



**AUCOTEC**  
Create Synergy – Connect Processes

# Engineering Base

## Smart EXCEL

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# 1 About the Assistant Smart Excel

In Engineering Base, mass data is normally edited using worksheets. The Smart Excel assistant allows you to export worksheets as EXCEL files. In doing so, you can edit them independent from Engineering Base, and later on reimport them back into Engineering Base without a previous mapping.

The assistant has the following functions:

- Export of one or more worksheets in the EXCEL file format.
- Import of the revised data into Engineering Base.
  - The imported data may be displayed in a preview, the changes made are highlighted.
  - The import of large data volumes may be done stepwise.
  - A warning message may be generated in the project for all imported changes.
  - To enable change tracking in the project, status information may be stored at the changed objects.
  - New data sets may be imported if the attribute values of **part of** and **type** have an equivalent in the Engineering Base project.
  - On importing attributes, the advanced attribute setting **Data Service** is taken into account.
 

For instance, if an EXCEL file is imported into another database, the data can also be imported into an attribute that does not have the same attribute ID in the target database. As a precondition, an identical value must be entered into **Data Service** at both attributes.
  - Attribute values of changed or new objects may be updated with entries from the catalog. The catalog values overwrite the values from the EXCEL file if the attribute has the property **From catalog**.
  - For all attributes into which data is imported, the property **Read-Only** may be activated automatically after the import.
- Import of customized EXCEL templates for the data export to the assistant.
- Export and Import of Functions. The **Functions** folder or a related sub folder is the starting point. On importing EXCEL files containing functions, any functions that do not yet exist in the project are newly created.
- Export and Import of Locations. The **Locations** folder or a related sub folder is the starting point. On importing EXCEL files containing locations, any locations that do not yet exist in the project are newly created.

## Storage of the settings

The Smart Excel settings, i.e. the selection of the worksheet templates, the primary keys and the options, are either stored in the project below **Templates/Configurations** or in the database in a configuration file named **Smart Excel**.

- **Storage location in the project:** If a configuration file named **Smart Excel** exists in the project, it is accessed at the start of the assistant, and changes to the settings are stored therein. If there is no configuration file, neither in the project nor in the database, the configuration file is created in the project.
- **Storage location in the database:** If no configuration file named **Smart Excel** exists in the project, but only a configuration file on database level below **Templates/Configurations/Smart Excel**, this file is accessed at the start of the assistant, and changes to the settings will be stored in this file.



Until EB version 6.7.0, the settings of the options were stored user related. The configuration file is only created in the Templates/Configurations project folder once you have changed the options settings.



If you want a configuration file to be available on database level, you can manually copy or move it into the database folder Templates/Configurations/Smart Excel.

## Preconditions

The assistant can only be used with the license **XLS/CSV Export/Import**.

## To run the assistant

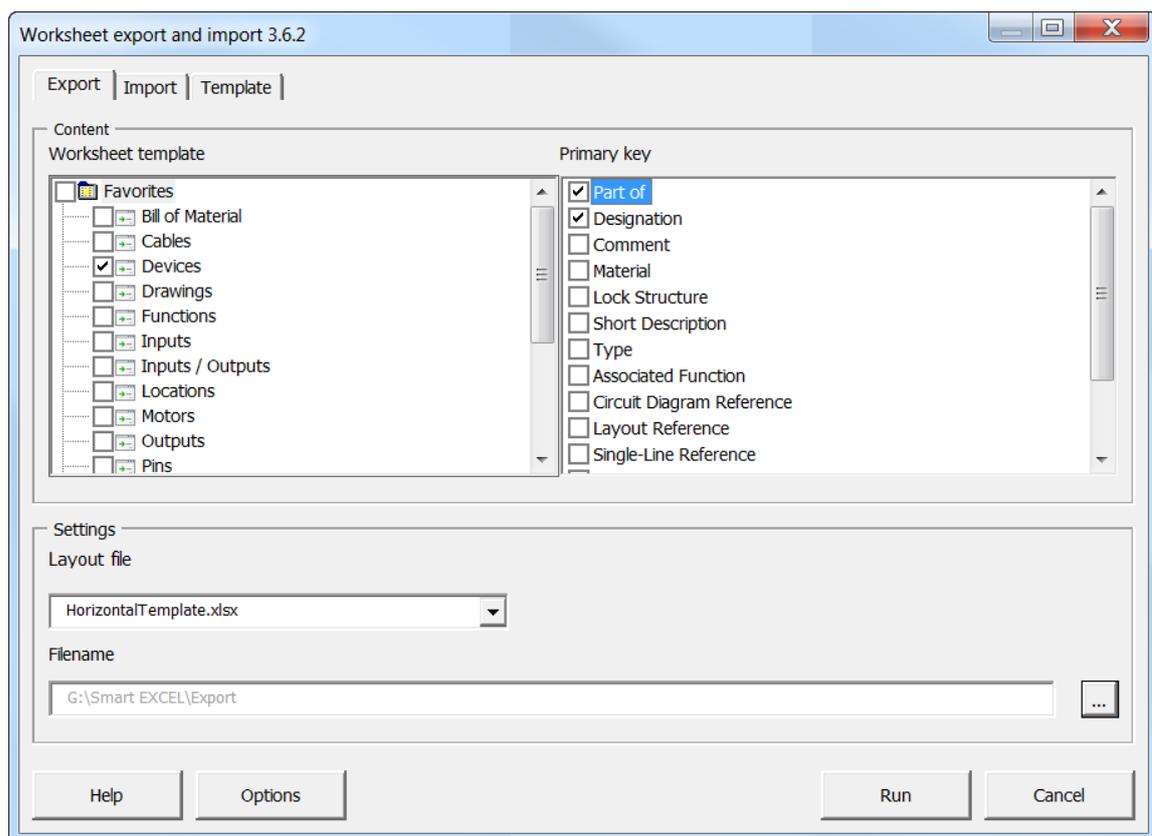
1. In the **Engineering Base Explorer**, select the **Equipment** folder, the **Functions** folder, the **Locations** folder or a related sub-folder.



Only the data below the selected starting point is exported.

2. In the context menu, click **Smart Excel** or click on **Select Assistant** in the context menu and select the assistant **Smart Excel** and click **Run**.

This opens the **Worksheet export and import** dialog.



3. Select the tab required to export or import data or to import customized templates into the assistant.
4. Apply the desired settings, like the selection of the worksheets and the primary key as well as the layout template to be exported.

5. Click in the **Options** Button in order to specify more options for the export or import of data.
6. Click on **Run** to start the export or the import.  
A message telling that the export/import has been successfully completed is then displayed.
7. Click **Cancel** to exit the assistant.



The assistant remains open after the export/import.

## 2 Export of Worksheets

You can export data via Smart Excel by using the worksheets defined in the project. The worksheet configuration (attribute selection such as Name, Comment, Material etc.), including the filter function to narrow down the data (e.g. the selection of specific object classes), defines the data to be exported. In the export file, the system and formula attributes as well as the attributes selected as primary keys are protected against overwriting.

### To export data using Smart Excel

1. In the **Engineering Base Explorer**, select the **Equipment** folder, the **Functions** folder, the **Locations** folder or a related sub-folder.
2. On the shortcut menu, click **Smart Excel**, or click **Select Assistant**, select the **Smart Excel** assistant and click **Run**.

This opens the **Worksheet export and import** dialog.

3. Select the **worksheet templates** (worksheets) containing the data to be exported.
4. Select at least one **primary key**.
5. Under **Layout**, select the template to be used for the export file.
6. Under **File**, define the storage location of the export file.
7. Click the **Options** button to define additional export options.
8. Click **Run** to start the export.

A message indicating that the export was completed successfully is then displayed.

9. Click **Cancel** to exit the assistant.



To also have the associated locations exported during the export of objects in the **Equipment** folder, the worksheet used must contain the column **Associated Location**.

### 2.1 Export of Functions

You can only start the export and import of functions on the **Functions** folder or a related subfolder.

Use a worksheet with the option **Search Items (Extended)** marked in the worksheet configuration to export all subordinated functions (for instance, the worksheet **Functions (Extended)**).

