Exemplary Connection of a FANUC controller with MindSphere

Analyze MyPerformance /OEE-Tuning 01.03.00.00
Analyze MyPerformance /OEE-Monitor 01.03.00.00

Siemens Industry Online Support

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1 Introduction

1.1 Overview

1.2 Mode of operation

1.3 Components used

This application example has been created with the following hardware and software components:

Operating system Windows 10 with up-to date Windows patches

SINUMERIK Integrate Client 4.12.0.21 or 4.13.0.36, SINUMERIK Integrate Client 4.15 HF2

3rdPartyController 1.0.2.2

NET Framework as of 4.x

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Note: for older operating systems an older version of 3rdPartyController needs to be used, also additionally MicrosoftEasyFix51044 must be installed so that TLS 1.2 functions are available on old systems

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2 Engineering

2.1 Configuration/Setting Parameters

2.1.1 FANUC commissioning

Overview

In order to use Manage MyMachines with FANUC control systems, you must carry out the following installations and configurations:

1. Installing SINUMERIK Integrate Client, see Chapter: Installing the SINUMERIK Integrate client
2. Installing FanucModule, see Chapter: Installing FanucModule
3. Integrating FanucModule in SINUMERIK Integrate, see Chapter: Integrating the FanucModule into the SINUMERIK Integrate client
4. Configuring FanucModule and MindSphere, see Chapter: Configuring FanucModule and MindSphere

If you no longer wish to use the "FanucModule", you can uninstall the software.

See Chapter: 6. Uninstalling FanucModule

2.1.2 Installing the SINUMERIK Integrate client

Procedure

1. Start the SINUMERIK control system in Windows service mode.
2. Open the installation directory.
3. Start the "setup.exe" setup file by double-clicking.

   If you have not installed the appropriate Internet Explorer, a message will appear indicating this, e.g. "The program requires Internet Explorer 6 or higher". Installation is canceled and you must install the appropriate Internet Explorer first. Then restart the client installation.

   Installation on Windows 10:

   If you want to install SINUMERIK Integrate Client, you need to run installation in Compatibility Mode. To do that, right click on installer file and choose “Properties”. Mark checkbox “Run this program in compatibility mode” and choose “Windows XP” option. Click “OK” and run setup file.

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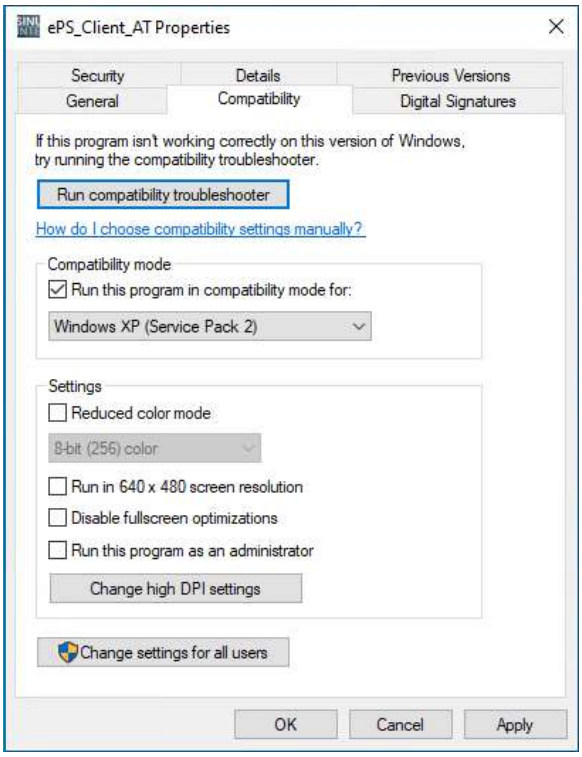
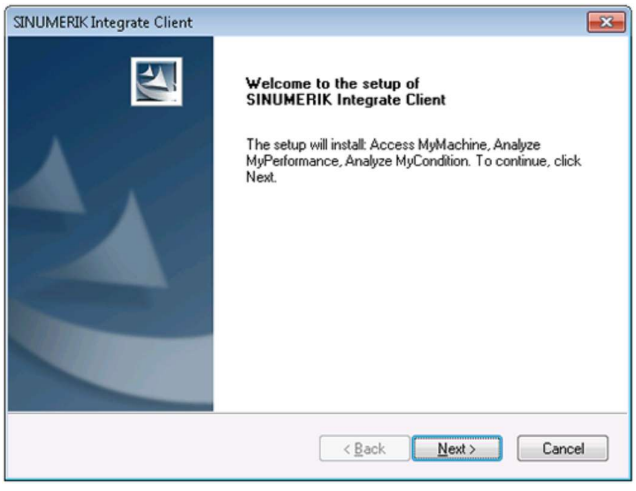


