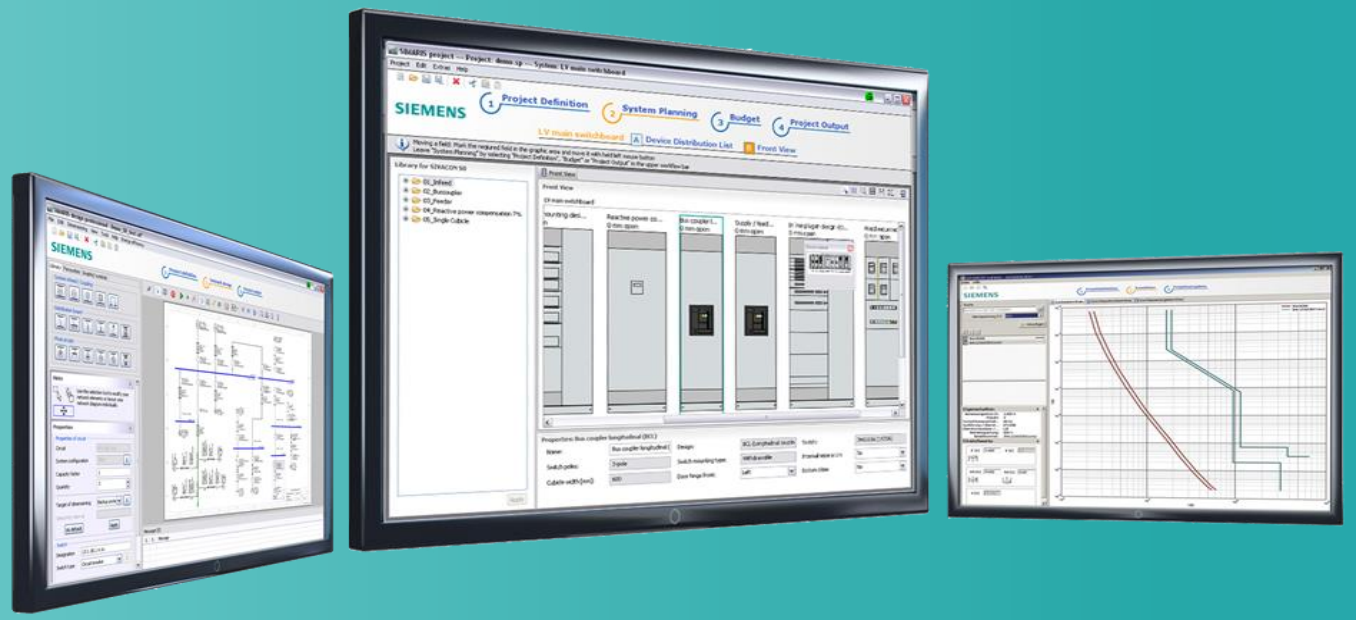
SIEMENS
Ingenuity for life

Tutorial
SIMARIS project 6.0

siemens.com/simaris

SIMARIS project Tutorial

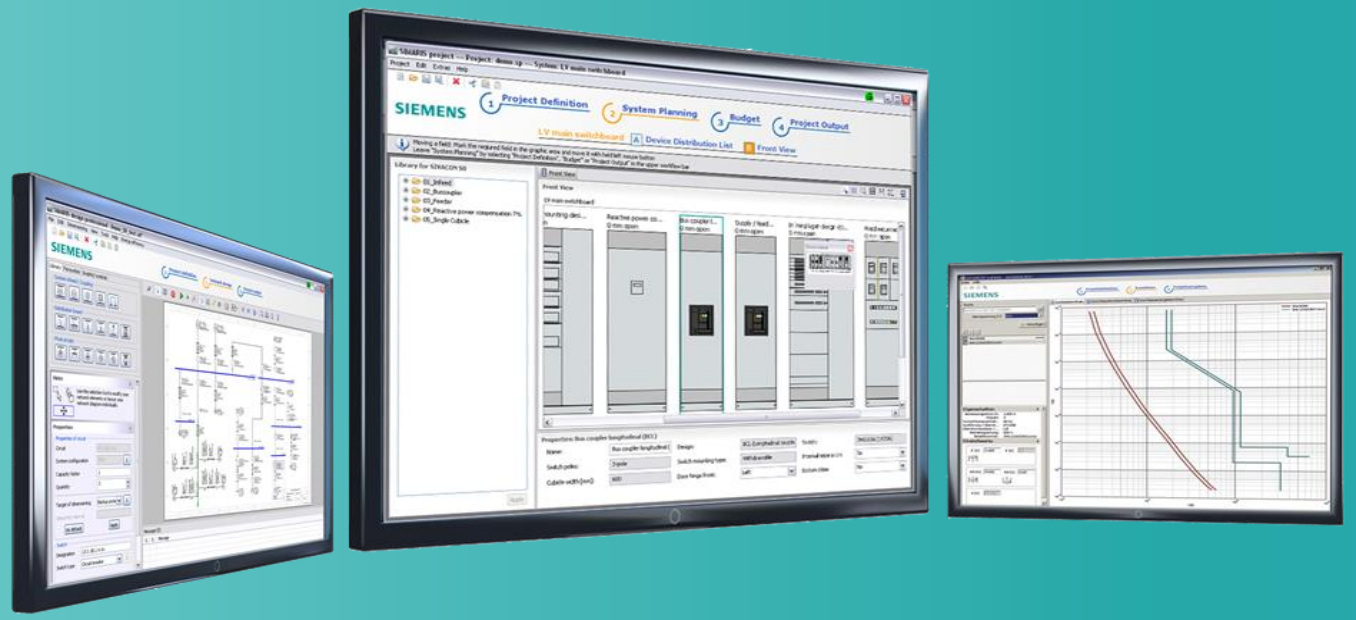
SIEMENS
Ingenuity for life



Software for determining the space requirements and budget for electric power distribution

SIMARIS project Tutorial

SIEMENS
Ingenuity for life



Software for determining the space requirements and budget for electric power distribution

SIMARIS planning tools

SIEMENS
Ingenuity for life

The **SIMARIS planning tools** provide efficient support in dimensioning an electric power distribution system and determining the equipment and distribution boards for it.

- **SIMARIS design** for network calculation and dimensioning
- **SIMARIS project** for determining the space requirements of distribution boards and the budget, and for generating specifications (bills of quantities) as well as BIM data
- **SIMARIS curves** to display tripping characteristics, as well as cut-off current characteristics and let-through energy curves
- **SIMARIS Online Toolbox** with small service tools for different purposes

The advantages of **SIMARIS planning tools**:

- Intuitive and easy handling with user-friendly documentation options for the planning results
- End-to-end planning for all devices and systems from the medium-voltage level to the power consumer
- Automatic selection of matching components and distribution board systems
- High degree of planning reliability plus flexibility in the planning and implementation process

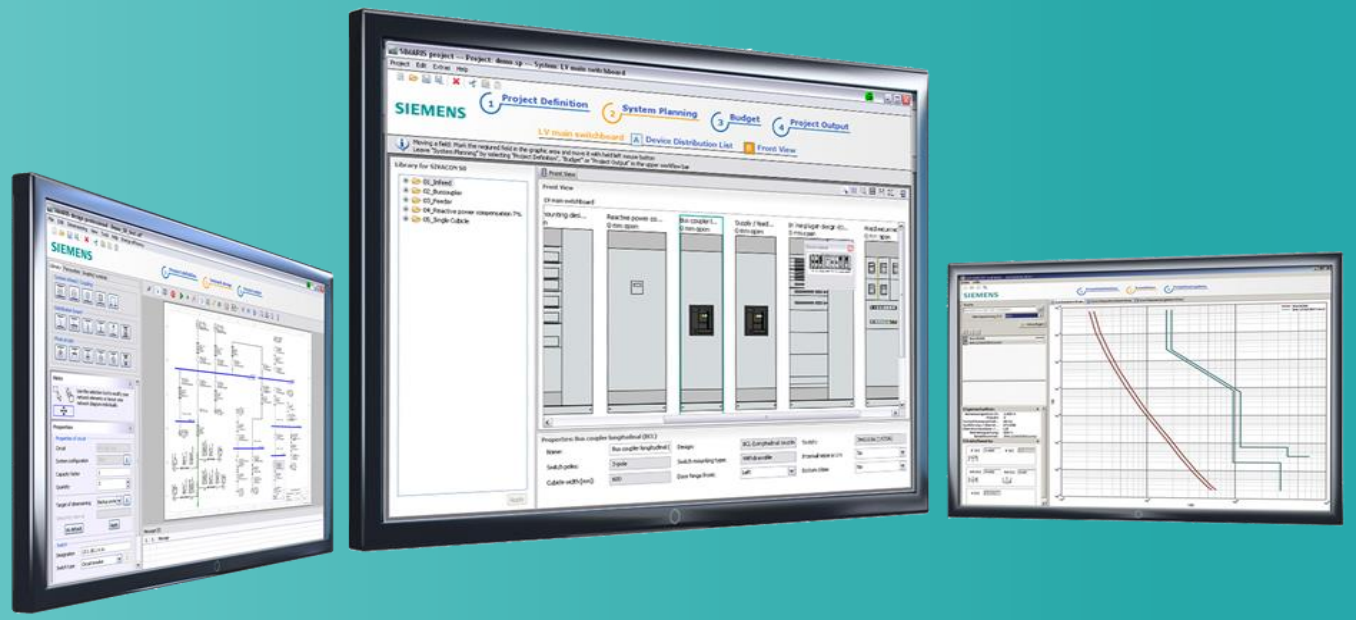
SIEMENS
Ingenuity for life

SIMARIS project allows to create a quick overview of the space requirements and budget for power distribution inside buildings that covers medium-voltage switchgear, transformers, low-voltage switchboards and busbar trunking systems, as well as distribution boards feeding final load circuits.

- Automatic system selection and placement based on the parameters that were entered
- Consideration of functional endurance for busbar systems for power transmission
- Convenient output options for project documentation, e.g. graphic views and specifications (bills of quantities)
- Easy adaptation of the planning is possible, when things have been defined more precisely.
  This is also true in cases where the building's use has been changed or systems were expanded.
- Complete plants can be saved as Favorites to be available for future, similar projects
- Import of a project created in SIMARIS design for further processing in SIMARIS project

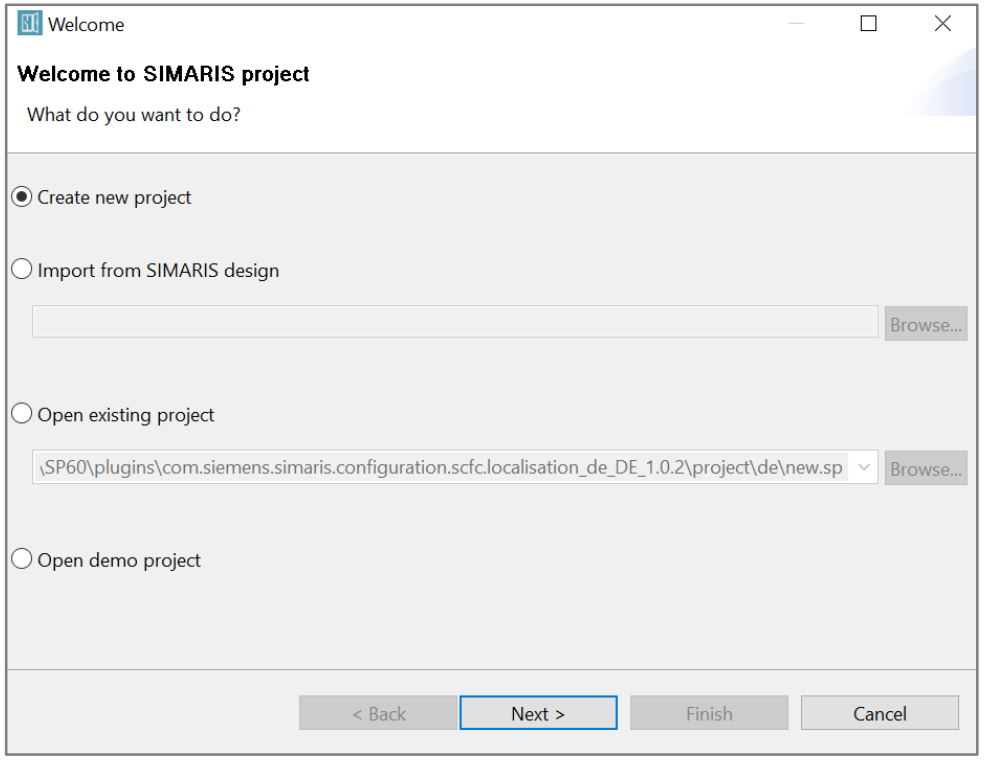
SIMARIS project Tutorial

SIEMENS
Ingenuity for life



Software for determining the space requirements and budget for electric power distribution

Start wizard



Learn here, how to create a project and get a quick overview of the workflow from project definition to system planning and project output.

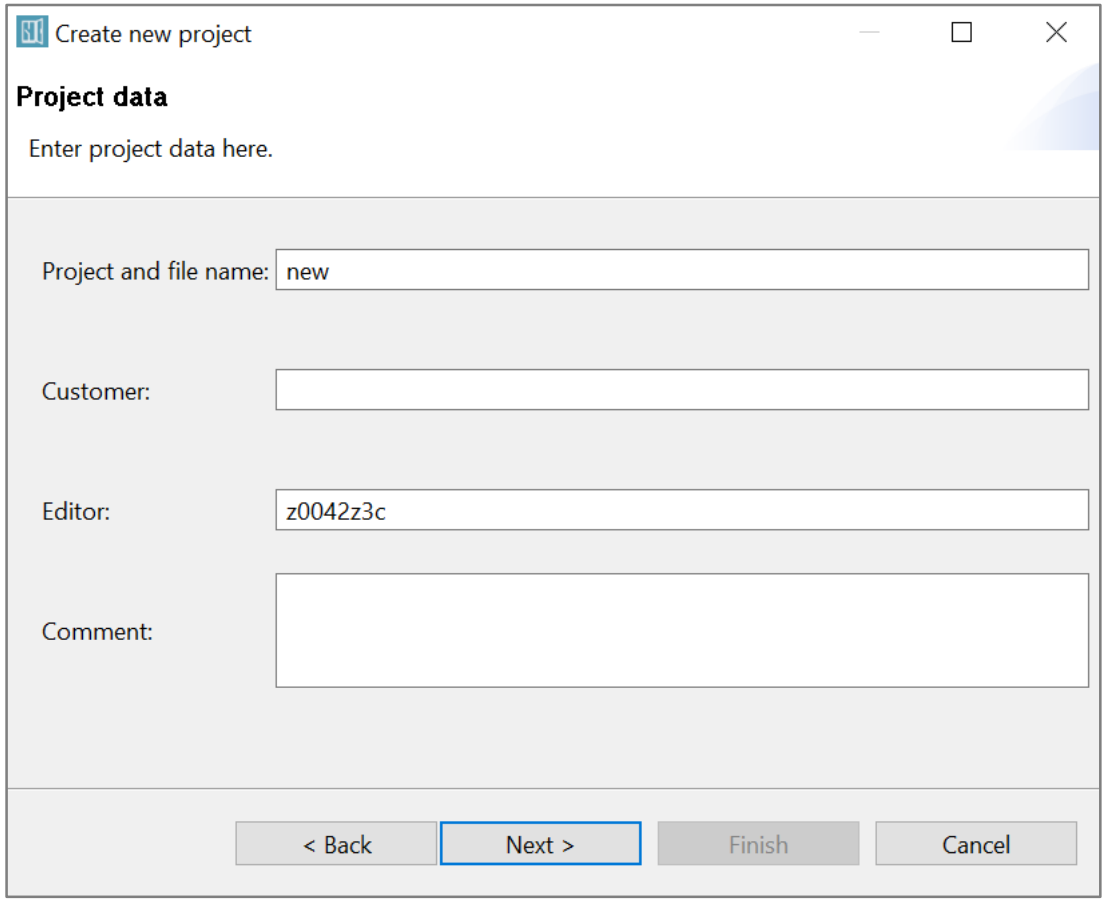
A well-structured start wizard, which is opened after every program start, supports you in creating a project.

After program start you have the following options:

- Create a new project
- Import a transfer file from SIMARIS design
- Open an existing project
- Open the demo project

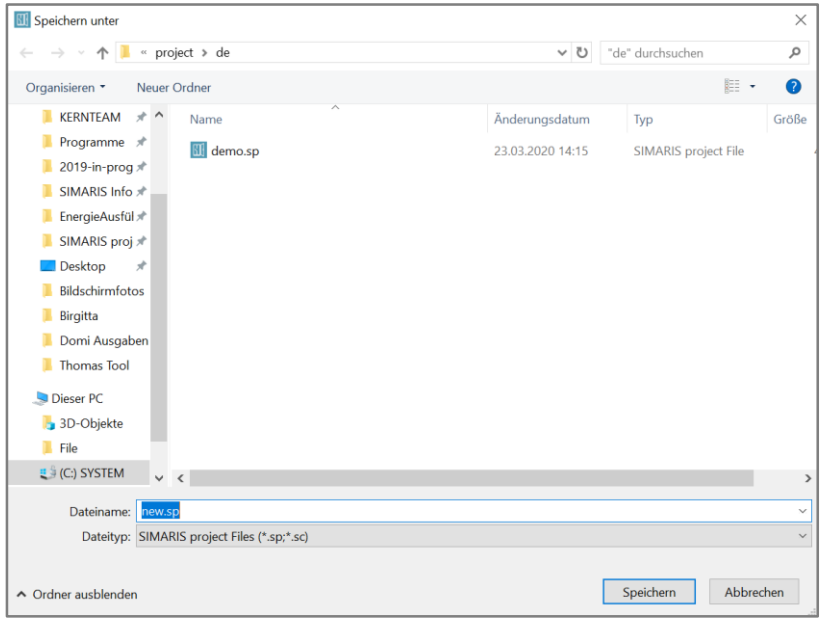
When you select "Create new project" and click "Next", you can then…

Start wizard



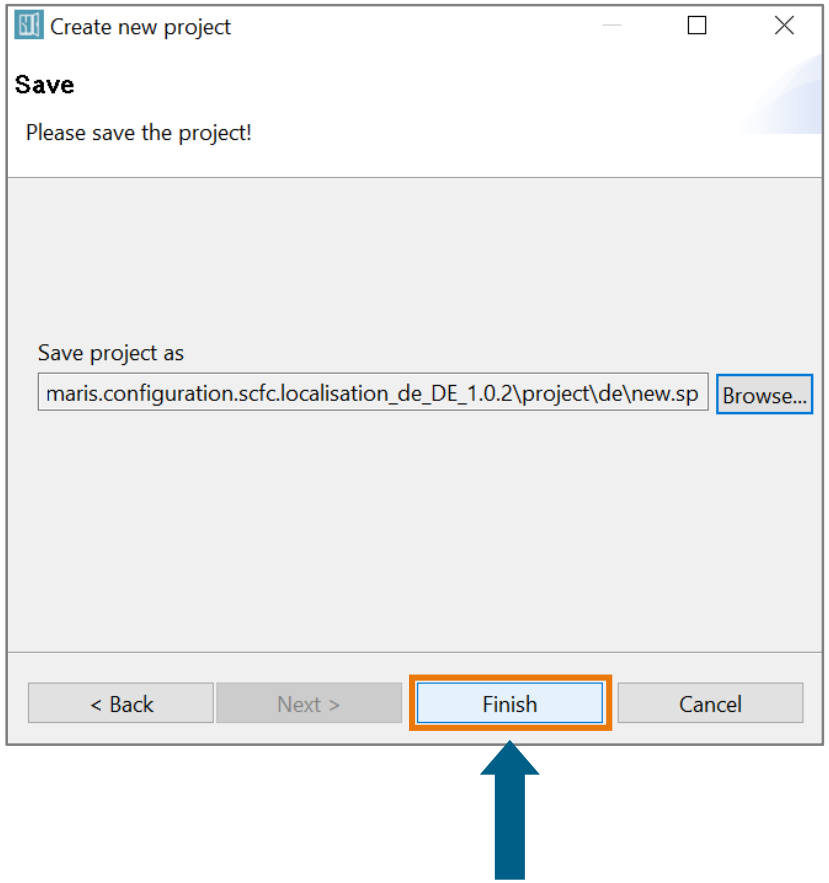
… enter master data for the project …

Start wizard



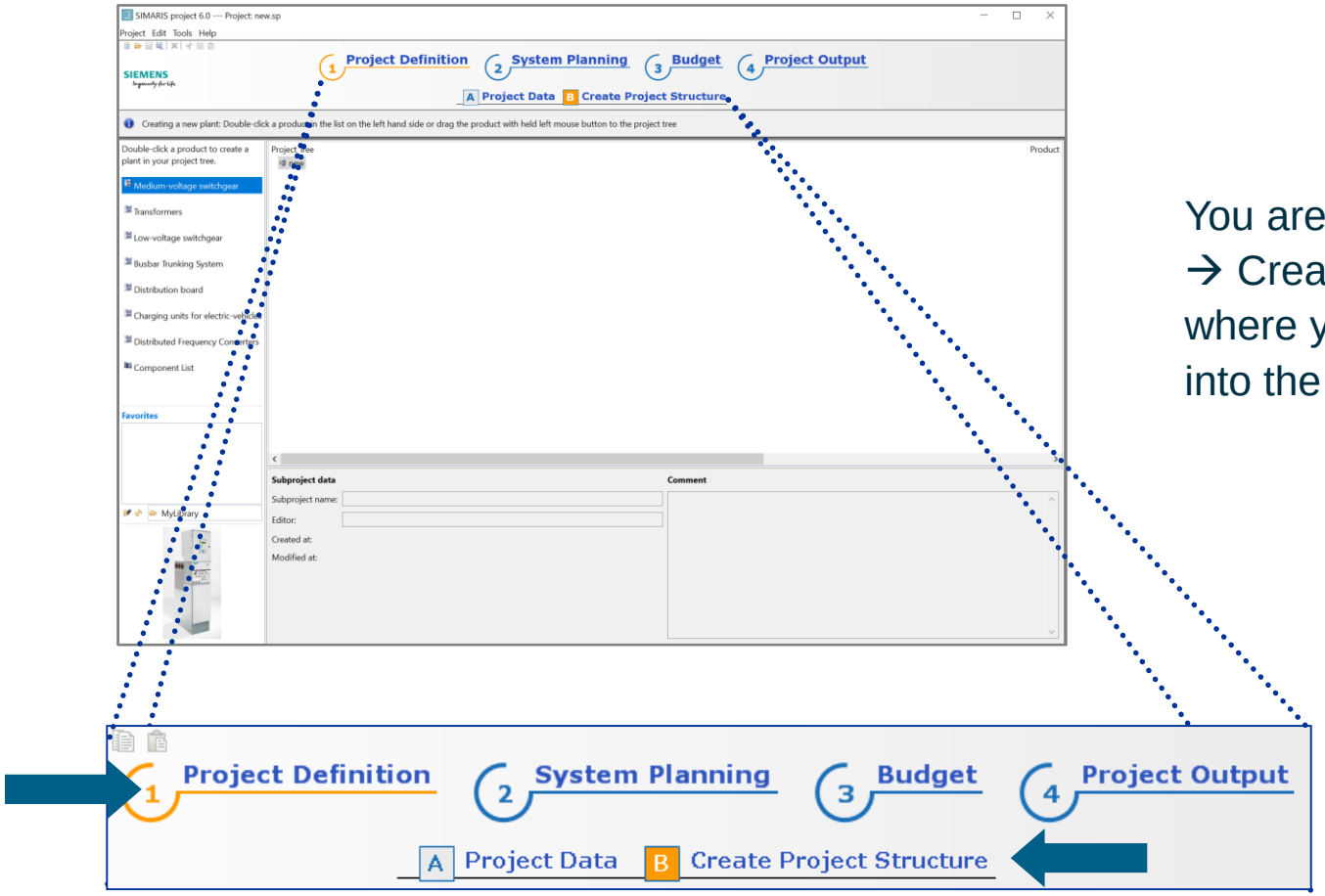
…decide on a file name and file location for the project…

Start wizard



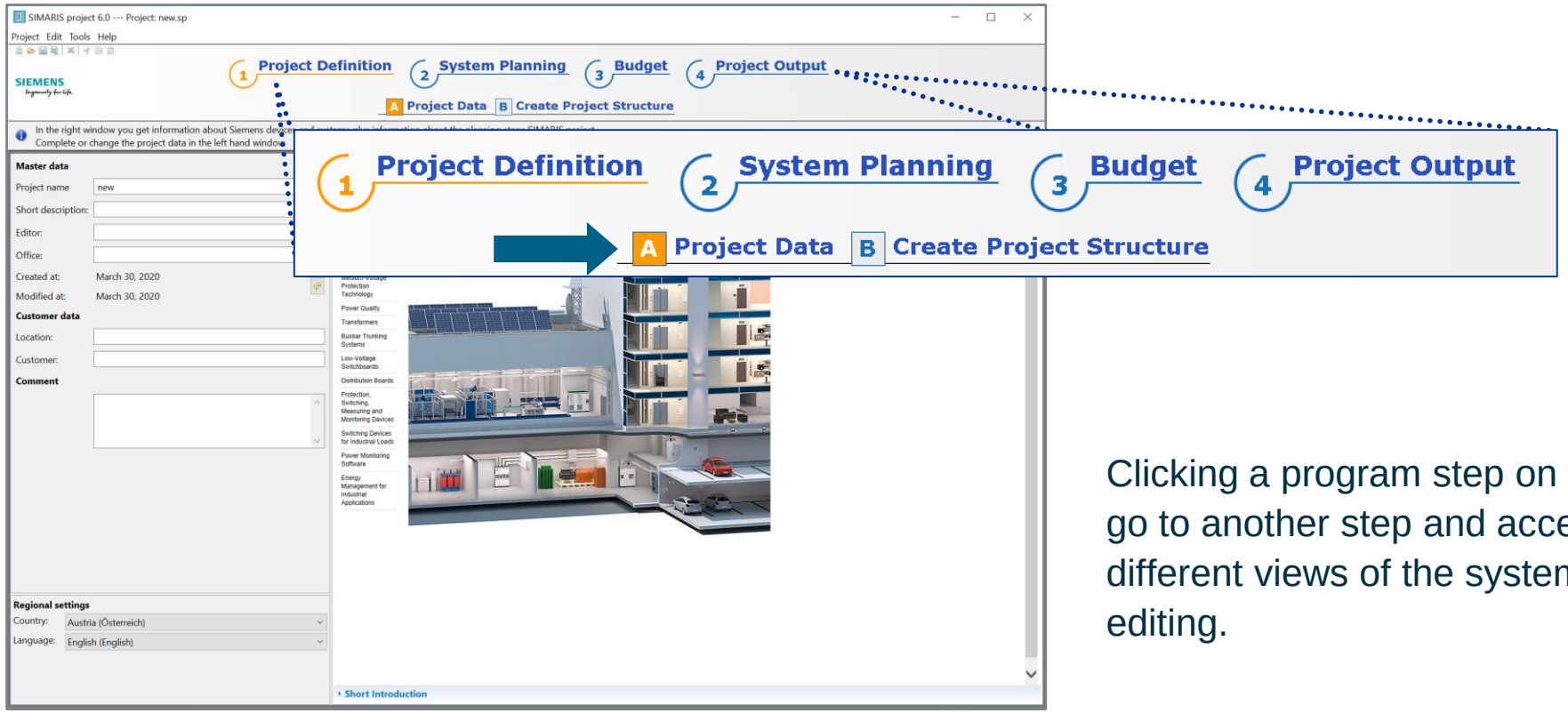
…and save the project by clicking "**Finish**".
This is how you complete the project creation step.

Start wizard



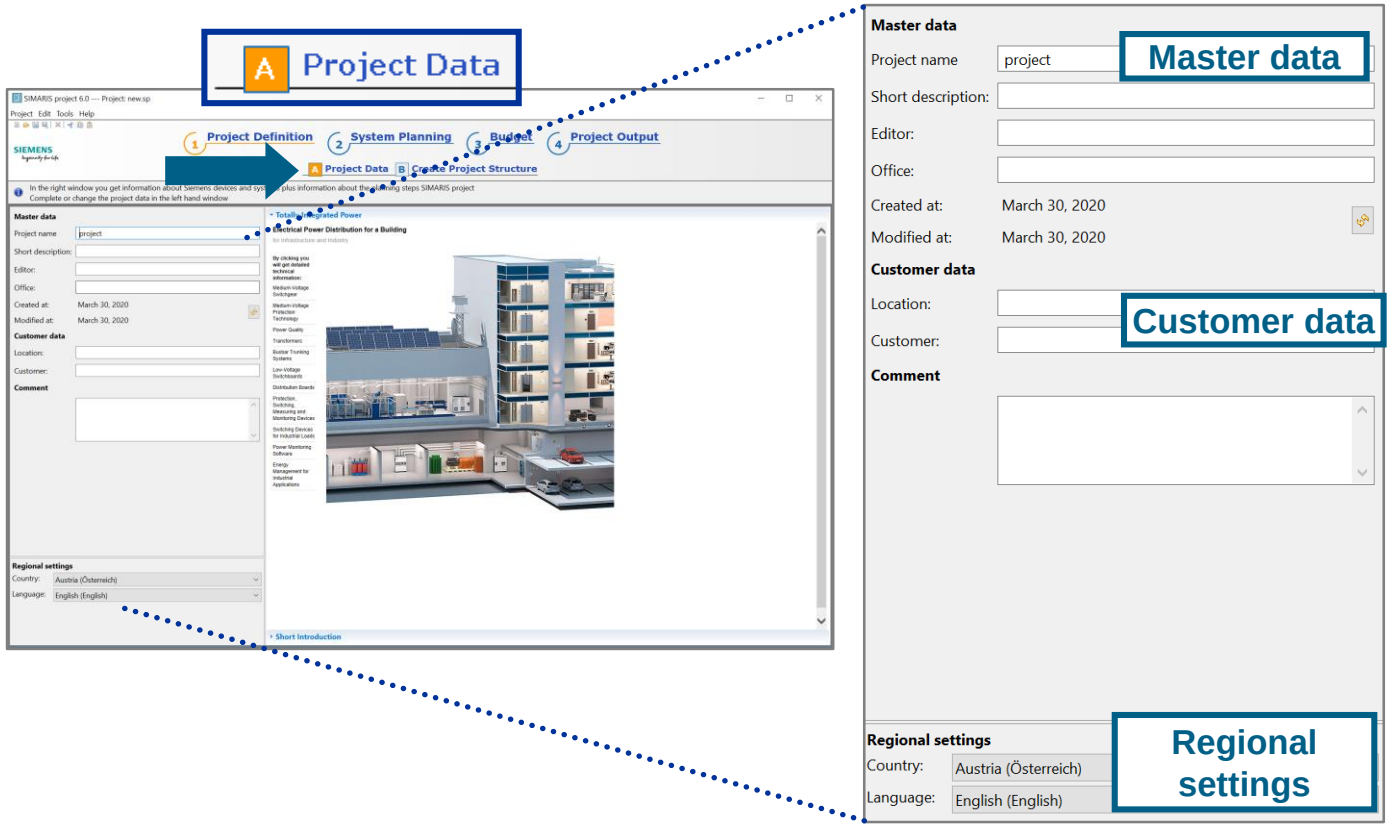
You are then taken to the step "Project Definition → Create Project Structure", where you can select items of equipment and now go right into the planning stage (see section 3.1).

Workflow



Clicking a program step on the navigation bar allows you to go to another step and access associated substeps or see different views of the system or switchgear cabinet you are editing.

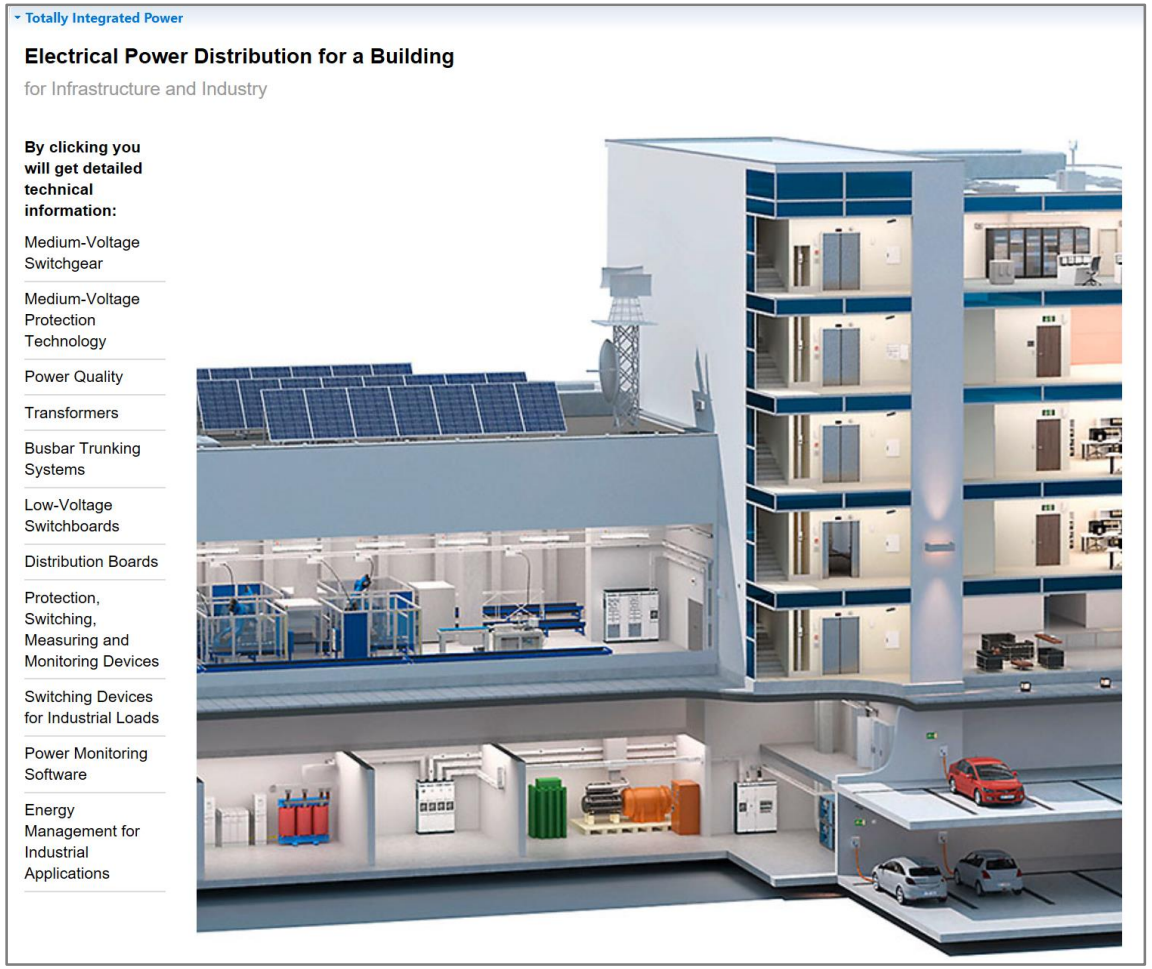
SIEMENS
Ingenuity for life



As long as you haven't selected and specified any switchgear, you can only view the project and master data as well as the localisation settings here you entered/selected by clicking "**A Project Data**".

