Quam 7.0 Dokumentation

Quam User Guide

INHALTSVERZEICHNIS

1. QUAM USER GUIDE

Quam the "digital twin" of your organization

A "digital twin" is a digital representation of objects, processes or systems from the real world. This digital representation describes both the elements and the dynamics of how a system works.

Coming from production engineering, digital twins depict systems over their entire life cycle. Even during the planning phase, engineers can use these models to optimize processes. Once the plant is in operation, the same models can be used to further optimize processes and adapt production to changing conditions.

Quam transfers this idea to the mapping of the organization.

Quam maps your organization. It is the "operating system" of your company. With Quam you logically link all elements of the processes and structures of your organization with each other. The result is a set of rules consisting of process maps, organization charts, role, function and organization descriptions, regulations and templates - an Integrated Management System (IMS) as the "digital twin" of your organization, available to everyone at any time.

Quam 6.1 is extended by a collaborative project management tool for cross-project collaboration and joint documentation of results. The project management functionalities integrated in Quam 6.1 allow navigation from a central project management portal page to individual projects, which in turn can be combined in programs and structured in sub-projects; projects can be applied for, approved, generated and planned, projects can be controlled in their execution, project controlling can be carried out, project expenses can be recorded - in short, the new project management functionalities in Quam accompany a project through its entire life cycle. Quam 6.1 is the first business relationship management system that combines process management and project management in one software.

1.1. CHANGE LOG

Date	Version	Change	Section
30.03.2021	1.0	Publication for Release 6.1	all
15.09.2021	2.0	Addition	Change Log Hints for Using Quam - Permission and Inheriting Hints for Using Quam - Using the Quam Visio Modeler Portal Page - Project Cockpit, My CPM, Time Recording Project management of individual project
15.12.2021	2.0	Addition	Miscellaneous additions for Quam 7.0

1.2. BUSINESS PROCESSS MANAGEMENT WITH QUAM

Quam maps your organization. It is the "operating system" of your company. With Quam you logically link all elements of the processes and structures of your organization with each other. The result is a set of rules consisting of process maps, organization charts, role, function and organization descriptions, regulations and templates - an Integrated Management System (IMS) as the "digital twin" of your organization, available to everyone at any time.

1.2.1. BASIC CONCEPT

Quam is a method of depicting an organization using a database. It considers itself an organizational information system. It virtually depicts the organizational and operational structure of the entire enterprise. All rules by which the enterprise abides are considered in the depiction, whether they are self-imposed or legally required. These include things such as quality control, environmental management and on-the-job safety or General Data Protection Regulations in addition to any applicable operational management regulations. These rules comprise the full range of the enterprise's policies, which are defined internally by guidelines from company management, and externally by demands from clients, banks, and regulatory institutions such as legislators.

Of these items, exactly one of each is contained in the database. Each organizational unit making up the enterprise is described exactly once – independently of how often it is used throughout the procedural organization of the enterprise.

The same applies to the various processes. Each process is described exactly once, no matter how many times it is referred to or used in other processes, how many management books it is brought up in, or how many rules in how many management systems it fulfills.

Thereby, every change to an item is immediately and universally visible where the respective item is used. Besides this, each item can be put in relation to almost any desired number of other items. This makes for consistent data and reduces the need for data maintenance. Finally, the data can be viewed from various angles at no additional expense.

Important: The basic concept of the Quam data model already exceeds the SharePoint standard. In particular, the references and links of various elements (e.g. processes, manuals, organizational charts) on the basis of "Lookups" require extensive additional developments. These are necessary to keep different contents consistent or to present them in an appealing manner. SharePoint offers extensive opportunities to expand and amend lists and libraries regarding their structure (add columns, delete, columns, change of column types, etc.). However, these possibilities should only be used with care and with prior testing on the Quam data model due to the previously described complexity. Extensions of the Quam data model, especially underlie quantitative limits defined by the SharePoint data model on the SQL-server. Exceeding these restrictions may cause performance issues or even mal-functions. Lintra cannot guarantee a fault-free functioning of Quam components (Quam WebParts, element linking, etc.), a fault-free modeling, and a fault-free presentation of elements regarding self-defined data structures within the Quam data model. Furthermore, changes to the Quam data model, which apparently or actually worked within a certain Quam version, are not guaranteed to work after upgrading to a higher Quam version. Therefore, we do not recommend carrying out any changes to the Quam data model.

Important: Browser upgrades can lead to unexpected minor differences of certain features. Furthermore, the screenshots shown in this manual may differ slightly from the actually supported feature, e.g. ribbon tabs, buttons and other controls whose functionality is not described. These controls are intended exclusively for developing and testing purposes or for the preparation of functionalities of upcoming releases. They are not part of the standard functionality unless otherwise stated in the corresponding chapter.

In this user guide, not only the functions of Quam are described but also the applied methodology of Quam. Descriptions of functions that do not belong to the standard Quam are marked as "optional". Those functions can be implemented as paid optional Add-On or configuration service.

1.2.2. MODELING THE ORGANIZATION STRUCTURE

The organizational structure is "**everything a company has**". This includes business units, roles and external partners, as well as the employees and all utilized resources.

This section demonstrates how to model individual business units and their hierarchy, roles and teams, as well as external partners of the organization. To model the organizational structure, start by selecting **|ORGANIZATIONAL STRUCTURE** from the SHORTCUT panel.

1.2.2.1. ADMINISTERING AND CREATING GROUPS IN THE ORGANIZATIONAL STRUCTURE

Groups serve to structure the enterprise model. Within the organizational structure, three groups exist by default:

- Organization chart
- Roles
- External partners

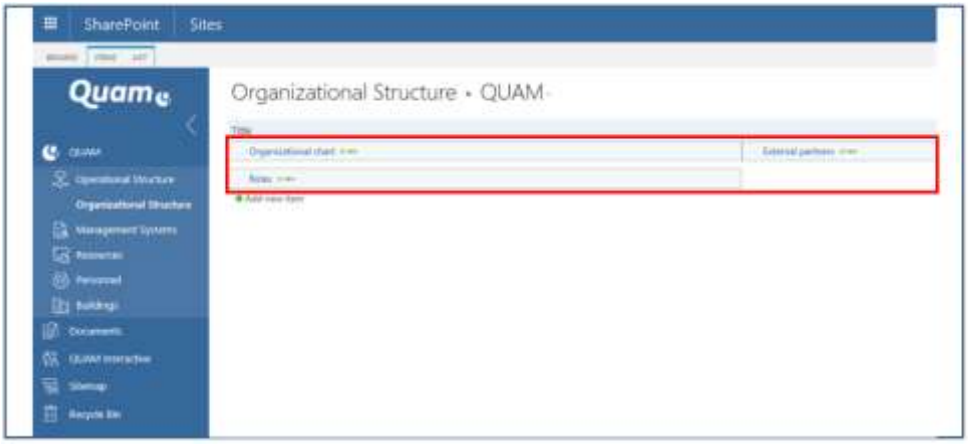


Abb.1: Default groups in the organizational structure

New groups and subgroups can be created to refine the data or adjust it to meet specific needs. For example, external partners can be differentiated by whether they are clients or suppliers.
Whether a new group is added depends on whether a parent object is assigned or not. If no parent object is assigned, the new group is displayed in the first hierarchy level (the first hierarchy level is shown by selecting the menu option ORGANIZATIONAL STRUCTURE).

To refine the external partners, two new groups Clients and Suppliers are created. To clearly associate them, both are assigned the group External Partners as their parent object (displayed by the dotted line):

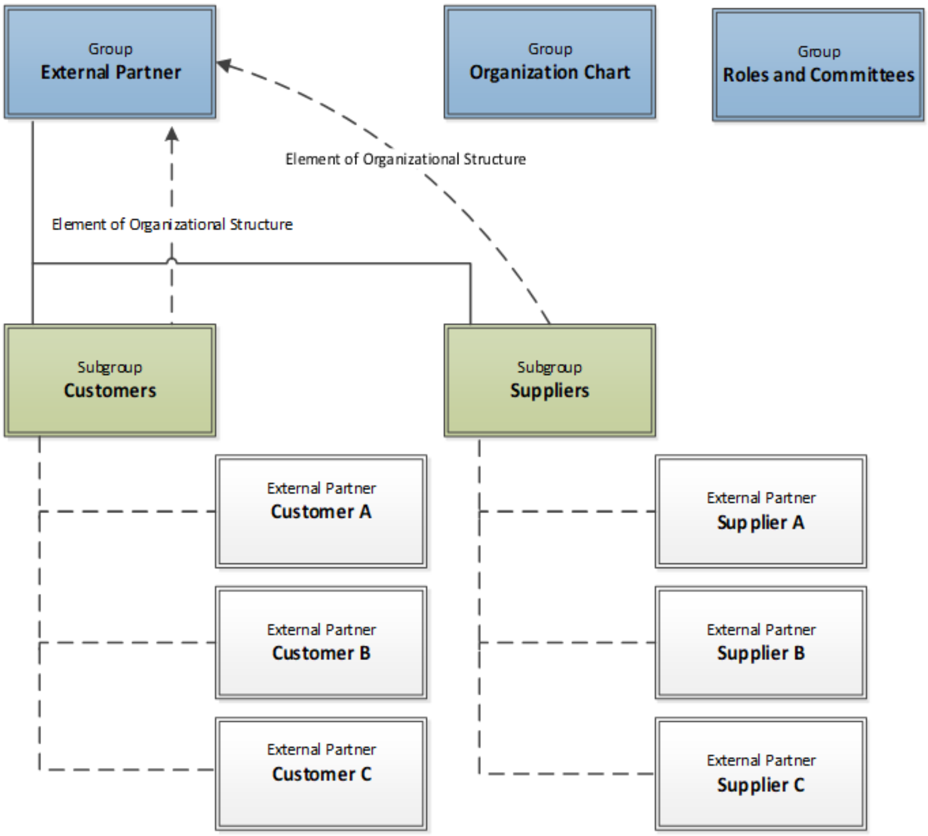


Abb.2: Refinement of external partners in the organizational structure

Creating new Groups in the Organizational Structure

To create a new group, please proceed as follows:
Select **|Add new item**. Fill in the fields of the form and select **|SAVE** to create the group.
If you want to create a sub-group, klick **|Edit item** and use the **|+ button** in the edit form of the group below the field "*Assigned Items*". Please follow the guide from chapter Different functions of Share-Point Forms in Quam for this.

Displaying the Elements of a Group

To get an overview of the elements of a group, click on the group you wish to view (1).

Abb.3: Open an element of the organizational structure

This opens a form showing the attributes of the group. The subordinated elements are shown as "Assigned elements" (2). By clicking subordinated elements you can drill-down into the organizational structure.

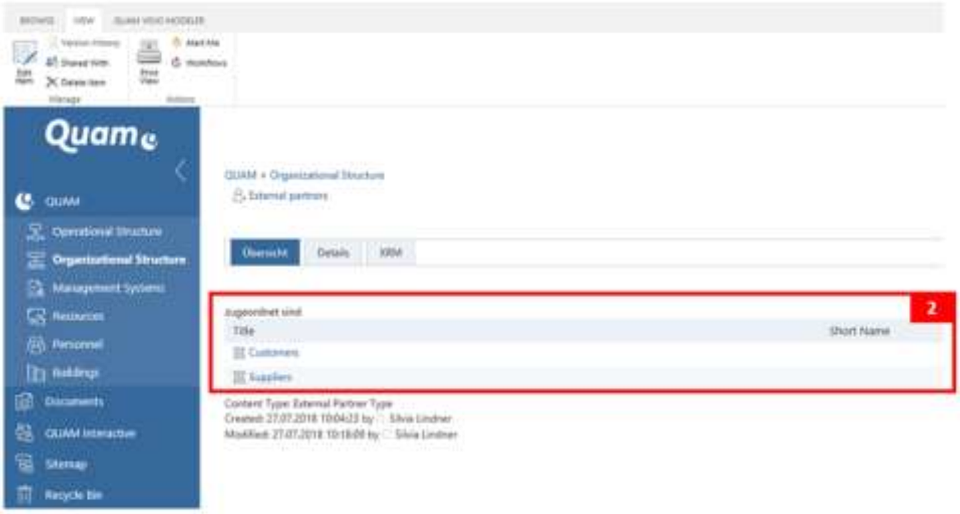


Abb.4: Assigned elements of a group in the organizational structure

1.2.2.2. MODELING ORGANIZATIONAL CHARTS

An organizational chart is a diagram that shows the structure of an organization and the relationships and relative ranks of its parts. This structure can be created in Quam optionally with or without the help of graphic tools.

To do this without the graphical modeling tool, the organizational units on one hierarchy level must be assigned to the respective parent object.

Example:

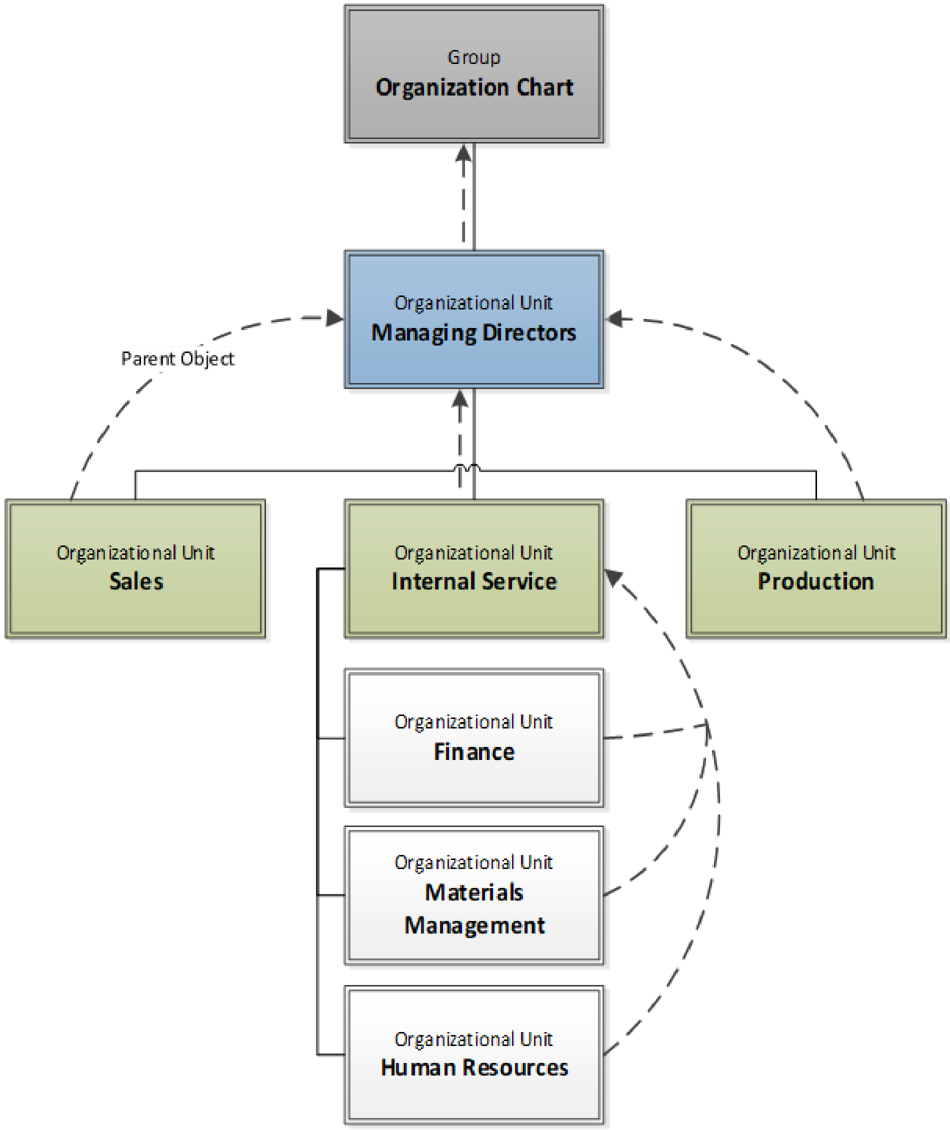


Abb.5: Organizational charts in the organizational structure

1. "Managing Directors" represents the highest hierarchy level within the organization. To model this, the group Organizational Chart is assigned as the parent object of "Managing Directors" (shown in form of the dotted line).
2. The next hierarchy level consists of "Sales"," Internal Service" and "Production". These units are directly subordinate to the group "Managing Directors", which is subsequently the parent object.
3. "Internal Service" is the parent object of the organizational units "Finance", "Materials Management", and "Human Resources", as these units are directly subordinate to "Internal Service".

Modeling Organizational Charts in the Standard View

As illustrated in the above example, individual parts of the organization are modeled as organizational units. To create an organizational unit, open the edit dialog of group "*Organizational Chart*" (1) and use the **|+ button** of field "*Assigned Items*" to create a new organizational unit subordinate to "*Organizational Chart*"

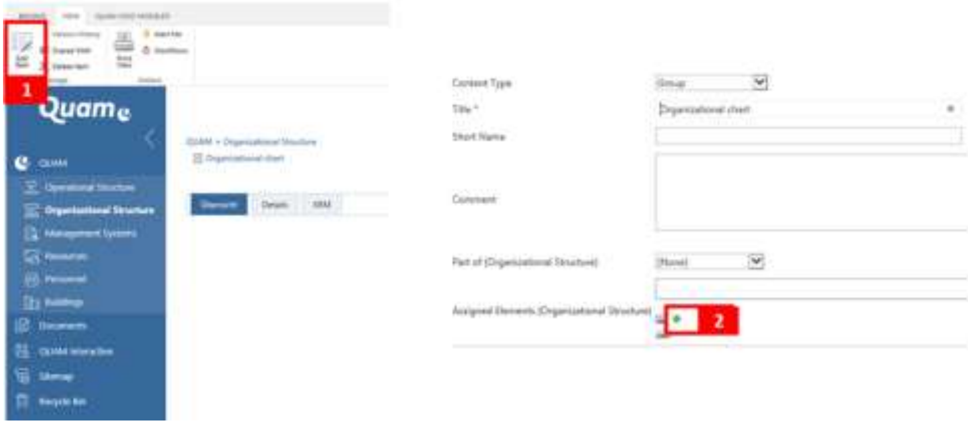


Abb.6: Add an organizational unit to an organizational chart

Proceed like this, to create as many subordinated organizational units as required. The parent-child-relationship is set automatically.
To finish click **|Save** to confirm.

Modeling Organizational Charts Graphically

To model an organizational chart using Microsoft Visio, proceed as follows:

You can start the modeling of your organizational chart with either a blank or one of the standrad Quam templates. In case you have not modeled you process element yet a blank picture is shown. Whether it is a blank picture or a picture of a perfectly modelled organization, you can use the provided switch **|Show chart** to show the picture or not.

If you like to start your organizational chart with a blank template or if you like to edit an existing drawing, you can use the control **|Edit in Visio** (2a) provided in tab **|QUAM Visio Modeler** within the ribbon bar (1). For starting the process modeling with a provided template, you should follow the link **|Create new model** (2b).

Abb.7: Starting the graphical modeling of an organizational chart

Previous to the selection of the actual template, you can still decide to start your organizational chart with a blank template, just select **|Model without template** (2c), or you can select among a library of templates by following the link **|Model with template** (2d).

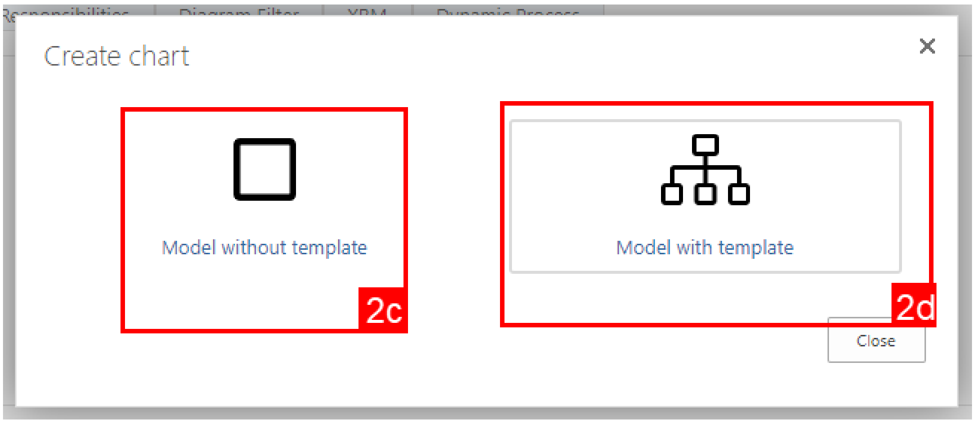


Abb.8: The choice between various templates for starting a process modeling

The following library offers several templates fitting to the Standard-Shapeset and to the content type of the element you wish to create a chart for. The template to start with can simply be selected.

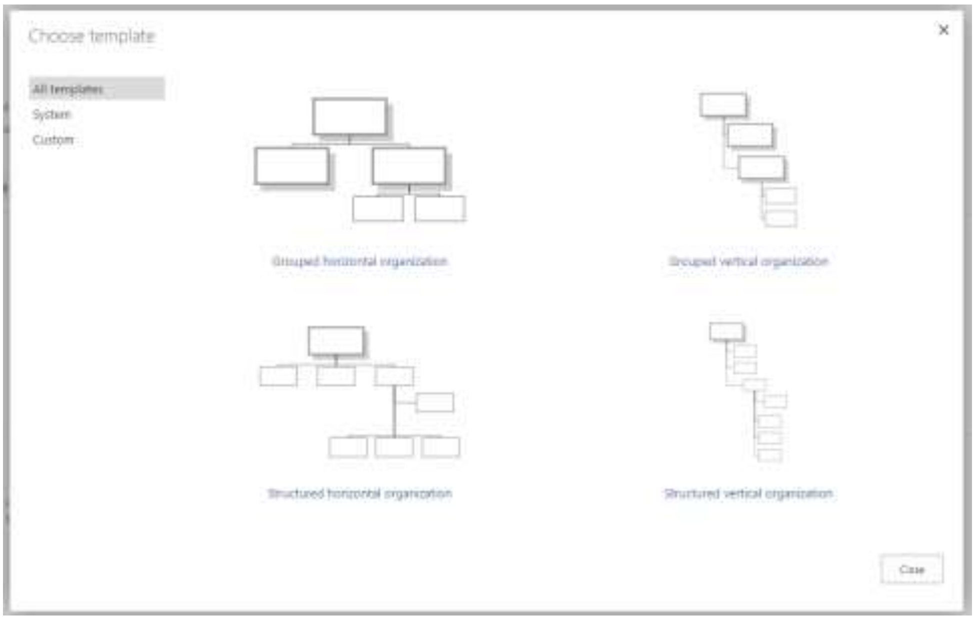


Abb.9: The library of standard templates according to the content typ and shapeset

In both cases, modeling with and without a template as well as editing existing charts, an instance of Microsoft Visio opens after an additional confirmation showing a drawing with or without existing information.

The **|QUAM** (3) tab in Visio offers the following functions:

- **|Save QUAM Objects** (4) saves the Visio diagram to the database; database objects are created, changed or deleted.
- **|Load QUAM Objects** (5) imports existing objects from Quam into the diagram. It is not necessary to start modeling with a template in that case, as the objects and their structure can be fully obtained by the database.
- **|Shape Data** (6) shows additional shape data in a separate window. There you can define the number of hierarchy levels and show or hide level 0.
- **|Close QUAM Modeler** (7) closes Visio. Note: Unsaved changes to the diagram will be lost!

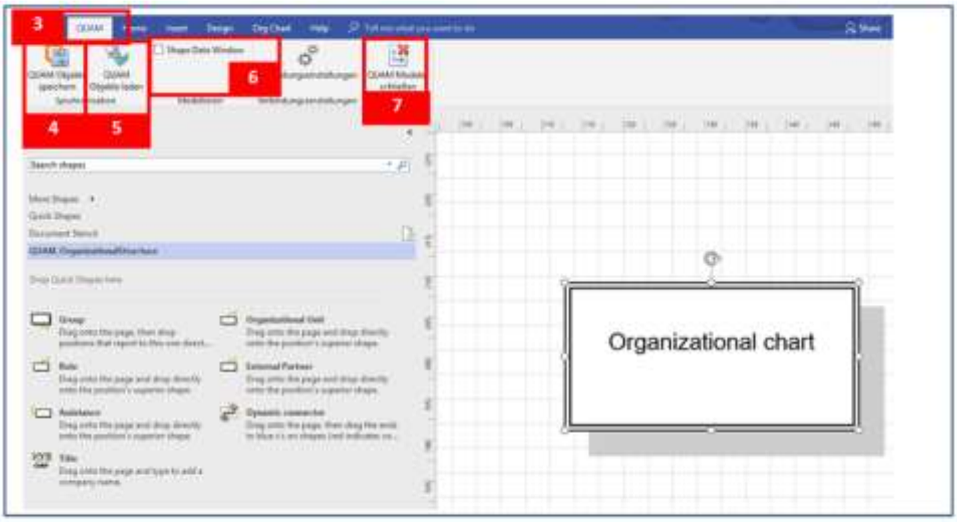


*Abb.*10*: QUAM Visio Modeler window for the organizational structure*

Before you start modeling, select **|Load QUAM-Objects** (5), to load level 0 item(s), e.g. "Organizational Chart" and other existing organizational units into the diagram. Arrange the shapes as you prefer. Just copy the shapes from the template to the clipboard and paste them after loading the existing Quam-Objects. You can then arrange them and connect them to the loaded objects.

Attention: If you forget to load already existing Quam objects to the modeling area, they will be de-leted as soon as you save the chart.

To create additional levels in the diagram, drag the required shape, e.g. *Organizational Unit* from the shape stencil and drop it on the shape *Organizational Chart* in order to create a child object. The new shape is automatically placed a level below the one you have dropped it on. Double click on the shape to name it.

Note: Do not add a manual line breaks in titles, as this might result in problems. Visio automatically inserts line breaks according to shape size.

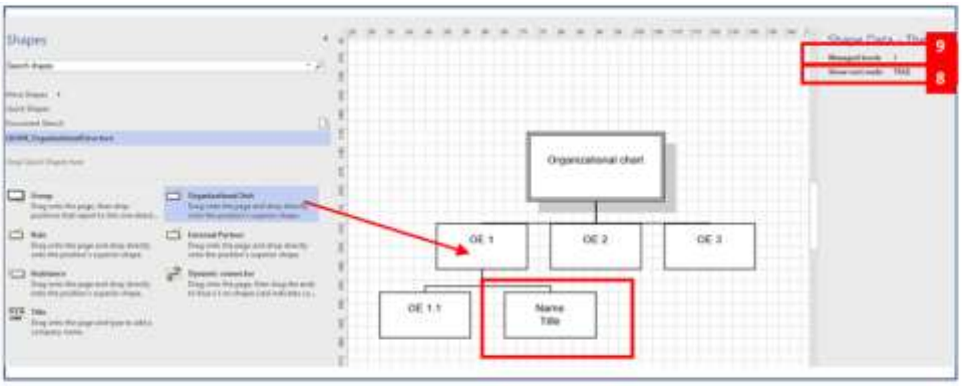


*Abb.*11*: Modeling of organizational charts*

The root node – in this case *Organizational Chart* - can be hidden as follows: Click the button **|Shape Data** on the QUAM tab (6). In the field "*Show root node*", select FALSE from the drop down menu (8).

For organizational charts with more than two hierarchy levels, you need to define the number of hier-archy levels in order to avoid the following message:

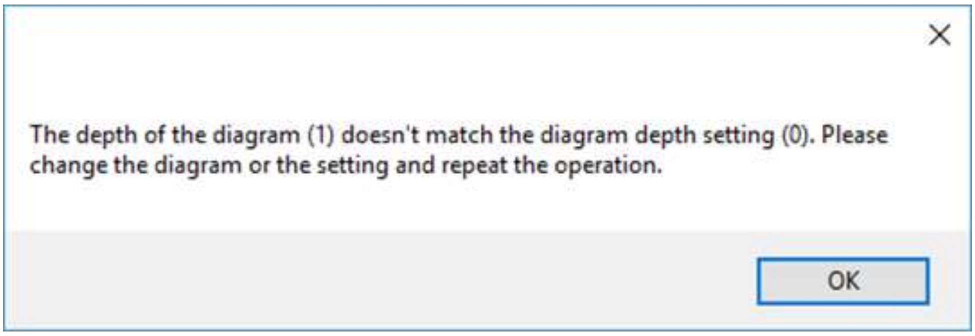


Abb.12: Warning message for the diagram depth while modeling an organizational chart

In the window "Shape Data", enter the number of "Managed levels" (9). In the same window you can activate to show Managers and Employees of organizational units in the drawing. To do so, select a shape and open the **|Shape Data**. You have the following options:

- Show Manager: TRUE (10) shows the Managers assigned to the organizational unit
- Show Employee: TRUE (11) shows employees assigned to the organizational unit

Click **|Load QUAM**-Objects to show the assigned contacts on the drawing. Change the setting back to FALSE in order to hide the names:

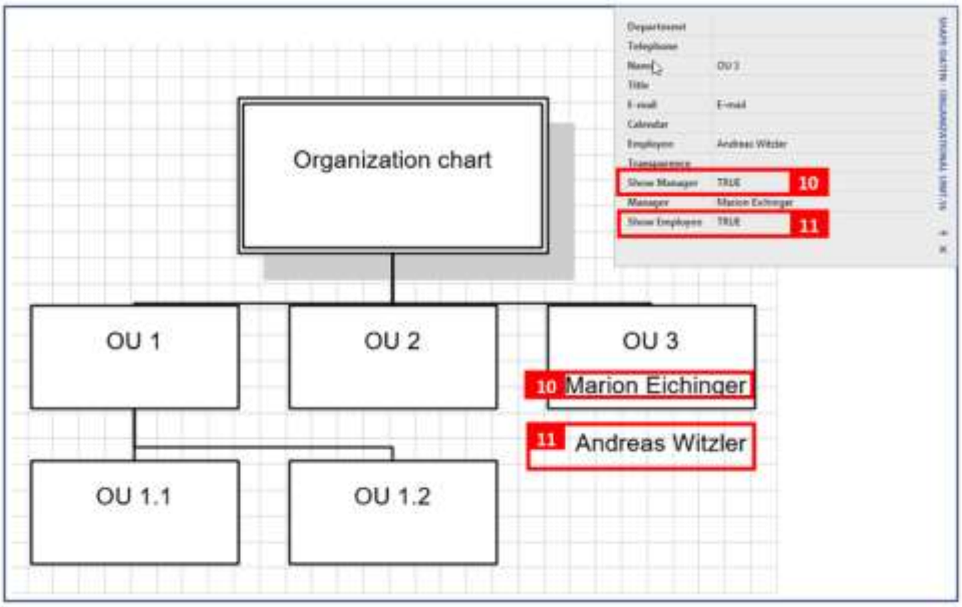


Abb.13: Activate employees and manager in an organizational chart

It is recommended to save the chart once in a while by using the button **|Save QUAM-Objects**.

Note: If you delete a shape from the drawing it will also be deleted from the database. Before you can delete a shape you have to confirm a security dialog, to avoid deletion by accident.

If you are finished modeling, save the chart and close it by using the button **|Close Modeling**. Un-saved objects will be lost.

Go back to your browser and klick **|Reload Site** (12) to update the drawing. If you hover over a shape, a tooltip (13) is shown containing more information. The information in the tooltip can be configured.

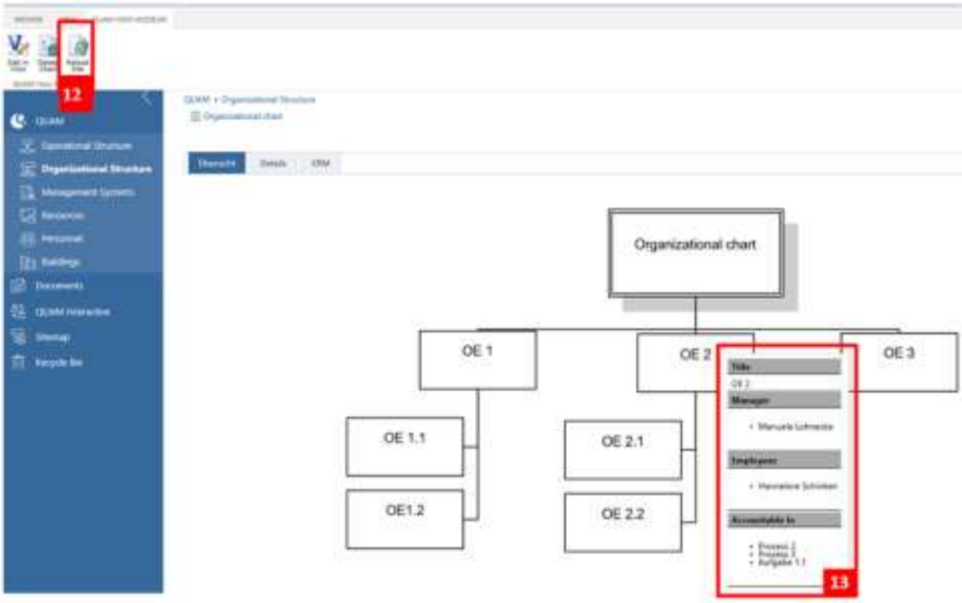


*Abb.*14*: An organizational chart in Quam*

The web part that is used to display drawings may contain one of three different zoom modes: *None*, *Legacy* and *Quam*. In the Quam-mode, the drawing can be zoomed in and out using the plus and minus buttons or the mouse wheel. It can be moved using drag and drop. Using the button Centering/Zoom the drawing will be reset and centered. By clicking while holding the Ctrl key, you can select an area within the drawing that will be zoomed. You can access the same function by clicking on the box button. By centering the drawing before zooming with the box, you will get the best results.

*Abb.*15*: Zoom modes of the orgchart chart webpart*

Note: The display of the drawings may differ in different browsers.

Quam allows to create organizational charts for individual organizational units. Open the respective organizational unit and proceed as described above.

1.2.2.3. CREATING ROLES AND EXTERNAL PARTNERS

A role is a specific function that can be fulfilled by employees independent of their hierarchy level. External partners are external organizations or individuals that are associated with your company, like clients or vendors.

If you have added groups as described in chapter Administering and Creating Groups in the Organizational Structure , you can create roles and external partners that are assigned to the groups. To create these, use **|Edit item** to edit the group and use the **|+ button** for the field "*Assigned Items*" (1). Select the content type "*Role*" or "*External Partner*" (2).

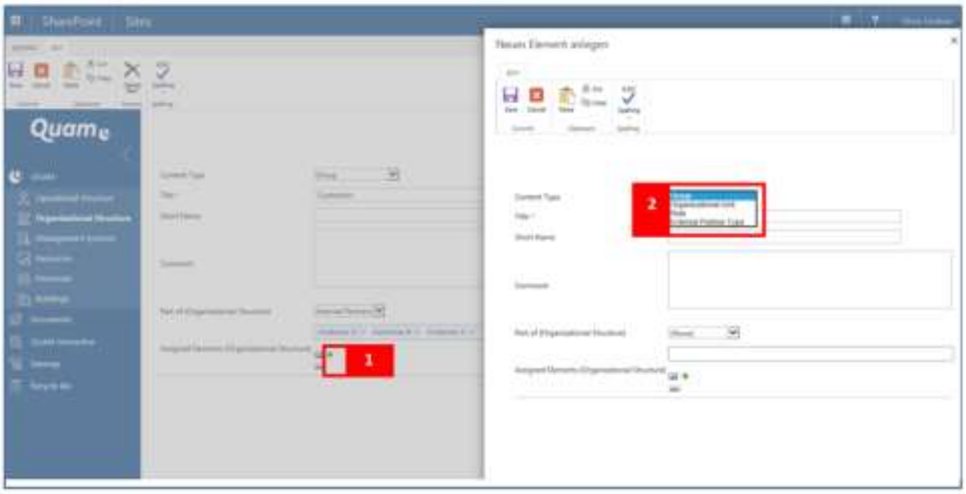


Abb.16: Adding an external partner to a group

Proceed as described to create subordinated roles or external partners. The parent-child-relationship is defined automatically. If you are finished, click **|Save** to confirm.

1.2.3. MODELING PROCESSES

The process structure describes "everything a company does" to produce services or products.

There are different ways of modeling processes in Quam:

We will show how processes can be modeled using text, and how the modeled processes can be transferred into BPMN flowcharts (Business Process Modeling Notation).

Then we show how processes can be modeled using the Quam modeler.

Finally, referenced objects will be discussed.

To model the process organization in Quam, start by selecting **|Process Structure** from the shortcut panel.

1.2.3.1. MODELING PROCESSES AND PROCESS GROUPS IN THE STANDARD VIEW

This section explains textual modeling of processes and process groups without using graphic tools. The items are structured through the assignment of parent objects.

The following diagram is an example of a process map:

- The process groups "*Production*" and "*Development*" are allocated to the "*Value creation processes*". Therefore the group "*Value creation processes*" is assigned as the parent object to the groups "*Production*" and "*Development*".
- The process group "*Production*" is the parent object to the processes "*Pre-sales*", "*Implementation*" and "*After-Sales*".
- A process can be modeled as a set of *Tasks*, *Events*, *Gateways* and *Connectors*. These objects can be assigned to a process by selecting it as their parent object.

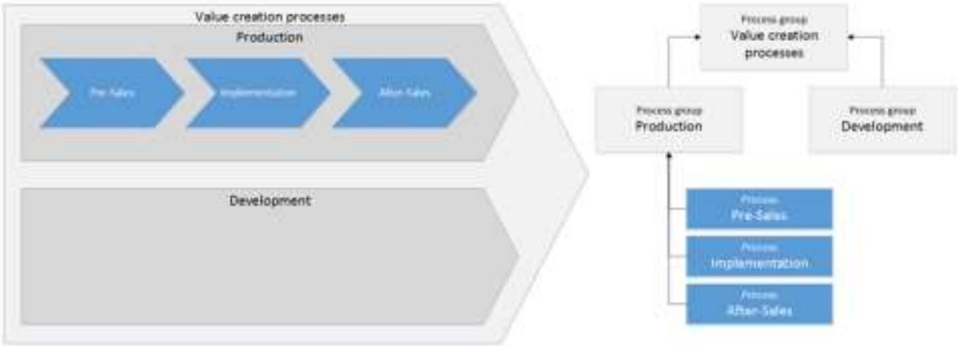


*Abb.*17*: Example of a process map*

- Connectors are utilized to model relationships between Tasks, Events and Gateways within a process.

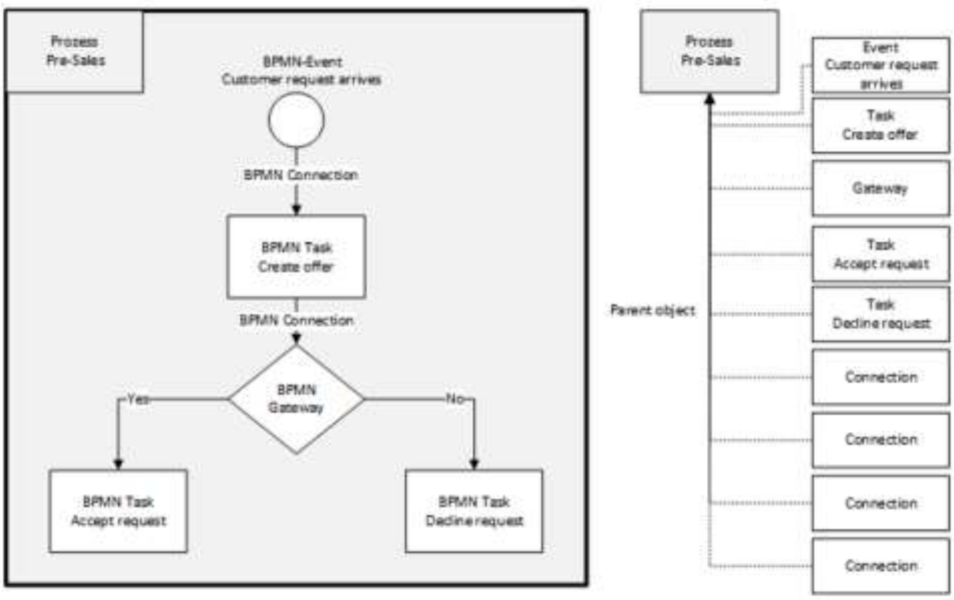


*Abb.*18*: Example BPMN process*

Creating a Process Group

Process groups serve to structure processes. Their purpose is to help the user by facilitating orientation and classification. To create a process group, open the Process Structure and select **|Add new item**. Fill in the fields of the form and confirm by clicking the **|Save**-button. Please follow the guide from chapter Different functions of SharePoint Forms in Quam for this.
If you would like to create a sub-group, use the **|+** button of the field "*Assigned Items*".

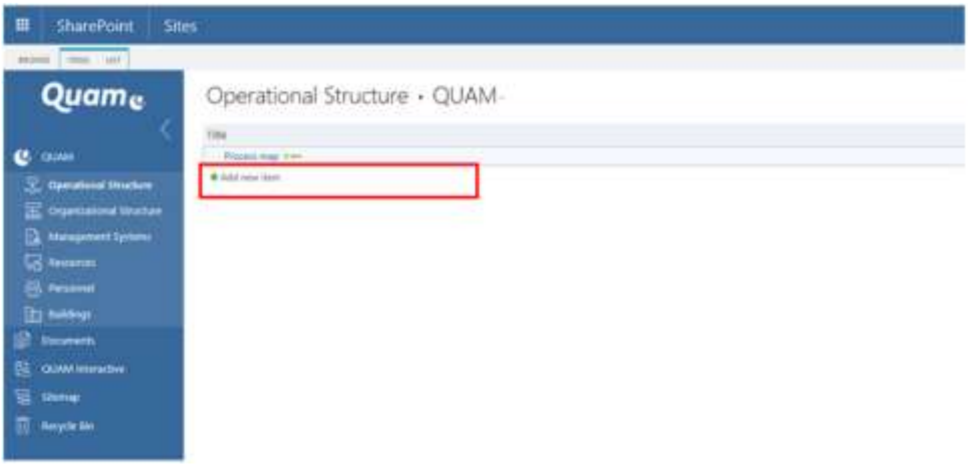


Abb.19: Adding an element to the operational structure

Creating a Process

A process is a coherent sequence of activities aimed at fulfilling a defined goal. Quam supports the Business Process Modeling Notation (BPMN). A process is created in multiple steps. The first step is to define the process and assign it to a process group or another process. Then the individual activities can be created, assigned to the process and linked to each other using connectors (BPMN Connection).