4. The welcome dialog box opens. The installation language is English. Click "Next >" to start the installation.



5. The "License Agreement" window opens. Read the license agreement.

– Click "Print" if you want to print out the terms.

– Then activate the "I accept the terms of the license agreement" checkbox and click "Next >".

- OR -

Click "< Back" to return to the previous window.

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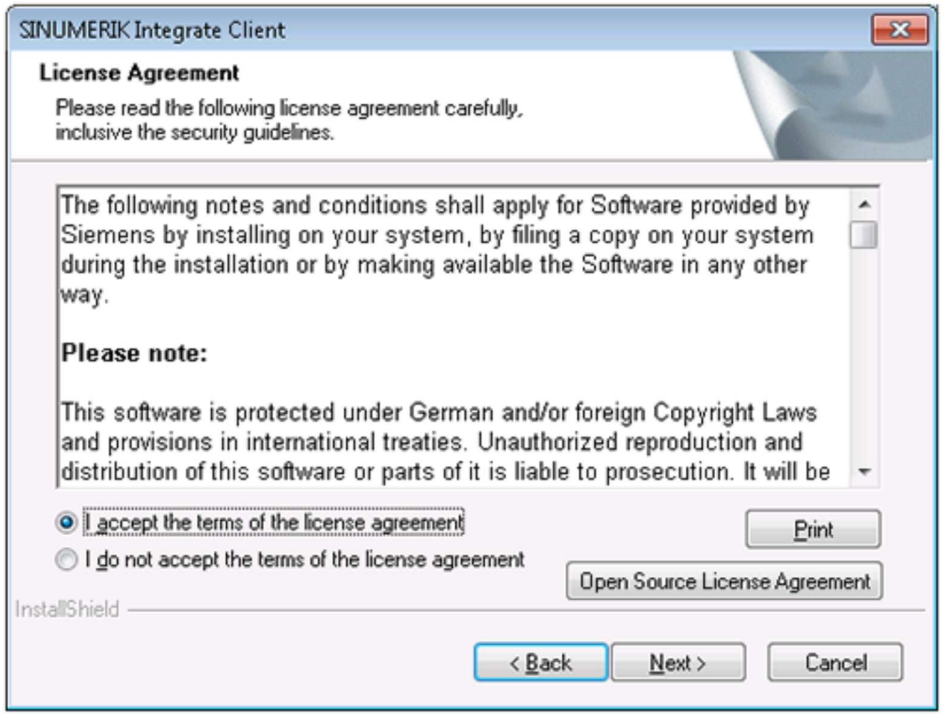
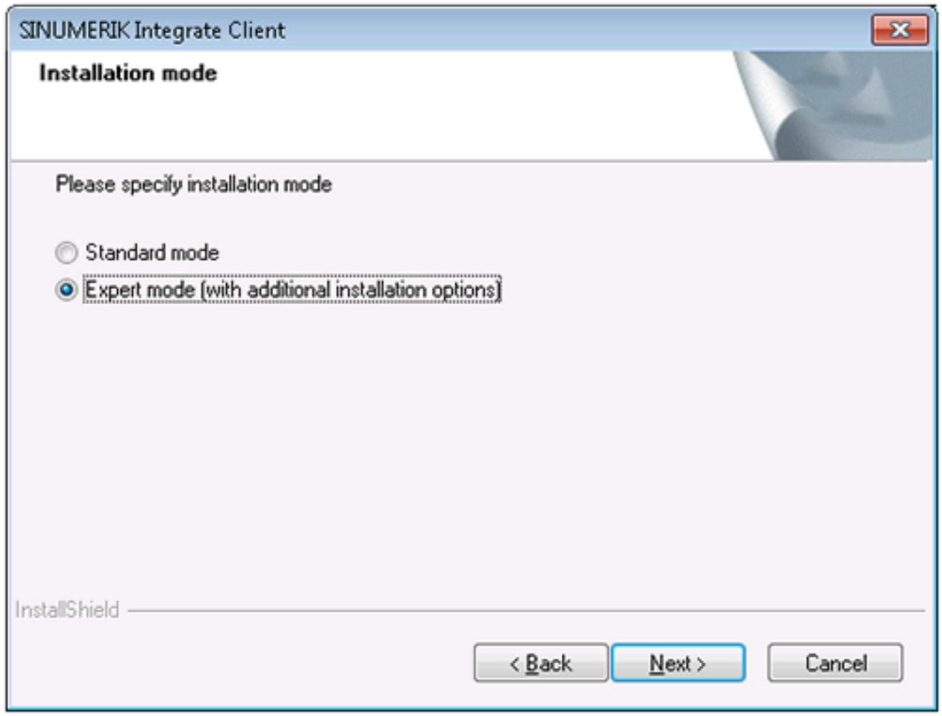


