

SIEMENS

COMOS

Platform COMOS Platform Operation




Operating Manual

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Introduction

1.1 Welcome to COMOS

Overview

With COMOS, Siemens is the only supplier in the world to provide the process industry with a software solution for holistic management of a plant project – from planning, operation and upgrading to decommissioning. COMOS ensures that all involved parties can access all project-relevant data at any time across all company levels and during all project phases.

Contents of this manual

This manual is designed for users who create and edit engineering objects and documents in COMOS.

The following functions are among those described in the "COMOS Platform Administration" manual:

- Functions with write access to base objects, report templates, and other base data
- Functions with write access to the base project or system project
- Functions which require expertise in writing VB scripts
- Configuration of project properties

Database

The database is at the heart of COMOS. The database contains the predefined objects and components.

All information is stored and managed in the object-oriented database throughout the entire lifecycle of the plant.

COMOS product areas

COMOS consists of the following product areas:

- COMOS Platform provides the basis for all other COMOS software solutions. COMOS Platform provides all the basic functions of COMOS for all other products. Examples:
 - Object-oriented data management
 - Working layer technology
 - Generating datasheets
 - User administration
 - Export and import of base data
 - Export of COMOS datasheets to Word documents
 - Export and import of COMOS datasheets to Excel documents
 - Versioning
 - Separate read-only access
- COMOS Process provides you with applications for creating process data – as well as everything you need for process engineering. It enables you to use design data even in early plant engineering phases for the creation of process flow diagrams and then to refine the data in the piping and instrumentation flow diagram.
- COMOS Automation is used for electrical engineering of plants up to their full automation: It covers all relevant electrotechnical, measurement, open-loop and closed-loop control processes. It allows the graphical representation of logical links between the objects and automated processes and the creation of pneumatic and hydraulic flow charts based on previous data.
- COMOS Operations provides efficient plant support. All data from the engineering phase can be used in the operational phase. Solutions are available for maintenance during operation as well as during a shutdown. Performed measures can be conveniently reported directly from the field or from the workshop using special interfaces.
- COMOS Lifecycle provides comprehensive information management over all lifecycle phases of a plant, regardless of the functional assignment. It allows global access to data and documents, for example, via mobile devices and the integration of sharepoints.

COMOS Enterprise Server

This allows global application networking through its service-oriented architecture (SOA) and ensures the central availability of all required data in the plant management and the automated transfer of data between COMOS and other software systems. Moving resource-intensive tasks to the COMOS Enterprise Server increases the performance on the client. You can find more information on this topic in the "COMOS Enterprise Server" manual.

1.2 General requirements for working with COMOS Platform

Software

- COMOS is installed.
- The necessary module licenses are available.

Database

- You have access to the database supplied with the software or an in-house customer database containing the necessary projects, objects, and structures.
- You are entered as a user.
- An engineering project or a working layer has been created. See also chapter Creating working layers (Page 195).
- An engineering project or a working layer has been opened. See also chapters Opening a project or the released area of a project (Page 169) and Opening the working layers of a project (Page 175).
- There are engineering objects and documents located in the project or the working layer. See also chapters Creating engineering objects (Page 201) and Creating Documents (Page 263).
- The objects you are working with are not locked. See also chapter Locking engineering objects (Page 224).
- You have the necessary rights in COMOS user management and in the project or nodes in which you are working. See also chapter Displaying user rights in a project (Page 172). If you have any questions, contact your administrator.
- If you are working with working areas: The objects you are working with belong to a working area that is assigned to you in user management. If you have any questions, contact your administrator.

Fundamental COMOS concepts

2.1 Rights

The projects, menus, objects, tools, and functions you are able to access are determined by your user rights.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of users and rights".

See also

Displaying user rights in a project (Page 172)

2.2 Structuring data and checking data structures

2.2.1 Projects

2.2.1.1 Project fundamentals

Definition: COMOS projects

A COMOS project contains all of the data you need to engineer a task that you have been set. You always access the data via the project. In other words, you must open the project before you can view and edit its data.

A database can include one or more projects. Only one project is ever opened at a time. Which projects you see depends on your user rights.

There are different project types. The most important for you are the engineering project and base project types.

See also

Working with projects (Page 169)

Project types (Page 20)

2.2.1.2 Project types

Overview

COMOS supports the following project types:

- Engineering projects
- Base projects
- Template projects
- System projects

Engineering projects

- An engineering project contains all of the data that you need to complete an actual engineering task (for engineering, servicing, or decommissioning a plant, for example).
- Users who are working on an engineering project require read rights and write rights for the project.
- A database can contain any number of engineering projects.
- Engineering projects are exclusive. Their data is not visible or available in any other project.
- An engineering project might be a working project conforming to DIN 69901. According to DIN 69901, a working project is a plan to reach a defined goal within a specified period of time (with a defined starting point and end point). It is characterized by the fact that it is essentially a one-off plan. Example: Engineering and building a plant
However, an engineering project can include more than one working project. Example: Operating a plant

Base projects

- The base project contains a library of objects and templates which you reuse in engineering projects, adapting them to meet the actual requirements of your project.
- Users who are responsible for base project administration need at least administrator and base data rights in addition to read rights and write rights. Other users usually only have read rights.
- As a rule there is only one base project per database.
- Base projects are not exclusive. Their data is visible and available in the linked engineering projects.

Template projects

Template projects are complete COMOS projects which are used as reference projects. Usually these are completed jobs or training examples.

System project

As a rule, there is only one system project. The system project is used to control COMOS. This project is only relevant for system administrators.

See also

Working with projects (Page 169)

Project links (Page 21)

2.2.1.3 Project links

Principle

Project links control which objects and templates are available to you in the engineering project. Types of project links:

To a base project

The base objects and templates which are located in the released area of the linked base project are available.

To a base working layer

This link restricts the link to the base project: Only the base objects and templates from the corresponding base project working layer are available.

To the project structures

The project structures control the structure of the project and thus which entries are available in the "New" context menu.

The structures defined by the project structures can be set up so that they correspond to a labeling system. See also chapters Structure engineering using project structures and labeling systems (Page 36) and Creating objects from a project structure (Page 201).

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of label system and ALIAS".

Link to a template project

If an engineering project is linked to a template project, you can copy its contents to the engineering project. There is no connection between the copied data and the originals in the template project.

If you only want to use part of the template project, use cross-project copying.

See also

Working with projects (Page 169)

2.2.1.4 Joint access to projects

Controlled access and data consistency

Several users can work in the same project at the same time. Data consistency is guaranteed as follows:

- Object operations are coordinated through the CVS.
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Setting up network segments/Cache Validation Service CVS".
- Joint working on attributes is coordinated. See also chapter Attributes for joint access (Page 56).
- Interactive reports can only be opened with write access by one user.

There are also control tools which help to prevent one user from overwriting the work of another user:

- Rights management
- Use of working areas and views
- Use of working layers

See also

Rights (Page 19)

Views and working areas (Page 41)

Working layers (Page 22)

Working with projects (Page 169)

2.2.2 Working layers

2.2.2.1 Purpose of working layers

Definition

Working layers are overlapping views of a project on which users work in parallel. When working in working layers, the shared, tested portion of the database (the released area) does not change.

Purpose of working layers

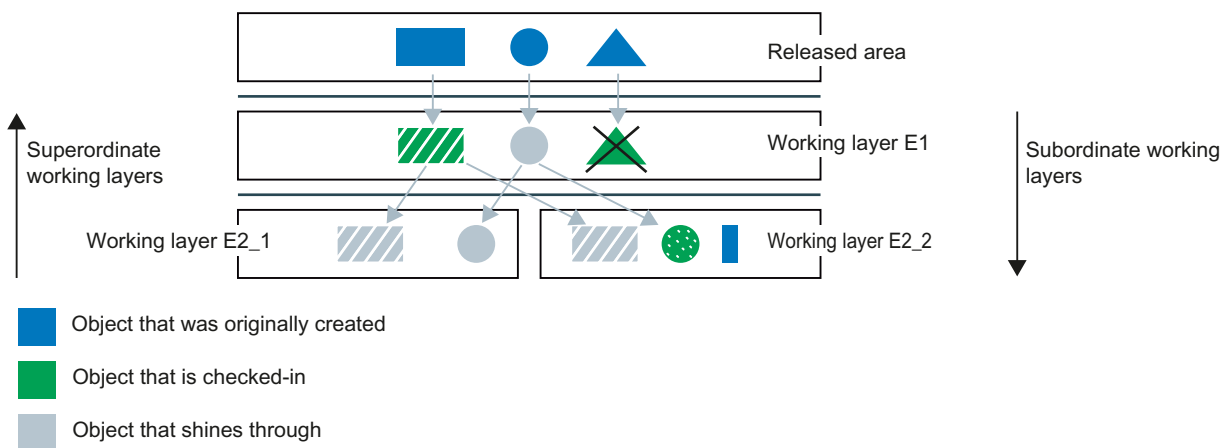
- They make distributed working in projects easier.
- They allow you to outsource project states and parts of projects to partners.
- They protect the tested data stock against unintentional or erroneous changes.
- They support seamless project histories.

See also

Interaction between released area and working layers (Page 23)

2.2.2.2 Interaction between released area and working layers

The diagram below illustrates how working layers work. The diagrams are described in the sections that follow.



The released area and its working layers

When a project is created, it contains just the released area. Any number of levels with working layers can be created under the released area. One or a number of working layers can be created for each level. Each working layer has any number of subordinate working layers but only one superordinate working layer.

Objects that shine through

When you create working layers of the first level, you initially see all the objects from the released area. When you create working layers of the second and third levels etc., you immediately see all objects that are visible from the superordinate working layers (in other words, the objects shine through).

An object shines through from a layer until it is edited in the layer and thus checked in. As long as the object shines through, you will automatically see all changes made to it from the superordinate layers.

Checking in objects

When you edit or delete an object that is shining through from a layer, you check it in to the layer. When an object is checked in, a new object is created and superimposed onto the object from the superordinate layer (in working layers from the first level, it is superimposed onto the object from the released area). The change or the information that the object has been deleted is written to the new object. The object from the superordinate working layer is no longer visible. It does not change. See also chapter Deletion in working layers and in the released area (Page 32).

When the checked-in object is edited again from the superordinate layer, a collision occurs. See also chapter Collisions (Page 32).

Adding objects

Objects created from the working layers initially have no effect on the released area. The released area only changes when you release the objects to it. See also chapter Release process (Page 25).

When you create an object on a working layer, it shines through on all subordinate working layers.

Merging data

Finally, the project data distributed to the various working layers is merged again in the released area via a controlled release process. See also chapter Release process (Page 25).

See also

Working with working layers (Page 175)

2.2.2.3 Working layer display mode

Principle

The working layer display mode is a control tool: When the working layer display mode is activated, a color code indicates the status of an object compared with the superordinate level. The color code also indicates if there are status changes in the substructure of a subtree. History display and working layer display use the same color code.

See also chapter Status information that is relevant for working layers and project history (Page 31).

A background color can also be assigned to the working layer levels and the released area in the Navigator, allowing you to see immediately which level you are working from.

User interfaces

The working layer display mode is available in the following user interfaces:

- Navigator
- Queries
- Interactive reports

The working layer display mode covers objects of all system types that are displayed in these user interfaces.

Working layer display for standard tables

If you have read rights in the base project, a "Standard tables" node is displayed on the "Base objects" tab. The local standard tables of the project and those inherited from the base project and system project are located under it. The "Standard tables" node is not colored when the working layer display mode is activated. The standard tables lying under it are colored.

See also

Purpose of working layers (Page 22)

Enabling and disabling the working layer display mode (Page 178)

Displaying the color legend for the working layer display mode and the history display (Page 179)

Configuring the working layer display mode and the history display (Page 180)

Working with working layers (Page 175)

2.2.2.4 Release process

Release workflow

Once work in a working layer is complete and has been checked, the working layer is released. When a working layer is released, its data is transferred as follows:

Action in the subordinate layer prior to release	Result in the superordinate layer after release	See also chapter ...
An object shining through from the superordinate layer is deleted.	The object is also deleted.	Deletion in working layers and in the released area (Page 32)
An object shining through from the superordinate layer is checked in and changed.	The changes are applied.	Interaction between released area and working layers (Page 23)
A new object is created.	A new object is created.	

At the end of the release process, the data is released in the released area.

Release checks

During the release, COMOS automatically checks the consistency of the released data.

The following criteria will prevent a release:

- Open revisions
See also chapter Unit revisions and project revisions (Page 90).
- Objects with duplicated names or labels
Duplicated names or labels of attributes and connectors are also taken into consideration.

Note

Checking a working layer in the Release manager

You can check working layers in the Release manager before releasing them. See also chapter Performing release checks (Page 188).

Working with working layers following release

The administrator controls what happens to the working layer following release:

- The working layer and its objects are deleted.
In this case, only working layers without subordinate layers can be released.
- The objects in the working layer are deleted but the working layer is not.
- The working layer is set to read-only.

You can find more information on this topic in "COMOS Platform Administration", keyword "Using the base object to control working layer release".

See also

Working with working layers (Page 175)

Purpose of working layers (Page 22)

2.2.2.5 Project history

Introduction

You can have changes to your project logged automatically. You have the following options:

- Only changes made during a release to the released area are logged.
Requirements: The history management of the project is activated.
- The changes made during work in the working layers or the released area are also logged.
Requirements: The objects which are changed are subject to history monitoring.

Note**Also possible in projects without working layers**

This form of project history is possible even if you are not using working layers.

Object history

The object histories of all objects in a project make up the project history.

Changes to an object are logged in its object history. A new history entry is created for each change.

Changes are only logged if the following conditions are fulfilled:

- The object is subject to history monitoring in the layer in which it is changed and at the point in time it is changed.
- The changed data is not inherited.
Example: An engineering object subject to history monitoring inherits its description from the base object. The description is changed at the base object and the change is applied to the engineering object and its history entries. Because the engineering object still inherits the description, no new history entry is created for the engineering object.

Note**No history entry**

If a node is subject to history monitoring in a working layer and a new object is created in the node or an existing object is checked into the working layer for the first time, no history entry is created. Only subsequent changes create a history entry.

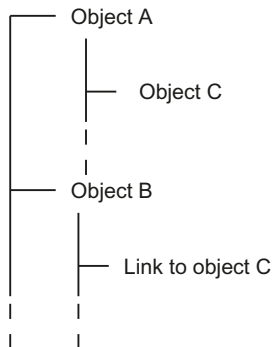
See also chapter Checking the object history (Page 185).

Activating history management and history monitoring

History monitoring is only possible while history management is activated for the project.

History monitoring does not monitor single objects, but rather nodes: If you activate history monitoring at a node, it is automatically recursively activated for all subnodes owned by that node. Whether or not an object is the owner of another object is controlled by the COMOS object model, and not by the position of the objects in the Navigator.

Example:



Object B is placed under history monitoring. There is a link to object C under object B. Object C is not monitored, as object B is not the owner of object C.

If your project works with working layers, you must activate the history monitoring of a node separately in each layer. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Activating and deactivating history monitoring" and "Activating and deactivating history management".

The following information is not passed to the superordinate level layer during a release:

- The setting as to whether the object is monitored or not
- The history entries of the layer

Delete

If history management and history monitoring are activated, this influences the deleting of objects. See also chapter Deletion in working layers and in the released area (Page 32).

See also

History display (Page 28)

2.2.2.6 History display

Principle

The history display is available when history management is active. The history display is a control tool. It uses a color code to indicate the status of the objects in relation to a comparison time defined by you. If you do not set a comparison time, the history display indicates whether the nodes have history entries or not. See also chapter Setting the comparison time for the history display (Page 187).

The color code also indicates if there are status changes in the substructure of a subtree. History display and working layer display use the same color code. See also chapters Status information that is relevant for working layers and project history (Page 31) and Configuring the working layer display mode and the history display (Page 180).

The history display is available in the "Object history" window and in the same user interfaces as the working layer display mode. See also chapter Working layer display mode (Page 24).

Comparison time for the history display

In setting a comparison time you are restricting how far back in time the last change logged in the object history may be located if it is to appear in the history display.

There are the following comparison times:

- Time of release into the released area
- Time any object was created

See also chapters Setting the comparison time for the history display (Page 187) and "Working layer/History management" tab (Page 469).

See also

Project history (Page 27)

Activating and deactivating the history display (Page 184)

Displaying the color legend for the working layer display mode and the history display (Page 179)

2.2.2.7 Scope of working layers

Engineering objects

With the following exceptions, all engineering objects are covered by working layers:

- Nodes that are labeled manually as not release-relevant
- Special objects that are relevant for system functions

Example:

Object with name "@Project" and the class "Document group" and all the objects below it. These engineering objects only exist if you work with project revisions.

Properties of documents

If the properties of the document object are changed, the document is checked in to the working layer when it is saved.

Content of interactive reports

Interactive reports support working layers as follows:

- The report is checked in to the working layer when it is opened.
- When a report is opened, all changes from the superordinate working layers are applied.

2.2 Structuring data and checking data structures

- When a working layer is released, all changes in the working layer are transferred into the superordinate working layer.
- The working layer display mode is visible in the working area.

Contents of external documents

- Properties of document with "normal" option: The document is checked in when it is opened. Exception: In the case of Microsoft Office documents, COMOS checks whether the document has changed in comparison to the version in the superordinate working layer when a document is closed. If it has, the document is checked in to the working layer.
- Properties of document with "Reference", "File link", or "HTTP" options: These documents are always independent of working layers.

Report templates

Report templates can be customized for each working layer. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a template file dependent on the working layer" and keyword "Overview of the administration of working layers".

Functions that are independent of working layers

There are functions that are completely independent of working layers. Changes to these areas take effect at once in all working layers. For example:

- Project properties
- Customer-specific attributes in the project properties
- User management
- Case variants
- Languages
- Timestamp
- Standard tables

Revisions

See also chapter Unit revisions and project revisions (Page 90).

See also

Purpose of working layers (Page 22)

2.2.2.8 Status information that is relevant for working layers and project history

Status values of the working layer display mode and history display

The status values are as follows:

- "Not changed"
- "Changed"
- "Changes in subobjects"
- "New"
- "Deleted"

Note

Software-internal differentiation

In the software, there is a differentiation between hard deleted and soft deleted. If an object has the status "Deleted" in the working layer display mode or history display, it is always soft deleted.

See also chapter Deletion in working layers and in the released area (Page 32).

- "Collision"
- "Collision in subobjects"

Detailed status information

The "Object status (Working layers/History)" window displays more detailed information about the object status than the working layer display mode and the history display.

Example of detailed status information

In a working layer, you create an engineering object under which elements are automatically created. The status of the object in the working layer display mode is "New".

You delete one of the elements. The status of the engineering object in the working layer display mode remains set to "New". You can only see that you have deleted one of the elements in the "Object status (Working layers/History)" window.

See also chapter Displaying the detailed object status for working layers and histories (Page 182).

See also

Working layer display mode (Page 24)

Enabling and disabling the working layer display mode (Page 178)

Purpose of working layers (Page 22)

2.2.2.9 Collisions

Principle

COMOS detects collisions automatically.

A collision occurs when an object checked in to a working layer is edited again or deleted in the superordinate working layer. The object checked into the working layer is no longer based on the most up-to-date information from the superordinate working layer.

The collision occurs on the working layer to which the object was checked in the first time.

You have the option of displaying collisions:

- In the Release manager
See also chapter Performing release checks (Page 188).
- Via the working layer display mode
See also chapter Enabling and disabling the working layer display mode (Page 178).

If collisions are not resolved, data may be inadvertently lost or corrupted during release.

Resolving collisions

To resolve collisions, select one of the following options:

- Retain the information from the subordinate layer.
- Restore the information from the superordinate layer.

See also chapter Identifying and resolving collisions (Page 190).

Special case

Due to the hierarchical structure of working layers, you can edit an object that has been checked in to a superordinate working layer, and thereby check it in again. In that case, the collision is only displayed for the first object that had been checked in.

See also

Interaction between released area and working layers (Page 23)

2.2.2.10 Deletion in working layers and in the released area

Principle

When working with working layers there are two types of deletion:

- Hard delete: Physical deletion
- Soft delete: Logical deletion

According to the working layer principle, the information that an object has been deleted is passed on to the subordinate layers.

Hard delete

The following applies for objects marked "Hard delete":

- They are not visible in the COMOS user interface whether working layer display mode is activated or deactivated.
- Administrators can restore them within a certain time frame. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Notes on objects marked "Hard delete"" and "Using the query "Restore COMOS objects"" and in the "Class Documentation COMOS_dll" manual, keyword "UndoDelete".
The objects are removed from the database once this time frame has expired.

Soft delete

The following applies for objects marked "Soft delete":

- They are not removed from the database.
- If the working layer display mode and history display are deactivated, they are hidden in the Navigator and all other user interfaces.
- If the working layer display mode or history display is activated, they are displayed in red, but remain visible in all user interfaces.
- You can undo the soft delete and restore the objects. See also chapter Undoing the deletion of objects with the "soft delete" marker (Page 193).

See also chapters Working layer display mode (Page 24) and History display (Page 28).

Deletion in the released area

If you delete objects in the released area, the following applies:

- History management deactivated: The objects are hard deleted.
- History management activated: The objects are soft deleted.

See also chapter Project history (Page 27).

Deletion in working layers

- If you delete objects that are checked-in or shine through, they are soft deleted.
- If you delete objects in the working layer in which they were created, the following applies:
 - History monitoring deactivated: The objects are hard deleted.

Note

No collisions on subordinate layers

If the objects have been checked into a subordinate working layer or are subject to history monitoring, they are also hard deleted there. No collisions occur.

- History monitoring activated: The objects are soft deleted.

See also chapter Project history (Page 27) and section Collisions (Page 32).

Releasing deleted objects

- Objects that are hard deleted are not applied in the superordinate layer.
 - Objects that are soft deleted and released in a superordinate working layer are always applied by the superordinate layer as soft deleted.
 - If you delete objects on a working layer and then release the working layer to the released area, the objects are deleted dependent upon history management:
 - History management activated: The objects are soft deleted in the released area.
 - History management deactivated: The objects are hard deleted in the released area.
- See also chapter Project history (Page 27).

See also

Interaction between released area and working layers (Page 23)
Deleting (Page 134)

2.2.3 Engineering the project structure

2.2.3.1 Project structure fundamentals

Principle

Project data is structured in object trees on the tabs of the Navigator. See also chapter Structure of the Navigator (Page 411).

The module determines which tab you work on. Unit engineering is done on the "Units" tab; location engineering is done on the "Locations" tab. In special cases, units and locations can be mixed. See also chapter Mixing units and locations (Page 38). The objects on the "Units" and "Locations" tabs are also referred to as engineering data.

The hierarchical tree structure shows you how your unit or location is structured at a glance. The object structure and device labeling depend on the project structure with which the objects were created or whether they were created freely.

Structure engineering using project structures and labeling systems

See also chapter Structure engineering using project structures and labeling systems (Page 36).

Free structure engineering

See also chapter Free structure engineering (Page 37).

Assignment between units and locations

You can assign locations and units to one another via references. See also chapter Setting general references (Page 225).

Example: There are three units in a "factory" building. The "factory" object is located on the "Locations" tab; the objects for the units are located on the "Units" tab. The units have references to the "factory" building and vice versa.

Owners and children

In most cases, an object is the owner of the objects which are located underneath it. The objects underneath it are referred to as children. If the owner is an engineering object, the subordinate objects are also referred to as engineering data elements.

However, it is the COMOS object model, rather than the position in the Navigator, which is the deciding factor for the owner/child relationship. For more information on this topic, see the manual "Class Documentation COMOS_dll".

Examples of cases in which the owner and the object under which the object is located in the Navigator are not identical:

- Links
- Objects under search objects and index objects

See also

Fundamentals of creating engineering objects and documents (Page 67)

2.2.3.2 Structure engineering using project structures and labeling systems

Principle

Projects are based on project structures. Project structures fulfill the following purpose:

- They control which objects can be created in the engineering data and under which owners they can be created.
- Accessed via the context menu, they enable you to create a correct project structure in next to no time.
- Indirect: They define the device label.
The position of an object in the object tree determines:
 - How many labeling components it has
 - The content of the labeling components
 - Prefix and delimiter between the labeling components

Note

Generating the label

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Prefix and delimiter".

If you are using project structures to engineer the structure of your project, you can only create objects freely at the points designated by the project structures.

Implementing standards and labeling systems

The project structures can be configured so that they conform to standards or labeling systems.

Management and provision of project structures

Administrators prepare the project structures and make them available in the project.

See also

Creating objects from a project structure (Page 201)

Project structure fundamentals (Page 34)

Free structure engineering (Page 37)

2.2.3.3 Free structure engineering

Principle

Free structure engineering supplements work with project structures. This allows you to create objects which may not be created at another position in the project structure. You usually only create single objects or nodes freely.

Free structure engineering can occur in the following scenarios:

- If you are working with general engineering objects.
See also chapters General engineering objects (Page 65), Free creation of objects directly under the project root (Page 206), and Creating general engineering objects (Page 206).

Note**Permissible subobjects**

There are no restrictions on which objects can be created under a general object.

- If you are working with normal engineering objects, under which you want to be able to create any other engineering objects.
See also chapter Free creation of objects (Page 202).

Most project structures support free structure engineering in a number of predefined places. In addition, you can create general engineering objects directly under the project root.

Application example

Initial situation: You are working with the "Factory/building/production EN standard" project structure. You have configured a query which finds all armatures of a subunit with a specific design temperature. You want to save the query in the engineering data.

Problem: The project structure does not allow you to save the query in the subunit or under the folder in which the armatures are located.

Solution 1: You can create a general unit directly under the project root. Save the query under this object.

Solution 2: The project structure allows you to create a general object under the "Factory/plant/production EN standard" object. Save the query under this object.

See also

Project structure fundamentals (Page 34)

Structure engineering using project structures and labeling systems (Page 36)

2.2.3.4 Mixing units and locations

Background

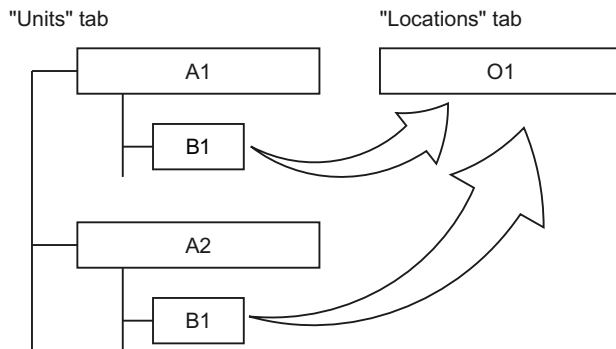
The device labeling must be unique.

2.2 Structuring data and checking data structures

However, there are various definitions as to exactly when a device tag is regarded as unique. One definition is that the device label must be unique throughout the entire character string of the unit, location, and device. According to this definition, the following example device labels are unique and, therefore, permissible:

- "=A1+O1-B1"
- "=A2+O1-B1"

The device labels correspond to the following object structure:

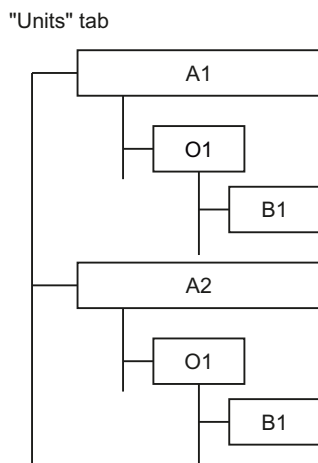


This object structure is rejected by COMOS as incorrect and corrected. Only one device "B1" is permitted under object "O1".

Mixed structures

So that labels of this type can be permitted nevertheless, you can mix units and locations on one tab. On the first level in the Navigator, only objects with the "Unit" class may be created on the "Units" tab and only objects with the "Location" class may be created on the "Locations" tab. However, on the second and all subsequent levels, you can mix units and locations.

The mixed structure for the example above looks like this:



When creating a mixed structure, you have the same creation methods available as when you create the locations and units separately. The usual method is to use the context menu or drag&drop from the "Base objects" tab.

Requirement for mixing units and locations

- The project structure supports mixing units and locations.
- The base data has been configured so that mixed structures are output correctly on reports.

See also

Project structure fundamentals (Page 34)

Creating engineering objects via the context menu (Page 203)

Creating engineering objects using drag&drop with a base object (Page 207)

2.2.3.5 Alternative labeling system

Principle

Projects which have been engineered using a specific labeling system can be mapped onto a different labeling system. That way for example, you can map a labeling system in a foreign language.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of label system and ALIAS".

See also

Setting general references (Page 225)

2.2.4 Templates and uses

Principle

If a group of logically or physically related objects can be reused, this group can be made available as a template (also known as an assembly).

You can derive any number of uses (assemblies) from templates in an engineering object. When you insert a template, all objects belonging to it are created and configured automatically as defined in the template.

Examples for templates:

- Pump station
- Control loop for a valve
- Path macros for generating a circuit diagram

Global and local templates

There are two groups of templates:

- Global templates are located in the template branch of the base project. Global templates can be used in all engineering projects that are linked to the base project.
- Local templates are located in the template branch of an engineering project. They are only available in the engineering project.

You usually work with global templates.

Template object

A template object is a container under which all objects that are part of the template are located.

Template objects perform two tasks:

- They structure the template branch.
- They permit access to templates.

When selecting a template, you select the template object and not its individual components. When copying in a template to the engineering data, the template object is usually not created.

Inserting templates

You usually insert a template via the context menu. In addition, you can use drag&drop to insert templates into a base object that has a reference to the template object.

Templates for copying in objects to interactive reports

There are templates that can be used to insert objects into interactive reports. The following requirements apply to such templates:

- An interactive report belongs to the template.
- The objects that are part of the template are placed on this report and connected with each other.

When you insert the template into an interactive report, the following happens:

- With the exception of the report, the objects belonging to the template are created in the Navigator.
- The objects are placed on the interactive report and connected as specified in the report belonging to the template.

See also chapter Placing objects by inserting a template (Page 316).

Creating templates

Administrators usually prepare the templates in the base project. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Preparing templates".

In an engineering project, you can also create engineering objects in an interactive report, connect them and then create a template for other interactive reports from these objects.

Depending upon your write rights, you can create the template as a global template or a local template.

See also chapter Creating templates from placed objects (Page 365).

2.2.5 Views and working areas

Views and working areas filter the contents of the Navigator.

Views

Views are objects which lie in a subnode of the object tree and filter the contents of this node.

There are two types of views:

- Search objects: Underneath the search object, you can see all objects which are located under the same owner as the search object and which have been detected by an associated views query.
- Index objects: You can see all objects which refer to the index object.

Administrators prepare views. As a rule, you create them using the "New" context menu.

Working areas

Working areas structure the engineering data according to technical aspects, for example, into one area for process engineering, one for electrical engineering, etc. You can only see the data of the working areas which your administrator has assigned to you in your user profile.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of working areas".

2.3 Object fundamentals

2.3.1 General information about objects

2.3.1.1 Object fundamentals

Principle

In COMOS, data is encapsulated in objects. You implement your project by:

- Creating objects
- Establishing relationships between objects (by connecting them or setting references, for example)
- Editing object properties

If you move, copy, or edit an object in some other way, its data always remains intact and consistent.

Visible and invisible objects

In COMOS, there are visible and invisible COMOS objects:

- **Visible COMOS objects:**
These objects have a configurable user interface. They are relevant for you as a user. The "COMOS Platform Operation" manual only deals with visible COMOS objects.
- **Invisible objects:**
These objects are only addressed via script. They are relevant for administrators. You can find more information on this topic in the "COMOS Platform Administration" and "Class Documentation COMOS_dll" manuals.

2.3.1.2 System types of objects

Principle

All objects in COMOS are divided into system types. The system type of an object determines its properties and behavior.

Important system types

The following system types are important when you are working in engineering projects:

Objects	System type assigned in software	See also chapter ...
Engineering objects	Device	Engineering objects (Page 48)
Base objects	CDevice	Base objects (Page 47)
Connectors	Connector	Connectors (Page 57)
Attributes, tabs	Specification	Attributes (Page 53)
Documents	Document	Fundamentals of documents and reports (Page 69)

There are more system types. You can find more information on this topic in the "Class Documentation COMOS_dll" manual, keyword "System type".

See also

Overview of the object icons (Page 414)

2.3.1.3 Object icons

Principle

Every object has an icon. It is used to display the object in the Navigator, in queries, or in other user interfaces. See also chapter Object icons reference (Page 414).

Objects with identical features have the same icon. Administrators specify which icon the objects have. You cannot change the icon of an object in the engineering data.

Dependent upon how an object is used, additional icons can be added. See also chapter Context-dependent additional icons (Page 423).

Display on interactive reports

In the working area of interactive reports, the symbols of the engineering objects are displayed. See also chapter Symbols and symbol components (Page 80).

2.3.1.4 Object identity

Unique identity

Objects must be uniquely identifiable. How you uniquely identify objects depends on the context.

Device labels are an important method for uniquely identifying engineering objects. See also chapter Structure engineering using project structures and labeling systems (Page 36).

Additional methods for uniquely identifying engineering objects are described below.

Database-wide

Via the SystemUID

In a database, no two objects have the same SystemUID.

The SystemUID is usually only relevant for administrators and internal software procedures. You can find more information on this topic in the "COMOS Platform Administration" and "Class Documentation COMOS_dll" manuals, keyword "SystemUID".

Project-wide

If the project option "Unique name across folders" is activated:

- Via the FullName:
The FullName provides the complete path to an object. It has the following components:
 - Name of the object
 - Name of the owners, except for parent folders
 - Delimiters for objects defined in the project properties

If the database is configured in such a way that the labels are unique, you can also specify the path via FullLabel. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Unique label".

- Via the SystemFullName:
As with FullName, but including all folders

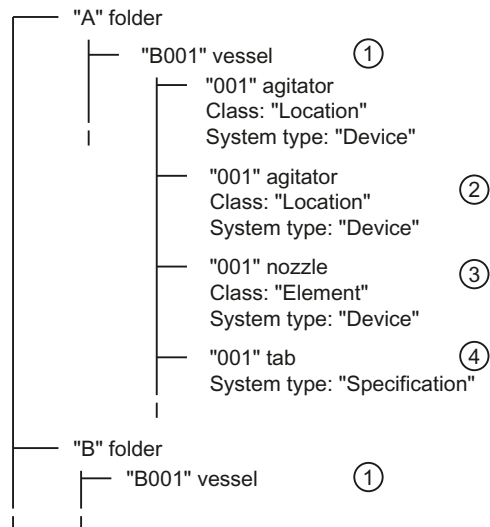
On the same hierarchy level of the object tree

Via the name

What counts as the same hierarchy level depends on the configuration of the "Unique name across folders" project option:

- Deactivated: Two objects with the same direct owner and the same system type may not have identical names.
Exception: Two engineering objects with different classes may have the same name.
- Activated:
As above. In addition, the following applies to engineering objects and documents: If they are located in folders, they are on the hierarchy level of their folder. Therefore, two engineering objects or documents which are located in parent folder, subfolders, or parallel folders may not have identical names. The search for folders is always recursive. It discontinues for a node if an object is found that does not have the "Folder" property.
Exception: Objects in the "Element" class are not checked across folders.

Example:



- 1 "Unique name across folders" option activated: Identical name forbidden
Option deactivated: Identical name allowed
- 2 Identical name always forbidden due to same system type and same class
- 3 Identical name always allowed due to different class
- 4 Identical name always allowed due to different system type

If the database is configured in such a way that the labels are unique, objects can also be identified uniquely by their label. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Unique label".

Attribute identity

Attributes are uniquely identified using their NestedName based on their base object, engineering object, or document.

Notation: <tab name>.<attribute name>

Example: SYS.SYS001

More information

There are more identification options and script commands. You can find more information on this topic in the "COMOS Platform Administration" and "Class Documentation COMOS_dll" manuals.

See also

Name, label, and description (Page 46)

2.3.1.5 Name, label, and description

Principle

- In COMOS, all objects have a name. They can also have a description. Engineering objects can also have a label.
- These texts are often used to display objects in user interfaces, e.g. in the Navigator or in a query. Other texts may also be displayed depending on the respective user interface and the database configuration.
See also chapters Navigator text (Page 413) and Symbols and symbol components (Page 80).
- Name and label are used for unique identification of objects and for device labeling. See also chapter Object identity (Page 43).
If objects can no longer be uniquely identified due to changes to the names or labels, COMOS adjusts the values so that they are unique again.
- If the label is empty, the name is used wherever the label is required.
- Name, label, and description of the engineering object are initially applied from the base object. Administrators can configure engineering objects in such a way that users cannot change this data.

See also

Editing general data (Page 221)

2.3.1.6 Access to objects

Principle

Which objects you can see and edit depends on the following factors:

- Your read rights and write rights
- If the objects are assigned to working areas: The working areas must be assigned to your user profile.

In the Navigator, the visibility of objects is also determined by the Navigator settings (filtering, sorting).

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of users and rights" and "Lock-lock mechanism and system object identification".

See also

Setting up the Navigator (Page 163)

2.3.2 Base objects

Purpose

Base objects are templates for engineering objects and documents. A base object specifies the properties of the engineering objects and documents derived from it. See also chapters Relationship between base and engineering objects (Page 48) and Documents and base objects (Page 69).

You can derive any number of engineering objects or documents from a base object. See also chapter Fundamentals of creating engineering objects and documents (Page 67).

Base objects are located on the "Base objects" tab in the Navigator. They have red icons; base objects with the "Element" class have green and turquoise icons. Base objects with pink icons are used for structuring. You cannot derive engineering objects from them. See also chapter Icon coloring (Page 421).

Global and local base objects

Base objects are created and configured in the base project. Engineering projects that are linked to the base project have read access to these base objects. In the engineering projects, engineering objects are derived from the base objects.

Administrators can also create local base objects in engineering projects. They are only available in the engineering project in which they were created.

Configuration

Administrators create and configure the base objects. Normal users usually come into contact with base objects when they create engineering objects or documents.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Preparing the base data: Basic techniques for base objects and documents" and "Preparing the base data: Customizing Guide iDB" and "Preparing the base data: Editing properties".

See also

Project links (Page 21)

2.3.3 Engineering objects

2.3.3.1 Engineering object fundamentals

Definition

Engineering objects are objects that you create on the "Units" or "Locations" tab in the Navigator during the course of completing your engineering task. You can differentiate the following groups of engineering objects, based on their function:

Group	Examples
Objects which structure the project	<ul style="list-style-type: none">• Units and subunits• Locations• Folders
Managing or supporting objects	<ul style="list-style-type: none">• Queries• Workflows• Objects for additional symbols on interactive reports, e.g. graphical symbols such as revision clouds in P&ID
Physical objects necessary for engineering and operation	<ul style="list-style-type: none">• Pipes• Valves• Cables• Signals
Logical objects necessary for engineering and operation	<ul style="list-style-type: none">• Case variants• Functions• Software objects• Cost objects

See also

General engineering objects (Page 65)

2.3.3.2 Relationship between base and engineering objects

See also chapter Fundamentals of the properties of engineering objects (Page 49).

Base objects as templates for engineering objects

Each engineering object is based on exactly one base object. In other words: It is derived from the base object.

The base object determines:

- The properties of the engineering objects derived from it
- The values of these properties when engineering objects are created

During your work, you change the properties of engineering objects and in so doing adapt them to actual engineering requirements.

Dynamic connection

The connection between base and engineering object is retained following creation of the engineering object. Changes to a base object affect the derived engineering objects.

Inheritance

In COMOS, the fact that base objects are templates for engineering objects and the connection between base and engineering objects is dynamic is referred to as inheritance.

There is also inheritance between base objects. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Inheritance".

Interrupting inheritance

Inheritance between base object and derived engineering objects can be interrupted:

- By switching the base object
The engineering object then inherits the properties of the newly assigned base object. See also chapter Switching the base object (Page 226).
- By checking in inherited properties at the engineering object
If these properties are changed at the base object, these changes no longer affect the engineering object. See also chapter Fundamentals of the properties of engineering objects (Page 49).

See also

Base objects (Page 47)

2.3.3.3 Fundamentals of the properties of engineering objects

Preliminary knowledge

See chapter Relationship between base and engineering objects (Page 48).

Groups of properties

Engineering objects have the following groups of properties:

- Inherited properties
- Checked-in properties
- Properties that can only exist at the engineering object
- Optional: Extended properties

Whether a property is inherited or checked in is significant in the following scenarios:

2.3 Object fundamentals

- If you are copying engineering objects.
- If base objects from which engineering objects have been derived are changed.
- If the base object of an engineering object is switched.
- If you are searching for objects.

Inherited properties

Inherited properties are properties that belong to the base object and to which the engineering object has read access. If these properties are changed at the base object, the change is visible at the engineering object.

There are two groups of inherited properties:

- Properties that are always read out from the base object and are also saved at the base object in the database
Although these properties affect work with engineering objects, they can only be edited at the base objects. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords ""System" tab" and ""System settings" tab".
Examples:
 - "Class" and "Subclass" properties
 - Base object script blocks
 - Object icon
 - Classifications
- Properties that are read out from the base object until the default setting for the engineering object is overwritten (in other words, the property is checked in)
This minimizes processor utilization and memory space requirements.
As long as the following properties are inherited, they are displayed in italics:
 - Description
 - Folder
 - Attributes

Checked-in properties

Checked-in properties (synonyms: Own properties and Own collections) are properties which are inherited from the base object and then overwritten at the engineering object. They are saved in the database at the engineering object. If these properties are changed at the base object, the change is not visible at the engineering object.

Examples:

- Description, folder
See also chapter General properties of engineering objects (Page 52).
- Attributes
See also chapter Attributes (Page 53).
- Connectors
See also chapter Connectors (Page 57).

Properties that can only exist at the engineering object

Some properties of the engineering object are neither inherited nor checked in. There are two groups:

- Properties for which the base object is irrelevant; for example, layer relevance
- Properties for which the base object defines what value the properties have when the engineering object is created. Changes to the base object do not affect the properties, even if their values have not been changed since creation.

Examples:

- Object-based status
- Name and label

Extended properties

Projects can work with extended properties. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Extended properties".

See also

Editing engineering objects (Page 219)

2.3.3.4 Classes and subclasses

Purpose of classes and subclasses

Engineering objects are divided into groups based on the class and subclass of their base object. Objects with the same class and subclass fulfill the same task and have similar properties. They behave in the same way; for example, when they are copied.

Classes and subclasses allow you to search for and recognize objects more easily:

- In queries, you can specifically search for objects of a certain class. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a query and setting general inputs".
- You can filter the Navigator by classes and subclasses. See also chapter Filtering object trees in the Navigator (Page 164).
- Class and subclass determine which object icon an engineering object has. See also chapter Icons for base and engineering objects (Page 415).

Class and subclass for documents

Documents always have the "Document" class. There are no subclasses. The object icon is determined by the document type. See also chapter Icons of the document types (Page 422).

Classifications

Classifications are a more flexible and powerful tool for categorizing objects than classes and subclasses. Searching via classification key is also faster. See also chapter Classification of engineering objects and documents (Page 66).

2.3.3.5 General properties of engineering objects

The following table provides you with an overview of important general properties of engineering objects:

Property	See also chapter ...
Name	Name, label, and description (Page 46)
Label	Changing name, label, and description (Page 222)
Description	
Folder	Declaring objects as folders (Page 223)
General references, e.g.: <ul style="list-style-type: none">• Base object reference• Unit reference• Location reference• Implementation reference	Setting general references (Page 225)

2.3.3.6 Relationships between engineering objects

Principle

Engineering objects are related to other objects in many and varied ways:

- Via references:
 - References in the general properties of the engineering object, e.g. location reference, implementation reference
 - Reference attributes on the attribute tabs of properties
- Via connectors
See also chapter Connectors (Page 57).
- Via linked attributes
See also chapter Linked attributes (Page 56).
- Via their position within the hierarchical object structure of the Navigator

Hierarchical object structure in the Navigator

Some functions and script commands evaluate the object structure. Their result can vary depending on where the object is located in the Navigator.

Example: Attributes linked by owner

Visibility of general references in the Navigator

If engineering objects are connected via general references, this information is displayed in the Navigator. See also chapter Navigator text (Page 413).

Navigation

You can navigate to the objects to which the object has a reference. See also chapter Navigating (Page 126).

2.3.3.7 Attributes

Attribute fundamentals

Purpose of attributes

Attributes describe engineering objects and documents in more detail in the context of engineering. Examples:

- Attributes for the technical data and manufacturer data of engineering objects
- Attributes that save data that is displayed in the drawing header of a report

Some attributes are evaluated by the software. You use them to control engineering objects and documents. Examples:

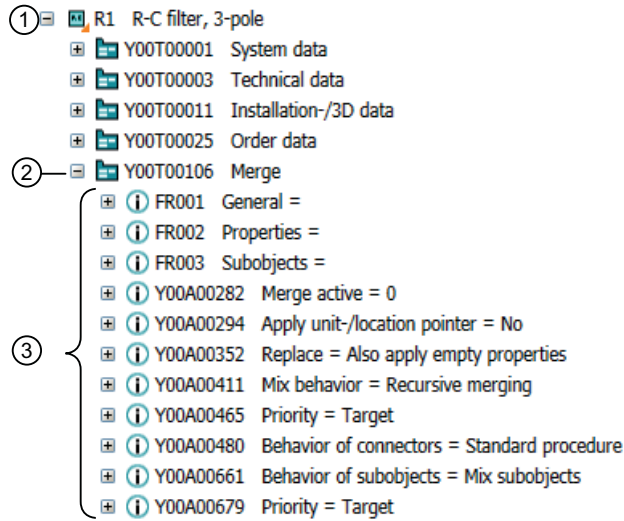
- Attributes for configuring the equipment bar and substance stream bar in process flow charts
- For pumps, the "Pipe cut mode" attribute controls whether the pump cuts a pipe into pipes, pipe sections, or segments.

There are also attributes which are only relevant for base objects:

- Attributes which are not inherited by the derived objects
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Inheritance mode".
- Attributes of base objects from which no objects are derived; for example, the base objects of the "@99 System settings" branch.
These attributes control the behavior of the COMOS functions and tools.
You can find more information on this topic in the "COMOS Platform Administration" manual.

General information about attributes

- Attributes are objects.
- In the Navigator, attributes are located underneath the base object, engineering object, or document on what are known as attribute tabs (for short: tabs):



①	Engineering object
②	Tab
③	Attributes

Whether or not you see them in the Navigator depends on your Navigator settings. See also chapter Filtering object trees in the Navigator (Page 164).

- In the properties, attributes are located on subtabs of the "Attributes" tab or on top-level tabs.
- Attributes belong inextricably to their engineering object, document, or base object.
- Attributes are automatically created with their engineering object or document.
- Base objects take on the attributes of their owner or the base object to which they have a base object reference. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Inheritance and forwarding of objects and information".

Editing attributes

Principle

The base object defines the attributes of its derived engineering objects or documents and the values with which they are initialized. During the engineering, you adapt the inherited values to the actual engineering requirements. By doing this, you check them in. See also chapter Fundamentals of the properties of engineering objects (Page 49).

There are numerous tools available for editing. See also chapter Overview of editing engineering objects (Page 219).

You have the following options when editing:

- Set the attributes of an object
See also chapter Editing attributes (Page 228).
- Set the attributes of several similar objects at the same time
See also chapters Editing several objects in the properties tree (Page 243), Editing object data via bulk processing (Page 384), and Editing editable data (Page 367).
- Copy attributes: You can copy single attribute values or all values from a tab
- Attributes can be linked to each other. See also chapter Linked attributes (Page 56).

Read-only mode

If attributes have been locked in the base data or their object is locked, you can only read their data and not change it.

You can find more information on this topic in the "COMOS Platform Administration" manual, keywords ""Lock object" function right" and "Attribute: "Edit mode" field".

Mandatory attributes

Administrators can define mandatory attributes. You can only save an engineering object with mandatory attributes if all mandatory attributes have been filled out.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Mandatory attributes".

Automatic unit conversion

The following applies for attributes with a unit: When the unit is changed, the attribute value is converted.

Display of attributes

- The values of inherited attributes are shown in italics.
- The background of an attribute can be colored for the following reasons:
 - The attribute is linked. Its source attribute has a different value.¹
 - For attributes with a value range: The value does not conform to the value range.¹
 - The attribute is instantiating.¹
 - The attribute has a high editing priority.¹
 - Gray: The attribute has been locked for editing in the base data.
- If the attribute value is colored, the color indicates when and by whom it was changed.¹

¹: The colors are freely selectable. See also chapter Defining the background color and text color of attribute values (Page 235).

See also

Attributes for joint access (Page 56)

Linked attributes

Principle

If an attribute (source attribute) is linked to another attribute (target attribute), the value of the source attribute is applied to the target attribute. The way in which the attributes are linked determine whether the value is applied automatically and whether the link is bidirectional. The following links modes are available

- "Static"
 - The user decides if and when the target attribute adopts the value of the source attribute. See also chapters Entering values for linked attributes (Page 230), Refreshing static links (Page 232), and Accepting differences between static links (Page 232).
 - If the values differ, the background of the target attribute is colored orange.
- "Dynamic"
The source attribute is applied automatically to the value of the target attribute.
- "Full dynamic"
Data flows in both directions. If you edit one of the two attributes, the value is applied automatically to the other one.

Setting up links

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Link" tab".

See also

Editing attributes (Page 228)

Attributes for joint access

Coordination via message boxes

If several users are working on the attributes of an object simultaneously, the software automatically coordinates the work. If users change the same attribute, they are informed of this via a message window.

A message window is also used if a user saves an object whose attributes are also being edited by other users.

See also

Editing attributes (Page 54)

Status-related attributes

Principle

Administrators can mark attributes as status-related when using object-based status management. These attributes are automatically evaluated when the status is checked and set. If one of the attributes is inconsistent, the object status must not be higher than the status value defined by the attribute.

Causes of inconsistencies:

- A product data-related attribute infringes the template in the manufacturer device. You can find more information on this topic in the "EI&C Operation" manual, keyword "Entering product data".
- A range attribute violates the range testing. See also chapter Entering attribute values (Page 228).
- A statically linked attribute differs from the linked value. See also chapter Entering attribute values (Page 228).

Status value when there is an inconsistency

COMOS checks what status value is determined by the "Engineering object status" attribute property. If the engineering object implements the "CheckStatus" script block of the corresponding status type, the script block is also executed. It provides a status value. The lower status value is used.

You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Engineering object status" and "CheckStatus".

See also

Object-based status management (Page 63)

2.3.3.8 Connectors

Principle

Connectors are objects that physically link engineering objects. See also chapter Connections (Page 58). Every connector is inextricably linked to its engineering object. In the Navigator, it is located under the engineering object. Whether or not you see the connectors in the Navigator depends on your Navigator settings. See also chapter Filtering object trees in the Navigator (Page 164).

When engineering objects are linked via connectors, data can be passed via their connectors.

Connector direction and type

Connectors have a connector direction:

- Input
- Output
- Neutral

In the various COMOS modules, there are various connector types and subtypes. You can find more information on this topic in the manuals for the modules.

Static and dynamic connectors

Static connectors (synonyms: fixed connectors, prepared connectors) are created at the same time as their engineering object, regardless of whether or not the engineering object is connected. They are directly visible in the symbol that represents the engineering object on interactive reports. They are used for components for which it is clear how many connectors they have and where they are located in the symbol. Example: 2-way valve

Dynamic connectors are only created and integrated into the symbol on interactive reports when the engineering object is connected. They are used for components for which it is not clear from the outset how many connectors they have and where they are located in the symbol. Example: Containers

Deleting connectors

Static connectors cannot be deleted, only their connection. Dynamic connectors and auxiliary connectors can be deleted. See also chapter Disconnecting connectors (Page 249).

See also

Managing connectors (Page 241)

2.3.3.9 Connections

Principle

Engineering objects are connected to each other by connectors. See also chapter Connectors (Page 57).

There are two types of connection:

- Connections without objects
- Object-based connections

The module determines which object the connection represents. In functions diagrams, for example, connections represent logical connections, in pipe schedules they represent pipes with a flow direction.

Connection without objects

Connections without objects are used when the connectors of the connected objects can save all information available for the connection.

Examples of connections without objects:

- Electrical connections
- Electrical signal connections
- Logical connections on function diagrams
- Pneumatic connections
- Action lines

Connections without objects can be displayed as graphic information on interactive reports.

Object-based connections

Object-based connections are used when the connectors cannot save all information available for the connection. An object is created for the connection and this object saves the necessary information.

This connection type is used if, for example, substances are being transported via the connection. The connection object then saves information about the flow direction, the flow speed, or the temperature, for example.

Examples of object-based connections:

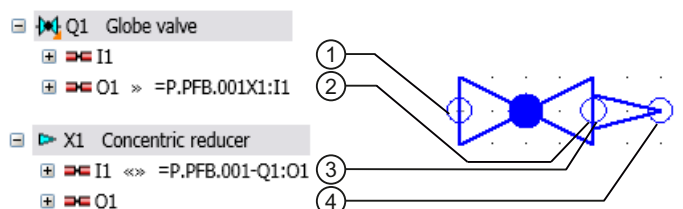
- Pipes
- Process streams
- Connections on installation diagrams

Connections in the Navigator and on interactive reports

Usually, you connect engineering objects in interactive reports. See also chapter Connection options for connectors (Page 246).

If two objects are connected in an interactive report, they are automatically connected in the Navigator as well. If they are connected in the Navigator, however, they are not necessarily connected in the interactive report.

If objects are connected, this is visible in the Navigator: The path to the counterpart connector is shown after the connector, including prefix and delimiter.



More information

See also chapters Fundamentals of connections on interactive reports (Page 77) and Connecting objects (Page 321).

You can find more information on this topic in the manuals for the modules.

2.3.3.10 Elements

Definition and purpose

Elements are saved in the "Elements" collection on the engineering object.

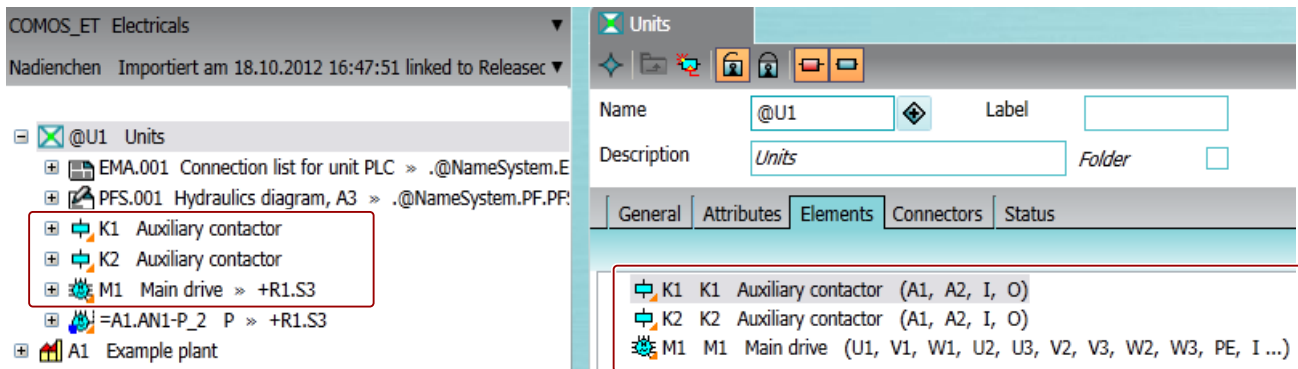
In the broader sense, all engineering objects which are located directly underneath an engineering object in the Navigator are elements (engineering data elements). The engineering object must be the owner of the elements. In the narrower sense, elements are subobjects with an inextricable relationship to their owner. Example: The motor of a pump

The elements of a base object also control which objects are available to the derived engineering objects. There is a difference between virtual elements and automatically created elements. See below. You can differentiate between these elements based on the icon color. See also chapter Icon coloring (Page 421).

You can see which elements the engineering object has in the engineering object properties on the "Elements" tab.

Documents and links do not belong to the elements. Documents can be configured in the base data in such a way that they are also automatically created with their owner engineering object. See also chapter "General" tab for documents (Page 440).

Example:



Virtual elements

If a base object has virtual elements, you can create these elements under the derived engineering objects. The elements are offered for creation in the following interfaces:

- In the "New" context menu
- In the static New menu
- In the properties of an engineering object on the "Elements" tab

As soon as an instance is derived from a virtual element, it belongs to the engineering data elements.

The configuration of the base object will determine whether:

- You can derive one, any number, or a specified number of instances from a virtual element.
- You can create any engineering objects or just instances of the virtual elements under the engineering object.

Automatically created elements

A base object can have elements that were created automatically under the engineering objects when the engineering objects were derived.

Whether or not these elements can be deleted from the engineering data depends on the configuration. If they have been deleted, you can recreate them:

- Via the "New" context menu
- In the static New menu
- In the properties of an engineering object on the "Elements" tab

The "Element" class

Objects can have the class "Element". Objects with the "Element" class are not automatically elements and vice versa.

More information

You can find more information on this topic in the "COMOS Platform Administration" manual, keywords ""Creation mode" control group", ""Virtual" control group", and ""Elements" tab on base objects".

See also

Creating engineering objects via the context menu (Page 203)

Deriving new elements from virtual elements (Page 238)

Creating multiple objects via the static new menu (Page 209)

Managing elements (Page 237)

2.3.3.11 Status management

Fundamentals of status management

Status types

Engineering objects have an object status. There are up to thirteen status types available in COMOS. The status types allow monitoring sequences to be delineated in terms of content.

They can be freely delineated; e.g. based on functions or personnel requirements. The status levels display the progress of the data monitoring operation within a status type. An engineering object has a separate status value for each status type.

Engineering objects also have a working layer/history status. This is managed within the system. See also chapters Working layer display mode (Page 24) and History display (Page 28).

Status display

When status display is activated, the objects are colored according to their status. You can change the color settings. See also chapter Using the status display (Page 258).

Status management processes

There are two processes for status management:

- Query-based status management
See also chapter Query-based status management (Page 62).
- Object-based status management
See also chapter Object-based status management (Page 63).

For each status type, you will use either the query-based or object-based process.

Example

Examples of object-based status types and status levels from the database:

Status value	Color legend	Status type "1 PE"	Status type "11 Date violation"
0	Gray	"Not processed"	"OK / done"
1	Red	"Presetting Changed"	"Date overdue"
2	Blue	"Processing"	"No date"
3	Green	"Finished"	"In tolerance range"
-1	/	/	"Inactive / not calculated"

See also

Checking the object-based status (Page 256)

Query-based status management

Principle

In query-based status management, you call the status calculation for an object. A status query prepared by the administrator calculates the status values of the object and its subobjects recursively. The status display shows the result of the calculation. When you open the status query, you are also given detailed information about the object status. See also chapter Displaying status information in the status query (Page 253).

The status values are stored in an XML file in the document directory. Changes to the object status do not change the engineering object. It is not checked in to the working layer.

If the query supports hierarchical query-based status management, owners automatically take the lowest status value that one of their children has. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword " Purpose of the Query-based status management".

See also

Fundamentals of status management (Page 61)

Object-based status management

Principle

In object-based status management, you set the status value manually. See also chapter Setting the object-based status (Page 255). It is saved to the engineering object. You can also check whether the current status value is valid. See also chapter Checking the object-based status (Page 256). These actions check in the objects to the working layers.

You usually set the status in the higher levels of the structure tree; for example, on the subunits rather than the devices. If you set a status value, COMOS checks recursively whether there are status-related attributes which are inconsistent and corrects the status if necessary.

Recursive status changes

Changes to the status value of an engineering object influence the status of other engineering objects. It is a requirement that the objects are in an owner-child relationship according to the COMOS object model.

The following objects are, therefore, not taken into consideration when COMOS checks or sets the status of engineering objects:

- Links
- Objects under search objects and index objects

Checking and setting status values

When you set the status of an engineering object, COMOS checks recursively whether the object and its subobjects have inconsistent status-related attributes:

Inconsistent status-related attributes	Result
No	<ul style="list-style-type: none">• The object is given the new status.• Its subobjects are given the new status. Recursive process• COMOS checks the nodes parallel to the object. If they have the new status or higher and the owner has a lower status, the owner receives the new status too. Recursive process
Yes	<p>The value defined by the status-related attribute is set:</p> <ul style="list-style-type: none">• At the object which has an inconsistent status-related attribute• At its owners, provided that their status value is higher than the status defined by the status-related attribute Recursive process

When you check the status of an engineering object, COMOS also checks whether the object and its subobjects have inconsistent status-related attributes and what the correct status values are: You can see the result of the check in the status calculation protocol.

Status calculation protocol

If you set an invalid status value or check the status values and the check finds invalid values, the status calculation protocol opens. It contains the following information:

- Which objects have invalid status values?
- Why are the values invalid?
- What are the correct status values?

You can apply the correct status values or correct the causes of the invalid status values. See also chapter Correcting invalid status values (Page 257).

See also

Status-related attributes (Page 57)

Fundamentals of status management (Page 61)

2.3.3.12 General engineering objects

Definition

In projects that work with a project structure, general objects function as collection nodes:

- For testing and approval
- As collection nodes for objects that you are not permitted to create elsewhere in the project structure

The general engineering objects are as follows:

- General units
- General positions
- General locations
- General objects
General objects are the only engineering objects that do not have a base object reference when they are created. You can assign a base object to a general object at a later point. This turns the general object into a normal engineering object.

See also

Engineering object fundamentals (Page 48)

Free structure engineering (Page 37)

Free creation of objects directly under the project root (Page 206)

Creating general engineering objects (Page 206)

2.3.3.13 Requests and implementations

Introduction

The engineering objects used in basic engineering define general requests relating to the devices. During engineering, the requests become more specific. At the end of the detail engineering phase, the manufacturer devices to be ordered are selected.

Examples:

- On a P&ID, one pipe connects two apparatuses. In the isometry report, several pipes, parts, and bows are required to engineer the exact pipe run.
- A terminal is placed on a terminal diagram. In the course of the order preparation, a manufacturer device from a manufacturer catalog is assigned to it.

The COMOS technique of request and implementation connects the general devices with the more specific ones. It ensures a consistent data flow and integrated data management.

Principle

Engineering objects which define general requests have the "Request" property. They are referred to as requests. Their object icon has the following additional icon:



When an engineering object which substantiates the request is created, the more concrete object is referred to as the implementation. The request gains an implementation reference to the more concrete object, while the implementation gains a request reference to the implementation. If the implementation itself has the "Request" property, it can also gain an implementation reference to an even more specific object, and so on.

Engineering objects without the "Request" property cannot be implemented further. Manufacturer devices never have the "Request" property. They must have an order number.

See also chapter Setting general references (Page 225).

You can find more information in the manuals for the modules.

2.3.4 Classification of engineering objects and documents

Purpose

Classifications are more flexible and more powerful than classes and subclasses, and faster to search for. They offer the following advantages:

- Assigning similar behavior
Objects with the same classification label have the same behavior or are treated in the same way by the software.
- Standardization of the database
You can identify, compare, replace, or collect objects across databases and companies using classifications.
- Search for specific or similar objects
Queries that look for classifications work with the "Database search" method. They do not load any objects from the database during the search and do not check them into the working layer. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a query for a database-based search for objects".

Principle

Administrators enter classification keys on the "Classification" tab in the properties of the master objects. Classification labels for the derived engineering objects are created from the keys by updating the classifications. The classification labels are not stored at the object; they are stored separately in the database.

You can find information on this topic in the "COMOS Platform Administration" manual, keyword "Classifying objects".

Types of classification

Types of classification:

- Classification
 - Hierarchical classification
Describes the class structure and therefore the base data structure of a COMOS module.
 - Functional classification
Describes the cross-module function of an object.
- User classification
 - Is available for your purposes. The functional classification technique is used in the background.
 - Functional user classification
 - Hierarchical user classification

See also

Icons for base and engineering objects (Page 415)

Classes and subclasses (Page 51)

2.3.5 Fundamentals of creating engineering objects and documents

Methods for creating objects

For an overview of the creation methods, see section Creating engineering objects (Page 201) and section Creating Documents (Page 263).

The method you choose depends on the following factors:

- Are you using a project structure or are you engineering freely?
See also chapters Creating objects from a project structure (Page 201) and Free creation of objects (Page 202).
- What are the specific basic conditions of your project and what is the resulting workflow?
- Would you like to create one instance or several instances of an object?

Sequence for creating objects and documents

The sequence in which engineering objects and documents are created is determined by the specific basic conditions of your project and the resulting workflow.

Engineering objects and documents are often created in the following order:

2.3 Object fundamentals

1. The engineering objects that structure the project (units, subunits, and folders, for example). Objects and documents to assist you with project engineering and documentation are usually created automatically under these objects.
Examples:
 - Evaluating reports (material lists, for example)
 - Queries, bulk processing
2. Interactive reports, in which you engineer a unit in the form of drawings
3. The physical and logical engineering objects you use to create the unit (devices, cables, and pipes, for example). These objects are often generated upstream in the work you do in the interactive reports.
Evaluating reports documenting the object are usually created automatically under these objects.
Example: Data sheets

Creation of elements

If virtual elements have been prepared at the base object of an engineering object, you can choose between the following options when creating these elements:

- You create an instance of the element under the engineering object.
See also chapter Creating objects from a project structure (Page 201).
- You create any number of instances under the engineering object.
See also chapter Creating multiple objects via the static new menu (Page 209).

See also chapter Elements (Page 60).

Automatic creation of multiple objects

Base objects can be configured so that multiple objects are created automatically when an engineering object is derived. This is the case in the following scenarios:

- The base object has a reference to a template object.
The template is copied in. Its objects are usually already linked via their connectors. See also chapter Templates and uses (Page 39).
- The base object is a block.
The objects belonging to the block are created. Their connectors are not linked.
- The base object defines elements which are created automatically with the engineering object. See also chapter Elements (Page 60).
The connectors of the elements are not connected.

Automatic opening of properties

If your Navigator settings have been configured accordingly, the properties of new objects open automatically.

See also chapter Activating "Directly edit new objects" (Page 166).

See also

Engineering the project structure (Page 34)

2.4 Fundamentals of documents and reports

2.4.1 Documents and base objects

Principle

Like engineering objects, documents are also based on base objects. Each document is based on exactly one base object. The base object must have the "Document" class. When documents are created, they are all initialized with the properties specified by their base object. You can adapt the properties to the prevailing engineering requirements.

See also chapters Relationship between base and engineering objects (Page 48) and Attribute fundamentals (Page 53).

2.4.2 Document types

The document type determines which icon a document has. See also chapter Icons of the document types (Page 422).

Overview

Every document has a document type. Depending on which file formats the document types are based on, you can differentiate between the following document types:

- COMOS-specific document types
- Document types for external documents
- "Unknown document" document type
A placeholder document which is created when a document with an unknown file type is imported into COMOS.

The following document type groups are assigned to the document types in the database:

- COMOS
- Office
- Conval
- Other

COMOS-specific document types

The COMOS-specific document types apply to original COMOS formats which cannot be opened and edited in any other application.

The most important document types for working in engineering projects are:

Document type	Description
Interactive report	See also chapter Interactive reports (Page 73).
Evaluating report	See also chapter Evaluating reports (Page 83).
XML connector	Converts COMOS data to XML and vice versa. For data exchange, particularly with other software applications
Document package	For shared revisioning of documents
Reference document	A link to a document

Document types for external documents

Document types for external documents are divided into the following groups:

Group	Examples
Document types for external documents whose applications can be started from COMOS	<ul style="list-style-type: none">• Excel files, Word files, and PowerPoint files from Microsoft Office• PDF files from Adobe
Document types for external documents whose contents you can import into COMOS and access without starting the corresponding application	<ul style="list-style-type: none">• Conval documents• AutoCAD• PROII
Document types for external documents which are not linked to a specific application	<ul style="list-style-type: none">• *.txt files• *.igr files• *.xml files

More information

You can find more information on document types and document type groups in the "COMOS Platform Administration" manual, keyword "Managing reports and documents".

2.4.3 Properties and content of documents

Properties

Documents take on the general properties and attributes from their base object. You can adjust them.

The properties of the "General" tab and the change tab are specified on creation. The name and content of the change tab depend on the document type. You usually only edit these tabs when creating a document freely. See also chapter Editing document properties (Page 303).

Content

The document contents are stored in a file. Depending on where the file is located, the documents are either managed externally or in COMOS. See also chapter Storage of document files (Page 73).

See also

Opening properties (Page 128)

Opening documents (Page 129)

2.4.4 Automatic referencing of documents

Advantage of automatic referencing

The documents from the "Units" and "Locations" tabs are automatically referenced on the "Documents" tab if the database is configured accordingly.

Advantage:

- The original documents are located at the devices or in the unit, subunit, or the location to which they belong.
- The "Documents" tab gives you clear access to all engineering documents. Documents of the same type are located in the same document group. You can process them together, e.g. printing, revisioning, or exporting.

Example: The data sheets for the devices are located on the "Units" tab underneath their device. All data sheets are collected into one document group on the "Documents" tab.

Technical details

- References to the original documents are located on the "Documents" tab. They are of the "Reference document" document type. They are sorted into the document groups based on the names of the original documents and document groups.
- If there is only one document group located on the first level of the "Document group" tab under the project root, the references are always sorted into this document group. If there are several document groups on the first level, one document group must have the name "@NameSystem". The references are then sorted into the document groups under the "@NameSystem" document group. The automatic reference settings only function when a suitable document group already exists.
- If you are working with project revisions, a document group on the first level must have the name "@Project". If no suitable document group exists, it is automatically created when the reference is created.
- You can create missing references manually. See also chapter Referencing documents in document groups (Page 291).

Relationship between original documents and reference documents

- When you open a reference, you automatically see the contents of the original document.
- With the default database setting, deleting an original document also deletes its reference document. Automatic deletion can be stopped. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Delete reference documents as well".
- When you delete a reference document, only the reference is deleted.

Administration

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring automatic references in document groups".

2.4.5 Document groups

Purpose of document groups

- Document groups organize documents by aspects of content or form.
- They make projects clearer.
- You can process the documents in a document group together, e.g. printing, revisioning, or exporting.

Document groups can contain additional document groups. Many functions of the document management are recursive. This means that the function does not only cover a specific document group, but also all document groups that are created directly underneath it.