In order to start defining a new process, open the the parent process group or process, use the **|+** button of the field "*Assigned Items*" (1) and choose the content type "*Process*" (2). Fill in the fields of the form as required and add the process to the system by clicking **|Save**. The parent-child-relationship is set automatically.

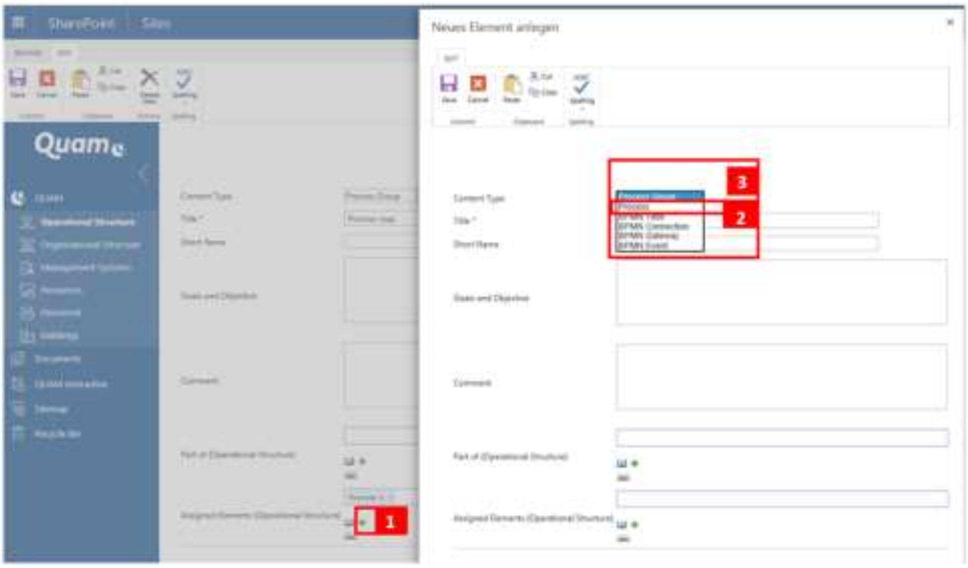


Abb.20: Adding processes, tasks, connections, gateways and events to a process map

The created process can now be filled with events, activities, gateways etc. In order to create tasks, events, gateways and connections, proceed as for creating a process. Open the process you would like to fill with activities, use the **|+** button (1) of the field "*Assigned Items*" and choose the required content type (3). Fill in the fields of the form as required and add the process item to the enterprise model by selecting **|Save**.

Proceed for as many subordinated process activities as you like. The parent-child-relationship is set automatically.

1.2.3.2. GRAPHICAL MODELLING OF PROCESS GROUPS AND PROCESSES

Processes and process groups can also be modeled graphically using the Quam Visio-modeler.
By default Quam ist configured to use a reduced set of BPMN-shapes for flowchart modeling. If you would like to use more shapes or even the whole set of BPMN-shapes ask your administrator for configuration. Which BPMN-version is supported depends primarily of the Visio-version you use (Visio 2013 or higher supports BPMN 1.2).

For a limited support of certain BPMN objects, see chapter Important Note on Swimlane Modeling.

You can start the modeling of your process elements with either a blank or one of the standrad Quam templates. In case you have not modeled you process element yet a blank picture is shown. Whether it is a blank picture or a picture of a perfectly modelled process, you can use the provided switch **|Show chart** to show the picture or not.

If you like to start your process modeling with a blank template or if you like to edit an existing drawing, you can use the control **|Edit in Visio** (2a) provided in tab **|QUAM Visio Modeler** within the ribbon bar (1). For starting the process modeling with a provided template, you should follow the link **|Create new model** (2b).

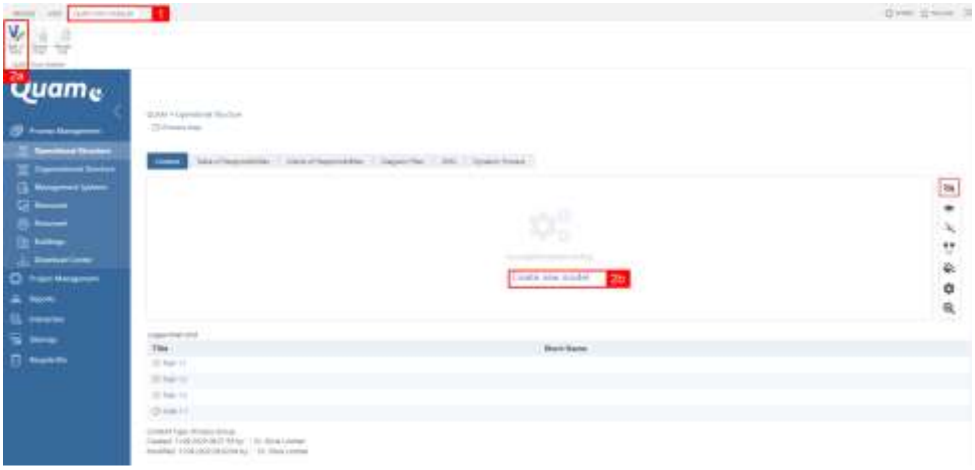


Abb.21: Opening the Quam Visio Modeler for graphical modeling of processes

Previous to the selection of the actual template, you can still decide to start your process modeling with a blank template, just select **|Model without template** (2c), or you can select among a library of templates by following the link **|Model with template** (2d).

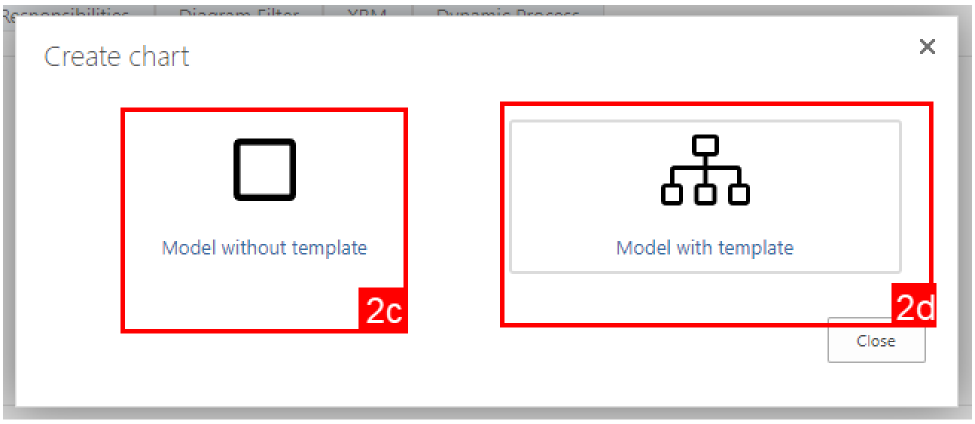


Abb.22: The choice between various templates for starting a process modeling

The following library offers several templates fitting to the Standard-Shapeset and to the content type of the element you wish to create a chart for. The template to start with can be simply selected.

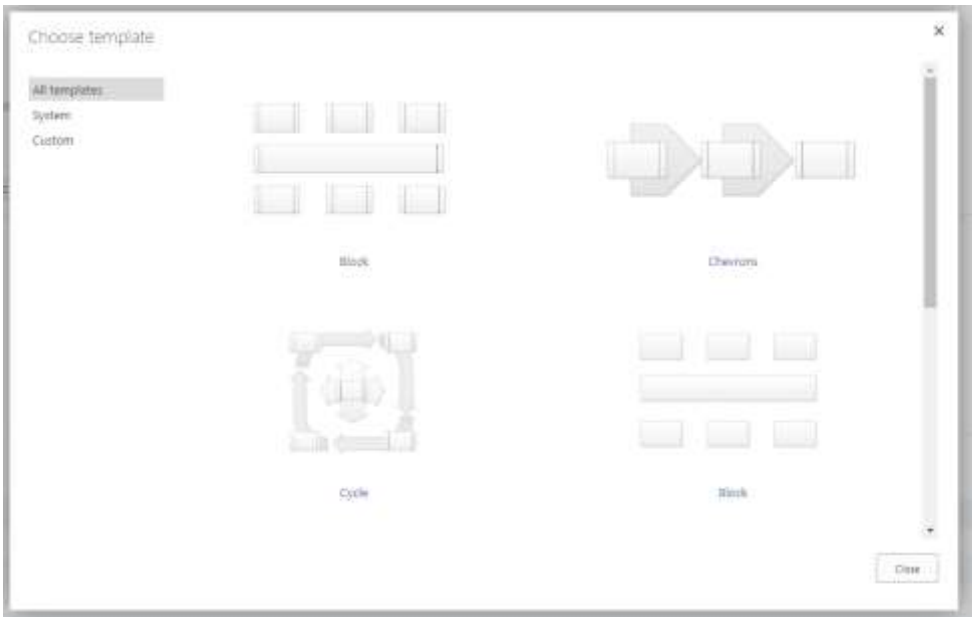


Abb.23: The library of standard templates according to the content type and shapeset

In both cases, modeling with and without a template as well as editing existing charts, an instance of Microsoft Visio opens after an additional confirmation showing a drawing with or without existing information.

The **|QUAM** tab (3) in the Visio ribbon contains the following options:

- **|Save QUAM Objects** (4) saves the Visio diagram to the database. Database objects are created, changed or deleted.
- **|Load QUAM Objects** (5) imports existing objects from Quam into the diagram. It is not necessary to start modeling with a template in that case, as the objects and their structure can be fully obtained by the database.
- **|Open Model Browser** (6) opens a window to select and use existing objects in the diagram and enables swim lane modeling.
- **|Close Quam Modeler** (7) closes Visio.

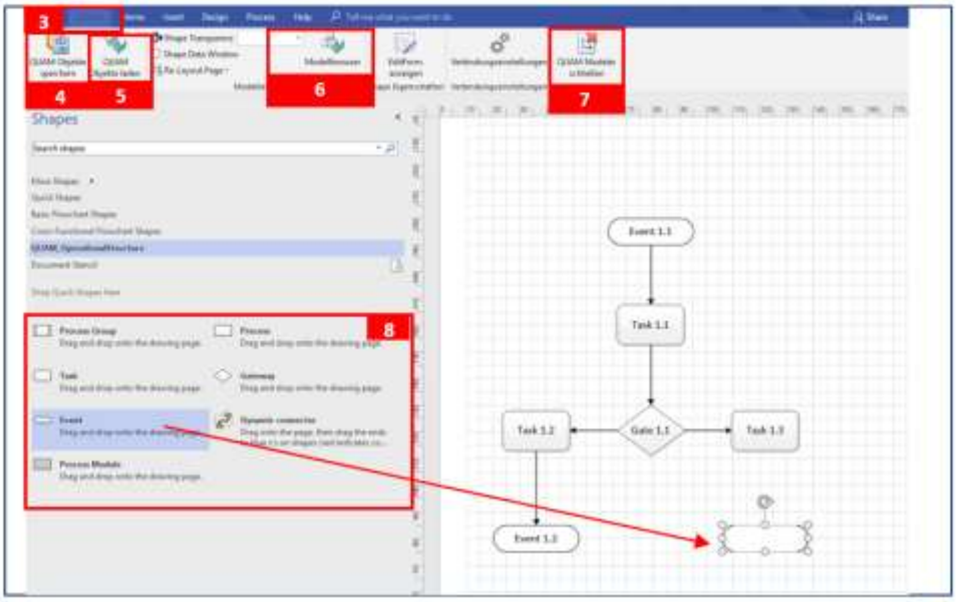


Abb.24: Graphical modeling interface

Select the option **|Load QUAM-Objects** (5) to load existing child objects into the drawing. Objects that have been created without a drawing appear in the center of the diagram and need to bee arranged.

A stencil on the left side of the diagram contains the various shapes (8). To model the process, drag and drop the shapes on the diagram and arrange them as required.

Refer to chapter [Tips for the use of the Quam Visio Modeler] to learn more about the different ways of modeling in Visio.

For adding titles to tasks, events, gateways etc. double click on a shape to open a text field and type in the desired name.

Note: If you *delete* objects from the drawing they will remain in the database until you save the Quam drawing. This behavior changes, if the *Quam Add-On CCM* is installed. Please, check the CCM-manual for more information about deletion behavior.

After finishing the drawing, save the diagram to the database by clicking **|Save QUAM-Objects** (4). Close the chart by clicking **|Close Quam Modeler** (7).

Back in your browser, you can use the button **|Reload Site** (9) in order to update and show the new process diagram. To delete a chart click **|Delete Chart** (10).

Note: Deleting a chart does not delete the items saved to the database.

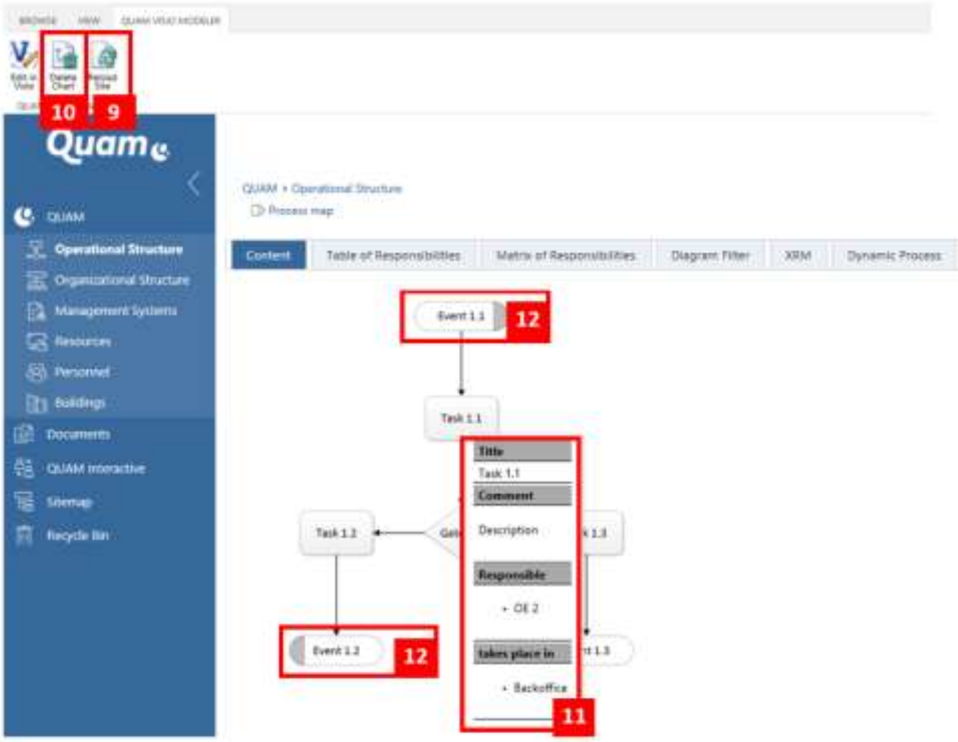


Abb.25: Browsing a process diagram

To get additional information about a shape, hover the mouse over it (11). It is possible to configure the content of the tooltip information if required.
Start and end events of an object are depicted with a grey area on the left or right side of the shape (12). By clicking on the grey area, information of predecessors or successors of the element will be shown. This property will also be used for referencing.

The web part that is used to display Visio diagrams in your web browser offers three different zoom modes: None, Legacy and Quam. In the Quam-mode, the drawing can be zoomed in and out using the plus and minus buttons or the mouse wheel. It can be moved using drag and drop. Using the button Centering/Zoom the drawing will be reset and centered. By clicking and holding the Ctrl key while dragging, you can select an area within the drawing that will be zoomed. You can access the same function by clicking on the box button. By centering the drawing before zooming with the box, you will get the best results:

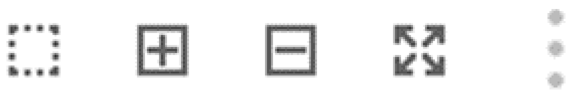


Abb.26: Zoom modes of the diagram browser

Note: The drawings may appear slightly different in various browsers. Chrome is the best choice when zooming with two fingers on mobile devices.

1.2.3.2.1. IMPORTING EXISTING OBJECTS

Usually the end of one process triggers the start of another process. Also tasks are often used in more than one process. Quam elements need only be modeled and saved as objects to the database once. This ensures consistency of data while at the same time reducing the need for data maintenance.

Open the process that you would like to copy or reference from an existing object. Select **|Edit in Visio** (1) in the **|QUAM Visio Modeler** tab to open the diagram in the Quam Visio Modeler:

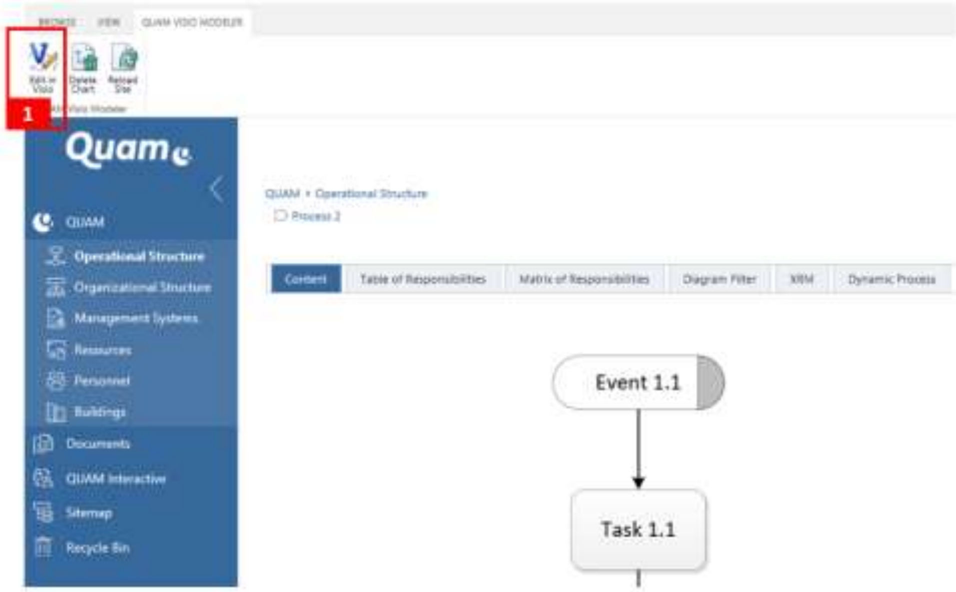


Abb.27: Opening a process diagra for editing with the Quam Visio Modeler

Open the **|QUAM** tab (2) and select **|Open Object Browser** (3) to load the process repository:

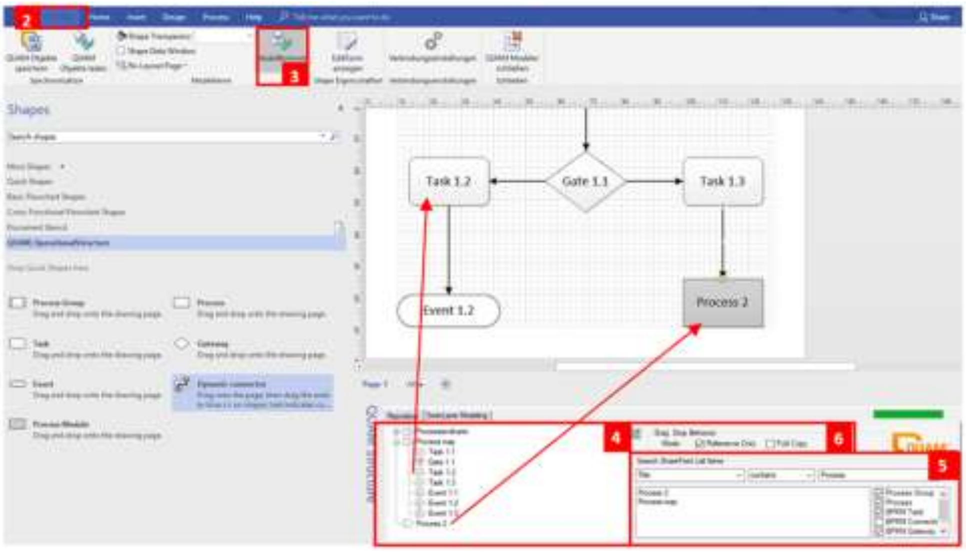


Abb.28: Referencing existing elements using the modelers Model Browser

Use the process tree to navigate directly to the object you would like to reference or copy to the process (4). Alternatively, you can use the SEARCH SHAREPOINT LIST ITEMS function (5). It supports searching for certain attributes in list items and allows you to filter your search according to the different content types.

In the section Drag Drop Behavior, you can decide, whether you would like to reference (Reference only) or copy (Full copy) an object (6). Check the corresponding box and drag the object from the process tree or search results and drop it onto the diagram. If you *reference* a process, this will be shown with a grey box to distinguish it from other processes.

If you *copy* the item, you have to make the following settings for the element to be copied:

- Copy only this item
- Copy this element and all sub elements – Copy this element and all child objects
  Note: Please make sure the copied items do not contain circular references – otherwise this function might not finish loading!
- In the "Select which columns to be copied"-window check the columns whose content shall be copied.

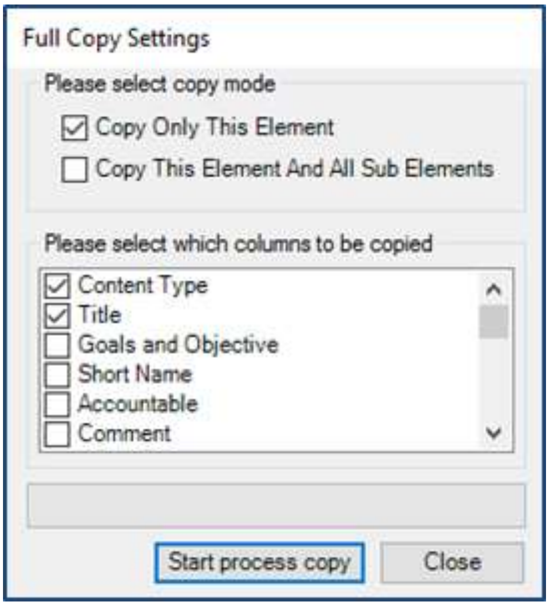


Abb.29: Copy settings of an element in the QUAM Visio Modeler

Click **|Start process copy** to start copying. You can continue to work as soon as the copy process is completed. Select **|Close** to finish.

Note: Copied elements are immediately stored in the data model *before* selecting **|Save QUAM-Objects**. If you do not want to save the copy, the copied elements must be deleted manually.

Integrate the copied elements in the diagram as required and confirm your changes with **|Save QUAM-Objects**. Click **|Close Quam Modeler** to finish. Click **|Reload Site** to update the diagram in your browser.

1.2.3.2.2. SWIMLANE MODELING

Quam offers limited swimlane modeling of processes. Open the process in the Quam Visio Modeler and select **|Open Object Browser** (2) on the QUAM tab (1) in order to load an overview of the process model.

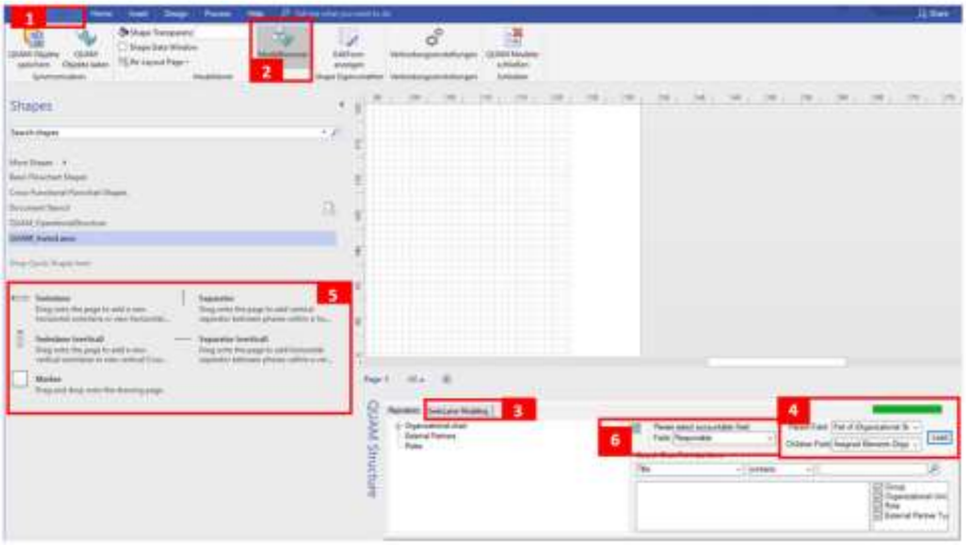


Abb.30: Activate swimlane modeling in the QUAM Visio Modeler

Open the tab **|SwimLane Modeling** (3). In the “parent field” drop-down, select "*Part of (Organizational Structure)*", in the “children field” drop-down select "*Assigned Item (Organizational Structure)*" (4) and confirm with **|Load**.

The Quam swimlane shapes will now appear on the left hand side of the Visio window and can now be used for modeling (5). Before you start, please assign the type of role or organizational unit in the “*Please select accountable field*” drop-down(6): responsible, accountable, consulted or informed. You can adjust this setting for each swimlane individually.

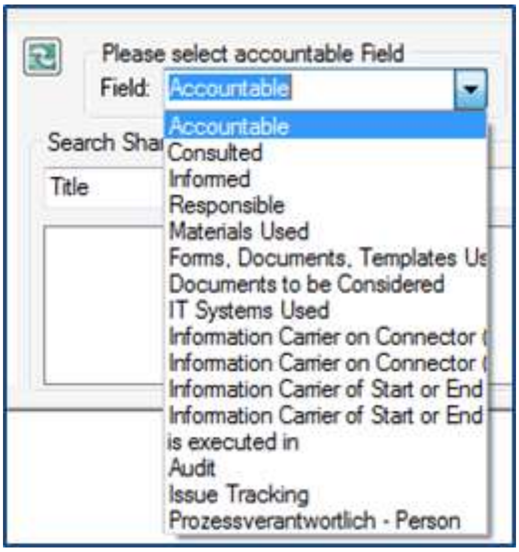


Abb.31: Setting of accountable-field for swimlane

Pull a horizontal or vertical (as per your requirements) swimlane shape via drag and drop onto the diagram and enter the title of the process. Now open the tab **|Swimlane Modeling** and choose an organizational unit or role which you drag and drop onto the swimlane (function). The swimlane will now carry the name of the item.

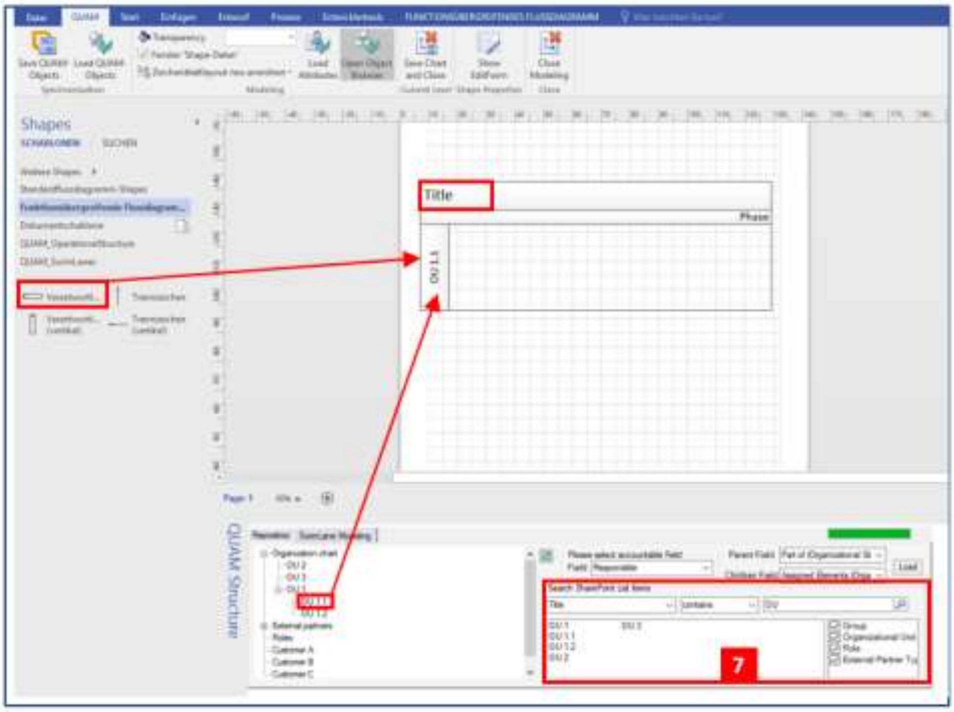


Abb.32: Modeling swimlanes and referencing element of the organizational structure as responsible for the swimlane

If required, you can also use **|Search SharePoint List Items** (7). It supports searching for certain attributes in list items and allows you to filter your search results for different content types. Drag and drop the selected item onto the swimlane head (function).
In order to add further swimlane shapes, drag the shape onto the diagram and drop as soon as an orange line ("seam") appears. The new swimlane will be attached onto the existing swimlane along the orange line. You can now proceed as described above.

To model your process, activate Quam_OperationalStructure shapes (8) an drag and drop the shapes from Quam shapes into the swimlanes. The function of the swimlane is now automatically connected with the item. In the example above, the responsibility ("accountable field": responsible) of the assigned task "Task 2.1" in the swimlane "OU1.1" is now connected with the Organizational Unit OU 1.1.

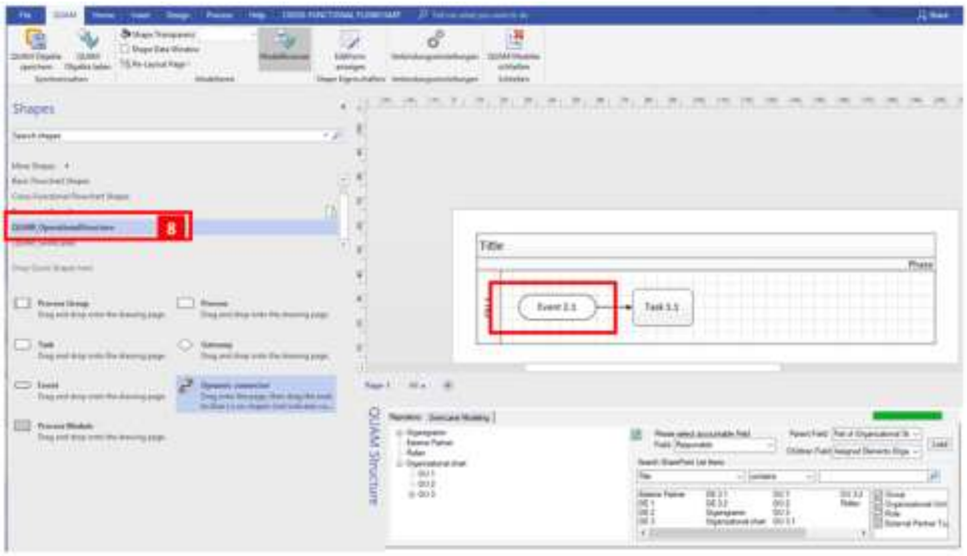


Abb.33: Adding process elements to swimlanes

Complete the process, click **|Save QUAM-Objects** to save your diagram and close the modeler with **|Close Quam Modeler**. In the browser, refresh the site with **|Reload Site** to show the updated diagram.

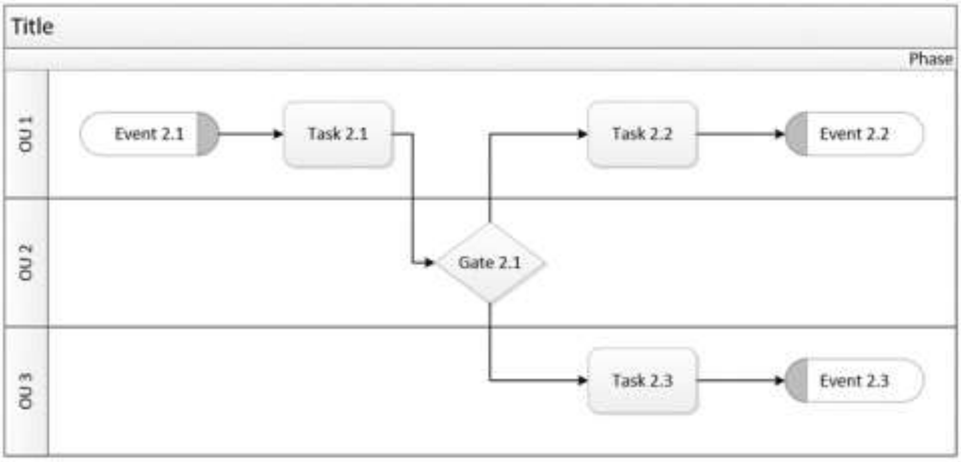


Abb.34: Example of a swimlane BPMN diagram

For limitations on swim lane modeling see chapter Important Note on Swimlane Modeling

1.2.3.2.3. IMPORTANT NOTE ON SWIMLANE MODELING

The Quam swimlane function has to be configured before you can use it.

Quam currently has no representation for pools (swimlanes represent responsibilities of e.g. organizational units, positions or IT-systems; a pool can be expanded or structured via swimlanes)**.**That means a pool can be created visually in a BPMN-diagram with Visio, but will not be saved as a SharePoint object.

Quam currently has no representation for different connector types.
The connector types "*sequence flow*", "*message flow*" and "*association*" can be created in Visio graphically, but will only be saved as a standard Quam connector (sequence flow) to the database.

If you delete a swimlane diagram, the drawing can only be *partially* reproduced via the function **|Load QUAM-Objects**: There will be no pools and activities cannot be arranged automatically in the corresponding swimlanes (they have to be arranged manually) and the connectors will be reproduced as standard sequence flow connectors.

1.2.3.2.4. EDITING METADATA IN QUAM VISIO MODELER

When modeling processes the function **|Show Edit Form** is active in the Quam Modeler tab:

Abb.35: Meta-data edit functions within QUAM Visio Modeler

Items that have already been saved to the Quam-List can be selected and the "Show EditForm" dialog opens the SharePoint-form for editing the metadata e.g. "*Responsible*" (1), "*Acountable*", "*Goals and Objective*" etc. Saving the form (2) saves changes directly to Quam.

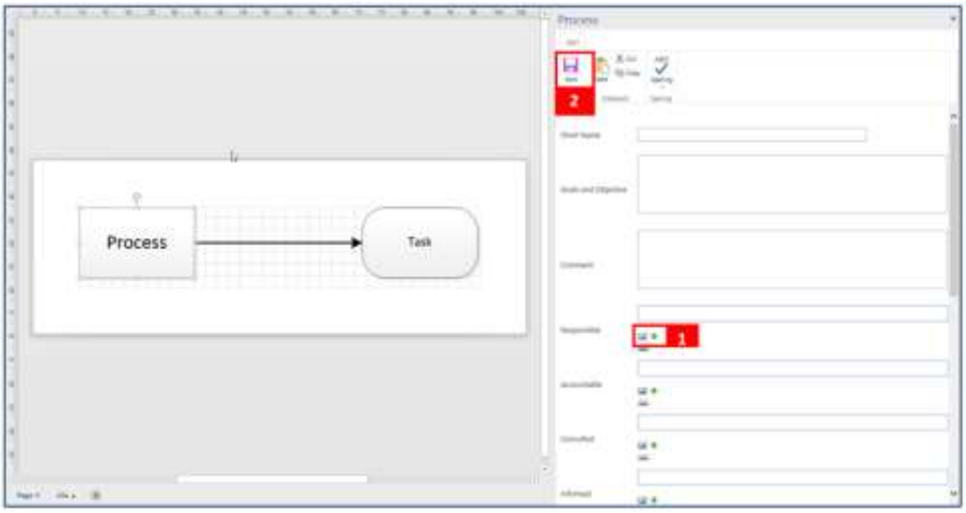


Abb.36: Editing meta-data of processes within Quam Visio Modeler

Note: It is not possible to change the content type (e.g. from a task to an event) and the title of the element.

1.2.3.3. EDITING AND REFERENCING OBJECTS

Once a process is saved to the database the attributes of objects can be set or edited, e.g. who is responsible and what documents or policies must be used.

In the diagram click on the object to open the attributes page of the object:

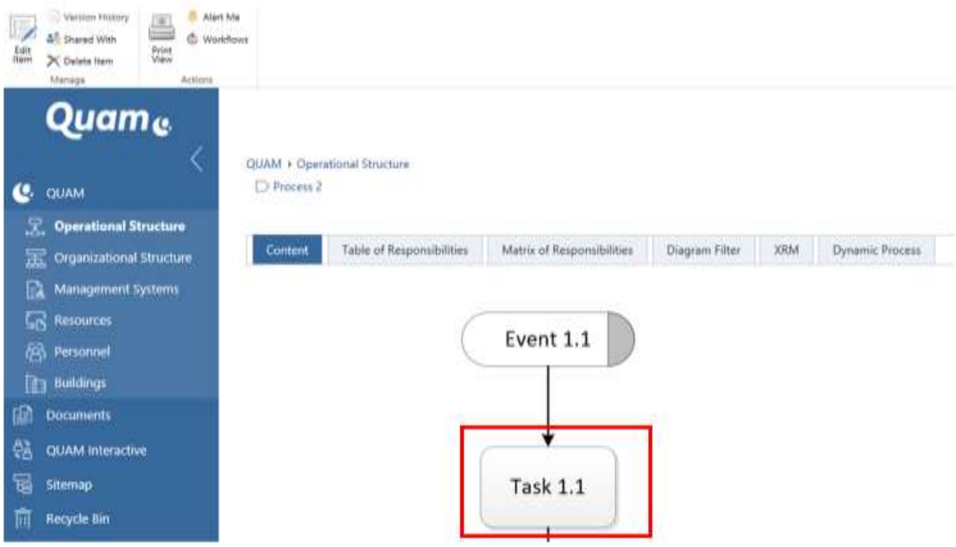


Abb.37: Show details of a process element

Click **|Edit Item** and fill in the form (see <u>Using the Edit Forms in Quam)</u>.

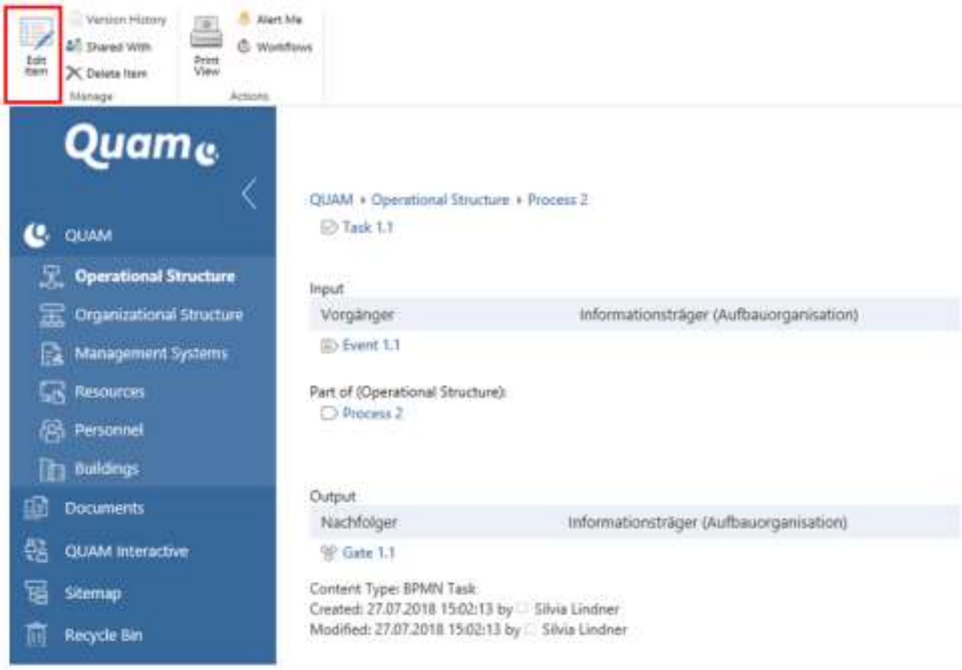


Abb.38: Editing process element attributes

Confirm your input with **|Save**.

Saved referenced of objects can directly be seen in the drawing as icons (1). Furthermore, additional highlights are shown in the drawing based on the evaluation of various references. On the one hand, theses highlight are based on predecessors and successors of processes implicated by the reuse of events and visualised by the event indicator (2a, 2b). A "left" (2a) indicator implies a start event, a "right" indicator implies an end event and both indicators imply an intermediate event, even though it is implicitly given among different processes. And on the other hand, a level indicator (3) is shown, wherever the corresponding element has a drawing itself.

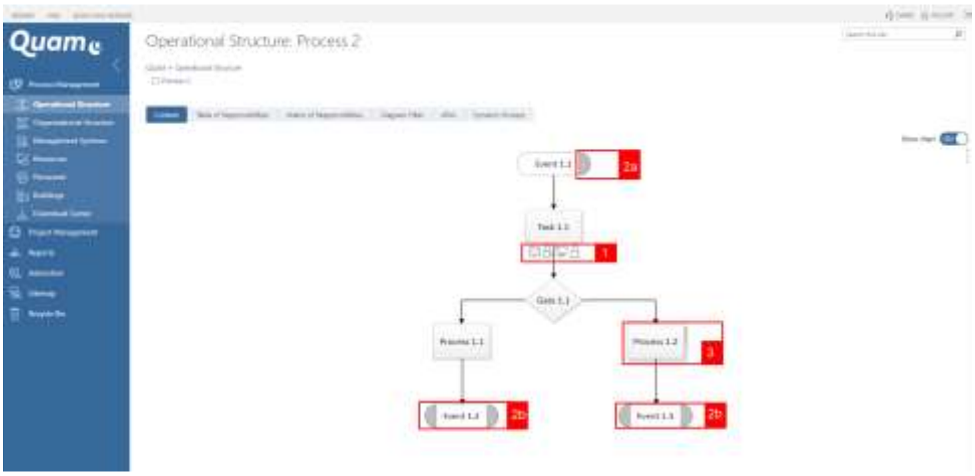


Abb.39: Referenced objects and highlightings within a drawing

A small dialog opens when event indicators or icons according to referenced objects are clicked that contain more information of the event type or reference itself.