#### To activate the extended items search in a worksheet

1. Open the worksheet.
2. Right-click a column header and select **Properties** on the shortcut menu.
3. Under **General/Load Data**, mark the option **Search Items (Extended)**.
4. Confirm the change by clicking **OK**.
5. Click  to save the change in the worksheet template or create a new worksheet template by clicking .

## 2.2 Export of Locations

You can only start the export and import of locations on the **Locations** folder or a related subfolder.

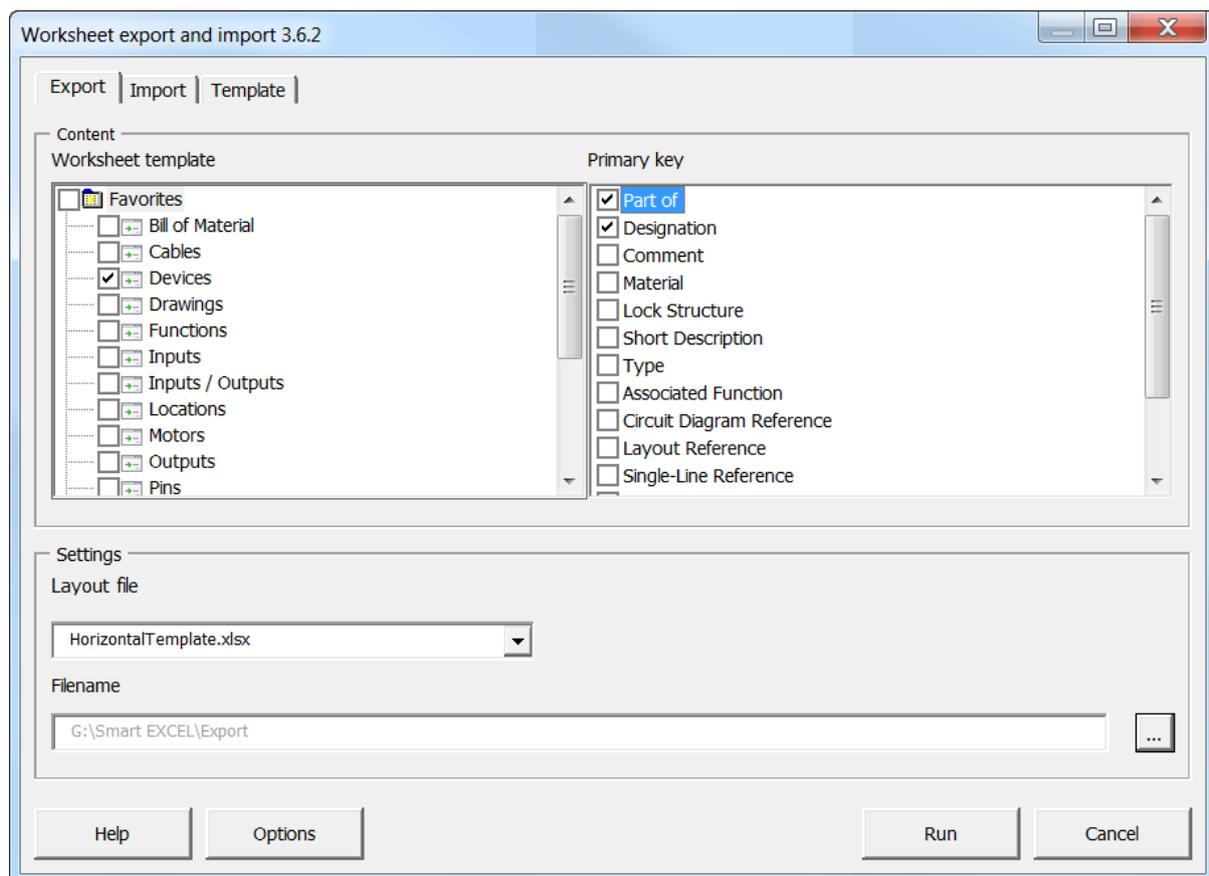
Use a worksheet with the option **Search Items (Extended)** marked in the worksheet configuration to export all subordinated locations).

### To activate the extended items search in a worksheet

1. Open the worksheet.
2. Right-click a column header to open the shortcut menu and select **Properties**.
3. Under **General/Load Data**, mark the option **Search Items (Extended)**.
4. Confirm the change by clicking **OK**.
5. Click  to save the change in the worksheet template or create a new worksheet template by clicking .

## 2.3 The Dialog Export

After the start of the assistant **Smart Excel** the dialog **Worksheet export and import** is opened.



## The Content part

The data to be exported can be defined via worksheet templates and they can be made biunique by the assignment of a primary key.

- **Worksheet Template:** In this selection window one or several worksheets can be selected for the export. The structures given here show the structures of the worksheets in the project. The possible choices are only the worksheets of the subfolders Favorites and Others. If a Smart Excel template was uniquely associated with a worksheet template only the related worksheet is shown.
- **Primary Key:** After selecting the worksheets, the attributes defined as columns of these worksheets are displayed in the selection dialog. The primary key is used during the import of the processed data in order to uniquely assign the data of the import file to the objects in the project. The primary keys have to be selected in such a way that the objects of the export file are uniquely described. If this is not the case, e.g., duplicate objects are shown when the file is imported.

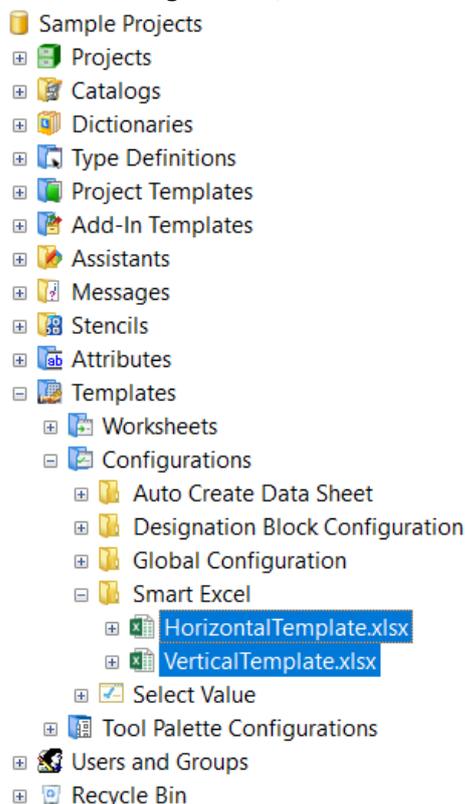


At least one primary key has to be specified. If it was specified in the options that the path of the assigned function is also to be output, then this path is added to the defined primary keys.

## The Settings part

In this section the layout to be used and the storage location of the export file can be specified.

- **Layout:** The Smart Excel assistant uses especially prepared EXCEL templates which adopt the data during the export. Two layout templates are included as sample templates in the basic installation which are stored under the templates of the database under Configuration/Smart Excel.



*Storage location of the Smart Excel templates*

### The template "Horizontal Template":

The properties of an object are output in a line by means of the layout template **HorizontalTemplate.xlsx**.

Part of	Designation	Comment	Material	Type	Associate	Width	Height	Depth	Functions path
+C1		Cabinet	RIT_1812-001	Assembly, Cabinet	.C	1.200,00 mm	1.800,00 mm	400,00 mm	.C/KIND/123
+EX1	-B2.1	Position left	ABB_315_001	Sensor, Transducer	.DRV				.DRV/KIND/123
+EX1	-B2.2	Position right	SIE_SONAR-001	Sensor, Transducer	.DRV				.DRV/KIND/123
+EX1	-B2.3	Stop left	SIE_SONAR-001	Sensor, Transducer	.DRV				.DRV/KIND/123
+EX1	-B2.4	Stop right	SIE_SONAR-001	Sensor, Transducer	.DRV				.DRV/KIND/123
+EX1	-M5.1	Conveyor drive	SIE_1LA9-002	Motor	.DRV				.DRV/KIND/123
+EX2	01-A-3			Motor	.HYD				.HYD/KIND/123
+EX2	01-P-1	Gear Pump	BOS_0510-001	Pump (Process / Fluid)	.HYD				.HYD/KIND/123

### The template "Vertical Template":

The properties of an object are output in a column by means of the layout template **VerticalTemplate.xlsx**.