Please do check your country selection in the localisation settings before you start editing a project, since the selection made concerning the country will effect a matching product portfolio to be used for the creation of your switchgear and distribution systems.

Workflow



Besides the project data, you will also find an interactive view of a building with schematic representations of all product groups relevant for electric power distribution in industrial buildings and infrastructure projects in this program step.

A click on a product group you are interested in takes you immediately to the associated web pages, where you can access more detailed information about that product group.

SIMARIS project Tutorial

SIEMENS
Ingenuity for life

Software for determining the space requirements and budget for electric power distribution

Creating the project structure

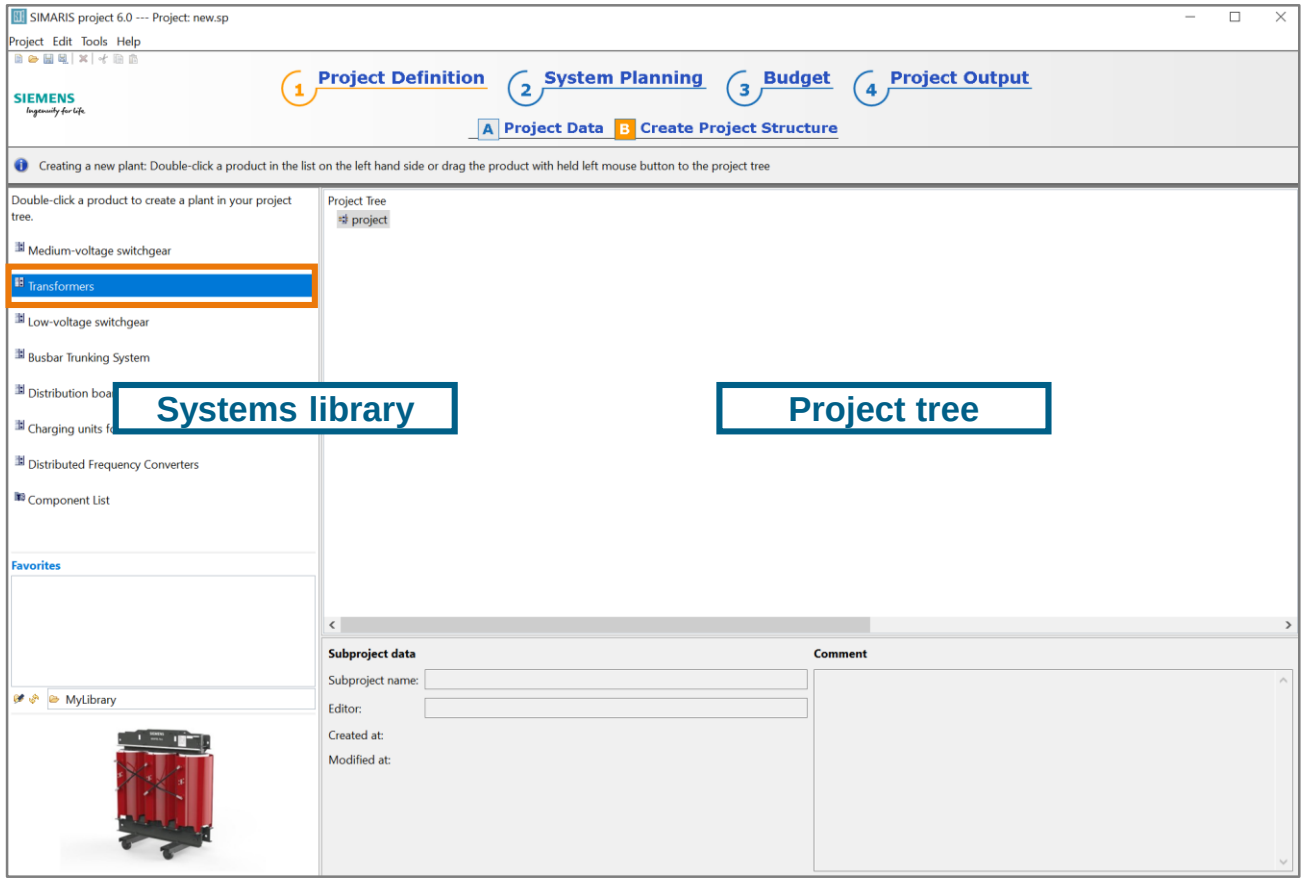
Transformer

Low-voltage switchboard
> Master data and system properties
> Device list (for distribution board)
> Front view

Busbar trunking system

Tips and tricks for system planning
> Copying a system
> Favorites library
> Project import from SIMARIS design

Creating the project structure

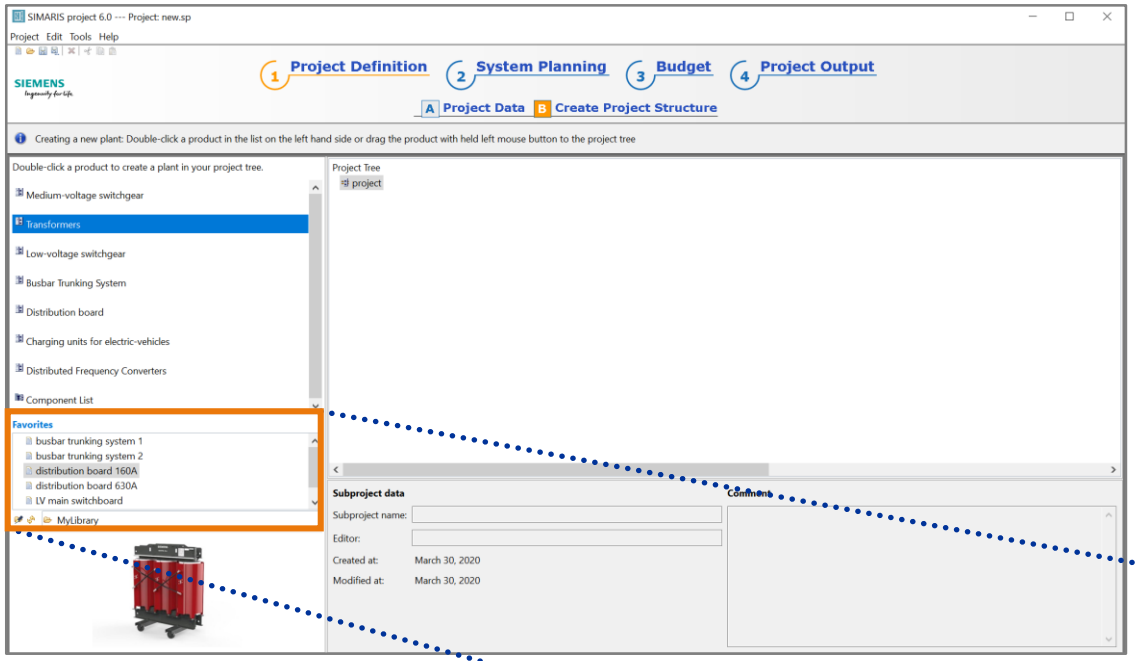


As a rule, the project structure is created in the Project Definition step.

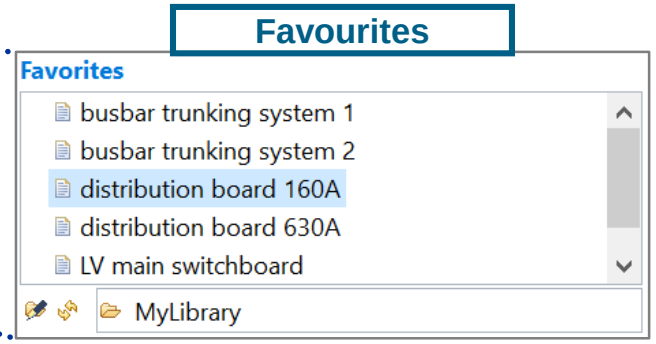
- To do so, first select the system type you need from the **systems library** (highlighted in grey) and add it to the **project tree** on the right with a double click or with drag&drop.

Creating the project structure

SIEMENS
Ingenuity for life

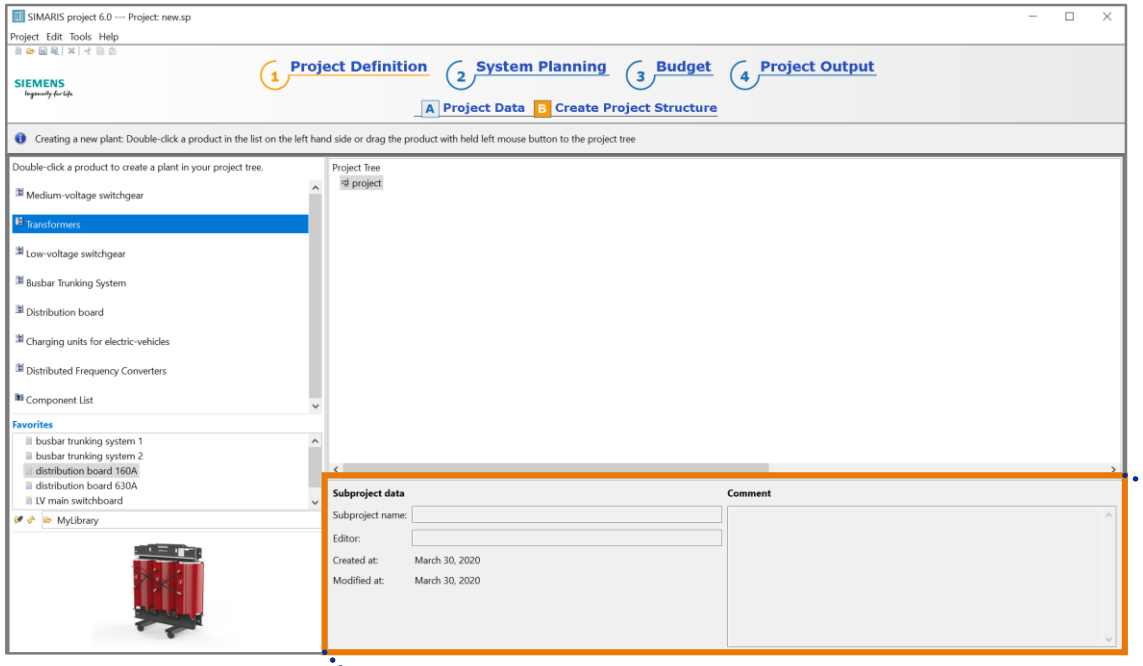


- Information about how to use the **Favorites** shown at the bottom left below the systems library can be found in section 3.5.2.

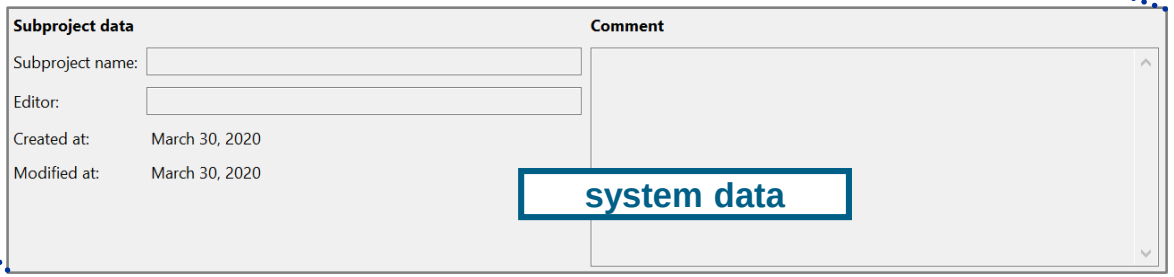


Creating the project structure

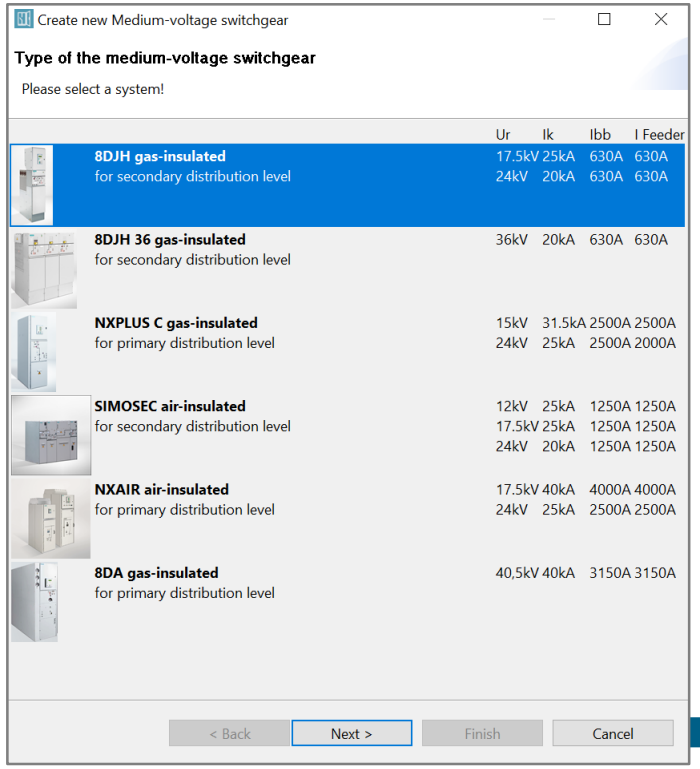
SIEMENS
Ingenuity for life

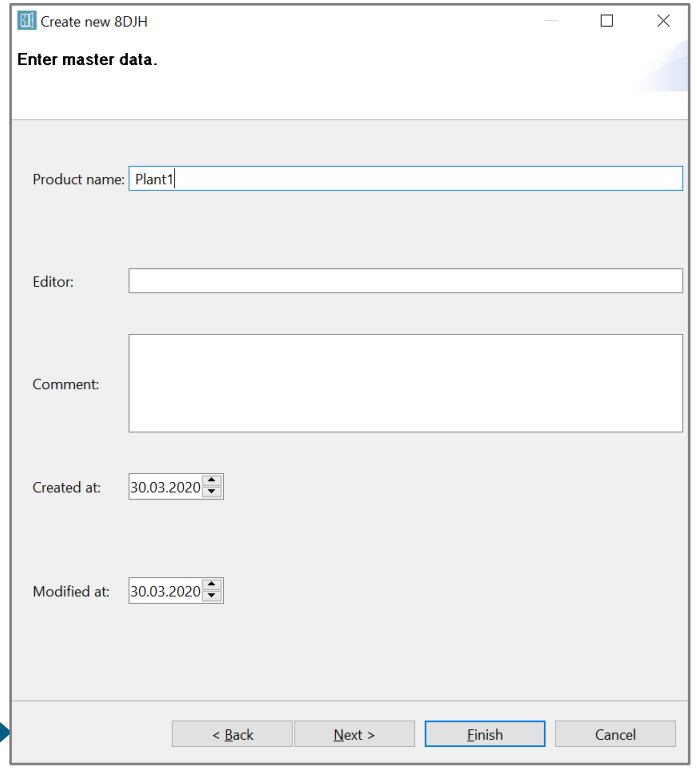


- As soon as you have selected a system/device in the project tree, its **system data** are displayed below the project tree.



Creating the project structure – example medium-voltage switchgear

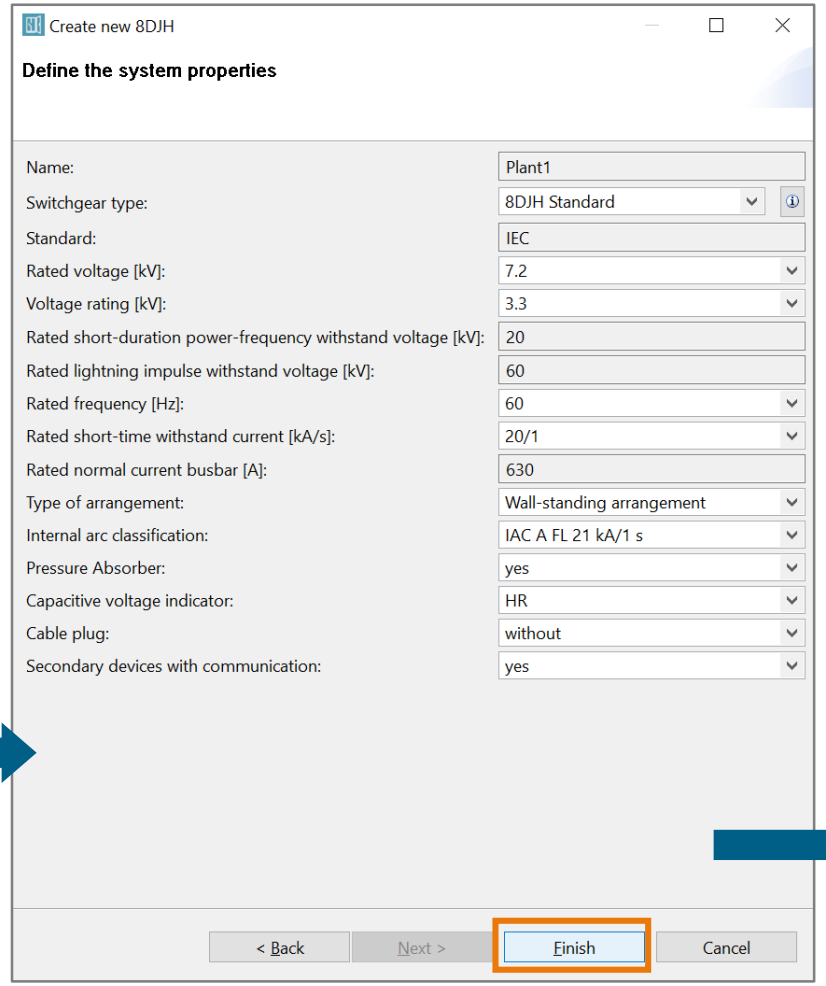




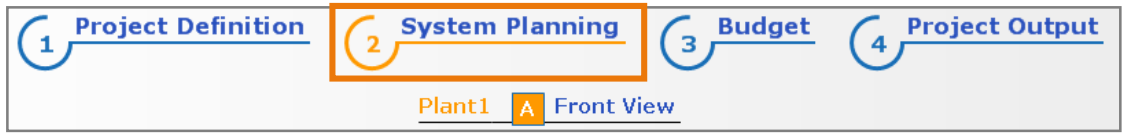
- Depending on the selected system type, windows are opened one by one where you can specify this system type. Here this is exemplified for a **medium-voltage switchgear** type.

Creating the project structure – example medium-voltage switchgear

SIEMENS
Ingenuity for life



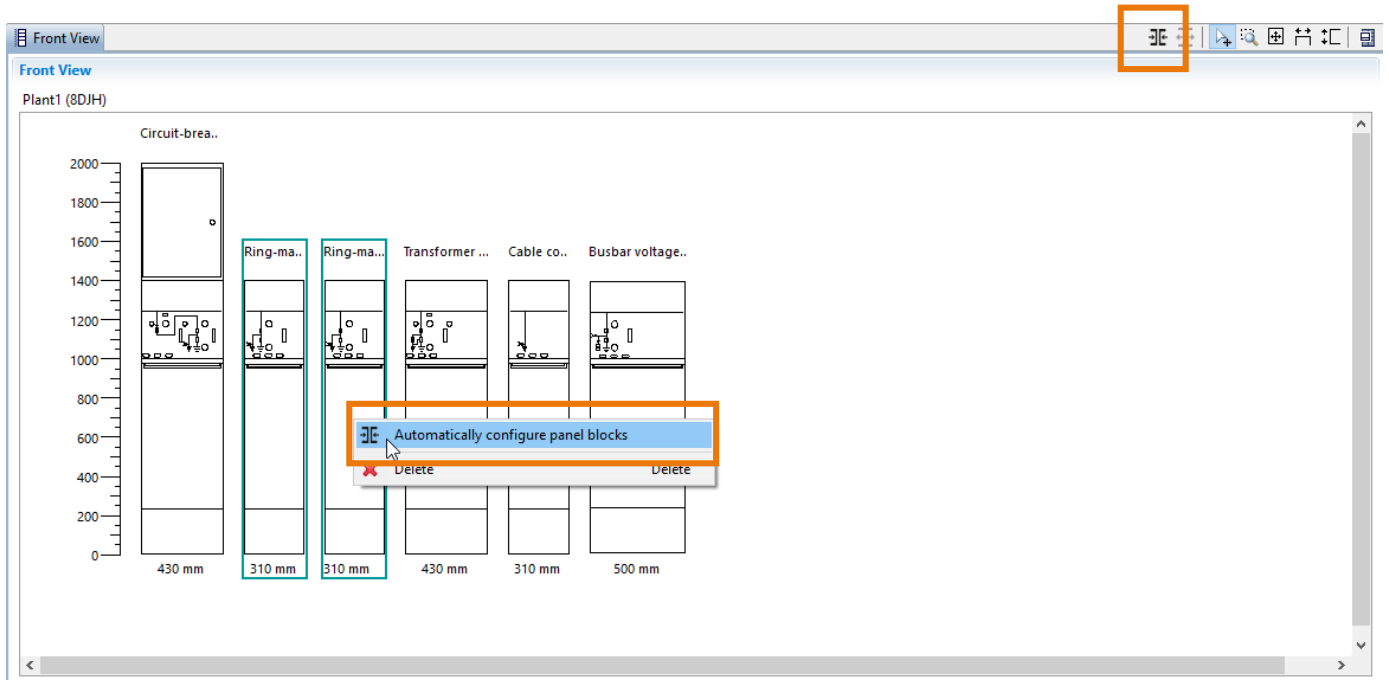
- When you fill in all data required, you are taken to the **System Planning** step for this system type, after you have completed its specification clicking "**Finish**". There you can configure plants in detail.



Creating the project structure – example medium-voltage switchgear

SIEMENS
Ingenuity for life

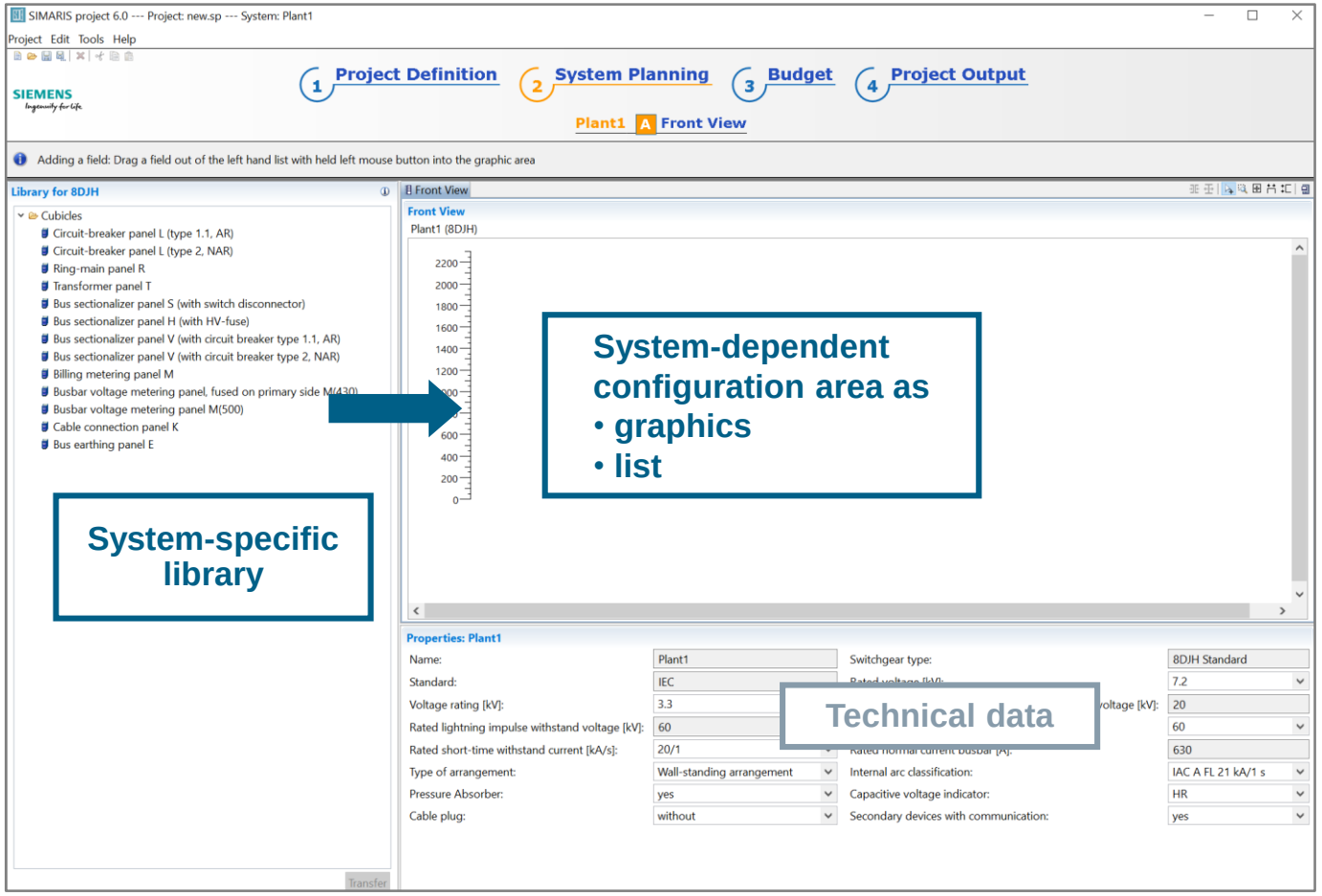
- At the **System Planning** step for this sytem type you can configure plants in detail.



Tip:

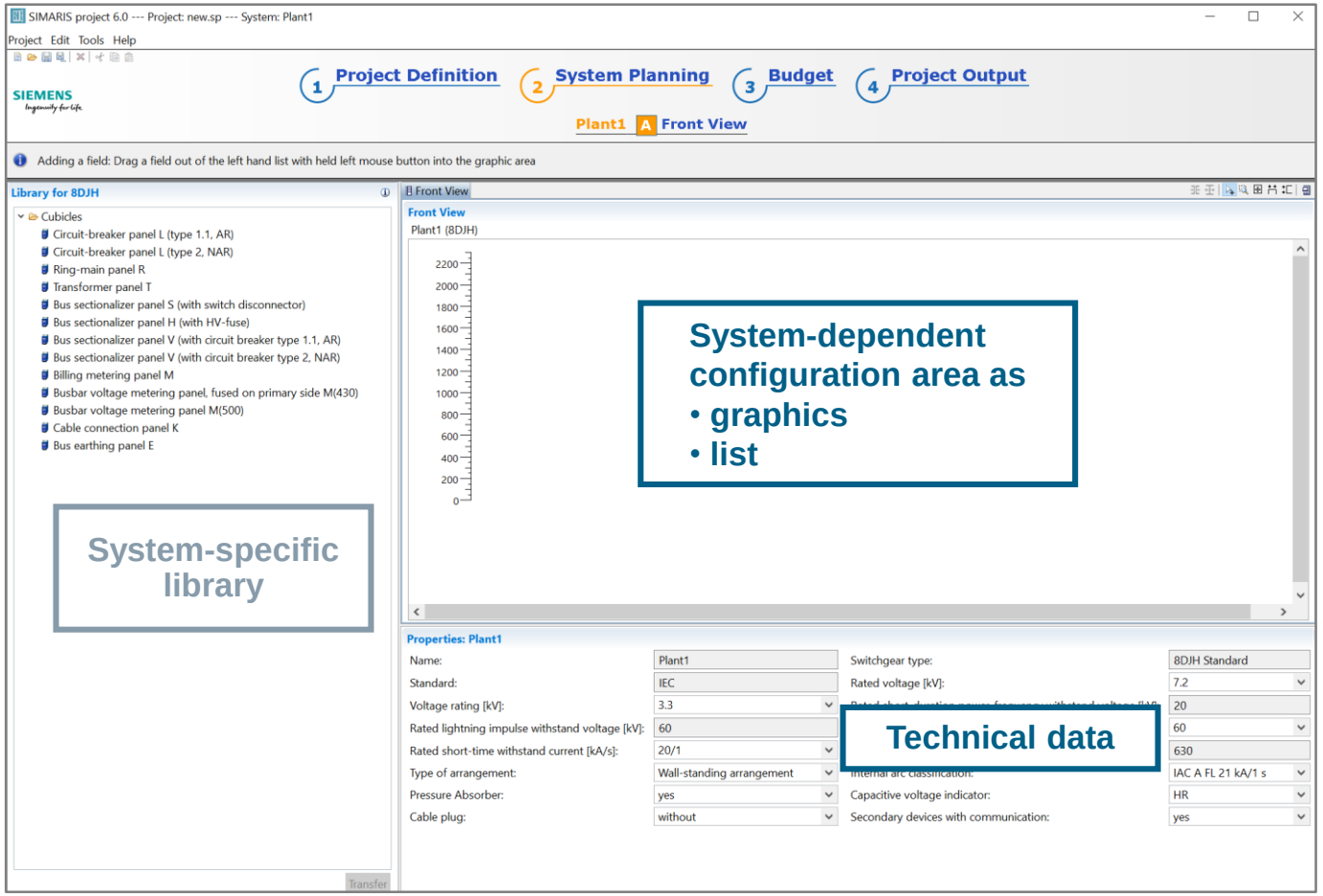
You can build panel blocks for the system type 8DJH / 8DJH36 via the symbol on the right above or via right-click

Creating the project structure



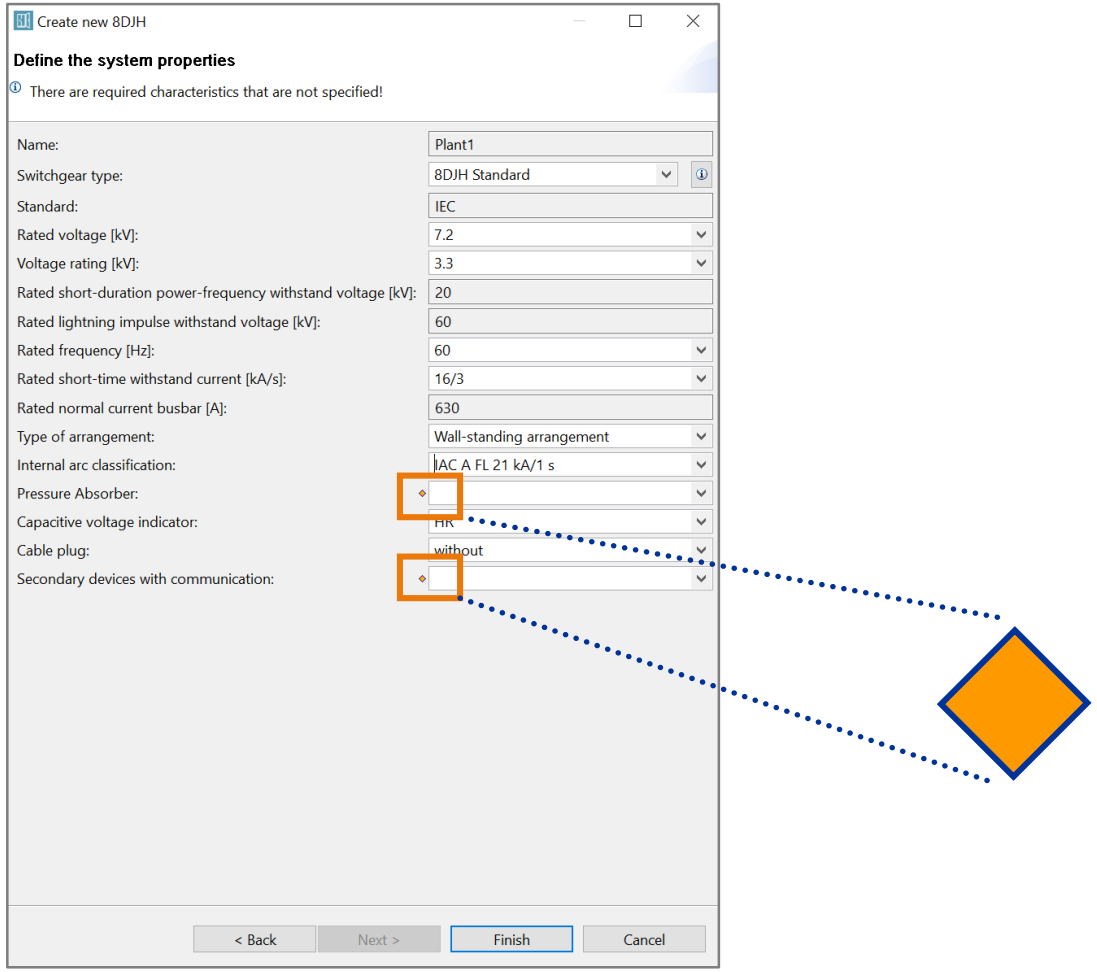
- In **System Planning** you will find the **system-specific library** on the left, from which you can select the required project components from component templates. These components can then be dragged and dropped onto the configuration area on the right.