6. The "Installation mode" window opens.

– Select the "Expert mode (with additional installation options)" checkbox.

– Click "Next >".



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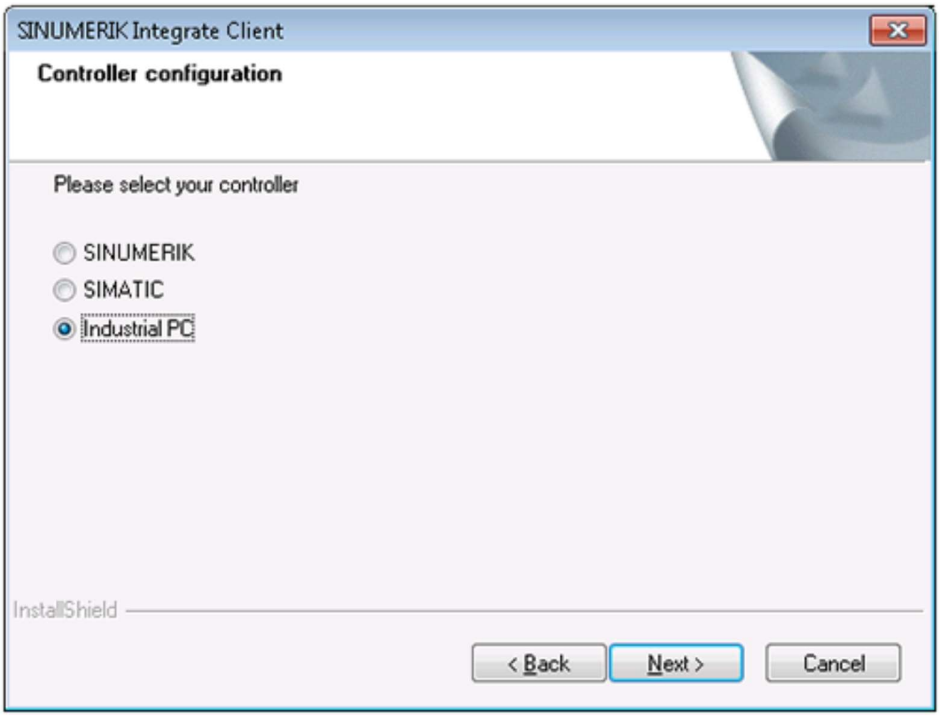
7. The "Controller configuration" window opens.

– Activate the "Industrial PC" checkbox.

– Click "Next >".



8. The "Additional Products" window opens.

– Click "Next >".

