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
SIMATIC HMI

**WinCC flexible
Getting Started Power User**



Order number 6ZB5370-1CM02-0BA2

Edition 04/2006
A5E00279892-03



Safety Guidelines

This manual contains notices which you should observe to ensure your own personal safety as well as to avoid property damage. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring to property damage only have no safety alert symbol.



Danger

indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Warning

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



Caution

used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Caution

used without safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Notice

used without the safety alert symbol indicates a potential situation which, if not avoided, may result in an undesirable result or state.

Wenn several danger levels apply, the notices of the highest level (lower number) are always displayed. If a notice refers to personal damages with the safety alert symbol, then another notice may be added warning of property damage.

Qualified Personnel

The device/system may only be set up and operated in conjunction with this documentation. Only qualified personnel should be allowed to install and work on the equipment. Qualified persons are defined as persons who are authorized to commission, to earth, and to tag circuits, equipment and systems in accordance with established safety practices and standards.

Intended Use

Please note the following:



Warning

This device and its components may only be used for the applications described in the catalog or technical description, and only in connection with devices or components from other manufacturers approved or recommended by Siemens.

This product can only function correctly and safely if it is transported, stored, set up and installed correctly, and operated and maintained as recommended.

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Disclaimer of Liability

We have checked the contents of this manual for agreement with the hardware and software described. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the data in the manual are reviewed regularly, and any necessary corrections will be included in subsequent editions. Suggestions for improvement are welcomed.

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Technical data subject to change

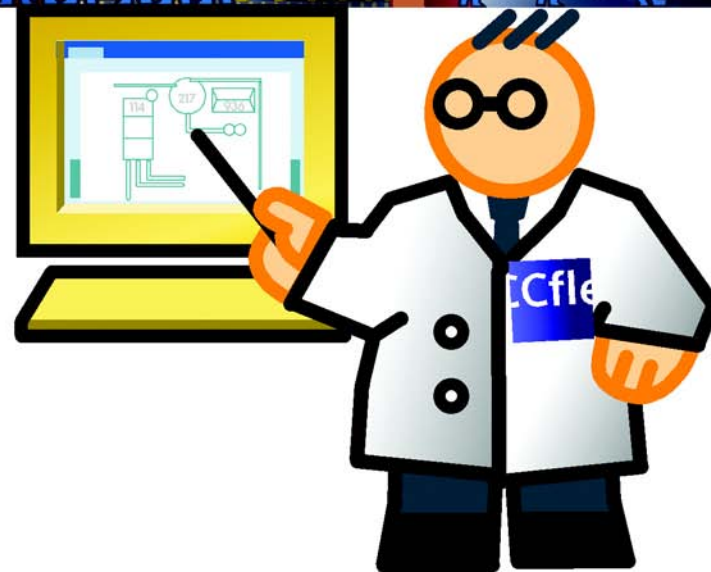
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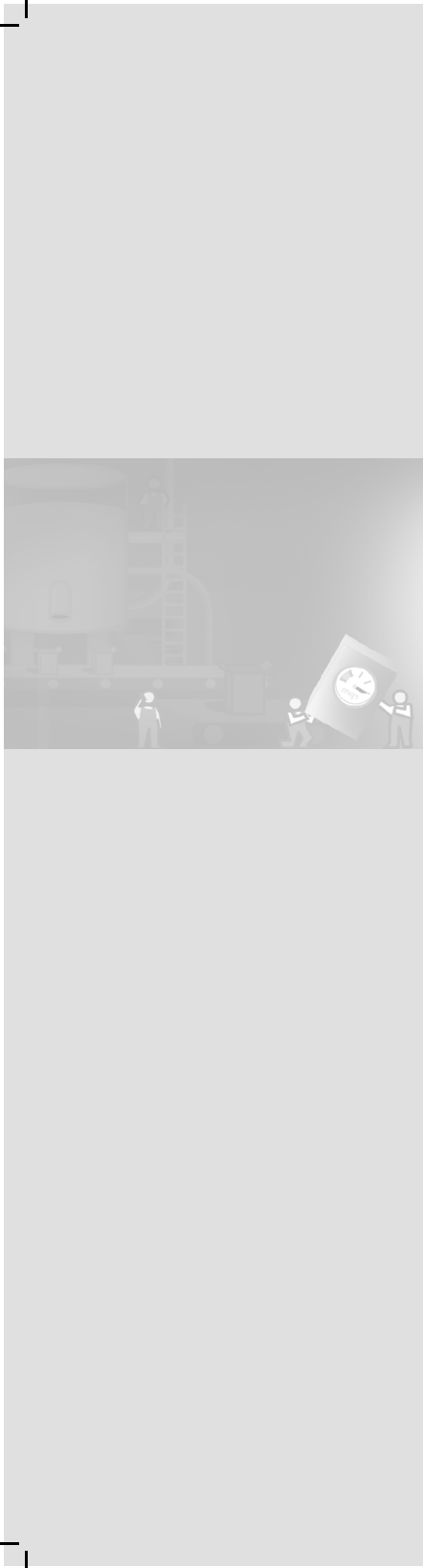


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1 Welcome





Welcome to WinCC flexible “Getting Started Advanced”. Based on the example of a fruit juice mixing plant, this manual explains how to use WinCC flexible to enhance an existing configuration for a higher performance HMI device.

“Getting Started - First Time Users” explains how to configure a user interface for the OP 77B HMI device. The fruit juice mixing plant is now connected to an OP 270 6” HMI device which supports the following, additional tasks:

- Reducing engineering expenditure by using faceplates
- Logging alarms and production data
- Automatic output of production and status reports at the end of each shift
- Toggling the fruit juice mixing plant between auto and manual mode
- Administration of operators with different access rights
- Changing the user interface language between English and German

In order to provide this functionality on the HMI device, the existing configuration must be modified and enhanced.

The configuration steps necessary to do this are explained in the “Getting Started - Power Users” manual:

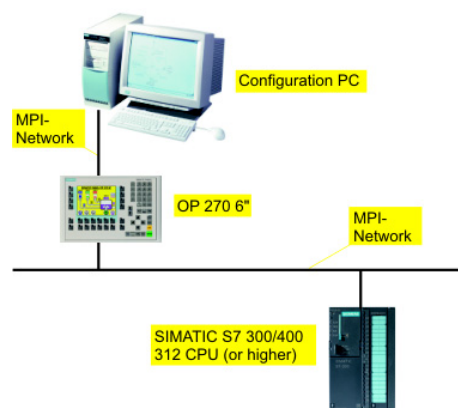
- Opening the project
- Enhancing the configuration
- Creating faceplates
- Logging alarms and process values
- Configuring reports
- Creating scripts

1 Welcome

- Configuring a user administration
- Setting up a multilingual user interface
- Adapting screen navigation
- Transferring the project to the OP 270 6" HMI device
- "Totally Integrated Automation"

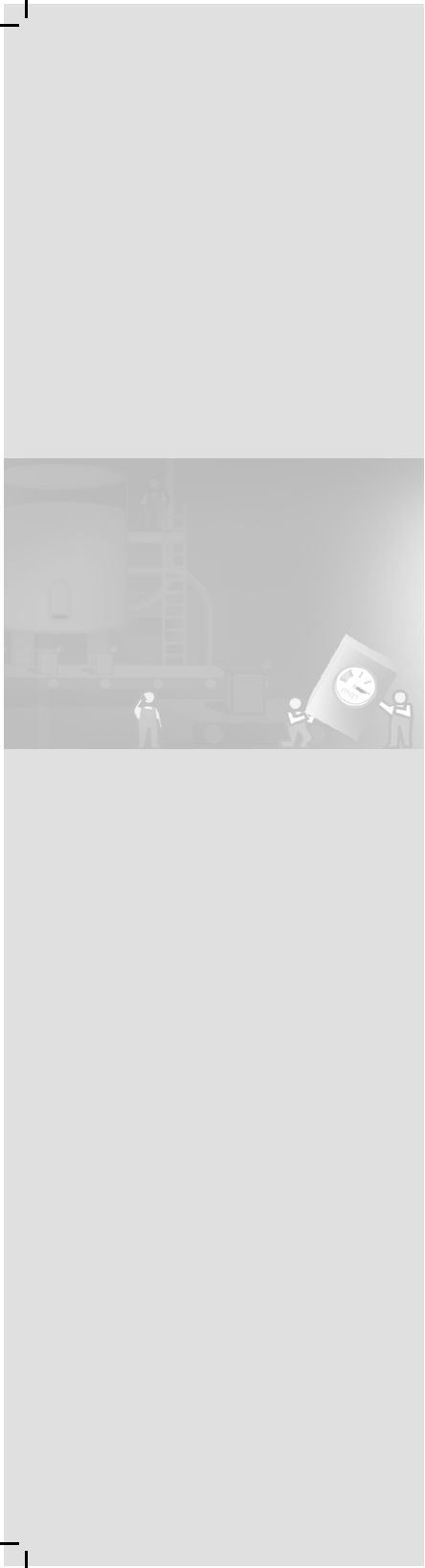
The WinCC flexible CD-ROM enclosed contains programs with which you can complete these configuration steps. Minimum requirement for those tools is WinCC flexible Edition "Standard" on the engineering computer.

Components used for the example in this Getting Started:

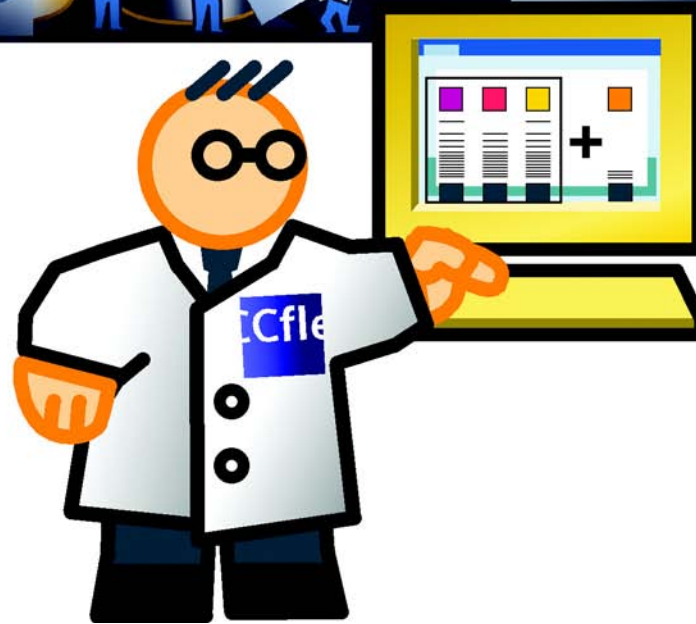


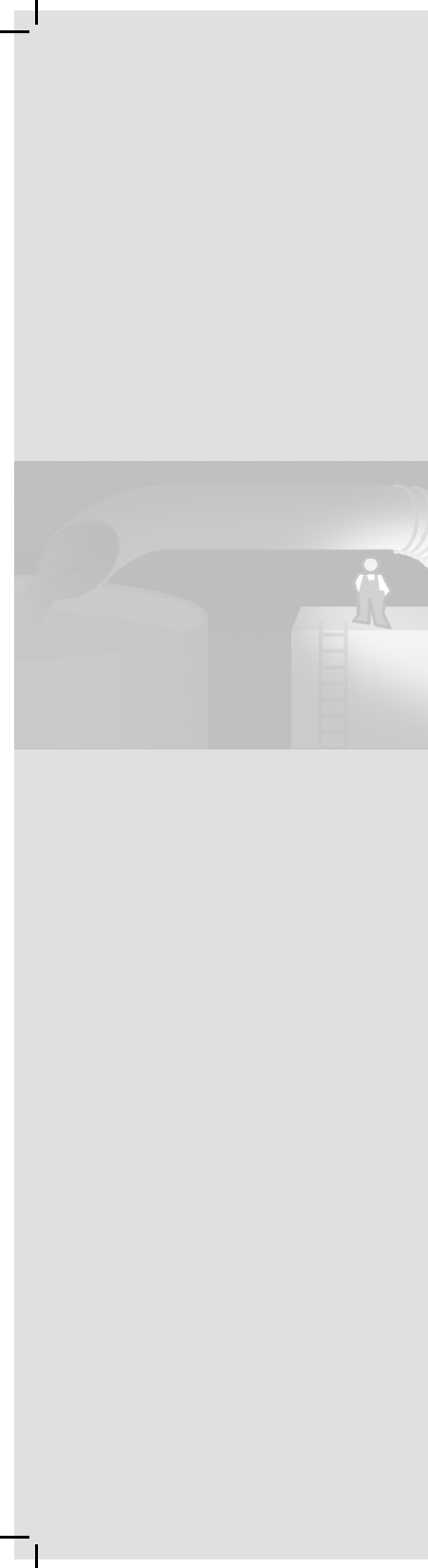
You may also use HMI devices from the 177, 270-, 277 and 370 classes. However, we advise you to use OP 270 6", because this allows you to use the provided project from the Getting Started Advanced.

If an HMI device with different functionality is used, the configuration steps necessary may deviate from the steps explained. If there is no HMI device available, you can also simulate the operation of the HMI device on the engineering computer.



2 Enhancing the configuration





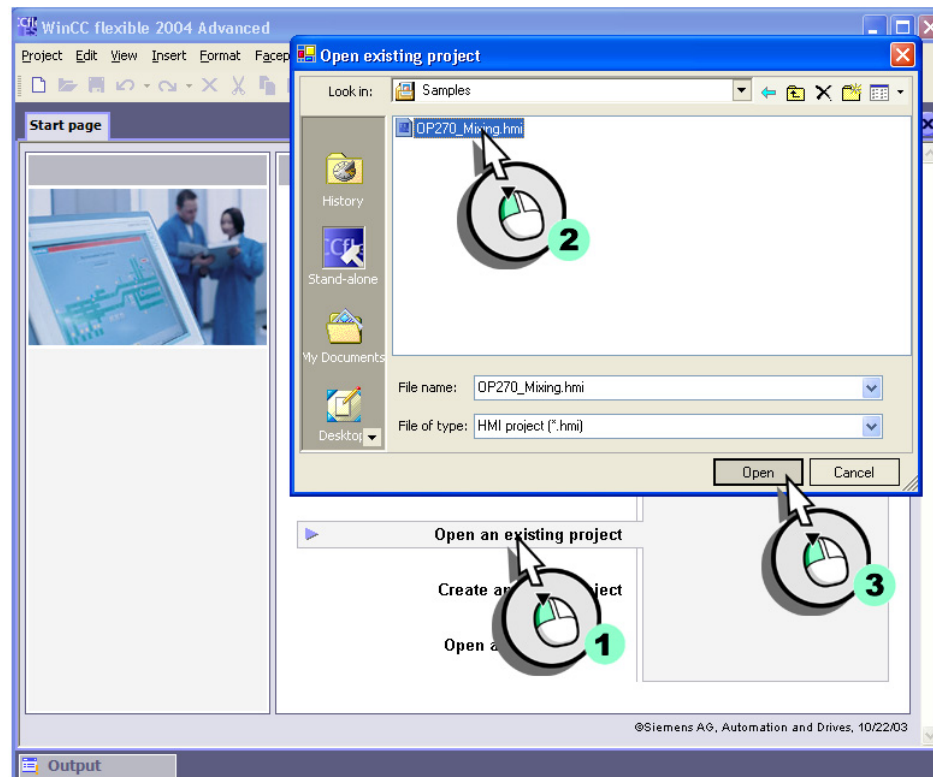
2.1 Opening the project

The “OP77B_Mixing” project, created in Getting Started - First Time Users,” is used as the basis for the configuration. In order to set the focus on configuring the new functionality, the “OP77B_Mixing” project has been adapted as far as possible to the new OP 270 6” HMI device by an engineering office.

2 Enhancing the configuration

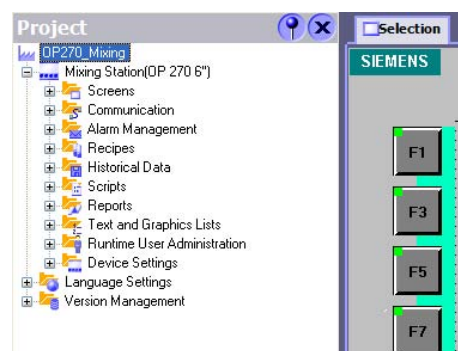
We shall thus open the adapted project in the first step, and determine the changes. The self-extracting archive Project_GettingStarted_Fortgeschrittene_WinCC_flexible_2005.exe in the "Documents\[language]\Getting Started" folder on your WinCC flexible CD3 contains the project, and is extracted to the default path: "C:\Temp"). The archive with "Complete" suffix contains the entire configuration.

1. Start WinCC flexible, and then load the "OP270_Mixing" project.

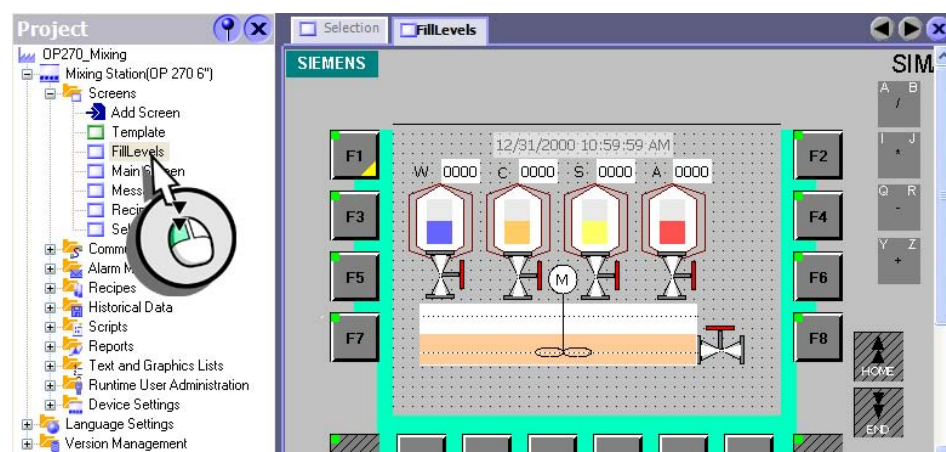


2.2 What's new

The OP 270 6" HMI device is equipped with a larger display and offers more functions than the OP 77B. The Project view reflects the more comprehensive functionality:



The larger display has enabled the engineering service to display the fill level indicator in closer detail. Open the "FillLevels" screen and see for yourself:



The house icon above the <F9> function key belongs to the new navigation concept, which has also been adapted. The navigation concept is described at the end of this configuration.

2 Enhancing the configuration

Before we configure the new functionality, three items have to be modified in this project:

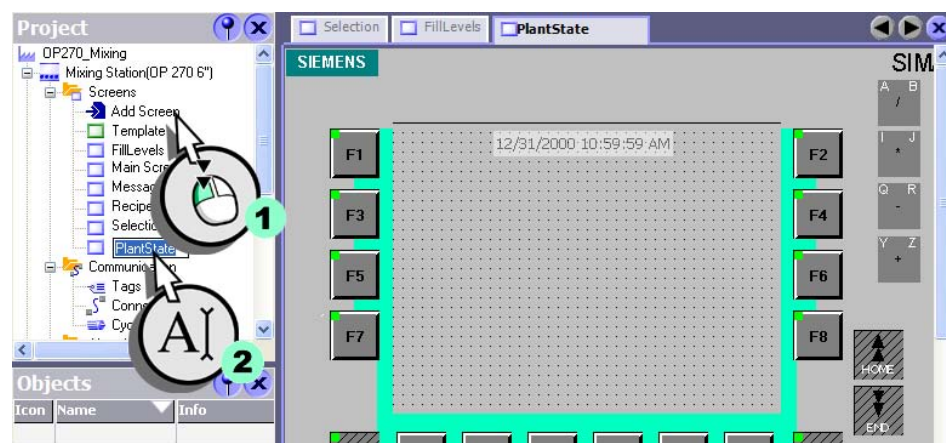
- An incoming alarm should trigger a change to a specific screen ("Loop-In-Alarm").
- The extended Recipe view is used in order to operate the recipes.
- The alarms for the mixer speed should be able to be filtered.

2.3 Configuring the loop-in-alarm

A Loop-In-Alarm is configured in order to change to a screen which contains relevant information on an incoming alarm.

The control system of our fruit juice mixing plant outputs an alarm when the mixer speed exceeds the configured limits. To allow the operator to take immediate action, we create a screen to visualize the mixer speed.

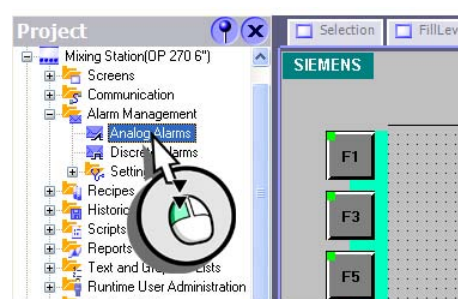
1. Create the "PlantState" screen:



Create the mixer speed view in the further course of your configuration.

Configuring the Loop-In-Alarm

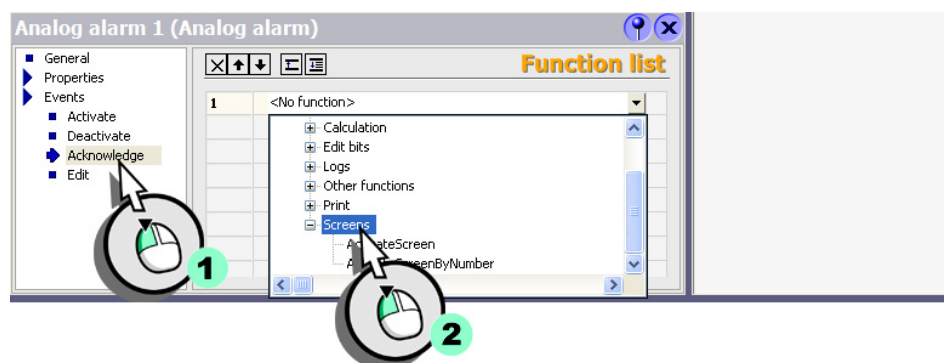
1. Open the "Analog Alarms" editor:



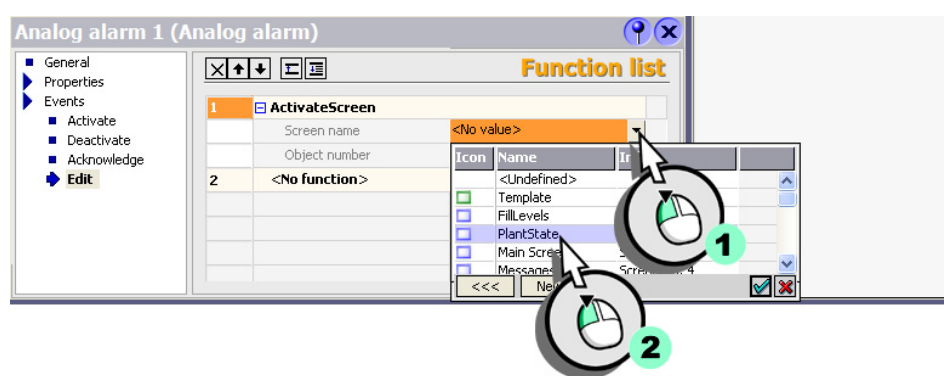
2. Configure the "Mixer speed too high" alarm so that, when it is processed, the system changes to the "PlantState" screen.

2 Enhancing the configuration

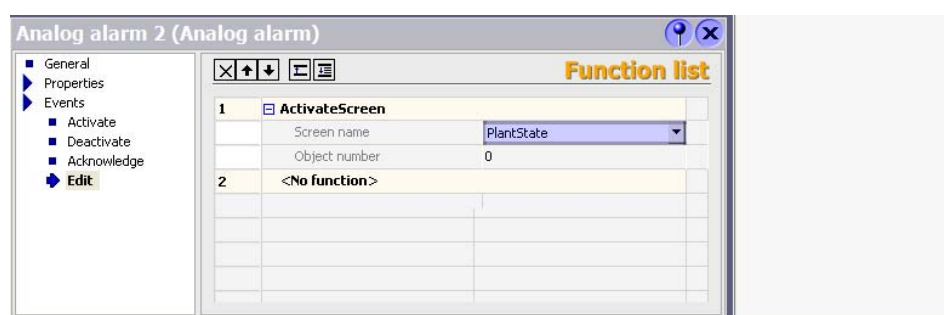
3. Select the "ActivateScreen" system function:



4. Select the "PlantState" screen as parameter:



5. In the same way, configure the "Mixer speed too low" alarm.

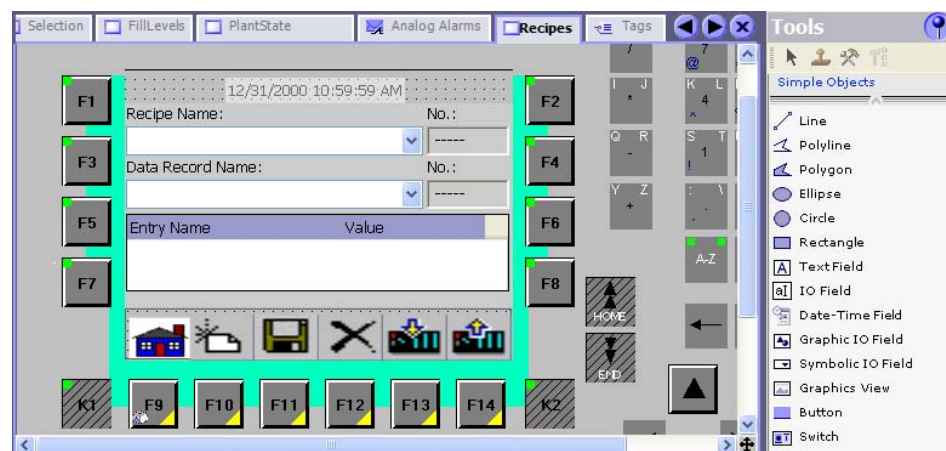


HMIs of the OP 270 series or higher support the configuration of recipe screens in addition to recipe views. A recipe screen is an individual input screen form which consists of IO fields and screen objects with recipe functionality.



2.4 Adapting the recipe configuration

The OP 270 6" HMI device is equipped with a larger display compared to the OP 77B. Thus, use the extended Recipe view to display and edit recipes:



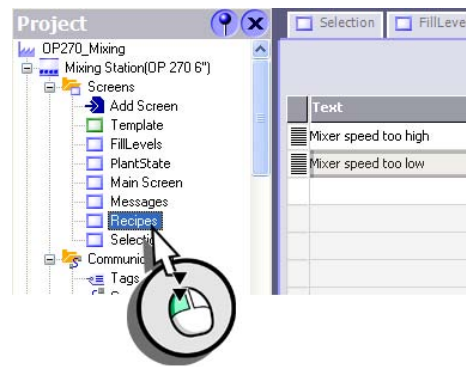
The enlarged Recipe view provides a clear view of the recipes, and of the selected recipe data record and values.

2 Enhancing the configuration

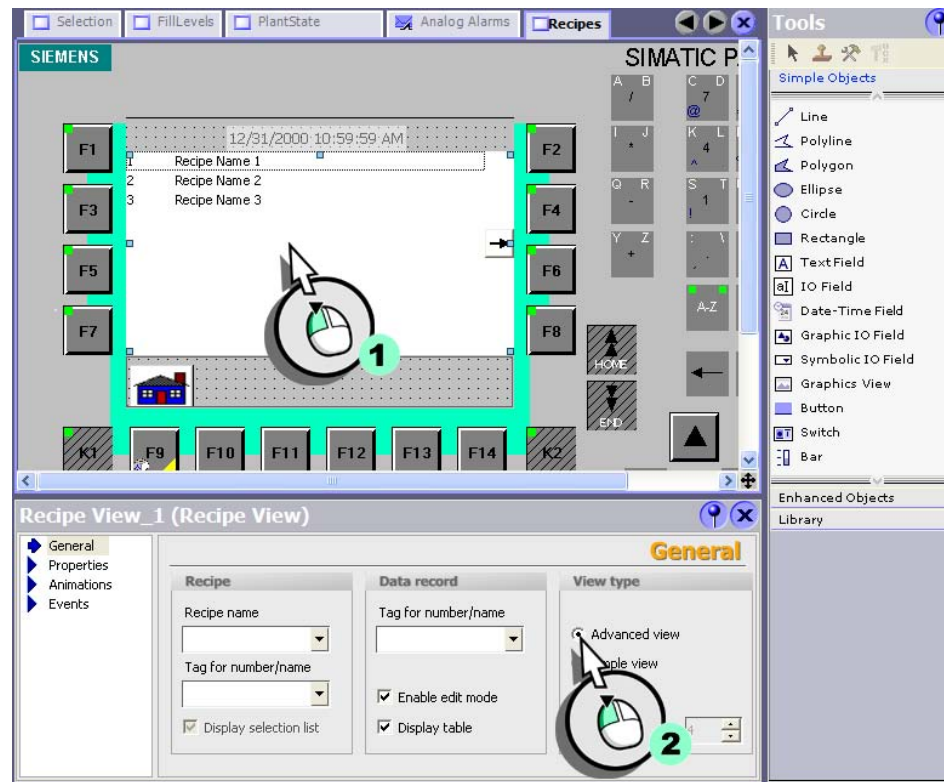
2.5 Configuring extended recipe views

The next section describes how to adapt the existing recipe to the enhanced functional options of the HMI device.

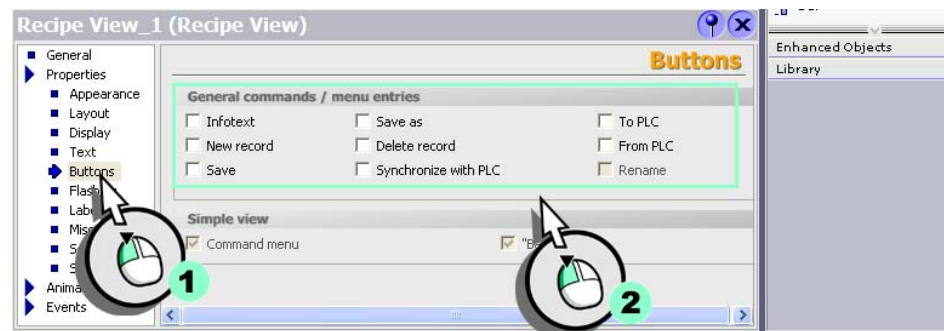
1. Open the “Recipes” screen:



2. Change the layout of the simple Recipe view:



3. The recipe commands are executed using the function keys of the HMI device. Thus, disable all integrated buttons of the recipe view:

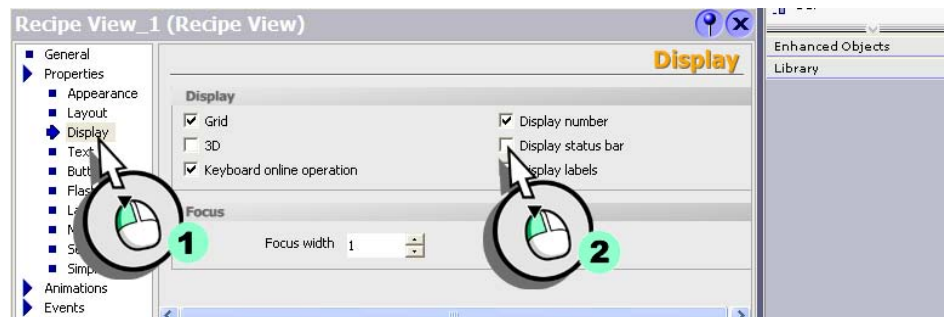


The default system functions are used to operate the Recipe view using the function keys of the HMI device. Each recipe command is assigned a corresponding system function.

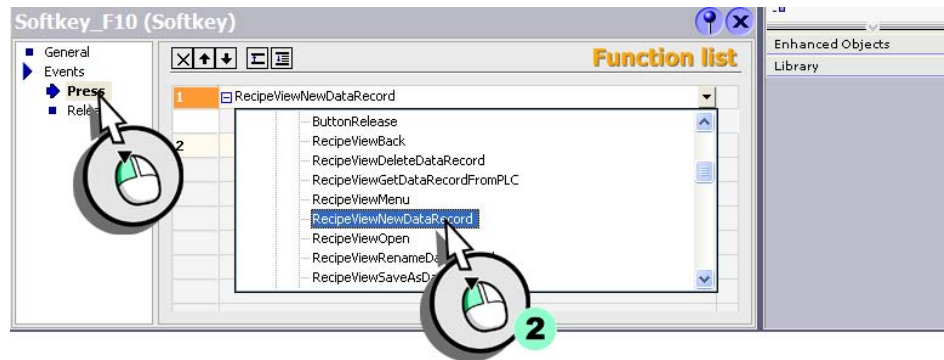


2 Enhancing the configuration

4. in addition, disable the status bar view:



5. Assign the "RecipeViewDataRecordNew" system function to the "Print" event of the <F10> function key.



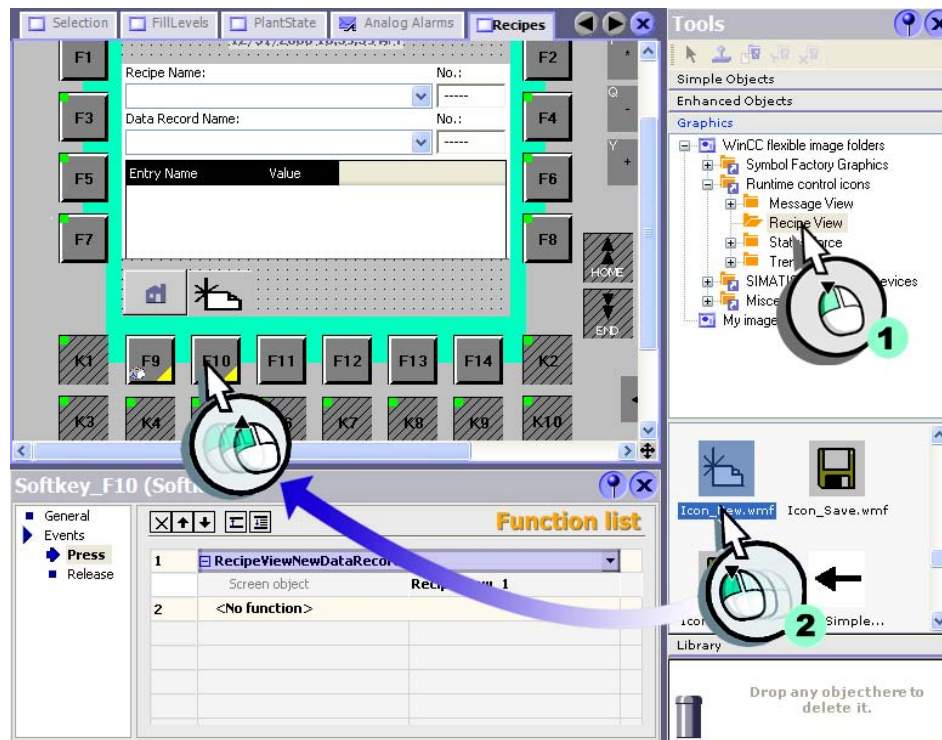
The system function is available in the "Keyboard online operation for screen objects" category.



6. Assign those system functions to the following function keys in the same way:

- <F11> "RecipeViewSaveDataRecord"
- <F12> "RecipeViewDeleteDataRecord"
- <F13> "RecipeViewSetDataRecordToPLC"
- <F14> "RecipeViewGetDataRecordFromPLC"

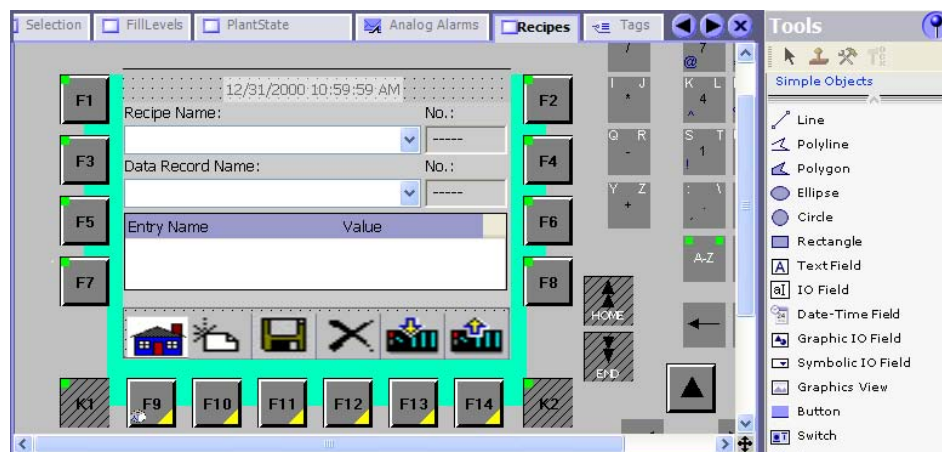
7. Assign the "Icon_New" icon label to the <F10> function key:



2 Enhancing the configuration

8. Assign the following icons to function keys <F11> to <F14>:

- <F11> "Icon_Save"
- <F12> "Icon_Delete"
- <F13> "Icon_ToPLC"
- <F14> "Icon_FromPLC"

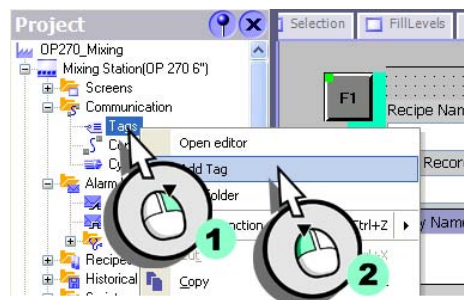


2.6 Fill Recipe view automatically

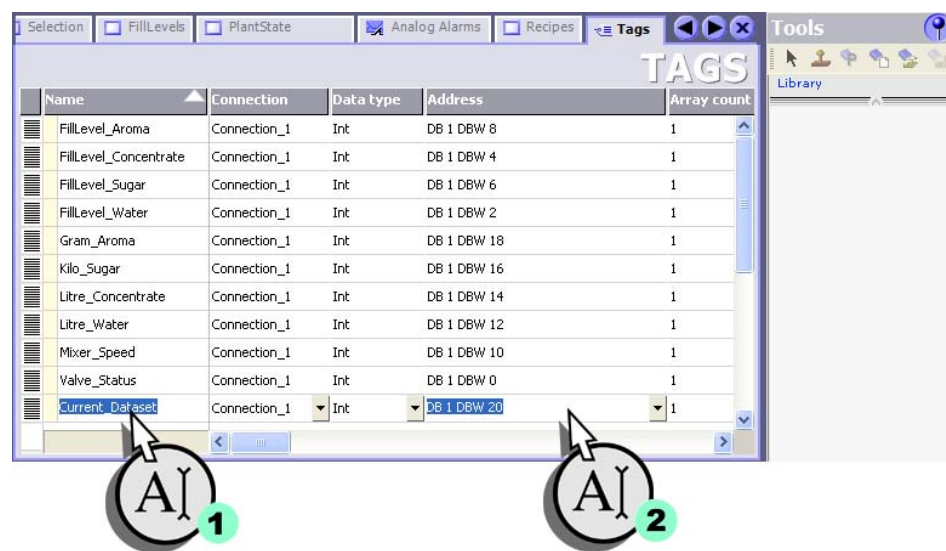
When the operator changes to the “Recipes” screen on the HMI, the recipe view of the last mixing ratio loaded should be displayed.

To do this, create the “Current_Dataset” tag which is always supplied with the recipe data record number when a recipe data record is loaded to the Recipe view.