Creating the project structure



- In the **configuration area**, the selected components are displayed graphically or in list form depending on the system type and settings you selected. This is exemplified in the following sections for transformers, low-voltage switchboards and busbar trunking systems.
- Previously selected or default **technical data** for the system are shown below the configuration area and can be changed there.

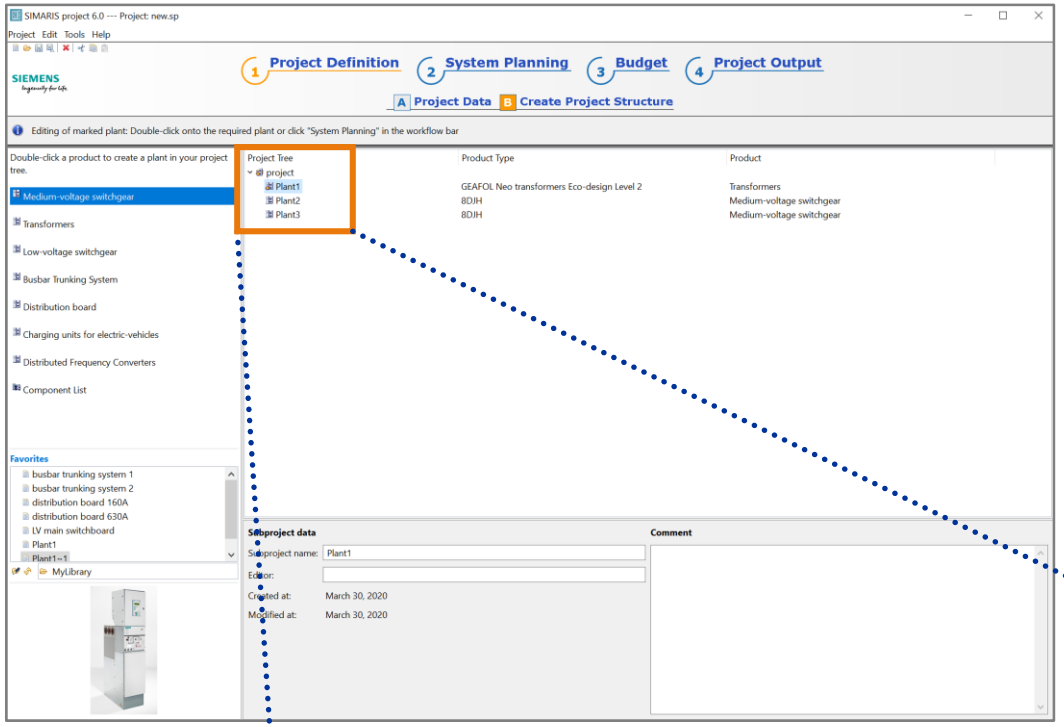
Creating the project structure



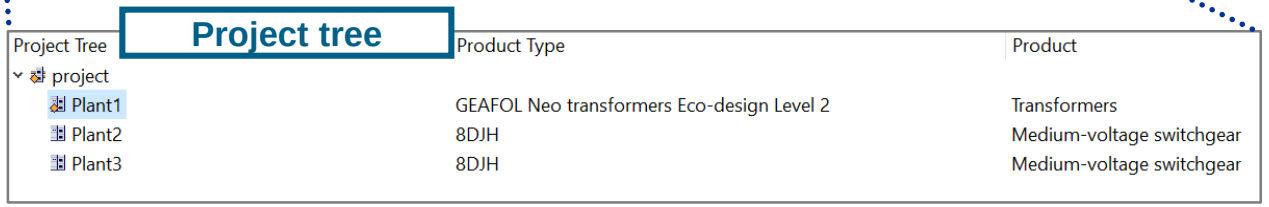
If you click through the system specification windows without having completed all data, which is indicated by orange rhombuses next to the input boxes, you remain in the Project Definition step and can create more systems in the project tree, for example.

The incompletely specified system is then identified by an **orange rhombus** in the Project Definition. This symbol is used throughout the program to indicate missing data.

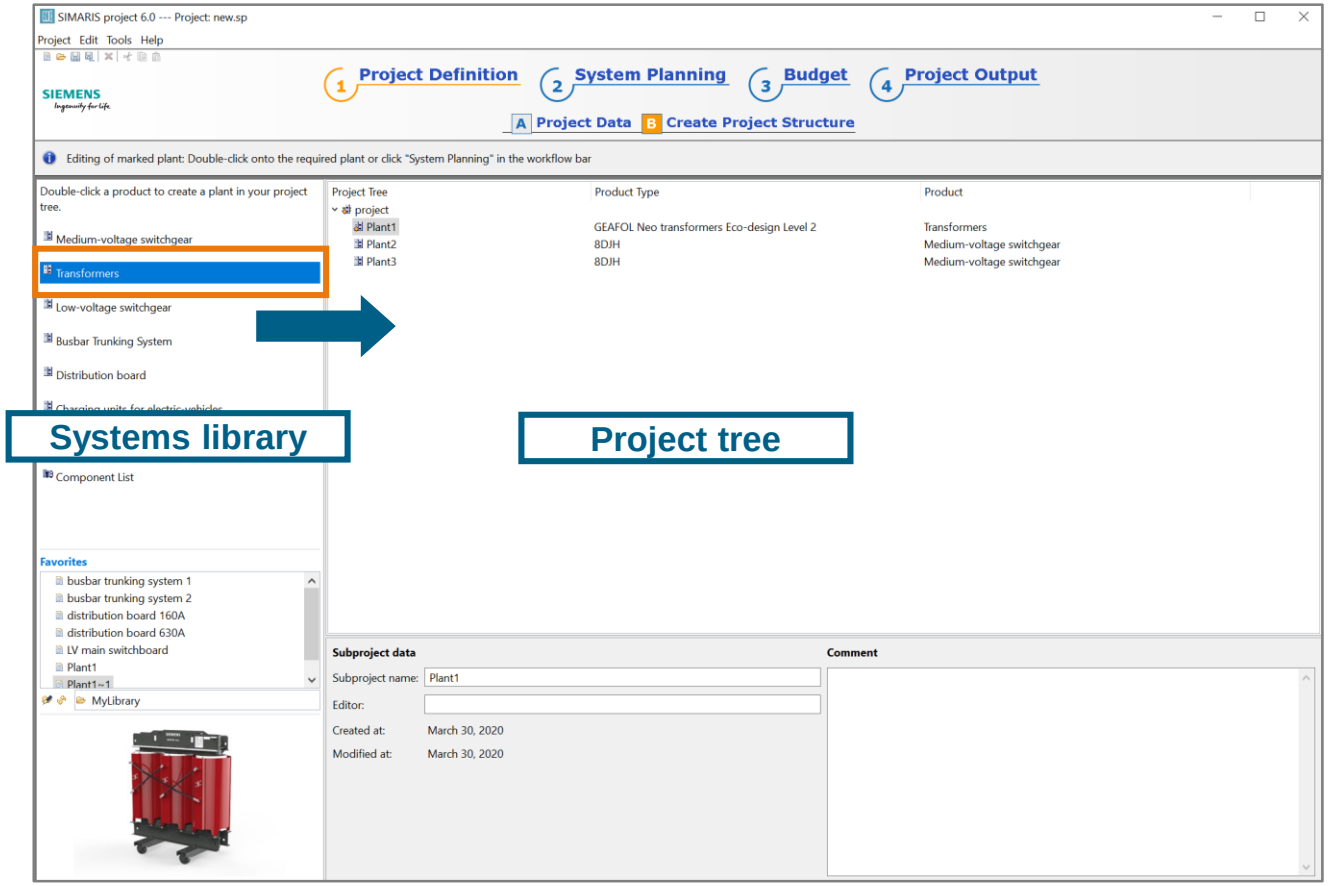
Creating the project structure



If you want to complete the system specification at a later stage, you can always call up the specification dialog again by double-clicking the system in the **Project Tree**.



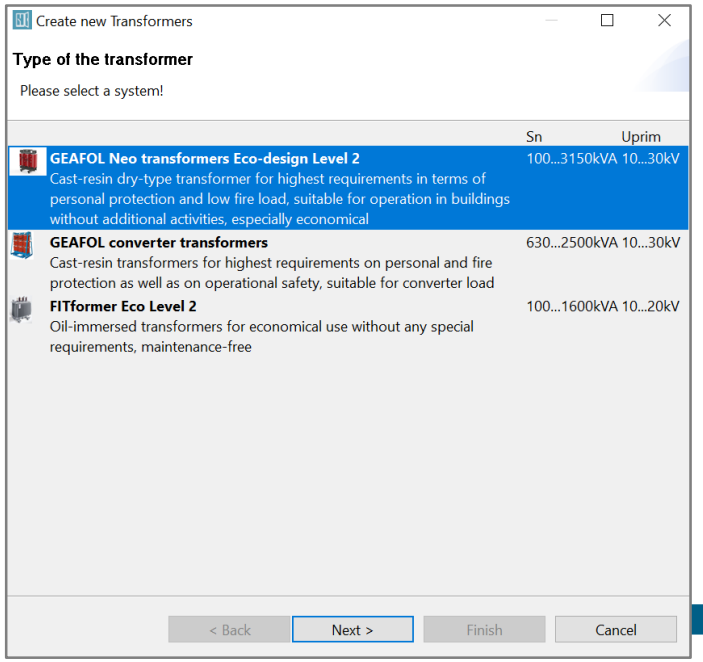
Transformer

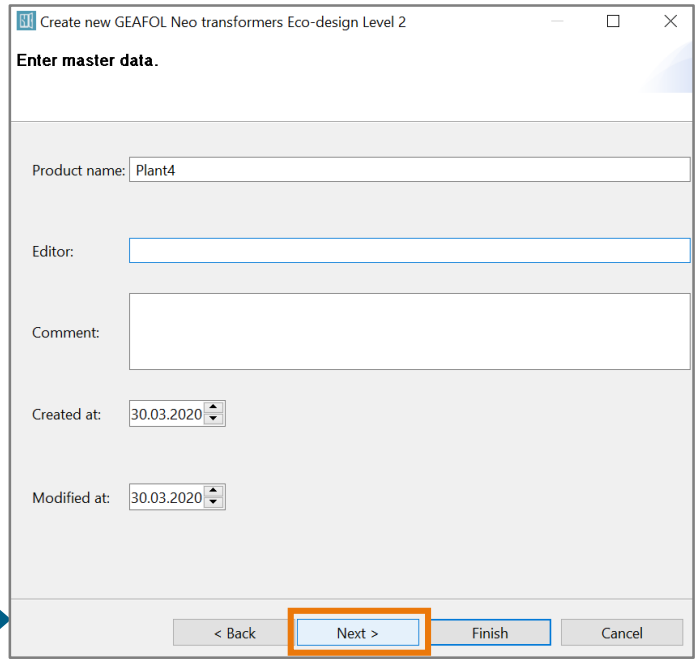


Transformers can be added to the project tree in the same way,

- either by double-clicking "Transformers" in the systems library,
- or by dragging them from the systems library to the project tree (drag & drop).

Transformer

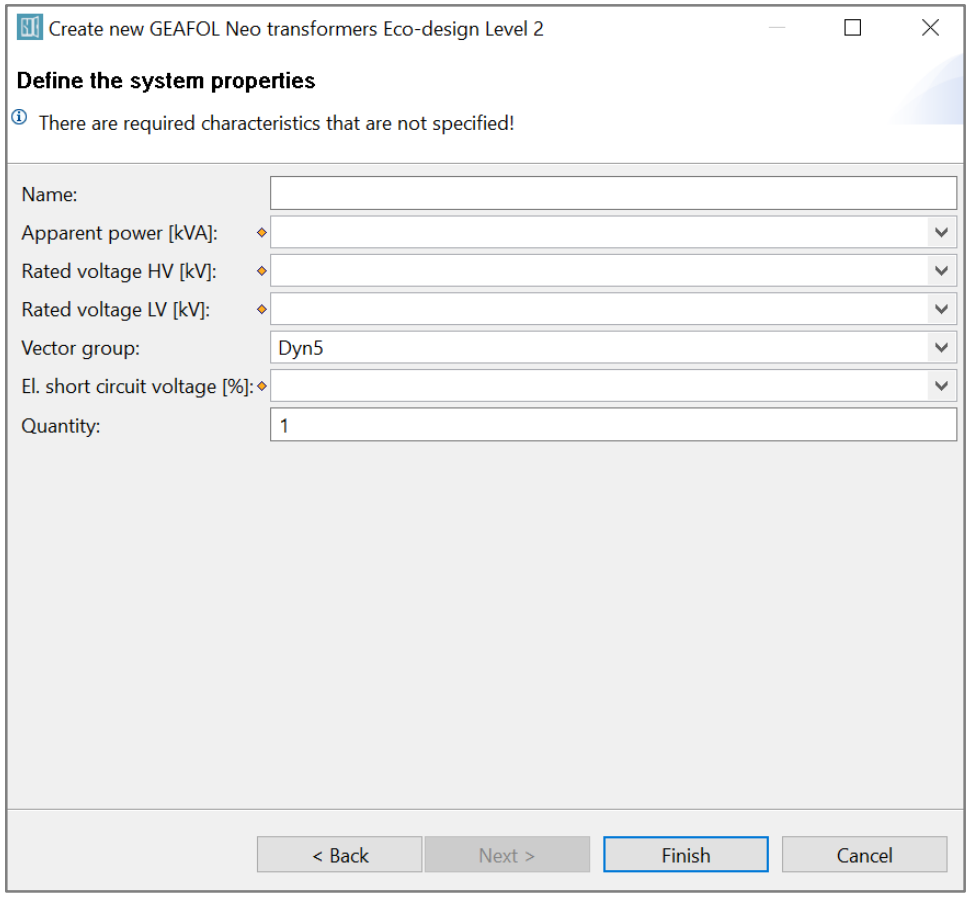




This action opens the specification dialog for transformers.

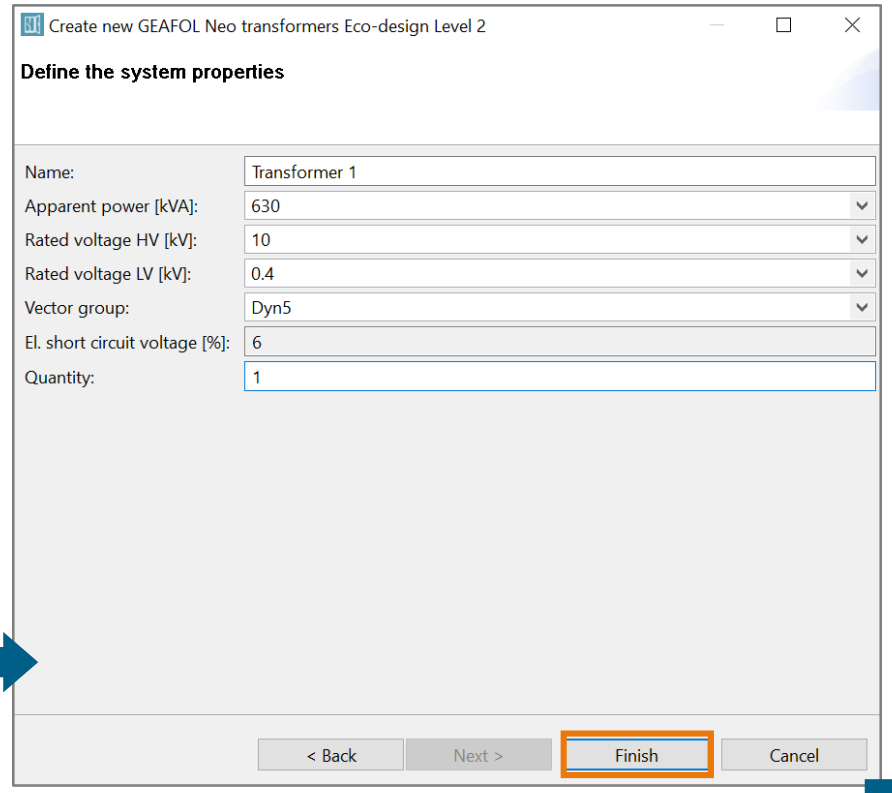
- At first, select the transformer type required for your project,
- then enter system-specific master data, e.g. the product name...

Transformer

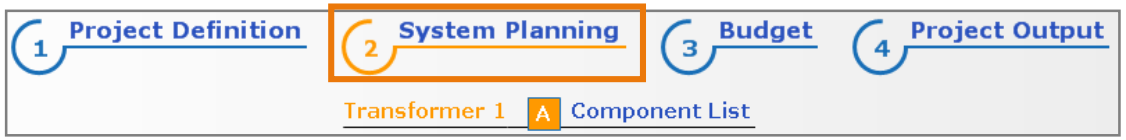


- and finally specify its technical data (system properties).

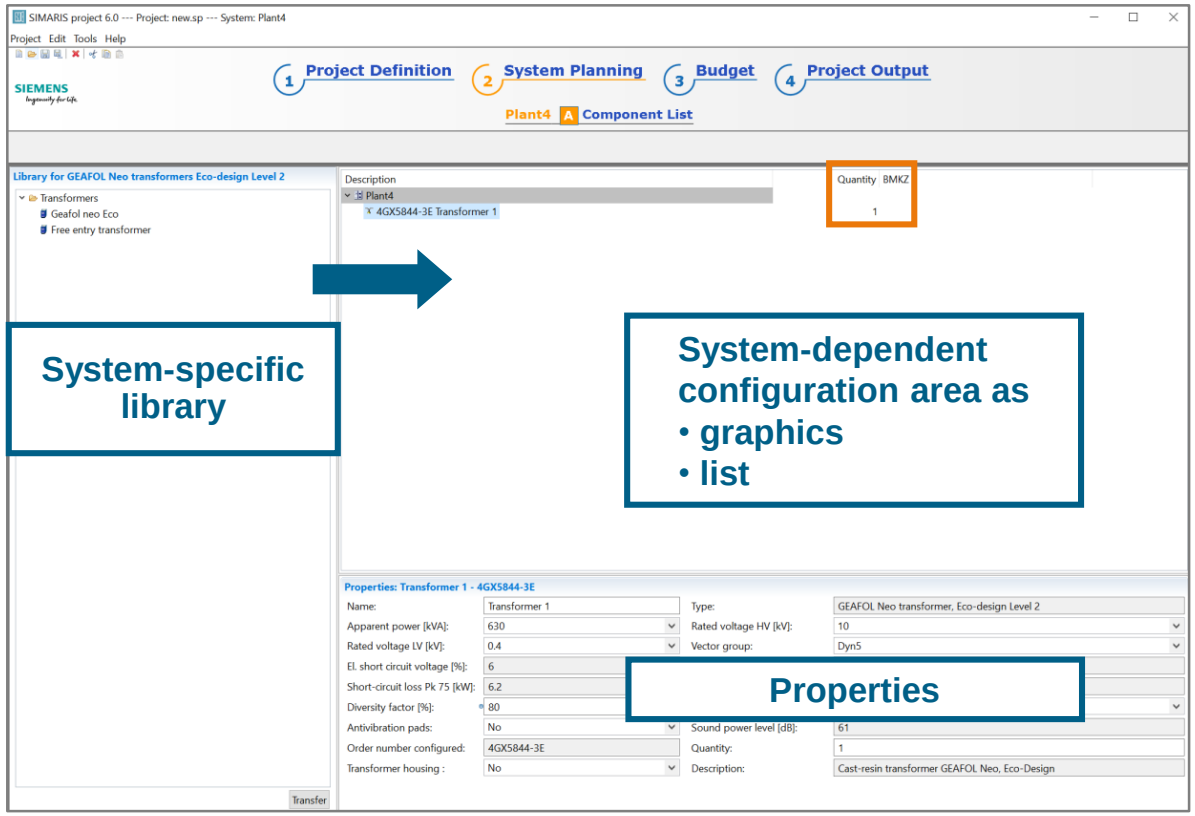
Transformer



- Clicking "**Finish**" completes system creation and you are taken to the **System Planning** step.



Transformer

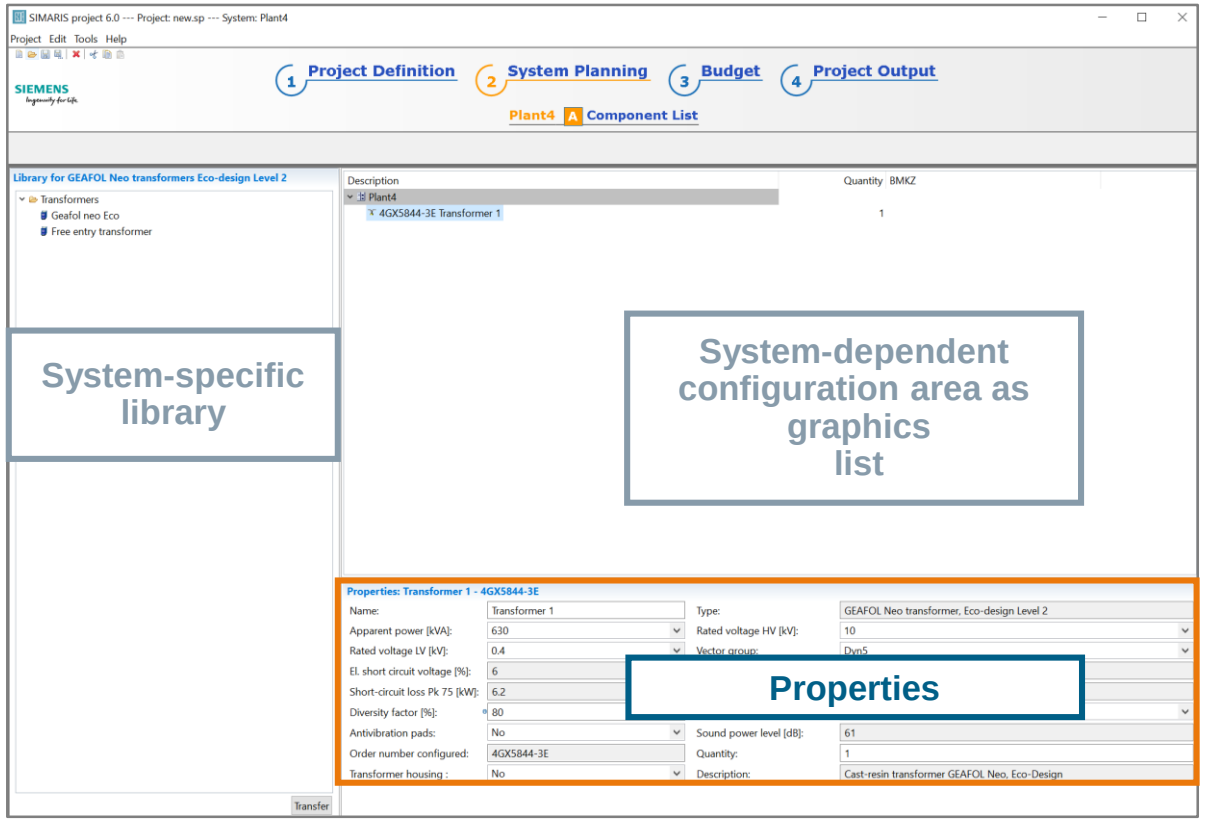


Here you can select more transformers of the same type from the **Library** on the left and add them to the system with a double-click or with drag & drop.

In case you should need several identical transformers, you could also enter the required quantity

- right into the list at the top right,
- or select the respective transformer and enter the required quantity under the **Properties** listed below.

Transformer



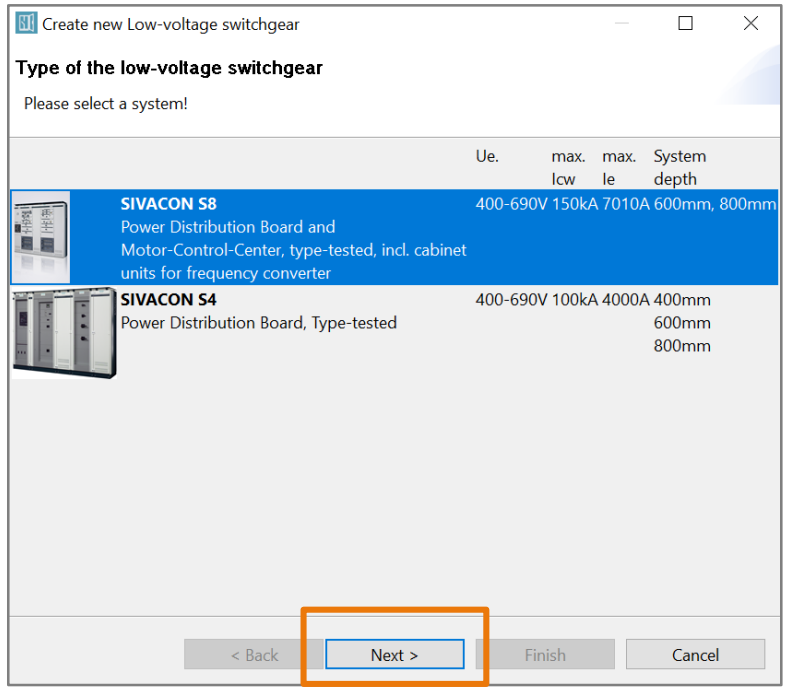
In addition, you can enter project-specific designations for individual systems in the **Properties** section (bottom right)

- (Name field)
- and modify some technical data.

This means that you can also modify technical data as may be required in the process of planning.

Low-voltage switchboard – master data and system properties

SIEMENS
Ingenuity for life



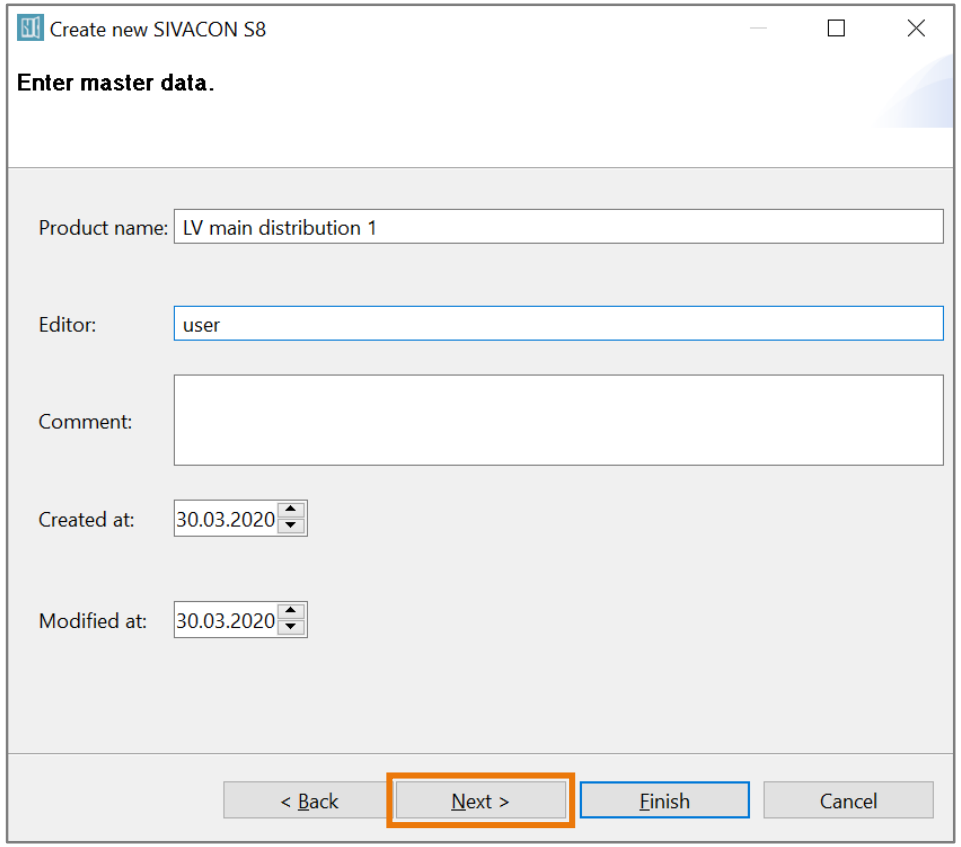
Here, we will demonstrate how to create a configured low-voltage switchboard with SIMARIS project, since this procedure is similar, but less complex for distribution boards feeding final load circuits, for example.

First, add a low-voltage switchboard to the project tree (see "**Project Definition**" step)

- by double-clicking the "**Low-voltage switchboard**" in the systems library,
- or by dragging it from the systems library onto the project tree.

A dialog is now displayed for system specification.
Here you can select the type of LV-switchgear required for your project.

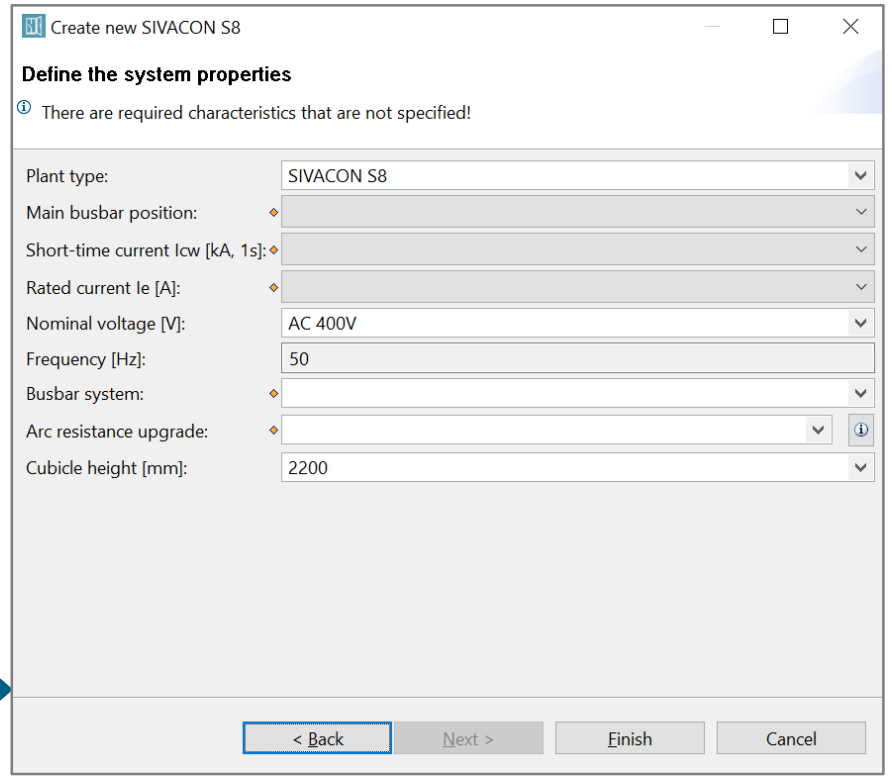
Low-voltage switchboard – master data and system properties



In the following window you can enter the master data for the system, e.g. its name.

Low-voltage switchboard – master data and system properties

SIEMENS
Ingenuity for life

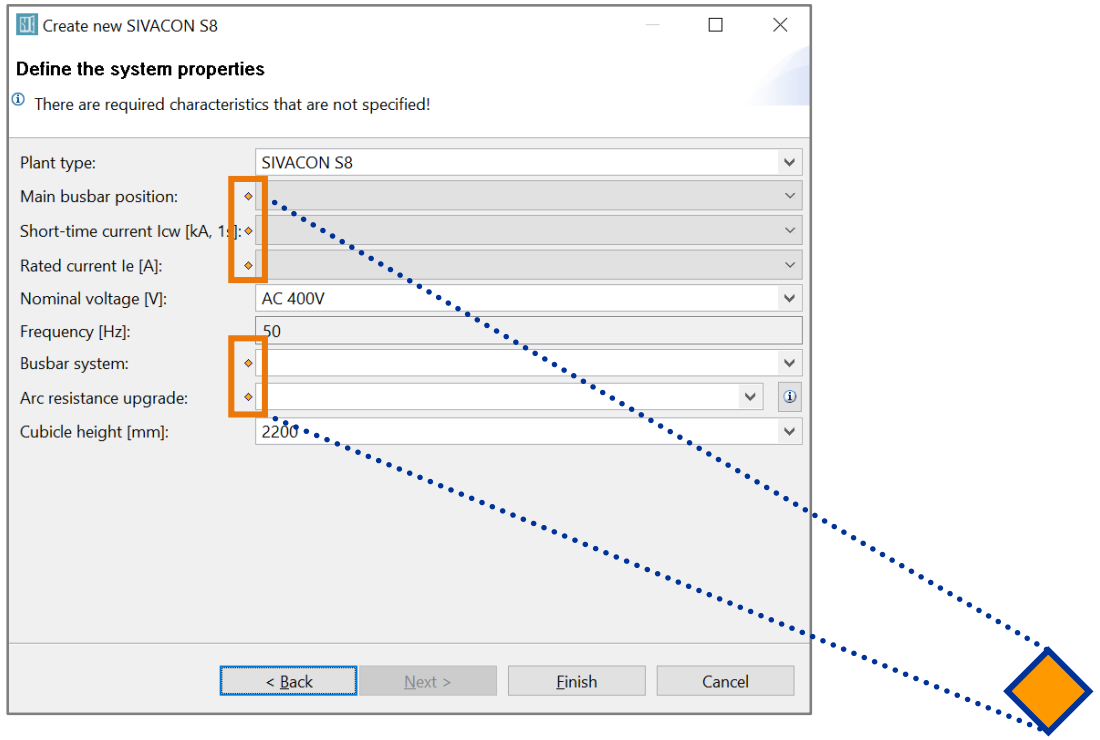


Then specify the system properties, such as

- rated current
- rated voltage
- arc resistance level
- etc.

If it turns out in the planning process that system properties need to be changed owing to more detailed planning decisions or changes in requirements, it is easily possible to modify system properties during the next planning stages.

