generic file type in the document properties (see (➔ Page 46 *Viewing and editing patient and document properties*)).

3.5.5 Other examinations

You can load and view other examinations available for retrieved DICOM studies. Other examinations are displayed in a separate area below the results list. The area is collapsed by default. Click the area to expand it. If any authority of the DICOM study selected in the results list is from another site, the other examinations list is deactivated.

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You can expand the area and select a study from the results list to automatically load other examinations that much. You can also trigger this action via the context menu of the results list (**Show other examinations**). After loading the examinations, you can further filter them by prior examinations (checked by default), modality, or body part. You can also add/ remove, rearrange, and sort the various columns just like in the results list (see (➔ Page 37 *Adjusting results list columns*)).

Select another examination to receive a preview of the contained series and instances. For guidance purposes, the current study remains highlighted in the results list.

Double-click another examination to open it in the viewer. To display another examination alongside the initial examination, select **Open with initial examination** in the context menu of the **Other Examinations** area. The position of the initial examination can be changed in the settings menu . You can then view and edit the images contained in either examination (see (➔ Page 55 *The viewer*)).

Note that other examinations are always loaded from the same archives selected for the initial search. If you suspect other examinations in other archives, you must to first click in the search area and select these archives to include them in the search.

3.5.6 Patient Information and QR Code

Enterprise Access provides quick access to the most important patient information such as name, date of birth and patient ID from a variety of locations, most notably the results list when set to the patient view and the viewer tab/patient banner.

Click on in the context menu.

The patient information screen also displays a QR code for the patient ID. You can scan this QR code with a mobile device and open the patient record with e.g. the Visual Capture application.

For viewing and editing patient details, see (➔ Page 46 *Viewing and editing patient and document properties*).

3.6 Actions

Actions can be found by opening the context menu (right-click) in the patient search results list. The available actions depend on your user permissions and whether the actions can be applied to the currently selected data. If an action is not shown, you are missing the corresponding permission (user permissions are assigned by your system administrator). If an action is not applicable to the currently selected data, it is highlighted in gray.

The selected action is executed on the level on which it is called: on the patient level (in the patientgrouped view), on the DICOM study level or generic document level, DICOM series level, or DICOM instance or generic file level. If you call an action on the DICOM study or generic document level, it is applied to all files contained therein.

For studies from third-party archives or any installation without *syngo*.share core, only a reduced number of actions is available.

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The following sections describe the most important context menu actions. Depending on the entry level, on permissions and on the selected data, the entries in the context menu may vary.

3.6.1 Opening Documents

Enterprise Access offers several means of opening and loading documents.

- Opening Documents in the Viewer
- Opening Documents in External Applications
- Opening Documents in Concentriq Dx®
- Retrieving Documents

Opening Documents in the Viewer

To open any part of a document in the Viewer, double-click on it or select **Open** from the results list context menu.

If you open a lower-level item, the corresponding higher level item(s) are also opened in the **Document Navigator** of the Viewer. For example, if you open a DICOM series in the Viewer, the corresponding study and any other series it contains are also displayed in the Document Preview.

Opening Additional Documents

The Viewer tab stays open when you switch back to the search tab. This enables you to open additional documents for the currently displayed patient. The documents are added to the **Document Navigator**. The already opened viewports remain in place. To view a newly opened document, either change the layout (see (➔ Page 56 *Layout*)) to have more viewports available and open the document in an empty viewport, or drag the document into an active viewport to replace the displayed document.

Opening Multiple Documents at Once

You can open up to nine DICOM studies and/or generic containers of the same patient for viewing at once. The documents have to be in the same archive. Press `Ctrl` and click to select multiple documents, then select **Open** from the context menu to open all the selected documents in the Viewer. Each document is opened in its own viewport in one Viewer tab.

Opening Documents from Multiple Patients

Depending on the configuration, you can open up to three Viewer tabs for different patients and/or entities. Adding more documents to already displayed patients/entities is possible without limitation.

Any quality assurance operations (see (➔ Page 42 *Quality assurance operations in Enterprise Access*)) performed on an open document only become visible after you close and reopen the document.

Retrieving Documents

You can retrieve *syngo*.share documents that have been moved to a long-term archive as well as documents from third-party DICOM archives.

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syngo.share documents (that is, documents archived in *syngo*.share core) that have been moved to a long-term archive are given the status Nearline. Open the context menu and select Retrieve to return them to the online status. Once retrieved, these documents can be displayed in Enterprise Access and all actions are available as usual.

When you use Retrieve on documents stored in a third-party DICOM archive, the documents are imported into the archive (*syngo*.share core or a third-party archive). You can retrieve documents that have the status Online or Nearline from third-party archives.

For more information on the online status, see (➔ Page 36 *Results list columns*).

Opening documents externally

Enterprise Access allows you to open documents in external applications, for example, another viewing application or a print application. These external applications are configured in *webmanagement* and are available in the context menu. For opening documents, one or more default applications can be set, which all open simultaneously when a study or series is double-clicked.

Opening Documents in Concentiq Dx®

You can open generic documents in Concentriq Dx®, a platform for digital pathology. Select the desired document and click on **Open with Concentric Dx®** in the context menu. You can also select and open multiple documents. A new browser tab opens for each document.

Printing Documents

You can print images and textual documents (for example, PDFs and structured reports) in the search tabs or in the Viewer. Please read the (➔ Page 8 *Safety notices*) concerning the printing of images.

Printing in the Search Tab

To print a document in the Patient Search or Entity Search tab, go to the Instances area, select the Preview view. If there are multiple instances available, you have to scroll to the instance (that is, the image or text document) you want to print first. Then click the Print button, Print to open your browser's print function.

Any adjustments you have made to an image (for example, contrast) are printed as well.

Printing in the Viewer

To print a document in the Viewer, open the desired file or series. If there are multiple instances available, scroll to the desired instance in the viewport (see (➔ Page 55 *Viewport Area*)).

- Images:

  Click on Export Print in the specific toolbar to open your browser's print function.

Note that any adjustments you have made to the image (for example, contrast, annotations) are printed as well.

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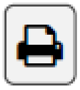
- PDFs:

  Click on  in the PDF toolbar.

Manual trigger for sending generic documents via HL7 message

You can manually trigger the sending of a generic document to a configured HL7 application via an HL7 MDM message. This function complements the already available file system connectivity.

3.6.2 Quality assurance operations in Enterprise Access

Enterprise Access offers a variety of functions to assure quality of the data archived. The below table provides an overview of the functions, states their availability for DICOM and generic data, and links to the corresponding sections.

Function	DICOM	Generic	Description
Change patient metadata[1]	☑	☑	See (➔ Page 46 *Viewing and editing patient and document properties*)
Change study/ document metadata	☑	☑	See (➔ Page 46 *Viewing and editing patient and document properties*)
Change series metadata	☑	☐	See (➔ Page 46 *Viewing and editing patient and document properties*)
Change workflow state	☑	☐	See work flow state
Move series	☑	☐	See (➔ Page 44 *Reassigning documents*), See (➔ Page 44 *Moving or merging studies and series*)
Move study	☑	☑	See (➔ Page 43 *Moving documents*), See (➔ Page 44 *Reassigning documents*)
Merge series	☑	☐	See (➔ Page 44 *Moving or merging studies and series*)

Function	DICOM	Generic	Description
Merge study	☑	☐	See (➔ Page 44 *Moving or merging studies and series*)
Copy study	☑	☑	See (➔ Page 43 *Copying documents*)
Split study[2]	☑	☑	See (➔ Page 43 *Copying documents*), See (➔ Page 48 *External search*)
Delete study	☑	☑	See (➔ Page 48 *External search*)
Delete series	☑	☑	See (➔ Page 48 *External search*)
Delete report (generic document)	☐	☑	See (➔ Page 48 *External search*)

QA operations in Enterprise Access[2)3)]

While quality assurance (QA) operations are carried out on a document, the corresponding study or generic container is locked in order to prevent multiple users from executing QA operations at the same time. The document can be viewed, but a warning will inform the user about ongoing QA operations.