1. Create the “Current_Dataset” tag for storing the recipe number:

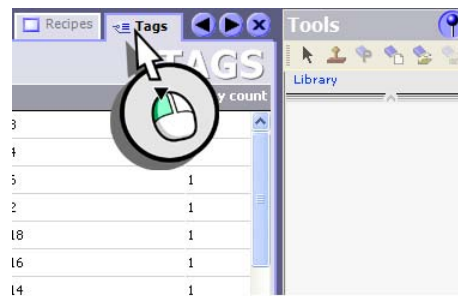


2. Configuring the tag:

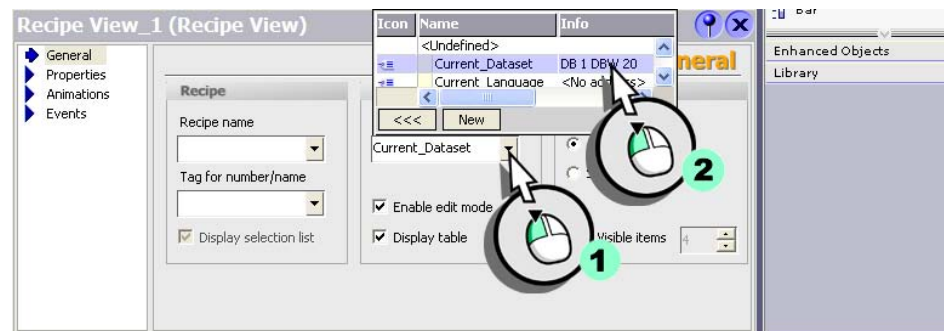


2 Enhancing the configuration

3. Change to the "Recipes" screen:



4. Select the recipe view, then select the tag for storing the recipe data record number:



When the message filter is active, the alarm display only displays alarms which are contained in the entered character strings. Thereby this distinguishes between upper and lower case letters.
The filter tag must be of the "String" data type.



2.7 Filter alarms in the alarm view

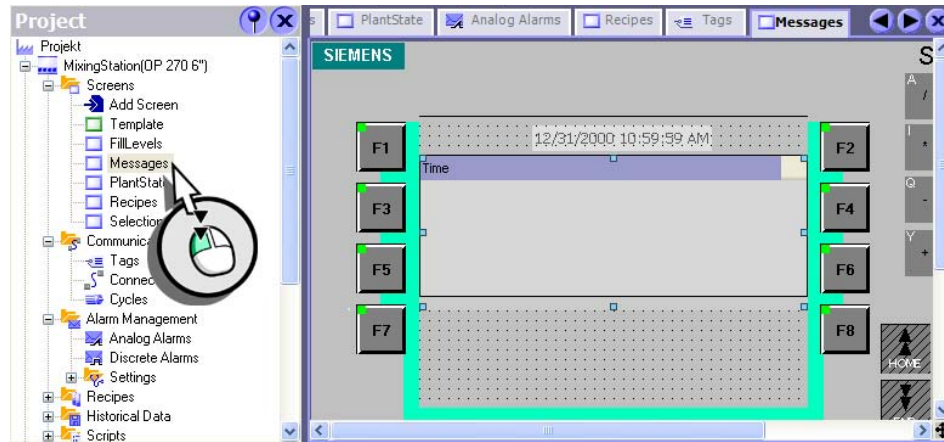
The operator should be able to filter the displayed alarms for the course of the speed for any given criteria. With the filter criterion "low" the operator can display only the alarms concerning rpm low limit exceeded in the alarm display.

1. Create the "Filter_Messages" tag, in which the entered filter criterion will be saved:

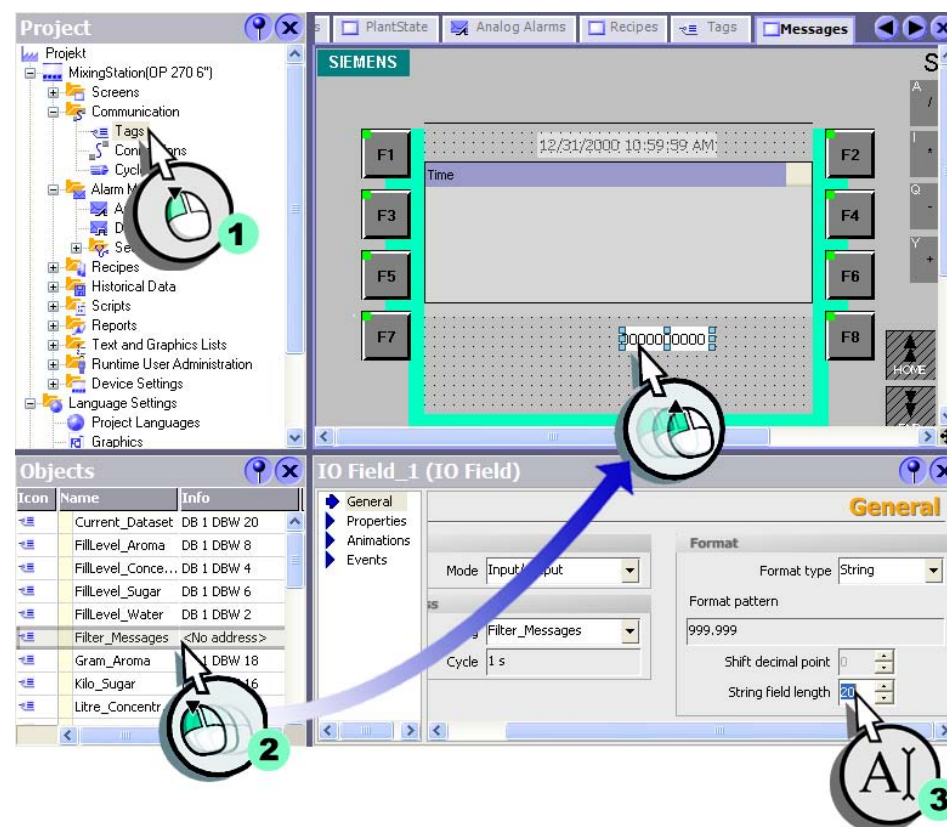
Name	Address	Connection	Data type	Array col
Litre_Water	DB 1 DBW 12	Connection_1	Int	1
Litre_Concentrate	DB 1 DBW 14	Connection_1	Int	1
Kilo_Sugar	DB 1 DBW 16	Connection_1	Int	1
Gram_Aroma	DB 1 DBW 18	Connection_1	Int	1
FillLevel_Water	DB 1 DBW 2			
FillLevel_Sugar	DB 1 DBW 6			
FillLevel_Concentrate	DB 1 DBW 4			
FillLevel_Aroma	DB 1 DBW 8			
Current_Dataset	DB 1 DBW 20			
Filter_Messages	<No address>		String	

2 Enhancing the configuration

2. Open the “Messages” screen and minimize the alarm display:

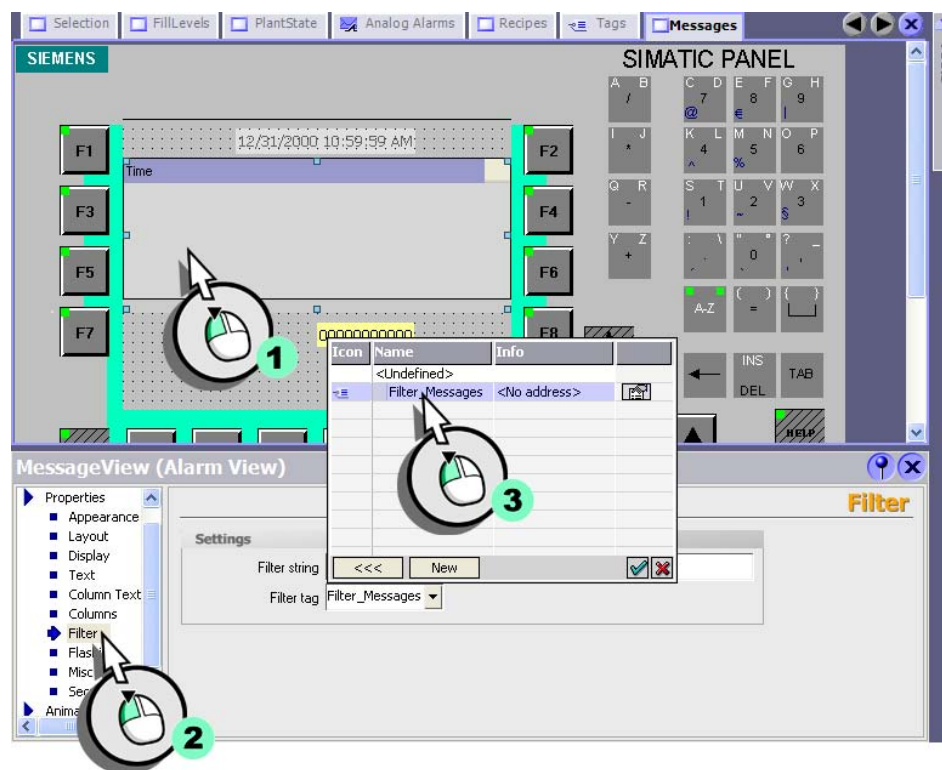


3. Under the alarm display enter an IO field for entering the filter criterion and enter the length of the character string:

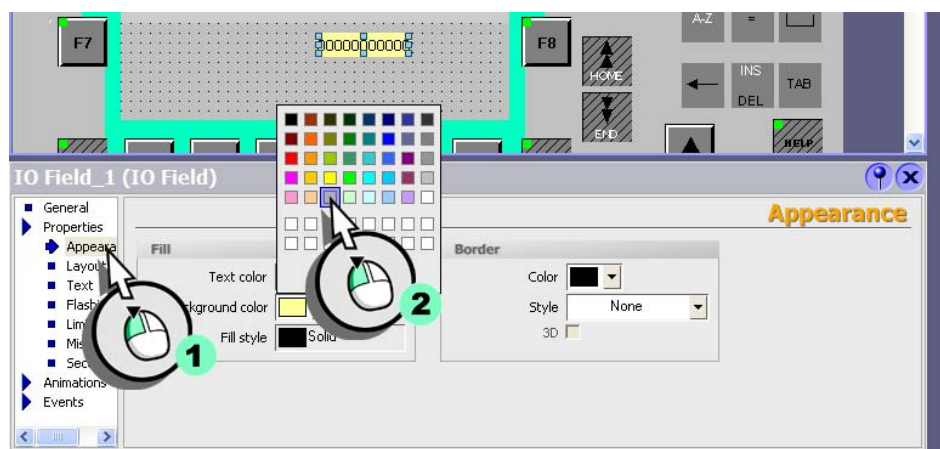


2 Enhancing the configuration

4. Select the filter tag which the filter criterion has assigned to the alarm display:

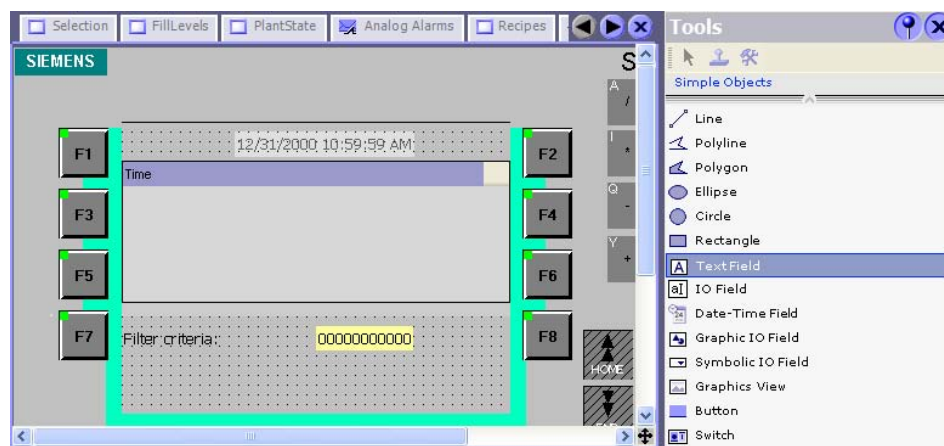


5. Change the background color of the IO field to establish a distinct reference to the alarm display:

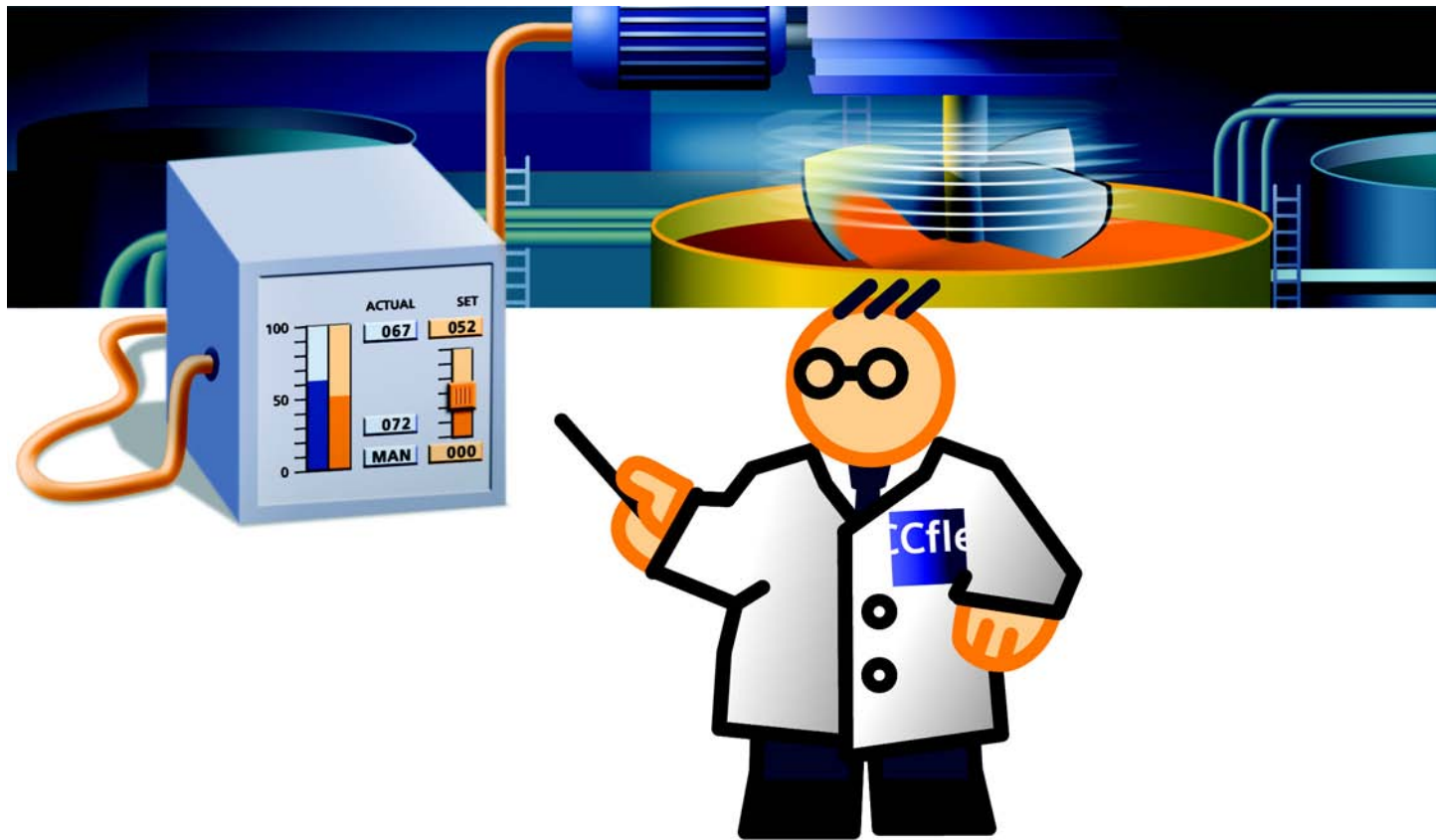


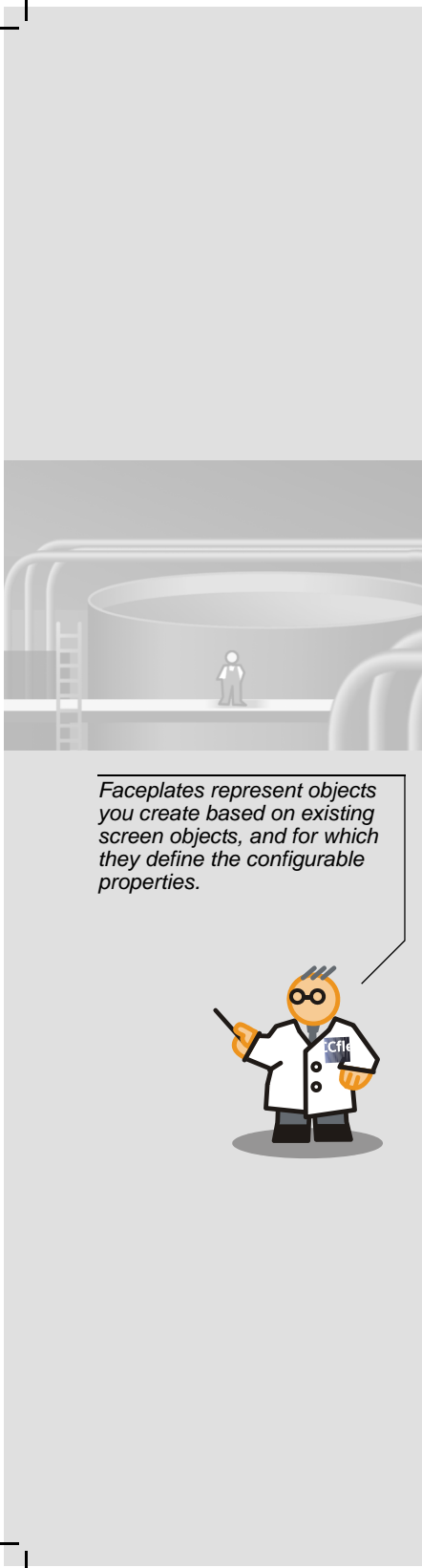
In the course of the configuration a script is programmed, which changes the background color of the alarm display, as soon as the operator has entered a filter criterion.

6. Then add a text field for labeling:



3 Creating faceplates





Faceplates represent objects you create based on existing screen objects, and for which they define the configurable properties.



3.1 What are faceplates?

Next, after you adapted the fill level and recipe views to the enhanced visualization options, create a faceplate for mixer speed control.

In this faceplate the mixer speed control, the plant operating mode as well as the motor specifications of the mixer should be displayed. The faceplate technique lets you create standardized screen objects which you can flexibly integrate in your screen configuration, such as loop control blocks or drive control blocks.

Advantages of faceplates:

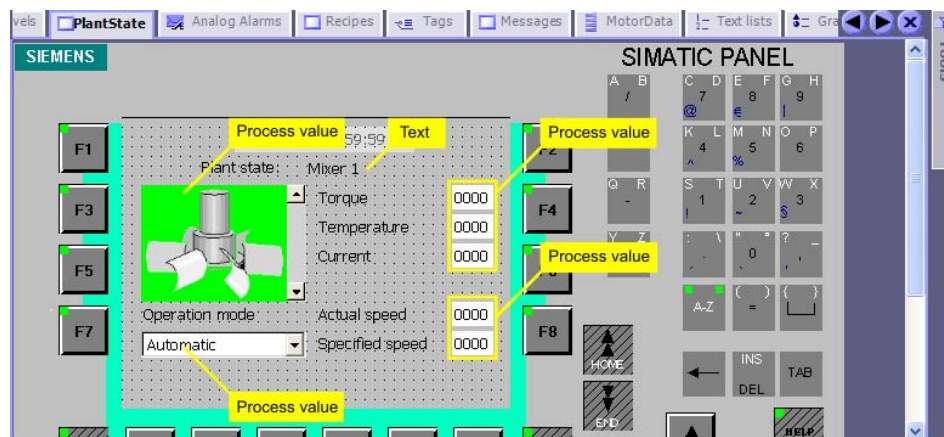
- central modification
All these faceplates are automatically refreshed when you modify any one of these faceplates.
- Reuse in other projects
You can archive faceplates in a library for reuse in other projects.
- Reduction of engineering time
You can quickly integrate frequently used automation components in your configuration. This helps to speed up the implementation of the system expansion.

3 Creating faceplates

3.2 Creating a faceplate for mixer speed control

The faceplate consists of a view of the setpoint and actual speed value, the motor specifications and the plant operating mode. The plant operating mode can be toggled using a selection list. The operator can preset the mixer speed "manually" in runtime.

To be able to configure the faceplate in the form of a screen object, we need to assign the highlighted object properties to the faceplate properties.



A structure is a user defined data type which is assigned a tag.
Structures can only be used in combination with faceplates.

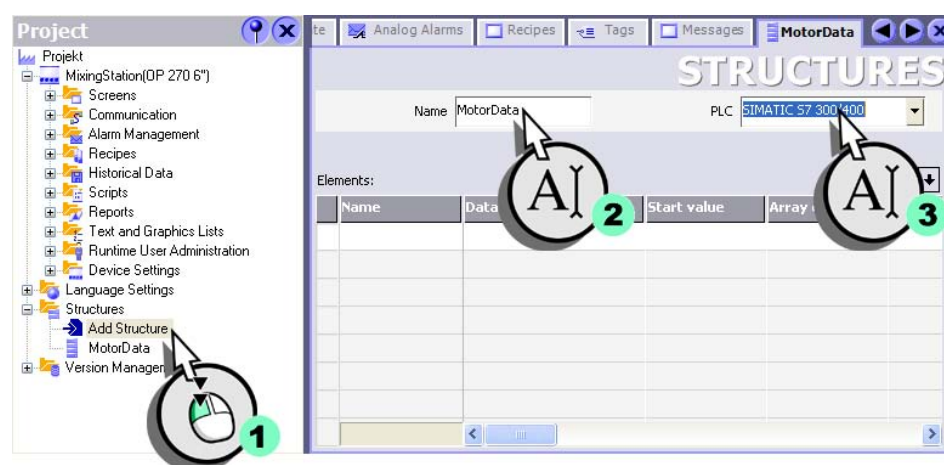


Create structure for the motor specifications of the mixer

With structures you bundle a number of different tags that form one logical unit, e.g., the motor specifications. Structures are project global data and apply to all HMI devices within the entire project.

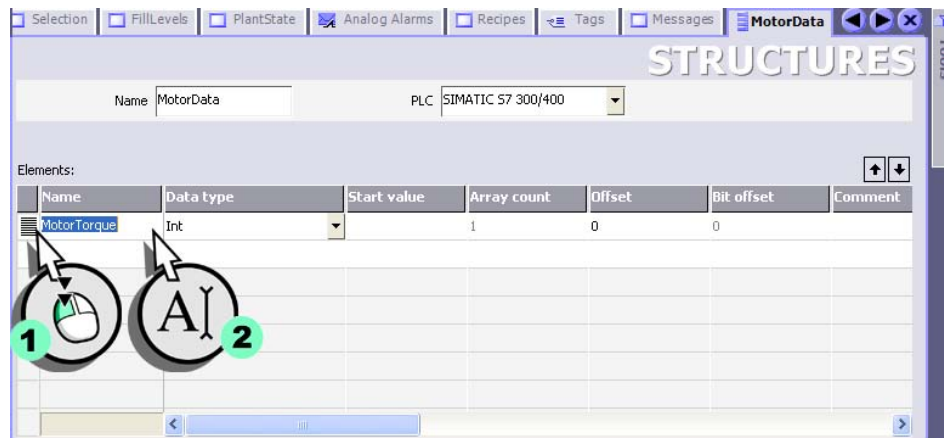
Create a structure in the WinCC flexible project, where you can create an entry for each property of the motor. Thus all required data are available and do not have to be configured as single tags on a faceplate. Furthermore you can use the structure as for all motor specifications with the same properties. To do this create the structure "MotorData", which you will later assign to the tag "Mixer_MotorData" as data type.

1. Create the structure "MotorData", in which the motor specifications of the mixer will be saved:



3 Creating faceplates

2. Create an entry for the torque for the motor:



3. In the same way, create the entries for the motor temperature and the motor current:



Creating tags for mixer speed control

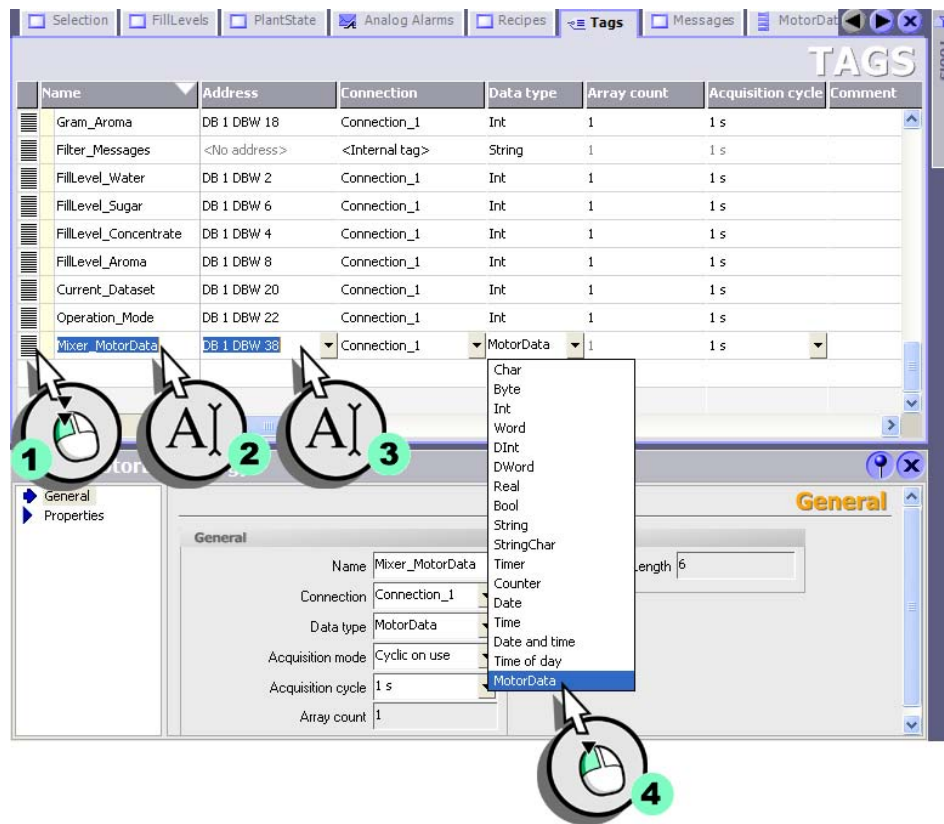
1. Create the tag "Operation_Mode" for switching over the operating mode:

The screenshot shows the WinCC flexible TAGS editor interface. On the left, a project tree shows the 'Tags' folder under 'MixingStation(OP 270 6")'. A mouse cursor is clicking on the 'Tags' folder, indicated by a green circle with the number '1'. The main window displays a table of existing tags. A new tag, 'Operation_Mode', is being added at the bottom of the list, indicated by a green circle with the number '2'. The table columns are Name, Address, Connection, Data type, and Array count. The 'Operation_Mode' tag has the address 'DB 1 DBW 22', connection 'Connection_1', data type 'Int', and array count '1'. A green circle with the number '3' and the letters 'AI' is positioned over the 'Operation_Mode' tag, indicating its data type.

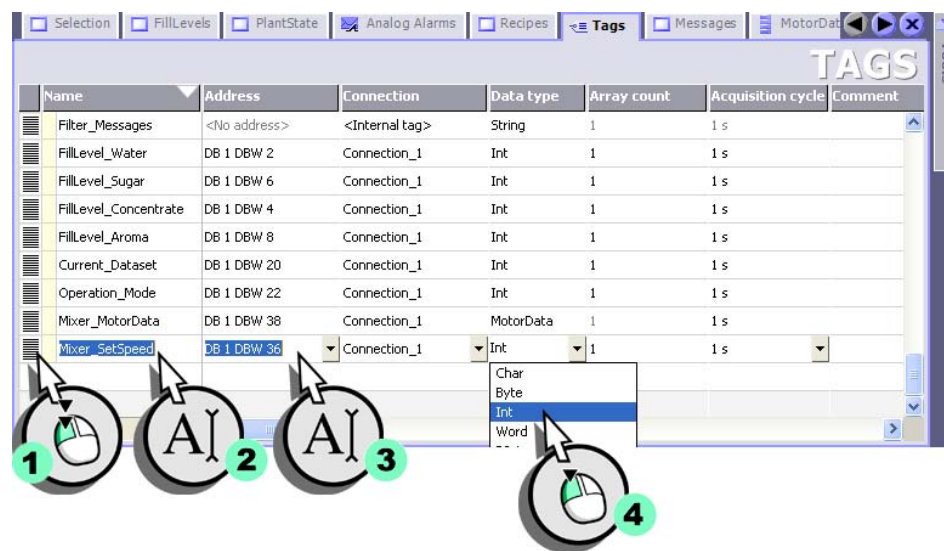
Name	Address	Connection	Data type	Array count
Litre_Concentrate	DB 1 DBW 14	Connection_1	Int	1
Kilo_Sugar	DB 1 DBW 16	Connection_1	Int	1
Gram_Aroma	DB 1 DBW 18	Connection_1	Int	1
Filter_Messages	<No address>	<Internal tag>	String	1
FillLevel_Water	DB 1 DBW 2	Connection_1	Int	1
FillLevel_Sugar	DB 1 DBW 6	Connection_1	Int	1
FillLevel_Concentrate	DB 1 DBW 4	Connection_1	Int	1
FillLevel_Aroma	DB 1 DBW 8	Connection_1	Int	1
Current_Dataset	DB 1 DBW 20	Connection_1	Int	1
Operation_Mode	DB 1 DBW 22	Connection_1	Int	1

3 Creating faceplates

2. Create the tag “Mixer_MotorData”, in which the motor specifications of the mixer will be saved:

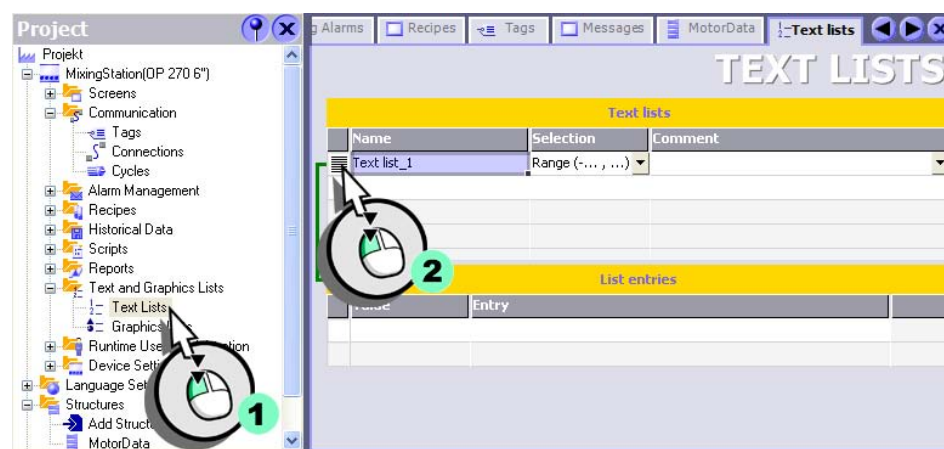


3. Create the tag “Mixer_SetSpeed” to preset the setpoint speed of the mixer:



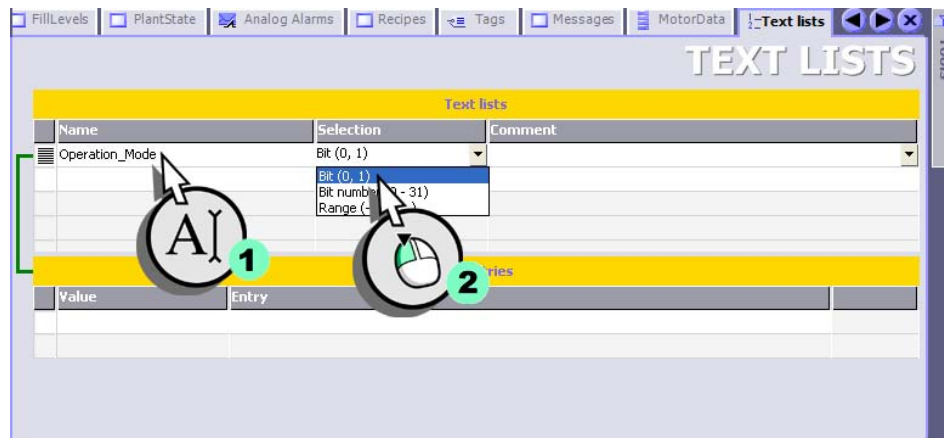
Creating a text list for the switchover of the plant operating mode

1. Create a new text list:

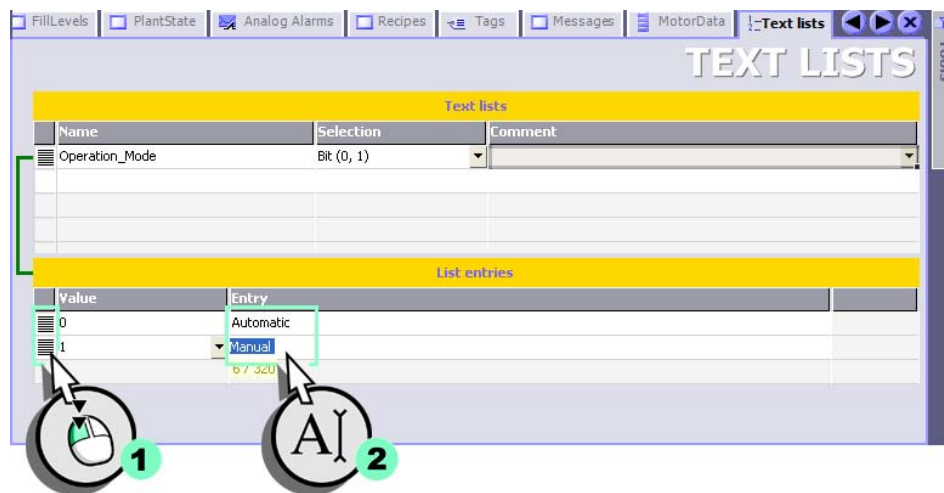


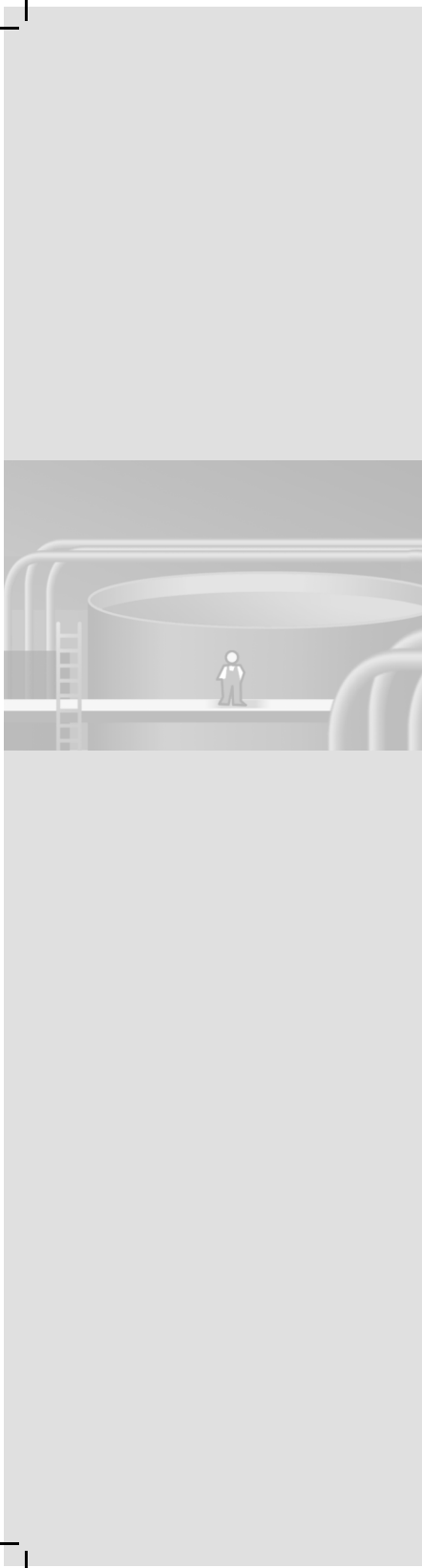
3 Creating faceplates

2. Select "Operation_Mode" (1) as the name and select "Bit (0,1)" (2):



3. Create two list entries (1), and then enter the relevant operating modes (2):





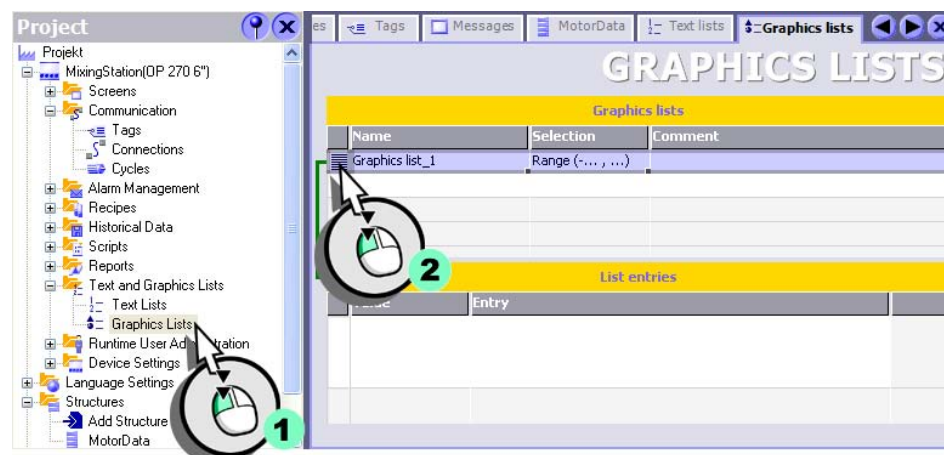
Creating a graphics list for the visualization of the plant operating mode

The Graphics List also visualizes the plant operating mode in graphic format. The “green” color symbolizes “Auto” mode, and “blue” represents “Manual” mode.