Low-voltage switchboard – master data and system properties

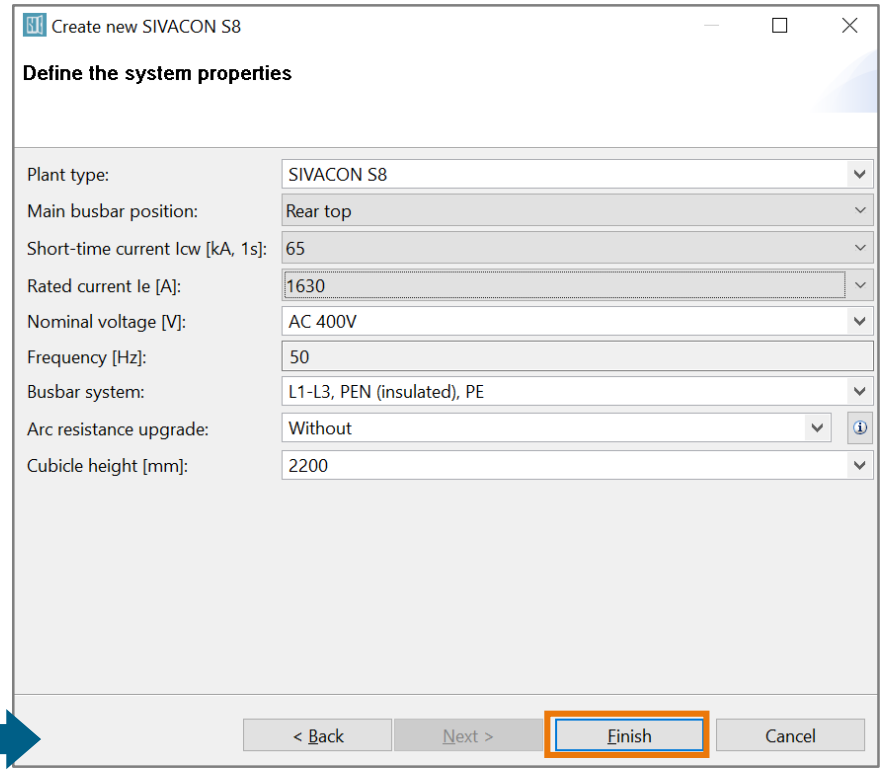


- If specifications are still missing (indicated by **orange rhombuses**) you will stay in the "Project Definition" step after clicking "Finish" and can complete the specification at a later stage by double-clicking the system to be specified in the project tree.

  The specification dialog is then displayed again.

Low-voltage switchboard – master data and system properties

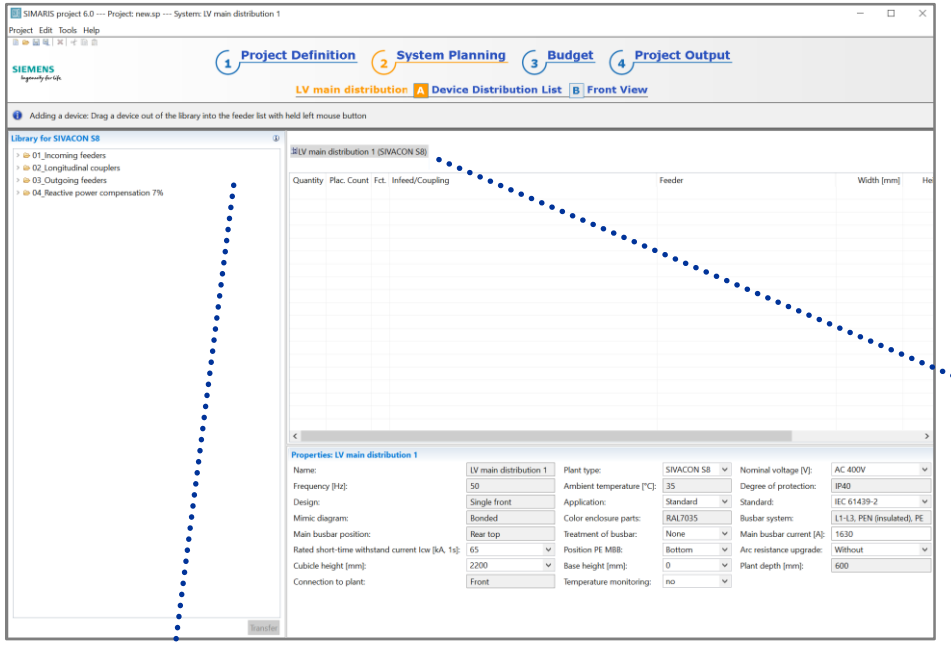
SIEMENS
Ingenuity for life



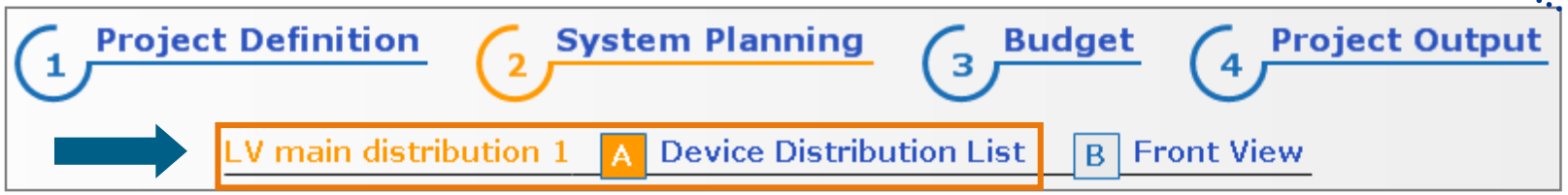
- Having completed specifying all system properties, you will be taken to the "**System Planning**" step
  → "**Device List**" view,
  as soon as you click "**Finish**".

Low-voltage switchboard – device list (for distribution board)

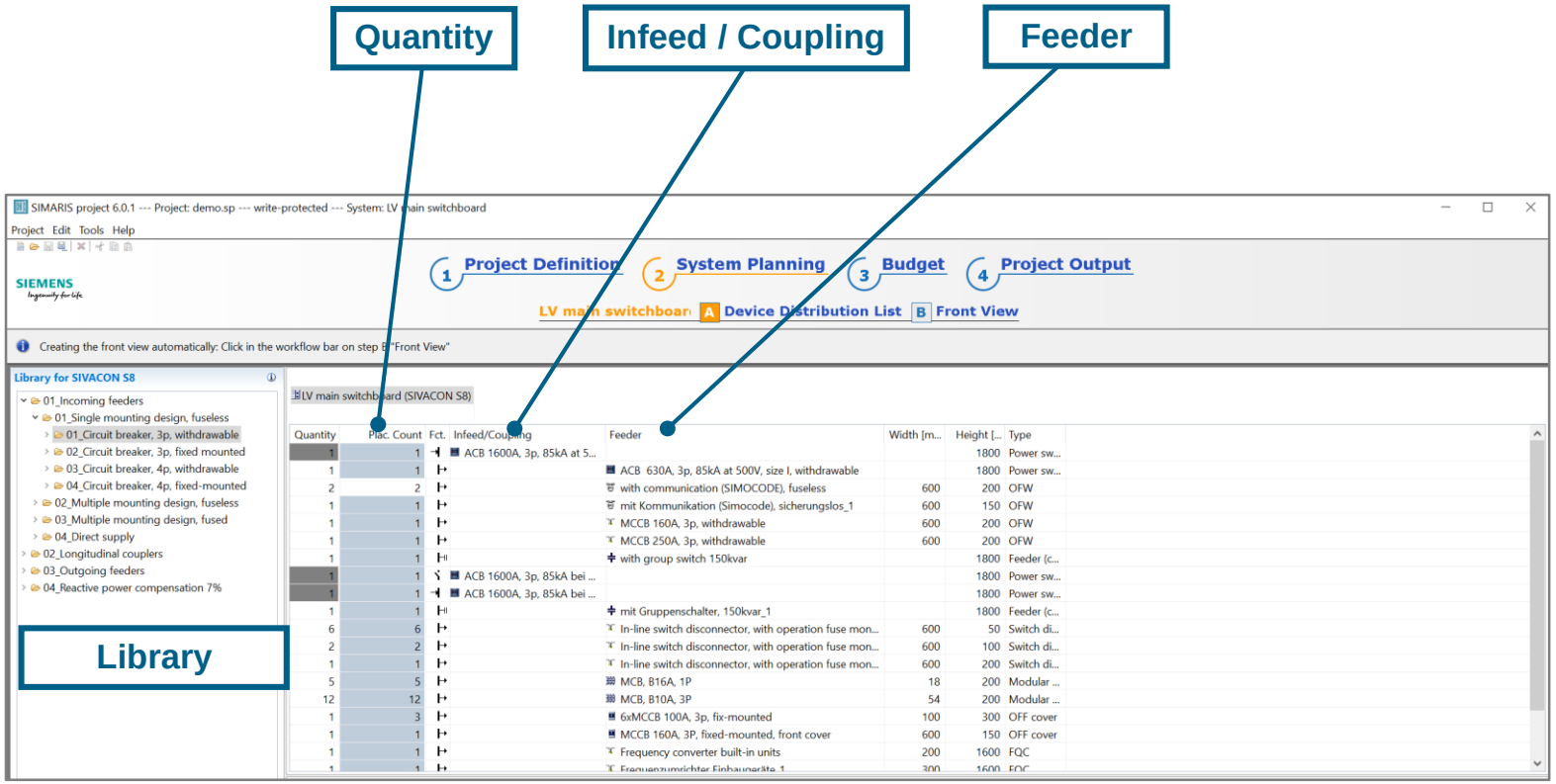
SIEMENS
Ingenuity for life



Having the defined the system properties for the distribution board, you can then create the **Device List** in the next step, here exemplified for an **S8 low-voltage switchboard**.



Low-voltage switchboard – device list (for distribution board)

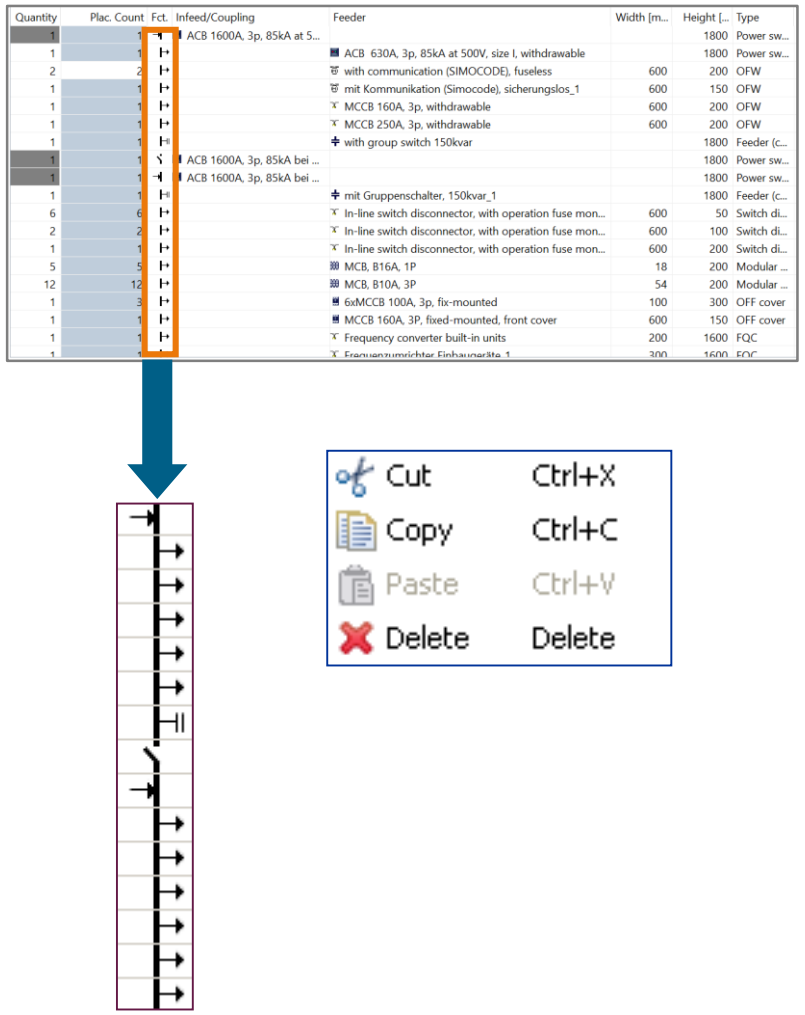


The **Library** provides devices matching the specified system for selection.

- The first item to be added to the device list must always be an infeed.
- Add more items by dragging them from the library into the device list (keep left mouse button pressed).
  The selected devices are automatically sorted into the corresponding "**Infeed/Coupling**" or "**Feeder**" column.
- Alternatively, you can also insert an item into the right column by double-clicking it.

Low-voltage switchboard – device list (for distribution board)

SIEMENS
Ingenuity for life



Quantity	Plac. Count	Fct.	Infeed/Coupling	Feeder	Width [m...	Height [...	Type
1	1		ACB 1600A, 3p, 85kA at 5...			1800	Power sw...
1	1			ACB 630A, 3p, 85kA at 500V, size I, withdrawable		1800	Power sw...
2	2			with communication (SIMOCODE), fuseless	600	200	OFW
1	1			mit Kommunikation (Simocode), sicherungslos_1	600	150	OFW
1	1			MCCB 160A, 3p, withdrawable	600	200	OFW
1	1			MCCB 250A, 3p, withdrawable	600	200	OFW
1	1			with group switch 150kvar		1800	Feeder (c...
1	1		ACB 1600A, 3p, 85kA bei ...			1800	Power sw...
1	1		ACB 1600A, 3p, 85kA bei ...			1800	Power sw...
1	1			mit Gruppenschalter, 150kvar_1		1800	Feeder (c...
6	6			In-line switch disconnector, with operation fuse mon...	600	50	Switch di...
2	2			In-line switch disconnector, with operation fuse mon...	600	100	Switch di...
1	1			In-line switch disconnector, with operation fuse mon...	600	200	Switch di...
5	5			MCB, B16A, 1P	18	200	Modular ...
12	12			MCB, B10A, 3P	54	200	Modular ...
1	3			6xMCCB 100A, 3p, fix-mounted	100	300	OFF cover
1	1			MCCB 160A, 3P, fixed-mounted, front cover	600	150	OFF cover
1	1			Frequency converter built-in units	200	1600	FQC
1	1			Frequenzumrichter Einbaugeräte_1	300	1600	FQC

- The symbol in the 3rd list column as well as the device's assignment to the proper column indicates whether it is an infeed (i.e. power source), coupling or a feeder.
- As soon as you have included a **feeder** in the device list, you can enter/change the required feeder quantity in the left column.
- Cut, copy, paste or delete actions of individual components in the device list can be easily and quickly performed using the right mouse button
(context menu).

As your project requires, you can create any number of **infeeds**, **couplings** and **feeders**.

Low-voltage switchboard – device list (for distribution board)

SIEMENS
Ingenuity for life

- 05_Frequency converter
  - 01_Without fuses
    - Frequency converter cabinet units
    - Frequency converter built-in units
  - 02_With fuses
    - Frequency converter cabinet units
    - Frequency converter built-in units

Add frequency converters

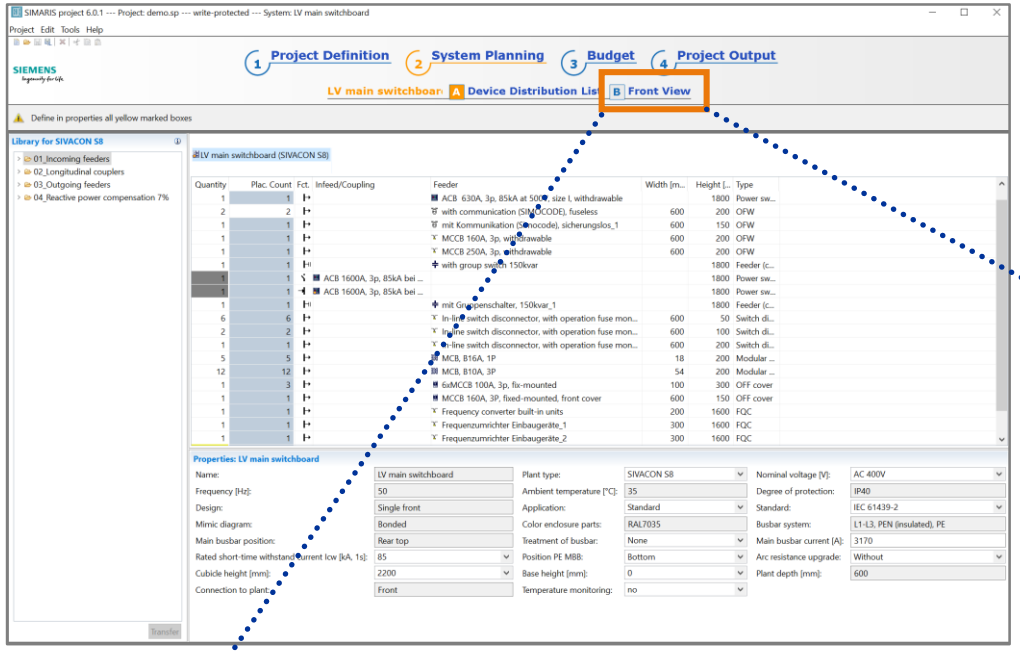
- Drag one of the devices listed in section **01_Without fuses** or **02_With fuses** to the desired position in the device list for distribution boards (double click or left mouse button pressed).
- Select the frequency converter type by editing the fields marked with ◆.

Properties: Frequency converter cabinet units

Template name:	Frequency converter cabinet units	Frequency [Hz]:	50	Main busbar:	No
Use:	Motor feeder, frequency converter	Device technique:	Without fuses	Communication capability:	Without
Rated short circuit current Iq [kA]:		Application:		Overload profile:	LO - Low overload
Motor power [KW]:		Output reactor:	Without	Maximum wire length [mm]:	300
Line reactor:	With	Line filter:	Without	Degree of protection:	IP20
Assembly kit height [mm]:		Assembly kit width [mm]:			

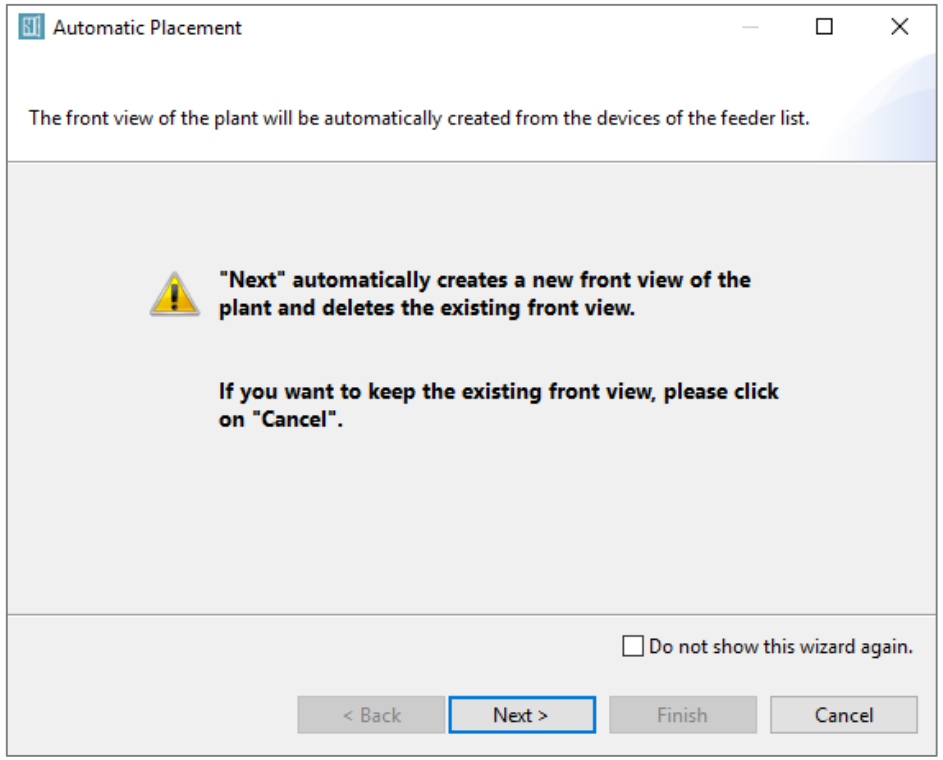
Low-voltage switchboard – front view

SIEMENS
Ingenuity for life



Clicking the step "**Front View**" on the navigation bar automatically creates the front view of the distribution board from the components contained in the device list and the dimensions of the required cubicles are automatically determined.

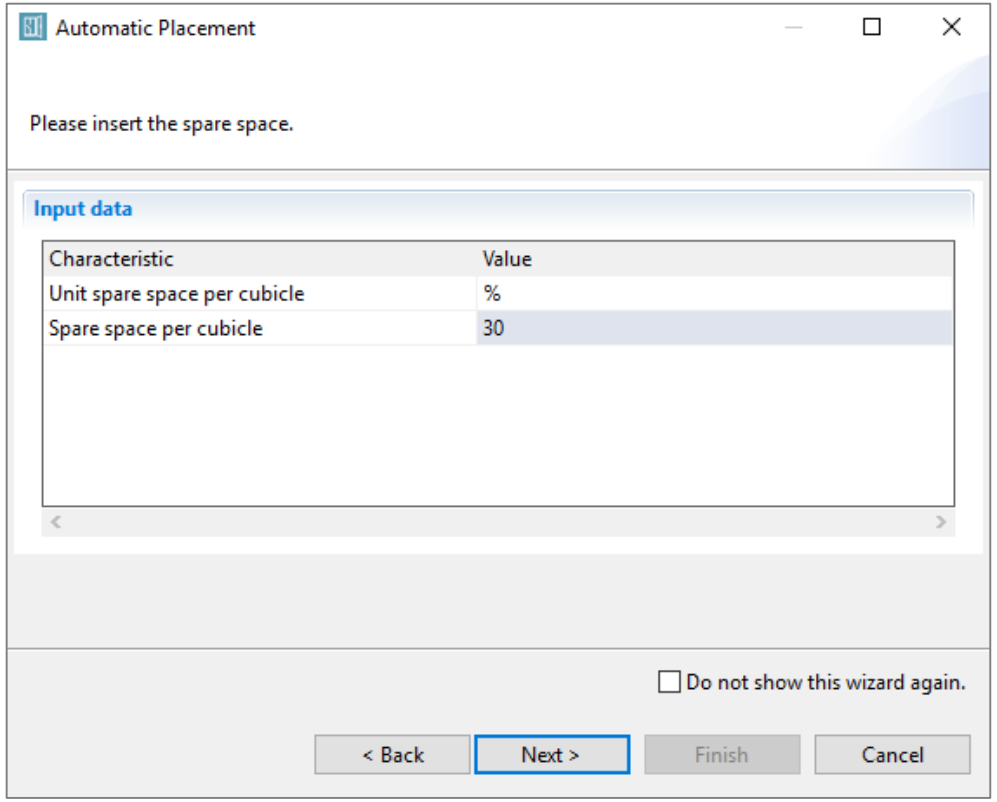
Low-voltage switchboard – front view



At first, you must decide whether you want to keep the front view that you may have created earlier on, or whether you want to create a new front view.

Attention:
If you create a new front view, the previous one, which you may have already edited, will be irreversibly deleted.

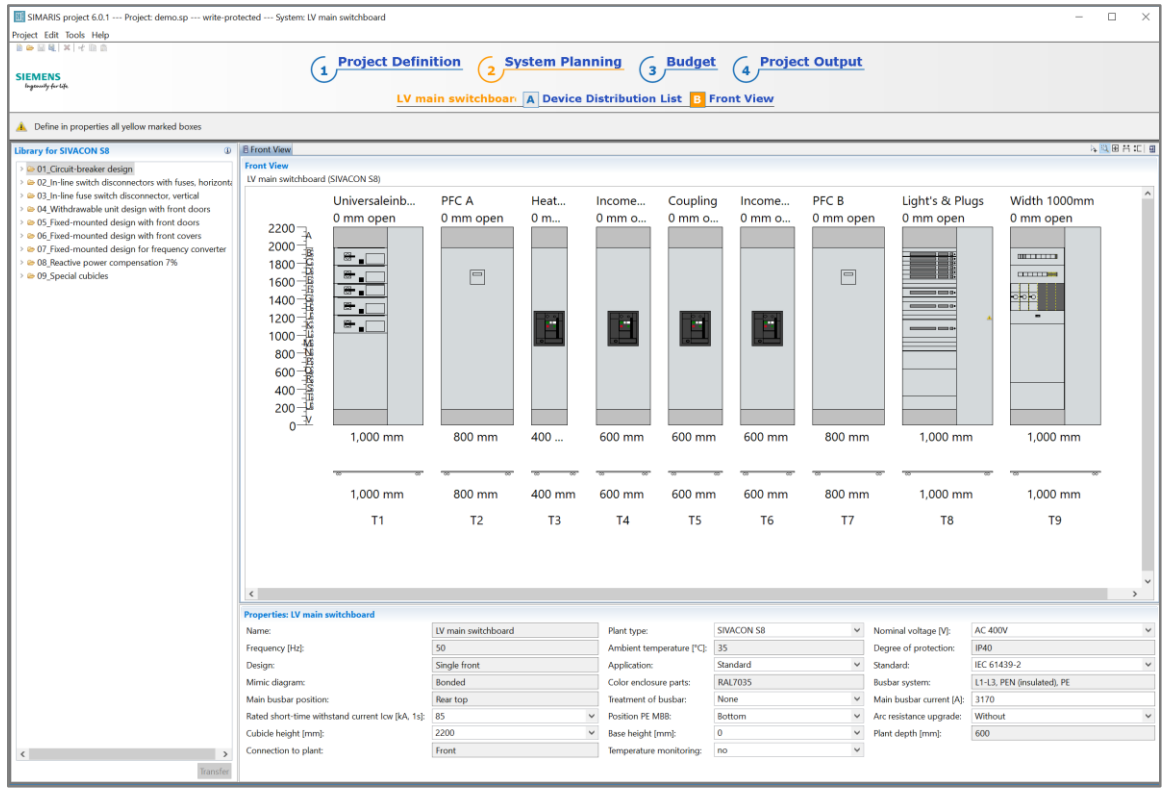
Low-voltage switchboard – front view



In another intermediate step, you may determine the necessary space reserve per cubicle.

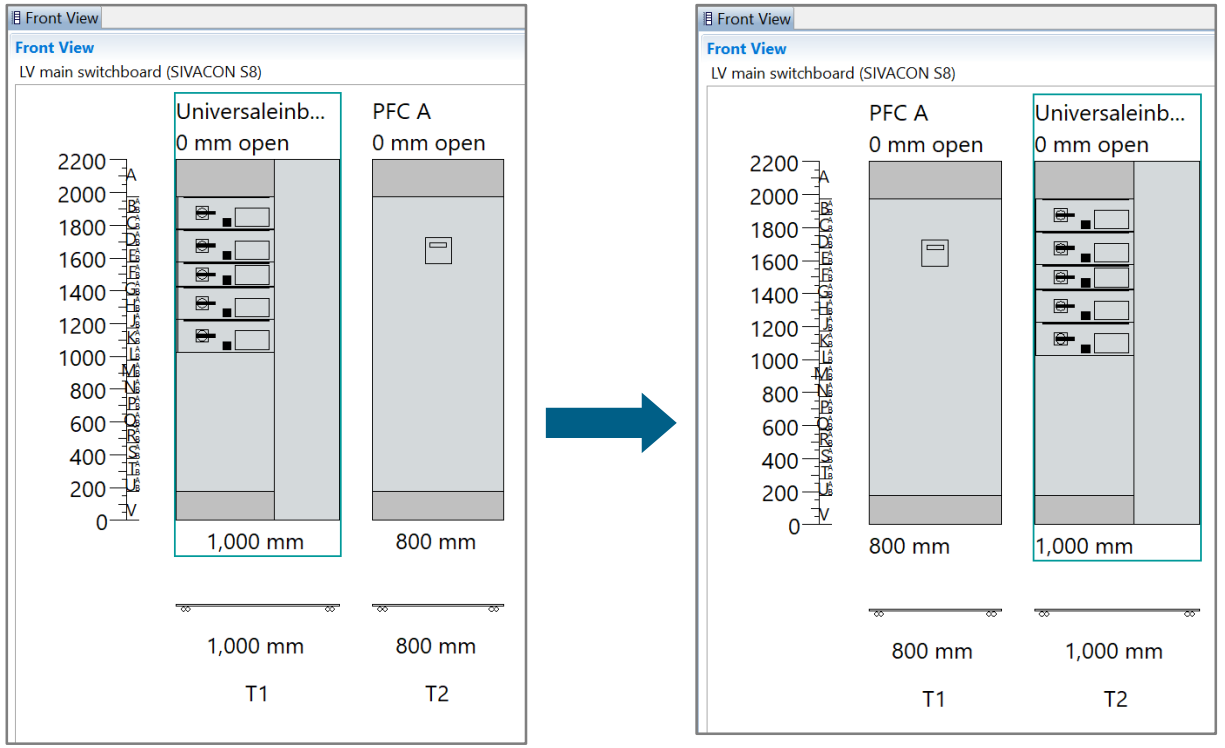
Low-voltage switchboard – front view

SIEMENS
Ingenuity for life



As a result, you will see the automatically built **front view** of your overall system based on your specifications.

Low-voltage switchboard – front view

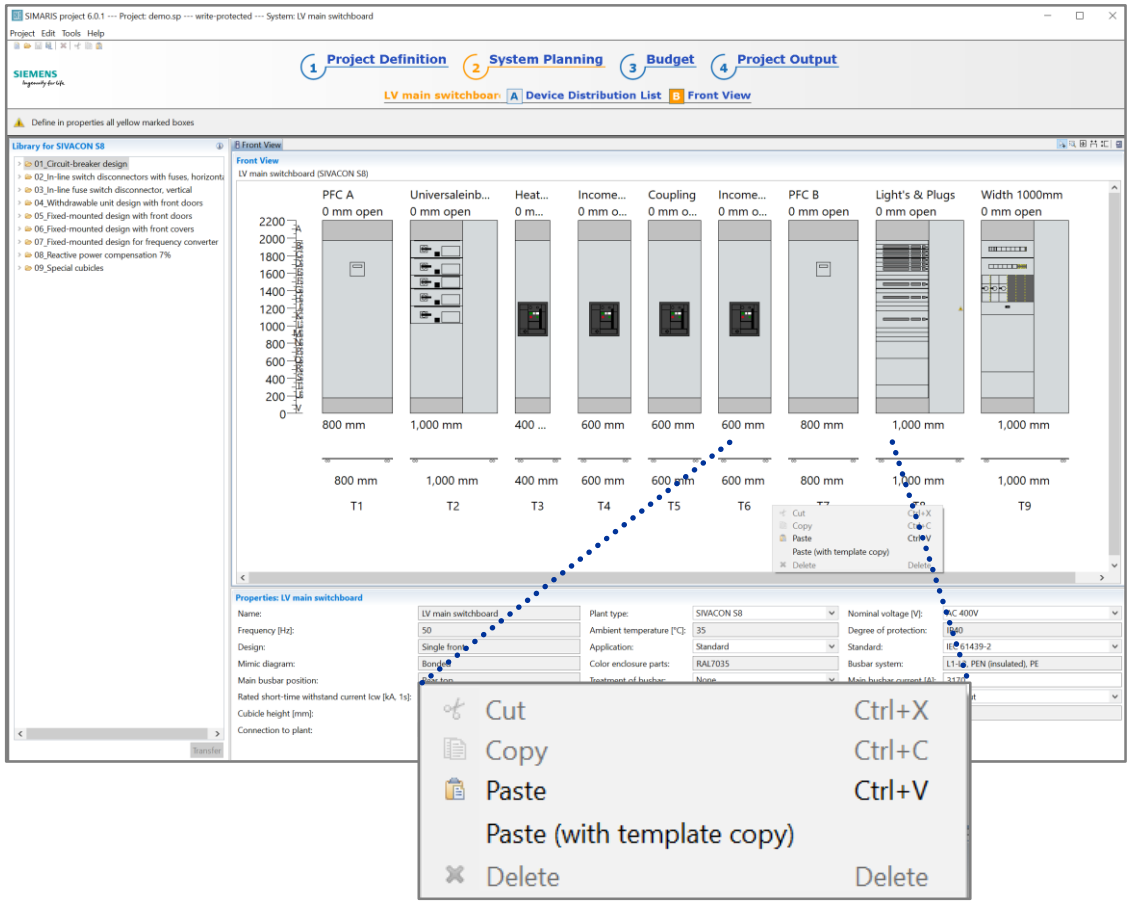


In the front view, you have various editing options to adapt the system to your project requirements.

Editing complete panels

- You can move entire panels around by selecting the whole panel (→ **aquamarine coloured frame**) and move it around the graphics window keeping the left mouse button pressed.