Part of	+C1	+EX1	+EX1	+EX1	+EX1
Designation		-B2.1	-B2.2	-B2.3	-B2.4
Comment	Cabinet	Position left	Position right	Stop left	Stop right
Material	RIT_1812-001	ABB_315_001	SIE_SONAR-001	SIE_SONAR-001	SIE_SONAR-001
Lock Structure		0	0	0	0
Short Description					
Type	Assembly, Cabinet	Sensor, Transducer	Sensor, Transducer	Sensor, Transducer	Sensor, Transducer
Associated Function	.C	.DRV	.DRV	.DRV	.DRV
Width	1.200,00 mm				
Height	1.800,00 mm				
Depth	400,00 mm				
Functions path	.C/KIND/123	.DRV/KIND/123	.DRV/KIND/123	.DRV/KIND/123	.DRV/KIND/123



The sample templates can be adapted individually, so that, e.g., a company logo can be inserted.

- File:** Prior to the data export a directory has to be specified, into which the export file is to be written. By means of a click on the  button the dialog Search Folder is opened. The selection of the directory has to be acknowledged by OK. The directory selection is stored and offered as default when the assistant is called anew.

## The Options button

After a click on the **Options** button, the **Options** dialog is opened.

Options

Export worksheet to EXCEL file

- Export full functions path.
- Export full locations path
- Export into a single file
- Take column width from template
- Hide column headings

Import EXCEL file to Engineering Base

- Preview data before import
- Save the import preview as Excel file
- Save only not importable data to the Excel file
- Create messages for the changed objects
- Update objects from the catalog
- Set Read-Only flag on all imported attribute values

Ask for the status information

Configure

OK

Option	checked	Meaning
Export full functions path.	<input checked="" type="checkbox"/>	For each object, the function path is written into the export file in addition to the properties defined in the worksheet. This function path is also used as primary key.
Export full locations path	<input checked="" type="checkbox"/>	For each object, the full path of the related location is written into the export file. This location path is also used as primary key.   If you use the full location path for the export, you must additionally insert the column <b>Associated Location</b> into the worksheet. If this column does not exist, the location cannot be associated correctly during the import.
Export into a single file	<input checked="" type="checkbox"/>	Only one EXCEL file is created for all selected worksheets. Its name is composed of "ExcelExport" and the current date (e.g. ExcelExport_13.1.2014.xls). For each worksheet, an individual sheet is created in the export file.
	<input type="checkbox"/>	For each worksheet to be exported, an individual EXCEL file named after the worksheet is created.
Take column width from template	<input checked="" type="checkbox"/>	On creating the export file, the column widths of the EXCEL template are taken over.
	<input type="checkbox"/>	The column widths of the export file are determined dynamically.
Hide column headings	<input checked="" type="checkbox"/>	The column headings of the worksheet are not taken over into the export file.
	<input type="checkbox"/>	The column headings of the export file correspond to those of the worksheet.



If you output the full function path or the full location path into the export file, they become primary keys. If a function or a location is changed in the export file, the data is imported correctly during the first import.

If the import is started anew, the data sets containing the changed function or location are again highlighted as new data sets in the preview pane, even though they had already been imported.

The selection of the options is saved if you start the export by clicking **Run**.

### 3 Editing the Smart Excel Export File

A sheet protection is active in the export file created by the Smart Excel assistant. System fields, formula attribute and primary keys fields are write-protected. All of the remaining data can be changed. Afterwards the changed data can be adopted to Engineering Base via the import function.

If several worksheets had been written to an export file, one sheet will be created per worksheet in the EXCEL file.

When processing the data the following items have to be considered:

- The data formats have to be kept. If a property is defined in Engineering Base as a numerical value, then only a numerical value can be entered in the respective cell.
- If a selection list was defined for an attribute in Engineering Base this selection is also available in the export file. If a line is clicked a value can be selected from this list.

Part of	Name	Information
Part ▼	Designat ▼	Comment ▼
+C1		Cabinet
+EX1	-B2.1	Aluminium Tank
+EX1	-B2.2	Comment
+EX1	-B2.3	Connector Panel
+EX1	-B2.4	Connector Panel for One-Way-Restrictor
+EX1	-M5.1	Connector panel for Pressure limiting valve
+EX1	-M5.2	Conveyor drive
+EX1	-M5.3	Cylinder
+EX1	-M5.4	Conveyor drive

The selection lists adopted from Engineering Base are stored in a hidden sheet "SelectValue Worksheet" in the export file.

- When creating new data sets (objects), the write protection for sheets of the export file has to be deactivated.
  - The attributes **Part of** and **Type** have in any case to be present in the file.
  - The value entered into **Part of** has to refer to existing object structures in the target project, i.e. has to be present in the project.
  - The type entered has to conform to a defined EB typ.
  - If the values of **Part of** and **Type** do not agree with the values of their respective attributes in EB, the attribute value is marked with red color (invalid attribute value) in the preview window, and the data set cannot be imported.

## 4 Import of Data

By means of the import function of the assistant Smart Excel, modified and newly created data can be imported to Engineering Base from an EXCEL file that had been exported before via Smart Excel.

The modified data is checked for the changes and possible errors and then shown in a preview. Then one can decide whether and which of the data is to be adopted. Data which is not imported can be written into an EXCEL file for documentation purposes or further processing.



Only data that have been exported before via Smart Excel can be imported with this assistant.



If the current project does not correspond to the project from which the data was exported a message inquiring if the data is nevertheless to be imported is displayed.

### To import an EXCEL file using Smart Excel

1. In the **Engineering Base Explorer**, select the **Equipment** folder, the **Functions** folder, the **Locations** folder or a related sub-folder.
2. On the shortcut menu, click **Smart Excel**, or click **Select Assistant**, select the **Smart Excel** assistant and click **Run**.

This opens the **Worksheet export and import** dialog.

3. Click on the tab **Import** to open the dialog for the import.
4. Click the **Options** button to define additional import options.
5. On **Filename**, select the file to be imported. Click on the  button to open the data selection dialog.

The import is automatically started and the dialog **Preview** is displayed.

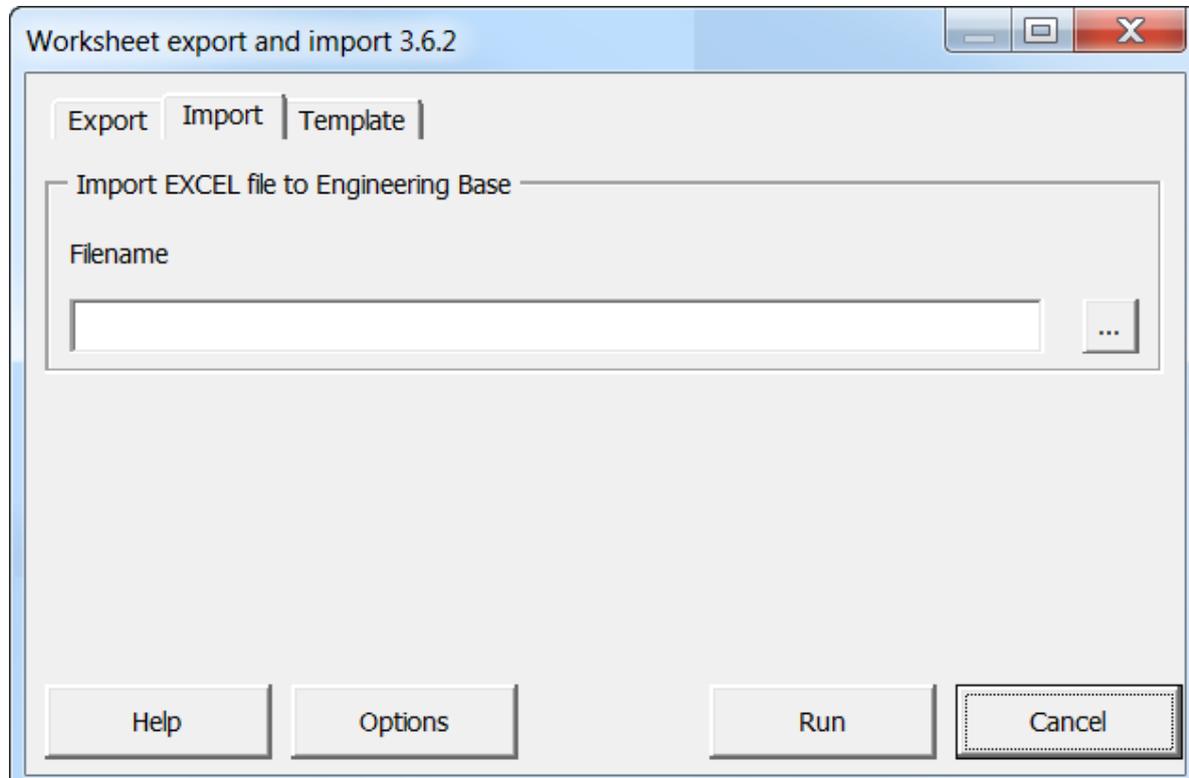
6. Select the data to be imported.
7. Click **Save the import preview as EXCEL file** if you want to store the data shown in the preview.
8. Click **Run** to import the data.