Value “0”: “Auto” mode, background color “green”, “Mixer_AutomaticMode” graphic object

Value “1”: “Manual” mode, background color “blue”, “Mixer_ManualMode” graphic object

1. Create a new graphics list to visualize the plant operating mode:

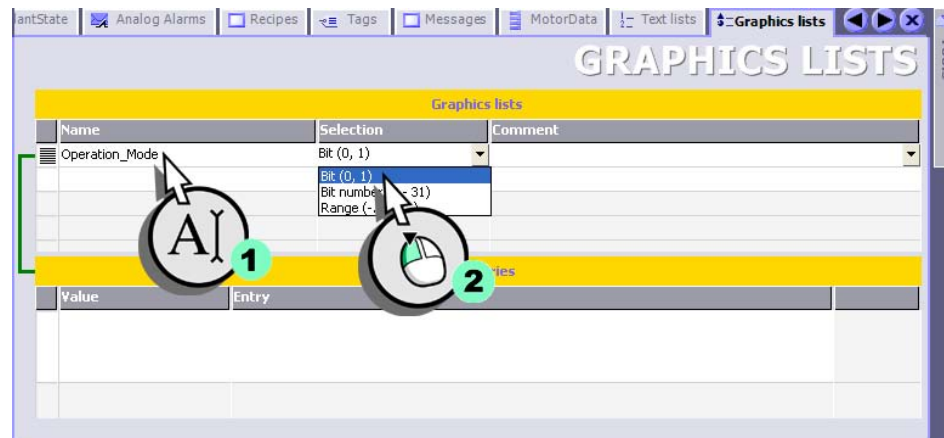


3 Creating faceplates

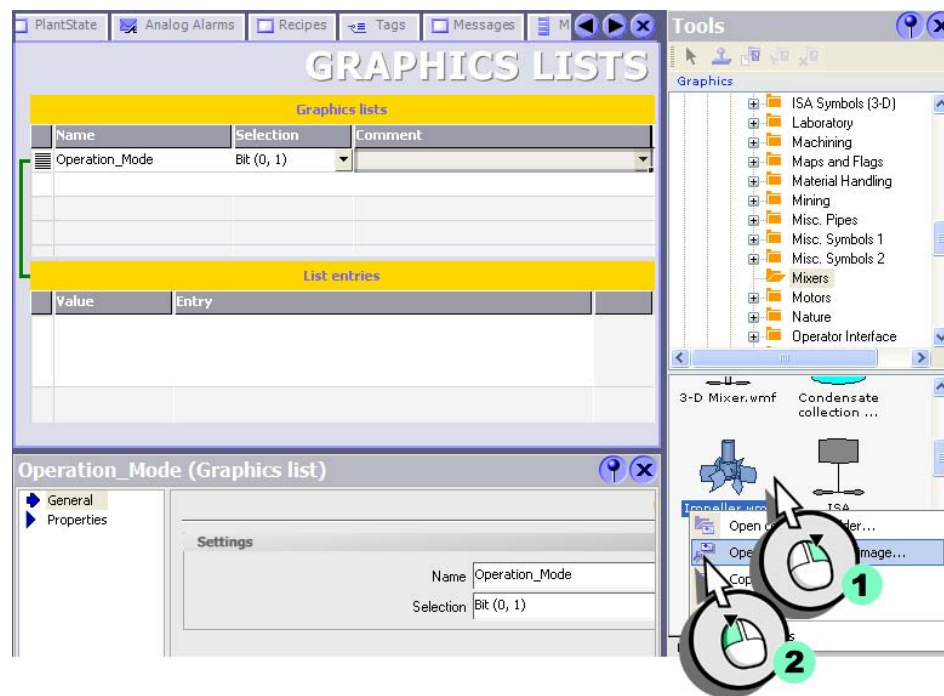
You can find the mixer image in the toolbox in the category "Graphics" under "SymbolFactory\Symbol Factory 256 Colors\Mixers".



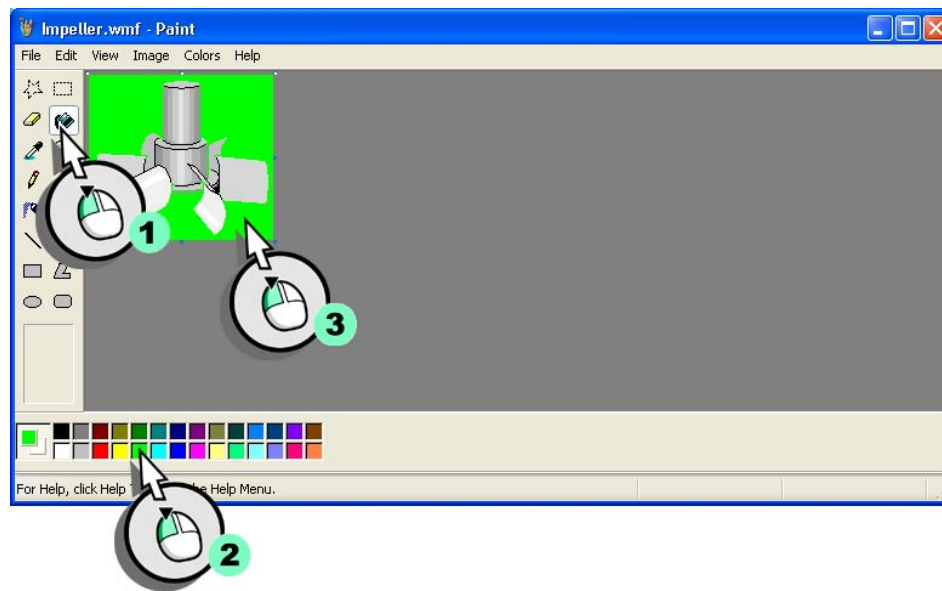
2. Select "Operation_Mode" (1) as the name and select "Bit (0,1)" (2):



3. Open the mixer image for further editing:

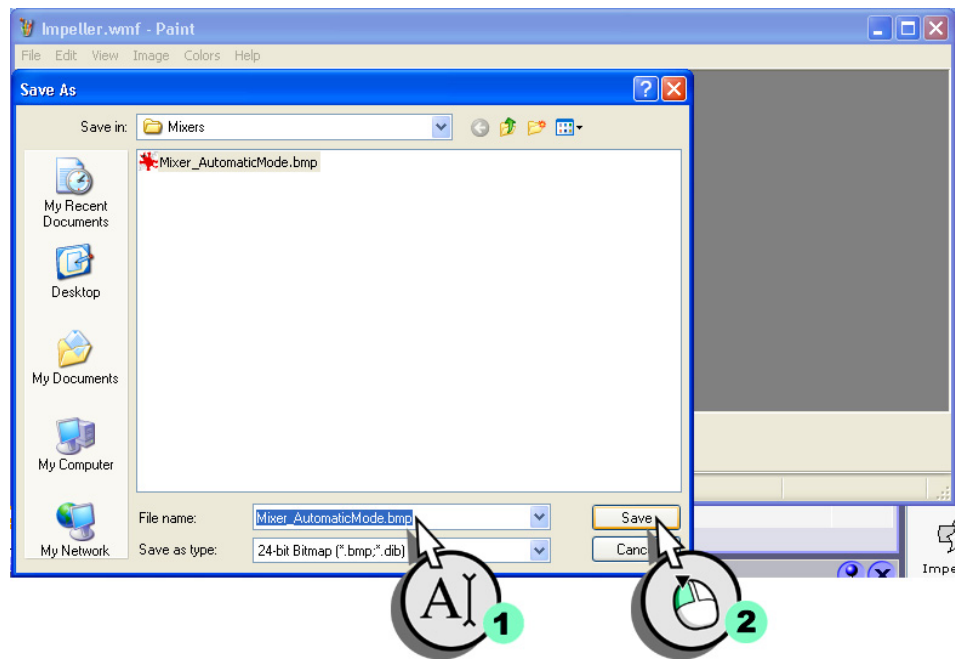


4. Change the background color for "Auto" mode:

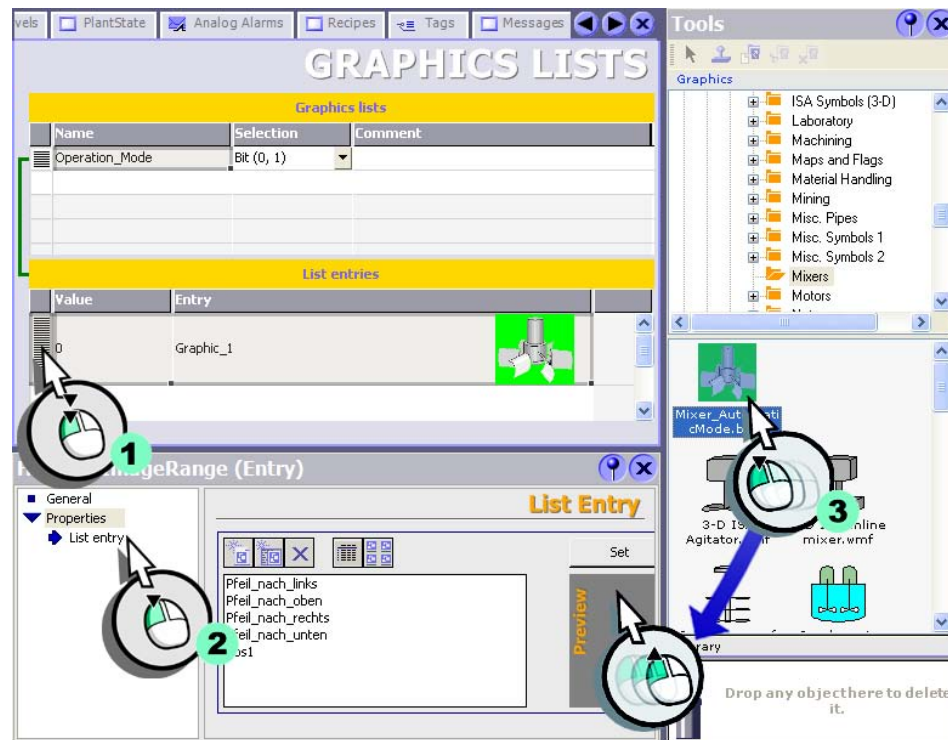


3 Creating faceplates

5. Save the mixer image to the "Mixer_AutomaticMode" file:

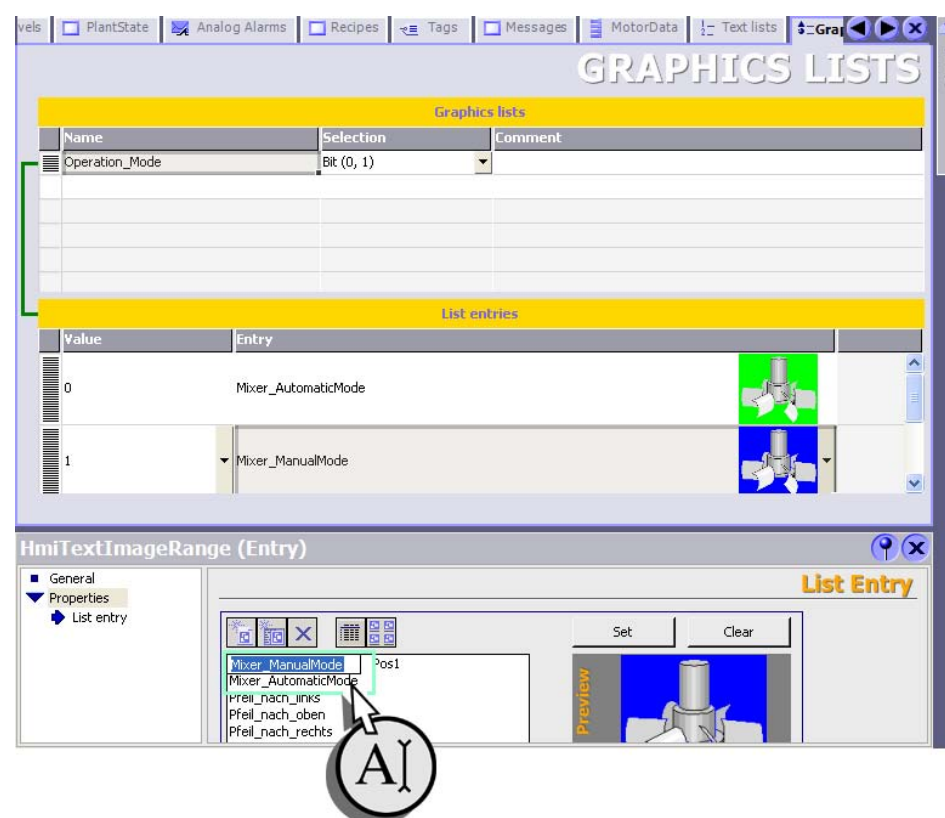


6. Insert the edited mixer image in the graphics lists:



3 Creating faceplates

7. In the same way, create the entry for the “Manual” plant operating mode and afterwards assign meaningful names.



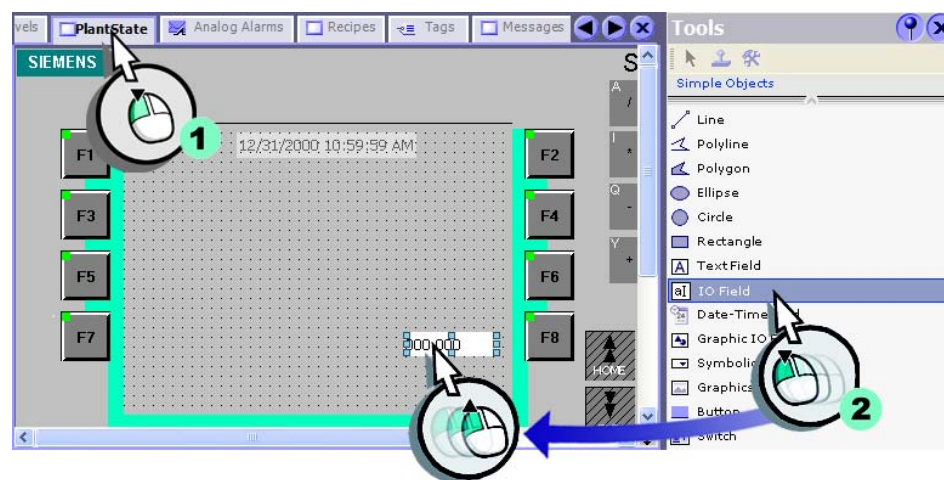
Insert Control and Display Panel

To create faceplates for the mixer speed control we will need the following screen objects.

- 1 IO field to preset the setpoint speed
- 4 output fields to display the motor specifications and the actual speed value
- 1 symbolic IO field to switch the operating mode
- 1 graphical IO field to display the operating mode
- 8 text fields for labeling

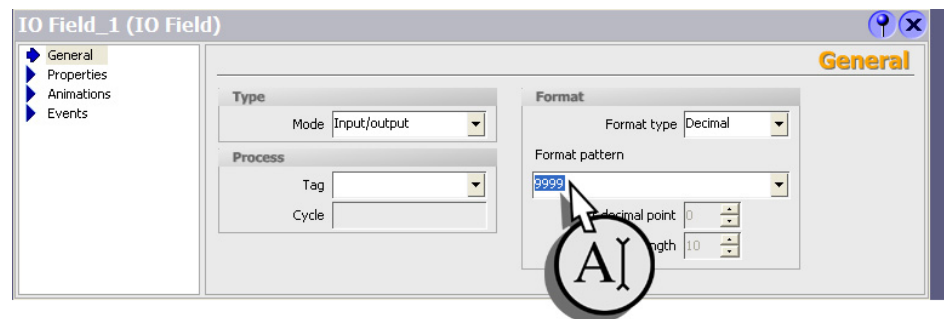
In the following insert the image objects and position them on the screen.

1. Change to the "PlantState" (1) screen and insert a symbolic IO field to display the system operating mode (2):



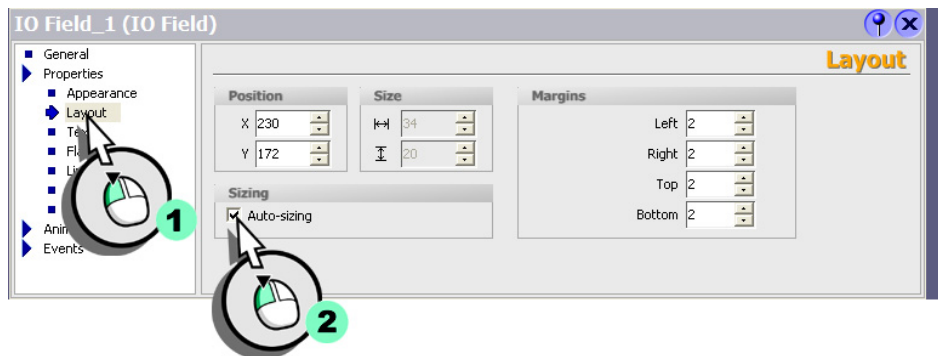
2. Configure the IO field:

- Change the layout of the IO field:

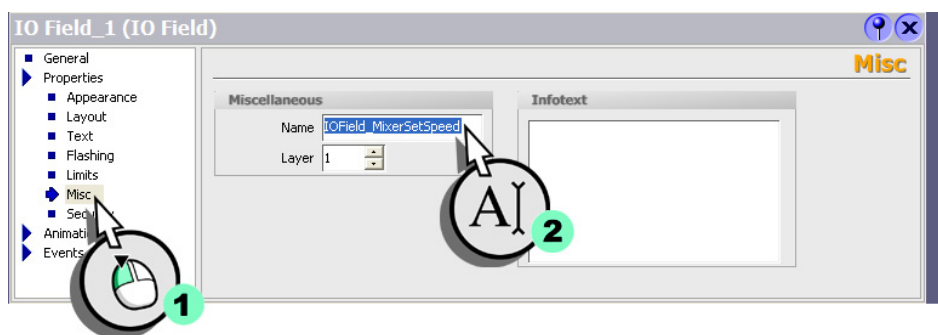


3 Creating faceplates

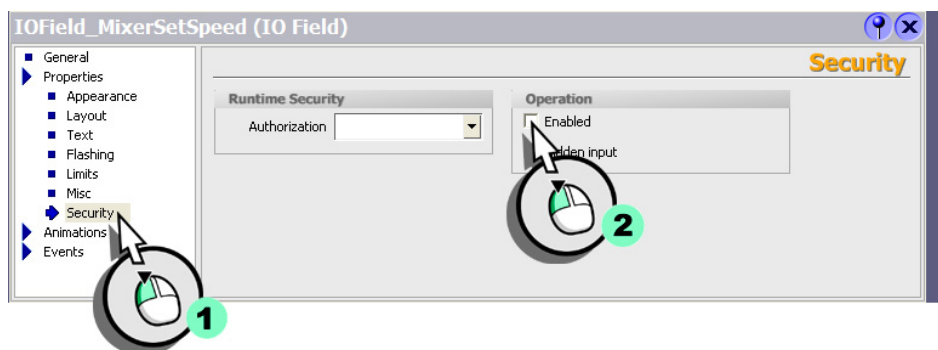
- Define automatic adaptation of the size of the IO field to its contents:



- Enter "IOField_MixerSetSpeed" as the name, so that you can create a unique reference to the IO field during further configuration.



- Disable operation of this IO field, because the fruit juice mixing plant operates in auto mode by default. Use an animation that you can execute to enable the IO field:



Also assign these IO fields names, so that they can be easily identified:
 "IOField_MotorTorque"
 "IOField_MotorTemperature"
 "IOField_MotorCurrent"
 "IOField_MixerActualSpeed"



Multiple option saves time during configuration. You can also configure a complete output field and copy and paste afterwards.

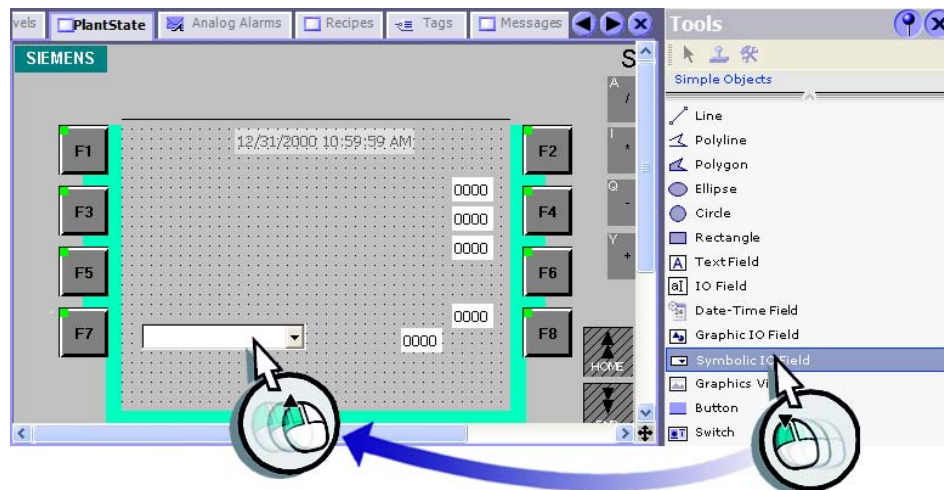


3. Insert four output fields to display the motor specifications and the actual speed value:

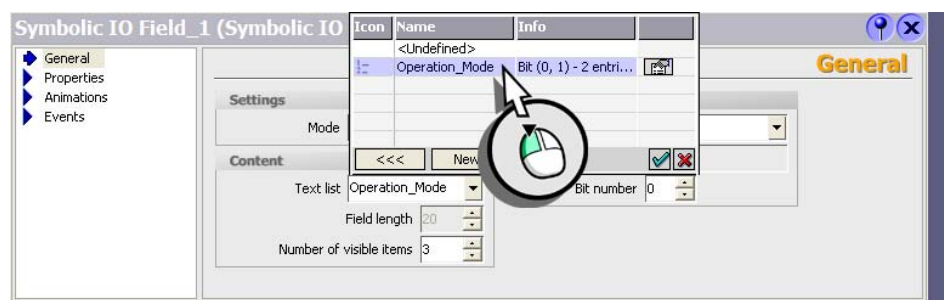
4. Customize the layout and size, as for the IO field which indicates the mixer speed.

3 Creating faceplates

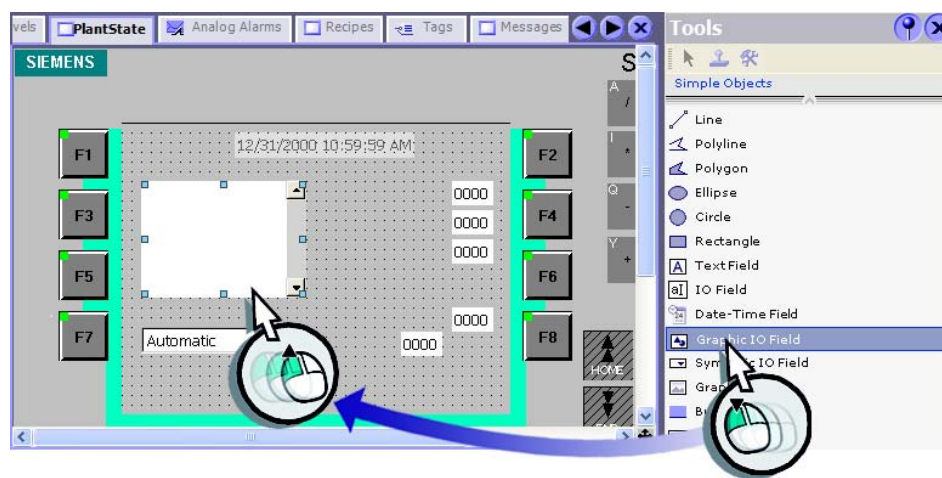
5. Insert a symbolic IO field for switching over the operating mode:



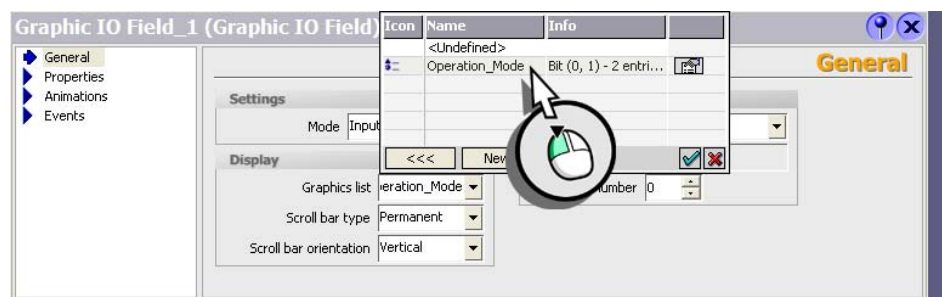
6. Configure the symbolic IO field so that the "Operation_Mode" text list is displayed:



7. Insert the graphic IO field to display the operating mode and configure the graphic IO field as an output field:



8. Configure the graphic IO field so that the graphics list "Operation_Mode" is displayed:



3 Creating faceplates

Also assign these text fields names, so that they can be easily identified:

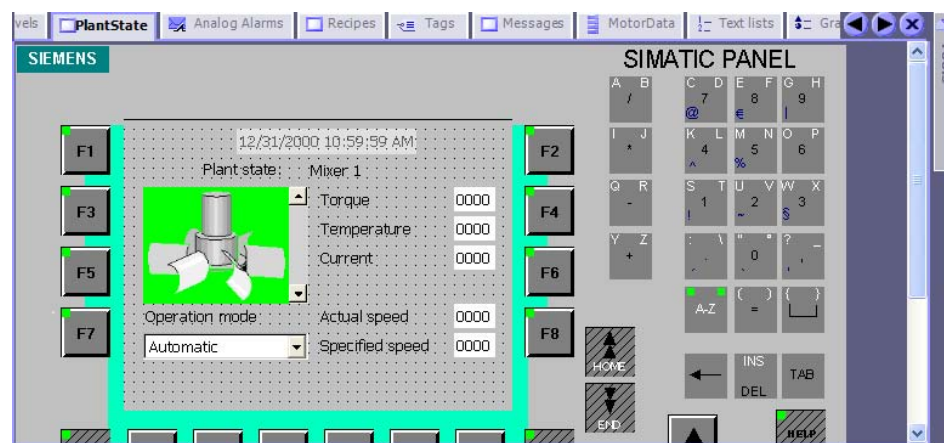
- "TF_PlantState"
- "TF_Mixer"
- "TF_MotorTorque"
- "TF_Temperature"
- "TF_MotorCurrent"
- "TF_SwitchOperationMode"
- "TF_ActualSpeed"
- "TF_SetSpeed"



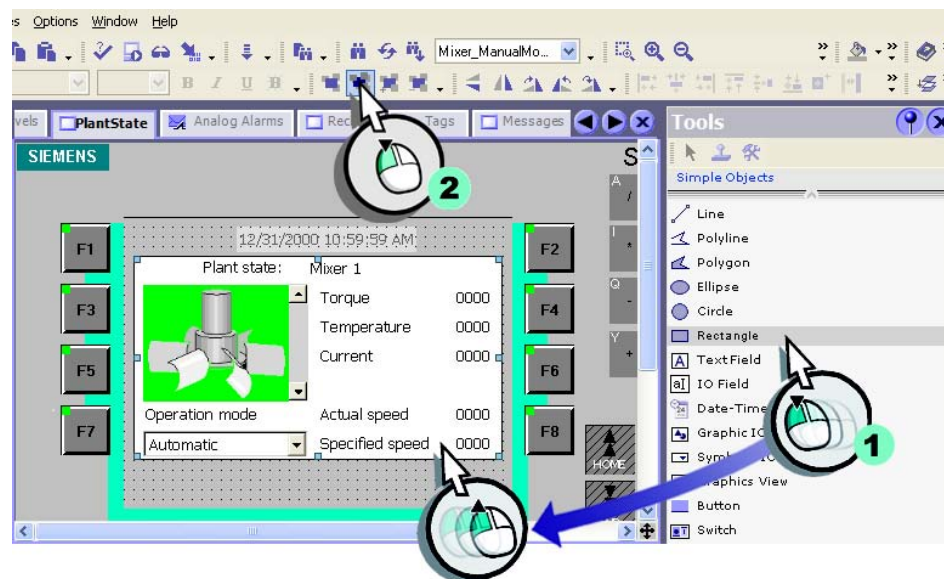
Use an unlabeled button if you prefer a 3D effect. Also, disable the "Operation" property.



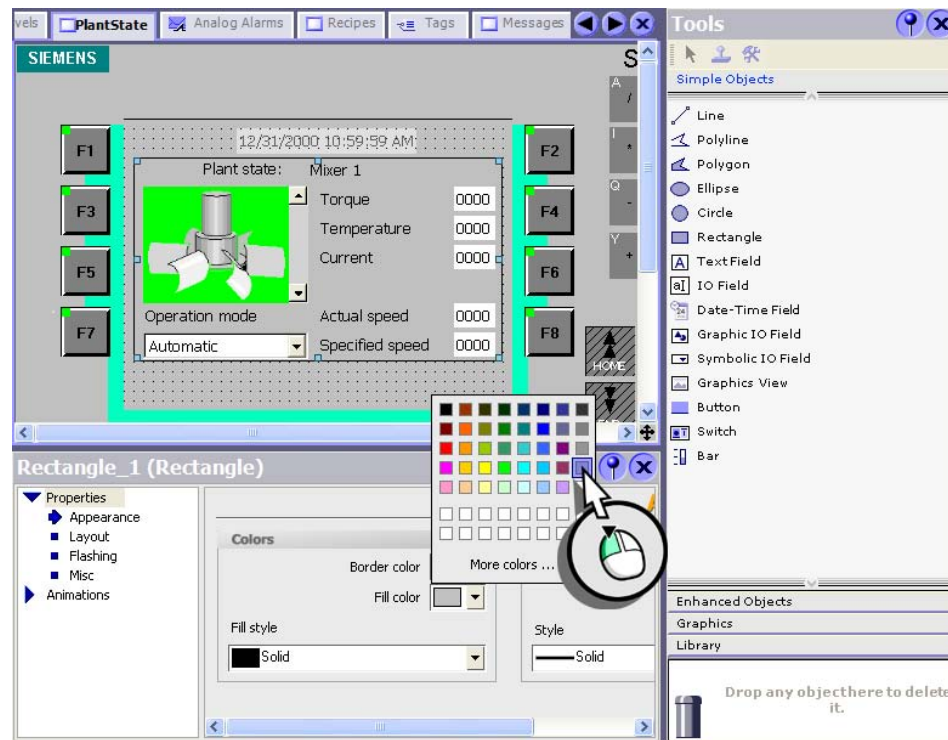
9. Finally insert the eight text fields for labeling and position all objects with the cursor keys. Please note that "Plant state" and "Mixer 1" are separate text fields:



10. Create a background frame around the objects:



11. Change the fill color of the frame:

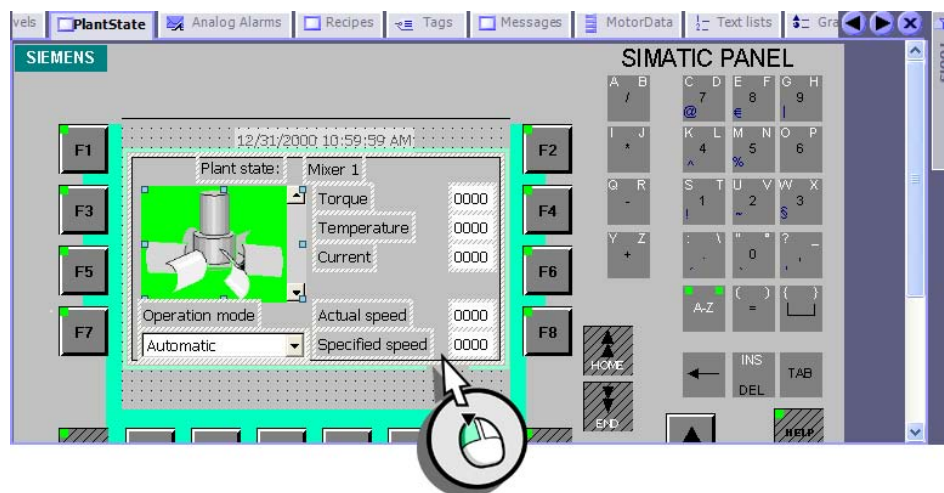


3 Creating faceplates

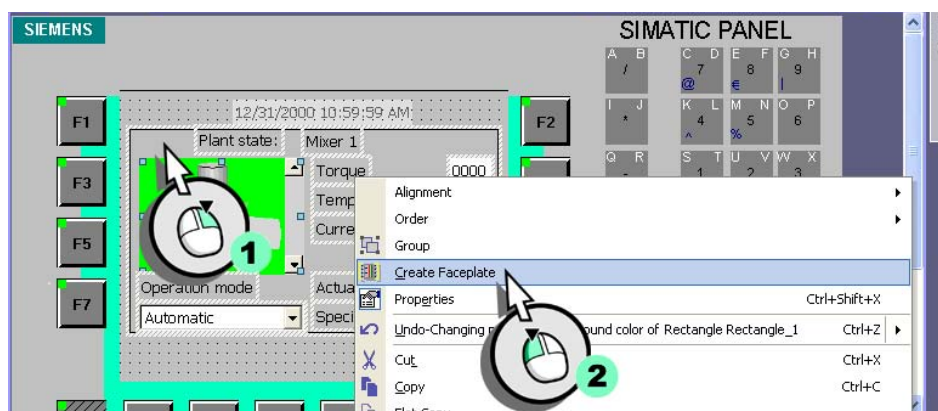
3.3 Creating and configuring faceplates

We are now going to create the faceplate using the inserted screen objects.

1. Press <SHIFT>, then select all screen objects which the faceplate should contain:



2. Create the faceplate:



Before you start configuring the faceplate, take a short look at the Faceplate Editor. The Faceplate Editor consists of the screens editor and the configuration area.

Screen editor

Position the faceplate's objects using the screen editor. You can remove objects or use the toolbox to add new objects.

Configuration area

The right section of the configuration area shows a tree structure of the faceplate objects and their properties. Properties you can assign a "dynamic" function based on tags or text/graphics lists are shown on a dark-blue background, and are listed in a separate group when you configure the project. Fields with a light blue background identify properties whereby you can only edit the values. Those properties are therefore considered "static properties."

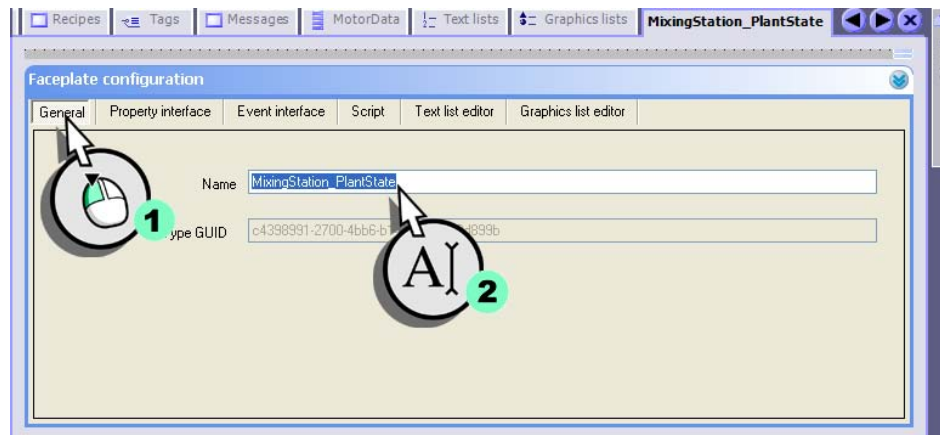
The left section of the Faceplate Editor represents the "interface" of the faceplate. You can edit all properties listed in this section, same as any other object properties.

On the "General" tab, you can assign a meaningful name to the faceplate. A list of configurable events, such as "Press", can be opened by selecting the "Events" tab.

The entries "Text list" and "Graphics list" will only be displayed, if text lists and graphics lists have been assigned to the corresponding screen objects, while the faceplate was created.

3 Creating faceplates

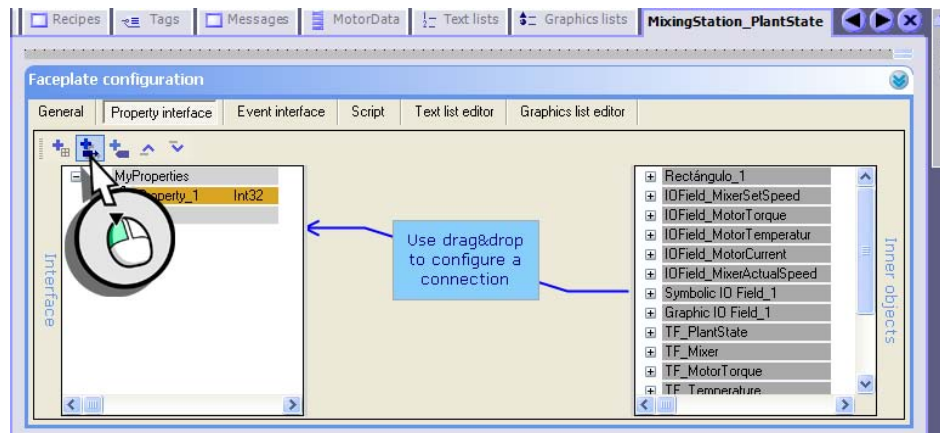
3. Assign a meaningful name to the faceplate

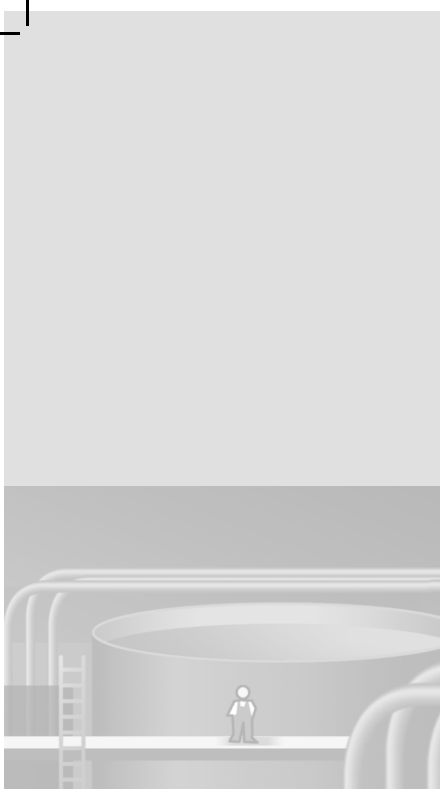


Connecting the IO fields of the motor specifications with the faceplate

1. Configure the structure for the motor specifications in the faceplate:

- Add a new property for the motor specifications:

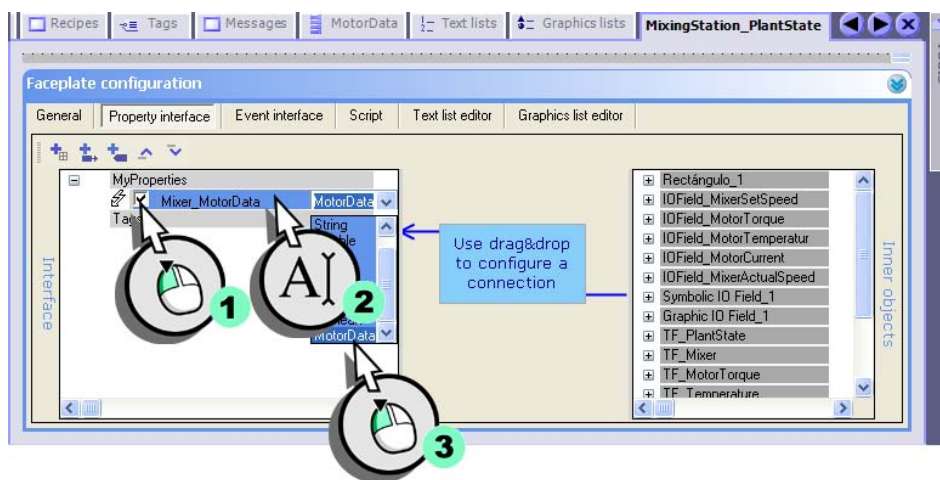




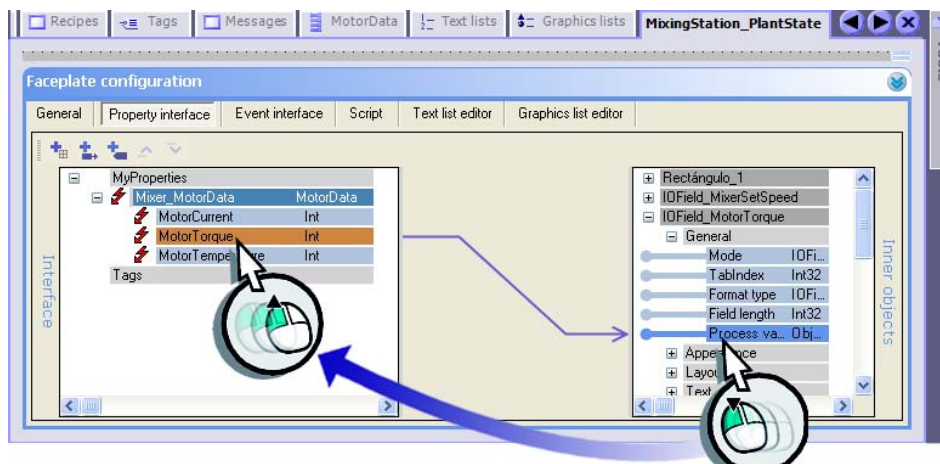
The red arrow icon identifies a dynamic property.
 A dynamic property is always interconnected with the tag returning values to the property in runtime.
 For this reason, you always configure a dynamic property when you insert a faceplate into a screen.