Deleting documents

This function allows you to delete documents or parts of documents from the archive. After clicking on Delete, you have to select a reason for deletion for quality assurance purposes.

Copying documents

This function allows the copying of documents to a different producer (organizational unit) and makes them available to other users. Selecting **Copy** opens a dialog box with a selection list of possible storage areas. Specific entries can be filtered via the search field.

Clicking **OK** selects an organizational unit and starts the process. The document will subsequently exist twice in the archive, once in each organizational unit. Any keywords and annotations are also copied.

Moving documents

This function lets you move documents to a different producer (organizational unit). Selecting **Move** opens a dialog box with a selection list of possible storage areas. Specific entries can be filtered via the search field.

2) Patient data can only be changed for non-HL7-managed patients.

3) via Copy, Delete

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Clicking **OK** selects an organizational unit and moves the selected study or file to the specified organizational unit. The results list is updated immediately.

Reassigning documents

A document can be reassigned to another patient or visit. Furthermore, incorrectly imported DICOM studies and series can be reassigned to the appropriate requested procedure (on the study level) or scheduled procedure step (on the series level) of HL7 orders. To reassign a document, select it in the results list and click **Reassign** in the context menu.

You can manually trigger the sending of a generic document to a configured HL7 application via an HL7 MDM message. This function complements the already available file system connectivity.

Reassigning documents to another patient or visit

- To reassign a document **to another patient or visit**, select To another patient/visit . The patient and visit search screen opens. You can either search for the exact visit ID or for the patient. Various search fields are available for the patient search.

  Note that you cannot search for a visit ID and patient simultaneously.

  Select the entry to which the document should be reassigned in the results list and click **OK**.

Reassigning documents to another order

- To reassign a DICOM study to a requested procedure or a DICOM series to a scheduled procedure step, select **To another order**.

  On the Reassign screen, search for the correct order. Note that you cannot search for the order ID or requested procedure ID simultaneously. Select the desired order in the results list and click **OK**.

Reassigning documents to another entity

- This action is only available in the Entity Search. To reassign a document to another entity, select **Reassign > Entity** from the context menu.

  On the Reassign screen, search for the desired entity. Select it in the results list and click **OK**.

Moving or merging studies and series

Enterprise Access allows you to rearrange DICOM studies and series via a cut-and-paste operation. This function is useful for correcting acquisition errors. The following operations are available:

- Merge studies
- Merge series (of the same modality)
- Move series to another study

Perform the following steps to rearrange studies or series:

1. Select the required studies or series in the corresponding results list. Press **Ctrl** on the keyboard to select more than one study or series.
2. Open the context menu and click **Cut**. The selected studies or series are cut to the clipboard.
3. Search for the target study or series and select the required target document.

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4 Open the context menu on the required target study or series and click **Paste**. A dialog box opens informing you about what exactly will be done and what will be the consequences of the required operation. Confirm the operation by selecting whether you want to keep or delete the source document. The copied studies or series are pasted into the target study or series, and the source is deleted or kept depending on the previous selection.

Once the rearrange operation is completed, the results list is refreshed and the target document is selected. If you chose to delete the source document, it will no longer be listed.

As long as a document is part of a rearrange operation, it is locked and highlighted in color. You cannot cut and paste a locked document or merge it with another document.

The cut documents remain in the clipboard until:

- they are pasted into another series or study. Upon completion of the operation, the clipboard is cleared.
- new documents are cut to the clipboard. In this case, the previously cut documents are overwritten.

Document navigator

The Document Navigator displays basic information about the documents you have opened alongside a thumbnail image. You can collapse/expand the Document Navigator by clicking on > or <.

To collapse/expand the individual levels of a document, click on the document entry. Double-click on an entry to open the document in the viewport area. You can also drag and drop the document to a specific viewport (see (➔ Page 56 *Layout*)

When you open multiple documents of the same patient, they are color-coded for your convenience. The corresponding viewports in the viewport area are highlighted in the same color (see (➔ Page 55 *Viewport Area*))

You can switch off the color highlighting in the settings (see (➔ Page 25 *Visualization*))

Document Navigator Context Menu

The Document Navigator offers its own context menu with a limited selection of actions which varies slightly depending on the type and level of the document. Most of the available actions are general actions that are described in section (see (➔ Page 39 *Actions*)); however, the following context menu entries are specific to the Document Navigator:

- **Clear viewer and hang document** is available on the document level (i.e. when you right-click on a study or generic container). This action clears the Viewer and hangs the selected document.
- Clear viewer and hang series is available on the series level. This action clears the Viewer and hangs the selected series.

Grouping of OP and OPT Series

Referenced OP and OPT series are grouped together. The series information and the thumbnail of the OPT is not displayed. The reference lines of the linked OPT series, however, are included in the thumbnail of the OP series. For more information on working with ophthalmic images, see Reference Lines for (➔ Page 62 *Ophthalmic images*)

Instances/Files

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The Instances tab displays the instances of the selected series or the selected generic file. Just like in the **Series** tab, you can switch between a list view and an image preview.

- **Scrolling:** If the selected series contains multiple instances or an instance is multiframe, you can scroll through the instances/frames in the image preview.
- **Viewport resizing:**When using a multi-viewport layout, you can maximize a viewport to focus on its displayed image. Click on  in the specific toolbar or simply press **F** to maximize the selected viewport. To return to the multi-viewport layout, click on  or press **F** again.
- **Keywords:**DICOM instances that have been tagged with keywords are marked with a dot. Note that if a series contains a large number of instances, the markings may be grouped together. You can hover your mouse over the dot to view detailed tagging information. Moreover, you can jump to a tagged instance by clicking on the dot.
- **Key Image Notes:** DICOM studies can contain Key Image Notes (KINs). KINs are a way to mark images as significant and provide additional information, e.g. for teaching purposes or consulta-tion with other departments. KINs are DICOM instances of the modality KO. Images referenced by a KIN are marked with a dot just like images with keywords. You can hover your mouse over the dot to receive more information about the referencing KIN. Moreover, you can jump to a marked instance by clicking on the dot.

Viewing and editing patient and document properties

The document properties can be accessed from the context menu on any level of the results list by clicking on **Properties of** in the context menu. Note that the context menu entry varies to match the document type and level.

The **Properties** window contains tabs for every available level of the document, including the patient. You can edit the desired properties directly. Click on **OK** to apply your changes or click on **Cancel** to discard them.

The patient and document properties are also accessible from the specific toolbar in the Viewer (see (➔ Page 55 *Viewport Area*)).

Mother's maiden name

The field mother's maiden name is only available for Spanish-speaking countries. It allows several special characters, however, these have to be entered using the escape sequences described in

<table>
<tr><th>Special Character</th><th>Escape Sequence</th></tr>
<tr><td>\</td><td>\E\</td></tr>
<tr><td>|</td><td>\F\</td></tr>
<tr><td>~</td><td>\R\</td></tr>
<tr><td>^</td><td>\S\</td></tr>
<tr><td>&</td><td>\T\</td></tr>
</table>

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Rotating Generic Images

In the image preview, you can rotate JPEG images clockwise and counterclockwise in steps of 90 degrees. This function is only available from the preview image, and not from the list view. You can save the rotation applied to the image. However, no other operation performed on the image is saved.