Abb.40: Information details of visualized object references

1.2.3.4. TABLE OF RESPONSIBILITIES

The "*Table of Responsibilities*" lists organizational units and roles that are responsible, accountable, consulted and informed per process step:

Abb.41: Table of Responsibilities

Open the table of responsibilities by clicking on the tab **|Table of Responsibilities**. From the table of responsibilities you can navigate directly to the individual organizational units, roles or process items by simply clicking on them.

1.2.3.5. RACI-MATRIX

The RACI-matrix describes the participation by organizational units and roles in completing tasks for a business process. RACI is an acronym derived from the four key responsibilities most typically used: Responsible, Accountable, Consulted, and Informed. It is used for clarifying and defining roles and re-sponsibilities in cross-functional processes.

The RACI-matrix shows process groups, processes, tasks and gateways.
You can access the RACI-matrix by clicking on the tab **|Matrix of Responsibilities**:

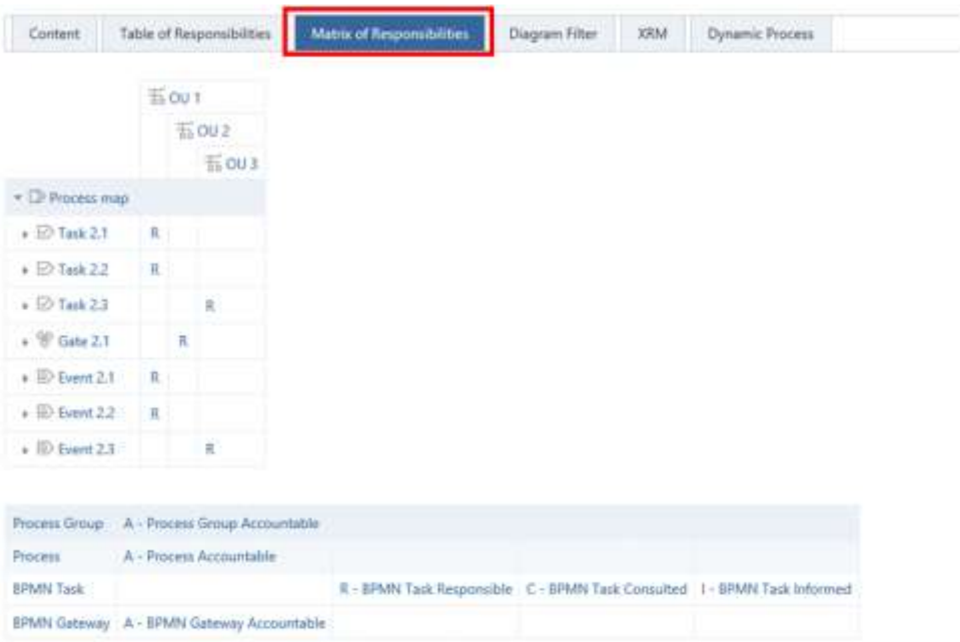


Abb.42: The RACI-matrix

This RACI-matrix by default shows process groups, processes, tasks and gateways. The abbreviations A (accountability), R (responsibility), C (consulted) and I (informed) are explained below the matrix.

Symbols marked in red indicate that a plausibility check might be necessary, in case more than one decision maker is assigned to the same task.

1.2.3.6. EXPORT PROCESS DESCRIPTIONS TO MS WORD (OPTIONAL)

You can export process descriptions to Microsoft Word using the Quam Word Report. The Word-Template that is used for this export can be adjusted according to company requirements.

Please refer to the corresponding WordReport manual for a more detailed description.

1.2.4. ADMINISTERING THE CORPORATE GOVERNANCE SYSTEM

Management systems describe the framework in which the enterprise functions. These are based on legal requirements as well as self-imposed rules. Quality management, environmental management, occupational safety and health as well as management regulations form the comprehensive governance of the enterprise.

This framework is defined internally by guidelines from company management, and externally by demands from clients, banks as well as legislators and other regulatory institutions.

Quam allows to structure the requirements of such regulatory frameworks in guides, to which applicable laws and regulations can be assigned.

To drill down into the corporate governance system open **|Management Systems** from the navigation:

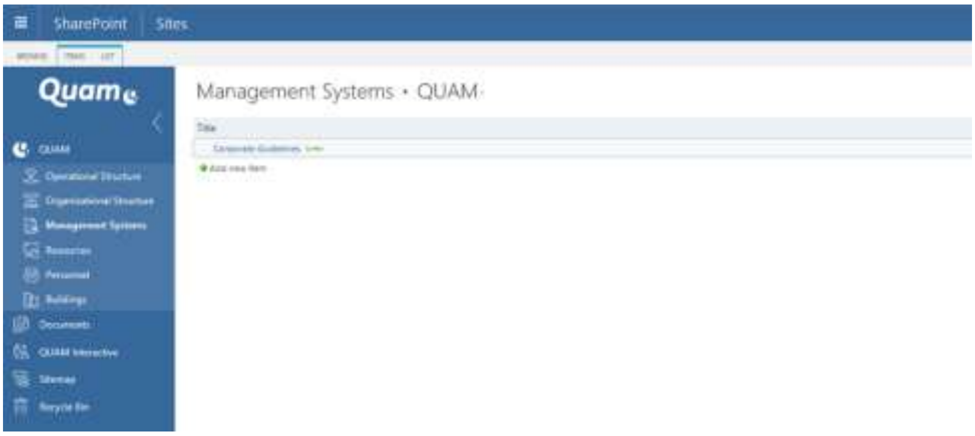


Abb.43: The Management Systems view

1.2.4.1. MODELING THE GOVERNANCE SYSTEM IN STANDARD VIEW

It is useful to set up chapters before adding guides into the system. In this section, MANAGEMENT SYSTEM GUIDES and MANAGEMENT SYSTEM GUIDE CHAPTERS are created. The structure is created by assigning parent objects to elements.

In the following example the management system guide Quality Management Guide is created under the group Quality Management. The guide consists of multiple chapters and sub-chapters, which are modeled using MANAGEMENT SYSTEM GUIDE CHAPTERS. The contents are connected to the chapters by linking word files or by entering text directly into the chapters:

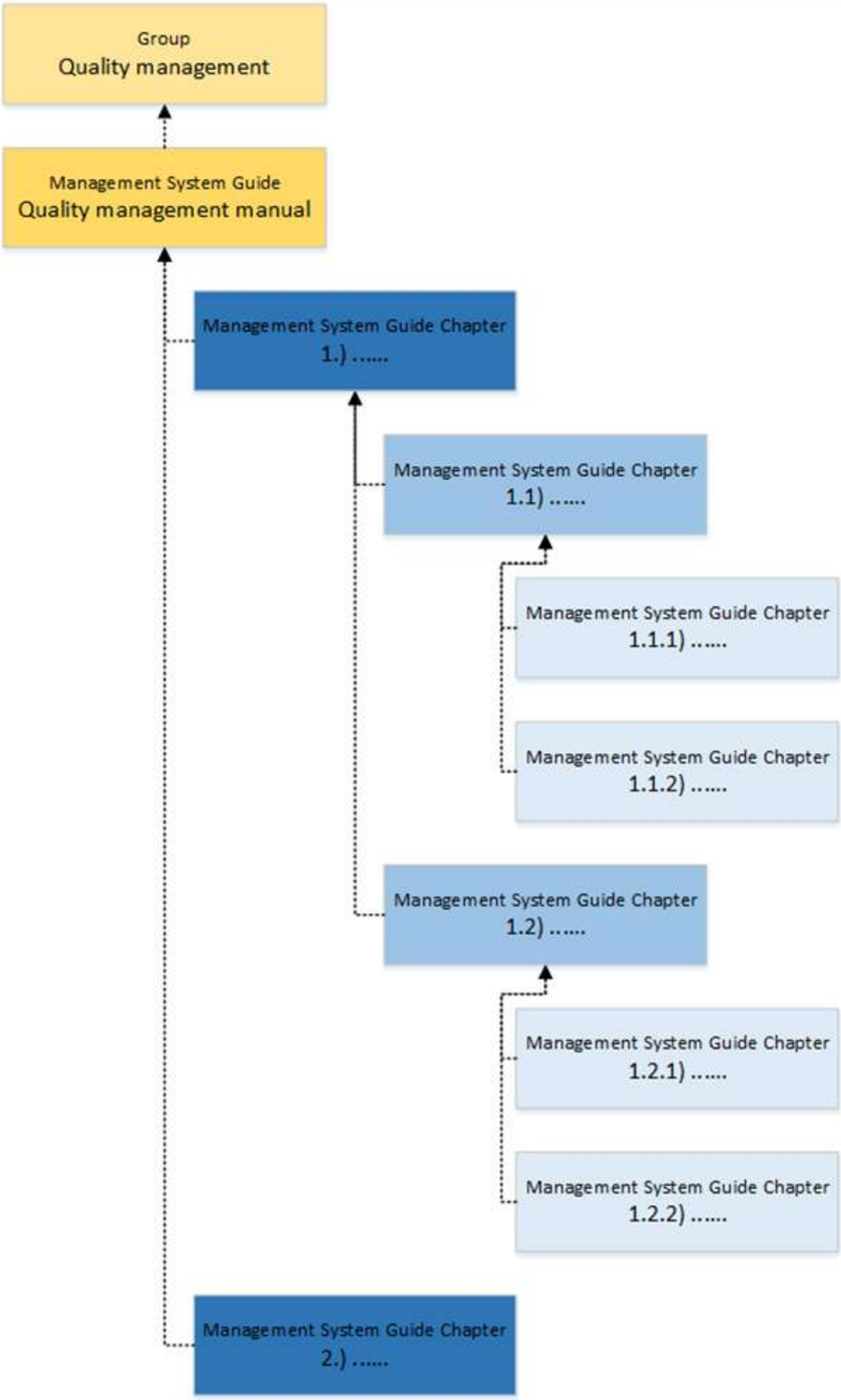


Abb.44: Example of a management systems guide: a quality management guide

Creating Management Systems Groups

To create a new management system such as "*Quality Management*" in Quam, first create a group with the title "*Quality Management*". To create the group, open **|Management Systems** from the quick launch panel and select **|Add new item**. Please follow the guide from chapter [Different functions of SharePoint Forms in Quam](#) for this.

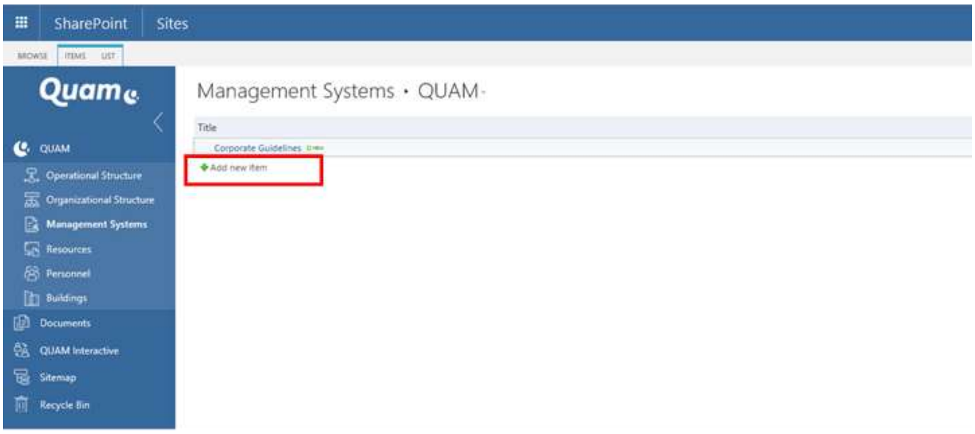


Abb.45: Adding a new element to management systems

Fill in the fields of the form and confirm by clicking the **|Save**-button.

Creating Management Guides, Management Guide Chapters and Regulatory Guidelines

Management guides consist of multiple chapters and sub-chapters. The content can be attached to the chapters and/or sub-chapters as separate files, or be written directly into the "*Comment*"-field.

Regulatory guidelines and legal requirements are also part of Quam and can be administered, connected and communicated using Quam.

To create a new management guide, -chapter or regulatory guideline, open the edit form of the parent object, use the **|+** button of field "*Assigned Items*" (1) and select the required content type (2). Fill in the fields of the form as required and add the item to the system by selecting **|Save**. The parent-child-relationship is set automatically:

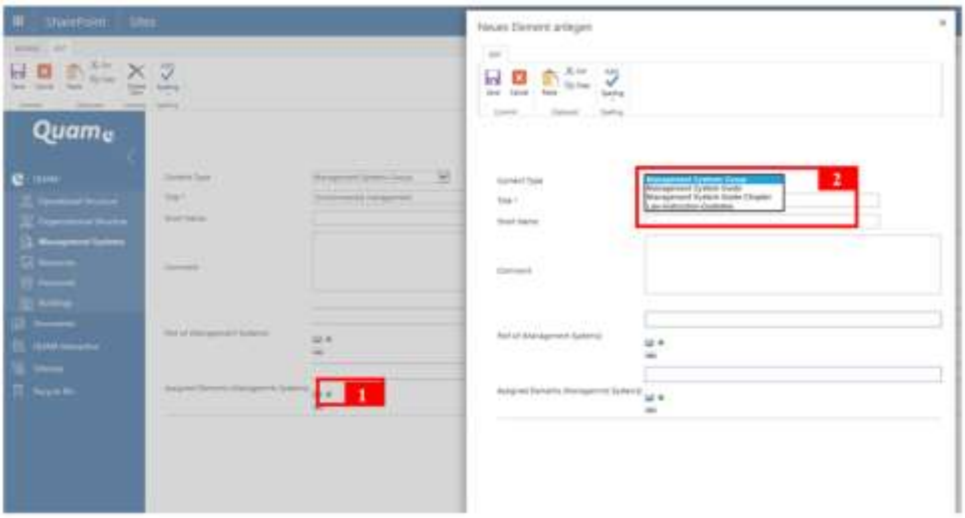


Abb.46: Assign guides and chapters to a group in management systems

In case you want to attach a file to a chapter, proceed as described in chapter Downloadcenter . After the upload, add the corresponding guide chapter in the field "Assigned Guide Chapter". Now the file is available in the guide chapter item.

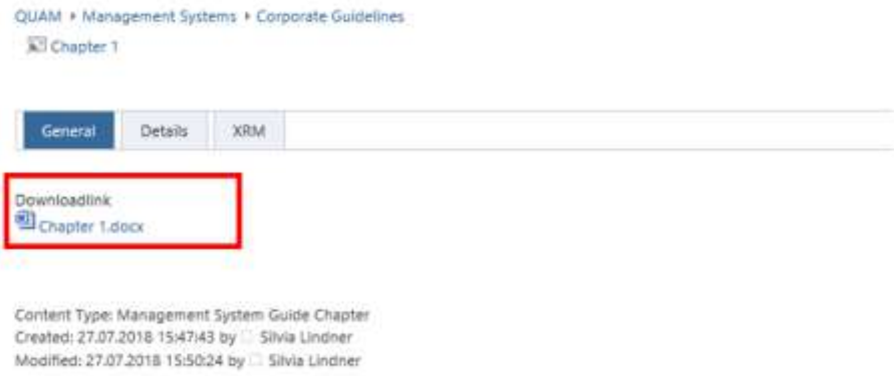


Abb.47: Attaching a document to a chapter in management systems

1.2.4.2. GRAPHICAL MODELING THE GOVERNANCE SYSTEM

To visualize your guidelines, management guides and guide chapters graphically, start by selecting the list **|Management systems** from the shortcut panel, navigate to the item for which to create a chart and open the **|QUAM Visio Modeler** tab (1) in the navigation bar:

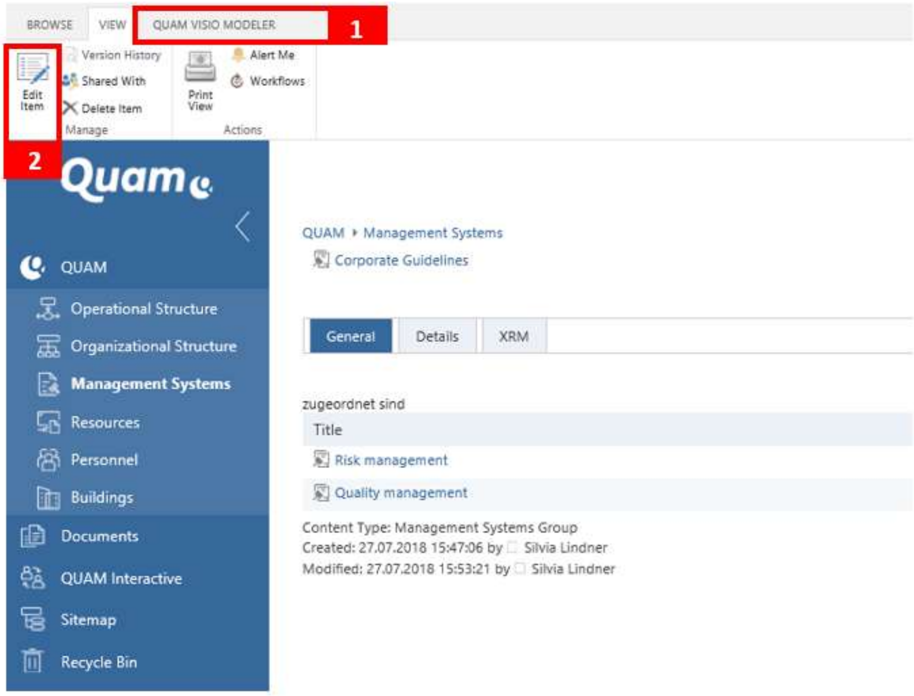


Abb.48: Opening the QUAM Visio Modeler for graphical modeling of a management system

Select **|Edit in Visio** (2) either to create a new diagram or to edit an existing one. This will open Microsoft Visio and display a diagram where you can create or edit the governance chart.

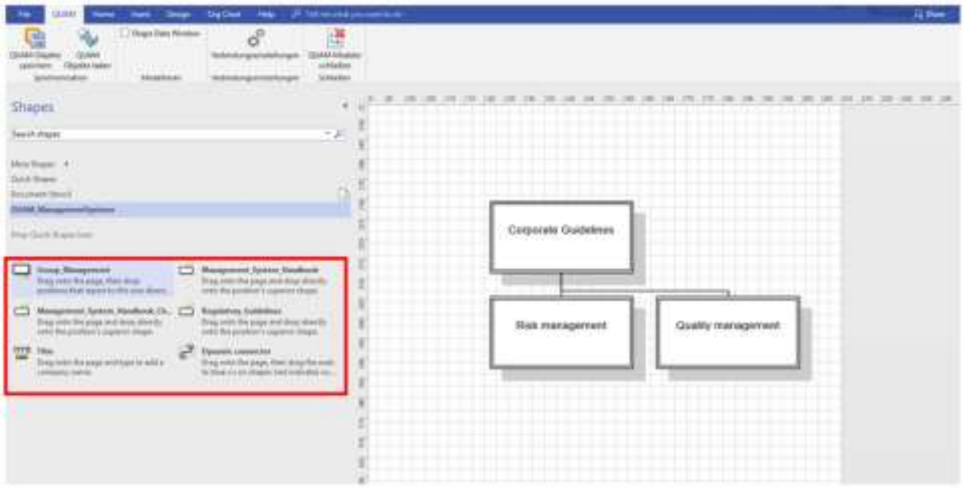


Abb.49: Graphical modeling of management systems

Modeling governance graphically works exactly as modeling organizational charts. Please refer to [Modeling Organizational Charts](#).

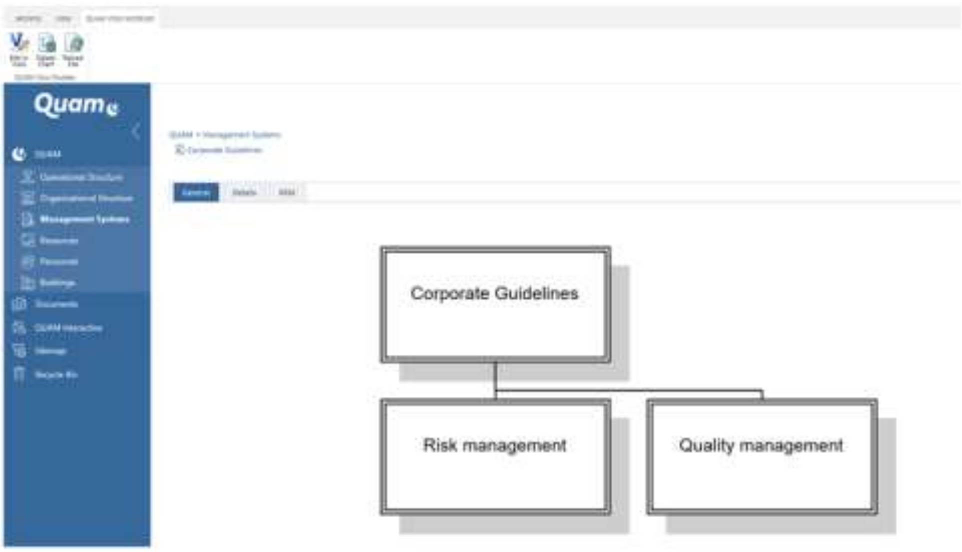


Abb.50: Example Management System diagram

1.2.5. MODELING RESSOURCES

Resources are part of the organizational structure and represent means employees use to create goods and/or provide services. In Quam, these resources are split into IT systems, Documents, Records and Resources (e.g. materials, equipment). This section describes how to model resources and shows how to structure these in useful ways.

To structure resources, select **|Resources** in the quick launch panel.

Structuring Resources

By creating subgroups, resources can be structured in a more sophisticated way, allowing a better overview even in complex environments. Quam by default breaks resources into three subgroups:

- IT systems
- Documents and Records

- Materials and Equipment

Example: Documents and records that are used could be differentiated by whether they are used for communication with clients, suppliers, or for internal communication. To model this, three subgroups are created under the group "Documents and Records" and each is assigned the group Documents and Records as its parent-object:

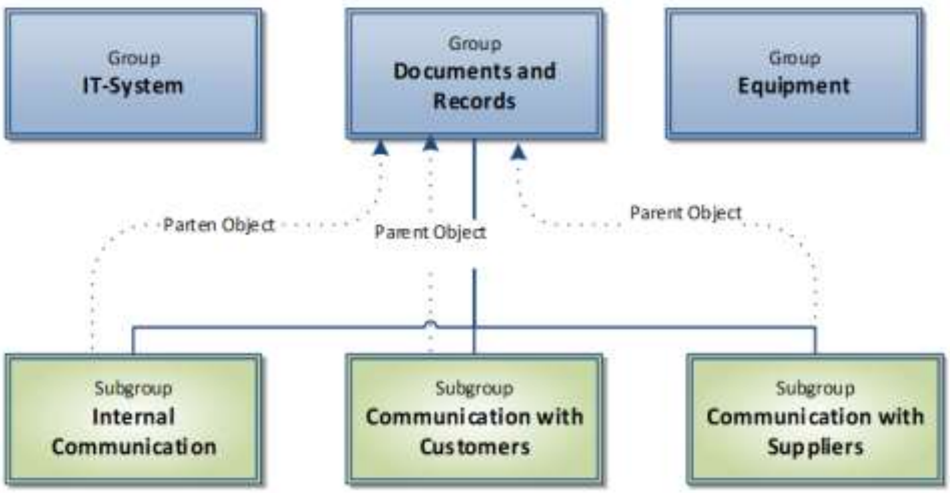


Abb.51: Differentiation of documents and records according to internal and external communication

To create a new resources group, open **|Resources** from the quick launch panel and select **|Add new item**. Fill in the fields of the form and confirm by clicking the **|Save**-button.

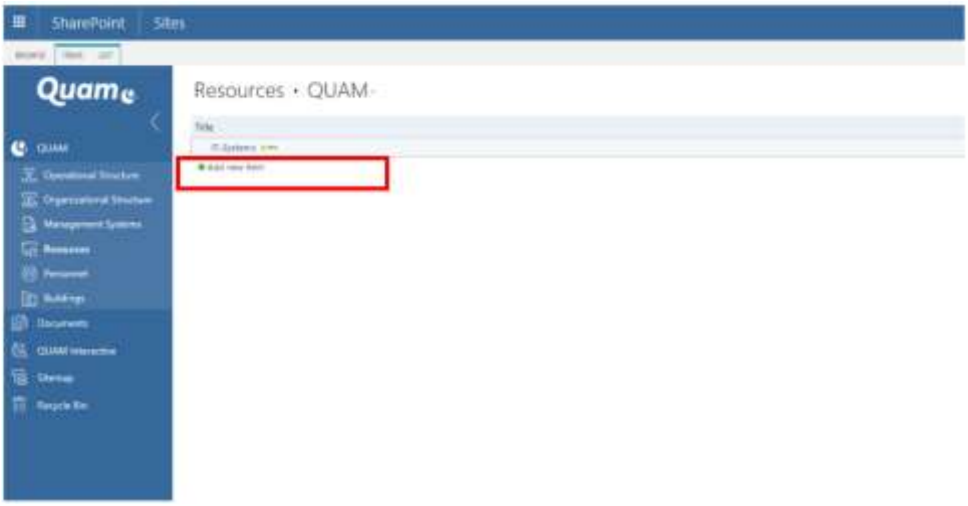


Abb.52: Adding a new resource

1.2.5.1. MODELING RESOURCES IN STANDARD VIEW

Resources as IT systems, documents and records or tools are in use in any enterprise. Usually a variety of resources is used by employees to create products or to provide services (e.g. computer equipment, fax machines or power tools). These resources can be allocated to process groups, processes and activities within a process.

Open the list **|Resources** and complete the following steps to create a new resource, e.g. an IT System in the IT Systems-group:

Open the parent object and use the **|+** button of field "*Assigned Items*" (1) and select the required content type (2). Fill in the fields of the form as required and add the element to the enterprise model by selecting **|Save**. Please follow the guide from chapter Different functions of SharePoint Forms in Quam for this.
The parent-child-relationship is set automatically.
Proceed like this to quickly create subordinated resources. The parent-child-relationship is set automatically.

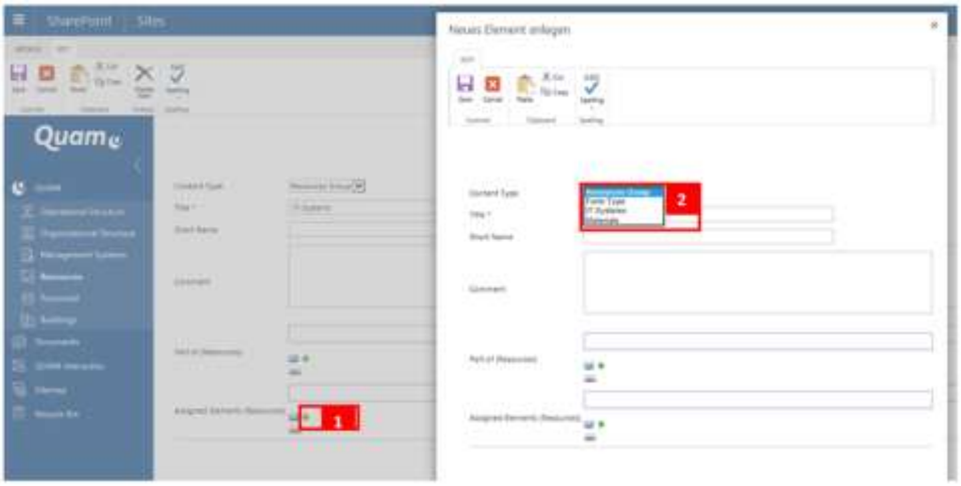


Abb.53: Creating a resource

If you have created a resource of type "Form Type" you can assign a document or template to it; refer to chapter Downloadcenter.

1.2.5.2. GRAPHICAL MODELING OF RESOURCES

Quam allows to model your resource structure as a diagram. Use this e.g. to visualize your IT infrastructure or network graphically. Start by selecting **|Resources** from the quick launch panel and proceed as follows:

Select the resource item for which to create a chart (e.g. IT Systems Group) and open the **|QUAM Visio Modeler** tab (1) in the navigation bar.

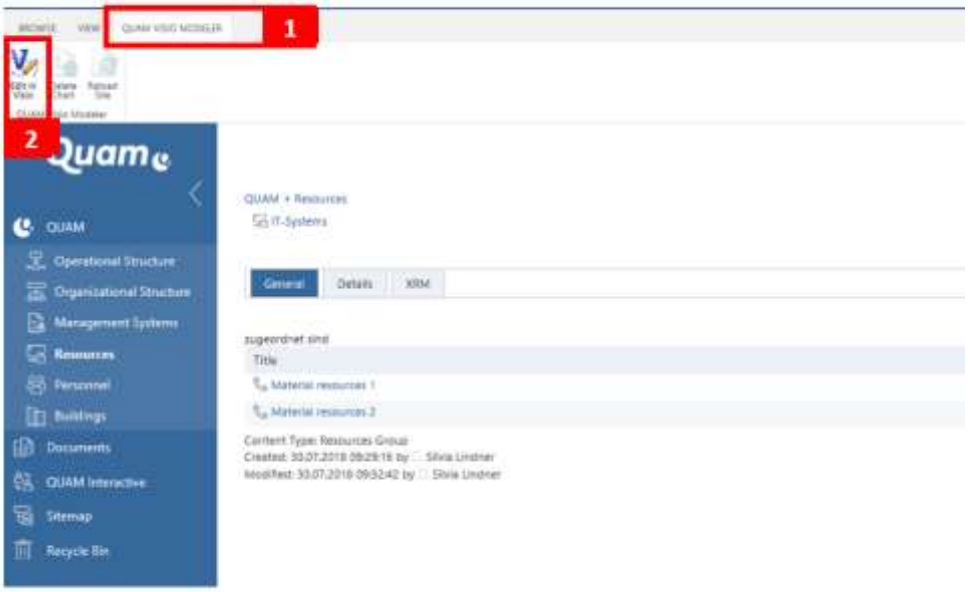


Abb.54: Opening the QUAM Visio Modeler to create resource diagrams

Select **|Edit in Visio** (2) to either create a new chart or to edit an existing one. This will open Microsoft Visio and display a diagram where you can create or edit the resource diagram.

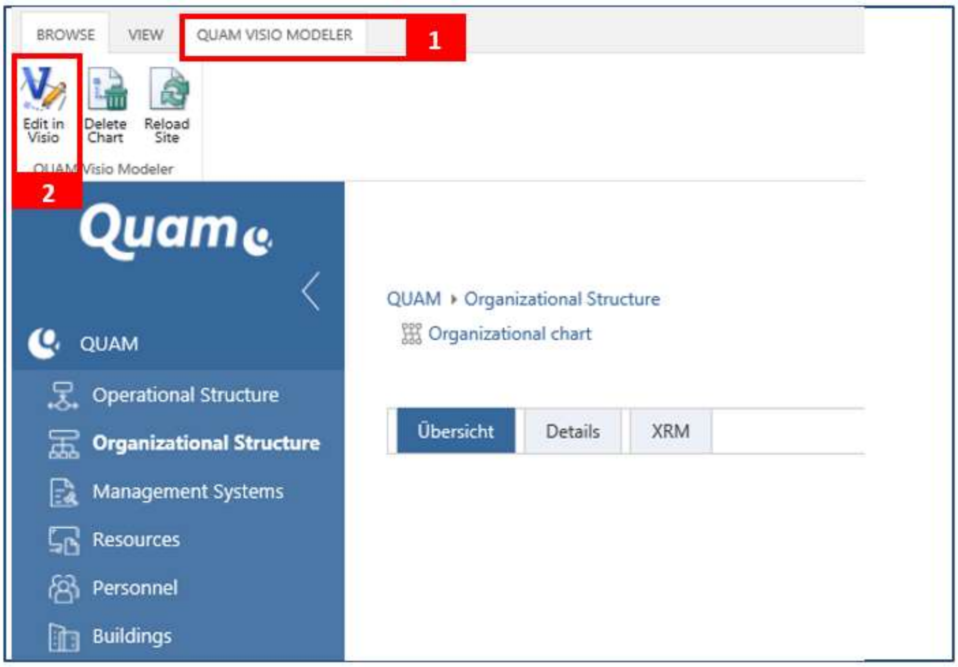


Abb.55: Graphical modeling of resources in the QUAM Visio Modeler

Modeling resources graphically works the same as modeling organizational charts. Please refer to chapter [Modeling Organizational Charts](#).

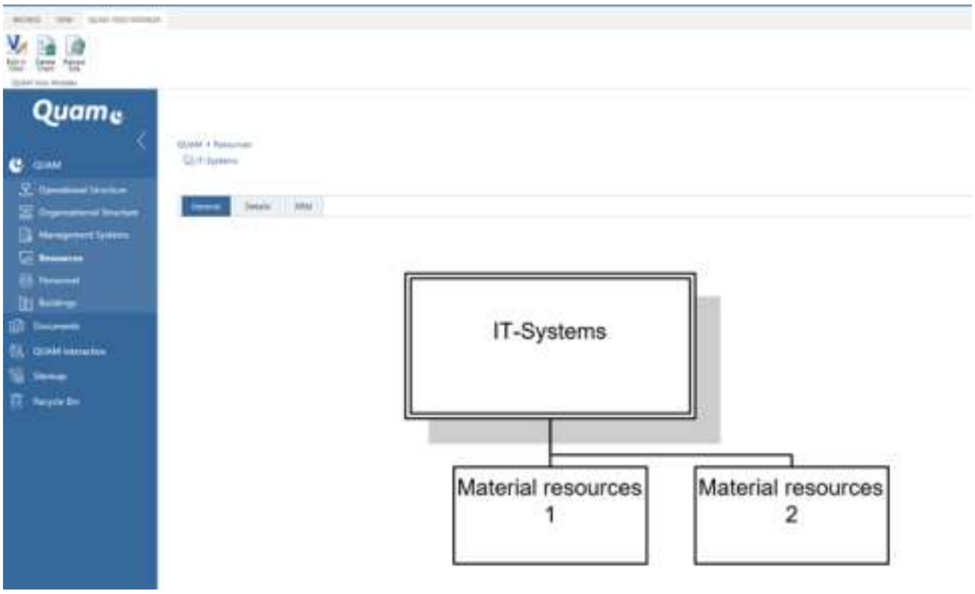


Abb.56: Example of a resource diagram in Quam

1.2.6. ADMINISTERING PERSONNEL

In the Quam personnel list, you can manage data on employees in your company.

Open the personnel list by clicking on **|Personnel** in the quick start bar.

1.2.6.1. MANAGE PERSONNEL DATA

To enter a new personnel record into the system open **|Personnel** click **|New item** (1) and enter the required data. Assign the organizational units the employee is responsible for ("*Manager of organizational unit*") or is assigned to ("*Employee of organizational unit*"), the roles of the employee ("*Owner of following roles*") as required. Confirm your input by clicking the **|Save** button.

In order to edit (2) or delete (3) personnel data, please select the respective item in the list of personnel by checking the box (4) and selecting the desired action in the navigation bar above. You can also quickly edit items directly in the list view. Open the List-tab and click on **|edit this list** (5) in order to open the table view and make the required modifications (depending on the SharePoint version you use, this function varies slightly).

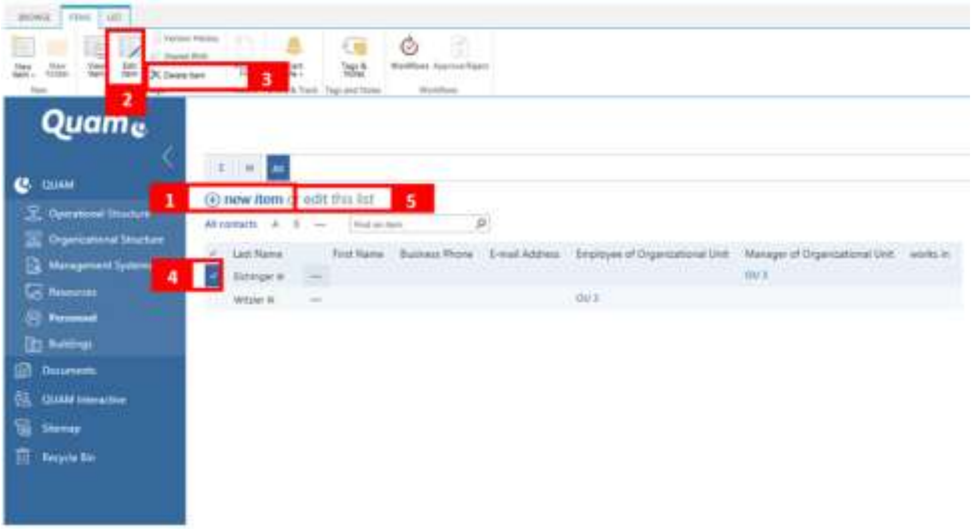


Abb.57: View and manage personnel data

Note: You can synchronize the active directory with your personnel list using third-party-solutions.

1.2.6.2. ADD PHOTOS TO PERSONNEL DATA

In Quam you can attach a photo to an employee's record. The photos of the personnel are stored in a separate picture library. Open the library via the quick task bar button **|Site Content** (1). Open the picture library **|Employee Photos** (2).

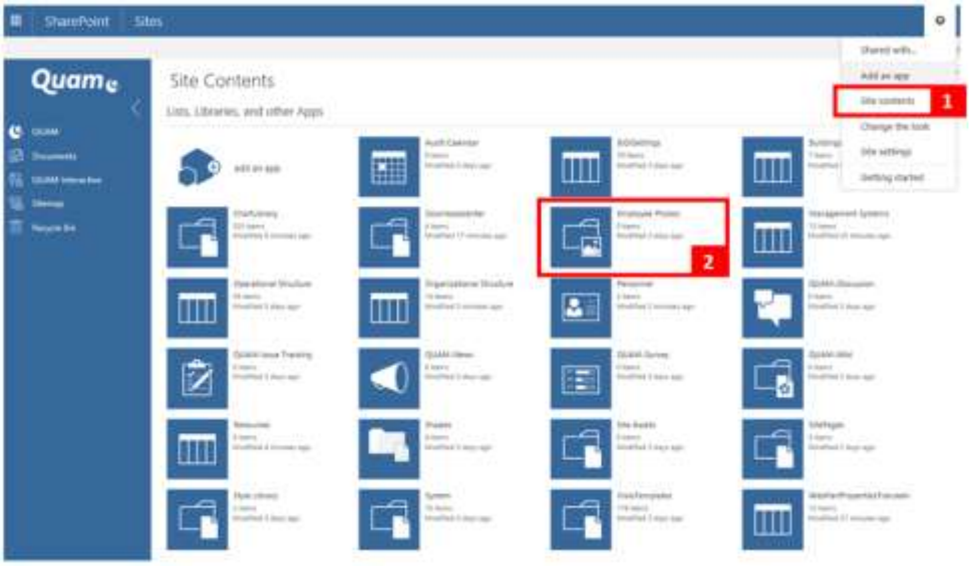


Abb.58: The employee photos library

To upload one or more pictures, drag and drop your pictures on the field **|drag files here** or click **|new picture** to open the upload dialogue (depending on the SharePoint version you use, the upload function varies).

Once you have uploaded a photo, you can enter further information, such as a title, when the picture was taken, a description, keywords as well as assigning the employee in the field "Employee".

Open the Employee Photos list and select the picture that you would like to assign to an employee. Choose **|Edit Properties** from the item menu and enter information as required.

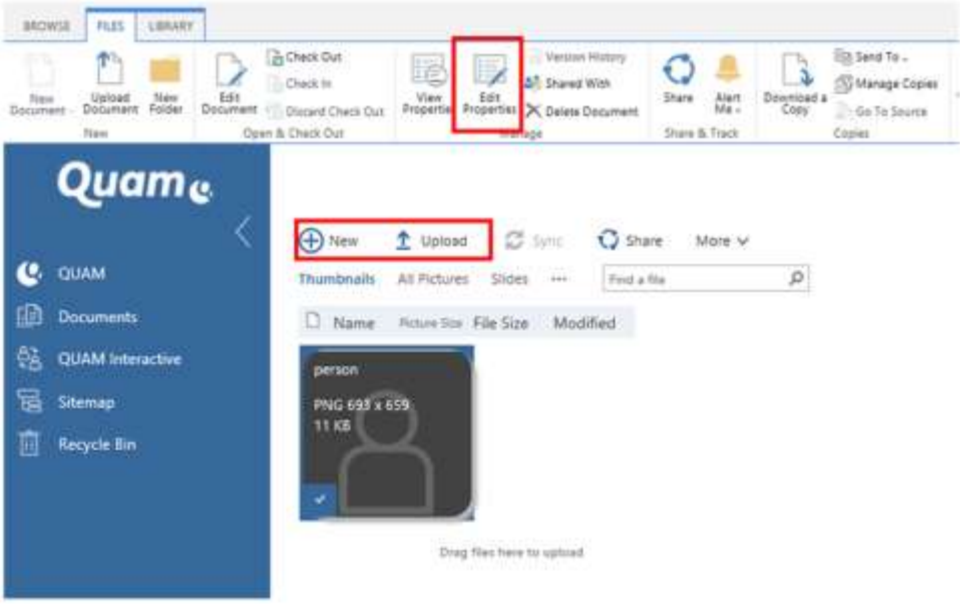


Abb.59: Assigning a photo to an employee

The photo will now be displayed on the employee's page, as well as in the organizational units the employee is assigned to as manager or employee.

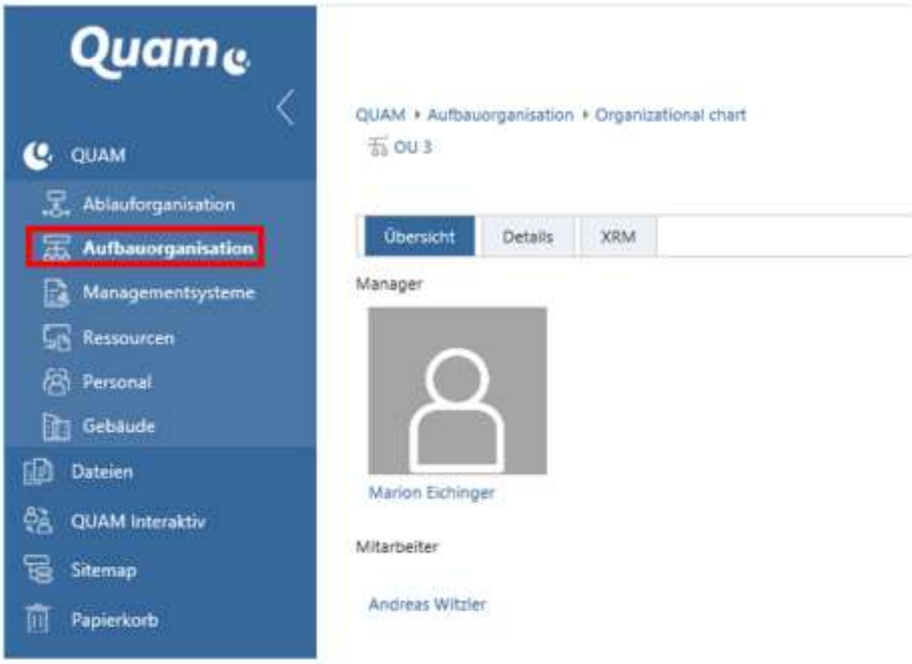


Abb.60: Employee's page with photo

1.2.6.3. SYNCHRONIZE PERSONNEL LIST WITH OUTLOOK

If you use Microsoft Outlook you can synchronize the Quam personnel list with your Outlook.