- Enable the property (1), assign the name “Mixer_MotorData” (2) and as file type select the “MotorData” structure from (3):

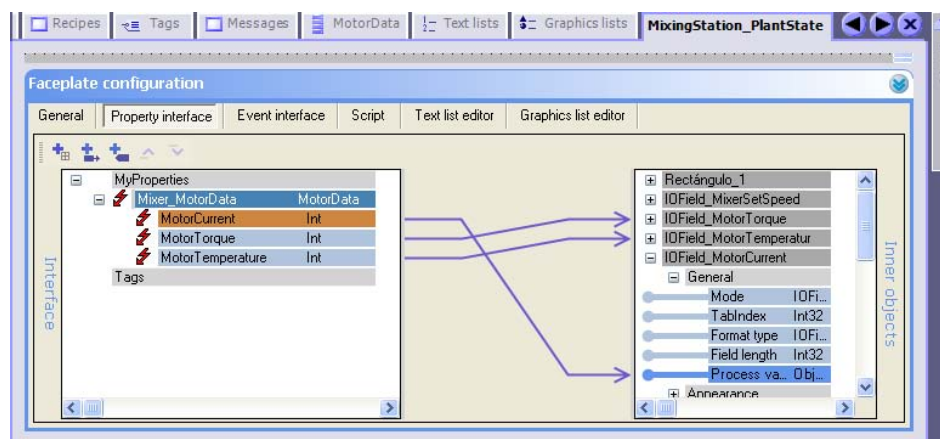


- Connect the entry “MotorTorque” with the process value of the IO field for the display of the torque:



3 Creating faceplates

2. In the same way connect the remaining entries with the process values of the respective IO fields:



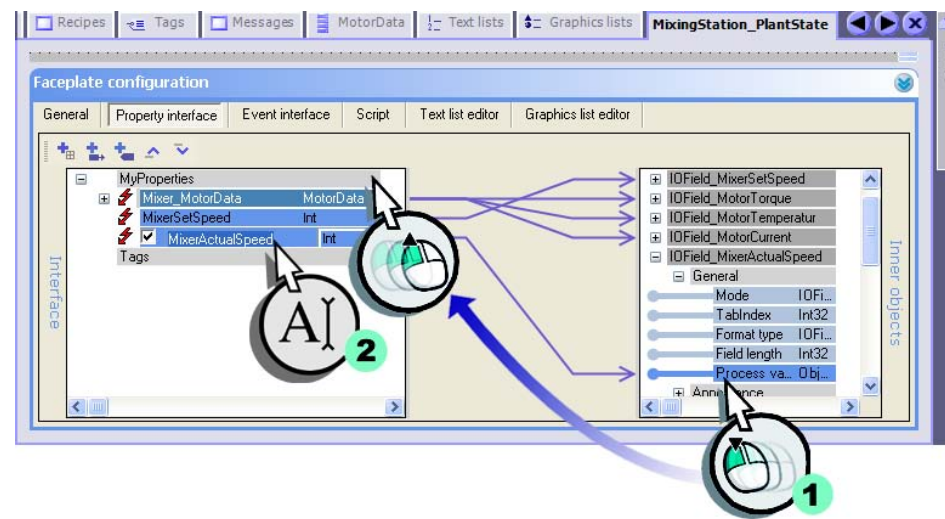
Using the minus symbol on the left next to the entry "Mixer_MotorData" you can mask out the entries of the structure.

The order in which the properties are connected to the faceplate can be changed in the faceplate with the arrow icon. If you use the faceplate in a screen, the connected properties are arranged alphabetically.



Interconnecting the IO fields of the mixer speed with the faceplate

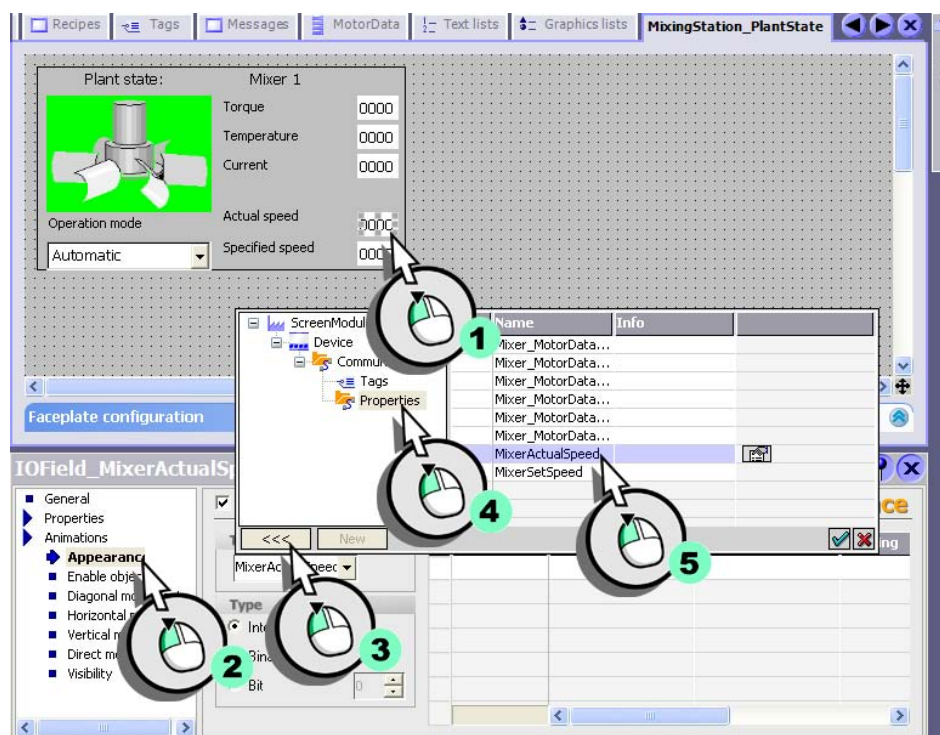
1. In the same way connect the process values of the IO fields for the actual and setpoint speed with the faceplate and assign meaningful names:

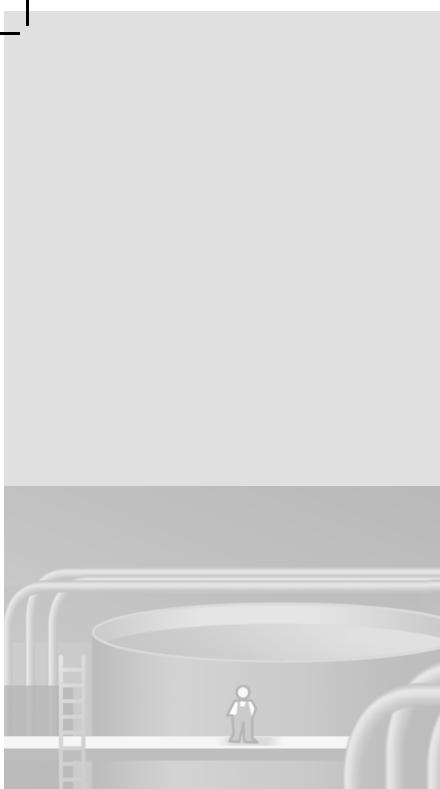


3 Creating faceplates

2. Configure the IO field for the display of the actual speed, so that the overflow/underflow of the permitted is highlighted with a colored background.

- Select the property that operates the color change:

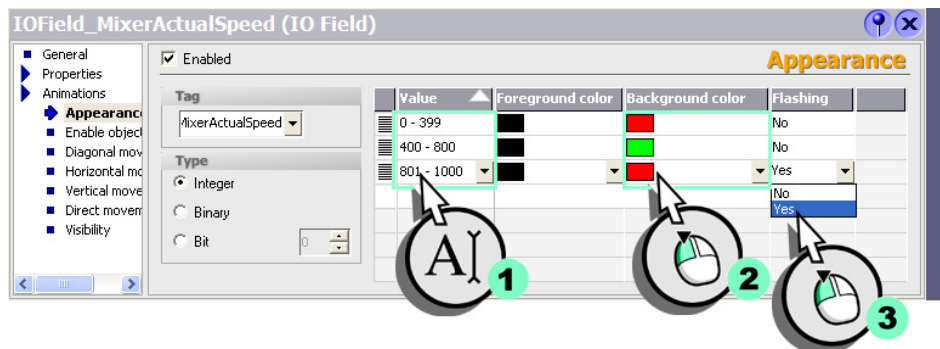




The blue arrow color labels the connection to the properties.
If the color of the arrow is red, the connected property is animated additionally.



- Enter the limit values:

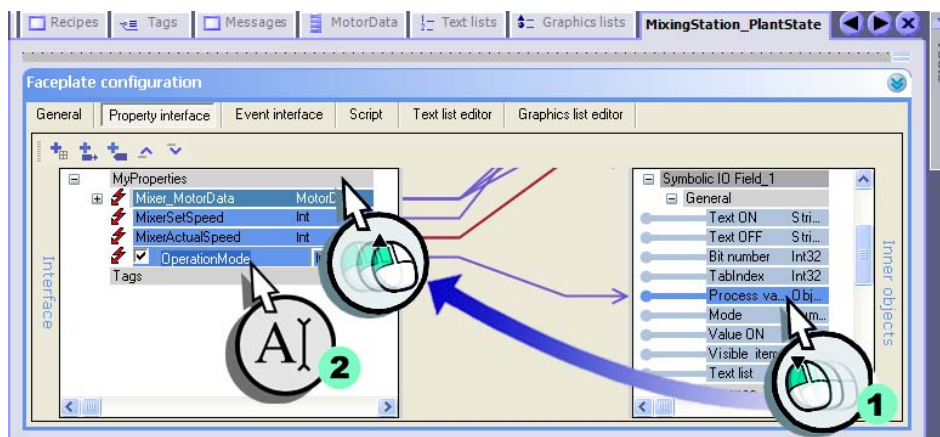


Configuring the mode change

In order to determine the optimum speed for the ingredient mixer, the system must be tested at various speeds. For those activities, you can toggle the fruit juice mixing plant from “Auto” to “Manual” operating mode.

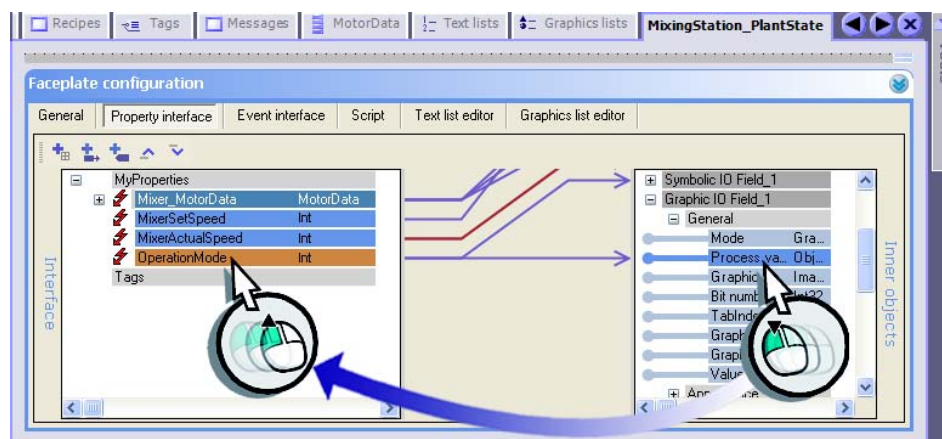
So that the mixer speed can be preset in the “Manual” operating mode on the HMI device, we configure the IO field for presetting the speed in such a way that operation can be enabled at switch over of the operating mode.

1. Connect the process values of the text list with the faceplate and assign a meaningful name:

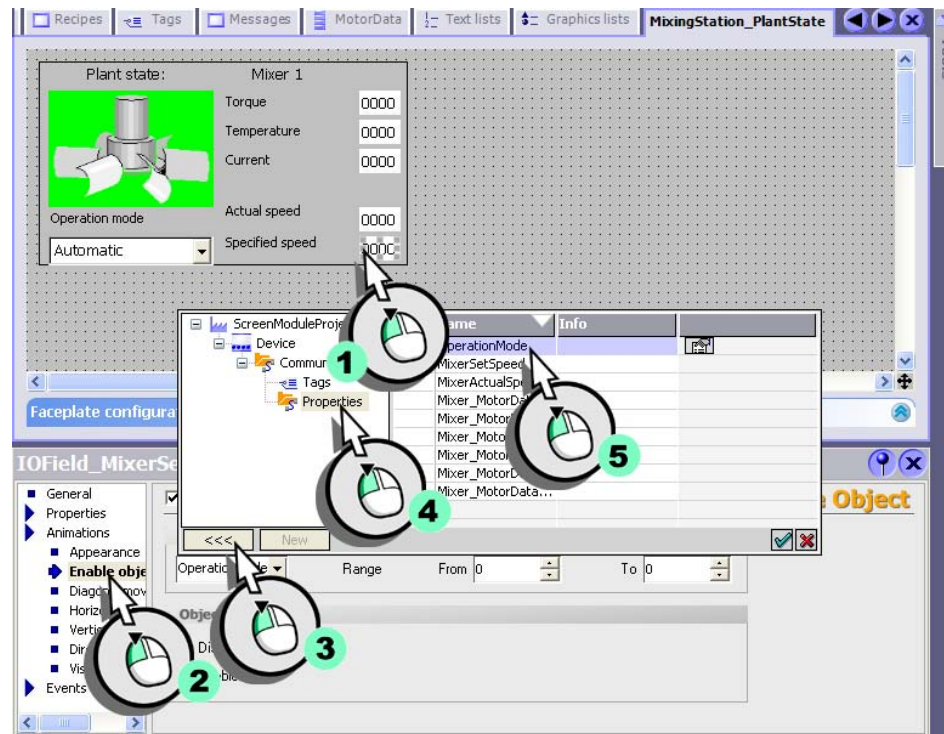


3 Creating faceplates

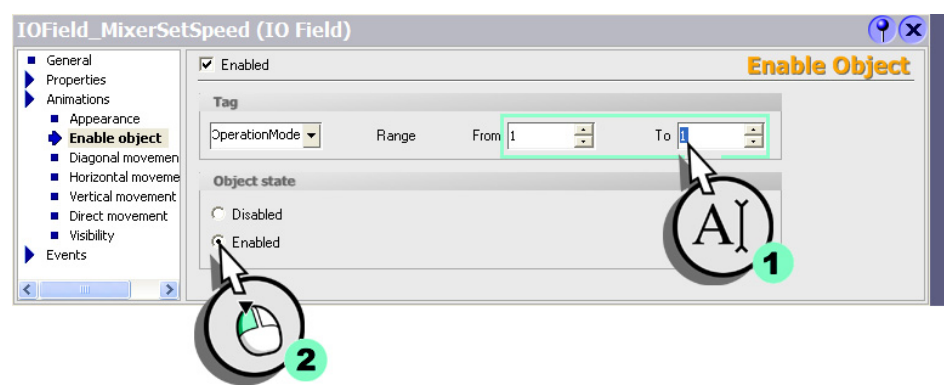
2. Additionally interconnect the process values of the graphics list with this property:



3. Select the property which operates the enable operation:



4. Determine that the IO field is enabled when the operating mode is switched to "Manual" and the tag has the value "1".



3 Creating faceplates

The white arrow icon identifies a static property.

Static properties can be configured directly in the screen editor. The configured properties are then saved alongside with the faceplate.

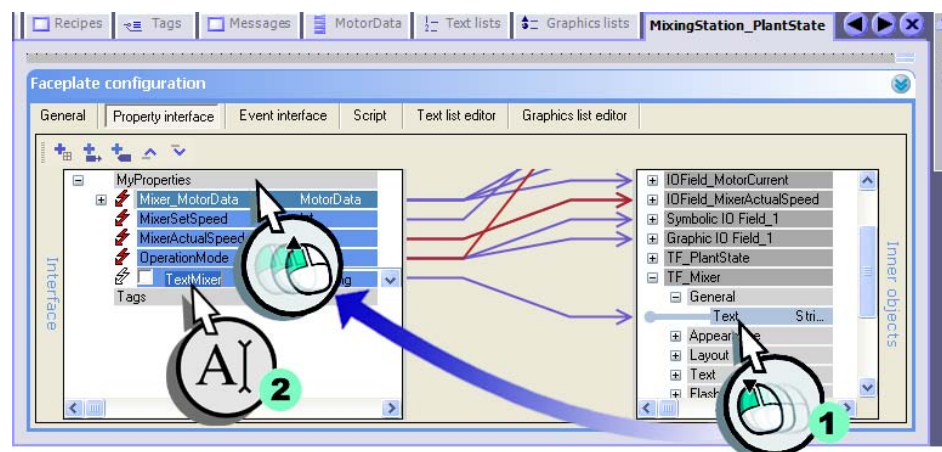
When the control box is enabled, the static property becomes a dynamic property. In this way you can configure the text in a tag for example.



Preparing the multiple use of the faceplate

If in the near future the fruit juice mixing plant has been extended to three mixing tanks, three faceplates will be necessary in the plant overview screen. "Plant state: Mixer 1", "Plant state: Mixer 2", and "Plant state: Mixer 3".

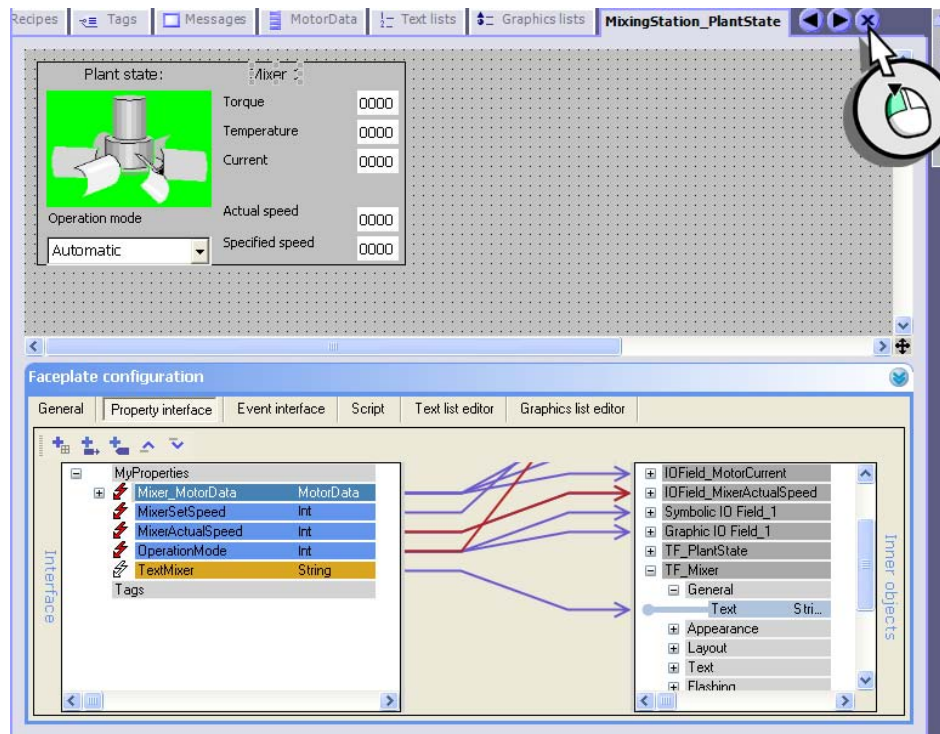
1. Connect the text field "TF_Mixer" with the faceplate, so that the reference to each mixer can be entered easily.



The order in which you configure the screen objects defines the tab order for their operation in Runtime. If you have not selected any objects, you can define the tab order later using the "View > Tab order" command.



2. Close the faceplate:



3 Creating faceplates

The "General" section lists the static properties of the faceplate.



3. Select the tag which supplies the faceplate with values:

Bildbaustein_4 (Faceplate instance)

Icon	Name	Info
<Undefined>	<Undefined>	<Undefined>
<Undefined>	Valve_Status	DB 1 DBW 0
<Undefined>	Operation_Mode	DB 1 DBW 22
<Undefined>	Mixer_Speed	DB 1 DBW 10
<Undefined>	Mixer_SetSpeed	DB 1 DBW 36
<Undefined>	Mixer_MotorData	DB 1 DBW 30
<Undefined>	Litre_Water	DB 1 DBW 12
<Undefined>	Litre_Colour	DB 1 DBW 14
<Undefined>	Kilo_Sugar	DB 1 DBW 14

Properties:

- Dynamic Interface
- Layout
- Misc
- General
- Animations

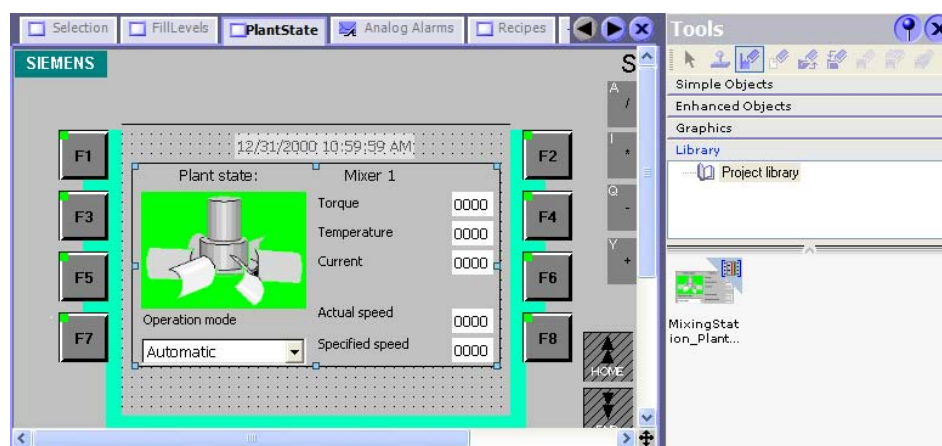
MisPropiedades

Mixer_MotorData	Mixer_MotorData
MixerSetSpeed	Mixer_SetSpeed
MixerActualSpeed	Mixer_Speed
OperationMode	Operation_Mode

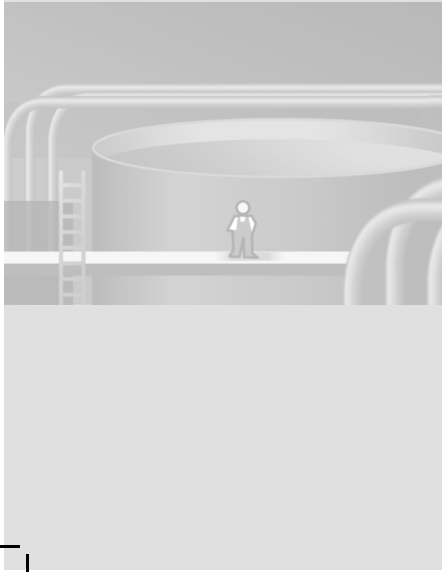
Create a new library if you intend to use the faceplate in other projects. Copy the faceplate to the new library, then load this library in the new project.



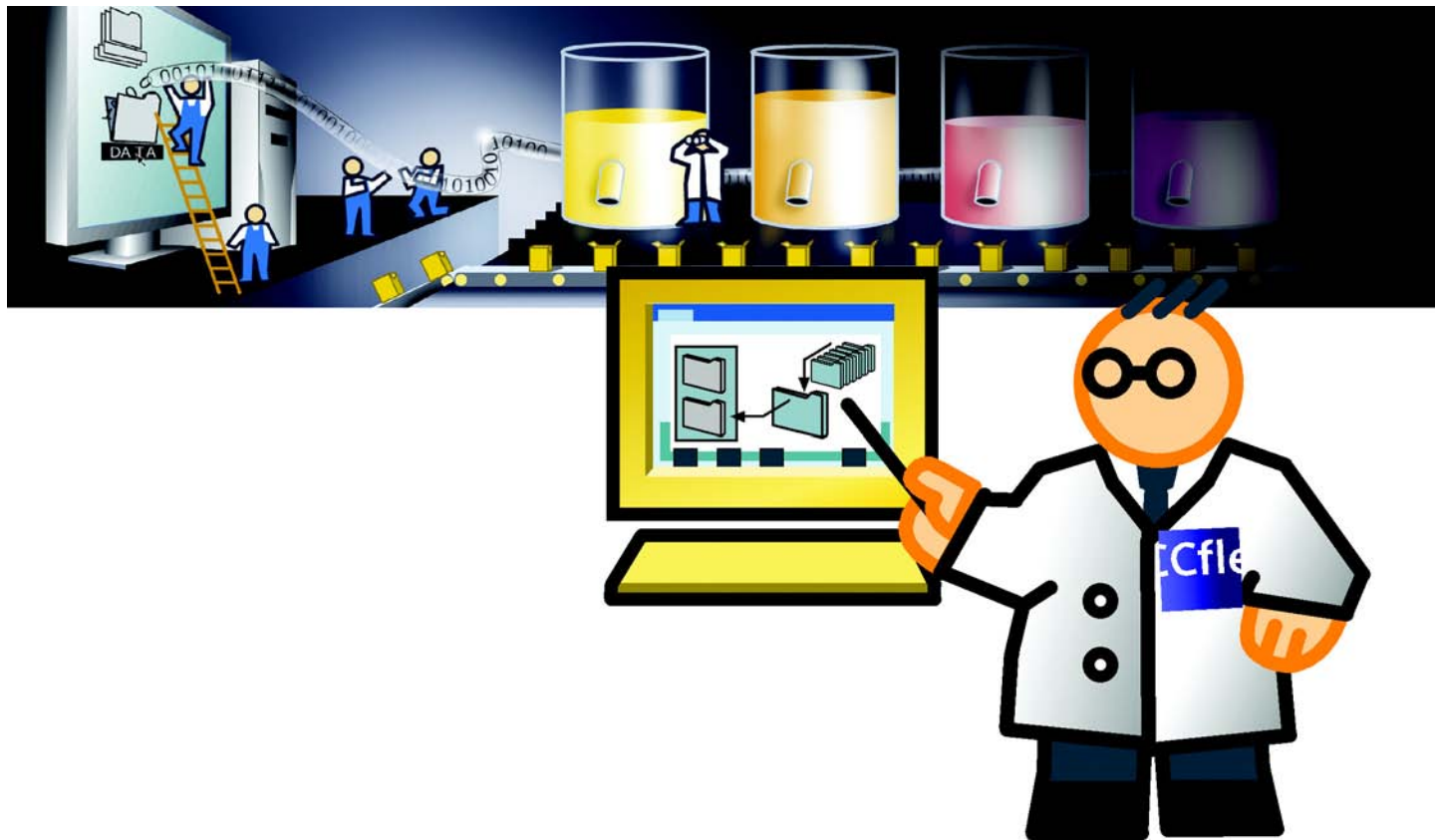
The faceplate behaves in the same way as any other object when you configure it. You can reuse the faceplate by selecting it from the project library:



By the way: You can explicitly set the position and scaling of your faceplates. Modifications of the faceplate do not have an impact on its position and size in other instances of the project.



4 Logging alarms and process values





4.1 What is a log file?

In order to record operational events of the fruit juice mixing plant, the alarms and process values generated during production are saved to log files. This enables the shift foreman to view information about any particular events which occurred during the last shift directly on the HMIs.

You can then evaluate the alarm and process data logs. This provides important economic and technical information on the operational status of a plant. This information can be used to:

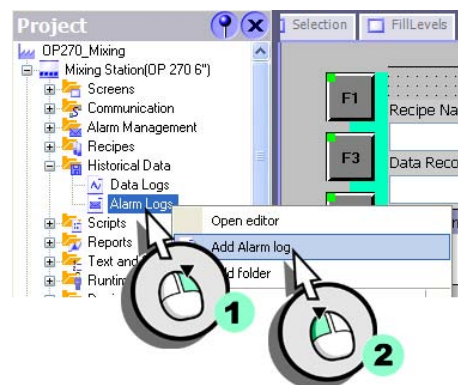
- optimize maintenance cycles,
- enhance product quality and
- maintain quality standards.

4 Logging alarms and process values

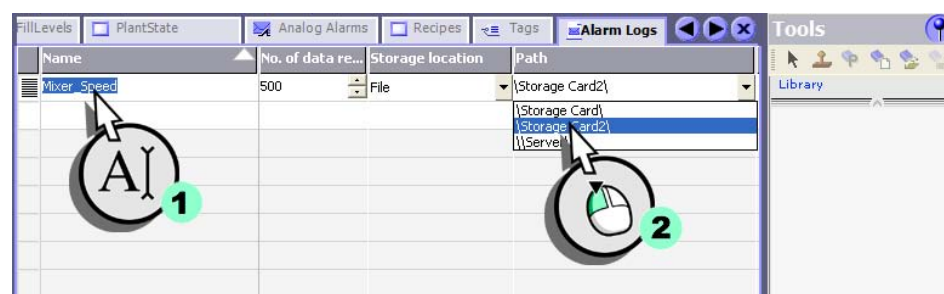
4.2 Logging alarms

Irregularities in the mixer operation of the fruit juice mixing plant should be recorded. We do so by creating the "Mixer_Speed" alarm log to record alarms which indicates violation of machine speed limits during a shift.

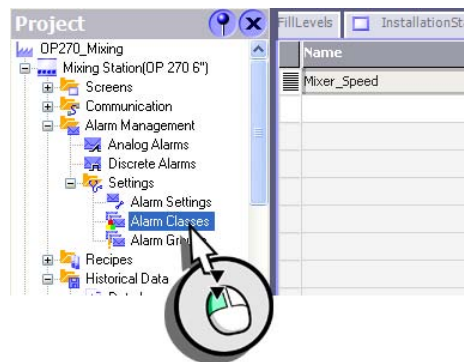
1. Create a new alarm log:



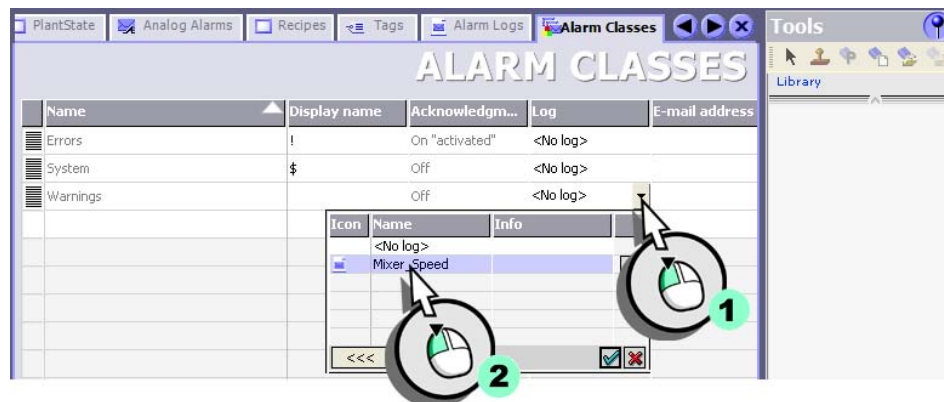
2. Configure the alarm log:



3. Open the Alarm Classes editor:



4. Configure the "Error" alarm class so that the alarms are logged to the "Mixer_Speed" alarm log.



Alarms always belong to an alarm class. You define specific properties for each alarm class, for example, the color of acknowledgement states. A specific alarm class is always logged to a particular log file.

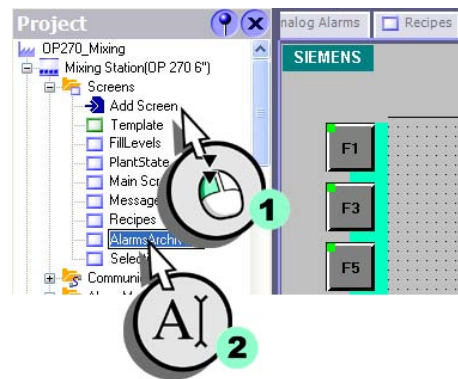


4 Logging alarms and process values

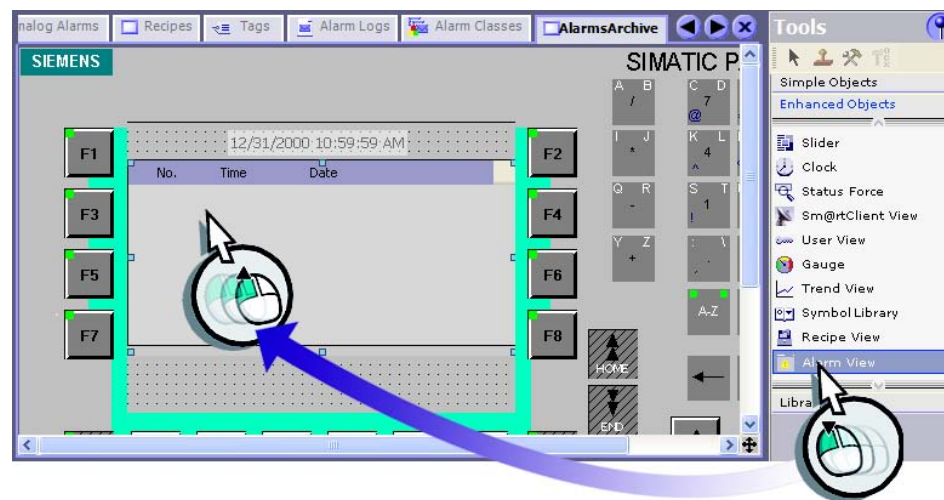
4.3 Displaying logged alarms

The next section describes how to configure an alarm view to visualize the "Mixer_Speed" alarm log.

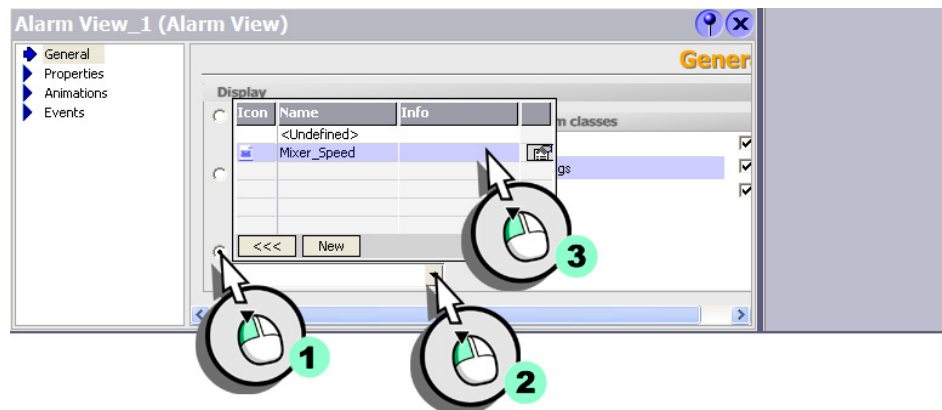
1. Create the "AlarmsArchive" screen:



2. Insert an alarm view:



3. Configure the Alarm view to show the "Mixer_Speed" alarm log:

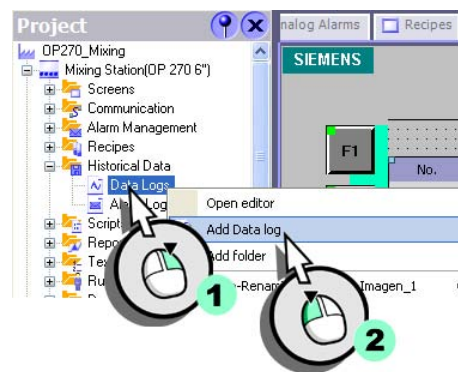


4 Logging alarms and process values

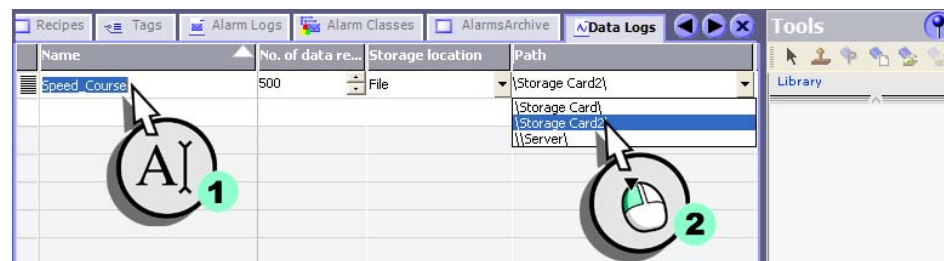
4.4 Logging process values

The mixer speed profile is to be logged for the duration of a shift. This allows the shift foreman to obtain a direct overview of mixer speed fluctuation in the fruit juice mixing plant on the HMI.