A message telling that the import has been successfully completed is then displayed.

9. Click **Cancel** to exit the assistant.

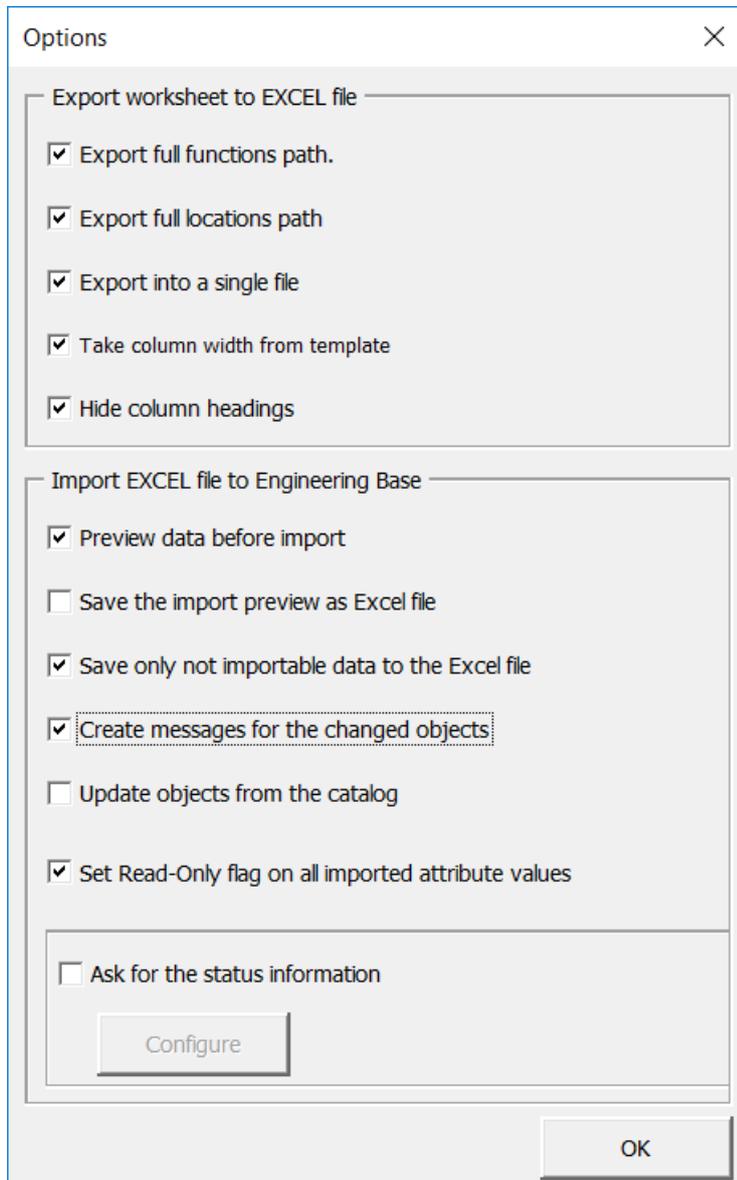
## 4.1 The Dialog Import

After starting the assistant **Smart Excel** and selecting the tab **Import** the dialog **Worksheet export and import** is opened.



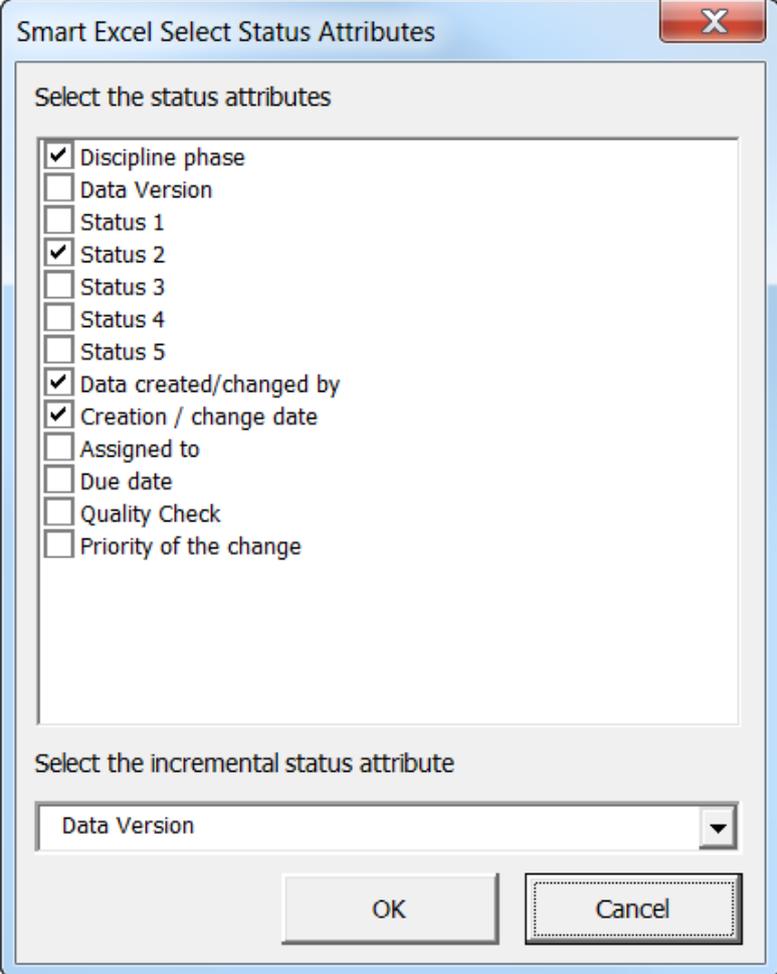
### The Options button

After a click on the **Options** button, the **Options** dialog is opened.



Option	Marked	Meaning
Preview data before import	<input checked="" type="checkbox"/>	The data to be imported is shown in a preview. Changed or wrong entries are highlighted in color. Based on the preview window, in the import process, the data may be imported step by step.
	<input type="checkbox"/>	A preview is not shown before the import of the import file. The other options of the import are not active.
Save the import preview as EXCEL file	<input checked="" type="checkbox"/>	The import preview shown can be stored with all colored markings as EXCEL file. The name of which is composed of the name of the import file and "Preview" (e.g. ExcelExport_13.1.2014_Preview.xls). The storage location is the directory of the import file.
	<input type="checkbox"/>	The import preview is not stored.