Open the personnel list using **|Personnel** from the main navigation. Open the List tab in the ribbon bar and choose the command **|Connect to Outlook**. Confirm the query of your browser with **|Allow** and the query from Outlook with **|Yes** in order to link the Quam personnel list with your Outlook.

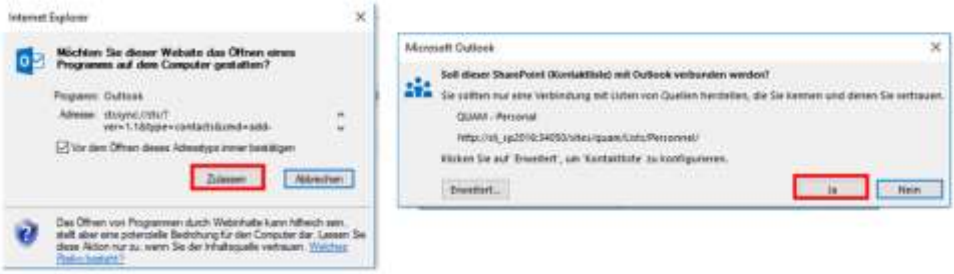


Abb.61: Synchronize the personnel list with Outlook

The rcords of the Quam personnel list are now available in your Outlook Contacts as "Other Contacts" and can be directly edited from there. Your changes are synchronized both ways. If you add, delete or edit contacts in one system then the changes will also occur in the other system.

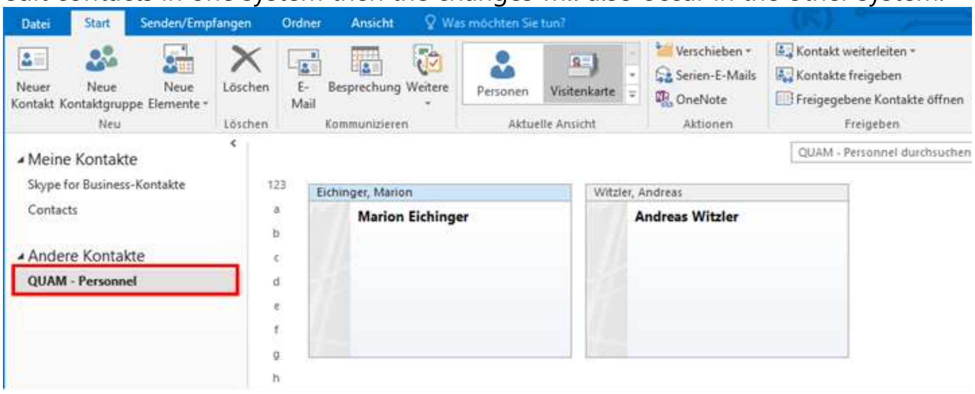


Abb.62: Quam personnel list in Outlook

You can remove the contact list from Outlook with the command **|Delete Folder**. That only deletes the contact list from Outlook and the link between the two systems, but **not** the content of the Quam personnel list.

1.2.7. MODELING BUILDING PLANS

Building plans contain the structure of a company's buildings.

As for e.g. the Organization Structure building plans in Quam can either be modeled by using text in the Standard View or graphically by using the Quam Visio modeler.

To model a building plan in Quam, start by selecting **|Building Plan** from the quick launch panel.

Modeling Building Objects in the Standard View using Text

This section explains textual modeling of building plans without using graphic tools.

To create buildings, areas, levels or rooms, open the form of the building group you would like to fill with building objects. Use the **|+** button of the field "*Assigned Items*" (1) and select the required content type (2). Fill in the fields of the form as required and add the element to the enterprise model by selecting **|Save**. Please follow the guide from chapter Different functions of SharePoint Forms in Quam for this.
Proceed like this, to create new subordinated building objects as required. The parent-child-relationship is set automatically.

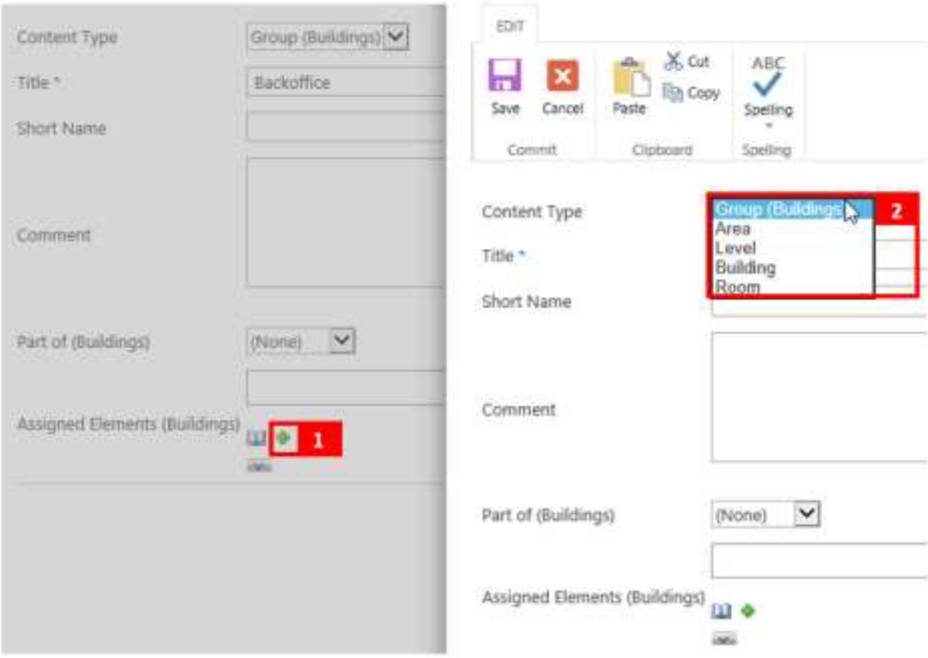


Abb.63: Creating element in buildings list

Graphical modelling of building plans

Building plans can also be modeled as diagrms using the Quam Visio Modeler.

Open the building item you wish to model and proceed as follows:

You can start the modeling of your building plan with either a blank or one of the standrad Quam templates. In case you have not modeled you process element yet a blank picture is shown. Whether it is a blank picture or a picture of a perfectly modelled building plan, you can use the provided switch **|Show chart** to show the picture or not.

If you like to start your building plan modeling with a blank template or if you like to edit an existing drawing, you can use the control **|Edit in Visio** (2a) provided in tab **|QUAM Visio Modeler** within the ribbon bar (1). For starting the process modeling with a provided template, you should follow the link **|Create new model** (2b).

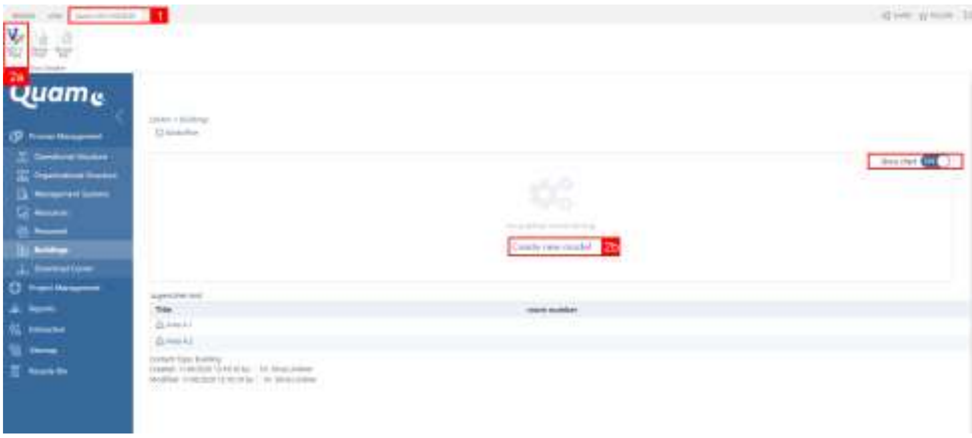


Abb.64: Opening the QUAM Visio Modeler for the buildings list

Previous to the selection of the actual template, you can still decide to start your building plan modeling with a blank template, just select **|Model without template** (2c), or you can select among a library of templates by following the link **|Model with template** (2d).

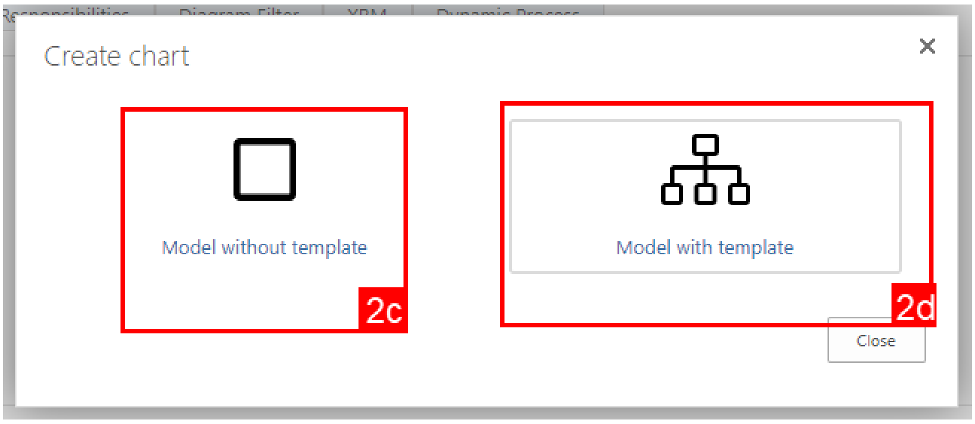


Abb.65: The choice between various templates for starting a process modeling

The following library offers several templates fitting to the Standard-Shapeset and to the content type of the element you wish to create a chart for. The template to start with can be simply selected.

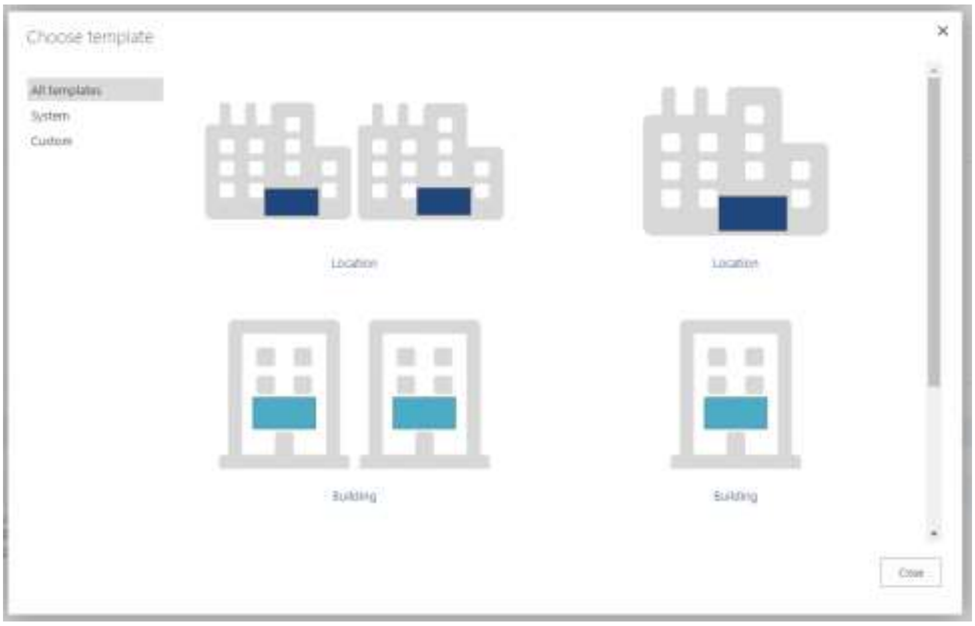


Abb.66: The library of standard templates according to the content type and shapeset

In both cases, modeling with and without a template as well as editing existing charts, an instance of Microsoft Visio opens after an additional confirmation showing a drawing with or without existing information.

On the tab **|QUAM** (3) in Visio you have the following functions:

- **|Save QUAM Objects** (4) saves the Visio drawing to the database. Database objects are created, changed or deleted.
- **|Load QUAM Objects** (5) imports existing data from Quam into the diagram.
- **|Close QUAM Modeler** (6) closes Visio. **Note**: Unsaved changes to the diagram will be lost!

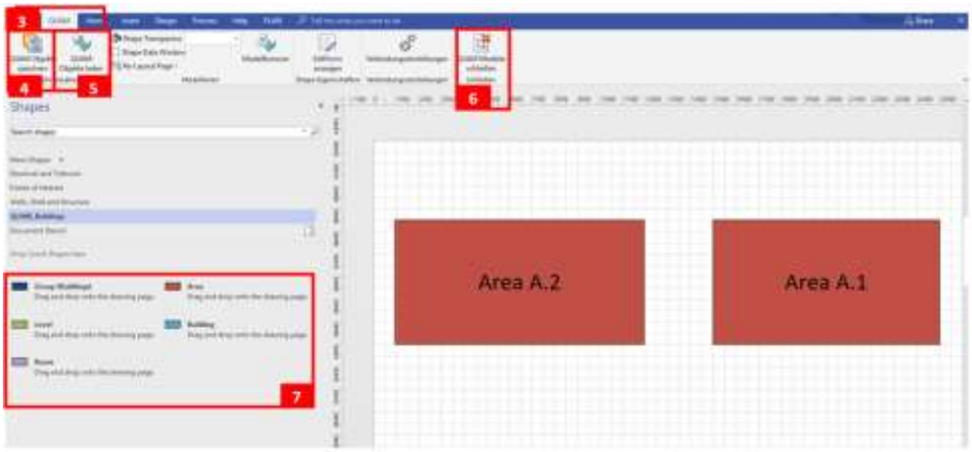


Abb.67: Graphical modeling of buildings

Select the option **|Load QUAM-Objects** to import existing objects into the drawing. Objects created using txt only will appear in the center of the diagram and need to be arrange manually.

A stencil on the left side of the diagram contains the building shapes (7). To model the building plan, drag and drop the shapes on the diagram and arrange them as required.

Especially if you want to place pictures on the diagram refer to chapter [Tips for the use of the Quam Visio Modeler] on the different ways of modeling in Visio. Additionally, sometimes the building plans to have to close borders and a to less margin by default. Then a transparent background shape fitting to the special paper cut might compensate this.

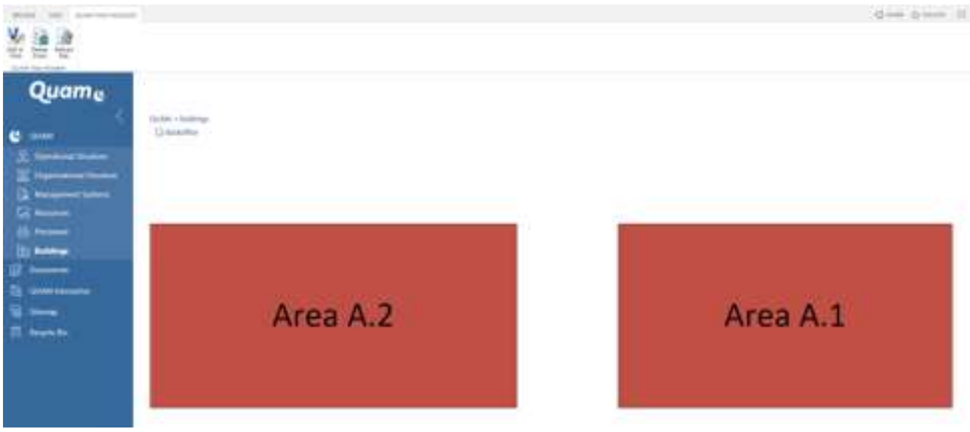


Abb.68: Building diagram in Quam

1.2.8. DOWNLOADCENTER

Quam's Downloadcenter provides functions to manage forms, templates, documents and records that are used in your organization. These documents can be assigned to processes, activities or resources. This was they are available for users directly in processes they apply to.

Uploading Documents

Open **|Downloadcenter** from the quick launch panel and choose a folder you would like to upload the document to.

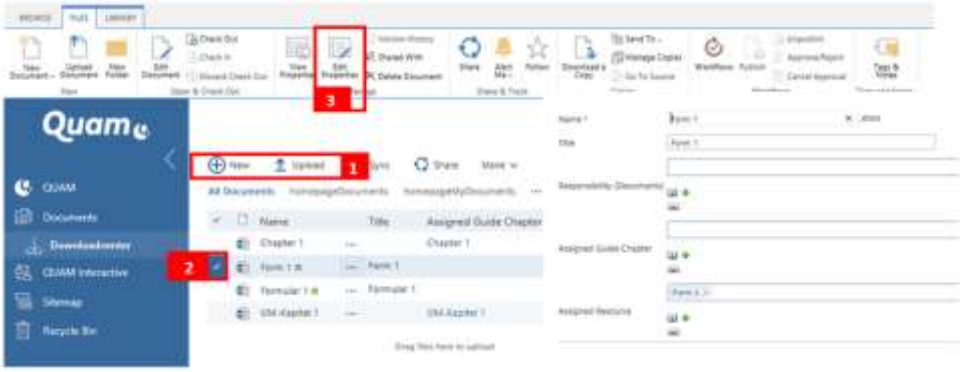


Abb.69: Managing document in the download center

To upload one or more documents to the document library, drag and drop your files on the field **|drag files here** or click **|new document** (1) to open the upload dialogue (depending on the SharePoint version you use, the upload function varies).

Once you have uploaded a document, you can enter further information: select the document (2) and click **|Edit Properties** (3) in the ribbon bar. Fill in the form as required, assign the document to the respective management guide chapter or resource and name a responsible role or organizational unit for the document. Confirm your changes with **|Save**.

Document Handling with Versioning and Check-out Controls

SharePoint supports document versioning and check-out controls. If the check-out and check-in function is active, documents have to be checked-out in order to be edited. When the author is done making modifications, the document has to be checked-in before other users can see the changes.
If versioning is active, each check-in creates a new version. Older versions are accessible via the historical record and can be restored if necessary.
You can find further information about document processing in relevant literature or in the SharePoint help menu.

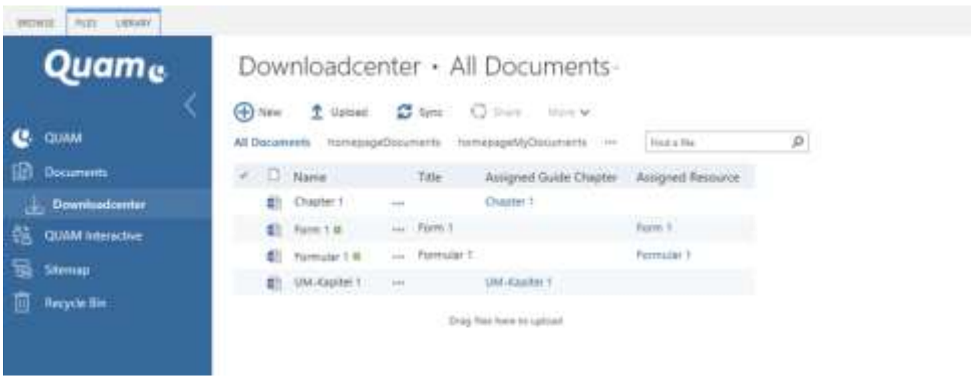


Abb.70: The default view of the download center

1.2.9. DYNAMIC GENERATION OF PROCESS DIAGRAMS

Process diagrams can be generated dynamically based on the SharePoint data structure. A Lookup field, typically "assigned elements" is used to save all process steps of one process. The order in the multi-lookup field, moreover gives the general sequence of the contained steps. This sequence can be sorted manually or automatically based on general layouting algorithms (compare with chapter Using the Edit Forms in Quam).

Having defined connectors with input and output information, Quam is able to generate a rough visualization of the process diagram. The corresponding webpart is called "*Dynamic Process-Table Viewer*". It evaluates the configurable process information of assigned process steps, their order and the connectors in between to show a table like vertical diagram where for each process step additional information of relations to other elements in Quam can be shown.

The computation is done on a general visualization algorithm. Changing the order of the process steps in the corresponding column will yield various different diagrams.

Abb.71: The dynamic process-table viewer

Configuration

The basic information of the process steps can be configured, this is the column for the process steps, the connectors, their source and sink and which information should be used to give text on connectors.

Furthermore basic information about which type of elements do have such a generated process layout and which elements should be shown in the process table can be chosen, as well.

For the different use cases of the webpart, i.e. the focus is on the dynamic process diagram or the additional information in the tabular view, additional information to be shown and the appearance/evaluation of the connectors can be selected.

Tabular view

Each process element represents a data row in the dynamic process table viewer. In general, connectors, although they are contained in the column of assigned elements, are only evaluated for the layouting purpose. However they can be used and shown as data rows as well.
Each data element in a row is shown by a shape representing its type and the configured additional information. This information can be plain text in any formatting or relations to other elements in Quam. For example, a tabular view of a process, known as SIPOC can be configured, by selecting corresponding columns to show as the additional information. The acronym SIPOC stands for suppliers, inputs, process, outputs, and customers which form the columns of the table.

Dynamic diagram

If the focus of the diagram webpart is on the layouting, we recommend to visualize simple processes only. On the one hand, the order of process elements in the column of assigned elements and, on the other hand, the complexity of connections influence the appearance tremendously. Yielding diagrams that can be analyzed quickly and a generally good looking are only given by strong conventions on the drawing and simple complexity of the process to be shown.

1.2.10. EXTENDED REFERENCE MATRIX

The extended administration of references: In Quam, relations among elements of different lists like *Operational Structure*, *Organizational Structure*, *Management Systems*, *Resources* and *Buildings* can be done by editing the element directly (compare with Chapter Editing and Referencing Objects). These relations are either shown at the element or as icons on its drawing.

Although several quick edits and search function are implemented to increase the user experience, the editing of such relations / references is time consuming as every element has to be edited sequentially. On the other hand, the set of the reference of existing elements does not mean to type any text, only the set is of interest.
Along with the configurable function "*Extended Reference Matrix*" comes the possibility to set references among elements of various list quickly and visualize them clearly arranged.

Abb.72: The Extended Reference Matrix

Configuration

The „*Extended Reference Matrix*" is a webpart which can be placed on any Quam webpage.

Note: The webpart can be place only once per webpage!

The editor part of the webpart is used to configure the pairs of lists (so called "*Sourcelist*" and "*Targetlist*") for which the elements should be evaluated for references (1). For each list, a hierarchy can be chosen (2,3). In addition to this, content types can be selected, that exclude certain elements to be shown in the webpart. Last but not least, the type of visualized references (i.e. lookups) can be chosen.

Appearance and user interface

Independent from a Quam users actual permission level (this can be configured by groups permissions in the webpart), the webpart shows the reference information and gives the user various possibilities for interactions.

Only the editing mode is depending on the users right to edit elements in Quam. All editing processes are done within the context of the user, such that the actions can be reviewed.

The Selection of list pairs (1)

If there are several pairs of lists that should be visualized for references among their elements, the user can switch between them quickly by selection within a drop down control. If nothing has been changed in the meantime, even the selected elements are kept to increase the quick navigation.
As a convention, the references are set / evaluated from the Sourcelist elements to the Targetlist elements, i.e. for each element of the Sourcelist there is a reference to be set / evaluate to a Targetlist element.

The tree views (2,3)

If a pair of list is selected, all elements of the lists (depending on their content type configuration) are visualized, if possible i.e. they do not contain cycles in the hierarchy, hierarchically within two tree views, one for the Sourcelist (2) and one for the Targetlist (3).

The elements within the tree views can be selected. For a fast selection of complete branches of the trees, the parent element can be clicked multiply until all children elements are selected as well.

The selected elements of the Sourcelist build up the rows of a table and the selected elements of the Targetlist the column of the table (5). The sorting of the elements comes from the tree view by default but can be changed to an alphabetically one (6).

If the amount of selected elements exceeds the rows and columns space in the tabular view, it can be scrolled. However, it is recommended to use the selection of elements as a filter to increase the quick understanding of the table and to reduce potentially errors. In addition to this, the tree views can be collapsed and expanded (7) to slightly increase the available space of the tabular view.

The selection of references (4)

Independent from the selected elements the references to be evaluated can be chosen by changing the corresponding tabs (4). The tabular view remains existing.

The selection of the type of reference actually builds up the evaluation of the elements. But also the appearance of the tabular view might vary, as the selected reference might not be existing for a certain elements content type. The editing of the reference is not possible for this element. Moreover, the reference may only be set for a single value as it is not multi valued. Both cases are visualized in the tabular view.

View and Edit references (5)

The tabular view (5) shows the evaluation of the Sourcelist elements to the Tragetlist elements with respect to the selected reference. Is there a link between a pair, then the reference is visualized by a checked check box.
A checkbox is active to be checked, if the reference can be set for this pair of elements. The checkbox is inactive, if e.g. the reference is not valid for the content type of the Sourcelist item or if it is single valued and some other refence is already set.

In order to analyse special elements or special pairs of elements a highlight (8) can be set by means of focussing them in the tree view.

View of other references (9)

If there is already a reference among two elements, then a highlight together with a tooltip is shown on all other reference types (4). All references can directly be deleted within the tooltip in order to correct the assignment immediately. This helps to visualise potential errors due to multiple references.

1.2.11. ANALYSIS OF REFERENCES

In Quam, relations among elements of different lists like *Operational Structure*, *Organizational Structure*, *Management Systems*, *Resources* and *Buildings* can be done by editing the element directly (compare with Editing and Referencing Objects). These relations are either shown at the element or as icons on its drawing.

The function "*Process Connection Views*" gives the possibility to configure the relations to be shown *as filters on drawings*. The multilingualism is therein fully taken use of, for the drawings and for the elements titles as well as the additional content enrichment of the drawings it selves.

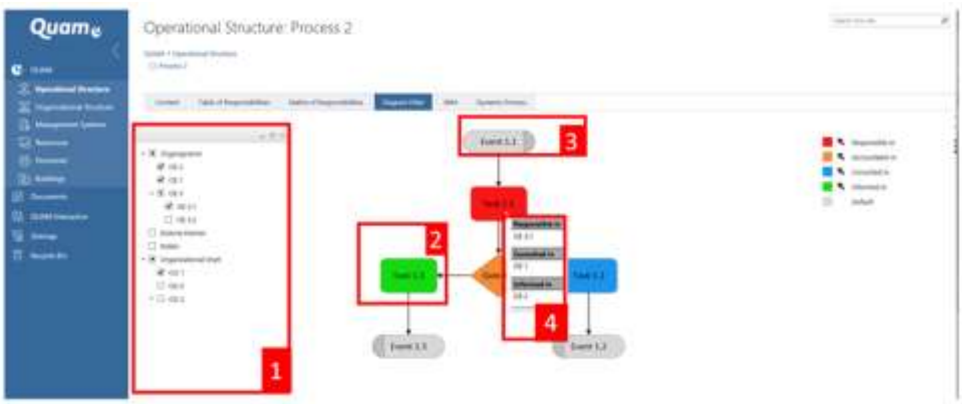


Abb.73: The filtered diagram view

Configuration

The filtered diagram view is a webpart that can be placed on any element view (e.g. Dispform) of a Quam-list.

Note: Please note, that is only can be placed once on every page and not together with the "Quam Visio Modeler".

In the editor part of the webpart the location of the drawings can be chosen as well as the list that is to be evaluated for the references. For the reference list a hierarchy is necessary to choose and the references itself must be specified.

For all references, the color with which they are identified with can be saved and if they should be used as filters in the drawing and in the tooltip. The order of references therein is later important for the application of the filters.

The tree view
The list that is to be evaluated for the references is visualized as a tree view (1) based on the configured hierarchy. This hierarchy can be used to navigate and select certain elements.

The elements in the tree view are obtained by the configured reference list which is of Quam-type. A logical requirement is, that the elements in the reference list are connected with the elements represented by shapes on the drawing.

Filter
For all elements that are selected in the tree view, a filter is applied. For this purpose, the elements on the drawing are evaluated. If there is a connection between a selected element in the tree and an element on the drawing, then the shape is colored according to the sequence in the configuration, e.g. (2). If there is no such connection for one element on the drawing it is colored separately providing a better optical difference (3).

Tooltips
Analogue to the filter, a tooltip is attached to the drawing elements. If there is a connection for a drawing element and a selected item in the tree view the tooltip shows the type of the relation according to its specified sequence.

1.2.12. MULTI-LANGUAGE MODELING

The Quam system offers language packages for different languages, enabling the modeling and translating of content in/to other languages. The following pages illustrate the handling of the language packages.
Please consider the following description an example. Multi-language modeling is an optional function with customer specific configurations, thus there could be variations.

Selecting the Language in Internet Explorer
To change your display language in SharePoint 2013 please proceed as follows:
Select the command Tools **| Internet Options** (1) from the menu of your Internet Explorer and click on the command **|Languages** (2):

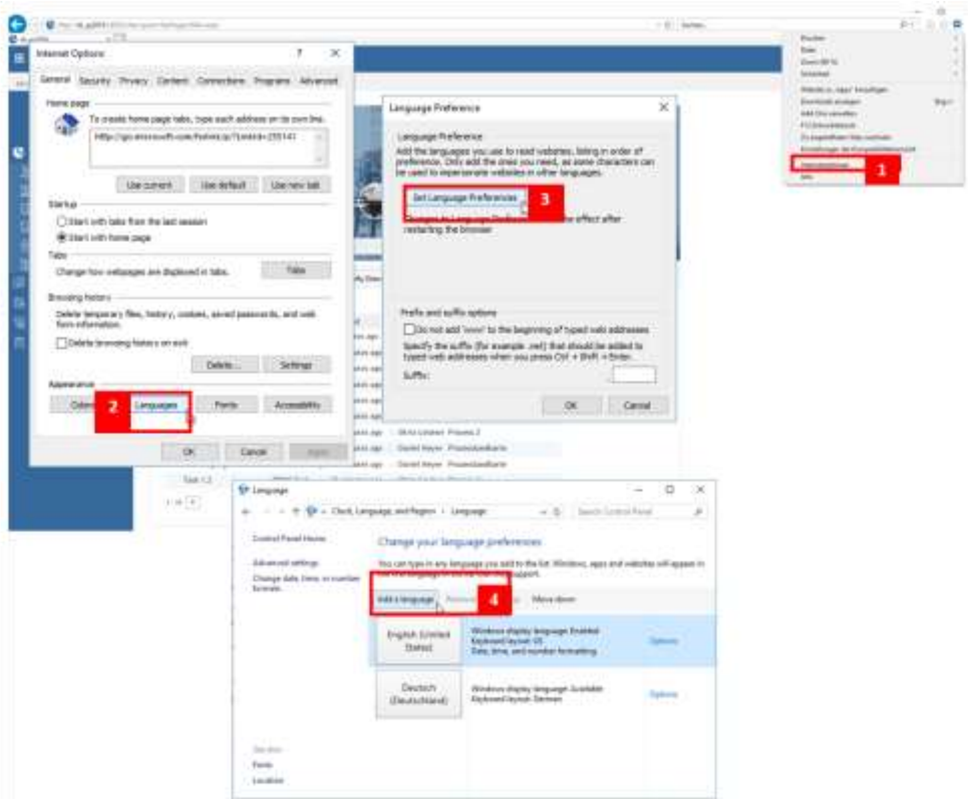


Abb.74: Changing the display language in the Internet Explorer

Add the required languages via click on **|Add**... (4).

Note: Choose [de-DE] for the German and [en-US] for the English language, if you work with a German-English multi-language system.

The active language that has to be displayed and translated to, needs to be set to *position one*. Use the buttons **|Move Up** and **|Move Down** to switch positions. If you would like to translate from German to English then the English language has to be moved to position one.

Save your changes with **|OK**. The menus and translated content are displayed in the language set at position one.

Selecting the language via SharePoint MySite

Navigate to the MySite via click on **|About me**... (1).

You can change the language settings on the proceeding dialogues by choosing the link **|edit your profile**. **|...** in the "**Edit Details**" dialog opens the **|Language and Region** settings.

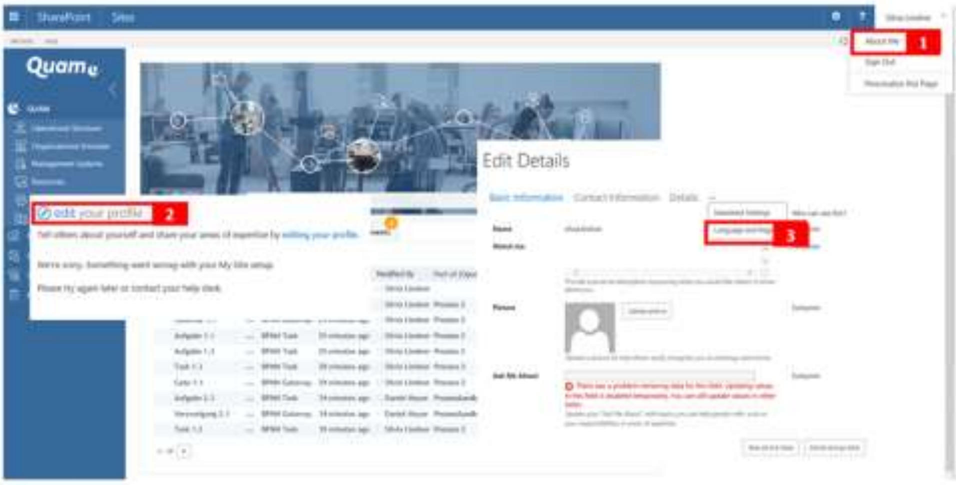


Abb.75: The language settings of the MySite

You can either add languages with **|pick a new language** or change their order with arrows **|up** and **|down**.

Abb.76: Picking a new language in MySite settings

Extended User Interface

By activating a language package, the menu is automatically extended by another tab and further commands. An open item can be translated by clicking onto the tab **|QUAM Translation:**

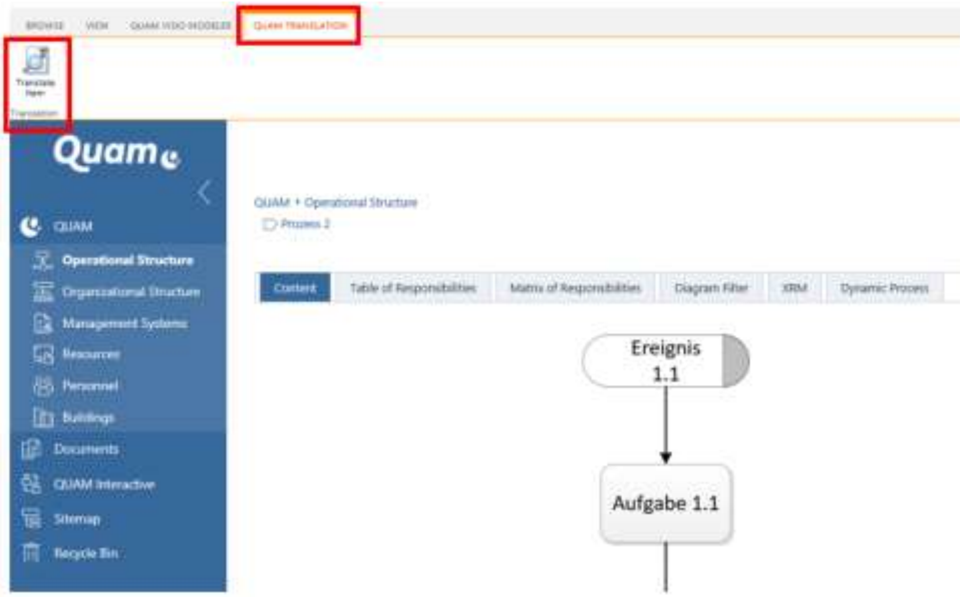


Abb.77: The translations tab

Please note that not every list can be translated by default. The following lists can be translated without further configuration:

- Operational Structure,
- Organizational Structure,
- Management Systems and
- Resources.

To translate diagrams in Visio you can use the command **|Translate in Visio** displayed within the QUAM Visio modeling tab.

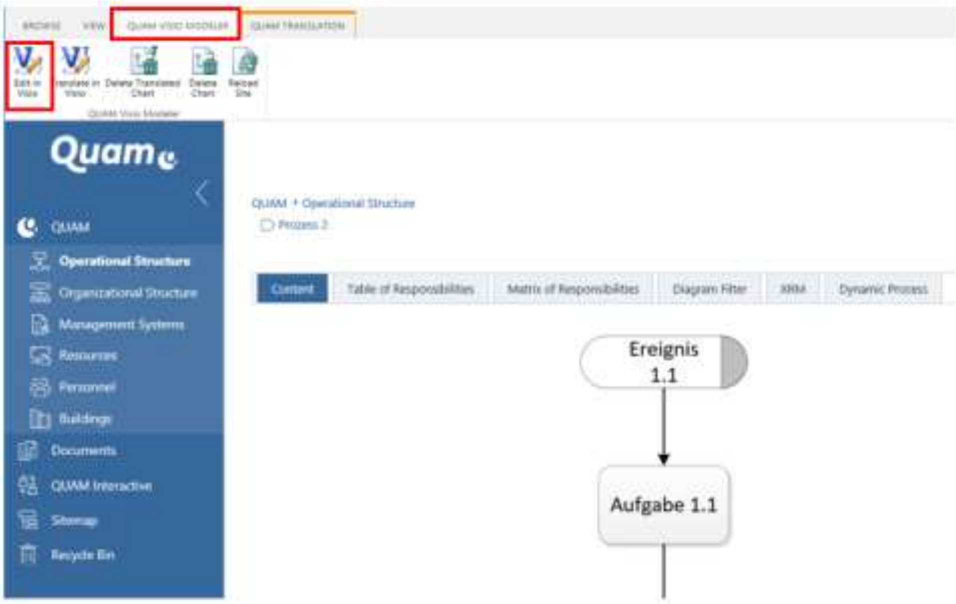


Abb.78: The chart translation button

Translating Content

After having loaded your desired display language, you can now start with the translation. Open the item you wish to be translated and select the command **|Translate Item** (1) on the tab **|QUAM Translation** (2).

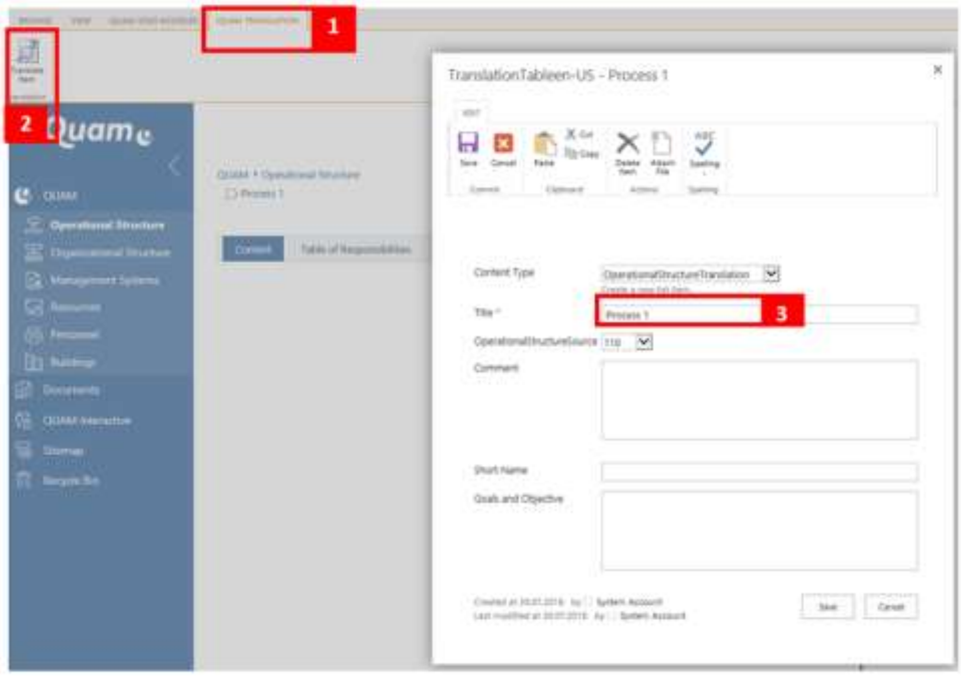


Abb.79: Translating existing elements

Translate the content in the form (3) and save your changes with **|Save** .

Translating diagrams

There are two ways to translate Visio drawings. The first way is to refresh translated content in the drawing. The second way is to enter the translation directly in Visio.

Open the **|QUAM Visio Modeler** tab (1) and click **|Translate in Visio** (2) to open Visio.

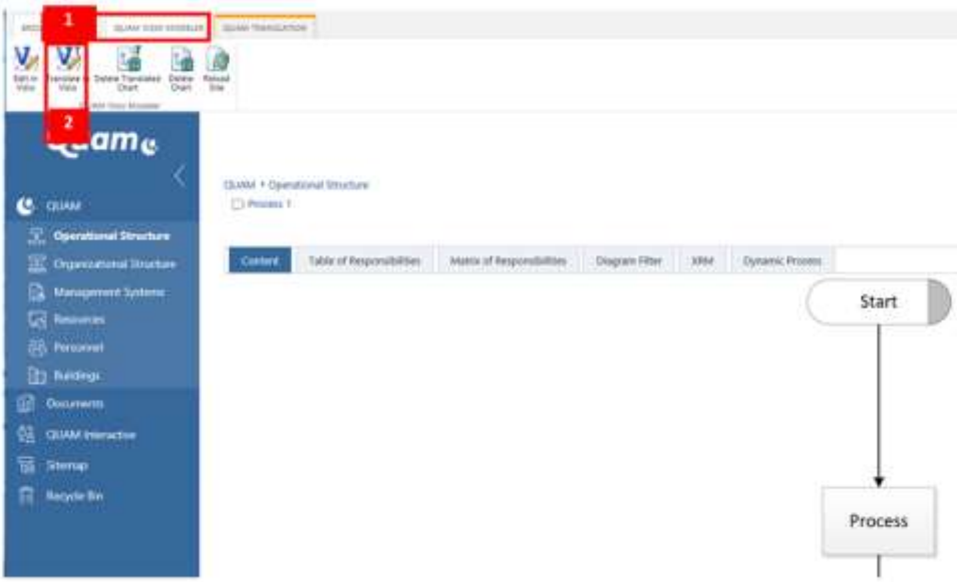


Abb.80: Opening the QUAM Visio Modeler for translation

If you have already translated the content it is possible to import the translated content in your drawing by refreshing it. Open the **|QUAM** tab (3) in Visio and click on the button **|Load Translation** (4) to import the translated content. The translated titles will replace the corresponding titles in the drawing.