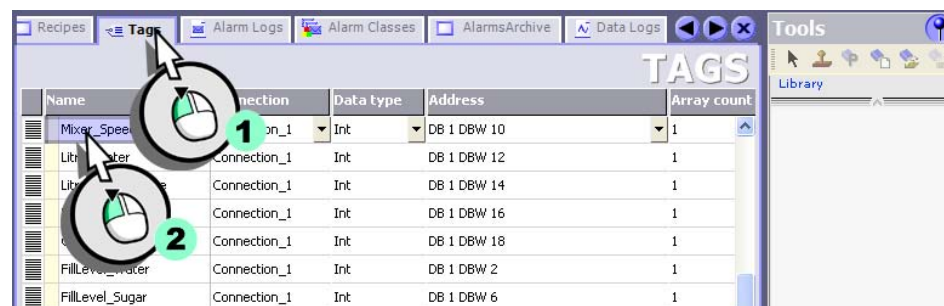
1. Create a new tag log file:



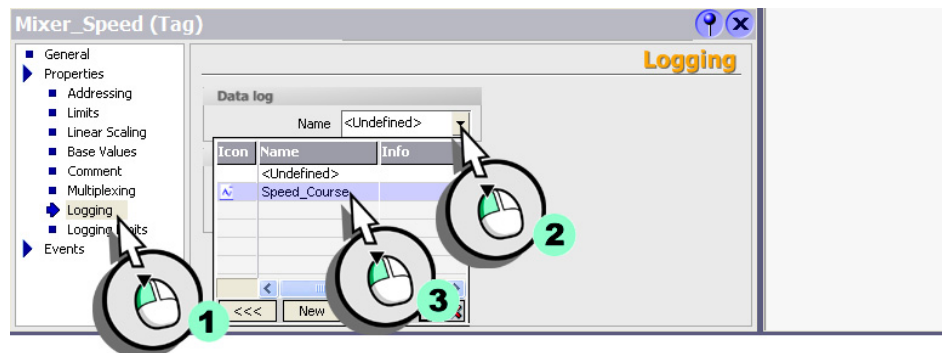
2. Configuring the tag log:



3. Change to the Tag editor (1), then select the "Mixer_Speed" tag from (2):



4. Configure tag value archiving in the “Speed_Course” tag log:

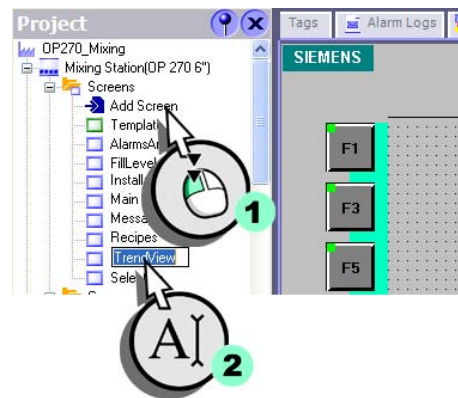


4 Logging alarms and process values

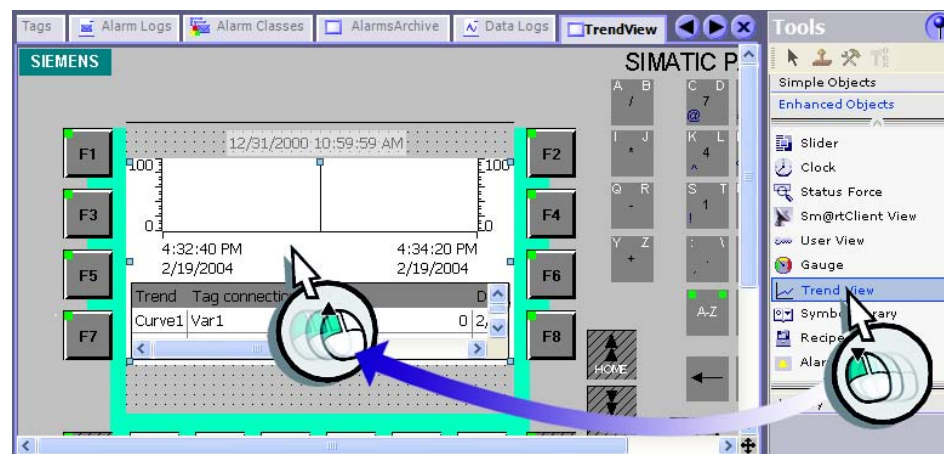
4.5 Visualizing process values

To output the logged process values of the speed profile on the HMI device as a trend:

1. Create the "TrendView" screen:

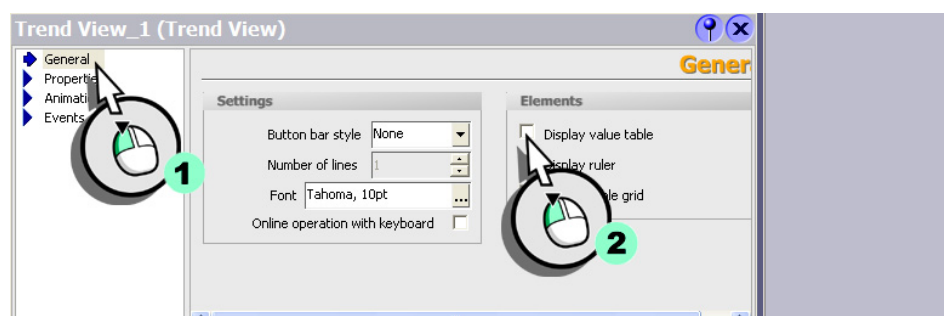


2. Insert a Trend view:

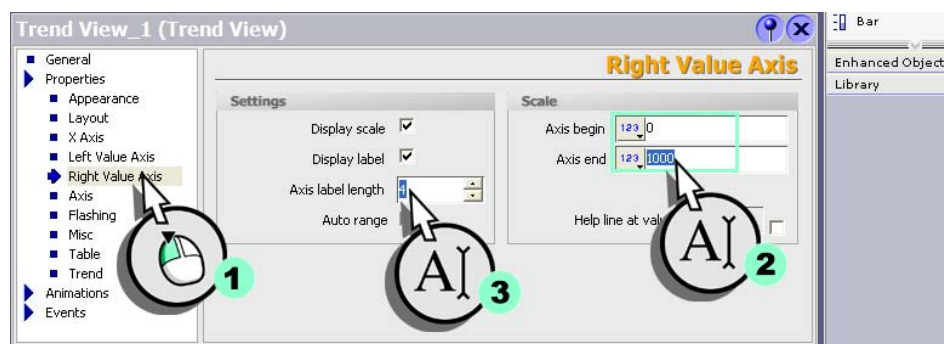


3. Configure the trend view:

- Disable the value table display:

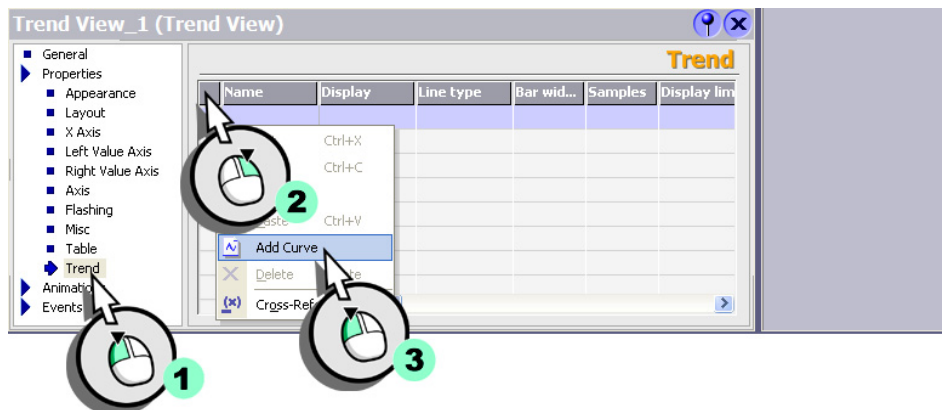


- At the left and right axis, change the range of values to “0” and “1000” (2), and define the length of the axis labeling (3):

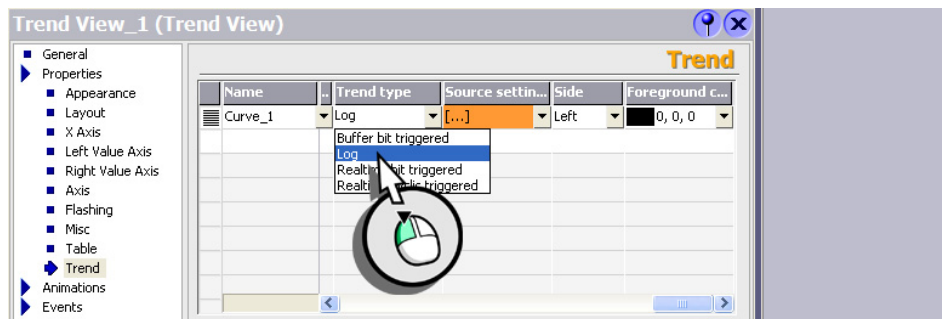


4 Logging alarms and process values

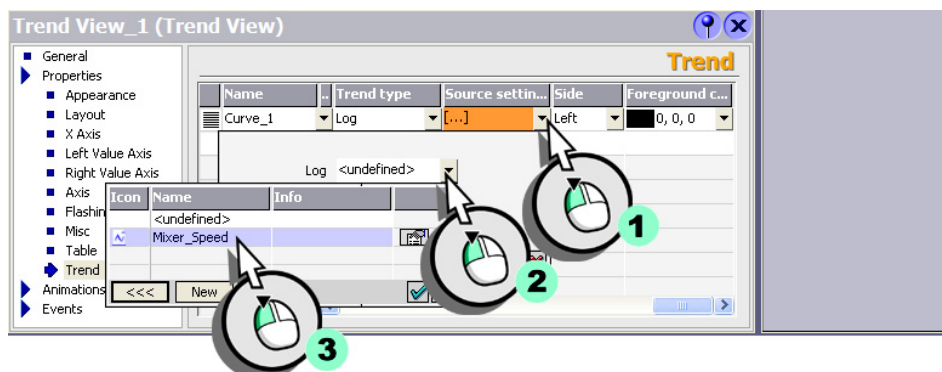
- Create a new trend:

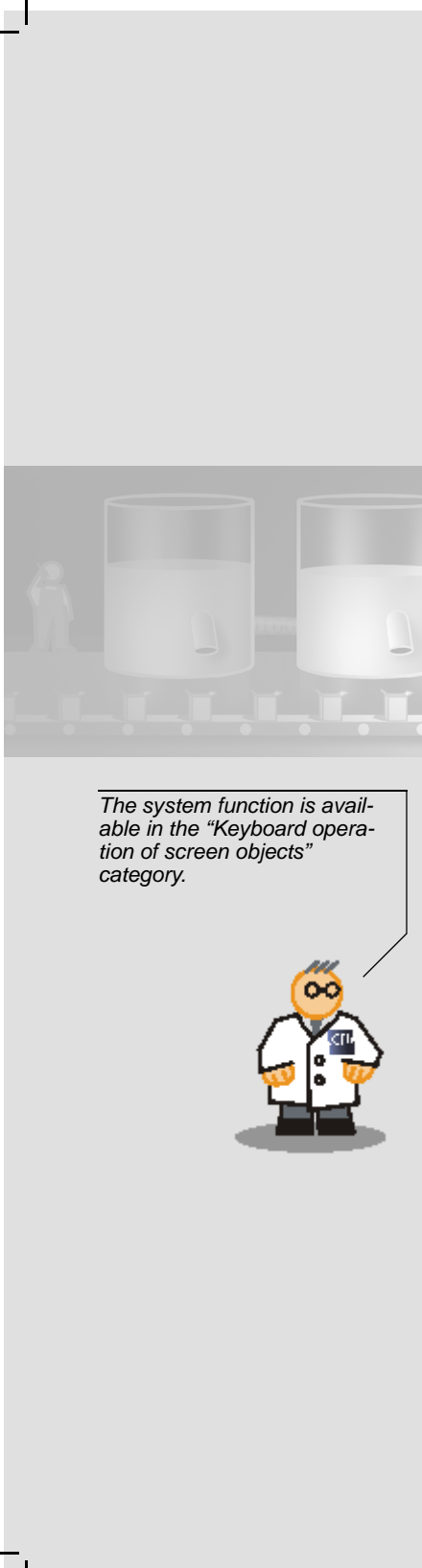


- Select the trend type:



- Select the tag log for the trend values:

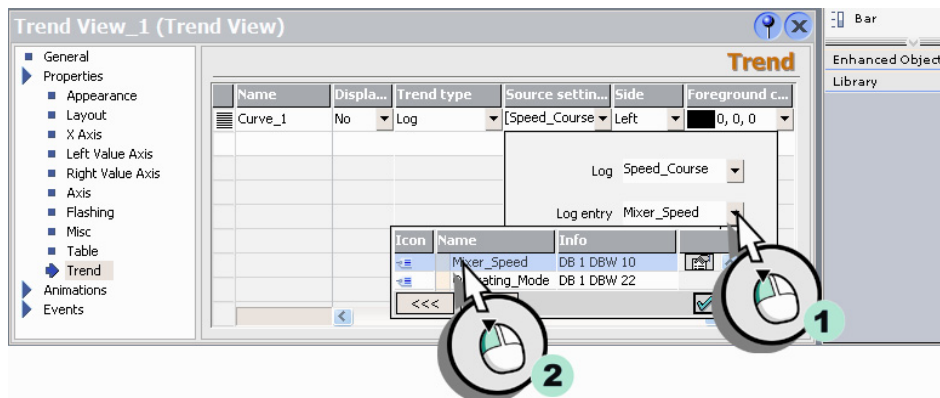




The system function is available in the "Keyboard operation of screen objects" category.



- Finally, select the tag to be saved to the tag archive:

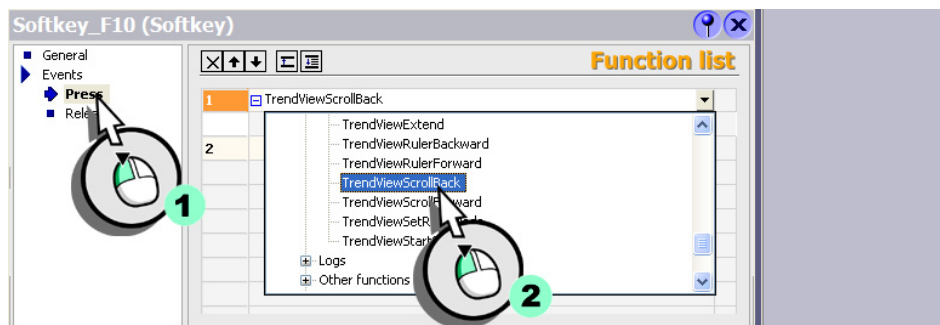


To acquire the values at regular intervals, use the default value of one second.

Configuring trend operation

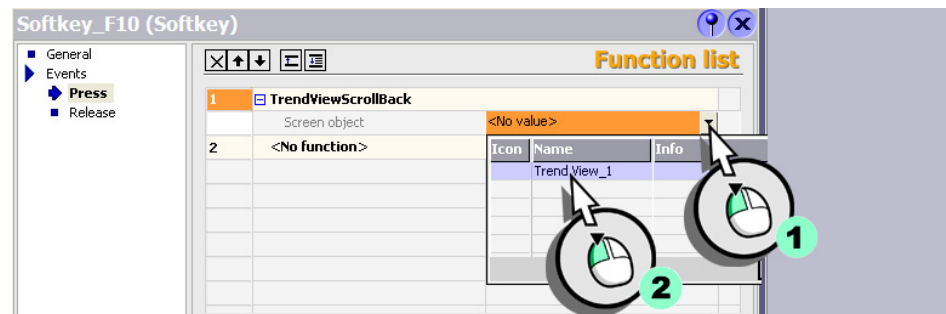
To improve visualization of the speed profile on the HMI device, we shall implement two function keys for "scrolling" the trend view."

1. Assign the system function "TrendViewScrollBack" (2) to the "Print" event (1) of function key <F10>.

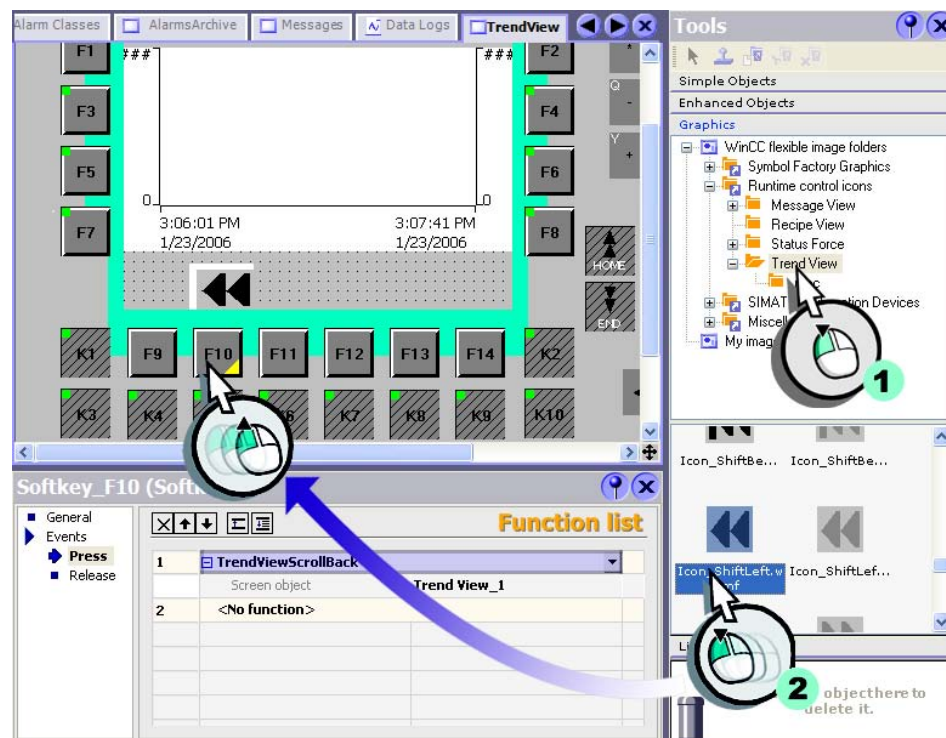


4 Logging alarms and process values

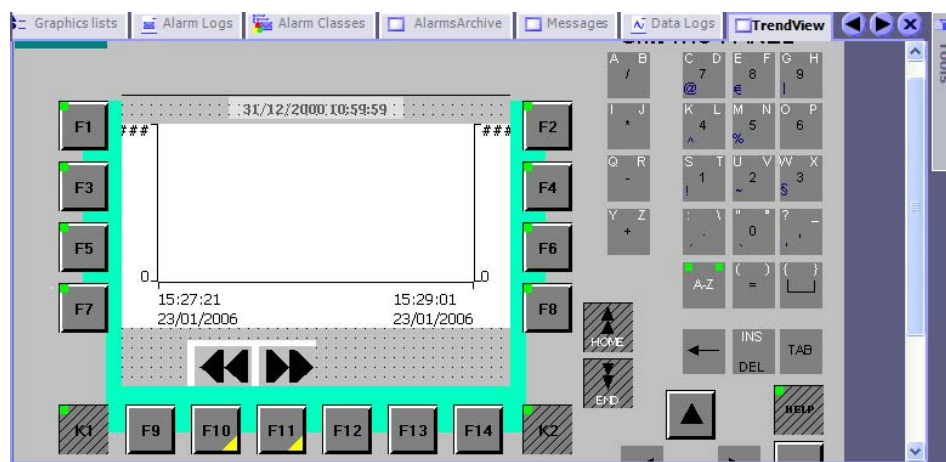
2. Enter the trend view name as parameter:



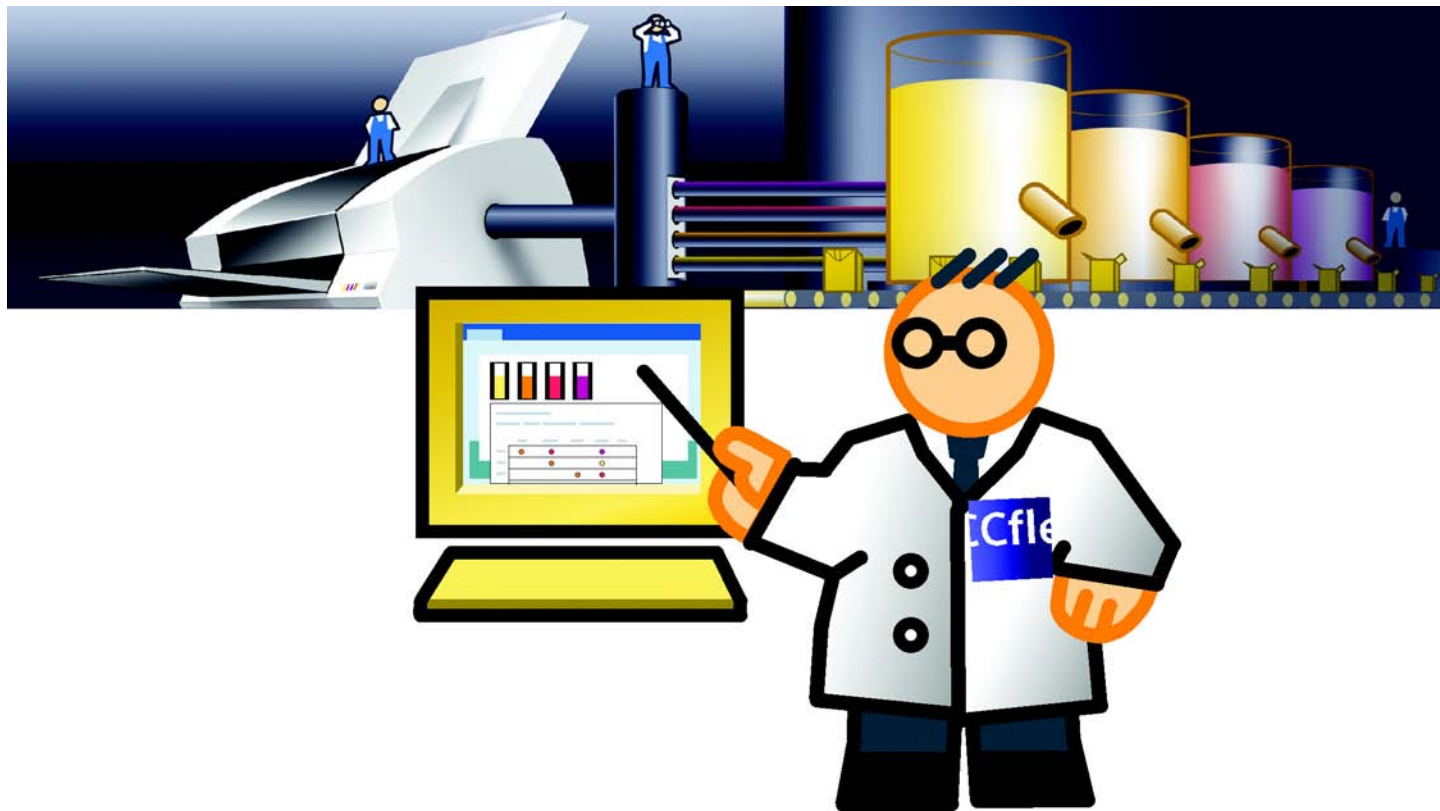
3. Assign the <F10> function key the "Icon_ShiftLeft" icon as its label:



4. In the same way, assign the “TrendViewScrollForward” system function and the “Icon_ShiftRight” icon to the function key <F11>.



5 Configuring reports





5.1 What is a report?

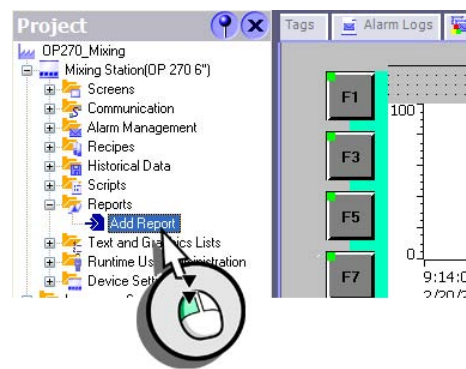
Reports are used to record events in a production process for the purpose of product testing and quality control. Those events, namely alarms and recipe data, are output at regular intervals in the form of shift reports.

5 Configuring reports

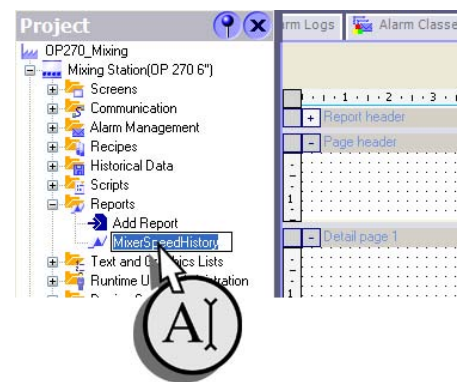
5.2 Reporting alarms

The next section shows how to create a report which returns the content of the "Mixer_Speed" log.

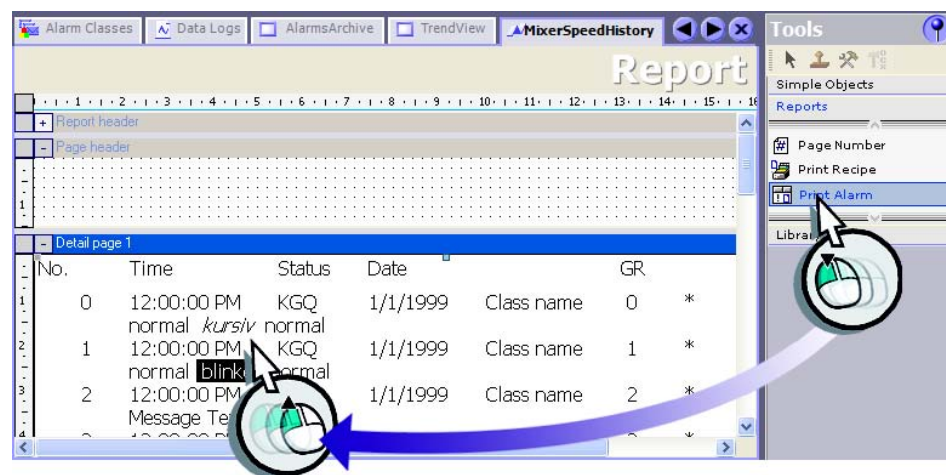
1. Create a new report:



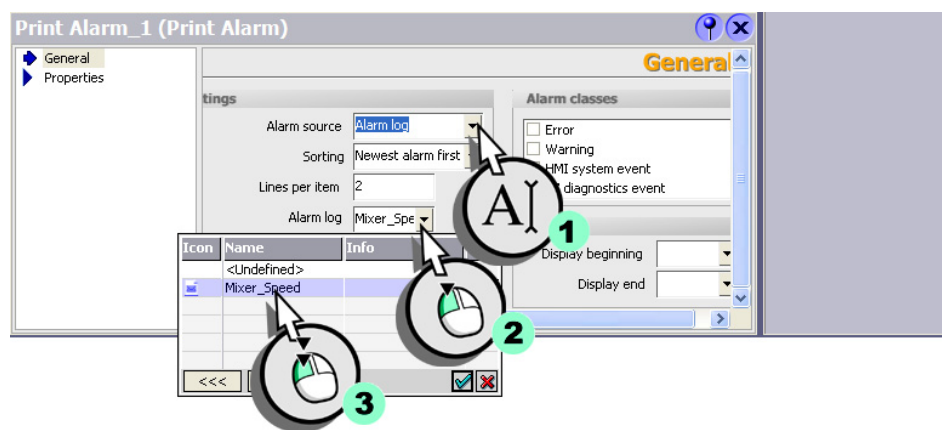
2. Rename the report to "MixerSpeedHistory":



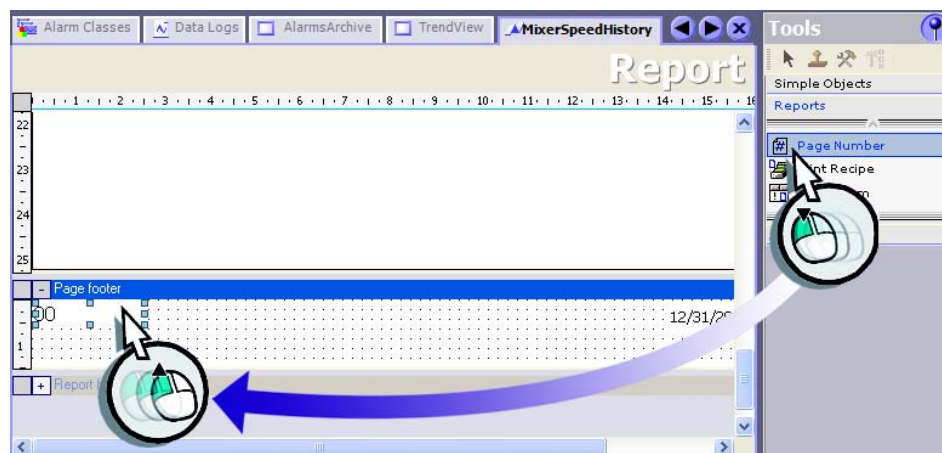
3. Add a "Print alarm" object to the report:



4. Configure the “Print alarm” object for the output of the data in your “Mixer_Speed” alarm log to a printer.



5. Insert the page number and the date / time in the footer of the report:

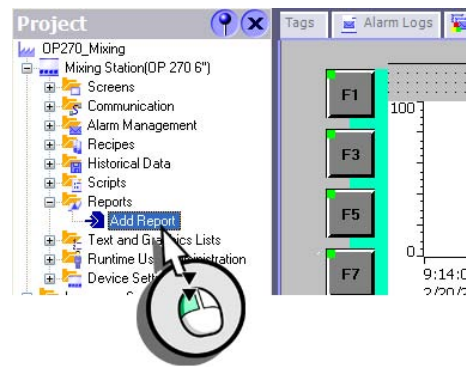


5 Configuring reports

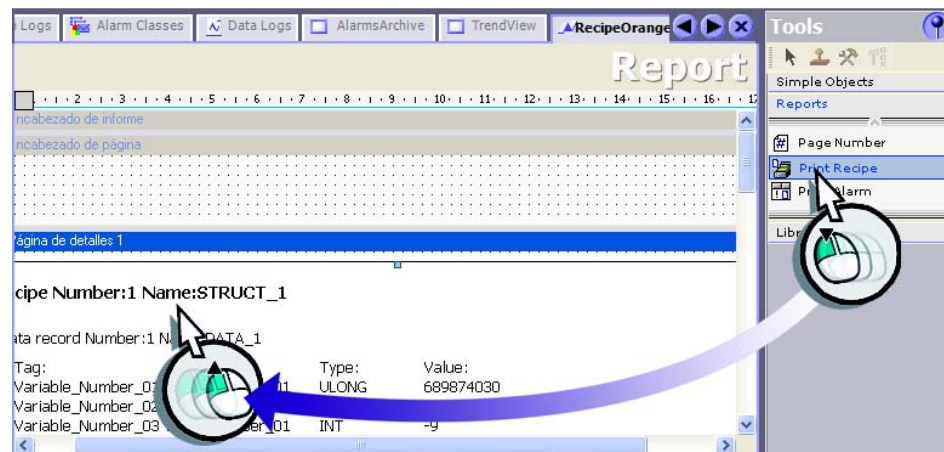
5.3 Reporting recipes

The next section shows how to create a report which returns the recipe data for the "Orange" flavor.

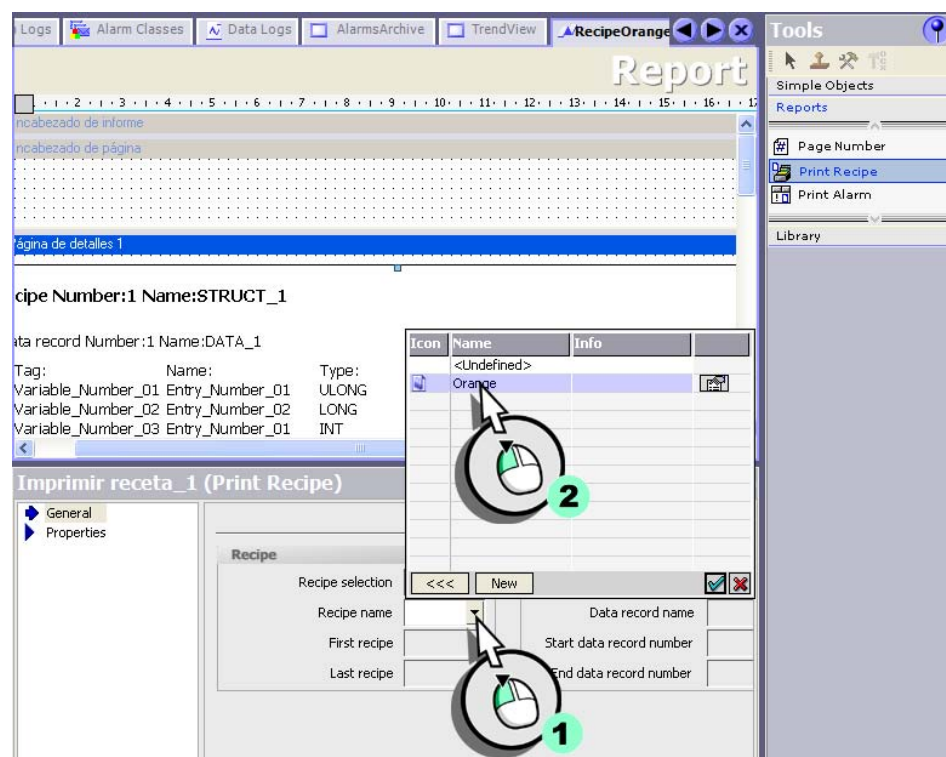
1. Create the "RecipeOrange" report:



2. Add the "Print recipe" object to the report:

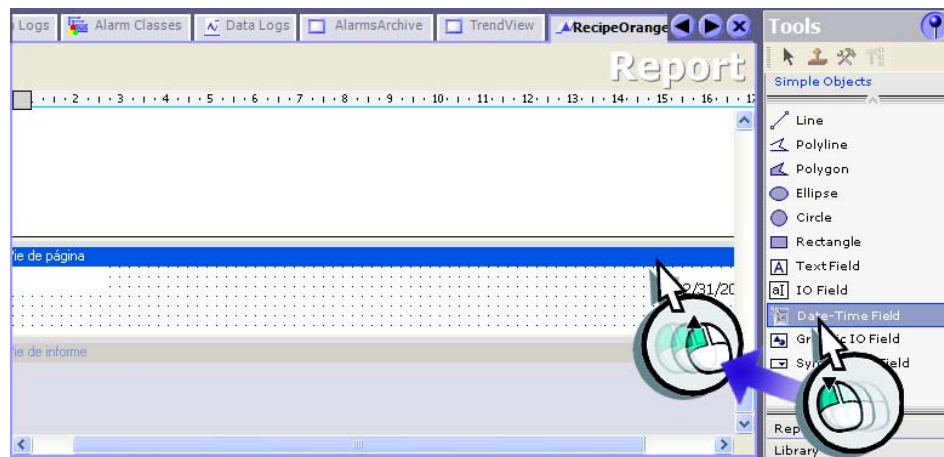


3. Configure the “Print recipe” object for the output of all the data records in the “Orange” recipe to a printer.



5 Configuring reports

4. Insert the page number and the date / time in the footer of the report:

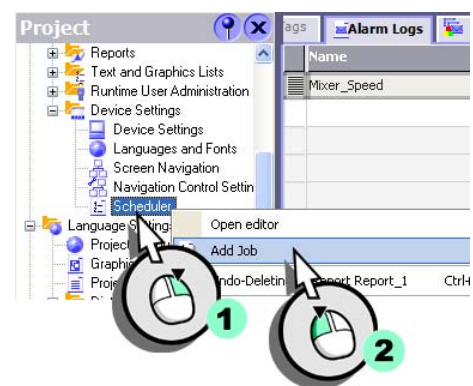


5.4 Printing reports

The reports should be output on a daily basis to a printer which is connected to the HMI device.

Configure this cyclic output with the help of the tasks scheduler.

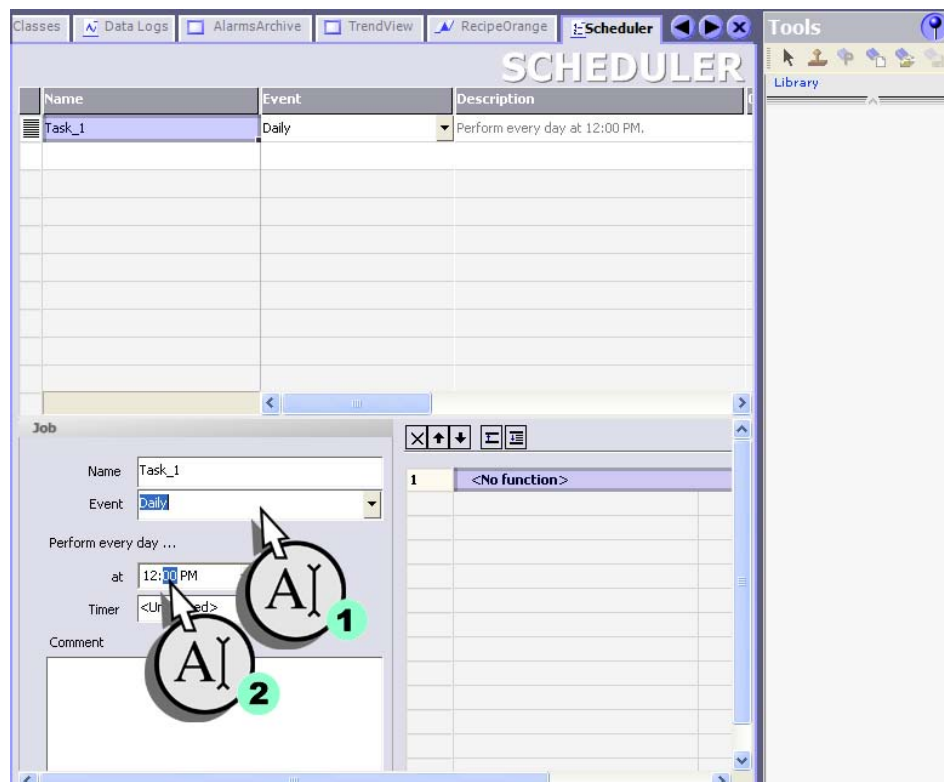
1. Create a new task:



5 Configuring reports

2. Configure the task so that the “RecipeOrange” and “MixerSpeedHistory” reports are output on a printer at 12:00 h each day:

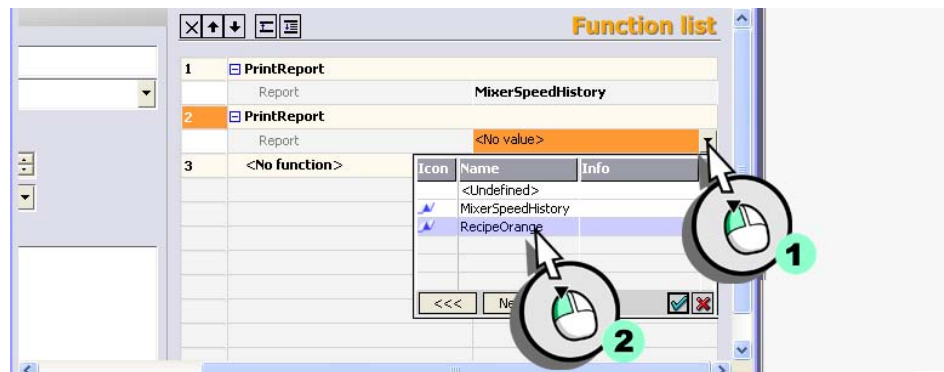
- Select the time:



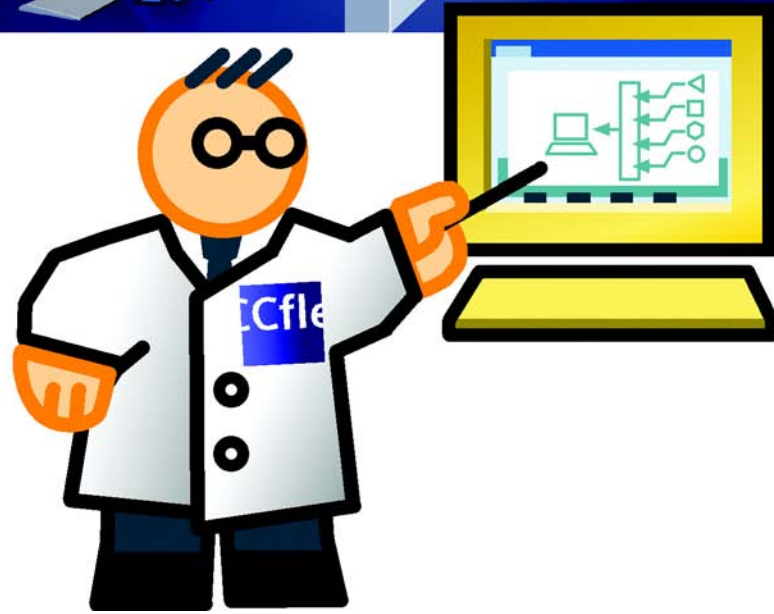
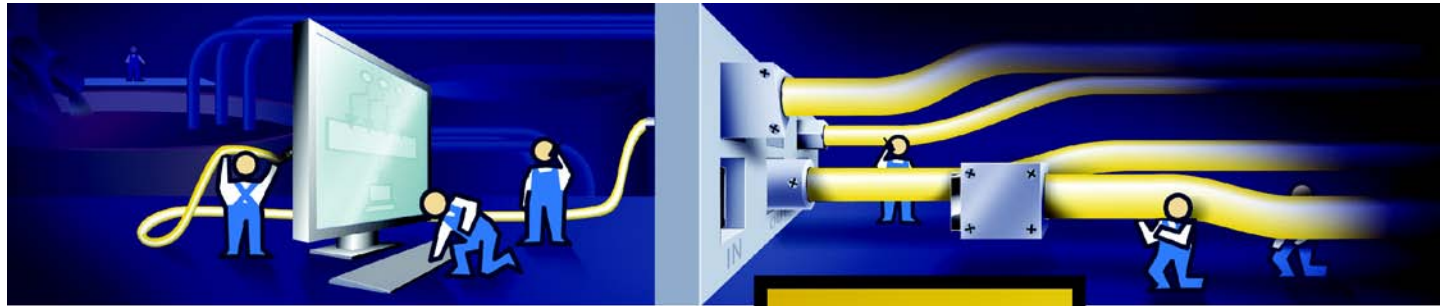
The system function is available in the "Print" category.