Document groups on the "Documents" tab

Document groups can be located on all levels of the object tree on the "Documents" tab. The document groups collect references to the original documents from the engineering data. See also chapter Automatic referencing of documents (Page 71).

The document group structure is usually already created when you start working in the engineering project.

Document groups on the "Units" and "Locations" tabs

Document groups are also possible on the "Units" and "Locations" tabs. In these cases, they can only appear as of the second level of the object tree.

2.4.6 Storage of document files

Principle

For external documents, the physical document files are located in the file system. The COMOS document has a link to the file. For documents managed in COMOS, they are located in the COMOS document directory.

The settings on the change tab of the document determine which type of document it is. See also chapter Change tab (Page 442).

See also

Creating documents freely via the context menu (Page 265)

Creating external documents from a File Explorer using drag&drop (Page 266)

2.4.7 Interactive reports

2.4.7.1 Fundamentals of interactive reports


Purpose

Interactive reports are electronic drawings which you use to engineer and document your unit. When you place and connect objects in the working area of an interactive report, the corresponding engineering objects are created in the Navigator and linked via their connectors.

Examples of interactive reports:

- Flow diagrams
- Isometry reports
- Circuit diagrams

General information

- Interactive reports are COMOS-specific documents. They have the following object icon:

- Interactive reports offer numerous functions to support you in your work. There are functions that are common to all interactive reports and module-specific functions.

Note

Coupling to specialized modules

To work in an interactive report, you need COMOS Platform plus a specialized module. The functions which are the same for all modules are described in this manual using the example of the P&ID module.

It describes the functions and properties which apply to all or most of the modules. Individual drawing types may deviate from these descriptions. Example: Operating the connector tool on isometry reports

You can find more information on this topic in the manuals for the modules.

- Interactive reports have a report template. It specifies the layout, contents, and functionality of the reports.
- Reports are derived from a base object. The base object can also influence the layout, contents, and functionality through its attributes.
Example: The database is configured in such a way that you control whether a PFD has a substance stream bar and which streams it displays via the attributes of the PFD.

Contents

Interactive reports have the following contents:

- Contents created by your work in the report:
 - The symbols of the engineering objects placed and connected on the working area
 - Purely graphical elements
- Contents from the report template
See also chapter Report template (Page 74).

See also

Fundamentals of placing on interactive reports (Page 75)

2.4.7.2 Report template

Every interactive report has a report template. Administrators maintain the report template in the base data. You find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of report templates".

Meaning of the report template

The report template determines:

- Size and alignment of the report
- The drawing type, e.g. RI, DETAIL, HOOKUP, ISO
The drawing type controls the following:
 - Which objects are offered in the symbol bar
 - Which symbol the placed objects have
 - Which tools are provided on the report-specific toolbar
 - Whether the report has layers, and which layers it has
- Whether the derived reports contain lists and subreports
The report template defines the layout of the lists and subreports and the rules for computing their contents. The actual content is calculated dynamically when the interactive report is opened. The same contents are possible as in evaluating reports. See also chapter Evaluating reports (Page 83).
Examples:
 - Drawing header
 - Bill of materials on an isometry report
- Via the options script: The behavior of the report and its tools
Examples:
 - Are diagonal connections allowed?
 - How are connections that cross one another displayed?

See also

Working with interactive reports (Page 307)

2.4.7.3 Fundamentals of placing on interactive reports

Placeable elements

The following elements can be placed on interactive reports:

- Engineering objects
- Attributes of the placed engineering objects
See also Placing attributes (Page 317).
- Graphical elements
There are no objects behind graphical elements, just pure texts, lines, circles, and rectangles. See also chapter Fundamentals of graphical elements (Page 79) and chapter Working with graphical elements (Page 334).
- Other interactive reports
See also Placing a report on a report (Page 318).

Principle of placing engineering objects

Engineering objects can only be placed on a report if their base objects have a symbol for the drawing type of the report.

When an engineering object has been placed in the working area, you see the symbol defined at the object for the drawing type of the report. See also chapter Symbols and symbol components (Page 80). A DocObj object is created below the object. See also chapter DocObj objects (Page 82).

An object can be placed on several reports.

Methods of placing engineering objects

When placing engineering objects, you can choose from a number of methods. These are listed in the table below, which also describes whether a new engineering object is created when an engineering object is placed:

Method	New object is created	See also chapter ...
Via the symbol bar Recommended method	✓	Placing objects via the symbol bar (Page 312)
Using drag&drop with a base object from the Navigator	✓	Placing base objects from the Navigator (Page 313)
Using drag&drop with an engineering object from the Navigator	-	Placing engineering objects from the Navigator (Page 314)
Via the context menu of a symbol	Case by case	Placing objects via the context menu of a symbol (Page 315)
By copying in a template	✓	Placing objects by inserting a template (Page 316)
By placing another interactive report	-	Placing a report on a report (Page 318)

Some modules work with interactive reports where objects are automatically placed when the report is opened. Example: Position diagrams in EI&C

Insert location of symbols

When you place an object in the working area of the report, the point of origin of the symbol is inserted at the X/Y coordinate determined by the mouse pointer. See also chapter Symbols and symbol components (Page 80).

Insert location of new engineering objects in the Navigator

If engineering objects are created on placement, they are inserted into the Navigator automatically. Where they are inserted is determined by the module and the database configuration. You can find more information on this topic in the manuals for the modules.

The table below provides an overview of where the objects can be pasted and what special conditions apply:

Insert location	Symbol color	Comment
Under the report	Blue	You later move the objects to the unit structure or location structure. See also chapter Changing owners (Page 330).
Parallel with report	Black	
The objects are sorted into the unit structure or location structure.	Black	Nothing needs to be moved.

The symbol colors can be redefined in the specialized modules.

Multiple placement

If their base objects are configured accordingly, objects can be placed on several reports. You can find more information on this topic in the manuals for the modules, keyword "Multiple placement".

2.4.7.4 Fundamentals of connections on interactive reports

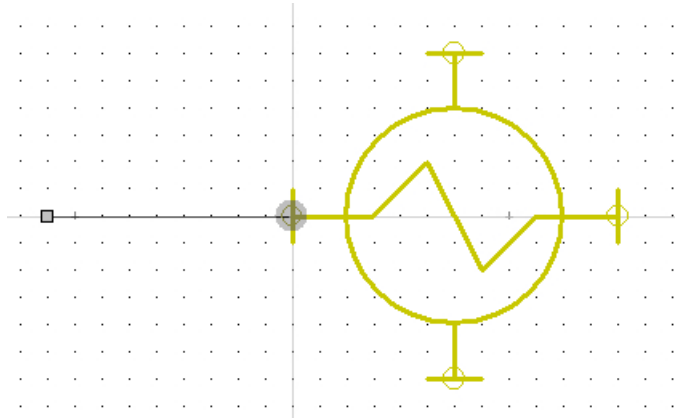
Direct and indirect connections

When you connect engineering objects to each other on interactive reports, you connect their symbols. You have the following options:

- Place the connector of one of the symbols on the connector of the other symbol. See also chapter Connecting objects directly (Page 327).
The objects are directly connected with each other via their connectors on the report and in the Navigator.
- Draw a connecting line between the symbols using the "Connection" tool. See also chapter Drawing the start point and end point of the connection (Page 321).
The following applies:
 - If the tool creates an object-based connection, the objects are indirectly connected to each other on the report and in the Navigator - via the object created with the "Connection" tool.
 - If the tool creates a connection without an object, the objects are connected to each other indirectly on the report and directly in the Navigator via their connectors.
- Place an object on a connecting line which has already been drawn. See also chapter Inserting objects on a connection (Page 325).

General information about the "Connection" tool

- When you touch a free connector of a symbol with the "Connection" tool in the report, the symbol turns yellow and the connector is highlighted. Example:



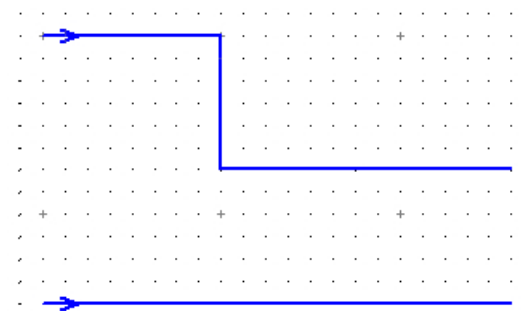
- In most interactive reports, the "Connection" tool generates object-based connections: The moment you set the end point of the connecting line, the connection object is created in the Navigator; for example, a pipe in P&ID. Some drawing types also work with connecting lines without objects. See also chapter Connections (Page 58).

Connection run

The following applies when drawing a connection:

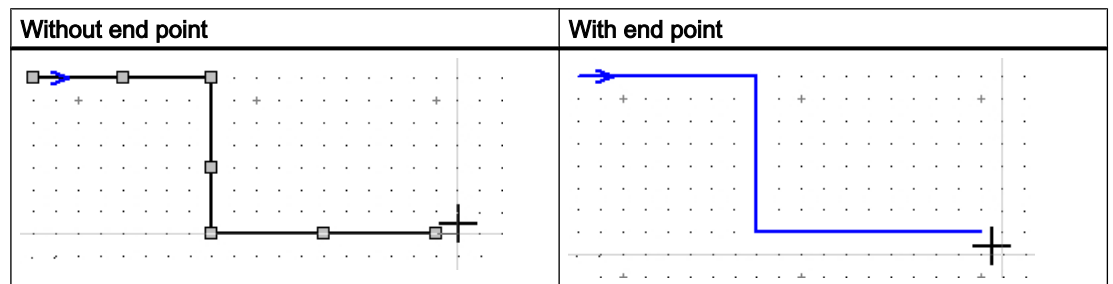
- The connection run consists of straight lines.
- By default, the connecting lines are right-angled. Some drawing types allow diagonal lines.
- Every connection has a start point and an end point. Intermediate points are optional. They mark the changed alignment in the coordinate system. If a connection has intermediate points, the connection consists of several connected lines which are treated as one line (polyline).

Example:



See also chapter Drawing the start point and end point of the connection (Page 321) and chapter Drawing intermediate points on the connection (Page 323).

- You can change the connection run later using the grab points of the connection. You have the following options:
 - Extend or shorten the lines
 - Add or remove intermediate points
 See also chapter Changing a connection run (Page 327).
- The connecting lines align themselves with the grid. See also chapter Grid (Page 80). You can switch off the grid. See also chapter Switching off the grid (Page 312).
- A connection without an end point is displayed differently to a line with an end point:
Example:



See also

- Connecting objects (Page 321)
- Connecting several objects with one line (Page 324)
- Connectors (Page 57)

2.4.7.5 Fundamentals of graphical elements

Usage

You use graphical elements in engineering projects to add drawings or notes to interactive reports. Administrators use graphical elements to add graphical features to symbols and report templates.

Principle

Graphical elements include lines, circles/arcs, rectangles, or texts that are not based on base objects. They are saved as purely graphical information in interactive reports. You can edit graphical elements subsequently, e.g. change line type and line width, move elements or assign a layer to them in the report.

See also chapter Working with graphical elements (Page 334) and chapter Assigning layers (Page 333).

2.4.7.6 Grid

Principle

Administrators usually configure the report template so that the interactive reports work with a grid.

When you place, draw or move objects and graphical elements on the report, the mouse pointer snaps to the grid points. The following points are, therefore, always located on a grid point:

- Points of origin
- Connectors of objects
- Start points and end points of connections or lines

If the report has a grid, you have the following options:

- Change grid size via the report toolbar
See also chapter Toolbar in interactive reports (Page 451).
- Switch off grid
See also chapter Switching off the grid (Page 312).

See also

Symbols and symbol components (Page 80)

2.4.7.7 Layers in interactive reports

Principle

The objects and graphical elements of a report are assigned to layers. You can use the "Layers" tool to show, hide, and lock for editing objects and graphical elements that are located on a layer. See also chapter Showing/hiding or freezing the content of a layer (Page 310).

Which layer the symbol of an engineering object is located on is defined by its base object. You can overwrite the setting locally at the engineering object. Objects to which a layer has not been explicitly assigned start on layer 0. Graphical elements always start on layer 0. You can assign a layer to these objects or elements at any time subsequently. See also chapter Assigning layers (Page 333).

2.4.7.8 Symbols and symbol components

Definition of symbol

A symbol is the graphical representation of an object placed on an interactive report. Which symbol you see on the report depends on the drawing type of the report. If an object does not have a symbol for a particular drawing type, you cannot place it on a report of this drawing type.

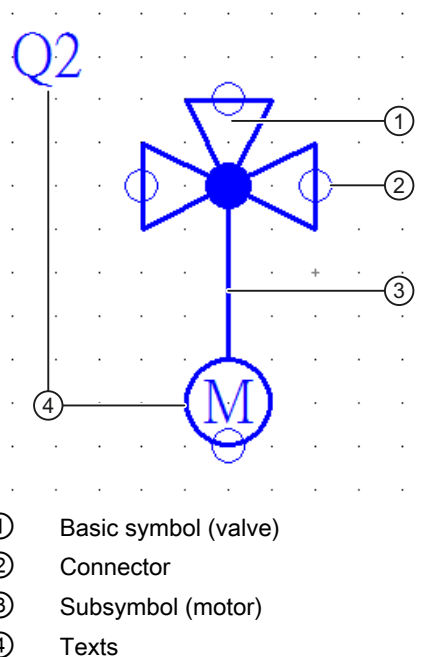
Difference between the terms object and symbol

The term 'object' is often used as a synonym for the term 'symbol'. Sometimes, however, it is important to differentiate between objects and symbols; for example, when deleting from interactive reports. See also chapter Deleting in interactive reports (Page 359).

Symbol components

Every symbol consists of a basic symbol. It can also have subsymbols and texts.

Example: A 3-way valve with a motor on a P&ID



Basic symbol (1)

A basic symbol consists of the following components:

- A point of origin
 Symbols are inserted at the point of origin at coordinates determined by the user (device placement). The point of origin is not visible on the working area.
 The point of origin only rarely happens to be in the upper left corner. It is created in such a way that the connectors are located on the grid.
- Graphical elements such as lines, circles, and similar
 The actual symbol
- Connectors (2)

The actual symbol and the connectors have graphical properties. Administrators can prevent users from redefining them locally.

Subsymbols (3)

If an engineering object has elements, your administrator can embed the element symbols in the basic symbol of the engineering object. As soon as you create the element, the symbol for the element is added to the symbol of the engineering object on the working area.

Depending on how your administrator has embedded the subsymbols, you can either only select and edit the subsymbols along with the engineering object symbol, or select and edit them individually.

Texts (4)

The texts output the properties of the engineering object itself or of other engineering objects which are related to the engineering object. Administrators insert them to the symbol using text functions.

Examples: Device labels, references to counterpart connectors, output of an attribute value

Administration

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Defining symbols in Symbol Editor".

See also

Fundamentals of placing on interactive reports (Page 75)

Connectors (Page 57)

Grid (Page 80)

2.4.7.9 DocObj objects

Principle

DocObj objects are located underneath engineering objects which have been placed on an interactive report. They have the following object icon:



The DocObj objects store placing information. If an engineering object is placed on several reports, it has several DocObj objects.

You can navigate to the report the engineering object is placed on via the context menu of the DocObj object.

See also

Copying documents and reports (Page 107)

Fundamentals of placing on interactive reports (Page 75)

2.4.8 Evaluating reports

Purpose

Evaluating reports are used for plant documentation, order preparation, and for corresponding configuration of data processing.

Typical evaluating reports are data sheets, terminal diagrams or bills of materials.

Application example

You have planned the coolant supply system for a factory in an interactive report. The interactive report contains storage tanks, valves, and pipes, for example. The evaluating report generates a bill of materials for you from the engineering data available. You order the required materials based on the bill of materials.

General information

Evaluating reports are COMOS-specific documents. You can recognize them in object trees by this icon:



They evaluate the existing database and present the result dynamically in the form of lists, text fields, options, and charts. If the database changes, the content of the report also changes. Elements that cannot change (graphics, pictures or static text, for example) can be part of an evaluating report, too.

Evaluating reports can be configured so that you can edit the data displayed. Changes are written to the corresponding object once the report has been saved. Data inconsistencies between linked attributes are also displayed in the editable fields. See also chapter Editing editable data (Page 367).

Every evaluating report is based on a report template. The report template determines the following properties of an evaluating report:

- Size and alignment of the report
- What data is evaluated and displayed
- How the data is displayed
- If and how data can be edited
- Whether and, if so, which unchangeable elements belong to the report

See also

Structure of evaluating reports (Page 448)

Sketch reports (Page 84)

Working with evaluating reports (Page 367)

Printing reports (Page 370)

Updating reports (Page 369)

Exporting and importing reports (Page 371)

2.4.9 Sketch reports

Purpose

A sketch report is a combination of an interactive and an evaluating report. It provides a means of combining technical data such as lists or subreports with a sketch created by the user on a single sheet.

The sketch report supports limited drawing functions but otherwise behaves like an evaluating report.

Editing options

You have the following options when working in sketch reports:

- You can insert simple drawings; for example, to highlight contents. The following graphical tools are available:
 - Line
 - Circle
 - Text
 - Dimension
 - Hatching
- You can insert notes.
- If the report is configured accordingly, you can edit the contents of the evaluating report.

See also

Evaluating reports (Page 83)

Inserting drawings (Page 369)

Inserting notes (Page 368)

2.4.10 Revisions

2.4.10.1 General information about revisioning

Aim of revisioning

You can use revisions to check and save the editing statuses of documents. The result is a revision file which permanently documents the working state of a document. You can print it out, archive it, and compare it to other revision statuses.

Documents which can be revisioned

If the database is configured accordingly, you can revision all printable documents. Documents which have a link to a file in the file system are an exception to this.

Only make revisions of imported PDF files if they were not created with the Microsoft Office PDF converter.

Functional scope

Revisioning offers the following possibilities:

- Revisioning of single documents (single revision) or document groups (group revision)
See also chapter Single revisions and group revisions (Page 89).
- Bulk revisioning of single documents
See also chapter Single revisions and group revisions (Page 89).
- Verification of revision files with a security certificate to protect against subsequent manipulations (eSign)
See also chapter Security certificate (eSign) (Page 93).
- Visualization of the revision information in the revision file
See also chapter Visualization of the revision information in the revision file (Page 95)
- Search for revision information in queries and the full-text search
See also chapter Search modes for the full-text search (Page 101).
- Redlining functionality in PDF revision files
See also chapter Redlining (Page 92).
- Automatic monitoring of the revision statuses and the working states of the documents
See also chapter Revision monitoring (Page 93).
- Cross-working layer and working layer-specific revisioning
See also chapter Unit revisions and project revisions (Page 90).
- Visualization of differences between the working state of a report and its last two revisions in the opened report
See also chapter Displaying revisioned reports (Page 96).
- Printing and exporting revision files and Redlining files
See also chapter Overview of printing and exporting revision files (Page 288).

File type of the revision files

Possible file types:

- PDF
- TIFF

Data synchronization between user interfaces

COMOS usually synchronizes the data in the visible user interfaces automatically. If you change and save an object description in a query, for example, this change is visible immediately in the open properties of the object.

For technical reasons, this data synchronization only functions partially when working with revision information. To ensure that you are seeing the up-to-date content, close and then reopen the properties of the documents and document groups.

Administration of revisions

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring revisions".

See also

Definition: Completed, open, and * revisions (Page 88)

Technical information about the revision process (Page 86)

Revision process (Page 273)

Revision (Page 273)

2.4.10.2 Technical information about the revision process

See also chapter Definition: Completed, open, and * revisions (Page 88).

General rules

- Revisions are created either by users or automatically through revision monitoring.
- When a revision is created, a * revision is created.
- How many and what revision steps belong to the revision process depends on the database and can be adapted to customer-specific requirements. The following revision steps are prepared in the database:
 - "Created by"
 - "Inspected by"
 - "Released by"
- The revision step stores information regarding which user carried out the step and when.

- A revision file is created during the revision process.
The revision file stores the revision status in an unchangeable data format. This archives the revision status so that it can be accessed for subsequent inspections. Information about the revision steps is visualized in the revision file. See also chapter Visualization of the revision information in the revision file (Page 95).
- Because the revision is carried out on the basis of the revision file, you can continue to work in the document as soon as a revision file has been created.

Creating the revision file

- As long as there is no revision file, the revision is a * revision.
- The revision printer specifies at what point the revision file is created:

Revision printer	Time
TIFF	After the release
PDF	Depending on the project configuration, the following options exist: <ul style="list-style-type: none"> • After the first revision step (Normal case) • After the release

The revision printer is specified in the project properties.

Revision index

- When the revision file is created, a revision index is created.
- Revisions which belong to the same group revision have the same index.
- Separate pools of numbers are used for the unit revisions and project revisions of a document. See also chapter Unit revisions and project revisions (Page 90).

Deleting revisions

- Revisions are not generally deleted; instead, new ones are created.
- If a document is changed while revision monitoring is switched on, a new * revision is created automatically. For * revisions with steps, the steps are reset.
- Completed revisions cannot be deleted.
- Open revisions with a revision file: Only the last opened revision can be deleted.
- * revisions can be deleted.
- When you delete an open group revision, you decide whether the open revisions of the documents are also deleted.

See also

- Security certificate (eSign) (Page 93)
- General information about revisioning (Page 85)
- Revision process (Page 273)

2.4.10.3 Definition: Completed, open, and * revisions

Completed revisions

- A completed revision is a revision which has passed through all revision steps.
- It has a revision file and a revision index.

Open revision

- An open revision has not yet passed through all revision steps.
- Whether or not it has a revision file and a revision index depends on the revision settings of the project: "Create PDF file at first step" option

Activated	Deactivated
Index and revision file are available.	Index and revision file are not available. The open revision is a * revision.

- A document can have several open revisions with an index and a revision file at the same time.

*** revision**

- A * revision is the pre-stage of a revision. It has no revision file and no index.
- When a new revision is created, a * revision is created.
- Whether * revisions have revision steps and how long * revisions exist depends on the revision settings of the project:

"Create PDF file at first step" option	Revision steps	Life span of the * revision
Activated	-	Between creation of the revision and execution of the first revision step
Deactivated	✓	Between creation of the revision and the execution of the last revision step

- A document cannot have multiple * revisions at the same time.
- Automatically created * revisions indicate that there is a difference between the current state of the document and the state for which the most recently completed or open revision applies.

See also

General information about revisioning (Page 85)

Technical information about the revision process (Page 86)

2.4.10.4 Single revisions and group revisions**Group revisions**

In a group revision, you make revisions to the documents in a document group together.

Group revisions are only possible on the "Documents" tab for document groups from the "@NameSystem" or "@Project" branches. These branches contain reference documents which refer to documents in the unit view and location view.

The following applies for group revisions:

- Which documents are part of the group revision depends on the document group settings: Document group property > "System data" tab > "Revision" control group > "Revision all documents" option:

Option activated	Documents without * revision	Documents with * revision
Yes	The documents are part of the group revision.	The documents are part of the group revision.
No	The documents are not part of the group revision.	

- When you start a group revision, a group revision is created at the document group. A separate revision is created simultaneously for each document which is part of the group revision. These revisions are visible on the "Revision" tab of the documents but can only be controlled via the document group. If a document already has a * revision, this is used.
- All revisions which belong to the group revision have the same index. The index is selected in such a way that it is unique across all documents of the document group.
- As long as the group revision is a * revision, you cannot start any new single revisions on participants in the group revision. You can continue single revisions that are already open.
- When you delete an open group revision, you decide whether the open revisions of the documents are also deleted.

See also chapter Performing group revisions (Page 279).

Single revisions

- In a single revision, you make revisions to a document independent of other documents.
- You make revisions via the properties of the original document.
- The index of a single revision is selected in such a way that it is unique within the document.

See also chapter Carrying out single revisions (Page 276).

Bulk revisions

You can carry out single revisions in bulk with the "Revision" document tool. See also chapter Carrying out single revisions in bulk (Page 277).

See also

General information about revisioning (Page 85)

2.4.10.5 Unit revisions and project revisions

Basic principle

There are two types of revision:

Type of revision	Mode of operation	Purpose
Unit revision	Across working layers	<ul style="list-style-type: none">Without project revisions: For documenting all the intermediate states that a document has in a working layer. The intermediate states are available in the subordinate layers and, after the working layer release, in the superordinate layers.Combined with project revisions: For documenting the most up-to-date intermediate state that a document has in a working layer The most up-to-date intermediate state is available in the subordinate layers and, after the working layer release, in the superordinate layers.
Project revision	Working layer-specific	For documenting all the intermediate processing states that a document has in a working layer The intermediate states are only available in the layer in question.

By default, projects in the database only have unit revisions. If projects are configured in such a way that they use project revisions, they always have unit revisions as well. These unit revisions function differently to the unit revisions in projects without project revisions.

In both cases, the basic rules described in section Technical information about the revision process (Page 86) apply for unit revisions and project revisions. In addition, the specific rules described below apply.

Project revisions

- Project revisions are layer-specific. They are only available in the working layer in which they were created. They are not released to the superordinate layer when the working layer release takes place.
- They document the intermediate processing statuses of the document in the working layer.

- Index:
 - Their pool of index numbers functions separately from that of the unit revision.
 - Each document uses a separate pool of numbers per working layer for its project revisions. The newest revision has the highest index number.
- When you finish a project revision, COMOS automatically creates a unit revision. See below.

Unit revisions

The following applies to all unit revisions:

- They are available in the working layer in which they were created, and shine through in the subordinate layers.
- They are released to the superordinate layer when the working layer release takes place.
- A document uses the same pool of numbers for its unit revisions across all working layers. The newest revision has the highest index number.
- If revisions are made to a document in several layers, inconsistencies can occur due to the working layer release. Therefore, COMOS prevents you from creating new unit revisions or creating a revision file for existing * revisions in the following cases:

Initial situation	Consequence	Canceling the revision lock
A document has been revised in a subordinate layer.	You cannot revision the document in the superordinate layer.	Release the subordinate layer.
Working layer "A" has parallel working layers. A document has been revised in working layer "A".	You cannot revision the document in the parallel layers.	Release layer "A" to the superordinate layer.

See also chapter Revision process (Page 273)

- At the end of the release process, the unit revision released to the released area represents the actual state of the unit.

In addition, the following applies to unit revisions from projects which work with both unit revisions and project revisions:

- There is only one unit revision for each working layer.
- They are not created manually. When a project revision is released, a completed unit revision is created automatically. It represents the same state as the project revision. The following applies:
 - As long as no project revision has yet been completed in the working layer, the unit revision shines through from the superordinate layer.
 - As soon as a project revision is completed, the unit revision stops shining through from the superordinate layer. You can now only see the unit revision created by the project revision.
 - If another project revision is completed, the previous one is replaced with the new unit revision.
 - If the document has already been revisioned in a parallel or superordinate layer, the unit revision is created as a * revision. It is locked.

Note

Forcing revision

Depending on the project configuration, an open unit revision can prevent the release of a working layer.

You can search for open revisions in the release manager and force their release. See also chapter Performing release checks (Page 188). The unit revision with the same index number from the other layer is deleted.

- When a working layer is released, the unit revision is released to the superordinate layer.

See also

General information about revisioning (Page 85)

2.4.10.6 Redlining

Aim

The Redlining function supports you when inspecting, marking and editing documents during the revision process. Redlining is also described as evaluating and commenting.

Availability

Redlining is only available for PDF revision files.

Principle

If you display the PDF revision files with Redlining, you can insert markings and comments. They are stored in a separate Redlining file. The revision file is not changed. The markings and comments are shown in the working area of the open report. See also chapter Displaying revisioned reports (Page 96).

See also

- General information about revisioning (Page 85)
- Working in Redlining files (Page 287)
- Viewing revision files and Redlining files (Page 286)

2.4.10.7 Security certificate (eSign)

Availability

eSign is only available for PDF revision files which were created in the first revision step.

Principle

If the project works with eSign, the execution of the revision steps is linked to a security certificate.

Consequence:

- Only users with a valid PFX security certificate can execute a revision step. The signature is protected by a personal password.
- The file hash of the revision file is monitored. This allows you to determine whether the revision file has been manipulated subsequently.

Visualization of the signature

See also chapter Visualization of the revision information in the revision file (Page 95).

Administration of eSign

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of eSign" and "Administration of eStamp".

See also

- General information about revisioning (Page 85)
- Signing revisions electronically (Page 283)
- Checking the signature (Page 284)

2.4.10.8 Revision monitoring

Availability

Revision monitoring is only available for reports.

Principle

Revision monitoring identifies differences between the working state of a report and the state of its current revision. If the report has a revision with a revision file, the revision monitoring creates a * revision. If the report has a * revision, its steps are reset.

If the revision file is created in the first step, the revision monitoring compares the current data stock with the revision status at the first step. If the revision file is created in the last step and the project properties are configured accordingly, the revision monitoring ensures that the data stock has not changed between the first and last steps.

COMOS uses one of the following comparison methods:

Method	Description
Timestamp-based	Changes to the following timestamps are monitored: <ul style="list-style-type: none"> • Timestamp of the document to be revised • Timestamp of the objects evaluated by or placed on the document • Timestamp of the first revision step or the last revision step Graphical elements are not monitored.
Content-based	Changes to the texts which were defined by the report template are monitored. The timestamp-based method applies to the rest of the contents.

Administrators configure revision monitoring in the project properties. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Revision options: Editing the options for the revision archive".

Examples

When revision monitoring is switched on and a PDF is created in the first step, the following user actions create * revisions. If the revision file is created in the last step, they ensure that the current * revision is reset to before the first step:

Action	Content-based method	Timestamp-based method
You change an object evaluated by a report or placed on it. The report is then evaluated; for example, because you open it or print it.	✓	✓
You open a report and place a new symbol or move a placed symbol.	✓	✓
You open a report, change nothing, and save it.	-	✓

Opening evaluating reports for the first time

When you open evaluating reports for the first time, they automatically get a * revision if revision monitoring is switched on, even if the report is empty.

See also

General information about revisioning (Page 85)

2.4.10.9 Visualization of the revision information in the revision file

Without eSign

In projects which work without eSign, the revision information is only visualized in the document if the following conditions are fulfilled:

- The revision file is only created on release.
- The document is configured accordingly.
Example: The report template specifies that the report header contains revision information.

With eSign

In projects which work with eSign, the revision information is always visualized in the revision file.

When the revision file is displayed and printed, COMOS automatically creates and opens a temporary copy of the revision file. The revision information is stamped into this copy (eStamp). The revision file is not changed.

Where and in what form the revision information is displayed depends on whether the administrator has prepared eSign placeholders in the document:

eSign placeholder	Result
Yes	The information is stamped where the administrator has inserted the placeholders. Which information is stamped depends on which placeholders the administrator has inserted.
No	The signatures are placed on the first page of the document one below the other: <ul style="list-style-type: none"> • Left margin • Rotated 30° • Font Bookman Oldstyle • 8 Pt • Italic • Right-aligned • 3-line in the form: Reason, name, place, and date

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of eSign" and "Administration of eStamp".

See also

Security certificate (eSign) (Page 93)

2.4.10.10 Displaying revisioned reports

When you open a report which has at least one revision, the display includes the following special features:

Revision rectangles

When the database is configured accordingly, changes after the last revision status are highlighted in the working area of revisioned reports:

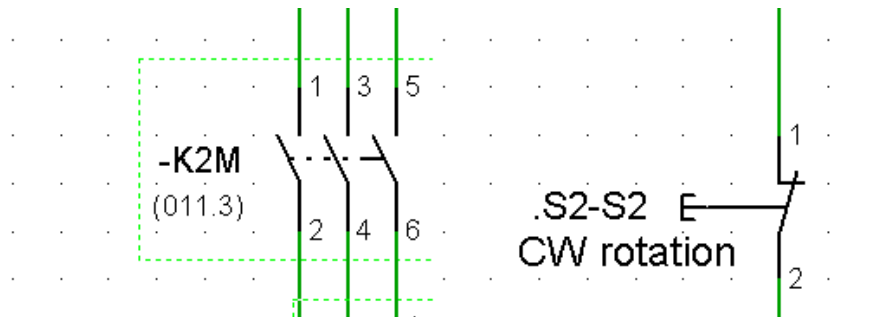
- Changes to texts, e.g. in lists, are formatted in italics.
- Changes to symbols, symbol texts, and properties of the objects placed on the report are highlighted with revision rectangles.

Note

Changes to graphical elements are not shown.

Color code of the revision rectangles:

- Gray: Changed since the last revision with a revision file
Whether the revision rectangles are printed in the revision file when the new revision file is created depends on the report configuration.
- Green: Changed since * revision
When the revision file of the * revision is created, these revision rectangles do not appear in the revision file.
Example:



Note

Printing revision rectangles

If the report is configured accordingly, the revision rectangles are also printed out on paper. If you are printing with a TIFF printer, they are always printed in black and white.

You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "AutoMarkAsChanged" and "PrintRevisionRectangles".

Redlining markings

When you open a report which has completed revisions with Redlining files, you see the markings of the last completed revision in the working area.

See also

General information about revisioning (Page 85)

Redlining (Page 92)

2.4.11 CDI documents

Purpose

Data sheets, bills of materials, and similar can be produced using CDI documents. They perform a similar function to evaluating reports.

CDI documents are COMOS documents of the "Excel" and "Word" document types which have been configured by administrators in the "COMOS Document Interface" (CDI) plugin. Which objects and object data a CDI document evaluates and displays depends on the configuration. You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "COMOS Document Interface".

Advantages of CDI documents

- The layout is easy to insert into the corporate design of a company.
- You have more formatting options than in evaluating reports.
- You work with Microsoft Office applications and only need basic knowledge of COMOS to edit the COMOS data.
- It is easier to edit COMOS data externally because the documents can also be opened outside of COMOS.
- You can archive the documents outside of COMOS.

See also

Using CDI documents (Page 302)

2.4.12 Document search

Search options

Select one of the following tools to search for and in documents:

- Navigator search
See also chapter Using Navigator search (Page 393).
- Queries for documents
See also chapter Working with queries and bulk processing (Page 373).
- "Full-text search" plugin
See also chapter Full-text search (Page 99).

2.4.13 PDF document view

Purpose

With the "Multiple Document Preview" plugin, you can view one or more external PDF documents on the working area of the report. You can change and print the placed PDF document in the view, but not edit it.

Alternatively, administrators can open the working area of the report and place predefined PDF documents by means of a script block. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Compare PDF revisions".

Editing options

The selection of commands is limited in the toolbar, in the standard toolbar and in the context menu.

The following editing options are available:

- Print
- Zoom
- Move sheet
- Complete view
- Bird view
- Change the picture box parameters
- Delete individual or several PDF documents

See also

Menu "Extra > ..." (Page 405)

Using the PDF document view (Page 304)

2.4.14 Full-text search

2.4.14.1 Aim of the full-text search

Purpose

You can search the contents and metadata of the following documents using the "Full-text search" plugin:

- External documents and their revisions
- PQM documents and their revisions
- Metadata of reports and the contents and metadata of their revisions

Search examples

- Search for all revisions of a specified revision step
- Search for all revisions that you have checked
- Search for documents and PDF revisions which contain the same string

Alternative tools

If you are primarily searching for the metadata of documents or document properties, specially configured queries or the Navigator search might be faster than the full-text search. See also chapters Using Navigator search (Page 393) and Working with queries and bulk processing (Page 373).

See also

Basic principle of the full-text search (Page 99)

Search modes for the full-text search (Page 101)

Using the full-text search (Page 292)

2.4.14.2 Basic principle of the full-text search

Principle

The full-text search offers the following search modes:

- Content-based search
- Attributed search, e.g. revision search

See also chapter Search modes for the full-text search (Page 101).

The following applies for both search modes:

- The search always takes place in the current project.
- You can search with placeholders, operators, and regular expressions. See also chapter Operators, placeholders, and regular expressions in the full-text search (Page 297).
- You can set the search options precisely:
 - Search scope
Search only documents, only revisions, or documents and revisions
 - Search precision
 - Search logic
Search for at least one of or all of the strings entered or select Boolean search
 - Exclude or include files, file formats, and file paths in the search
- The search is carried out on the basis of a full-text index. It is generated by the administrator and then updated automatically. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Preparing full-text search for documents".
- The full-text search is not a Navigator search and does not find COMOS properties.



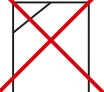



Behavior of the full-text search in working layers

The full-text search works across working layers. It searches all documents and revisions which are visible in the layer in which you are searching. It searches the content or metadata which is visible in the layer in which you are searching.

The following details apply:

- The current layer, all superordinate layers, and the released area are searched.
- The search also finds documents which are not checked into the current layer.

- If a document is checked into several layers, the hits will only show the document which corresponds to the status of the current layer or the next superordinate layer the document is checked into.

Example	Result
 Document created Released area <hr/>  Document content changed Superordinate working layer <hr/>  Document deleted Current working layer	<p>The document is not displayed as a hit because it has been deleted in the current layer.</p>
 Document created Released area <hr/>  Document content changed Superordinate working layer <hr/>  Document content changed Current working layer	<p>Only the document from the current layer is displayed as a hit.</p>

- It is not necessary that all layers between the current layer and the released area have an index. If indices are missing, the search result no longer corresponds to the documents visible in the Navigator. Documents with contents or metadata visible in the current layer can be missing. If a document does not exist from the point of view of the current layer, it is generally not shown - even if the index of the layer in which the document was originally deleted is missing.

See also

Aim of the full-text search (Page 99)

Using the full-text search (Page 292)

2.4.14.3 Search modes for the full-text search

The full-text search offers the following search modes:

- Content-based search
- Attributed search, e.g. revision search

Content-based search

You use the content-based search to search the content of documents and revisions for a string. See also chapter Using a content-based search (Page 292).

Attributed search

An attributed search searches the metadata of documents and revisions. The metadata which is available for searching depends on the database and can be adapted to customer-specific requirements.

You usually use an attributed search in the context of project quality management (PQM) to search for DVM documents. This is where you can search for the metadata you entered when checking the documents in. For more information on this subject, refer to the "PQM" manual, keyword "Attributed search".

The revision search is included in the scope of delivery for the database. The revision search is an example of a preconfigured special form of the attributed search.

Revision search

The revision search is a special form of the attributed search. You can search for revisions under a unit or a location using the revision search.

You can choose between the following search criteria:

- Executed revision steps
- User responsible
- Name, label, and index of the revision

You can also search the content of PDF revisions.

See also chapter Using revision search (Page 294).

See also

Aim of the full-text search (Page 99)

Storing document metadata outside COMOS (Page 301)

2.4.15 Print jobs

Principle

- Print jobs accelerate printing, reduce the amount of resources needed, and simplify administration.
- A large number of documents are often printed at once. COMOS aims to combine single printing tasks for reports into print jobs where possible. It is possible to print reports with different formats such as A4, A3, landscape, portrait, etc. within one and the same print job.

- External documents are each handled in a separate print job.
- Revision printers work without print jobs.

Naming

Print jobs have a name. The following applies to naming:

- If a single COMOS document is printed, the print job gets the "FullLabel" of the selected document as a name.
- If several documents are printed, the job gets the name "Comos prn_<consecutive number>".
Multiple subsequent reports are combined into one print job.
- When you print an external COMOS document, such as a Word document, the print job gets the name set by the respective application. Example: In Word and Excel it is the file name of the respective document.

Example 1: Printing four reports

If printing to a paper printer, you will see one printing task in the print queue. If printing in a file, one file is created which contains all four reports.

Example 2: Printing eight reports and three Office documents

Print order:

- **COMOS sorting:**
For the following COMOS sorting, the following print jobs are created:

COMOS sorting	Print jobs
Report 1	1 print job for reports 1 to 3
Report 2	
Report 3	
Office document 1	1 print job for Office document 1
Report 4	1 print job for reports 4 to 5
Report 5	
Office document 2	1 print job each for Office documents 2 to 3
Office document 3	
Report 6	
Report 7	1 print job for reports 6 to 8
Report 8	

Six files are created when printing to file.

- **Selection by user:**
If you select the reports to print first, followed by the Office documents, the following print jobs are created:

Order of documents as determined by selection	Print jobs
Report 1 to 8	1 print job for reports 1 to 8
Office document 1 to 3	1 print job each for Office documents 1 to 3

If printing in a file, four files are created.

See also

Printing documents (Page 268)

Printing reports (Page 370)

2.5 Copy fundamentals

2.5.1 Copy methods

You can copy either texts or objects.

Copying texts

See chapter Copying, cutting, and pasting texts (Page 134).

Copying objects

You can choose between the following copy methods:

1. Create a copy from the properties of an engineering object
See also chapter Creating a copy of an engineering object from the properties (Page 213).
2. In interactive reports
See also chapter Copying and cutting in interactive reports (Page 356).
3. Simple copying
You usually use simple copying in the Navigator. However, it is also available in other user interfaces in which the objects have the "Copy" and "Paste" context menu commands (in other object trees or queries, for example).
See also chapters Simple copying in the Navigator without switching projects (Page 214) and Simple copying in the Navigator and switching projects (Page 215).
4. Using the "Copy structure" tool
See also chapter Copying a structure (Page 109).
5. Using the "Cross-class copy" plugin
See also chapter Cross-class copy (Page 110).
6. Using the "Cross-project copy" tool
See also chapter Cross-project copying (Page 110).
7. Using the "Object matcher" tool
See also chapter Copying with the object matcher (Page 111).

Note

Differences between copy methods

With copy methods 1 to 3, you cannot control the copy process. With copy methods 4 to 7, you can control the copy process.

The copy methods also differ in the way that they deal with references to other objects during copy processes. See also chapter Fundamentals of copying objects (Page 105).

2.5.2 Fundamentals of copying objects

This section provides an overview of the fundamentals of copying engineering objects:

- Amount to be copied
- Handling references
- Projection

You can find information about copying base data in the "COMOS Platform Administration" manual, keyword "Copy objects".

Amount to be copied

The amount to be copied is generated as follows:

- From all objects that were selected in a user interface when the "Copy" command was called
- Recursive: From all subordinate objects

The copy method determines which object data is included in the amount to be copied. The following data is always included in the amount to be copied:

- The object itself
 - The checked-in properties of the engineering object or document
- See also chapter Fundamentals of the properties of engineering objects (Page 49).

Note

Handling inherited properties

When you copy an engineering object, the inherited properties are not copied. The copy reads the data from the base object.

If you are working with local base objects, or the projects use different base projects and you copy across projects, there is a possibility that in the target project the base object does not exist, or there is one with the same name but different content. If this happens, data may be lost or altered when copied.

The copy method determines whether references to other objects are copied or whether the referenced object is copied as well.

Handling references

If an object has a reference to an object that is included in the amount to be copied, the reference points to the copy once the copy process is complete.

If the referenced object is not included in the amount to be copied, the following scenarios are possible:

- The reference is not copied. The corresponding field is empty after the copy process is complete.
- The copy process is aborted.
- The referenced object is also copied (i.e. traced). The reference points to this copy.

Note

Incomplete copy

To prevent the amount to be copied from getting too big, traced objects are not usually copied in full.

- The reference is replaced by projection, i.e. it is transferred at the insert location to another object. This is often the case for cross-project copying.

Alias references are not copied. See also chapter Setting general references (Page 225).

In the following copy methods, no objects are traced or references projected:

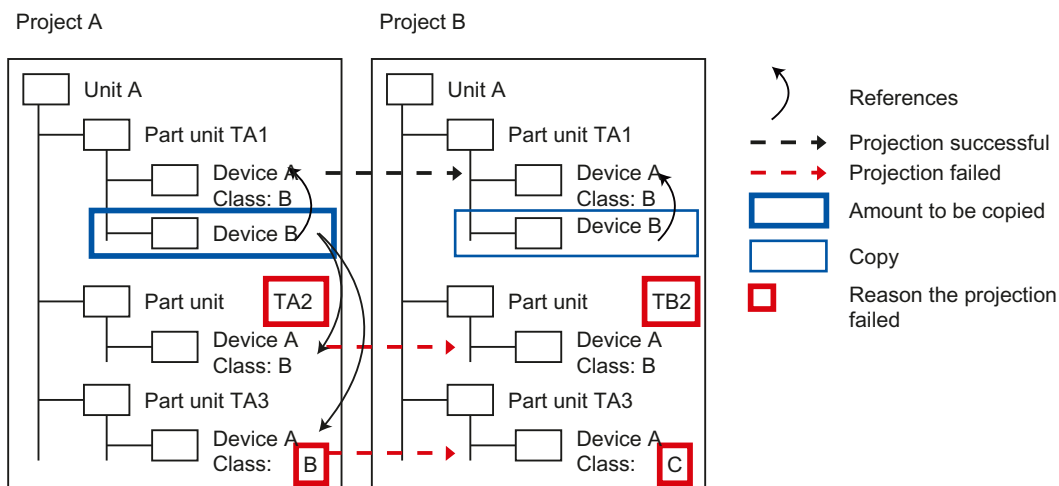
- Simple copying
- Copying in interactive reports
- Copying via the properties

Projection

In the case of projection, the reference to an object is replaced by a reference to another comparable object.

An object can be projected if it has the same SystemFullName and the same system type as the object referenced originally. In the case of engineering objects, the "Class" property must also be identical.

Example:



More information

You can find more information on this topic, particularly on handling base objects when copying, in the "COMOS Platform Administration" manual, keyword "Copying objects".

See also

Copy methods (Page 104)

2.5.3 Copying documents and reports

Copying revisions

Revisions are not copied.

Cross-project copying of documents that evaluate objects

Following copying, the content of documents is calculated based on the new object structure. In other words, the content of the copied document might not be the same as that of the original.

Examples of such documents:

- Evaluating reports
- Excel lists and Word files that evaluate objects

Copying interactive reports

The copy mode of the original DocObj objects determines whether the same engineering objects are placed on the copy of the interactive report as were placed on the original.

Note

Technical background

In the Navigator, the DocObj objects of the engineering objects placed on the interactive report are located under the engineering objects but belong to the report.

See also chapter DocObj objects (Page 82).

Copy modes of DocObj objects

The following copy modes are available for DocObj objects:

- Mode 1: DocObj objects are not copied. The first time the copied report is opened, the "Define paste mode for COMOS objects" window opens. In this window, you decide whether the engineering objects placed on the original report are used or if copies are created and, if so, where they are created.
See also chapter "Define insert mode for objects" window (Page 486).
- Mode 2: DocObj objects are copied. Which engineering object the DocObj object points to depends on whether the engineering object placed on the original report was included in the amount to be copied.
 - Yes: The DocObj points to the copy of the engineering object. Where the copies are pasted depends on the drawing type.
 - No: The DocObj points to the same engineering object as in the original report. The engineering object is then placed twice.
- Mode 3: The DocObj objects and the engineering objects placed in the original report are copied. The copies of the engineering objects are created in parallel with their originals. The DocObj objects point to the copies.
- Mode 4: If the referenced object is not included in the amount to be copied, the DocObj object remains empty. The object referenced originally is not placed. Its symbol is marked as inconsistent on the report.

See also

Copy methods (Page 104)

Fundamentals of copying objects (Page 105)

2.5.4 Copying a structure

Usage

The "Copy structure" tool is used to copy objects including all references and substructures within a database. You can also make copies within a project and across projects. Compared to other copy methods, you have the maximum possible control over the copy process.

Principle

- You can decide whether the object is traced or projected on an object-by-object basis. If you decide to project the object during cross-project copying, but projection is not possible in the target project, the reference is lost.
- You can exclude individual objects from the amount to be copied.
- Objects and documents located in different tabs in the Navigator can also be copied by tracing objects.

Differentiation from the "Cross-project copy" tool

- "Copy structure" gives you more control.
- "Cross-project copy" is more powerful.
- Unlike the "Copy structure" tool, the "Cross-project copy" tool enables you to copy objects that are located on different tabs in the Navigator and which are not traced objects.

More information

You can find more information on the topic of copying structures in the "COMOS Platform Administration" manual, keyword "Copy structure".

2.5.5 Cross-project copying

Usage

You can use the "Cross-project copy" tool to copy objects including all references and substructures within a database from one project to another. This allows you transfer complex object structures.

Administrators also have the option of copying base objects, standard tables, and unit systems.

Principle

- You can copy objects and documents that are located on different tabs in the Navigator.
- References between objects that are located on different tabs in the Navigator are lost. This also applies if both objects are included in the amount to be copied.
- When you select the corresponding setting, the cross-project copy process traces objects and projects references.
Either the entire amount to be copied is projected, or none of it.

More information

You can find more information on the topic of cross-project copying in the "COMOS Platform Administration" manual, keyword "Cross-project copying".

2.5.6 Cross-class copy

Usage

You can use the "Cross-class copy" plugin to copy objects which are located on different tabs in the Navigator and paste the copies under the same owner. The relationships that exist between the objects from the various tabs within the amount to be copied are retained.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Cross-class copy".

2.5.7 Copying with the object matcher

Usage

In the object matcher, you compare a source node of the object tree to a target node. The nodes can be located in the same project or in different ones. Differences between the nodes are resolved in favor of the target node. This allows objects to be copied.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Comparing and matching objects".

See also

Copy methods (Page 104)

2.6 Fundamentals of bulk data operations

2.6.1 Queries

Principle

Queries search for objects of a specific system type. The search result is displayed in an Object Browser. You can edit the data directly in the Object Browser.

The configuration of the query determines:

- Which objects are being searched for
- What data is displayed in the Object Browser
- What data you can edit in the Object Browser
- The run mode in which the query is started

The database has predefined standard queries. Experienced users and administrators derive their own queries from standard queries, configure them according to their requirements, and save them in the Navigator.

The standard query interface differs depending on which system type the query is searching for.

Search technique

Queries load objects from the database. They then search the objects.

For large amounts of data, searching directly on the database level is faster. To do this, select the "Database search" search technique in queries and search via classifications. See also chapter Classification of engineering objects and documents (Page 66).

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a query for a database-based search for objects".

Classic and alternative query display

The following types of display exist for queries:

- "Open (classic)"
The classic display opens a standard query. The "Simple" and "Extended" run modes are possible here. See below for more details.
- "Open (alternative)"
The alternative display is geared toward users. Here, any configuration options are dispensed with for performance reasons.

Extended and simple run mode

Its run mode determines which actions users are able to execute in the query.

The following run modes are available:

- Extended run mode is geared toward administrators and experienced users and supports all the configuration options.
- Simple run mode is designed for users. The configuration options are limited. The user can only change the start object.

Standard queries

The database contains standard queries for the following system types:

- "Query for engineering objects"
- "Queries for documents"
- "Queries for connectors"

See also chapter Working with queries and bulk processing (Page 373).

The following standard queries are also available for the administrator:

- "Queries for base objects"
- "Queries for attributes"
- Further queries:
 - "Tools"
 - "DVM queries"

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring queries".

See also

Menu "Extra > Query" (Page 402)
Context menu for queries in simple run mode (Page 432)
Query tab (Page 464)

2.6.2 Bulk processing

Purpose

The "Bulk processing" tool can be used to process data for a large number of objects simultaneously. For example, "Bulk processing for engineering objects" allows you to set the general data and attribute values of multiple engineering objects at the same time.

Bulk processing is an extended query. With bulk processing, you always process objects with the same system type.

Prepared bulk processing

The database contains bulk processing for the following system types:

- "Bulk processing for engineering objects"
- "Bulk processing for documents"

See also chapter Working with queries and bulk processing (Page 373).

Bulk processing is also available to the administrator for the following system types:

- "Bulk processing for base objects"
- "Bulk processing for attributes"
- "Bulk processing for connectors"

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Bulk processing".

See also

"Extra > Bulk processing" menu (Page 401)
Bulk processing tab (Page 466)

2.7 Language concept in COMOS

Multilingual capability

The COMOS language concept enables multinational participants to work together on joint projects in their respective languages.

2.7 Language concept in COMOS

COMOS is supplied in the following languages:

- German
- English (US)
- French
- Chinese (Simplified)

User interface language and project language

In COMOS, the user interface language and the project language are managed and set separately. The user interface language and project language can be combined at will.

The selected language settings are saved for each workstation.

User interface language

The user interface language controls the language in which the user interfaces generated by the software are displayed, e.g.:

- Menu bar
- Status bar
- Tabs
- Windows
- Notes or warnings
- Tooltips
- Help that is called up via the "Help" menu

The user interface is only available in the languages supplied with COMOS. The available entries cannot be changed.

See also chapter Switching the user interface language (Page 167).

Project language

The project language controls the language in which the translatable content saved in the database for a project is displayed.

Translatable content:

- Description texts of objects
- "Text" type attribute values (Value, XValue)
- List fields and memo fields
- Help texts and tooltip texts of attributes
- Fixed texts in reports
- Column headers for queries
- Standard tables: The "Description" field of standard table entries

Content which cannot be translated:

- Alphanumeric texts
- Names and labels
Alias labeling systems can be used to cover labels in foreign languages. See also chapter Alternative labeling system (Page 39).
- Description of revisions and revision steps
The description is written to the primary language and displayed in the same way for all languages.

When you change the project language, the translatable content changes in the Navigator and in all user interfaces in which it is displayed. See also chapter Switching the project language (Page 168).

All objects supplied with the database are translated prior to delivery. Objects you create can also be translated if you require. Various translation tools and workflows are available to you for this purpose. Translation tasks can be assigned to external service providers via the COMOS translation database, for example.

Administrators can create other project languages in addition to those delivered with COMOS.

Fundamental procedures

3.1 Using the COMOS help

3.1.1 Copying documentation to the help folder

Introduction

A separate help folder is supplied for the iDB and cDB databases as of COMOS version 10.1:

- "Help_iDB"
- "Help_cDB"

The contents of the help folders are not identical. You can see the content of the respective folder in the COMOS "Help" menu depending on the database you use to start COMOS.

Requirements

COMOS is installed.

Procedure

1. Open the directory in which the help files are located in the file explorer.
For example: <COMOS Installation directory>/Help/<Help folder database>/<Language folder>
2. Save your documentation in the respective help folder "Help_iDB" or "Help_cDB".

Note

"Help" directory

Documents that are located directly in the "Help" directory are not displayed.

3.1.2 Opening the help

Overview of the COMOS help

The COMOS help consists of the following components:

- COMOS help system:
A library with manuals on COMOS
- Individual help files in the formats *.pdf, *.pdx and *.doc
The PDF files "COMOS - What's new?" and "COMOS Readme" are supplied with COMOS.

Note

Supplementing the help files

You can integrate your own help files in the COMOS "Help" menu. The files are displayed in the COMOS "Help" menu.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Central administration of the help menu".

You can open the COMOS help as follows:

- COMOS help system:
 - From COMOS
 - Online
 - From the file system
- Individual help files:
 - From COMOS
 - From the file system

Note

References to other manuals

If other manuals are referenced in the COMOS help, these manuals also form part of the COMOS help.

Opening the help from COMOS

1. Start COMOS.
2. To open the COMOS help system, select the menu command "Help > COMOS help system".
The help system is opened as an HTML help. See also chapter Using the HTML help (Page 119).
3. To open an individual help file, select the command "Help > <File name>" in the menu.

To read the help in a different language, switch the language of the COMOS user interface and call up the help system again. See also chapter Switching the user interface language (Page 167).

Opening the help online

See also chapter Displaying the COMOS help system online (Page 121).

Opening the help through the file system

1. Open the directory in which the help files are located in the file explorer.
For example: <COMOS Installation directory>/Help/<Database>/<Language folder>.
2. Double-click the file "COMOS_HelpSystem_enUS.chm" to start the COMOS help system.
The help system is opened as an HTML help. See also chapter Using the HTML help (Page 119).
3. To open a PDF document, double-click the document.

Viewing the PDF help

To display the COMOS help as PDF files, you require a PDF Reader that is compatible with PDF 1.7 (ISO32000-1:2008 PDF).

3.1.3 Using the HTML help

Requirements

Operating system: Windows 98 and higher

Procedure

1. Open the COMOS help system in COMOS or the file system as HTML help. See also chapter Opening the help (Page 118).
2. On the "Contents" tab, open the node of a COMOS product family, for example "COMOS Platform".
All the manuals that belong to the modules of this product family are displayed.

3.1 Using the COMOS help

3. Open a manual and select a chapter.
The chapter contents are shown on the right.
4. You have the following options when working with the help system:
 - Search:
You can search through the entire help system on the "Search" tab.
 - Displaying related topics:
If related topics are available for the chapter currently displayed, these are listed in the menu bar above the chapter contents: The "Manuals" menu contains related instructions; the "Basic principles" menu contains related basic principles.
To change to a chapter, select it.
 - Creating Favorites:
Select a chapter on the "Contents" tab. Change to the "Favorites" tab and click "Add".
 - Toggling between chapters already displayed: You can use the "History" and "Extras" menu and the buttons "Back" and "Forward" to toggle between the chapters already displayed.


Note

If you change from one chapter to a different chapter, for example via the links embedded in the chapters, the Favorites or the "History" menu, the node of the currently open chapter is always displayed on the "Contents" tab.

3.1.4 Displaying the COMOS help system online

The COMOS help system is available free of charge and in multiple languages on the Internet:

- Open the following Internet page: COMOS documentation (<http://www.siemens.de/comos-dokumentation/>)
- In the "Overview", you will find the various product areas of COMOS product family.
- In the "Topics" column, you will find the COMOS Manual Collection or individual help files. The lines contain links to the My Documentation Manager and the SIEMENS Industry Online Support Portal:

	<p>Clicking on the icon opens the document in My Documentation Manager (MDM). The range of functions in MDM depends on whether you are logged in:</p> <ul style="list-style-type: none"> • Without registration/login: View documents • With registration and login: Configure, compile documents, notification function, etc. <p>See chapter Using the COMOS help system in My Documentation Manager (Page 122).</p>
DE, EN, FR, ZH	<p>Link to the document in the available languages in the SIEMENS Industry Online Support Portal:</p> <ul style="list-style-type: none"> • DE=German • EN=English • FR=French • ZH=Chinese simplified

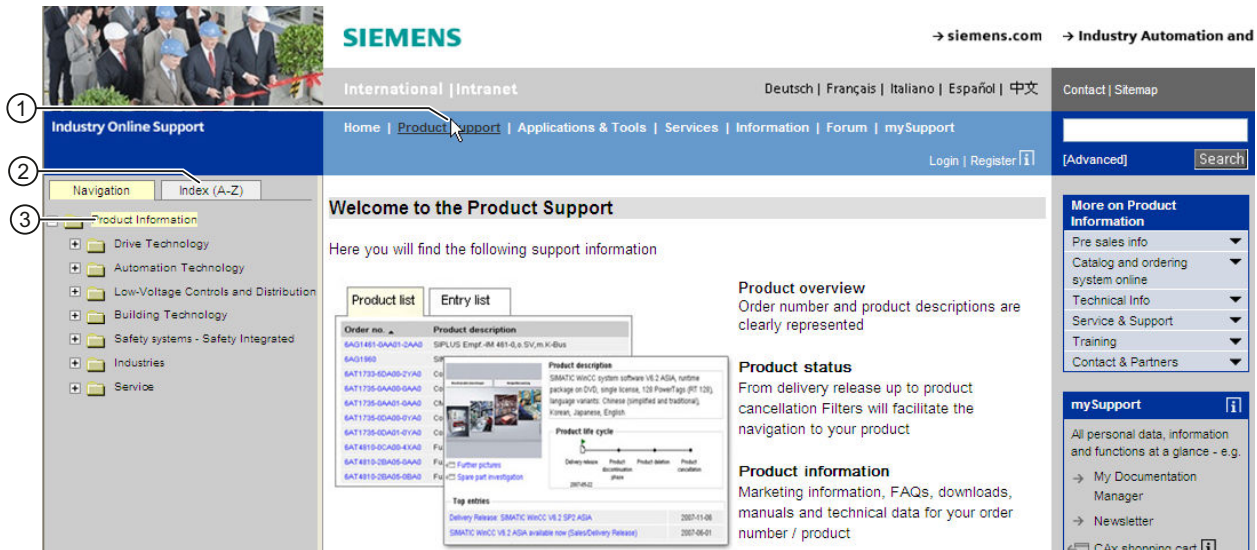
COMOS help files in the SIEMENS Industry Online Support Portal

The COMOS help files are also available as PDF files in the Siemens Industry Online Support Portal. In addition, you can display the documents with the My Documentation Manager.

To find COMOS help files, proceed as follows:

3.1 Using the COMOS help

1. Open the Web page of the Siemens Industry Online Support portal: SIOS (<http://support.automation.siemens.com/>)



- ① "Product Support" in the navigation bar
- ② "Index (A-Z)" tab
- ③ "Navigation" tab

2. Click on "Product Support" in the navigation bar.
3. You have three ways to find COMOS help:
 - Open the "Navigation" tab and look for COMOS in the product tree. You can find COMOS help under: "Automation technology > Automation systems > Automation software > Plant Engineering Software COMOS"
 - Open the "Index A-Z" tab. If you click on "C", you will see the COMOS help files in the list.
 - Enter the term "COMOS" in the search box at the top right and click "Search". You can narrow search results by clicking on "Manuals" below "Search area" in the hit list.
4. Select a COMOS help file from the list and click the title.
5. When the selected COMOS help is displayed, you can choose from the following:
 - "Displaying and configuring": Opens the document in My Documentation Manager.
 - "Download": As PDF file

3.1.5 Using the COMOS help system in My Documentation Manager

My Documentation Manager is a central online database for SIMATIC and COMOS customer documentation. My Documentation Manager allows you to edit the entire customer documentation, reorganize it and export it into a variety of formats if needed. You can assemble documentation corresponding exactly to your system or configuration from the documents that are available. The notification feature informs you by e-mail when a document in your collection has changed.

Range of functions in My Documentation Manager

The range of functions depends on whether or not you are logged in:

- Functions without login:
 - View customer documentation
 - Open help for My Documentation Manager
- Additional functions with login:
 - Configuration: Assembly of individual documents in a collection
 - Delete, add, move, copy any document in a collection
 - Send collection to an e-mail address as a link
 - Search and assemble documents in one language and then export them to one of the available languages
 - Notification feature is available on all levels: Single page, chapter, manual, collection, etc.
 - Export documents, folders and collections as a PDF, XML, or RTF file

Working with My Documentation Manager

- The following section describes how to open the My Documentation Manager : Displaying the COMOS help system online (Page 121).
- A comprehensive description of working in My Documentation Manager is available in the help: Help for My Documentation Manager (http://www.automation.siemens.com/mdm/help/en/mdm_reference_manual_de-DE.htm).

Registration and login to My Documentation Manager

1. Click "Full scope of functions after login/registration".

> Full functionality after Login / Registration



The login form for My Documentation Manager opens.

2. Click "Yes, I would like to register now" and fill out the fields in the following windows.

3. Click the Next button, until your login information is completed.
4. You have now successfully registered and can use all the functions of My Documentation Manager .

3.2 Selecting objects

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Selecting an individual object

1. Hover the mouse pointer over an object.
2. Then left-click.

Multiple selection (objects not located consecutively)

1. Select the first object.
2. Press and hold down the <Ctrl> key.
3. Select the remaining objects.

Multiple selection (objects located consecutively)

1. Select the first object in the series of consecutive objects.
2. Press and hold down the <Shift> key.
3. Select the last object in the series of consecutive objects.

Multiple selection is not available in all interfaces.

Result

The object or objects is/are highlighted. Highlighting varies according to user interface.

You can edit the object; for example, you can open its properties or call context menu commands.

3.3 Calling context menus

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

3.4 Navigating

Calling the context menu for an object

1. Select the object.
2. Then right-click.

Example: Engineering object

Calling the context menu for a user interface

1. Make sure that nothing is selected in the user interface.
2. Hover the mouse pointer over an empty space in the user interface.
3. Then right-click.

Example: Navigator

Calling the context menu for a user interface element

1. Hover the mouse pointer over the user interface element.
2. Then right-click.

Example: Header of a tab, column header in a query

Context menu commands

The menu commands you see depend on the following factors:

- The context object: Is the context object an object, a user interface, or a user interface element?
- For objects: For which user interface have you called the context menu?

See also

Context menu commands (Page 424)

3.4 Navigating

Principle

When you navigate to an object, it is selected in the structure area of the Navigator.

Application 1

You are working in a user interface that provides you with access to objects (in a query or a report, for example). You want to navigate to an object that is displayed in the user interface.

Application 2

You want to navigate from one object to a connected object.

Examples:

Object	Connected objects
Engineering object	<ul style="list-style-type: none"> • Assigned base object • Interactive report on which the engineering object is placed • Counterpart connectors of its connectors • Object which is referenced in the general data of the properties of the engineering object <p>Examples: Location reference or implementation reference</p>
Attribute	<ul style="list-style-type: none"> • Inheritance source of the attribute in the base data • An attribute linked to the attribute, from the engineering data • For reference attributes: The referenced object
Connector	Counterpart connector

Requirements

See also chapter Structure of the Navigator (Page 411).

Via the context menu

1. Select the object.
2. Application 1: Select the "Navigate > Object" command from the context menu.
Application 2: Select another of the commands listed under "Navigate" in the context menu.
The commands you see depend on which object is selected.

Via the "Navigate" button

The "Navigate" button appears in the toolbar for the properties of objects:



Many reference fields also have this button.

Clicking on the button opens the Navigate context menu. Select a command as described above.

Result

Dependent upon which command you have selected, the corresponding object is selected in the Navigator.

3.5 Opening properties

Requirements

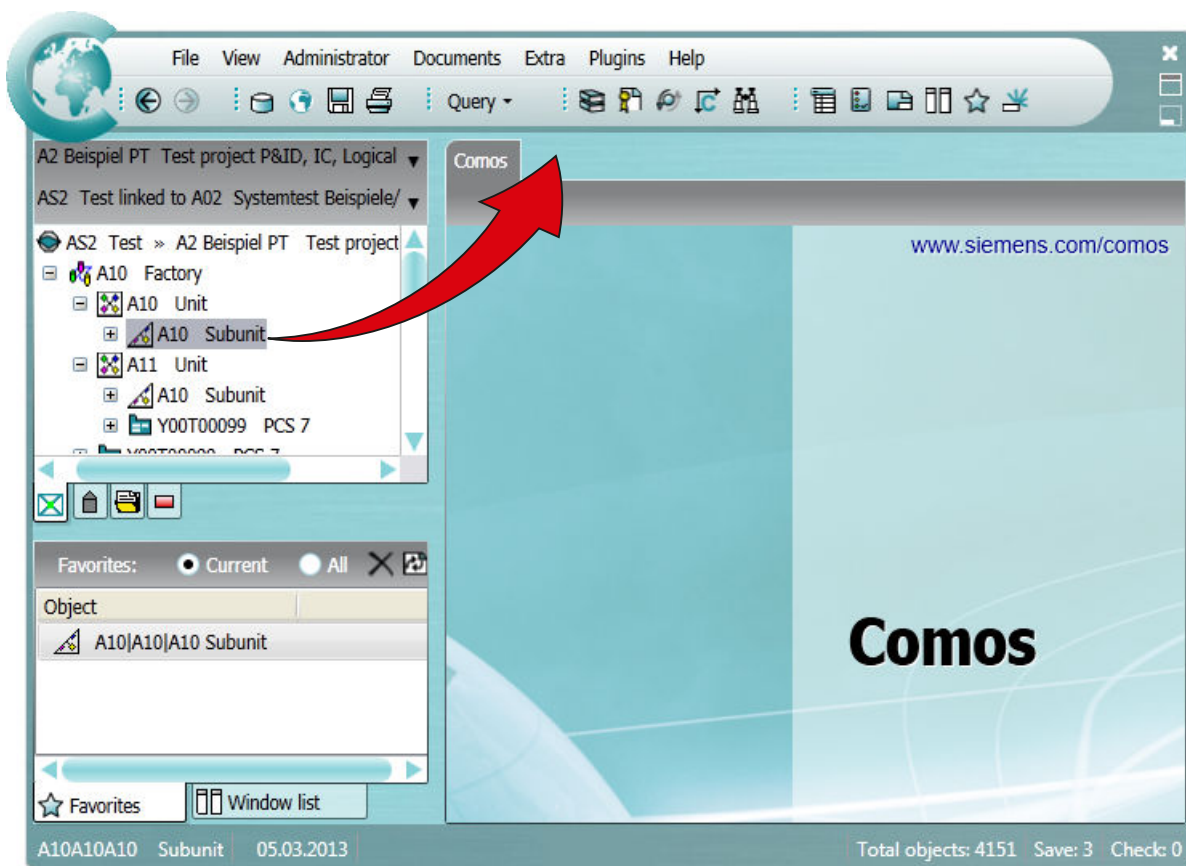
See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the object.
2. Select the "Properties" command in the context menu.

Alternative procedure

- Double-click the object.
- Use drag&drop to move the object from the Navigator into the working area, next to the header of the "COMOS" tab, or next to the headers of tabs which are already open:



This process does not work for the following objects:

- Documents
- Queries, bulk processing, and other objects with the "Class" property of "Action"

Result

The properties of the object are opened:

- In the working area on a tab (for engineering objects, base objects, documents, and queries, for example)
- In a separate window (for connectors and attributes, for example)

3.6 Opening documents

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the document.
2. Select the "Open" command in the context menu.

Alternative procedure

- Double-click the document.
- Use drag&drop to move the document from the Navigator into the working area, next to the header of the "COMOS" tab, or next to the headers of tabs which are already open:

Note

Preview for interactive reports

You can display a preview of an interactive report rather than opening the report. See also chapter Displaying a preview of symbols and working areas (Page 362).

Result

COMOS-specific documents are opened in the working area on a tab. For external documents, the relevant application is started in a separate window.

Opening documents read-only

1. Select the document.
2. Select the "Open read only" command from the context menu.

Note

Advantage when working with working layers

The document is not checked into the working layer.

See also

Automatic referencing of documents (Page 71)

3.7 Creating links



Aim

You want to access an object (engineering object, document etc.) in a different node of the structure tree to the one under which the object is located.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select an object in the Navigator.
2. Select the "Copy" command in the context menu.
3. Select a different object in the Navigator.
4. From the context menu select the "Paste link" command.

Result

The link is pasted in. An additional icon is added to the link - a blue rectangle at the left under the icon:



Delete

When you delete the link, the object is retained. When you delete the object, all links are deleted along with it.

Automatically generated reference documents

If the project works with a document group system, a reference document is automatically created when a document is created in the "Documents" tab. See also chapter Automatic referencing of documents (Page 71).

These reference documents are not the same as the links described above.