Save only not importable data to the EXCEL file	<input checked="" type="checkbox"/>	Objects which cannot be imported to Engineering Base are stored in an EXCEL file the name of which is composed of the name of the import file and "Notimportabledata" (e.g. ExcelExport_13.1.2014_Notimportabledata.xls). The storage location is the directory of the import file. Data which cannot be imported are new objects, duplicated objects and objects with invalid attributes or with invalid values. The colored highlights are adopted from the preview.
	<input type="checkbox"/>	Data which cannot be imported is not stored.
Create messages for the changed objects	<input checked="" type="checkbox"/>	For all changes imported into the project, message objects are deposited in the project. The message objects are stored in the folder <b>Messages/Smart Excel Import</b> including user name (logged in user), date and time.
	<input type="checkbox"/>	No message objects are created in the project.
Update objects from the catalog	<input checked="" type="checkbox"/>	If the material number of an object is changed by the import of the data, the object data is updated with the corresponding catalog data after the import. This also holds for new objects which get a new material number.
	<input type="checkbox"/>	The importable data is stored at the object in the corresponding attributes.
Set Read-Only flag on all imported attribute values	<input checked="" type="checkbox"/>	For all attributes into which data is imported, the property <b>Read-Only</b> will be activated after the import of data.
	<input type="checkbox"/>	After the import of data, the property <b>Read-Only</b> will be not activated for attributes into which data was imported.

<p>Ask for the status information</p>	<p><input checked="" type="checkbox"/></p>	<p>Importing data, for changed or newly created data sets, status information used in the project may be inquired. By clicking <b>Configure</b>, the dialog <b>Smart Excel Select Status Attributes</b> may be opened.</p>  <p>Select the status attributes requested.</p> <p><b>Select the incremental status attribute:</b> The value of this attribute is increased with each import. The attribute selected here must not be selected in the above list.</p> <p>Once you start the import, the dialog <b>Smart Excel Import Information</b> opens.</p> <p>The present date is preset as creation date. It may be changed via selection. Click <b>Start import</b>, to start the import process.</p>
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		<div data-bbox="608 264 1385 622"> <p>Smart Excel Import information</p> <p>Insert status information</p> <table border="1"> <thead> <tr> <th>Attribute name</th> <th>Attribute value</th> </tr> </thead> <tbody> <tr> <td>Discipline phase</td> <td>E-Engineering</td> </tr> <tr> <td>Status 2</td> <td>Daten Lieferant 1</td> </tr> <tr> <td>Data created/changed by</td> <td>User 1</td> </tr> <tr> <td>Creation / change date</td> <td>12.12.2014</td> </tr> </tbody> </table> <p>Start import    Close</p> </div> <p>The values entered will be written into the respective system attributes of the changed object. If not available, they will be generated below the tab <b>Status Information</b>.</p> <div data-bbox="608 779 1385 1048"> <p>Modify [+EX1 -B2.1]</p> <p>System Attributes    Purchase Order Data    Specifications    Operating Data</p> <p>Classification    Cross Reference    Status Information !</p> <table border="1"> <tbody> <tr> <td>Discipline phase</td> <td>E-Engineering</td> </tr> <tr> <td>Status 2</td> <td>Data Supplier 1</td> </tr> <tr> <td>Data created/changed by</td> <td>User 1</td> </tr> <tr> <td>Creation / change date</td> <td>12.12.2014 16:09:08</td> </tr> <tr> <td>Data Version</td> <td>4</td> </tr> </tbody> </table> </div>	Attribute name	Attribute value	Discipline phase	E-Engineering	Status 2	Daten Lieferant 1	Data created/changed by	User 1	Creation / change date	12.12.2014	Discipline phase	E-Engineering	Status 2	Data Supplier 1	Data created/changed by	User 1	Creation / change date	12.12.2014 16:09:08	Data Version	4
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Status 2	Data Supplier 1																					
Data created/changed by	User 1																					
Creation / change date	12.12.2014 16:09:08																					
Data Version	4																					
<input type="checkbox"/>		<p>The import is executed without checking the status information.</p>																				



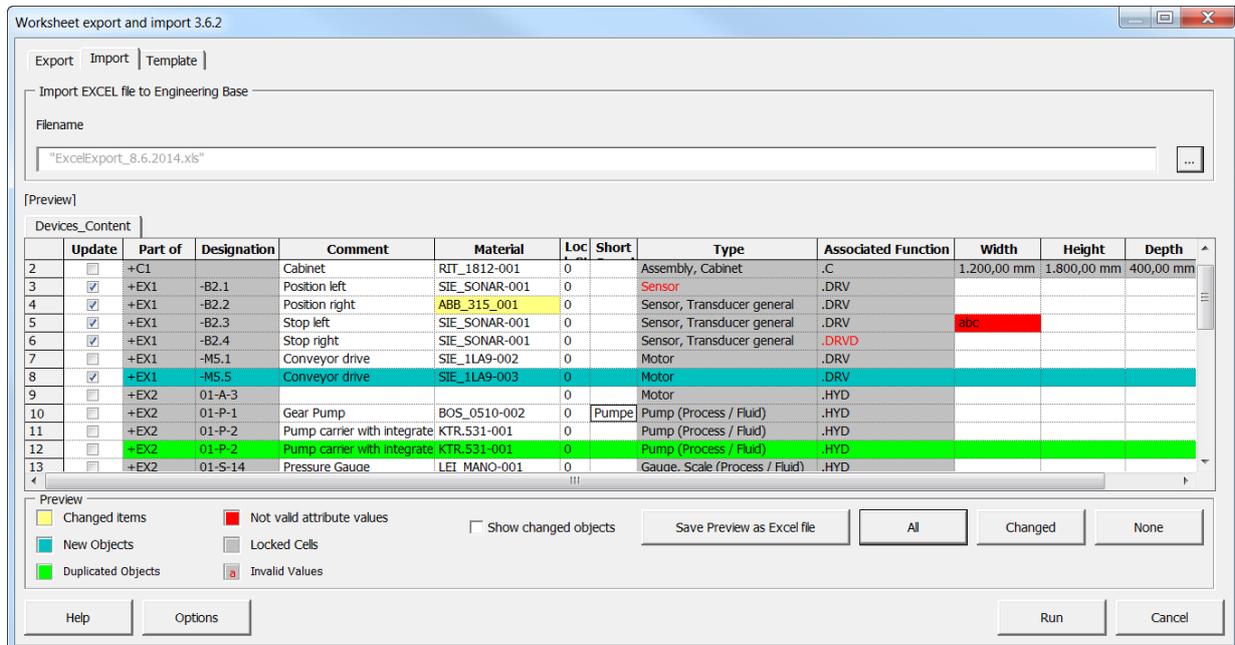
The user name provided by the messages in the project does not match the user name entered into the status information!



The status attributes (Discipline phase, Status 2, and so on) will be reset if the object is copied within the project or cross-project!

## 4.2 The Dialog Import Preview

When the option **Preview data before import** is activated the import file is shown in a preview. Changed and importable objects are marked by a check in the column **Update**. If the import file consists of several sheets one tab is shown per sheet in the EXCEL file. The data of the worksheet Devices is listed under the tab Devices-Content in the below example below.



### Colored Markings

Marking	Meaning
<b>Changed items</b>	Changed values are highlighted in yellow.
<b>Not valid attribute values</b>	Invalid attributes are highlighted in red. Data sets marked like this, will not be imported. Invalid attribute values originate from: <ul style="list-style-type: none"> <li>Changed values that do not correspond to the format specifications (e.g. numerical) of the Engineering Base attribute</li> <li>In newly created data sets, the values of "Type" and "Part of" do not match the already existing values in EB.</li> </ul>
<b>New Objects</b>	New objects (not present in Engineering Base) are highlighted in dark green. <p>The reasons for the display of the "New Objects" are:</p> <ol style="list-style-type: none"> <li>The sheets are not locked anymore and the value of the primary key, which is normally write-protected, was changed.</li> <li>The sheets are not locked anymore and a new object was created.</li> </ol>

<b>Duplicated Objects</b>	<p>Duplicated objects are highlighted in light green. These objects are not imported.</p> <p>The reasons for duplicated objects are:</p> <ol style="list-style-type: none"> <li>1. This object is already present as duplicated object in Engineering Base.</li> <li>2. The sheets are not locked anymore and an existing object was duplicated.</li> </ol>
<b>Locked Cells</b>	Locked cells are highlighted in gray.
<b>Invalid Values</b>	<p>Invalid values are represented in a red font. These objects are not imported.</p> <p>The reason for invalid values is:</p> <ol style="list-style-type: none"> <li>1. The sheets are not locked anymore and the value of a write-protected cell was overwritten.</li> </ol>

### Buttons

<b>Button</b>	<b>Meaning</b>
<b>Options</b>	The dialog Options is opened and import options can be changed.
<b>Show changed objects</b>	If this checkbox is marked, then only changed data sets will be displayed in the preview window.
<b>Save Preview as EXCEL File</b>	If this option is clicked the EXCEL files selected under <b>Options</b> are created. This button is inactive if neither of the options "Save Preview as EXCEL File" and "Save only not importable data to the EXCEL file" is marked.
<b>All</b>	All records get a marking in the column <b>Update</b> .
<b>Changed</b>	All changed records get a marking in the column <b>Update</b> .
<b>None</b>	All markings in the column <b>Update</b> are deleted.
<b>Run</b>	Starts the import of the files. All importable records which are marked in the column <b>Update</b> are imported. The preview dialog will continue to be displayed.
<b>Cancel</b>	Terminates the assistant <b>Smart Excel</b> .