Thin-slice state

On the series level, you can (de)select a checkbox to specify whether a DICOM series is a thin-slice series. Thin-slice series are specially highlighted in the thumbnail view.

Viewing and correcting warnings and errors

Enterprise Access provides a document error and warning log (document log untranslated). An error log is created if an error occurs during import. In case automatic corrective measures are taken during a re-import, a warning log is created.

To find documents with an error or warning, use the search filter Document Log.

Follow these steps to access the document log and review entries:

1 Right-click a document in the results list to open the context menu and select **Show document log**.

2 A new window opens and lists all errors and warnings logged for the selected file.

3 Click the required entry to see the error/warning details.

4 You can select entries and remove them from the document log by clicking on **Set as resolved**. This is useful for indicating that you have acknowledged a warning or when an error has been resolved with a re-import. You can skip this step if you wish to keep the log entries for traceability reasons.

The actual correction of errors is handled by your system administrator.

3.6.3 Keyword tagging

Enterprise Access lets you apply keywords to documents. Documents tagged with keywords can be searched for and grouped by their keywords. Keywords can be based on catalogs (for example, ICD 10) and/ or on free text. The advantage of catalogs is that they contain exactly defined keywords which can be easily searched. The advantage of free text keywords is that any required keyword can be applied to a document. However, the disadvantage is that it might become difficult to find entries when a keyword has multiple forms of expression, for example, “femoral fracture” and “broken thigh bone”.

Catalog

- This contains predefined keywords.

ICOTAGS

- This is a special catalog that allows only one keyword to be set. This exclusive behavior is useful for keywords like “diagnosis-relevant”.

Free text

- These keywords are not restricted to a predefined catalog. Any required keyword can be applied to a document.

You can assign any number of keywords from any level of the keyword trees to studies, series, and images as well as general documents and generic files. If keywords were incorrectly assigned, they can be easily removed as well.

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To assign keywords on the various levels, right-click the element on the required level and select **Keywords Add keyword** from the context menu. The form for assigning keywords opens. If available, keywords from the `ICOTAGS` catalog are displayed directly in the context menu entry **Keywords** for quick selection.

The keyword groups can be chosen from a selection menu. If a catalog is extendable, you can enter a new keyword directly in the text field. It is also possible that no keyword catalog has been assigned to a field. These are so-called free-text catalogs, which allow keyword tagging via manual text entry.

Click the arrow key next to the keyword search field to view the keywords of the respective keyword catalog. Navigate the tree to find the required keyword or use the filter function to search for the keyword in the catalog. To actually apply the keyword tagging, select and click the appropriate entries in the catalog. Click **OK** to save the keyword tagging.

To remove a keyword, open the properties of a study, series, or instance (or a generic document or file) and remove the required keywords by clicking . Click **OK** to confirm your changes.

3.6.4 External search

Use the external search to find patients or visits in syngo.share import. To use this function, *icourl* must be installed.

Searching in Other syngo.share Applications

Use **External search** to find patients or visits in *syngo*.share import or *syngo*.share view. To use this function, *icourl* must be installed.

Searching for External Documents

In the patient view, you can use **Search for external documents** to start a cross-enterprise search (XDS search) for documents for a given patient. This allows you to find documents from affiliated healthcare enterprises that have agreed to share documents with each other.

The search results are displayed in a pop-up window, which offers many of the same customization options as the regular search results list (for example, showing/hiding columns, sorting or filtering the results). You can open and edit the external documents in the Viewer. However, the external documents are not added to the Patient Jacket and cannot be archived.

3.6.5 Distributing Documents

Enterprise Access offers various means of distributing documents for further processing or use, such as sending documents to DICOM-capable applications, sharing documents with colleagues or downloading documents to a local storage device.

Sending documents

Documents can be sent to all DICOM-capable applications or devices integrated in the *syngo*.share system. These devices are shown as recipients (targets) and are configured by your system administrator. You can send DICOM studies, series and instances, as well as generic containers and generic files.

Perform the following steps to send a document:

1. Select the required document. You can select multiple documents by pressing **Ctrl** or **Shift** on the keyboard while clicking.

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2 Right-click to open the context menu and click **Send**.

3 Select bookmarked recipients directly or click **Other targets** to see the complete list of all available recipients.

- If there are many possible recipients, enter part of the recipient's name in the filter field to narrow your options.
- If you have added recipients to your list of favorites, they will be listed separately (see List of Favorites).

4 Click to select the required recipient from the list. To select multiple recipients at once, press **Ctrl** or **Shift** on the keyboard while clicking.

5 Click **Start sending** to confirm your recipient(s). You can track the progress of send operations in the Job Queue.

List of favorites

The list of favorites usually contains preconfigured entries (although it may be initially empty). These favorites are available for quick selection in the context menu and are listed separately in the list of all recipients. You can adjust the list of favorites according to your needs:

- To add an entry to your list of favorites, click its star symbol.
- To remove the entry, click its star symbol in the list of favorites.

Exporting/Downloading documents

You can export archived documents to a local data storage device. Use the **Export** or **Download** functions for this purpose.

Export

The **Export** function opens a panel in which you can adjust various settings such as the required format, file encryption with password, and minimization of DICOM patient data for privacy protection.

Exporting a ZIP File

When exporting the selected documents as ZIP file, you can choose to encrypt the file. In this case, you must set a password. Enterprise Access can also create subfolders for the individual DICOM series during export. According to your selection, these subfolders will be named according to the contents of one of the following DICOM tags:

- `SeriesInstanceUID`
- `SeriesDescription`

  If the `SeriesDescription` tag contains any of the special characters \/:*?<>|, they will be replaced with _ in the subfolder name. If `SeriesDescription` is empty, the subfolder will be named according to `SeriesInstanceUID`. If two or more series have the same `SeriesDescription`, the duplicate subfolder names will be numbered.

  Exporting an ISO File

  When you choose to export the selected documents as an ISO file, a DICOMDIR is created and wrapped into an ISO file that you can burn to a CD/DVD via an external application.

  You have the following options:

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- **Add nonconvertible DICOM files**

  With this option, you can include DICOM instances in your ISO export that cannot be converted to the designated transfer syntax Explicit VR Little Endian, such as videos. Doing so can result in the creation of a DICOMDIR that does not conform to the DICOM standard, meaning that you may not be able to fully view it in a third-party application. However, it allows you to export all DICOM instances regardless of their type.

- **Only ISO 9660 level 1**

  ISO 9660 is a file system standard for optical media like CDs and DVDs. Level 1 imposes severe restrictions on the file size as well as on the length of and the permitted characters in file and directory names.

  With this option, you can ensure that the CD/DVD can be read by legacy operating systems and devices. Exporting one or more DICOM instances that exceed 4 GB may lead to issues.

Exporting with minimized patient data

You can minimize the following patient data during the export by either manually entering new values or by clicking Random:

- Patient ID
- Last Name
- First Name
- Sex
- Date of Birth
- Birth Name
- Ideographic Last Name (if available in original data set)
- Ideographic First Name (if available in original data set)
- Phonetic Last Name (if available in original data set)
- Phonetic First Name (if available in original data set)

All other attributes belonging to the patient module are removed.

Please keep in mind that the minimization of patient data only applies to metadata of the patient module in the DICOM header and to the name of the export file. Patient data contained in documents, especially in images, PDFs and CDAs, cannot be altered. In case DICOM tags of the patient module are nested in DICOM elements other than the Modified Attributes Sequence of the Original Attributes Sequence, the values of these tags are not minimized.

Download

The **Download** function saves your selected documents as an unencrypted ZIP file. It offers a one-click alternative to the **Export** function.

Registering reference pointers

You can manually register documents in order to make them available to subsystems. This means that for each selected document, a reference pointer containing all relevant information about the document is sent to the subsystem.