3.8 Moving

Aim

You want to move an object (engineering object, document etc.) under a new owner in the structure tree.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select an object in the Navigator.
2. Select the "Copy" command in the context menu.
Alternatively: Select the "Cut" command. If you terminate COMOS without pasting, the object is deleted.
3. Select the new owner in the Navigator.
4. Select the "Move" command in the context menu.

Result

If the project structure allows the object to be pasted under the new owner, the object and its subobjects are moved.

3.9 Setting references

For setting general references of engineering objects, see chapter Setting general references (Page 225).

Possible methods

- Drag&drop of an object from the Navigator to a reference field
- Via the "..." button that appears next to many reference fields

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- A user interface with a reference field is open.
Example: Properties of an engineering object > "General" tab > "Base object" reference field

Via drag&drop from within the Navigator

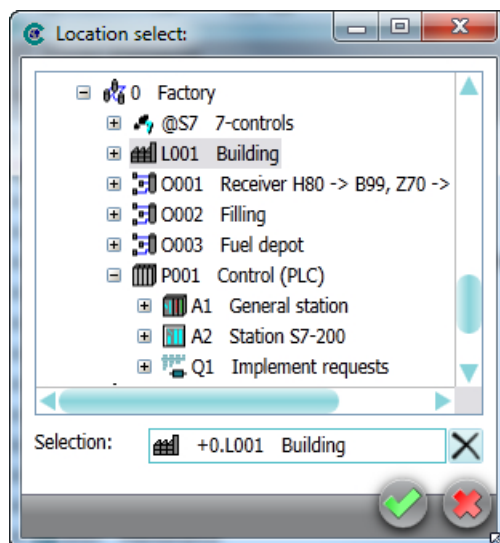
1. Select the desired object in the Navigator.
2. Drag&drop the object to the reference field.
Many fields that support drag&drop are marked with the following symbol:



Via the "..." button

1. Click the "..." button next to the reference field.
A window in which you select the object to be referenced opens. The layout and content of the window vary:
 - Optional: Options you set to define whether the object tree displayed comes from the current engineering object, the base project or the system project.
 - Tree with the objects that are available for selection
You usually see the nodes of all Navigator tabs. Sometimes, the tree is filtered. In these cases you only see the nodes of a specific tab or just one specific start node.
 - Optional: Field that reads out the data of the object selected in the object tree
To check your selection
 - Standard buttons for confirming and canceling

Example:



2. Select the required project if applicable.

3. Select the required object in the object tree.
4. Confirm your entries.

Result

The reference is saved. You can navigate between the two objects via the context menu. See also chapter Navigating (Page 126).

Deleting references




Click on the "Remove reference" button next to the reference field.

Note

There are certain references which you can replace with other references but cannot delete. Example: The base object reference of engineering objects

Buttons next to reference fields

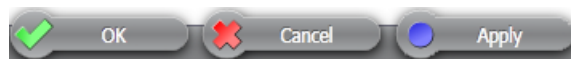
Reference fields can feature the following buttons:

Icon	Tooltip	Description
	"Set pointer"	Opens a window in which you select the object to be referenced.
	"Remove pointer"	Deletes the reference.
	"Navigate, Properties"	Opens a context menu via which you can navigate to the referenced object or its properties.

3.10 Accepting or rejecting entries with standard buttons

Frequently used buttons

Many interfaces have the following standard buttons:



Button	Description
"OK"	Saves your entries and closes the interface.
"Cancel"	Closes the interface without saving your entries.
"Apply"	Saves your entries. The interface remains open.

Some interfaces use the following button for saving:



3.11 Copying, cutting, and pasting texts

You usually copy texts between lists or edit fields. You can also paste character strings saved in "Reference" or "Data" type attributes into edit fields.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Open a user interface (the properties of an object, for example). See also chapter Opening properties (Page 128).
2. Press and hold down the left mouse button to select the value of a control element.
3. To copy or cut values, select the corresponding command from the context menu.

Note

Availability

The commands for cutting are not available in all user interfaces or for all control elements.

4. Open the user interface where you wish to paste the value.
5. Right-click in the control element where you wish to paste the value. You can usually paste the values to the following control elements:
 - Edit fields
 - Editable lists
6. Select a Paste command from the context menu.

Result

The text is pasted from the clipboard.

3.12 Deleting

Aim

You want to delete an object (engineering object, document etc.).

General rules for deleting

- When you delete an object, the objects located underneath it are deleted recursively along with it.
- Whether objects are hard deleted or soft deleted depends on the following factors:
 - Are you working in a working layer or in the released area?
 - Are history management and history monitoring activated?See also chapter Deletion in working layers and in the released area (Page 32).
- If you delete a link to an object or document, the original remains. If you delete the original, all links are also deleted - regardless of where they are located. See also chapter Creating links (Page 130).
- If the database is configured accordingly, deleting a document also deletes its reference document. See also chapter Automatic referencing of documents (Page 71).
- If the deleted document was a report, the engineering objects placed on the report or evaluated by the report are retained. Graphical objects placed in the report will be deleted along with the report.

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- You have the "Delete" object right for the objects being deleted.
- The object is not locked.

Note**Deleting by administrators**

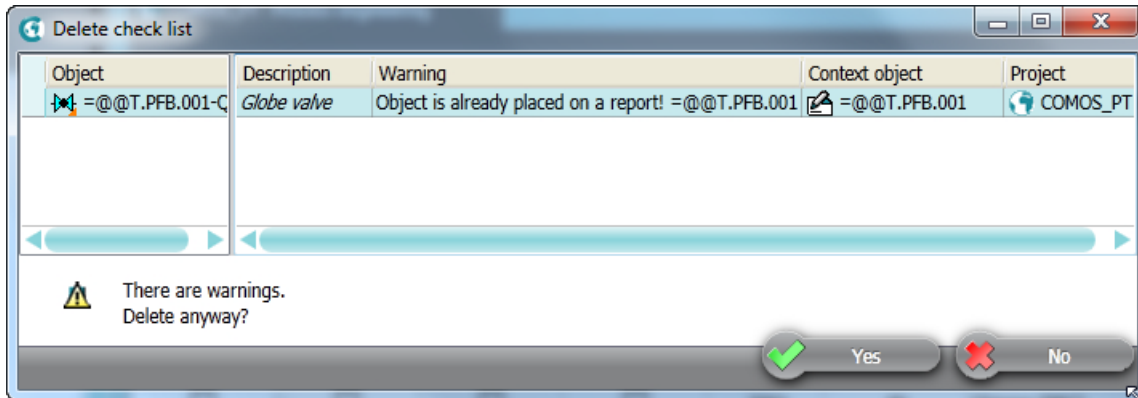
Administrators can delete locked objects.

Deleting in the Navigator

1. Select the required object.
2. Select "Delete" from the context menu. Alternatively, press the key. COMOS detects recursively which objects are deleted.

3.12 Deleting

3. Confirm the security prompt.
COMOS analyzes the objects. If there are reasons to prevent the deletion, or if the data is made inconsistent by deleting, the "Delete check list" window opens.



There is an entry for every object which has a cancel message or a warning message. You can navigate to the object using the context menu. If there are cancel messages, the entire deletion process is canceled.

4. If there are only warning messages, you can delete despite the warnings. Click the "Yes" button in the window to do this.

Note

No single selection of objects

If you have selected single entries in the "Delete check list" window, all objects will still be deleted.

5. To cancel the entire deletion process, click the "No" button.

You can find more information on the topic of delete check lists in the "COMOS Platform Administration" manual, keyword "Delete check list".

Deleting in interactive reports

See also chapter Deleting in interactive reports (Page 359).

Deleting in queries

See also chapter Deleting in queries (Page 379).

Delete via script

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Deleting without the COMOS user interface".

Restoring COMOS objects

If objects have been soft deleted, you can undo the deletion. See also chapter Undoing the deletion of objects with the "soft delete" marker (Page 193).

See also

Locking engineering objects (Page 224)

Locking documents (Page 302)

3.13 Checking objects

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- There are objects in the database which do not conform to COMOS basic principles. Example: The link from a document to an external file has been lost.

Procedure

1. Open the context menu for the "Check" field in the status bar.
2. Select the "Object test" command.
The "Object test" tab opens. You see an information list with objects which do not conform to COMOS rules.
If objects from other working layers are referenced, these objects are represented with a black cross.
3. Select an entry.
4. The context menu offers you the following options:
 - Open the properties of the object to correct the error
 - Navigate to the object
 - Delete the entry from the error list

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using object test".

3.14 Saving objects that have not been saved

Principle

Some user actions require all objects to be saved. You can see how many objects have been changed and not yet saved under "Save: <number>" in the COMOS status bar.

3.15 Saving settings of query-based result tables

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- There are unsaved objects.

Procedure

1. Move the mouse to "Save: <number>" in the status bar.
2. Select "Save" from the context menu.

3.15 Saving settings of query-based result tables

Principle

User interfaces with result tables are often based on queries. In some user interfaces, you can permanently save the filter setting and sorting of the table; for example, in the "Open project" tab.

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The result table is based on a query.
- The user interface allows you to save the user settings.

Procedure

1. Select the "Settings > Save..." command in the context menu of a column header. The "Save settings" window opens. See also chapter "Save settings" window (Page 481).
2. Confirm your entries.

Result

Your settings can be saved as user-specific settings or as group-specific settings. They are saved in the base data.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using personal user settings (profile)".

3.16 Working with favorites

3.16.1 Basic information about favorites

Definition

Favorites are bookmarks which navigate to objects chosen by you. They are displayed in the detail area of the Navigator on the "Favorites" tab.

Favorites provide you with fast access to objects. When you select a favorite, the object tree is automatically expanded in the Navigator and the corresponding object is selected.

Working with favorites across projects: When you set an object from project A as a favorite and switch to project B, you will still have access to the favorite from project A via the favorites.

Scope of actions in the "Favorites" tab

The following actions are available in the "Favorites" tab:

- Creating favorites (Page 140)
- Filtering favorites (Page 140)
- Navigating to favorites (Page 141)
- Deleting favorites (Page 141)

3.16.2 Opening the "Favorites" tab

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

In the menu bar, select "View> Favorites".

Result

- The "Favorites" tab opens in the detail area of the Navigator. See also chapter "Favorites" tab (Page 457).
- If you have already created favorites in the current project, they are listed in this tab. You can filter the favorites in order to see favorites from all projects. See also chapter Filtering favorites (Page 140).

See also

Basic information about favorites (Page 139)

3.16.3 Creating favorites

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The "Favorites" tab is open. See also chapter Opening the "Favorites" tab (Page 139).
- You have experience of working with the user interface. See also chapter "Favorites" tab (Page 457).

Procedure

Drag&drop the desired object from the structure area of the Navigator to the "Favorites" tab.

Result

- The object is added to the favorites list.
- The same commands and, therefore, the same actions are available in the favorites context menu as in the structure area. Examples: "New", "Properties"
- You can navigate to the relevant object in the structure area. See also chapter Navigating to favorites (Page 141).

See also

Basic information about favorites (Page 139)

3.16.4 Filtering favorites

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The "Favorites" tab is open. See also chapter Opening the "Favorites" tab (Page 139).
- You have experience of working with the user interface. See also chapter "Favorites" tab (Page 457).
- You have already created favorites. See also chapter Creating favorites (Page 140).

Procedure

Activate one of the following options in the "Favorites" control group:

- Display favorites from the current project:
"Current" option
- Display favorites from all projects in the open database:
"All" option

See also

Basic information about favorites (Page 139)

3.16.5 Navigating to favorites

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The "Favorites" tab is open. See also chapter Opening the "Favorites" tab (Page 139).
- You have experience of working with the user interface. See also chapter "Favorites" tab (Page 457).
- You have already created favorites. See also chapter Creating favorites (Page 140).

Procedure

Double-click on a favorite.

Result

In the working area, open the properties of the selected object. If the favorite comes from another project, the project will be switched.

See also

Basic information about favorites (Page 139)

Filtering favorites (Page 140)

3.16.6 Deleting favorites

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The "Favorites" tab is open. See also chapter Opening the "Favorites" tab (Page 139).

3.17 Customizing the arrangement of frames and tabs

- You have experience of working with the user interface. See also chapter "Favorites" tab (Page 457).
- You have already created favorites. See also chapter Creating favorites (Page 140).

Procedure

1. Select the desired favorite(s).
2. Click the "Remove selected favorite(s)" button:



Result

The favorites are deleted. The objects in the structure area are retained.

See also

Basic information about favorites (Page 139)
Filtering favorites (Page 140)

3.17 Customizing the arrangement of frames and tabs

3.17.1 COMOS user interface frames

Principle

The COMOS user interface is divided into sections around which there are frames:

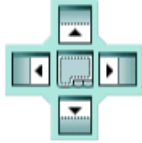
- The working area in which you can see the tabs for the main tools
- The Navigator area in which you can see the tabs with the object trees
- The detail area of the Navigator

Frame size

You can change the frame size of the areas See also chapter Changing the frame size (Page 143).

Number of frames and display

You can edit the number and arrangement of the frames using a move cursor:



You can:

- Change the sequence of the tabs inside a frame
See also chapter Changing the tab order (Page 144).
- Open new frames
See also chapter Opening new frames (Page 145).
- Move tabs to other frames
See also chapter Moving tabs to other frames (Page 146).

3.17.2 Changing the frame size

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Move the mouse pointer to the area between two frames.
The mouse pointer will change to a double arrow:



2. Press and hold down the left mouse button.
3. Move the arrow down, up, right, or left.

Result

The size of the frame and the frames adjacent to it change accordingly.

See also

COMOS user interface frames (Page 142)

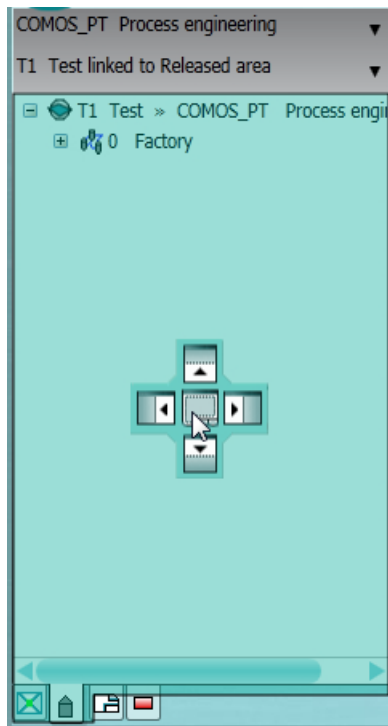
3.17.3 Changing the tab order

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- An area containing multiple tabs is visible. Example: Multiple reports are open in the working area.

Changing the sequence of the tabs inside a frame

1. Drag&drop the header of a tab to the center of its own frame and press and hold down the left mouse button. The move cursor appears.
2. Drag the header to the center of the move cursor. The entire frame is highlighted:



3. Release the mouse button.

Result

The tab is positioned on the right-hand side.

See also

COMOS user interface frames (Page 142)

3.17.4 Opening new frames

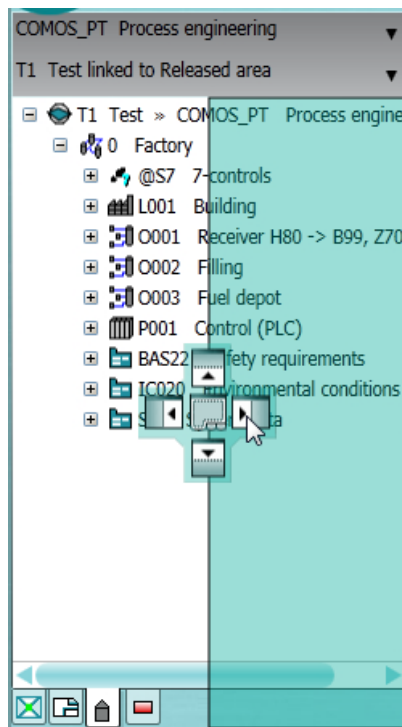
Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Using drag&drop, drag a tab header into the center of the frame in which you want to open a new frame, and hold down the left mouse button. The move cursor appears.
2. Drag the header to one of the arrows on the move cursor. The area of the frame in which the new subframe will be inserted is highlighted.

Example:



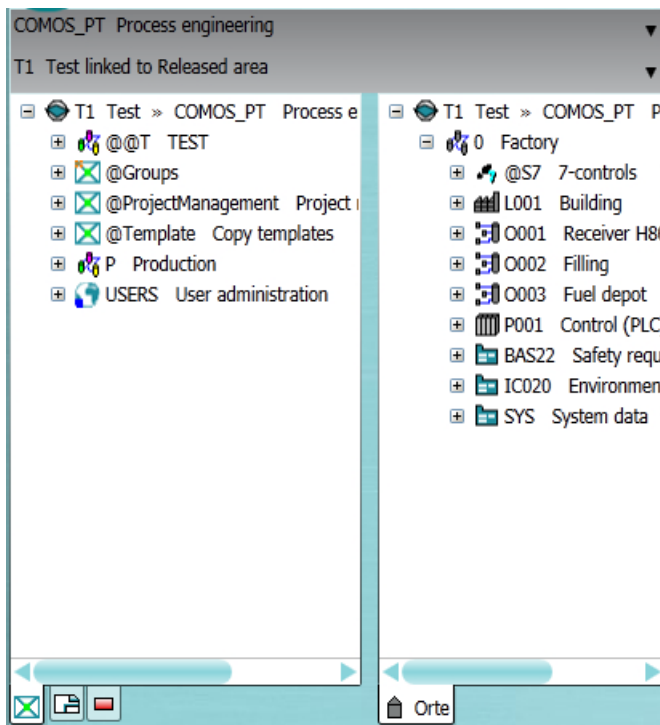
3. Release the mouse button.

Result

- A new frame opens.
- The tab is moved to the new frame.
- The frames are arranged as defined by the arrow keys.
- If the original frame only consisted of the tab that has now been moved, the frame will be closed.

Example:

3.17 Customizing the arrangement of frames and tabs



See also

COMOS user interface frames (Page 142)

3.17.5 Moving tabs to other frames

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Using drag&drop, drag a tab header into the center of the frame to which you want to move the tab, and hold down the left mouse button. The move cursor appears.
2. Drag the header to the center of the move cursor. The entire frame is highlighted.
3. Release the mouse button.

Note

You cannot move the Navigator tabs into the frame of the working area. You cannot move the working area tabs into the structure tree.

Result

The tab moves to the frame and is positioned on the right-hand side of it.

See also

COMOS user interface frames (Page 142)

3.18 Pinning or reusing user interfaces

Principle

Many user interfaces are configured so that, by default, you cannot open multiple user interfaces of the same type in parallel.

Example: The properties of an engineering object are open. You open the properties of a second engineering object. The properties of the second object are loaded into the tab of the first object.

You can often pin the user interfaces so that they cannot be reused.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Pinning user interfaces

A user interface is open. It is reusable.

Click the "Reuse tab/window" button on the top right-hand edge of the user interface.



Note

In the case of tabs you will only see the button when the mouse pointer hovers over the header.

Note

The button serves for informational purposes on some interfaces.

The button turns yellow. No more instances are loaded in the user interface.

Canceling pinning

A user interface is open. It has been pinned.

Click the "Leave tab/window open" button at the top right of the user interface:

3.19 Displaying nodes from the structure area of the Navigator in the detail area



The button turns green. New instances can be loaded in the user interface.

3.19 Displaying nodes from the structure area of the Navigator in the detail area

Aim

You can display nodes or individual objects from the structure tree of the Navigator in the detail area of the Navigator on a separate tab. This provides a convenient way of creating engineering objects by using drag&drop with a base object, for example. See also chapter Creating engineering objects using drag&drop with a base object (Page 207).

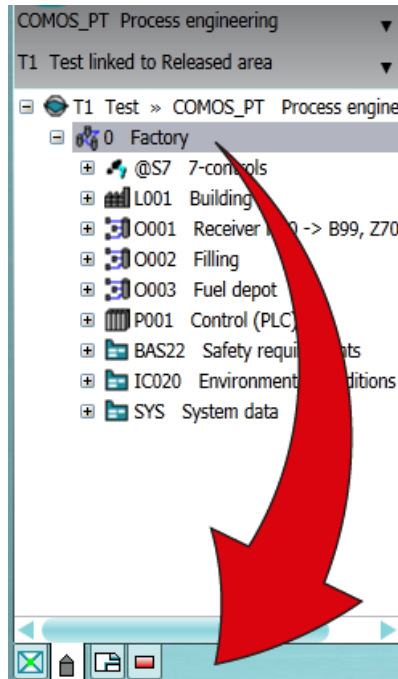
Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

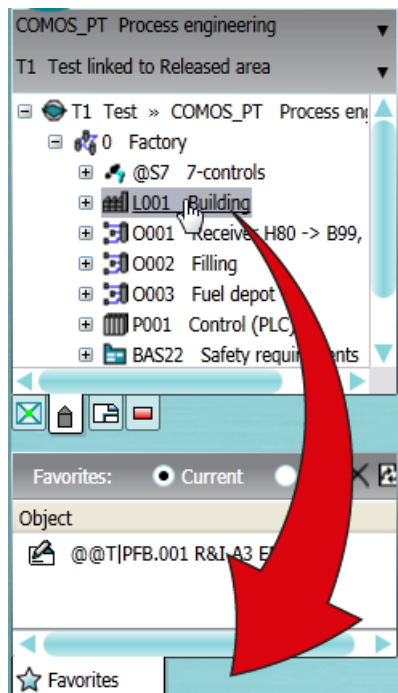
3.19 Displaying nodes from the structure area of the Navigator in the detail area

Procedure

1. In the Navigator, select a structure area tab.
2. Select a node on the tab.
3. If the detail area of the Navigator is not yet visible, drag&drop the node next to the tab headers in the structure area:



If the detail area is already open, drag&drop the node next to the headers in the detail area:



Result

- If the detail area was not open already, it opens. It contains a tab displaying the node and all objects subordinate to it.
If the detail area was open already, the tab is inserted on the right.
- The node continues to be displayed in the structure area of the Navigator. You have not moved the node; you have simply created an additional means of accessing it.
- If you switch projects, the tab remains open. You can obtain read access to the node via the tab.

See also

Closing tabs from the detail area of the Navigator (Page 151)

3.20 Opening tools of the detail area

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Open the "View" menu.
2. Select one of the following menu commands:

Command	See also chapter ...
"Properties tree"	Editing several objects in the properties tree (Page 243)
"Status window"	You can find more information on this topic in the "P&ID Operation" manual, keyword "Status window".
"Symbol and document preview"	Displaying a preview of symbols and working areas (Page 362)
"Window list"	Closing tabs or switching between tabs using the window list (Page 152)
"Favorites"	Working with favorites (Page 139)
"Static new menu"	Creating multiple objects via the static new menu (Page 209)

Result

The tool opens in the detail area of the Navigator.

See also

- Closing tabs from the detail area of the Navigator (Page 151)
- Structure of the Navigator (Page 411)

3.21 Closing tabs from the detail area of the Navigator

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- A tab is open in the detail area of the Navigator.

Procedure

Select "Close tab" from the tab header context menu.

See also

- Closing tabs in the working area (Page 151)
- Opening tools of the detail area (Page 150)
- Showing and hiding structure area tabs and the "Details" tab (Page 165)
- Closing tabs or switching between tabs using the window list (Page 152)

3.22 Closing tabs in the working area

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- Multiple tabs are open in the working area.

Procedure

1. Open the context menu of a tab header.
2. Select one of the following commands:
 - "Close tab"
 - "Close other tabs"
 - "Close all except the pinned tab"
 - "Close all tabs"

See also

Closing tabs from the detail area of the Navigator (Page 151)

Closing tabs or switching between tabs using the window list (Page 152)

3.23 Closing tabs or switching between tabs using the window list

Requirements

- There are tabs open in the working area or the detail area.
- See also chapter General requirements for working with COMOS Platform (Page 17).

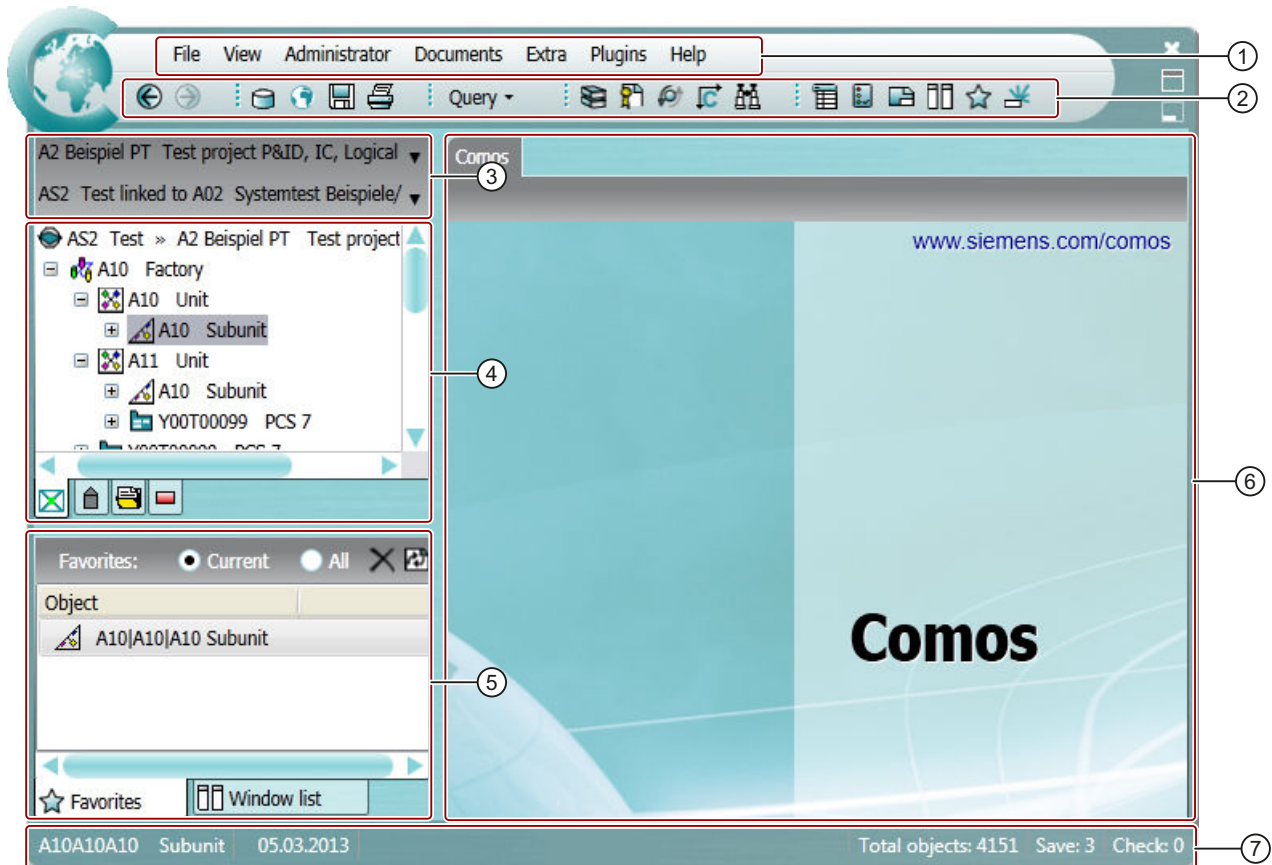
Procedure

1. In the menu bar, select "View > Window list".
The Window list tab opens in the detail area. It contains a list of the tabs open in the working area and in the detail area of the Navigator. Not contained in the list:
 - The "Details" tab
 - Nodes from the structure area of the Navigator which are shown in the detail area
2. To close tabs, select them in the window list. Select "Close" from the context menu.
3. To change the visible tab, double-click on a tab in the window list.
4. To sort the entries in the tab, click on the desired column header.

COMOS user interface

Overview

The graphic below illustrates the structure of the COMOS user interface:



- ① Menu bar
- ② Toolbar
- ③ Area of the Navigator for switching between projects and working layers
- ④ Structure area of the Navigator
- ⑤ Detail area of the Navigator
- ⑥ Working area
- ⑦ Status bar

Menu bar and toolbar

The contents of the menu bar and the toolbar depend on the module involved. They can be customized to specific requirements. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Main.xml configuration".

The toolbar allows you fast access to selected commands of the menu bar.

See also chapters Menu bar (Page 399) and Toolbar (Page 409).

Navigator

The Navigator provides you with access to the objects and documents in the project. It is always visible.

The Navigator comprises the following areas:

- Area for changing between recently opened projects and working layers
See also chapters Switching between open projects (Page 170) and Switching between open working layers (Page 176).
- Structure area containing several tabs with object trees
- Detail area

See also chapter Structure of the Navigator (Page 411).

Working area

This is where the tabs with the main tools are opened; for example, object properties, interactive and evaluating reports or queries. The tabs are arranged side by side.

If no tool is open, you see the "COMOS" tab.

Status bar

The status bar provides information relating to COMOS in general, for example, the number of unsaved objects.

Many tools in COMOS have their own status bar. The status bar also provides context dependent access to some important management tools. See also chapters Saving objects that have not been saved (Page 137) and Checking objects (Page 137).

Starting COMOS

5.1 General information on starting COMOS

Comos.exe startup options

COMOS offers the following startup options:

- File browser: "<Installation drive>\Comos\<COMOS version directory>\BIN\Comos.exe"
- Link to the Comos.exe file; for example, on the desktop
- Windows Start menu > Programs
- Call the Comos.exe file from the command line

Result

- COMOS start without quick launch or start parameters:
A COMOS instance will be started. You then open the database. See also chapter .
- COMOS start with quick launch:
A COMOS instance will be started. The most recently closed database and project are opened. If necessary, change the database and project.
COMOS start with start parameters:
A COMOS instance will be started. COMOS will be opened as specified by the start parameters. See also chapter Setting up a COMOS start with user-specific settings (Page 158). If necessary, change the database and project.

See also the following chapters:

- Opening or switching between databases (Page 156)
- Opening a project or the released area of a project (Page 169)
- Switching between open projects (Page 170)
- Enabling and disabling quick launch (Page 157)

Startup via Comos.xif.exe

If there is no COMOS instance open, it is possible to start COMOS via a link to Comos.xif.exe.

Links to Comos.xif.exe provide fast access to an object or document, regardless of whether or not COMOS is already open. When you double-click on the link, the corresponding project is opened, the object or document is selected in the Navigator, and its properties are opened. In the case of documents, the content is opened.

See also chapter Setting up a COMOS start with a link to an object (Page 159).

See also

General requirements for working with COMOS Platform (Page 17)

5.2 Opening or switching between databases

Requirements

You have started COMOS. See also chapter General information on starting COMOS (Page 155).

Procedure

1. Select the "File > Open database..." command in the menu bar.
2. In the "Open database" window, select a database type in the first line:
 - "Microsoft Jet" for Access databases
 - "Oracle"
 - "SQL"
3. Select the database:
 - If you select "Microsoft Jet", click on the "..." button next to the "Database" field. Select the required database in the "Open COMOS database" window.
 - If you select "Oracle" or "SQL", select an instance in the "Instance" list.
4. Further option if you are working on a shared database from different locations: Click the "Extended" button.
You will see more fields:
 - Your current time zone is displayed in the "Time zone" field.
COMOS takes the time information from the respective operating system to synchronize PCs that access a shared database from different time zones.
You can also select a different time zone.
 - You can enter your location in the "Location" field. For example, this information is used for electronic signatures.
5. Log in with your user name.
Your user name will be applied in the "User name" field; it is the same name you used to log in to the company network when starting up the PC.

Note

Changing the user

You can log in as a different user. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Logging into Access with the "Setup" user" and "Logging in with alternative access".

6. Click "Open".

Result

- You will be logged in to the database. The database is opened.
- When the database is opened, COMOS checks the versions of COMOS and the database. If the versions differ, a corresponding message window appears. Confirm the message. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Login check: Database scheme and database indices" and "Login check: Database version and document version." If you have any questions, contact your administrator.

See also

General requirements for working with COMOS Platform (Page 17)

5.3 Enabling and disabling quick launch

Aim of quick launch

Restoring your most recent work environment:

- Most recently closed database
- Project
- Working layer
- Tab visible in the Navigator
- Node displayed in the Navigator

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- You have started COMOS. See also chapter General information on starting COMOS (Page 155).
- Quick launch only functions if the following conditions are fulfilled:
 - You have logged in to the database with your default access data or the alternative access data of a user
 - No other setting has priority.
Example: You are not using start parameters

Procedure

Select "View > Quick launch" from the menu.

Disabling quick launch

Select "View > Quick launch" from the menu again.

5.4 Setting up a COMOS start with user-specific settings

Aim

You can also start COMOS with user-specific settings. Specify these settings via the start parameters.

Differences from quick launch

When you use start parameters, COMOS will always start as stipulated in the start parameters. With quick launch, COMOS will always start with the settings in place at the end of the last COMOS session.

Principles of start parameters

In general:

- The start parameters are optional.
- You can assign any number of start parameters, but each start parameter only once.
- Delimiters between start parameters: Space
- Use the following notation for each start parameter:
`/<Start parameter name>:<parameter value>`
- When start parameters are assigned, they overwrite the quick launch settings.

Procedure

1. Open the Comos.exe properties or a link to Comos.exe.
You will find the path to Comos.exe in the "Target" field.
2. Insert a space after the path.
3. Enter the start parameters. Use the notation described above.
See also chapter Reference for start parameters (Page 160).

Note

Specifying an Access database

If the database path or the name of an Access database contains spaces, put the path and name parameters in quotation marks.

4. Confirm your entries.

Result

When you double-click on the link, COMOS will start as specified by the start parameters.

Note**Start parameters with command line call**

It is also possible to assign start parameters by calling COMOS via the command line. The notation is identical.

See also

General requirements for working with COMOS Platform (Page 17)

5.5 Setting up a COMOS start with a link to an object

Principle

Links to Comos.xif.exe provide fast access to an object or document, regardless of whether or not COMOS is already open. When you double-click on the link, the corresponding project is opened, the object or document is selected in the Navigator, and its properties are opened. In the case of documents, the content is opened.

Starting COMOS via Comos.exe with the corresponding start parameters has the same result. In the case of Comos.exe, however, you must enter the start parameters manually. When you create links to Comos.xif.exe, the start parameters are generated automatically and saved in the properties of the link.

Differences from starting with Comos.exe and start parameters

If a COMOS instance was already open when starting via Comos.xif.exe, the work environment defined by Comos.xif.exe is loaded into the COMOS instance which is already open. If there was no COMOS instance open, COMOS will be started and the work environment defined by Comos.xif.exe will be loaded.

When starting with Comos.exe, a new COMOS instance is always opened.

Differences from working with favorites

For favorites to work, COMOS must already be open. They only provide access to objects in the same database.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Start COMOS. See also chapter General information on starting COMOS (Page 155).
2. Open a database and a project. See also chapters Opening or switching between databases (Page 156), Opening a project or the released area of a project (Page 169), and Opening the working layers of a project (Page 175).
3. Select the desired engineering object, base object or document in the Navigator.
4. Drag&drop it to your desktop.

Result

A link to Comos.xif.exe is created. The link automatically contains the start parameters necessary to restore the current work environment.

When you double-click the link, COMOS will start with this work environment. The properties of the object selected or the content of the selected document will also be opened. If COMOS was already open, the work environment will be loaded into the open COMOS instance.

5.6 Starting plugins

Procedure

Select the "Plugins > Basic" command in the menu bar and the desired plugin.
You can only start each plugin once.

See also

"Plugins > Basic" menu (Page 406)

5.7 Reference for start parameters

List of start parameters

Parameters	Name	Description
/?	Help	Do not use in combination with other start parameters. When COMOS starts up, a help window containing information about the start parameters is opened.
/AT:	Application type (AS: Assistant Mode)	Compact display of the COMOS interface. When the mouse is not on the application, the interface is represented by icons that are fixed in the foreground. This facilitates simultaneous work with other applications. Example: /AT:AS

Parameters	Name	Description
/DG:	Debug	Debug mode Example: /DG:D You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "COMOS log files and debug mode".
/DT:	Data type	Data type of the database. You obtain this data type from <code>Workset.Init(...)</code> , for example. Example: /DT: [SQL -SERVER]PT_SQL_SERVER_1
/ID:	Identify	Internal unique identifier of an object: COMOS-Object.SystemUID Example: /ID: A17XK7X4K0
/MD:	Module	<ul style="list-style-type: none"> • V: View mode • E or ET: Electrical Engineering • PID: Piping&Instrumentation Design • FEED: Front-end Engineering&Design • CA: Construction Assistant • PA: The modules belonging to the package are started. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Packages". If you transfer a module as the start parameter, the menu file of the same name is loaded on startup. You can load a different menu file via the /MN: start parameter.
/MDP:	Multiple Document Preview	Configuration file Example: /MDP:<Pfadangabe zur Konfigurationsdatei>\ConfigurationFile.txt You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Compare PDF documents".
/MN:	Menu	Name of the menu file. The menu file must be located in the folder of the respective COMOS version in the following subfolder: "Current\config\menu"
/PR:	Project	Project name Example: /PR: "H001"
/ST:	System type	The system type You can find more information on this topic in the "Class Documentation COMOS_dll" manual, keyword "SystemType". Object example: /ST: 8 Base object example: /ST: 13

Parameters	Name	Description
/US:	User	Possible values: <ul style="list-style-type: none">• User name (login) from Workset.CurrentUser.Name Example: /US: Frank• 1: Setup user• 2: Second account
/WO:	Working overlay ID	Pass the ID of the working layer. Procedure for determining the ID: <ol style="list-style-type: none">1. Open project2. Open the working layer properties "Extra > Working layers/history > Management" menu, "Working layers" tab3. Apply the value from the "ID" field

See also

Setting up a COMOS start with user-specific settings (Page 158)

Setting up the work environment

6.1 Setting up the Navigator

6.1.1 Sorting object trees in the Navigator

Default

By default, the object trees in the structure area and on the "Details" tab are arranged according to internal COMOS sorting: The object trees are sorted by object name. The names are sorted according to ASCII.

You can modify the sort.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "Navigator settings" command in the context menu of the Navigator.
The "Navigator settings" window opens.
2. Activate one of the following options in the "General" control group:

Option	Description
"Sort alphabetically"	Activated: Lexical sorting on the basis of the character strings visible in the Navigator The character strings are sorted in descending order as follows: <ul style="list-style-type: none">• Special characters• Numbers, which are sorted in ascending order according to the first digit Example: 0, 1, 10, 2, 21, 3• Letters Uppercase letters first, then lowercase letters, then multiple instances of a letter The "Sort 'Folder' objects bottom up" option is deactivated automatically.
"Sort 'Folder' objects bottom up"	Activated: Engineering objects with the "Folder" property are sorted bottom up. The "Sort alphabetically" option is deactivated automatically.

Note

Options disabled

If both options are deactivated, the default is used.

3. Confirm your entries.

6.1.2 Filtering object trees in the Navigator

Introduction

You can filter which objects you see in the structure area and on the "Details" tab in the Navigator or whether you see any at all.

Filter criteria:

- The class of engineering objects
- The system type of the following objects:
 - Connectors
 - Attributes and tabs
 - Documents
 - DocObj objects

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "Navigator settings" command in the context menu of the Navigator.
The "Navigator settings" window opens. You are working in the "General" control group.
2. Activate one of the following options for the desired system types and classes of engineering objects:
 - "Top"
The objects are displayed in the structure area of the Navigator.
 - "Bottom"
The objects are displayed in the "Details" tab. If the tab is deactivated, its contents are automatically displayed in the structure area.
 - "Off"
The objects are not displayed.
3. Confirm your entries.

6.1.3 Showing and hiding structure area tabs and the "Details" tab

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "Navigator settings" command in the context menu of the Navigator.
The "Navigator settings" window opens.
2. Activate or deactivate the options for the desired tabs in the "Tabs" control group.

Result

The tabs are shown or hidden.

If you hide the "Details" tab, its contents are automatically displayed in the structure area.

See also

Sorting object trees in the Navigator (Page 163)

Filtering object trees in the Navigator (Page 164)

6.1.4 Activating "Directly edit new objects"

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "Navigator settings" command in the context menu of the Navigator. The "Navigator settings" window opens.
2. Activate or deactivate the "Directly edit new objects" option in the "General" control group.
3. Confirm your entries.

Result

- Option activated: If you create a new object in the Navigator by drag&dropping a base object or via the context menu, its properties are opened directly in the working area for further editing.
- Option deactivated: You must open the properties manually.

See also

Calling context menus (Page 125)

6.1.5 Showing placing information

Principle

Objects which are placed on interactive reports can be labeled in the Navigator.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

Select the "View > Icon with placing information" command in the menu bar and then select a subcommand:

- "... > For all placed objects"
- "... > For all placed elements"
The setting only applies for elements with the "Element" class. See also chapter Elements (Page 60).

Result

An additional icon is added to the object icons:



Hiding placing information

Select the "View > Icon with placing information > Hide" command in the menu bar.

6.2 Switching the user interface language

Requirements

- You have started COMOS. See also chapter General information on starting COMOS (Page 155).
- A database is open. See also chapter Opening or switching between databases (Page 156).

Procedure

1. In the menu bar, select "File> Languages".
The "Languages" window opens.
2. Select the language you want.
3. Click the "OK" button.

Result

- The user interface language is changed.
- All open tabs are closed.
- The object tree in the Navigator is reduced. You only see the nodes directly under the project root.
- The project language switches to the one set as the user default language or the project default language.

See also

Switching the project language (Page 168)

Language concept in COMOS (Page 113)

General requirements for working with COMOS Platform (Page 17)

6.3 Switching the project language

Requirements

A database is open. See also chapter Opening or switching between databases (Page 156).

Procedure

1. Select a project in the Navigator or on the "Open project" tab.
2. Select the "Properties" command from the context menu of the project.
The project properties are displayed.
3. Click on the category "General settings > Languages".
4. You have the following options:
 - Switch language for the current session: Enable the option for the desired language in the "Current" column.
 - Switch language permanently: Enable the option for the desired language in the "User default" column.
5. Click the "OK" button.

Note

Restriction

Switching the language does not affect objects from other projects.

Examples of such objects: Favorites from another project, base objects from the base project

Result

The database language is changed.

See also

General requirements for working with COMOS Platform (Page 17)

Switching the user interface language (Page 167)

Language concept in COMOS (Page 113)

Options when working with projects (Page 169)

Working with projects

7.1 Options when working with projects

Aside from editing the project data, you also have the following options:

- Opening a project or the released area of a project (Page 169)
- Switching between open projects (Page 170)
- Displaying user rights in a project (Page 172)
- Switching the project language (Page 168)
- Closing projects (Page 172)
- Opening the working layers of a project (Page 175)

See also

Working with working layers (Page 175)

Managing projects (Page 173)

Projects (Page 19)

7.2 Opening a project or the released area of a project

Requirements

- A database is open. See also chapter Opening or switching between databases (Page 156).
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "File > Open project" command in the menu bar.
The "Open project" tab opens. See also chapter "Open project" tab (Page 462).
The table is based on a query. The query functions are available in the context menu of the column headers; for example, filtering and sorting functions. You can save these settings in your user settings. See also chapter Saving settings of query-based result tables (Page 138).
2. At the top of the tab, select a project type from the following options:

Option	Project type
"Engineering"	Engineering projects
"Base objects"	Base projects
"Templates"	Template projects
"System"	System projects

You will see all projects of the selected project type for which you have read rights.

3. Select a project.
If the project has working layers, you will see them toward the bottom of the tab. See also chapter Opening the working layers of a project (Page 175).
4. Click "Open".

Result

The project is loaded. If you are working with working layers, the released area of the project will be loaded. The project's objects and documents are displayed in the Navigator.

See also

- Options when working with projects (Page 169)
- Switching between open projects (Page 170)
- Projects (Page 19)

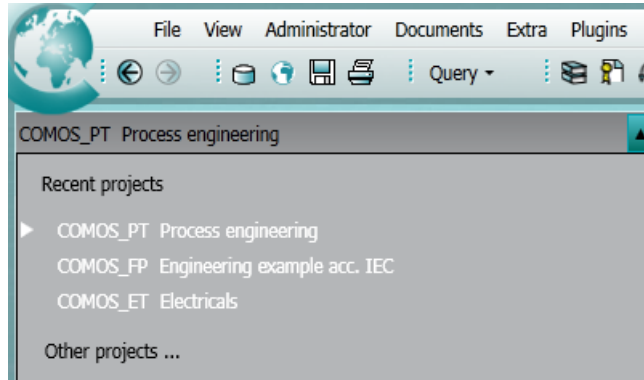
7.3 Switching between open projects

Requirements

At least two projects are open in the current COMOS session. See also chapter Opening a project or the released area of a project (Page 169).

Procedure

1. In the Navigator, click on the arrow button in the area for switching projects. You will see a list of all projects currently open.



2. Select a project.

Result

Unsaved objects from the previously opened project are saved.

The data from the new project is shown in the Navigator:

- If only the released area is open, the data for the released area is shown.
- If a working layer of the project is open, the working layer data is shown.
- If multiple working layers of the project are open, the data for the working layer last used is shown.

Note

Clipboard content when switching projects

The content of the clipboard is retained when you switch projects. See also chapter Simple copying in the Navigator and switching projects (Page 215).

See also

Projects (Page 19)

Options when working with projects (Page 169)

Switching between open working layers (Page 176)

General requirements for working with COMOS Platform (Page 17)

7.4 Displaying user rights in a project

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

The following ways of displaying your user rights are available:

- Per project:
To check which global rights you have in the project, select the project root in the Navigator and select the "Rights" command from the context menu.
- Per object:
To check which rights you have for a particular object, select the object in the Navigator and press <Ctrl+A>.

Result

Your rights are displayed in a window. See also chapter Window for the project user rights (Page 485).

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of users and rights".

See also

Projects (Page 19)

Options when working with projects (Page 169)

7.5 Closing projects

Requirements

At least two projects are open. See also chapter Opening a project or the released area of a project (Page 169).

Procedure

Select the "File > Close project" command in the menu bar.

Result

Unsaved objects are saved and the project is closed. The project you were previously logged into is now shown. If you were working in a working layer in the project, the working layer is shown.

See also

Projects (Page 19)

Options when working with projects (Page 169)

General requirements for working with COMOS Platform (Page 17)

7.6 Managing projects

Responsibility

Administrators manage projects.

Options

Project management comprises the following tasks:

- Creating projects
- Importing projects
- Exporting projects
- Copying projects
- Deleting projects
- Configuring project properties

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of projects and working layers".

See also

Options when working with projects (Page 169)

Working with working layers

8.1 Opening the working layers of a project

Requirements

- A project from the open database has working layers.
- You have experience of working with the relevant user interface. See also chapter "Open project" tab (Page 462).
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Open the "Open project" tab as described in chapter Opening a project or the released area of a project (Page 169). Select a project which has working layers.
In the lower half of the "Open project" tab, you will see the "Total overview" tab. This contains a tree showing the working layers of the project.
2. Select the desired working layer.
3. Click "Open".

Note

"Total overview" tab: Color code of the working layers

Black node: Double-click the desired working layer. If you have read rights, the working layer opens. If you do not have read rights, a message window opens. The database must be opened again. See also Opening or switching between databases (Page 156).

Gray node: You have read rights for the subordinate node.

Result

The working layer is opened. The following objects and documents are displayed in the Navigator:

- All those checked into the working layer or those created there
- All those which shine through from the superordinate layers

See also

Creating working layers (Page 195)

Working in working layers (Page 177)

Switching between open working layers (Page 176)

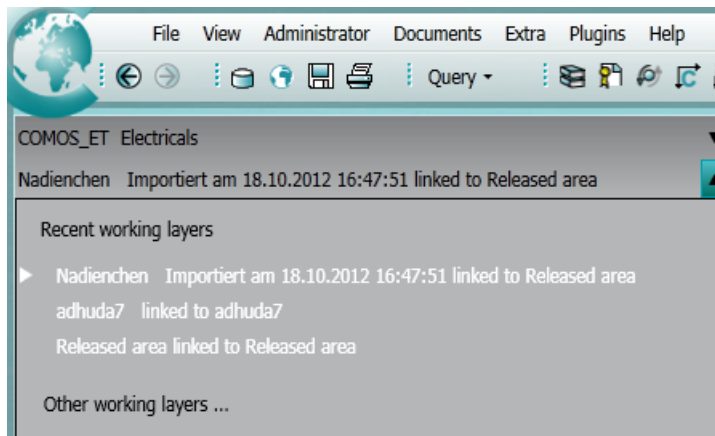
8.2 Switching between open working layers

Requirements

- At least two working layers from the same project are open in the current COMOS session. See also chapter Opening the working layers of a project (Page 175).
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. In the Navigator, click on the arrow button in the area for switching working layers. You will see a list of all the working layers open in the current session for the currently loaded project.



2. Select a working layer.

Result

Unsaved objects are saved.

The objects and documents from the new working layer are displayed in the Navigator:

- All those checked into the working layer or those created there
- All those which shine through from superordinate layers

See also

Working in working layers (Page 177)
Switching between open projects (Page 170)

8.3 Closing working layers

Requirements

At least two working layers are open. See also chapter Opening the working layers of a project (Page 175).

Procedure

Select the "File > Close working layer" command in the menu bar.

Result

Unsaved objects are saved and the working layer is closed. The working layer you were previously logged into is now shown. If you were working in the released area in the project, the released area is shown.

8.4 Working in working layers

Editing project data in the working layer

The same tools and options are available as when you are working without working layers or directly in the released area. The working layer technique only becomes relevant when working layers are released.

Release preparation

Before release, the working version of the working layer is checked. Depending on how roles are distributed in your project, either you or an administrator will check the working version.

The following functions enable you to check the working version:

- Display of the object status relevant to the working layers:
 - Via the working layer display mode
See also chapter Enabling and disabling the working layer display mode (Page 178).
 - Via the detailed object status
See also chapter Displaying the detailed object status for working layers and histories (Page 182).
- Comparison of objects with those from the superordinate layer
See also chapter Comparing an object with the superordinate layer (Page 183).

8.5 Checking the working state of the working layer and preparing the release

- Checking work progress within the working layer via the project history
See also chapter Checking the object history (Page 185).
- Excluding objects for release
See also chapter Excluding objects from release (Page 191).
- Performing release checks
See also chapter Performing release checks (Page 188).
- Resolving collisions
See also chapter Identifying and resolving collisions (Page 190).
- Restoring data from superordinate layers
See also chapter Restoring data from superordinate layers (Page 192).
- Restoring objects marked "Soft deleted"
See also chapter Undoing the deletion of objects with the "soft delete" marker (Page 193).

See also

Opening the working layers of a project (Page 175)

Switching between open working layers (Page 176)

Managing working layers (Page 194)

Working layers (Page 22)

Working with the project history (Page 184)

8.5 Checking the working state of the working layer and preparing the release

8.5.1 Enabling and disabling the working layer display mode

Requirements

A working layer is open. See also chapter Opening the working layers of a project (Page 175).

Enabling the working layer display mode

Select the "Working layer display mode" command from the context menu of the Navigator.

Result

The working layer display mode is enabled:

- Write actions are locked.
- The objects are colored according to their working layer status in the following user interfaces:
 - Navigator
 - Queries
 - Interactive reports

See also chapter Displaying the color legend for the working layer display mode and the history display (Page 179).

For the representation of standard tables on the "Base objects" tab, also see chapter Working layer display mode (Page 24).

- Attributes marked "Soft deleted" are visible in the properties of base objects.

Disabling the working layer display mode

Select the "Working layer display mode" command again from the context menu of the Navigator.

See also

Working in working layers (Page 177)

Configuring the working layer display mode and the history display (Page 180)

Displaying the detailed object status for working layers and histories (Page 182)

8.5.2 Displaying the color legend for the working layer display mode and the history display

Requirements

- A working layer is open. See also chapter Opening the working layers of a project (Page 175).
- The status display of the engineering objects is deactivated. If the status display is activated, you see the legend of the active status type in the "Legend" window.
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

Select the "Legend" command from the context menu of the Navigator.

Result

The "Legend" window opens. It contains the legend for the working layer display mode and the history display. See also chapter "Legend" window (Page 478).

Here you can change the color settings. See also chapter Configuring the working layer display mode and the history display (Page 180).

See also

Working layer display mode (Page 24)

History display (Page 28)

Enabling and disabling the working layer display mode (Page 178)

8.5.3 Configuring the working layer display mode and the history display

8.5.3.1 Setting colors for the object status of the working layer display mode and the history display

Requirements

- A working layer is open. See also chapter Opening the working layers of a project (Page 175).
- You have experience of working with the relevant user interface. See also chapter "Legend" window (Page 478).

Procedure

1. Select the "Legend" command from the context menu of the Navigator.
The "Legend" window opens.
2. Click on the "..." button next to the corresponding status value in the "Color settings" tab.
3. Select the desired color.
4. Click the "OK" button.
The configured color is displayed in the "Color" column in the "Legend" window.
5. Select one of the following options:
 - To save the color setting only for the current session, click on the "Close" button.
 - To save the color setting as a personal setting, click on the following button:



See also chapter "Save settings" window (Page 481).

See also

Working layer display mode (Page 24)

Enabling and disabling the working layer display mode (Page 178)

8.5.3.2 Setting the colors for working layer levels

Requirements

- A working layer is open. See also chapter Opening the working layers of a project (Page 175).
- You have experience of working with the relevant user interface. See also chapter "Legend" window (Page 478).

Procedure

1. Select the "Legend" command from the context menu of the Navigator.
The "Legend" window opens.
2. Select the "Working layer color settings" tab.
3. Click the "..." button of the desired level.
4. Select the desired color.
5. Click the "OK" button.
The configured color is displayed in the "Color" column in the "Legend" window.
6. Select one of the following options:
 - To save the color setting only for the current session, click on the "Close" button.
 - To save the color setting as a personal setting, click on the following button:



See also "Save settings" window (Page 481).

Result

When you open a working layer of this level, the background of the Navigator will be colored accordingly. This means you can tell immediately which working layer level you are working in.

See also

Working layer display mode (Page 24)

Enabling and disabling the working layer display mode (Page 178)

Managing working layers (Page 194)

8.5.3.3 Resetting the working layer display mode and the history display to the default colors

Requirements

- A working layer is open. See also chapter Opening the working layers of a project (Page 175).
- You have experience of working with the relevant user interface. See also chapter "Legend" window (Page 478).

Procedure

1. Select the "Legend" command from the context menu of the Navigator.
The "Legend" window opens.
2. Select one of the following options:
 - If you want to reset the colors of the status values, click on the "Color settings" tab.
 - If you want to reset the colors of the working layers, click on the "Working layer color settings" tab.
3. Click the following button:



See also

Working layer display mode (Page 24)

Enabling and disabling the working layer display mode (Page 178)

Managing working layers (Page 194)

8.5.4 Displaying the detailed object status for working layers and histories

Aim

It is possible to obtain a more detailed view of the working layer status of an object than the working layer display mode provides.

Requirements

A working layer is open.

Procedure

1. In the Navigator, select the object for which you want to view the working layer status.
2. Click the "Extra > Working layers/history > Object status" command in the menu bar. The "Object status (Working layers/history)" tab opens. See also chapter "Object status (Working layers/history)" tab (Page 467).
3. To change the evaluated object, drag another object from the Navigator onto the name of the object currently being evaluated on the tab.

Result

The working layer status and the history status of the object are displayed in detail.

See also

Status information that is relevant for working layers and project history (Page 31)
Working in working layers (Page 177)
Opening the working layers of a project (Page 175)

8.5.5 Comparing an object with the superordinate layer

Requirements

- A working layer is open.
- You have experience of working with the relevant user interface. See also chapter "Object comparison" window for working layers (Page 483).

Procedure

1. In the Navigator, select an object which is available in the superordinate layer.
2. Select the "Working layers/history > Compare object" command from the context menu. The "Object comparison" window opens. In the window, the selected object is compared with the object in the next superordinate working layer. The differences are displayed.
3. To change the evaluated object, drag another object from the Navigator onto the name of the object currently being evaluated on the tab.

See also

Working in working layers (Page 177)
Opening the working layers of a project (Page 175)

8.5.6 Working with the project history

8.5.6.1 Activating and deactivating the history display

Requirements

A project, working layer, or the released area is open. See also chapter Opening a project or the released area of a project (Page 169) and chapter Opening the working layers of a project (Page 175).

Activating the history display

Select the "History display" command from the context menu of the Navigator.

Result

The history display is activated:

- Write actions are locked.
- The objects are colored according to their history status in the following user interfaces:
 - "Object history" window
 - Navigator
 - Queries
 - Interactive reports

Note

Calculation time

The time required to calculate the history display is determined by the number of entries in the object histories.

- Attributes marked "Soft deleted" are visible in the properties of base objects.

See also chapter Displaying the color legend for the working layer display mode and the history display (Page 179).

Deactivating the history display

Select the "History display" command from the context menu of the Navigator again.

See also

History display (Page 28)

Setting the comparison time for the history display (Page 187)

8.5.6.2 Checking the object history

Aim

Check the following in the object history of an object:

- The period during which the data stock of an object was valid
- Who edited the data
- Which data was edited

Requirements

- A project, working layer, or the released area is open. See also chapter Opening a project or the released area of a project (Page 169) and chapter Opening the working layers of a project (Page 175).
- History management is switched on in the project properties. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Activating and deactivating history management".
- The object is or was subject to history monitoring. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Activating and deactivating history monitoring".
- The object was changed while history monitoring was active.
- You have experience of working with the relevant user interface. See also chapter "Object history" window (Page 484).

Procedure

1. Select the desired object in the Navigator.

Note**Checking requirements of attribute values and connectors**

To check how the attribute values and connection information of an engineering object have changed, select the relevant attribute or connector.

2. Select the "Working layers/history > Object history" command from the context menu.

Result

The "Object history" window opens. You see the history entries of the object. The history entries log changes to the properties listed below. The following facts are recorded for each history entry:

Column	Description
"Working layer"	Layer in which the object was changed
"User"	User who changed the object
"At/From" and "To"	Period in which a value was valid

The entries log all changes from the current layer or superordinate layers made at a point in time at which the object was being monitored on the corresponding layer. You can filter the entries via the toolbar.

Changes to the properties of engineering objects

In the case of engineering objects, the history entry immediately shows how a value has changed for the following properties:

- "Name"
- "Label"
- "Description"
- "Folder"

Changes to other general properties are logged in the "Miscellaneous" column with the note "Internal data was changed".

Changes to attributes or connectors are logged in the object history of the corresponding attribute or connector.

Changes to the properties of attributes

In the case of attributes, the history entry immediately shows how a value has changed for the following properties:

- "Value" (OwnValue)"
- "Unit"

Changes to the properties of connectors

In the case of connectors, the "Connected to" column shows whether the counterpart connector has changed.

Properties logged for all objects

For all objects, the "History monitoring" column shows whether history monitoring has been activated or deactivated.

See also

Project history (Page 27)

8.5.6.3 Setting the comparison time for the history display

Requirements

- A project, working layer, or the released area is open. See also chapter Opening a project or the released area of a project (Page 169) and chapter Opening the working layers of a project (Page 175).
- You have experience of working with the relevant user interface. See also chapter "Working layer/History management" tab (Page 469).

Procedure

1. Click the "Extra > Working layers/history > Management" command in the menu bar. The "Working layer/History management" tab opens.
2. Select the "History" tab.
3. Choose one of the following comparison times:
 - Time of release into the released area
Select the row of a release in the table. Then enable the "Changes since index" option. The time of this release serves as the comparison time. The index number of the entry selected in the table is displayed in the field alongside.
 - The time at which an object was changed
Drag&drop an object from the Navigator into the field next to the "Changes since" option. The option is activated. The time the object was last changed is used as the comparison time.
 - None
Select the "None" option.

Changes to these control elements are applied automatically for the current session and remain valid until the next change of working layer.

Result

The status is calculated for history display. When history display is activated, the objects are colored according to their status:

- Comparison time set:

Color	Description
Black	No history entries
Blue	Object has history entries and was created before the comparison time.
Green	Object has history entries and was created after the comparison time.
Red	Object has history entries and is soft deleted

- No comparison time set:

Color	Description
Black	No history entries
Light blue	History entries in the substructure
Blue	History entries available
Red	Object has history entries and is soft deleted

See also

Working in working layers (Page 177)

History display (Page 28)

Activating and deactivating the history display (Page 184)

8.5.7 Performing release checks

Aim

In the Release manager, you can check and correct the state of a working layer prior to release.

Requirements

- A working layer is open. See also chapter Opening the working layers of a project (Page 175).
- You have experience of working with the relevant user interface. See also chapter "Release manager" tab (Page 470).

Background

When a working layer is released, COMOS checks whether the data in the working layer does not conform to the release rules. A working layer cannot be released if this is the case.

The Release manager uses the check settings that were defined in the base data for the release of a working layer of this level. You can find more information on this topic in "COMOS Platform Administration", keyword "Using the base object to control working layer release".

You can also search for collisions in the Release manager. A check for collisions is not carried out when a working layer is released. Collisions do not prevent a working layer from being released.

Procedure

1. Click the "Working layers/history > Release manager" command in the menu bar.
The "Release manager" tab opens.
2. Make the settings for the check.
3. Click the "Start" button.
The release check is carried out. Contraventions of the check settings are displayed in the events table of the areas for documents and objects.
Types of contravention:
 - Open revisions
 - Incorrect names or labels
 - Multiple placed objects
Finds objects that are not permitted to be placed more than once but have been placed once each in working layers from parallel branches.
 - Collisions

The release can go ahead if there are no contraventions. See also chapter Releasing a working layer (Page 198).

Removing contraventions

1. Select a contravention from the table.
2. Open revision:
 - To close an open revision: Select the "Revision > Created by", "... > Checked by", and "... > Released by" commands from the context menu.

Note

Forcing revision

One reason for an open revision is that the document has already been revised in parallel or superordinate working layers. It has a revision lock. See also chapter Unit revisions and project revisions (Page 90).

You can force the revisioning of the open revision via the context commands. The revision with the same index number from the other layer is reset to a * revision. The other layer cannot be released as long as this * revision exists.

- To delete an open revision: Select the "Delete 'open' revisions" command from the context menu.

8.5 Checking the working state of the working layer and preparing the release

3. Incorrect names or labels: Select the "Correct name/label" command from the context menu.
4. Collision: Select the "Working layers/history > Restore" or "... > Accept collisions" command from the context menu. See also chapter Identifying and resolving collisions (Page 190).

See also

Working in working layers (Page 177)

8.5.8 Identifying and resolving collisions

Identifying collisions

You have the following options:

- Via the Release manager. See also chapter Performing release checks (Page 188).
- Via the working layer display mode.

The following section describes the method using the working layer display mode.

Requirements

- An object from a superordinate working layer has been checked in and changed in a subordinate layer. The object has then been changed in the superordinate layer. See also chapter Collisions (Page 32).
- The subordinate layer is opened.
- The working layer display mode is activated. See also chapter Enabling and disabling the working layer display mode (Page 178).

Procedure

1. In the Navigator, select the object at which the collision occurred.
2. You have the following options:
 - Keep information from subordinate layer:
Select the "Working layers/history > Accept collisions" command from the context menu. The command is only available if there are no collisions in the secondary nodes of the object.

Note

Release overwrites data of the superordinate layer

If you call this command and then release the working layer, the data on the superordinate layer is overwritten.

If you call the command in working layers on the first working layer level and release the working layer, the data of the released area is overwritten on release.

- Restore information from superordinate layer:
Select the "Working layers/history > Restore > Single" command from the context menu.

Result

- Keep information from subordinate layer: The data of the subordinate layer is retained on release.
- Restore information from superordinate layer: The object is deleted in the subordinate layer (hard delete). The object from the superordinate layer shines through again.

See also

Working in working layers (Page 177)

Restoring data from superordinate layers (Page 192)

Opening the working layers of a project (Page 175)

8.5.9 Excluding objects from release


Requirements

A working layer is open.

Procedure

1. Select an object in the Navigator.
2. Select the "Working layers/history > Release-relevant" command from the context menu.

Result

- The object and all subordinate objects are not released when the working layer is released. The icon receives an additional symbol:

- If the working layer is deleted after the release, these objects are lost.
- You can reactivate release relevance at any time.

Restore release relevance

Select the "Working layers/history > Release-relevant" command in the object's context menu again.

See also

- Working in working layers (Page 177)
- Context-dependent additional icons (Page 423)
- Opening the working layers of a project (Page 175)

8.5.10 Restoring data from superordinate layers

Aim

If you have edited an object from a superordinate layer in a subordinate layer, you can undo these changes.

Requirements

- A working layer is open. See also chapter Opening the working layers of a project (Page 175).
- An object from the superordinate layer has been edited in the working layer.
- The working layer display mode is activated. See also chapter Enabling and disabling the working layer display mode (Page 178).

Procedure

1. Select the object in the Navigator.
2. You have the following options:
 - Select the "Working layers/history > Restore > Single" command from the context menu. The object is deleted from the working layer (hard delete). The object from the superordinate layer shines through again.
 - Select the "Working layers/history > Restore > Recursive" command from the context menu. The object and all subordinate objects are deleted from the working layer. The objects from the superordinate layer shine through again.

Resolving collisions

You can also resolve collisions using the "Working layers/history > Restore" command. See also chapter Identifying and resolving collisions (Page 190).

See also

Undoing the deletion of objects with the "soft delete" marker (Page 193)

8.5.11 Undoing the deletion of objects with the "soft delete" marker

Requirements

- If you are working with working layers:
 - A working layer is open. See also chapter Opening the working layers of a project (Page 175).
 - An object from the superordinate layer has been deleted in the working layer.
- If history monitoring is active:
 - A working layer, the released area, or the project is open. See also chapters Opening the working layers of a project (Page 175) and Opening a project or the released area of a project (Page 169).
 - An object has been deleted.

Procedure

1. Activate the working layer display mode or the history display. See also chapters Enabling and disabling the working layer display mode (Page 178) and Activating and deactivating the history display (Page 184).
2. Select the object in the Navigator.
3. Select the "Working layers/history > Undo deletion" command in the context menu.
4. Deactivate the working layer display mode or the history display.

See also

Deletion in working layers and in the released area (Page 32)

Restoring data from superordinate layers (Page 192)

8.6 Managing working layers

Responsibility

Depending on how roles are distributed in your project, either you or an administrator will manage the working layers.

Working layer management can be restricted: Via rights administration and the configuration of the base objects of the working layer levels

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Rights administration for working layers".

Tasks relating to working layer management

Working layer management comprises the following tasks:

Task	See also chapter ...
Creating working layers	Creating working layers (Page 195)
Copying working layers	Copying working layers (Page 196)
Deleting working layers	Deleting working layers (Page 197)
Releasing working layers	Releasing a working layer (Page 198)
Exporting and importing working layers	You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Import working layer" and "Export working layer".

See also

Working in working layers (Page 177)

Working layers (Page 22)

8.7 Creating working layers

Requirements

- There is already an engineering project in the database. See also chapter Managing projects (Page 173).
- You are authorized to manage working layers. See also chapter Managing working layers (Page 194).
- You have a good knowledge of the associated user interface. See chapter "Open project" tab (Page 462).
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "File > Open project" command in the menu bar.
2. Select the desired engineering project in the "Open project" tab.
You are working on the "Total overview" tab.
3. You have the following options:
 - To create a working layer directly underneath the released area of the project, select the project root.
 - To create a subordinate working layer under an existing working layer, select the working layer.
4. Select the "New > Working layer" command in the context menu.
The properties of the new working layer open.
5. Enter values in the "Name" and "Description" fields.
6. Determine the base working layer. Proceed as follows:
 - Click the "..." button next to the "Base working layer" field.
The "Select base working layer" window opens. You will see the working layers of the base project which is linked to the engineering project.
 - Select a working layer.
If the released area of the engineering project has a link to a base working layer, you can only select the base working layers which are located under it.
 - Confirm your entries.

Note

No base working layer set

If you do not set a base working layer, the working layer is linked to the released area of the base project.

7. Confirm your entries.

Result

The working layer is created. When you open it, you see all objects from the superordinate layers. The objects are not checked in, they shine through.

Depending on whether you have set a base working layer, the "Navigate > Base object in base project" command either navigates to the released area of the project or to the linked base working layer.

See also

Opening the working layers of a project (Page 175)

Interaction between released area and working layers (Page 23)

Properties of a working layer (Page 487)

8.8 Copying working layers

Requirements

- A project from the open database has a working layer. See also chapter Creating working layers (Page 195).
- You are authorized to manage working layers. See also chapter Managing working layers (Page 194).
- You have a good knowledge of the associated user interface. See chapter "Open project" tab (Page 462).

Procedure

1. Select the "File > Open project" command in the menu bar.
2. Select the desired project in the "Open project" tab.
The working layers are listed in the "Total overview" tab.
3. Select a working layer (source working layer).
4. Select the "Copy" command in the context menu.
5. Select a working layer which is parallel to the source working layer.
6. Select the "Paste" command from the context menu.

Result

- A copy of the source working layer is pasted. It contains the objects checked into and newly created in the source working layer. The data from the superordinate layers shines through.
- External documents which are saved externally in the file system are not copied. They exist independently of working layers.

See also

General requirements for working with COMOS Platform (Page 17)

8.9 Deleting working layers

Note

Possible data loss

In the following cases, data is lost due to a working layer being deleted:

- The working layer has not yet been released.
 - The working layer has subordinate layers which have not yet been released.
-

Requirements

- A project from the open database has working layers. See also chapter Creating working layers (Page 195).
- You are authorized to manage working layers. See also chapter Managing working layers (Page 194).
- You have a good knowledge of the associated user interface. See chapter "Open project" tab (Page 462).

Procedure

1. Select the "File > Open project" command in the menu bar.
2. Select the desired project in the "Open project" tab.
The working layers are listed in the "Total overview" tab.
3. Select one or more working layers.
4. Select "Delete" from the context menu.

Result

The working layer and its subordinate layers are deleted. If there are still users working in the working layers, they are not deleted. A warning message with a list of active users opens.

See also

General requirements for working with COMOS Platform (Page 17)

8.10 Releasing a working layer

Note

Possible data loss

In the following cases, data is lost or overwritten when a subordinate working layer is released:

- Objects which originate from a superordinate layer or from the released area have been deleted in the working layer.
As a result of the release, the data is also deleted in the layer to which the data is released. See also chapter Deletion in working layers and in the released area (Page 32).
 - Objects which originate from a superordinate layer or from the released area have been edited in the working layer.
The release overwrites the editing status of the layer receiving the released layer.
-

Note

Note the time required for the release of a working layer

The larger a working area is, the more time it takes to release it.