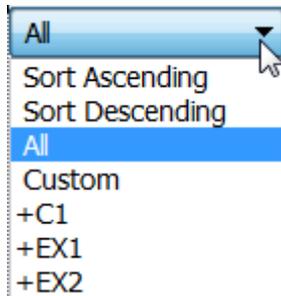


Records that contain invalid values or invalid attribute values are not imported. This also holds for records marked as New Objects or Duplicated Objects.

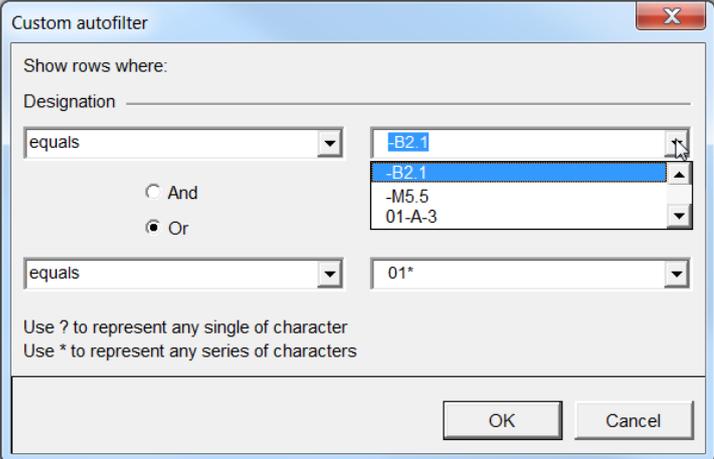
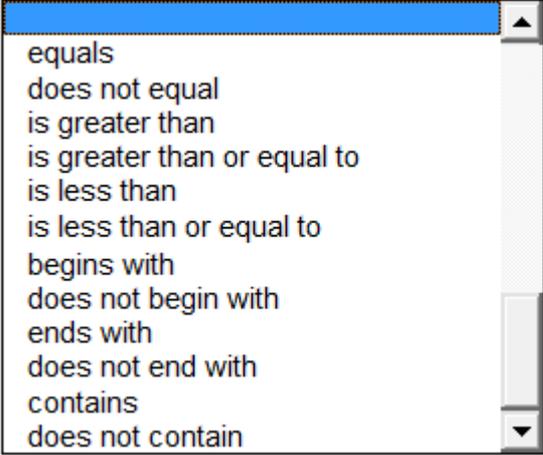
### Filter function in the import preview

The data displayed may be restricted in the import preview dialog using filters.

Click the first row in the requested column, to display available filters.



Click the requested:

Sort Ascending/ Sort Descending	The content of the column will be sorted ascending or descending.
All	All data are displayed without filter and unsorted.
Custom	<p>The dialog Custom autofilter opens. You may select two filters with And/Or relationship.</p>  <p>The following options may be selected from:</p>  <p>The comparative expression may be selected using the pull-down menu. The usage of wildcards ('?', '*') is possible.</p>

Display of all available values in one column (e.g. +C1, +EX2, ...)	Selection of a specific value as filter.
---------------------------------------------------------------------	------------------------------------------

### Incremental import of large data sets

1. Click **None**, to remove all markers from the column **Update**.
2. Check **Show changed objects**.  
In the preview dialog, only the changed data sets will be displayed.
3. Mark in the column **Update** the data sets to be controlled by you.
4. Click **Run**, to start the import process.

Only checked data sets will be imported. After a successful import, a message will be displayed and the display of the import preview dialog will be updated.

The current content of the preview dialog may be saved clicking **Save Preview as Excel file**, and may be used as input file for further processing the imported data.

## 5 Import of Customized EXCEL Templates

EXCEL templates are used as layout templates for the export of worksheets using the Smart EXCEL assistant. It is imperative that these templates are stored under the templates of the database under **Configuration/Smart Excel**.

The EXCEL template must contain one sheet "Content" and one sheet "Settings". If these requirements are not fulfilled the template is not imported and a corresponding message is displayed.

### To import one or several EXCEL templates for Smart Excel

1. In the **Engineering Base Explorer**, select the **Equipment** folder, the **Functions** folder, the **Locations** folder or a related sub-folder.
2. On the shortcut menu, click **Smart Excel**, or click **Select Assistant**, select the **Smart Excel** assistant and click **Run**.

This opens the Worksheet export and import dialog.

3. Click on the tab **Template** to open the dialog **Layout Template Update**.

4. On **Layout file** select the EXCEL templates to be imported. Click on the button  to open the file selection dialog.

5. Click on **OK** to import the templates.

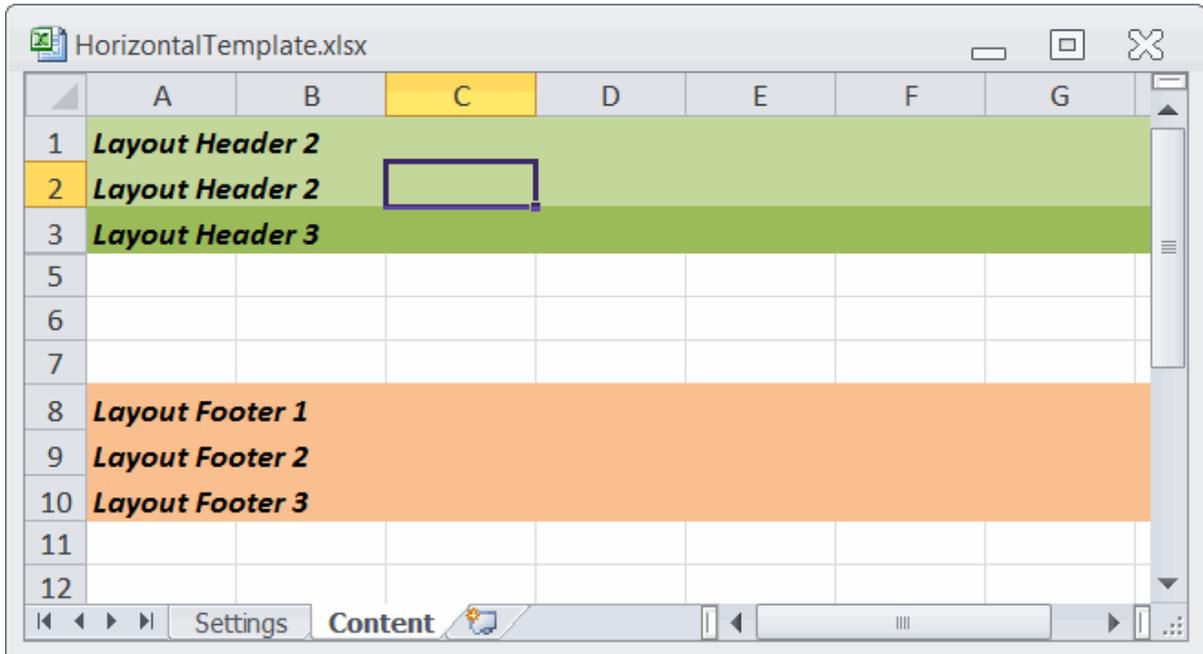
A message telling that the layout files have been successfully imported is then displayed.