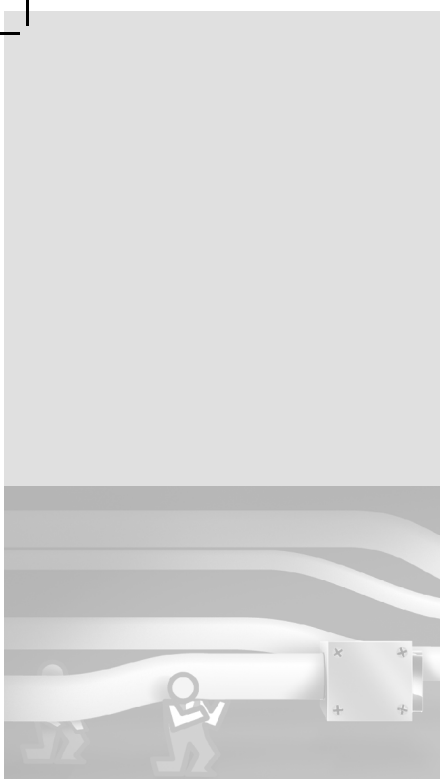


- Configure the task so that both reports are output o the printer:



6 Creating scripts





Elements which can be used in scripts:

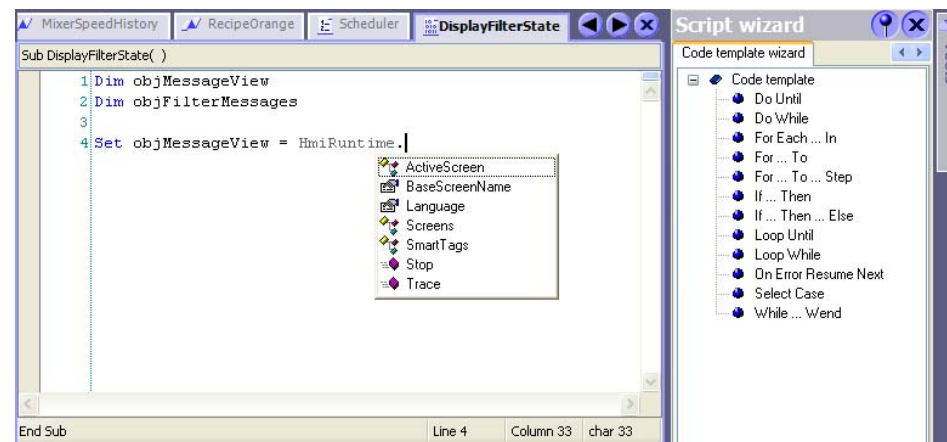
- Tag values
- System functions
- Scripts
- Operable screen objects (switches, for example)



6.1 What is a script?

The integrated programming interface of WinCC flexible can be used to access certain parts of project data in Runtime. Use Visual Basic Script (VBS) to create scripts to add any further functions you may require for the HMI.

The programming interface support you with comfortable features such as context-sensitive object selection.



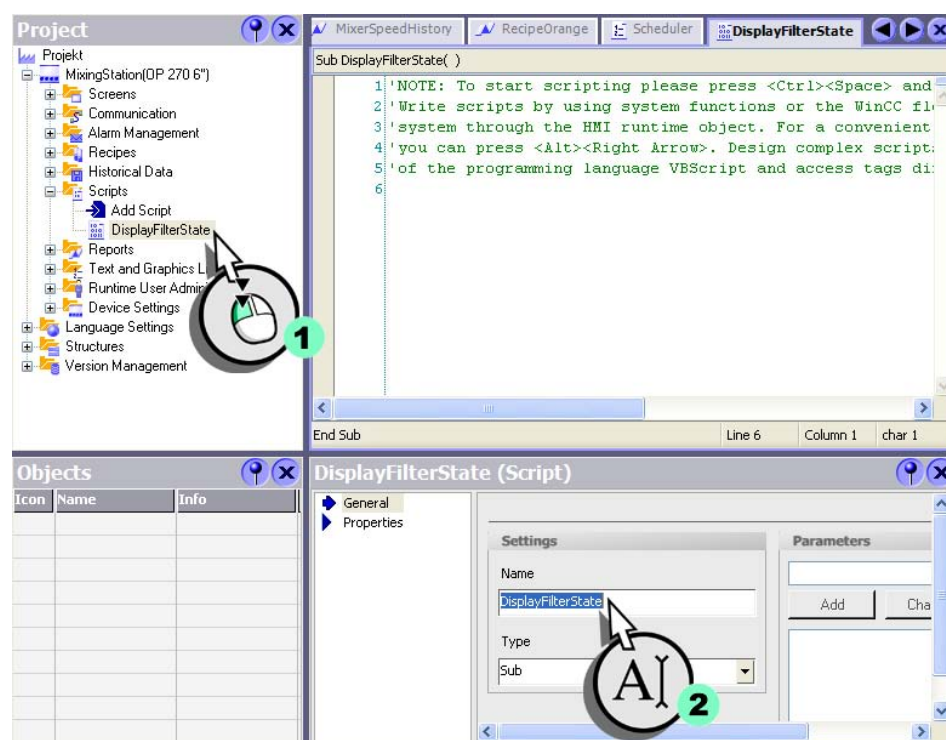
6 Creating scripts

6.2 Toggling the background color of the alarm view

In the “Messages” screen, the operator can filter the alarms in the alarm view, according to a character string contained in an alarm text.

When the alarms are displayed in the alarm view as filtered, the background color of the alarm view has to have the same color as the input field. With this the operator can see if a filter is active and therefore not all alarms are being displayed in the alarm view.

1. Create the “DisplayFilterState” script:



Using the script wizard, you can assign the system functions default parameters and then insert these in the code by means of drag-and-drop. In addition, the script wizard provides frequently required statement templates such as If...Then.



2. Write the following code which toggles the background color of the alarm view:

```

Sub DisplayFilterState( )
1 Dim objMessageView
2 Dim objFilterMessages
3
4 Set objMessageView = HmiRuntime.Screens("Messages").ScreenItems("MessageView")
5 Set objFilterMessages = SmartTags("Filter_Messages")
6
7 If objFilterMessages <> "" Then
8     objMessageView.TableBackColor=RGB(255, 255, 153)
9 Else
10    objMessageView.TableBackColor=RGB(255, 255, 255)
11 End If
End Sub
    
```

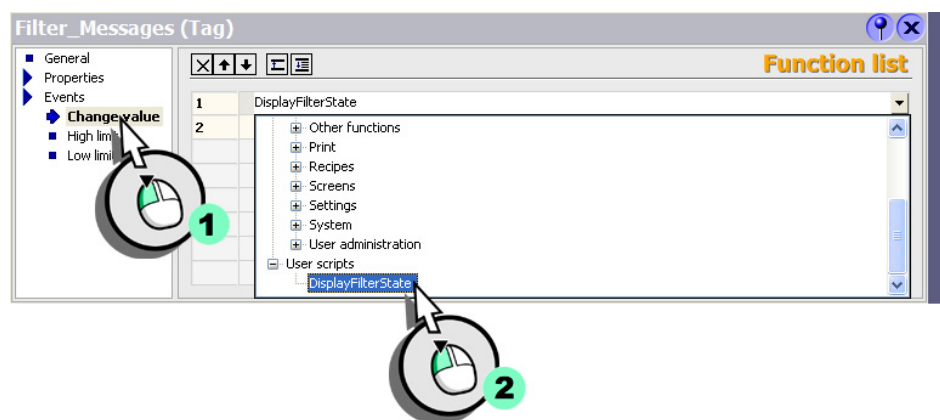
Configuring filter display in the alarm view

1. Change to the Tag editor (1), then select the "Filter_Messages" tag from (2):

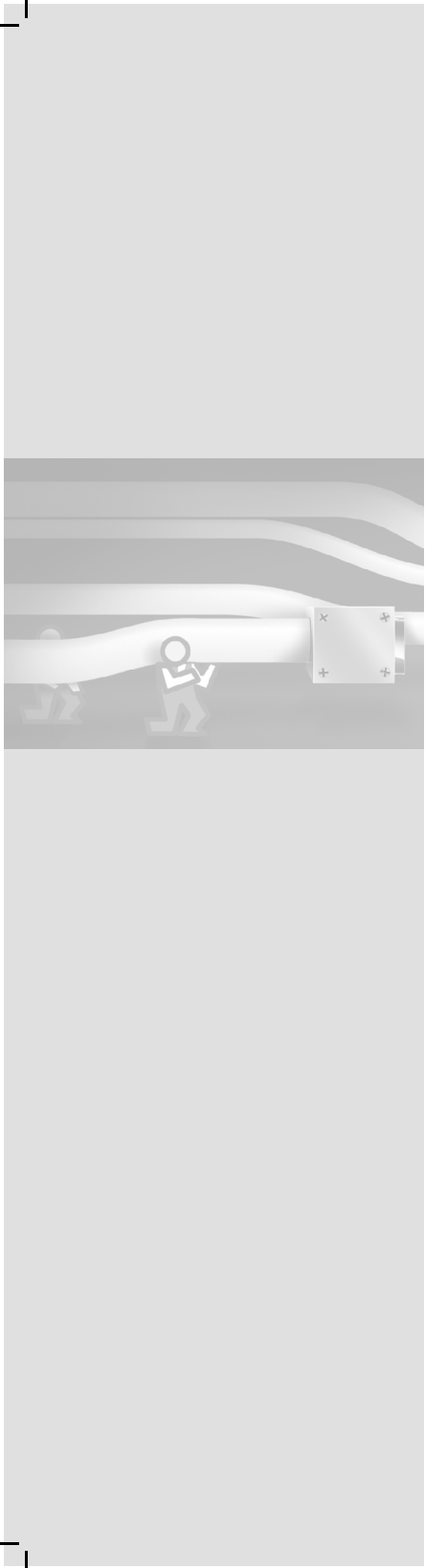
Name	Address	Connection	Array count	Acquisition cycle	Comment
Filter_Messages	<No address>	<Internal tag>		1 s	
FillLevel_Water	DB 1 DBW 2	Connection_1	Int	1 s	
FillLevel_Sugar	DBW 6	Connection_1	Int	1 s	
FillLevel_Cor	DBW 4	Connection_1	Int	1 s	
FillLevel_Aron	DBW 3	Connection_1	Int	1 s	
Current_Dataset	DB 1 DBW 20	Connection_1	Int	1 s	
Operation_Mode	DB 1 DBW 22	Connection_1	Int	1 s	

6 Creating scripts

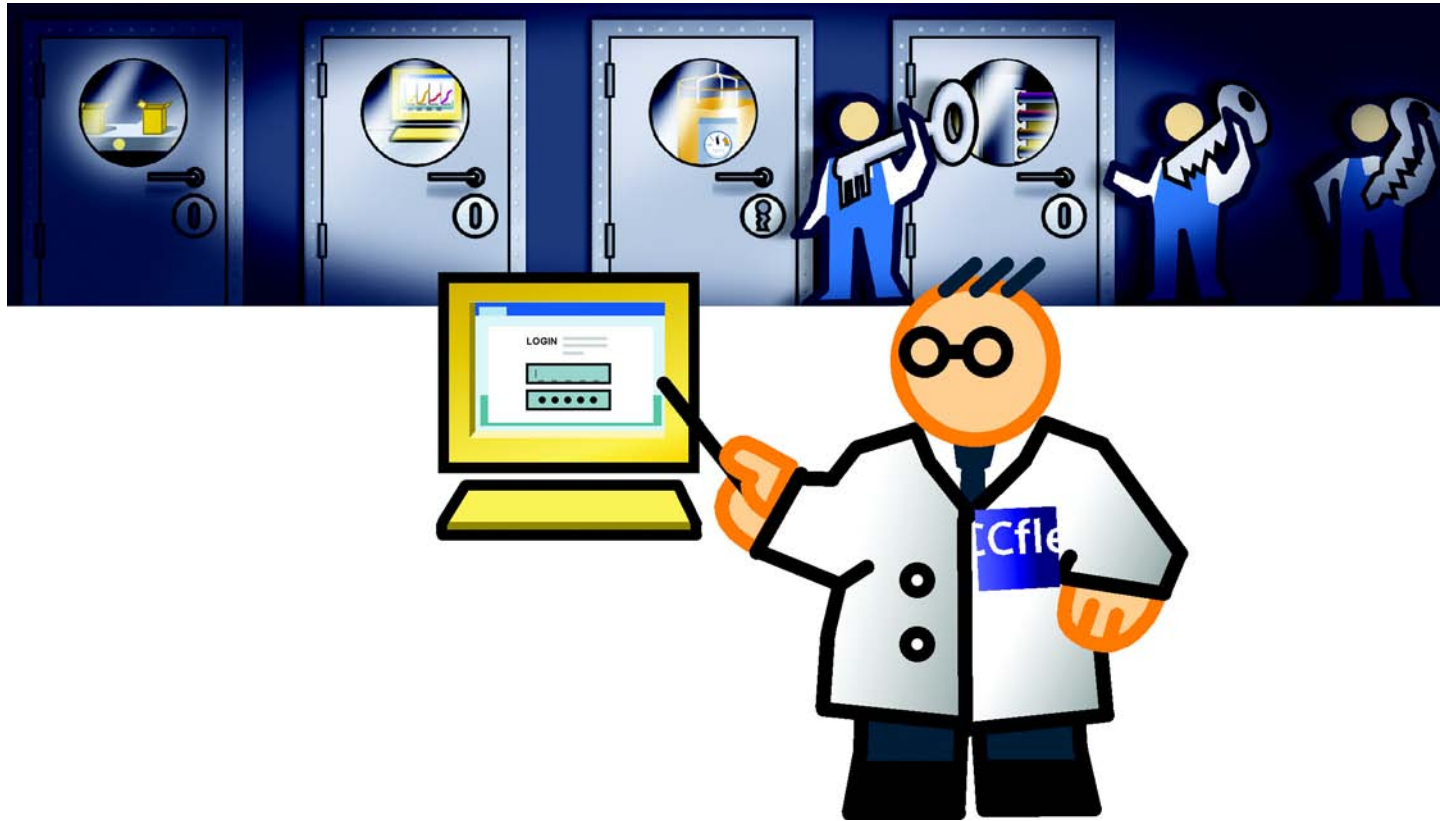
2. Configure the “Filter_Messages” tag to execute (2) the “DisplayFilterState” script when a value changes (1).

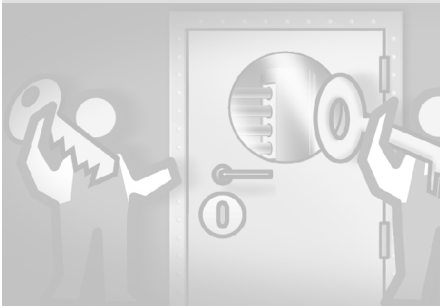


When the operator enters a filter criterion in the HMI device, the background color is toggled in the alarm view.



7 Configuring user administration





*User group: has specific access rights.
User: Belongs to a user group, and is thus assigned the rights of the relevant user group.*



Several people work on the fruit juice mixing system, each with different tasks:

- Mrs. Peters and Mr. Miller operate the fruit juice mixing system and define which flavors should be produced.
- Mr. Rodriguez is responsible for operation and, in his function as technician, enters new production data, for example.

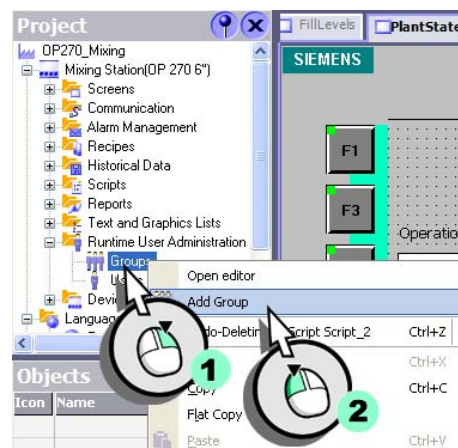
The user administrator defines which persons are authorized to operate the fruit juice mixing plant and their access rights. He will set up user groups and users to this extent. Any persons wanting to work on the HMI device must log on with their user name and password.

7 Configuring user administration

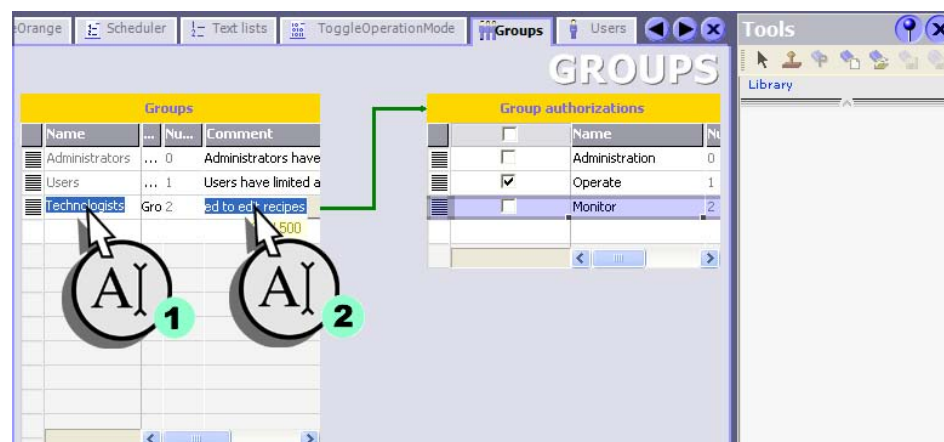
7.1 Creating user groups

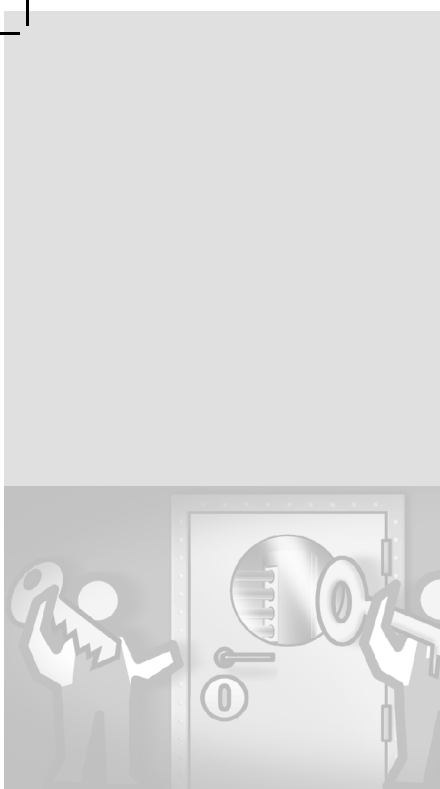
The “Administrators” and “Users” are default user groups of a project. The next section shows how to create the “Technologists” group and assign operating rights.

1. Create a new user group:

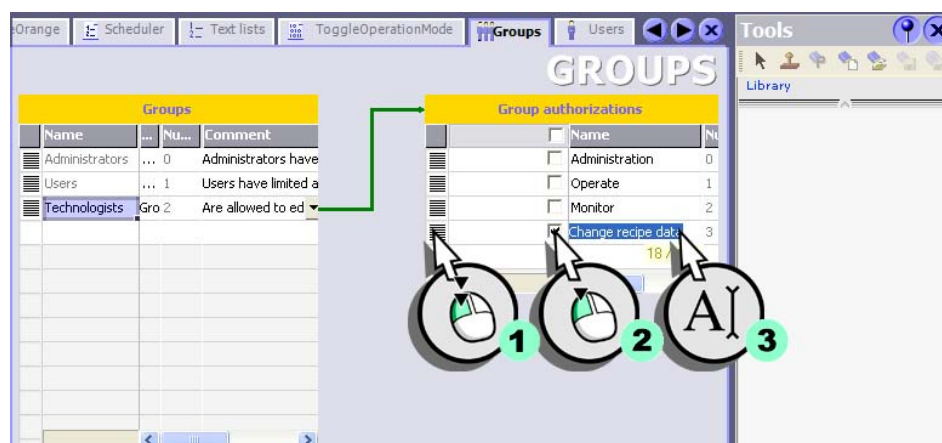


2. Assign the name “Technologists” (1) to the user group, and enter “May modify recipe data” (2) as a comment:



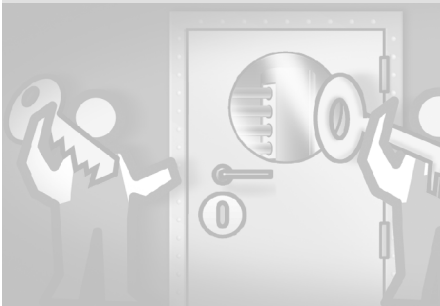


3. Create the “Modify recipe data” (1, 3) authorization, and assign it to the “Technologists” (2) user group:



4. Finally assign the user group “Technologists” to the authorization “Operate”.

7 Configuring user administration



Users are displayed under their logon names in a user display. If a user display is configured in a different project, use the same terms for the name and display.

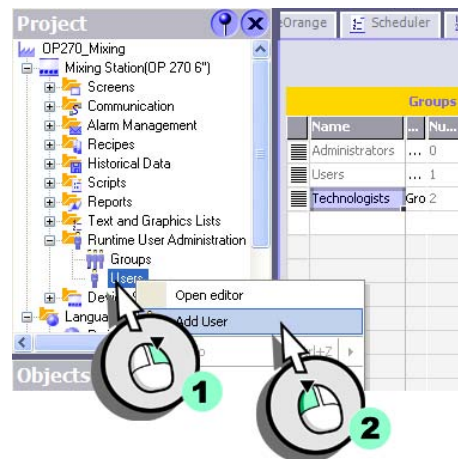


96

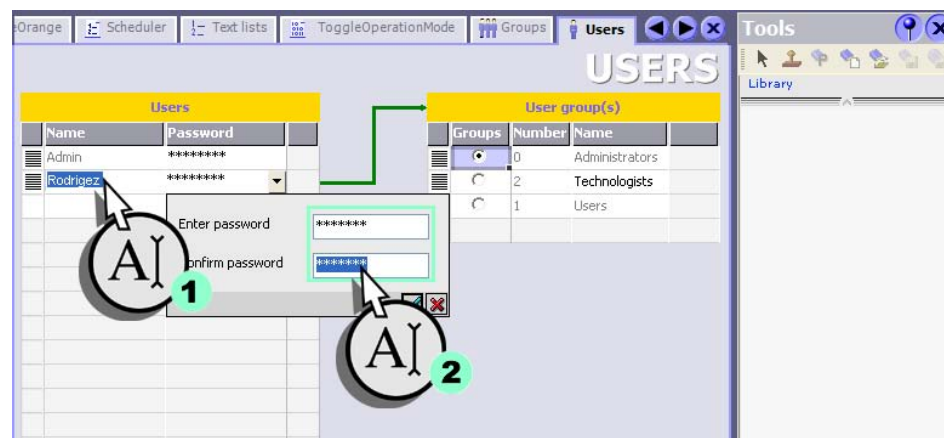
7.2 Create user

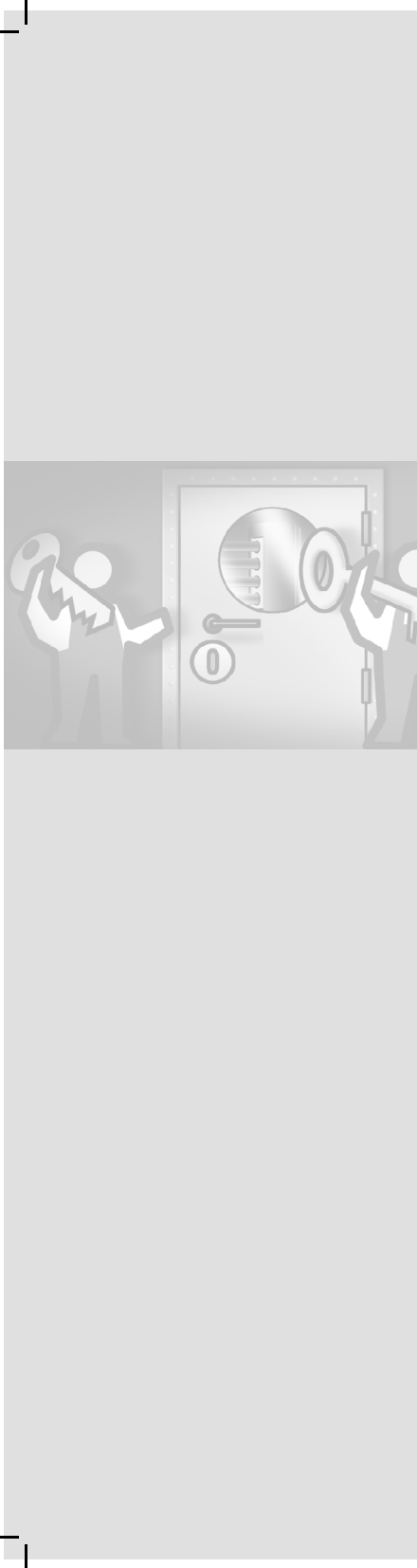
The next section shows how to create the users “Rodriguez”, “Miller” and “Peters”, and how to assign those users to different user groups.

1. Create a new user:

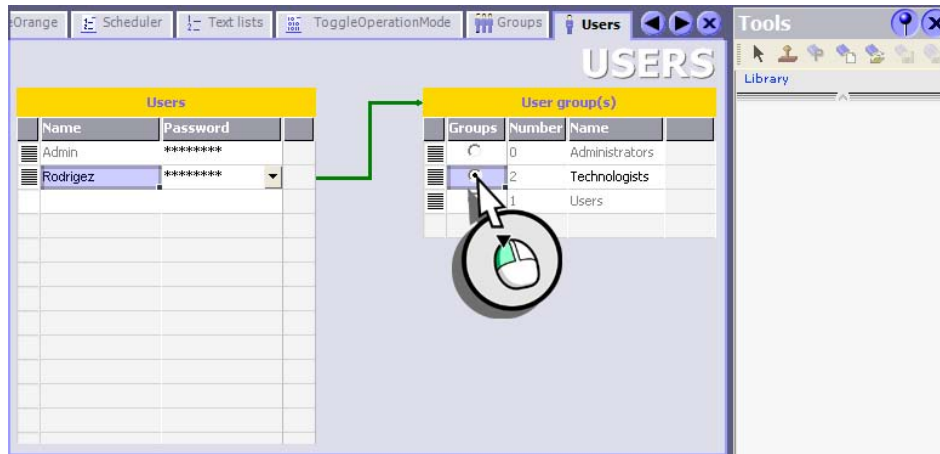


2. Assign the name “Rodriguez” (1) to the user and enter the password “001” (2):

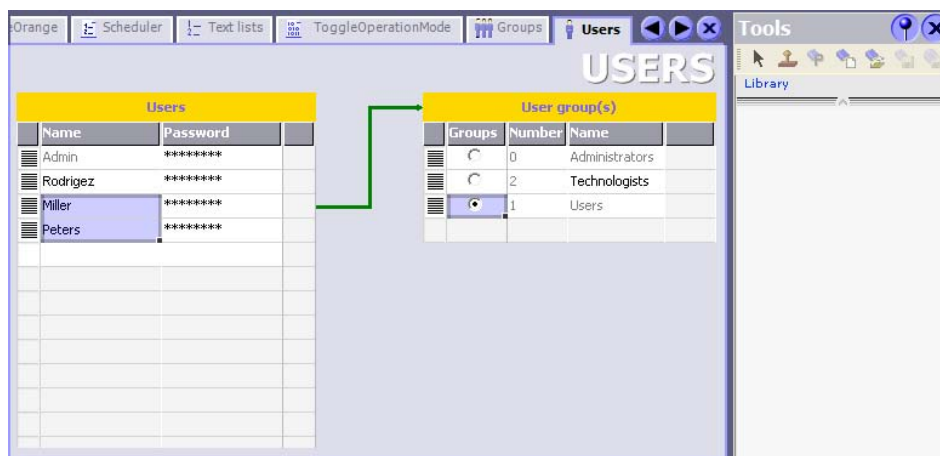




3. Assign “Rodríguez” to the “Technologists” user group:



4. Then set up the users “Miller” and “Peters” and assign them to the “Users” user group.

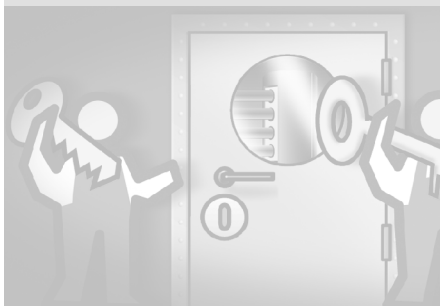
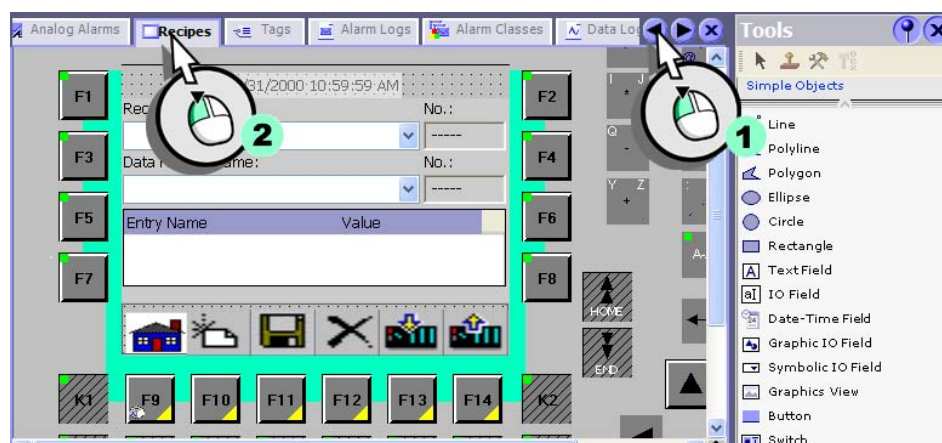


7.3 Configuring a button with access protection

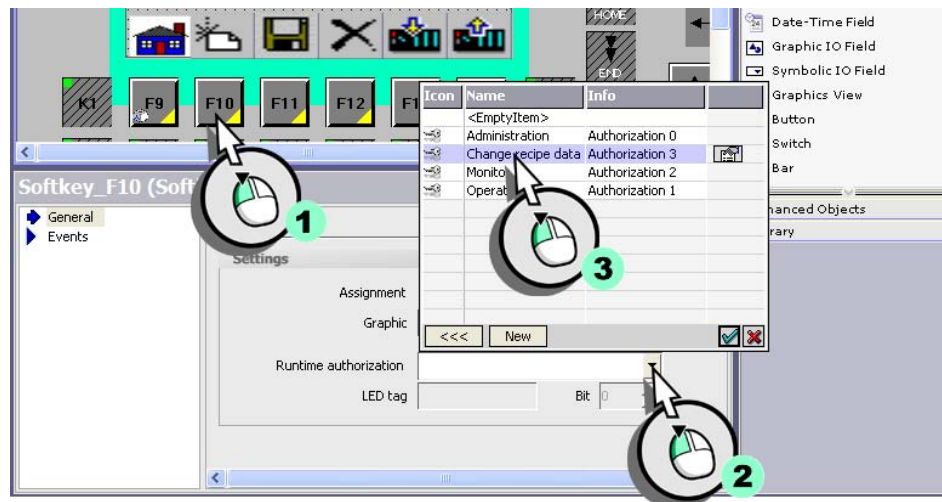
Only members of the technologist group should be allowed to edit production data. For this reason, we protect the softkeys listed below against access on the "Recipes" screen:

- <F10> (new data record)
- <F11> (save data record)
- <F12> (delete data record)
- <F13> (load data record from PLC)

1. Change to the "Recipes" screen:



2. Set the “Modify recipe data” access protection for the <F10> softkey.

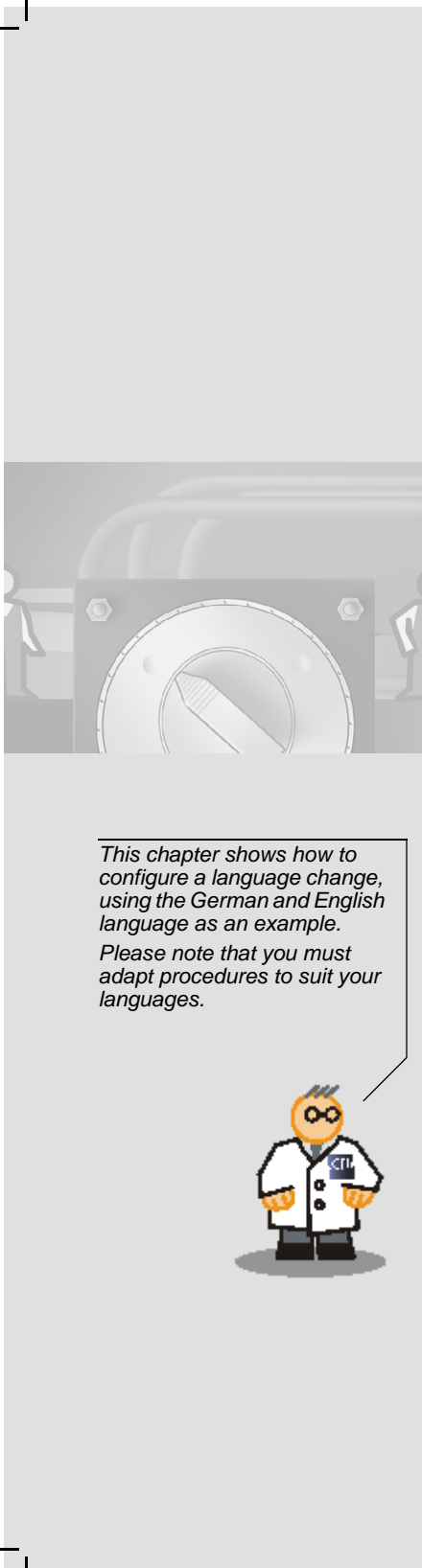


3. In the same way, assign this access protection to softkeys <F11> through <F13>.

Each user is assigned to a user group with different access rights. In order for a user to log on to the HMI, the Logon dialog must be opened. We configure the Log On dialog box alongside with “Setting up a multilingual user interface”.

8 Setting up a multilingual user interface





This chapter shows how to configure a language change, using the German and English language as an example. Please note that you must adapt procedures to suit your languages.



A multilingual user interface may be necessary for the following reasons:

- The fruit juice mixing plant is located in a subsidiary abroad where German is not spoken by operating personnel. In this case, the HMI-device only requires in the relevant regional language.
- The fruit juice mixing plant is operated by personnel of different nationalities. In this case, the HMI-device user interface must be available in several languages. If necessary, operating personnel may change the language.

In our example, we shall presume that the fruit juice mixing plant will also be operated by English-speaking personnel. Steps in creating an English user interface:

- Adding the English language
- Entering English texts
- Create a screen for changing languages

8 Setting up a multilingual user interface

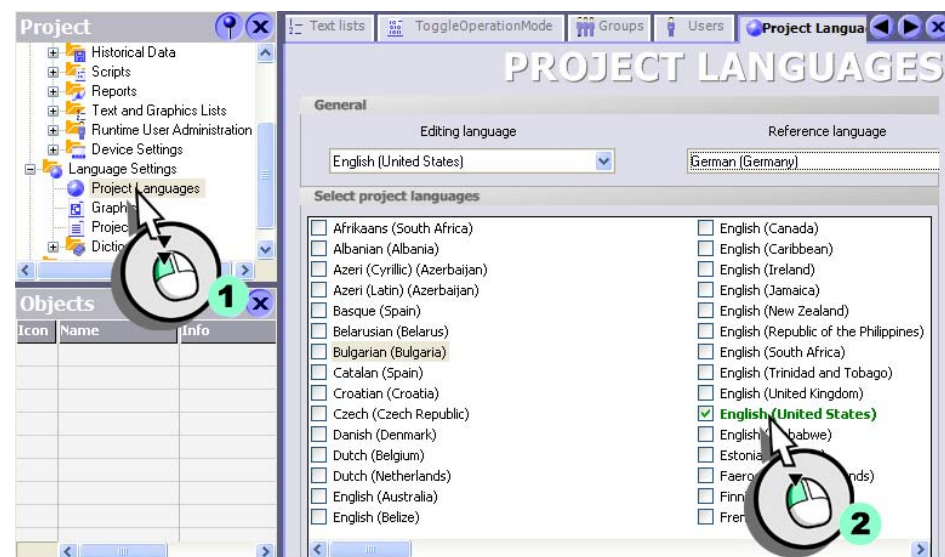
You may open up to 20 editors simultaneously in the working area. You should always close any editors you no longer require.



8.1 Adding the English language

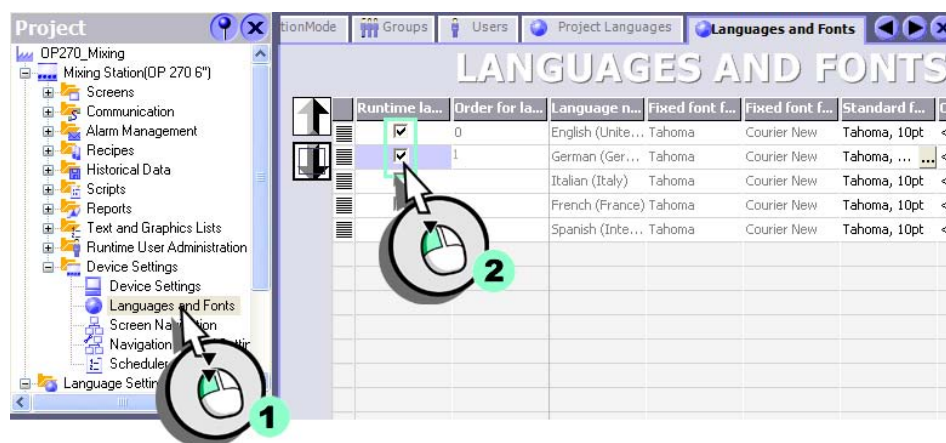
The next section shows how to add the English language to the project and make it available on the HMI device.

1. Add the “English (US)” language to the project:



This step is already completed in the project, because the engineering office has configured the mixer speed and valve status alarm texts in English language.