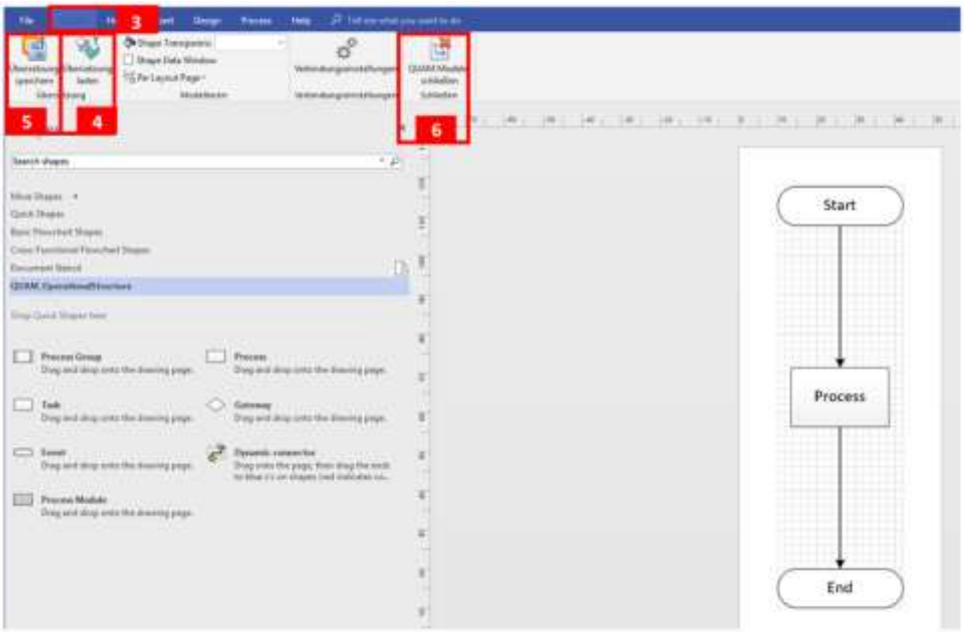


Abb.81: Translating a chart in the QUAM Visio Modeler

It is also possible to translate titles in a drawing directly in Visio. In order to do so, just double-click on a shape and directly translate the title.

Note: This alternative only translates the title of the items. If you wish to translate further content, please refer to the "Translating content"-chapter above.

When done refreshing the chart, save your translation with **|Save Translation** (5) and close Visio with the command **|Close Modeling** (6).

Back in your browser window, you need to click **|Reload Site** (7) in order to display the translated chart.

Use the button **|Delete Translated Chart** (8) to delete the translated chart without deleting the original chart. If you click this button, the original chart is displayed again.

To delete the original chart and all translated charts, click **|Delete Chart** (9).

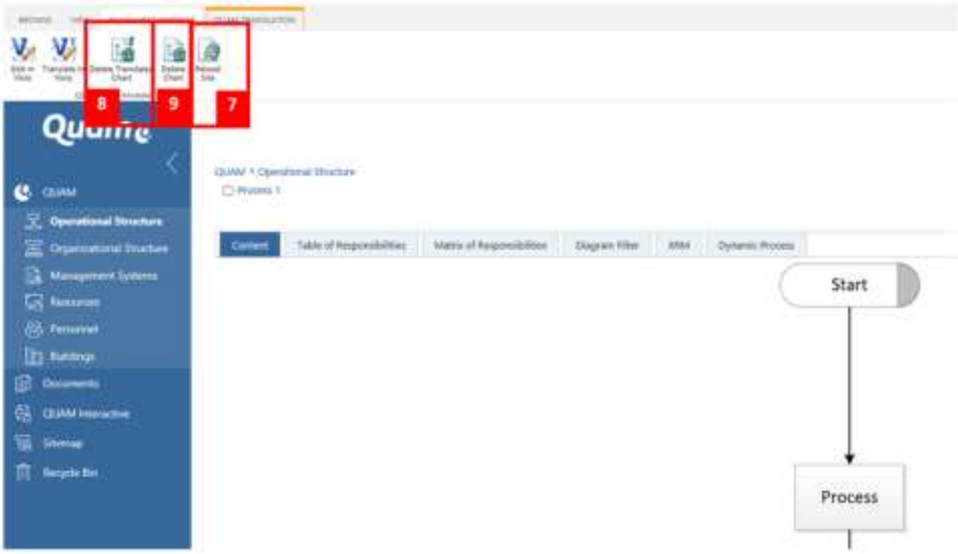


Abb.82: Viewing or deleting a translated chart

Updating the translation when items change

Whenever items are modified in Visio or in the browser in one language, the corresponding translations for each active language need to be updated to refelct this change.

Update the translation using one of the two methods described above:

1. In Quam, via **|Translate Item** on the tab **|QUAM Translation,** or
2. In Visio, via **|Translate in Visio** on the tab **|QUAM Visio Modeler**.

1.2.13. QUAM INTERACTIVE

The interactive Quam functions simplify certain procedures in Quam and support collaboration and knowledge management in your company.
The audit calendar for instance supports audit planning in Quam, while the Quam News section can be used as a quick means for broadcasting announcements throughout the company. Quam Wiki and Blog help to store and distribute knowledge and information. The survey and discussion functions help to obtain information quickly without time-consuming meetings.
Please read more about the different functions of Quam interactive in the following chapters.

1.2.13.1. QUAM AUDIT CALENDAR

With Quam audit calendar, you can schedule and keep record of audits.
Open the **|Audit Calendar** in the quick launch panel and proceed as follows to schedule new audits:

One way to schedule an audit is to choose a date in the calendar and to double-click on it (1). Another way to create a new audit is to select the tab **|Events** (2) in the ribbon bar and to click on **|New Event** (3).

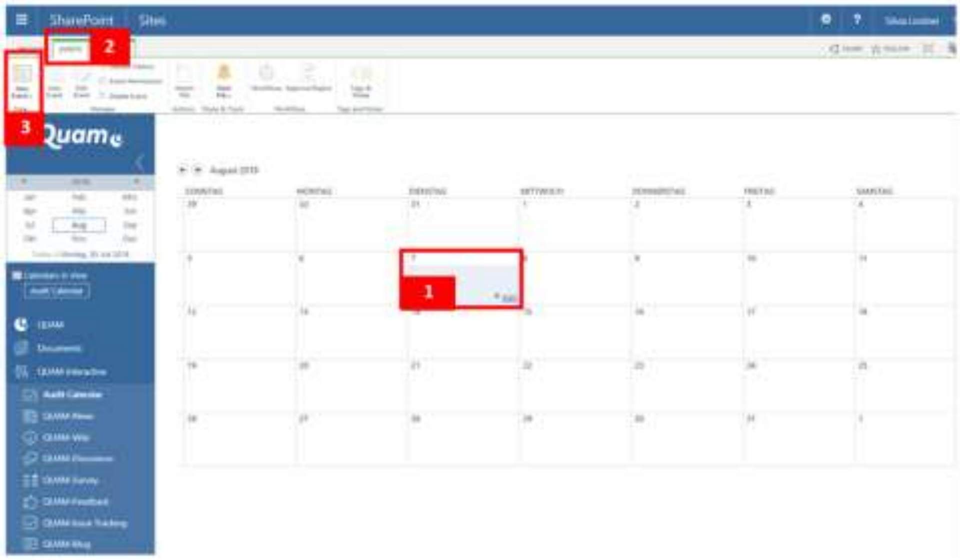


Abb.83: Creating a new audit event

Fill in the form, name the audit, define a period of time, select an audit category (process audit, product audit or system audit) and choose the contents (processes, structures, resources and management systems) that have to be audited.
Confirm your entry by clicking **|Save** to list the scheduled audits in the assigned items below the headline "Upcoming Audit".

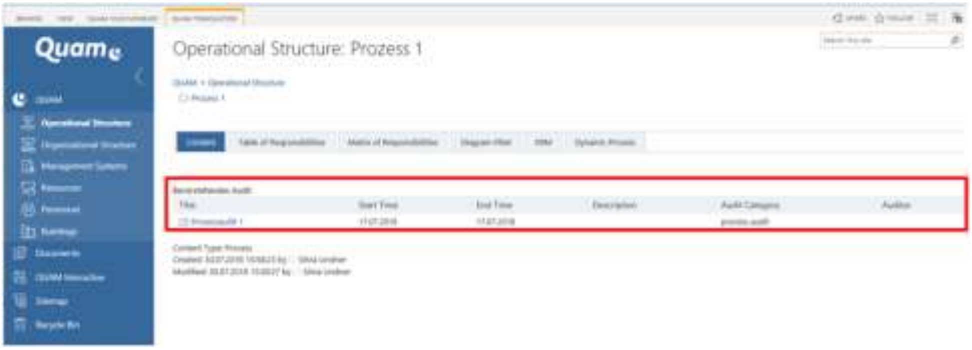


Abb.84: Viewing upcoming audit events on linked elements

When you have completed an audit, you can add further information to the audit item such as audit result and audit report etc. as well as change the audit status to "finished".
To do so, you need to pick the corresponding audit item and select **|Edit Item** from the ribbon bar.
Make your entries and confirm them by clicking **|Save**.

1.2.13.2. QUAM NEWS

In the Quam News section, you can communicate news and announcements throughout the company to keep your employees up-to-date.
Quam News can be configured to be displayed directly on the homepage if required (1).

Abb.85: Viewing news in Quam

To create a new announcement, open the **|Quam News** section (2) in the quick launch panel and select the button **|new announcement** (3).

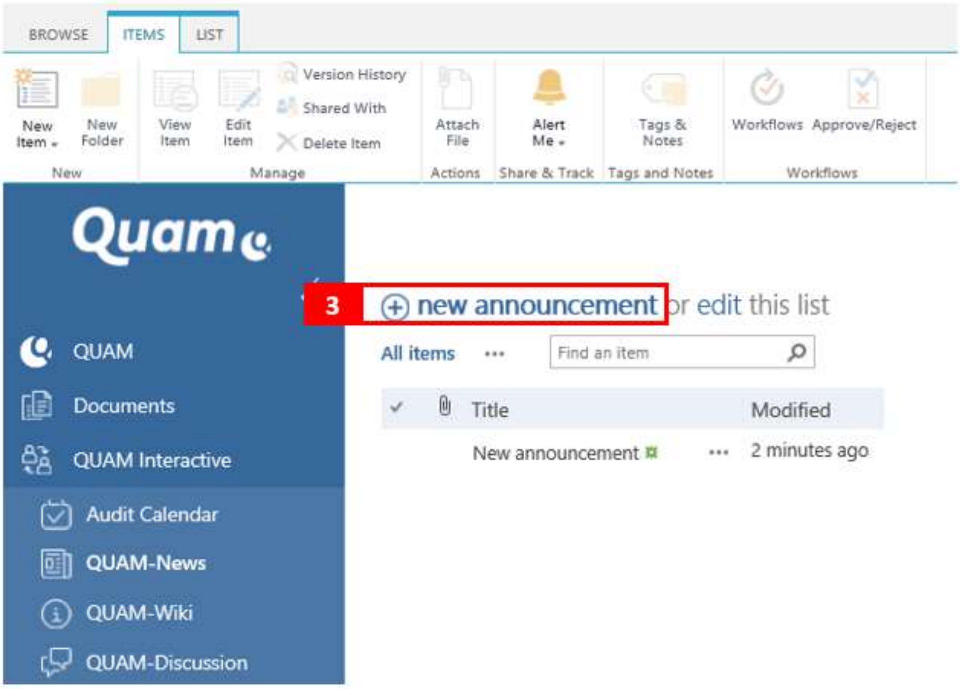


Abb.86: Creating a news article in Quam

Fill in the form and confirm you entries by clicking **|Save**. The announcement will now be displayed in the Quam News section on the entry page.
To make sure that your colleagues read the announcement, we recommend setting a SharePoint alert for the Quam News list. That means your colleagues will receive an email, as soon as a new announcement has been saved.

To create a new alert for the Quam News list, open the tab **|List** (4) in the ribbon bar and click on **|Alert Me** (5). Select **|Set Alert on this list** (6) and adjust the settings as required. Choose a delivery method, a change type and define when you would like to receive the alert (immediately, daily or weekly).
Save your changes with **|OK:**

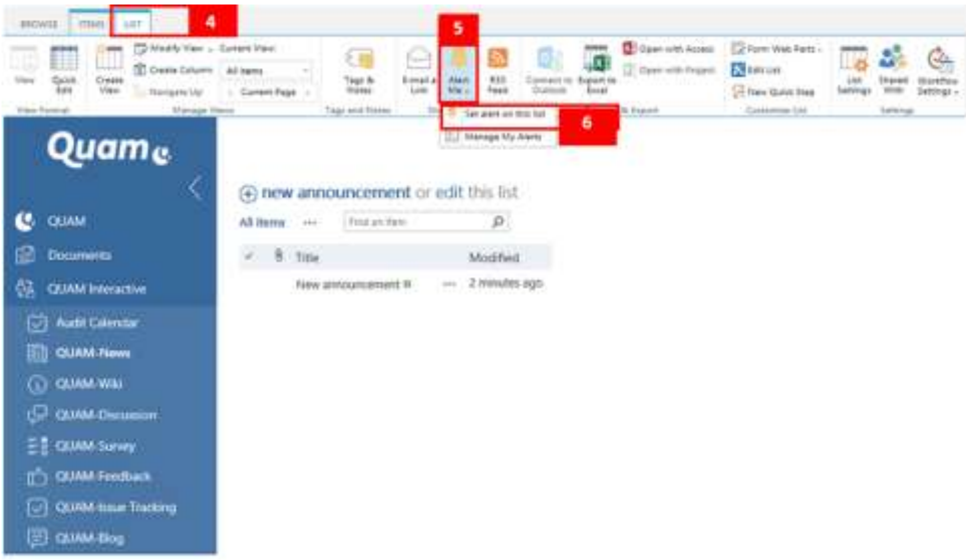


Abb.87: Activating alerts for Quam news

Now you will receive emails as soon as a new announcement has been published.

1.2.13.3. QUAM WIKI

Quam Wiki is multifunctional. It helps to gather and share knowledge and ideas, to work together with your colleagues on a draft, to create a user guide, to setup an encyclopedia or to write down daily information in an easily accessible and modifiable format.

In Quam Wiki, users can easily create and edit pages, then link them to other pages. You can insert text, tables and pictures on each page.

In order to create a new wiki page, open Quam Wiki in the quick launch panel and select **|new Wiki page**. Name the page and click **|Create**. To edit or change existing wiki pages, open the ribbon bar tab **|Page** (1) and click on **|Edit** (2).

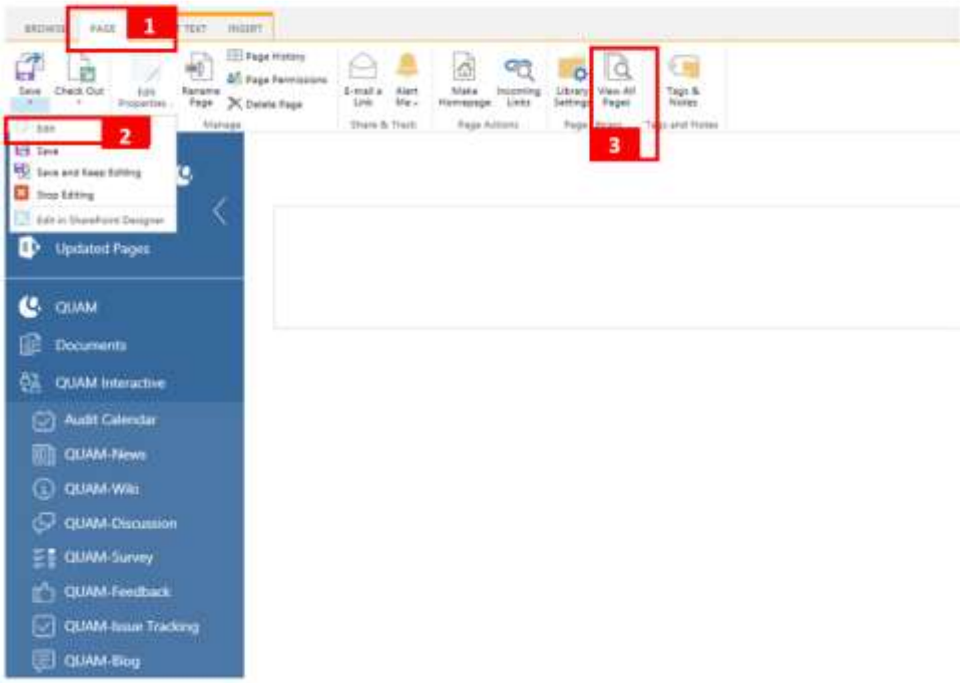


Abb.88: Opening the Quam-Wiki

You can now make your entries and changes. Use the functions on the tabs **|Format Text** and **|Insert** (4) for further modifications. To create new pages, it is recommended to work with placeholder links.

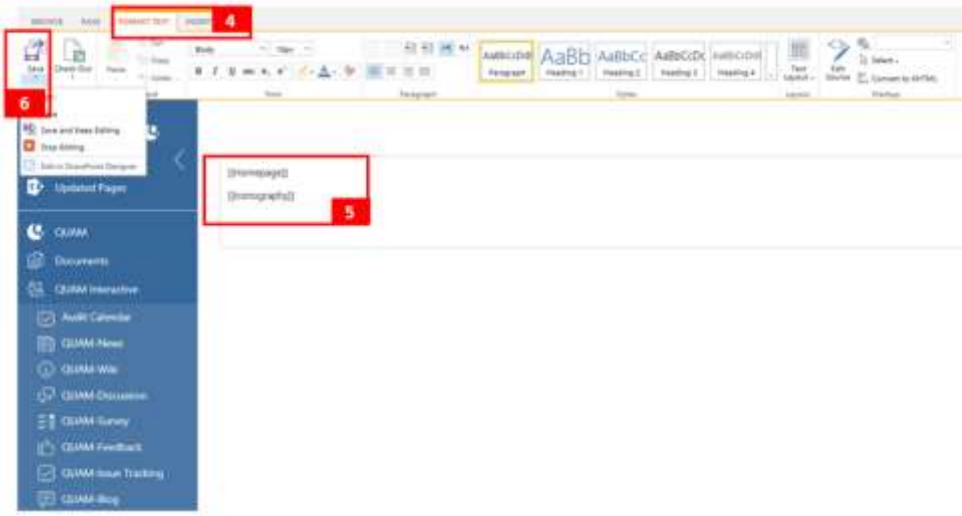


Abb.89: Editing a Quam-Wiki page

To add wiki links to other pages, type the name of the page surrounded by double squared brackets: [[Page Name]] (5) For example, to add a wiki link to a page named "Homepage", type: [[Homepage]]. By so doing, you can link to existing wiki pages or create placeholders to pages that do not exist yet. To create a link to a page and have the link display different text from the page name, type a pipe character (|) after the page name, then type the display text. For example, type [[Home|Home Page]] to create a link labeled Home Page that points to the page named Home.To display double opening or closing brackets without making a link, type a backslash before the two brackets. Example: \[[or \]]. Save your changes by clicking **|Save** (6) to get back to the normal site view.

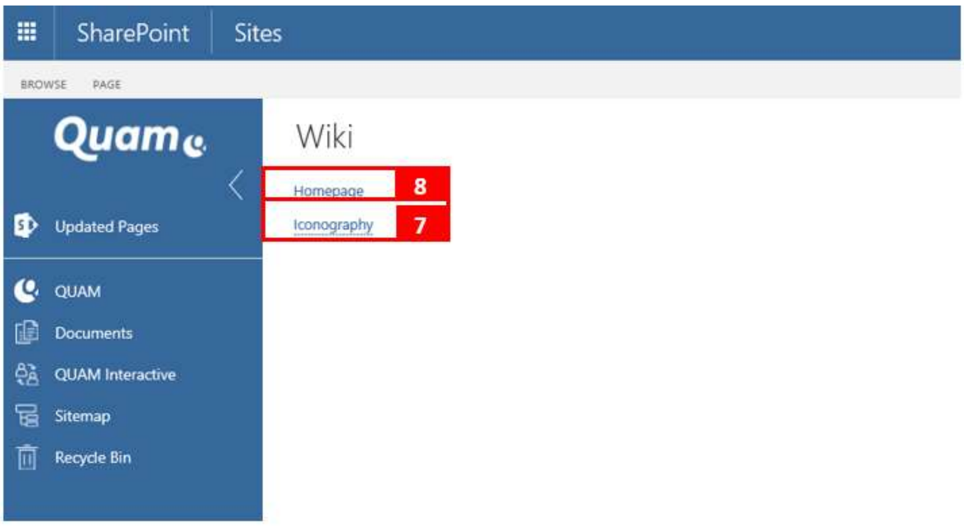


Abb.90: Adding links in a Quam-Wiki page

If the page that you are linking to does not exist yet, a placeholder link with a dotted underline (7) will appear on the page (after you save the edited page). Does the page exist, a normal hyperlink will be presented (8) that links to the corresponding page.
Click the link with the dotted underline (7) to go to the Create Page form where you can start typing your content.

You can manage all existing wiki pages if you open the ribbon bar tab **|Page** (1) and select **|Show All Pages** (3).

1.2.13.4. QUAM SURVEY

In Quam Survey you can create questions, get multiple people to respond to the questions, and the results to be summarized.
The survey can be created according to your own specifications. Open **|Quam Survey** (1) from the quick launch panel and proceed as follows to create your own survey:

Click on the button **|Settings** and select **|Add Questions** (2):

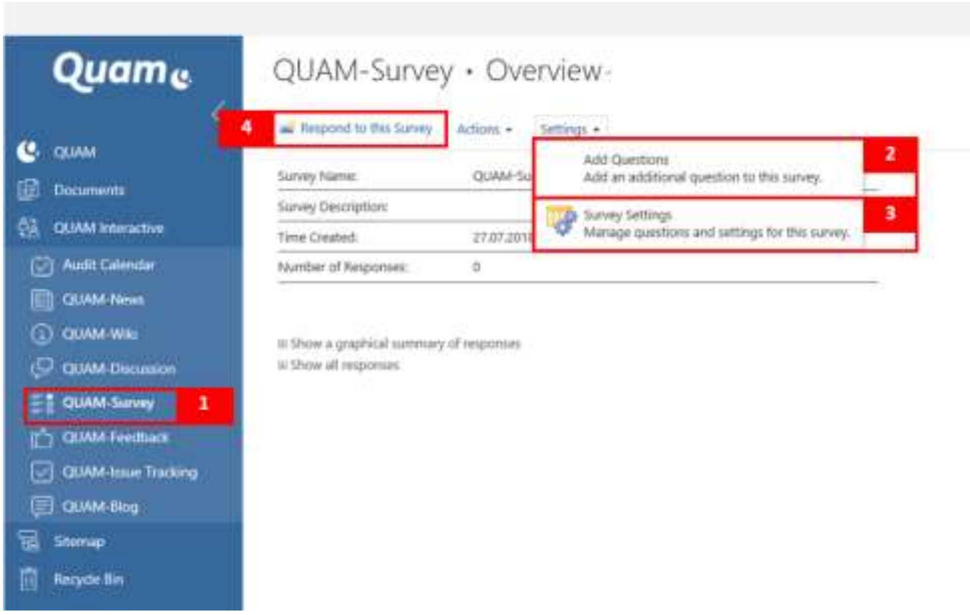


Abb.91: Creating Quam surveys

Please note: To create or edit questions, you must be owner of the list. Please contact your administrator to obtain the required permissions.

On the New Question page, enter your question text (5) and then select the type of answer that you want for your first question (6). There are many answer types to choose from, e.g. single or multiple lines of text, choice fields or yes/no check-boxes. Thus, you are able to create a variety of questions.

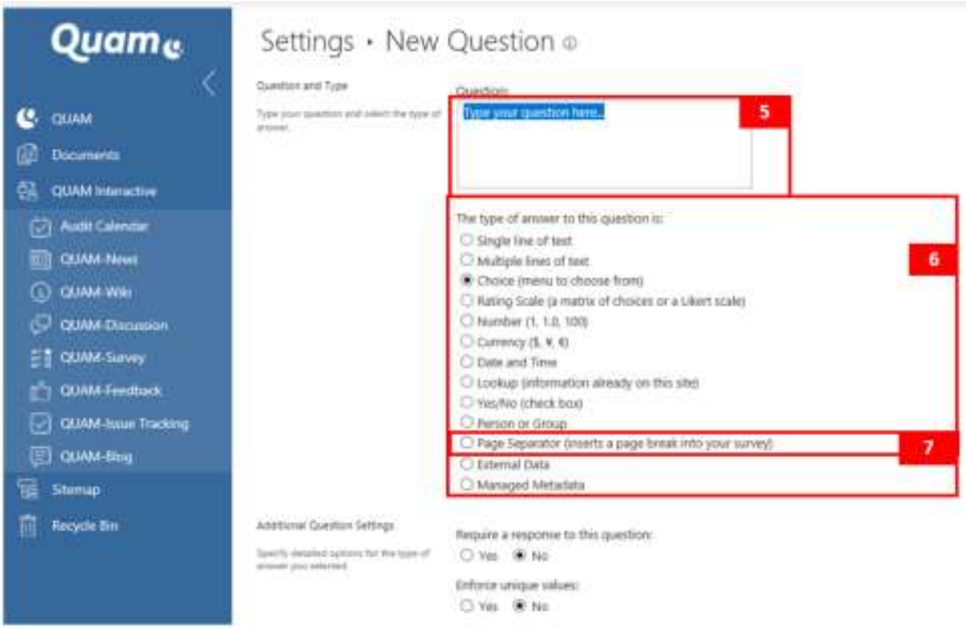


Abb.92: Add a question to a Quam survey

You can insert a page break into your survey by adding a **Page Separator** (7).

If required specify additional settings for your questions. To create additional questions, click **|Next Question**, and then enter information for the next question. Continue the process until you have added all the questions that you want. If you are finished click **|Finish**.

Would you like to modify or re-sort questions at a later point in time then select **|Survey Settings** (3). In the list settings you can adjust the general settings and modify your survey.

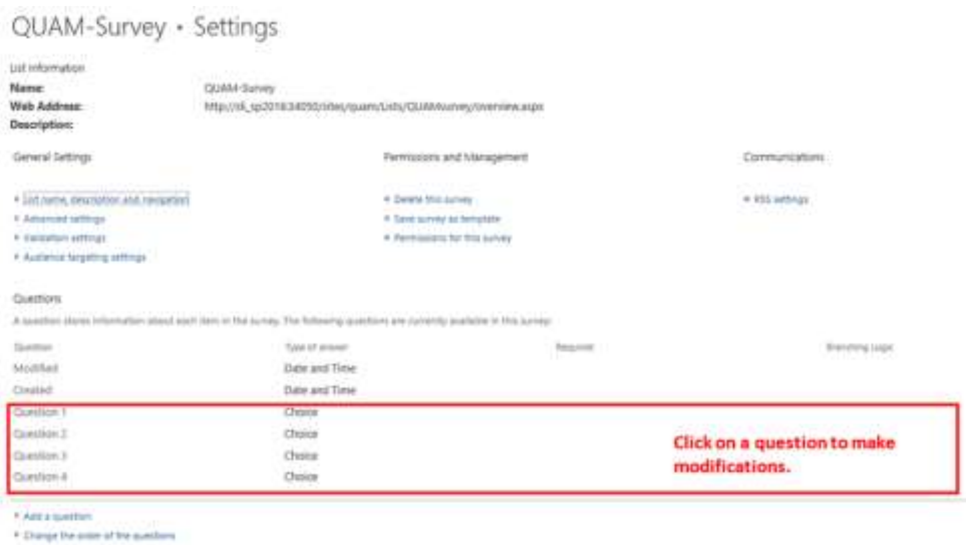


Abb.93: Changing Quam surveys

After you created the survey, people can see a **|Respond to this Survey** (4) link that they can click to launch the survey.

You can let people know about the survey by sending out a link to it, adding an announcement about it, blogging about it, or linking to it from other sites. Once users start completing the survey, you can see their responses in a bar chart or as list items.

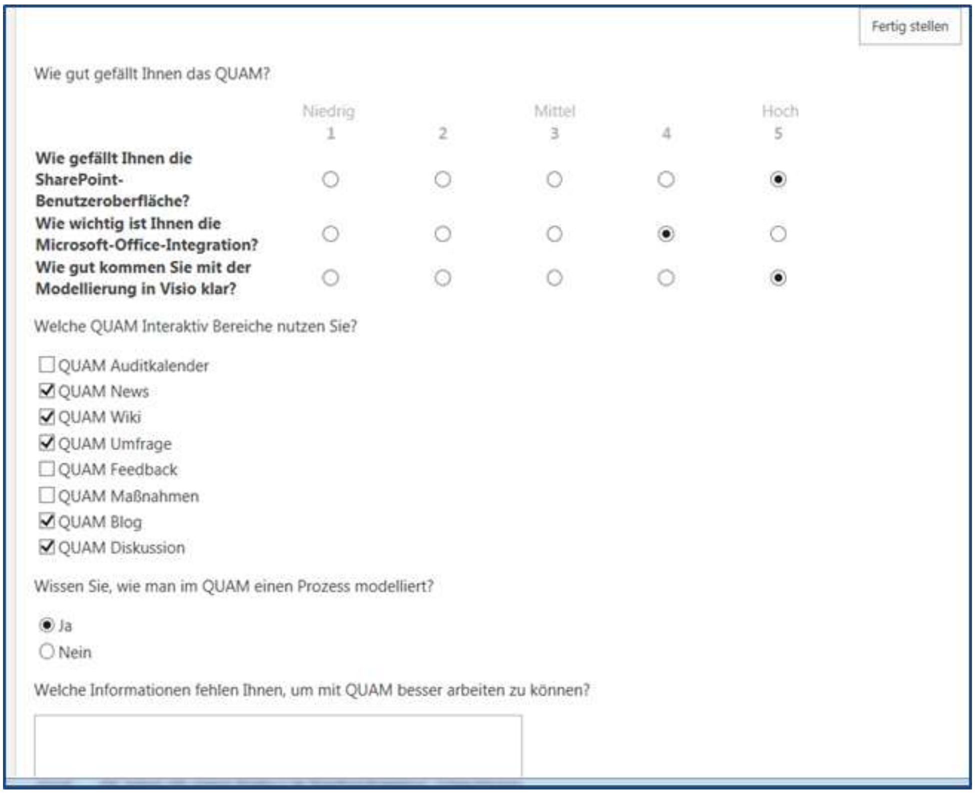


Abb.94: Answering a survey

1.2.13.5. QUAM FEEDBACK

The Quam Feedback function enables users to report back information, questions, fault indications, changes or ideas for improvement of Quam content. If a process has changed or you found a mistake or even if you only have a simple question about a resource, you can create a Quam feedback item and assign it to the responsible person.

In order to create a new feedback item, click on **|Quam Feedback** in the quick launch panel and fill in the form as required. Assign the feedback to the responsible person, describe the feedback, select a suitable feedback category, determine the due date and select the items (Process, Resource, Governance or Structure) that the feedback refers to. Confirm your entries by clicking **|Save.**

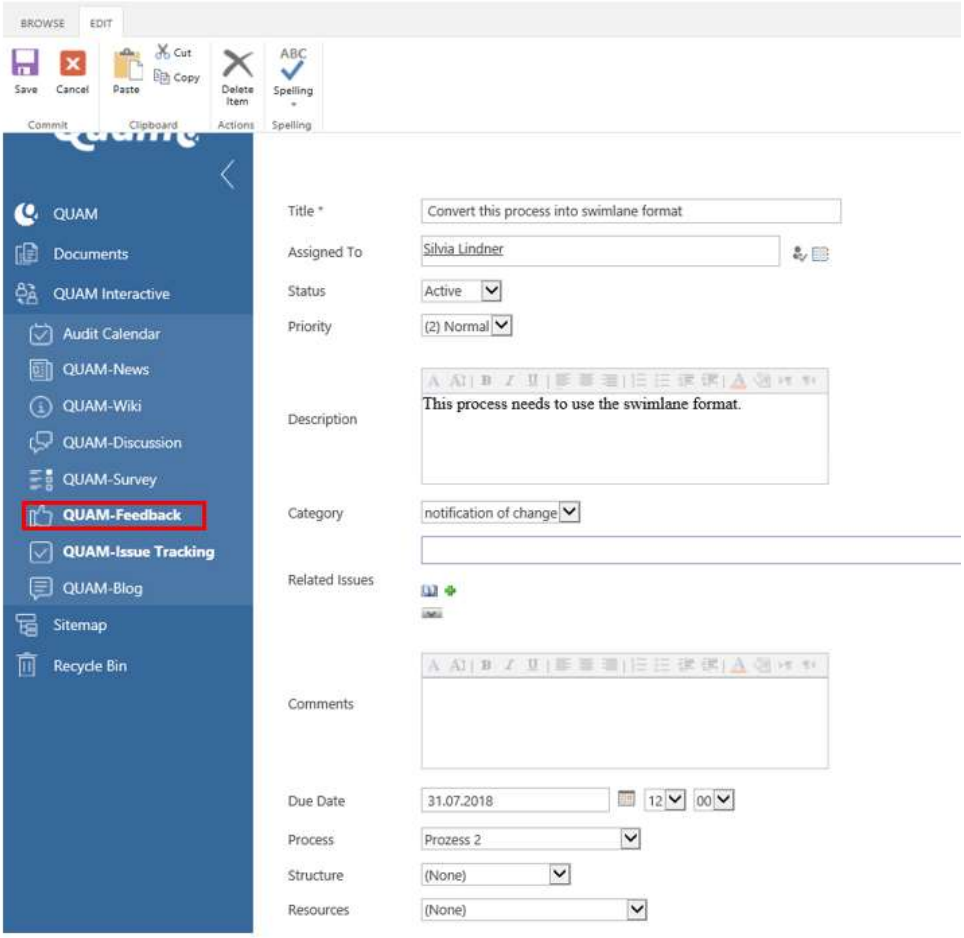


Abb.95: Editing Quam feedback

The responsible person will be informed about new feedback via email. The feedback is listed in the assigned items below the headline "*Identified Issues*".

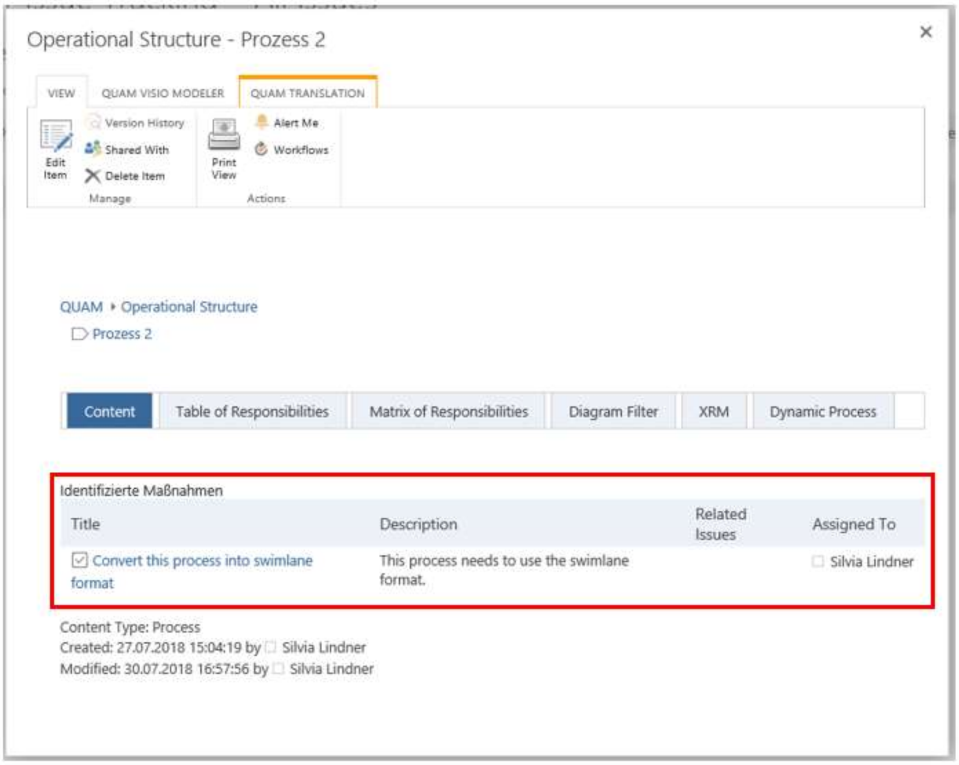


Abb.96: Viewing Quam-Issues on a linked element

1.2.13.6. QUAM ISSUE TRACKING

The feedback items created with the Quam Feedback function are saved in the Quam Issue Tracking list. The Quam Issue Tracking list provides an overview of all issues arranged according to processes. That helps you keep track of unhandled feedback.

Open **|Quam Issue Tracking** in the quick launch panel. If you prefer, you can hide the non-active items. To do so, click **|Active Issues** above the list items or open the **|List** tab (1) in the ribbon bar and select **|Active Issues** (2) from the drop-down-menu below "Current View".

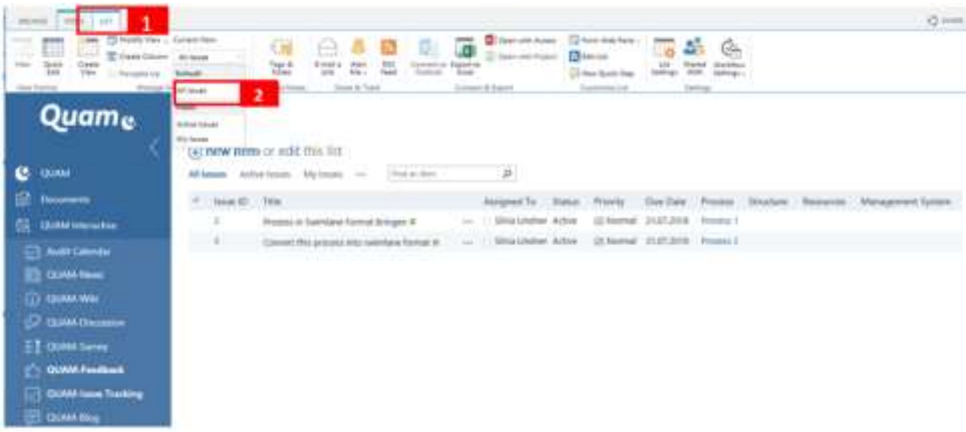


Abb.97: Viewing all issues in the Quam-Issue list

If you have solved an issue, then open the item and click **|Edit Item** in the ribbon bar. Change the issue's status to "resolved" and add comments about the processing, if necessary. Confirm your changes by clicking **|Save**.

1.2.13.7. QUAM BLOG

Quam Blog is used to store and communicate company knowledge. Use this section to share your knowledge with your colleagues and to publish articles e.g. about process management with Quam.

To create a new post, open **|Quam Blog** from the quick launch panel and select from the Blog Tools ribbon bar the command **|Create a post** (1). Fill in the form, select a suitable category and save the new blog entry by clicking **|Publish**. The post has to be approved by someone with approval permissions before it is visible for everyone.

You can filter existing articles according to self-defined categories (2).

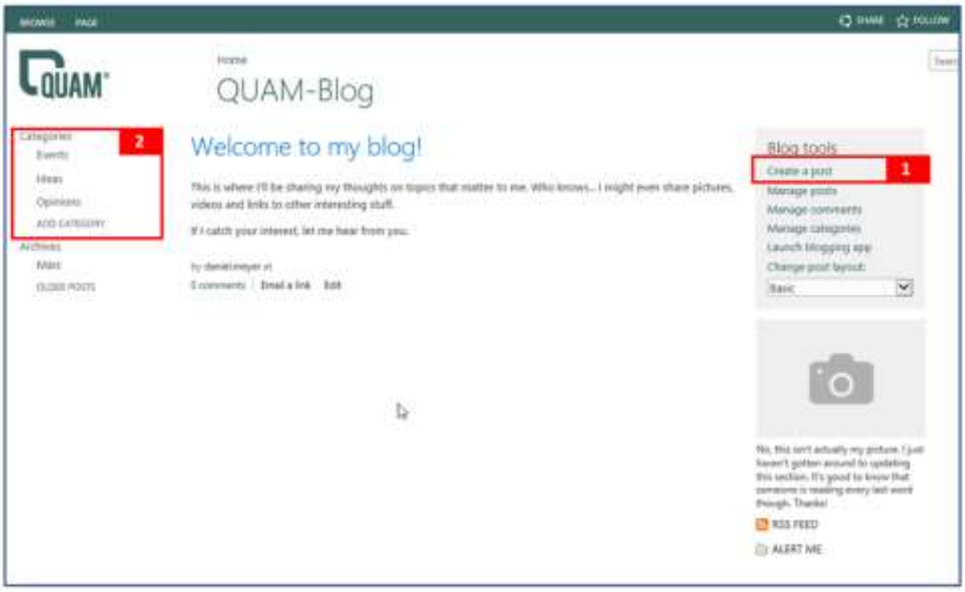


Abb.98: Viewing the Quam-Blog

A blog can have an own design.

1.2.13.8. QUAM DISCUSSION

Quam Discussion is a feature for discussing different topics with your colleagues, for instance about process management with Quam, without time-consuming meetings.

To create a new discussion, open **|Quam Discussion** from the quick launch panel and click **|New Discussion** (1). Fill in the form and confirm your entries by clicking **|Save**.