6. Click **Cancel** to exit the assistant.

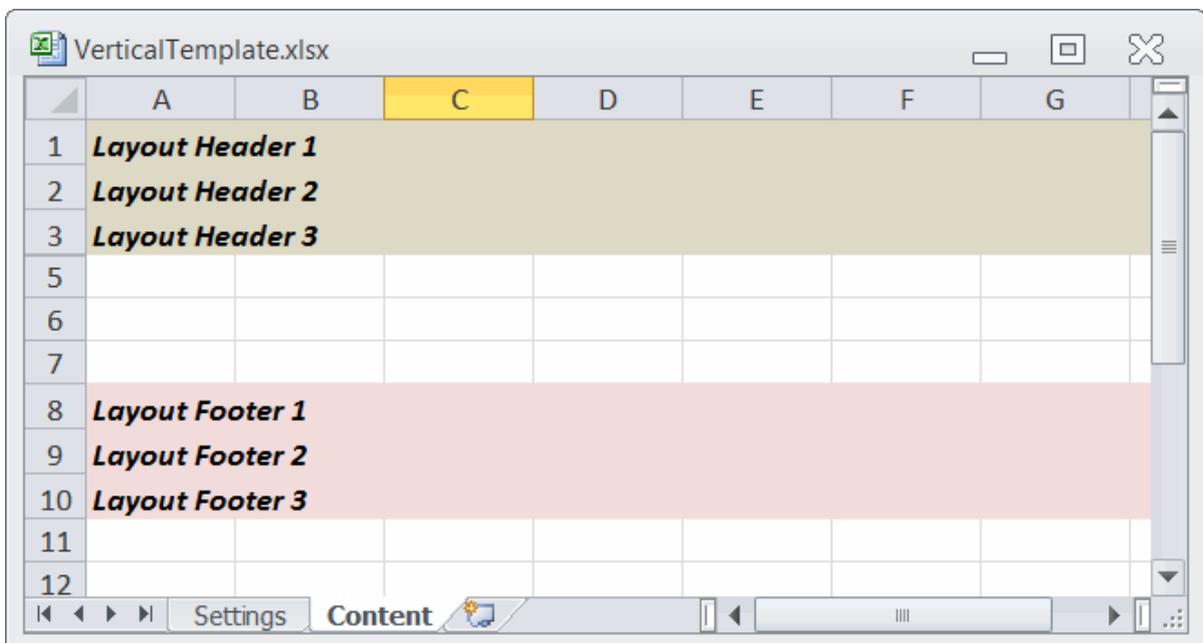
## 5.1 Creating Customized EXCEL Templates

The standard templates can be adapted to create a customized layout. For this purpose, a copy of the standard templates has to be made.

### 5.1.1 The Sheet "Content"



Sheet "Content" of the standard template "HorizontalTemplate.xlsx"



Sheet "Content" of the Standard template "VerticalTemplate.xlsx"

## Customer-specific Headers and Footers

Depending on the template type, the headers are highlighted in green or beige, the footers in orange or pink.

The formatting of the cells executed at headers and footers can be adopted during the export:

1. Insertion of EXCEL functions (e.g. date =TODAY(); Sums =Sum(F2:F24) etc.)
2. Activation of cell protection
3. Adaption of the border specifications (line width and pattern)
4. Connection of cells
5. Cell colors
6. Setting filters
7. Character formats
8. Changing the column width

## Customer-specific data section

The data section is white in the templates (rows 5-7).

The formatting of the cells executed in the data section can be adopted during the export:

1. Adaption of the border specifications
2. Cell colors
3. Character formats
4. Changing the column width
5. Line feed formats

### 5.1.2 The Sheet "Settings"

General setting for the setup of the template are included in this sheet.

	A	B	C
1	<b>Description</b>	<b>Value</b>	<b>Information</b>
2	first footer row number	8	
3	first data row	5	
4	first data column	1	
5	orientation	HORIZONTAL	accepted values: HORIZONTAL, VERTICAL
6			
7			
8			

Sheet "Settings" of the standard template "HorizontalTemplate.xlsx"

The keywords included in the column **Description** control the output of the values during the export. The column **Value** contains the row or the column number which is assigned to the keyword of the column **Description**.

Description	Meaning
<b>first footer row number</b>	Row number of the first row from which a comment or a footer can be entered again after the data section.
<b>first data row</b>	Row number of the first row from which the data is entered to the table by the assistant.
<b>first data column</b>	Column number of the first cell from which the data is entered to the table by the assistant.
<b>orientation</b>	Specifies the orientation of the table; possible values are "HORIZONTAL" and "VERTICAL".

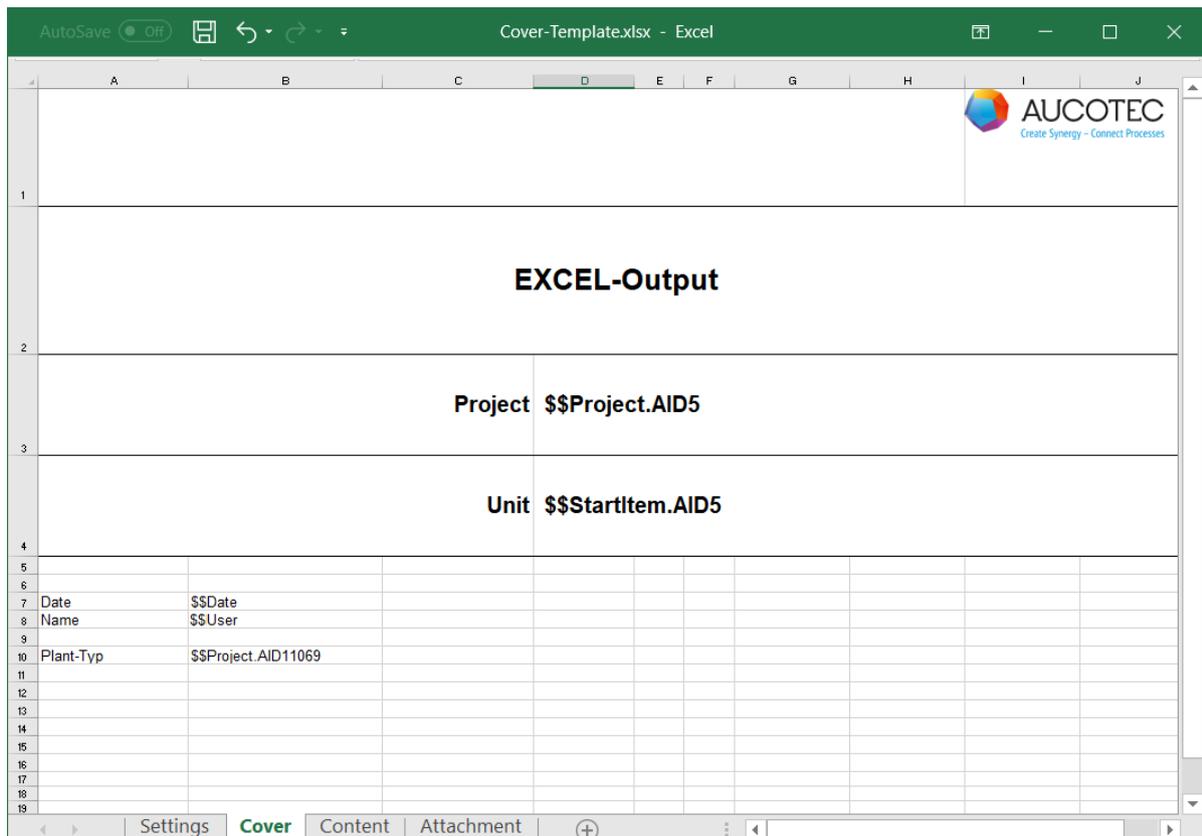
Starting with the first row into which data is entered, the data is setup to the right and downwards by the assistant.

### 5.1.3 Additional Sheets

In addition to the two sheets **Settings** and **Content**, you can define additional sheets, for instance a cover sheet.