Requirements

- A project from the open database has a working layer. See also chapter Creating working layers (Page 195).
- The engineering of the working layer is completed.
- The working layer has been prepared for release. See also chapter Checking the working state of the working layer and preparing the release (Page 178).
- You are authorized to manage working layers. See also chapter Managing working layers (Page 194).
- You have a good knowledge of the associated user interface. See chapter "Open project" tab (Page 462).
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "File > Open project" command in the menu bar.
2. Select the desired project in the "Open project" tab.
The working layers are listed in the "Total overview" tab.
3. Select a working layer.

4. Select the following command from the context menu:
 - If you have selected a subordinate layer: "Release to the superior working layer"
 - If you have selected a working layer directly under the released area: "Release to the released area"
5. To confirm the release, click on the "OK" button in the "Release working layer" window.

Result

COMOS checks whether the data in the working layer conforms to the release rules.

Contraventions present:

- The release is canceled. An error message is displayed.
- You can identify and correct contraventions in the Release manager.
See also chapter Performing release checks (Page 188).

No contraventions present:

- The objects of the working layer are released to the superordinate working layer or to the released area.
- Depending on how the base object of the working layer level is configured, one of the following actions is performed:
 - The released working layer is set to read-only.

Note

Remove write protection

You can remove the write protection. Select the "Remove working layer write protection (after release)" command in the context menu of the working layer.

- The released working layer and its objects are deleted.
- The objects of the released working layer are deleted.

Creating engineering objects

9.1 Creating objects from a project structure

See also chapters Structure engineering using project structures and labeling systems (Page 36) and Fundamentals of creating engineering objects and documents (Page 67).

Requirements

Your project works with project structures. See also chapter Project links (Page 21).

Methods for creating objects

When working with project structures you can choose between the following methods for creating objects:

Create engineering objects ...	See also chapter ...
Via the area of the context menu dedicated to structure engineering using project structures Knowledge of the project structure is not necessary.	Selecting a project structure from the context menu (Page 203) Creating objects from a project structure via the context menu (Page 204)
Via the static new menu Knowledge of the project structure is not necessary.	Creating objects in the static New menu (Page 209)
By working in interactive reports	Creating engineering objects when working in interactive reports (Page 212)
Using drag&drop with a base object	Creating engineering objects using drag&drop with a base object (Page 207)
Using imports	Creating engineering objects using imports (Page 212)
By copying	Copying engineering objects (Page 213)

The method you choose will depend on various factors. The following methods are generally recommended depending on which group of engineering objects the object you wish to create belongs to:

Group	Method
Objects which structure the project	Context menu
Objects with a managing or supporting function	Context menu
Physical objects necessary for engineering and operation	Interactive reports
Logical objects necessary for engineering and operation	Context menu or interactive reports

See also

- Placing objects by inserting a template (Page 316)
- Free structure engineering (Page 37)

9.2 Free creation of objects

See also chapters Free structure engineering (Page 37) and Fundamentals of creating engineering objects and documents (Page 67).

Aim

You have the following options:

- You want to create a general engineering object directly under the project root.
- You want to create a general engineering object within the project structure.
- You are working with an object from a project structure. The project structure does not restrict which objects can be created under the object.

Requirements

If you want to create a general engineering object within the project structure, the following applies: The project structure allows you to create objects freely in the current node of the object tree.

Methods for creating objects

In the context of free engineering of the project structure, you can choose between the following methods:

Method of creating objects	See also chapter ...
Via the area of the context menu dedicated to free structure engineering	Free creation of objects directly under the project root (Page 206) Creating general engineering objects (Page 206)
Using drag&drop with a base object	Creating engineering objects using drag&drop with a base object (Page 207)
By working in interactive reports	Creating engineering objects when working in interactive reports (Page 212)
Using imports	Creating engineering objects using imports (Page 212)
By copying	Copying engineering objects (Page 213)

See also

Placing objects by inserting a template (Page 316)

Structure engineering using project structures and labeling systems (Page 36)

Project links (Page 21)

9.3 Creating engineering objects via the context menu

9.3.1 Selecting a project structure from the context menu

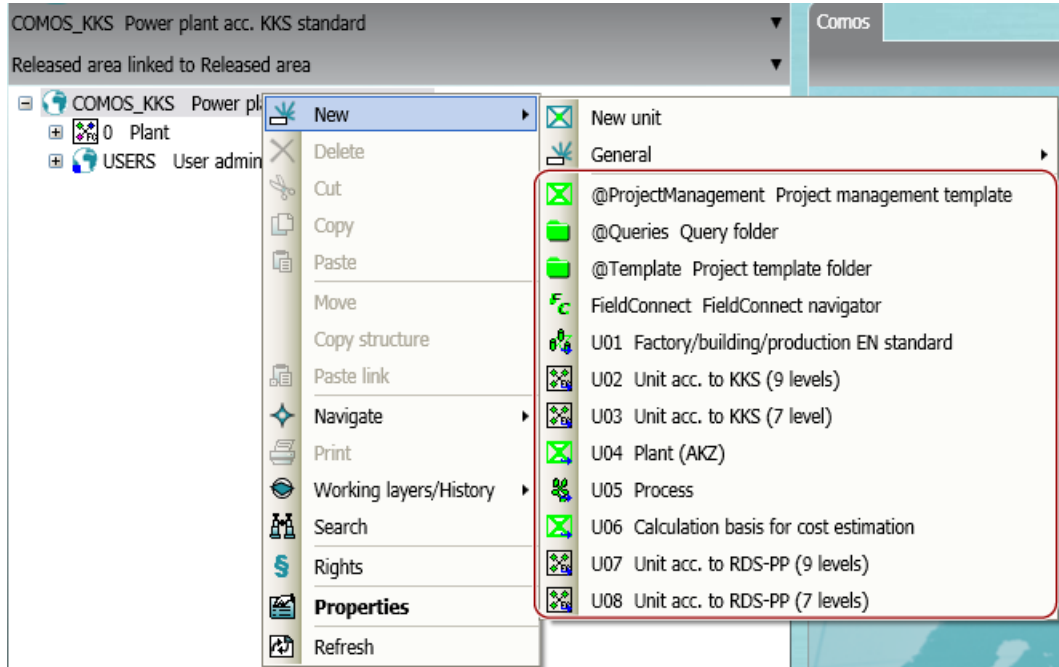
Requirements

- A project is open. See also chapter Opening a project or the released area of a project (Page 169) and chapter Opening the working layers of a project (Page 175).
- The project works with project structures. See also chapter Project links (Page 21).

Procedure

1. Select the "Units" or "Locations" Navigator tab.
2. Select the project root in the Navigator.

3. Select the "New" command from the context menu.
The sub-menu opens. The entries for the project structures are displayed in the bottom half of the context menu:



4. Select a project structure.

Result

- The first object of the project structure is created under the project root.
- Under the new object, you can only create objects permitted by the project structure. See also chapter Creating objects from a project structure (Page 201).
You can only create objects freely at the points designated by the project structure. See also chapter Free creation of objects (Page 202).

See also

Creating objects from a project structure via the context menu (Page 204)

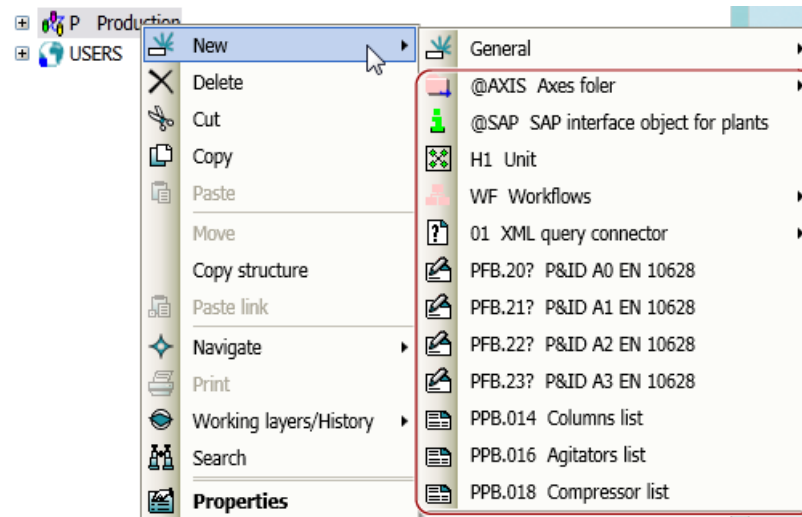
9.3.2 Creating objects from a project structure via the context menu

Requirements

- A project is open. See also chapter Opening a project or the released area of a project (Page 169) and section Opening the working layers of a project (Page 175).
- In the "Units" or "Locations" tab, the first object of a project structure has been created on the level under the project root. See also chapter Selecting a project structure from the context menu (Page 203).

Procedure

1. Select the "Units" or "Locations" Navigator tab.
2. Select the object of the project structure or an object already created under it.
3. Select the "New" command from the context menu.
The sub-menu opens. All objects which are permitted under this object according to the project structure are displayed in the bottom half of the context menu:



Note

Creating objects freely

If the top half of the context menu contains the "New > General > New object" command, you can also engineer the project structure freely. See also chapter Free creation of objects (Page 202).

4. Select the required object.

Result

- The new object is created.
If its base object is configured accordingly, further objects are automatically created along with the object. See also chapter Fundamentals of creating engineering objects and documents (Page 67).
- Under the new object, you can only create objects permitted by the project structure. You can only create objects freely at the points designated by the project structure. See also chapter Free creation of objects (Page 202).

See also

Creating objects from a project structure (Page 201)

9.3.3 Free creation of objects directly under the project root

Requirements

A project is open.

Procedure

1. Select the "Units" or "Locations" Navigator tab.
2. Select the project root in the object tree.
3. Select the "New > New unit" or "New > New location" command from the context menu.

Result

A general unit or location is created under the project root.

You can create more engineering objects freely under the general unit or location. See also chapter Free creation of objects (Page 202).

See also

General engineering objects (Page 65)

9.3.4 Creating general engineering objects

See also chapter General engineering objects (Page 65).

Requirements

- A project is open.
- The required owner is not the project root.
- If the future owner of the general object has been created with a project structure, the following applies: The project structure also permits general engineering objects under the owner.
In this case, the node has the "New > General > New object" or "New > New object" context menu.
- You can only create a general position under a general unit.

Procedure

1. In the Navigator, select the object under which you want to create the general object. To create a general position, select a general unit.
2. In the context menu of the object, select one of the following commands:

Command	Result	Availability
"New > General > New object" Or "New > New object"	A general object is created. Its properties are opened automatically.	On all Navigator tabs
"... > New unit"	A general unit is created.	"Units" tab Not available under general positions or general objects
"New > General > New position"	A general position is created.	"Units" tab Only available under general units
"New > General > New location"	A general location is created.	"Locations" tab

3. Optional: Open the properties of the new object and edit them.

See also

Free creation of objects (Page 202)

Activating "Directly edit new objects" (Page 166)

Free creation of objects directly under the project root (Page 206)

9.4 Creating engineering objects using drag&drop with a base object

Advantage of this method of creating objects

This method allows you to create engineering objects that are not listed in the "New" context menu or in interactive reports, for example.

It can also be used in the following scenarios:

- You want to create engineering objects whose base objects are located under a common node.
- You want to create multiple engineering objects based on the same base object.

Requirements

- A project is open.
- You do not want to create the new object directly under the project root.

- If the owner has been created via a project structure: The project structure allows you to create the required engineering object under the owner.
Restrictions:
 - Owners with the "New > General > New object" or "New > New object" context menu command: No restrictions
 - Owners without the "New > General > New object" or "New > New object" context menu command: You can only create the engineering objects that are also available via the owner's "New" context menu.
- You have experience with the structure of the "Base objects" tab. If you have any questions, contact your administrator.

Procedure

1. Select the "Base objects" tab.
2. You have the following options:
 - To create multiple engineering objects based on the same base object, select the required base object.

Note

Engineering objects can only be derived from base objects with red or green icons.

- To create multiple engineering objects located under a common base object node, select the common superordinate node.
3. Drag the selected base object to the detail area of the Navigator so that it is displayed on a separate tab. See also chapter Displaying nodes from the structure area of the Navigator in the detail area (Page 148).
 4. To create engineering objects whose base objects are located under a common node, expand the node in the detail area so that you can see the required base objects.
 5. Select the "Units" or "Locations" tab.
 6. Open the object tree until you can see the required owner or owners.
 7. You have the following options:
 - To create multiple engineering objects based on the same base object, drag the base object and drop it onto the required owner (repeat this process as many times as necessary).
 - To create multiple engineering objects whose base objects are located under a common node, drag the required base objects and drop them onto the required owner or owners one after the other.

Result

An engineering object derived from the base object is created.

If the base object is configured accordingly, further objects are automatically created along with the engineering object. See also chapter Fundamentals of creating engineering objects and documents (Page 67).

Alternative procedure

You can use the static new menu or the owner's "Elements" tab to simultaneously create multiple engineering objects which are based on the same base object. See also chapters Creating multiple objects via the static new menu (Page 209) and Deriving new elements from virtual elements (Page 238).

See also

Creating objects from a project structure (Page 201)

Free creation of objects (Page 202)

9.5 Creating multiple objects via the static new menu

You can create multiple objects simultaneously in the structure area of the Navigator, under one owner. The objects are based on the same base object. The objects are derived from the project structure.

Advantages compared with the context menu

- Faster, as multiple objects can be created simultaneously (bulk operation)
- Better overview of the alternatives via an object tree
- Edit name and description directly during creation (bulk operation)

Advantages compared with the "Elements" tab

- Edit name and description directly during creation
- Documents can be created

9.5.1 Creating objects in the static New menu

Requirements

You have clicked on the "Static new menu" button on the toolbar:



The "Static new menu" tab is displayed in the detail area of the Navigator.

Procedure

1. Select one of the following options:
 - To create new engineering objects, click on the "Units" tab in the Navigator.
 - To create new locations, click on the "Locations" tab in the Navigator.
 - To create new documents or document groups, click on the "Units" or "Locations" tab in the Navigator.

Note

Creating base objects

You need administrator rights to create new base objects.

2. In the Navigator, select the object under which you want to create several identical objects. The "Static new menu" tab displays all objects you can create under the select object.
3. Select the object you want to create in the "Static new menu" tab.
4. Enter the desired number of new objects in the "Quantity" field.
5. Click on the "Execute" button in the "Static new menu" tab.

Result

The specified number of new objects is created under the selected object in the structure area of the Navigator.

9.5.2 Pinning objects in the static new menu

Overview

You can pin the selected object in order to avoid inadvertently creating multiple objects with the wrong owner.

Requirements

You have clicked on the "Static new menu" button on the toolbar:



The "Static new menu" tab is displayed in the detail area of the Navigator.

Procedure

1. In the structure area of the Navigator, on one of the tabs, select an object you would like to pin.
2. Click on the "Pin selected object" button on the "Static new menu" tab:



Result

The selected object is fixed. No other object can be selected.

Canceling pinning

To unpin an object, click on the "Pin selected object" button again:



See also

Navigating from the static new menu to the pinned object (Page 211)

9.5.3 Navigating from the static new menu to the pinned object

Requirements

An object is pinned on the "Static new menu" tab.

Procedure

Click on the "Navigate" button in the "Static new menu" tab.



Where you can navigate to depends on the object.

Examples:

- Select the "Object" command to navigate to the object in the Navigator of the pinned object.
- Select the "Base object" command to navigate to the base object of the pinned object.

Result

The object is selected in the Navigator.

See also

Pinning objects in the static new menu (Page 210)

Navigating (Page 126)

9.6 Creating engineering objects when working in interactive reports

Overview

If you are working in interactive reports, you can create engineering objects using one of the following actions:

- Placing objects via the symbol bar.
See also chapter Placing objects via the symbol bar (Page 312).
- Using drag&drop to place objects on the report from the Navigator.
See also chapter Placing base objects from the Navigator (Page 313).
- Creating a new object via the context menu of a symbol, thereby placing it.
See also chapter Placing objects via the context menu of a symbol (Page 315).
- Inserting a template onto the report.
See also chapter Placing objects by inserting a template (Page 316).
- Connecting objects via the connector tool.
See also chapter Connecting objects (Page 321).
- Copying objects.
See also chapter Copying and cutting in interactive reports (Page 356).

See also

Report template (Page 74)

9.7 Creating engineering objects using imports

Overview

Objects can be created using imports:

- Via importing proprietary formats
E.g. Excel, Access, AutoCAD
- Via importing free formats
COMOS provides various XML interfaces for this purpose

You can find more information on this topic in the "COMOS Platform Interfaces" manual.

Compliance with the project structure

When importing, COMOS checks whether the imported object is permitted under the new owner.

See also

Creating objects from a project structure (Page 201)

9.8 Copying engineering objects

9.8.1 Creating a copy of an engineering object from the properties

Requirements

- A project is open.
See also chapters Opening a project or the released area of a project (Page 169) and Opening the working layers of a project (Page 175).
- An engineering object has been created.
See also chapter Creating engineering objects (Page 201).

Procedure

1. Open the engineering object properties.
See also chapter Opening properties (Page 128).
2. Click on the "New; apply links and attributes" button on the toolbar:



Result

- A copy is created in the Navigator parallel to the engineering object.
- The copy uses the following references:
 - Unit reference
 - Location reference
 - Reference attributes
- The following references are lost:
 - Implementation reference
 - Connected connectors
 - Alias reference
- If linked attributes are available, the copy uses the link.

See also

Copy methods (Page 104)
Fundamentals of copying objects (Page 105)
Creating objects from a project structure (Page 201)
Free creation of objects (Page 202)

9.8.2 Simple copying in the Navigator without switching projects

Requirements

- A project is open.
See also chapters Opening a project or the released area of a project (Page 169) and Opening the working layers of a project (Page 175).
- Objects are created.
See also chapter Creating engineering objects (Page 201).
- The copies can be pasted below the desired target.

Procedure

1. Select the "Units" or "Locations" Navigator tab.
2. Select an object or multiple objects on the tab.
3. Select the "Copy" command in the context menu.
The objects and their subordinate objects are recursively added to the amount to be copied. The amount to be copied is saved in the clipboard.
4. Select the desired target in the Navigator.
5. Select the "Paste" command from the context menu.

Result

The copies are pasted below the target. The following object data is copied:

- All data which is not inherited
- Handling references:

Reference	The referenced object is part of the amount to be copied	Result
Unit reference	Yes	The reference points to the copy.
	No	The reference points to the original.
Location reference	Yes	The reference points to the copy.
	No	The reference points to the original.
Reference attributes	Yes	The reference points to the copy.
	No	The reference points to the original.
Implementation references	Yes	The reference points to the copy.
	No	The reference is lost.
Connectors	Yes	The reference points to the copy.
	No	The reference is lost.

- If a linked attribute was part of the amount to be copied, the copy uses the link. If the link source was part of the amount to be copied, the copied linked attribute points to the copied link source.
- If documents are part of the amount to be copied, the guidelines from chapter Copying documents and reports (Page 107) apply.

See also

Copy methods (Page 104)
Fundamentals of copying objects (Page 105)
Creating objects from a project structure (Page 201)
Free creation of objects (Page 202)

9.8.3 Simple copying in the Navigator and switching projects

Usage

- This method of copying is not the same as the one which uses the "Cross-project copy" tool. The "Cross-project copy" tool works with traced objects and projections. See also chapter Cross-project copying (Page 110).
- It is not possible to copy across databases.

Requirements

- Source project and target project are open. See also chapters Opening a project or the released area of a project (Page 169) and Opening the working layers of a project (Page 175).
- Recommendation: Source project and target project have the same base project (see note).
- Objects have been created in the source project. See also chapter Creating engineering objects (Page 201).
Recommendation: They are not derived from local base objects (see note).
- The copies can be pasted below the desired target in the target project.

Note

Handling inherited properties

When you copy an engineering object, the inherited properties are not copied; they are read out from the base object at the copy.

If you are working with local base objects, or the projects use different base projects and you copy across projects, there is a possibility that in the target project the base object does not exist, or there is one with the same name but different content. If this happens, data may be lost or altered when copied.

See also chapter Fundamentals of the properties of engineering objects (Page 49).

Procedure

1. Switch to the source project.
See also chapter Switching between open projects (Page 170)
2. Select the "Units" or "Locations" Navigator tab.
3. Select an object or multiple objects on the tab.
4. Select the "Copy" command in the context menu.
The objects and their subordinate objects are recursively added to the amount to be copied.
The amount to be copied is saved in the clipboard.
5. Switch to the target project.
See also chapter Switching between open projects (Page 170).
6. Select the "Units" or "Locations" Navigator tab.
7. Select the desired target on the tab.
8. Select the "Paste" command from the context menu.

Result

- For the engineering objects, a search is performed in the target project and its linked base project for base objects with the same SystemUID as in the source project. If a base object is not found, the engineering objects derived from it are not pasted.
- The copies are pasted below the target. The following object data is copied:
 - All data which is not inherited
 - Handling references:

Reference	The referenced object is part of the amount to be copied	Result
Unit reference	Yes	The reference points to the copy.
	No	The reference is lost.
Location reference	Yes	The reference points to the copy.
	No	The reference is lost.
Reference attributes	Yes	The reference points to the copy.
	No	The reference is lost.
Implementation references	Yes	The reference points to the copy.
	No	The reference is lost.
Connectors	Yes	The reference points to the copy.
	No	The reference is lost.

If a linked attribute was part of the amount to be copied, then the copy only uses the link if the link source was also part of the amount to be copied. The copied linked attribute points to the copied link source.

- The properties inherited from the base object are recalculated using the base object. If documents are part of the amount to be copied, the guidelines from chapter Copying documents and reports (Page 107) apply.

Alternative procedure

You can show the nodes with the objects you want to copy in the detail area of the Navigator. When you switch project, the nodes in the detail area remain open and you can copy the objects from there. See also chapter [Displaying nodes from the structure area of the Navigator in the detail area](#) (Page 148).

See also

[Copy methods](#) (Page 104)

[Fundamentals of copying objects](#) (Page 105)

[Creating objects from a project structure](#) (Page 201)

[Free creation of objects](#) (Page 202)

Editing engineering objects

10.1 Overview of editing engineering objects

Introduction

The following section provides an overview of which tools are used to edit which properties of engineering objects. As the tools have different aims, the extent to which you can edit the properties will also vary:

Scope	Description
Complete	All properties which can also be edited in the Properties tab of the engineering object
Restricted	A subset of the properties The properties in the subset will depend on the user interface and sometimes on the object selected in the user interface.
Configuration-dependent	Which properties can be edited, if any, will depend on the configuration set by the administrator, on the user interface, and sometimes on the object selected in the user interface.

General data

User interface	Scope	See also chapter ...
Properties tab	Complete	Editing general data (Page 221)
Interactive report	Configuration-dependent	Editing object properties on the report bar (Page 329)
Evaluating report	Configuration-dependent	Editing editable data (Page 367)
Bulk processing	Complete	Editing object data via bulk processing (Page 384)
Query	Configuration-dependent	Working with queries and bulk processing (Page 373)
Properties tree	Restricted	Editing several objects in the properties tree (Page 243)
Navigator	-	-

General references

User interface	Scope	See also chapter ...
Properties tab	Complete	Setting general references (Page 225)
Interactive report	-	-
Evaluating report	-	-
Bulk processing	Configuration-dependent	Editing object data via bulk processing (Page 384)
Query	Configuration-dependent	Working with queries and bulk processing (Page 373)
Properties tree	Restricted	Editing several objects in the properties tree (Page 243)
Navigator	-	-

Attributes

User interface	Scope	See also chapter ...
Properties tab	Complete	Editing attributes (Page 228)
Interactive report	Configuration-dependent	Editing placed attributes (Page 330) Editing object properties on the report bar (Page 329)
Evaluating report	Configuration-dependent	Editing editable data (Page 367)
Bulk processing	Configuration-dependent	Editing object data via bulk processing (Page 384)
Query	Configuration-dependent	Working with queries and bulk processing (Page 373)
Properties tree	Complete	Editing several objects in the properties tree (Page 243)
Navigator	-	-

Connectors

User interface	Scope	See also chapter ...
Properties tab	Complete	Purpose of the "Connectors" tab (Page 241)
Interactive report	Restricted	Connecting objects (Page 321)
Evaluating report	-	-
Bulk processing	-	-
Queries for connectors	Restricted	Connecting connectors via the query for connectors (Page 248)
Properties tree	-	-
Navigator	Restricted	Connecting connectors in the Navigator (Page 247)

Elements

User interface	Scope	See also chapter ...
Properties tab	Complete	Purpose of the "Elements" tab (Page 237)
Interactive report	Restricted	Placing objects via the context menu of a symbol (Page 315)
Evaluating report	-	-
Bulk processing	-	-
Query	-	-
Static new menu	Restricted	Creating multiple objects via the static new menu (Page 209)
Navigator	Restricted	Creating engineering objects via the context menu (Page 203)

Status

Query-based status: Context menu of the Navigator

See also chapter Working with the query-based status (Page 253).

Object-based status:

- Properties, "Status" tab
- Context menu of the Navigator

See also chapter Working with the object-based status (Page 255).

10.2 Editing engineering objects in the properties

10.2.1 Editing general data

Introduction

The general data of an engineering object includes all properties from the general area of the properties or from the "General" tab. See also chapter Area for general data (Page 437).

The general data is given by the base object when the engineering object is created. You can change this data.

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The properties of the engineering project are open. See also chapter Opening properties (Page 128).

Changing name and label

See also chapter Changing name, label, and description (Page 222).

Changing description

See also chapter Changing name, label, and description (Page 222).

Declaring objects as folders

See also chapter Declaring objects as folders (Page 223).

Setting references

See also chapters Switching the base object (Page 226) and Setting general references (Page 225).

10.2.2 Changing name, label, and description

Depending on the configuration of the engineering object, you will find these properties in the general data or on the "General" tab.

Note

No editing possible

If these properties have been locked by the administrator, their fields are colored gray. You cannot change them.

Meaning of name and label

The name and label are determined by the base object but are not inherited. Changing these values can have far-reaching consequences. Check them carefully. See also chapters Object identity (Page 43) and Name, label, and description (Page 46).

Changing name and label

Requirements: The name and label are not locked.

Procedure:

1. You have the following options:

- Enter values in the "Name" and "Label" fields manually.
- Generate a name automatically via the following button: "Generate name/label automatically":



2. Confirm your entries.

If objects can no longer be uniquely identified due to changes to their name or label, COMOS adjusts the values so that they are unique again. A message window informs you of this adjustment.

Changing a description

The description is initially inherited from the base object. The inherited description is displayed in italics.

Procedure:

1. Enter text in the "Description" field. This suspends the inheritance.
2. Confirm your entries.

See also

Editing general data (Page 221)

Area for general data (Page 437)

10.2.3 Declaring objects as folders

Principle behind folders

Objects with the Folder property organize the engineering data. They are not taken into consideration in the overall labeling of an object. You can specifically search for folders in queries.

As long as the property is inherited from the base object, it is displayed in the properties in italics.

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The properties of an engineering object are open. See also chapter Opening properties (Page 128).

Procedure

Activate the "Folder" option. Depending on the configuration of the engineering object, you will find the option in the general data or on the "General" tab.

Switching off the folder function

Requirements: The "Folder" function has not been activated on the base object.

Deactivate the "Folder" option.

See also

Editing general data (Page 221)

Area for general data (Page 437)

10.2.4 Locking engineering objects

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- You have the "Lock" function right. If you have any questions, contact your administrator.
- The properties of an engineering object are open. See also chapter Opening properties (Page 128).

Locking

Click on the "Locked" button in the toolbar in the properties of the engineering object:



Result

In the current working layer and all subordinate layers, the object and all objects located underneath it can only be changed by administrators. They are shown in gray in the Navigator.

You can still edit attributes specially configured by the administrator. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Attribute editable upon blocking of owner on engineering side".

Releasing

Click on the "Release" button on the toolbar:



See also

Displaying user rights in a project (Page 172)

10.2.5 Setting general references

Principle

The configuration of the engineering object determines the following:

- Whether the references are located in the area for general data or on the "General" tab.
- Which references are allowed.

If the engineering object uses the standard database configuration, the following reference fields are only visible once you have set a reference (dynamic references):

- "Unit", "Position", "Function", "Signal"
- "Location"

Overview of the references

Engineering objects can have the following reference fields:

Reference	See also chapter ...
"Alias" or "Original"	Alternative labeling system (Page 39)
"Unit", "Position", "Function", or "Signal"	-
"Location"	-
"Request"	Requests and implementations (Page 65)
"Implementation", "Target", or "Cable route"	Implementation: Requests and implementations (Page 65) Target and cable route: You can find more information on this topic in the manual "COMOS EI&C Operation".
"Base object"	Switching the base object (Page 226)

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The properties of an engineering object are open. See also chapter Opening properties (Page 128).
- For the following references:

Reference	The object you want to assign
Unit, position, function, signal, location, target, or cable route	... has the correct class.
Request	... is a request.

- Implementation reference: The object whose properties are open has the "Request" property.
- "Alias" or "Original" references: The project is working with an alternative labeling system.

Procedure

1. In the Navigator, select the object to which you want to set a reference.
2. Drag&drop it to the reference field.

Setting dynamic references

1. In the Navigator, select the object to which you want to set a reference.
2. Drag&drop it into the "Description" field or into the general area under the "Drop: Location, unit, implementation, alias, base object" field:



Result

- The reference is set.
- If the project is configured accordingly, the path to the reference object, including prefixes and delimiters, is shown in the Navigator behind the node of the engineering object. A reference to the engineering object is inserted under the referenced object. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords ""Display of referenced objects" option" and ""Prefix and delimiter" group".
- You can navigate between the two objects via the context menu.

Delete reference

Click on the "Remove reference" button next to the reference field:



Setting a base object reference

See also chapter Switching the base object (Page 226).

10.2.6 Switching the base object

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- The properties of an engineering object are open. See also chapter Opening properties (Page 128).

Procedure

1. Select a base object on the "Base objects" tab in the Navigator which has the same class as the old base object.

Note

Class

You can check the class here: Base object properties > "System" tab > "Class" field

2. Drag&drop the base object to the "Base object" field. The field is located in the general area of the properties or on the "General" tab.
If inconsistencies arise due to the change of base object, they are automatically logged in the object test. The number entered after "Check:" in the COMOS status bar is increased.
3. If necessary, check the entries created in the object test when the base object was changed. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using object test".
4. Confirm your entries.

Result

The base object is changed. Properties inherited from the old base object are replaced with those of the new base object. Checked-in properties are adopted as far as possible.

Example:

Table 10-1 Before change of base object

Attribute (NestedName)	Value at old base object	Value at engineering object
SYS.Number	"100"	Inherited -> "100"
SYS.Region	"1"	Checked in: "3"
SYS.Subregion	Blank	Checked in: "1"

Table 10-2 After change of base object

Attribute (NestedName)	Value at new base object	Value at engineering object
SYS.Number	"200"	Inherited -> "200"
SYS.Region	"2"	Checked-in value is retained -> "3"
SYS.Subregion	Attribute not available	The attribute is visible in the Navigator but no longer in the properties. An entry is added to the object test.

See also

Fundamentals of the properties of engineering objects (Page 49)

10.2.7 Editing attributes

10.2.7.1 Prerequisites for working with attributes

- An engineering project is open.
- Engineering objects have been created in the project.
- An engineering object and its properties are open.
- The secondary tab of the "Attributes" tab has editable fields.
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating tabs and attributes".
- For linked attributes: The secondary tab of the "Attributes" tab has statically linked attributes.
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Link" tab".

See also

Relationship between base and engineering objects (Page 48)

Fundamentals of the properties of engineering objects (Page 49)

Attributes (Page 53)

10.2.7.2 Entering attribute values

Requirements

See chapter Prerequisites for working with attributes (Page 228).

Procedure

1. Select a tab.
2. Enter the required values in the boxes.
How you proceed depends on the type of display of the attribute. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Attribute: "Type of display" field".

	min	Entrance	max	
Temperature	10	15	30	°C ▼
Pressure	1	2	4	bar ▼
Mass flow				kg/s ▼

	min	Entrance	max	
Temperature	10	15	30	°C ▼
Pressure	1000	2000	4000	mbar ▼
Mass flow				kg/s ▼
Volume flow				m ³ ▼

3. Confirm your entries.

Result

- If you have set a unit, the values are converted automatically.
- If several users change a value of the same attribute at the same time, a message window opens. See also chapter Attributes for joint access (Page 56).
- If inconsistencies between linked attributes arise due to your input, or the min/max range is contravened, you will see the following:
 - The attribute field turns orange.
 - A tooltip is displayed.
 - The text color of the value changes.
See also chapters "Define attribute color" window (Page 479) and Defining the background color and text color of attribute values (Page 235).

Translating attributes

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Translating attributes".

See also

Entering values for linked attributes (Page 230)

Working in list attributes (Page 236)

10.2.7.3 Entering values for linked attributes

Principle

If an attribute (source attribute) is linked to another attribute (target attribute), the value of the source attribute is applied to the target attribute. Whether or not the value is adopted automatically and whether the link is bidirectional depends on the link type.

Requirements

See chapter Prerequisites for working with attributes (Page 228).

Procedure

1. Enter a value in the source attribute or target attribute field.
2. Confirm your input.

Result

- The value is saved to the source attribute/target attribute.
- The text color of the source attribute/target attribute changes. See also chapter Defining the background color and text color of attribute values (Page 235).

- If you have entered a value in the source attribute field, the following happens to the target attribute:

Link	Result	See also chapter ...
"Static"	If no value has previously been entered in the target attribute, there are no changes. If the value of the attribute differs from the value of the linked attribute, the target attribute field turns orange. A tooltip is displayed.	See also chapters Refreshing static links (Page 232) and Accepting differences between static links (Page 232).
"Dynamic"	The value is accepted automatically.	See below.
"Full dynamic"		

- If you have entered a value in the target attribute field, the following happens to the source attribute:

Link type	Result	See also chapter ...
"Static"	No change to the source attribute. If the value of the attribute differs from the value of the linked attribute, the target attribute field turns orange. A tooltip is displayed.	See also chapters Refreshing static links (Page 232) and Accepting differences between static links (Page 232).
"Dynamic"	No changes to the source attribute. If the "Always get linked value" option is activated, you cannot edit the target attribute value.	
"Full dynamic"	The value is accepted automatically.	See above.

10.2.7.4 Refreshing attribute values

Requirements

See chapter Prerequisites for working with attributes (Page 228).

Procedure

1. You have the following options:
 - To refresh the values for all attributes on the tab, right-click in the white area of the tab.
 - To refresh the value of one attribute, click in its field.
2. Select the "Refresh values" command in the context menu.

10.2.7.5 Refreshing static links

Requirements

See chapter Prerequisites for working with attributes (Page 228).

For one tab

1. Right-click in the white area of the tab.
2. Select the "Refresh static links on tab" command in the context menu.

Result: The tab is refreshed.

For all tabs

1. Right-click in the white area of the tab.
2. Select the "Refresh static links for all tabs" command in the context menu.

Result: All tabs of the engineering object are refreshed.

For a selected attribute

1. Right-click in the white area of the tab.
2. Select the "Refresh static links for object ... " command in the context menu.
3. Select a linked attribute.

Result: The selected attribute is refreshed.

Note

Refreshing static links for one attribute

When you select an attribute, the "Refresh static links" command is displayed in the context menu. It refreshes this attribute only.

10.2.7.6 Accepting differences between static links

Requirements

See chapter Prerequisites for working with attributes (Page 228).

For an object

1. Right-click in the white area of the tab.
2. From the context menu, select the "Static links: Accept differences for object ..." command.
3. Select a linked attribute.

The differences are marked as valid as long as the default does not change.

Always for an object

1. Right-click in the white area of the tab.
2. From the context menu, select the "Static links: Always accept differences for object ..." command.
3. Select a linked attribute.

The differences are always marked as valid, even if the value of the source changes.

Accepting/always accepting a result for an object

- The orange-colored filling between the local value and the value of the linked attributes is removed.
- The difference to the linked value is displayed in the tooltip.
- The value is no longer marked as invalid in the status management.
- The linked value is no longer applied in the event of a match. The local value is retained.

No longer accepting for an object

Requirements: You have already accepted a difference.

1. Right-click in the white area of the tab.
2. From the context menu, select the "Static links: No longer accept differences for object ..." command.
3. Select a linked attribute.

Result: The following commands are available for the selected object again:

- "Refresh static links for object..."
- "Static links: Accept differences for object ..."
- "Static links: Always accept differences for object ..."

10.2.7.7 Navigating to the source attribute

Requirements

See chapter Prerequisites for working with attributes (Page 228).

Procedure

1. Move the mouse cursor over the linked attribute on the tab.
2. Select the "Navigate > Link sources > <Name of the attribute>" command in the context menu.

Note

Link source is not displayed

If no source attribute is displayed under this command, this attribute is the source attribute. See also chapter Navigating (Page 126).

Result

The source attribute is selected in the Navigator.

10.2.7.8 Copying the attribute values of a tab

Requirements

- See chapter Prerequisites for working with attributes (Page 228).
- The source tab and target tab have the same name.
- The source attributes and target attributes have the same name.

Copying all values of a tab

1. Right-click in the white area of the tab.
2. Select the "Copy tab data" command in the context menu of the source tab.
3. Select the "Paste tab data" command in the context menu of the target tab.

Result

All attribute values are copied.

Note

Target attribute does not exist

If a target attribute does not exist, the value is not applied.

See also

Deleting all data from the tab (Page 235)

10.2.7.9 Deleting all data from the tab

Requirements

See chapter Prerequisites for working with attributes (Page 228).

Procedure

1. Right-click in the white area of the tab.
2. Select the "Delete all data" command from the context menu.

Result

- All values which have been entered on the tab are deleted. The values inherited from the base object are displayed.
- Changed units are reset to their defaults.

See also

Copying the attribute values of a tab (Page 234)

Editing attributes (Page 54)

10.2.7.10 Defining the background color and text color of attribute values

Overview

If you or other users edit attributes, the background color and the text color of the value are shown in color. You can define the attribute colors yourself.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Personal user settings".

Procedure

1. Select the "Plugins > Basic > Define attribute color" command in the menu bar. See also chapter "Define attribute color" window (Page 479).
2. You can change attribute colors in the following ways:
 - Background color of the value: Select the desired edit mode.
 - Text color of the value: Select the desired modification stamp.
3. Click the "..." button in the "Color" column.
4. Select the required color in the "Color" window.
5. Confirm your entries.

6. To save your settings, click on the following button:



The "Save settings" window opens. See also chapter "Save settings" window (Page 481).

7. Select the required settings.
8. Confirm your entries.

Result

Your settings can be saved as user-specific settings or as group-specific settings. They are saved in the base data.

10.2.7.11 Working in list attributes

Select several cells

1. Press and hold down <Ctrl>.
2. Drag out a frame with the left mouse button held down.

Copy and paste options

- Copy and paste from Excel to the list attribute, and vice versa
- Copy and paste within a list attribute and from one list attribute to another

You are informed if the copy area and paste area are not the same size. The data is pasted starting from the top left.

See also

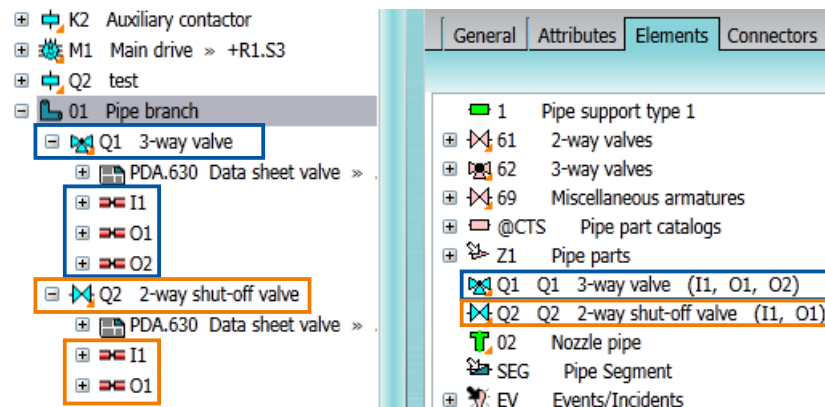
Entering attribute values (Page 228)

10.2.8 Managing elements

10.2.8.1 Purpose of the "Elements" tab

Overview

- You get an overview of the elements of the engineering object:
 - Of the virtual elements
Virtual elements are elements which have been prepared at the base object and can be created under the engineering object.
 - Of the engineering data elements
Engineering data elements (henceforth referred to as elements) are elements which have already been created under the engineering object.
The connector names of the elements are also displayed. Example:



See also chapter Elements (Page 60).

- You can derive new elements from the virtual elements. See also chapter Deriving new elements from virtual elements (Page 238).
- You can create entirely new elements. See also chapter Creating new elements (Page 238).
- You can delete elements. See also chapter Deleting elements (Page 239).
- You can change the base object of elements. See also chapter Changing the base object of elements (Page 240).
- You can open and edit the properties of the elements. See also chapter Opening properties (Page 128).

Note

Filtering the display

The toolbar contains buttons which allow you to filter which elements are displayed.

See also

Context menu of the "Elements" tab (Page 427)

10.2.8.2 Creating new elements

Requirements

See chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select an engineering object in the Navigator.
2. Open the engineering object properties.
3. Select the "Elements" tab.
4. Right-click in the white area of the tab.
5. Select the "New object (below master)" command from the context menu.
6. Edit the new element. See also chapter Fundamentals of creating engineering objects and documents (Page 67).

Alternative

See also chapter Creating objects from a project structure via the context menu (Page 204).

Result

- The new element is created in the Navigator under the selected engineering object.
- The new element is now displayed on the "Elements" tab.

See also

Context menu of the "Elements" tab (Page 427)

Deriving new elements from virtual elements (Page 238)

10.2.8.3 Deriving new elements from virtual elements

Requirements

- See chapter General requirements for working with COMOS Platform (Page 17).
- The project contains an engineering object which has virtual elements and/or elements.

Procedure

1. Select an engineering object in the Navigator.
2. Open the engineering object properties.
3. Select the "Elements" tab.
4. Select a virtual element.
The icons of virtual elements are light green. See also chapter Icon coloring (Page 421).
5. You have the following options:
 - To create an element, select the "Create" command in the context menu.
 - To create several elements, select the "Create N ..." command in the context menu.

Elements can be prepared in such a way that only a certain number of these elements can be created under the engineering object. When the defined limit is reached, the command is locked in the context menu.

Alternative

See also chapter Creating objects from a project structure via the context menu (Page 204) and chapter Creating objects in the static New menu (Page 209).

Result

- The new element is created in the Navigator under the engineering object on the basis of the selected element.
- The new element is now displayed on the "Elements" tab on the basis of the selected element.

See also

Context menu of the "Elements" tab (Page 427)

Creating new elements (Page 238)

Elements (Page 60)

10.2.8.4 Deleting elements

See also chapter Deleting (Page 134) and chapter Context menu of the "Elements" tab (Page 427).

You cannot delete the following elements:

- Virtual elements
- Specially configured elements

See also chapter Elements (Page 60).

10.2.8.5 Changing the base object of elements

Requirements

An element has been created under the engineering object. See chapter *Creating new elements* (Page 238) and chapter *Deriving new elements from virtual elements* (Page 238).

Procedure

1. Select an engineering object in the Navigator.
2. Open the engineering object properties.
3. Select the "Elements" tab.
4. Select an element.
5. Select the "Change base object ..." command in the context menu.
The "Select base object" window opens.
6. Choose a base object.
7. Confirm your entries.

Result

The base object is changed. See also chapter *Switching the base object* (Page 226).

See also

Context menu of the "Elements" tab (Page 427)

10.2.9 Managing connectors

10.2.9.1 Purpose of the "Connectors" tab

Overview

The "Connectors" tab supplies the following information:

- What connectors the engineering object and its elements have.

Example:

Type	IO	Connector	Description	connected to
	I	I1	Input	
	O	O1	Output	
	I	-Q1:I1	Connection 1	
	O	-Q1:O1	Connection 2	
	I	-Q1:O2	Connection 3	
	I	-O2:I1	Connection 1	

- What properties the connectors have.
- What connections the connectors have.
- You can connect and disconnect connectors. See also chapter Connecting connectors via the "Connectors" tab (Page 247) and chapter Disconnecting connectors via the "Connectors" tab (Page 250).
- You can work with auxiliary connectors. See also chapter Working with auxiliary connectors (Page 242).

Note

Filtering the display

The toolbar contains buttons which allow you to filter which connectors are displayed.

See also

Connectors (Page 57)

Connecting and disconnecting connectors (Page 246)

Properties of engineering objects (Page 434)

10.2.9.2 Working with auxiliary connectors

Overview

Each connector can only have one counterpart connector. In practice, it may occur that multiple connections are made to a terminal, for example. Auxiliary connectors are created in order to map this on a report, for example:

- Auxiliary connectors always relate to an existing connector.
- Auxiliary connectors get the name of the existing connector plus a counter, e.g. [1], in the "Name" field.

If the connections are deleted, the gap is filled with new connections whenever possible. A gap remains, if there is a half-open connection for the index on the report.

You can find more information on this topic in the "EI&C Operation" manual, keyword "Editing connectors and auxiliary connectors on the tab".

10.2.10 Creating numbering ranges

You can create numbering ranges for the following objects:

- Project
- Engineering objects
- Documents

Requirements

The "Numbering ranges" tab is available in the properties of the object. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Making the "Numbering ranges" tab available".

Procedure

1. Open the properties of the object.
2. Go to the "Numbering ranges" tab.
3. Right-click in the free area.
4. Select the "New" command from the context menu.
The "New numbering range" window opens.
5. Make the required entries.
See also chapter "New numbering range" window (Page 483).

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of numbering ranges".

10.3 Editing several objects in the properties tree

Purpose

The "Properties tree" tab offers you an overview of general properties of the objects selected in the Navigator, in queries, or in documents (engineering objects, base objects, connectors, etc.).

For engineering objects, documents, and base objects, you can also edit the attributes.

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. In the menu bar, select "View > Properties tree".
The "Properties tree" tab opens in the detail area of the Navigator.
2. Select one or more objects in the Navigator or in a query or document.

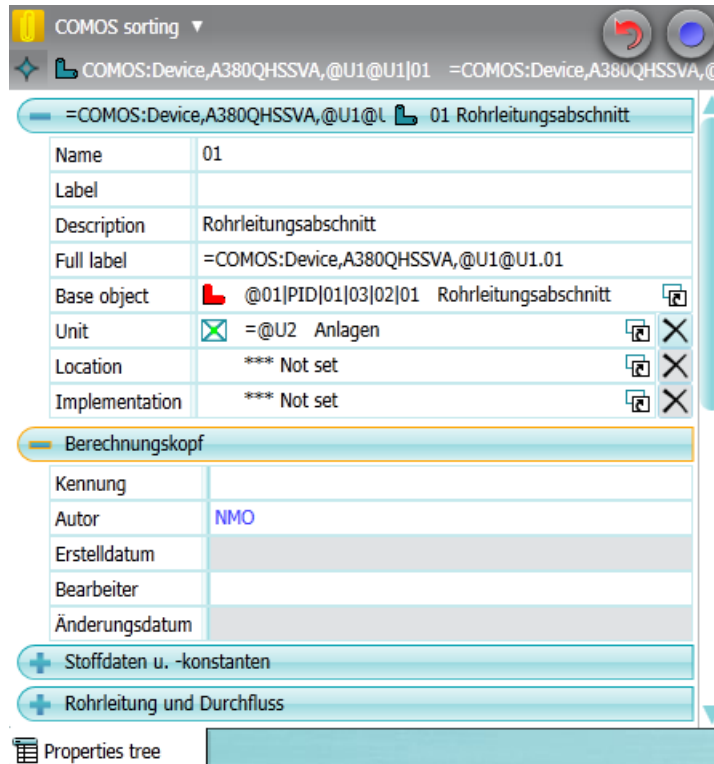
Note

Select objects of the same system type.

The "Properties tree" tab is filled:

- The topmost bar offers access to the general properties.
Single selection: The bar shows the name of the selected object.
Multiple selection: The bar shows the number of selected objects.
 - The bars below that offer access to the attributes of the attribute tab.
3. Optional: Pin the selection. See below.

4. Click on a bar.
You see the general properties or the attributes of the selected objects.
Example:



If the objects have different values for a field, the value "<...>" is displayed in the field; otherwise, the shared value is displayed. Reference fields with different values are marked in yellow.

5. Optional: To change the display of the attributes, click on the "COMOS sorting" button with the arrow in the toolbar of the tab:



Choose one of the following entries:

- "COMOS sorting"
Internal attribute sorting
- "Alphabetical"
- "Attribute filter"
You only see selected attributes. Which attributes these are depends on the configuration. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring attributes in the report-specific toolbar".

6. Enter the required values.
As soon as you leave the edited field, the values are written to the objects. The objects are not automatically saved.

7. Click the "Undo" button to undo your previous entries.



All changes since the last save are undone.

8. Click "Apply" to save your input.



Pinning

To prevent the content of the tab from being updated as soon as you select other objects, pin the selection. This makes it possible, for example, to switch to another object in the Navigator and to drag&drop this object onto the "Properties tree" tab in order to set a reference there.

Procedure: Click the "Pin selected object" button in the toolbar of the tab:



Result: The contents of the tab are pinned. The objects currently selected are listed in the toolbar of the tab. You can navigate to the objects via the adjacent button.

Canceling pinning

Click the "Pin selected object" button again:



See also

"Properties tree" tab (Page 460)

10.4 Connecting and disconnecting connectors

10.4.1 Connection options for connectors

Possible ways of connecting engineering objects using connectors

Engineering objects are connected by connectors. You can connect engineering objects in the following ways:

- On an interactive report.
See also chapter [Connecting connectors on interactive reports \(Page 246\)](#) and chapter [Disconnecting connectors on interactive reports \(Page 249\)](#).
- Via the properties of an engineering object
See also chapter [Connecting connectors via the "Connectors" tab \(Page 247\)](#) and chapter [Disconnecting connectors via the "Connectors" tab \(Page 250\)](#).
- Via the navigator
See also chapter [Connecting connectors in the Navigator \(Page 247\)](#) and chapter [Disconnecting connectors in the Navigator \(Page 251\)](#).
- Via the query for connectors
See also chapter [Connecting connectors via the query for connectors \(Page 248\)](#) and chapter [Disconnecting connectors via the query for connectors \(Page 251\)](#).

See also

[Connectors \(Page 57\)](#)

[Managing connectors \(Page 241\)](#)

[Context menu of the "Connectors" tab \(Page 429\)](#)

[Connections \(Page 58\)](#)

10.4.2 Connecting connectors

10.4.2.1 Connecting connectors on interactive reports

You connect the connectors of engineering objects on an interactive report using their symbols.

See also

[Connecting objects \(Page 321\)](#)

[Fundamentals of connections on interactive reports \(Page 77\)](#)

10.4.2.2 Connecting connectors via the "Connectors" tab

Requirements

- See chapter General requirements for working with COMOS Platform (Page 17).
- The engineering project has engineering objects with free connectors.

Procedure

1. Select the first engineering object in the Navigator.
2. Select the "Properties" command in the context menu.
3. Select the "Connectors" tab.
4. Select the second engineering object in the Navigator.
5. Open the object structure of the second engineering object.
You see the connectors in the Navigator underneath the engineering object. See also chapter Setting up the Navigator (Page 163).
6. Drag&drop a connector of the second engineering object from the Navigator to the corresponding connector of the "Connectors" tab.
7. Confirm your entries.

Result

- The connectors of the engineering objects are connected.
- The connection information is assigned to the connector and is visible:
 - In the "Connected to" column on the "Connectors" tab
 - In the Navigator

10.4.2.3 Connecting connectors in the Navigator

Requirements

- See chapter General requirements for working with COMOS Platform (Page 17).
- The engineering project has engineering objects with free connectors.

Procedure

1. Select the first engineering object in the Navigator.

Note

Single selections

The procedure can only be used to select items individually.

2. Open the object structure of the engineering object.
You see the connectors in the Navigator underneath the engineering object. See also chapter Setting up the Navigator (Page 163).
3. Select the second engineering object in the Navigator.
4. Open the object structure of the second engineering object.
You see the connectors in the Navigator underneath the engineering object. See also chapter Setting up the Navigator (Page 163).
5. Drag&drop the connector of the first engineering object to the desired connector of the second engineering object.

Result

- The connectors of the engineering objects are connected.
- The connection information is assigned to the connector and is visible:
 - In the Navigator
 - In the "Connected to" column on the "Connectors" tab

10.4.2.4 Connecting connectors via the query for connectors

Requirements

- See chapter General requirements for working with COMOS Platform (Page 17).
- The engineering project has engineering objects with free connectors.
- A query for connectors is open. See chapter Creating queries (Page 373).
- The start object of the query is set. The Object Browser displays a search result. See also chapter Configuring queries in simple run mode (Page 376).

Connecting connectors via the Navigator using drag&drop with the Object Browser

1. Select an engineering object in the Navigator.
2. Open the object structure of the engineering object.
You see its connectors in the Navigator underneath the engineering object. See also chapter Setting up the Navigator (Page 163).
3. Drag&drop a connector from the Navigator to the desired connector in the Object Browser.

Connecting connectors in the Object Browser

1. Select a connector in the Object Browser.
2. Drag&drop the connector to the desired connector.

Result

- The connectors of the engineering objects are connected.
- The connection information is assigned to the connector.
- The connection information is visible in the Navigator.
- The connection information is visible in the counterpart connector columns in the Object Browser.

Example:

Column	Description
"Name" (underlined)	Name of the connected connector.
"Label"	Label of the connected connector.
"Owner"	Owner of the connected connector.

See also

Working with queries and bulk processing (Page 373)

10.4.3 Disconnecting connectors

10.4.3.1 Disconnecting connectors on interactive reports

If two objects are connected on an interactive report, proceed as follows:

- Directly connected objects: Move the symbol of one of the objects. See also chapter Moving symbols (Page 342).
- Objects connected via connections: Activate the grab points of the connection. Disconnect the connection from the connection point of the symbol. See also chapter Changing a connection run (Page 327).

The connectors are disconnected.

See also

Deleting in interactive reports (Page 359)

10.4.3.2 Disconnecting connectors via the "Connectors" tab

Requirements

- The engineering object has connectors which are connected. See chapter Connecting connectors via the "Connectors" tab (Page 247).
- The connectors were linked via the Navigator or in the properties of the objects.

Note

Connectors on an interactive report

If you set connectors via an interactive report, you must disconnect them on the report.

Procedure

1. Select an engineering object in the Navigator.
2. Select the "Properties" command in the context menu.
3. Select the "Connectors" tab.
4. Select the desired connector in the "Connected to" column.
5. Select the "Connection" command from the context menu.
6. Select one of the following options:
 - "Disconnect"
 - "Disconnect (retain wires)"
 - "Disconnect (keep wires at target)"See also chapter Context menu of the "Connectors" tab (Page 429).
7. Confirm your entries.

Result

- The connectors are disconnected.
- If you select the "Connection > Disconnect" command, the wire information in the "Via" field is also deleted.
- If you select the "Connection > Disconnect (keep wires at target)" command, the wire information in the "Via" field is retained.
- If you select the "Connection > Disconnect (keep wires at target)" command, the wire information in the "Via" field on the target object is retained.
- The connection information is deleted:
 - In the "Connected to" column on the "Connectors" tab
 - In the Navigator

10.4.3.3 Disconnecting connectors in the Navigator

Requirements

- The engineering object contains connectors which are connected. See chapter Connecting connectors in the Navigator (Page 247).
- The connectors were linked via the Navigator or in the properties of the objects.

Note

Connectors on an interactive report

If you set connectors via an interactive report, you must disconnect them on the report.

Procedure

1. Select an engineering object in the Navigator.
2. Open the object structure of the engineering object.
You see the connectors in the Navigator underneath the engineering object. See also chapter Setting up the Navigator (Page 163).
3. Right-click on a connected connector.
4. Select "Disconnect connection" from the context menu.

Result

- The connectors are disconnected.
- The connection information is deleted:
 - In the Navigator
 - In the "Connected to" column on the "Connectors" tab

10.4.3.4 Disconnecting connectors via the query for connectors

Requirements

- See chapter General requirements for working with COMOS Platform (Page 17).
- A query has been created and opened. See chapter Creating queries (Page 373).
- The query shows connected connectors.

Procedure

1. Select the desired connector in the "Name" column (underlined).
2. Select the "Connection" command from the context menu.

3. Select one of the following options:

- "Disconnect"
- "Disconnect (retain wires)"
- "Disconnect (keep wires at target)"

See also chapter Context menu of the "Connectors" tab (Page 429).

4. Confirm your entries.

Result

- The connectors are disconnected.
- If you select the "Connection > Disconnect" command, the wire information is also deleted.
- If you select the "Connection > Disconnect (keep wires at target)" command, the wire information is retained.
- If you select the "Connection > Disconnect (keep wires at target)" command, the wire information is retained on the target object.
- The connection information is deleted in the Navigator.
- The connection information is deleted in the counterpart connector column in the Object Browser.

Example:

Column	Description
"Name" (underlined)	Name of the connected connector
"Label"	Label of the connected connector
"Owner"	Owner of the connected connector

See also

Working with queries and bulk processing (Page 373)

10.5 Managing object status

10.5.1 Requirements for status management

General

See also chapter General requirements for working with COMOS Platform (Page 17).

Object-based status management

- The desired status types and status values are prepared in the base data. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Object-based status management".
- You have write rights for the objects whose status you are setting.
- To set the status via the properties: The engineering object has a "Status" tab. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Reference of the "Configuration" tab".

Query-based status management

- Queries for status management are prepared in the base data for the desired status types. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Query-based status management".
- You have read and write rights in the document directory.
- For configuring the status query: The query can be configured.
- To save a modified query configuration:
 - The query can be saved.
 - You have write rights for the query.

10.5.2 Working with the query-based status

10.5.2.1 Displaying status information in the status query

Aim

You want to see the status of the engineering objects and details of the status values.

Requirements

See also chapter Requirements for status management (Page 252).

Procedure

1. Select the "Status display" command from the context menu of the Navigator.
2. In the context menu, select a status type which works with query-based status management and then select the following subcommand: "<Status type> > Status per XML file"
The status query opens in reading mode.

3. Set a start object. See also chapter Configuring queries in simple run mode (Page 376).
4. Click the "Search" button in the toolbar of the query:



Alternatively, click on the "Search at once" button:



Result

The result of the last status calculation is loaded in the result table. Depending on the command you selected when you activated the status display before the status calculation, you will see the status values of the following objects:

- "Complete": For all engineering objects under the start object
- "For current user": Only for engineering objects that you have edited
- "...": Only the objects which correspond to the selected filter

The following status information is displayed:

- Status value
- Status timestamp
- Status description
- Other information depending on the configuration of the status query

Displaying current status information

1. Proceed as described above.
2. Activate the status display. See also chapter Activating and deactivating the status display (Page 258).
3. Calculate the status. See also chapter Calculating the status (Page 254).
4. Click the "Search" button in the status query:



See also

Fundamentals of status management (Page 61)

10.5.2.2 Calculating the status

Requirements

See chapter Requirements for status management (Page 252).

Procedure

1. Activate the status display of a query-based status type. See also chapter *Activating and deactivating the status display* (Page 258).
2. Select one or more engineering objects in the Navigator, in a query, or on a report.
3. Select the "Calculate status" command in the context menu.

Result

The status is calculated recursively for the selected nodes. The status display is refreshed in the user interfaces.

If the query supports hierarchical query-based status management, the status values of the owners are checked recursively and adapted if necessary. Objects whose status cannot be calculated take on the lowest status from their subobjects.

See also

Fundamentals of status management (Page 61)

10.5.3 Working with the object-based status

10.5.3.1 Setting the object-based status

Requirements

See also chapter *Requirements for status management* (Page 252).

Via the navigator

Requirements: The status display is activated for the desired status type. See also chapter *Activating and deactivating the status display* (Page 258)

Procedure:

1. Select one or more engineering objects in the Navigator, in a query, or on a report.
2. Select the "Set status value" command in the context menu.
3. Select a status value.

Via the properties

1. Open the engineering object properties.
2. Select the "Status" tab.
You can see all status types.

3. Select a status value for the desired status type.
4. Click on the adjacent "Set" button.

Result

COMOS checks the status value:

Status is valid	Consequence
Yes	The status is set. See also chapter Object-based status management (Page 63).
No	<ul style="list-style-type: none">• The corrected status value is set. See also chapter Object-based status management (Page 63).• The status calculation protocol opens. You can correct the causes of the invalid status values. See also chapter Correcting invalid status values (Page 257).

See also

Fundamentals of status management (Page 61)

"Status calculation protocol" window (Page 477)

10.5.3.2 Checking the object-based status

Aim

You want to check whether the status values saved at the objects still correspond to the current state.

Requirements

See also chapter Requirements for status management (Page 252).

Via the navigator

Requirements: The status display is activated for an object-based status type. See also chapter Activating and deactivating the status display (Page 258).

Procedure:

1. Select one or more engineering objects in the Navigator, in a query, or on a report.
2. Select the "Check status" command in the context menu.

Via the properties

1. Open the engineering object properties.
2. Select the "Status" tab.
You can see all status types.
3. Click the "Check" button next to the desired status type.

Result

COMOS checks the status values of the object and its subobjects. If there are invalid status values, the "Status calculation protocol" window opens. You have the following options in this window. Do not combine them:

- Correct the inconsistent status-related attributes.
- Apply the correct status values calculated by the check.

See also chapter [Correcting invalid status values \(Page 257\)](#).

See also

["Status calculation protocol" window \(Page 477\)](#)

[Setting the object-based status \(Page 255\)](#)

[Fundamentals of status management \(Page 61\)](#)

10.5.3.3 Correcting invalid status values

Introduction

If COMOS detects that you want to set an invalid status value or if you check the status values and the check finds invalid values, the "Status calculation protocol" window opens.

You can choose to apply the correct status values or correct the causes of the invalid status values.

Requirements

You have set an invalid status value. See also chapter [Setting the object-based status \(Page 255\)](#).

Or you checked the status and the check found invalid status values. See also chapter [Checking the object-based status \(Page 256\)](#).

Applying values calculated by a check

Note

Do not use after correcting the inconsistencies

Do not apply the status values calculated by the check if you have already corrected the inconsistencies. Otherwise, invalid status values will be saved at the objects.

1. Activate the "Apply status values on saving" option.
2. Confirm your entries.

The internally calculated, correct status values are applied. If you check the status again or set a status value, the internal check will not find any invalid status values.

Correcting causes of invalid values

If the "Type" table column has the "Attribute" value, the object the row applies to has an inconsistent status-related attribute. If you cannot see the column, increase the frame of the window.

Proceed as follows:

- If a statically linked attribute differs from the source attribute, select the "Update static links (selected ones)" command in the context menu of the "Value" column.
- If an attribute value does not conform with a value range or a product data-related attribute does not conform with the default in the manufacturer device, enter a valid value in the "Value" column.

If you check the status again or set a status value, the internal check will not find any invalid status values.

See also

Object-based status management (Page 63)

"Status calculation protocol" window (Page 477)

10.5.4 Using the status display

10.5.4.1 Activating and deactivating the status display

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "Status display" command from the context menu of the Navigator.
2. Select a status type.
If the status type works on the basis of objects, the status display is activated.
3. If the status type works on the basis of queries, a submenu opens. Select which objects the status display and status management apply to:

Command	Result
"Complete"	The status display and status calculation cover all objects. The object status is loaded from the XML status file. The objects are colored according to their status. Objects still to be calculated are black.
"For current user"	As above, but status display and status calculation only cover objects that you have changed. Objects that you have not edited are counted as not calculated.
"..."	Opens the filter selection. If you select one of the filters prepared in the status query, the status display and status calculation only cover objects which correspond to the filter, e.g. only the incorrect objects. The rest of the objects are counted as uncalculated.

Note

"Status per XML file"

See also chapter Displaying status information in the status query (Page 253).

Result

The objects are colored according to their status in the following user interfaces:

- Navigator
- Queries
- Interactive reports

See also chapter Opening the legend for status display (Page 260).

If the engineering objects have been changed since the status was last set or calculated, the status values may no longer be current. Calculate the status of query-based status types again or check the status of object-based status types. See also chapters Calculating the status (Page 254) and Checking the object-based status (Page 256).

Deactivating status display

Select the "Status display > Switch off" command from the context menu of the Navigator.

10.5.4.2 Opening the legend for status display

Requirements

- Status display is activated. See also chapter Activating and deactivating the status display (Page 258).
When status display is deactivated, you see the legend for working layer display and history display in the "Legend" window.
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

Select the "Legend" command from the context menu of the Navigator.

Result

The "Legend" window opens. You see the color legend of the active status type. Here you can change the color settings. See also chapter Changing or resetting colors for the status values (Page 260).

See also

"Legend" window (Page 478)

10.5.4.3 Changing or resetting colors for the status values

Requirements

- Status display is activated. See also chapter Activating and deactivating the status display (Page 258).
- See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "Legend" command from the context menu of the Navigator.
The "Legend" window opens.
2. Proceed as described for customizing the color of the working layer display mode. You can save your changes permanently in your user profile.
See also chapter Setting colors for the object status of the working layer display mode and the history display (Page 180).

Resetting values

Proceed as described for customizing the color of the working layer display mode. See also chapter Resetting the working layer display mode and the history display to the default colors (Page 182).

See also

"Legend" window (Page 478)

10.6 Importing and exporting engineering objects

You can import and export engineering objects. They can be changed using imports.

You can find more information on this topic in the "COMOS Platform Interfaces" manual.

Working with documents

11.1 Creating Documents

11.1.1 Creating documents from a project structure

Requirements

Your project works with project structures. See also chapter Project links (Page 21).

Methods for creating objects

Creating documents ...	See also chapter ...
Via the area of the context menu dedicated to structure engineering using project structures Knowledge of the project structure is not necessary.	Creating documents from a project structure via the context menu (Page 264)
Via the static new menu Knowledge of the project structure is not necessary.	Creating multiple objects via the static new menu (Page 209)
External documents only: By dragging an existing file from the File Explorer	Creating external documents from a File Explorer using drag&drop (Page 266)
Using imports	Importing and exporting documents (Page 304)
By copying	Copy methods (Page 104)

11.1.2 Free creation of documents

Requirements

If you want to create a document freely within the project structure, the following applies: The project structure allows you to create documents freely in the current node of the object tree.

Methods for creating objects

Creating a document ...	See also chapter ...
Via the area of the context menu dedicated to free structure engineering	Creating documents freely via the context menu (Page 265)
External documents only: By dragging an existing file from the File Explorer	Creating external documents from a File Explorer using drag&drop (Page 266)
Using imports	Importing and exporting documents (Page 304)
By copying	Copy methods (Page 104)

11.1.3 Creating documents from a project structure via the context menu

Requirements

- A project is open. See also chapter Opening a project or the released area of a project (Page 169) and section Opening the working layers of a project (Page 175).
- An object is located on the "Units" or "Locations" tab in the Navigator which was created using a project structure. See also chapter Creating objects from a project structure (Page 201).
- There is a document prepared for the object in the project structure.

Procedure

1. Select the object.
2. Click on "New" in the context menu.
The submenu opens. All objects which are permitted under this object according to the project structure are displayed in the bottom half of the context menu.
3. Select a document.

Result

- The document is created. No further settings are normally required. For an overview of all configuration options, see also chapter Properties of documents (Page 439).
- If the project works with a document group system, a reference document is automatically created on the "Documents" tab. See also chapter Automatic referencing of documents (Page 71).

See also

- Project links (Page 21)
- Opening documents (Page 129)
- Opening properties (Page 128)

11.1.4 Creating documents freely via the context menu

Requirements

- A project is open. See also chapter Opening a project or the released area of a project (Page 169) and section Opening the working layers of a project (Page 175).
- An object has been created in the Navigator.
- If the object was created using a project structure, the following applies: The project structure allows documents to be created freely under the object. In this case, the node has the "New > General > New document" or "New > New document" context menu.

Procedure

1. Select the object.
2. From the context menu, select the "New > General > New document" or "New > New document" command.
The tab with the document properties opens in the working area.
3. Enter values in the "Name", "Label", and "Description" fields in the general area.
4. Select the desired document type from the "Type" list in the "General" tab. The document types are sorted by document type group. See also chapter Document types (Page 69).

Note

External documents

If you select an external document, you can only open the document if the corresponding program is installed. Example: Microsoft Word

5. To create an interactive or evaluating report, proceed as described below. For other document types, proceed as follows:
 - Select the change tab. It has the same name as the document type.
 - Activate one of the following options in the "Document" control group:

Activated option	Description
"Normal"	The document is created in COMOS.
"File link"	The document is a link to a file from the file system.
"Reference"	The document is a link to a COMOS document.

- If you have activated the "File link" option, select the "..." button next to the "File name" field. Select a file with the appropriate file type from the file system.
If you have activated the "Reference" option, select the "..." button next to the "Template" field. Select a COMOS document with the appropriate document type.
6. Confirm your entries.

Settings for interactive and evaluating reports

1. Select the "Report" tab.
2. Click the "..." button next to the "Report template" field.
The "Select report template" window opens.
3. Select a report template and confirm your entries.
Report templates for interactive reports have the following icon:



Report templates for evaluating reports have the following icon:



Result

- The document is created.
- You can no longer change the document type.
- No further settings are normally required. For an overview of all configuration options, see also chapter Properties of documents (Page 439).
- If the document has the "Template" setting, you cannot save changes to the content.
- If the project works with a document group system, a reference document is automatically created on the "Documents" tab. See also chapter Automatic referencing of documents (Page 71).

See also

Change tab for evaluating reports (Page 443)

Opening properties (Page 128)

Opening documents (Page 129)

Change tab (Page 442)

11.1.5 Creating external documents from a File Explorer using drag&drop

Principle

You can import external documents from a File Explorer into COMOS using drag&drop. You create a copy or a link to the file.

Which document type and which base object the resulting document has in COMOS depends on the database. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Document types" and "DocumentTypeMapping".