2. Set the system to load both the German and the English language to the HMI device:



8 Setting up a multilingual user interface

8.2 Entering English texts

The English texts are displayed on the HMI device after changing languages
Options of entering texts in English language:

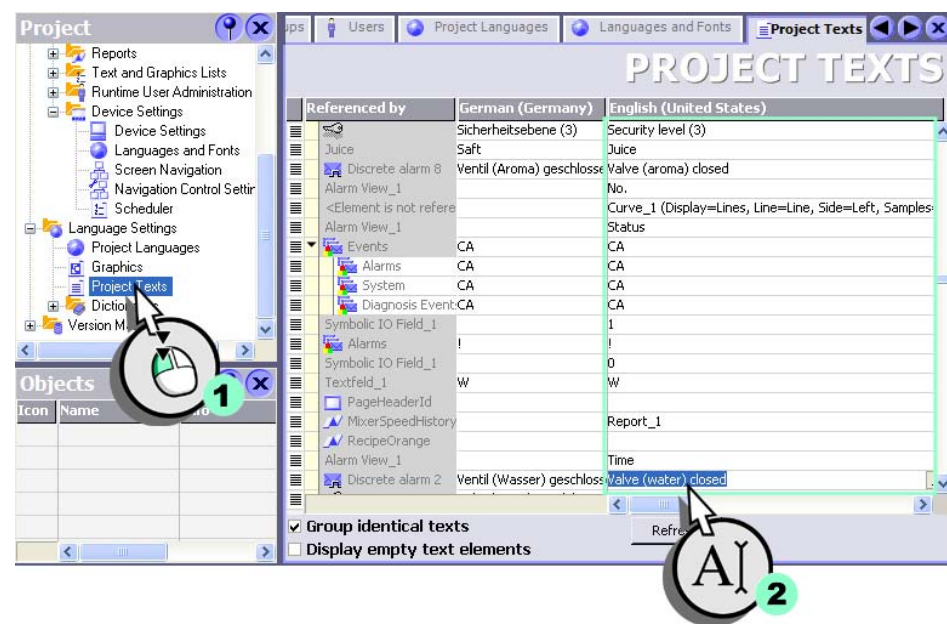
- Obtain a translation of the texts from a translation office.
If you do not speak the target language, export the project texts to a text file. Forward this text file to a translation office, and then re-import the translation to the project.
- Enter the foreign language texts in the Project Texts editor.
The Project Text Editor shows all the project texts to be translated.
- Change the language, and then enter the foreign language texts for each object.
- You create a library which contains the foreign language texts, and translate the texts automatically.

The "Project texts" Editor contains all project texts. When using libraries, you can automatically translate texts using the shortcut menu.



How to enter text in a foreign language:

1. Open the "Project Texts" editor (1) and enter the English translations for the configured texts (2):



8 Setting up a multilingual user interface

8.3 Create a screen for changing languages

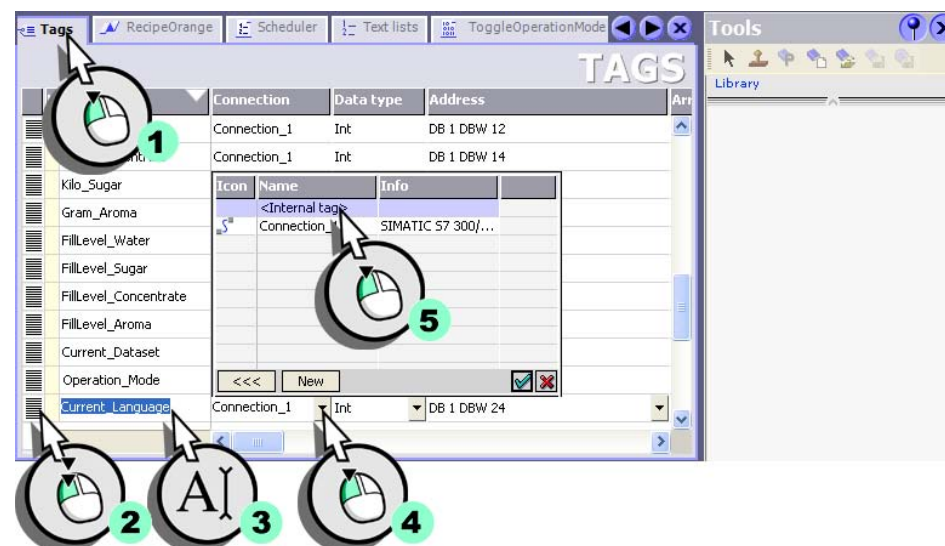
To operate the HMI device of the fruit juice mixing plant in various languages, the operators may require a screen they can use to change the language. In order to allow operators to identify the currently set HMI language in the selection screen, we first need to set up a graphic list.

The graphic list outputs a specific screen which is determined by a numerical value; in this case, the national flag of the regional language used.

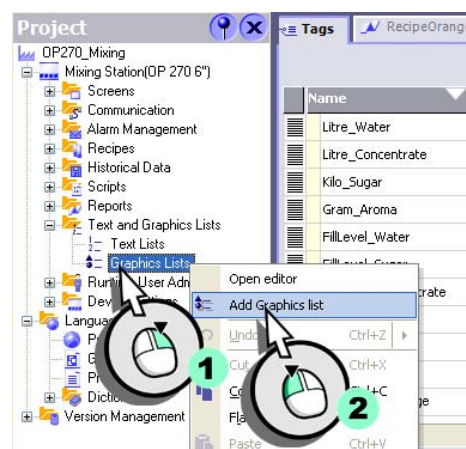
Displaying the currently set language on the HMI device

The language set on the HMI device is stored in the "Current_Language" tag.

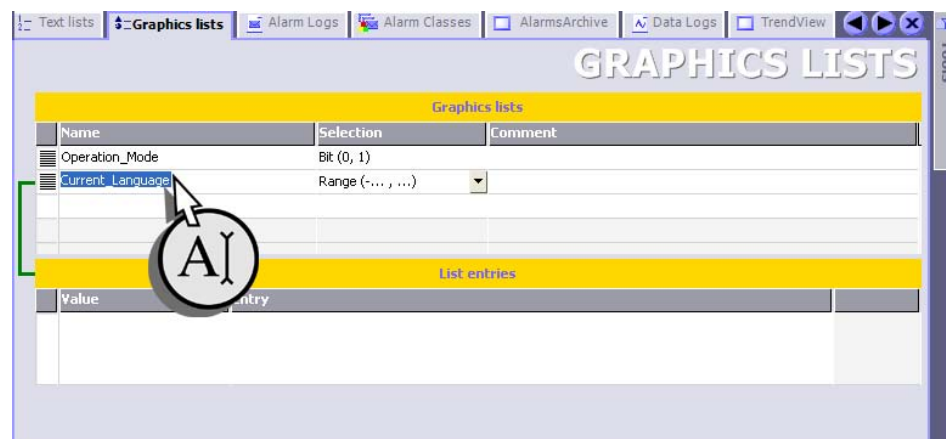
1. Create the "Current_Language" (1, 2, 3) tag, and configure the tag (4, 5):



2. Create a new graphics list:

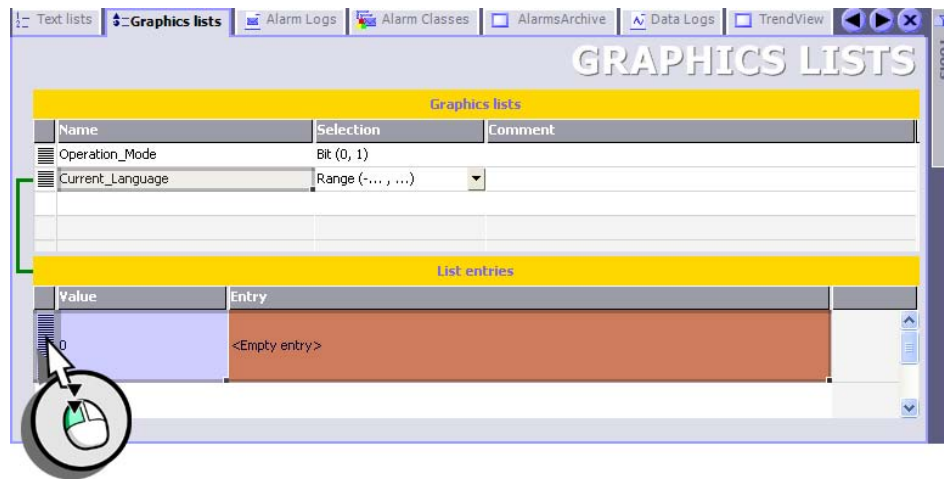


3. Name the "Current_Language" graphic list:



8 Setting up a multilingual user interface

4. Create a new list entry:




You can find the flags in the toolbox in the category "Graphics" under "Miscellaneous\Europe" and "..\America".



5. Assign the image of the German flag to the list entry:

The screenshot shows the WinCC Graphics Lists configuration interface. The main window is titled 'GRAPHICS LISTS' and contains two tables:

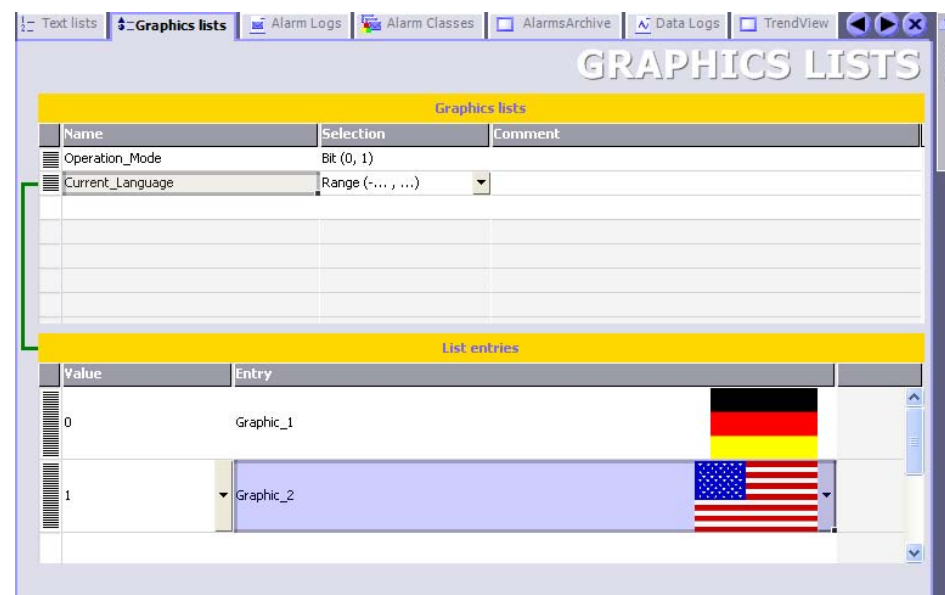
Graphics lists		
Name	Selection	Comment
Operation_Mode	Bit (0, 1)	
Current_Language	Range (-..., ...)	

List entries		
Value	Entry	
0	Graphic_1	

Below these tables is the 'HmiTextImageRange (Entry)' window, which has a 'List Entry' section with a 'Preview' area. To the right is the 'Tools' window showing a file explorer with various flag files like 'Estonia.gif', 'France.gif', 'Greece.gif', 'Hungary.gif', and 'Germany.gif'. Three numbered callouts (1, 2, 3) indicate the steps to assign the German flag to the list entry.

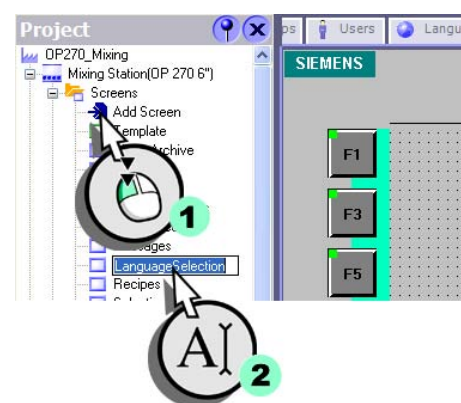
8 Setting up a multilingual user interface

6. Also, assign the American flag to the list entry:

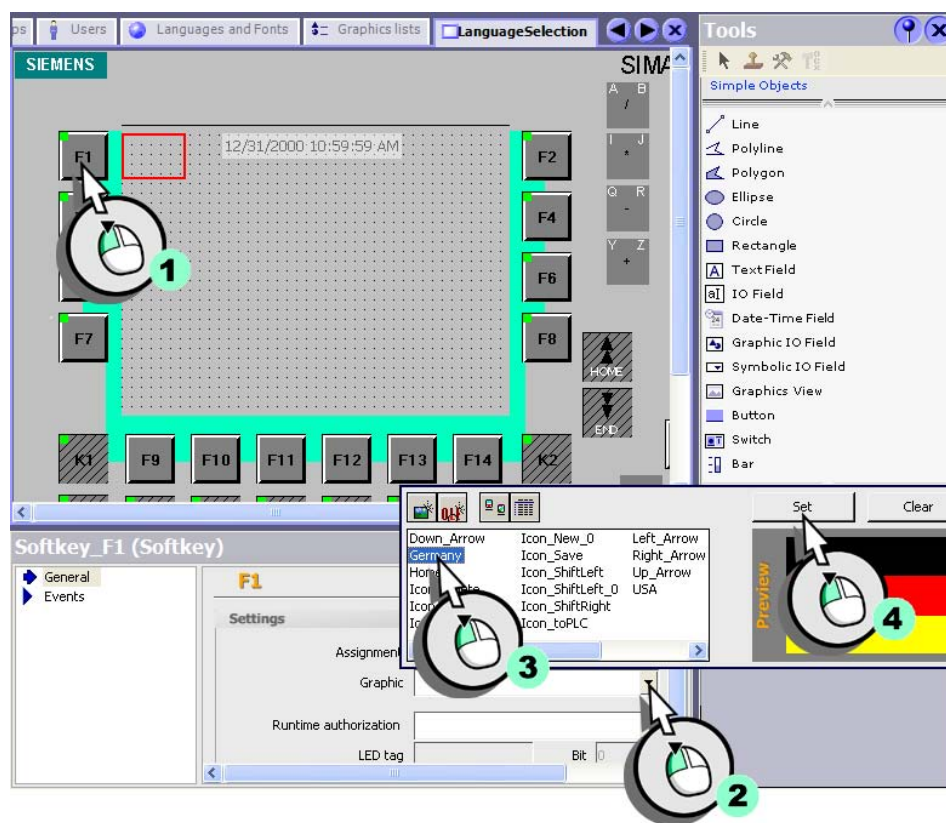


Configuring the user interface

1. Create the "LanguageSelection" screen:

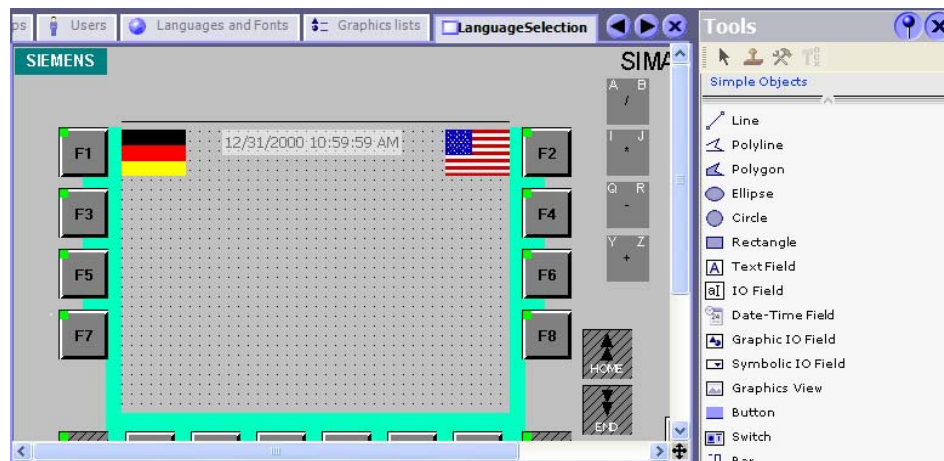


2. Configure the function key <F1> in the “LanguageSelection” screen (1) with a label showing the German flag (2, 3, 4):



8 Setting up a multilingual user interface

3. In the same way, assign the American flag to function key <F2>.



4. Next, create a text field which requests the user to select a language:



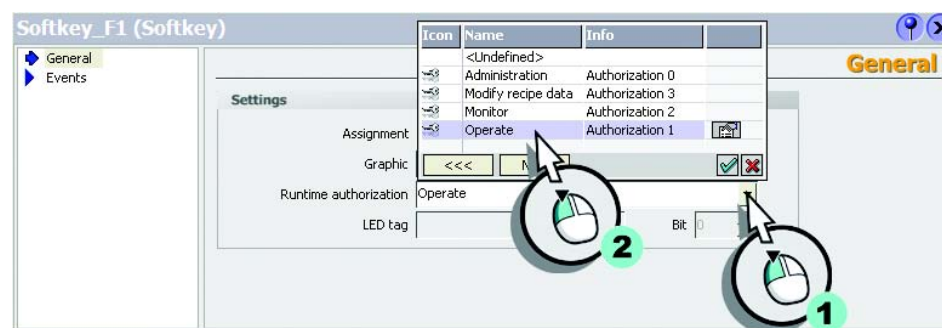
You can only enter the languages that were loaded to the HMI device. The language codes are:
 German: de-DE
 English: en-US
 French: fr-FR
 Italian: it-IT
 Spanish: es-ES
 Simplified Chinese: zh-CN
 Traditional Chinese: [zh-TW
 Korean: ko-KR
 Japanese: ja-JA



Configuring language change and user logon

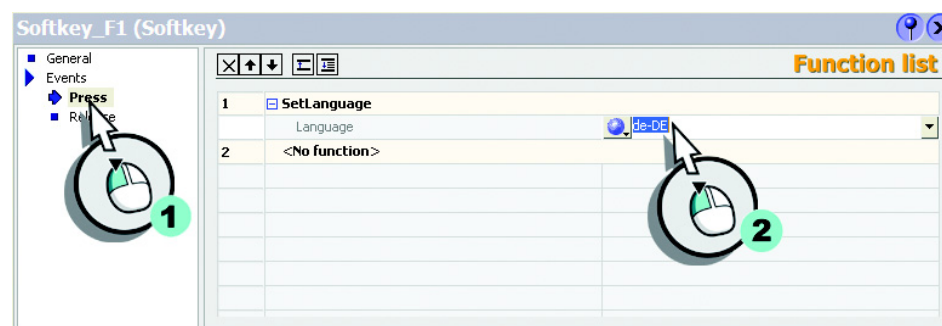
Below you are shown how the <F1> function key should be configured to enable operating authorization when you press it the first time. The next time you press it, the system changes to the German language and sets the "Current_Language" tag is to "0." Finally, the "Selection" screen will open:

1. Assign the <F1> function key the "Operate" authorization:



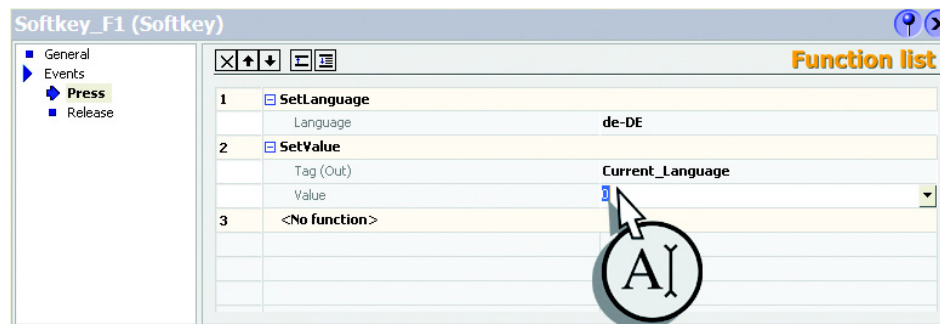
2. Assign the following system functions to the <F1>function key:

- Change the language to German:

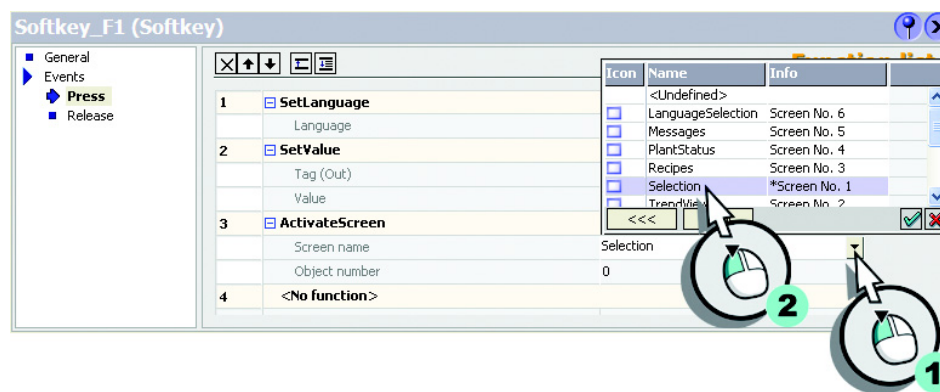


8 Setting up a multilingual user interface

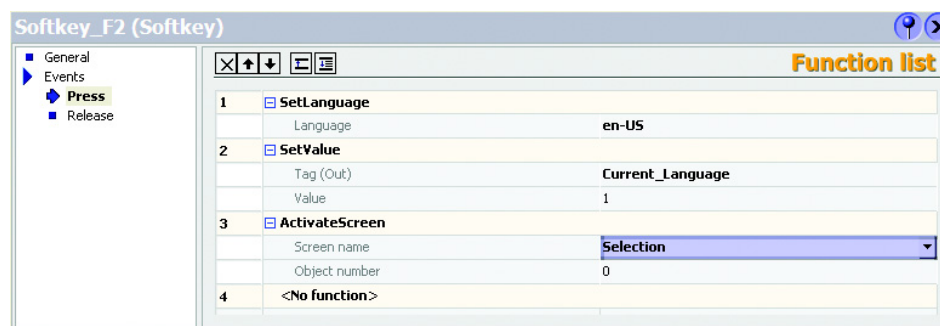
- Set the tag value to “0”:



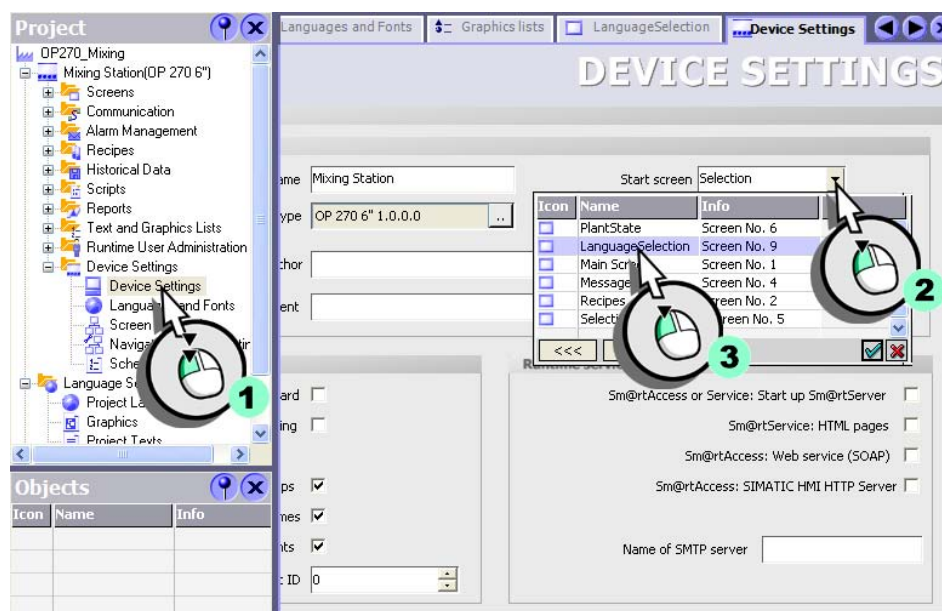
- Configure the screen change:



3. In the same way, configure the <F2> function key for English, but set the tag value “1.”



4. Finally, change the start screen from "Selection" to "LanguageSelection":



8 Setting up a multilingual user interface

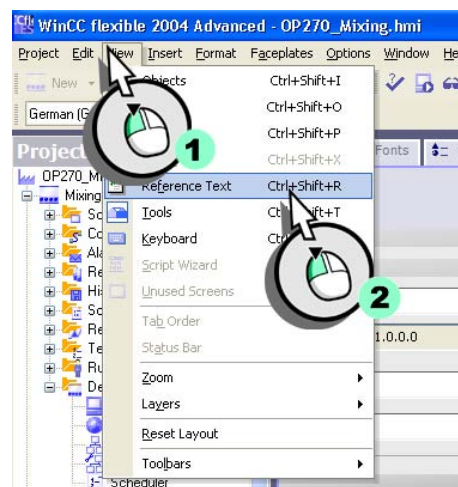
8.4 Checking the translation

To verify that all texts in German language have been translated, we change from the German to the English language in WinCC flexible.

1. Change the editing language in the project:



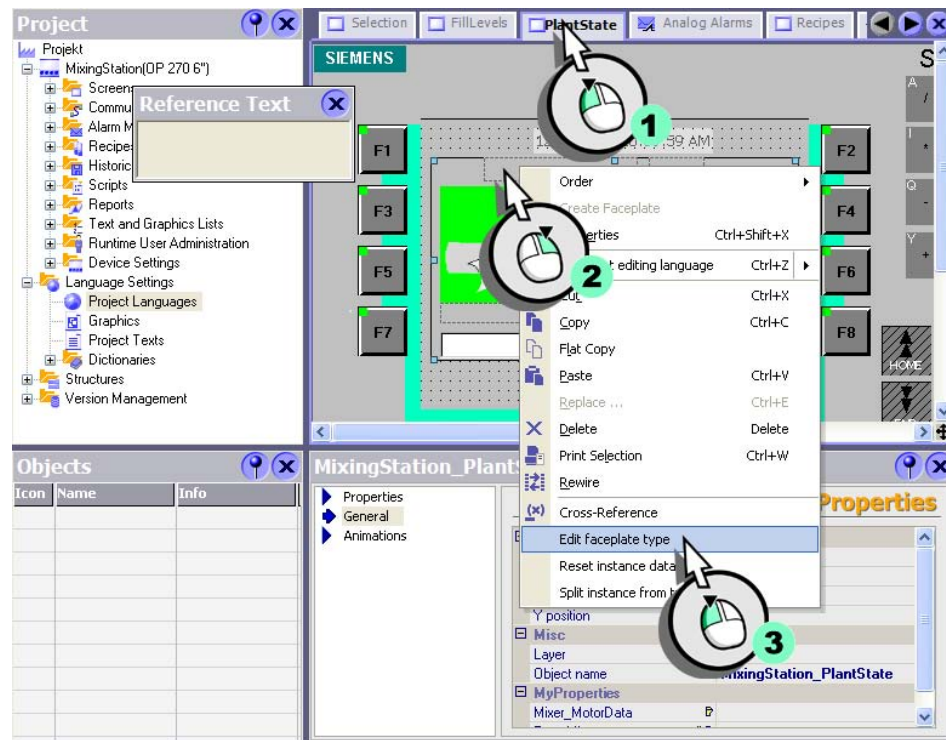
2. Open the Reference Text window:



3. Open all screens and editors in which you have entered texts, and check whether all corresponding texts are shown in English language.

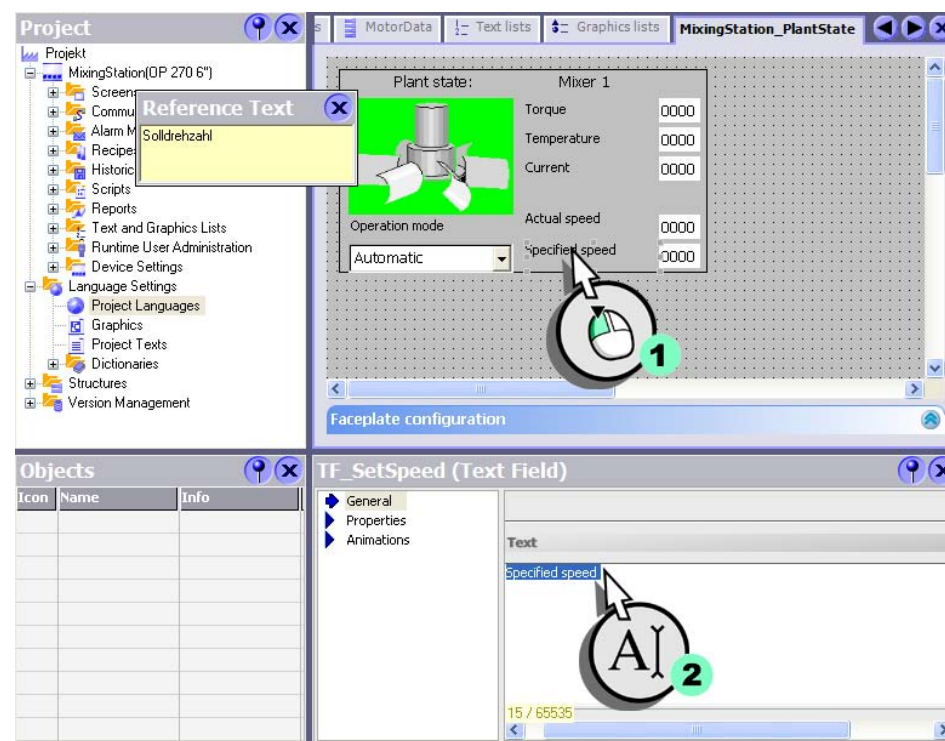
The text in the faceplate has still not been translated in the “Plant State” screen. The text fields are still empty – with the exception of the text field which is connected with the faceplate. This text has been previously translated in the “Project text” editor.

4. Open the faceplate to enter the English texts:

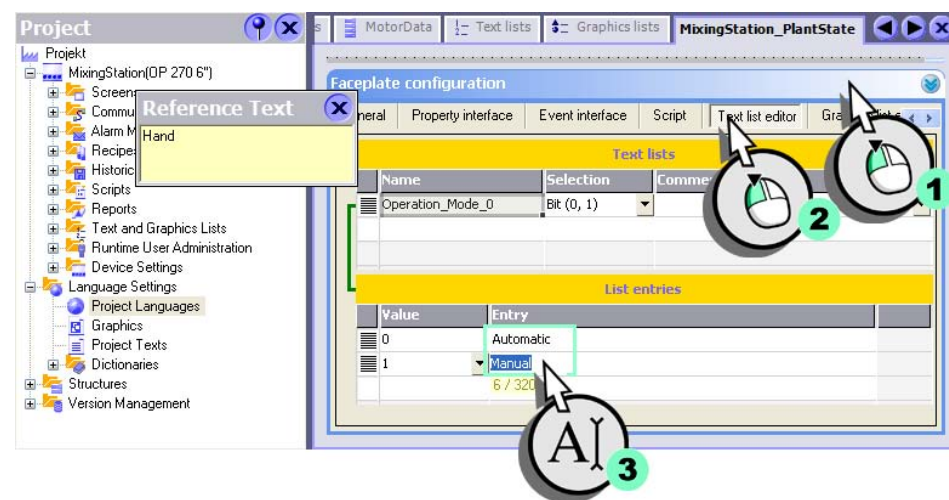


8 Setting up a multilingual user interface

5. Enter the English texts.

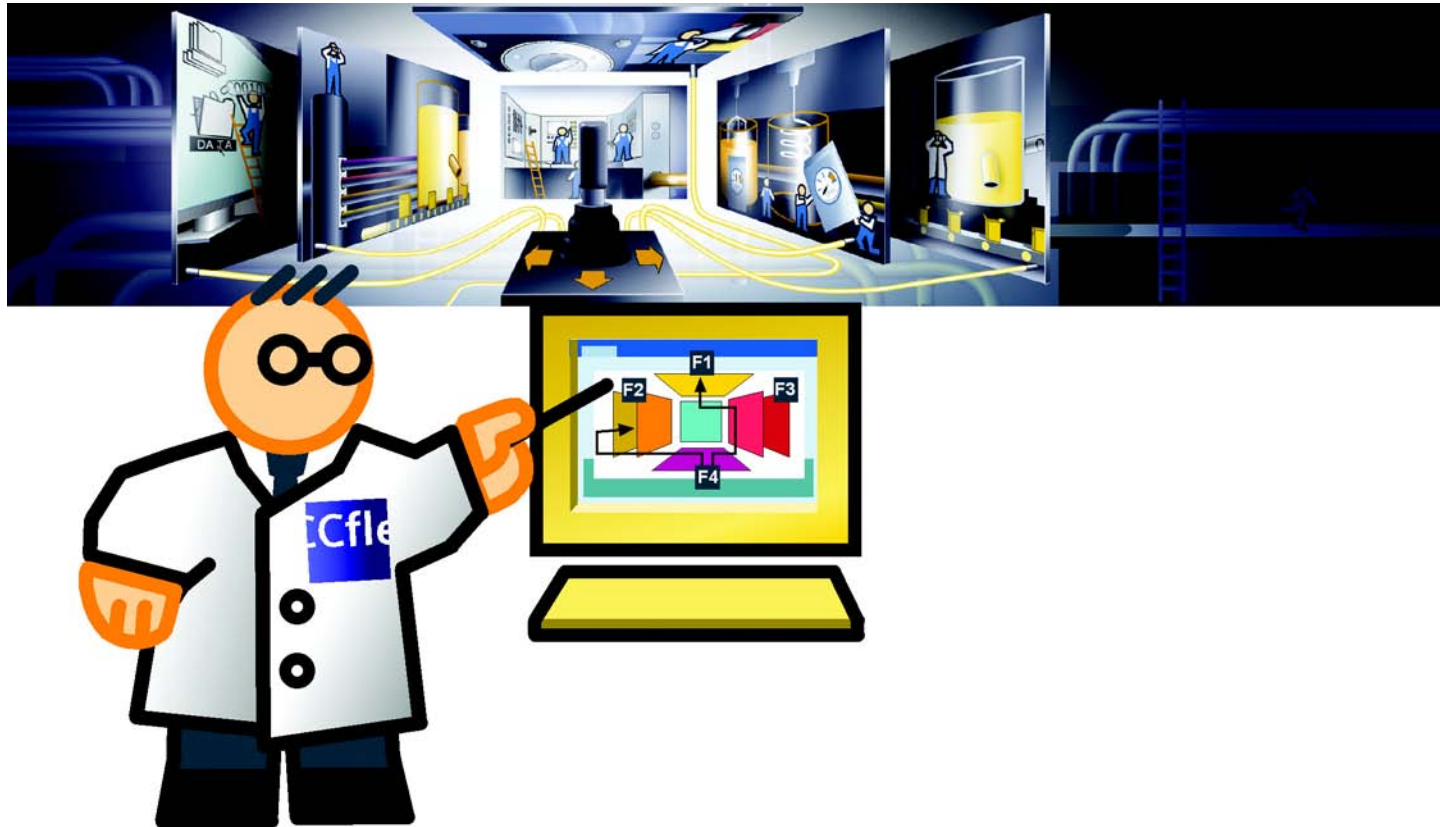


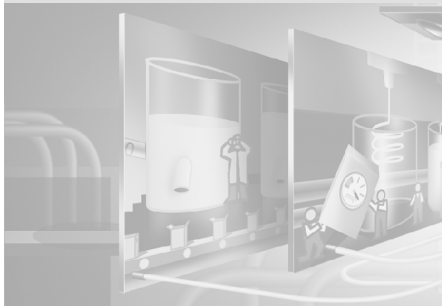
6. Also enter the English translations in the text list:



7. Close the faceplate and then return to the German language.
The faceplate now also contains the English texts.

9 Adapting screen navigation

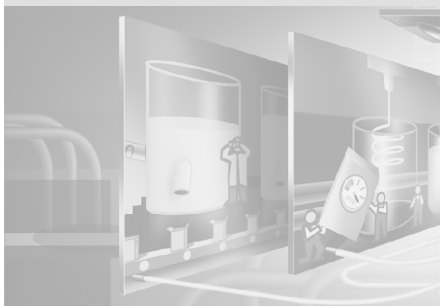




Screen navigation is used to set up a screen change with Drag&Drop. A hierarchical navigation structure is defined by the arrangement of the screens. Move directly to the project's start screen by pressing <F9>.

9 Adapting screen navigation

This setting prevents the configuration of function keys in the "Recipes" and "Trend-View" screens from being overwritten by the screen navigation.



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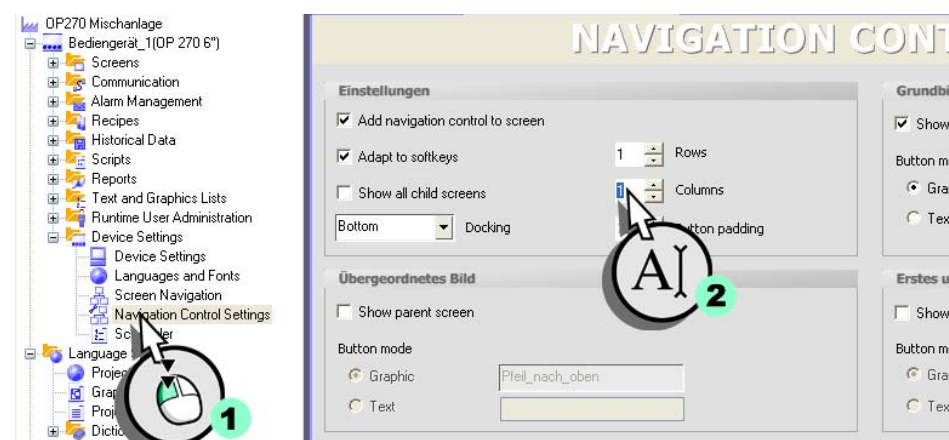
9.1 Adapting navigation between screens

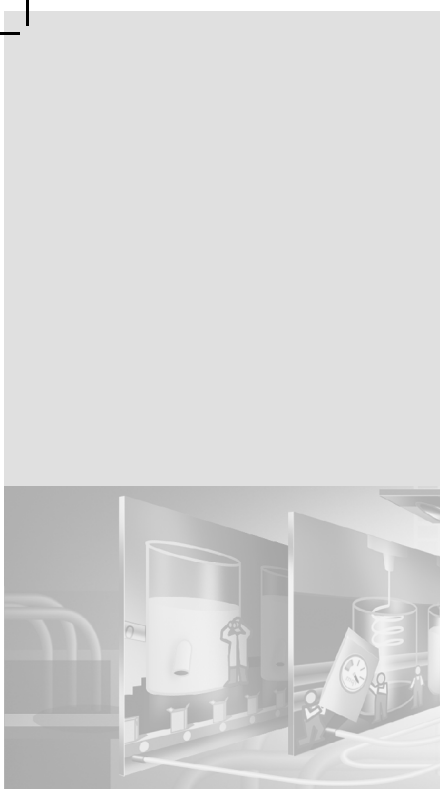
In addition to the hierarchical navigation structure, screen changes are also required in order to switch from the start screen to the other screens, such as the Recipe view or Fill Level display.