Low-voltage switchboard – front view



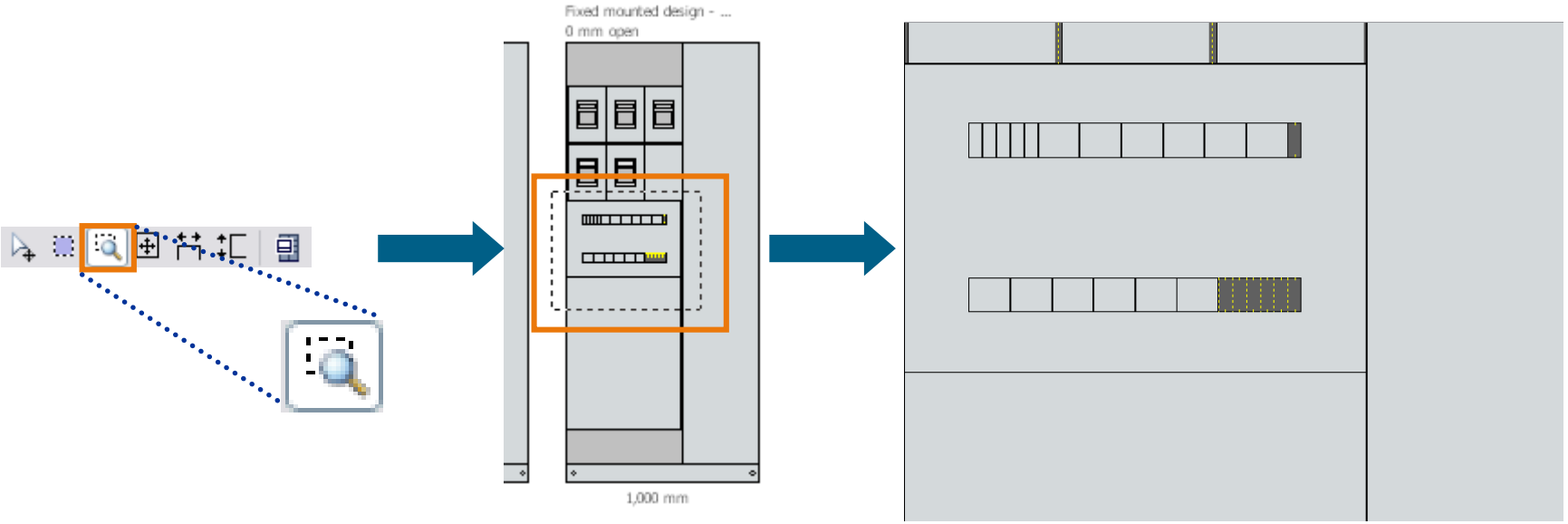
- To **cut**, **copy** and **delete** panels, please use the context menu (right mouse button).
  Again, the desired panel must be selected.

- As a rule, panels are **pasted** (also click the right mouse button) at the end of the cabinet row, so that the final position of the added switchgear cabinet can be determined by moving it around afterwards.

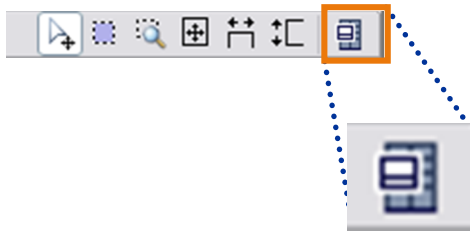
SIEMENS
Ingenuity for life

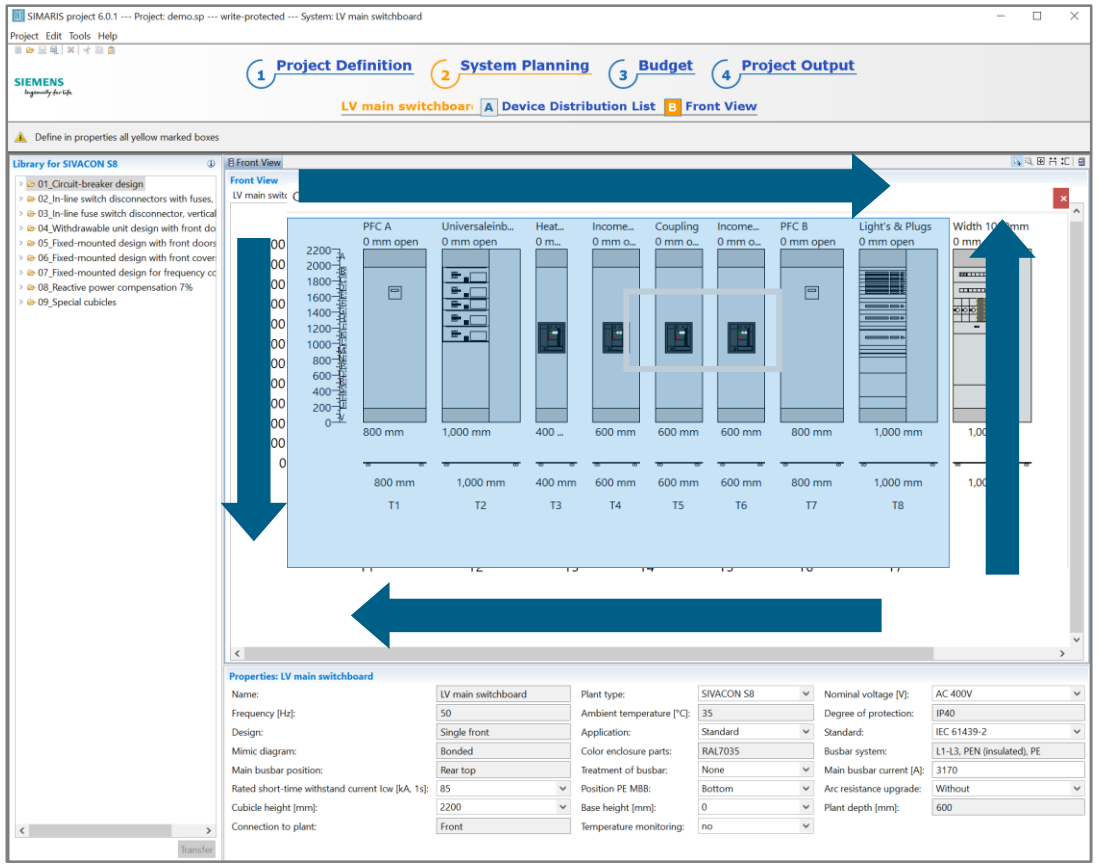
Zoom function for clear and easy editing

- To edit withdrawable device units, and in particular to edit components, it is possible to zoom parts of the graphics.
  To do so, the corresponding function icon is enabled on the tool bar. Then, the area to be enlarged on the graphics window is marked with the cursor (left mouse button pressed) by zooming up a suitably sized rectangle. Immediately after you release the mouse button, this graphics area will be shown enlarged.



Low-voltage switchboard – front view





- In order to be able to move around easily in the entire graphics window, i.e. to view and edit other areas in detail as well, you can enable an **overview** icon on the tool bar at the top right.
  - This overview is popped up at the top right part of the graphics area in form of a little window and shows a miniature view of the overall image and the currently displayed cut-out by a transparent grey-blue rectangle.
  - This rectangle can now be moved over the graphics miniature, keeping the left mouse button pressed; the cut-out shown in the main graphics window is adapted according to the rectangle position.

SIEMENS
Ingenuity for life

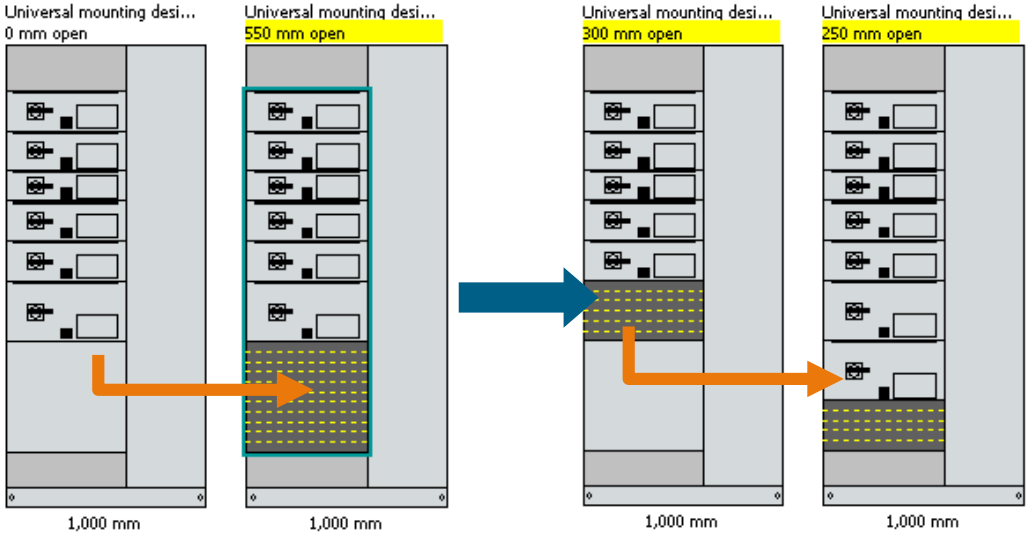
Editing withdrawable device units and components

Similar to the procedure of editing cubicles, entire withdrawable device units or components can be moved around in the graphics window, or copied, cut out, pasted, or deleted to match panel building to project requirements.

But this is only possible if additional space is left in the distribution board

- to accommodate withdrawable units or fixed-mounted devices elsewhere.
- This applies to the space inside the withdrawable unit required for placing devices, too.

Low-voltage switchboard – front view

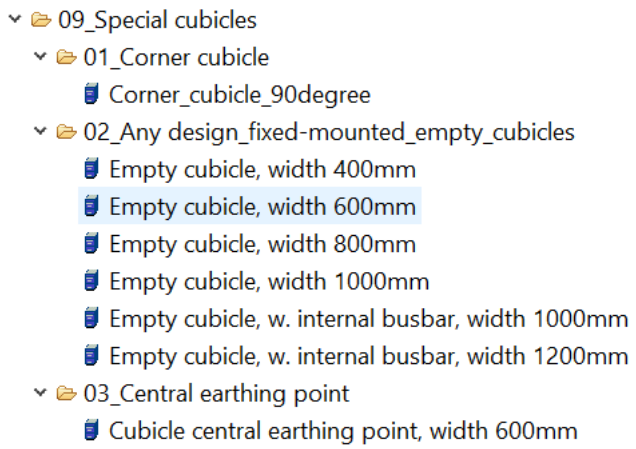


If you want to move a withdrawable or fixed-mounted unit to another distribution board, this is only possible if the two boards are of the same type. Panels must be of the following design types, for example:

- in-line design
- universal mounting design
- fixed-mounted design with compartment door
- fixed-mounted design with front cover
- withdrawable unit design

It is also possible to move around devices inside the mounting kit or into another mounting kit.

Low-voltage switchboard – front view



Adding empty cubicles and corner cubicles

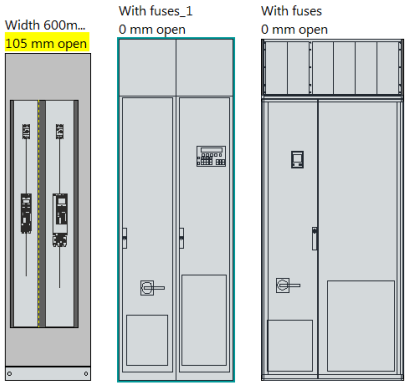
- Another editing option is adding empty cubicles and corner cubicles to the graphics.

- Drag one of the cubicles listed in section **05_Single Cubicle** to the desired position in the graphics window (left mouse button pressed). As soon as you release the left mouse button, the cubicle is automatically inserted into the graphics.

Low-voltage switchboard – front view

SIEMENS
Ingenuity for life

- 07_Fixed-mounted design for frequency converter
  - 01_Built-in units
    - 01_Cubicles
      - 01_With busbars (for FC up to 132kW)
        - Width 400mm
        - Width 600mm
        - Width 800mm
        - Width 1000mm
      - 02_Without busbars (for FC up to 132kW)
        - Width 400mm
        - Width 600mm
        - Width 800mm
        - Width 1000mm
    - 02_Frequency converter
      - Without fuses
      - With fuses
  - 02_Cabinet units without busbar
    - Without fuses
    - With fuses



Adding frequency converters

- Option 1:
  - Drag one of the fields listed in section **01_Cubicles** to the desired position in the graphics window (double click or left mouse button pressed).
  - Drag one of the built-in units listed in section **02_Frequency converter** to the desired position in the field (double click or left mouse button pressed).

- Option 2:
  - Drag one of the cubicle devices listed in section **02_Cabinet units…** to the desired position in the graphics window (double click or left mouse button pressed).

SIEMENS
Ingenuity for life

Adapting technical cubicle data

Below the graphics window, the technical data

- of the whole system is displayed, as long as **no cubicle or withdrawable unit** is marked in the graphics.

Properties: LV main switchboard

Name:	LV main switchboard	Plant type:	SIVACON S8	Nominal voltage [V]:	AC 400V
Frequency [Hz]:	50	Ambient temperature [°C]:	35	Degree of protection:	IP40
Design:	Single front	Application:	Standard	Standard:	IEC 61439-2
Mimic diagram:	Bonded	Color enclosure parts:	RAL7035	Busbar system:	L1-L3, PEN (insulated), PE
Main busbar position:	Rear top	Treatment of busbar:	None	Main busbar current [A]:	3170
Rated short-time withstand current Icw [kA, 1s]:	85	Position PE MBB:	Bottom	Arc resistance upgrade:	Without
Cubicle height [mm]:	2200	Base height [mm]:	0	Plant depth [mm]:	600
Connection to plant:	Front	Temperature monitoring:	no		

Low-voltage switchboard – front view

SIEMENS
Ingenuity for life

- of the cubicle, if **a cubicle is marked** in the graphics window,

Properties: Supply / feeder (FCB1 ACB)

Name:	Supply / feeder (FCB1 ACB)	Design:	FCB1 ACB	PE busbar:	Yes
Switch:	3WL1116 (1600A)	Feeder poles:	3-pole	Switch mounting type:	Withdrawable
Internal separation:	4b	Connection type:	Cable	Cable -, bar entry:	Bottom
Cubicle width [mm]:	600	Door hinge front:	Left	Earthing accessories:	No

- of the withdrawable unit, if **a unit is marked** in the graphics window,

Properties: ACB 630A, 3p, 85kA at 500V, size I, withdrawable

Name:		Feeder number:		Location:	.BA001
Template name:	ACB 630A, 3p, 85kA at 500V, size I, withdrawable	Frequency [Hz]:	50	Feeder type:	ACB
Switch:	3WL1106 (630A)	Feeder poles:	3-pole	Switch mounting type:	Withdrawable
Connection type:	Cable	Rated operational voltage switch [V]:	690V	Number of current transformers:	3
Temperature monitoring inside:	no				

Low-voltage switchboard – front view

SIEMENS
Ingenuity for life

Properties: LVDB

Name:	LVDB	Rated voltage Ue [V]:	AC 400V	Ambient temperature [°C]:	35
Degree of protection:	IP40	Plant type:	Single front	Plant design:	Standard
Busbar system:	L1-L3, PE, N	Main busbar position:	Rear top	Rated current Ie top [A]:	1280
Short-time current Icw t. [kA, 1s]:	50	Position PE MBB:	Bottom	Arc resistance level:	Without
Cubicle height [mm]:	2200	Base height [mm]:	100	Plant depth [mm]:	600
Mimic diagram:	Bonded	Color enclosure parts:	RAL7035		

Properties: Supply / feeder (FCB1 ACB)

Name:	Supply / feeder (FCB1 ACB)	Design:	FCB1 ACB	PE busbar:	Yes
Switch:	3WL1116 (1600A)	Feeder poles:	3-pole	Switch mounting type:	Withdrawable
Internal separation:	4b	Connection type:	Cable	Cable -, bar entry:	Bottom
Cubicle width [mm]:	600	Door hinge front:	Left	Earthing accessories:	No

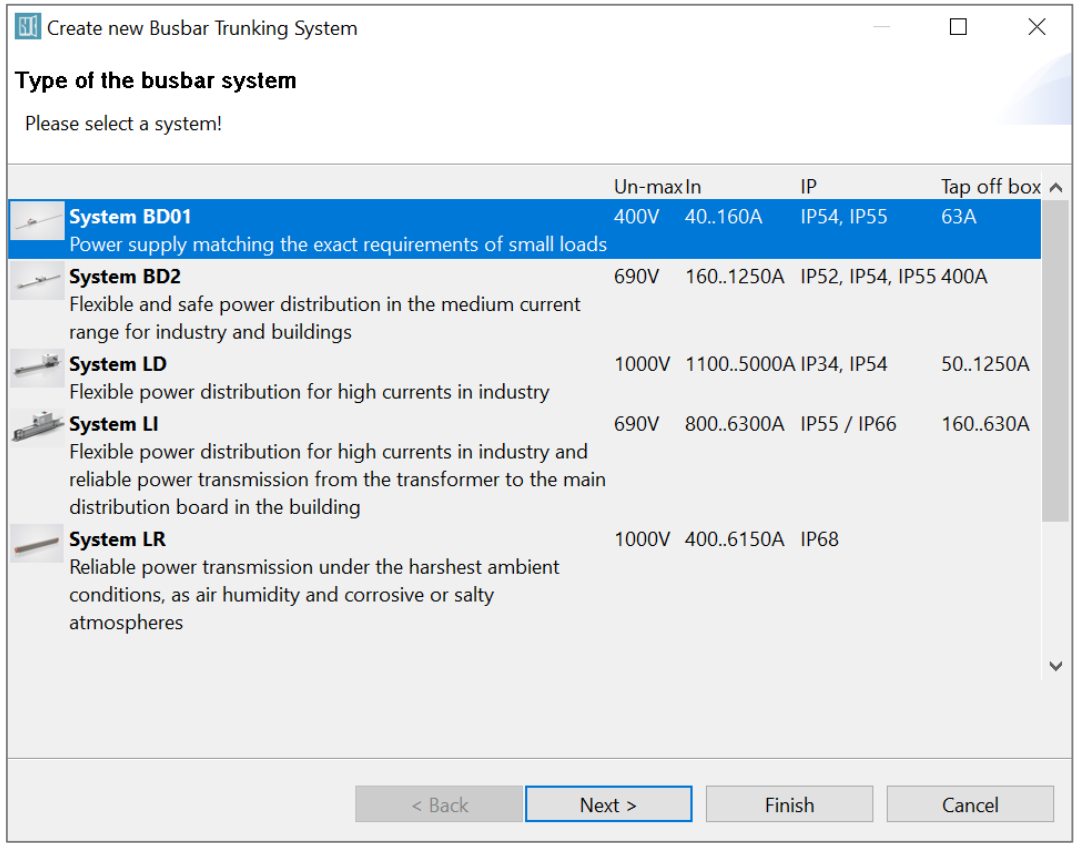
Properties: ACB 1600A, 3p, 85kA, 500V, size I, withdrawable, A

Name:		Feeder number:	
Location:	.BA001	Template name:	ACB 1600A, 3p, 85kA, 500V, size I, withdrawable, A
Switch:	3WL1116 (1600A)	Feeder poles:	3-pole
Switch mounting type:	Withdrawable	Rated operational voltage [V]:	upto 690V
Number of current transformers:	3		

Here, you can change the specification of those data input boxes highlighted in white. No changes can be made in the input boxes that are greyed out.

Similar editing functions as demonstrated in this section for
→ **Low-voltage switchboards**
are available in the front views of
→ **Medium-voltage switchgear** and
→ **Distribution boards**.

Busbar trunking system

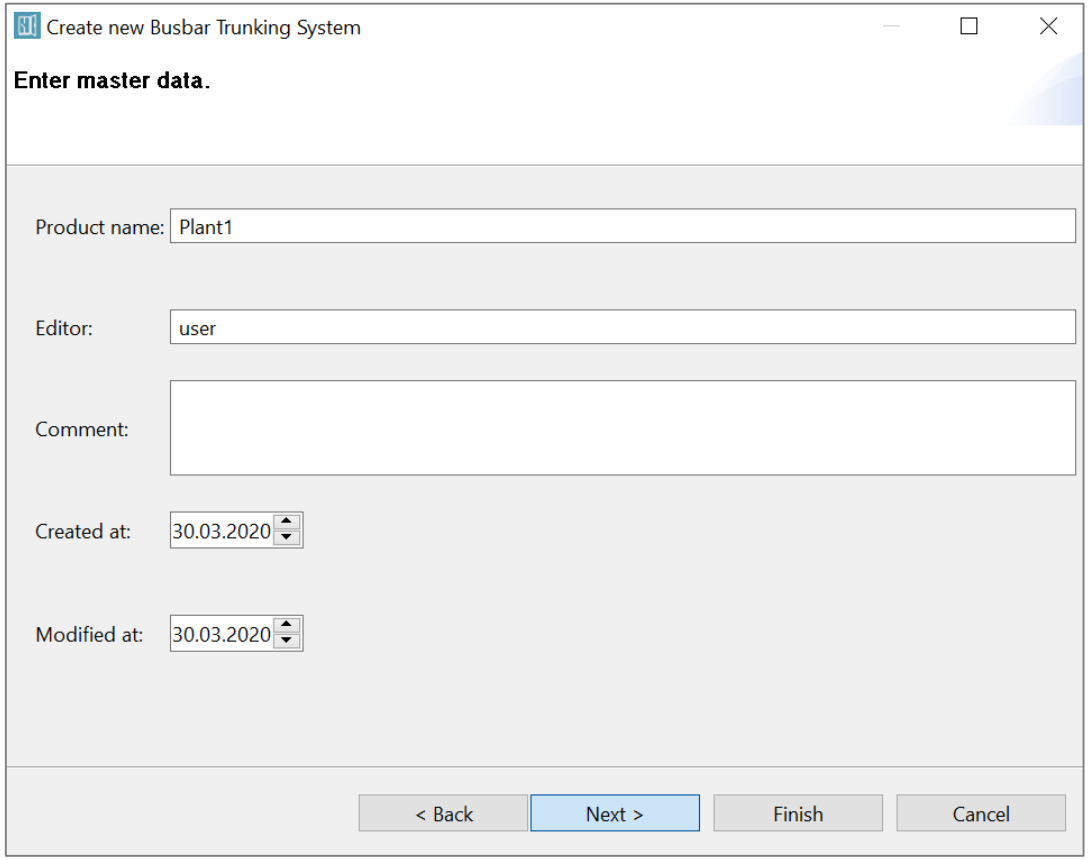


Busbar trunking systems can also be added to the project tree,

- either by double-clicking "**busbar trunking system**" in the systems library,
- or by dragging them from the systems library to the project tree (drag & drop).

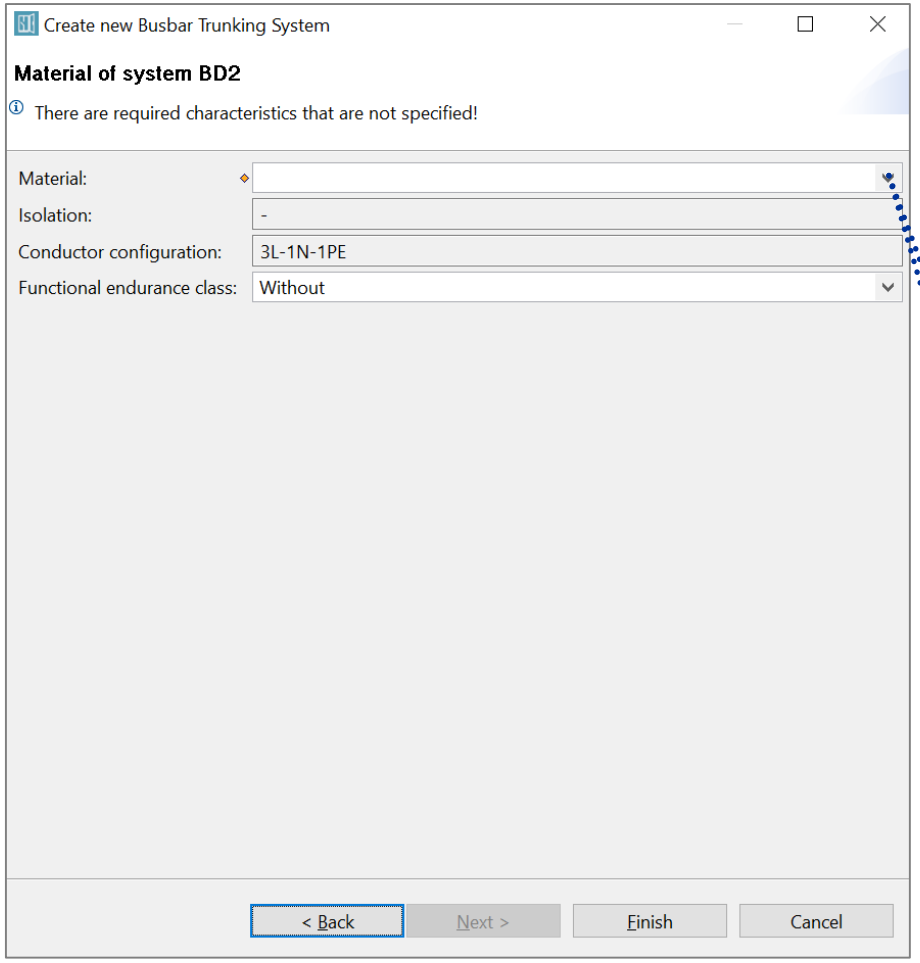
This action opens the specification dialog for busbar trunking systems, where you can first select the system type.

Busbar trunking system



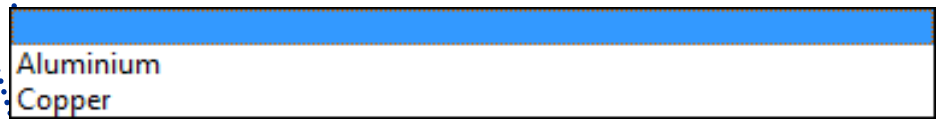
Then you can enter the master data for the busbar trunking system.

Busbar trunking system

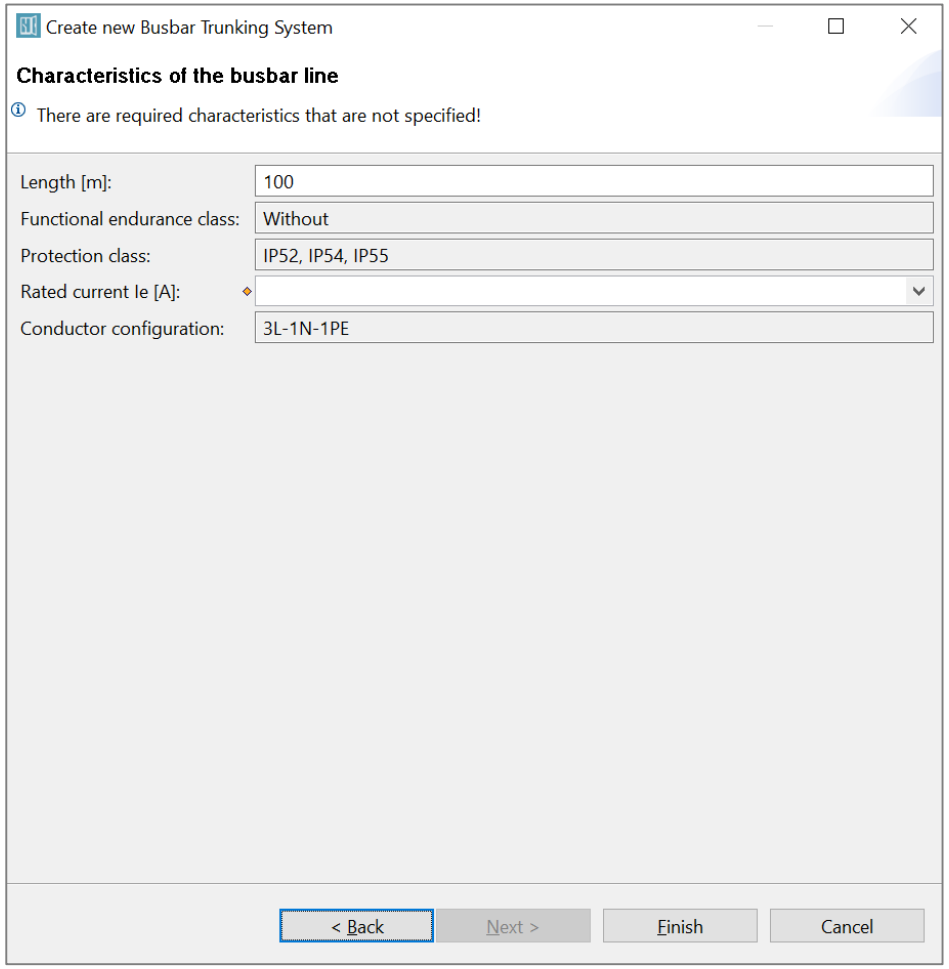


Then you can select

- the conductor material
- the conductor configuration
- as well as the required functional endurance class.



Busbar trunking system



And afterwards, more busbar features can be selected, i.e.

- degree of protection
- and the rated current.

SIEMENS
Ingenuity for life

As long as you haven't completed specifying all missing features, you will stay in the "**Project Definition**" step. You can open the specification dialog again at any time by double-clicking the system.

Only after all of the required data have been specified, you are taken to the "**System Planning**" step.

In the component list for the configured busbar trunking system, which is displayed there, you can then specify the number of

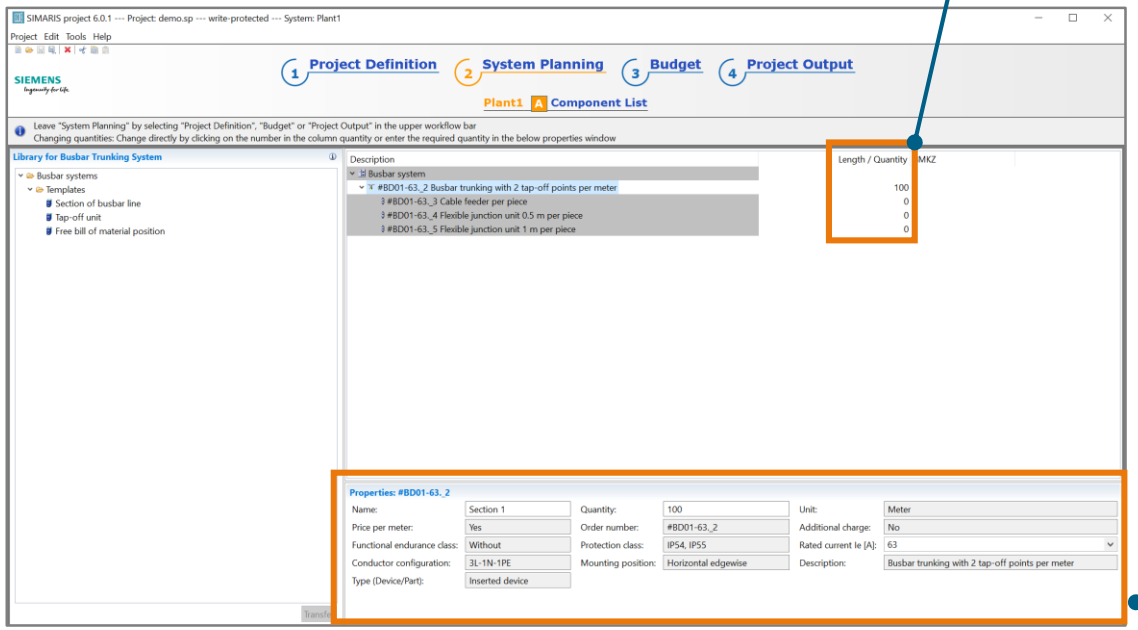
- tap-off points
- cable feeders
- distribution board connection units
- 90° directional change components

and enter the quantities into the component list, as your project requires.

Busbar trunking system

SIEMENS
Ingenuity for life

Description	Length / Quantity	BMKZ
Busbar system		
#BD01-63._2 Busbar trunking with 2 tap-off points per meter	100	
#BD01-63._3 Cable feeder per piece	0	
#BD01-63._4 Flexible junction unit 0.5 m per piece	0	
#BD01-63._5 Flexible junction unit 1 m per piece	0	



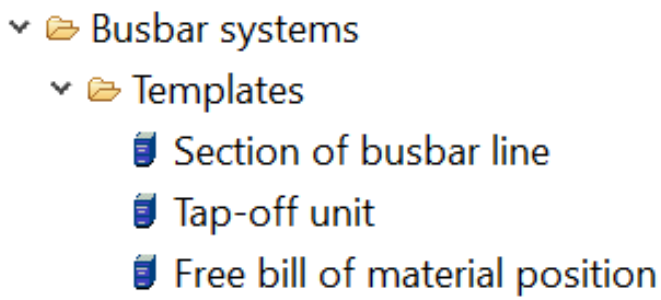
The busbar length, which was initially set to a default value of 100 m, can be modified as follows:

- in the specification dialog for the busbar,
- or later in the Component List (top right) or in the Properties section (bottom).