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Select the documents to be registered and choose **Register reference pointer** from the context menu. If you have bookmarked favorites, you can select them directly. To open a list of all possible recipients, click **Other targets**. If your list of recipients contains several entries, enter part of the recipient's name in the filter field to filter your options. Select the required recipient(s) and click **Send**.

For more information on the list of favorites, see (➔ Page 48 *Sending documents*).

Registering documents in the patient portal

This function registers documents to Patient Access via multi-selection (**Ctrl** or **Shift**), you can select and register multiple documents or generic files at the same time.

Sharing documents

This function allows you to release examinations to physicians in private practice as well as medical institutions for electronic diagnosis communication. Select the required document(s) and choose **Share** from the context menu. Enter the relevant information in the dialog box:

Recipient

- The selection list contains all possible recipients, meaning these users are registered participants of the electronic diagnosis communication in the healthcare facility. Either browse the list or enter a term in the search field to filter your results. You can select one or more recipients at a time.

Validity period

- You can add a validity date for your share. To allow permanent access to your share, check the box **indefinitely**. The default validity date is set by your institution.

Priority

- Check the box to mark a share as high priority.

Message

- Below the list of recipients, you can add a message to be sent to all selected recipients.

Click **OK** to release the document(s). Every recipient will receive a notification in their inbox (see (➔ Page 64 *Inbox*)) as well as an email notification (if they have provided an email address).

3.6.6 Patient related actions

The Patient category contains actions related to or based on the patient. You can do the following:

- View patient information (see (➔ Page 39 *Patient Information and QR Code*)).
- Edit patient details (see (➔ Page 46 *Viewing and editing patient and document properties*)).
- Search for other patient IDs. This allows you to see if the same patient has been registered with different patient IDs in other Sites and add their documents to the results list. Sites are other healthcare facilities (e.g. individual hospitals of one hospital group) that are part of your syngo.share core installation.
- Search for external documents based on the patient ID (see (➔ Page 48 *Searching for External Documents*)).

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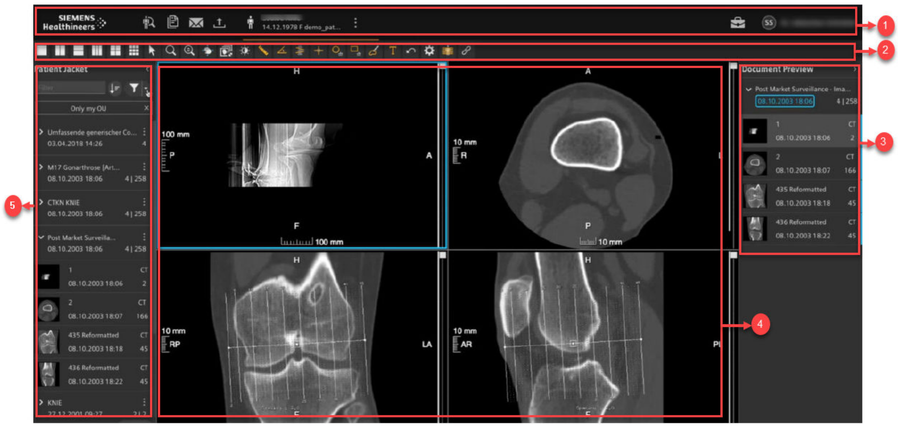
- Search for the patient ID in other syngo.share applications (see (➔ Page 48 *Searching in Other syngo.share Applications*)).
- Set the patient as the context for archiving new documents (see (➔ Page 66 *Archiving documents*)).

3.7 Screen layout of Enterprise Access

Enterprise Access is divided into the following sections.



(1) Access bar - The patient tab displays the studies related to the patient and details such as study date, patient name, and department name.
(2) Toolbar - Shows the layout selection and the configured favorite tools. For more information, see (➔ Page 55 *The viewer*).
(3) **Document Navigator** - Displays the number of documents in the currently displayed study and allows you to navigate through them.
(4) Image area - Displays study images within the segments. The image that you are currently working with is highlighted around the image segment. Double-click an image within the image segment to view it full screen.
(5) **Patient Jacket** - Shows all the related studies of the patient in the patient tab. The related studies include both online and remote studies.

Zoom	Description
 Zoom in/ Zoom out	Zooms in or out of the displayed study. For more information, see (➔ Page 56 *Scaling tools*)
 Magnifier	Magnifies the displayed study. For more information, see (➔ Page 56 *Scaling tools*)
Fit to window	Sets the displayed study based on the window size.

Buttons	Description
 (Move)	Moves the image within a window panel
	Scrolls through the focal planes using the mouse wheel while holding **Shift** on the keyboard.

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Buttons	Description
(Reset)	Resets the analysis measurement.

(Show/hide) button	**Description**
Show/hide text	Selecting this option displays the text on the study.
Show/hide annotations	Selecting this option displays the annotations on the study.
Show/hide overlay	Selecting this option displays the overlays on the study.

Icon	Indication
	Shows the position of the current slide while you scroll through multiple overlapping slice image series.
	Indicates that the study is synchronized with a group. For more information, see (➔ Page 59 *Synchronized scrolling*).

3.8 Patient Jacket

The Patient Jacket provides a list of all documents which are associated with the current patient and are located in the same archive as the initially opened document. The Jacket is also available for entities and offers many of the same features.

You can expand/collapse the Patient Jacket by clicking on > or < or by pressing **J**.

To collapse/expand the individual levels of a document, click on the document entry. Double-click on an entry to open the document in the viewport area. You can also drag and drop the document to a specific viewport (see . (➔ Page 52 *Screen layout of Enterprise Access*)

In addition, you can do the following:

- Sort the documents in ascending or descending order by clicking on .

  Narrow down the number of listed items or search for particular items by manually entering a string in the search field.

  Filter the documents (see (➔ Page 54 *Filtering studies in Patient Jacket*)).

  View the references to a document by right-clicking on the document and selecting List references from the context menu.

  View the prior examinations associated with a document by right-clicking on the document and selecting List prior examinations from the context menu.

  List documents from all connected archives by clicking on Search in all sources .

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3.8.1 Filtering studies in Patient Jacket

You can apply filters to narrow down the number of listed items. To apply a filter, click and select one or more of the available filter criteria.

The filter will remain in effect until you clear it by clicking . You can also remove the active filter via **Clear filter** menu. You can save filter for reuse.

Saving a filter

- To save a filter, select the desired filter criteria and click on **Save as** . You can then enter a name for your new filter. Click **OK** to save your filter.

Applying a filter

- To apply a filter, click on next to and select the desired filter.

Editing a filter

- To edit a filter, apply it first. Then click , make the desired changes to the filter criteria, and click **Save** . If you want to save your changes as a new filter instead, click **Save as** and enter a new name. To undo all unsaved changes, click Undo changes.

Renaming a filter

- To rename a filter, apply it first. Then click Rename and enter a new name.

Deleting a filter

- To delete a filter, apply it first. Then click Delete.

Setting a default filter

- You can set a filter as the default, meaning it will be applied automatically the first time you open the Patient Jacket. To set a filter as default, apply it first. Then click Set as default. To remove the default filter, either deselect it in the filter settings or set a different filter as default.

If your administrator has set filters to read-only, you can only apply predefined filters.

3.9 Document Preview

The Document Preview displays basic information about the documents you have opened alongside a thumbnail image. You can collapse/expand the Document Preview by clicking on or .

To collapse/expand the individual levels of a document, click on the document entry. Double-click on an entry to open the document in the viewport area. You can also drag and drop the document to a specific viewport (see (➔ Page 56 *Layout*)).