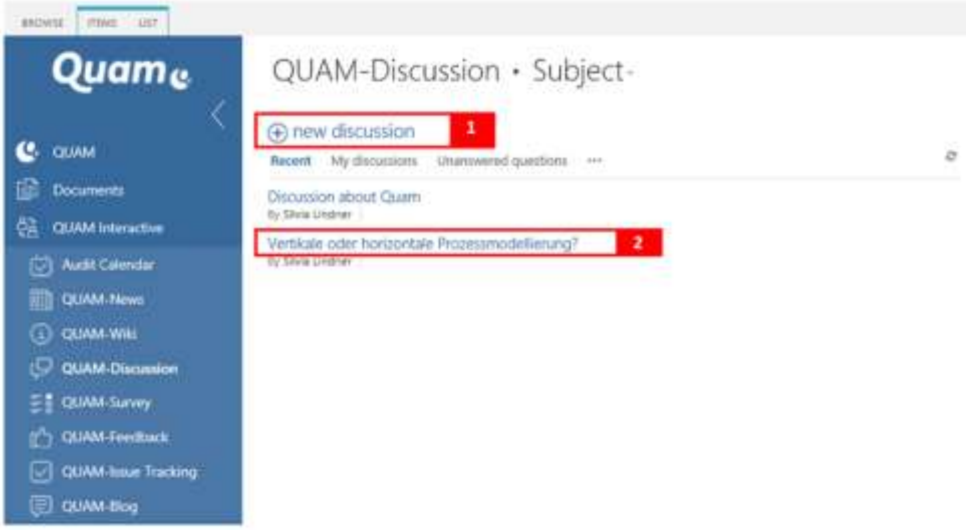


*Abb.*99*: Start a new discussion in Quam*

To participate in active discussions, open the discussion by clicking on the title (2). Type in your contribution in the field "**Add a reply**" (3) and confirm your entries by clicking the **|Reply**-button (4).

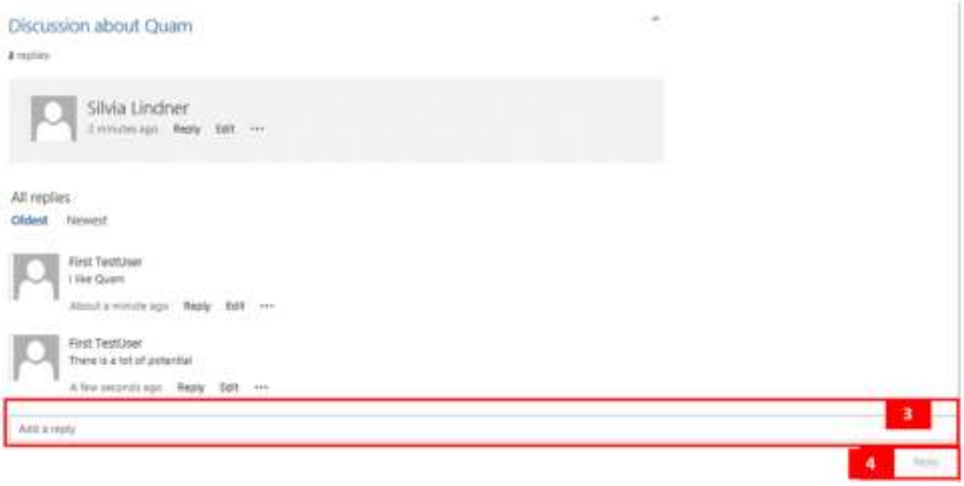


*Abb.*100*: Answer to a discussion in Quam*

1.2.14. HINTS FOR USING QUAM

While working with Quam, you will often come across the same functions, like, for instance, entering data in edit forms, creating new items or modeling with Visio. These functions are described in the following chapters.

1.2.14.1. QUAM USER GROUPS

Quam is shipped with SharePoint user groups *QUAM-Owners*, *QUAM-Members* und *QUAM-Visitors*. These groups have the following permission levels:

Group	Permission	Meaning
QUAM-Owners	Full control	Changes in the datamodel, configuration of the webparts, … (all)

QUAM-Members	Contribute	Changes in data, modeling, …
QUAM-Visitors	Read	Only read, no changes

Important: These groups may not be renamed!

1.2.14.2. PERMISSIONS AND INHERITING

We recommend not to change to the standard permissons and inheriting for lists. The complexitiy of lists in Quam is very high and only one change can have strong influence on different functions.

1.2.14.3. USING THE SHAREPOINT FORMS IN QUAM

Forms in Quam provide a variety of functions, such as verification of uniqueness of title, assigning Quam objects, adjusting the item order or creating new (sub-)items. Learn more about these functions.

Verification of uniqueness (web)

If the verification of the uniqueness of a content type is enabled, a verification will be carried out during the creation or editing of a Quam object to determine whether the title already exists for an object of the same content type. If this is the case, a warning message will be shown under the title field and a warning sign will be shown in the field.

Abb.101: Displaying elements with the same title while object uniqueness is active

If you click on the warning sign, a context menu will be displayed showing all elements of the same content type and the same title. If the uniqueness is weak, more than one element may be listed. The context menu offers the possibility to check if an element already exists.

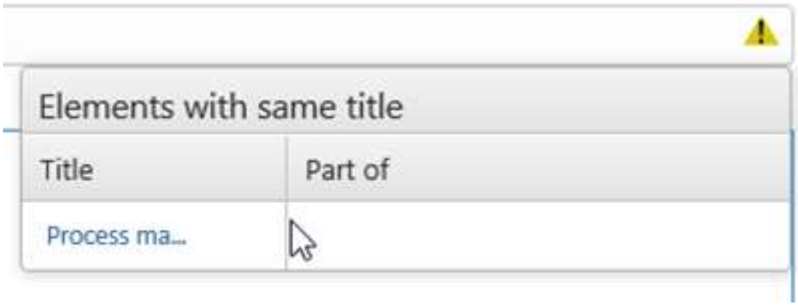


Abb.102: Displaying elements with the same title while object uniqueness is active

If you do not change the title before saving, a warning is displayed. With activated uniqueness, saving is not possible. However, if you change the uniqueness to weak uniqueness, you will be able to save the object. After changing the title to a unique one, a green tick will be displayed in the title field. Now, you can save the object.

The standard configuration provides the weak uniqueness enabled for all basic Quam objects.

Data input and linking

You can use the input fields to quickly link elements with other elements. You have the option of entering data directly using the keyboard or selecting elements using the search mask.

Abb.103: *Linking elements in the input fields*

Enter the search term or at least three letters into the field (1) using the keyboard. The input is automatically compared with the existing data and matching results are displayed (2). Select an element by clicking on the title to accept it (3). If no match was found, no results will be displayed.

If you do not know the elements by name or want to search for specific elements, open the search mask by clicking on the **|Book**-button (4). There you can specify the element you are looking for more precisely. Under (5) enter the term you want to search for or leave the field empty to display all elements of a content type.
Various filters are available (6) with which you can search in certain fields (title, short name, component of) and with certain delimitation parameters (begins with, equal to, unequal to). You can also filter by content type (7).
Click on **|Search** and you get a list of the search results according to the set filtering.

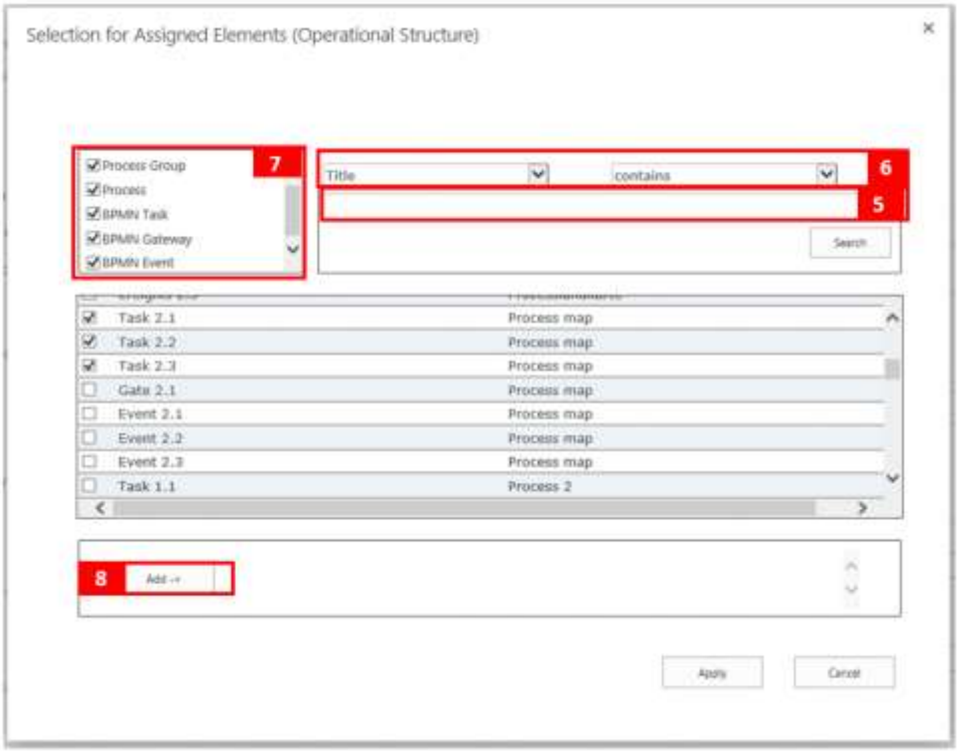


Abb.104: *Using the search dialog*

Select one or more items and confirm your choice with **|Add** (8). Click **|Apply** to insert the items into the input field of the form:

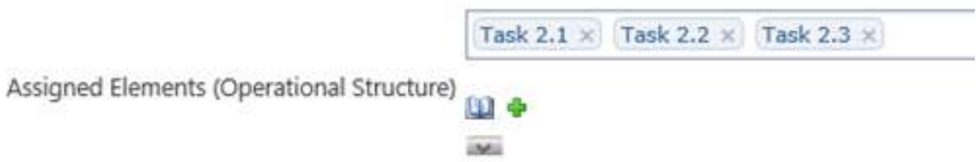


*Abb.*105*: Viewing linked elements*

Creating new Items with the PLUS-Button

If you want to link elements *that do not yet exist in the database*, you can do this directly from the input form that you are currently editing. You simply have to click the **|+** button (1).
In the following example you are editing a process. Depending on whether you create *items in the same list* (e.g. in a process you create a task) (2) or *items in other lists* (e.g. in a process you create an organizational unit) (3) you have to proceed as follows:
You would like to create and link items in the same list (2), then click the **|+** button (1) of "Assigned Elements (Operational Structure)" to create subordinated objects and enter the required information to the new input form. In order to create a sub-subordinated object click the **|+** button in the new input form and continue the same way. Click **|Save** to save the new sub-objects to the database and to link the items (4).

The parent-child-relationship is set automatically.

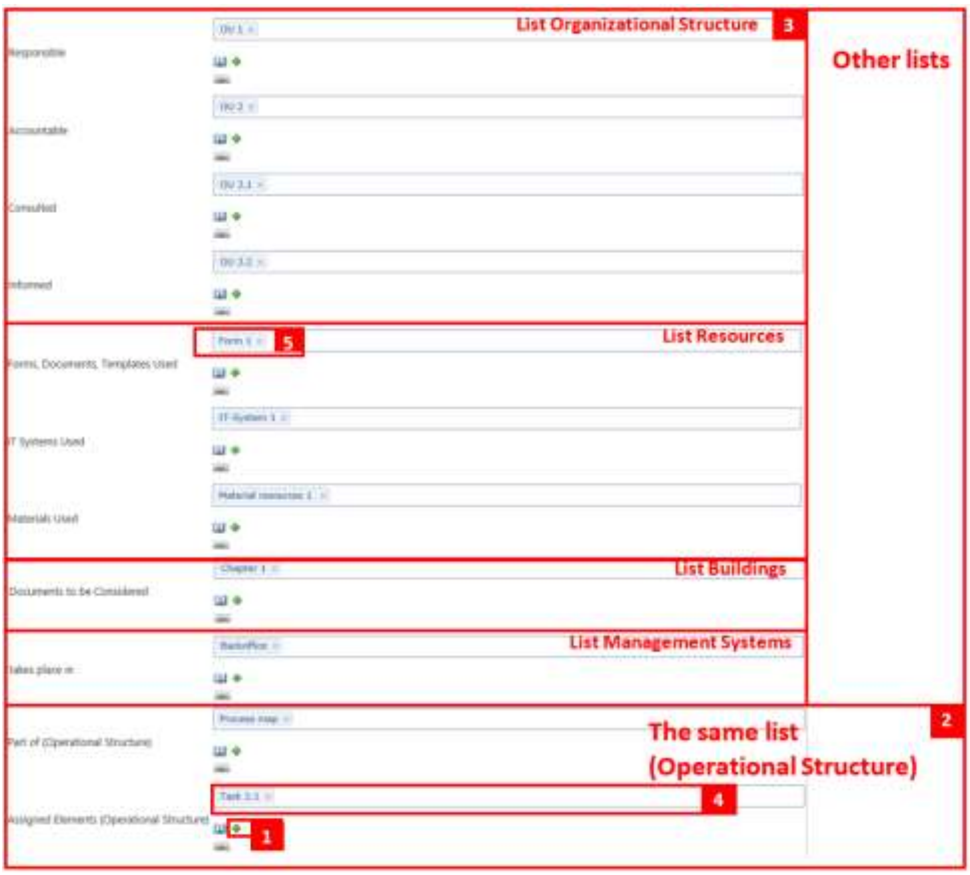


*Abb.*106*: Structure of the input form of a process and different types of links*

If you would like to *create items in other lists* (3) that are automatically linked to the item, then click the **|+** button of the field and enter the required information. In this case, *you have to manually define a parent object* for the new item, to avoid that it appears directly on the first hierarchy level. Click **|Save** to save the new objects to the database and to link them (5).

Edit linked elements directly via the input form

You can display and edit linked objects directly from the input form of another object. To do so, open the edit form of an object and click on the linked item you would like to modify (1). Now click **|Edit item** (2) to enter changes as required.

Confirm your changes with **|Save** to get back and continue editing on the previous item.

Please note: You cannot edit items that you have just created with the PLUS-button as those are only assigned to the original item after you have saved it.

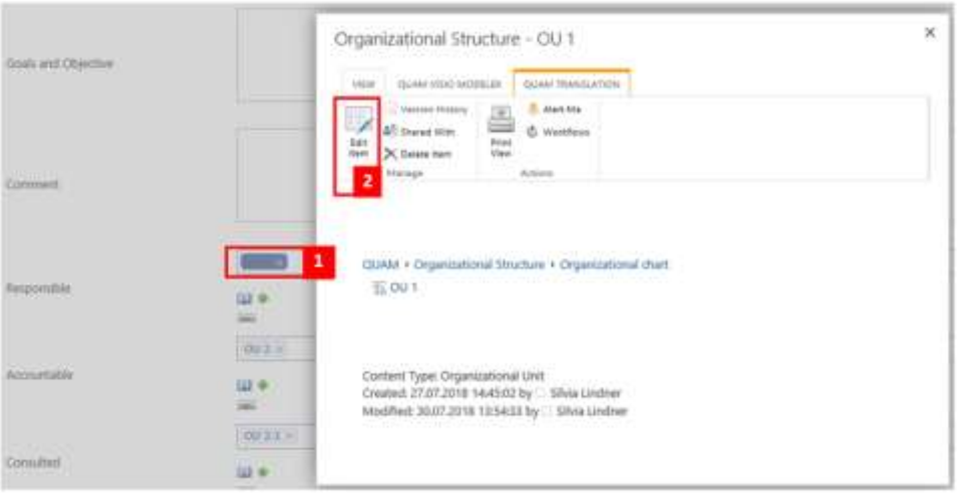


Abb.107: Viewing and editing linked elements

Sorting Function

You can influence the sorting in the input fields of forms. To do this, you can use the sort function to arrange the entries as required.

Click **|Edit Item** to open the input form of the item of which you would like to adjust the order of linked objects.
Select the drop-down arrow below the field to open and close the sorting function (1):

Abb.108: Sorting function for linked elements

The elements are listed in a table (2) and can be moved by drag & drop. By clicking on the |Apply button (3), the customized sorting is then transferred to the field.
The "Original order" and "Modeling order" are documented in the corresponding columns. You can restore this order by clicking on the double arrow in the column header.

*Abb.*109*: Sorting linked elements*

Changing Content Types

If you have mistakenly assigned the wrong content type to an item (for example, you created an item of type material, but intended to create one of type IT-system), you can correct this.
Each item has a “Content Type” drop-down menu. In order to change the content type click |Edit item and choose the new content type from the drop-down. The window is automatically updated to the new content type and you can enter your data. Click **|Save** to confirm your changes.

*Abb.*110*: Changing content types*

1.2.14.4. USING THE QUAM VISIO MODELER

Microsoft Visio is a comprehensive visualization tool suitable for different purposes. The following chapter explains some handy tips and tricks that will help to simplify the modeling of Visio drawings in Quam and to optimize the layout.

Remark: Even though it is possible to place a lot of elements in one chart, we recommend not to place more than 300 elements. Exceeding this limit, might result in faulty behavior when saving charts in Visio.

1.2.14.4.1. VERIFICATION OF UNIQUENESS

When uniqueness is configured, the verification of uniqueness is carried out also when adding or editing Quam elements in the Quam Visio Modeller. When you select **|Save Quam Objects**, the uniqueness will be verified for the content type. A window opens showing the status of each object. Objects with a unique title have a green tick, while objects violating uniqueness have a red cross.

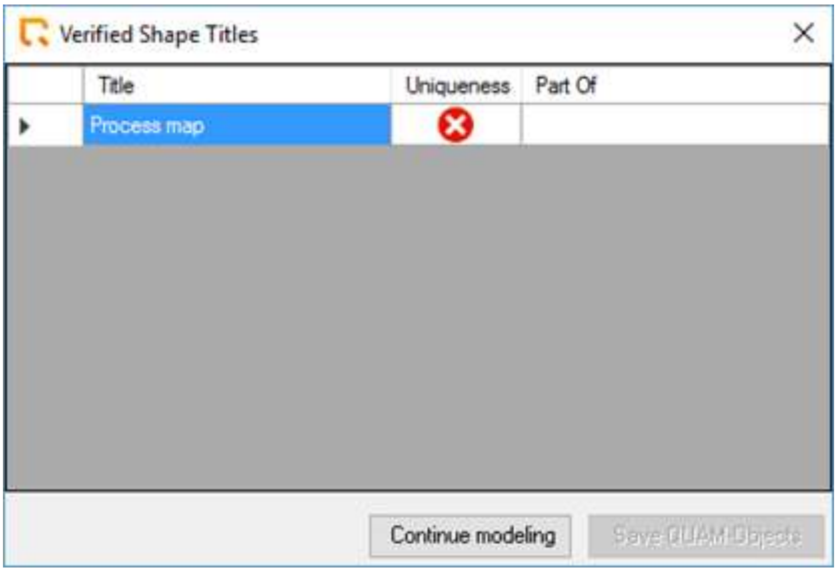


Abb.111: Verification of object uniqueness in the QUAM Visio Modeler

Click on **|Continue Modeling** and carry out the necessary changes. Furthermore, an object can reference an existing Quam object instead of creating a new one. For this, click on the red cross. A window opens showing all objects with similar content types and similar titles.

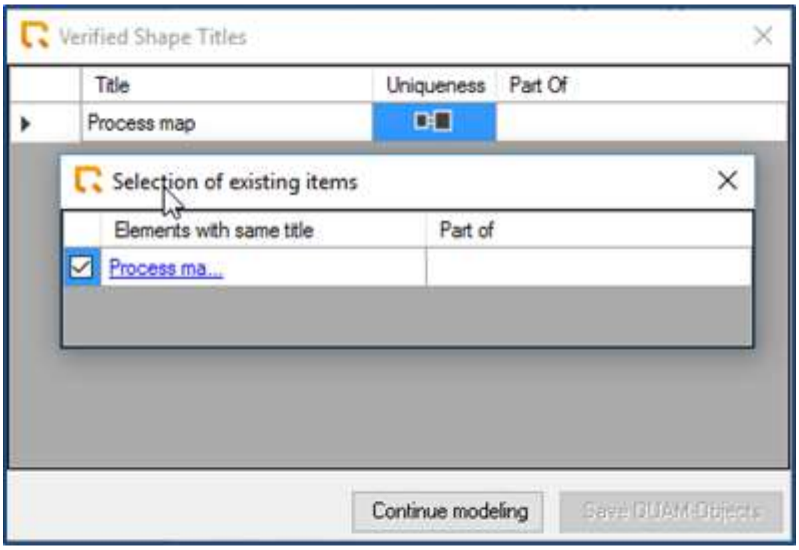


Abb.112: Referencing an existing element in the QUAM Visio Modeler

If you click on the title, a window opens where you can verify if the object is the desired one. If you tick the check box of an element, this element will be referenced. The red cross will then be changed to a referencing sign. To save the drawing, select **|Save QUAM Objects**.

1.2.14.4.2. DIFFERENT WAYS OF MODELING BPMN CONNECTIONS

Way 1: You can automatically create BPMN connectors between shapes. Drag a shape from the stencils using the left mouse button. Holding down the mouse button, drop the shape on one of the blue triangles (these will appear when the cursor is near the respective shape). When the triangle becomes dark blue, you can release the mouse button. The shapes will automatically be connected.

Way 2: Selecting the desired shape from the stencil. Move over a shape on the modeling surface and click the blue triangle. The selected shape will now appear on the modeling surface connected to the shape.

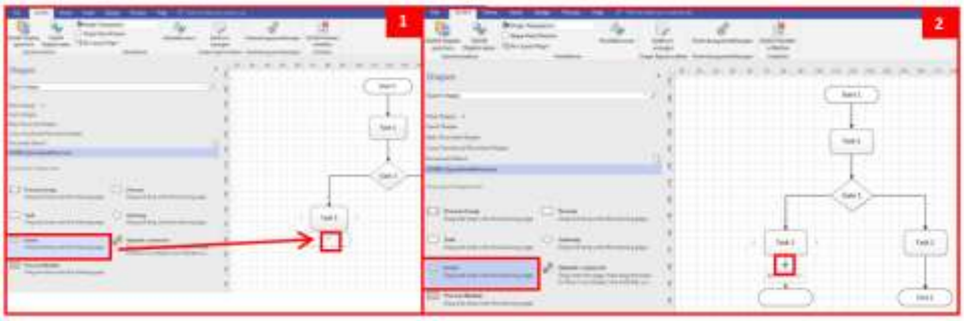


Abb.113: Adding linked elements within the QUAM Visio Modeler

Way 3: Use the dynamic connector to connect shapes manually. Drag and drop the dynamic connector from the stencil onto the shapes you would like to connect. A read square shows that the connection is established – only release the mouse button when the red square is shown. Use this method for instance to model return paths to precedent process activities.

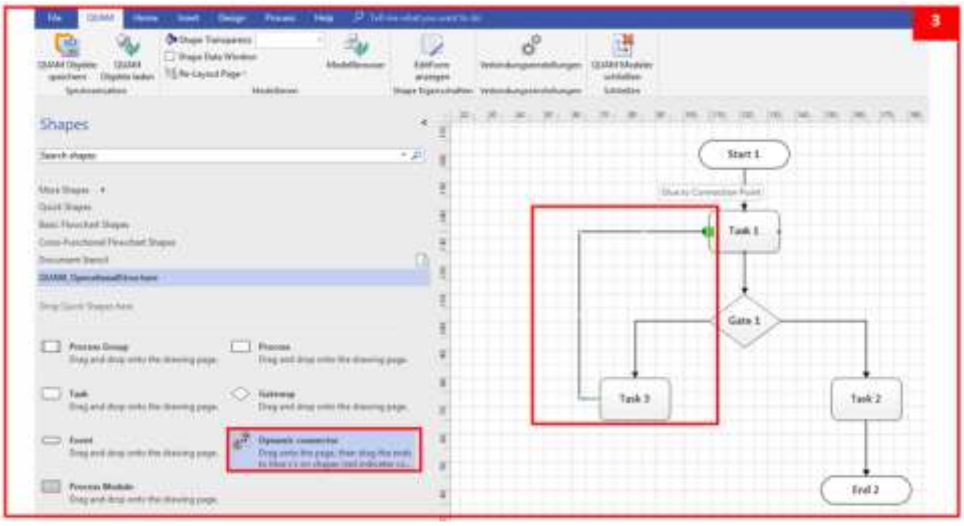


Abb.114: Linking existing elements using the dynamic connector

1.2.14.4.3. WAYS OF ADJUSTING VISIO DRAWINGS

Once you have arranged all items and connections on your drawing area, you can finalize the drawing by using the automatic **|Layout** function.

After loading the items with **|Load Quam-Objects**, Visio positions them centrally in the drawing area on top of each other. You can now either manually adjust their location in the drawing area or you can use the **|Layout** function:

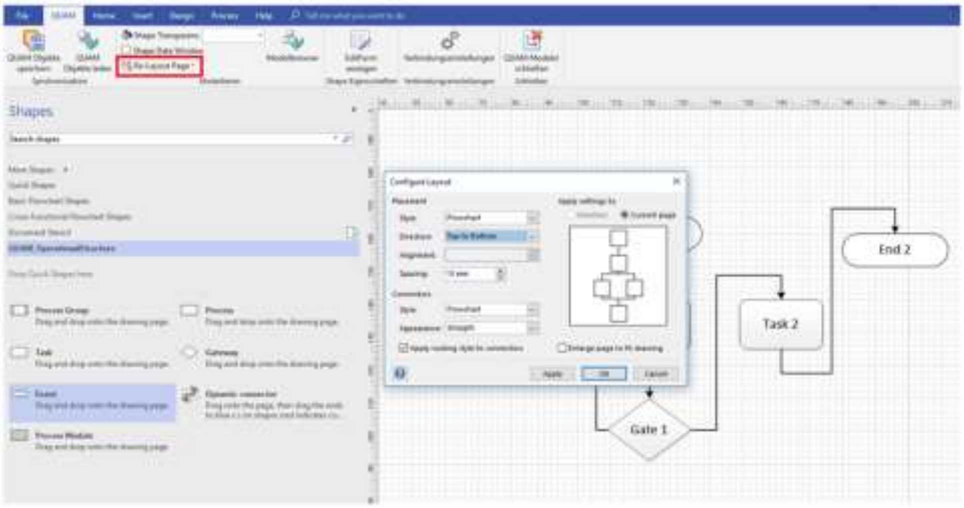


Abb.115: Automatically order chart elements in Visio

Carry out the required adjustments, define the direction and distance of the shapes and confirm with **|OK**.

Please note: In order to carry out adjustments, you need to create connections, determining the direction. In case no connections were set in the standard view, it is necessary to manually create connections in the drawing in order to be able to apply the layout function.

Once you have completed your drawing, you should adjust the page margin to your drawing. To do that, use the Visio function "**Fit to drawing**" on the tab "**Design**" below the button **|Size**.

Alternatively click |CTRL and at the same time use your mouse to *drag the margin of the drawing* area to the required position. Your Visio drawing will now be displayed optimally in Quam.
Confirm your changes with **|Save Quam-Objects:**

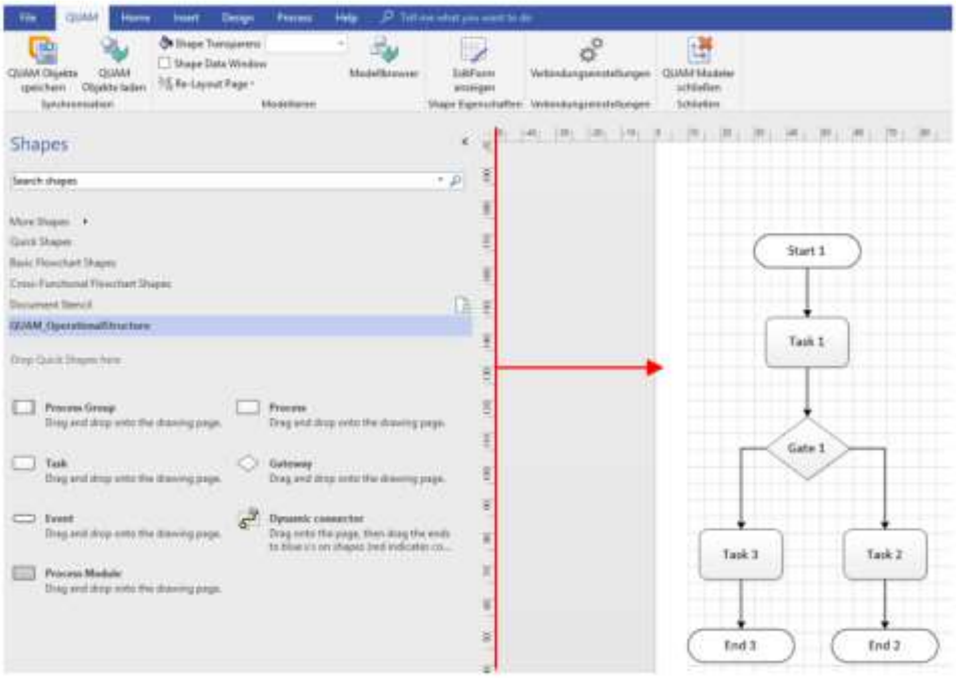


Abb.116: Adjusting the page margin in Visio

1.2.14.4.4. USE OF TRANSPARENT SHAPES IN DRAWINGS

Sometimes it comes in handy to work with pictures, for example to create a process landscape or building plan.
Insert a picture of the object to be modeled and place the shapes at the appropriate place. In order to display them properly sort and arrange the shapes, using the left mouse key to drag and drop the shape to your preferred position on the drawing.

Open the **|Insert** tab on the ribbon bar, click **|Pictures** and select the desired image in the file browser:

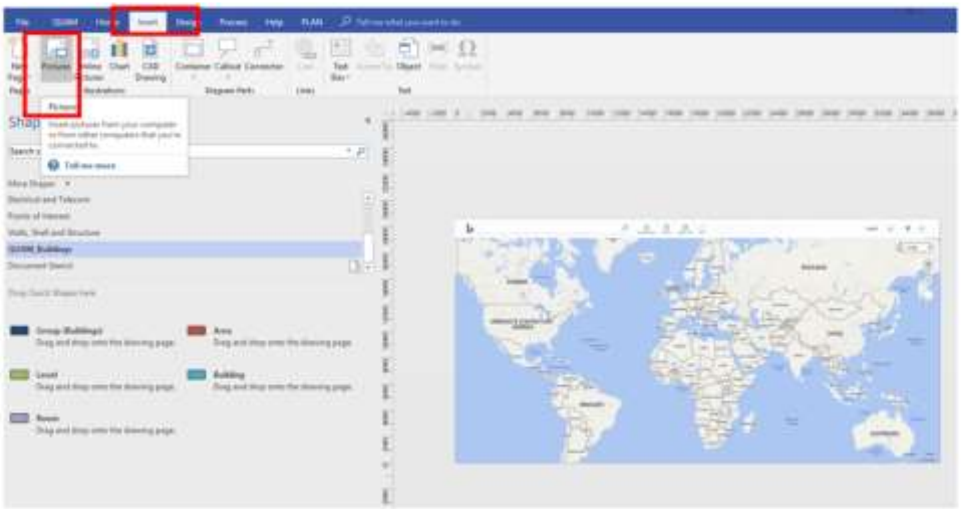


Abb.117: Add a picture to a drawing in Visio

Select the shapes and switch the **|Shape Transparency** to **On** to hide the shapes and select **|Save QUAM Objects** to save the changes:

Abb.118: Adding transparent shapes in the Quam Visio Modeler

Exit the editing mode, by clicking **|Close Modeling** click

Click **|Reload Site** in your browser window to update the drawing.

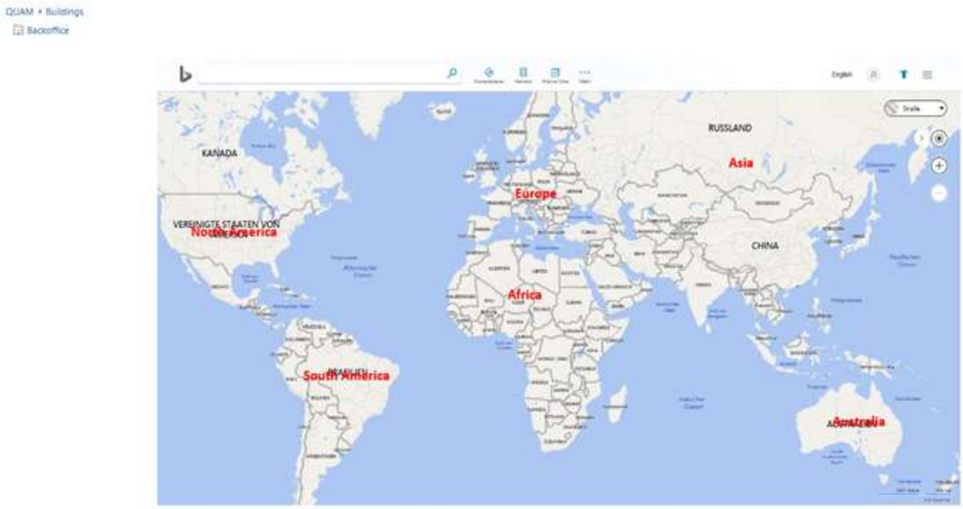


*Abb.*119*: Transparent shapes and pictures in Quam*

1.2.15. GLOSSARY

In this glossary, you will find Quam related terminology. This facilitates the distinction between the content types when creating new elements.

1.2.15.1. QUAM DRAWING

Business processes can be graphically modeled by means of a Quam drawing. For this purpose, Business Process Modeling Notation (BPMN) provides different symbols for the modeling of processes. In Quam, these processes can consist of events, tasks, gateways and connections.

1.2.15.2. OPERATIONAL STRUCTURE

The operational structure describes "*everything a company does*". It describes how elements in ongoing processes work together in order to achieve a certain output.

The basics of an operational structure can be defined by the following questions:

What & how does who, where, by what means, according to which rules and with which objective?

*Abb.*120*: The main question of process modeling in Quam*

Who: the organizational structure, e.g. a department or a particular employee that is responsible for a certain task.

What: the process or a particular task as a part of the process.

By what means: systems being used (e.g. ERP system like SAP or Navision), forms, tools and resources, etc., to be used.

How: single work steps which are part of the task description.

WHICH RULES: Normative requirements regarding the execution of a process or a task. The requirements should be subdivided into external requirements like laws and regulations and internal requirements like quality management, environmental management, occupational safety or management rules.

The icon of the operational structure:

1.2.15.3. ORGANIZATIONAL STRUCTURE

Unlike the Operational Structure, the *Organizational Structure* describes "*everything that a company has*" in order to manufacture products or to offer services.

This includes employees who have different positions in the company's hierarchy, systems like computer networks or resources like machines. Information and their media (e.g. forms) are also part of the Organizational Structure.

The icon of the organizational structure:

1.2.15.4. EVENTS

Incidents occurring at the beginning, at the end or during a process are called events.

The icon of an event:

1.2.15.5. TASK

A task describes an issue to be solved by a process. It is displayed as a rectangle with rounded corners.

The icon of a task:

1.2.15.6. GATEWAY

Gateways are used for the visualization of junctions within a process model. A gateway is displayed as a rhomb.

The icon of a gateway:

1.2.15.7. RELATIONSHIP / CONNECTOR

The elements of a process are connected to each other by connectors representing relationships that possess a unique starting and end point.

The icon of a connection:

1.2.15.8. DOCUMENTS AND RECORDS (FORMS)

Standardized documents and records serve as information carriers and can be modeled as resources in Quam.

The icon of documents and records:

1.2.15.9. EXTERNAL PARTNERS

External partners are part of the organizational structure of a company and used to model external parties that are associated with the company (e.g. clients or vendors).

The icon of external partners:

1.2.15.10. LAWS, GUIDELINES, STANDARDS AND REGULATIONS

Laws, guidelines, standards and regulations are the rules of a company that do not belong to the standardized management systems quality management, environmental management or occupational safety. Examples are regulations concerning signature rules, procurement regulations, or business travels.

The icon of Laws, Guidelines, Standards and Regulations:

1.2.15.11. GROUPS

Groups allow the structuring and grouping of elements similar properties in the categories organizational structure, resources and management systems. This allows different subgroups to be assigned to the existing groups in order to fine-tune the objects contained.

The Icons of different groups:

1.2.15.12. IT SYSTEMS

IT systems belong to the resources of the organization. IT systems are stored within the group IT systems .

The icon of IT-systems:

1.2.15.13. MANAGEMENT SYSTEMS

A management system is a set of policies, processes and procedures used by an organization to ensure that it can fulfill the tasks required to achieve its objectives. Quality management, Occupational Health Management and Environmental Management are often part of the management system.

The icon of Management Systems:

1.2.15.14. MANAGEMENT SYSTEM MANUAL

A Management System Manual is generally an ordered collection of information. As a systematically structured reference work, it serves the user as a "user guide" and is part of the common knowledge base of a company. The individual manual often refers to a thematically delimited subject area (e.g. Quality oder Occupational Health).

The icon of Management System Manuals:

1.2.15.15. MANAGEMENT SYSTEM MANUAL CHAPTER

A Management System Manual Chapter is part of a management system manual. The chapter allows the structuring of the content of the manual and an individual assignment of the chapters to elements of the organizational and operational structure.

The Icon of Management System Guide Chapters:

1.2.15.16. EMPLOYEES

Employees belong to the organizational structure of a company. They are assigned to different organizational units within the model and can take on different roles within the organization.

The icon of employees:

1.2.15.17. ORGANIZATION CHART

The Organizational Chart, is a diagram that shows the structure of an organization and the relationships and relative ranks of its Organizational Units. In Quam the Organizational Chart is modeled within the organizational structure.

1.2.15.18. ORGANIZATIONAL UNIT

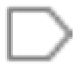
The Organizational Units are part of the organizational structure. They allow the modeling of departments and other organizational associations. The hierarchic position is depicted in an organizational chart.

The icon of organizational units:

1.2.15.19. PROCESS

A process is a coherent sequence of activities aimed at fulfilling a defined goal. In Quam, processes can be graphically modeled using the Business Process Modeling Notation (BPMN).

The icon of processes:



1.2.15.20. PROCESS GROUP

Process groups serve the structuring and meaningful aggregation of processes, which in particular facilitate the classification and orientation of the users. They can contain both processes and other process groups.

The icon of process groups:

1.2.15.21. PROCESS LANDCAPE / PROCESS MAP

The Process Map offers an overview of the most important processes and their interactions. It gives an understanding of the process structure of an entire company and helps the user to place the own workplace within a larger context. Often a distinction is made between Core Processes, Management Processes and Support Processes.

1.2.15.22. RESOURCES

Factors of production, resources, are what is used in the production process to produce output. i.e. goods or services. Resources belong to the organizational structure of a company. In Quam they are stored in a dedicated section.

The icon of resources:

1.2.15.23. ROLE

A role is a part of the organizational structure and can be considered as a certain function that is carried out by employees and / or organizational units from different hierarchical levels. Examples are the roles “Process owner” and “Data-protection representative”.

The icon of roles:

1.2.15.24. MATERIALS AND EQUIPMENT

Materials and equipment, such as machines and facilities, belong to the resources of an organization and are part of the group Equipment.

The icon of equipment:

1.2.15.25. PARENT OBJECT (PART OF)
A group or an object that is directly superior to an element.

1.2.15.26. CHILD OBJECT (ASSIGNED TO)
A group or an object that is directly subordinated to an element.

1.3. PROJECT MANAGEMENT WITH QUAM

Quam 6.1 provides the project management module "CPM" (CPM: Collaborative Project Management) for cross-project collaboration and joint documentation of results.

CPM is a project management module for cross-project collaboration and common documentation of results. It enables navigation from a central project management portal page to individual projects, that in turn can be summarised into projects and structured in subprojects. CPM allows projects to be planned, approved and generated; also, project processing can be controlled, project controlling is possible and project effort can be recorded - in brief, CPM accompanies a project throughout its entire lifecycle.

Based on its role concept, CPM does not only describe precisely what needs to happen in a project, it can also record who does exactly what in a project. In contrast to other standard project management tools, CPM attaches great importance on visualisation to facilitate recording complex situations in a project and also between several different projects. The user should not face a labyrinth of numbers, instead he should use easy and intuitive symbols that help him focus on his daily work and not be distracted trying to understand his work equipment.

1.3.1. INTRODUCTION

This User Manual is designed for project managers and project members that want to use CPM to support their work in the company. Primarily, CPM is an expansion of the SharePoint and should be subordinate to its functions and rules. Although being familiar with the basics of SharePoint is an advantage when reading this manual, its structure is such that the SharePoint user manual does not need to be read in parallel. Nevertheless the SharePoint manual will be helpful when it comes to the expanded configuration of views, lists, content types etc.

This manual is not suitable for persons who want to find out more about the technical aspects of the CPM; in particular administrators or developers whose work mainly focuses on adapting or expanding the system functions. Here we recommend our technical documentation and the obvious existing SharePoint experience.

1.3.1.1. STRUCTURE OF CPM

The content and the technical design of the CPM is based on a hierarchy. Content structure elements are for instance *programs*, *projects*, *work packages*, *milestones* etc.; technical structure elements are subwebs, lists, list elements, content types and other data elements that SharePoint offers. Both type of structure elements are very closely connected in the CPM.

1.3.1.1.1. STRUCTURES AT THE PORTFOLIO LEVEL

The content of the CPM-module is structured into two hierarchy levels. These are the *Portfolio Level* and the *Project Level*. The three most important structure elements *Program*, *Project* and *Projectpart* are primarily managed on the portfolio level; secondly, there are also auxiliary structures, e.g. the pool of potential project members (staff list). Other structures, e.g. the time recording option, are only on the portfolio level from the perspective of the user interface; the actual data is stored in the projects themselves.

Program

The Program the highest structure element. A program comprises a defined set of related projects. Programs can be managed separately like projects. Programs exist as content types on the same list as the project itself. The additional hierarchy level that is opened by the program concept, can be managed and visualised in corresponding control elements.

Theoretically, a program can be created and managed as an independent program, however it almost always requires the projects assigned to it as sub-elements.

Project

The project is the most important organisation element of CPM on the portfolio level. Work packages are defined, resources booked, meetings organised, documents managed and lots more in the project.