Properties: #BD01-63._2

Name:	Section 1	Quantity:	100	Unit:	Meter
Price per meter:	Yes	Order number:	#BD01-63._2	Additional charge:	No
Functional endurance class:	Without	Protection class:	IP54, IP55	Rated current Ie [A]:	63
Conductor configuration:	3L-1N-1PE	Mounting position:	Horizontal edgewise	Description:	Busbar trunking with 2 tap-off points per meter
Type (Device/Part):	Inserted device				

Busbar trunking system



Additionally, you can add more items to the Component List

- by double-clicking the item in the template tree
- or with drag & drop

Busbar trunking system

SIEMENS
Ingenuity for life

Description	Length / Quantity	BMKZ
Busbar system		
#BD01-63._2 Busbar trunking with 2 tap-off points per meter	100	
#BD01-63._3 Cable feeder per piece	0	
#BD01-63._4 Flexible junction unit 0.5 m per piece	0	
#BD01-63._5 Flexible junction unit 1 m per piece	0	
Tap-off unit	1	

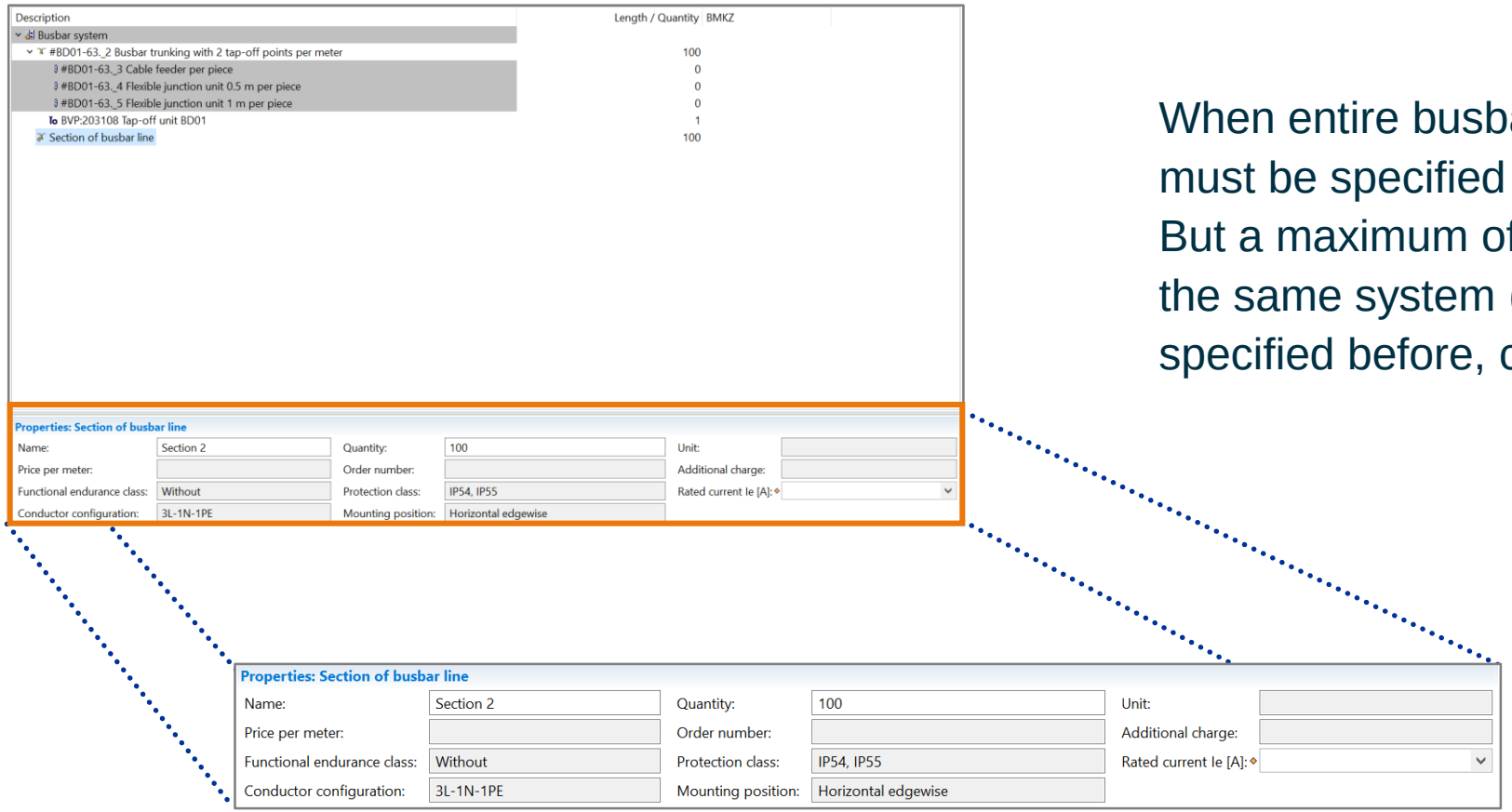
When adding tap-off units,

- their properties must be specified in the Properties section displayed below the Component List
- and the required quantity must be entered in the right column of the Component List complying to the specification of identical tap-off units.

Properties: Tap-off unit

Name:		Quantity:	1	Unit:	Piece
Rated current Ie [A]:	20	Connection:	Direct	Connection detail:	-
Design:	With flap	Country:	Belgium	Protection device:	Miniature circuit breaker
Protection device detail:	1xC 20A 1P	Size:	1	Order number:	BVP:203108
Powerline:	-	Description:	Tap-off unit BD01	Type (Device/Part):	Inserted part

Busbar trunking system



When entire busbar lines are added, their properties must be specified in a similar way.
But a maximum of one busbar line only, belonging to the same system (here: LD) as the busbar line specified before, can be added.

SIEMENS
Ingenuity for life

Tip:

Inside the component list, you can also benefit from the copy function integrated in the
context menu (right mouse button) to
duplicate components (e.g. tap-off units) or
entire busbar lines quickly and easily and edit them afterwards, if required.
But always keep technical feasibility in mind!

SIEMENS
Ingenuity for life

In the following, you will find some tips and tricks that ease the work with SIMARIS project and make it even more efficient, such as

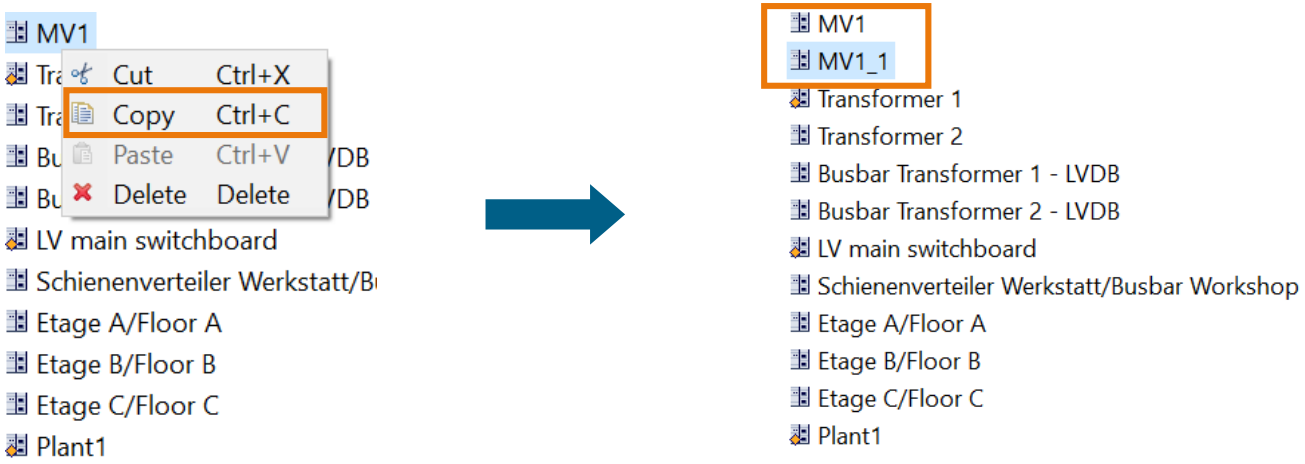
- copying entire systems/plants
- saving typicals as Favorites to reuse them in a new project
- importing a complete network designed in SIMARIS design 9 professional to configure the switchgear cabinets and other components in SIMARIS project which are required for project implementation.

Tips and tricks for system planning – copying a system

SIEMENS
Ingenuity for life

You can easily duplicate systems in the project tree you edited in the "**Project Definition**" step:

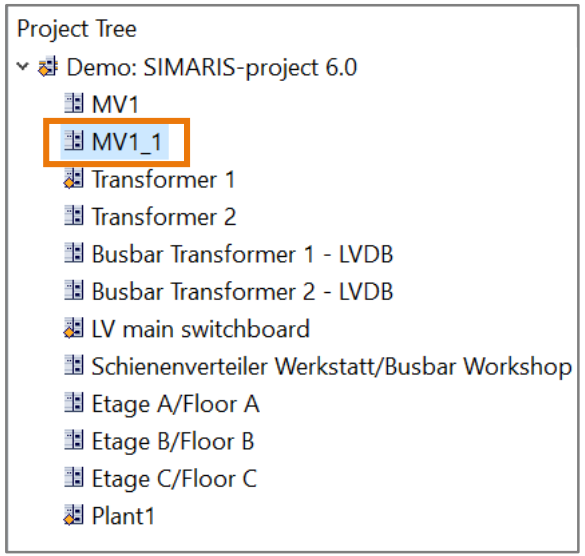
- right mouse button → **Copy**
- right mouse button → **Paste**



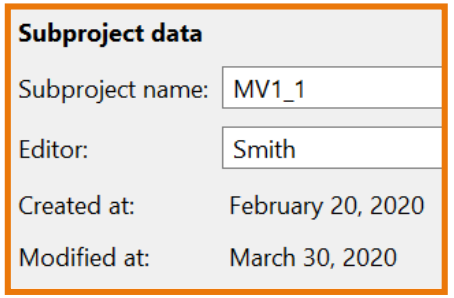
The copied system can then be modified as required in the "**System Planning**" step.
In many cases, this option saves a lot of time, since similar systems can be easily and quickly created without entering basic data again and again.

Tips and tricks for system planning – copying a system

SIEMENS
Ingenuity for life

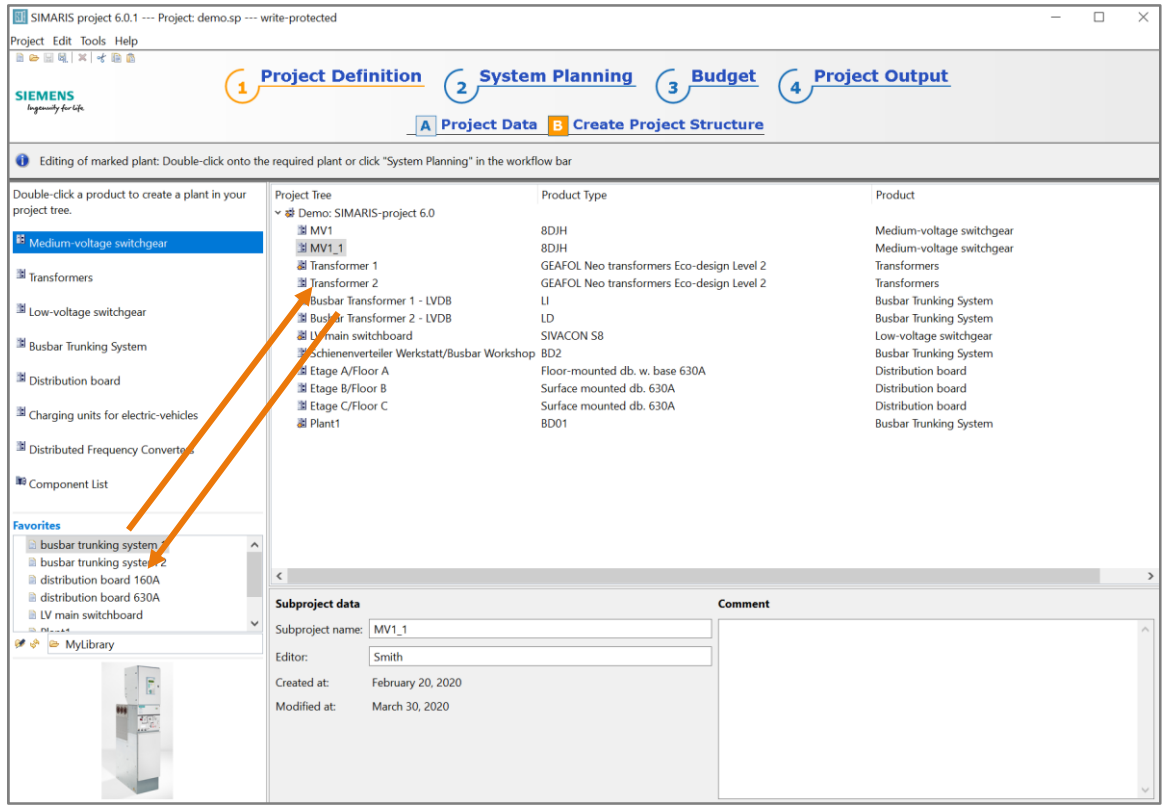


According to the project structure, systems can be moved in the project tree with drag & drop.
In the **Subproject data** displayed below the project tree, you can also rename copied systems.



Tips and tricks for system planning – favorites library

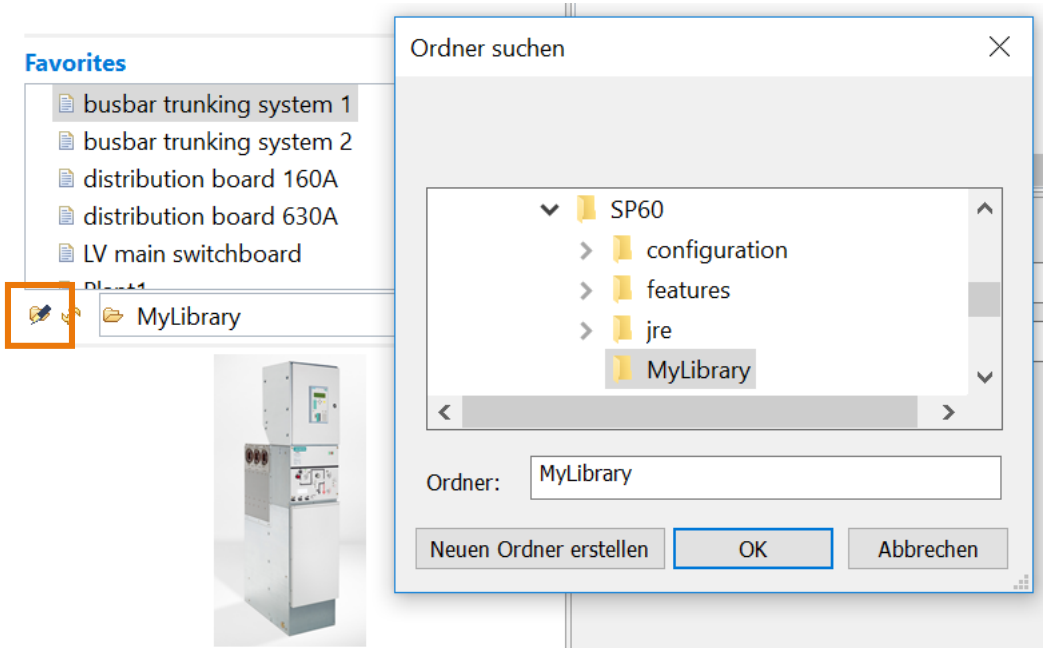
SIEMENS
Ingenuity for life



To make your work with SIMARIS project even more effective, you can store completely planned systems in the **Favorites** library for similar projects and reuse them when editing new projects that require similar systems.

Systems are saved as **Favorites** and integrated into new projects with drag & drop, as shown by the red arrows in the graphics.

Tips and tricks for system planning – favorites library



The icon can be used to set the file path of the Favorites library currently to be applied.
This means that you can create several Favorites libraries to suit different planning purposes, which you can save in different folders and reintegrate them into SIMARIS project, as required.

Tips and tricks for system planning – favorites library

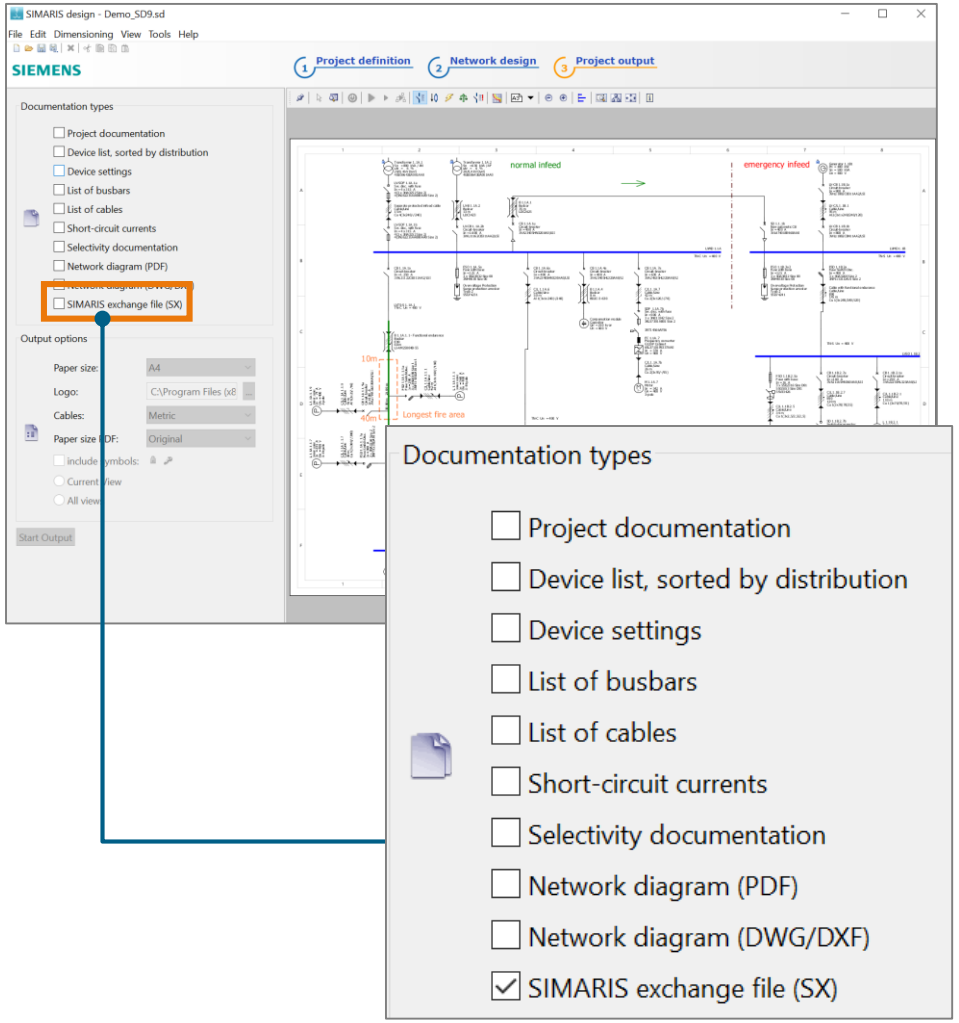
SIEMENS
Ingenuity for life

- If you want to modify your filing structure, e.g.
  - move systems from one library to another
  - or rename Favorites,

    you can do this directly in the directory structure of the storage medium (e.g. hard disk). However, you must then update the file path of the currently linked Favorites library in SIMARIS project using the icon.
- This way, you can gradually build up your own Favorites while editing various projects, which you can rely on when you start editing new projects.
- Of course, it is always possible to edit systems copied from the Favorites library in SIMARIS project to adapt these systems to specific project requirements.

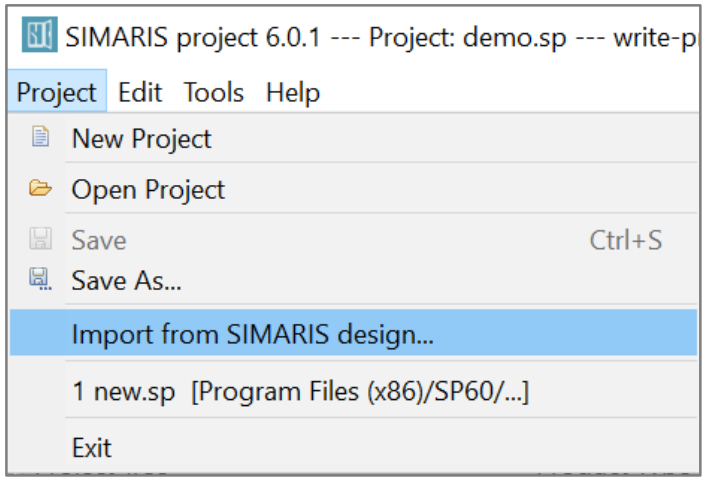
Tips and tricks for system planning – project import from SIMARIS design

SIEMENS
Ingenuity for life



You can export a network diagram designed in SIMARIS design in the .sx file format, thus create a transfer file.

Tips and tricks for system planning – project import from SIMARIS design



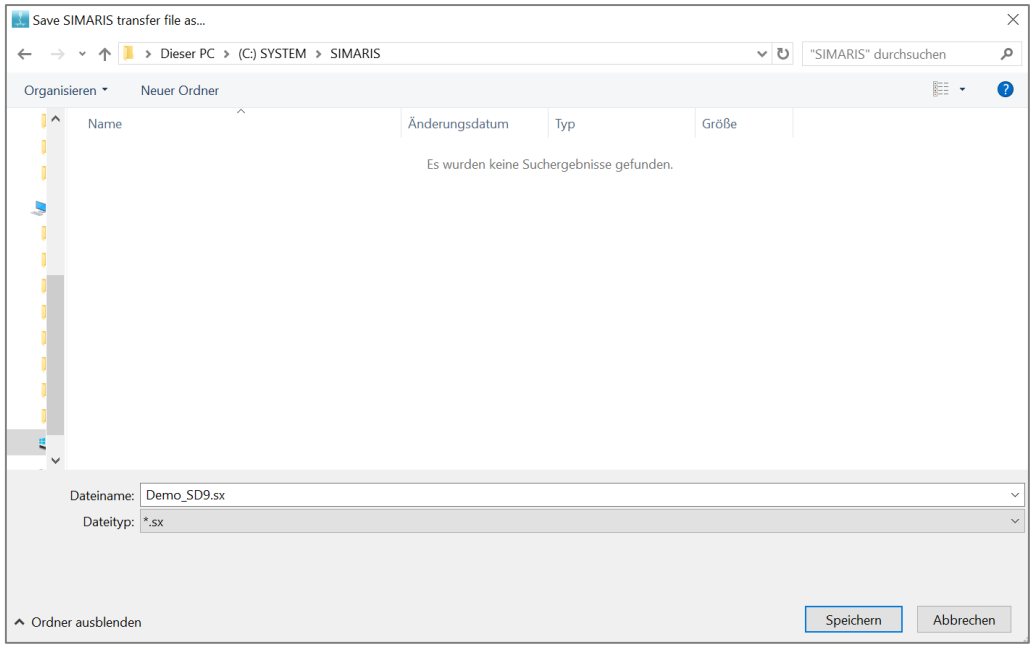
This file can then be imported into SIMARIS project using the Project menu

→ "**Import from SIMARIS design**".

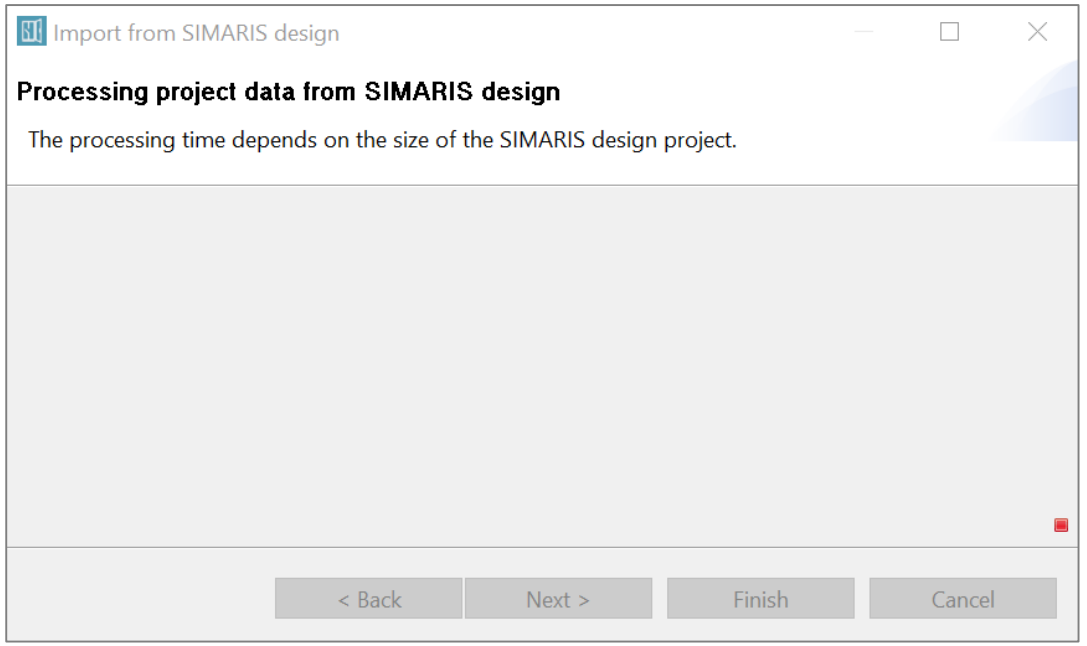
Tips and tricks for system planning – project import from SIMARIS design

SIEMENS
Ingenuity for life

To do so, you must first choose the file location.

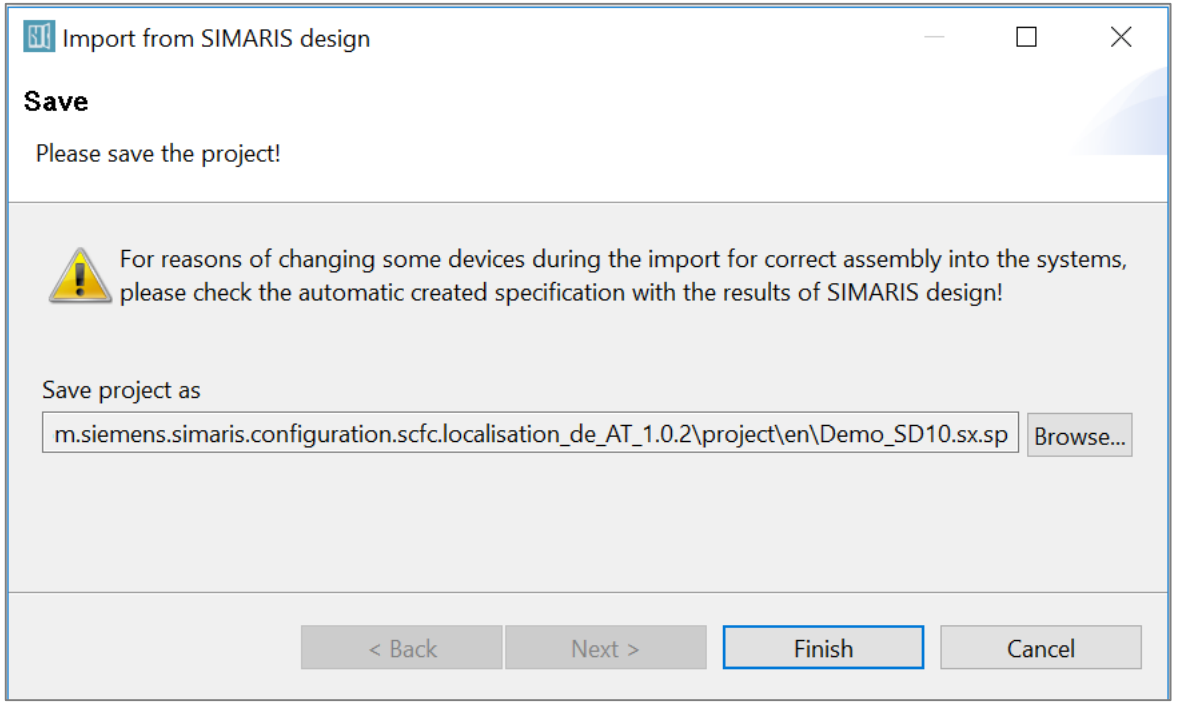


Then, components are imported.



Tips and tricks for system planning – project import from SIMARIS design

SIEMENS
Ingenuity for life



During import you may be prompted to perform some adjustments, so that you should compare results displayed in SIMARIS project with the data compiled in SIMARIS design to rule out unexpected alterations.

Tips and tricks for system planning – project import from SIMARIS design

SIEMENS
Ingenuity for life

Projektbaum	Produkttyp	Produkt
Demo_SIMARIS_design_9_professional		
Einzelkomponenten	Einzelkomponenten	Einzelkomponenten
Nicht erkannte Komponenten	Einzelkomponenten	Einzelkomponenten
GEAFOL NEO Transformatoren	GEAFOL Neo Transformatoren Öko-Desi...	Transformatoren
MSHV 1.1	8DJH	Mittelspannungsschaltanlage
LVMD 1.1D	SIVACON S8	Niederspannungsschaltanlage
LVSD 1.1D.2.1.7.1	SIVACON S8	Niederspannungsschaltanlage
LVSD 1.1A.1	SIVACON S8	Niederspannungsschaltanlage
Motor Bank	SIVACON S8	Niederspannungsschaltanlage
Charging Units	ALPHA 400 DIN	Installationsverteiler
Charging unit for electrical vehicles	Wallbox	Ladeeinheiten Elektro-Fahrzeuge
Charging column for electrical vehicles	CP500A	Ladeeinheiten Elektro-Fahrzeuge
LVMD 1.1C	SIVACON S8	Niederspannungsschaltanlage
LVSD 1.1C.1	SIVACON S8	Niederspannungsschaltanlage
LVSD 1.1C.1.2	ALPHA 630 DIN	Installationsverteiler
LVSD 1.1C.1.2.1	ALPHA 160 DIN	Installationsverteiler
LV-EI 1.1C.1.2.1.1	ALPHA SIMBOX DIN	Installationsverteiler
LVMD 1.1E	ALPHA 400 DIN	Installationsverteiler
LVTS-S 1.1D.2	LI	Schienenverteiler
LV-B 1.1A.1	LD	Schienenverteiler
B 1.1A.2	LD	Schienenverteiler

The import result is an automatically built project structure, i.e. all systems are automatically configured.
The often time-consuming selection of components and busbar trunking systems in SIMARIS project can be omitted, since devices/systems are directly taken over from the network design process in SIMARIS design.
Of course, you can always post-edit every system in SIMARIS project afterwards.

SIEMENS
Ingenuity for life

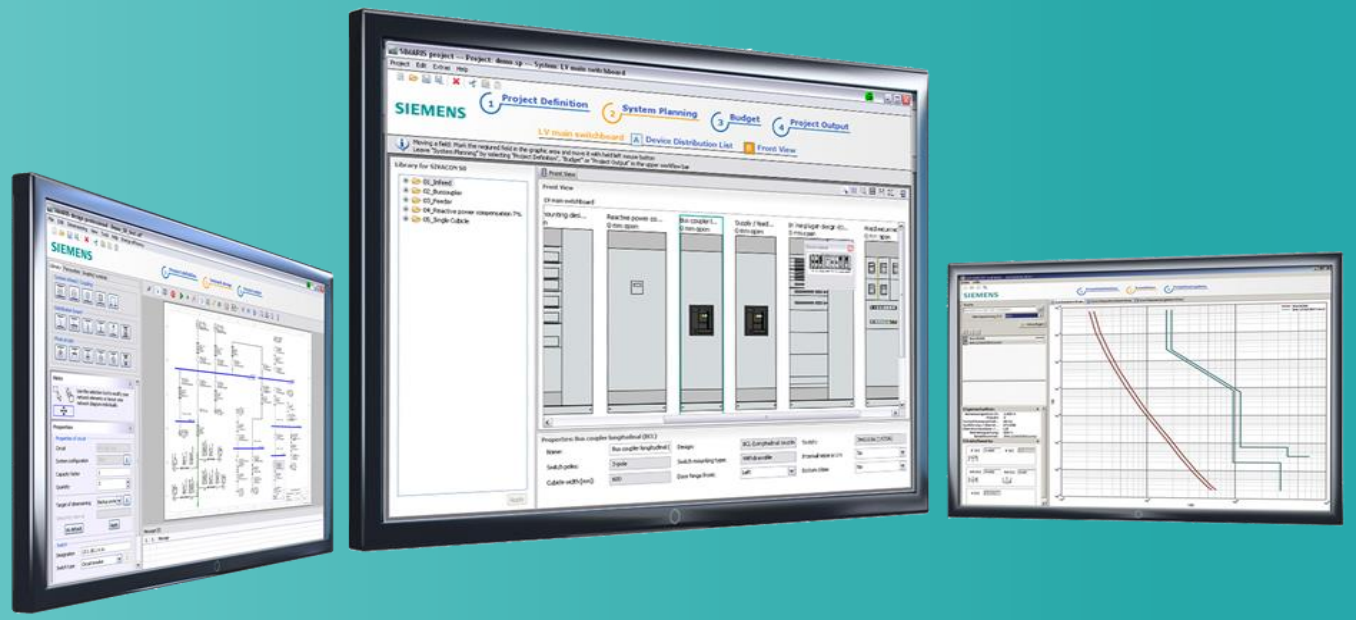
Attention:

- Depending on spatial conditions, you may still have to add such geometrical elements as directional change components for busbar trunking systems.
- If components were manually edited in SIMARIS design, it may happen occasionally that they are not identified in SIMARIS project. Those components are automatically sorted into the "**Unidentified components**" folder in the Project Tree so that you can substitute them manually with appropriate devices.

Project Tree	Product Type	Product
Test		
Single components	Single Components	Single Components
Unidentified components	Single Components	Single Components
GEAFOL transformers	GEAFOL transformers	Transformers
MVMD 1.1	8DJH	Medium-voltage switchgear

SIMARIS project Tutorial

SIEMENS
Ingenuity for life



Software for determining the space requirements and budget for electric power distribution

Budget
> Budget on Demand
> Budget Summary

Budget on demand

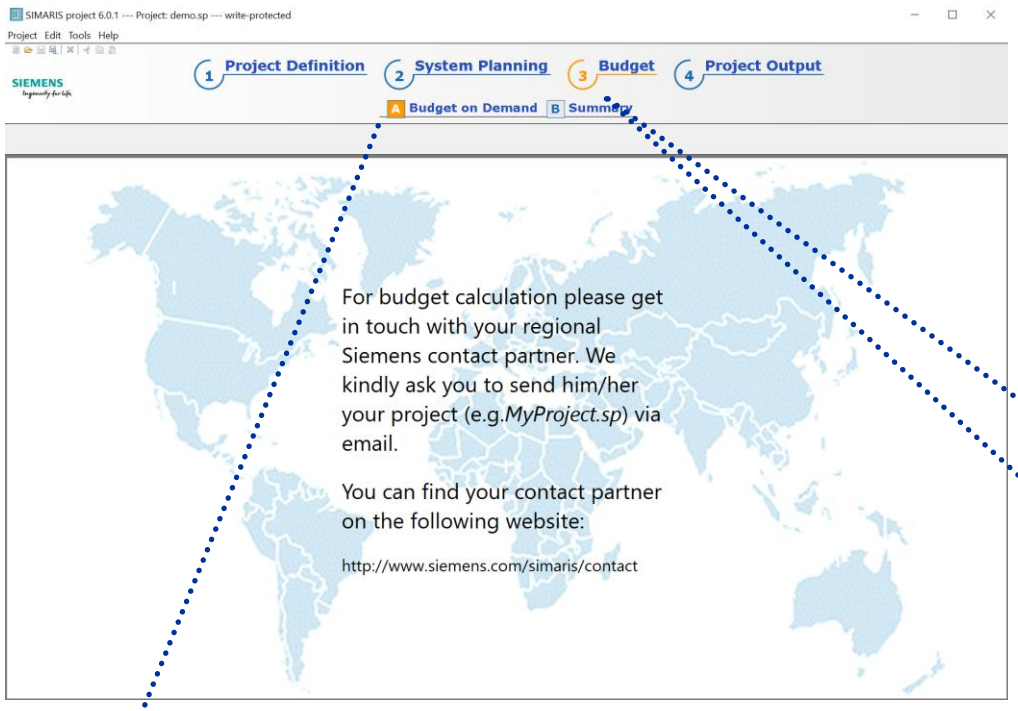
SIEMENS
Ingenuity for life

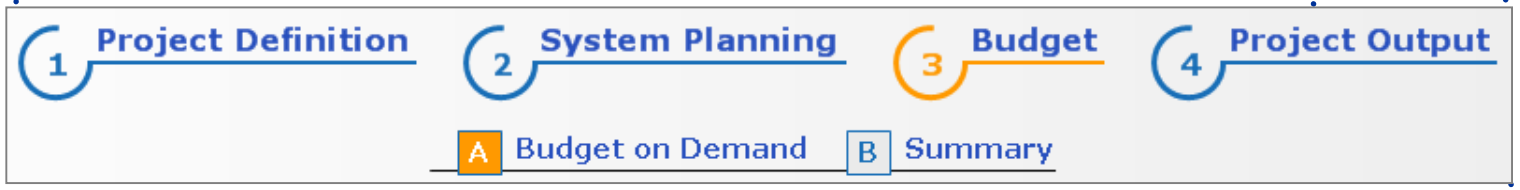
- In order to obtain a specific budget outline for the project you are planning – up-to-date and focused on a specific region – and for further project support please contact your Siemens Consultant Support expert.