When you open multiple documents of the same patient, they are color-coded for your convenience. The corresponding viewports in the viewport area are highlighted in the same color (see (➔ Page 55 *Viewport Area*)). You can switch off the color highlighting in the settings.

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3.9.1 Viewer context menu

A limited context menu is available when viewing documents. Right-click on a study or series to open the context menu. Depending on the selected document and the location from where you access the context menu, different actions are available. For detailed information on the actions, please see the corresponding sections in the chapter (➔ Page 39 *Actions*).

The following context menu entry is Viewer-specific and only accessible on series level:

- Clear and hang series This entry clears the Viewer and hangs the selected series.

3.10 Viewport Area

The central viewport area can display one or more documents in individual viewports. All viewports showing series of the same study or files of the same generic container are highlighted in the same color. The color highlighting matches the entry in the **Document Navigator** (➔ Page 52 *Screen layout of Enterprise Access*).

DICOM instances that have been tagged with keywords are marked with a dot. Note that if a series contains a large number of instances, the markings may be grouped together. You can hover your mouse over the dot to view detailed tagging information. Moreover you can jump to a tagged instance by clicking on the dot.

The viewport area offers a variety of tools for viewing purposes. Which tools are available and can be applied depends on the document type in the active viewport.

You can also map certain tools to the mouse buttons in the settings.
(➔ Page 56 *Scaling tools*)

3.10.1 The viewer

The viewer is intended to be used for viewing purposes only. It provides a number of viewing tools, such as zoom and windowing, and includes options for displaying or hiding image information like overlays and calculations. Most of these tools can be found in the global toolbar in the upper part of the viewer. Depending on the file type, additional tools are available in the specific toolbar.

Editing steps are not saved; the viewer is only used for viewing.

The viewer supports many document and image formats in addition to DICOM images.
If a file format is not supported, a message is displayed.

If problems arise when viewing a video, it may have been imported with a variable bitrate.

The following sections provide an overview of the most important viewer functions. Availability and applicability of these tools depend on the file type being displayed. You can map certain tools to your mouse buttons in the settings menu .

Enterprise Access also offers a screen test in the settings menu to help you calibrate your screen for an optimum viewing experience. It is recommended to perform the screen test prior to working with the viewer. For more information, see (➔ Page 24 *Screen Test*).

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Layout The viewer offers the possibility to display several documents side by side. Various layouts are available.

All viewports showing series of the same study or files of the same generic container are marked with the same color. This color highlighting can be switched off in the **Settings**, which can be accessed from the drop-down list next to your user name.

Enterprise Access can also be used in full-screen mode.

Pointer The pointer is used to select drawings and annotations for editing.

PNG PNG is used to view the current image in a lossless format. If you perform further actions on the image, the display quality will revert to the configured values. (➔ Page 23 *User settings*)

Scaling tools The viewer offers various scaling tools, for example, the magnifier or zoom. The zoom tool allows you to scale the image smoothly by pressing and holding the left mouse button. In the specific toolbar, further scaling options are available.

Magnifier

The magnifier function enlarges a portion of an image and can be used on both DICOM and generic images.

Clicking the required area in an image enlarges that area in a separate window. The scale factor is controlled by the mouse wheel and can be increased to a maximum of 10 and reduced to a minimum of 1. If you click and drag the mouse, the magnifier window will follow your movement while maintaining the set scale factor. Click the left mouse button again to close the window.

Annotations are not considered when you use the magnifier, however, any overlays that have been saved with the image will be shown.

Scrolling This tool allows you to scroll backward and forward through series and multiframe images simply by pressing and holding down the left mouse button and moving it up or down.

Pan The pan tool allows you to move the image in the required direction while pressing the left mouse button.

Windowing The windowing function controls the level and width in DICOM instances, or the brightness and contrast in generic images. For DICOM instances, the window tool changes slightly depending on the algorithm used in the background:

- Standard: For standard windowing, you control the level and width separately. Move the mouse up or down while holding the mouse button to adjust the level. To adjust the width, move the mouse left or right.
- Percentage-based: For percentage-based windowing, you control the level and width simultaneously. Move the mouse in any direction while holding the mouse button to adjust the level and width. To adjust the upper/lower thresholds of the window to specific values, you can use **Advanced windowing.**

Calculation tools You can perform various calculations using the following tools.

Calculations will not be stored with an image. Calculations are retained in the image until the **Reset** button is clicked or a new series is loaded. For safety information, see (➔ Page 8 *Safety notices*).

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Distance

- Clicking the distance calculation tool changes your mouse cursor to a crosshair. Left-click the starting point of your calculation and move the mouse in a certain direction to draw a line. Left-click again to set the end point. The calculation is now fixed and its length is displayed next to the line in millimeters or pixels. The unit of length shown depends on the image. You can make adjustments as long as the image or DICOM series remains open in the viewer.

  Usually DICOM images already include a calibration, and therefore distance is calculated in millimeters (mm). Generic images do not necessarily provide calibration information and therefore the length is shown in pixels. It is also possible to manually calibrate an image, see (➔ Page 57 *Calibrating calculations*).

Cobb Angle

Use this tool to calculate a Cobb angle. Click on the image in multiple locations to set the angle

Angle

- This tool calculates an angle or cobb angle. Once the tool is activated, click the image to draw the two sides of the angle (two clicks per side). Three angle sizes can be calculated:
  - **Alpha:** The acute angle between the two sides (<90°).
  - **Beta:** The obtuse angle between the two sides (180°- alpha).
  - **Gamma:** The reflex angle between the two sides (360°- alpha).

When drawing the angle, the current default angle is calculated. Hovering over the other angles shows each angle as dashed helper lines. Click to calculate another angle. The selected angle (alpha, beta, or gamma) is then stored as the new default angle.

Pixel lens

- This tool calculates modality-dependent pixel values in DICOM grayscale images and spot density in CT images (for example, bone density). Move the mouse over the image to view the pixel value or the density value of any given spot. Click to set the displayed pixel value/density for points of interest. This allows you to compare the values of different locations.

Reset

This function resets all editing steps. Note that this function does not affect manual calibration, see (➔ Page 57 *Calibrating calculations*).

Reference line (Localizer)

When scrolling through multiple overlapping slice image series, the position of the current slice can be shown in the other series for reference. The reference point in another series is called a Localizer in the DICOM standard. This function can only be applied to series with certain anatomical positioning characteristics (for example, orientation, reference point).

Transformation

Use transformation tools to rotate the image clockwise or counterclockwise in 90-degree steps. You can also flip the image vertically and horizontally.

Calibrating calculations

Use this tool to manually calibrate calculations on DICOM and non-DICOM images. Note that DICOM images often already come with calibration information that is part of the DICOM image or is provided through a DICOM display preset called a DICOM Presentation State. If you add a manual calibration, it will be applied to all previously made annotations within the image. In the case of a DICOM Multiframe Image, i.e. an image that consists of several subimages, the change will be applied across all subimages.

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You can only reset the calibration by using the calibration tool menu rather than the reset function, see (➔ Page 57 *Reset*).

Invert

The inversion tool displays a negative of the image, i.e. white parts of the image are displayed in black, black parts in white.

Color adjustment

For all color images (DICOM and generic color images, DICOM Whole Slide Images) a color adjustment tool is available. You can adjust the following values with a slider or by entering a numerical value:

- Gamma
- Brightness
- Contrast
- RGB saturation (separately for red, green, and blue)

If you have already adjusted brightness and contrast with the windowing tool, the changed values are applied in the color adjustment tool.

For the display of Whole Slide Images, the settings can be saved for your user. When you open another whole slide image, the saved color settings are automatically applied to that image. Clicking **Reset** sets all values back to default. If you want to overwrite saved changed values, the reset values have to be saved.