Requirements

- A project is open. See also chapter Opening a project or the released area of a project (Page 169) and section Opening the working layers of a project (Page 175).
- You have to have the same permissions for operations between different applications in either case.
- The following applies when importing a PDF file: If you want to make revisions to the file later in COMOS, the PDF file must not have been created with the Microsoft Office PDF printer.

Procedure

1. Open a File Explorer.
2. Drag&drop a file under the desired owner in the Navigator.
The "Navigator" window opens.
3. Select an import mode for the document:
 - "Create copy"
 - "Create link"
 - "Create document with version management"
If you select this option, the "Create package" option is activated.

You can find additional information on this topic in the "PQM" manual, keywords "Importing single documents into COMOS", "Creating a DVM document package", and ""Navigator" window".

Result

- A document is created in COMOS. Depending on your entries, the document is either a copy of the file from the file system or a link to the file.
- If COMOS recognizes the file format, the new document has the corresponding document type; otherwise, it has the "General document" document type.
- If the project works with a document group system, a reference document is automatically created on the "Documents" tab. See also chapter Automatic referencing of documents (Page 71).

See also

Opening documents (Page 129)

Opening properties (Page 128)

Change tab (Page 442)

11.2 Printing documents

Requirements

One or more documents have been created. See also Creating Documents (Page 263).

Overview

You have the following print options:

- Via the navigator: All documents selected there
- Using the "Print" tool: All or selected documents under a start object
- Via the document group: All documents in the document group
- From the open document
For reports: See also chapter Printing reports (Page 370).

You can print to a paper printer or to a file. If you print to a file, you export the document.

Via the navigator

1. Select the document(s) in the Navigator.
2. Select the following command from the context menu:
 - To print the report with the default printer and print configuration: "Print"
 - To select the printer and print configuration yourself: "Print ..."
3. If you have selected several documents, you must specify the sequence in which the documents are to be printed. See below.

Using the "Print" tool

1. In the menu bar, select the following command: "Documents > Print"
The "Print" tab opens.

Note

The tab is based on a query. You can filter, sort, and export it. See also chapter Working with queries in simple run mode (Page 376).

2. Set a start object using drag&drop.
You see all the documents below the start object.
3. Select the desired documents.
4. Click the "Execute" button.
5. If you have selected several documents, you must specify the sequence in which the documents are to be printed. See below.
6. Select a printer and the print configuration in the "Print" window.
7. Confirm your entries.

Alternatively: Use the tool "All document tools". See also chapter Working with the tool "All document tools" (Page 271).

Printing all documents in a document group

1. Select the document group.
2. Select the following command from the context menu:
 - To print the documents with the default printer and print configuration: "Print"
 - To select the printer and print configuration yourself: "Print ..."
3. Specify the sequence in which the documents are to be printed. See below.

Specifying the print sequence

If you are printing several documents at once, you must specify the sequence in which the documents are to be printed.

Option	Print sequence
"COMOS sequence (recommended)"	By COMOS internal sorting
"Selection"	The sequence in which the documents were selected

Result

The documents are printed as you have specified. Reports with the same print options which are sent as consecutive print jobs are merged into one job. See also chapter Print jobs (Page 102).

The format in which reports are printed depends on the configuration of the database. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "PaperSize" and "Printing.config".

The following options are available:

- If the configuration of the report stipulates a specific output format, this format is used. If this format is not available, the closest suitable format is selected.
- The closest suitable format is selected.
- The standard printing behavior is executed. The standard behavior corresponds to the behavior for printing open reports. See also chapter Printing reports (Page 370).

Other print options

- Printing document revision files
See also chapter Overview of printing and exporting revision files (Page 288).
- Printing documents with the current revision printer
See also chapter Printing documents with revision printer (Page 270).

See also

Document groups (Page 72)

11.3 Printing documents with revision printer

Procedure

1. Select the "Documents > Print with revision printer" command in the menu bar.
The "Print with revision printer" tab opens.

Note

The tab is based on a query. You can filter, sort, and export it. See also chapter Working with queries in simple run mode (Page 376).

2. Set a start object using drag&drop.
You see all the documents below the start object.
3. Select one or more documents.
4. Click the "Execute" button.
5. If you have selected several documents, you must specify the sequence in which the documents are to be printed:
 - "COMOS sequence (recommended)" option: By COMOS internal sorting
 - "Selection" option: The sequence in which the documents were selectedThe "Export of revision" window opens.
6. Activate one of the following options:
 - "Without subdirectories"
 - "With subdirectories"
 - "In a file"
 - "With file name for the revision export of the document (SYS.ExportRevFileName)"See also chapter "Print with revision printer" and "Export of revision" windows (Page 473).
7. Optional: To change the default directory to which the documents are printed, click on the "..." button. If the "In a file" option is activated, you can redefine the default name of the file.
8. Confirm your entries.

Result

The documents are printed with the revision printer. You receive a file based on the current working state of the document. The file is not a revision file or a copy of a revision file.

See also

Overview of printing and exporting revision files (Page 288)

Printing documents (Page 268)

Working with the tool "All document tools" (Page 271)

11.4 Working with the tool "All document tools"

Introduction

With the tool "All the document tools" you can edit one or more documents below the same start object.

Requirements

There are objects and documents created in the Navigator. See also chapter Creating engineering objects (Page 201) and chapter Creating Documents (Page 263).

Procedure

1. In the menu bar, select the following command: "Documents > All document tools"
The "All document tools" tab opens.












Note

The tab is based on a query. It uses extended run mode. You can change the search settings and filter and sort the results list as is usual in this run mode. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring queries".

2. Set a start object using drag&drop.
You see all the documents below the start object.
You can configure the search settings. See also chapter Setting the search options for the tool "All document tools". (Page 273).
3. Select the desired documents.

11.4 Working with the tool "All document tools"

4. Click on a tool in the toolbar.
The tool is started and applied to the selected documents.
The following document tools are available:

Icon	Button/Tool	Alternative methods/See also chapter ...
	"Print selected documents ..."¹	Printing documents (Page 268) Printing reports (Page 370)
	"Evaluate documents ..."²	Updating reports (Page 369)
	"Revision ..."¹	Carrying out single revisions in bulk (Page 277)
	"DWG/DXF export ..."²	You can find more information on this topic in the "COMOS Platform Interfaces" manual.
	"Copy TIFF/PDF file of the released revision ..."¹	Printing or exporting current revision files (Page 288)
	"Word export ..."²	You can find more information on this topic in the "COMOS Platform Interfaces" manual.
	"Excel export ..."²	
	"PDF export ..."²	
	"Print current revision file ..."¹	Printing or exporting current revision files (Page 288)
	"Print with revision printer"¹	Printing documents with revision printer (Page 270)
	"Checking interactive reports for inconsistent DocObjects"³ The tool offers two functions: <ul style="list-style-type: none"> • "Show documents with inconsistent DocObj in error list" • "Delete all inconsistent DocObjs" 	Checking contents and correcting inconsistencies (Page 366)

- ¹ : For all printable documents
- ² : Only for reports
- ³ : Only for interactive reports

5. To cancel the action, click the "Stop" button in the toolbar:



Hiding/showing extended tools

You can show or hide the tools in the toolbar, except for the "Print selected documents ..." tool. Proceed as follows:

1. Click the "Options" button on the toolbar:



2. Activate or deactivate the "Activate extended functions" option.
3. Confirm your entries.

11.5 Setting the search options for the tool "All document tools".

Requirements

The tool "All the document tools" is open. See also chapter Working with the tool "All document tools" (Page 271).

Procedure

1. Click the "Options" button on the toolbar:



2. Activate the required options in the "Options" window:

Option	Description
"Search documents below documents"	Activated: Documents that are located below the other documents are also displayed. Deactivated: When a document has been found, there is no further searching below the document.
"Search documents below revisions (TIFF documents)"	If the administrator has made the appropriate setting in the project properties, TIFF documents are printed and found.
"Autom. links to 'Document with location and unit pointer'"	Documents can have a pointer to a unit and/or a location. This also produces a return reference. Activated: The return references are evaluated.
"Autom. links to 'Engineering object with location and unit pointer'"	Activated: Links to engineering objects are traced and the search for documents is continued there.

3. Confirm your entries.

11.6 Revision

11.6.1 Revision process

General sequence

1. You complete a document, e.g. a circuit diagram.
2. You create a revision and execute the first revision step.
See also the following chapters:
 - Carrying out single revisions (Page 276)
 - Carrying out single revisions in bulk (Page 277)
 - Performing group revisions (Page 279)

If the "Create PDF file at first step" setting is activated in the project properties, a PDF revision file is created.

3. You inform the colleague responsible for checking.
4. The colleague checks the working state of the document.
See also chapter Checking the working state of documents (Page 282).
5. When Redlining is used: The checker enters their corrections in the Redlining file.
See also chapter Working in Redlining files (Page 287).
Without Redlining: The checker sends you their corrections in another way.
6. The checker carries out the "Checked by" revision step.
See also chapter Carrying out revision steps (Page 280).
7. You correct the document.
If revision monitoring is switched on, the revision is created automatically.
8. If revision monitoring is switched off, you create a new revision.
9. You carry out the first revision step.
10. You inform the colleague responsible for checking.
11. If the colleague does not find any more errors, they release the revision.
If the "Create PDF file at first step" setting is deactivated in the project properties or the TIFF printer is selected, the revision file is only created at this point.

Sequence when using working layers

If revisions are made to a document in several layers, inconsistencies can occur when the working layer is released. For this reason, COMOS prevents the creation or continuation of unit revisions in certain cases. See also chapter Unit revisions and project revisions (Page 90).

When working layers are used, the following, therefore, applies:

Working layer "A" has ...	Rule
Subordinate working layers	As soon as you make revisions in a subordinate layer, revisioning for working layer "A" is locked.
Parallel working layers	As soon as you make revisions in working layer "A", revisioning in the other parallel layers is locked until working layer "A" is released.

See also

Requirements for revisioning (Page 275)

General information about revisioning (Page 85)

Technical information about the revision process (Page 86)

11.6.2 Requirements for revisioning

General requirements

- A project is open. See also chapters Opening a project or the released area of a project (Page 169) and Opening the working layers of a project (Page 175).
- There are printable documents in the project. See also chapter Creating Documents (Page 263).
- You have write rights for the documents.
- You have the object rights for revisioning.
- The printer set in the project properties in the revision archive is installed on your computer.

Requirements for unit revisions

- The project configuration supports unit revisions.
- For carrying out unit revisions manually: You are not working with project revisions.
- If the project works with unit revisions and project revisions: The documents are referenced in the "@NameSystem" document group on the "Documents" tab.

Requirements for project revisions

- The project configuration supports project revisions and unit revisions
- The documents are referenced in a document group from the "@Project" branch on the "Documents" tab.

Requirements for group revisions

- The document group is located in the Navigator on the "Documents" tab in one of the following branches:
 - For unit revisions: "@NameSystem"
If there is only one document group on the "Document group" tab on the first level below the project root, it can have any name.
 - For project revisions: "@Project"
- The document group contains references to original documents from the unit view or location view.

Administration of revisions

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring revisions".

See also

Referencing documents in document groups (Page 291)

11.6.3 Carrying out single revisions

The complete revision sequence is described below. To continue an open revision, leave out step 4.

Requirements

See also chapter Requirements for revisioning (Page 275). The following also applies:

- Revisioning the document is not locked by a revision from a subordinate or parallel working layer. See also chapter Unit revisions and project revisions (Page 90).
- To create a new revision or continue an open revision or revision file: The document is not part of a group revision which is still a * revision.
- You have a good knowledge of the associated user interface. See chapter "Revisions" tab (Page 445).

Procedure


1. Open the properties of the document.
2. Select the "Revisions" tab.
3. Depending on the project configuration, the following applies:
 - If the project supports project revisions, activate the "Project revision" option. The revision table shows the project revisions of the document.

Note

No manual unit revisions

Unit revisions are created automatically and not by you. See also chapter Unit revisions and project revisions (Page 90).

If you activate the "Unit revision" option, you see in the revision table whether the document already has a unit revision.

- If the project is working without project revisions, you always see the unit revisions of the document.
4. Click the "Creates a new revision" button in the toolbar:

- A * revision is created.
5. Optional: Edit the label and description of the revision or of the next revision step. See also chapter Editing revision texts (Page 282).
6. Carry out the revision steps. See also chapter Carrying out revision steps (Page 280).

Result

Depending on the project configuration, the revision file is created at the first or last revision step. If you have carried out a project revision, the unit revision is automatically created at the last step.

You have the following options:

- Display revision file
See also chapter Viewing revision files and Redlining files (Page 286).
- Print out or export revision file
See also chapter Overview of printing and exporting revision files (Page 288).
- If the revision file is a PDF: Insert Redlining markings
See also chapter Working in Redlining files (Page 287).

See also

Single revisions and group revisions (Page 89)

11.6.4 Carrying out single revisions in bulk

Requirements

See also chapter Requirements for revisioning (Page 275).

Procedure

1. Select the "Documents > Revision" command in the menu.
The "Revision" tab opens.

Note

The tab is based on a query. You can filter, sort, and export it. See also chapter Working with queries in simple run mode (Page 376).

2. Set a start object using drag&drop.
You see all the documents below the start object.
The "Revision" column contains the following information separated by ";":
 - Index, label, and description of the current revision
 - Name, label, and description of the most recently performed revision step in the following notation:
<Name>:<Label>/<Description>
3. Select the desired documents.
4. Click the "Execute" button.

5. If you have selected several documents, you are prompted to specify the sequence in which the documents are to be revised:

Option	Sequence.
"COMOS sequence (recommended)"	By COMOS internal sorting
"Selection"	The sequence in which the documents were selected

6. Confirm your entries.
The "Revision" window opens.
7. Select a revision step.

Note

Carrying out several steps at once

You can select one of the later steps instead of the next revision step. The steps are then carried out one after another.

8. Optional: Click the ">>" button. You can make the following settings:
 - "Sign revisions as a batch" option
Activated: You sign for all revisions and revision steps at once.
Deactivated: If a revision file already exists, it is displayed for review for each revision before the step is carried out. You sign each revision step for each revision individually.
 - "Revision label" and "Revision description" fields: You can overwrite the automatically generated values in the first revision step.
 - "Revision step label" and "Revision step description" fields: You can overwrite the automatically generated values.

Note

If you execute several revision steps at once, you can only enter the revision step label and the revision step description for the next step. They are generated automatically for the subsequent steps.

9. Confirm your entries.

Result

- The revision step(s) are carried out for the selected documents. If a document already has an open revision, this is continued. If the open revision already has the selected revision steps, they are skipped. If a document does not have an open revision, one is created.
- The following documents are not revised:
 - Documents whose open revision is part of a group revision
 - Documents which are locked for revisioning due to a revision from a subordinate or parallel working layer
See also chapter Unit revisions and project revisions (Page 90).

- If the revisioning is linked to a security certificate, you are prompted to sign the revision steps. See also chapter Signing revisions electronically (Page 283).
- The result of the execution is summarized in a message.

Alternative

Use the tool "All document tools". See also chapter Working with the tool "All document tools" (Page 271).

See also

Viewing revision files and Redlining files (Page 286)

11.6.5 Performing group revisions

The complete revision sequence is described below. To continue an open group revision, leave out step 4.

Requirements

- See also chapter Requirements for revisioning (Page 275).
- The documents in the document group are not locked for revisioning due to a revision from a subordinate or parallel working layer. See also chapter Unit revisions and project revisions (Page 90).

Procedure

1. Open the properties of the document group.
2. Select the "Revisions" tab.
3. Depending on the project configuration, the following applies:
 - If the project supports project revisions, activate the "Project revision" option. The revision table shows the project revisions of the document group.

Note

No manual execution of unit revision

Unit revisions are created automatically and not by you. See also chapter Unit revisions and project revisions (Page 90).

If you activate the "Unit revision" option, you see in the revision table whether the document already has a unit revision.

- If the project only works with unit revisions, you always see the unit revisions of the document group.

4. Click the "Creates a new revision" button:



Result:

- The group revision is created and the first revision step is carried out.
 - After which step the index and revision files are created depends on the project configuration. See also chapter Technical information about the revision process (Page 86).
5. Optional: Edit the label and description of the revision or of the next revision step. See also chapter Editing revision texts (Page 282).
 6. Carry out the rest of the revision steps. See also chapter Carrying out revision steps (Page 280).

Result

A revision is created and executed for each participant in the group revision in the same way as for single revisions. See also chapter Carrying out single revisions (Page 276).

To see a revision file, select the reference below the document group and select the "Properties of the original document" command in the context menu.

Revising a document group for the first time

When a document group is revised for the first time, all documents participate in the revision, even if the "Revision all documents" option is deactivated in the document group and the documents have not been changed.

See also

Single revisions and group revisions (Page 89)

Viewing revision files and Redlining files (Page 286)

11.6.6 Carrying out revision steps

The following chapter applies for single revisions and group revisions. For information on bulk single revisions, see chapter Carrying out single revisions in bulk (Page 277).

Requirements

- Properties of a document or a document group: "Revisions" tab is visible.
- The document or documents in the document group have an open revision. See also the following chapters:
 - Definition: Completed, open, and * revisions (Page 88)
 - Carrying out single revisions (Page 276)
 - Performing group revisions (Page 279)
- You have checked the working state of the document or documents. See also chapter Checking the working state of documents (Page 282).

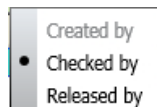
Procedure

For each revision step, proceed as follows:

1. Optional: Edit the label and description of the revision step.
See also chapter Editing revision texts (Page 282).
2. Click on the arrow next to the following button:



You see a menu with the revision steps:



Steps which have already been executed are locked. The next step in the revision process is marked with a dot.

3. Select a revision step.

Note

Carrying out several steps at once

If you select one of the subsequent steps instead of the step marked with a dot, the steps are carried out one after the other.

4. If the revisioning is linked to a security certificate, you set your electronic signature.
See also chapter Signing revisions electronically (Page 283).

Result

The step is carried out. After which step the revision file is created depends on the project configuration. See also chapter Technical information about the revision process (Page 86).

See also

Checking the signature (Page 284)

11.6.7 Checking the working state of documents

Before you carry out a revision step, check the working state of the document. The procedure depends on whether a revision file already exists.

Procedure with revision file

1. Open the properties of the document.
2. Select the "Revisions" tab.
3. Open the revision file. For PDF revision files, you can also open the Redlining file. See also chapter Viewing revision files and Redlining files (Page 286).

The revision file is opened. You can print it or export it to a file via printing. See also chapter Overview of printing and exporting revision files (Page 288).

You can insert comments and mark errors in the Redlining PDF. See also chapter Working in Redlining files (Page 287).

Procedure without revision file

Select "Open read only" in the context menu of the document. Check the working state of the document.

11.6.8 Editing revision texts

Introduction

When making revisions via the properties of a document or a document group, you have the following options:

- In all open revisions: Overwrite the automatically generated revision description.
- In * revisions: Overwrite the automatically generated revision label.
- For all revision steps: Overwrite the automatically generated revision step label and the revision step description.

Note

Special features

- If a document is part of a group revision, you can only change this information via the document group. The change applies to all revisions in the group revision.
 - If you execute several revision steps at once, you can only enter the revision step label and the revision step description for the next step. They are generated automatically for the subsequent steps.
-

Requirements

- For changing the revision label: The project properties are configured accordingly. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Revision label editable during the complete revision operation" option".
- Properties of a document or a document group: The "Revisions" tab is available.
- There is an open revision. See also the following chapters:
 - Definition: Completed, open, and * revisions (Page 88)
 - Carrying out single revisions (Page 276)
 - Performing group revisions (Page 279)

Procedure

1. Select a revision in the revision table.
2. If the revision properties are not displayed, click on the "Show/hide revision properties" button in the toolbar:



Your entries are automatically adopted by the revision table.

3. Enter the required values in the following fields:
 - "Label"
 - "Revision description"
 - "Revision step label"
 - "Revision step description"

If you carry out the next revision step immediately afterward, it adopts your entries.

11.6.9 Signing revisions electronically

See also chapter Security certificate (eSign) (Page 93).

Requirements

- The project configuration couples the revisioning to an electronic signature, which is linked to a security certificate. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Activating eSign".
- You have a valid security certificate (PFX file).
- You have pressed the button to execute a revision step. See also chapter Carrying out revision steps (Page 280) and section Carrying out single revisions in bulk (Page 277).

Procedure

The "Signature" window opens. Proceed as follows:

1. When you use an electronic signature for the first time, you select a security certificate as follows:
 - Click the ">>" button.
 - Click the "..." button next to the "Certificate" field.
 - Select the certificate from your file system and confirm your entry.
2. Optional: Click on the ">>" button and enter a location.
3. Enter the password.
4. Click the "Sign" button.

Result

The following applies to electronically signed steps:

- If you open the revision file at a time when displaying the signature on the revision file is supported by the project properties, the step is visualized on the revision file. By default, it is stamped diagonally at the top left of the document.
- You can check at any time whether the revision file has been changed since the signature was set. See also chapter Checking the signature (Page 284).

See also

"Signature" window (Page 488)

11.6.10 Checking the signature

Principle

The eSign signature stores security information. You can use this information to check in the properties of a document whether the revision file has been changed since the signature was set.

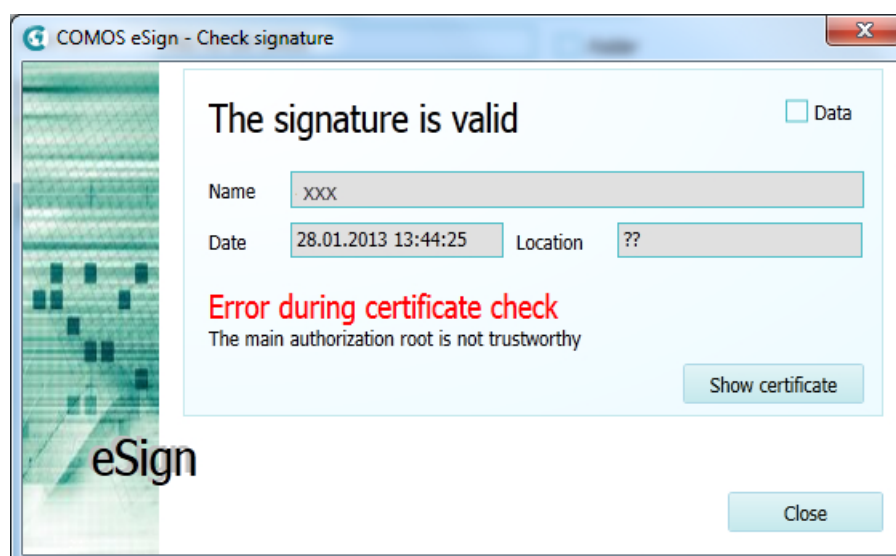
Check the signature if revision monitoring is switched off.

Requirements

- The properties of a document are open.
- The document has been revisioned. See also the following chapters:
 - Carrying out single revisions (Page 276)
 - Carrying out single revisions in bulk (Page 277)
 - Performing group revisions (Page 279)
- The revision steps have been signed. See also chapter Signing revisions electronically (Page 283).

Procedure

1. Select the "Revisions" tab.
2. Select a revision step in the revision table.
3. Select the "Signature > Verify signature ..." command in the context menu.
The file hash of the revision file is compared to the file hash saved in the signature attribute and the security certificate is checked. You can see the result in the "Check signature" window:



4. Optional:
 - Click the "Show certificate" button to view the details of the certificate.
 - To view the details of the file hash, activate the "Data" option.
Invalid values are displayed in red.

See also

Carrying out revision steps (Page 280)

11.6.11 Viewing revision files and Redlining files

Requirements

- Properties of a document > "Revisions" tab is visible.
- The document has a revision with a revision file.
See also chapters Carrying out single revisions (Page 276), Carrying out single revisions in bulk (Page 277), and Performing group revisions (Page 279).
- For displaying Redlining files: The project settings support Redlining.

Procedure

You have the following options:

- Double-click on the revision file of the revision in the "Revision archive" column in the revision table.
If Redlining is set as the start mode in the project settings, the Redlining file opens in a new header; otherwise, the revision file opens.
- If Redlining is not set as the start mode in the project settings, select a revision and click on the arrow next to the "Displays the selected revision" button in the toolbar of the revision table:



- To open the Redlining PDF, select the "Display revision document with Redlining" command.
- To open the revision PDF, select the "Display revision document without Redlining" command.

You can insert comments and mark errors in the Redlining PDF. See also chapter Working in Redlining files (Page 287).

Viewing the revision files of a group revision

1. Open the properties of the document group.
2. Select the "Revisions" tab.
3. Note the index number of the group revision.
4. Open the properties of the individual documents.
5. Select the "Revisions" tab.
6. Search for the revision in the revision table with the index number of the group revision.
7. Proceed as described above.

See also



Redlining (Page 92)

11.6.12 Working in Redlining files

Requirements

- Properties of a document > "Revisions" tab is visible.
- The document has a completed revision with a PDF revision file.
See also chapters Carrying out single revisions (Page 276), Carrying out single revisions in bulk (Page 277), and Performing group revisions (Page 279)
- The project settings support Redlining. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of Redlining".

Procedure

1. Open the Redlining file. See also chapter Viewing revision files and Redlining files (Page 286).
An interactive report with restricted functionality opens. Its background image shows the content of the revision file.
2. To place an error, proceed as follows:
 - Click the following button in the toolbar:

 - Place the error by left-clicking on the working area.
3. To place a note, proceed as follows:
 - Click the following button in the toolbar:

 - Place the note by left-clicking on the working area.
 - Right-click on an empty space in the working area.
 - Left-click twice on the note.
An edit field opens.
 - Enter the note.
4. Confirm your entries.

Result

You can print the open Redlining file or display it again later.

If the revision is completed and users open the report, they see the contents of the Redlining file in the working area.

See also

Redlining (Page 92)

11.6.13 Overview of printing and exporting revision files

Requirements

- A project is open. See also chapters Opening a project or the released area of a project (Page 169) and Opening the working layers of a project (Page 175).
- There are revisioned documents in the project. See also the following chapters:
 - Carrying out single revisions (Page 276)
 - Carrying out single revisions in bulk (Page 277)
 - Performing group revisions (Page 279)

Principle

You have the following options:

- Print revision files on paper or print to a file (export)
- Print the current revision files or any other revision file

See also chapters Printing or exporting current revision files (Page 288) and Printing any revision files (Page 290).

You can also print documents with the active revision printer. See also chapter Printing documents with revision printer (Page 270).

See also

Working with the tool "All document tools" (Page 271)

11.6.14 Printing or exporting current revision files

Requirements

See also chapter Overview of printing and exporting revision files (Page 288).

Printing or exporting current revision files

1. Select the "Documents > Print current revision file" command in the menu bar.
The "Print current revision file" tab opens.

Note

The tab is based on a query. You can filter, sort, and export it. See also chapter Working with queries in simple run mode (Page 376).

2. Set a start object using drag&drop.
You see all the documents below the start object.

3. Select one or more documents.
4. Click the "Execute" button.
5. If you have selected several documents, you must specify the sequence in which the documents are to be printed:
 - "COMOS sequence (recommended)" option: By COMOS internal sorting
 - "Selection" option: The sequence in which the documents were selectedThe "Print" window opens.
6. Select the print settings:
 - To export the revision files to a file, select a PDF printer.
The file is saved in the document directory of your Windows user profile.
 - To print out the revision files, select a paper printer.The revision files are printed on paper or to separate files.

Exporting with extended settings

1. Select the "Documents > Copy TIFF/PDF file of the released revision" command in the menu bar.
The "Copy TIFF/PDF file of the released revision" tab opens.

Note

The tab is based on a query. You can filter, sort, and export it. See also chapter Working with queries in simple run mode (Page 376).

2. Set a start object using drag&drop.
You see all the documents below the start object.
3. Select one or more documents.
4. Click the "Execute" button.
5. If you have selected several documents, you must specify the sequence in which the documents are to be printed:
 - "COMOS sequence (recommended)" option: By COMOS internal sorting
 - "Selection" option: The sequence in which the documents were selectedThe "Export of revision" window opens.

11.6 Revision

6. Activate one of the following options:

- "Without subdirectories"
- "With subdirectories"
- "In a file"
- "With file name for the revision export of the document (SYS.ExportRevFileName)"

See also chapter "Print with revision printer" and "Export of revision" windows (Page 473). Confirm your entries.

7. Optional: To change the default directory, click on the "..." button. If the "In a file" option is activated, you can redefine the default name of the file.

The revision files are printed to files according to your settings.

Alternative

Use the tool "All document tools" and the tool it contains, the "Print current revision file" tool, and "Copy TIFF/PDF file of the released revision". See also chapter Working with the tool "All document tools" (Page 271).

11.6.15 Printing any revision files

Requirements

See also chapter Overview of printing and exporting revision files (Page 288).

Procedure

1. Open the properties of a document with revisions.
2. Select the "Revisions" tab.
3. To print a unit revision, activate the "Unit revision" option; for a project revision, activate the "Project revision" option.

Note

Project revision not configured

If the project configuration does not allow for project revisions, you will not see these options. There are only unit revisions.

4. Select a revision in the revision table.

5. Click the "Prints the selected revision" button in the toolbar of the tab:



The "Print" window opens.

6. Select the print settings:

- To export the revision files to a file, select a PDF printer.
The file is saved in the document directory of your Windows user profile.
- To print out the revision files, select a paper printer.

The revision files are printed on paper or to separate files.

Alternatively: print from an open revision file or Redlining file.

11.6.16 Referencing documents in document groups

Initial situation

For revisioning to work, the documents must be referenced on the "Documents" tab in the document groups in the "@NameSystem" or "@Project" branch. As a general rule, the document groups already exist when you begin your project work. In this case, the documents are automatically referenced in the document groups when they are created or edited.

If the document groups were created after the documents were created and edited, they are empty to begin with. You create the references manually.

Procedure

1. Select a document group.
2. Select the "Create references" command from the context menu.

The documents checked into the working layer from the unit view and location view are automatically referenced in the document group.

11.7 Using the full-text search

11.7.1 Requirements for using the full-text search

Requirements

The working layer you are searching in has a full-text index. If you are searching across layers, the following layers must have an index to produce a complete search result:

- The current layer
- All superordinate layers
- The released area

Note

Updating the index

The full-text index is updated automatically. However, it may be expedient to update the index manually once in a while.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Preparing full-text search for documents".

See also

Full-text search (Page 99)

Using a content-based search (Page 292)

Using revision search (Page 294)

11.7.2 Using a content-based search

Requirements

See also chapter Requirements for using the full-text search (Page 292).

Excluded from the search

- Unrevised reports
- TIFF revisions
- External documents which have a link or a reference to a document from the file system.

Procedure

1. Select the "Plugins > Basic > Full-text search" command in the menu bar.
The "Full-text search" tab opens.
2. From the "Active search dialog window" list select "Content based search".
You see the "Content based search" and "Options" tabs. You work in the "Content based search" tab.
3. Optional: If the results list is only to display hits which are located below a certain start object, drag&drop the object from the Navigator to the "Search below" field.

Note

Search rate

Using the project root as the start object (default) gives the fastest search result; objects from lower tree levels will slow down the search.

4. Enter the character string you are searching for in the "Search key(s)" field.
You can use placeholders and regular expressions. In a Boolean search, you can use Boolean operators. See also chapter Operators, placeholders, and regular expressions in the full-text search (Page 297).
As you type, an entry assistant opens and suggests words in the index of the open working layer which match the letters typed so far.
5. Optional: Set search options on the "Options" tab. See also chapter "Options" tab of the full-text search (Page 454).

Note

Search settings

If you are only interested in the final state of documents, use the "Revisions" search options.

6. Click on the "Start" button on the "Content based search" tab.
Click on the "Stop" button to stop the search.

Result

See also chapter Result of the full-text search (Page 295).

See also

- Full-text search (Page 99)
- Frequent errors when searching (Page 300)

11.7.3 Using revision search

Requirements

- See also chapter Requirements for using the full-text search (Page 292).
- There are documents with revisions in the open project.
- If you are using TIFF revisions: An NTFS file system is used.

Excluded from the search

- External documents which are saved outside of COMOS
- Contents of TIFF revisions

Procedure

1. Select the "Plugins > Basic > Full-text search" command in the menu bar.
The "Full-text search" tab opens.
2. From the "Active search dialog window" list, select the "Revision search" search mode.
You see the "Attributed search" and "Options" tabs. You work in the "Attributed search" tab.
3. Determine the unit or location under which you are searching in the "Unit/Location" field in the "Document data" control group.
4. Determine which metadata you are searching for in the "Revision data" and "Control data" control groups.
You can work with placeholders and operators. See also chapter Operators, placeholders, and regular expressions in the full-text search (Page 297).
5. Optional: To search the content of PDF revisions too, proceed as follows:
 - Activate the "In addition, offer the general search option" and "Boolean search" options on the "Options" tab.
The "Additional key word(s)" field is displayed on the "Attributed search" tab.
 - Enter the character string you are searching for in the "Additional key word(s)" field.
You can use placeholders, regular expressions, and Boolean operators. See also chapter Operators, placeholders, and regular expressions in the full-text search (Page 297).

Note

Not for TIFF revisions

The content based search does not work for TIFF revisions.

6. Optional: Set search options on the "Options" tab. See also "Options" tab of the full-text search (Page 454).
7. Click on the "Search" button on the "Attributed search" tab.
Click on the "Stop" button to stop the search.

Result

See also chapter Result of the full-text search (Page 295).

See also

Full-text search (Page 99)

Frequent errors when searching (Page 300)

11.7.4 Result of the full-text search

Hit list display

The database is searched according to your settings. The search result is displayed in a hit list as follows:

- Revision search: In a separate window of its own
- Content based search: On the "Content based search" tab in the "Document details" control group

The following applies to the hit list:


- Hits for documents which belong to a document package are grouped.
- If the hit list consists of one page, all hits for a document and its revisions are combined into one row.
- In order to display the search results more quickly, the file analysis is interrupted as soon as the maximum number of rows per page of hits specified in the options is reached. When you scroll to the next page, the analysis is started again.
It is, therefore, possible that hits for one document may be distributed over several pages in hit lists which comprise several pages.

Searching in working layers

See also chapter Basic principle of the full-text search (Page 99).

Actions in the hit list

You have the following options in the hit list:

- Scrolling
In hit lists comprising several pages, you can scroll between pages using the following button: "Next subset"/"Previous subset"

- Opening a document or revision
Double-click on the cell of the document or the revision. If there are several revisions, the one with the highest index is opened.

11.7 Using the full-text search

- Filtering, sorting, and exporting the hit list
You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Sorting and filtering the Object Browser" and "Exporting data".
- Showing details of hits
Activate one of the following options above the hit list:

Option	Description
"None"	Activated: You only see the hit list.
"Document preview"	Activated: To the right of the hit list, you see a document preview of the selected document or revision. Requirements: The document preview is activated in the project. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""AutoVue - to be used to view documents" option".
"Document properties"	Activated: To the right of the hit list, you see the properties of the selected hit. If needed, you can directly change the properties via the window.

Columns of the hit list

Column	Only for content based search	Note
"Document"	-	Name of document
"File name"	✓	The path of the file directory in which the document is located
"Description"	✓	Description of document
"Unit revision"	-	Indices of the revisions found, separated by commas
"Project revision"	-	
"Unit version"	-	Name of the checked-in DVM version of the document
"Project version"	-	

See also

- Using a content-based search (Page 292)
- Using revision search (Page 294)
- Frequent errors when searching (Page 300)
- Full-text search (Page 99)

11.7.5 Operators, placeholders, and regular expressions in the full-text search

Jokers ("Placeholder", "Wildcards")

Wildcards "*" and "?"

- "?": Finds any one character
- "*": Finds any number of characters

These placeholders can be located anywhere. Using them increases the time required for searching. The search is slower when the placeholder is set at the front part of the word.

Examples:

- "app*" finds apple, appendix, etc.
- "*ge*" finds urgent, arrangement, etc.
- "?ills" finds fills and pills but not spills.
- "*ills" finds fills, pills, and spills.

% fuzzy search

Syntax: The amount of entered percentage characters defines the amount of allowed variations. The position defines which letters, starting from the beginning of the word, have to be exact hits.

The search rate decreases.

Examples:

- "Ba%nana"
The word has to start with Ba and can only have a single deviation to banana.
- "B%%anana"
The word has to start with B and can have a maximum of two different characters.

Result: The fuzzy search finds misspelled words. For example, a fuzzy search for "B%nana" would also find "Bannana" or "Banan".

"~~" Numeric range

Syntax: To search in a numerical range, specify the upper and lower limits, separated by a double tilde symbol.

Example:

"Apple w/5 12~~17"

Result: This query finds documents in which the word apple is not placed more than five words away from a number between 12 and 17.

This numerical range search includes the upper and lower range. In the example 12 and 17 are also listed as hits.

Only positive integers are allowed.

In the numeric range search commas and decimal points are interpreted as blanks. Minus characters are ignored. Example: -123,456.78 is interpreted as: 123 456 78 (three numbers).

Regular expressions

Regular expressions offer the possibility to search for complex character combinations. Always prefix a regular expression with two hash symbols, enclosing quote marks are unnecessary.

Examples:

- "Apple and ###199[0-9]"
- "Apple and ###19[0-9]+"

A regular expression always refers to a single word. For example, the query "apple pear" cannot be found with the regular expression "###app.*ar".

A regular expression behaves like the asterisk placeholder (*) in terms of performance: The earlier the placeholder occurs in the character string, the slower the search will be.

List of regular expressions:

- "." point or decimal delimiter
The point finds a single character. "Blan." finds "blank" and "bland". So there must be exactly one character at this position.
- ".*" (point times)
The point with the multiplication sign (star, asterisk) stands for "0 or more" characters. If the combination ".*" is indicated at one position, anything can be entered there, but does not have to be.
- ".+" (point plus)
The point with the plus sign stands for "1 or more" characters. If the combination ".+" is indicated at one position, anything can be entered there, and there has to be at least one character.
- "^" (caret)
Stands for the beginning of a section.
- "\$" (dollar)
Stands for the end of a section.
- "\" (backslash)
Escape sequence: the next character is not counted as a control character.
Example: "\\$100" means that "\$100" is searched for, instead of counting "\$" as a control character.
- "[abc]" square brackets with character string
Square brackets define a series of characters of which at least one has to appear. Example: "app[le]" finds "apples" and "applaus" but not "apology".
- "[a-t]" square brackets with character range
You can also enter a character range in the square brackets by using a hyphen. In the above example every lower-case letter from a to t would be found.

- "[^a-p]" square brackets with character exclusions
Finds all characters except the indicated characters. In the above example all characters except for the small letters from a to p would be found.
- "[a-z]+"

With this combination the search is not for precisely one character, but for one or more.

Boolean search

A Boolean search consists of a group of words, that are put into relation by using copulas. Case-sensitivity of copulas is ignored. "AND" thus functions just like "and" or "anD".

- "and"
Apple and pear: Both words need to be available.
- "or"
Apple or pear: one of the two words has to be available.
- "w/<number>"
Apple w/5 pear: Apple has to be found within a range of five words around the word pear.
- "pre/<number>"
Apple pre/5 pear: Apple has to be in a range of five words before the word pear is found.
- "not w/<number>"
Apple not w/5 pear: In a range of five words before and after the word pear the word apple is not allowed.
- "and not"
Apple and not pear: The word apple has to appear but the word pear is not allowed to appear.
- "name contains" (<character string>)
name contains (Smith): the "Name" field has to have the entry Smith.
- "w/<number> xfirstword"
Apple w/5 xfirstword: The word apple has to be among the first five words.
- "w/<number> xlastword"
Apple w/5 xlastword: The word apple has to be among the last five words.

() () Brackets and combinations

If you are searching for multiple copulas, use brackets.

- Example 1:
Apple and pear or orange
Better:
 - (apple and pear) or orange
or
 - Apple and (pear or orange)
- Example 2:
(Apple or banana) and (pear w/5 grapefruit) finds all documents, that
 - contain the word apple or the word banana
 - and at the same time contain the word pear in an area of five words around the word grapefruit.

"not"

The copula "not" in front of any search term inverts the meaning. Therewith all hit lists can be reduced, since documents with the according words can be excluded.

- Example:
Apple or not pear
Apple and not pear
not (apple w/5 pear)

"not" can also be used as a single copula at the beginning of a search term:
"not pear" finds all documents in which the word pear does not appear. If "not" is not the first copula of the search term, "not" must be related to "and" or "or".

See also

Full-text search (Page 99)

11.7.6 Frequent errors when searching

If your search query does not find a document, check the following:

- Is a required folder or file extension excluded in the full-text search settings in the project properties?
- Is the index up-to-date?
In certain cases, users can forego the automatic update of COMOS. In such a case the index has to be updated manually.
- Is the document located in a subordinate or parallel working layer?
- Is the revision file already created?
Only with the "Create PDF file in first step" option the revision file is available right away. For all other modes the revision has to be released first in order for the revision file to be existent.

- Are you working in the right search mode of the full-text search?
The attributed search with default settings does not find any content in the documents.
- Are you searching for a property of the COMOS object, such as its name or label?
The full-text search is not a Navigator search and does not find COMOS properties.
- Were any spelling errors made in the document?
Maybe your search query is correct, but the editor of the document mistyped something.
In this case you can use the fuzzy search or use jokers ("placeholders") to find the document. These options increase the time required for searching.

See also

Using a content-based search (Page 292)

Using revision search (Page 294)

Full-text search (Page 99)

11.7.7 Storing document metadata outside COMOS

Principle

Normally you save the metadata for your documents using version management. You also have the option of writing metadata to the documents outside of COMOS.

Procedure

To specify the metadata of a Word document for example, proceed as follows:

1. Open a Word document.
2. Click the "File > Properties" menu.
3. Select the "Summary" tab.
4. Enter the desired information in the field for the file properties.
Further information regarding file properties can be found in the Word Help.

Result

The metadata is applied when the document is imported into COMOS. You can also search for this information.

See also

Search modes for the full-text search (Page 101)

11.8 Locking documents

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- You have the "Lock" function right. If you have any questions, contact your administrator.
- The properties of the document are open. See also chapter Opening properties (Page 128).

Procedure

Same procedure as for engineering objects.

Result

- Only administrators can change the properties and content of the document in the current working layer and all subordinate layers. The document is displayed in gray in the Navigator.
- In interactive reports, all objects which are placed on the report are locked recursively.
- Only administrators can delete the document.

Releasing

Same procedure as for engineering objects.

See also

Locking engineering objects (Page 224)

11.9 Using CDI documents

Requirements

- Microsoft Office products installed:
 - Word 2000 to 2010
 - Excel 2000 to 2007
- Settings for Word: The field functions are deactivated.
- See also chapter General requirements for working with COMOS Platform (Page 17).

Working with CDI documents in COMOS

1. Open the project which contains the CDI documents.
2. Open the CDI document.
Excel or Word opens. The COMOS data is automatically exported to the document. It corresponds to the current state of the database.
3. You have the following options:
 - Excel document: Edit the data. If COMOS is running when the document is closed, the changes are automatically reimported to COMOS.
 - Save the document in the file system. You can then work with the document outside of COMOS.

You cannot reimport changes to Word documents.

Working with CDI documents outside of COMOS

Requirements: The CDI document has a link to a file which is saved in the file system outside of COMOS. Alternatively, a copy of the CDI document has been saved in the file system.

The following applies:

- The state of the CDI document data was the current state when the document was last opened from COMOS.
- You can edit or archive the document, or forward it to a third party.
- Excel document: You can reimport changes to the data via the standard import. You can find more information on this topic in the "COMOS Platform Interfaces" manual, keywords "Reimporting content from Access/Excel/XML files" and "Reimporting content from Access/Excel files or directories".
- You cannot reimport changes to Word data.

See also

CDI documents (Page 97)

11.10 Editing document properties

Procedure

- Editing general properties and attributes: The procedure is the same as for engineering objects.
See also chapters Editing general data (Page 221) and Editing attributes (Page 228).
- Editing the "General" tab: See also chapter "General" tab for documents (Page 440).
- "Revisions" tab: See also chapter Revision (Page 273).

- Change tab of the corresponding document type: You usually only edit this tab when creating a document freely.
See also chapters Creating documents freely via the context menu (Page 265) and Change tab (Page 442).
- When numbering ranges are used: See also chapter Creating numbering ranges (Page 242).

See also

Properties of documents (Page 439)

Properties and content of documents (Page 70)

11.11 Importing and exporting documents

You can find more information on this topic in the "COMOS Platform Interfaces" manual.

11.12 Using the PDF document view

Requirements

- See also chapter General requirements for working with COMOS Platform (Page 17).
- See also chapter PDF document view (Page 98).
- External PDF documents are located in a file directory.

Placing the PDF documents

1. In the menu bar, select the "Extra > Multiple Document Preview" command.
2. Open the file directory which contains the external PDF documents.
3. Drag&drop one or more PDF documents from the file directory onto the working area of the report.
4. Place one or more PDF documents.

Setting the display of the PDF document

See also chapter Setting the content and display of interactive reports (Page 307).

Editing the picture box parameters of the PDF document

1. Select a PDF document on the working area of the report.
2. Select the "Properties" command in the context menu.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Picture box parameters" window".

Deleting the PDF document on the working area

1. Select a PDF document on the working area of the report.
2. Select "Delete" from the context menu.

Printing the complete working area of the report

Click the "Print" button on the toolbar.

See also

Standard toolbar in interactive reports (Page 453)

Menu "Extra > ..." (Page 405)

Working with reports

12.1 Working with interactive reports

12.1.1 Setting the content and display of interactive reports

12.1.1.1 Zoom

Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

Maximum zoom factor

Maximum zoom factor: 800%

Options

You have the following zoom options in interactive reports:

- Zooming in on a specific section
- Zooming out to the complete view
- Continuous zoom
- Changing the zoom factor in defined steps

Zooming in on a specific section

1. Click the "Zoom" tool on the standard toolbar:



2. With the left mouse button held down, drag out a frame on the working area.

The tool will zoom in on the frame.

Zooming out from the complete view

1. Click the "Complete view" tool on the standard toolbar:



2. You have the following options:
 - To zoom all placed elements, left click once on the working area.
 - To zoom the document sheet, left click again.

Continuous zoom

1. Click the "Zoom In/Out" tool on the standard toolbar:



2. Move the mouse to the working area.
3. Press and hold down the left mouse button.
4. You have the following options:
 - To zoom in, move the mouse downward or to the right.
 - To zoom out, move the mouse upward or to the left.

Changing the zoom factor in defined steps

You have the following options:

- Use the following buttons on the standard tool bar:



- Use the <Page down> button to zoom in and the <Page up> button to zoom out.
- Enter the desired factor in the "Zoom" field and press the <Return> key.

Moving the zoomed-in section

You have the following options for moving the zoomed-in section:

- Work in bird view. See also chapter Working in bird view (Page 309).
- Use the "Move sheet" function. See also chapter Moving a sheet section (Page 308).

12.1.1.2 Moving a sheet section

Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

Procedure

1. Select the "Move sheet" button on the standard toolbar:



2. Move the mouse to the working area.
3. Keep the left mouse button held down and move the mouse.

Result

The working area is moved.

Alternative

1. Move the mouse pointer to the working area.
2. Hold down the <Alt> key and the left mouse button.
3. Move the mouse.

The tool previously activated on the toolbar remains active.

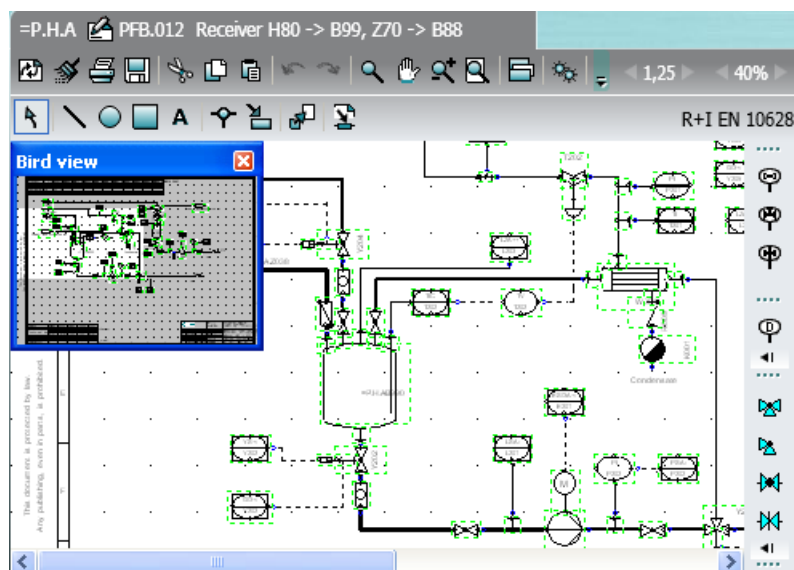
See also

Working in bird view (Page 309)

12.1.1.3 Working in bird view

Principle

When bird view is activated, a small window in which you can see the whole report opens above the report. The section currently displayed in the working area is highlighted:



Bird view allows you to maintain an overview of where the section currently shown in the working area is located within the report as a whole. You can also use bird view to move the section.

Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

Opening bird view

Click the "Bird view" button on the standard toolbar:



The "Bird view" window opens. The section currently shown in the working area is highlighted in white; the rest is colored gray.

Moving a section

1. Move the mouse pointer to the white area in the "Bird view" window.
2. Keep the left mouse button held down and move the mouse until the white area covers the desired section.

The section is moved to the working area of the report.

12.1.1.4 Showing/hiding or freezing the content of a layer

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- The interactive report uses layers.
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Setting up layers for reports".
- Layers are assigned to the objects and graphical elements placed on the report.
See also chapter Assigning layers (Page 333).

Procedure

1. Click the "Layers" button on the toolbar:



The "Layers" window opens.

2. To show or hide layers in the report, activate or deactivate the "Visible" option for the relevant layers.

3. To specify which layers in the report are locked for editing, activate the "Frozen" option for the relevant layers.
Objects on locked layers cannot be selected and edited in the report.
4. To apply your settings immediately, activate the "Apply immediately" option.
The selected settings only apply to the current session.
5. To save your settings, click on the following button:



The "Save settings" window opens. See also chapter "Save settings" window (Page 481).

6. Select the required settings.
7. Confirm your entries.
Your settings can be saved as user-specific settings or as group-specific settings. They are saved in the base data.
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using personal user settings (profile)".
8. Confirm your entries in the "Layers" window.

See also

Layers in interactive reports (Page 80)

12.1.1.5 Setting the scale

Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

Procedure

1. Select the "Options > Scale factor" command in the context menu of the working area.
The "Scale factor" window opens.
2. Select the scale.
3. Confirm your entries.

Result

The scale and the symbol display are adjusted.

Whether the symbol texts are made bigger or smaller depends on the report template configuration. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "DrawText".

12.1.2 Switching off the grid

Application examples

You switch off the grid in the following cases:

- To connect objects via dynamic connectors.
- If the grid size has been altered after objects have been placed and connections or graphical elements have been drawn in.
In this case, the connectors of the objects and the lines of the graphical elements are not usually located on the grid points any longer.

Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

Procedure

Press and hold down the <Shift> key.

Result

As long as the key is held down, you are not committed to the grid.

See also

Grid (Page 80)

12.1.3 Placing objects

12.1.3.1 Placing objects via the symbol bar

See also chapters Fundamentals of placing on interactive reports (Page 75) and Structure of interactive reports (Page 449).

Advantage of this method

- The symbol bar offers quick access to important objects you are working with in the report.
- The objects on the symbol bar are provided explicitly for use in the current report.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- The report has a symbol bar.

Procedure

1. Left-click on the button for the desired object on the symbol bar.
Insert mode is activated.
2. Move the mouse pointer to the working area.
A coordinates cross is displayed instead of the mouse pointer. The object symbol is attached to the coordinates cross.
3. Optional: You can rotate the symbol before you place it. See also chapter Rotating symbols when placing them (Page 319).
4. Left-click on the position where you want to place the symbol.

Result

The symbol is inserted into the report. The corresponding engineering object is created in the Navigator. Where the object is created depends on the module and the report template. You can navigate from the working area to the object. See also chapter Navigating (Page 126).

Insert mode remains active. You can place further instances on the working area without reselecting the button on the symbol bar.

See also

Switching off the grid (Page 312)

Inserting objects on a connection (Page 325)

12.1.3.2 Placing base objects from the Navigator

Advantage

You have more objects to choose from than on the symbol bar.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- You have experience with the structure of the "Base objects" tab. If you have any questions, contact your administrator.
- The base object has a symbol for the drawing type of the report.

Procedure

1. Select the required base object on the "Base objects" tab in the Navigator.
2. Move the object into the working area of the report using drag&drop.
3. Optional: You can rotate the symbol before you place it. See also chapter Rotating symbols when placing them (Page 319).

Result

An engineering object based on the base object is created in the Navigator. The symbol of the engineering object is placed on the report.

Where the object is created depends on the module and the report template. You can navigate from the working area to the object. See also chapter Navigating (Page 126).

See also

Switching off the grid (Page 312)

Inserting objects on a connection (Page 325)

12.1.3.3 Placing engineering objects from the Navigator

Advantage

You have more objects to choose from than on the symbol bar.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Engineering objects have been created on the "Units" or "Locations" tabs in the Navigator. See also chapter Creating engineering objects (Page 201).
- The objects have a symbol for the drawing type of the report.

Procedure

1. Select the desired engineering object on the "Units" or "Locations" Navigator tab.
2. Move the object into the working area of the report using drag&drop.
3. Optional: You can rotate the symbol before you place it. See also chapter Rotating symbols when placing them (Page 319).

Result

The symbol of the engineering object is placed on the report.

See also

Switching off the grid (Page 312)

Inserting objects on a connection (Page 325)

12.1.3.4 Placing objects via the context menu of a symbol

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- A symbol is placed. See also chapter Fundamentals of placing on interactive reports (Page 75).
- In the context menu of the symbol, objects from the project structure are offered for the "New" command.

Note

The "New" command is not available in all drawing types.

Procedure

1. Select the symbol (symbol A).
2. Select the "New" command from the context menu.
The submenus open. All objects which are permitted under this object according to the project structure are displayed in the bottom half.
3. Select an object.
The symbol of the object (symbol B) is attached to the mouse pointer.
4. Optional: You can rotate the symbol before you place it. See also chapter Rotating symbols when placing them (Page 319).
5. Click the left mouse button.

Result

- Symbol B is inserted into the report and is created in the Navigator below the engineering object for symbol A.
- If there is already a corresponding object located below the engineering object, and this object has not yet been placed, no new object is created. Instead, symbol B is assigned to the existing object.
- If the command makes several objects available, their symbols are placed below one another.

You can find more information on this topic in the manuals for the modules.

See also

Creating objects from a project structure via the context menu (Page 204)

Switching off the grid (Page 312)

12.1.3.5 Placing objects by inserting a template

See also chapter Templates and uses (Page 39).

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There is a template available to paste into the interactive report. The open interactive report has the same drawing type as the interactive report that belongs to the template.
- There is nothing selected in the working area of the report.

Procedure

1. Select the "Place template" command from the context menu in the working area. The "Select document as template" window opens. The window contains two lists and an object tree.
2. In the lists, specify the project in which and the tab on which the template you wish to paste is located. You will usually use the templates of the base project. The contents of the selected tab from the selected project are shown in the object tree.
3. Select the template object in the object tree. A preview of the template is displayed below the object tree.
4. Confirm your entries. The "Select document as template" window closes. The template is attached to the mouse pointer.
5. Optional: You can rotate the template before you place it. See also chapter Rotating symbols when placing them (Page 319).
6. To place the template, left-click on the desired position in the working area.

Note

No free positioning

Depending on the configuration of the template, the positioning of the template in the report may be completely or partially predetermined. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating templates".

Result

The objects are placed on the interactive report and connected to each other as specified in the template. The corresponding objects are created in the Navigator. Where the objects are created depends on the module and the report template. You can navigate from the working area to the objects. See also chapter Navigating (Page 126).

Placing a base object with a reference to a template object.

If a base object has a reference to a template object, you can place the template directly on the report. To do this, move the base object into the working area using drag&drop.

See also

- Creating templates from placed objects (Page 365)
- Switching off the grid (Page 312)

12.1.3.6 Placing attributes

Requirements

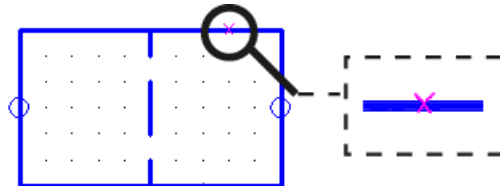
- An interactive report is open. See also chapter Opening documents (Page 129).
- The owner of the attribute is placed on the report. See also the following chapters:
 - Placing objects via the symbol bar (Page 312)
 - Placing base objects from the Navigator (Page 313)
 - Placing engineering objects from the Navigator (Page 314)
 - Placing objects by inserting a template (Page 316)

Procedure

1. Select the desired attribute in the Navigator.
2. Drag&drop the attribute into the working area.

Result

- The attribute value is displayed on the report. If the value is empty, only the anchor of the attribute is displayed:



- If the attribute changes, the value on the report is automatically updated.
- If you select or move the owner's symbol, the attribute value is also selected or moved.

You can edit the attribute value in the report. See also chapter Editing placed attributes (Page 330).

Moving a placement

1. Select the attribute in the working area.
2. Move the attribute to the desired position.

Deleting a placement

1. Select the attribute in the working area.
2. Select "Delete" from the context menu.

See also

Switching off the grid (Page 312)

12.1.3.7 Placing a report on a report

Requirements

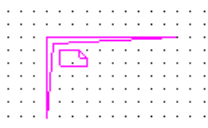
- Two interactive reports have been created. See also chapter Creating Documents (Page 263).
In the information that follows, the reports are referred to as reports A and B.
- The reports have the same drawing type.

Procedure

1. Open the interactive report (report A) on which you want to place the other report (report B). See also chapter Opening documents (Page 129).
2. Move report B from the Navigator onto the working area of report A using drag&drop.

Result

The graphical content of report B is displayed on the working area of report A, as is a control triangle:



The objects behind the symbols are still only placed on report B. The graphical content you see on report A is connected to report B. It is read-only. Changes to graphical content in report B are also visible on report A when the next update takes place.

You can break apart report B and transfer its contents to report A. See also chapter Breaking apart a placed report (Page 362).

If you retain the connection, you have the following options:

- Replace report B with a different report or change the coordinates.
See also chapter Replacing a placed report and changing coordinates (Page 361).
- Open report B. See also chapter Opening a placed report (Page 361).

12.1.3.8 Rotating symbols when placing them

Principle

If you place an object on an interactive report, its symbol initially has an orientation specified by the symbol definition.

For the following placement methods, you can rotate the symbol before you place it:

- Via the symbol bar
- By moving a base object or an engineering object from the Navigator using drag&drop
- Via the context menu of a symbol
- By pasting a template

Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

Procedure

1. Initially, proceed as described for the individual placement methods.
See also:
 - Chapter Placing objects via the symbol bar (Page 312).
 - Chapter Placing base objects from the Navigator (Page 313).
 - Chapter Placing engineering objects from the Navigator (Page 314).
 - Chapter Placing objects via the context menu of a symbol (Page 315).
 - Chapter Placing objects by inserting a template (Page 316).
2. Move the mouse pointer to the working area.
3. Press the <Space> bar once for each rotation.

Result

The symbol is rotated counter-clockwise. By default, it is rotated in 90° increments. When placing from the Navigator, the symbol will not be refreshed until you move the mouse pointer again.

See also

Changing the rotation angle for rotating using the <Space> key (Page 353)

Rotating symbols (Page 343)

12.1.4 Selecting symbols and graphical elements

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There are symbols or graphical elements placed on the report. See also chapter Placing objects (Page 312) and chapter Working with graphical elements (Page 334).

Procedure

1. Click the "Identify" button in the standard toolbar:



Note

Alternatively, you can deactivate the tool that is currently active using the <Esc> keyboard command. The "Identify" tool is activated automatically.

2. Select the desired symbols and graphical elements as described below.

Single selection

Left-click on a symbol or graphical element.

Multiple selection

1. Press and hold down the <Ctrl> key.
2. Left-click on several symbols or graphical elements.

Selecting the contents of an area

1. Press and hold down the left mouse button.
2. Use the mouse to drag out a frame which surrounds the desired symbols and graphical elements.

Deselecting

To deselect a selected symbol or graphical element, left-click on the symbol or graphical element again.

See also

Customizing the arrangement of frames and tabs (Page 142)

12.1.5 Connecting objects

12.1.5.1 Activating and deactivating the "Connection" tool

See also chapter Fundamentals of connections on interactive reports (Page 77).

Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

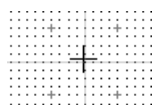
Procedure

Click the "Connection" button in the report-specific toolbar:



Result

The "Connection" tool is activated. A coordinate cross is displayed instead of the mouse pointer:



When drawing the connection run, the coordinate cross helps you to align it with the objects and connections that have already been placed.

You can now set the start point of the connection. See also chapter Drawing the start point and end point of the connection (Page 321).

12.1.5.2 Drawing the start point and end point of the connection

See also chapter Fundamentals of connections on interactive reports (Page 77).

Introduction

The following table offers you an overview of when to select which start points and end points:

Start point/end point	Usage
Static connector of a placed object	The connection should start or end at an object which has static connectors. See also chapter Connectors (Page 57).
Any position on the symbol line of a placed object	The connection should start or end at an object which does not have static connectors, e.g. a vessel.

Start point/end point	Usage
Any position on a connecting line	You want to extend an open connecting line. In this case, select the open end as the start or end point. Or you want a connection that you have already drawn to branch off. In this case, select a point in the middle as the start or end point.
Any free position on the working area	You want to draw a connection with a start point or end point which is - at least initially - unconnected.

Note

Selecting a symbol line or connecting line as a start point or end point

If you select a symbol line or connecting line as the start or end point, the connection is realized using dynamic connectors.

See also chapter Connectors (Page 57).

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- The "Connection" tool is activated. See also chapter Activating and deactivating the "Connection" tool (Page 321).
- Depending on the start point and end point: The relevant objects have been placed on the report or a connection has been drawn. See also chapter Placing objects (Page 312).

Procedure

1. Move the mouse to the desired start point. If necessary, switch off the grid. See also chapter Switching off the grid (Page 312).
2. Click the left mouse button.
The start point of the connection is drawn in. The "Connection" tool remains activated.
3. Optional: Determine the exact connection run by drawing intermediate points. See also chapter Drawing intermediate points on the connection (Page 323).
4. Optional: Connect several objects with one line. See also chapter Connecting several objects with one line (Page 324).
5. Move the mouse to the desired end point. If necessary, switch off the grid. See also chapter Switching off the grid (Page 312).
6. Click the left mouse button.
7. End the connection by right-clicking.

Note**Meeting lines for dynamic connectors**

If you want to create a dynamic connector, the mouse must be exactly on the symbol line or the connecting line. Otherwise, a connection will be created with an unconnected start or end point.

Result

The connection is created:

- If you have drawn an object-based connection, the corresponding objects are created.
- Dynamic connectors are inserted on the report and at the objects if applicable.
- The objects are connected with each other in the report and in the Navigator via their connectors.

You then have the following options:

- You can change the connection run.
See also chapter Changing a connection run (Page 327).
- You can extend open connections. In this case, select the open end as the start or end point.
- You can place more objects on the connection.
See also chapter Inserting objects on a connection (Page 325).

12.1.5.3 Drawing intermediate points on the connection

See also chapter Fundamentals of connections on interactive reports (Page 77).

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- You have just drawn the start point of the connection as described in chapter Drawing the start point and end point of the connection (Page 321). The "Connection" tool is still activated.

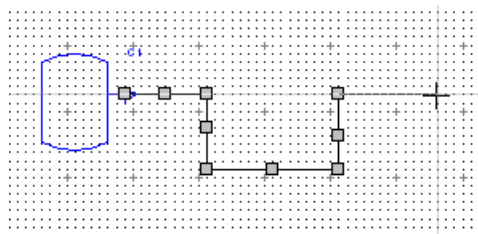
Procedure

1. Move the mouse to the position on the working area where the connecting line is to change direction.
2. Click the left mouse button.
An intermediate point is inserted.
3. Repeat steps 1 and 2 until you have plotted the desired run.

Result

The connecting line now consists of several connected lines which are treated as one line.

Example:



You can adjust the connection run later using the grab points of the connection. See also chapter Changing a connection run (Page 327).

Next, set the end point of the connection as described in chapter Drawing the start point and end point of the connection (Page 321).

See also

Switching off the grid (Page 312)

12.1.5.4 Connecting several objects with one line

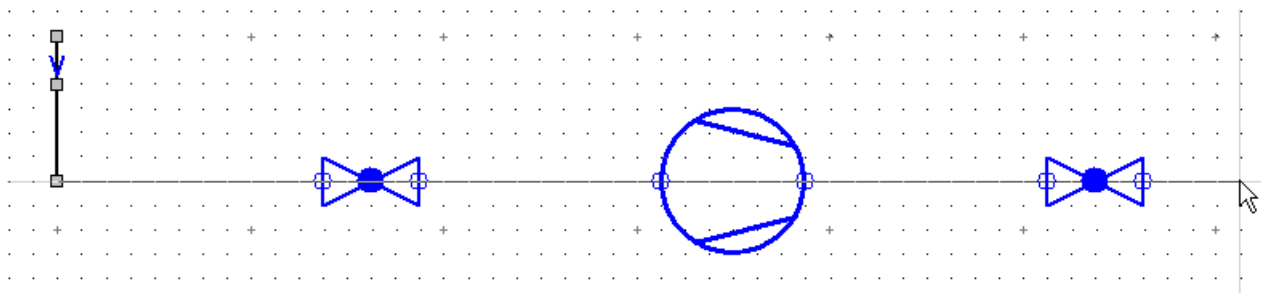
Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Several objects have been placed on the report. See also chapter Placing objects (Page 312).
- The object symbols have static connectors.

Procedure

1. Arrange the object symbols so that their connectors are all in a line. See also chapter Moving symbols (Page 342). Rotate a symbol if necessary. See also chapter Rotating symbols (Page 343).
2. Activate the "Connection" tool. See also chapter Activating and deactivating the "Connection" tool (Page 321).
3. Draw the start point of the connection as described in chapter Drawing the start point and end point of the connection (Page 321).
4. Draw a connecting line which runs across the symbol connectors.

5. Example from the P&ID module:



6. Draw the end point of the connection as described in chapter Drawing the start point and end point of the connection (Page 321).

Result

All objects whose connectors are joined by the line you have drawn are connected on the report and in the Navigator.

See also

Fundamentals of connections on interactive reports (Page 77)

Switching off the grid (Page 312)

Changing a connection run (Page 327)

12.1.5.5 Inserting objects on a connection

See also chapter Fundamentals of connections on interactive reports (Page 77) and section Fundamentals of placing on interactive reports (Page 75).

Introduction

When you place an object using the symbol bar or from the Navigator, you can insert the object on a connection. This connects it automatically.

You can also place the object first and then move it to a connection.

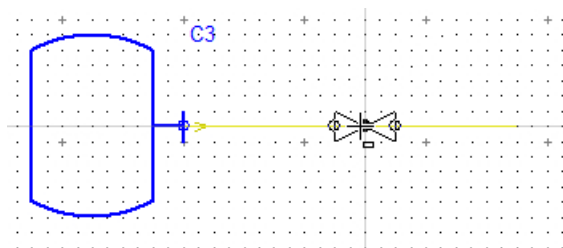
Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- A connection has been drawn on the report. See also chapter Drawing the start point and end point of the connection (Page 321).
- To move an object to a connection later: The object is not connected. It has static connectors.

Inserting an object by placing it on a connection

1. Proceed at first as you would to place an object freely. See also the following chapters:
 - Placing objects via the symbol bar (Page 312)
 - Placing base objects from the Navigator (Page 313)
 - Placing engineering objects from the Navigator (Page 314)
2. Move the mouse to the connecting line when placing.
When the connectors of the symbol touch the connecting line, the connecting line turns yellow.

Example from P&ID:



3. Place the object onto the connecting line.

Inserting an already placed object onto a connection

Drag&drop the object onto the connecting line. When the connectors of the symbol touch the connecting line, the connecting line turns yellow.

Result

If you have placed the object from the symbol bar or the base data, a new object is created in the Navigator.

The object is inserted onto the connection on the report and is linked via its connectors:

- Object-based connection: To the respective connection object
- Connection without objects: To the objects at which the connection without objects starts or ends

See also chapter Drawing the start point and end point of the connection (Page 321).

See also

Switching off the grid (Page 312)

Changing a connection run (Page 327)

12.1.5.6 Connecting objects directly

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There are objects placed on the report which have symbols with connectors. See also chapter Placing objects (Page 312).

Procedure

Drag&drop a symbol so that its connector is on the connector of another symbol.

Result

The objects are connected with each other in the report and in the Navigator via their connectors.

See also

Switching off the grid (Page 312)

Fundamentals of connections on interactive reports (Page 77)

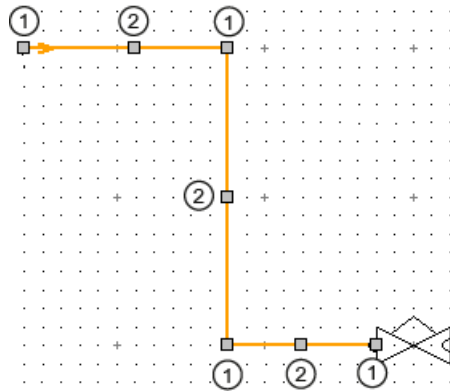
12.1.5.7 Changing a connection run

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- A connection has been drawn. See also chapter Drawing the start point and end point of the connection (Page 321).

Shortening or extending connecting lines or inserting intermediate points

1. Left-click on the connecting line twice. Do not double-click.
You will see the grab points. Each line that forms part of the polyline has the following grab points:



①	Start point or end point for shortening and extending
②	Center for inserting a kink

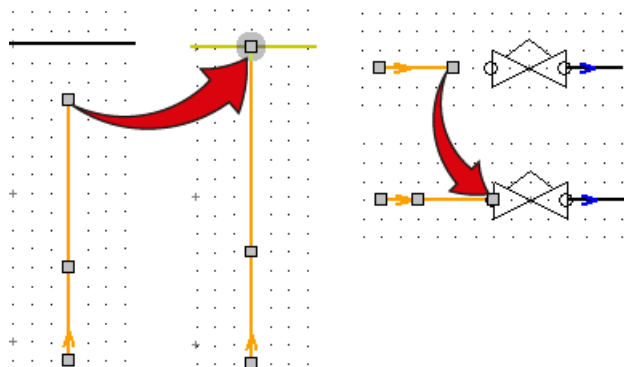
2. To change the run of the line, drag&drop the grab points.