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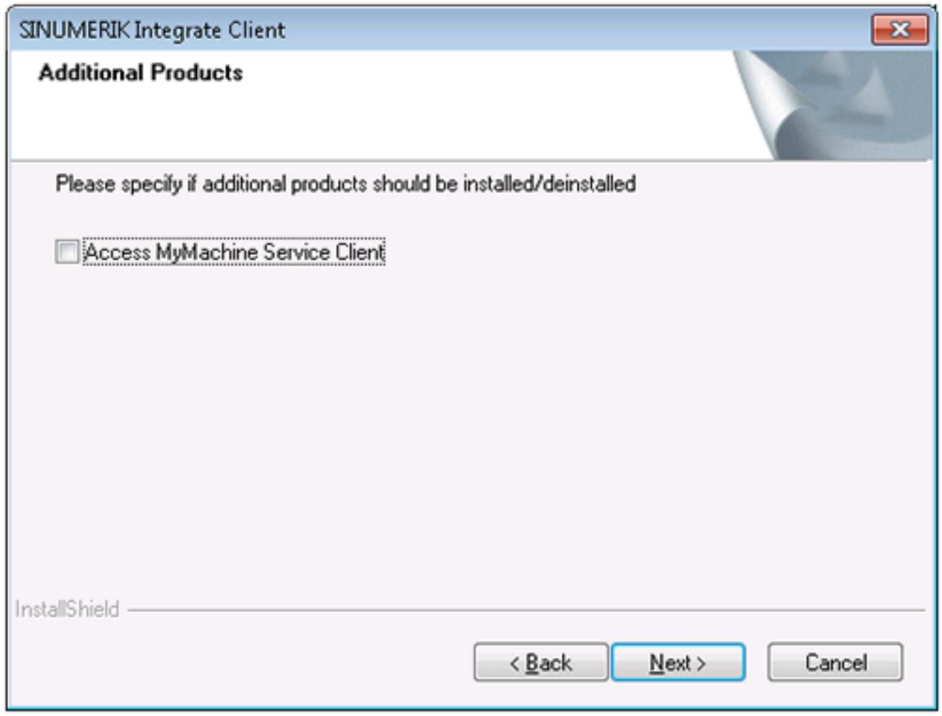

9. The "Choose Destination Location" window opens and the installation directory is displayed.

– Click "Next >".

- OR -

-Click "Change..." to change the directory.

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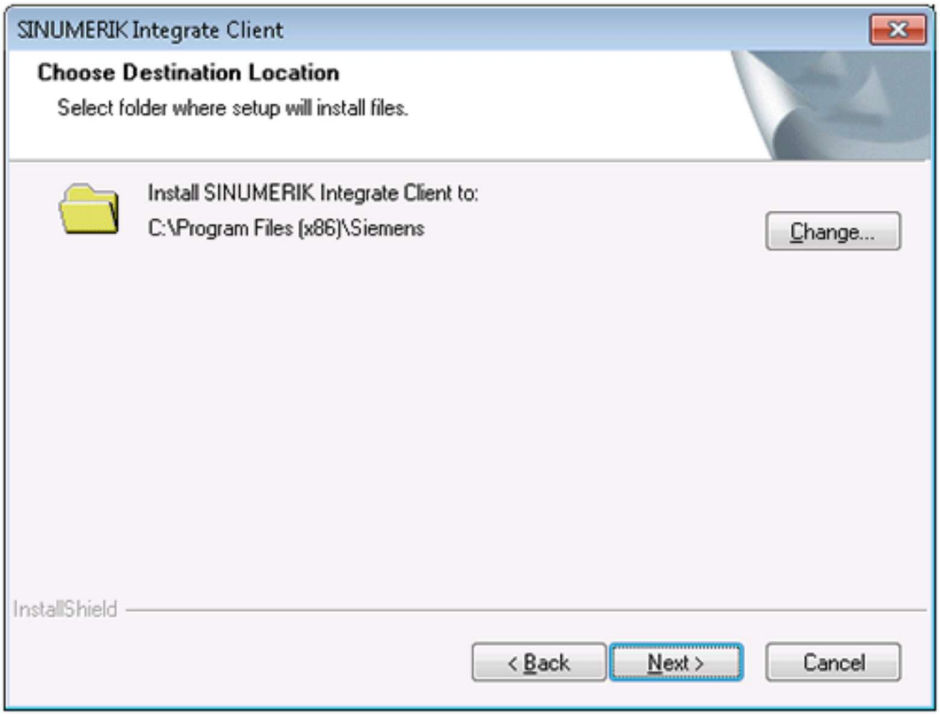

10. The "Reconfigurable parameters" window opens.
Activate the checkbox:
– "SINUMERIK Integrate URLs"
– "Internet proxy configurations"
– "SINUMERIK Integrate Client startup parameters"
– Click "Next >".