- You can transmit project data by first saving the project and then sending the exported project file in .sp format per e-mail.

- Your Siemens contact will set up a budget outline for all components in your power distribution project for you. You will find the contact data for the Consultant Support expert responsible for your region at www.siemens.com/simaris/contact.

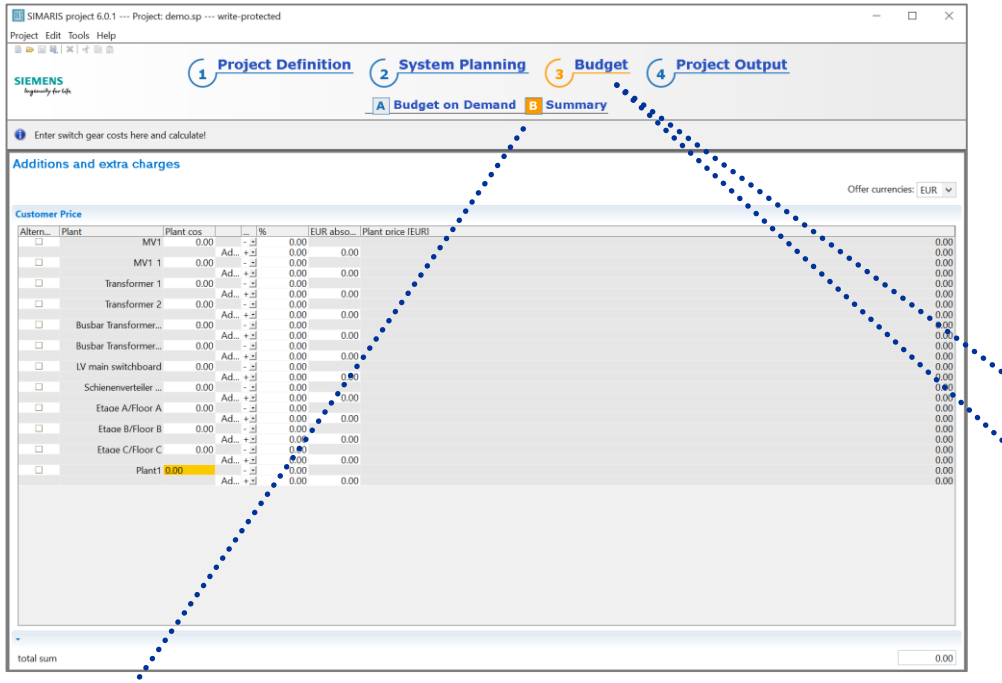
Budget on demand





This information will be displayed, as soon as you access the "**Budget**" step in SIMARIS project.

Summary

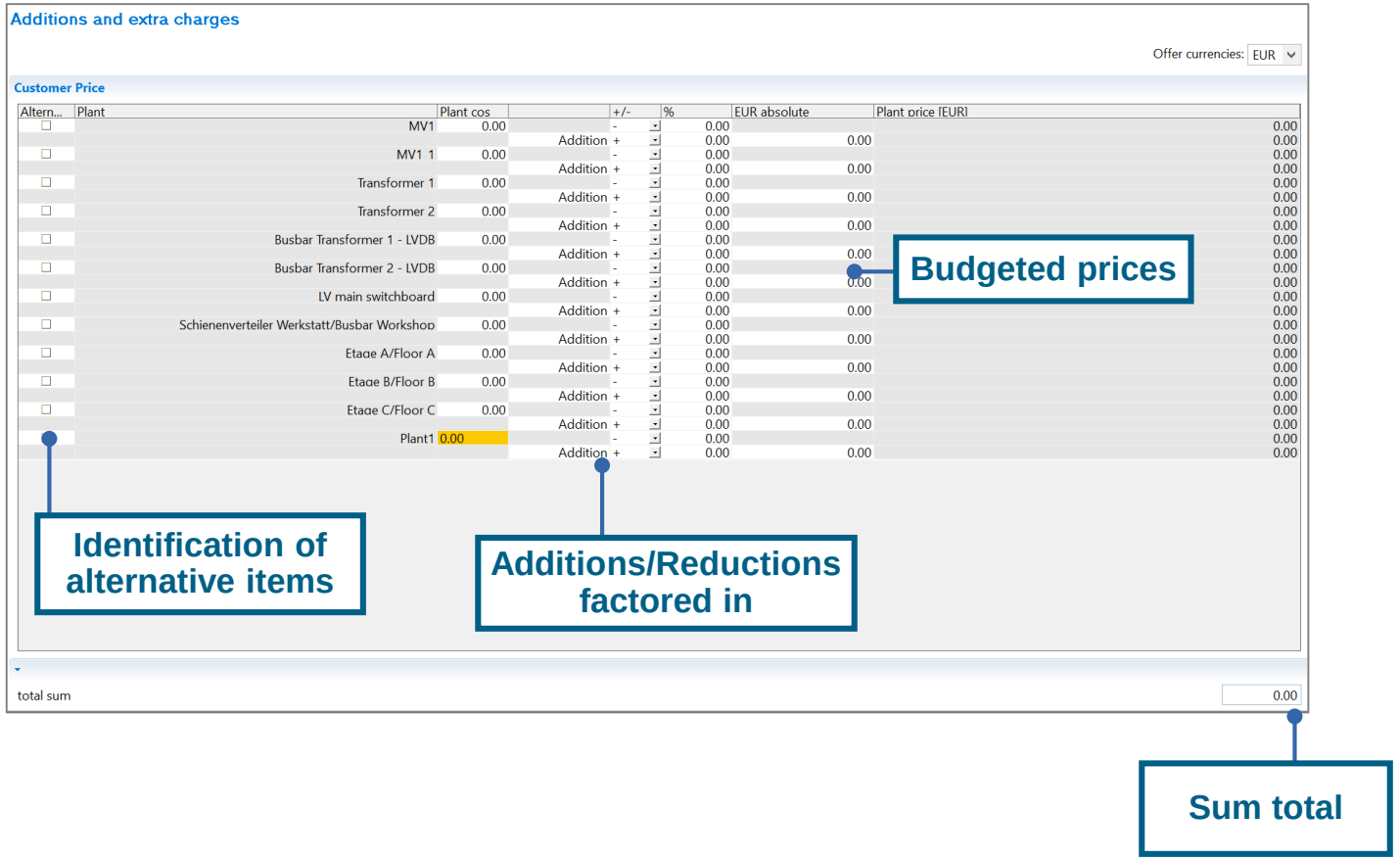


You also have the option to estimate the budget yourself by accessing step "**B Summary**" in the "**Budget**" step.

In this program step, SIMARIS project provides you with a list of all systems configured in this project.

Summary

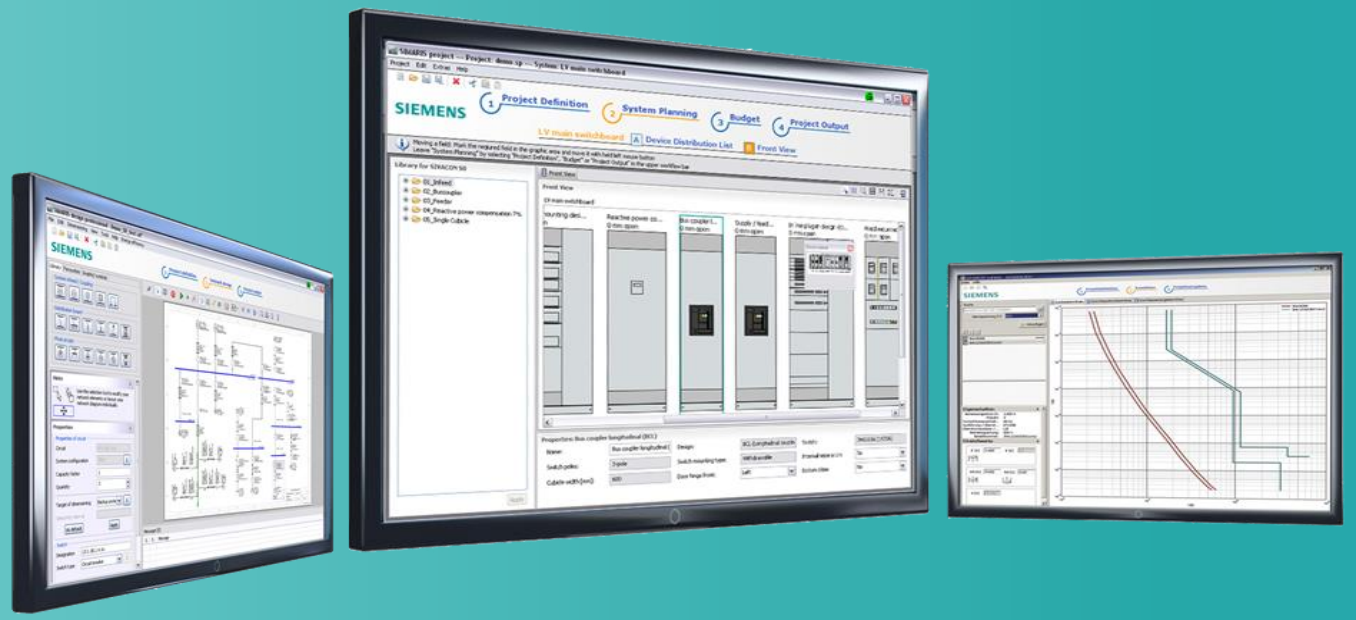
SIEMENS
Ingenuity for life



- You can enter budgeted prices for each systems, as you calculated them yourself and factor in additions and reductions.
- The sum total is displayed at the bottom right.
- In addition, you can identify certain items as alternatives (tick off check boxes in the left column), whose costs are not included in the sum total.

SIMARIS project Tutorial

SIEMENS
Ingenuity for life

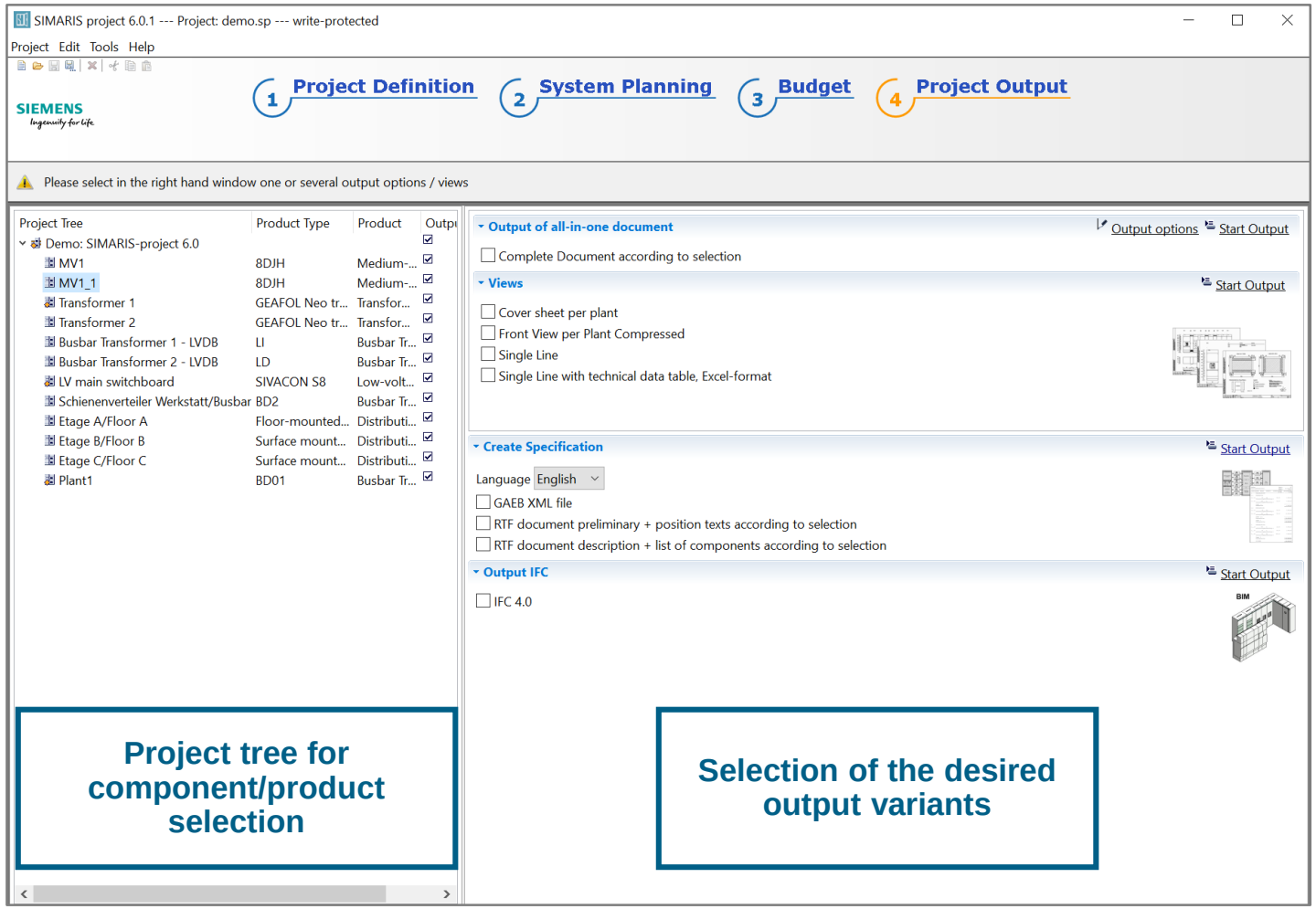


Software for determining the space requirements and budget for electric power distribution

Overview
Project documentation (complete)
Views
Creation of technical specification
Creation of BIM data

Overview

SIEMENS
Ingenuity for life



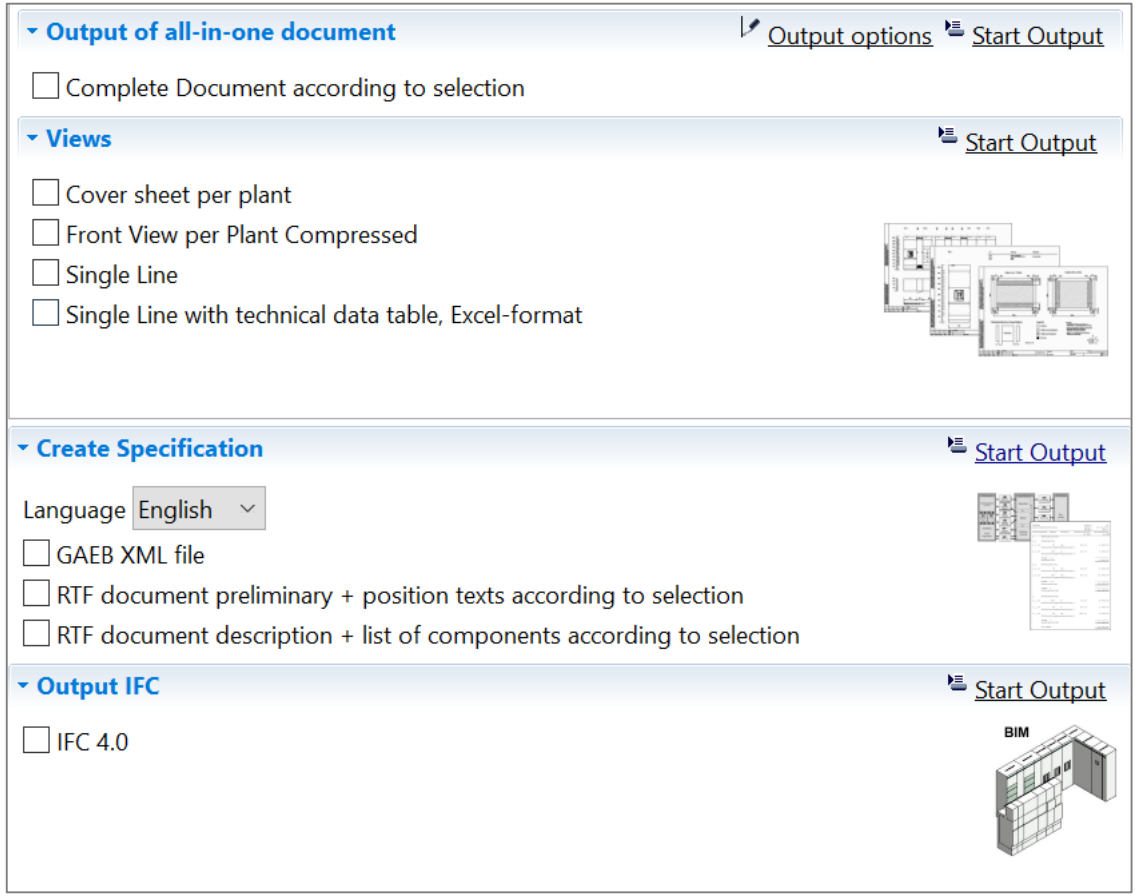
In the "**Project Output**" step, you can easily and quickly create the project documentation.

SIEMENS
Ingenuity for life

The Project Tree on the **left** lists all configured systems. Select the systems to be output by ticking off the corresponding check boxes.

Project Tree	Product Type	Product	Output
Demo: SIMARIS-project 6.0			☑
MV1	8DJH	Medium-...	☑
MV1_1	8DJH	Medium-...	☑
Transformer 1	GEAFOL Neo tr...	Transfor...	☑
Transformer 2	GEAFOL Neo tr...	Transfor...	☑
Busbar Transformer 1 - LVDB	LI	Busbar Tr...	☑
Busbar Transformer 2 - LVDB	LD	Busbar Tr...	☑
LV main switchboard	SIVACON S8	Low-volt...	☑
Schienenverteiler Werkstatt/Busbar	BD2	Busbar Tr...	☑
Etage A/Floor A	Floor-mounted...	Distributi...	☑
Etage B/Floor B	Surface mount...	Distributi...	☑
Etage C/Floor C	Surface mount...	Distributi...	☑
Plant1	BD01	Busbar Tr...	☑

Overview



- Then select the desired output variant(s) from the options offered on the **right**:
  - Complete Document
  - Views
  - Automatic creation of technical specification
  - Output IFC
- Then start document output by clicking the "**Start Output**" button on the right.

SIEMENS
Ingenuity for life

Please note that not all of the output options are available for every system or plant.
The output options of "**Cover sheet per plant**" and "**Front view per plant**" are only available for

- medium-voltage switchgear
- transformers
- low-voltage switchboards
- distribution boards

A "**Single Line**" diagram and "**System Drawing**" are only available for

- medium-voltage switchgear
- low-voltage switchboards

The output option "**System Drawing**" is only available within the regionalization for China.

Project documentation (complete)

SIEMENS
Ingenuity for life

This output variant can be created for the entire project or individual systems depending on your selections in the Project Tree (on the left).

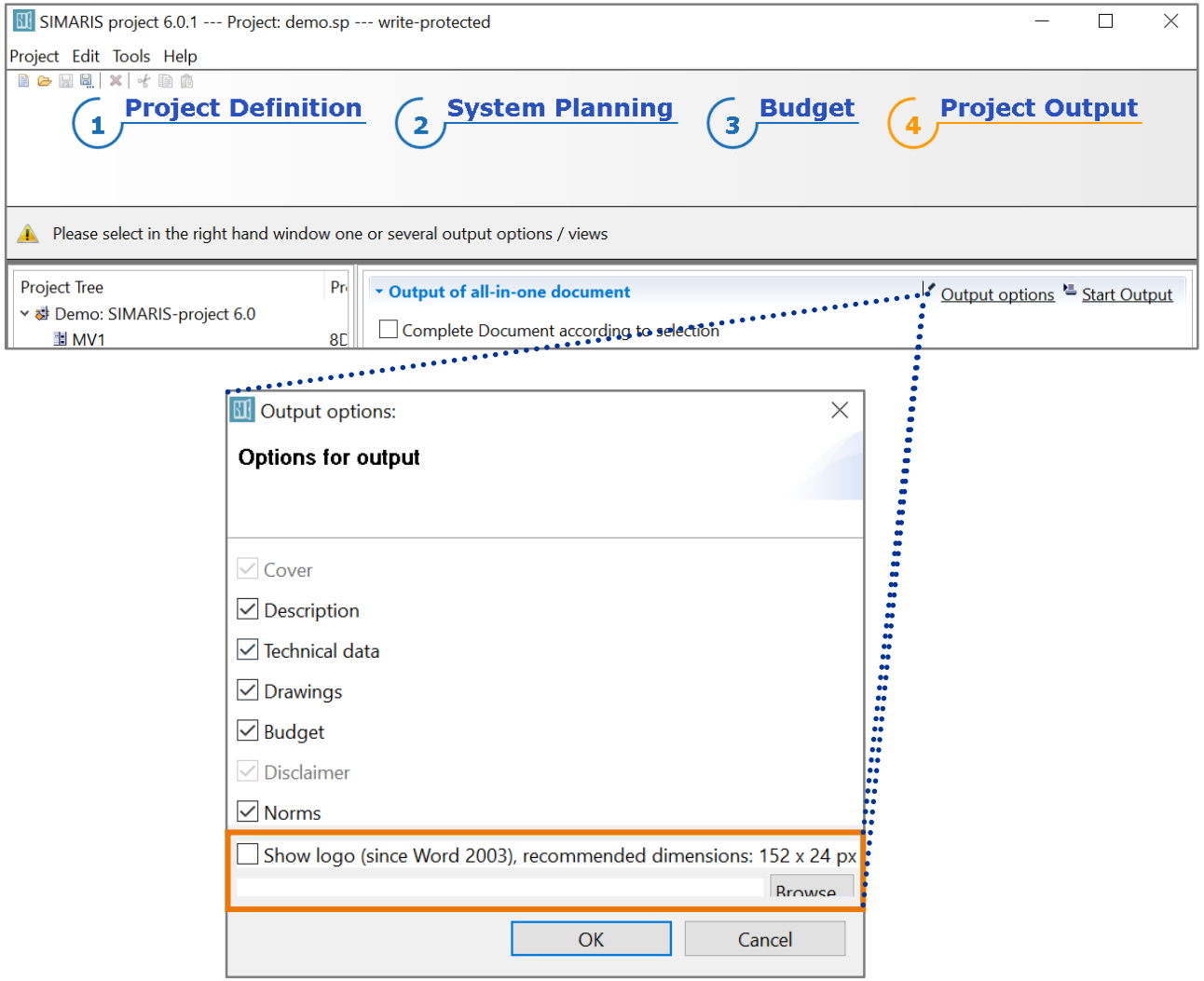
Project Tree	Product Type	Product	Output
Demo: SIMARIS-project 6.0			☑
MV1	8DJH	Medium-...	☑
MV1_1	8DJH	Medium-...	☑
Transformer 1	GEAFOL Neo tr...	Transfor...	☑
Transformer 2	GEAFOL Neo tr...	Transfor...	☑
Busbar Transformer 1 - LVDB	LI	Busbar Tr...	☑
Busbar Transformer 2 - LVDB	LD	Busbar Tr...	☑
LV main switchboard	SIVACON S8	Low-volt...	☑
Schienenverteiler Werkstatt/Busbar	BD2	Busbar Tr...	☑
Etage A/Floor A	Floor-mounted...	Distributi...	☑
Etage B/Floor B	Surface mount...	Distributi...	☑
Etage C/Floor C	Surface mount...	Distributi...	☑
Plant1	BD01	Busbar Tr...	☑

When you select the desired output variant (in the screen section on the right) and click "**Start Output**", document output is started.

Output of all-in-one document Output options Start Output

☐ Complete Document according to selection

Project documentation (complete)

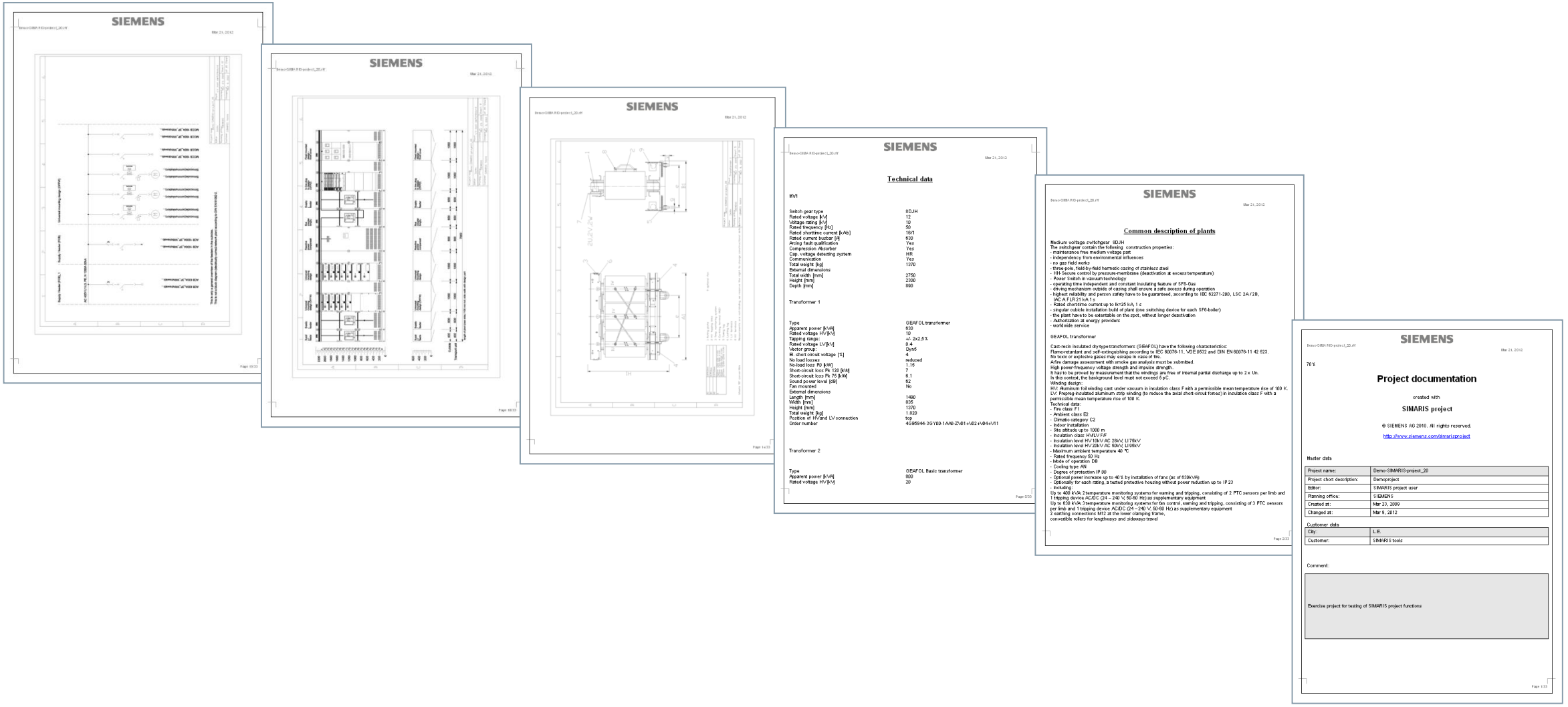


If you wish to integrate your own company logo into the documentation, click **“Output options"** and then open the corresponding graphics file.

Furthermore you can select here, which documents the output shall include.

Project documentation (complete)

SIEMENS
Ingenuity for life



SIEMENS
Ingenuity for life

This document output variant can only be created for

- **medium-voltage switchgear**
- **low-voltage switchboards**
- **distribution boards**

So please select only suitable systems/components from the Project Tree (on the left).

Attention:

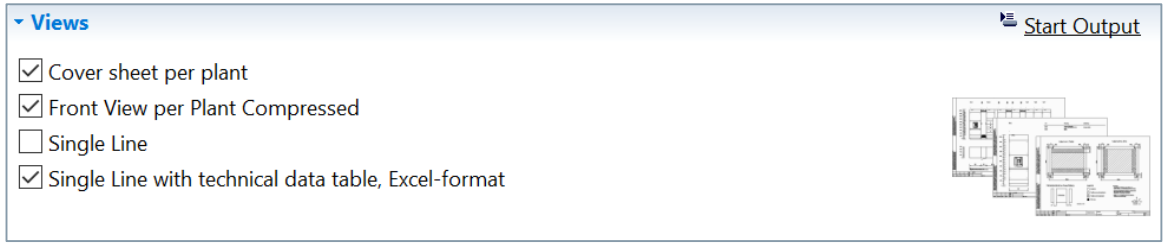
Transformers, busbar trunking systems, distribution boards and charging units for electric vehicles cannot be output as "**Single Line**" diagrams.

Views

SIEMENS
Ingenuity for life

Project Tree	Product Type	Product	Output
Demo: SIMARIS-project 6.0			☐
MV1	8DJH	Medium-...	☐
MV1_1	8DJH	Medium-...	☑
Transformer 1	GEAFOL Neo tr...	Transfor...	☑
Transformer 2	GEAFOL Neo tr...	Transfor...	☐
Busbar Transformer 1 - LVDB	LI	Busbar Tr...	☑
Busbar Transformer 2 - LVDB	LD	Busbar Tr...	☑
LV main switchboard	SIVACON S8	Low-volt...	☐
Schienenverteiler Werkstatt/Busbar	BD2	Busbar Tr...	☑
Etage A/Floor A	Floor-mounted...	Distributi...	☑
Etage B/Floor B	Surface mount...	Distributi...	☐
Etage C/Floor C	Surface mount...	Distributi...	☑
Plant1	BD01	Busbar Tr...	☐

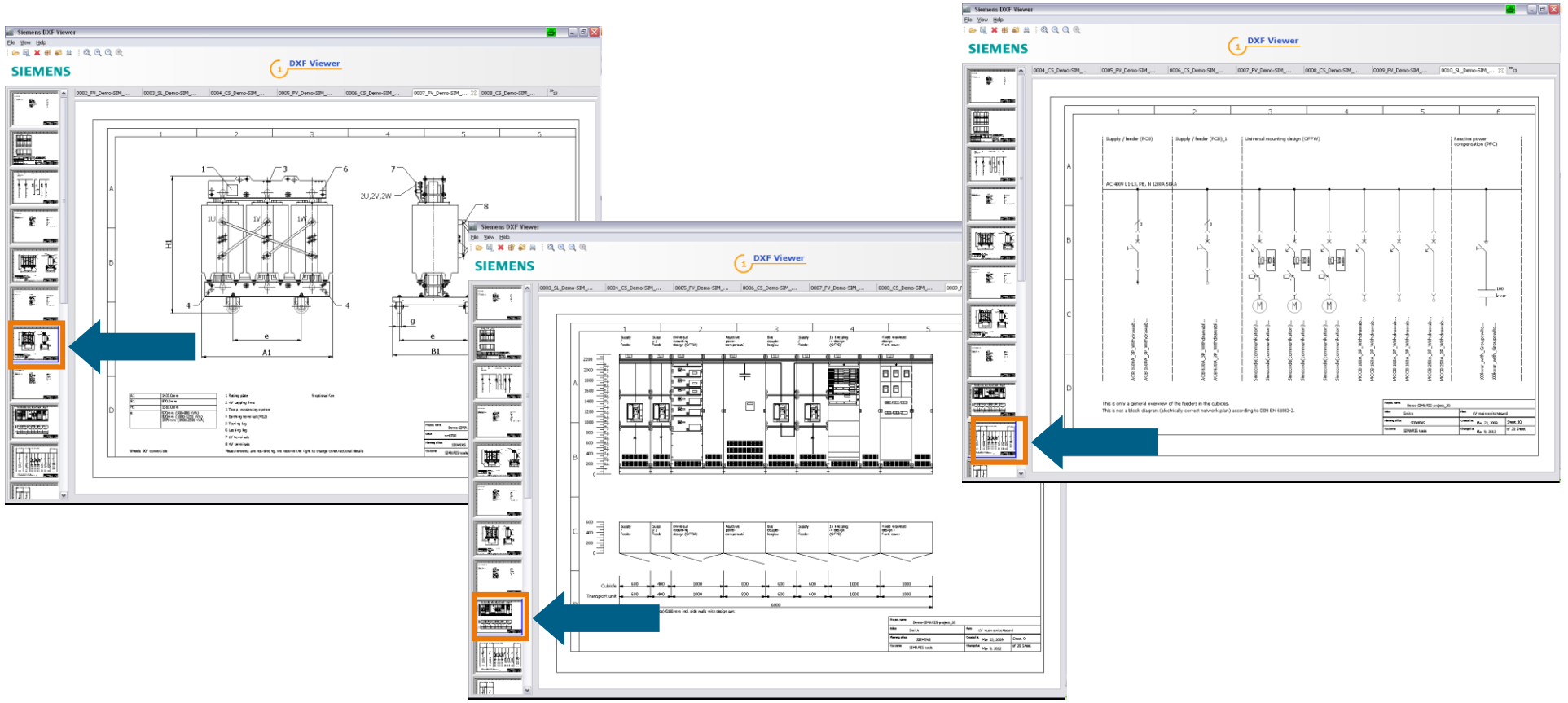
At first, select the relevant systems in the Project Tree (on the left).