Changing connections

You can connect placed symbols, disconnect connections, and merge connecting lines at a later time.

To do this, drag&drop the start point or end point of a line to a connector or another line. Alternatively, disconnect the start point or end point from the connected connector or line.

Examples:



The connection information is adjusted accordingly.

12.1.6 Editing the properties of placed objects in the interactive report

12.1.6.1 Editing object properties on the report bar

The report bar only offers access to certain properties.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There is an object placed on the report. See also chapter Placing objects (Page 312).

Procedure

1. Select the object in the working area.
Control elements are shown in the toolbar. Which control elements you see depends on the report and the selected object. The following control elements are possible:

- Object icon
- Fields for editing the name, label, and description
- Fields for editing selected attributes
- Button for applying the entries

Example:



2. Enter the required values in the boxes.
3. Click the "Apply" button:



Note

You can switch from one field to the next using the <Tab> key. Complete your entry with the <Return> key.

Result

Your entries are saved to the object. The symbol is updated if necessary.

Alternative methods of editing the object properties

For an overview of all editing methods, see also chapter Overview of editing engineering objects (Page 219).

12.1.6.2 Editing placed attributes

Requirements

- An interactive report is open.
See also chapter Opening documents (Page 129).
- There is an object placed on the report.
See also chapter Placing objects (Page 312).
- There is an attribute of the object placed on the report.
See also chapter Placing attributes (Page 317).

Procedure

1. Select the object in the working area.
2. Left-click on the attribute value.
There is an editable field shown on the working area.
3. Enter a value.

Result

The value is saved to the object temporarily. If you close the report without saving, the existing value is restored.

12.1.6.3 Changing owners

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on the report. See also chapter Placing objects (Page 312).

Procedure

1. Click the "Assign object" button in the standard toolbar:



In some reports, you will now see the "Mode" list in the toolbar. Select the "Automatic" or "Define owner" assignment mode.

If you do not see the list, the "Automatic" mode is set by default.

2. In the working area, select the symbols of the objects that you want to assign a new owner.
See also chapter Selecting symbols and graphical elements (Page 320).
3. Drag&drop the new owner from the Navigator onto one of the selected symbols.

Result

- The objects are moved below the new owner in the Navigator. Objects which are not allowed there are not moved.
- If necessary, a copy of the owner structure is created when the objects are moved.
- If all objects located underneath a unit are moved, the unit is deleted.
- If there are categories below the new owner, the objects are sorted into the categories.
- Properties calculated via the owner are updated.

12.1.6.4 Switching base objects

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There is an object placed on the report. See also chapter Placing objects (Page 312).
- The new base object has a symbol for the report. See also chapter Symbols and symbol components (Page 80).

Procedure

1. Click the "Assign object" button in the standard toolbar:



In some reports, you will now see the "Mode" list in the toolbar. Select the "Automatic" or "Change object" assignment mode.

If you do not see the list, the "Automatic" mode is set by default.

2. Select the object whose base object you want to change in the working area. Multiple selection is not possible.
3. Select the new base object on the "Base objects" tab in the Navigator.
4. Drag&drop the selected base object to the selected object.

Result

- The base object is changed.
- The engineering object adopts the properties and attributes of the new base object.
- The checked-in values are retained:
 - For properties and attributes which were checked into the engineering object before the base object was changed
 - Which are also present on the new base object
- The symbol of the new base object is displayed on the working area.

See also

Selecting symbols and graphical elements (Page 320)

12.1.6.5 Switching engineering objects

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There is an object placed on the report. See also chapter Placing objects (Page 312).
- An engineering object is created in the Navigator. The following applies to the object:
 - It has the same class as the placed object.
 - It has a symbol for the drawing type of the report.
 - Recommendation: Their connectors are not linked.

Note

Differing connection information

If an object connector is connected and the corresponding connector of the object originally placed on the report is also connected, the connection information in the Navigator differs from that on the report. See also chapter Checking contents and correcting inconsistencies (Page 366).

Procedure

1. Click the "Assign object" button in the standard toolbar:



In some reports, you will now see the "Mode" list in the toolbar. Select the "Automatic" or "Change object" assignment mode.

If you do not see the list, the "Automatic" mode is set by default.

2. In the working area, select the object you want to replace with a different engineering object. Multiple selection is not possible.
3. In the Navigator, select the engineering object which is to be placed on the report instead of the current object.
4. Drag&drop the selected engineering object to the selected object.

Result

- The original engineering object is no longer placed.
If the originally placed engineering object is located below the report in the Navigator, it is deleted.
- The engineering object from the Navigator is placed on the report.
- If possible, the connection information which is already set is adopted.

12.1.6.6 Assigning layers

Aim

You have the following options:

- You want to assign an engineering object a different layer than that stipulated by its base object.
- You want to assign a layer to a graphical element.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- The report uses layers.
- There are objects or graphical elements placed on the report.

Procedure

1. Select an engineering object or graphical element.
2. You have the following options:
 - To allocate engineering objects a layer, select the "Options > Graphical properties" command in the context menu.
The "Graphical properties" window opens.
 - To allocate graphical elements a layer, open their properties.
3. Select the desired layer from the "Layer" list.

Note**Layers which are not printed**

The contents of layers 200 to 255 are not printed.

4. Confirm your entries.

See also

Showing/hiding or freezing the content of a layer (Page 310)

Layers in interactive reports (Page 80)

12.1.7 Working with graphical elements

12.1.7.1 Drawing lines

Principle

You can draw a single line or a polyline. A polyline consists of single lines.

Requirements

An interactive report is open. See also Opening documents (Page 129).

Procedure

1. Click the "Line" button in the standard toolbar:



The "Line parameter" button is shown in the toolbar.

2. Optional: To specify the line parameters in advance, proceed as follows:

- Click on the "Line parameter" button:



The "Line parameter" window opens.

- Set the desired parameters. See also chapter Windows for setting the parameters of graphical elements (Page 474).
- Confirm your entries.

Your entries are used as templates for further lines.

3. Optional: To allow the "Line" tool to lock into place at the capture points of objects and graphical elements, proceed as follows:

- Activate the "Construction mode" button on the toolbar:



The "Extended construction" button is shown on the standard toolbar.


- Activate the "Extended construction" button:



4. Determine the start point with the left mouse button.

The following fields are shown in the report bar for control purposes:

- "LX" and "LY": Location of the point in the X- and Y-direction
- "W": Absolute angle
- "L": Length of the line

5. Determine the end point with the left mouse button.
The "Switch end points" button is shown on the report bar.
 6. Optional: Correct the specifications for angle and length on the report bar.
 7. Optional: Add more lines to the line. You have the following options:
 - To continue from the end point of the line, repeat steps 5 and 6.
 - To continue from the start point of the line, click on the "Switch end points" button:

- Then repeat steps 5 and 6.
8. Right-click to complete the drawing.

Result

One or more lines have been drawn. You can change the lines subsequently. See also chapter Editing graphical elements (Page 339).

You can group the lines. See also chapter Grouping (Page 354).

See also

Rounding polylines (Page 335)



Switching off the grid (Page 312)

12.1.7.2 Rounding polylines

Requirements

You have drawn a polyline with the "Line" tool. See also chapter Drawing lines (Page 334).

Procedure

1. Click the "Arc" button in the standard toolbar:

More buttons are shown in the toolbar.
2. Click on the "Round polyline" button:

3. Left-click the position on the line where the rounding is to begin.
The rounding is displayed on the working area.
4. Left-click on the point on the adjacent line where the rounding is to end.

12.1.7.3 Drawing circles and arcs





Requirements

An interactive report is open. See also chapter Opening documents (Page 129).

Additional control elements when the "Arc" tool is activated

When the "Arc" tool is activated, you see the following control elements in the toolbar:

- Buttons for different construction modes:

Icon	Construction mode
	2-point construction (circle)
	3-point construction (circle)
	2-point construction (arc)
	3-point construction (arc)

- A button for rounding polylines:




See also chapter Rounding polylines (Page 335).

- "Radius" field: For specifying the radius exactly

Note

The value entered here has the unit specified by the report template. It applies for all circle construction modes apart from 2-point arc construction until the "Arc" tool is deactivated.

Procedure

- Click the "Arc" button in the standard toolbar:

- Select the button for the desired construction mode on the toolbar.
- To draw a circle with the 2-point construction, proceed as follows:
 - Determine the center of the circle by left-clicking.
 - Determine the radius by left-clicking again.

Note

Entering the exact radius

Alternatively, you can enter the exact radius in the "Radius" field on the toolbar.

4. To draw an arc with the 2-point construction, proceed as follows:
 - Determine the center of the circle by left-clicking.
 - Determine the start point and the radius of the arc by left-clicking again.

Note**Drawing direction from start point**

The arc is drawn in counter-clockwise.

- Determine the end point of the arc by left-clicking a third time.
5. To draw a circle with the 3-point construction, proceed as follows:
If no value has been entered in the "Radius" field on the toolbar:
 - Determine the first two points which lie on the circumference by left-clicking.
A circle is displayed on the report. It is created from these two points and the current mouse position.
 - Left-click a third time to determine the third point and, thus, the radius and position of the circle.If a value has been entered in the "Radius" field on the toolbar:
 - Determine the first point which will lie on the circumference by left-clicking.
A circle with the specified radius is displayed on the report.
 - Determine the second point which is to lie on the circumference by left-clicking again.
This also determines the position of the circle.
 6. To draw an arc with the 3-point construction, proceed as follows:
 - If a value has been entered in the "Radius" field on the toolbar, delete it. Otherwise, you will not be able to set the arc length freely.
 - Determine the first two points which lie on the circumference by left-clicking.
A circle is displayed on the report. It is created from these two points and the current mouse position.
 - Determine the radius, end point, and position of the arc by left-clicking a third time.

Result

A circle or arc is drawn in. It can be edited later. See also chapter Editing graphical elements (Page 339).

See also

Switching off the grid (Page 312)

12.1.7.4 Drawing rectangles**Principle**

Rectangles consist of a single line.

Requirements

An interactive report is open. See also Opening documents (Page 129).

Procedure

1. Click the "Rectangle" button on the standard toolbar:



2. Drag out a rectangle with the left mouse button held down.
You can see the width and height of the rectangle in the toolbar.
3. To change the dimensions, enter the desired values in the toolbar.
4. Press the <Return> key.
5. Left-click on any location in the report.
The rectangle is adjusted.

Result

The rectangle is inserted. You can fill the rectangle via its parameters. It can be edited later. See also chapter Editing graphical elements (Page 339).

See also

Switching off the grid (Page 312)

12.1.7.5 Placing texts

Requirements

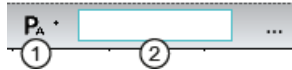
An interactive report is open. See also chapter Opening documents (Page 129).

Procedure

1. Click the "Text" button on the standard toolbar:

A

The toolbar is extended:



①	"Default values for text parameters" button For defining the exact text parameters
②	Field for inputting text directly

2. Depending on whether you only want to determine the text or also the text parameters, proceed as follows:
 - Only determining text:
Enter the text in the toolbar.
 - Determining text parameters:
Open the "Text parameters" window via the "Default values for text parameters" button.
Enter the desired text. Determine its parameters and confirm your entries.
See also chapter Windows for setting the parameters of graphical elements (Page 474).

Your entries are used as templates for placing further texts.
The text is attached to the mouse pointer.
3. Set the insertion point with the left mouse button.

Result

The text is inserted. You can change the text and its parameters at any time. See also chapter Editing graphical elements (Page 339).

See also

Fundamentals of graphical elements (Page 79)
Switching off the grid (Page 312)

12.1.7.6 Editing graphical elements

Overview

You can edit graphical elements in the following ways:

- Directly on the working area using the grab points
- In the "Properties" window

12.1 Working with interactive reports

- Using the "Transform" tool
The procedure is like the procedure for symbols. See also the following chapters:
 - Mirroring symbols (Page 345)
 - Rotating symbols (Page 343)
 - Scaling symbols (Page 347)
 - Aligning symbols (Page 349)
 - Distorting symbols (Page 350)
- You can move them.
The procedure is like the procedure for symbols. See also chapter Moving symbols (Page 342).
- You can assign a level. See also chapter Assigning layers (Page 333).

Requirements

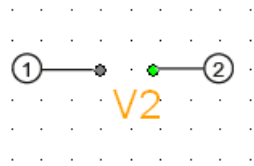
- An interactive report is open. See also chapter Opening documents (Page 129).
- There is a graphical element placed on the report. See also the following chapters:
 - Drawing lines (Page 334)
 - Drawing circles and arcs (Page 336)
 - Drawing rectangles (Page 337)
 - Placing texts (Page 338)

Using grab points

1. Left-click twice on the graphical element.
2. Move the grab points using drag&drop.

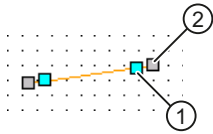
The following figures show the editing options for the various graphical elements:

- Text:



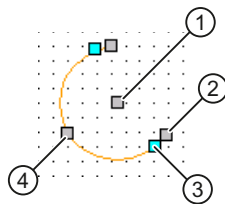
①	Move
②	Change alignment

- Lines:



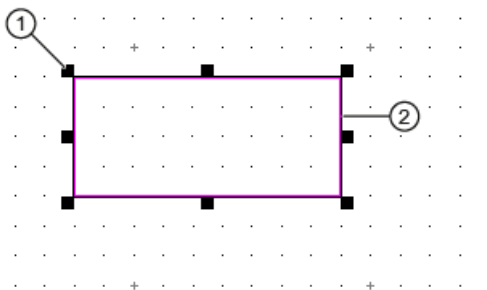
①	Change the length
②	Change angle and length

- Circles/Arcs:



①	Move
②	Change radius and alignment
③	Change angle
④	Change the radius

- Rectangles:



①	Change length and width
②	Move

Using the "Properties" window

1. Select the graphical element.
2. Select the "Properties" command in the context menu.
3. The properties of the graphical element open.

4. Change the properties if necessary.
See also chapter Windows for setting the parameters of graphical elements (Page 474).
5. Confirm your entries.

12.1.8 Editing symbols of placed objects

12.1.8.1 Moving symbols

Overview

You can choose between the following tools when moving symbols:

- Drag&drop
- "Transform" tool, "Move" mode
- Grab points

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on the report. See also chapter Placing objects (Page 312).

Moving using drag&drop

1. Select the symbols of the desired objects.
2. Move the symbols with the mouse via drag&drop.

Moving with the "Transform" tool

Advantage of this method:

- You can specify the direction and length of the moving vector exactly.
- You can create copies and move them.

Procedure:

1. Click the "Transform" button on the standard toolbar:



Buttons for transforming are shown on the toolbar.

2. Click on the "Move" button:



More control elements are shown in the toolbar.

3. Define the movement vector: Choose one of the following methods:
 - Determine the start point and end point of the vector with the left mouse button. The vector is shown as a blue arrow.
 - Determine how far the symbols are moved in the "X" and "Y" fields on the toolbar. Unit: Default unit of the report
4. Select the symbol which you want to move or copy. To select several symbols, hold down the <Ctrl> key.
5. If you only want to copy the symbol and move the copies, proceed as follows:
 - Enter the number of copies in the "Copies" field.
 - Select the insert mode in the "Mode" field. The insert modes available are the same as when you copy and paste via the context menu. See also chapter Copying and cutting in interactive reports (Page 356).
6. Click the "Execute" button on the toolbar:



The symbol is moved from its original position relative to the moving vector to the target position.

If you create copies, they are each displaced according to the moving vector when inserted.

Moving with grab points

1. Left-click twice on a symbol. Do not double-click. You will see the grab points.
2. Move the gray square using drag&drop.

Note**Moving subsymbols and texts or the whole symbol**

You can often only move the subsymbols and texts of a symbol, not the whole symbol.

See also

Selecting symbols and graphical elements (Page 320)

Distorting symbols (Page 350)

12.1.8.2 Rotating symbols

Overview

You can choose between the following tools when rotating symbols:

- <Space> key
- Grab points
- "Transform" tool, "Rotate" mode

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on the report. See also chapter Placing objects (Page 312).

Rotating with the <Space> key

1. Select the symbols of the desired objects.
2. Press the <Space> key.

The symbols are rotated counter-clockwise. This is performed in 90° increments by default. See also chapter Changing the rotation angle for rotating using the <Space> key (Page 353).

Rotating with the grab points

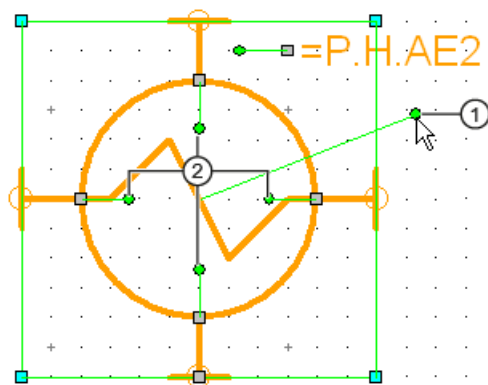
1. Left-click twice on a symbol. Do not double-click. You will see the grab points.
2. Move the green circle clockwise using drag&drop:

Note

Rotating subsymbols or texts

If the symbol has subsymbols or texts, you can rotate these individually, or rotate the entire symbol including all subsymbols and texts.

Example: Surface heat exchanger in P&ID



①	Rotate whole symbol
②	Rotate subsymbol

The symbol is rotated in 90° increments.

Rotating with the "Transform" tool

Advantage of this method:

- You can choose the point of rotation freely.
- You can create copies and rotate them.
- You can rotate several symbols at once.

Procedure:

1. Click the "Transform" button on the standard toolbar:



Buttons for transforming are shown on the toolbar.

2. Click the "Rotate" button:



More control elements are shown in the toolbar.

3. Enter an angle in the "Rotation angle" field:
 - No sign: Rotation to the right
 - Negative sign: Rotation to the leftExample: "-45"
4. To define the point of rotation, click on the working area.
5. Select the symbol which you want to rotate or copy. To select several symbols, hold down the <Ctrl> key.
6. If you only want to copy the symbol and rotate the copies, proceed as follows:
 - Enter the number of copies in the "Copies" field.
 - Select the insert mode in the "Mode" field. The insert modes available are the same as when you copy and paste via the context menu. See also chapter Copying and cutting in interactive reports (Page 356).
7. Click the "Execute" button on the toolbar:



The symbol is rotated around the defined point of rotation by the specified angle.

If you create copies, one copy is inserted per rotation.

See also

Symbols and symbol components (Page 80)

12.1.8.3 Mirroring symbols

Aim

You can choose between the following tools when mirroring symbols:

- "Transform" tool, "Rotate" mode
- Context menu of a symbol

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on the report. See also chapter Placing objects (Page 312).

Mirroring with the "Transform" tool

Advantage of this method:

- You can mirror several symbols at once.
- You can determine the mirror axis freely.
- You can create copies when mirroring.

Procedure:

1. Click the "Transform" button in the standard toolbar:



Buttons for transforming are shown on the toolbar.

2. Click on the "Mirror" button:



More control elements are shown in the toolbar.

3. Draw the mirror axis by left-clicking.
The mirror axis is represented by a blue line.
4. Select the symbol you want to mirror. To select several symbols, hold down the <Ctrl> key.
5. If you only want to copy the symbol and mirror the copies, proceed as follows:
 - Enter the number of copies in the "Copies" field.
 - Select the insert mode in the "Mode" field. The insert modes available are the same as when you copy and paste via the context menu. See also chapter Copying and cutting in interactive reports (Page 356).
6. Click the "Execute" button on the toolbar:



Mirroring an individual symbol vertically or horizontally

1. Select the symbol in the working area.
2. Select the "Options > Mirror symbol vertically" or "... > Mirror symbol horizontally" command in the context menu.

12.1.8.4 Scaling symbols

Overview

You can choose between the following tools when scaling symbols:

- "Transform" tool, "Scale" mode
- Grab points

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on the report. See also chapter Placing objects (Page 312).

Scaling with the "Transform" tool

Note

Principle

The symbol is moved and enlarged along an imagined line between the symbol center and a reference point determined by you.

1. Click the "Transform" button in the standard toolbar:



The report-specific toolbar for transforming is displayed.

2. Click the "Scale" button in the report-specific toolbar:



More control elements are shown in the toolbar.

3. Define the reference point by left-clicking.

Note

Scaling without moving

If you only want to scale a symbol, select the symbol center as the reference point.

The reference point is shown as a blue double circle.

4. Select the object you want to move. To select several objects, hold down the <Ctrl> key.
5. Enter the scaling factors separately for the X-axis and Y-axis under "Factor X" and "Factor Y".
 - Factor > 1: Moving by the factor away from the reference point and magnification by this factor.
 - Factor < 1: Moving by the factor toward the reference point and reduction by this factor.

6. If you only want to copy the symbol and scale the copies, proceed as follows:
 - Enter the number of copies in the "Copies" field.
 - Select the insert mode in the "Mode" field. The insert modes available are the same as when you copy and paste via the context menu. See also chapter Deleting in interactive reports (Page 359).
7. Click the "Execute" button on the toolbar:



Scaling with grab points

Scaling using the grab points is not available for all symbols. Proceed as follows:

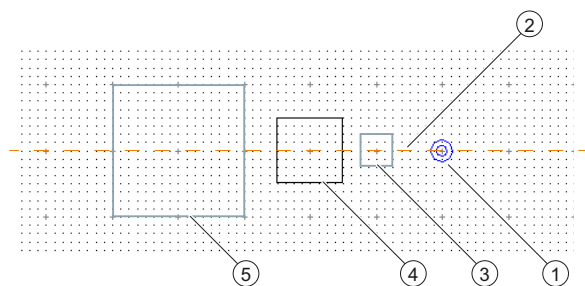
1. Left-click twice on a symbol. Do not double-click.
You will see the grab points.
2. Move one of the turquoise squares using drag&drop.

Result

- The symbol is moved and scaled.
- Whether or not symbol texts are scaled depends on the symbol definition. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "DrawText".

Example of scaling with the "Transform" tool

The following illustration shows how a symbol was scaled along a horizontal axis with the "Transform" tool:



- ① Reference point
- ② Imagined scaling axis between Object ④ and Reference point ①.
Note: The scaling axis is not visible in the interactive report.
- ③ Result of the scaling with the factors $x = 0.5$ and $y = 0.5$
- ④ Starting position
- ⑤ Result of the scaling with the factors $x = 2$ and $y = 2$

12.1.8.5 Aligning symbols

Aim

You want to align symbols with a different symbol (reference symbol) or adjust them according to the reference symbol.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on the report. See also chapter Placing objects (Page 312).

Procedure

1. Click the "Transform" button in the standard toolbar:



Buttons for transforming are shown on the toolbar.

2. Click on the "Align" button:



More control elements are shown in the toolbar.


3. Select the reference symbol.
4. Select the symbols you want to edit.

Note

Mixed selection

You can also edit graphical objects. To do this, only select graphical elements. If a selection contains symbols and graphical elements, only the symbols are edited.

5. To align the symbols, select one of the following modes in the "Align" list:
 - "At point of origin horizontal"
 - "At point of origin vertical"
 - "Left:"
 - "Right:"
 - "Top:"
 - "Bottom:"



6. To adjust the symbols, select one of the following modes in the "Align" list:
 - "Adjust width"
 - "Adjust height"
 - "Adjust size"
7. Click the "Execute" button on the toolbar:


12.1.8.6 Distorting symbols

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on the report. See also chapter Placing objects (Page 312).

Procedure

1. Click the "Transform" button on the standard toolbar:

Buttons for transforming are shown on the toolbar.
2. Click on the "Distort" button:

More control elements are shown in the toolbar.
3. Define the movement vector: Choose one of the following methods:
 - Determine the start point and end point of the vector with the left mouse button. The vector is shown as a blue arrow.
 - Determine how far the symbols are moved in the "X" and "Y" fields on the toolbar. Unit: Default unit of the report
4. Determine a polygon which includes the symbols you want to move by left-clicking.

Result

The content of the selection polygon is moved as soon as you close the polygon. The following rules apply:

- Symbols with connectors are only moved if all the connectors lie in the selection polygon.
- Symbols that have no connectors are only moved if the rectangle around them lies completely within the selection polygon.
- Circles are always completely moved but not distorted.
- Lines: If the start point is outside of the polygon, it is not moved. If the end point is inside the polygon, it is moved. Start point and end point are reconnected and, thus, distorted.

See also

Moving symbols (Page 342)

12.1.8.7 Overwriting inherited symbols locally**Principle**

You can overwrite the symbol an engineering object has inherited from a base object for an individual interactive report.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There is an object placed on the report. See also chapter Placing objects (Page 312).
- The object symbol is not locked for editing.

Procedure

1. Select the object symbol.
2. Select the "Options > Edit symbol" command in the context menu.
The Symbol Editor opens.
3. Make the required changes. You can find more information on the operation of Symbol Editor in the "COMOS Platform Administration" manual, keyword "Defining symbols in Symbol Editor".
4. Confirm your entries.
5. Close the Symbol Editor.

Result

The changes to the symbol will be saved locally for the open report. They have no effect on placements in other reports.

Note**Automatic updating from the base data interrupted**

If the administrator changes the symbol of the base object at a later date, the symbol in the report will not be updated.

See also

Restoring the original symbol (Page 352)

12.1.8.8 Editing the graphical properties of a symbol

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There is an object placed on the report. See also chapter Placing objects (Page 312).

Procedure

1. Select the object symbol.
2. Select the "Options > Graphical properties" command in the context menu.
The "Graphical properties" window opens.
3. Edit the graphical properties. See also chapter "Graphical properties" window (Page 476).
4. Confirm your entries.

Result

The symbol is adjusted.

Note

Restricted effect

The configuration of the symbol in the base data can prevent your entries in the "Graphical properties" window from taking effect. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "NOE".

12.1.8.9 Restoring the original symbol

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There is an object placed on the report. See also chapter Placing objects (Page 312).
- The object symbol has been redefined on the report:
 - In Symbol Editor
See also chapter Overwriting inherited symbols locally (Page 351).
 - Via the graphical properties
See also chapter Editing the graphical properties of a symbol (Page 352).

Procedure

1. Select the symbol.
2. Select the "Options > Restore the original symbol" command in the context menu.

Result

The symbol definition of the base object takes effect again.

12.1.8.10 Changing the rotation angle for rotating using the <Space> key**Requirements**

An interactive report is open. See also chapter Opening documents (Page 129).

Procedure

1. Select the "Options > Symbol rotation" command in the context menu of the working area. The "Default for symbol rotation" window opens.
2. Select an angle.
3. Confirm your entries

Result

The new rotation angle applies for the duration of your session and for the whole database. If you rotate using the <Space> key, it affects the following:

- All projects
- All working layers
- All users
- All interactive reports

See also

Rotating symbols when placing them (Page 319)

12.1.8.11 Editing parameters of the symbol texts**Aim**

You want to edit the font and formatting of the texts for a symbol.

Procedure

1. Select the symbol.
2. Select the "Options > Edit symbol texts" command in the context menu. The "Symbol text parameter" window opens.
3. To edit the display for all text symbols at once, select the "All symbol texts" entry from the "Symbol text label" list.

4. To edit the display of symbol texts for a specific label, proceed as follows:
 - Select the desired label in the "Symbol text label" list.
The texts with this label are displayed in the "Found texts" field.
 - Select the desired texts.
5. Edit the parameters.
6. Confirm your entries.

See also

Symbols and symbol components (Page 80)

12.1.9 Working with groupings

12.1.9.1 Grouping

Requirements

- An interactive report is open.
- There are symbols or graphical elements placed on the report.

Procedure

1. In the working area, select the symbols and graphical elements you wish to group.
2. Select the "Grouping > Create" command in the context menu.

Result

The selected symbols and graphical elements are grouped. If you select an element of a group, the entire group is initially selected.

Consequence:

- Actions which are applicable to several elements are applied to the whole group.
Examples:
 - Moving
 - Deleting
 - Copying
 - Changing the graphical properties

Note**Applying an action to the originally selected element only**

To apply an action which is applicable to several elements to the originally selected element only, select the element again. Perform the required action.

- Actions which are only applicable to one element are applied to the element originally selected.
Examples: Navigating and opening the properties

See also

Removing elements from a group (Page 355)

Undoing grouping (Page 356)

12.1.9.2 Removing elements from a group**Requirements**

- An interactive report is open.
- The symbols or graphical elements placed on the report have been grouped.

Procedure

1. Select the element you wish to remove from the group.
2. Select the "Grouping > Remove from group" command in the context menu.

Result

The element is removed from the group. If the object group only has one element left after this process, it is ungrouped.

See also

Grouping (Page 354)

Undoing grouping (Page 356)

12.1.9.3 Undoing grouping

Requirements

- An interactive report is open.
- The symbols or graphical elements placed on the report have been grouped.

Procedure

1. Select an element from the group.
2. Select the "Grouping > Cancel" command in the context menu.

Restoring an ungrouped group

1. Select an object which was included in the group.
2. Select the "Grouping > Restore" command in the context menu of the construction area.

See also

Grouping (Page 354)

Removing elements from a group (Page 355)

12.1.10 Copying and cutting in interactive reports

Principle

The following applies when pasting symbols which have been copied or cut:

- If you use the context menu, you can select a paste mode. The paste mode determines whether engineering objects are created in the Navigator, and where they are created.
- If you use the standard keyboard command for pasting, the paste location is determined by the "Automatic" paste mode.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There are engineering objects or graphical elements placed on the report. See also chapter Placing objects (Page 312) and chapter Working with graphical elements (Page 334).

Using the context menu

1. Select the desired symbols and graphical elements.
2. In the shortcut menu, select the "Copy" or "Cut" command.

Note

Additional information required for cutting

In some cases, depending on the drawing type, you must determine what is to happen to other objects which are indirectly affected by cutting. Example from P&ID: A pump placed on a pipe is cut.

You can find more information on this topic in the manuals for the modules.

3. If you wish to paste the selection onto a different interactive report, open the report.

Note

Observe the drawing type

You can only paste the objects if they have a symbol for the drawing type of the report.

4. To paste the selection, select the paste mode in the context menu of the working area. It determines what happens to the engineering objects of the symbols when pasted:

"Paste > ..."	Result in the Navigator
"Automatic"	One of the other paste modes is executed, as specified by the drawing type. You can find more information on this topic in the manuals for the modules.
"At same position"	The engineering objects are pasted in the same position, i.e. parallel to the originals when copied.
"Parallel to document"	The engineering objects are pasted parallel to the report.
"Below document"	The engineering objects are pasted below the report.
"Keep objects"	Cut: The engineering objects are located where they were before they were cut. Copy: The engineering objects are placed more than once. No new objects are created.
"Structure below document"	For copying or cutting objects which are not located below a report. This paste mode reproduces the structure below which the objects are located as far as the highest shared unit or location. After pasting, you can transfer the objects more easily to a new target structure in a second step. Result of the pasting: A "@CopyStruct<No>" node is created below the report, and the reproduced structure and the objects are created below that.
"No objects"	No engineering objects are pasted in the Navigator. The symbols are pasted into the report as pure graphics.

If you paste the selection onto a different interactive report, you can also paste the symbols and graphical elements onto the working area in the same position as in the original. Select the "Paste at original position" command from the context menu.

Result

- The graphical elements and symbols are pasted.
- Engineering objects are created or moved in the Navigator as determined by the paste mode.
The "Below document" and "Parallel to document" paste modes do not apply if there are category folders parallel to the report and the report template supports the use of categories. In this case, the objects are sorted into the categories.
- The following applies when copying:
 - All the non-inherited data is copied.
 - If a linked attribute was part of the amount to be copied, the copy uses the link. If the link source was part of the amount to be copied, the copied linked attribute points to the copied link source.
 - Ideally, elements are pasted below the previous owner. If no more elements can be inserted below the previous owner, a new owner is created.
- Properties which depend on the owner are recalculated based on the new owner.
- The following references are retained:

Reference	Copy	Cut
Unit reference	✓	✓
Location reference	✓	✓
Implementation reference	Only if the referenced object has also been copied	✓
Request reference		✓
Reference attributes	✓ If the referenced object has also been copied, the reference attribute points to the copy.	✓
Connectors	Only if the connected object has also been copied	Object is connected via the "Connection" tool: Depends on component and drawing type Object is connected directly to the other component: ✓

Alternative procedure for copying within a report

1. Select the desired symbols and graphical elements.
2. Press and hold down the <Ctrl> key.
3. Move the selection to the desired position in the working area using drag&drop.

See also

Fundamentals of copying objects (Page 105)

Copy methods (Page 104)

12.1.11 Deleting in interactive reports

Principle

You can delete the graphical elements and symbols from an interactive report.

You have the following options when deleting a symbol:

- You delete the symbol only.
- You delete the symbol and the corresponding engineering object.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- There are engineering objects or graphical elements placed on the report. See also chapter Placing objects (Page 312) and chapter Working with graphical elements (Page 334).

Deleting a symbol

1. Select the symbol in the working area.
2. Select "Delete" from the context menu.

Result:

- The symbol is deleted.
If the symbol was connected on the report, the connection is disconnected.
- If the engineering object of the symbol is located below the report in the Navigator, the engineering object is deleted as well. If it is not below the report, it is not deleted. However, it is no longer placed on the report.

Deleting a symbol and engineering object

1. Select the symbol in the working area.
2. Select "Delete > Object" from the context menu.

Result: As above, but the corresponding engineering object is always deleted. If there are objects located below the engineering object, they are also deleted. See also Deleting (Page 134).

Deleting graphical elements

1. Select a graphical element.
2. Select "Delete" from the context menu.

Multiple selection

You can select several symbols or graphical elements and delete them simultaneously.

Additional information

In some cases, depending on the drawing type, you must determine what is to happen to other objects which are indirectly affected by the deletion. Example from P&ID: A pump placed on a pipe is deleted.

You can find more information on this topic in the manuals for the modules.

See also

Deletion in working layers and in the released area (Page 32)

12.1.12 Showing changes in working layers

Introduction

You can show the content from a working layer of an interactive report in a different working layer, and thus compare the editing statuses.

Requirements

- The engineering project uses working layers.
- A working layer or the released area is open. See also chapter Opening the working layers of a project (Page 175) and chapter Opening a project or the released area of a project (Page 169).
- The content of the report has been altered in a working layer. The working layer is not the same one that the report was created in.

Procedure

1. Open the interactive report. See also chapter Opening documents (Page 129).
2. Click the "Changes in working layers" button in the toolbar.
The report is locked. The "Changes in working layers" window opens. It contains a table of the working layers in which the content of the report has been edited. If necessary, the released area is also listed.
The table contains the following information:
 - ID, name, and description of the working layer or the released area
 - User and date of last change
 - Option to show/hide the content
3. To show the content of one or more other working layers, activate the options for these working layers in the "Visible" column.
The content of the selected working layers is shown in the working area, in addition to that of the current working layer. The symbols are colored according to their working layer status.
4. To hide content from another working layer again, deactivate the option you previously activated, or close the window.

12.1.13 Working with placed reports

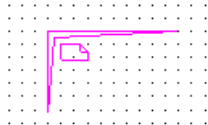
12.1.13.1 Replacing a placed report and changing coordinates

Requirements

- An interactive report is open. See also Opening documents (Page 129).
- Another interactive report is placed on the report. See also chapter Placing a report on a report (Page 318).
- The placed report has not yet been broken apart.

Procedure

1. Select the control triangle of the placed report:



2. Select the "Options" command in the context menu.
The "Options" window opens.
3. To replace the placed report with a different one, use drag&drop to move a different interactive report with the appropriate drawing type from the Navigator to the "Document" field.
The graphical content of this report is displayed.
4. To specify the exact coordinates for the placement, enter the coordinates for the left upper corner of the control triangle in the "X" and "Y" fields.
The graphical content of the report is moved correspondingly.
5. Confirm your entries.

12.1.13.2 Opening a placed report

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Another interactive report is placed on the report. See also Placing a report on a report (Page 318).
The placed report has not yet been broken apart.

Procedure

1. Select the control triangle of the placed report.
2. Select the "Open" command in the context menu.

Result

The placed report is opened.

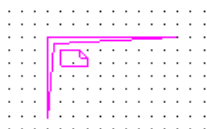
12.1.13.3 Breaking apart a placed report

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Another interactive report is placed on the report. See also Placing a report on a report (Page 318).
The placed report has not yet been broken apart.

Procedure

1. Select the control triangle of the placed report:



2. Select the "Dissolve placed document" command in the context menu.

Result

- The objects which were below the original report in the Navigator are moved to below the open report. They are placed on the open report.
- The graphical contents of the original report remain placed on the open report. They are no longer read-only.
- The original report is deleted.
- The control triangle disappears.

12.1.14 Displaying a preview of symbols and working areas

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the "View > Symbol and document preview" command in the menu bar.
The "Symbol and document preview" tab opens in the detail area of the Navigator.
2. To preview the symbols of engineering objects, select a drawing type from the list of drawing types.
3. Optional: To see the symbol texts of the symbols too, activate the "Show texts" option.

Result

- When you select an engineering object in the Navigator, you see the symbol which was defined at its base object for this drawing type.
- When you select an interactive report, you see a preview of the working area of the report on the tab. It does not matter which drawing type was previously selected in the list.

12.1.15 Printing interactive reports

Overview

You have the following options:

- Print the whole report
See also chapter Printing reports (Page 370).
- Printing a report section

Printing a report section

1. Open the report. See also chapter Opening documents (Page 129).
2. Zoom the working area until it displays the desired section. See also chapter Zoom (Page 307).
3. Click the "Print" button on the toolbar:



4. Select a printer and the print configuration in the "Print" window.
5. Activate the "Marking" option.
6. Confirm your entries.

The selected objects are scaled to the format set on the printer. The scale factor is ignored. The page proportions are retained.

Alternatively, you can integrate the report section into a different report and then print this report. See also chapter Integrating a report section into a different report (Page 364).

12.1.16 Integrating a report section into a different report

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- A second report of the same drawing type is created. See also chapter Creating Documents (Page 263).
- The document version of the reports is the same as the COMOS version. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Matching a document version".

Procedure

1. Using the "Rectangle" tool, draw a rectangle around the contents which you want to integrate into the other report.
See also chapter Drawing rectangles (Page 337).
2. Open the properties of the rectangle.
3. Move the second report from the Navigator to the "Function group plan" field using drag&drop.
4. Confirm your entries.
5. Save the open interactive report.
The display of the frame line changes. It becomes a dashed gray line.

Result

- The selected section is integrated into the second report. Changes to the original report are displayed in the second report automatically.
- You can print out the section without opening the original report by printing the second report.
- The connection between the two reports remains intact until it is canceled. See also chapter Removing connections to other reports (Page 364).
- The objects placed in the section are only placed on the original report.

12.1.17 Removing connections to other reports

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- A section of the report has been integrated into another interactive report. See also chapter Integrating a report section into a different report (Page 364).

Procedure

Delete the rectangle which surrounds the integrated section. See also chapter Deleting in interactive reports (Page 359).

12.1.18 Creating templates from placed objects

See also chapter Templates and uses (Page 39).

Principle

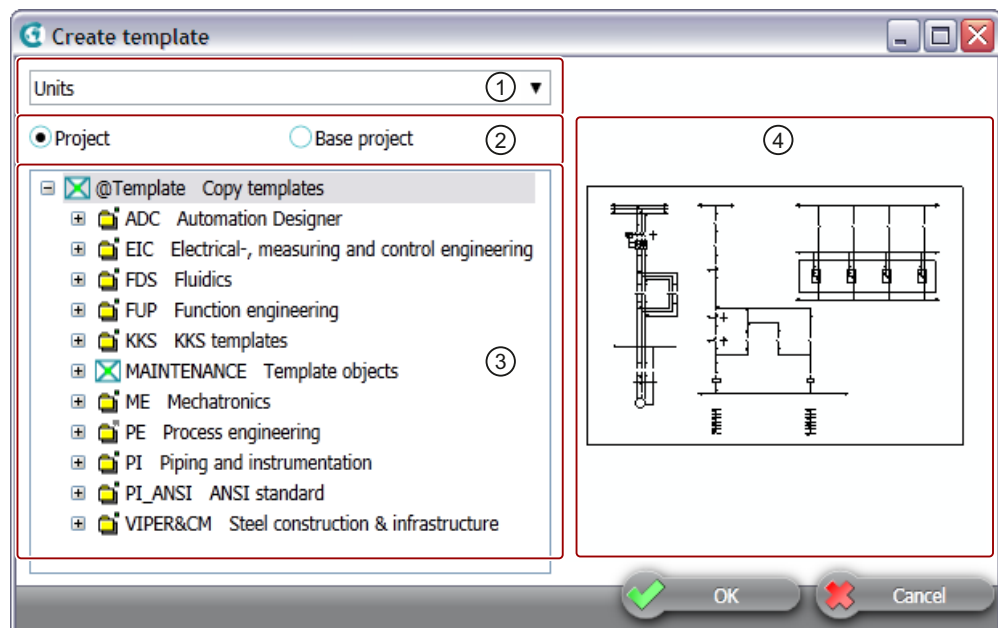
In an engineering project, you can create engineering objects in an interactive report, connect them and then create a template for other interactive reports from these objects.

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed on its working area and connected to each other. See also chapter Placing objects (Page 312) and chapter Connecting objects (Page 321).
- To create a global template: You have write rights in the base project.

Procedure

1. Select the desired symbols and connections.
2. Select the "Create template" command from the context menu.
The "Create template" window opens.



In the right-hand area (4), you see the symbols which will become part of the template.

3. In the list (①), specify the tab on which the template is to be created in the Navigator.
4. Specify where the template is to be created via the options (②):
 - "Project" option: As a local template in the current engineering project
 - "Base project" option: As a global template in the base project.
5. Specify the node below which the template object is to be created in the object tree (③).
6. Confirm your entries

Result

The template is created.

See also

Placing objects by inserting a template (Page 316)

12.1.19 Checking contents and correcting inconsistencies

Requirements

- An interactive report is open. See also chapter Opening documents (Page 129).
- Objects have been placed and connected on the report. See also chapter Placing objects (Page 312) and chapter Connecting objects (Page 321).

Checking

Select the "Check > Document" command in the context menu of the working area.

The contents of the working area are checked. The checking algorithm and display of the results depend on the module. Following the check, you can correct the errors and warnings found. You can find more information on this topic in the manuals for the corresponding modules.

Displaying and analyzing inconsistencies

1. Select "Inconsistency > Show previous" or "... > Show next" in the context menu. If there is only one error, you are offered the "... > Show inconsistency" command. The working area is zoomed and the incorrect object selected.
2. Select the "Inconsistency > Analyze" command in the context menu. A message opens showing a precise analysis.

Deleting all inconsistent objects

Select the "Inconsistency > Delete all inconsistent objects" command in the context menu.

The objects are deleted in the working area and in the Navigator.

Searching for reports with inconsistent DocObj objects

You can search for reports with inconsistent DocObj objects and delete the inconsistent DocObj objects using the "All document tools" tool.

See also

Working with the tool "All document tools" (Page 271)

12.2 Working with evaluating reports

12.2.1 Zooming and moving a page section

Requirements

An evaluating report is open. See also chapter Opening documents (Page 129).

Procedure

The procedure is the same as the procedure in interactive reports. See also chapter Zoom (Page 307) and chapter Moving a sheet section (Page 308).

12.2.2 Editing editable data

Requirements

- An evaluating report is open. See also chapter Opening documents (Page 129).
- It has editable data.

Procedure

1. Left-click in a field highlighted in green. Multiple selection is not possible.
2. Enter a new value or select one from a list.

Result

The value is automatically saved at the corresponding object.

If inconsistencies occur between linked attributes due to your input, the field turns orange.

Correcting an inconsistency or accepting a difference

1. Select the "Navigate" command in the context menu of the field.
The corresponding attribute is selected in the Navigator.
2. Select the engineering object under which the attribute is located.
3. Select the "Properties" command in the context menu.
4. Select the tab on which the attribute is located.
5. Correct the inconsistency or accept the difference. See also chapter Refreshing static links (Page 232) and chapter Accepting differences between static links (Page 232).

See also

Evaluating reports (Page 83)

12.3 Working with sketch reports

12.3.1 Inserting notes

Principle behind notes

There is not normally enough space to write longer texts in a sketch. You can use the "Note" tool to set a reference text and place the corresponding text elsewhere (Notes are also referred to as footnotes).

Requirements

- A sketch report is open.
- The sketch report supports the use of notes. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Preparing the use of notes in sketch reports".

Inserting notes

1. Select the "Note" command in the context menu of the sketch report.
A reference text, similar to a footnote character, is inserted in the sketch report. A note object is created underneath the report.
2. Optional: Move the reference text to the desired position in the report.
3. Open the note object, enter the text, and confirm your entries.
The note text is written to the note list.
4. If you want to see your entries immediately, click the "Reevaluate document" command from the toolbar of the report.

Deleting notes

1. Select a note in the report.
2. Select the "Delete note" command from the context menu.

The note and the COMOS note object are deleted.

See also

Sketch reports (Page 84)

Opening documents (Page 129)

12.3.2 Inserting drawings

Requirements

A sketch report is open.

Procedure

The procedure depends on the template of the sketch report:

- The template is based on a template for evaluating reports and supports the insertion of drawings:
 - Click the "Sketch designer" button on the toolbar. It opens the Symbol Editor.
 - Draw a sketch in the Symbol Editor.
 - Confirm your entries.

The drawing is inserted in the space reserved for the sketch via a graphical object in the report template.

- The template is based on a template for interactive reports:
Use the graphical drawing tools on the toolbar. They are used in the same way as in interactive reports. See also chapter Working with graphical elements (Page 334).

See also

Sketch reports (Page 84)

Opening documents (Page 129)

12.4 Updating reports

Requirements

One or more reports have been created.

Updating an open report

1. Open a report.
2. Select the "Reevaluate document" button on the toolbar:



Updating several closed reports

1. Select the "Documents > Evaluate " command from the menu.
The "Evaluate" tab opens.

Note

The tab is based on a query. You can filter, sort, and export it. See also chapter Working with queries in simple run mode (Page 376).

2. Set a start object using drag&drop.
You see all the documents below the start object.
3. Select the desired reports.
4. Click the "Execute" button.

Alternatively: Use the tool "All document tools". See also chapter Working with the tool "All document tools" (Page 271).

Result

The objects placed on the report or objects evaluated by the report are recalculated. The report content is updated.

12.5 Printing reports

Overview

You have the following options:

- Printing an open report
- Printing a report without opening

You can print to a paper printer or to a file. If you print to a file, you export the report.

Printing an open report

1. Open the report. See also chapter Opening documents (Page 129).
2. Click the "Print" button on the toolbar of the report.



3. Select a printer and the print configuration in the "Print" window.
4. Confirm your entries.

You can select your own print format or use the default format for the printer. If the report format is bigger than the print format, the report is scaled. In the reverse case, not all of the printing area is used.

Printing a report without opening

See also chapter Printing documents (Page 268).

See also

Printing interactive reports (Page 363)

Overview of printing and exporting revision files (Page 288)

12.6 Exporting and importing reports

Export options

You can export the contents of reports:

Target format	Report type	More information ...
PDF	Interactive and evaluating reports	"COMOS Platform Interfaces" manual, keyword "Export report as PDF"
Word	Interactive and evaluating reports	"COMOS Platform Interfaces" manual, keyword "Export reports to Word"
Excel	Evaluating reports	"COMOS Platform Interfaces" manual, keyword "Export reports to Excel"
DWG/DWX	Interactive reports	"COMOS Platform Interfaces" manual, keyword "Exporting and importing DWG/DXF files"

When exporting as PDFs, you can also export the project structure in the form of bookmarks.

Reimporting Excel data to COMOS

You can reimport changes to the exported Excel data into COMOS. The objects evaluated by the evaluating report are updated accordingly. You can find more information on this topic in the "COMOS Platform Interfaces" manual, keywords "Reimporting content from Access/Excel/XML files" and "Reimporting content from Access/Excel files or directories".

Importing and exporting DWG and DXF files

You can import the contents of DWG and DXF files to interactive reports and vice versa. You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "Exporting and importing DWG/DXF files".

Working with queries and bulk processing

13.1 Creating queries

Requirements

- An engineering project is open. See chapter Opening a project or the released area of a project (Page 169).
- Engineering objects have been created in the project. See chapter Creating engineering objects (Page 201).
- See also chapter Queries (Page 111).

Creating queries via the menu bar

1. In the menu bar, select "Extra > Query > <System type>".
2. Select a query in the submenu.
The tab of the "<System type>" query opens. See also chapter System types of objects (Page 42).
Default in the database: The query starts in the "Advanced" run mode. See also chapter Changing the run mode of a query (Page 374).
3. Click the "Save / Load ... > Save as ..." button on the toolbar.
The "Save as ..." window opens.
4. Drag&drop an object from the Navigator to the "Save as" field.

Note

The creation mode of the object must be configured in such a way that the query can be created.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Creation mode" control group".

5. Enter values in the "Name" and "Description" fields.
6. Confirm your entries.

Result

The query is created in the Navigator underneath the selected object.

Creating a prepared query via the "New" context menu

Requirements: A query has been prepared by your administrator. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Elements" tab on base objects".

13.3 Working with queries in the alternative display

Procedure:

1. Select the engineering object.
2. Select the "New > <Name and description of the query>" command from the context menu.

The run mode depends on the configuration of the query. See also chapter Changing the run mode of a query (Page 374).

13.2 Changing the run mode of a query

Principle

You can change the current run mode of a query at any time. You can switch from the standard mode to the respective other mode. So, for example, you can change a query in simple mode to extended mode.

Requirements

A query has been created and opened. See chapter Creating queries (Page 373).

Procedure

In the context menu of a column header, select "Run mode > Simple" or "Run mode > Extended".

13.3 Working with queries in the alternative display

Requirements

A query has been created. See chapter Creating queries (Page 373).

Opening queries in the alternative display

1. Select the query in the Navigator.
2. Select the "Open (alternative)" command in the context menu.

Set start object

Drag&drop a start object from the Navigator into the "Start object(s)" field:

Updating queries

To update the query, click the "Search" button: 

Configuring the columns of the Object Browser

You have the following options for configuring the columns of the Object Browser:

- Changing the column width
- Changing the column order

Note

Adjustment of the order in the "Editable area"

The column order is not taken into account in the "Editable area".

See also chapter Configuring columns (Page 376).

Sorting the Object Browser

1. Left-click on the column header.
The button appears in the column header and the table is sorted in ascending order.
2. Select one of the following options:
 - To sort the table in descending order, click in the column header a second time.
 - To sort the table by a different column, click on the column header of the other column.

Filtering the Object Browser

1. To filter within a column, enter the relevant filter value in the field below the column caption.
2. Confirm your entry with <Return>.

Editing the properties of the object

1. Select the desired objects in the Object Browser.
2. Click on the "Editable area" button.
In the area for editing the selected objects, you will see the properties of the most recently selected object.
3. Edit the properties.

Note

"Name" and "Label" must be unique

Parallel objects in the Navigator must have unique names and labels. If they are given the same name, only the topmost object is changed. A counter is appended to the rest of the data.

4. Confirm your entries.

General information

Click on the "General notes" button to view general information about the alternative display.

13.4 Working with queries in simple run mode

13.4.1 Configuring queries in simple run mode

Requirements

- A query has been created and opened. See chapter Creating queries (Page 373).
- The run mode is "Simple". See chapter Changing the run mode of a query (Page 374).

Setting a start object and adjusting the Object Browser

- Drag&drop a start object from the Navigator into the "Start object(s)" field:
- Configure the Object Browser. See also chapter Adjusting the Object Browser in simple run mode (Page 376).

Saving the query

1. Click the column header.
2. Select "Save" from the context menu.

13.4.2 Adjusting the Object Browser in simple run mode

13.4.2.1 Configuring columns

Requirements

A query has been created and opened. See chapter Creating queries (Page 373).

Changing the column width

1. Move the mouse between two column headers.
The mouse pointer will change to a slider arrow.
2. Keep the mouse button pressed and move the mouse to the right or left.

Changing the column order




1. Select a column.
2. Keep the left mouse button pressed and move a column header to the right or left.
A blue bar indicates where the column is to be positioned.

Showing and hiding columns

1. Select the "Columns ..." command in the context menu of the column header.
2. You have the following options:
 - To show a column, activate the option in the "Visible" column.
 - To hide a column, clear the option in the "Visible" column.

13.4.2.2 Sorting the Object Browser

Display in the user interface

- Unsorted Object Browser: When you move the mouse pointer to a column header, you see the following button: 
- Sorted Object Browser: You see one of the following buttons in the column header:  

Requirements


- A query has been created and opened. See chapter Creating queries (Page 373).
- The Object Browser displays a search result.

Procedure

1. Left-click on the button on the column header to sort.
The window with the sorting options opens.
2. Select one of the following options:
 - To sort the table in ascending order, select the "Ascending" command.
 - To sort the table in descending order, select the "Descending" command.
 - To remove the sorting, select the "None" command.

13.4.2.3 Filtering the Object Browser



Display in the user interface

- Filtered Object Browser: You see the following button in the column header: 
- Unfiltered Object Browser: You only see the button after you move the mouse pointer onto a column header.

Requirements

- A query has been created and opened. See chapter Creating queries (Page 373).
- The Object Browser displays a search result.

Procedure


1. Left-click on the button on the column header to filter.
The window with the filter options opens. You see a user interface with all the values from the column and a field for entering a filter value freely.
2. You have the following options:
 - To filter one or more values, activate the options next to the corresponding values.
 - To remove the filtering by values, deactivate the corresponding options.
 - To filter by a substring, enter the desired string in the field. Click the following button to execute filtering:

 - Click the following button to remove filtering by substring:


13.4.3 Exporting queries

Requirements

- A query has been created and opened. See chapter Creating queries (Page 373).
- The Object Browser displays a search result.

Procedure

1. Click the "Export data ..." button on the toolbar: 
2. Select one of the following commands:
 - "Microsoft Excel"
Output in an Excel file
 - "Microsoft Access"
Output in an Access file
 - "Text file"
Output in a TXT file
 - "XML file"
Output in an XML file.
3. Select a directory and enter a file name.
4. Click on the "Save" button.

Rules for editing exported data

To reimport the data, observe the following points:

- The exported data may not be sorted or filtered.
- The first row of an exported table contains important information. You cannot edit it.
- The last column of a table exported to Access contains important information. You cannot edit it.
- The exported data may only be edited at those points that were released for editing within COMOS. These are the in white highlighted cells in Excel. Do not remove the spreadsheet protection in Excel, since this only concerns cells that cannot be edited anyway.
- You can only reimport the following file types with the standard tool:
 - Excel file
 - Access file
 - XML file
- Grouped objects cannot always be reimported correctly. Editable columns should only appear on the last level of each grouping.

13.5 Deleting in queries

Requirements

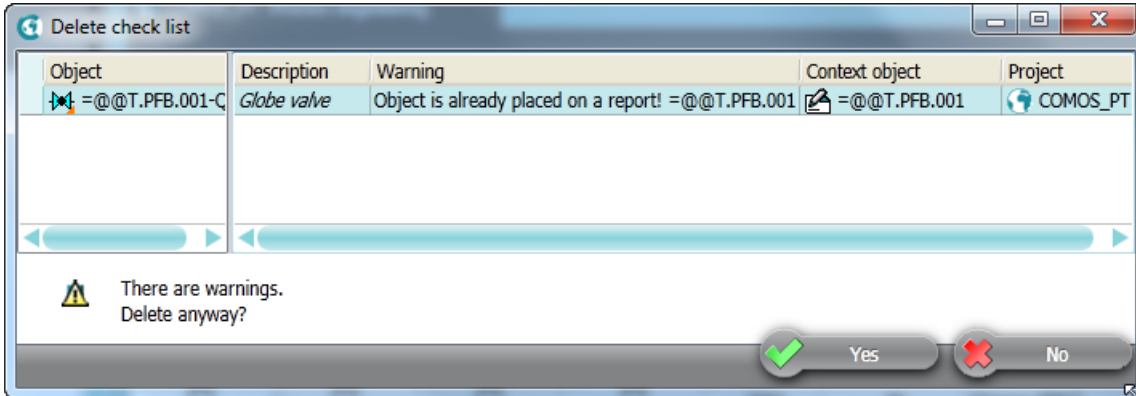
A query has been created and opened. See chapter Creating queries (Page 373).

The run mode is "Simple". See chapter Working with queries in simple run mode (Page 376).

Procedure

1. Select the desired object in the Object Browser.
2. Select "Delete" from the context menu.

3. Confirm the security prompt.
COMOS analyzes the objects. If there are reasons to prevent the deletion, or if the data is made inconsistent by deleting, the "Delete check list" window opens.



There is an entry for every object which has a cancel message or a warning message. You can navigate to the object using the context menu. If there are cancel messages, the entire deletion process is canceled.

4. If there are only warning messages, you can delete despite the warnings. Click the "Yes" button in the window to do this.

Note

No single selection of objects

If you have selected single entries in the "Delete check list" window, all objects will still be deleted.

5. To cancel the entire deletion process, click the "No" button.

You can find more information on the topic of delete check lists in the "COMOS Platform Administration" manual, keyword "Delete check list".

Result

Depending on the configuration of the query, either the selected object or the object to which the query row relates is deleted.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Deleting in the Object Browser" and chapter "Configuring queries and using as administrator" and chapter ""Options" context menu: "General" tab".

See also

Deleting (Page 134)

13.6 Using cross-project queries

Principle

You can apply a cross-project query to all projects or to selected projects and working layers.

Requirements

A cross-project query has been created and opened. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Cross-project queries".

Applying cross-project queries to all projects

1. Select the "*** In all projects" entry from the "Start object(s)" list.
2. Configure the query as required. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Customizing the Object Browser in advanced run mode".
3. To update the query, click the "Search" button:



Result

- The result of the query will be listed.
- COMOS scans the project currently logged on to the current working layer and all other projects in the released area.
- By default, the cells in the search result cannot be edited. To edit the properties of an object, navigate to the object. The query remains visible in this case.

Applying cross-project queries to single projects or working layers

1. Select the "File > Open project" command in the menu bar.
2. Move the "Open project" tab so that it is shown next to the cross-project query. See also chapter Customizing the arrangement of frames and tabs (Page 142).
3. Drag&drop the required work layers or projects from the "Open project" tab to the "Start object(s)" field of the query. Select only one working layer per project.
4. Configure the query as required. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Customizing the Object Browser in advanced run mode".
5. To update the query, click the "Search" button:



Result

- The result of the query will be listed.
- By default, the cells in the search result cannot be edited. To edit the properties of an object, navigate to the object. The query remains visible in this case.

13.7 Creating bulk processing

Requirements

- An engineering project is open. See chapter Opening a project or the released area of a project (Page 169).
- Engineering objects have been created in the project. See chapter Creating engineering objects (Page 201).
- See also chapter Bulk processing (Page 113).

Creating bulk processing via the menu bar

1. In the menu bar, select "Extra > Bulk processing > Bulk processing for <System type> > Bulk processing: <System type>".
"Bulk processing" tab: <System type>" opens. See also chapter System types of objects (Page 42).
2. Click the "Save / Load ... > Save as ..." button on the toolbar.
The "Save as ..." window opens.
3. Drag&drop an object from the Navigator to the "Save as" field.

Note

The creation mode of the object must be configured in such a way that the bulk processing can be created.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creation mode control group".

4. Enter values in the "Name" and "Description" fields.
5. Confirm your entries.

Result

The bulk process is created in the Navigator underneath the selected object.

Creating prepared bulk processing via the "New" context menu

Requirements: A bulk processing has been prepared by your administrator. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Elements" tab on base objects".

1. Select the engineering object.
2. Select the "New > <Name and description of the bulk processing>" command from the context menu.

13.8 Configuring bulk processing

Requirements

- A bulk processing has been created and opened. See chapter Creating bulk processing (Page 382).
- Objects have the same class or subclass.

Setting a start object and adjusting the Object Browser

Drag&drop an object from the Navigator into the "Start object(s)" field":

The objects and object data found by the query are displayed in the Object Browser. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Customizing the Object Browser in advanced run mode".

The data and attributes of the first object from the Object Browser are displayed in the area for editing the marked objects.

Placing attributes on the "General" tab

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring placed attributes on the "General" tab".

Saving bulk processing

1. Click the "Save/Load ..." button in the toolbar of the tab.
2. Select the "Save" command.

See also

Working with queries and bulk processing (Page 373)

13.9 Editing object data via bulk processing

Requirements

- A bulk processing has been created and opened. See chapter Creating bulk processing (Page 382).
- The bulk processing is configured. See chapter Configuring bulk processing (Page 383).
- You have a good knowledge of the associated user interface. See chapter Bulk processing tab (Page 466).

Updating the Object Browser automatically

To update the Object Browser automatically, activate the "Search at once" button: 

Procedure

1. Select the desired objects in the Object Browser.

Note

Note in which order you select the objects. If the first selected object in the Object Browser has the attribute, the attributes dragged onto the working area are displayed.

In the area for editing the marked objects, you will see the general data and attributes of the selected objects. The values entered at the topmost object of the selection are displayed. If there are deviating values on the other selected objects, the corresponding value is marked in blue. Reference fields with different values are marked in yellow.

2. Edit the general data.

Note

"Name" and "Label" must be unique

Parallel objects in the Navigator must have unique names and labels. If they are given the same name, only the topmost object is changed. A counter is appended to the rest of the data.

3. Edit the attribute values on the "General" tab and all other added tabs. See also chapter Configuring bulk processing (Page 383).
4. Confirm your entries.

Result

- Your entries are saved.
- If one of the selected objects does not have a changed attribute or a changed property, the value is not saved.

Working with task management

Using the "Task management" plugin, you can:

- Specify tasks, including across projects
- Manage individual task parameters
- Allocate tasks to users

14.1 Opening the "Task management" plugin

Requirements

- You have logged into COMOS using your user name.
- A COMOS project is open.
- Your administrator has made the necessary default settings:
 - You are entered in the USERS project with your COMOS user name.
 - The number generator is activated for the USERS project.
 - You have at least read rights to the USERS project.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Preparing task management (administrator)".

Procedure

Select the "Plugins > Basic > Task management" command in the menu bar.

Result

After task management is called, no tasks are shown in the table at first. Search for the existing tasks via the filter or create a new task.

See also

Creating a new task (Page 386)

Filtering tasks (Page 386)

Editing tasks (Page 387)

14.2 Editing and view mode

Editing mode

Select editing mode to edit a task. See also Chapter Editing tasks (Page 387).

View mode

Select the view mode to work within your COMOS projects or just to show tasks. If you switch projects or to another working layer, the "Task management" plugin remains open.

"Filtered tasks" table

You can edit some attributes in the "Filtered tasks" table without activating the editing mode.

14.3 Creating a new task

Requirements

The "Task management" plugin is open. See also Chapter Opening the "Task management" plugin (Page 385).

Procedure



1. In the "Filtered tasks" area click on the "New task" button.
A new row is created in the "Filtered tasks" table. The columns of the table are specified in advance. The properties of the task open below the table. Some attributes are populated automatically.
2. Enter a descriptive text for the task in the "Description" field.
3. Enter the required information.
4. Save your entries.

14.4 Filtering tasks

Requirements

The "Task management" plugin is open. See also chapter Opening the "Task management" plugin (Page 385).

Procedure

1. Open the filter with the  button
2. Make the required filter settings.
3. Click on the "Filter" button.
4. To hide the filter and see more table columns, click on the  button.

Result

- The database is browsed for existing tasks.
- The tasks are listed in the "Filtered tasks" table. The columns of the table are specified in advance.
- When you close the "Task management" plugin your filter settings are automatically set the next time you open the plugin. The filter result is not displayed automatically.

14.5 Colors of tasks

When a task is loaded for the task table, task management reads the color status and marks the associated row in the task table using this color. If the task cannot be edited by the current user, it is displayed lightly shaded.

14.6 Editing tasks

Introduction

You can change task properties in the "Filtered tasks" table and in the tab below the table. If you are changing several tasks simultaneously, work within the "Filtered tasks" table.

You have different rights for editing tasks depending on your role. As a user you work on the "Edit" tab. As a responsible person or a representative you can also edit attributes on the "Data" tab.

There are two types of tasks:

- PQM tasks
- Workflow tasks

Procedure

- To change properties of the task displayed in the "Filtered tasks" table, click in the desired cell. To assign persons, Drag&Drop the person object out of the "USERS" project and into the cell.
- To edit a task, right-mouse click in the task row in the "Filtered tasks" table and select the "Edit" command in the context menu.
The menu bar below the table turns red. The properties of the task are displayed below the table.
When you edit a workflow task, COMOS automatically switches to the project to which the workflow is assigned. Then the workflow functionality is opened.
 - Make the required changes.
 - Confirm your entries.
 - Click on the "Update table" button in the "Filtered tasks" area in the menu bar.
- To make the same changes to several tasks simultaneously, select the tasks in the table and press <F2>.

Note

Working in the COMOS project

To access the Navigator and work in your COMOS project, switch task management to view mode. To do this, click on the "View mode" command in the context menu of a task row or on the "View mode" button in the menu bar below the table. The red color of the menu bar below the table disappears.

14.7 Transferring tasks to other users

Precondition

Editing mode is activated. See also Editing and view mode (Page 386).

Procedure

1. Open the task properties.
See also Editing tasks (Page 387).
If the "USERS" project has been linked and is displayed in the navigator, do not switch to editing mode. Drag the user via Drag&Drop from the "USERS" project in the navigator into the task's "User" cell in the "Filtered tasks" table.
2. Select the "Attributes > Edit" tab.
3. Set a reference to a user in the "User" field
4. Click on the "Send" button.

Result

The task is transferred to the selected user. The new user is now able to edit the task. A new entry is created on the "Attributes > History" tab.

14.8 Copying tasks

Procedure

1. Open the properties of the task which you wish to copy.
See also Editing tasks (Page 387).
2. In the "Number of copies" field, state how many copies of this task you wish to create.
3. Click on the "Copy task" button.

Result

The required number of tasks is created in the table. All newly created tasks have the same properties as the opened task.

14.9 Status of tasks

Definition of status

There are two main statuses for a task: "active" and "archived". All the tasks are set to either one of these two statuses. The status changes automatically when you click on the "Send" or "Cancel" buttons on the "Edit" tab in the task properties.

Possible status:

- "In definition" (active)
- "Waiting" (active)
- "In progress" (active)
- "Done" (active)
- "Cancelled" (archived)
- "Archived/checked" (archived)

When it is being produced, the task status is "In definition". When it is forwarded to the first editor the task status is set to "In progress". While you are carrying out the initial editing steps the task status remains "In progress". When you assign the task to the person in charge, that person can either pass on the task for further editing or change the status to "Done". You are also able to change the task status from "Done" back to "In progress". If the task status has been set to "Done" and you select the "Checked" status, the task is archived. The "Cancelled" and "Checked" statuses are final statuses and cannot be changed again.

"Waiting" option

If the "Waiting" option is active in the "Attributes > Edit" tab in the task properties, you cannot change the task status. If you deactivate the option, the task is restored to the same status as before the option was activated.

14.10 Exporting the task list to MS Excel

You can export the tasks displayed in the task table to an equivalent MS Excel table. This applies to MS Excel 2003 and later. Only the columns which are actually displayed are exported. In the exported table, the tasks are marked according to their color status.

Requirements

- A task list has been created.

Procedure

- Click on the "Export task list to Microsoft Excel" button in the top toolbar in the "Task management" tab.



Result

Task management opens an instance of Excel. In the first table sheet, a corresponding column is transferred to the Excel table for each column displayed in the task list.

Note

No automatic saving

The exported table is not saved. You can specify the file path and format directly in Excel when you save the table. No specific Excel format is stipulated.

14.11 Changing the column order permanently

Requirements

The "Task management" plugin is open.

Procedure

To change the column order in the task list, move the header fields to the desired position using drag&drop.

Result

- The most recently used order is saved automatically in the user settings.
- The most recently used order is displayed again when task management is opened or the task list is filtered.

14.12 Showing or hiding columns permanently

Requirements

The "Task management" plugin is open. See also Chapter Opening the "Task management" plugin (Page 385).

Procedure

1. Click on the column header of one individual column.
2. You have the following options in the context menu of the column header:
 - To hide a displayed column, select the "Hide column" command in the context menu.
 - To display a hidden column again, select the "Show column" command in the context menu.

Result

- Information on which columns are shown and hidden is automatically saved in the user settings.
- These settings are reused when task management is opened or the tasks are refiltered.

14.13 Editing workflow activities

If you are working with workflows in COMOS and create activities, these are also analyzed and displayed in the "Task Management" plugin. You cannot change the properties of the activities in the "Filtered tasks" table.

Requirements

Your administrator has prepared the workflow activities for editing with task management.

You can find additional information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring workflow activities".

Procedure

You edit these workflow activities in the project in which you created them.

Open the properties of the activity. COMOS automatically changes in the background to the project in which you created the activity.

Searching

15.1 Overview of the search tools

Search tools

COMOS provides you with various search tools:

- Queries
See also chapter Queries (Page 111).
- Full-text search
See also chapter Full-text search (Page 99).
- Navigator search
See also chapter Using Navigator search (Page 393).

15.2 Using Navigator search

Navigator search modes

- "Database-based search": COMOS searches the properties of objects.
- "Search in Navigator text": COMOS searches the object text which is visible in the Navigator. See also chapter Name, label, and description (Page 46).
For experienced users

Search rate

The search rate depends on the search settings and the search quantity. For comparable search settings and search quantities, the database-based search is faster.

Excluded from the search

Database-based search:

- Attribute values and descriptions inherited from the base object
See also chapter Fundamentals of the properties of engineering objects (Page 49).
- Attributes with the "Values in XML" edit mode

Both search modes:

- Links to objects
See also chapter Creating links (Page 130).
- Objects under search objects and index objects
See also chapter Views and working areas (Page 41).
- For activated views: Objects filtered out of the view
See also chapter Views and working areas (Page 41).