These screen changes can be set up in the screen navigation. First of all, add the following screens to the screen navigation:

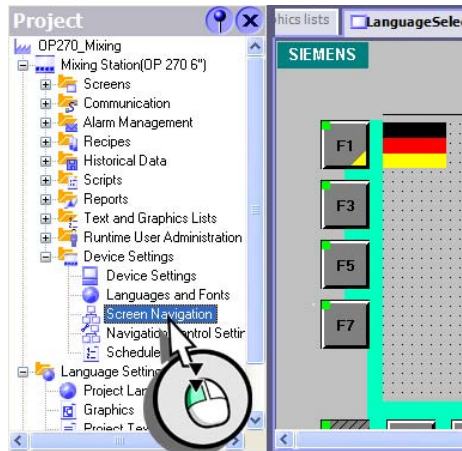
- "PlantState"
- "AlarmsArchive"
- "TrendView"
- "LanguageSelection"

1. Ensure that the column number is set to "1":

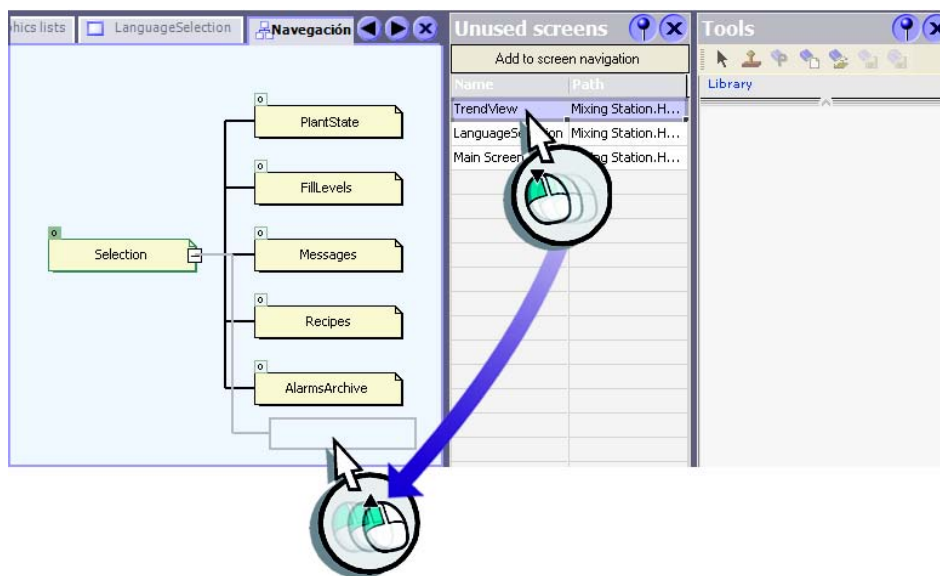




2. Open the screen navigation:

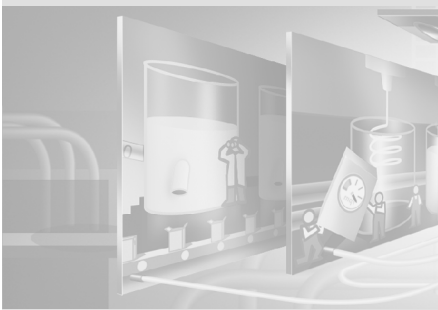
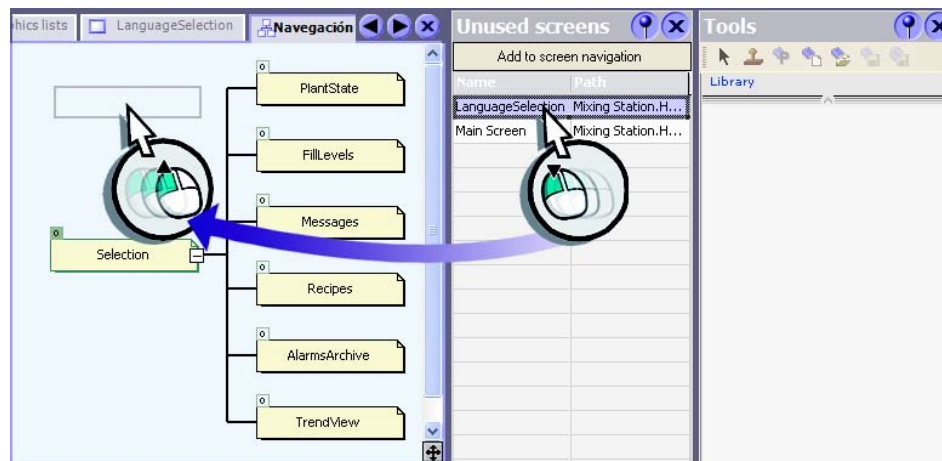


3. Add the "PlantState", "AlarmsArchive" and "TrendView" screens to the screen navigation.



9 Adapting screen navigation

4. Then add the “LanguageSelection” screen to the screen navigation:



Create screen change

1. Create a screen change from the "Selection" to the "FillLevels" screen:

Destination	Button	Soft key
FillLevels	Elemento de imagen_1	F1
Messages	Elemento de imagen_2	F2
Recipes	Elemento de imagen_3	F3
AlarmsArchive	Elemento de imagen_4	F4
TrendView	Elemento de imagen_5	F5
PlantState	Elemento de imag...	

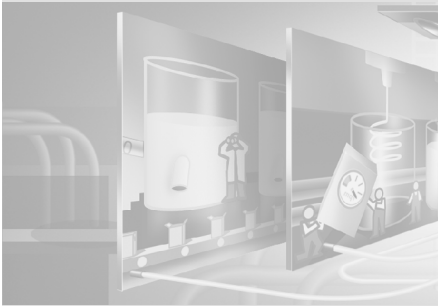
2. Determine that this screen change should be executed with the <F1> key:

Destination	Button	Soft key
FillLevels	Elemento de imag...	None
		None

9 Adapting screen navigation

3. In the same way, create a change to the “Recipes”, “Messages”, “AlarmsArchive”, “TrendView” and “PlantState” screens:

Destination	Button	Soft key
FillLevels	Elemento de imagen_1	F1
Messages	Elemento de imagen_2	F2
Recipes	Elemento de imagen_3	F3
AlarmsArchive	Elemento de imagen_4	F4
TrendView	Elemento de imagen_5	F5
PlantState	Elemento de imag...	



4. Then create a screen change to the "LanguageSelection" screen:

The screenshot shows the WinCC Graphics Designer interface. The main workspace displays a navigation tree with nodes for LanguageSelection, PlantState, FillLevels, Messages, Recipes, AlarmsArchive, and TrendView. A mouse cursor is positioned over the LanguageSelection node, which is highlighted with a green circle and the number '1'. Below the workspace, the 'Selection (Screen Navigation Node)' dialog is open, showing the 'Direct Connections' tab. This tab contains a table with the following data:

Destination	Button	Soft key
Recipes	Elemento de imagen_3	F3
AlarmsArchive	Elemento de imagen_4	F4
TrendView	Elemento de imagen_5	F5
PlantState	Elemento de imagen_6	F6
LanguageSelection	Elemento de imag...	F7

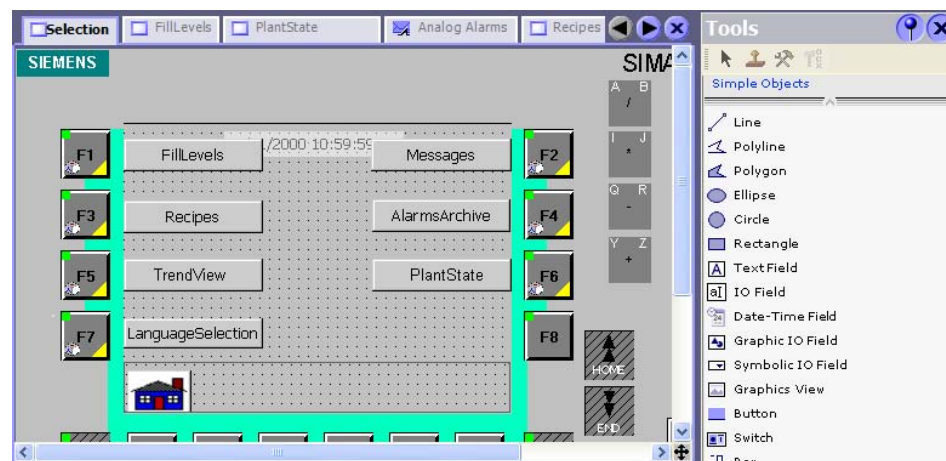
A mouse cursor is also pointing to the 'F7' soft key in the dropdown menu, which is highlighted with a green circle and the number '2'. To the right of the workspace, the 'Unused screens' panel is visible, showing a table with columns for Name and Path, containing 'Main Screen' and 'Mixing Station.H...'.

9 Adapting screen navigation

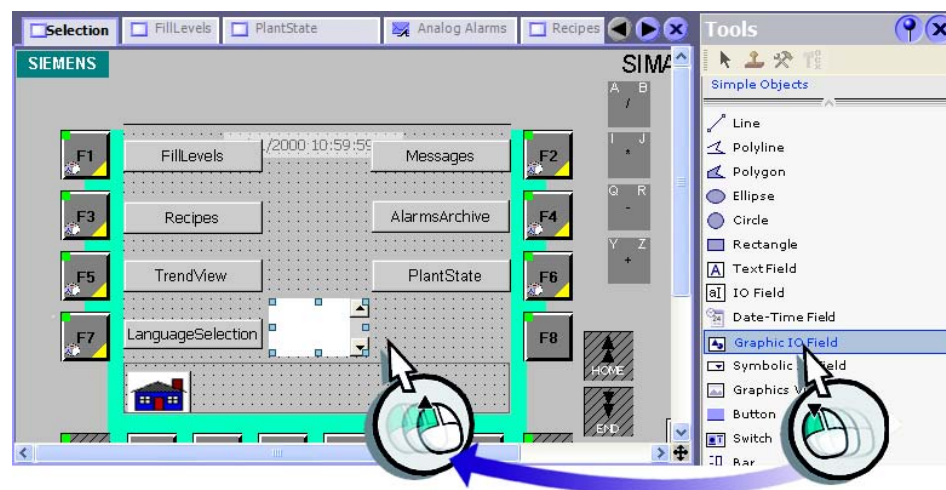
Adapting the Choices screen

When setting up the screen changes, labels are automatically created which are assigned to the function keys. A graphic IO field is then added which displays the language set on the HMI device.

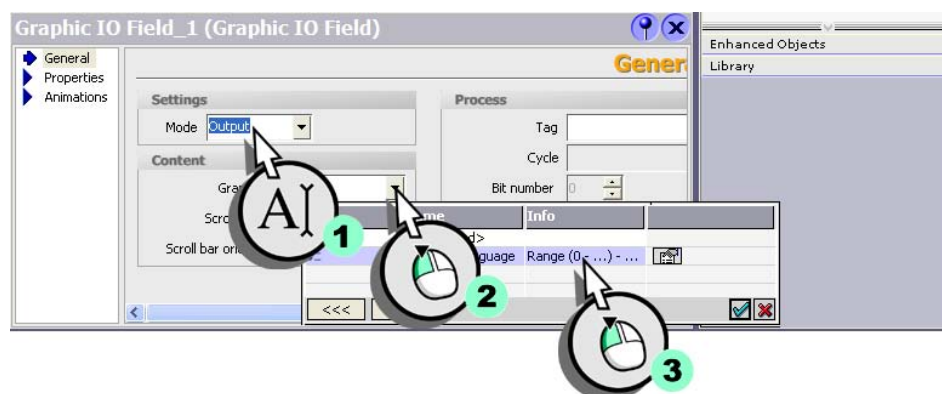
1. Using the cursor, position the buttons next to the function keys:



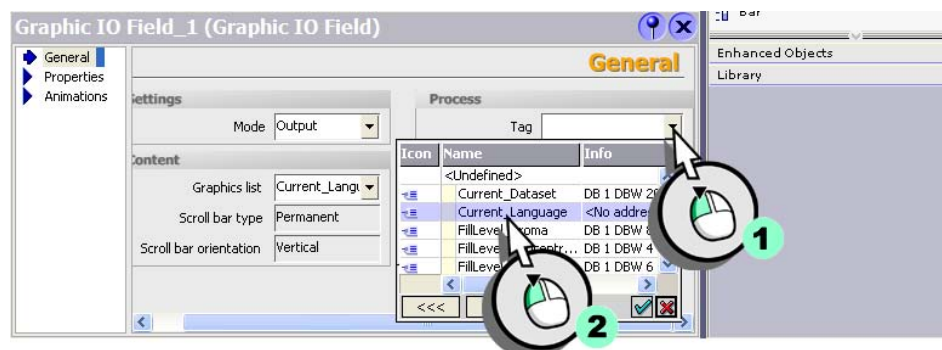
2. Create a graphic IO field:



3. Configure the graphic IO field as an output field (1) and select the graphic list (2, 3):



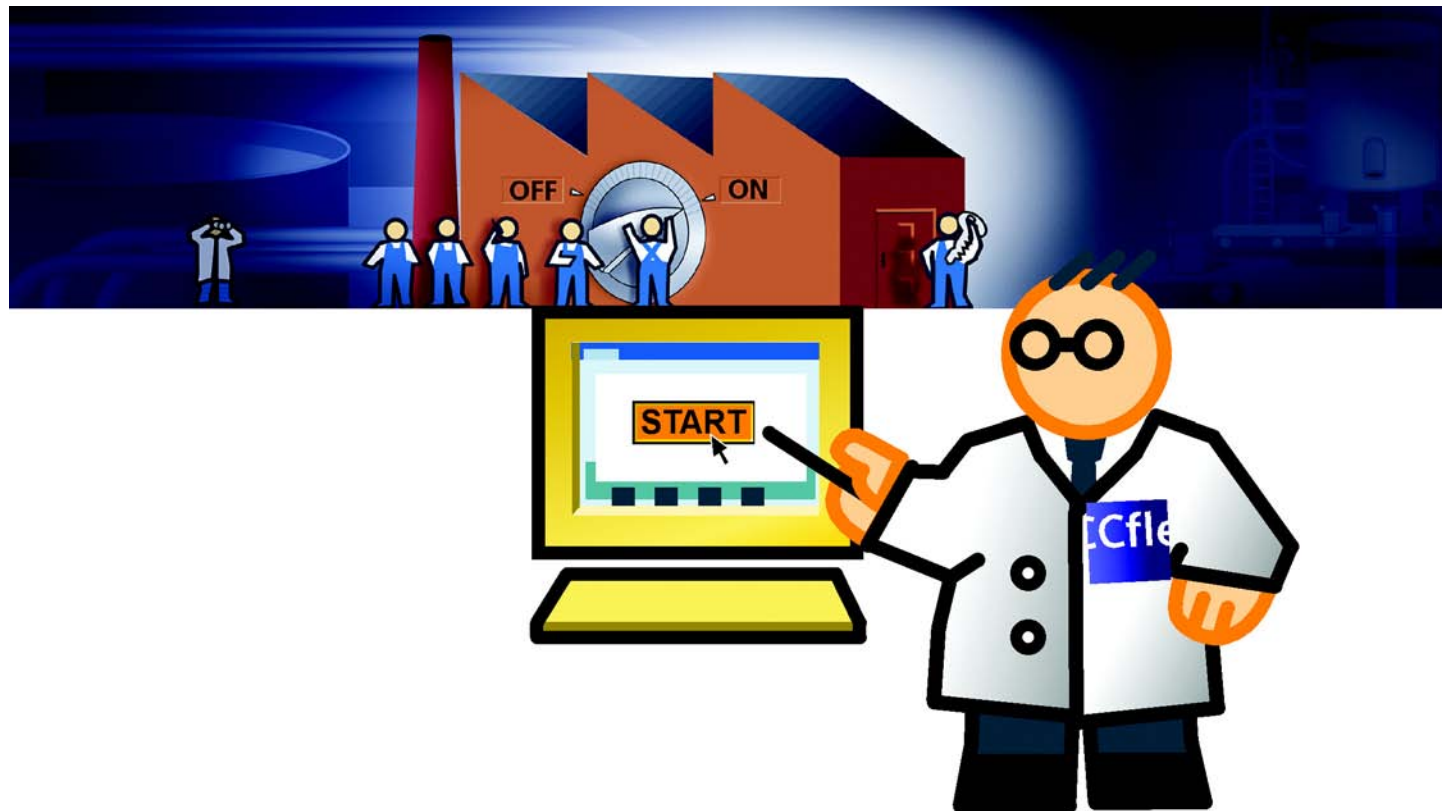
4. Then select the tag that supplies values to the graphic IO field:

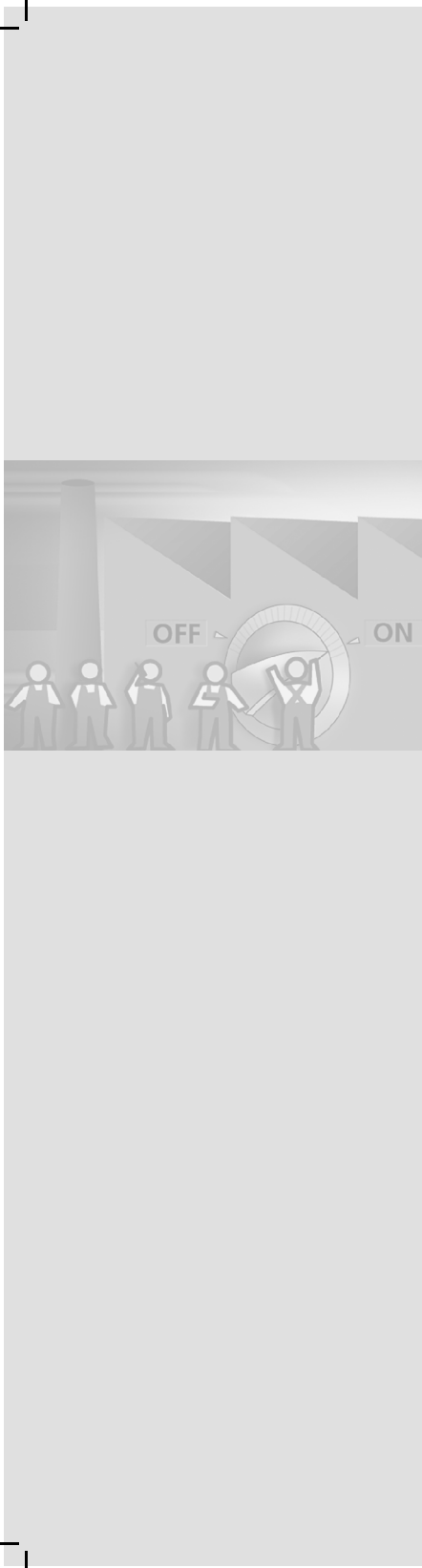


5. Then adjust the group display for German and English (Language switching) according to the following list:

- Fill levels = Fill Levels
- Messages = Message View
- Recipes = Recipe View
- AlarmsArchive = Message Archive
- CurveView = Trend View
- Anlagenstatus = Plant State
- LanguageSelection = Language Selection

10 Transferring the project to the OP 270 HMI device





The graphic user interface has been created and the tags set up in the project in order to read process values from the controller or to transfer them there. In order that the HMI device can operate the fruit juice mixing system, a control program is required written by an application engineer.

The application engineer implements data blocks in the control program which use the same addresses as the tags in our project.

Carry out the following steps to commission the system:

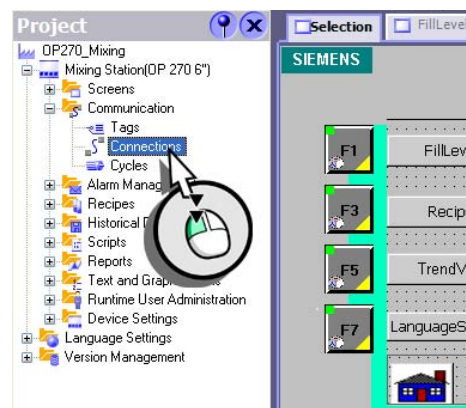
- Check connection parameters
- Transferring the project to the HMI device

10 Transferring the project to the OP 270 HMI device

10.1 Check connection parameters

The OP 270 6" HMI device is connected to the fruit juice mixing system's controller via an MPI network. The connection parameters have already been set by the engineering service office.

1. Open the Connections editor:



Addresses 1 and 2 are defined for the HMI device and controller, respectively.
 The controller and HMI device communicate with each other via an MPI network:

The screenshot shows the 'CONNECTIONS' dialog box in WinCC. It features a table with the following data:

Name	Communication driver	Online	Comment
Connection_1	SIMATIC S7 300/400	On	

Below the table, the 'Parameters' section is active, showing a diagram of an 'OP 270 6"' interface connected to a 'Station'. The configuration is divided into three columns:

- HMI device:** Type: TTY (selected), Baud rate: 187500, Address: 1, Access point: S7ONLINE.
- Network:** Profile: MPI, Highest station address (HSA): 31.
- PLC device:** Address: 2, Expansion slot: 0, Rack: 0.

10 Transferring the project to the OP 270 HMI device

When the project is transferred to the HMI device, a consistency check is automatically performed.

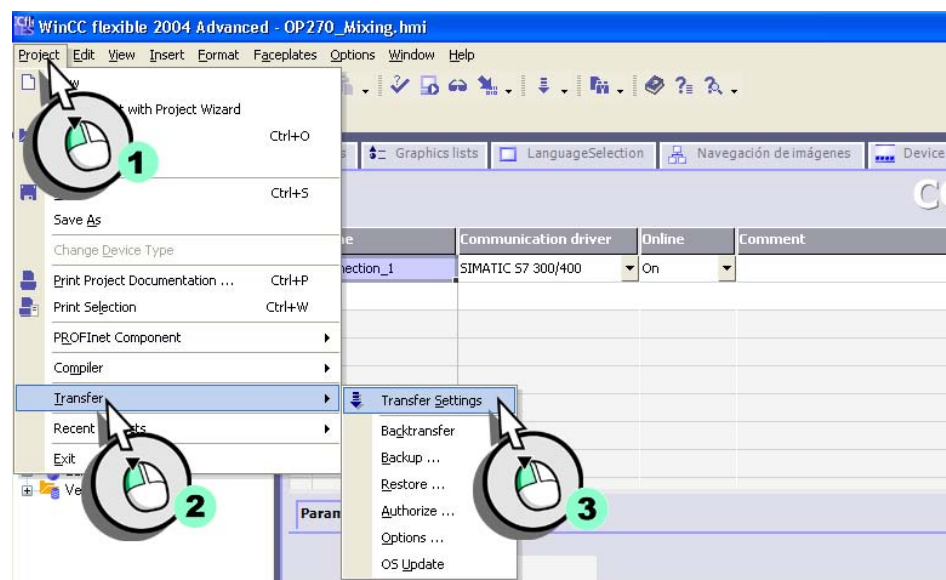


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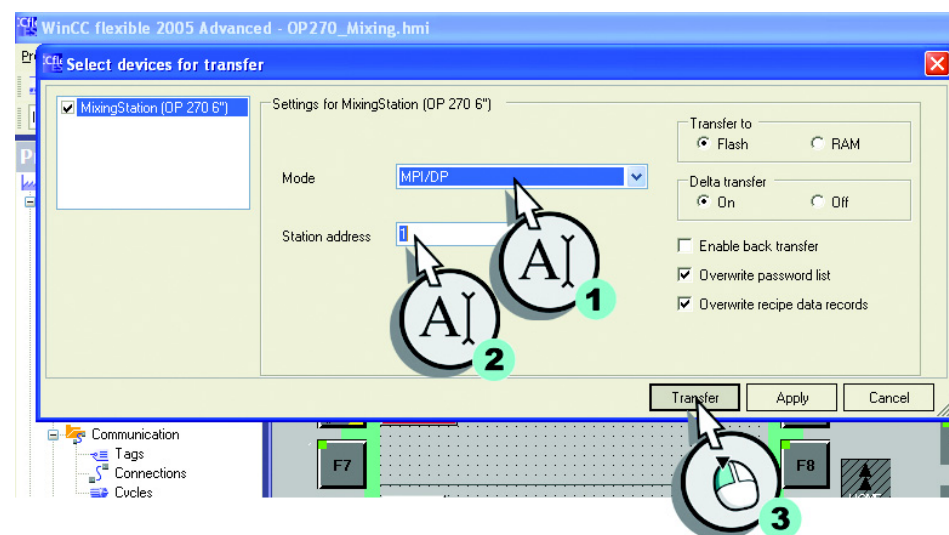
10.2 Transfer the project to the HMI device

After having checked the connection parameters, transfer the project data to the HMI device.

1. Connect the HMI device to the configuration computer using an MPI cable.
2. Start the transfer:



3. Define the following transfer settings (1, 2) and transfer the project to the HMI device (3):



As soon as the application engineer has loaded the control program in the controller, the fruit juice mixing system can be operated by means of the OP 270 6" HMI device.

The control program is available in the "Documents\[language]\Getting Started" folder on your third WinCC flexible CD.

11 Totally Integrated Automation





"Totally Integrated Automation" is focussed on three objectives:

- *consistent data management*
- *consistent communication*
- *access to the toolbar*



11.1 Meaning of Totally Integrated Automation

When you commissioned the project you may have asked yourself: "Why are tags first created in the project, and then again for the automation system? That means, I have to do the job twice and, as a result, risk errors."

Totally Integrated Automation means that the tags are created only once as a "symbol table" of the PLC program. When you configure the project in WinCC flexible, you access this symbol table directly. This procedure is also referred to as "integrated operation."

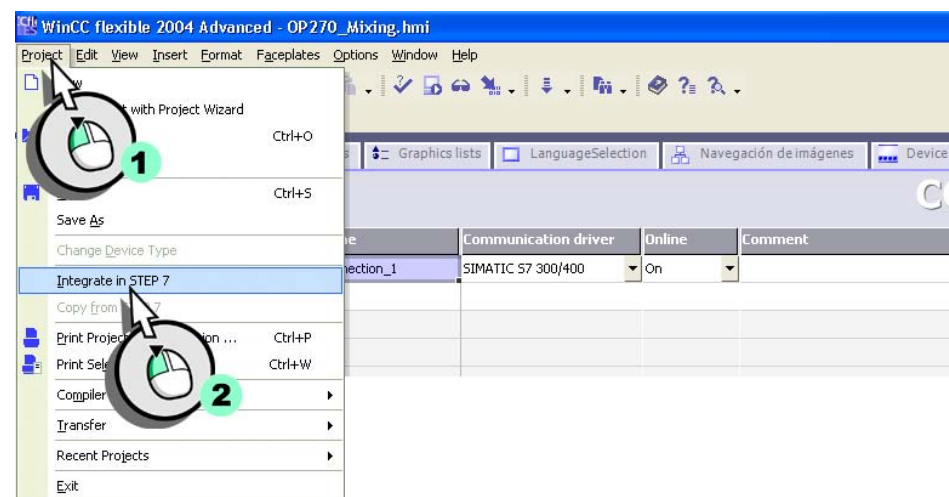
Prerequisite for integrated operation is that SIMATIC STEP7 V5.3 is installed on the engineering computer.

11.2 Integrating the “OP270_Mixing” project

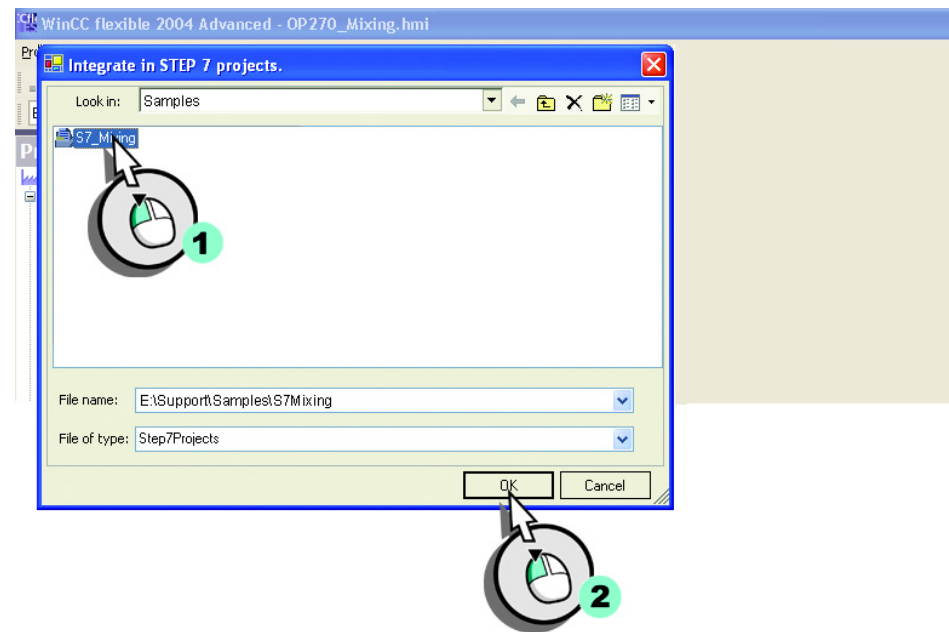
In order to benefit from the features of Totally Integrated Automation, the “OP270_Mixing” project must be integrated in SIMATIC STEP7. The next section shows how the “OP270_Mixing” project is integrated in the SIMATIC STEP7 “S7Mixing” project created by an application engineer.

The control program is available in the “Documents\[language]\Getting Started” folder on your third WinCC flexible CD.

1. Integrate the SIMATIC STEP 7 project:



2. Select the SIMATIC STEP7 project:

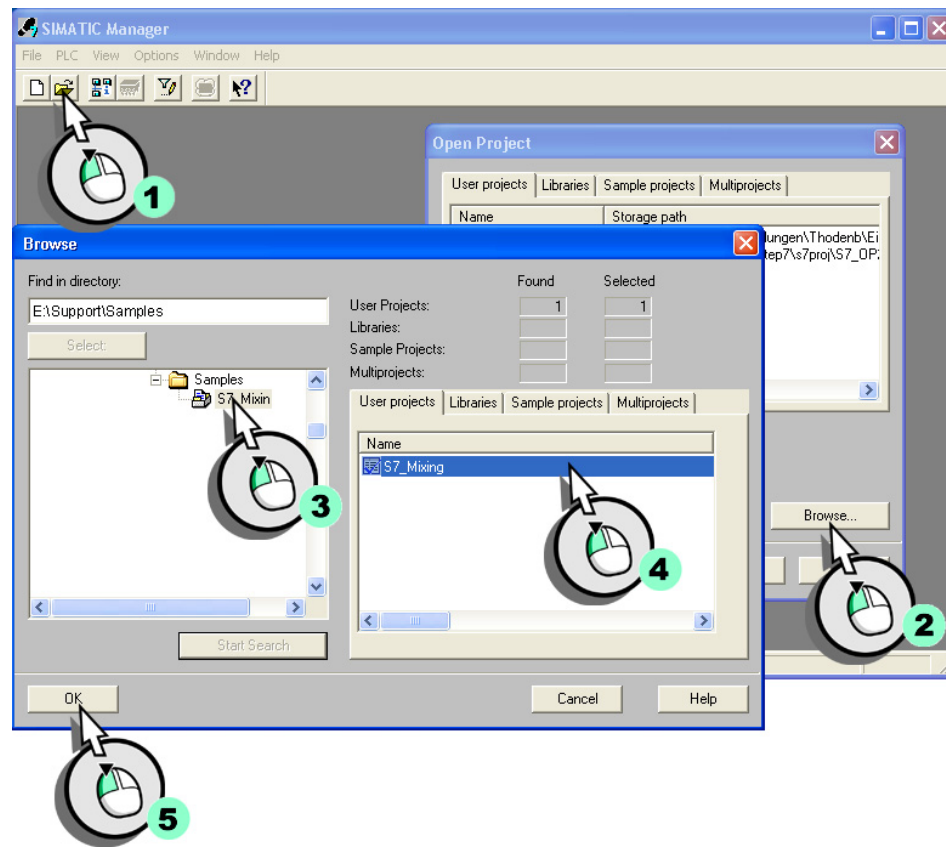


11 Totally Integrated Automation

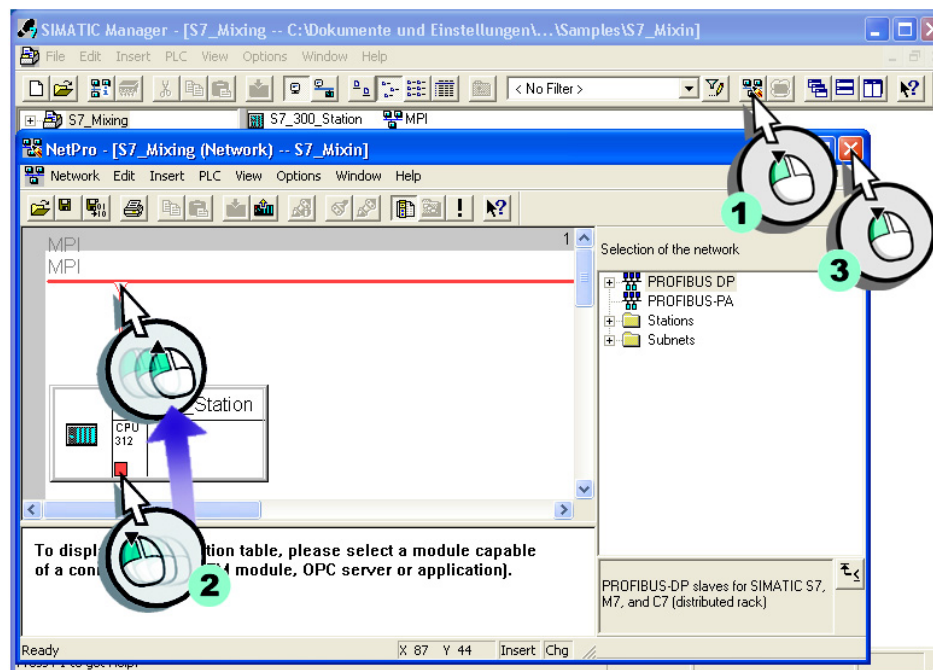
3. Open SIMATIC Manager:



4. Load the SIMATIC STEP7 project:

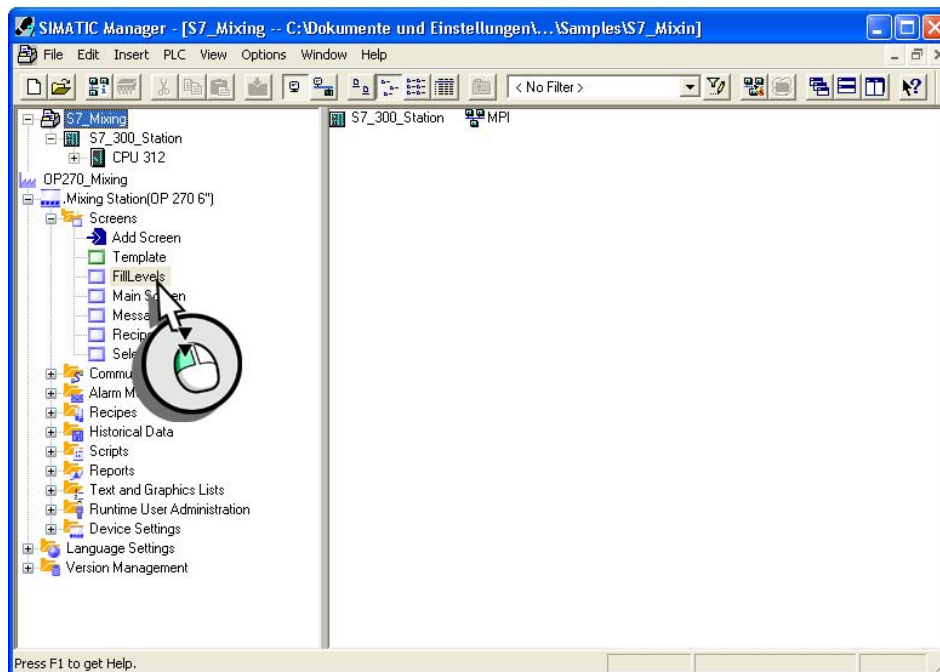


5. Connect the SIMATIC HMI-device to the MPI network:



11.3 Commissioning in SIMATIC Manager

After the "OP270_Mixing" project has been integrated, SIMATIC Manager will be your management center for configuring the automation system and accessing the WinCC flexible project.



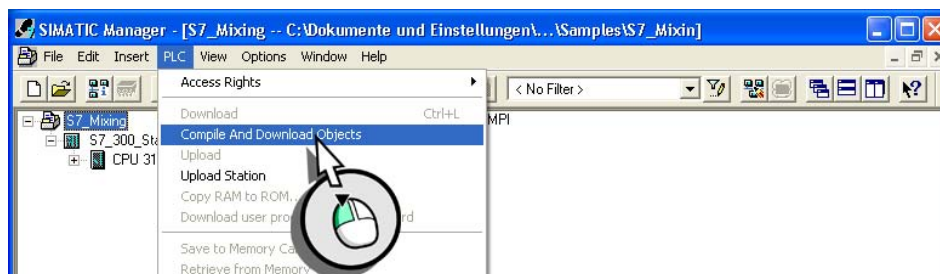
Double-click "FillLevels" to open the "OP270_Mixing" project.



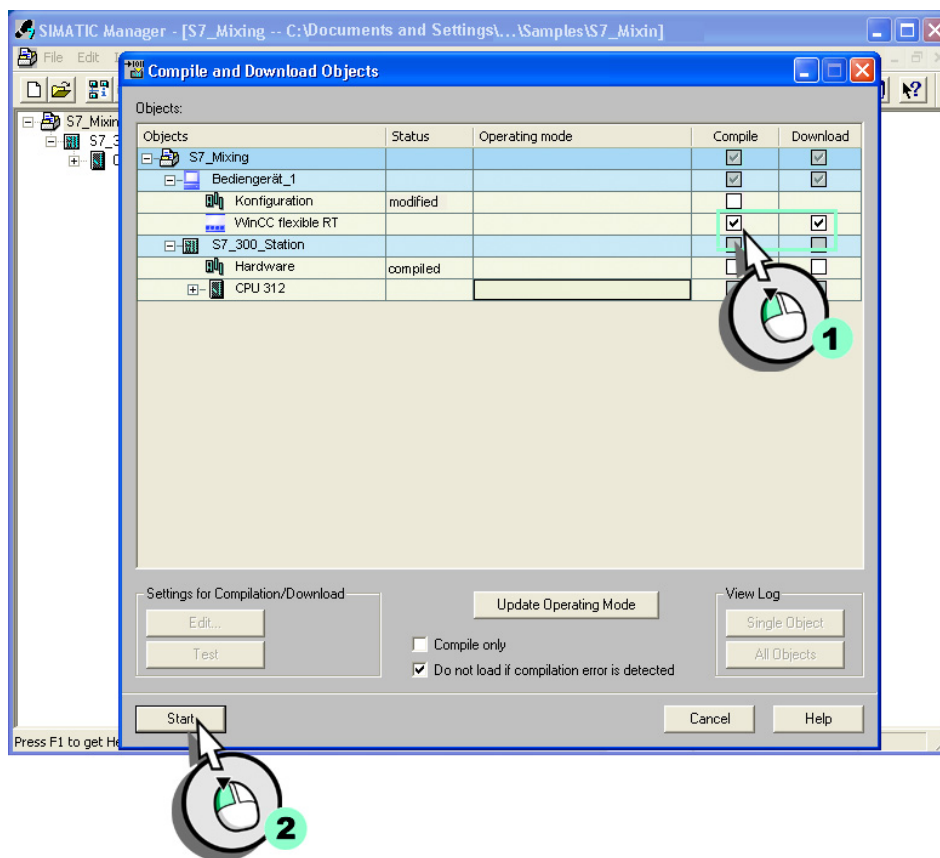
When configuring the project in WinCC flexible, select the tag directly from the symbol table of the SIMATIC STEP7 project.

Transferring the project to the HMI

1. Open the configuration dialog box for the transfer settings:



2. Transfer the project data to the HMI device:



Congratulations! You have completed the expansion of your configuration, and learned how to handle a substantial part of WinCC flexible functionality. As a further incentive, you had a brief intro to system configuration in STEP7.

By the way: WinCC flexible supports various options of contacting a field service technician by e-mail, or of configuring remote control of an HMI device, for example.

Those options are introduced in the "Getting Started Options" documentation.



11 Totally Integrated Automation



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