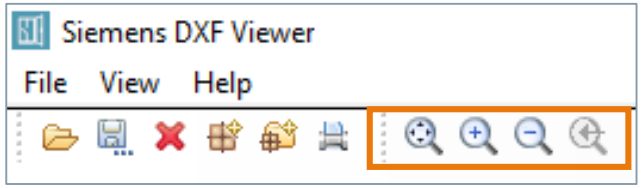
When you select the desired output variant (in the screen section on the right) and click "**Start Output**", document output is started.

Views

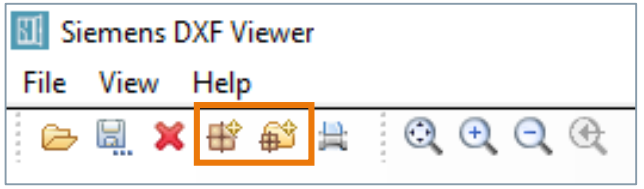
As a result, you will obtain a project documentation in .dxf format, which is immediately displayed in a DXF viewer. It provides, besides a mere view of the drawings, export and print options.



Views

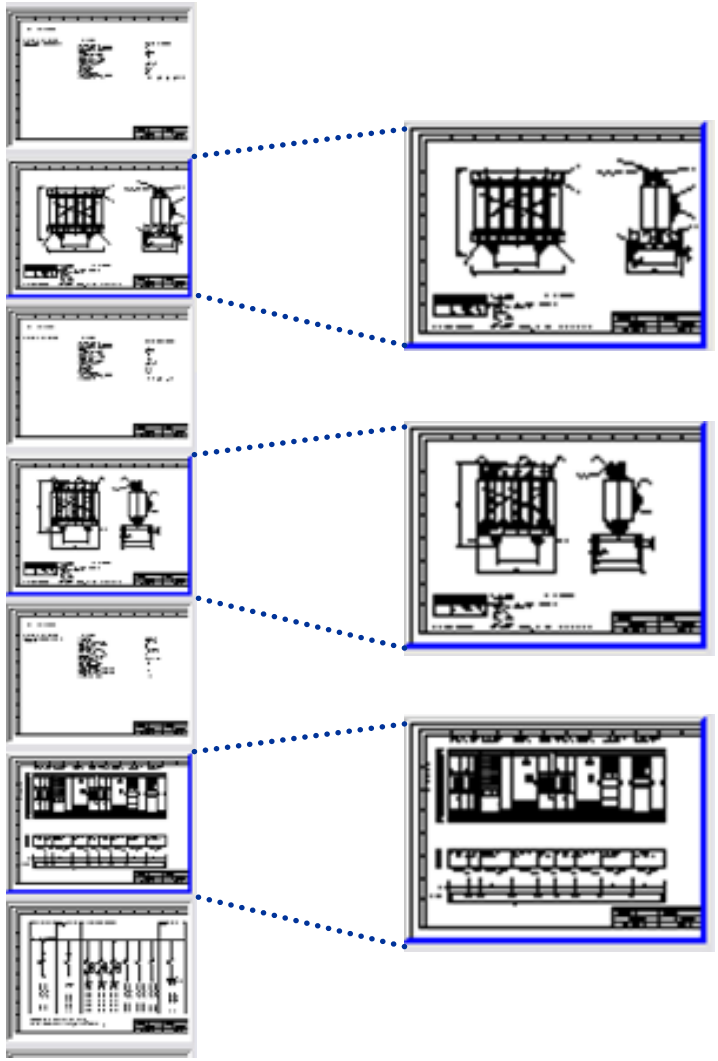


To view individual drawings in greater detail, there are zooming options.



You can export all drawings or selected drawings from the DXF viewer for further editing in a CAD tool.

Views

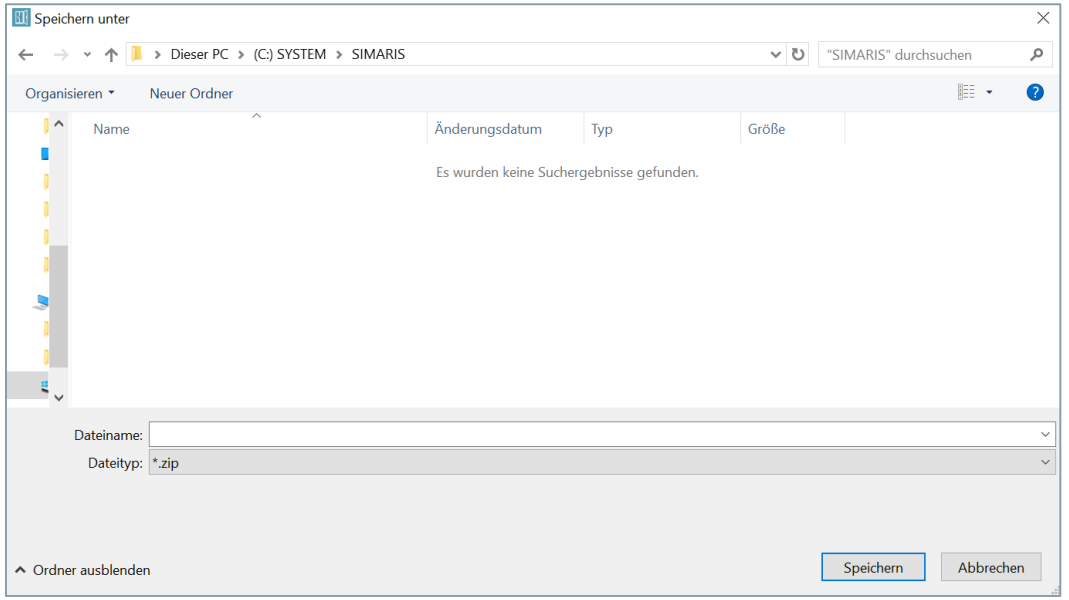


To select drawings for export, select all of the required drawings form the overview on the left

- with a left mouse click and the Shift key to select drawing series
- or with CTRL + left mouse button to select individual drawings.

The selected drawings are marked by a blue frame.

Views



Clicking the desired option on the tool bar below the menu opens the dialog for defining the file location. Drawings are saved there in a .zip file.

Creation of technical specification

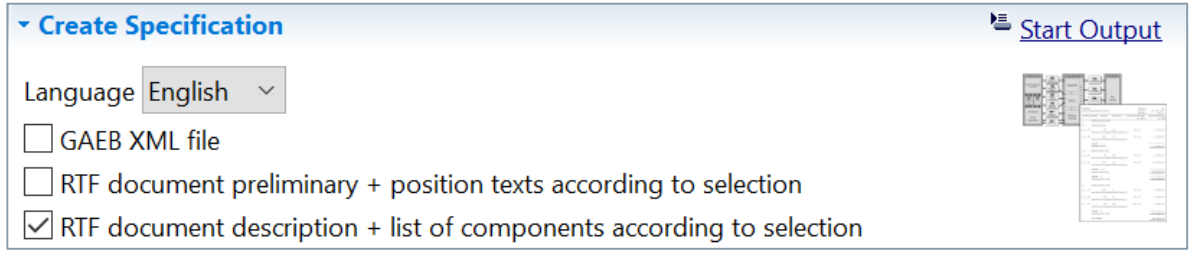
SIEMENS
Ingenuity for life

To create a technical specification, you must also select the relevant systems from the project tree first.

Project Tree	Product Type	Product	Output
Demo: SIMARIS-project 6.0			☑
MV1	8DJH	Medium-...	☑
MV1_1	8DJH	Medium-...	☑
Transformer 1	GEAFOL Neo tr...	Transfor...	☑
Transformer 2	GEAFOL Neo tr...	Transfor...	☑
Busbar Transformer 1 - LVDB	LI	Busbar Tr...	☑
Busbar Transformer 2 - LVDB	LD	Busbar Tr...	☑
LV main switchboard	SIVACON S8	Low-volt...	☑
Schienenverteiler Werkstatt/Busbar	BD2	Busbar Tr...	☑
Etage A/Floor A	Floor-mounted...	Distributi...	☑
Etage B/Floor B	Surface mount...	Distributi...	☑
Etage C/Floor C	Surface mount...	Distributi...	☑
Plant1	BD01	Busbar Tr...	☑

Creation of technical specification

SIEMENS
Ingenuity for life



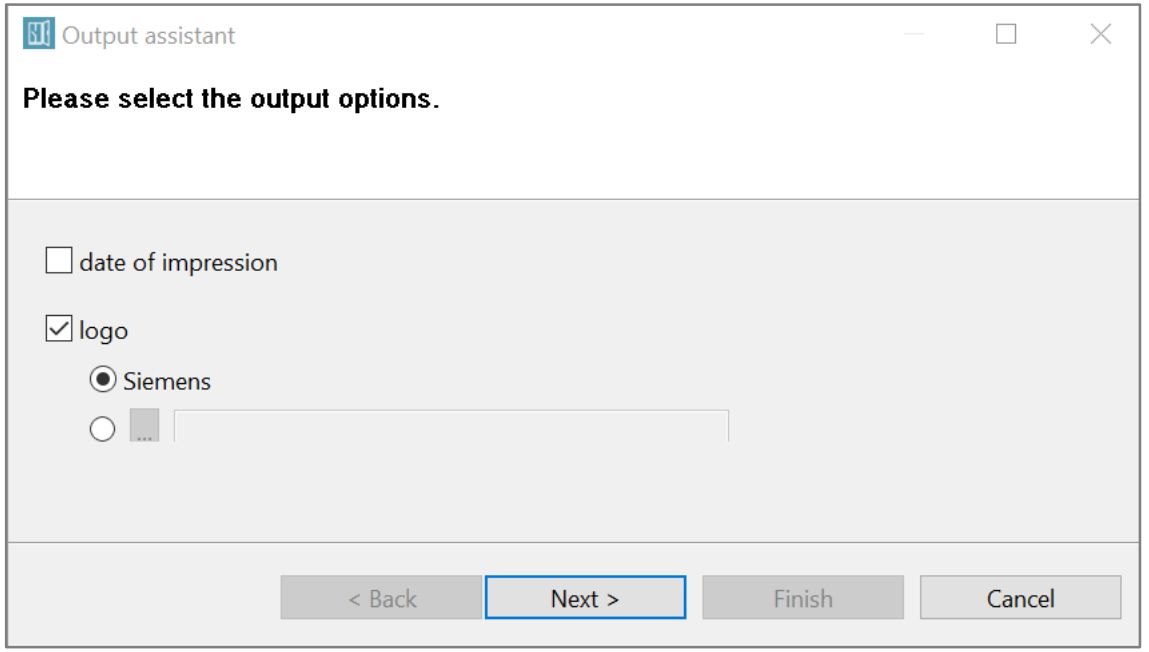
You can export the technical specification as **GAEB XML file** or as **RTF document**.

- The **GAEB XML file can** be saved (select file location from the displayed dialog), so that it can be further edited with an appropriate tool.
  This output option is not available within the regionalization for China.
- The **RTF file** can be saved as well. But it can also be opened directly with a suitable software installed on your computer (e.g. WORD) and further edited in this software.

Tip:

„RTF document description + list of components according to selection“ is the usual format for international tender specifications

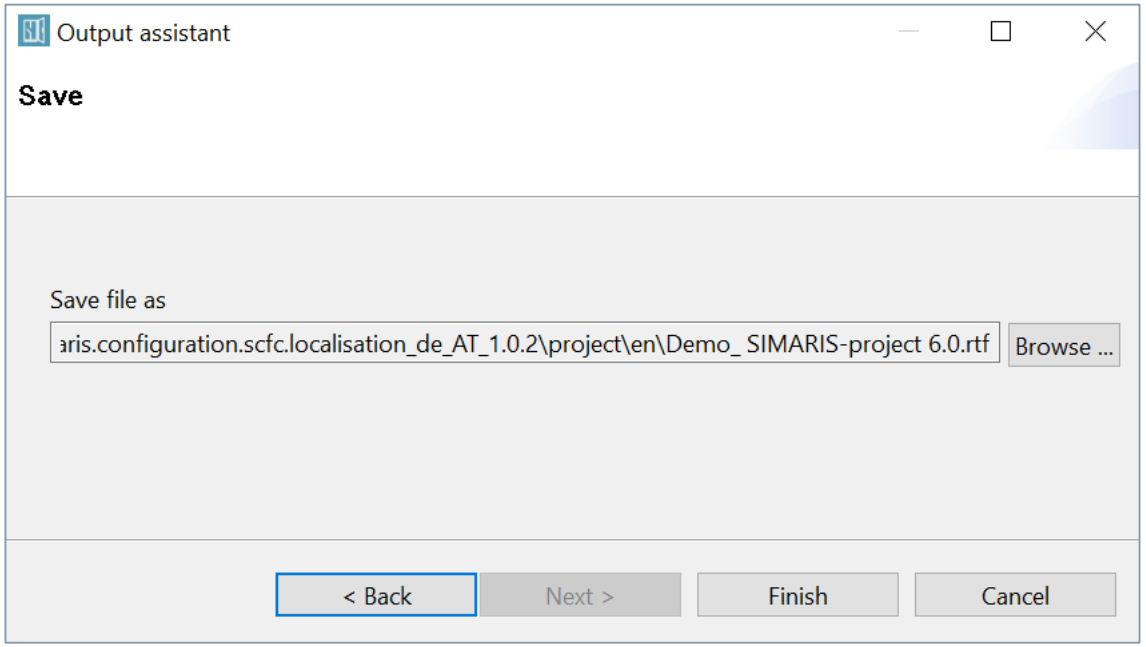
Creation of technical specification



The dialog for creating an **RTF document** allows to integrate your

- own company logo
- the print date
- and the option to output short texts only.

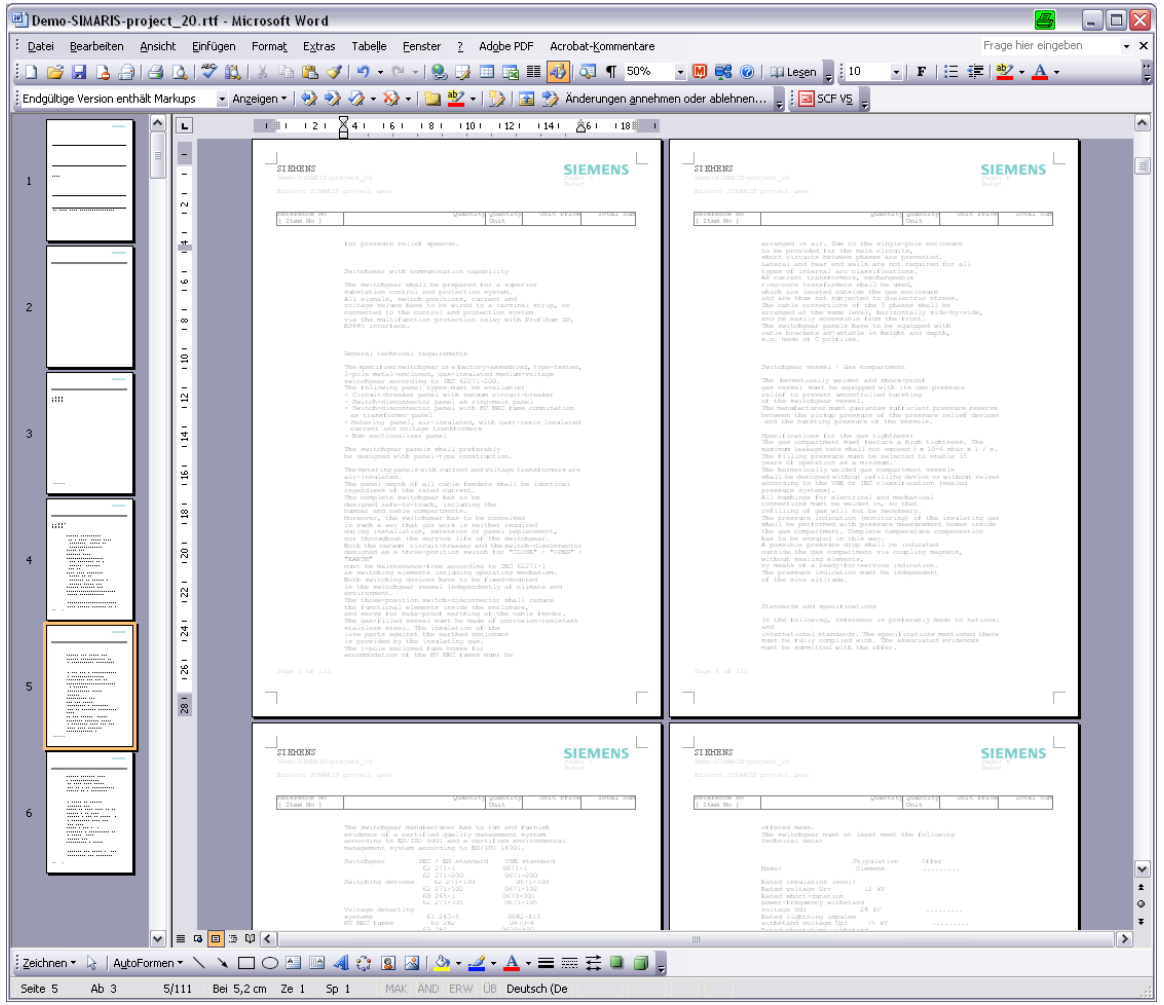
Creation of technical specification



In the next step, you are prompted for the desired file location of the **RTF document**.

Creation of technical specification

SIEMENS
Ingenuity for life



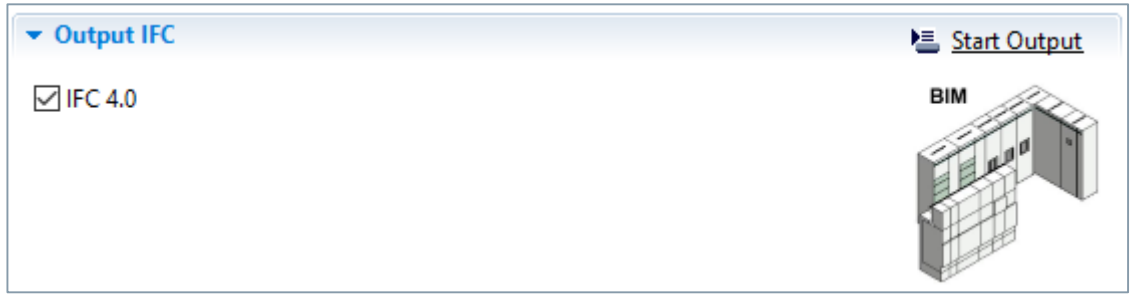
Finally, the document is created and the viewer program is started.

This way you have created a technical systems specification with a few mouse clicks.

BIM (Building Information Modeling) - IFC output

SIEMENS
Ingenuity for life

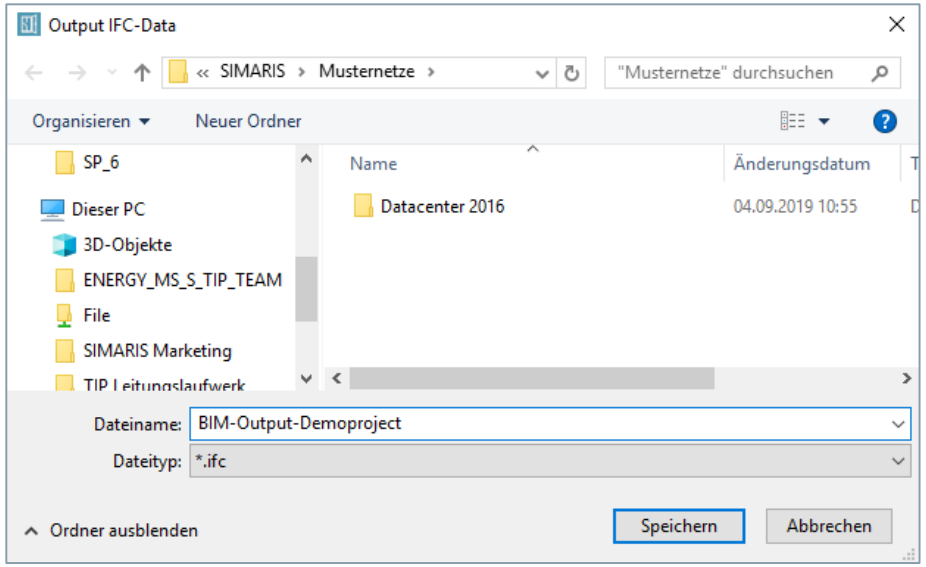
Project Tree	Product Type	Product	Output
Demo: SIMARIS-project 6.0			☑
MV1	8DJH	Medium-vol...	☑
Transformer 1	GEAFOL Neo transfor...	Transformers	☑
Transformer 2	GEAFOL Neo transfor...	Transformers	☑
Busbar Transformer 1 - LVDB	LI	Busbar Trunk...	☑
Busbar Transformer 2 - LVDB	LD	Busbar Trunk...	☑
LVDB	SIVACON S8	Low-voltage ...	☑
Schienenverteiler Werkstatt/Busbar Workshop	BD2	Busbar Trunk...	☑
Etage A/Floor A	Floor-mounted db. w...	Distribution ...	☑
Etage B/Floor B	Surface mounted db. ...	Distribution ...	☑
Etage C/Floor C	Surface mounted db. ...	Distribution ...	☑



To create BIM data, you must also select the relevant systems from the project tree first. All systems, except charging units for electric-vehicles, can be outputted as IFC.

Click **„Start Output“** in the „Output IFC“ section.

BIM (Building Information Modeling) - IFC output



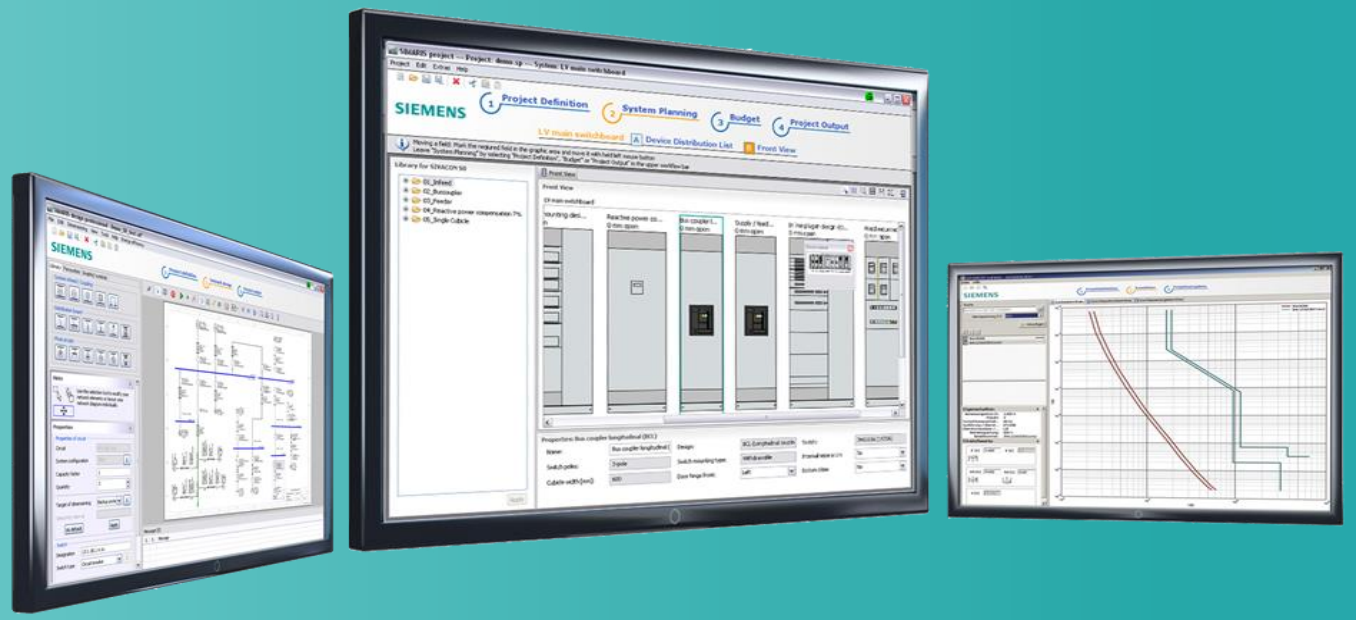
Save the IFC file at the desired file location on your computer.

Tip:

For using the exported IFC file in its entirety with all 3D and technical data from SIMARIS project, we recommend to download the SIMARIS BIM Plug-In at www.siemens.com/simarisproject/bim

SIMARIS project Tutorial

SIEMENS
Ingenuity for life



Software for determining the space requirements and budget for electric power distribution

More about SIMARIS

SIEMENS
Ingenuity for life

In the SIMARIS project software, you will find more useful information about how to familiarize with the program and how to handle it efficiently. Click the menu item "**Help**" to access

- the Help file
- the Technical Manual for SIMARIS design and SIMARIS project.

More info about the **SIMARIS project** and the other tools of the SIMARIS family,

- **SIMARIS design** for network calculation and dimensioning,
- **SIMARIS curves** for the representation of characteristic device curves and the visualisation of parameter settings
- **SIMARIS Online Toolbox** with small service tools for different purposes

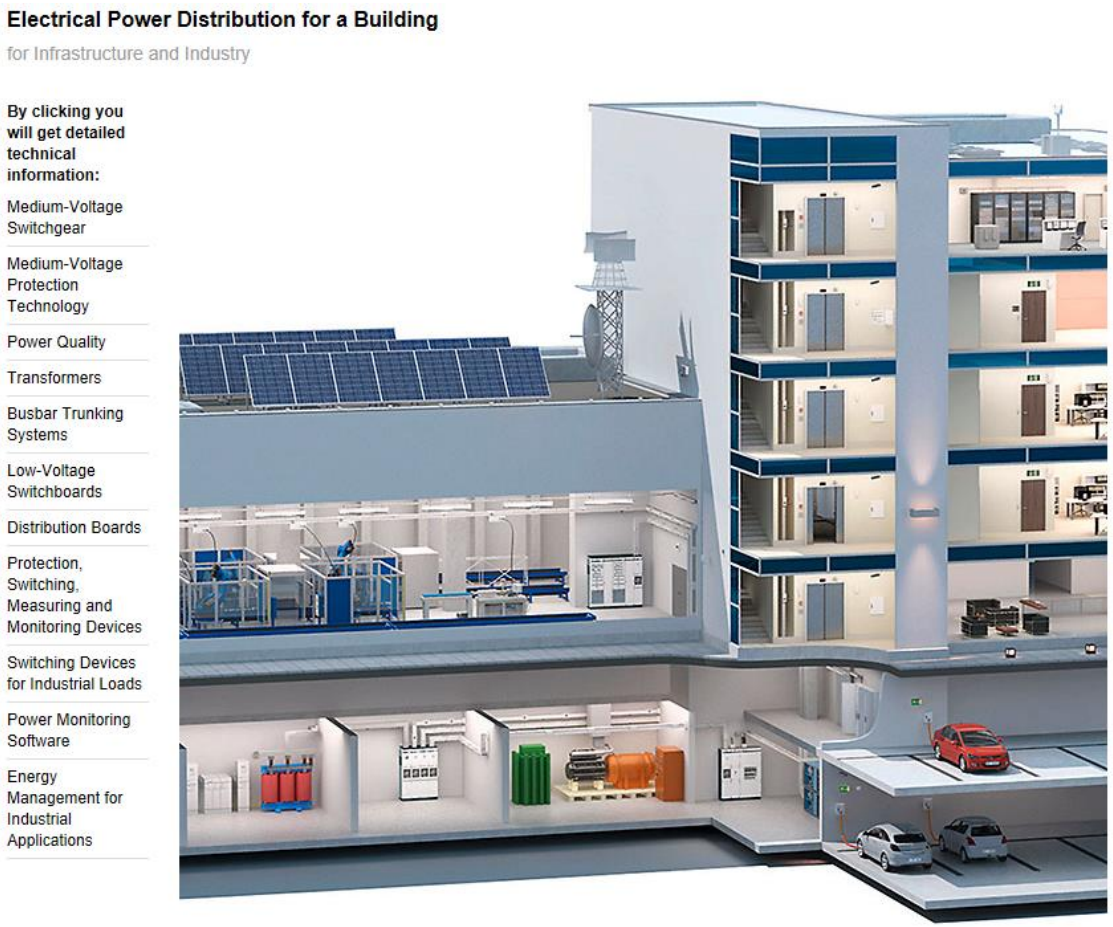
can be obtained at www.siemens.com/simaris.

On this website, you will find a whole lot of other interesting information about the SIMARIS planning tools.

The contact site where you can find all local contact partners for the SIMARIS planning tools you can reach at the short link www.siemens.com/simaris/contact.

Integrated Power distribution with Totally Integrated Power

SIEMENS
Ingenuity for life

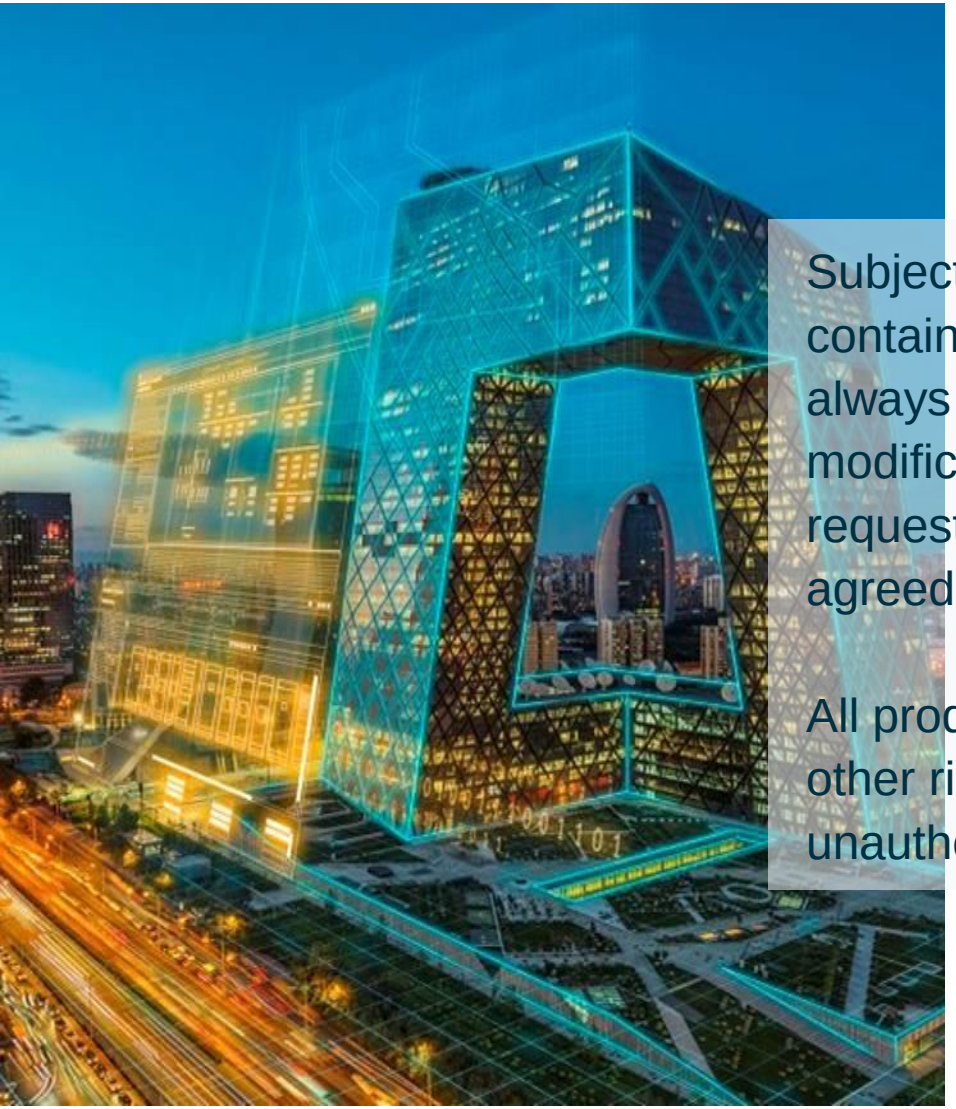


Using SIMARIS planning tools you always rely on the Consultant Support for **Totally Integrated Power**, which offers an intelligent concept for integrated power distribution in commercial, institutional and industrial buildings, ranging from the medium voltage level to the socket outlet.

This offer comprises tools and support for planning and configuring power distribution systems, a well-matched, comprehensive product and systems portfolio and the communications option to link power distribution to higher-level HMI, monitoring / control and management systems. This way, you can attain noticeable saving potentials throughout the entire project cycle – from investment and planning to building installation and operation.

- www.siemens.com/tip-cs

Disclaimer



Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

All product designations, product names, etc. may contain trademarks or other rights of Siemens AG, its affiliated companies or third parties. Their unauthorized use may infringe the rights of the respective owner.

Contact page

SIEMENS
Ingenuity for life

Published by Siemens AG

SIMARIS Planning Tools
SI DS S TIP CTT

Mozartstraße 31c
91052 Erlangen
Germany

E-mail:
simaris.tip@siemens.com

Regional SIMARIS contact partners:
www.siemens.com/simaris/contact

For the U.S. published by
Siemens AG

Siemens Industry Inc.
100 Technology Drive
Alpharetta, GA 30005
United States

siemens.com/simarisproject