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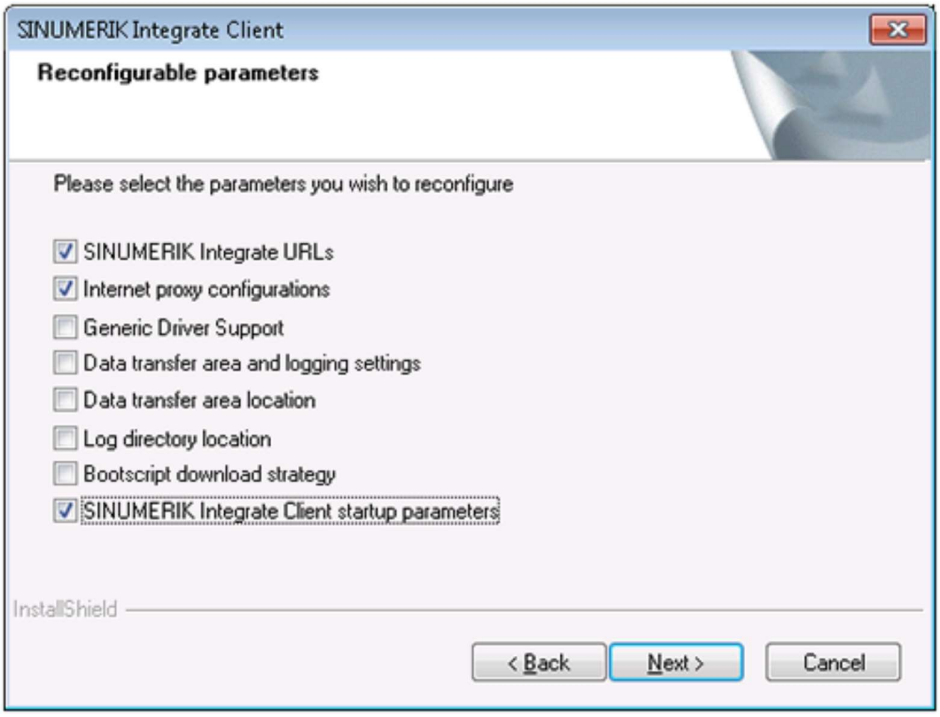

11. The "SINUMERIK Integrate URL configuration" window opens.

The proxy server is required to connect the control to MindSphere.

Enter the following WebService URL:

– MindSphere V3 Livesystem:
https://gateway.eu1.mindsphere.io/api/agentcommmmops/v3/ws11

– Click "Next >".

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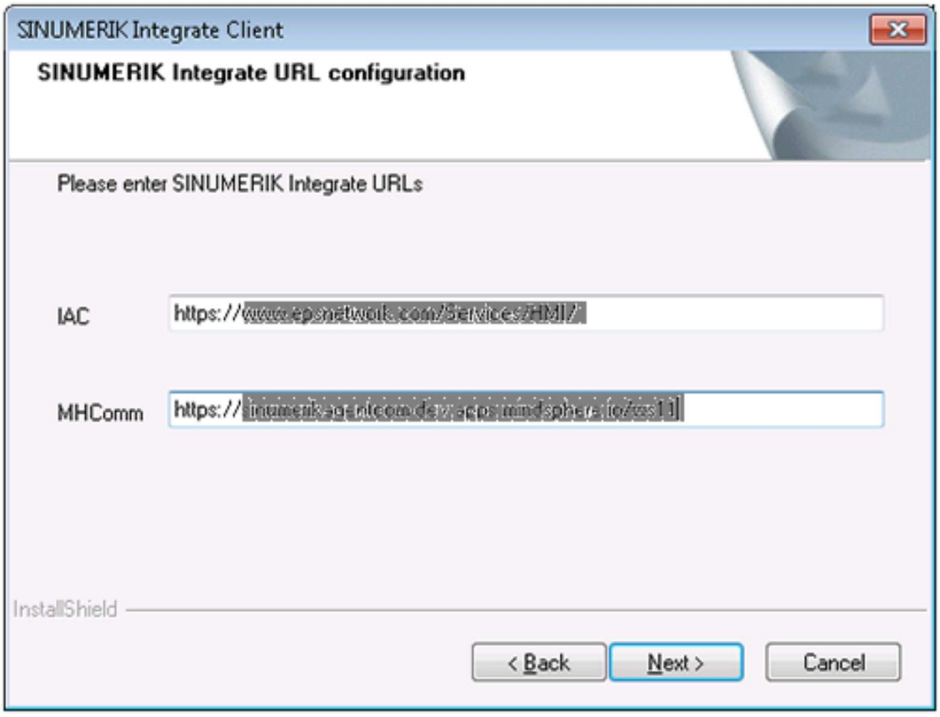
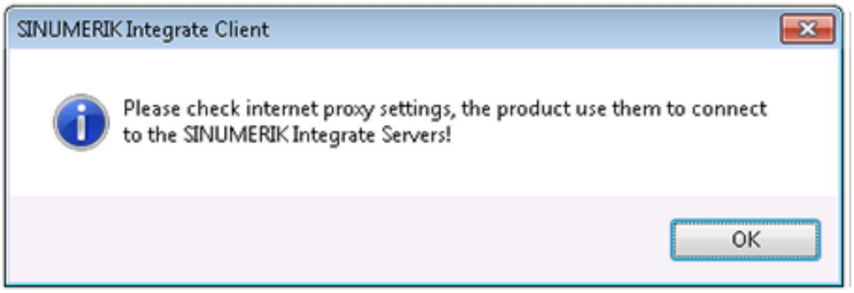