Requirements

See also chapter General requirements for working with COMOS Platform (Page 17).

Procedure

1. Select the start object of the search in the Navigator.
2. Select the "Search" command in the context menu.
Alternatively, press <F3> or <Ctrl+F> on the keyboard.
The "Search ..." window opens. The object selected in the Navigator is entered in the "Search below" field as the start object.

Note

Changing the start object

You can change the start object using drag&drop from the Navigator.

3. Select the "Options" tab.
4. Select the search mode from the "Type of search" list.

5. Define the search settings:

- "Database-based search" mode:

Control group	Description
"Supported objects"	Determine which objects you are searching for. Available options: <ul style="list-style-type: none"> • "Base objects" • "Engineering objects" • "Documents" • "Attributes"
"Supported properties"	Determine which object properties are searched: <ul style="list-style-type: none"> • "Name" option: The name • "Description" option: The description <ul style="list-style-type: none"> – Not for attributes – Documents: Also searches "Description 2" and "Description 3". • "Label" option: The label Not for attributes • "Value" option: Value Only for attributes

- "Search in Navigator text" search mode:

Option	Description
"Case-sensitive"	-
"With pattern matching"	Recommended If you do not know the exact spelling or you are searching for objects with similar Navigator texts, activate this option.

The following button opens a tooltip about the permitted placeholders:



6. Select the "Search" tab.

7. Enter the search text in the "Contained text" field.

Case-sensitive:

- "Database-based search" mode: Not evaluated
- "Search in Navigator text" search mode: Depends on the search settings

Note**"Search in Navigator text" search mode**

The search expects the exact Navigator text including spaces. The number of spaces can vary. For this reason, you should work with pattern matching and placeholders. See also chapter Placeholders for searching for Navigator text (Page 396).

8. Click the "Start" button.

Result

COMOS searches recursively below the start object for the search text and lists the result in a table. The result table is based on a query. The query functions are available in the context menu of the column headers.

The following information is displayed for each hit:

- "Relative name" column: For identifying the object
- "Description" column: The description of the object
- "Text" column: The hit text. You can tell from this text why an object appears in the results set.

You can navigate from the table to the objects or open their properties.

Accelerating the search for Navigator text

The search for Navigator text only considers the texts of objects visible in the Navigator. If you filter objects out of the Navigator using the Navigator settings, you will accelerate the search. See also chapter Filtering object trees in the Navigator (Page 164).

15.3 Placeholders for searching for Navigator text

When pattern matching is activated in the "Search in Navigator text" search mode, you can use the following placeholders.

Any single character

Placeholder: "?"

If you only use this placeholder, you must also specify spaces; for example, between name and description. There are three spaces in the basic state, but this number can vary. Therefore, combine the "?" placeholder with the "*" placeholder.

No or multiple characters

Placeholder: "**"

Example:

Search text	Description
"**"	Finds all objects
"[A]**"	Finds all objects which begin with "A".

Any single digit

Placeholder: "#"

Including single characters in the character list

Placeholder: "[<Character>]"

Set each character in its own square brackets. Only the first character in the square brackets is evaluated.

If you write several of these expressions one after another, the expressions are organized hierarchically.

Example:

Search text	Description
"[H1]*"	Finds all objects which begin with "H". The "1", as the second character, is ignored.
"[H][4]*"	Only finds the object "H4".

Excluding single characters from the character list

Placeholder: "[!<Character>]"

A character range cannot be excluded.

If you write multiple character exclusions one after another, the expressions are organized hierarchically.

Examples:

Search text	Description
"[!B]*"	If the "Case-sensitive" option is enabled, a search is made for all objects that do not start with "B".
"[!A][!B]*"	Searches for all objects that do not have "A" as the first letter and do not have "B" as the second letter.

Defining a character range

If the "Case-sensitive" option is activated, the character range applies ASCII sorting.

Example:

Search text	Description
"[A-d]"	Depending on whether the "Case-sensitive" option is activated, the following letters are searched for: <ul style="list-style-type: none"> • Option deactivated: A, a, B, b, C, c, D, d • Option activated: All upper case letters (i.e., A to Z) and the special characters [\] ^ _ ' and the lower case letters a, b, c, d

Delimiters

Possible delimiters:

- ";"
- ";

Delimiters can only increase the search quantity.

Examples:

Search text	Description
"[A]*:[B]*"	Searches for all objects that either have an "A" or a "B" as first letter.
"[!A]*:[!B]*"	The "[!A]*" expression searches for all objects except those that begin with "A". The "[!B]*" expression adds all objects which do not begin with B to these results. Together, the two sets of results deliver all of the objects.

Calling the quick help

Requirements: The "Search ..." window is open.

1. Click on the "Options" tab
2. Click this button:



See also






Using Navigator search (Page 393)

User interface reference



16.1 Menu bar

16.1.1 "File" menu

Commands in the "File > ..." menu









Icon	Call	Description
	"... > Open database..."	<p>Open or create a database.</p> <p>Enter the login information in the following dialog field. The database you have used last will be displayed. See also chapter Opening or switching between databases (Page 156).</p> <p>Alternatively: Create a database (Access). You can find additional information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a new Access database with COMOS".</p>
	"... > Open project"	<p>Open or create a project.</p> <p>A database can include one or more projects. Which projects you see also depends on the assigned rights. See also chapter Opening a project or the released area of a project (Page 169).</p> <p>Alternatively: Create a project. You can find additional information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a project".</p>
	"... > Close project"	<p>If more than one project is open at a time, this command is active. The command saves and closes the active project, but not the database. See also chapter Closing projects (Page 172).</p>
	"... > Close working layer"	<p>This command is active when several working layers are open at the same time. The next working layer nearer to the project opens automatically. You can thus continue closing working layers until the project is called. See also chapter Closing working layers (Page 177).</p>
	"... > Save project"	<p>All open objects and actions are saved.</p> <p>Note: Modified properties are applied and also saved. You cannot cancel after saving. Navigator operations cannot be undone.</p> <p>COMOS saves as much data as possible. The "Save" button in the dialog fields, however, only saves if the entries are consistent.</p> <p>Example: Duplicate name in the properties:</p> <ul style="list-style-type: none"> • "File > Save project": Name is automatically corrected; object is saved. • Save in properties: Save is rejected; an error message is output due to duplicate names. <p>The cache is cleared.</p>

16.1 Menu bar

Icon	Call	Description
	"... > Languages"	With this command, you select the language for the interface. See also chapter Switching the user interface language (Page 167).
	"... > Exit"	Use this command to exit COMOS. All changes since the last save operation are saved in the project and in the database.

16.1.2 "View" menu

Commands in the "View > ..." menu

Icon	Call	Description
	"... > Back"	Undoes the last action in COMOS.
	"... > Forward"	Redoes the last undone action.
-	"... > Quick launch"	See also chapter Enabling and disabling quick launch (Page 157).
-	"... > Screen 2"	Opens a second working area. By default, COMOS is configured in such a way that documents are opened on this screen.
-	"... > Icon with placing information > ..."	
	"... > Hide"	See also chapter Showing placing information (Page 166).
	"... > For all placed objects"	
	"... > For placed elements only"	
	"... > Properties tree"	See also chapter Editing several objects in the properties tree (Page 243).
	"... > Status window"	You can find more information on this topic in the "P&ID Operation" manual, keyword "Status window".
	"... > Symbol and document preview"	See also chapter Displaying a preview of symbols and working areas (Page 362).
	"... > Window list"	See also chapter Closing tabs or switching between tabs using the window list (Page 152).
	"... > Favorites"	See also chapter Working with favorites (Page 139).
	"... > Static new menu"	See also chapter Creating multiple objects via the static new menu (Page 209).

16.1.3 "Administration" menu












This "Administration" menu is only relevant for system administrators.

You can find additional information on this topic in the "COMOS Platform Administration" manual, keywords ""Administrator > Script error handling" menu", ""Administrator > Base data" menu", ""Administrator > System" menu", ""Administrator > Update classification" menu".

16.1.4 "Documents" menu

Using the "Documents" menu, you can select all actions of "All Document tools" as individual actions.

Commands in the "Documents > ..." menu

Icon	Call	Description
	"... > Print"	This is an individual action of the call "All document tools".
	"... > Evaluate"	Runs the "Evaluate" function for any number of reports at once (bulk).
	"... > Revision"	This is an individual action of the call "All document tools".
	"... > DWG/DXF Export"	This is an individual action of the call "All document tools".
	"... > Word export"	This is an individual action of the call "All document tools".
	"... > Excel export"	This is an individual action of the call "All document tools".
	"... > PDF Export"	This is an individual action of the call "All document tools".
	"... > Copy TIFF/PDF file of the released revision"	Bulk copying of the TIFF/PDF file of the most recently released revision into the specified directory. This is an individual action of the call "All document tools".
	"... > Print current revision file"	This is an individual action of the call "All document tools".
	"... > Print with revision printer"	This is an individual action of the call "All document tools".
	"... > All document tools"	Collection of document tools. You can call the individual actions using the "Documents" menu.



See also

Working with the tool "All document tools" (Page 271)




16.1.5 "Extra" menu

16.1.5.1 "Extra > Bulk processing" menu

Commands in the "Extra > Bulk processing > ..." menu






Icon	Call	Description
	"... > Bulk processing for engineering objects > Bulk processing: Engineering objects"	See also chapter Bulk processing (Page 113) and chapter Working with queries and bulk processing (Page 373).
	"... > Bulk processing for base objects > Bulk processing: Base objects"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Bulk processing".

16.1 Menu bar

Icon	Call	Description
	"... > Bulk processing for attributes > Bulk processing: Attributes"	
	"... > Bulk processing for documents > Bulk processing: Documents"	
	"... > Bulk processing for connectors > Bulk processing: Connectors"	

16.1.5.2 Menu "Extra > Query"

Commands in the "Extra > Query > ..." menu

Icon	Call	Description
	"... > Query for engineering objects > ..."	Prepares standard queries for the system type: Engineering object.
	"... > Query: Engineering objects"	
	"... > Query: Engineering objects (cross-project)"	
	"... > Query: Engineering objects (alternative)"	
	"... > Query for base objects > ..."	The standard queries are available for the administrator. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Queries".
	"... > Query: Base objects"	
	"... > Query: Base objects (alternative)"	
	"... > Query for attributes > ..."	The standard queries are available for the administrator. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Queries".
	"... > Query: Attributes"	
	"... > Query: Attributes (alternative)"	
	"... > Query for documents > ..."	Prepares standard queries for the system type: Document.
	"... > Query: Documents"	
	"... > Query: Documents (cross-project)"	
	"... > Query: Documents (alternative)"	
	"... > Query for connectors > ..."	Prepares standard queries for the system type: Connection.
	"... > Query: Connectors"	
	"... > Query: Connectors (alternative)"	
-	"... > Tools > ..."	The standard queries are available for the administrator. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Queries".
	"... > Restore COMOS objects"	
	"... > Changed devices in a working layer"	
	"... > Changed attributes in a working layer"	
	"... > Wire list (by connectors)"	
	"... > Implement requests"	See also chapter Requests and implementations (Page 65).

Alternative display of a query




The call "Query: <System type> (alternative)" is an alternative display of the query. See also chapter Queries (Page 111) and section Working with queries in the alternative display (Page 374).

See also

Working with queries and bulk processing (Page 373)





16.1.5.3 Menu "Extra > Standard import"

Commands in the "Extra > Standard import > ..." menu

Icon	Call	Description
	"... > Access/Excel/XML reimport"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keywords "Reimporting content from Access/Excel/XML files" and "Reimporting content from Access/Excel files or directories".
	"... > Blank table"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "Standard import: Blank for tables".
	"... > Blank XML"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "Standard import: Blank for XML".




16.1.5.4 Menu "Extra > Translation"

Commands in the "Extra > Translation > ..." menu

Icon	Call	Description
	"... > Single translation"	You find more information on this topic in the "COMOS Platform Administration", keyword "Using single translations: Translation of the description".
	"... > Bulk translation"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using the bulk translation".
	"... > Translation database"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using the translation database".
	"... > Translation search"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using the translation search".





16.1.5.5 "Extra > Check" menu

Commands in the "Extra > Check > ..." menu

Icon	Call	Description
	"... > Object test"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using object test".
	"... > Edit instances"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring instantiating".
	"... > Edit product data"	You can find additional information on this topic in the "EI&C Operation" manual, keyword "Using product data and manufacturer devices".




16.1.5.6 "Extra > Detail" menu

Commands in the "Extra > Detail > ..." menu

Icon	Call	Description
	"... > Modification of Name/Label"	You can find more information on this topic in the "EI&C Operation" manual, keyword "Modification of name/label".
	"... > Device selection (product data)"	You can find more information on this topic in the "EI&C Operation" manual, keyword "Manufacturer device selection for numerous components".
	"... > Characteristics for connections"	You can find more information on this topic in the "EI&C Operation" manual, keyword "Setting characteristics for connections on connectors".
	"... > Signal cross-references"	You can find additional information on this topic in the "Logical" manual, keyword "Using the signal cross-reference list".



16.1.5.7 "Extras > Working layers/history" menu

Commands in the "Extra > Working layers/history > ..." menu

Icon	Call	Description
	"... > Management"	See also chapter Setting the comparison time for the history display (Page 187) and chapter "Working layer/History management" tab (Page 469).
	"... > Object status"	See also chapter Displaying the detailed object status for working layers and histories (Page 182) and chapter "Object status (Working layers/history)" tab (Page 467).
	"... > Release manager"	See also chapter Performing release checks (Page 188) and chapter "Release manager" tab (Page 470).






16.1.5.8 Menu "Extra > 3D review"

Commands in the "Extra > 3D review > ..." menu

Icon	Call	Description
	"... > 3D view"	You open the 3D visualization tool from this menu.
	"... > Symbol editor"	You can find additional information on this topic in the "Isometrics" and "PipeSpec Designer" manuals.






16.1.5.9 Menu "Extra > Monitoring"

Commands in the "Extra > Monitoring > ..." menu



Icon	Call	Description
	"... > System monitor"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using the system monitor".
	"... > Performance monitor"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using the performance monitor".
	"... > Performance monitor for query analysis"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Performance monitor for query analysis".
	"... > CVS Monitor"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using the CVS Monitor".
	"... > Database performance"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Monitoring the database performance".

16.1.5.10 Menu "Extra > ..."

Commands in the "Extra > ..." menu

Icon	Call	Description
	"... > Object matcher"	See also chapter Copying with the object matcher (Page 111). You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Comparing and matching objects".
	"... > Cross-project copy"	See also chapter Copy fundamentals (Page 104) and section Cross-project copying (Page 110).
	"... > Report designer"	You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Administering report templates" and "Reference of the report designer interface".
	"... > Reimport"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keywords "Reimport file" and "Reimport directory".
	"... > Restrict working areas"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Restricting working areas".












16.1 Menu bar



Icon	Call	Description
	"... > Object debugger"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Object debugger".
	"... > Multiple Document Preview"	See also chapter PDF document view (Page 98) and section Using the PDF document view (Page 304). You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Compare PDF revisions".

16.1.6 Menu "Plugins"

16.1.6.1 "Plugins > Basic" menu









Commands in the "Plugins > Basic > ..." menu

Icon	Call	Description
	"... > Define attribute color"	See also chapter Defining the background color and text color of attribute values (Page 235).
	"... > Document interface"	See also chapter CDI documents (Page 97). You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "COMOS Document Interface".
	"... > Native object XML import export"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "Exchanging data with NOXIE".
	"... > Cross-class copy"	See also chapter Cross-class copy (Page 110). You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Cross-class copy".
	"... > Full-text search"	See also chapter Using the full-text search (Page 292). You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Preparing full-text search for documents".
	"... > Error analysis for 3D objects"	You can find additional information on this topic in the "PipeSpec Designer" manual, keyword "Plugin "Error analysis for 3D objects".
	"... > DWG/DXF mapping editor"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "Configuring the mapping of DWG data".
	"... > PDMS Engineering Interface"	You can find additional information on this topic in the "3D Integration Operation" manual, keyword "COMOS PDMS Integration".
	"... > Walkinside object assignment"	You can find additional information on this topic in the "3D Integration Administration" manual, keyword "COMOS 3D viewing".
	"... > Assign line types"	You can find additional information on this topic in the "P&ID Administration" manual, keyword "Specifying line types".
	"... > Job management"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring the job manager".

Icon	Call	Description
	"... > Task management"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring task management".
	"... > Data aggregation"	You can find more information on this topic in the manual "COMOS Platform Administration", keywords "Purpose of the "Data aggregation" plugin", "Requirements for the "Data aggregation" plugin" and "Using the "Data aggregation" plugin".






16.1.6.2 Menu "Plugins > Automation"

Commands in the "Plugins > Automation > ..." menu







Icon	Call	Description
	"... > Signal/Device assignment manager"	You can find additional information on this topic in the "EI&C Operation" manual, keyword "Signal/Device assignment manager".
	"... > Update macroblocks"	You can find additional information on this topic in the "Logical" manual, keyword "Updating macro blocks".
	"... > Bulk editing of half-open connections"	You can find more information on this topic in the "EI&C Operation" manual, keyword "Bulk editing of half-open connections".
	"... > Generic Excel import"	You can find additional information on this topic in the "COMOS Automation Interfaces" manual, keyword "Generic Excel import".
	"... > Connection pattern definition"	You can find additional information on this topic in the "EI&C Administration" manual and in the "EI&C Operation" manual, keyword "Connection pattern definition".
	"... > SPI interface"	You can find additional information on this topic in the "COMOS Automation Interfaces" manual, keyword "SPI interface".
	"... > Loop document manager"	You can find additional information on this topic in the "EI&C Operation" manual, keyword "Loop document manager".
	"... > Cabinet Equipment Assistant"	You can find more information on this topic in the "EI&C Operation" manual, keyword "Cabinet Equipment Assistant".

16.1.6.3 "Plugins > PQM" menu

Commands in the "Plugins > PQM > ..." menu



Icon	Call	Description
	"... > Include documents"	You can find additional information on this topic in the "PQM" manual, keyword "Include documents".
	"... > File transfer"	You can find additional information on this topic in the "PQM" manual, keyword "File transfer".
	"... > Start Excel"	Starts Excel.
	"... > Start Outlook"	Starts Outlook.
	"... > Start Powerpoint"	Starts Powerpoint.

16.1 Menu bar

Icon	Call	Description
	"... > Start Visio"	Starts Visio.
	"... > Start Word"	Starts Word.
	"... > Viewer settings"	You can find additional information on this topic in the "PQM" manual, keyword "Viewer settings".
	"... > DVM transmittal"	You can find additional information on this topic in the "PQM" manual, keyword "DVM Transmittal".
	"... > DVM queries > ..."	
	"... > Bulk checkin/checkout"	You can find additional information on this topic in the "PQM" manual, keyword "Bulk checkin/checkout".



16.1.6.4 Menu "Plugins > SAP"

Commands in the "Plugins > SAP > ..." menu

Icon	Call	Description
	"... > SAP login"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "SAP login".
	"... > SAP interface configuration"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "SAP interface configuration".




16.1.6.5 "Plugins > Collaboration" menu

Commands in the "Plugins > Collaboration > ..." menu

Icon	Call	Description
-	"... > COMOS Mobile Document Review > ..."	You can find additional information on this topic in the "COMOS Web" manual, keyword "Sending COMOS documents to "COMOS Mobile Document Review"".
	"... > Send"	
	"... > Outbox"	






16.1.7 "Help" menu












Commands in the "Help > ..." menu

Icon	Call	Description
	"... > COMOS help system"	The COMOS help system contains the documentation for the following product areas in CHM format: <ul style="list-style-type: none"> • COMOS Platform • COMOS Process • COMOS Automation • COMOS Operations • COMOS Lifecycle The complete COMOS documentation is available free of charge and in multiple languages from the My Documentation Manager (http://www.siemens.com/comos-dokumentation) on the Internet.
	"... > COMOS <version number> - Readme"	Opens a PDF help file with important information about the installed version.
	"... > COMOS <version number> - What's New"	Opens a PDF help file with important updates about the installed version.
-	"... > Show help at start"	Option activated: Next time you start COMOS, the PDF help file "COMOS <version number> - readme" will open automatically.
-	"... > COMOS info"	Information on the installed COMOS version.
-	"... > Database info ..."	Information regarding the database in use.

16.2 Toolbar

Default toolbar buttons

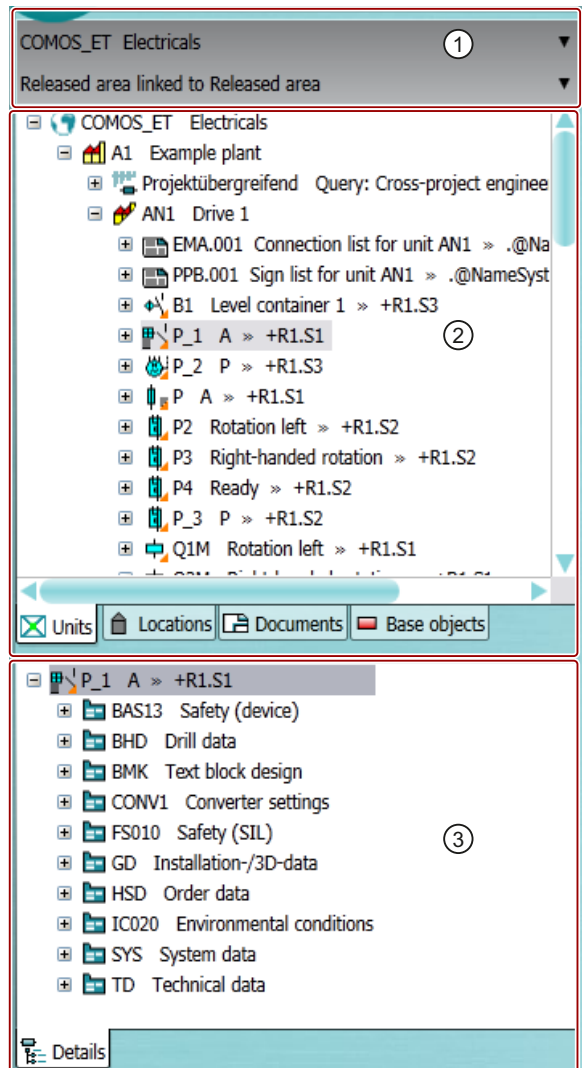
Icon	Tooltip	Description
	"Back", "Forward"	Switches to the last/previously selected object in the Navigator.
	"Open database"	See also chapter Opening or switching between databases (Page 156).
	"Open project"	See also chapter Opening a project or the released area of a project (Page 169) and chapter Opening the working layers of a project (Page 175).
	"Save project"	-
	"Print"	See also chapter Printing documents (Page 268).
"Query"	-	See also chapter Working with queries and bulk processing (Page 373).

Icon	Tooltip	Description
	"Bulk translation"	For translating the objects You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using the bulk translation".
	"Revision"	See also chapter Carrying out single revisions in bulk (Page 277).
	"Reimport"	You can find additional information on this topic in the "COMOS Automation Interfaces" manual, keyword "Reimporting the contents of Access/Excel files or directories".
	"Native object XML import export"	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "Exchanging data with NOXIE".
	"Full-text search"	See also chapter Using the full-text search (Page 292).
	"Properties tree"	See also chapter Editing several objects in the properties tree (Page 243).
	"Status window"	You can find more information on this topic in the "P&ID Operation" manual, keyword "Status window".
	"Symbol and document preview"	See also chapter Displaying a preview of symbols and working areas (Page 362).
	"Window list"	See also chapter Closing tabs or switching between tabs using the window list (Page 152).
	"Favorites"	See also chapter Working with favorites (Page 139).
	"Static new menu"	See also chapter Creating multiple objects via the static new menu (Page 209).

16.3 Navigator

16.3.1 Structure of the Navigator

Overview



①	Area for switching between projects and working layers
②	Structure area
③	Detail area


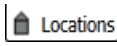
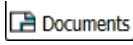
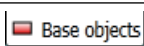
Area for switching between projects and working layers

In the lists, you can see all the projects and working layers that are open in the current session.

See also chapter Switching between open projects (Page 170) and chapter Switching between open working layers (Page 176).

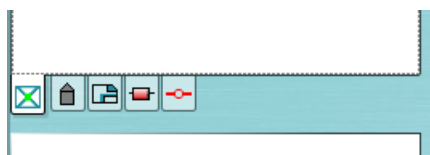
Structure area

In the structure area, you can see several tabs. Here, you can manage the project data in object trees:

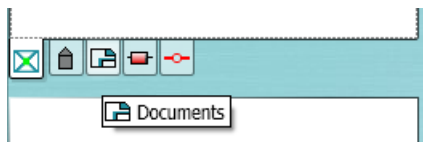
Icon	Tab	Description
	"Units"	For unit engineering
	"Locations"	For location engineering
	"Documents"	Alternative means of access to the documents on the "Units" and "Locations" tabs
	"Base objects"	Access to the following objects: <ul style="list-style-type: none"> • Read: <ul style="list-style-type: none"> – The base objects of the base project – The templates of the base project from the "Units" and "Locations" tabs – For administrators: Standard tables for the base project and system project • Write: <ul style="list-style-type: none"> – Local base objects – For administrators: Local standard tables

Which objects you see in the object tree depends on the following factors: See also chapter Access to objects (Page 46).

If you reduce the size of the Navigator horizontally, the captions of the tabs are automatically hidden:



If you hover the mouse pointer over the header, the hidden text is displayed as a tooltip:



Detail area

The detail area can display the following tabs:

- A series of tools to support your work in the Navigator or in the working area, e.g. the "Favorites" and "Status window" tabs.
See also chapter Opening tools of the detail area (Page 150).
- Tabs which show nodes from the structure area of the Navigator in the detail area. See also chapter Displaying nodes from the structure area of the Navigator in the detail area (Page 148).
- The "Details" tab, which shows the substructure of the object currently selected in the structure area.

See also

COMOS user interface (Page 153)

Setting up the Navigator (Page 163)

Showing and hiding structure area tabs and the "Details" tab (Page 165)

Context menu in the Navigator (Page 424)

16.3.2 Navigator text

Content

The Navigator text is the character string that you see in the Navigator. It consists of the following elements:

- `Label description`
- For engineering objects with unit reference, location reference, etc.: `Label description >> reference`
If the object has several references: `Label description >> ...`

Note

Name instead of label

If an object does not have a label, the name is used.

Alternatively, administrators can calculate the Navigator text using a script block. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "NavigatorText()".

Display of the references

Whether the references are displayed and with which delimiters depends on the project properties. You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Display of referenced objects" and "Prefix and delimiter".

Text coloring

Status display, history display, and working layer display ...	Description
Activated	The icon and text of the objects are colored according to their status.
Deactivated	The text of locked objects is colored gray.

See also






Setting general references (Page 225)



16.4 Object icons reference

16.4.1 Overview of the object icons

Icons

Objects have the following icons in the structure tree of the Navigator and in other user interfaces.

Object	Icon	Description
Project		Is displayed when a project is open.
Working layer		Displayed when a working layer of a project is open.
Engineering object	-	Depends on class and subclass. See also chapter Icons for base and engineering objects (Page 415).
Base object	-	
Document	-	Depends on document type. See also chapter Icons of the document types (Page 422).
Connector	-	In the COMOS modules, there are various connector types and subtypes. Example: "P&ID" subtype:  You can find more information on this topic in the manuals for the modules.
Attributes tab		Collects attributes.
Attribute		See also chapter Attribute fundamentals (Page 53).

Object	Icon	Description
DocObj object		The object saves the information on which interactive report the engineering object is placed. See also chapter DocObj objects (Page 82).
Standard table		Only on the "Base objects" tab. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Configuring standard tables".

The icons can have additional icons. See also chapter Context-dependent additional icons (Page 423).

See also







Icon coloring (Page 421)

16.4.2 Icons for base and engineering objects








Principle

The icons depend on the class and subclass of the base object. The icons of the base objects and the derived engineering objects are the same, but the coloring is different. See also chapter Icon coloring (Page 421).

Icons

Icon	Class	Subclass	Description
	"Action"		All objects of the "Action" class are administration objects and are used to search for or to manipulate data. The "Action" class itself has no effect in COMOS. The capabilities of an action object are determined by its subclass.
	"Action"	"Decision table"	This is used to modify or replace other objects based on predetermined criteria. Example: If you created a motor in an assembly group, you can use a decision table to replace the fuses according to the power. In electrical engineering, this is a parameterized macro.
	"Action"	"Import"	External tables can be imported into COMOS and the data of the table can be stored in the form of base objects or engineering objects. You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "Standard import: Blank for XML".
	"Action"	"Object query: <System type>"	Queries are tools used to find and change objects. There are separate queries for each of the most important system types and predefined queries for specific tasks.
	"Action"	"Script"	This subclass is not evaluated.
	"General"		An object of this class is generally visible on all tabs in the Navigator of the engineering project. You can find more information on this topic in the "COMOS Platform Administration" manual.

Icon	Class	Subclass	Description
	"Unit"		A group of technical devices that belong together in functional terms, or the topmost logical grouping that appears meaningful to the user in the technical area. Units and locations are used to organize labeling systems. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Identification systems".
	"Unit"	"Blackbox"	This subclass is not evaluated any further in current COMOS versions.
	"Unit"	"Category"	Devices can be sorted automatically with the help of "Categories" instead of only being globally assigned to a unit. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Categories".
	"Connectors"		A connector is a connecting point at which one technical product can be appropriately connected with another technical product. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "System type connector".
	"Assembly"		A pool of objects, mostly prewired or preconnected. In electrical engineering, this is a component circuit. The class itself is not evaluated. Recommended when you use "Templates/assemblies" technology. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Templates and uses".
	"Assembly"	"Segment"	This subclass is used for engineering tasks.
	"Data set"		P&ID module, Isometrics module: Objects of this class are only used as carriers of a graphic. You can define symbols for the base object in the usual way and then place them on an interactive report. However, no engineering object is created. Design diagrams: These objects are ignored in the collision check. Other modules: The class forms an object in the normal way.
	"Data set"	"Component"	FEED module: This subclass is not queried in the software. The "PEClasses" attribute is used instead. You can find more information on this topic in the "FEED" manual, keyword "Component". Isometrics module: Inspection objects must have this subclass.
	"Data set"	"User address"	The user addresses of workstations in the network can be stored here. This technique is used in the PLC area. You can find additional information on this topic in the "EI&C Administration" manual, keyword "User address".
	"Document"		Class for evaluating and interactive documents You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating document type".
	"Document group"		Logical unit within the "Document" tab of COMOS. If the unit or location view is linked to a document group, documents that have been created according to a particular naming convention are referenced automatically. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Document base data".

Icon	Class	Subclass	Description
	"Element"		<p>Constituent part of a device that usually does not function autonomously. Elements cannot be ordered individually. Exceptions are terminals. Although terminals have the "Element" object class, they behave like an object of the "Device" type.</p> <p>Incorporate elements using the "Elements" tab. Device requests are the main application area for objects in the "Element" class and without a subclass.</p> <p>Elements are treated in a special way at the following points in COMOS:</p> <ul style="list-style-type: none"> • Base objects, "System" tab, "Unique label": • Default for <code>FALSE</code> class, otherwise <code>TRUE</code>. • Specialties for generating the name / label. • Function "Device.DetailType" • Owners with class "Element" are skipped. • The name/label is not checked across folders • Special feature with projections for copying structures • Attributes, link type: "Via connector": • If the connected object does not have the source attribute and is of class "Element", the attribute is also searched at the owner.
	"Element"	"Break"	No longer used.
	"Element"	"Wire"	<p>Wires are elements of cables. In addition, objects of this class are used for screens in COMOS.</p> <p>You can find additional information on this topic in the "EI&C Administration" manual, keyword "Base objects for cables".</p>
	"Element"	"Equipment"	<p>If you build three-level terminal blocks, use this subclass.</p> <p>You can find more information on this topic in the "EI&C Administration" manual, keyword ""Equipment" subclass".</p>
	"Element"	"Graphic"	<ul style="list-style-type: none"> • EE module: Objects of this subclass are only used as a carrier of a graphic. No engineering object is created. You can find more information on this topic in the "COMOS Automation Administration" manual, keyword "Symbol design". • P&ID module: Objects of this subclass are always created underneath the P&ID diagram. You can find additional information on this topic in the "EI&C Administration" manual, keyword "Additional graphics". • Other modules: This subclass is not evaluated.
	"Element"	"Terminal"	<p>Terminals are elements of terminal strips.</p> <p>You can find more information on this topic in the "EI&C Administration" manual, keyword ""Terminal" subclass".</p>
	"Element"	"Pipe"	<p>Part of the pipe structure in P&ID planning. Pipe segments are based on the subclass "Pipe".</p> <p>You can find additional information on this topic in the "P&ID Administration" manual, keyword "Configuring a master object of the pipe segment".</p>
	"Element"	"Segment"	<p>Defines a unit and/or a location for a subarea of a diagram. Works the same way as class "Device", subclass "Segment".</p> <p>You can find more information on this topic in the "EI&C Administration" manual, keywords "ID segment", "Polygon", and "Sheet areas EI&C".</p>



16.4 Object icons reference

Icon	Class	Subclass	Description
	"Element"	"Plug"	Plugs are elements of plug strips. You can find additional information on this topic in the "EI&C Administration" manual, keyword "Plugs".
	"Element"	"Nozzle"	Area of application: P&ID Is used for nozzles ("NOZZLE"). You can find more information on this topic in the "P&ID Administration" manual, keyword ""Nozzles + connections" base object".
	"Function"		Synonym: COMOS positioning function The function describes the measuring or positioning tasks and the processing functions in a position. It corresponds to a "measuring point" in the P&ID scheme.
	"Function"	"Actuator"	An actuating component in P&ID planning, such as a valve. It is an add-on part as opposed to the actuator (insert), and the pipe remains in one piece. You can find more information on this topic in the "P&ID Operation" manual, keyword "Overview of functions".
	"Function"	"Actuator (insertion)"	Area of application: P&ID An actuating component in the P&ID planning. If no attribute for the separation of a pipe is present at the component, the subclass also serves for the detection of segment-cutting components. You can find more information on this topic in the "P&ID Operation" manual, keyword "Overview of functions".
	"Function"	"Instrumentation"	Area of application: P&ID Devices in P&ID diagrams, for example, a measuring point. You can find more information on this topic in the "P&ID Operation" manual, keyword "Overview of functions".
	"Functional component"		Functional components are used in functional diagrams. Example: Function logic (AND link, OR link). You can find additional information on this topic in the "Logical" manual, keyword "Function block-specific definition".
	"Functional component"	"Action block"	Is used in functional diagrams. When you are planning step sequences, an action block always forms the termination. You can find additional information on this topic in the "Logical" manual, keyword "Step sequence".
	"Functional component"	"Step"	Is used in functional diagrams. You can find additional information on this topic in the "Logical" manual, keyword "Step sequence".
	"Functional component"	"Transition"	Is used in functional diagrams. You can find additional information on this topic in the "Logical" manual, keyword "Step sequence".
	"Functional component"	"Visualization element"	This object represents a graphical / visual element of the subsequent unit controller.
	"Functional element"		No longer used.
	"Functional element"	"Instrumentation"	-
	"Device"		A device is the smallest separately labeled technical product that fulfills a task together with other products. Synonym: Resource. Thus in COMOS, "devices" are always part of a "unit" or a "location".

Icon	Class	Subclass	Description
	"Device"	"Actuator (insertion)"	Area of application: P&ID Identifies P&ID components which are inserted in pipes. Example: Valves If no attribute for the separation of a pipe is present at the component, the subclass also serves for the detection of segment-cutting components.
	"Device"	"Equipment"	
	"Device"	"Terminal strip"	Terminal strips connect devices and can have bridges. A terminal strip can be of any desired size. You can find more information on this topic in the "EI&C Administration" manual, keyword "Terminal/plug strips".
	"Device"	"Cable"	A cable is a bundle of wires. You can find additional information on this topic in the "EI&C Administration" manual, keyword "Cables".
	"Device"	"Logical potential"	A logical potential is used to pass on a potential value from one connector to the next. You can find more information on this in the "EI&C Administration" manual, keyword "Potential information".
	"Device"	"Potential"	A potential represents a physical potential, hence a potential rail. For that reason a potential can have any desired number of connectors. You can find more information on this topic in the "EI&C Administration" manual, keyword "Potential".
	"Device"	"Pipe"	Alternative for the pipe structure in the P&ID planning. Is no longer used.
	"Device"	"Contactor/Relays"	This detail class initiates the creation of a contact mirror at an object. A contact surface is created for relays or contactors. You can find more information on this topic in the "EI&C Administration" manual, keyword "Relays and contactors".
	"Device"	"Segment"	Similar to class "Location", subclass "Segment", but was extended to cover locations. Objects of this subclass are used as ID segments. An engineering object is created and a DocObj is generated. Segments are used in almost all planning types.
	"Device"	"Plug strip"	Plug strips connect devices by means of a plug and socket. Plug strips typically do not have bridges. You can find more information on this topic in the "EI&C Administration" manual, keyword "Plug strips".
	"Device"	"Nozzle"	Behaves like class "Element", subclass "Nozzles".
	"Device"	"Consumer"	Obsolete. Objects with other subclasses can also be consumers, for example, contactors (subclass Coils/Relays). You can find more information on this topic in the "EI&C Operation" manual, keyword "Consumers".
	"Device request"	-	Obsolete; now solved via the "Request" property of base objects.
	"Costs"	-	Any given costing unit. Cost objects are also used during the mounting phase. You can find more information on this in the "EI&C Administration" manual, keyword "Mounting catalog".
	"Mounting"	-	Here you enter the time expenditure or a special note concerning the mounting of a device or a unit. You can find additional information on this topic in the "EI&C Administration" manual, keyword "Mounting catalog".

16.4 Object icons reference

Icon	Class	Subclass	Description
	"Location"	-	The location or mounting position of a technical module. Often also understood as a functional allocation.
	"Location"	"Slot"	A subarea within a rack and the smallest logical unit in a control cabinet. Holds I/O cards, for example.
	"Location"	"Rack"	A subarea within a control cabinet. Is used in cabinet engineering.
	"Location"	"Category"	Devices can be automatically sorted into objects of this class instead of only being globally assigned to a unit. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administering categories".
	"Location"	"Room"	Represents the physical room in which parts of a unit controller are installed.
	"Location"	"Control cabinet"	Represents a physical control cabinet.
	"Location"	"Segment"	Similar to class "Device", subclass "Segment", but has been extended to cover locations. Objects of this subclass are used as ID segments. An engineering object is created and a DocObj is generated.
	"Quality assurance"	-	A blank information block that can be used for any desired internal purposes.
	"Revision"	-	In COMOS this is the means used to check the versions of documents on the basis of defined criteria (the elements in a revision object) and to correct or release them as necessary. You create the revision scheme yourself. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Overview of the revision base objects".
	"Signal"	-	Signals are processed at various places in COMOS. A COMOS position can have multiple signals. There is also an "Signal" item with various subtypes in the "Type" of a connector. You can find more information on this topic in the "EI&C Administration" manual, keyword "Connector: Signal from owner".
	"Point"	-	A position designates a control or a process task.
	"Point"	"Equipment"	Equipment in the P&ID planning. You can find more information on this topic in the "P&ID Operation" manual, keyword "Overview of positions".
	"Point"	"Material stream"	All modules: no evaluation of this subclass. The "PEClasses" attribute is used instead. You can find more information on this topic in the "FEED" manual, keyword "Material stream".
	"Point"	"Pipe"	Area of application: P&ID A part of the pipe structure. Pipe sections are based on the subclass "Pipe". You can find more information on this topic in the "COMOS Process" manual, keyword "First level: Pipe".
	"Cable route"	-	Is used to group spatial wires between two locations. When you connect two objects on the installation diagram, the line that is drawn is automatically converted into a route upon conclusion with a right-click. You can find additional information in the "EI&C Administration" manual, keyword "Base objects for tray, ducts, channel parts".
	"Processing"	-	This object is used in connection with signal processing.
	"Maintenance"	-	A freely available parameter that is often defined as cost per unit of time.
	"Time"	-	A freely available parameter with which you can define time ranges or points in time.



Icon	Class	Subclass	Description
	"Accessory"	-	Is not specifically evaluated. In practice, an accessory is a device that is available for another particular device. As their most important property, therefore, accessories have an assignment to a device from the device catalog.
	"Accessory"	"Equipment"	Is not specifically evaluated.

See also

- Classes and subclasses (Page 51)
- Icons of the document types (Page 422)

16.4.3 Icon coloring

Coloring of base objects

Color	Icon	RGB value	Description
Red		255,0,0	You can derive engineering objects from these base objects.
Pink		255, 200, 200	These base objects structure the base data. You cannot derive engineering objects from them. The base object has the value "Group" or "Structure" in the "Creation option" field on the "System" tab.

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creation option".

If base objects are entered for a different base object on the "Elements" tab and have the creation option "Normal" or "Block", their icons have the same colors as on the "Elements" tab. See below.

Coloring for engineering objects

As determined by the class and subclass.

Coloring on the "Elements" tab

Engineering data elements: As determined by the class and subclass.

Other elements:

Color	Icon	RGB values	Description
Pink		255, 200, 200	Structuring base object, see above There are elements located below it which you can create in the engineering data.
Red ¹⁾		255,0,0	For engineering objects: Only below elements of structuring base objects You can create these elements in the engineering data
Light green		(0,255,0)	Virtual element You can derive one or any number of elements in the engineering data.
Dark green ²⁾		(0,125,0)	The element is created in the engineering data automatically. You can delete it there.
Turquoise ²⁾		(31,143,159)	The element is created in the engineering data automatically. You cannot delete it.

1) Only in the properties of engineering objects

2) Only in the properties of base objects

See also chapter Elements (Page 60).

You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""Virtual" control group".

Status display, history display, and working layer display

When status display, history display, or working layer display is activated, the object icons are colored according to their status.









See also

Icons for base and engineering objects (Page 415)

16.4.4 Icons of the document types

Icons

Icon	Document type	More information
	Evaluating report template	See also chapter Report template (Page 74). You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of report templates".
	Interactive report template	
	Evaluating report	See also chapter Evaluating reports (Page 83) and section Working with evaluating reports (Page 367).

Icon	Document type	More information
	Interactive report	See also chapter Interactive reports (Page 73) and section Working with interactive reports (Page 307).
	Grouping of documents (Package)	You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Overview of document types in COMOS" and "Creating, editing, and grouping document types".
	Reference document (Reference)	
	Unknown document (Undefine)	
	General document (GeneralDocument)	See also chapter Change tab for the "General" and "PROII" document types (Page 445).
	S7 Block Interface EPLAN Electric P8 General XML Image document JT Viewer Net Template Editor Sequence Designer document Sequence Designer template document Smartsketch Tiff document	You can find more information on this topic in the manuals for the modules.
	XML document	You can find more information on this topic in the "COMOS Platform Administration" manual, keywords "Overview of document types in COMOS" and in the "COMOS Platform Interfaces" manual, keyword "XML connectors".
	XML connector template	

External documents have the icon defined by their application.




See also

Change tab (Page 442)









16.4.5 Context-dependent additional icons

Overview

The following table shows the additional elements that can have object icons. The icon of a base object or an engineering object with the "Device" class is used as the basic icon; for documents, the icon of an evaluating report is used:

Icon	Description	See also chapter ...
	Unchanged basic icon	-
	Not release-relevant object	Excluding objects from release (Page 191)
	Request	Requests and implementations (Page 65)

16.5 Context menu commands

Icon	Description	See also chapter ...
	With placing information activated: An object placed on an interactive report	Showing placing information (Page 166)
	Link to an object	Creating links (Page 130)
	Local base object ¹⁾	Base objects (Page 47)
	Element with the "Block" property	Elements (Page 60)
	Inherited object ¹⁾	"COMOS Platform Administration" manual, keyword "Inheritance and forwarding of objects and information"
	Checked-in object ¹⁾	
	Projected object ¹⁾	Copying a structure (Page 109)
	Reference document on the "Documents" tab	Automatic referencing of documents (Page 71)

¹⁾ Only used in the base data.

16.5 Context menu commands

16.5.1 Context menu in the Navigator

Principle

Which commands you can call depends on the object for which you have called the context menu and which rights you have.

Important commands on the objects in the Navigator

Command	Description / see also chapter ...
"Working layers/history > ..."	
"... > Recalculate the working layer display mode"	Recalculates the working layer display. Enabling and disabling the working layer display mode (Page 178)
"... > Release-relevant"	Excluding objects from release (Page 191)
"... > Check in to current working layer"	Checks the object into the working layer. Requirements: You have the "Write" object right for the selected object.
"... > Accept collision"	Identifying and resolving collisions (Page 190)
"... > Undo deletion"	Undoing the deletion of objects with the "soft delete" marker (Page 193)
"... > Compare object"	Comparing an object with the superordinate layer (Page 183)
"... > Object history"	Checking the object history (Page 185)

Command	Description / see also chapter ...
"... > Object status"	Displaying the detailed object status for working layers and histories (Page 182)
"... > Remove soft-deleted objects in the released area"	Only in the released area Objects with the "Soft delete" marking get the "Hard delete" marking.
"... > Restore"	Identifying and resolving collisions (Page 190) Restoring data from superordinate layers (Page 192)
"Cut"	Moving (Page 131)
"Print"	Only on documents Printing documents (Page 268)
"Properties"	Opening properties (Page 128)
"Paste"	See "Copy" and "Cut".
"Copy"	Simple copying in the Navigator without switching projects (Page 214) Simple copying in the Navigator and switching projects (Page 215)
"Delete"	Deleting (Page 134) Deletion in working layers and in the released area (Page 32)
"Navigate"	Navigating (Page 126)
"New"	Creating engineering objects via the context menu (Page 203)
"Rights"	Displaying user rights in a project (Page 172)
"Copy structure"	Copying a structure (Page 109)
"Find"	Using Navigator search (Page 393)
"Paste link"	Creating links (Page 130)
"Move"	Moving (Page 131)

Important commands for the Navigator

Command	Description / see also chapter ...
"Unload all dynamic icons"	Dynamic icons are the icons which have been assigned to the objects via their base objects. They are loaded if necessary. They consume a lot of GDI resources. Windows controls the screen with the GDI resources. COMOS informs you if your GDI resources are almost used up. You can release GDI resources via this command.
"Working layer display"	Enabling and disabling the working layer display mode (Page 178)
"Navigator settings"	"Navigator settings" window (Page 476)
"History display"	Activating and deactivating the history display (Page 184)
"Legend"	Displaying the color legend for the working layer display mode and the history display (Page 179)
"Status display"	Activating and deactivating the status display (Page 258) Managing object status (Page 252)

See also

Structure of the Navigator (Page 411)

Configuring the working layer display mode and the history display (Page 180)

16.5.2 Context menu of the "Open project" tab

Principle

Which commands you can call depends on your rights.

Important commands

Command	Description
"Recalculate the working layer display mode"	See also chapter Enabling and disabling the working layer display mode (Page 178).
"Properties"	See also chapter Properties of a working layer (Page 487).
"Properties > ..."	
"... > View"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Checking or editing project properties".
"... > Edit"	
"Paste"	See "Copy".
"Remove working layer write protection (after release)"	See also chapter Releasing a working layer (Page 198).

Command	Description	
"Export"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of projects and working layers".	
"Release to the released area"	See also chapter Releasing a working layer (Page 198).	
"Release to the superordinate layer"		
"Import"	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of projects and working layers".	
"Copy"	<ul style="list-style-type: none"> Working layers: Copying working layers (Page 196) Projects: You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Copying a project". 	
"Delete"	<ul style="list-style-type: none"> Working layers: Deleting working layers (Page 197) Projects: You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Deleting a project". 	
"New > ..."		
	"... > Project"	Projects: You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a project".
	"... > Default <name of project structure>"	
	"... > Working layer"	
"Open"	Opens the selected working layer. See also chapter Opening the working layers of a project (Page 175).	
"Rights"	See also chapter Displaying user rights in a project (Page 172).	
"Copy text"	To copy texts via the clipboard	
"Paste text"		



See also

"Open project" tab (Page 462)






16.5.3 Context menu of the "Elements" tab

Context menu without selection of an element

If you click in the white area of the "Elements" tab in the context menu, the following commands are displayed:








Icon	Command	Description
	"New object (below master)"	Opens the properties of a new engineering object. The new element is created below the engineering object (master). See also chapter Creating new elements (Page 238).
	"Paste"	Creates a new element under the master based on the clipboard. You must first copy an engineering object.

16.5 Context menu commands

Icon	Command	Description
	"Refresh"	Refreshes the tab.
	"Navigate"	See also chapter Navigating (Page 126).
	"Sort by name"	Sorts the contents of the tab by name.
	"Sort by label"	Sorts the contents of the tab, including the virtual elements, by label.
	"Sort by description"	Sorts the contents of the tab, including the virtual elements, by description.

Context menu with selection of an element

If you select an element on the "Elements" tab, the following commands are displayed in the context menu:

Icon	Command	Description
	"Create"	Requirements: There are virtual elements available. See also chapter Elements (Page 60). Creates a new element based on the selected element. See also chapter Deriving new elements from virtual elements (Page 238).
	"Create N ..."	Requirements: There are virtual elements available. See also chapter Elements (Page 60). Creates any number of new elements based on the selected element. See also chapter Deriving new elements from virtual elements (Page 238).
	"Change base object"...	You can assign a new base object to the selected element. See also chapter Changing the base object of elements (Page 240).
	"Navigate"	See also chapter Navigating (Page 126).
	"New"	See also chapter Creating engineering objects via the context menu (Page 203).
	"Delete"	See also chapter Deleting (Page 134).
	"Cut"	Cuts the selected element.
	"Copy"	Copies the selected element.
	"Paste"	Pastes a cut or copied element.
	"Properties"	See also chapter Opening properties (Page 128).

See also

Managing elements (Page 237)

16.5.4 Context menu of the "Connectors" tab

Note

The context menu can contain different commands, depending on the column.

List of the menu commands

Command	Description
"Connect with"	Displays the connectors of the object from the clipboard.
"Connection"	<p>Available only in the "Connected with" column:</p> <ul style="list-style-type: none"> • "Disconnect" Cuts the connection between two connectors. The wire information in the "via" field is likewise deleted. • "Disconnect (retain wires)" Cuts the connection between two connectors. The wire information in the "via" field is retained. See also under the "Wire" command. • "Disconnect (keep wires at target)" Cuts the connection between two connectors. The wire information is retained in the "Via" field on the target object. • "Cut" Cuts the counterpart connector, including the wire information. The counterpart connector can now be linked to another connector via the "Paste" menu command. • "Paste" The connector is connected to the connector from the clipboard. <p>See also chapter Disconnecting connectors via the "Connectors" tab (Page 250).</p>
"Wire"	<p>Available only in the "via" column.</p> <ul style="list-style-type: none"> • "Disconnect" Deletes the information on the wire at the connector. • "Cut" Cuts the wire. The wire can be assigned to another connector via the "Paste" menu command. • "Paste" Pastes the wire from the clipboard.
"Create auxiliary connectors"	<p>Creates auxiliary connectors for a connector. This allows users to attach multiple wires to a terminal.</p> <p>You can find more information on this topic in the "EI&C Administration" manual, keyword "Auxiliary connectors/Array connectors".</p>
"Cross section" "Color" "Type info"	<p>The corresponding details are allocated to a connection. To view the information in the table, the user must display the corresponding column.</p>

16.5 Context menu commands

Command	Description
"Columns"	<ul style="list-style-type: none"> • "Reset" Removes all filters and other modifications from the table. • "<Column name>" Displays the selected column. A check appears alongside the displayed columns. Selecting it again hides the column again.
"Navigate"	Selects the column object in the Navigator.
"Refresh"	Refreshes the tab.
"Delete (connectors)"	The command is only available for an auxiliary connector. The auxiliary connector is deleted.
"Properties"	Opens the properties of the cell object.

See also

Connection options for connectors (Page 246)

16.5.5 Context menu for interactive reports

Principle

The commands you see depend on the following factors:

- Whether the context menu was called for the working area or for one or more graphical elements and symbols (selection)
- Whether the report was opened as read-only

Important commands

Command	Can be called for ...	Description
"Refresh"	Selection	Refreshes the display of the symbol.
"Cut"	Selection	See also chapter Copying and cutting in interactive reports (Page 356).
"Properties"	Working area Selection	See also chapter Opening properties (Page 128).
"Paste"	Working area Selection	See also chapter Copying and cutting in interactive reports (Page 356).
"Paste at original position"	Working area Selection	See also chapter Copying and cutting in interactive reports (Page 356).
"Settings > ..."	Selection	The subcommands you see depend on the report. You can find more information on this topic in the manuals for the modules.

Command		Can be called for ...	Description
	"... > Label visible"	Selection	Shows the device label on the symbol. You can find more information on this topic in the "COMOS EI&C Operation" and "COMOS EI&C Administration" manuals.
	"... > Fixed"	Selection	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using search text to define placeholder symbols".
	"... > Background"	Selection	If two symbols are overlapping, the selected symbol is moved to the background or foreground.
	"... > Foreground"		
	"... > Search text"	Selection	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Using search text to define placeholder symbols".
"Grouping"		Selection	See also chapter Working with groupings (Page 354).
"Inconsistencies"		Working area Selection	See also chapter Checking contents and correcting inconsistencies (Page 366).
"Copy"		Working area Selection	See also chapter Copying and cutting in interactive reports (Page 356).
"Create template"		Working area Selection	See also chapter Creating templates from placed objects (Page 365).
"Place template"		Working area	See also chapter Placing objects by inserting a template (Page 316).
"Delete"		Working area Selection	See also chapter Deleting in interactive reports (Page 359).
"Navigate"		Working area Selection	See also chapter Navigating (Page 126).
"New"		Working area Selection	See also chapter Placing objects via the context menu of a symbol (Page 315).
"Options > ..."			The subcommands you see depend on the report. The commands listed below are used in many reports. You can find more information on this topic in the manuals for the modules.
	"... > Export"	Working area	Depends on the module
	"... > Release"	Selection	Releases a locked symbol for editing.
	"... > Graphical properties"	Selection	See also chapter Editing the graphical properties of a symbol (Page 352).
	"... > Import"	Working area	Depends on the module
	"... > Construction mode"	Working area	Activates the "Construction mode" button in the toolbar of the report. See also chapter Toolbar in interactive reports (Page 451).
	"... > Scale"	Working area	See also chapter Setting the scale (Page 311).
	"... > Restore the original symbol"	Selection	See also chapter Restoring the original symbol (Page 352).
	"... > Lock"	Selection	Locks the symbol for editing.
	"... > Edit symbol"	Selection	See also chapter Overwriting inherited symbols locally (Page 351).
	"... > Mirror symbol on own X-axis"	Selection	See also chapter Mirroring symbols (Page 345).

16.5 Context menu commands

Command	Can be called for ...	Description
"... > Mirror symbol on own Y-axis"	Selection	
" ... > Symbol rotation"	Working area	See also chapter Changing the rotation angle for rotating using the <Space> key (Page 353).
"... > Edit symbol texts"	Selection	See also chapter Editing parameters of the symbol texts (Page 353).
"Check"	Working area	See also chapter Checking contents and correcting inconsistencies (Page 366).
"<Number> Delete objects outside"	Working area	Deletes all objects and graphical elements which are outside the working area.

More commands

More commands are possible, depending on the following factors:

- Report template
- Base object of the engineering object for whose symbol the context menu was called

You can find more information on this topic in the manuals for the modules.







See also


Structure of interactive reports (Page 449)

16.5.6 Context menu for queries in simple run mode

Context menu of the column header

The following commands are displayed in the context menu of the column header in simple run mode.

Icon	Command	Description
	"Search/Replace"	Finds and replaces the desired term in the query.
-	"Run mode > ..."	See also chapter Changing the run mode of a query (Page 374).
	"... > Simple"	
	"... > Extended"	
	"Print > ..."	Prints your query.
	 "... > Print"	
	"Export > ..."	See also chapter Exporting queries (Page 378).
	 "... > Microsoft Excel"	
	"Columns ..."	See also chapter Configuring columns (Page 376).










Icon	Command	Description
-	"Reset"	Restores the preconfigured settings.
	"Save"	See also chapter Configuring queries in simple run mode (Page 376).

Context menu in the object browser

The following commands are displayed in the context menu of the object browser in simple run mode.

Note

The context menu can contain different commands, depending on the column.

Icon	Command	Description
	"Remove pointer"	Deletes the reference. See also chapter Setting references (Page 131).
	"Edit (F2)"	Edits the desired field.
	"Copy text"	To copy texts via the clipboard.
	"Paste text"	See also chapter Copying, cutting, and pasting texts (Page 134).
	"Refresh (selected)"	Refreshes the selected field.
	"Navigate > ..."	See also chapter Navigating (Page 126).
	"Delete"	See also chapter Deleting in queries (Page 379).
	"Copy"	See also chapter Copy fundamentals (Page 104).
	"Properties"	See also chapter General properties of engineering objects (Page 52).

See also

Queries (Page 111)

16.6 Tabs

16.6.1 Properties of engineering objects

16.6.1.1 Structure of the properties of engineering objects

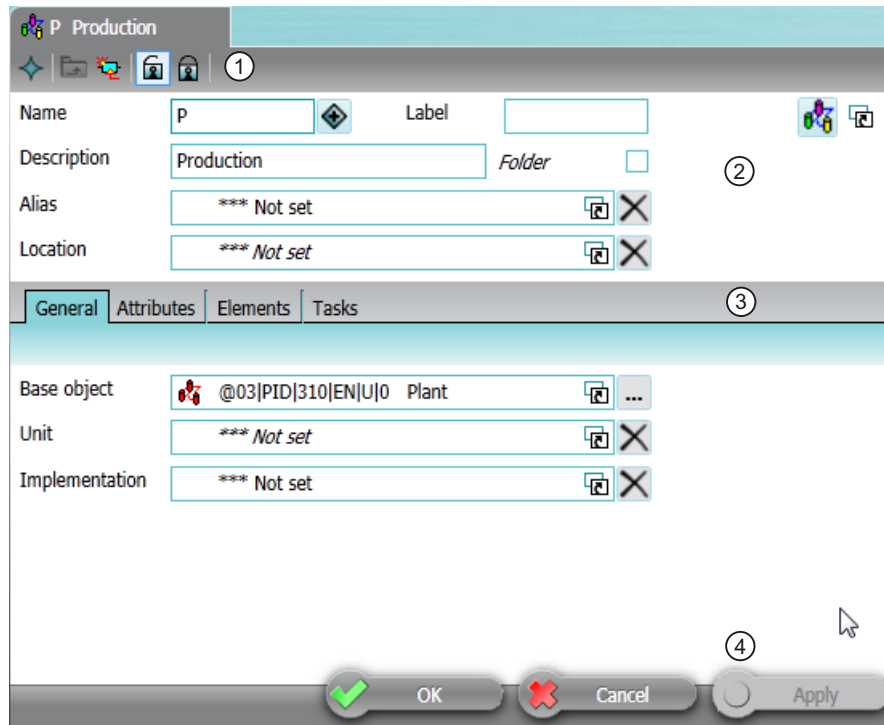
Call

Open the properties of an engineering object. See also chapter Opening properties (Page 128).

Structure

Structure and content of the properties of an engineering object depend on the configuration of the base object.

In principle, the properties have the following elements:



- ① Toolbar
See also chapter Toolbar for engineering objects (Page 436).
- ② General area
The content of the general area can also be integrated in the "General" tab.
See also chapter Area for general data (Page 437).
- ③ Subtabs
- ④ Standard buttons for saving and closing the properties

Subtabs

Which tabs you see depends on the configuration of the base object. There are usually the following tabs:

Tab	Comment	See also chapter ...
"General"	The content of the tab can also be integrated into the general area.	Area for general data (Page 437)
"Attributes"	Instead of being subtabs of the "Attributes" tab, the attributes can also be located on tabs on the first level.	Editing attributes (Page 228)
"Elements"	-	Purpose of the "Elements" tab (Page 237)









16.6 Tabs


Tab	Comment	See also chapter ...
"Connectors"	-	Purpose of the "Connectors" tab (Page 241)
"Status"	Only relevant to object-based status types.	"Status" tab (Page 438)

Depending on the technical modules, there may be other tabs.

16.6.1.2 Toolbar for engineering objects

Buttons on the toolbar

Icon	Tooltip	Description
		Opens a submenu with the same navigation commands as are available for the object in the Navigator. See also chapter Context menu in the Navigator (Page 424).
	"Owner"	Opens the properties of the owner. For engineering objects, this is deactivated directly under the project root.
	"New; accept links and attributes"	Creates a copy of the engineering object in parallel with the engineering object. See also chapter Creating a copy of an engineering object from the properties (Page 213).
 	"Create base object 'Equipment Data'" "Back to device request"	For working with product data and device requests when special or unique production is required You can find additional information in the "EI&C Operation" manual, keyword "Creating a manufacturer device for a request". Not available for all engineering objects.
	"Released" and "Locked"	Locks the object so that it cannot be changed any more, or releases it again. See also chapter Locking engineering objects (Page 224).
	"Object locking"	Only relevant for your system administrators. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Lock-lock mechanism and system object identification".
	"System object"	Only relevant for your system administrators. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Lock-lock mechanism and system object identification".

Icon	Tooltip	Description
	"Load/save scheme"	<p>Only for the "Connectors", "Menu", and "Wires" tabs</p> <p>Opens a menu which governs the scheme used for sorting and filtering the table:</p> <ul style="list-style-type: none"> • "Screen scheme" <ul style="list-style-type: none"> – "Load" <ul style="list-style-type: none"> Loads the saved scheme. – "Save" <ul style="list-style-type: none"> Saves the current scheme for the object so that it can be reused at the object. – "Delete" <ul style="list-style-type: none"> Deletes the scheme and uses the default scheme. • "Scheme per object" <ul style="list-style-type: none"> – Activated <ul style="list-style-type: none"> The scheme saved for the object is loaded automatically. – Deactivated <ul style="list-style-type: none"> The default scheme is used.
-		Buttons for filtering and sorting in the "Elements" and "Connectors" tabs.

See also

Structure of the properties of engineering objects (Page 434)

16.6.1.3 Area for general data

See also chapter Structure of the properties of engineering objects (Page 434).

Requirements

The base object of the engineering object allows for a general area. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword ""General (up)" component".


The content of the general area can also be integrated in the "General" tab.

Control elements

The content of this area depends on the configuration of the base object. Possible control elements:

Control element	Description
"Name" field	See also chapter Editing general data (Page 221).
"Generate name/label automatically" button	
"Label" field	
"Description" field	
"Folder" option	See also chapter Declaring objects as folders (Page 223).

16.6 Tabs

Control element	Description
"Alias" or "Original" fields	See also chapter Setting general references (Page 225).
"Unit", "Position", "Function" or "Signal" fields	
"Location" field	
"Request" field	
"Implementation", "Target" or "Cable route" fields	
"Base object" field	
"Set reference ..." button	Next to "Base object" field Opens the "Look up manufacturer device for" window. You can find additional information on this topic in the "EI&C Operation" manual, keyword "Allocating a single device request to a manufacturer device".
<Object icon>	Allows you to use drag&drop to move the engineering object to another area, for example into the start field of a query.
	If you use drag&drop to move an object under this field, a link field with a corresponding link is displayed. Requirements: The engineering object uses the standard configuration of the database.

16.6.1.4 "Status" tab

Purpose

Users can manage the status of the engineering object by opening the "Status" tab.

User interface

Each status type has the following control elements:

Control element	Description
<Name of the status>	The description of the status base object under "@90 > A40 > Y10 Active status".
"Status value" field	List of possible status values configured at the status base object.
"Set" button	Checks the status value and sets a status value. See also chapter Setting the object-based status (Page 255).
"Check" button	Checks the status value. See also chapter Checking the object-based status (Page 256).






16.6.2 Properties of documents

16.6.2.1 Structure of the properties of documents

Structure

- Toolbar
- General area
- "General" tab
See also chapter "General" tab for documents (Page 440).
- "Attributes" tab
See also chapter "Attributes" tab for documents (Page 441).
- Change tab
See also chapter Change tab (Page 442).
- "Revisions" tab
See also chapter "Revisions" tab (Page 445).

Toolbar

Icon	Tooltip	Description
	"Navigate"	Selects the document in the Navigator.
	"Released" and "Locked"	Locks/unlocks the document properties. You cannot edit the content or delete the document. Administrators can still make changes and delete.
	"Show base object"	Displays or hides the "Base object" field in the general area.
	"Object locking"	Only relevant for your system administrators. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Lock-lock mechanism and system object identification".
	"System object"	Only relevant for your system administrators. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Lock-lock mechanism and system object identification".

General area

Control element	Description
"Name" field	Automatically generated The field length is 256 characters. This allows you to address external files in deeply nested folders using the document object.
"Label" field	The label
"Description" field	The description
"Folder" option	As with system type "Device".
"Base object" field	The base object on which the document is based
Icon of the document	As with system type "Device".
Drag&drop field	

See also

Area for general data (Page 437)

16.6.2.2 "General" tab for documents

Control elements

Field	Description
"Type"	<ul style="list-style-type: none"> • Determines the document type (COMOS report, Word file, etc.) • The list includes all document types that are managed in COMOS using the "Administrator > Base data > Document types" menu. • Depending on the type, the user can work with the document immediately after the type has been set, or must first make further entries on the change tab. • The icon of the document object depends on the type. • For external documents, the corresponding program must be installed. Example: Microsoft Word
"Description 2" "Description 3"	For describing the document
"First page"	The page number of the first page The pages of the documents are numbered consecutively in document packages and document groups. Only the first page of the first document has the page number "1".
"Number of pages"	The number of pages the document contains

Field	Description
"Mode"	<p>Only for documents that are located under a base object or a document package. The mode controls what happens to the document if the owner of the document - i.e. the base object or the document package - is created in the engineering data.</p> <ul style="list-style-type: none"> • "Virtual" The document is not created immediately, but is available in the context menu. The "Virtual" mode is available in two versions: <ul style="list-style-type: none"> – If the document name ends in "?" or "**", it can be created as often as required. The names are generated using "Nextname". – Otherwise the document is available only once in the context menu, but it can still be created using script or copied manually. The names then have an underscore and a consecutive number. • "Copy" The document is created automatically in addition. It cannot be created again. • "Base object only" The document is not created. It is available only at the base object. • "Structure" The document cannot be created in the engineering data. If the document is selected in the context menu, a submenu opens. If further documents are located under the document, they are offered in the submenu. • "Reference" The mode cannot be set for reports. The mode creates a document under the engineering object. The document under the engineering object has a reference (a CDocument reference) to the document object under the base object. This mode is suitable for placing documents and PDFs under manufacturer devices. Highly specialized base objects exist for manufacturer devices. A document valid only for this manufacturer device belongs to these specialized base objects. Using a referenced document from the document tree would therefore be too complicated; instead, a document under the base object is referenced.
"Inheritance mode"	<ul style="list-style-type: none"> • Only for documents located under a base object • "Active" The document is inherited to the engineering object and to subobjects in the base data. • "Inactive" Inheritance is switched off completely.

16.6.2.3 "Attributes" tab for documents

The base object of the document determines which attribute tabs and attributes you see.

Editing the attributes functions in the same way as for engineering objects. See also chapter Editing attributes (Page 228).

16.6.2.4 Change tab

Principle

The name and content of the change tab depend on the document type. As a rule, its name is the same as that of the document type.

Overview

The following document types have the control elements described in this section on their change tab:

Group	Document types
"Office"	All
"Conval"	All
"Others"	<ul style="list-style-type: none"> • Adobe PDF • AutoCad • Image document • TIFF • Text • Unknown document
"COMOS"	<ul style="list-style-type: none"> • EPLAN electric 8 • JT Viewer • Net Template Editor • S7 Block Interface • Sequence Designer document/Template document • Smartsketch

The change tabs of the following document types have different control elements:

Document type	More information
Evaluating report	Change tab for evaluating reports (Page 443)
Interactive report	Change tab for interactive reports (Page 444)
Report template	You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Change tab for report templates".
XML connector document	You can find more information on this topic in the "COMOS Platform Interfaces" manual, keyword "XML connector".
XML connector template	
PROII	Change tab for the "General" and "PROII" document types (Page 445)
General document	

The "Document package" and "Reference document" document types do not have a change tab.

"Document" control group

- "Normal" option
Activated: COMOS creates a new external document in the COMOS document directory. There is no template. If you switch to one of the other two options, the file is deleted from the document directory.
- "File link" option
Activated: You see the "File name" field. Use the " ... " button to select a file from the file system. COMOS links the COMOS document to the file. The document is an external document. It has no template. The document is independent of working layers. If you switch to the "Normal" option, the linked file is retained.
- "Reference" option
Activated: You see the "Template" field. Use the " ... " button to select a COMOS document. COMOS sets a link to the document. The referenced document can be opened but not saved. If the user edits the document, the changes are not saved. The document is independent of working layers.

"Object = Owner" field

Like the "Report object = Owner" field for evaluation reports.

Not available for the following document types:

- "Others" group:
 - Image document
 - TIFF
 - Text
- "COMOS" group: Smarts sketch

16.6.2.5 Change tab for evaluating reports

Evaluation reports are the basis for data sheets and lists. They have the "Report" change tab. It has the following control elements:

"Report template" field

Link to the report template

The adjacent "..." button opens the "Select report template" window:

16.6 Tabs

- "Base" option activated (default)
You can see the "CRp report templates" document group in the object tree of the window. It must be located in the base project in the Navigator in the "Documents" tab, directly under the project root; it collects the report templates. If it does not exist, the project root is displayed.
- "Current" option activated
You can view the objects that are located directly under the project root on the tabs of the Navigator in the current project.

Note

The "Select report template" window contains evaluation and interactive report templates. Users must take care to select a report template suitable for the report type.

"Report object = Owner" field

- Link to the report object
The report object is the basis from which all active and automatic functions of a report are executed. No document can exist without a report object.
- Default: The object under which the report is located
Can be overwritten if the functions of the report are to be executed by an object other than its owner. If the default has been overwritten, it can be restored by pressing the "Delete" button.