DICOM metadata

The DICOM metadata, i.e., the DICOM header, can be displayed for any DICOM instance in the viewer. It is possible to switch between the document view and the metadata view or to show both side by side.

The DICOM metadata view has its own search function. When you start typing the search term and hits are highlighted immediately. You can move to the next and previous hit by using and next to the search field or **F3** and **Shift** + **F3**. Click to clear the search field.

Drawing and annotation tools

These tools allow you to add graphical and text annotations to images. You can only edit or delete annotations while the image or DICOM series is open in the viewer. Annotations only exist temporarily and are not saved. Certain annotations have restrictions, which are explained in a note. To remove an annotation, select it using the pointer tool (see (➔ Page 56 *Pointer*)) and press **DEL** on the keyboard.

Rectangle/Square

- Use this tool to draw a rectangular shape and calculate its area. For CT images, the average density is also calculated and displayed in HU. To draw a square, press and hold **SHIFT** on the keyboard.

Polygon

- This tool lets you draw a polygon on the image and calculate its area (except polygons with intersecting lines). Click **Polygon** to set a new corner. To finish the polygon, either double-click or press **Esc** .

Ellipse/Circle

- Use this tool to draw a circle or ellipse on the image and calculate its area. For CT images, the average density is also calculated and displayed in HU. To draw a perfect circle, press and hold **SHIFT** on the keyboard.

Freehand

- This tool lets you draw any required shape on the image.

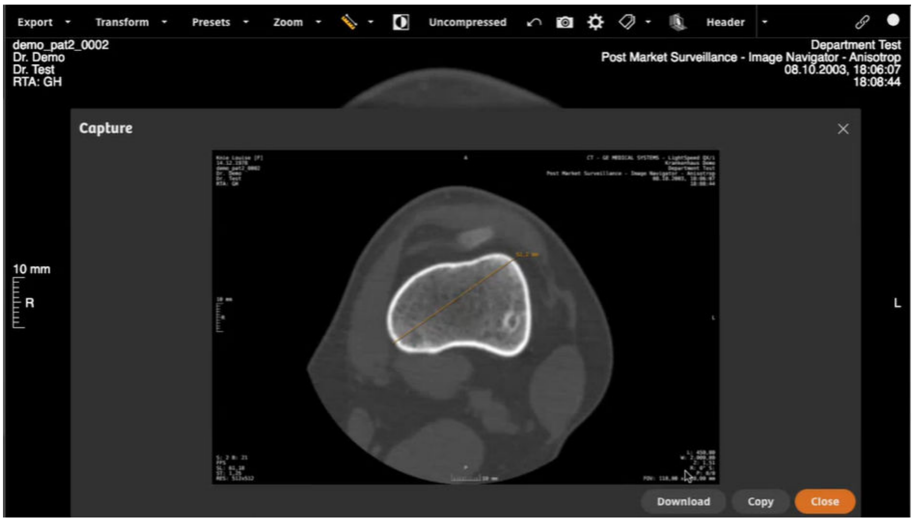
Text

- Use this tool to add textual descriptions to the image.

Capture

The capture tool enables you to take a snapshot of the image.

- Click and the image is displayed in the **Capture** dialog box.



- Click **Download**, **Copy**, or press **CTRL+C** on the keyboard to copy the image to your local system. You can also drag the image into any another application.

Synchronized scrolling

This function makes it possible to automatically or manually synchronize multiple series while scrolling, meaning that all synchronized series will show the nearest possible anatomic position. A typical application of this tool would be the synchronization of two associated series, one recorded without and one with contrast agent.

Generally speaking, synchronized scrolling is only possible when the images of the different series contain information about their spatial positioning and their image planes do not exceed a certain angle.

You can activate synchronized scrolling for selected series by clicking or by pressing **S** on the required series. To activate synchronized scrolling for all displayed series containing the necessary information on spatial positioning, click the synchronizing symbol in the global toolbar.

Depending on whether the series are spatially related and on which image you activate synchronized scrolling, the series are either automatically or manually synchronized:

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- Automatic synchronized scrolling is applied to spatially related series. The synchronized series are automatically scrolled to the current image slice position of the active series.
- Automatic synchronized scrolling is also applied to series without a spatial relationship, as long as the function is activated on the very first image in each series, meaning that synchronization between series is based on the anatomically topmost image (starting image). If this does not produce the required result, you can make manual adjustments (see below).
- Manual synchronized scrolling can be used for series with no spatial relationship, provided that the topmost image is not used as the starting image for scrolling. This allows you to make manual corrections by first selecting the most anatomically similar images across all series that you wish to synchronize. By making these similar images your starting images, you can use synchronized scrolling in manual mode.
- Filtered scrolling can be used to scroll only between instances that have been tagged with keywords and/or are referenced by Key Image Notes (KINs). You can also combine filtered scrolling with synchronized scrolling. In this case, the scrolling behavior depends on the tagged instances in the active viewport.

Check carefully to what extent the slice images share the same anatomical positioning characteristics, as Enterprise Access does not provide feedback in this regard. The starting images should possess the same anatomical positioning characteristics in order to avoid errors.

The pan function (see (➔ Page 56 *Pan*)) and all the scaling tools except the magnifying glass (see (➔ Page 56 *Scaling tools*)) are applied to all synchronized series consistently.

You can deactivate synchronized scrolling for all displayed documents by clicking **Reset** in the global tool bar.

VOI LUT presentation

VOI (Value of Interests) LUT (Lookup Table) is a type of nonlinear windowing. While DICOM images with one or more VOI LUTs are being loaded into the viewer, the **VOI** button on the specific toolbar lets you switch between the available VOI LUTs (for example, High+Contrast) or display the DICOM images without VOI LUTs.

Presets

Under Presets, you can select and apply presets for the optimized windowing of certain body parts (e.g. cranium, lungs) to DICOM grayscale images.

Presentation states

If a DICOM study with Presentation States (Grayscale Presentation States) is opened in Enterprise Access, the most recently created Presentation State is automatically applied. Use the **PR** drop-down list to select the required Presentation State or deactivate an active Presentation State.

Enhanced visualization

The Enhanced visualization category offers tools for highlighting visual details in DICOM instances:

- **Pseudo colors:** With the Pseudo colors tool, you can apply various color palettes to DICOM grayscale images. Click on the tool and select the desired palette. To return the image to grayscale display, select the first palette.
- **Advanced windowing:** With the Advanced windowing tool, you can define an upper and lower threshold to improve the visibility of particular details in the image. Simply drag the sliders into position in the gradient bar to achieve the desired result.

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ECG tools

For viewing DICOM ECGs, some additional tools are available:

Metadata

- Hides or shows the metadata block above the ECG.

DICOM Metadata

- The DICOM metadata view offers its own search function. Start typing the search term and hits will be highlighted immediately. You can move to the next and previous hit by using > and < next to the search field or by using **F3** and **Shift** + **F3** . Click X to clear the search field.

Caliper

- Adds visual interval guidelines. Select the start and end point of the interval with the mouse. The selected interval will be automatically repeated across the spectrum.

Time calibration/Paper feed speed

- Time calibration, i.e. paper feed speed in mm/s, can be selected from the drop-down list.

Voltage calibration

- Voltage calibration in mm/mV can be selected from the drop-down list.

Channel layout

- If the active channel group consists of exactly twelve channels, there are several channel layouts available for viewing the ECG.

Channel group

- The channel group can be selected from the drop-down list.

Fit in view

- Fits the image to the window size.

The DICOM metadata, i.e., the DICOM header, can be displayed for any DICOM instance in the viewer. It is possible to switch between the document view and the metadata view or to show both side by side.