12. The following message is displayed.
Click "OK" to adapt the proxy server.



13. The "Detected internet connection settings" window is displayed.
Click "Next >".

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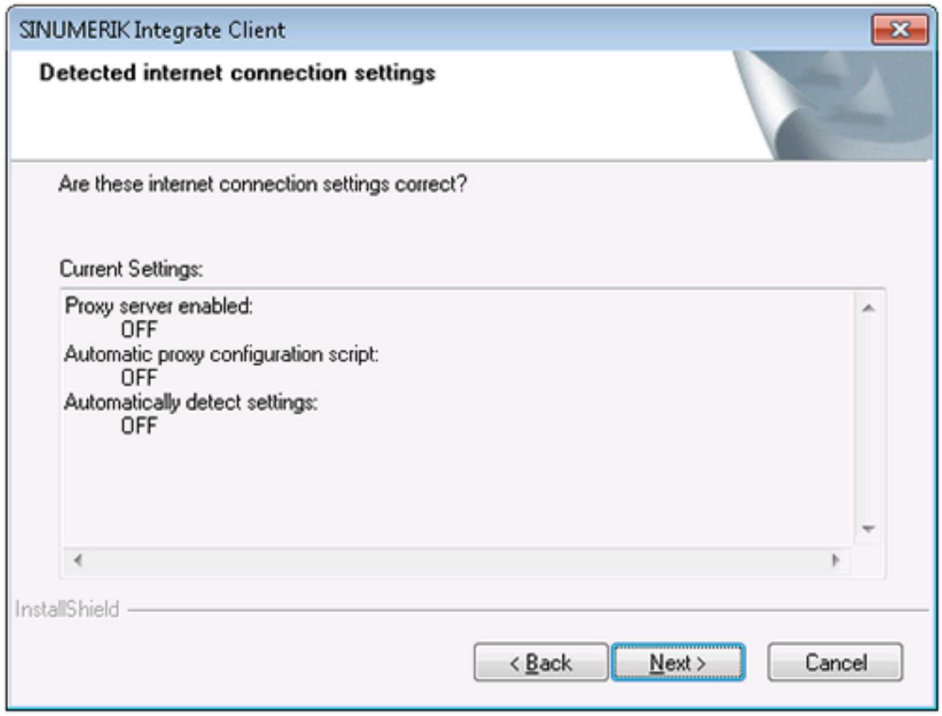
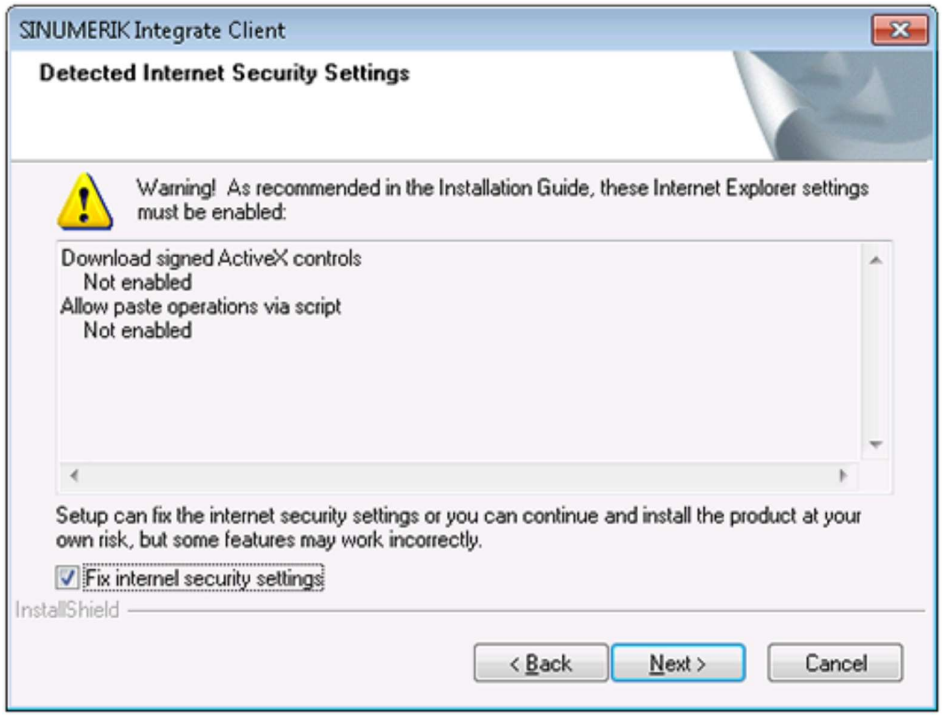