Projectpart

Several project parts make up a project and can be managed individually. The projectpart on the portfolio level should not be confused with the subprojects in the individual projects themselves. In contrast to the projectpart, they only represent flat organisational substructures that are only designed to frame elements like work packages or milestones in an organisational context.

Supporting structures on the portfolio level

Other data structures on the portfolio level are:

- *Staff List*: All potential project members are managed in the Staff List based on their Active Directory Account. Each project member must exist as an item in this list.
- *Resource Capacity*: The capacities of staff members are entered in this list for resource planning purposes on a time-slice basis.
- *Currencies*: Each currency that shall be used as a projects currency need to be defined in this list.
- *Service Types*: Service types can be used to classify the nature of different activities on project level. e.g. according to the type of work they represent (e.g. Consulting, Programming, Project Management). These are juxtaposed to the activities on the project level.
- *Clients*: There must be a client for each project. Clients can be internal or external entities.
- *Notifications*: The notification list is a technical list in which the texts, reference lines and attached pictures for the numerous notifications can be configured. Changes should only be made here by trained specialists.

1.3.1.1.2. STRUCTURES AT THE PROJECT LEVEL

Project

The project at the project level is represented by two list elements and is equivalent to the project defined accordingly on the portfolio level. The element realises the creation and continuation of the hierarchy on the portfolio level into the hierarchy on the project level.

Work package
The work package primarily represents the lowest level of hierarchy and is the most granular unit. Ultimately, various project employees are assigned to the work package; there is a responsible person, a duration and lots of different properties. Resources can be allocated to the work package and times can be reported. A work package can have a predecessor-successor relationship, also in the shape of a parent-child relationship, to other work packages and subprojects, although the typical Gantt diagram is generated with bars and connectors.

Milestone
A milestone is nothing more than a work package with the duration 0. To define a more distinctive feature, all milestones were given their own content type in the CPM design.

Subproject
The subproject leads to a further hierarchy level on the project level. It should not be confused with a subproject (projectpart) on the portfolio level, however it is assigned to a whole (sub)project room that, in turn, may contain own work packages, subprojects, milestones etc., whilst the element described here on the project level can only contain work packages, milestones and other subprojects as subordinate elements.

Tool structures on the project level
Just like on the project level, there are also data elements on the project level that contain structures that cannot be shown in the project hierarchy. These are:

Artefact	Content
Activity	An activity is assigned a service type and, using this, indirectly links a work package with a time record.
Meeting	Meetings can be defined in the respective list and/or their calendar view, although an invitation can be sent by certain participants.
Meeting document	A document can be linked directly with a meeting in the Meeting documents list.
To Do	A todo can also be assigned to a meeting in the respective list.
Project document	All general project documents (not assigned to a meeting) are managed in the Project documentation library.
Issue	An issue can be recorded in an issue catalogue and assigned to a work package and/or a meeting.
Decision	Decisions are also data elements that can be assigned to a meeting.
Risk	Risks can be assigned to a project and/or work package and a project member.
Risk prevention	Elements in the Risk prevention list are tasks that can be assigned to one or several risks and a project member.

Artefact	Content
Change request	A change request can be assigned to an author and a work package and then approved.
Time record	The time records for a work package are managed in the Time recording list. The time records are recorded centrally on the portfolio level and not directly via the list.

In addition to these described entities that are important for day-to-day work with CPM from a user's point of view, there are a number of other purely architecture-defining technical entities and structures that are explained in detailed technical documentation. The following tables provide an overview of these technical entities. CPM uses e.g. Lookup relationships, in order to use these entities in the project management.

Cpm entity	SharePoint artefact(s)	Name / URL
Project	a) List element (project list) b) Content type on the project list c) Subweb in the Cpm-Site-Collection	Lists/Projects Project <SiteCollectionUrl>/<ProjectID>
Employee	a) List element (staff list) b) Content type on the staff list	Lists/Staff Employee
Service type	a) List element (service types list) b) Content type on the above-mentioned list	Lists/ServiceTypes ServiceType
Client	a) List element (client list) b) Content type on the above-mentioned list	Lists/Clients Client

1.3.1.2. SYSTEM LIMITS

The CPM system limits are primarily set by SharePoint and its architecture. The list views in SharePoint have the performance and system restrictions as published by Microsoft. In CPM, tools and webparts that go above and beyond SharePoint standard are used for project controlling and project management; also, data from various lists and cross-website (project rooms) are shown and edited graphically. The tools and webparts that implement CPM's features are subject to special system limits that are highly dependent on the *server architecture* you use, your *client computer* and/or *browser*, and also on the *complexity of the managed projects*:

Aggregation level of the CPM	Feature	Complexity
Portfolio level	Project cockpit	• Number of active projects • Complexity of the respective project plans
	Team overview	• Number of active projects, • Number of users
	Employee utilization	• Number of projects,

Aggregation level of the CPM	Feature	Complexity
		• Complexity of the project plan • Number of booked resources
	My CPM	• Number of active projects, • Complexity of the project plan • Project scope
	Time recording	• Number of active projects, • Complexity of the project plan • Number of recorded times
Project level	Project management (in particular Gantt diagram and project structure plan)	• Number of active projects, • Complexity of the project plan • Number of recorded times
	Meeting Management	• Project scope

1.3.2. FIRST STEPS

The list *Currencies* contains a selection of currencies for your projects. One of these currencies is selected as portfolio currency. CPM be default delivers Euro, US Dollar, Swiss Franc, British Pound and Yen. The portfolio manager is allowed to add, edit and delete currencies.

Note: It is recommended that no element in the list is deleted by using the SharePoint standard functionality. When a used currency is deleted, errors may occur in CPM. For this purpose, the portfolio manager should use the button **|Remove Currency.**

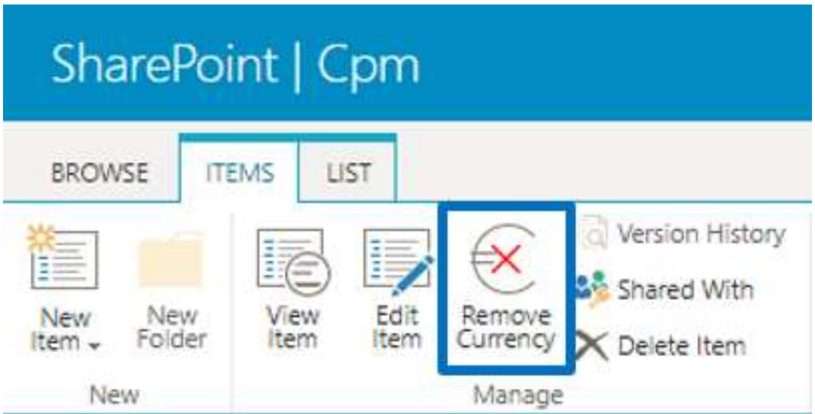


*Abb.*121*: Removing a currency*

1.3.2.1. MAINTENANCE OF STAFF LIST

The staff list contains the data of all employees that can take a role in a project, i.e. be assigned to a project team.

External employees can also be entered by selecting a special content type. External personnel can be assigned as an additional resources to work packages but as the field for the AD account is not available for external personnel they cannot access the system.

To allow easier identification of an employee in diagrams, each employee can be assigned a colour using the Colour-Picker on the NewForm of the list:

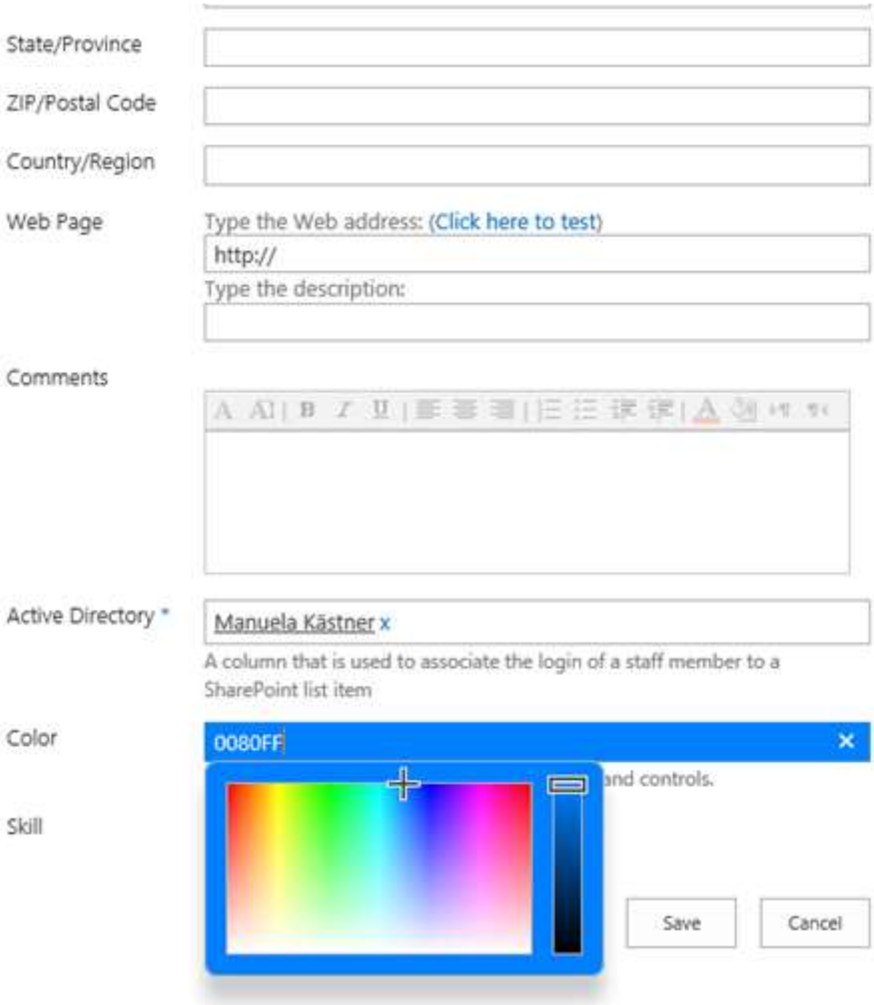


*Abb.*122*: Colour-Picker on the NewForm of the staff list*

Please note: The field for the e-mail address in CPM is optional. The e-mail addresses entered here *are not used in CPM*, e.g. for notifications. CPM only uses the AD user account of the user.

Please note: It is recommended that no element in the list is deleted using the SharePoint standard functionality. When an assigned staff member is deleted, errors may occur in CPM. For this purpose, the portfolio manager should use the button **|Remove Staff**. Use the standard SharePoint functions in order to show hidden staff again.

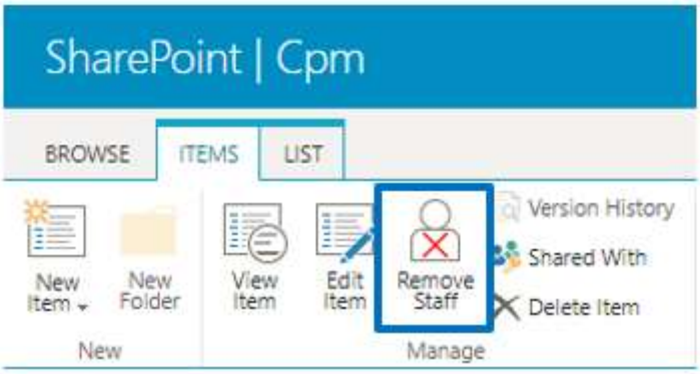


Abb.123: Removing a staff member

1.3.2.2. MAINTENANCE FO CAPACITIES FOR PROJECT MEMBERS

To make use of the resource planning functions, resource capacities need to be entered for the employees in the staff list. The capacities are used in the resource plan. In this way, it is possible to record leaves and absences, temporary shorter working hours etc.

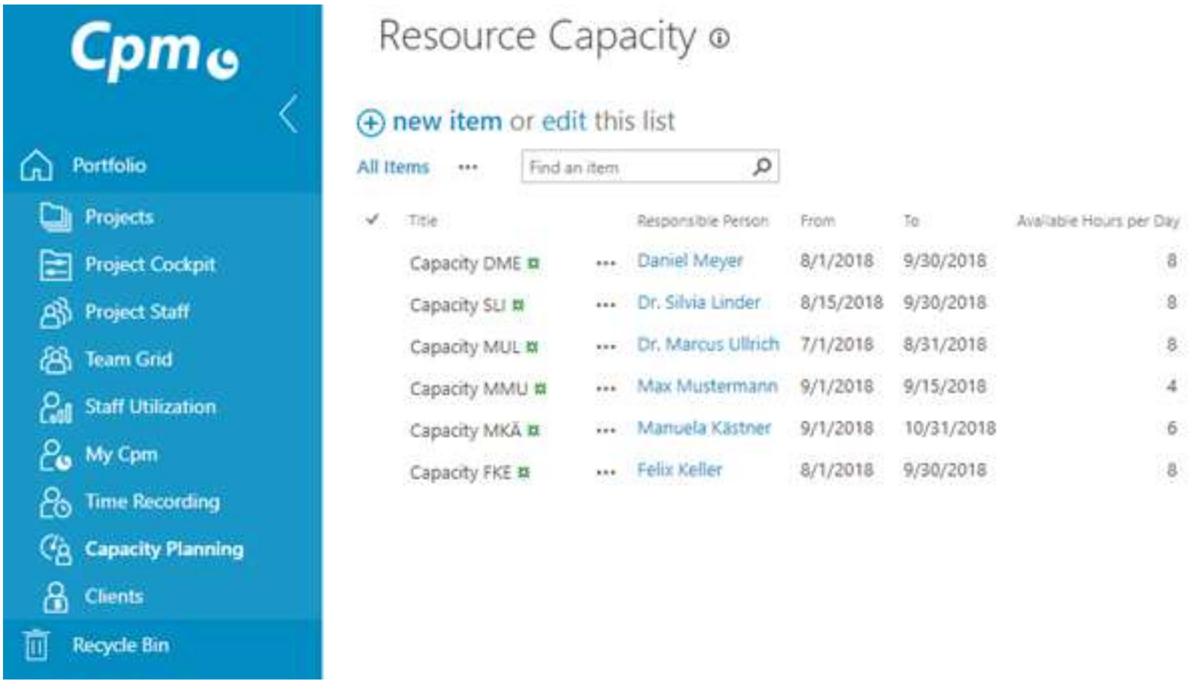


Abb.124: Ressource capacity list

The list is called up either using the Quicklaunch link **|Capacity Planning** on the portfolio level or the URL <Site Collection URL>/ResourceCapacity. If there are any overlaps of two or more capacity intervals, the newest entry is used. The title of a record can be freely assigned.

1.3.2.3. MAINTENANCE OF CLIENT LIST

On the portal page, navigate to **|Projects** (1), create a new project by clicking **|Add new item** (2):

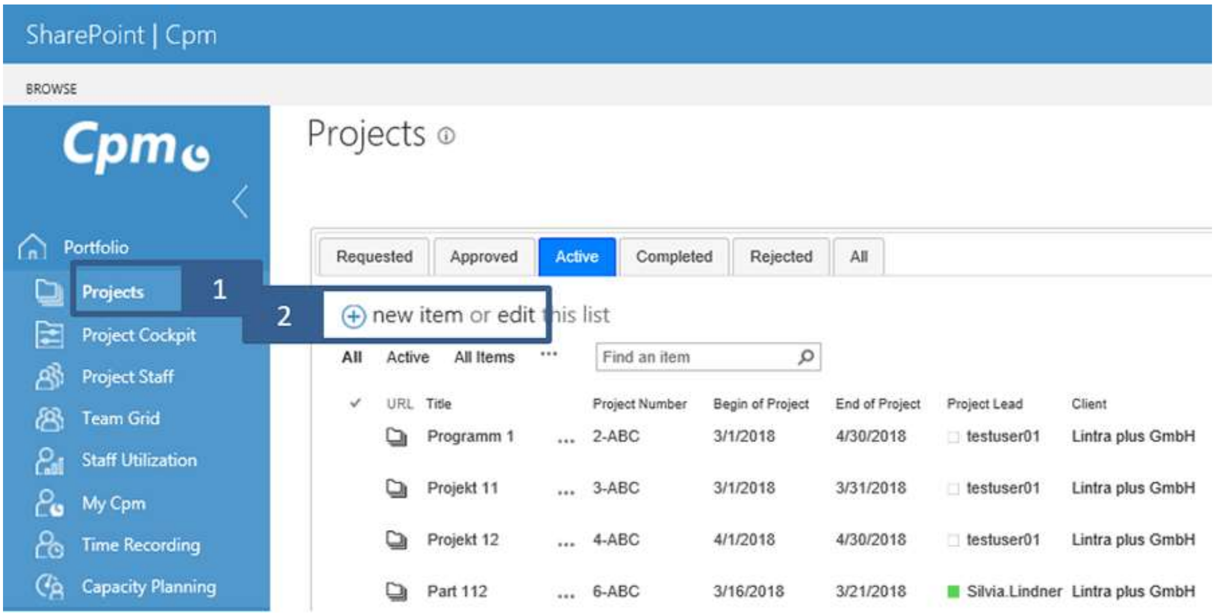


Abb.125: Creating a new project

After creating a new item complete the project application form:

Abb.126: Complete the project information of a new project

Enter a project name, assign a project lead, decide who will be the project approver and fill in all other required information.

Note: You can only select users of the SharePoint '*Project Approvers*' group as Project approvers. Only persons on this group are authorised to approved the project. Make sure that the project lead has been set up as a SharePoint user and added as Project Staff before he can be appointed to the project.

Approving a project application

If the project application form has been confirmed with the **|Save** button, the project approver receives an email with a request to check and approve the project:

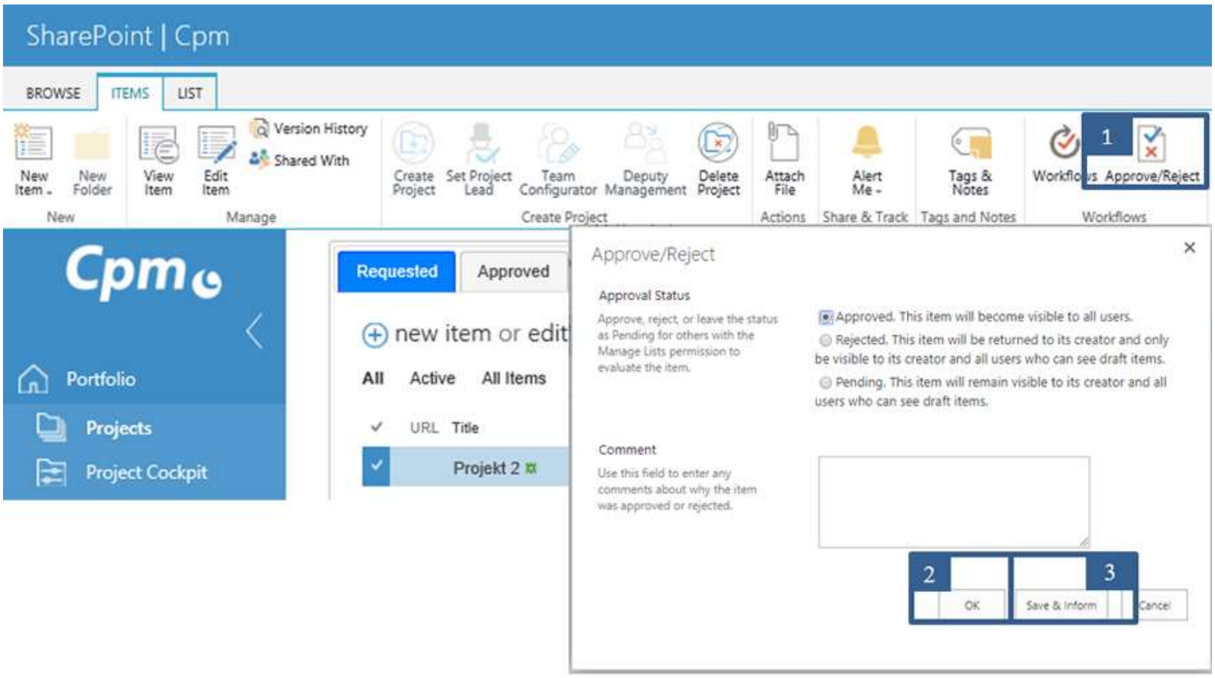


Abb.127: Approving a project request

The approver can approve or reject the project using the standard SharePoint function (1). The project approver can also inform the initiator of the project about the completed action. To do this, he needs to select **|Save & Inform** (3) instead of **|OK** (2) in the standard approval dialogue.

If a project proposal is rejected, it can still be approved later by repeating the approval process.

After the project request has been approved, the project can be generated by the project lead by clicking **|Create Project** (1) in the ribbon:

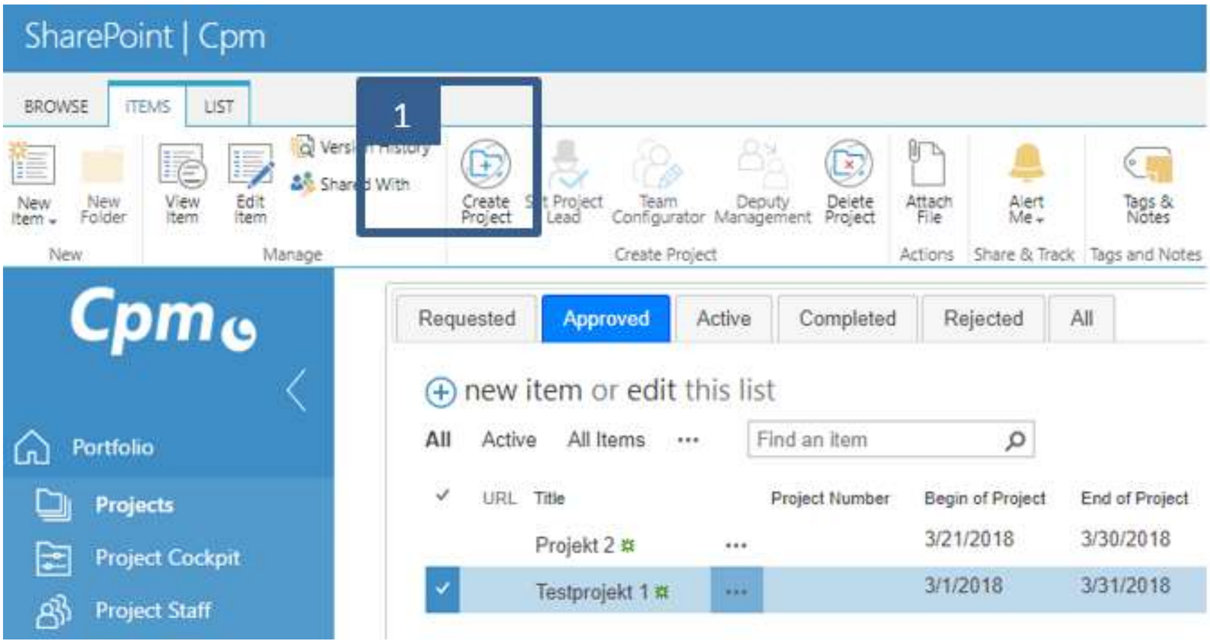


Abb.128: Creating a project workspace

The project room is created in the language of the CPM installation. Generating the project can take several minutes; after the successful creation of the project room, the site redirects automatically.

Note: A project room is being created as a subweb to the CPM portfolio root. As SharePoint does not allow to create subwebs simultaneously the parallel project room creation is not possible. The project lead is being informed about concurrent project creations and is advised to re-try the creation again later.

If relevant project data changes in the course of the project, the project lead and the project approver are informed.

1.3.2.4. MAINTENANCE OF CURRENCIES

Project leads and deputies of project leads are set on portfolio level of CPM. Initially the Project Lead is set in the project application form.

Changing the Project Manager

If a project lead needs to be changed in the course of a project, select a project from the list (1) and use **|Set Project Lead** (2) from the **|ITEMS**-ribbon:

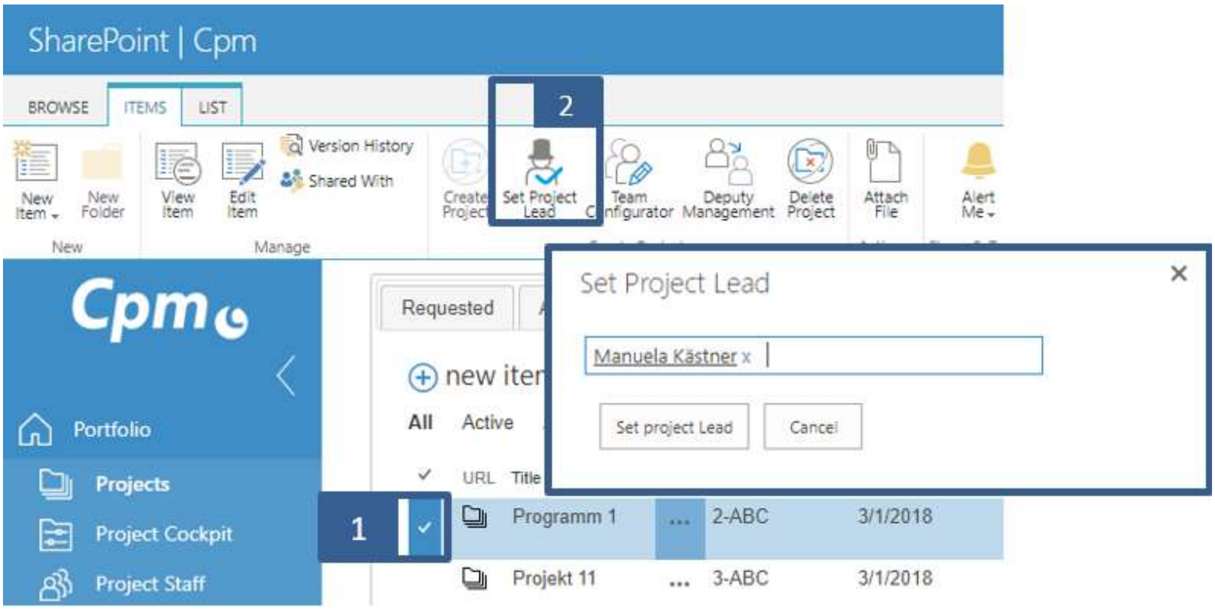


Abb.129: Changing the Project Lead

Select another employee in the following dialogue. After confirming the change, the project lead is changed in the project element and the permissions are set in the project to reflect the change.

Appoint a Deputy Project Manager

If necessary you can appoint a deputy project lead for a period of time. The deputy will have the same permissions for the project as the project lead during this time.

Select a project from the portfolio (3) and use **|Deputy Management** (4) from the ribbon.
An employee can be selected in the following dialogue and a time period can be specified. After confirming via **|Set** time period and the deputy are set and the permissions are set. Appointed deputies can be changed in the same dialogue.

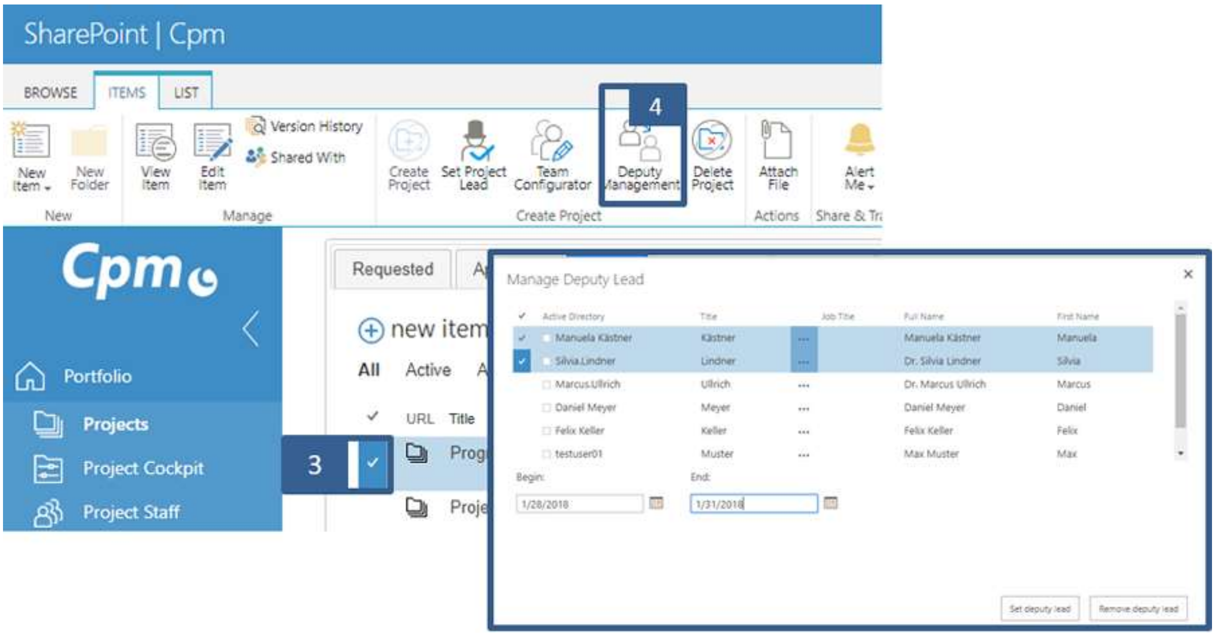


Abb.130: Appointing a deputy for the project lead

1.3.2.5. MAINTENANCE OF SERVICE TYPES

To classify work packages in the projects according to a *Service Type*, the service types need to be entered into the service types list on the portfolio level. The list is not shown in the Quicklaunch navigation, instead it needs to be called up directly via the menu Site contents of the Site Collection or by entering the URL <SiteCollectionUrl>/Lists/ServiceTypes in your browser. A colour can be assigned to every service type.

User **|new item** or **|edit** to add or edit a service type in the list:

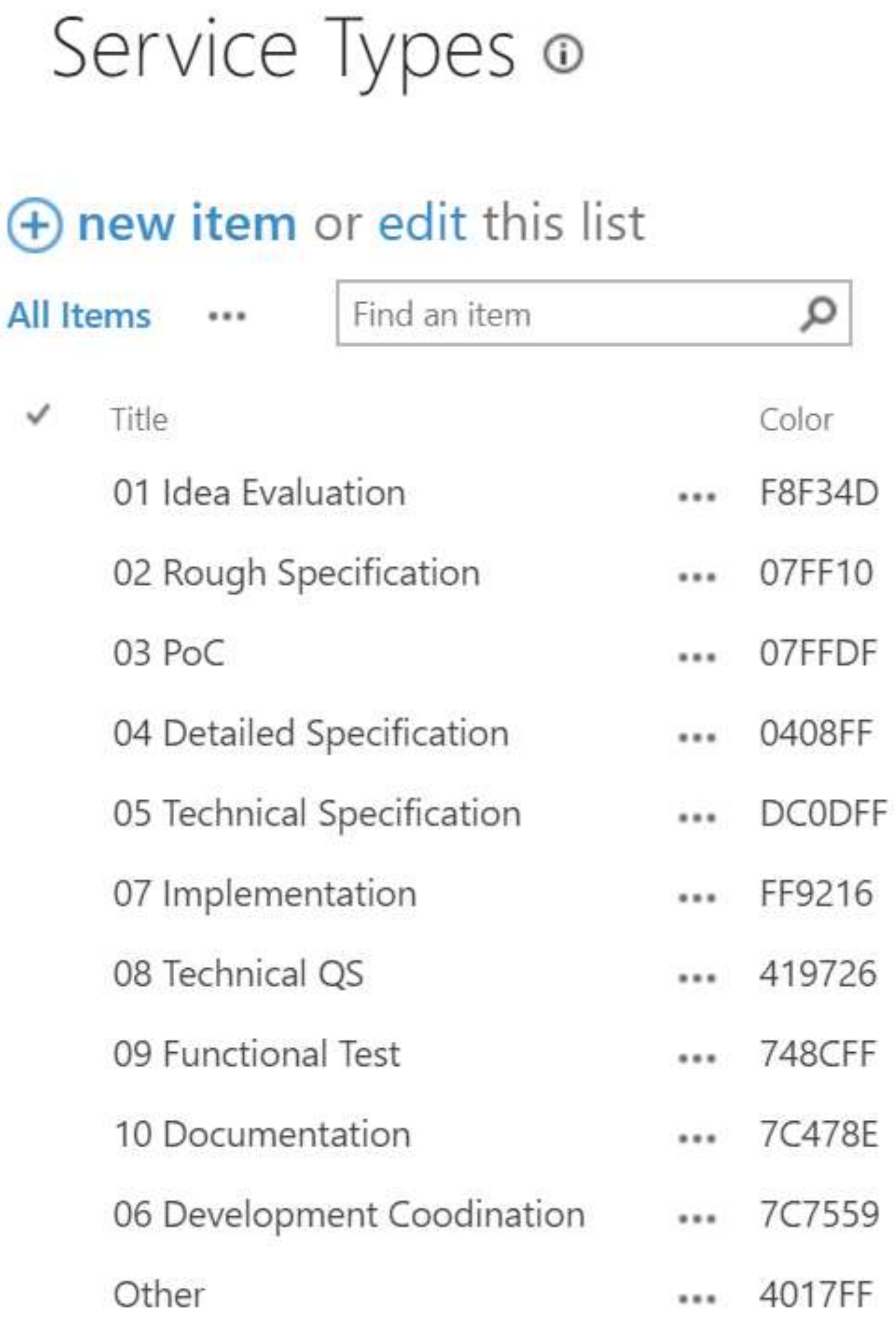


*Abb.*131*: Service Types list*

1.3.2.6. SELECTING A CPM THEME

The Multi Lingual User interface (MUI) in SharePoint does have certain limitations. For this reason the MUI is only partially supported in CPM: e.g. “Choice Fields” in Standard SharePoint *do not support* the MUI (see http://msdn.microsoft.com/en-us/library/ms439235.aspx); which means that Selection Fields for a status *are not translated* if the language is switched.

Example: A choice field with status “Active” is not translated as status = “Aktiv” after the language has been switched. The choice values are initialised in the website’s default language and are not modified if a user switches over to a language that is supported by the website.

Also, the names of the *SharePoint Groups* that are delivered with CPM are subject to limitations with respect to multilingualism: The language of the group names does not depend on the set UI language of the browser or the user profile, but depend on the language selected during installation. This also means that a project room is only generated in the UI language corresponding to the standard language of the installation.

The installed language can be seen in the setting of the website collection under the Site Administration via the link Language settings and/or via the URL *<Site Collection URL>/_layouts/muisetng.aspx*.

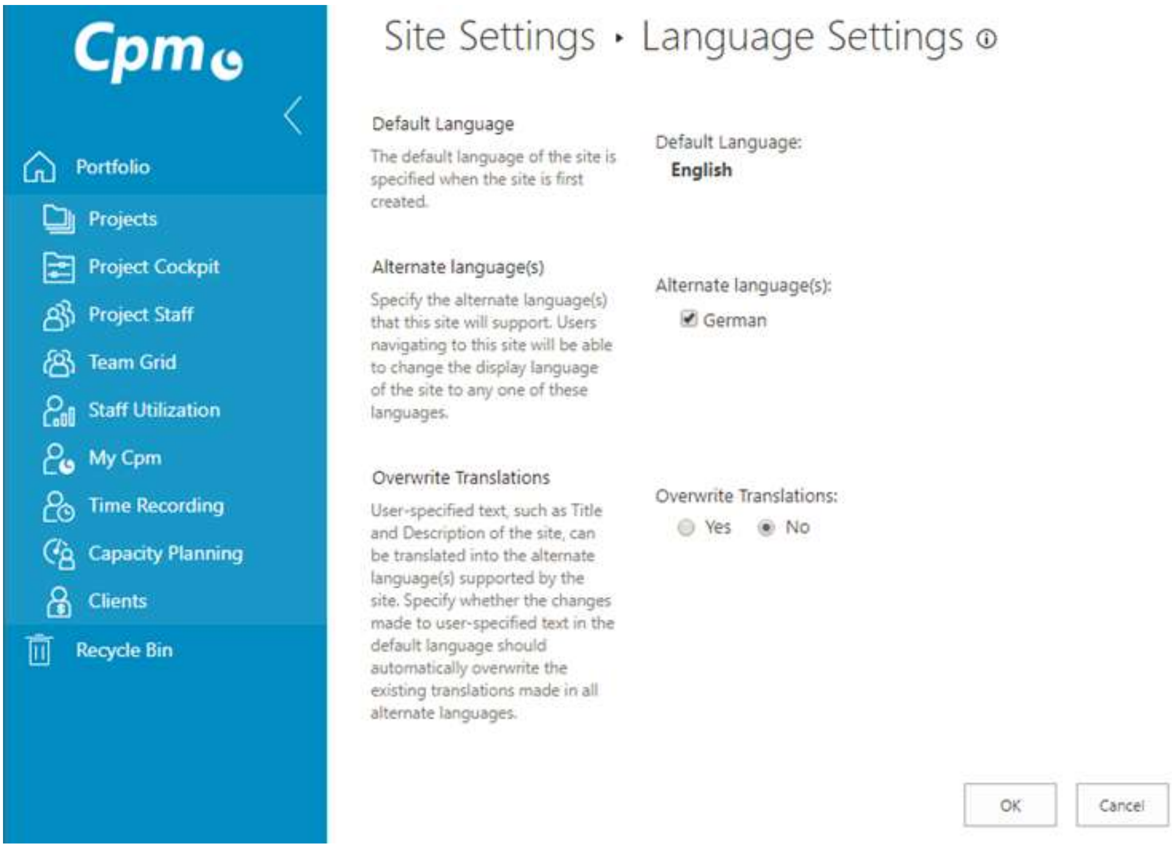


Abb.132: Cpm Language Settings

1.3.2.7. USER ROLES AND PERMISSIONS

The rights in Cpm 2.1 are controlled via the logged in users and/or their association to individual SharePoint groups.

Project portfolio	**Cpm Configurator**	**Portfolio Manager**	**Project Applicants**	**Project Approver**
Projects	Read	Contribute	Contribute (but not of projects with project rooms)	Approval
Project Cockpit		All projects		
Project Staff		Contribute (remove, but not delete)	Reading	Reading
Team Grid		All members of all project		
Staff Utilization		All entries		
My Cpm		Own projects and other projects		
Time Recording				
Capacity Planning		Contribute		
Activities		Contribute	Contribute	Design
Clients		Contribute	Read	Read
Currencies		Contribute	Read	Read
Roles	Contribute	Contribute	Contribute	Design
Service Types		Contribute	Read	Read
Skills		Contribute		
Notifications	Contribute	Read	Read	
System	Contribute	Read	Read	Read

These roles must be updated by the administrator when setting up the system. Portfolio Managers, Project Approvers, and Site Collection administrators automatically have access on all projects.

There is also a ´Cpm Configurator´ group in CPM. This group should only contain adequately qualified employees and is designed for the initial and ongoing configuration of the CPM, and also needs to be updated by the SiteCollection Administrator after the Cpm has been installed.

Note: If they do not have a project role but still need to access (read) information in CPM, users should be added by the SiteCollection Administrator e.g. as a person requesting a project. Because the full user rights and access in Cpm is only governed by the project roles and the associated SharePoint groups.

At the project level, the *Team configurator* can assign the project team various roles with various rights and duties *(*See section *Project Member)*. The permissions (in the SharePoint user context) are split between the permissions at the *portfolio level* and on the *Project level* even in the individual project rooms.

Project portfolio	Project Configurator	Project Lead	Project Management Office	Project Participants	Project Team
Projects	Read (own projects)	Contribute (own projects)	Read (own projects)	Read (own projects)	Read (own projects)
Project Cockpit	Read (own projects)	Read (own projects)	Read (own projects)	Read (own projects)	Read (own projects)
Project Staff		Read	Read	Read	Read
Team Grid	Read (own projects)	Read (own projects)	Read (own projects)	Read (own projects)	Read (own projects)
Staff Utilization		Read (own projects)	Read (own projects)	Read (own projects)	Read (own projects)
My Cpm	Read (own projects)	Read (own projects)	Read (own projects)	Read (own projects)	Read (own projects)
Time Recording		All entries in the project	Read (own projects)	Read (own projects)	Read (own projects)
Capacity Planning	Read	Contribute	Read	Read	Read
Activities	Design	Contribute	Contribute	Read	Contribute
Clients		Read	Read	Read	Read
Currencies		Read	Read	Read	Read
Roles	Design	Contribute	Read	Read	Contribute
Service Types		Read	Read	Read	Read
Skills		Read	Read		Read

Project portfolio	Project Configurator	Project Lead	Project Management Office	Project Participants	Project Team
Notifications	Contribute	Read	Read		Read
System	Read	Read	Read	Read	Read

Project room	Project Configurator	Project Lead	Project Management Office	Project Participants	Project Team
Homepage	Read	Read	Read	Read	Read
Project Data	Read	Read	Read	Read	Read
Project WBS	Read	Read	Read	Read	Read
Project Tasks	Read	Read	Read	Read	Read
Project Gantt Chart	Read	Contribute, Approve and access to Planning Mode	Contribute and access to Planning Mode	Read	Read and contribute/access to Planning Mode if responsible for a plannable subproject
Resource Planning in the Gantt diagram	Read	Contribute	Contribute	Read	Read
Project Documentation		Contribute	Contribute	Read	Contribute
Meeting Management		Contribute	Contribute	Read	Read
Issue Tracking		Contribute	Contribute	Read	Contribute
Change Management		Contribute	Contribute	Read	Contribute
ToDos		Contribute	Contribute	Read	Contribute
Project Cockpit	Read	Read	Read	Read	Read
Project Team	Read	Edit team	Read	Read	Read
My Site	Read	Read	Read	Read	Read

Project room	**Project Configu-rator**	**Project Lead**	**Project Manage-ment Office**	**Project Par-ticipants**	**Project Team**
Project Wiki		Contribute	Contribute	Read	Contribute
Discussions		Contribute	Contribute	Read	Contribute
Project Efforts	Read	Read	Read	Read	Read
Resource book-ings	Read	Read	Read	Read	Read
Risks		Contribute	Contribute	Read	Contribute
Risk Categories		Contribute	Contribute	Read	Reading
Risk Preventions		Contribute	Contribute	Read	Contribute

Configuration

The CPM is based on Microsoft SharePoint technology.

SharePoint can be configured and expanded. The content of individual pages and therefore the system behaviour can be influenced to a certain extent by the configuration of the pages or the placed or placeable web parts.