Whole slide images for digital pathology

Enterprise Access supports DICOM brightfield microscopy images for Digital Pathology

The following functions specific to digital pathology are available in the viewer:

Zoom layer

- The zoom layer can be selected in the drop-down list. Alternatively, you can scroll through the zoom layers using the mouse wheel or the zoom tool in the toolbar (see (➔ Page 56 *Scaling tools*)). Zooming is always centered on the current position of the mouse pointer.

Focal plane

- If focal planes are available, they can be selected in the drop-down list. Alternatively, you can scroll through the focal planes using the mouse wheel while holding **Shift** on the keyboard.

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Thumbnail

- If available, the thumbnail shows the slide overview. When the image is displayed in a zoom layer, the thumbnail indicates the location of the zoomed area. You can navigate to any area of the image by clicking it in the thumbnail.

Grid

- Use the grid tool to display a rectangular grid for guidance. You can customize the grid as follows:
  - **Move the grid:** Click and drag a horizontal or vertical grid line in the desired direction to reposition the grid.
  - **Adjust the grid spacing:** Click and drag a grid corner in the desired direction to quickly resize the grid. You can also adjust the spacing in the toolbar by clicking on ▼ and entering a value.
  - **Reset the grid spacing:** To return to the default grid spacing, click on ▼ > **Reset**.
  - **Save the grid spacing:** To save your preferred grid spacing, click on ▼ > **Save**. Be aware that doing so overwrites the default value. If you wish to return to the previous grid spacing, you will have to manually enter the previous value and save it.

Note that the grid will remain in the same position relative to the image. This means that if you use certain tools, e.g. zoom, the grid may end up outside the visible area. To keep it in frame, you will have to select a smaller grid spacing.

Ophthalmic images

Enterprise Access supports the viewing of ophthalmic images, i.e.. ophthalmic tomography (OPT) and ophthalmic photography (OP). When loading a series that disposes of a referenced OP or OPT image, the two instances will be loaded either side by side or one below the other in a split viewport. For the OP, the image navigator (see (➔ Page 57 *Reference line (Localizer)*)) is automatically activated, highlighting the slice displayed from the OPT. Either part of the split viewport can be closed via the x and reopened via the OP|OPT button in the specific toolbar.

Due to the highly curved shape of the retina, the localizer information for ophthalmic images is recorded in a special DICOM tag (Ophthalmic Frame Location Sequence). Depending on the type of series, the appearance of the localizer varies – if the ophthalmic image orientation is designated as linear, the localizer appears as an arrow; if it is designated as non-linear, the localizer appears as path segments.

If multiframe series are hung, all corresponding localizers are displayed on the scout image and may overlap.

You can switch the reference lines off and on in the general toolbar. Both the OP as well as the OPT display dispose of their individual specific toolbars with all the usual tools available.

Multiplanar reconstruction (MPR)

Using the MPR function, you can display DICOM slice image series from imaging devices in the main sectional planes (axial, sagittal, coronal). If a slice image series fulfills the requirements for MPR, the MPR button is available in the specific toolbar once the series has been loaded.

When the MPR mode is activated, the series undergoes an in-depth validation, which might lead to the following messages:

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- The series does not fulfill further requirements for MPR that could not have been checked before activating MPR mode. To be displayed in MPR mode, slice image series must contain at least two images of the same orientation and image reference position, the slices must be parallel to one another, the pixel distance must be known, and the image resolution must be identical.
- The series contains images with varying slice distances. In this case, a window opens where you can enter the required slice distance. The system suggests a value.
- The resources on the server are insufficient or there are too many users currently using the MPR function. The number of concurrent users can be limited by the system administrator to ensure the overall performance of the system. The MPR button remains active and you can try again later.

Once MPR is successfully activated, the viewport is split into three parts and the following tools are available:

Pointer

- The pointer is used to select the position of the section lines. To do this either click the required position or drag the lines with the mouse button pressed. The view of the other two viewports is automatically adapted. The section lines can be shown or hidden using the settings option **Show/hide annotation**.

Zoom

- You can zoom in and out of the image in the active viewport.
- You can zoom parts of an anatomical region of a image without modifying the original image.

Scrolling

- You can scroll through the reconstructed images of the series using the mouse wheel. The position of section lines in the other viewports will adapt accordingly. You can also use the scroll tool to directly jump to instances that have been tagged with keywords. The instance tagged with keywords are displayed as bold dots on the scroller.

Pan

- Panning the image in one viewport does not affect the view in the other viewports.

Windowing

- Windowing in one viewport affects all viewports alike.

Layout

- The layout of the viewports can be changed. The default layout is axial (A) on the top left, sagittal (S) on the bottom left, and coronal (C) on the right.

Sequence

- If the series contains images of different sequences, the required sequence can be selected from a drop-down list.

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Intensity projection

- The intensity projection is displayed in the right viewport. The following intensity projections are available from the drop-down list:
  - Off

    The intensity projection is disabled, standard MPR mode is applied.
  - MIP

    The maximum intensity projection displays the value with the highest (maximum) intensity within the selected projection range at position (x,y) for the pixel (x,y).
  - MinIP

    The minimum intensity projection displays the value with the lowest (minimum) intensity within the selected projection range at position (x,y) for the pixel (x,y).
  - AVG

    The average projection uses the arithmetic mean value of the intensities at position (x,y) within the selected projection range.
  - MED

    The median projection uses the median (central) value of the distribution of the intensity values within the selected projection range at position (x,y) for every pixel (x,y).

Projection range

- The range to be considered for the intensity projection is defined here. The projection range is visualized around the section lines.

3.11 Inbox

The inbox contains all documents that have been shared with you, such as physician's letters, findings, or medical images.

Click a share to display the shared documents as well as the (optionally) included message. For requesting documents, see (➔ Page 65 *Requesting documents*)

If a share notification contains more than one document, you can sort them by clicking the available columns. Select a document to receive a preview of the DICOM series and images or generic files contained in it.

You can double-click a shared document to open it directly in the viewer for viewing and editing purposes. You can also open individual elements by double-clicking an entry in the preview area.

Items in the inbox are actually links to items in the archive that have been shared with the recipient. This means that removing a share from the inbox does not remove the document from the archive.

The number of running jobs is the number of failed jobs indicated in the job queue plus the number of new entries in the inbox.

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3.11.1 Actions

Refresh

- If configured by your system administrator, your inbox will periodically refresh in order to display the newest shares. If your system administrator has not set an automatic refresh, you have to refresh your inbox manually in order to see any new shares. Click on  button to manually refresh your inbox.

Filter

- Filters the contents of your inbox when you enter a term in the filter field.This action searches for the term in every share and shows all matches. Entries that do not fulfill the search criteria are not shown.

Sort

- See (➔ Page 37 *Adjusting results list columns*).

Mark as read/unread

- Changes the message status to “read” or “unread”.

Remove share

- Removes the selected share from the inbox.

Download

- Quick export of a selection compressed as a ZIP file. This function is the equivalent of the **Export** function for the original, non-encrypted data, see (➔ Page 49 *Exporting/ Downloading documents*).

Export

- Exports a selection from the archive using various options, see (➔ Page 49 *Exporting/ Downloading documents*).

3.11.2 Requesting documents

Your health care institution determines the procedure for requesting documents, although this is usually done by phone. If configured by your system administrator, you can find more information on the procedure by clicking on **Request document** in the user menu.

3.11.3 Availability period

The hospital operator determines the availability period of shares. The time limit is displayed in the header of the individual share (**Valid until**). For shares that are available indefinitely, this field is empty. The shared documents are available in your inbox until the end of the set period.

After the end of the availability period, the share is removed from your inbox. If you were not able to view the shared documents in time, you can request them again.

If a document is deleted from the archive, it will no longer appear in your inbox.