16.6.2.6 Change tab for interactive reports

Interactive reports are the basis of diagrams and drawings. They have the "Report" change tab. It has the following control elements:

"Report template" and "Report object = Owner" fields

See also chapter Change tab for evaluating reports (Page 443).

Area for display of the assigned physical files

Three instances of the document are saved for interactive reports:

- crp file
The working file
- bak file
The last saved version in each case before the current change
- tmp file
Carried along during the working session. If the document is closed correctly, it is deleted.

If the crp file is defective, the tmp file and the bak file will still be available. They can be opened using the button "Open" alongside each one.

16.6.2.7 Change tab for the "General" and "PROII" document types

Structure

Control elements	Description
"File name"	The document accesses a file.
"HTTP"	The document accesses a HTTP URL.
Edit field	Path and name of the file or HTTP URL
"..."	Only visible when the "File name" option is activated Button for selecting the document file

You can find more information on the topic of PROII in the "COMOS FEED" manual.

16.6.2.8 "Revisions" tab

Columns of the revision table

Overview










The following table shows the columns of the revision table on the "Revisions" tab:

Column	Description
"Index"	The index of the respective revision
"Label"	Label and description of the current revision
"Description"	See also chapter Editing revision texts (Page 282).
"Created by"	The user who created the respective revision and the date on which the revision was created
"Inspected by"	The user who inspected the respective revision and the date on which the revision was inspected
"Released by"	The user who released the respective revision and the date on which the revision was released
"Revision archive"	The revision archive is a print file in TIFF or PDF format. In a document group, the "Revision archive" column is always blank, as the archived files are only saved at the individual documents.

Toolbar of the "Revisions" tab

Buttons

The toolbar of the "Revisions" tab has the following buttons:

Icon	Tooltip	Description
	"Creates a new revision"	Creates a * revision.
	The next revision step is displayed as the tooltip.	-
	"Deletes '*' revision" or "Delete the selected revision"	Only active at * revisions and the last open revision with revision file.
	"Displays the selected revision"	Only active for revisions that have a revision file.
	"Prints the selected revision"	-
	"Show/Hide revision properties"	-
 or 	"Revision printer Info"	The icon of the button depends on the set revision printer. If no revision printer is set, or a freely configurable revision printer is set, the following icon is displayed: 

Control elements of the revision properties

Call

Properties of a document > "Revisions" tab > "Show/Hide revision properties" button is activated.

Overview

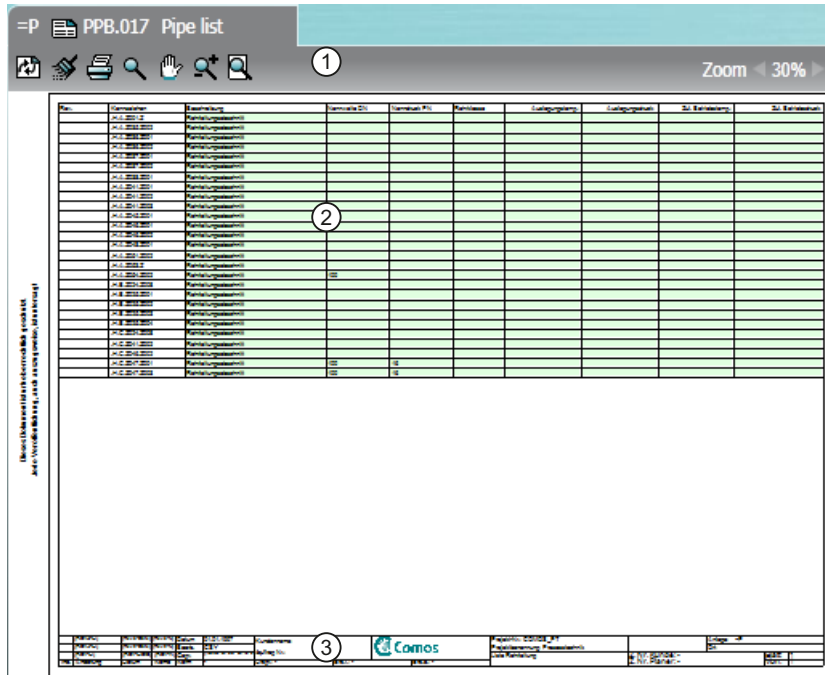
The following revision properties exist:

Field	Description
"Label"	<ul style="list-style-type: none"> • The revision label • Optional: For overwriting the value automatically generated for a * revision. Requirements: The "Revision label editable during the complete revision operation" option is activated in the project properties • Not editable for group revisions.
"Revision description"	<ul style="list-style-type: none"> • The revision description • Optional: For overwriting the automatically generated value. • Not editable for group revisions.
"Revision step label"	If the field is empty, the date is used.
"Revision step description"	If the field is empty, the user who created the revision is used.

See also chapter Editing revision texts (Page 282).

16.6.3 Structure of evaluating reports

Structure



- ① **Toolbar**
The buttons have the same function as the corresponding buttons in interactive reports. See also chapter Toolbar in interactive reports (Page 451).
- ② **Evaluated data**
Fields highlighted in green are editable.
- ③ **The drawing header displays important management data including general project data and information about the design engineer and the revision status, for example.**
The data is exported from the properties of the report. Exactly which data is displayed depends on the configuration of the report template.

See also

Evaluating reports (Page 83)

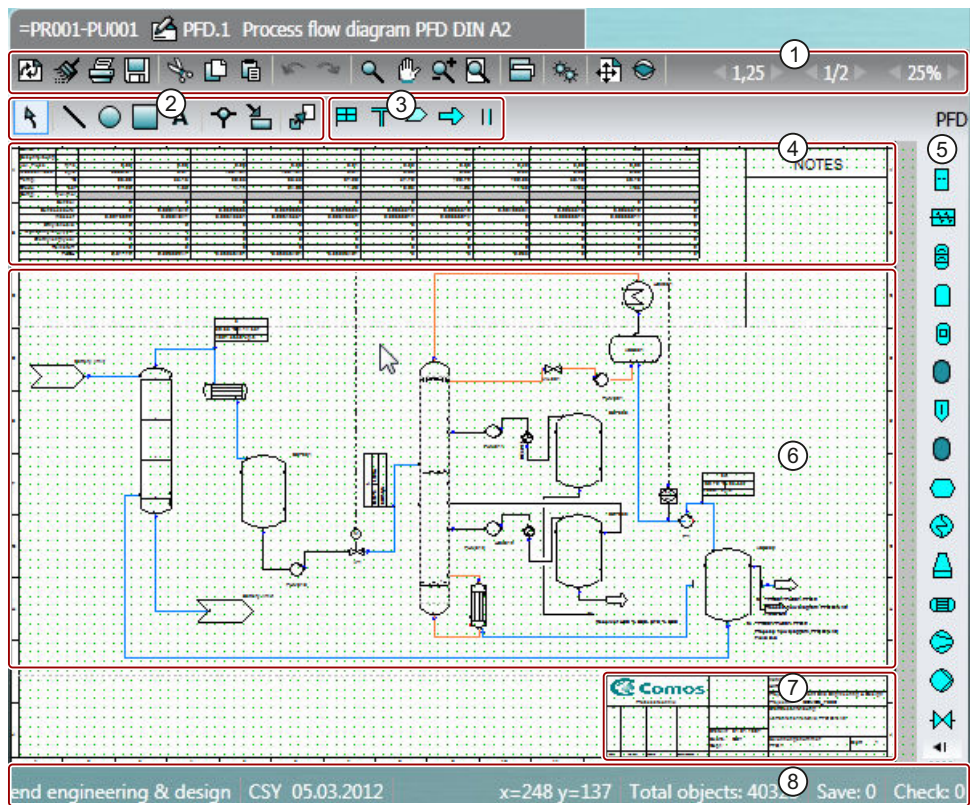
16.6.4 Interactive reports

16.6.4.1 Structure of interactive reports

Overview

The graphic below illustrates the structure of interactive reports:

16.6 Tabs



- ① **Toolbar**

The toolbar contains general commands which are available in all interactive and evaluating reports. Examples: Save, print

The toolbar in interactive reports also contains buttons for setting the grid size.

See also chapter [Toolbar in interactive reports \(Page 451\)](#).
- ② **Standard toolbar**

The standard toolbar contains commands that are available in all interactive reports. You can use the tools on the standard toolbar to draw connections or purely graphical objects and edit objects placed on the report.

See also chapter [Standard toolbar in interactive reports \(Page 453\)](#).
- ③ **Report-specific toolbar**

The drawing type of the interactive report determines whether you see a report-specific toolbar and, if so, which tools it contains.

You can find more information on this topic in the manuals for the modules.
- ④ **Optional: Evaluating elements, for example parts lists, material data, etc.**
- ⑤ **Symbol bar**

The symbol bar is used to place engineering objects in the working area. See also chapter [Placing objects via the symbol bar \(Page 312\)](#).

The engineering objects available on the symbol bar are determined by the drawing type of the interactive report. You can find more information on this topic in the manuals for the modules.
- ⑥ **Working area**
- ⑦ **Drawing header**

The drawing header displays important management data including general project data and information about the design engineer and the revision status, for example.

The data is exported from the properties of the report. Exactly which data is displayed depends on the configuration of the report template.
- ⑧ **Extended status bar**

The status bar shows the coordinates of the mouse pointer

See also













[Working with interactive reports \(Page 307\)](#)




[Context menu for interactive reports \(Page 430\)](#)

16.6.4.2 Toolbar in interactive reports

See also chapter [Structure of interactive reports \(Page 449\)](#).

Buttons







Icon	Tooltip	Description
	"Reevaluate document"	See also chapter Updating reports (Page 369).
	"Refresh screen"	Reassembles the graphical content of the report and removes artifacts.
	"Print"	See also chapter Printing reports (Page 370).
	"Save"	Saves the report.
	<ul style="list-style-type: none"> "Cut" "Copy" "Paste" 	<ul style="list-style-type: none"> "Cut": Cuts the objects selected in the working area. "Copy": Copies the objects selected in the working area. "Paste": Pastes the objects that have been cut or copied via the toolbar.
	<ul style="list-style-type: none"> "Undo" "Restore" 	Undoes the last action in the report or redoes the last undone action.
	Zoom and move: <ul style="list-style-type: none"> "Zoom" "Move sheet" "ZoomInOut" "Complete view" 	See also chapters Zoom (Page 307) and Moving a sheet section (Page 308).
	"Layers"	See also chapter Showing/hiding or freezing the content of a layer (Page 310).
	"Construction mode"	Activates construction mode. Construction mode extends the standard toolbar by adding the following tools: <ul style="list-style-type: none"> "Dimension" "Hatching" When the "Line" tool is activated: The "Extended Construction" secondary tool In construction mode, lines and dimensions lock into place not only at the grid points, but also at the capture points of the objects. This function makes it easier to construct solid bodies and draw purely graphical sketches.
	"Bird view"	See also chapter Working in bird view (Page 309).
	"Changes in working layers"	See also chapter Showing changes in working layers (Page 360).
	<ul style="list-style-type: none"> "Navigate to predecessor" "Navigate to successor" 	Navigates to previous or next report. Requirements: The report is located in a document package, there are predecessors and successors, and the report template supports this function. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "EnablePaging".



Icon	Tooltip	Description
	"Page"	Browse to previous or next page. Requirements: The report template supports multipage reports. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "MultiPaging".
	"Grid"	See also chapter Grid (Page 80) and section Switching off the grid (Page 312).
	"Zoom"	See also chapter Zoom (Page 307).

16.6.4.3 Standard toolbar in interactive reports

See also chapter Structure of interactive reports (Page 449).

Buttons

Icon	Tooltip	Description	See also chapter ...
	"Select"	For selecting the symbols and graphical elements placed on the report	Selecting symbols and graphical elements (Page 320)
	"Line"	For drawing a line.	Drawing lines (Page 334)
	"Arc"	For drawing a circle or an arc.	Drawing circles and arcs (Page 336)
	"Rectangle"	For drawing a rectangle.	Drawing rectangles (Page 337)
	"Text"	For placing a text.	Placing texts (Page 338)
	"Connection"	For connecting placed objects.	Activating and deactivating the "Connection" tool (Page 321) Drawing the start point and end point of the connection (Page 321) Drawing intermediate points on the connection (Page 323) Connecting several objects with one line (Page 324)




Icon	Tooltip	Description	See also chapter ...
	"Assign object"	<p>For editing engineering objects placed on the report. Available assignment modes:</p> <ul style="list-style-type: none"> • "Define owner" mode Moves engineering objects in the Navigator under a different owner. • "Change object" mode: <ul style="list-style-type: none"> – Replaces an engineering object placed on the report with a different engineering object which has not yet been placed. – Assigns a new base object to an engineering object. • Modes for inserting links which are specific to the drawing type Example: When you use the "Assign location" mode links to the engineering objects selected in the report are inserted under a location. You can find more information on this topic in the manuals for the modules. • "Automatic" mode One of the above assignment modes is executed. Which assignment mode is executed depends on which object you drag from the Navigator onto the symbols selected in the report. <p>In some reports, you set an assignment mode via the "Mode" list in the toolbar. If you do not see the list, "Automatic" mode is set by default.</p>	<p>Changing owners (Page 330) Switching base objects (Page 331) Switching engineering objects (Page 332)</p>
	"Transform"	<p>For transforming symbols and graphical elements</p> <p>The procedure is identical for symbols and graphical elements.</p>	<p>Moving symbols (Page 342) Rotating symbols (Page 343) Mirroring symbols (Page 345) Scaling symbols (Page 347) Aligning symbols (Page 349)</p>

16.6.5 "Options" tab of the full-text search

Call

"Plugins > Basic > Full-text search" menu

Buttons on the toolbar

Icon	Tooltip	Description
	"Save settings"	To save the selected options.
	"Restore default"	To restore the default settings.
	"Help"	Opens a help with information about the search options.

Control elements of the tab

"Search range" control group:

Option	Description
"Documents and Revisions"	Activated: <ul style="list-style-type: none"> Content based search: Both documents and revisions of documents are listed as hits. Revision search: Only revisions are found
"Revisions"	Activated: Only the revisions of documents are listed as hits.
"Only current revisions"	Requirements: "Revisions" option is activated. Activated: <ul style="list-style-type: none"> Only the last project revision and the last unit revision are listed as hits. The search rate decreases.
"Documents"	Activated: <ul style="list-style-type: none"> Content based search: Only documents are listed as hits. Revision search: Only revisions are found

"Search logic" control group:

Option	Description
"At least one of the strings"	Activated: The search keys are linked with "OR". This means that documents or revisions are found if they contain at least one search key.
"All strings"	Activated: The search keys are linked with "AND". This means that documents or revisions are found if they contain the specified words exactly.
"Boolean search"	Activated: You can use Boolean operators during the search.

"Search precision" control group:

Option	Description
"Normal"	Activated: The search key must be at the beginning of the word that is found. Example: If you enter the word "fuse", "fuse-switch" is also found.
"Exact search"	Requirements: The following options from the "Search logic" control group are activated: <ul style="list-style-type: none"> • "At least one of the strings" • "All strings" Activated: The search key must be found as a whole word. Example: If you enter the word "fuse", "fuse-switch" is not found.
"Substring search **"	Requirements: The following options from the "Search logic" control group are activated: <ul style="list-style-type: none"> • "At least one of the strings" • "All strings" Activated: <ul style="list-style-type: none"> • A placeholder is added before and after the search key so that, for example, the word "test" is also found in the string "123test-term". • The search rate decreases.
"Fuzzy search ***"	Activated: The search key is found even if it is misspelled. You can define the degree of permissible deviation in the "Fuzziness level (1-10)" field. The search rate decreases. The underlying search algorithm delivers the best results for English texts. Example: "center" and "centre"

"Research results" control group:

Option	Description
"Max. number of returned hits **"	<ul style="list-style-type: none"> • Defines how many rows of hits appear on one page. • Empty or "0": The number of hits is unlimited. • If you limit the number of hits, the time taken for the first page to be displayed will be shorter. Hits for one document may be split over several pages.
"Show message if more hits are available than displayed"	Activated: If the number of results found for the search key exceeds those displayed on the first page, a message is displayed.

"Parameter of the used index" control group:

Option	Description
"Inclusion filter"	You can find additional information on this topic in the "COMOS Platform Administration" manual, keyword "Creating the full-text search index".
"Exclusion filter"	

"Index info" field: You can find additional information on this topic in the "COMOS Platform Administration" manual, keyword "Creating the full-text search index".

See also

Using a content-based search (Page 292)

Using revision search (Page 294)

Full-text search (Page 99)

16.6.6 "Symbol and document preview" tab**Call**

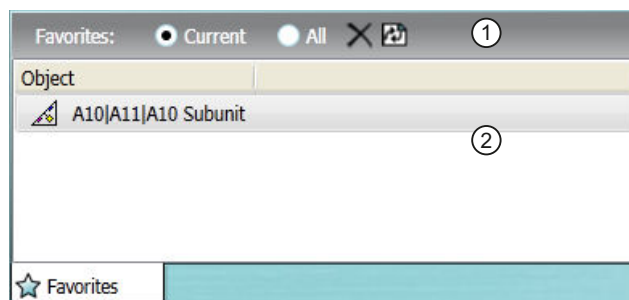
"View > Symbol and document preview" menu

Structure

See also chapter Displaying a preview of symbols and working areas (Page 362).

16.6.7 "Favorites" tab**Call**

"View > Favorites" menu

Structure



- ① Toolbar
- ② List of Favorites

Toolbar

The toolbar has the following options:

Option	Description
"Current"	Only displays the favorites of the currently open project.
"All"	Displays the favorites of all projects.

The toolbar has the following buttons:

Icon	Description
	Deletes the selected Favorites.
	Updates the list with the Favorites

See also

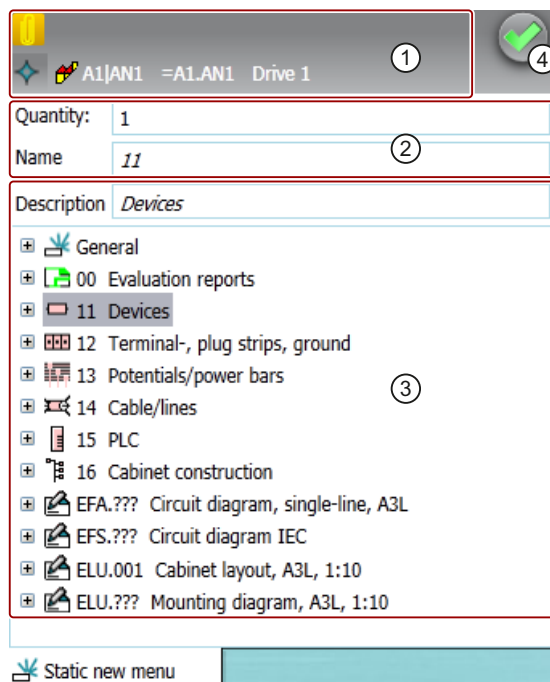
Working with favorites (Page 139)

16.6.8 "Static new menu" tab

Call



"View > Static new menu" menu

Structure



- ① Toolbar
- ② Area for configuring the new object
 - Fields:
 - Quantity
 - Name
 - Description
- ③ Results list for all objects to be created
- ④ Execute button

Toolbar

Icon	Tooltip	Description
	"Pin selected object"	The selected object is fixed. See also chapter Pinning objects in the static new menu (Page 210).
	"Navigate"	Where you can navigate to depends on the object. Navigation examples: <ul style="list-style-type: none"> • "Object" • "Base object" • "Documents" See also chapter Navigating from the static new menu to the pinned object (Page 211).

See also

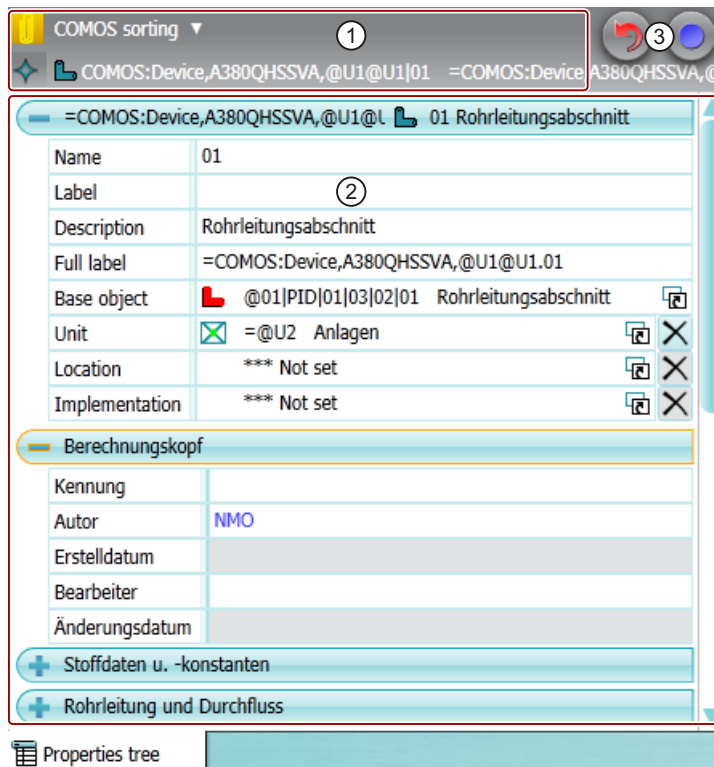
Creating multiple objects via the static new menu (Page 209)

16.6.9 "Properties tree" tab

Call




- "View > Properties tree" menu
- When a report is opened and its option script contains the "EnableVSUI2 = TRUE" variable: Automatically

Structure



- ① Toolbar
- ② Area for editing the general properties and attributes
- ③ "Undo" and "Apply" standard buttons

Toolbar

Icon	Tooltip	Description
	"Pin selected object"	The selected object is fixed. See also chapter Editing several objects in the properties tree (Page 243).
	"Navigate"	Where you can navigate to depends on the object. Navigation examples: <ul style="list-style-type: none"> • "Object" • "Base object" • "Documents"
		List for sorting attributes: <ul style="list-style-type: none"> • COMOS sorting • Alphabetic sorting • Attribute filter

Displayed fields

If you only select one object, you see all fields which can, in principle, be edited for this object in the properties tree. If you select several objects, you only see the fields available for all objects.

The general properties you see depend on the system type of the objects:

System type	Name, label, description	Full label (FullLabel)	References
Engineering object	✓	✓	<ul style="list-style-type: none"> • Base object reference • Unit reference • Location reference • Implementation reference
Document	✓	✓	<ul style="list-style-type: none"> • Unit reference • Location reference
Connector	Name, description	-	-

Users with the relevant rights can select the following objects in the "Base objects" tab and edit their name and description:

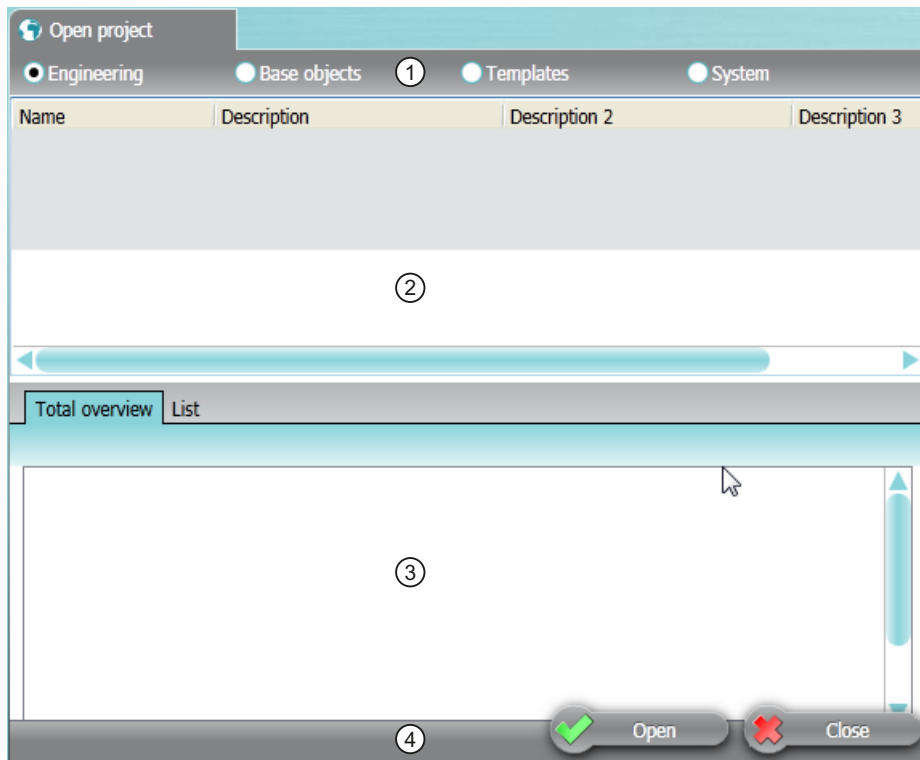
- Base objects
- Tabs
- Attributes
- Standard tables

16.6.10 "Open project" tab

Call

"File > Open project" menu

Structure



- 1 Options for selecting a project type
- 2 Project table
For project selection and project management
- 3 Area for working layers
For working layer selection and working layer management
- 4 Default buttons

Project table

You will see the projects of the project type selected above for which you have read rights. The table is based on a query. The query functions are available in the context menu of the column headers

Area for selecting working layers

The area has the following tabs:

- "Total overview" tab
- "List" tab

Working layers are displayed on the tabs in the following cases:

- A working layer has already been created for the selected project.
- The system node for managing the working layers exists in the base project.
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of working layers".

"Total overview" tab

You see a tree with the working layers of the project selected in the project table.

"List" tab

Only the working layers of a specific level are displayed. Your administrator can configure the database so that only specific levels or even only specific working layers of a level are available for selection in this view. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Properties of working layers".

Structure:

- "Select layer" list:
Filter. Only the working layers of this level are displayed.
- Table with all working layers of the level selected in the "Select layer" list
The table is based on a query. The query functions are available in the context menu of the column headers.

See also

Opening the working layers of a project (Page 175)

Opening a project or the released area of a project (Page 169)

Context menu of the "Open project" tab (Page 426)

Managing working layers (Page 194)


Adjusting the Object Browser in simple run mode (Page 376)

Saving settings of query-based result tables (Page 138)

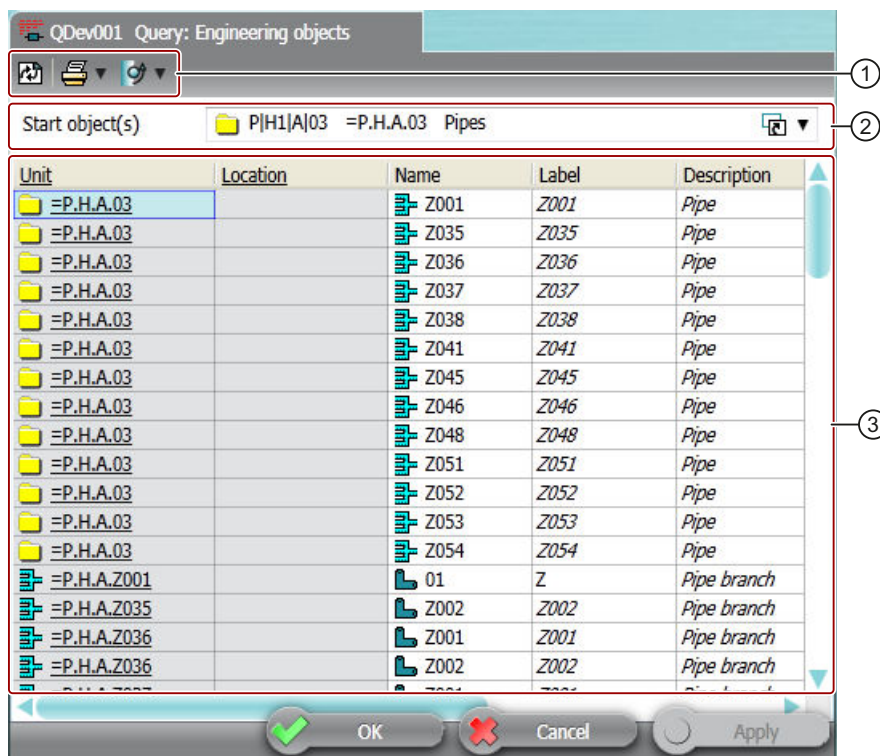
16.6.11 Query tab

Call

You can open the tab of a query in the following ways:

- New query:
 - "Extra > Query > Queries for <system type>" menu
 - Toolbar: 
- Existing query:
 - Context menu of the query object, command "Open (classic)" or "Open (alternative)"
 - Double-click the query object





Structure



- ① Toolbar
- ② General data
- ③ Object browser with the results list

Toolbar in simple run mode

The toolbar has the following buttons:

Icon	Tooltip	Description
	"Refresh - F5"	Recalculates the display and the values of the found objects. The search quantity is recalculated.
	"Print list ..."	Prints the results list.
	"Export data ..."	Exports the results list to the following formats: <ul style="list-style-type: none"> • Excel • Access • Text • XML
	"Find"	Only for cross-project queries Starts the search.

Toolbar in extended run mode

The toolbar has the following buttons:

- The same buttons as in the simple run mode
- Additional button, depending on the system type that the query processes.
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Reference of the buttons of the toolbar".

General data

Here you set the basic settings of the query. The fields you see depend on the following factors:

- On the system type that processes the query
- On the run mode
 - Simple run mode: You see the "Start object(s)" field.
 - Extended run mode: You see more fields. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Creating a query and setting general inputs".

Object Browser

Here you see and edit the objects that the query finds.

The context menu of the rows and columns provides numerous commands. See also chapter Context menu for queries in simple run mode (Page 432).

See also

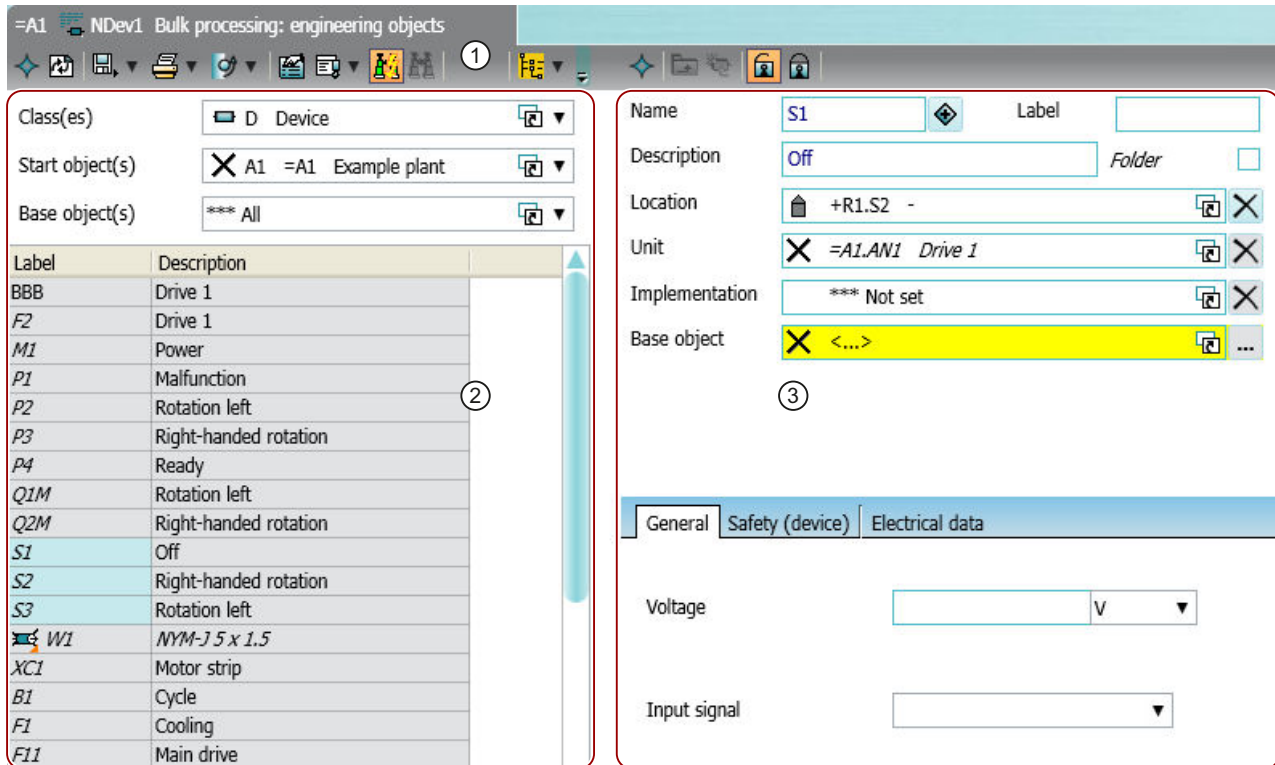
Working with queries and bulk processing (Page 373)

16.6.12 Bulk processing tab

Call

"Extra > Bulk processing > Bulk processing for <system type>" menu

Structure



- ① Toolbar
- ② Query
- ③ Area for editing the selected objects

Toolbar

The buttons of the toolbar depend on the system type that the query processes and on the selected objects.

Query

The structure of the query depends on the system type that the query processes.

Components:

- **General data**
Basic settings of the query. The fields change according to the system type.
- **Object Browser**
The result of the query is displayed here. Select the objects you want to edit.

Area for editing the selected objects

The structure depends on the system type that the query processes.

Components:

- Area for the general data
- Area for the attributes and attribute tabs

See also

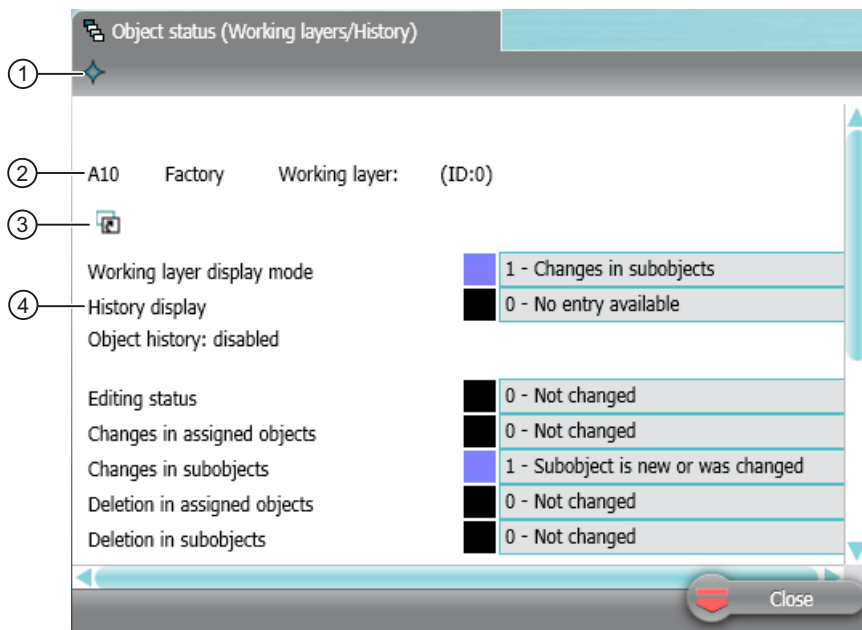
Working with queries and bulk processing (Page 373)

16.6.13 "Object status (Working layers/history)" tab

Call

"Extra > Working layers/history > Object status" menu, "Object status" tab

Structure



- ① Button with navigation commands to the evaluated object
- ② Name of the evaluated object and the working layer
- ③ Drag&drop area for changing the evaluated object
- ④ Area containing status information

Status information

The area for the status information is structured as follows:

- Description of status information
- Color code
- Value (read)

Status information about assigned objects

The following objects count as assigned objects:

- Connectors
- Attributes
- Symbols
- Extension objects

You can find more information on this topic in the "Class Documentation COMOS_dll" manual, keyword "XObject".

"Layer relevance" status information

An object is layer-relevant if it can be checked into a working layer. If an object is not layer-relevant, it is not included when a working layer is released and no history entry is created.

See also

Displaying the detailed object status for working layers and histories (Page 182)

"Extras > Working layers/history" menu (Page 404)

16.6.14 "Working layer/History management" tab

Call

"Extra > Working layers/history > Management" menu

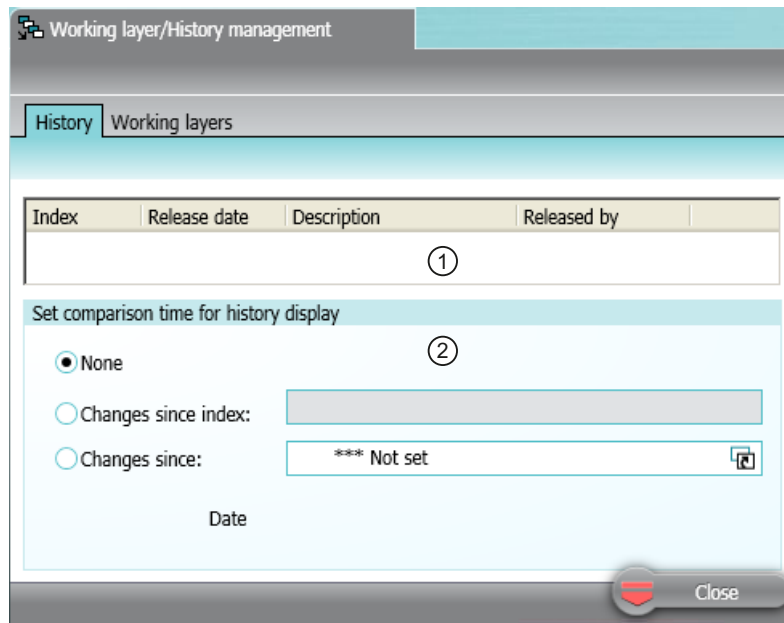
Structure

The tab has two sub-tabs:

- "History"
- "Working layers"

"History" tab

This is where you manage the project history. The tab has the following structure:



- ① Table
Each row in the table represents a release in the released area.
- ② "Set comparison time for history display" control group
For setting the comparison time for the history display. See also chapter Setting the comparison time for the history display (Page 187).

"Working layers" tab

Content and function as on "Open project > Total overview" tab. See also chapter "Open project" tab (Page 462).

See also

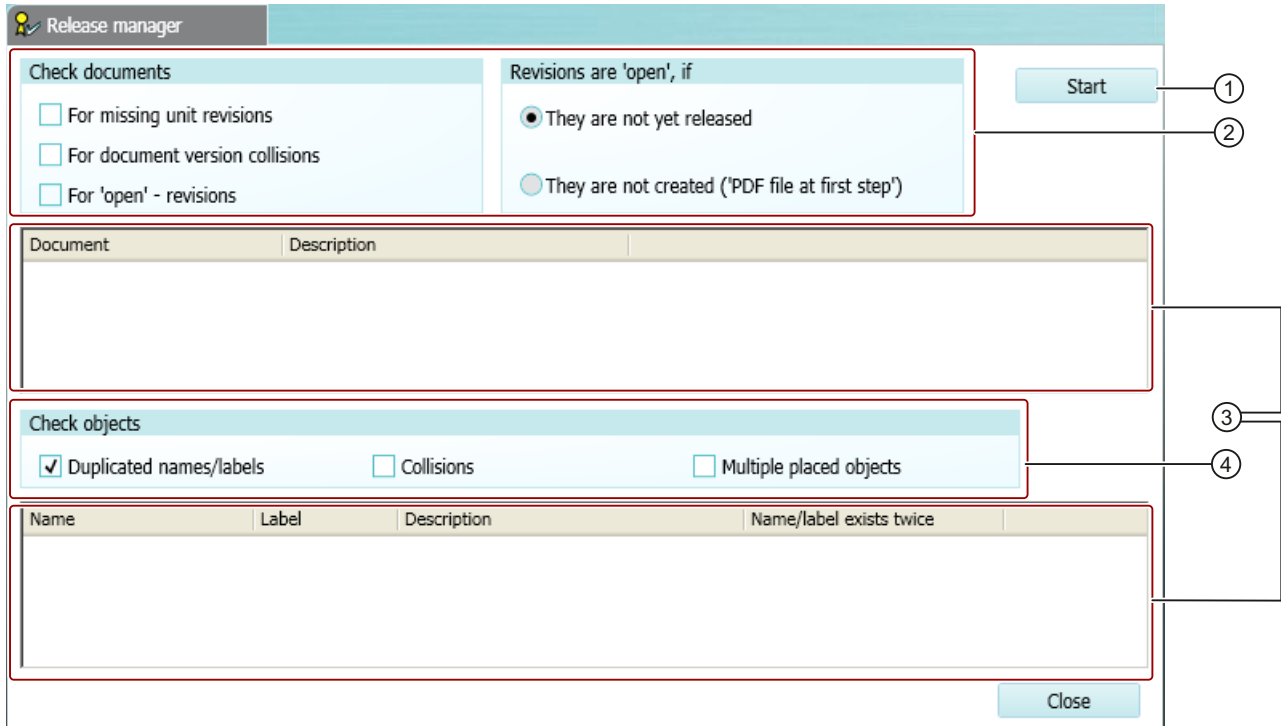
"Extras > Working layers/history" menu (Page 404)

16.6.15 "Release manager" tab

Call

"Extra > Working layers/history > Release manager" menu

Structure



- ① Button to start the release check
- ② Settings for the release check of documents
- ③ Results lists with erroneous documents and objects
- ④ Settings for the release check of objects

Settings for the release check of documents

"Check documents" control group:

Option	Description
"For missing unit revisions"	Can only be activated if the project is configured so that project revisions and unit revisions are possible. See also chapter Unit revisions and project revisions (Page 90). You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Automatic referencing of documents". Activated: The release manager lists the documents which contain project revisions but no unit revisions, or * unit revisions only. Deactivated: The release manager does not list the documents. Check for unit revisions manually.
"For document version collisions"	Only for DVM documents Activated: Checks whether there are collisions between DVM document versions.
"For 'open' revisions"	Activated: The release manager lists all documents with open revisions. It does not check whether a * revision would be produced the next time the documents are evaluated.

"Revisions are 'open', if" control group:

Option	Description
"They are not yet released"	Use these options to determine when revisions count as being open.
"They are not created ('PDF file at first step')"	

Settings for the release check of objects

"Check objects" control group:

Option	Description
"Duplicated names/labels"	Activated: The Release manager lists objects with duplicated names or labels. With the context menu of the listed objects you can change the names and labels so that the names of the objects are unique. Duplicated names or labels of attributes and connectors are also taken into consideration.
"Collisions"	Activated: The Release manager lists objects affected by collisions.
"Multiple placed objects"	Activated: The Release manager lists objects that have been placed more than once.

See also

Performing release checks (Page 188)

"Extras > Working layers/history" menu (Page 404)

16.7 Windows

16.7.1 "Print with revision printer" and "Export of revision" windows

The windows have identical control elements.

Call

Via the "Print with revision printer" tool. See also chapter Printing documents with revision printer (Page 270).

Or via the "Copy TIFF/PDF of the released revision" tool. See also chapter Printing or exporting current revision files (Page 288).

Control elements

The windows have the following options:

Option	Activated
"Without subdirectories"	Prints the documents/the revision files of the documents to single files. Components of the file name: <ul style="list-style-type: none"> • Project name • Working layer name • SystemFullName of the document
"With subdirectories"	Prints the documents/the revision files of the documents to subdirectories which map the object tree of the Navigator. Files from parallel documents in the Navigator end up in the same subdirectory. Structure of the directories: Project > Working layer > One folder per component of the SystemFullName The file names correspond to the document names.
"In a file"	Prints the documents/the revision files of the documents to a common file.
"With file name for the revision export of the document (SYS.ExportRevFileName)"	Prints the documents/the revision files of the documents to single files. The file names are calculated from the attribute. If the attribute is missing or empty, the file name is generated in the same way as with the "Without subdirectories" option.

The windows also have a field with a button for directory selection or file selection.

16.7.2 Windows for setting the parameters of graphical elements

Windows

You define the parameters of the graphical elements placed on reports in the following windows:

Graphical element	Window
Line	"Line parameter" See also chapter Drawing lines (Page 334) and chapter Rounding polylines (Page 335).
Circle/Arc	"Circle (arc) parameter" See also chapter Drawing circles and arcs (Page 336).
Rectangle	"Rectangle parameter" See also chapter Drawing rectangles (Page 337).
Text	"Text parameter" See also chapter Placing texts (Page 338).

Calling the windows

For graphical elements already placed on a report: Context menu of the graphical element, "Properties" command

To define templates for placing texts and lines in advance: See chapter Placing texts (Page 338) and chapter Drawing lines (Page 334).

Control elements

The following table gives you an overview of all control elements used to configure the parameters of the graphical elements. The table is sorted alphabetically:

Control element	Parameter is used for ...	Description
"Filling in"	Circle/Arc Rectangle	Option activated: Shows a color field. The rectangle or the circle is filled with the color shown here. Left-click in the field to select a different color.
"Alignment"	Text	The options determine the position of the text in relation to the mouse pointer.
"Width"	Line Circle/Arc Rectangle	Line width If you change the measurement unit, the width is converted automatically.
"Level"	Line Circle/Arc Rectangle Text	The level assigned to the graphical element Requirements: The report works with levels. See also chapter Showing/hiding or freezing the content of a layer (Page 310) and chapter Assigning layers (Page 333).

Control element	Parameter is used for ...	Description
"Color"	Line Circle/Arc Rectangle Text	The line color Left-click in the field to select a different color.
"Function group plan"	Rectangle	Reference field for displaying or printing a report section in a different report See also chapter Integrating a report section into a different report (Page 364) and chapter Removing connections to other reports (Page 364).
"Label"	Line Circle/Arc Rectangle	Field for entering a label The label can be evaluated in scripts. Lines and rectangles with the identification "GR" are interpreted as graphics during an Excel export, not as cell delimiters.
"No cell delimiter"	Line	Only in report templates Relevant for Excel exports Option activated: The value "GR" is input in the "Label" field.
"Line type"	Line Circle/Arc Rectangle	The standard lines have round ends.
"Center"	Circle/Arc	-
"Name"	Rectangle	-
"P1"	Line	The X-coordinate and Y-coordinate of the starting point
	Rectangle	The X-coordinate and Y-coordinate of the top left-hand point of the rectangle
"P2"	Line	The X-coordinate and Y-coordinate of the end point
	Rectangle	The X-coordinate and Y-coordinate of the bottom right-hand point of the rectangle
"Radius"	Circle/Arc	-
"Font"	Text	The "... " button opens a window for determining the font, size, display, etc.
"Apply immediately"	Line Circle/Arc Rectangle Text	Option activated: All changes to the parameters are immediately applied to the report.
"Start angle"	Circle/Arc	-
"Soft"	Text	Only for configuring report templates.
"Angle"	Text	See also chapter Rotating symbols (Page 343). Rotates the text around its placing position in 90° increments. If the text is rotated with the mouse, the current angle is also entered here.
	Circle/Arc	Angle which gives the length of the arc.

16.7.3 "Graphical properties" window

Call

See chapter Editing the graphical properties of a symbol (Page 352).

"Line" control group

The "Line" control group relates to all lines of the selected symbol. It has the following control elements:

Control element	Description
"Width"	If you change the measurement unit, the width is converted automatically.
"Line type"	-
"Color"	Left-click in the field to select a different color.
"Filling in"	Option activated: Shows a color field. The symbol is filled in with the color displayed in the color field. Left-click in the field to select a different color.
"Level"	The level assigned to the graphical element Requirements: The report works with levels. See also chapter Assigning layers (Page 333) and chapter Showing/hiding or freezing the content of a layer (Page 310).

"Geometry" control group

Control element	Description
"Angle"	See also chapter Rotating symbols (Page 343)
"Scaling factor X"	See also chapter Scaling symbols (Page 347).
"Scaling factor Y"	

16.7.4 "Navigator settings" window

Call

Context menu of the Navigator, "Navigator settings" command

"Display" control group

Option	Description
"Top"	Display in the structure area of the Navigator. Can be adjusted for each object listed.
"Bottom"	Display in the "Detail" tab. Can be adjusted for each object listed.
"Off"	No display. Can be adjusted for each object listed.

See also chapter Filtering object trees in the Navigator (Page 164).

"General" control group

Option	Description
"Directly edit new objects"	See also chapter Activating "Directly edit new objects" (Page 166).
"Save automatically"	<ul style="list-style-type: none"> Activated: Objects are saved automatically. Deactivated: The objects are created. You must save them manually. The "Save changes" command is shown in the context menu of the Navigator to enable you to do this. You can redelete the objects via "Ignore changes".
"Sort alphabetically"	See also chapter Sorting object trees in the Navigator (Page 163).
"Sort Folder objects to top"	

"Tabs" control group

Option/list	Description
"Units"	For showing and hiding the corresponding tabs. See also chapter Showing and hiding structure area tabs and the "Details" tab (Page 165).
"Locations"	
"Documents"	
"Base data"	
"Detail"	

See also

Context menu in the Navigator (Page 424)

16.7.5 "Status calculation protocol" window**Call**

You have tried to set an invalid status value. See also chapter Setting the object-based status (Page 255). Or you checked the status and the check found invalid status values. See also chapter Checking the object-based status (Page 256).

Structure

The status protocol contains more precise information on objects with an invalid object status. It shows why the status values are invalid. You can correct the invalid status values. See also chapter Correcting invalid status values (Page 257).

Important table columns:

Column	Description
"Object"	The engineering object which has an inconsistent attribute
"Status value"	The object status valid for the current status type
"Inconsistency" and "Type"	After "Set status": The reason why the status value you selected is invalid After "Check status": The reason why the status displayed under "Status value" comes into effect

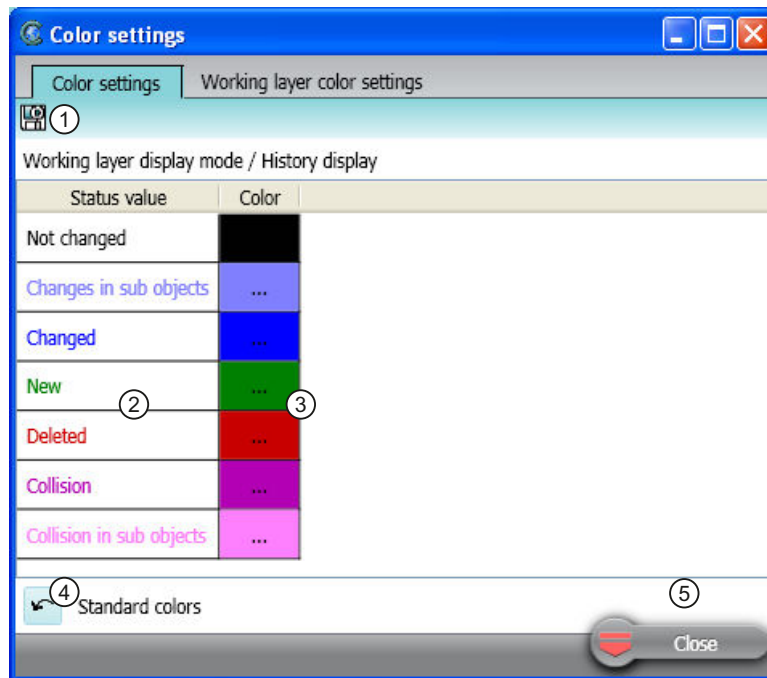
The table is based on a query. The query functions are available in the context menu of the column headers; for example, filtering and sorting functions. You can save these settings in your user settings. See also chapter Saving settings of query-based result tables (Page 138).

16.7.6 "Legend" window

Call

See also chapter Displaying the color legend for the working layer display mode and the history display (Page 179) and chapter Opening the legend for status display (Page 260).

Structure of "Color settings" tab



- ① Button for permanent saving of the color settings
See also chapter "Save settings" window (Page 481).
- ② Column with the status values
- ③ Column with the assigned colors
If the mouse focus lies on a cell of the column, a button for changing the color is displayed. See also chapter Setting the colors for working layer levels (Page 181).
- ④ Button to restore the standard colors
- ⑤ Standard button

Structure "Working layer color settings" tab

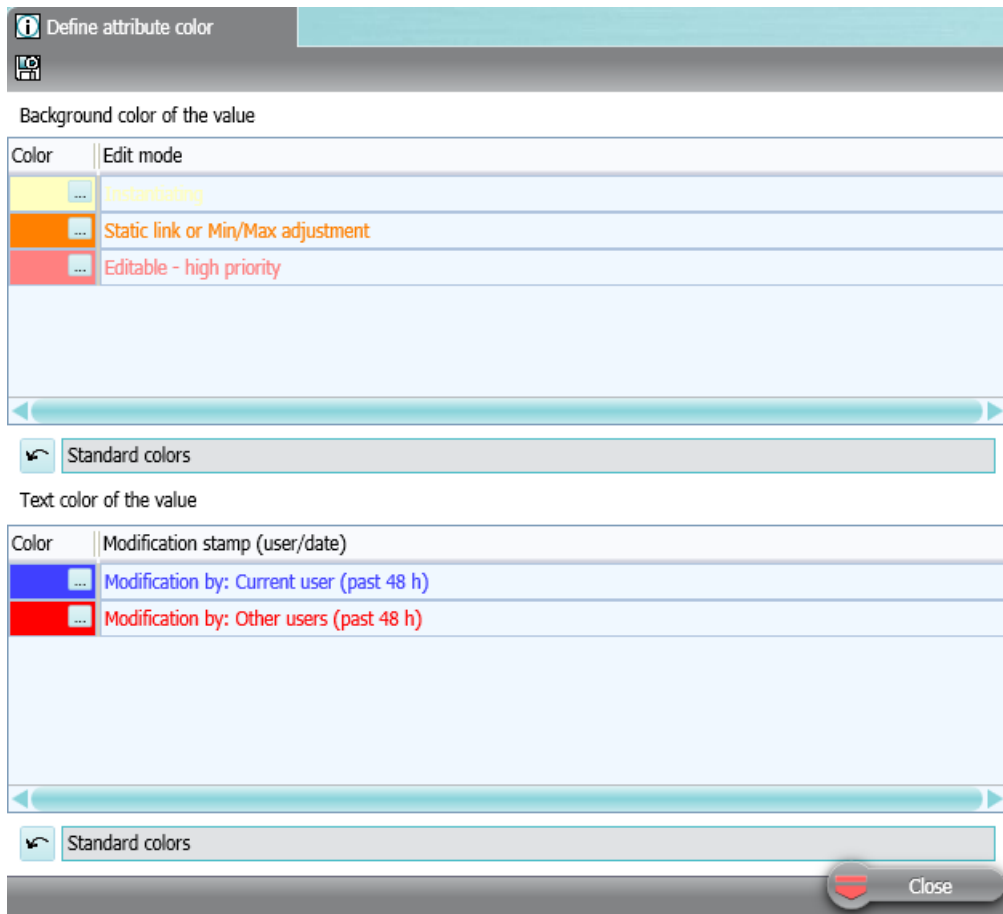
The structure corresponds to that of the "Color settings" tab. The left-hand column contains the working layers instead of the status values.

16.7.7 "Define attribute color" window


Call

See chapter Defining the background color and text color of attribute values (Page 235).

Overview



Toolbar


Button for permanent saving of the color settings: 

See also chapter "Save settings" window (Page 481).

"Background color of the value" control group

You use the buttons of the "Color" column to specify the background color which attributes have in the following cases:


Scenario	Default
Edit mode: "Instantiating" You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Attribute: "Edit mode" field" and "Configuring instantiating".	Yellow
Value violates a value range or does not agree with the link source. Correct the value. The orange filling is removed after the correction.	Orange
Edit mode: "Editable - high priority" You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Attribute: "Edit mode" field" and "Mandatory attributes".	Pink

 button: Reset to standard background colors

"Text color of the value" control group

You use the buttons of the "Color" column to specify the color which the attribute values have in the following cases:

Scenario	Default
No change in the last 48 hours.	Black
Some changes in the last 48 hours.	Blue
Changes by a different user in the last 48 hours.	Red

 button: Reset to standard text colors

16.7.8 "Save settings" window

Call

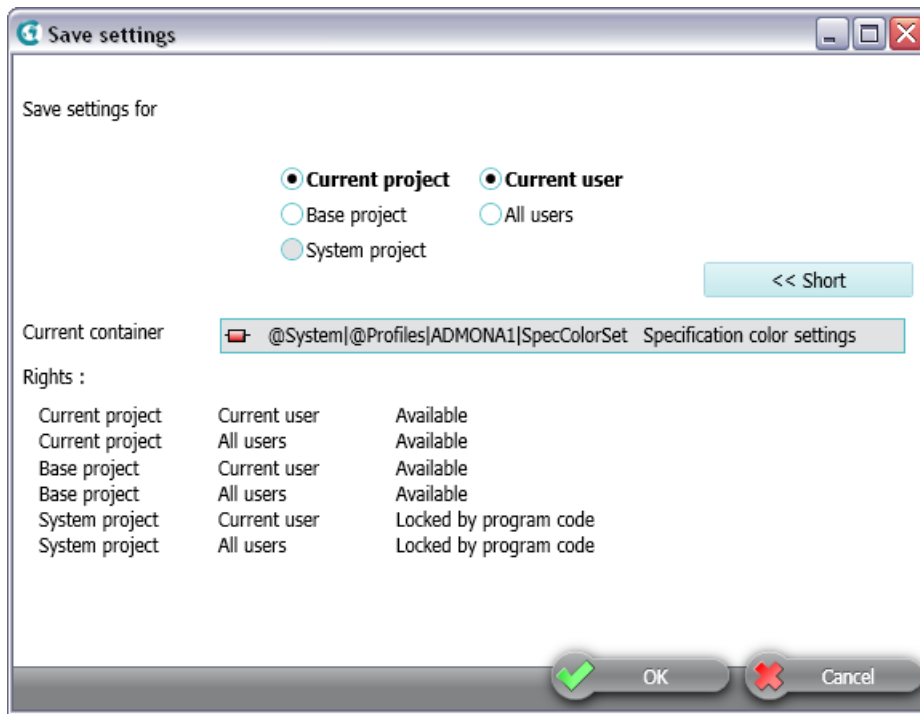
From various user interfaces. See the following chapters:

- Defining the background color and text color of attribute values (Page 235)
- Saving settings of query-based result tables (Page 138)
- Setting the colors for working layer levels (Page 181)

Purpose

Saving user-defined settings in the personal settings.

Structure



"Save settings for" control group

The following option determines which project your settings apply to:

- "Current project"
- "Base project"
- "System project"

The following option determines which users your settings apply to:

- "Current user"
- "All users"

If an option is locked, click on the "Extended >>" button. Under the "Rights" control group, you can see an overview of the rights assignment.

"Current container" field

The base object under which your user-specific settings are stored.

"Rights" control group

The overview of the rights assignment refers to the options in the "Save settings for" control group.

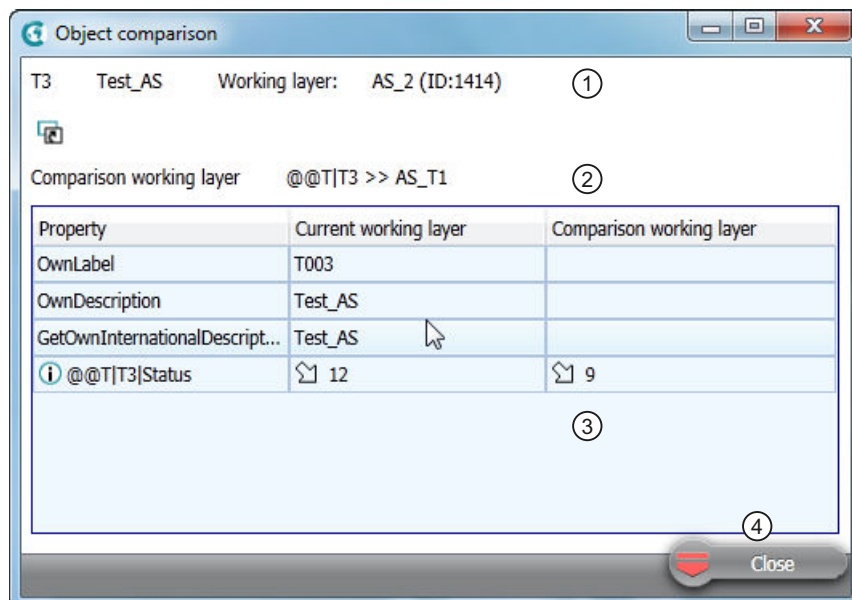
You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of users and rights".

16.7.9 "Object comparison" window for working layers

Call

See also chapter Comparing an object with the superordinate layer (Page 183).

Structure



- ① The name or label of the object
Name and ID of the current working layer
- ② Path name of the object and name of the comparison working layer
- ③ Table of the differences
- ④ Standard button

The table is based on a query. The query functions are available in the context menu of the column headers.

16.7.10 "New numbering range" window

Call

See also chapter Creating numbering ranges (Page 242).

"New numbering range" window

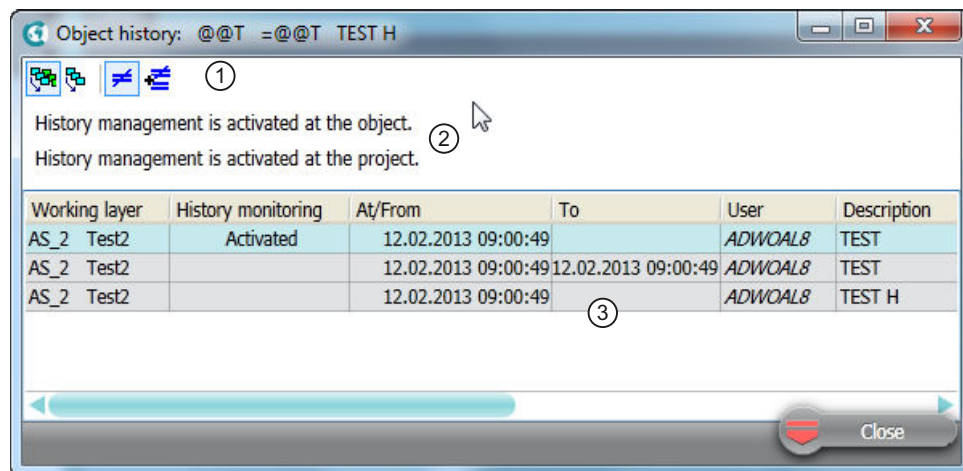
Field name	Description
"Name"	Mandatory field. Name can be freely assigned.
"Description"	Optional field. The description can be freely assigned.
"Base object"	Mandatory field. Fill with drag&drop.
"Prefix"	Optional field. To always start the numbering range [<Prefix>] <Interval> [<Postfix>] with a specific character or a specific string.
"Postfix"	Optional field. To always end the numbering range with a specific character or a specific string.
"Start value"	Mandatory field. Example "A"
"End value"	Optional field. Example "ZZZ"
"Property"	Mandatory field. Default entry: "Name"
"Last value used"	This value is assigned by the system.
"Alphabet"	Mandatory field. Defines the characters that make up the numberings. You select predefined values from a list or, alternatively, enter all provided values. Example: "ABYZ". When listing these letters, you can use all combinations of these four entered letters. You can only use letters that were entered here for numbering.
"Increments"	Mandatory value. Default entry "1", can be switched to "-1".
"Assignment"	Names of assigned objects.

16.7.11 "Object history" window

Call

See also chapter Checking the object history (Page 185).

Structure



- ① Toolbar for filtering the table
 - ② History management and history monitoring status
 - ③ Table of the history entries
- The table is based on a query. The query functions are available in the context menu of the column headers.

Buttons on the toolbar

Icon	Tooltip	Description
Containment of the working layer		
	"All underlying layers"	You can see the history entries for changes in the current layer and in all superordinate layers.
	"Current shift"	History entries relating to changes are displayed in the current layer only.
Containment of the properties		
	"Only different values"	You can also see history entries with changed values.
	"All values"	You can also see history entries with identical values.

16.7.12 Window for the project user rights

Call

- For project: In the context menu of a project, select the "Rights" command
- For an object: Select the object in the Navigator and use the <Ctrl+A> keyboard command

Structure

The window has the following tabs:

- "General":
 - For displaying general information about the object or the project, such as possible reasons why it has write protection, information about its creation, and the most recent change to the object
 - For displaying the object rights for this object
- "Rights":
 - "Object rights" option enabled: For controlling the object rights for this object
 - "Function rights" option enabled: For controlling the function rights in the current project
 - If you have the "Set user rights" right, you can change how the rights are allocated by activating or deactivating the appropriate option.

More information

You can find more information on the topic of rights and setting user rights in the "COMOS Platform Administration" manual.

See also

Displaying user rights in a project (Page 172)

16.7.13 "Define insert mode for objects" window

Call

Automatically when a copied interactive report is first opened

Structure

The window has several options. The options determine whether new engineering objects are created when the report is copied, and where they are created:

Option	Description
"Automatic"	The objects placed on the original report are copied and pasted as determined by the report settings.
"Keep objects"	The objects placed on the original report are also placed on the copy. This means that they are placed multiple times.
"At same position"	The objects placed on the original report are copied and pasted in parallel to the original objects.

Option	Description
"Parallel to document"	The objects placed on the original report are copied and pasted next to the document. If the report is configured in such a way that the placed objects are sorted into categories, this option has no effect. The copies are also created in the folders.
"Below document"	The objects placed on the original report are copied and pasted below the document. If the report is configured in such a way that the placed objects are sorted into categories, this option has no effect. The copies are also created in the folders.
"Structure below document"	A structure is created under the copied report, which reproduces the structure under which placed objects from the original report are located.
"Do not generate objects"	The DocObj objects will be deleted. No objects are placed on the copy of the interactive report.

See also

Copying documents and reports (Page 107)

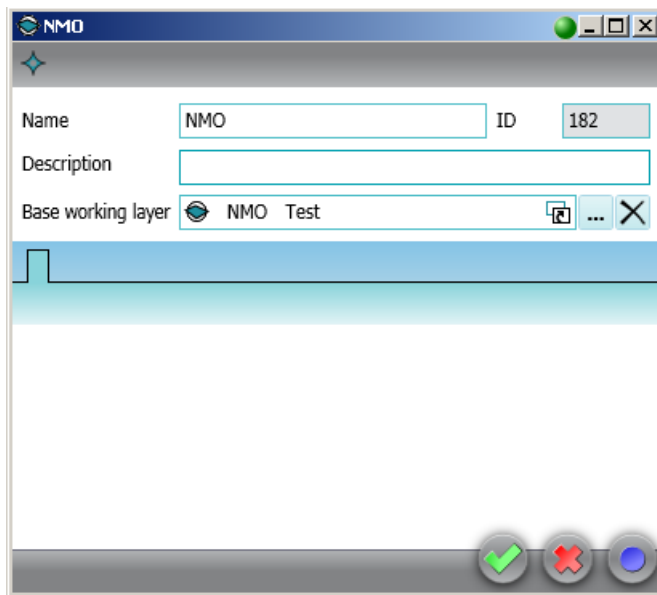
16.7.14 Properties of a working layer

See also chapter Creating working layers (Page 195).

Call

"Open project > Total overview" tab > "New > Working layer" context menu of the project root or a working layer

Structure



The window has the following control elements:

Field	Description
"Name"	<ul style="list-style-type: none"> Any Must be unique
"Description"	Any
"Base working layer"	For linking the working layer with a working layer of the base project If no base working layer is set, the working layer is linked to the released area of the base project.
"ID"	<p>An automatically assigned even number for identifying the working layer</p> <p>The odd numbers are used for system-internal purposes. The range of numbers goes up to 32768. After that, COMOS searches for IDs which have become free (for example, due to deletions), beginning with 2. If you try to create a working layer and every ID from 2 to 32,768 is occupied by a live layer, an error message is issued.</p>

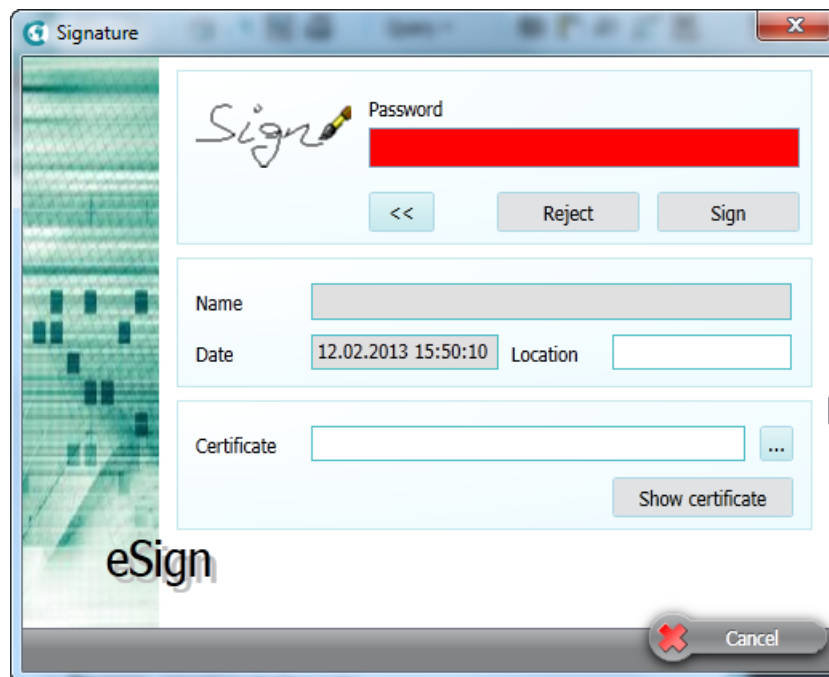
If tabs have been prepared under the base object of the corresponding working layer level, you also see these tabs. You can find more information on this topic in the "COMOS Platform Administration" manual, keyword "Administration of working layers"

16.7.15 "Signature" window

Call

See also chapter Signing revisions electronically (Page 283).

Structure



The window has the following control elements:

Control element	Description
"Password" field	Field for entering the security password If the field is empty or contains an incorrect password, it is red.
Button ">>" or "<<"	Shows or hides the control elements marked with *.
Button "Reject"	Cancels the signature.
Button "Sign"	Signs the revision step.
"Name" field*	Name of the signer Is read out automatically from the certificate after the password has been entered.
"Date" field*	Set automatically. Current date and time
"Location" field*	Enter a location.
"Certificate"*	The certificate If the field is empty, select your PXF file by using the button "...".
"Show certificate" button*	Shows details of the certificate. Only available if the password was entered.
"Cancel" button*	Standard button