Important: Configuration can only be performed by users with corresponding administration rights who also have corresponding knowledge. Configuration should only be carried out after a backup is created! Lintra accepts no liability for loss of data or unintentional changes to displays or functions that were caused by improper amendments to the configuration of pages and the placed or placeable web parts on them!

Changing the default configuration of pages, web parts, lists, libraries, etc. can also restrict the ability to use updates on the system without having to make such individual amendments once again after an update. A backup of the system should therefore certainly be carried out before installing updates!

All screenshots displayed show how the system appears in Microsoft Internet Explorer. It may appear differently in other browsers. The differences that arise in SharePoint's behaviour when using alternative browsers can be seen in the corresponding illustration from Microsoft https://technet.microsoft.com/en-us/library/e09599f5-f900-48b3-9680-af1f1de3f65a(v=office.16).aspx

1.3.2.8. MULTI LINGUAL USER INTERFACE

The Multi Lingual User interface (MUI) in SharePoint does have certain limitations. For this reason the MUI is only partially supported in CPM: e.g. "Choice Fields" in Standard SharePoint *do not support* the MUI (see http://msdn.microsoft.com/en-us/library/ms439235.aspx); which means that Selection Fields for a status *are not translated* if the language is switched.

Example: A choice field with status “Active” is not translated as status = “Aktiv” after the language has been switched. The choice values are initialised in the website’s default language and are not modified if a user switches over to a language that is supported by the website.

Also, the names of the *SharePoint Groups* that are delivered with CPM are subject to limitations with respect to multilingualism: The language of the group names does not depend on the set UI language of the browser or the user profile, but depend on the language selected during installation. This also means that a project room is only generated in the UI language corresponding to the standard language of the installation.

The installed language can be seen in the setting of the website collection under the Site Administration via the link Language settings and/or via the URL *<Site Collection URL>/_layouts/muisetng.aspx*.

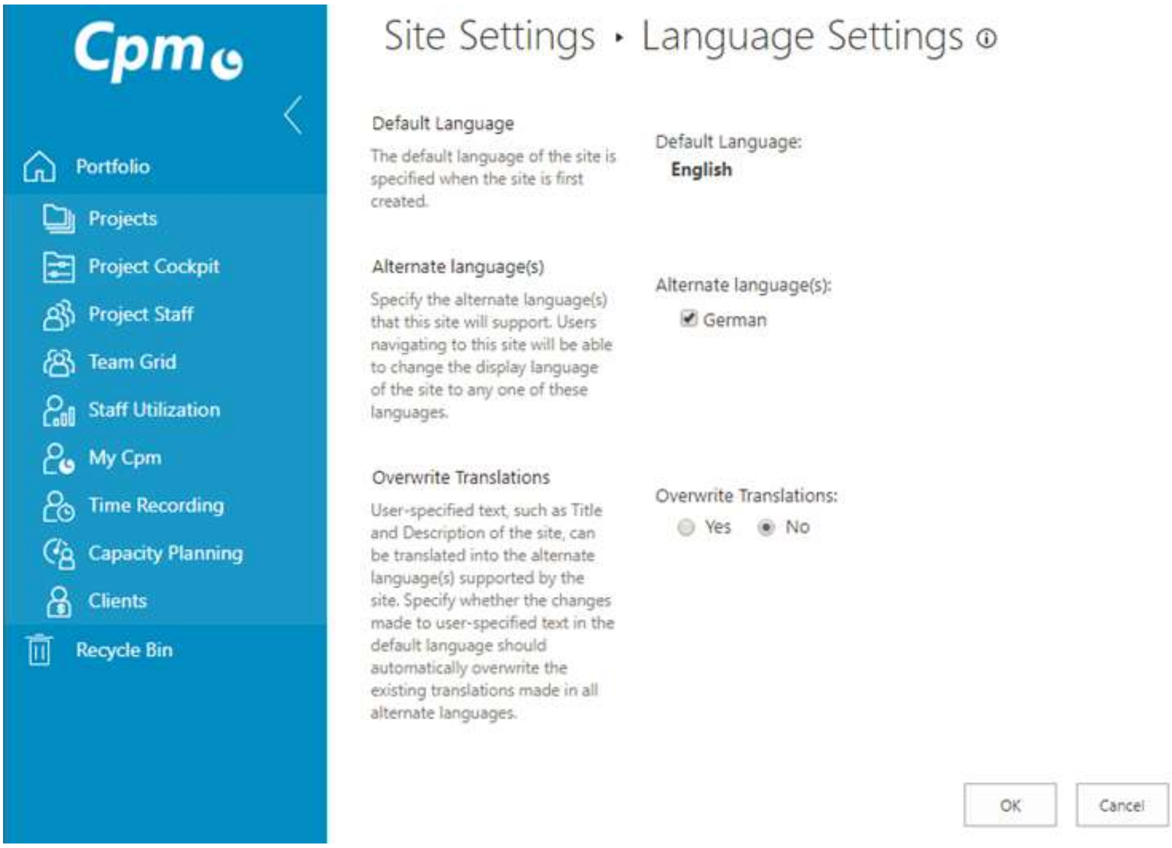


*Abb.*133*: Cpm Language Settings*

1.3.3. PORTAL PAGE - MANAGEMENT OF THE PORTFOLIO

Navigate to individual projects and control the lifecycle of the projects, i.e. creation, approval, rejection, activation, completion and deletion (2) via the CPM portal page. Open the portal page by clickin on **|CPM** (1), see figur below:

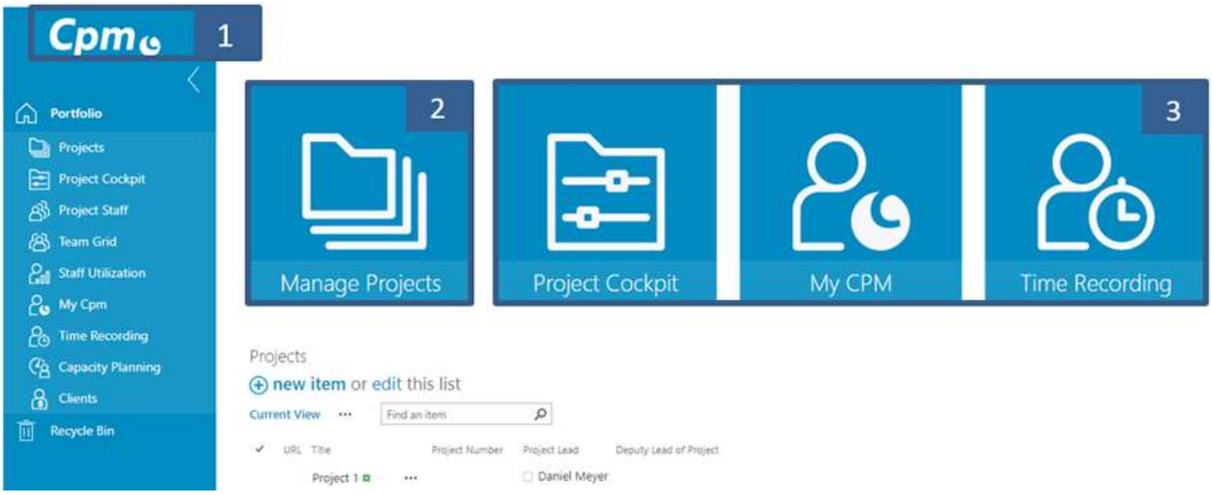


*Abb.*134*: Cpm Portfolio Portal Page*

Additional information and functions (3) can be found on the portal page which allow a quick overview of all projects in the system.

1.3.3.1. LIST OF PROJECTS

By clicking **|Projects** in the navigation bar the user can access a list of all projects. The list contains information as project name, project duration, project number, project lead, client, budget and approval status of the project sorted by project status. The user can navigate to the project by clicking the "**|Folder icon**" (1).

The standard view of the list of projects lists the *active* projects. In addition, it is possible to change view to **|Requested projects**, **|Approved projects**, **|Completed projects**, **|Rejected projects** and **|All projects** tabs (2).

Note: Tabs in this view can be expanded via the configuration. This means, for example, that views can be created that display all projects within a department, or projects of a specific type.

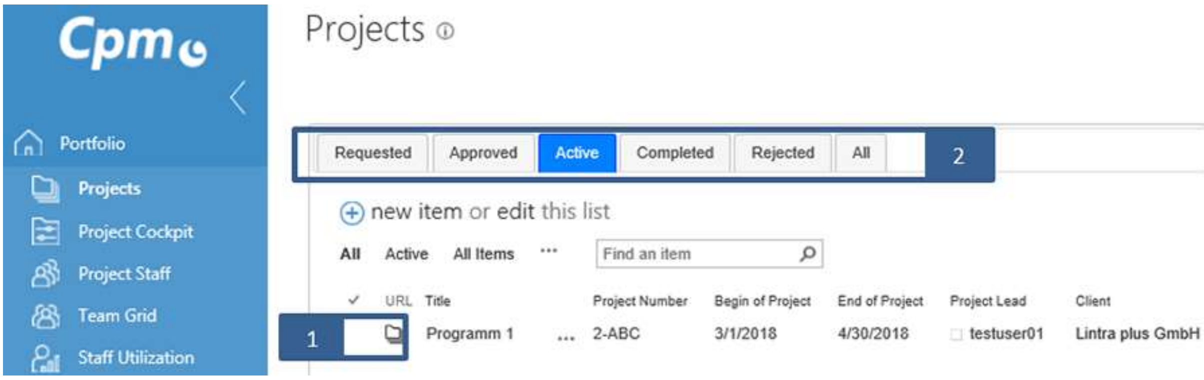


*Abb.*135*: All projects sorted by status*

If a project has been completed, a project lead, a project portfolio manager or an employee in the project management office can assign the status "Completed".

Note: Some project data can be changed at the portfolio level after approval in the project element. The title of the project is used on the portfolio level and for the project room. Depending on the planning mode, it can be changed in the Project Planning within each Project.

In a project room, the project lead can change the projects title in the Gantt chart. The change will then be populated throughout the portfolio and project level.

1.3.3.1.1. CREATING PROJECTS IN THE PROJECT PORTFOLIO

On the portal page, navigate (upper navigation bar: Portfolio) to the **|Projects** (1) area.

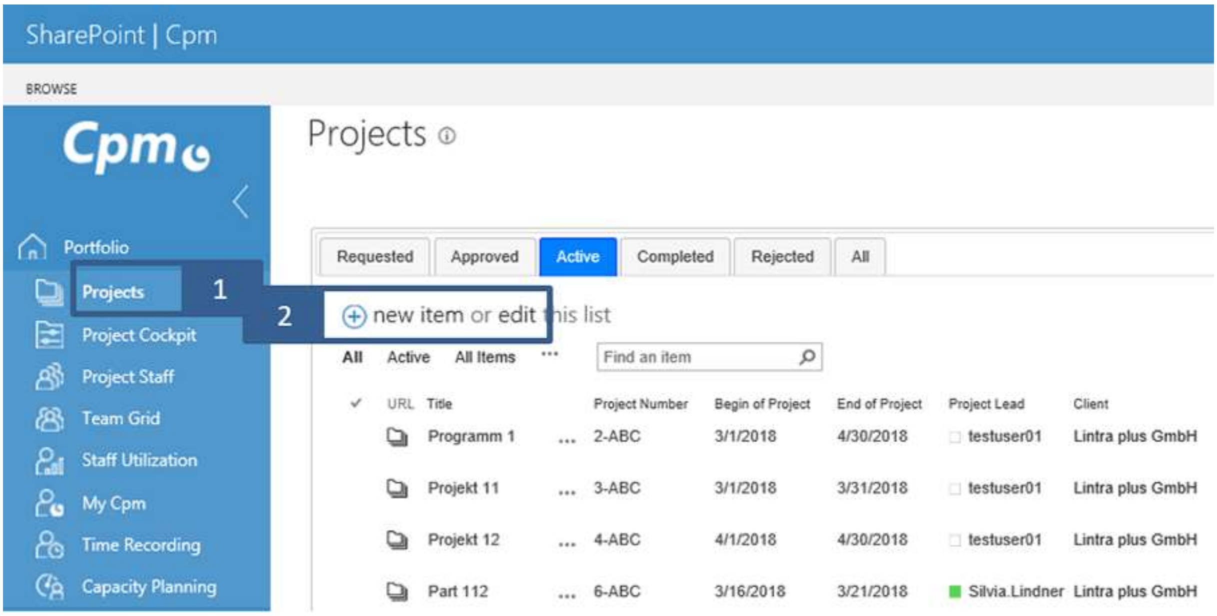


Abb.136: Create a new project

Set up a new project by clicking **|Add new item** (2) and complete the form with the project header data, see fiure up and below.

Abb.137: Complete the project infomation of a new project

Enter a project name and assign a project lead. Stipulate a project approver.

Note: You can only select users of the SharePoint 'Project Approvers' group as Project approvers. Only persons on this group are authorised to approved the project in the SharePoint context.

Stipulate a client. Define a begin of project, an end project and the approved budget and also specify the project currency with the relevant change rate.

Other open fields are 'Description', 'Use as a Reference Project', 'Reference Project', 'Allow dual mode', 'Color' and 'Program'. More information can be found in the following two chapters.

Any project numbers that have been configured accordingly are automatically issued after a project has been created.

Note: Please note that the project lead and project approver should be set up as SharePoint users before they can be taken into account for the project. If the users are not yet present in the system, please contact your administrator.

As soon as entries are confirmed with the **|Save** button, the project approver receives an email with a request to check and approve the project, and a link to the project application.

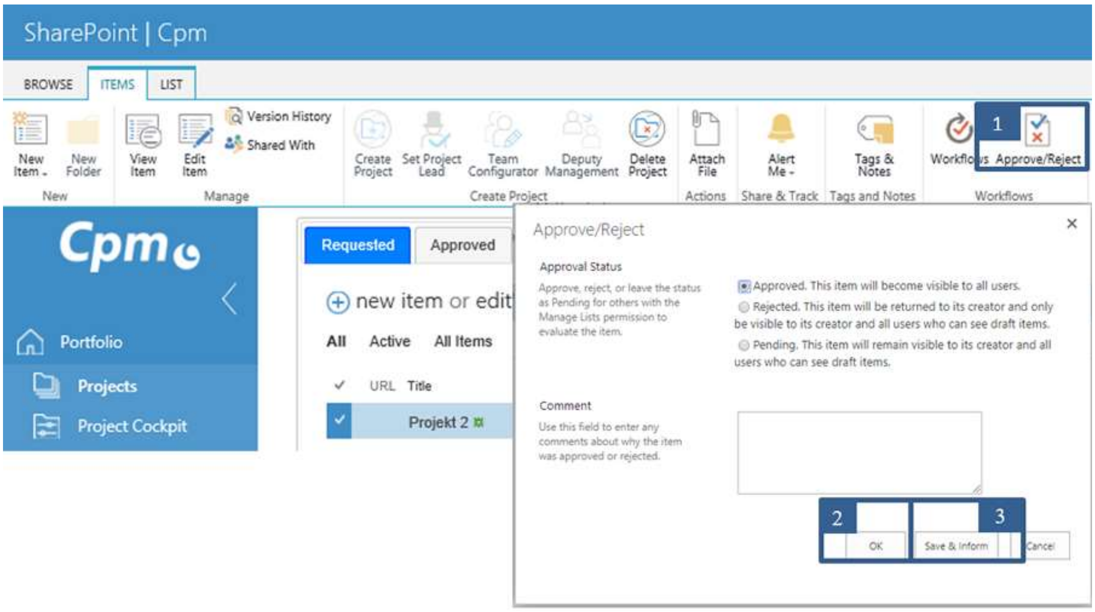


Abb.138: Approve a project request

In addition to approving /rejecting the project via the standard SharePoint function (1) (see Figure up), the project approver can also inform the initiator of the project about the completed action. To do this, he needs to select **|Save & Inform** (3) instead of **|OK** (2) in the standard approval dialogue.

If a project proposal is rejected, it can also be approved retrospectively.

After the project request has been approved, the project can be generated by the project lead when he marks the project and selects the action **|Create Project** (1) in the ribbon (see Figure below). The action is carried out in the language of the Cpm installation. Generating the project can take several minutes; after the successful creation of the project room, the site redirects automatically.

Due to a SharePoint Standard-behaviour, the parallel project room creation is not possible. The project lead is being informed about concurrent project creations and is advised to try the creation some moments later.

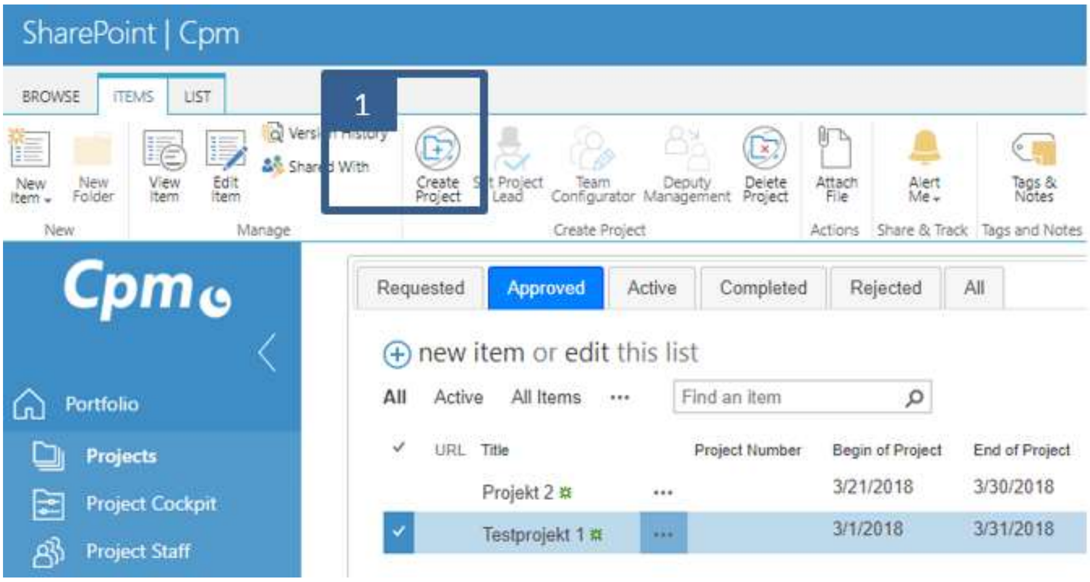


Abb.139: Create a project space

If relevant project data changes, the project lead and the project approver are informed.

1.3.3.1.1.1. PORTFOLIO CURRENCY VS. PROJECT CURRENCY

Portfolio currency vs. project currency

The project currency is set in the project proposal:

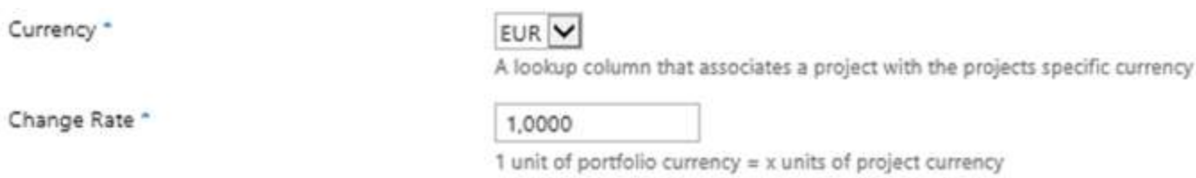


Abb.140: Setting the project currency

If the desired currency is not available, please contact your application administrator to add further currencies.

The portfolio currency is defined by the application administrator when configuring the system. An exchange rate is required to display projects with different currencies on the project portfolio. Enter the exchange rate in the project application form:

Example: The portfolio currency is in EUR and the project currency is in the British pound.
1 EUR = 0.9 GBP: enter 0.9 in the exchange rate field.

Note: If the portfolio currency is changed later, then it is necessary to also change the exchange rates in all projects using a non-portfolio currency!

1.3.3.1.1.2. REFERENCE PROJECTS

Within the project application form you can decide if the project should be available as a reference project for future project applications:

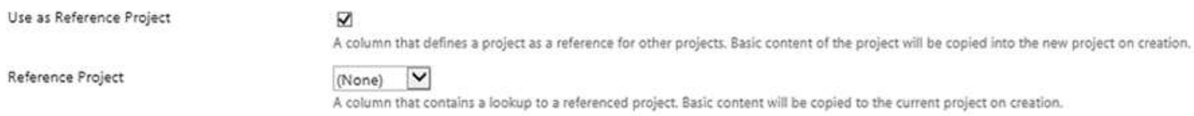


*Abb.*141*: Marking a project as a reference project*

If you want to create your project based upon a reference project select an available reference project in order to transfer the project structure of the reference project into the new project:

Subprojects:
- Title
- Description

Work packages:
- Title
- Description
- Status (is set to *Not Started*)
- Colour
- Quality (set to *Good*)
- Relationships incl. buffer times

Milestone:
- Title
- Description
- Status (is set to not started)
- Connectors incl. buffers

The duration of tasks is used and the start and end date of elements (subprojects, work packages, milestones) are set relatively to the start date of the new project.

Information about the risks and documentation of the reference project is also used in the new project:

Risk Categories:
- Title

Project Documentation:
- Folder
- Documents in the folders

The folder structure of the reference project including documents are taken over in the Project Documentation of the new project. The default structure is set up if no other folder structure exists.

1.3.3.1.1.3. CREATE PROGRAMS AND PROJECTPARTS IN THE PROJECT LIST

In CPM you can create and manage projects but also to create and manage programs and projectparts. Both entities are shown with an additional content type on the project list.

Programs represent a hierarchy level above the projects, i.e. combine several projects in one program. Projectparts represent a hierarchy level below the projects. A subweb structure similar to the project spaces needs to be generated for both entities, although the active processes are almost identical and are based on the general project room creation process. These are:

1. Creation of a project element in the project list of content type (1) *Program* and/or *Projectpart*. In case of a *Projectpart*, at least one project must exist to which it can be assigned.
2. Execution of the *Project Approval*,
3. Generation of the subweb (project room)

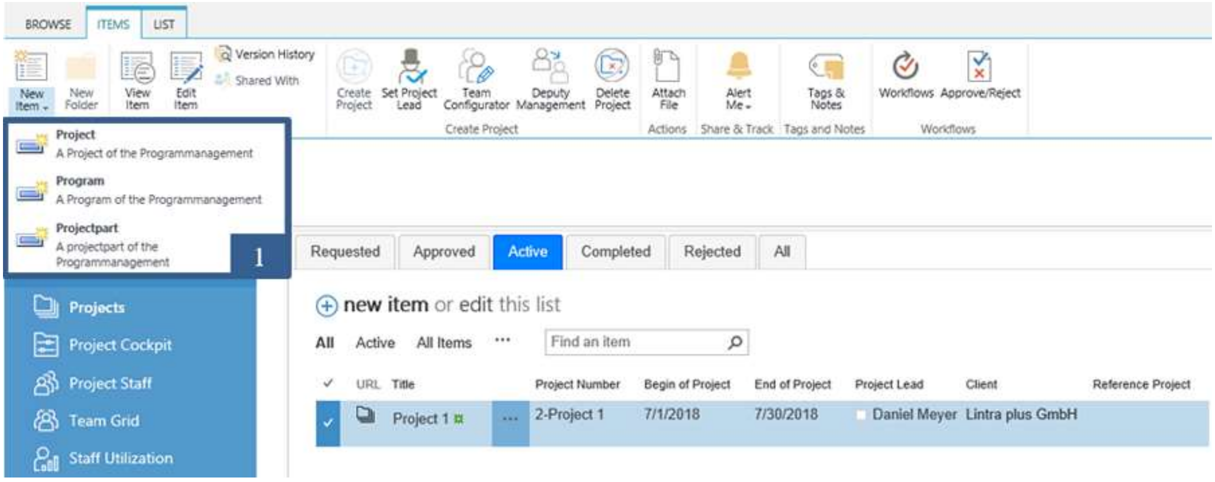


*Abb.*142*: Additional content types in the project list*

After a program has been created, a new project can be assigned to a program using the dropdown of the *Program*-field on the project application form.

The procedure for creating projectparts and linking it with projects is equivalent to the procedure for programs.

1.3.3.1.2. DELETING PROJECTS FROM THE PORTFOLIO

To delete a project, select a project from the project list (1) and select **|Delete Project** (2) in **|ITEMS**-tab of the ribbon:

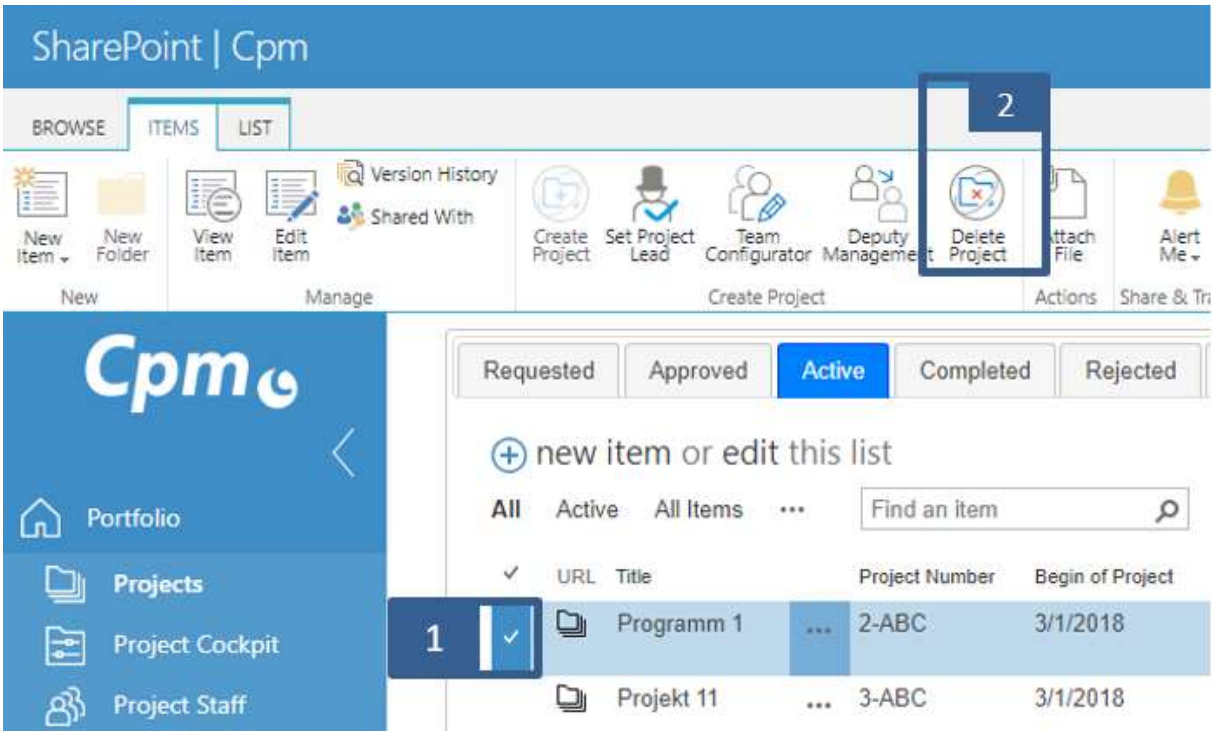


*Abb.*143*: Deleting Projects from the Portfolio*

Important note: The project will be *physically deleted* from the system and there is no option to restore it. If this is not desired set the project status to "*Completed*" instead of deleting it.

1.3.3.2. PROJECT LEAD AND DEPUTY PROJECT LEAD

a) Operating System

The OS-Version depends on the SharePoint-Version to be installed. For a successful installation of Quam an English language pack (en-US) for Microsoft Windows is required. For additional requirements of Microsoft SharePoint according to the operating system and underlying database system (SQL-Server) please refer to the appropriate documentations by Microsoft.

b) SharePoint

- SharePoint Server 2016 Patch Level equal or higher than January 2021 CU (16.0.5110.1000)
- SharePoint Server 2019 Patch Level equal or higher than January 2021 CU (16.0.10370.20001). To visualise graphics stored in SharePoint-libraries properly, the IIS 6.0 compatibility level must be activated in the IIS-setting of the SharePoint servers (all application and web frontend server). The new client-side UI is not supported for Quam.
- If the SharePoint installation is **not** an English one, the English (en-US) language pack must be installed. We strongly recommend to install the German (de-DE) language pack too - certain descriptions and configurations within the installation and update manuals are based on a German Quam installation and require additional consultation if this intended to be changed. **Please note**, certain Add-Ons do have additional language requirements. Be referred, to their respective installation guide.
- **Do not use** PowerShell Integrated Scripting Environment (ISE) for the presuming installation procedure as it prevents the installation to be completed successfully by blocking certain files.

- In PowerShell, allow the execution of scripts at least temporarily (if not enabled yet) by execution of the Commandlet "Set-ExecutionPolicy Unrestricted"
- Quam has been tested in standard SharePoint-environments, with standard authentication providers (AD via NTLM or Kerberos), only one (path-named) site collection per web application and it supports the standard migration path recommended by Microsoft (database detach / attach).
- Some extraordinary installation scenarios (e.g. host named installations, custom authentication providers etc.) require additional consulting and enhanced specialised tests that should be developed in cooperation with the according customer to avoid unnecessary support and effort for bug-fixing and re-development. We urgently recommend local tests, ideally with local installations of backups of the customer's SharePoint-environment.

c) Miscellaneous

To enable the numerous Lookup-Columns shipped with Quam to work, throttling is disabled on all Quam Lists during the installation procedure. The installation of Quam comprises an integrated but full installation of the former CPM solution. Therefore, it is not possible to install Quam to a SharePoint farm where a CPM of version 2.0 or higher is installed.

d) Client

- Quam is based upon SharePoint Standard features. SharePoint supports numerous web browsers, but there are certain browsers, that work within a limited scope of functions provided by SharePoint or some other functions are only accessible via alternate work steps. Lintra supports Google Chrome (official build 79.0.3945.117) and Microsoft Edge (official build 85.0.564.44) for Quam specific functionalities at present. All levels and scales of SharePoint support for a certain third party browser are accessible at the provider's Web Sites.
- The use of graphical modelling functions of Quam presumes a working installation of Microsoft Visio (Visio 2016 Professional and Visio 2019 Professional, standard versions have limited access to some additional features) and the Lintra Visio Addin (Modeller). The Lintra Visio Addin itself requires .Net Framework 4.5 to be installed on the client machine. **Important:** The activation of the Modeller via "Edit in Visio" requires a working Microsoft Office installation (preferably of the same version than the Visio installation).

1.3.3.3. PROJECT TEAM MEMBER

Project staff is centrally managed in the Project Staff List on the project portfolio level. Click **|Project Staff** to open the staff list:

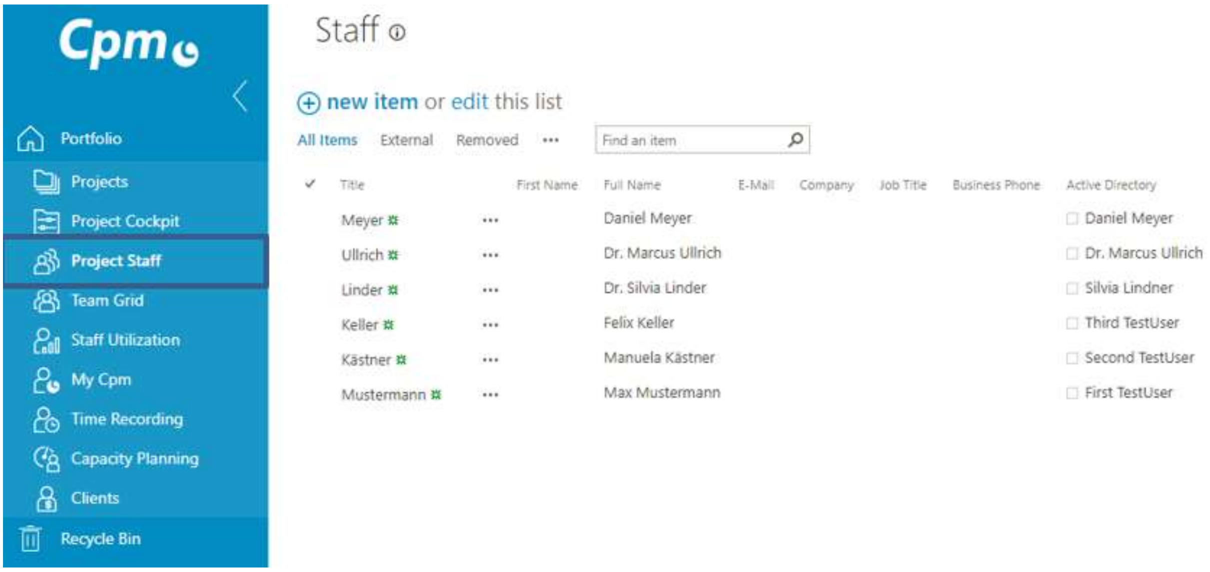


Abb.144: Opening the Staff List

Clicking on the last name (title) opens further information regarding the staff member.

The first step is to set up a resource pool of potential project team members that are available within individual projects. Use **|new item** to create a new team member:

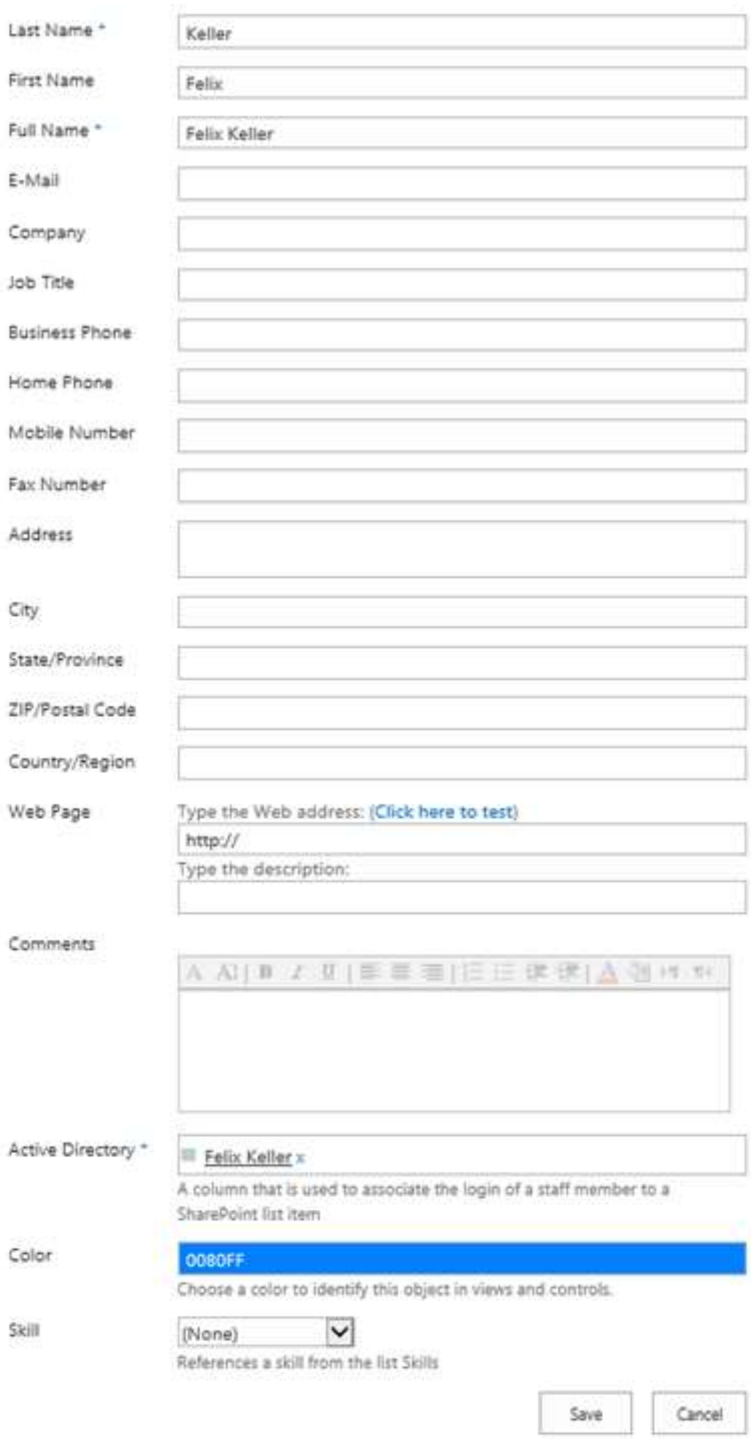


*Abb.*145*: Creatina a project member*

Complete the form with the required information and select the corresponding user account in the "Active Directory Account" field.

Note: If the team member does not have an Active Directory Account, he must be created as *External Staff* using a different content type. *External Staff* can be planned in projects, but cannot access the system actively. This also means that reminders and notifications cannot be used.

Note: The *Last Name* field, which is used on the forms, and *Title* filed which is used on the list views, are the same columns. The use of the columns and their names are given by the SharePoint standard.

Confirm with the **|Save** button to create the new team member.

1.3.3.4. TEAM GRID

There is an overview of all employees assigned to projects and their roles. Use **|Team Grid** from the navigation (or <SiteCollection-Url>/SitePages/Teamviewer.aspx) to open the Team Grid view. Use the filtering, grouping and sorting options to adopt the view to your needs:


Staff-Project-Mappings

Last Name	First Name	Full Name	Active Directory	Staff ID
Project Name: Projekt 1				
Group: Project Lead				
Kästner	Manuela	Manuela Kästner	Manuela Kästner	3
Lindner	Silvia	Dr. Silvia Lindner	Silvia.Lindner	4
Group: Project Team				
Kästner	Manuela	Manuela Kästner	Manuela Kästner	3
Meyer	Daniel	Daniel Meyer	Daniel Meyer	6
Keller	Felix	Felix Keller	Felix Keller	7
Muster	Max	Max Muster	testuser01	8
Project Name: Testprojekt 1				

Abb.146: The Team Grid View of the central user management

The individual project roles are edited and assigned via the Project Team function in the individual project.

1.3.3.5. STAFF UTILIZATION

The Staff Utilization view summarises which employees are involved when and to what percentage of their capacity in which projects and work packages.

Note: A prerequisite for ensuring that this view functions correctly is the maintenance of the capacities of the individual project members in the list for the capacity planning; see Maintenance fo Capacities for Project Members.

Open the view by using the **|Staff Utilization** link in the navigation on the portfolio level or enter the URL <SiteCollection-Url>/SitePages/Staffutilization.aspx.

The period can be limited (1) and the aggregation level (‘Employee’, ‘Project’, ‘Work package’) can be selected (2):

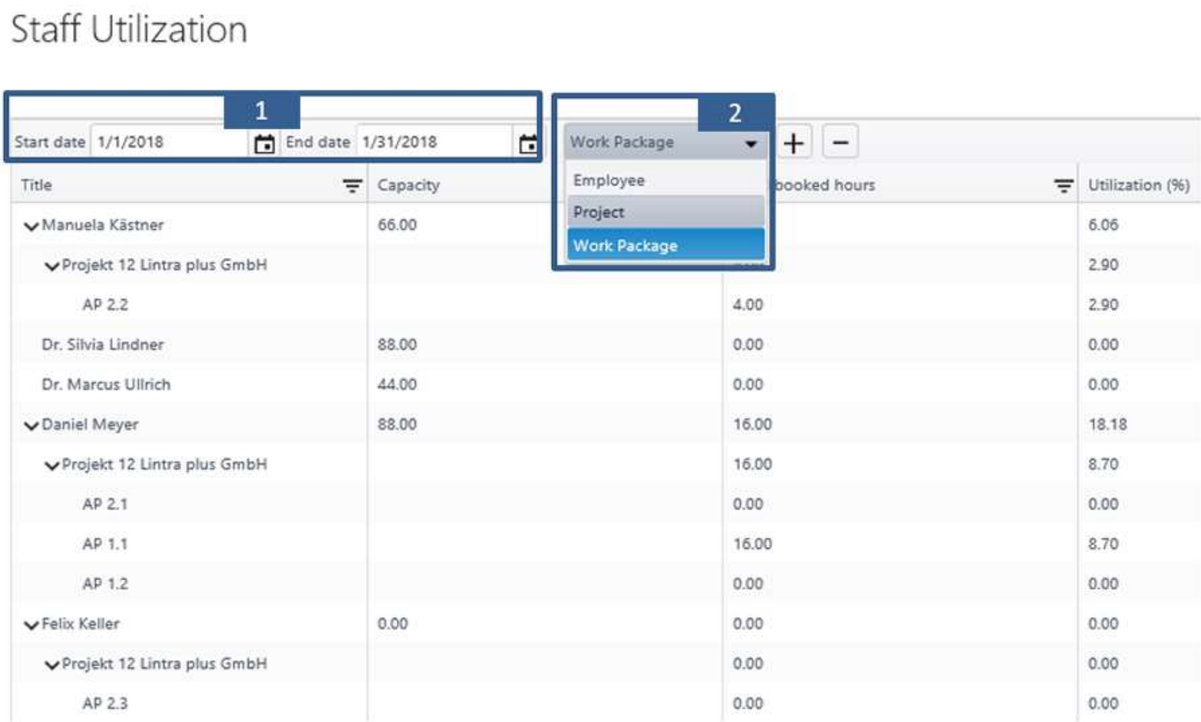


*Abb.*147*: Employee utilization on the portfolio level*

1.3.3.6. PROJECT COCKPIT

In the project cockpit (left navigation bar: **|Project Cockpit**) all ongoing projects are illustrated together in a project report. This portfolio overview should provide portfolio managers with a simple way of looking at all projects in the system and provide support to material planning. A simple means of gaining an overview and focus is possible via visually clear indicators. Processing projects is *not* possible at this point.

Note: If there are several projects in the system, then retrieval of this page can require longer loading times (> 30 seconds).

Status information is also consolidated and shown graphically below the project report. The clear presentation of the major target parameters (budget, duration, expense, quality) of the individual projects should, in particular, highlight discrepancies.

Chronological classification

The project trees are initially "collapsed" for the sake of clarity. It is possible to navigate through the subprojects and work packages of the projects via these trees (See figure below).
Drag the column boundary to the right (1) to get tabular information for scheduling. The beginning and end are shown for each work package in the table.

STICHWORTINDEX

A

B

C

D

E

F

G

H

I

L

M

O

P

Q

R

S

T

U

V

W

Z

Lintra plus GmbH
Klausenerstraße 10a
39112 Magdeburg | Germany

Phone: +49. 391. 400 64-0
Web: www.lintra.de
E-Mail: info@lintra.de