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3.12 Archiving documents

Enterprise Access can archive documents within a patient, entity, or visit context. This function is provided on the **Archive** tab.

Archiving documents is only supported for the *syngo*.share core and is not available for external archives.

Use the quick search field to search for the visit ID and/or patient ID (depending on the settings). To start a more specific search, click **Choose**. In the new window, determine whether the search should refer to a patient or entity context. Note that you cannot conduct a search for the visit ID in this window. In the same window, you can also create new patients or entities by clicking **Create**.

Alternatively, you can trigger archiving by right-clicking the patient data in the patient-grouped results list and choosing **Archive** from the context menu. This automatically applies the correct patient context. For entities, open the context menu by right-clicking the respective document.

You can reset the patient/entity selection by clicking **Change context**.

Document metadata can be entered in the main window using the available fields. You can enter the following metadata:

- Producer (required field) to which the documents will be imported
- Accession Number
- Body Part (DICOM element BodyPartExamined)
- Description
- Study Date (DICOM element StudyDate, StudyTime); These values can only be edited for generic documents.
- Keywords

You can add documents to the archiving area by drag-and-drop operation or by clicking **Add**. In the case of DICOM documents, the patient-related DICOM elements will be compared with the data provided by the current patient context. If these do not match, the system provides the opportunity to overwrite the affected DICOM elements accordingly. If no patient context was set beforehand, the patient data contained in the DICOM elements will be applied automatically.

Click **Archive** to start the archiving process. You can check its status in the Job Queue tab (see (➔ Page 67 *Job Queue*)).

It is possible to apply keywords during the archiving process. For a description of keyword tagging, see (➔ Page 47 *Keyword tagging*).

To ensure correct video playback, only import videos with a constant bitrate. Videos with a variable bitrate may not play back properly.

To keep loading times as short as possible, import videos to an organizational unit for which an archiving rule without data compression has been defined.

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3.13 Job Queue

In the **Job Queue** tab, you can view the status of potentially time-intensive jobs such as the sending or restoration of documents. If an error occurs, the tab as well as the affected job are marked with a badge. You can view error details by clicking **Info**. The tab also shows whether jobs are currently running in the background.

The following actions are available in the **Job Queue** tab:

Cancel

- You can cancel certain jobs.

Retry

- You can retry canceled or failed jobs. This option is available for all jobs except for uploading documents. Failed uploads have to be reinitiated manually.

The number of items in the Job Queue are displayed next to the icon.

The job status list is maintained between sessions and across multiple tabs. So-called “hanging” jobs, i.e. jobs that do not log any progress for more than one day, are automatically assigned the status “Failed”. After one additional day, they are automatically cleared from the queue together with any other failed or canceled jobs.

To manually clear the queue, click the corresponding button.

3.14 Keyboard shortcuts in Enterprise Access

General viewer commands

Keys	Description
J	Show/hide Patient Jacket
Q	Quit viewer (return to search)
R	Reset viewer
Esc	General: reset selected tool
Esc	Drawing annotations: undo most recent annotation
E	Properties
K	Add keywords
F	Maximize/downsize viewport

Viewing tools

Keys	Description
M	Magnifier
P	Pan

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Keys	Description
S	(De-)Activate synchronized scrolling in active viewport
Z	Zoom
Shift + **Mouse-wheel**	Whole Slide Images: Switch between focal planes

Viewer layouts

Keys	Description
1	Apply 1x1 layout
2	Apply 1x2 layout
3	Apply 2x1 layout
4	Apply 1x3 layout
5	Apply 2x2 layout
6	Apply 3x3 layout

Annotation tools

Keys	Description
A	Angle
C	Ellipse
D	Density
F or **W**	Level/Width, Brightness/Contrast
L	Length/Distance
Del	Delete selected annotation

Patient/Entity search

Keys	Description
Del	Delete a selected document/document parts from the archive

Playback

Keys	Description
Spacebar	Start/pause video/series playback
→	Next video frame
←	Previous video frame

Navigation

Keys	Description
↓	Next instance/frame

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Keys	Description
↑	Previous instance/frame
→	Next series/file/instance
←	Previous series/file/instance
Page ↓	Next set of images (layout view)
Page ↑	Previous set of images (layout view)
Home	First set of images (depending on layout)
End	Last set of images (depending on layout)
Del	Set selected viewport at first position and reset hanging
Ctrl +→	Next viewport
Ctrl +←	Previous viewport

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4 Emergency access

Syngo Carbon Enterprise Access has an emergency access mode in case e.g. the hospital information system (HIS) of your organization becomes temporarily unavailable. This allows you to carry out routine tasks in Syngo Carbon Enterprise Access without interruption (e.g. searching for patients).

A note on the login screen will inform you when your system administrator has activated the emergency access mode.

You can log in with your user name and default password (if you have an LDAP-administered account) or with a specific emergency access account established by your organization.

After entering your login information, click on **Login** or press **Enter** on the keyboard.

In emergency access mode, the search screen as well as the results list are pre-configured, although you can still adjust them according to your needs. Usage does not differ from the standard mode (see (➔ Page 18 *Usage instructions*)). However, some actions and/or functions may be deactivated.

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5 Mobile devices

The mobile use of Syngo Carbon Enterprise Access is only allowed on the following devices supporting iPadOS 16.

- iPad (≥ 2020)
- iPad Air (≥ 2019)
- iPad Pro (≥ 2017)

The mobile view of the browser must be enabled and touch input must be used. For a bigger display, open the browser in full-screen mode by opening it in using the home screen shortcut (website icon). (How to set a shortcut on the home screen is described in the online iPad user guide.)

Although the mobile version of Enterprise Access is largely identical to the desktop version, there are a few notable differences:

- Download, print, and export are not available on mobile devices.
- CSV export of search results is not available on mobile devices.
- Opening a selected document in a new tab from the properties window is not available on mobile devices.
- Certain functionalities are altered slightly in order to accommodate the screen size and input methods of mobile devices. These differences are explained in the following.

5.1 Functionality

5.1.1 Search results list

Displaying document details

- The series/preview area of the search results list is initially hidden. Select a document from the results list to view its details.

Selecting multiple entries

- In order to select multiple entries in the search results list or the series/preview area, select the check boxes next to the required entries. In the series/preview area, you first have to switch to list view by tapping .

Using the context menu

- To access the context menu, tap to select an entry, then tap . In the patient-grouped results list, long press on the patient header to open the context menu (tapping the header displays the list of associated documents instead).

Filtering search results

- You cannot filter the search results list further. To receive fewer results, refine your search query.

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5.1.2 Viewer

Moving files using drag-and-drop operation

- To drag series/files from the **Document Navigator** or **Patient Jacket** area, long press on an item and move it to the required location.

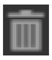
Moving viewports

- To move a viewport, long press on its toolbar and move it to the required location.

Selecting an angle

- On mobile devices the dashed helper lines are always visible. Tap one angle to select it for calculation and to set it as the new default angle. The angle is calculated automatically.

Deleting annotations

- To delete a selected annotation, tap  icon.

5.2 Touch gestures

The viewer supports several touch gestures for easier viewing:

Two-finger swipe

- Scroll by swiping two fingers up or down.

Pinch

- Zoom in or out by pinching/unpinching your fingers.

Three-finger swipe

- Pan an image by swiping three fingers in the required direction.

In addition, the following gestures are available specifically for whole slide images.

Two-finger swipe

- Change the focal plane by swiping two fingers up or down.

Pinch

- Change the zoom layer by pinching/unpinching your fingers.

Three-finger swipe

- Pan an image by swiping three fingers in the required direction.

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Caution: US federal law restricts the herein described devices to sale by or on the order of a physician.

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