1. Create a new tab in the template. The name of the tab can be freely selected.
2. Define the structure of the new sheet (refer to example below).

The order of the tabs defines the order in the created Excel file.



Example: Cover sheet "Cover" of an individual template

### 5.1.4 Keywords

You can insert project-specific information into all defined sheets (tabs) of the template by using keywords.

The following keywords can be used:

\$\$Project.Xxx	The value of a project-specific attribute is inserted. Xxx stands for a project-specific attribute (attribute name or AID), for instance "\$\$Project.name" or "\$\$Project.AID5".
\$\$StartItem.Xxx	The value of an attribute of the start object is inserted. Xxx stands for an attribute (attribute name or AID) of the start item, for instance "\$\$StartItem.Name" or "\$\$StartItem.AID5".
\$\$User	The current user is entered.
\$\$Date	The current date is inserted.
\$\$AssocFuncItem.Xxx	The value of an attribute of the associated function is inserted. Xxx stands for an attribute (attribute name or AID) of the associated function, for instance "\$\$AssocFuncItem.AID5".
\$\$AssocLocItem.Xxx	The value of an attribute of the associated location is inserted. Xxx stands for an attribute (attribute name or AID) of the associated location, for instance "\$\$AssocLocItem.AID5".
\$\$AssocProcItem.Xxx	The value of an attribute of the associated process is inserted. Xxx stands for an attribute (attribute name or AID) of the associated process, for instance "\$\$AssocProcItem.AID5".



Please note:

- The keywords are case-sensitive. If you do not spell them correctly, the keyword is displayed instead of the value.
- It is not permitted to associate a keyword with a fixed text or a blank in the same cell. Otherwise, the keyword is displayed instead of the value.
- You can enter several keywords in immediate succession in the same cell. If the cell is large enough, the values are displayed below each other.

Example:

\$\$AssocLocItem.Name\$\$AssocFuncItem.AID25

## 5.2 Link of EXCEL Template and Worksheet Template

For customer-specific templates only the related worksheet should be selectable in Smart Excel in each case. Using the system attribute **Template**, a worksheet template can be linked to an EXCEL template. For this purpose the same numeric integer value has to be assigned to the system attribute **Template** in the dialog **Modify** of the worksheet template and the EXCEL template.

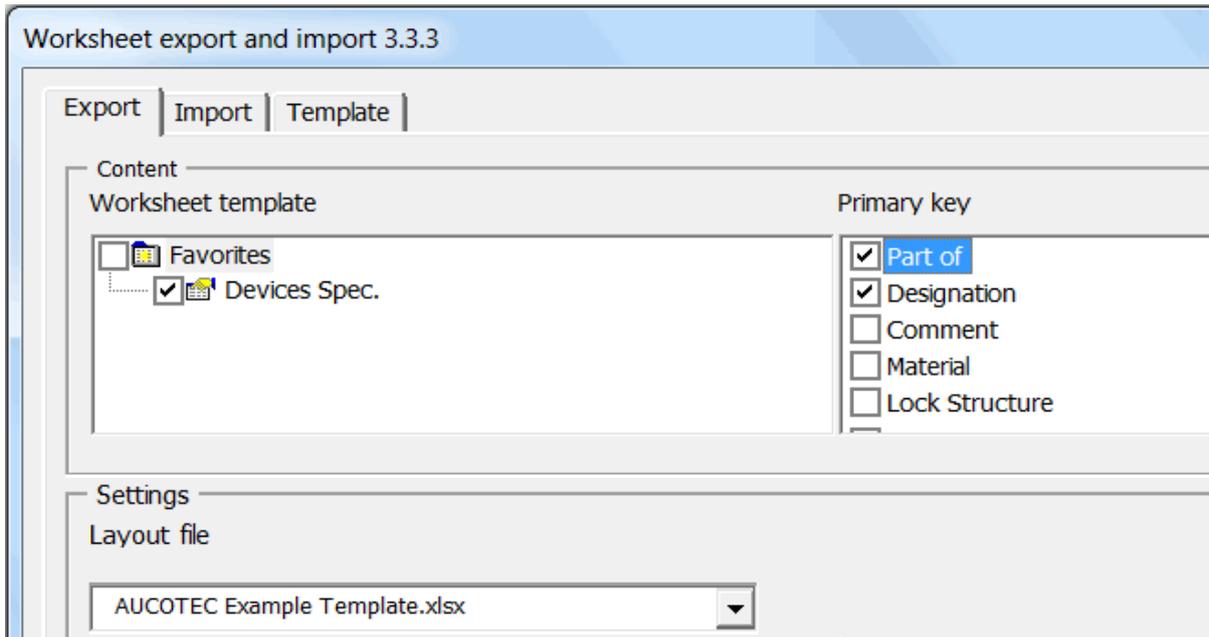
System Attributes	
Document Name	AUCOTEC Example Template.xlsx
Comment	AUCOTEC Example Template.xlsx
Original File Name	G:\Smart EXCEL\AUCOTEC Example Template.xlsx
Creation Date	20.01.2014 16:43:42
Modification Date	21.01.2014 09:38:41
Version	
File Size	37921 Byte
Associated Equipment	
Associated Function	
Template	1

System attributes of the EXCEL template "Smart Excel AUCOTEC Example Template"

System Attributes	
Template Name	Devices Spec.
Comment	Device List
Use for Revision	<input checked="" type="checkbox"/>
Template	1

System attributes of the corresponding worksheet template "Devices Spec."

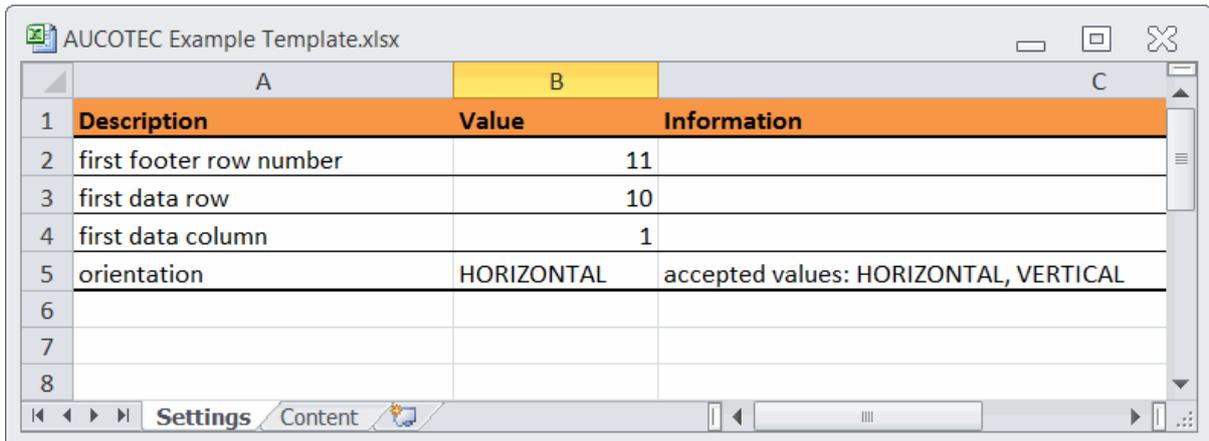
After the assignment of worksheet template and EXCEL templates only the corresponding worksheet is shown in the Export dialog.



If a value was assigned to the system attribute **Template** of an EXCEL template and no worksheet template was assigned, a corresponding error message is displayed.

### 5.3 Example of a Customized EXCEL Template

The first footer is possible from row 11 on, the data section begins at row 10 and column 1. The orientation of the table is horizontal.



Example of a customer-specific EXCEL Template - Sheet "Settings"

In this sample template the formatting of the headers (rows 2 - 9) and the data section (row 10) were adapted.

Device List													AUCOTEC	
Basic Engineering														
Supplier: A														
Date: 2014-01-21														
Revision: 1														
Edition January 2014														
Explanations / Comment														
Name	Information	Device / Item	Structure	Comment	Type	Unit Physical					B	H	T	Path

Example of a customer-specific EXCEL format template - Sheet "Content"