14. The "Detected Internet Security Settings" window is displayed.

– Activate the "Fix internal security settings" checkbox.

– Click "Next >".



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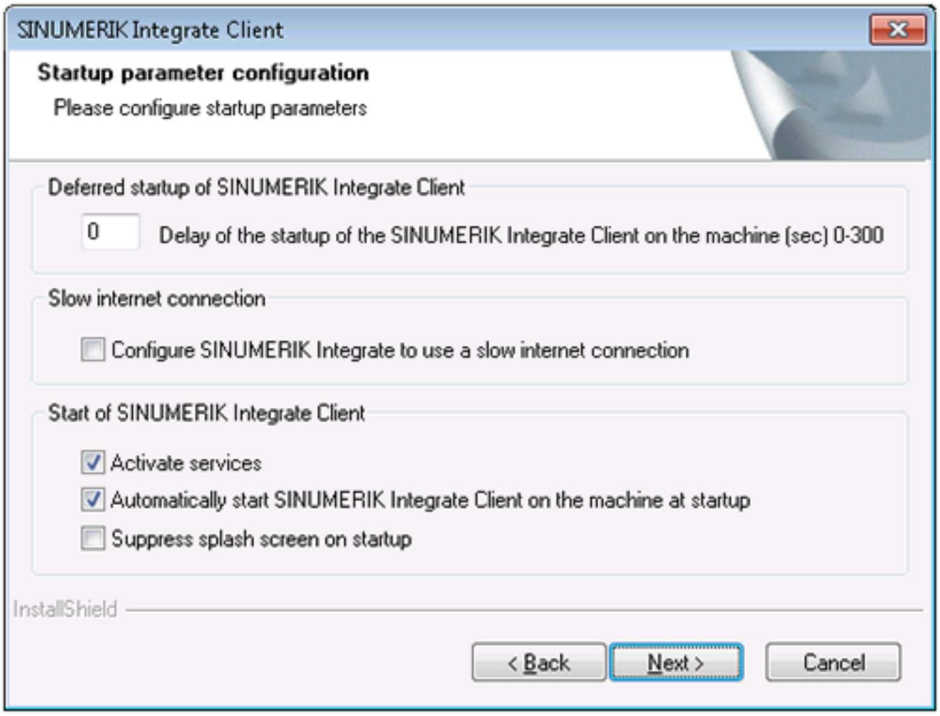
15. The "Startup parameter configuration" window opens.
Under "Start of SINUMERIK Integrate Client", activate the checkbox:
– "Activate services"
– "Automatically start SINUMERIK Integrate Client on the machine at startup"
– Click "Next >".



16. The "Start copying files" window opens, and the settings made are displayed.
– Click "Next >" to copy the data to the IPC.

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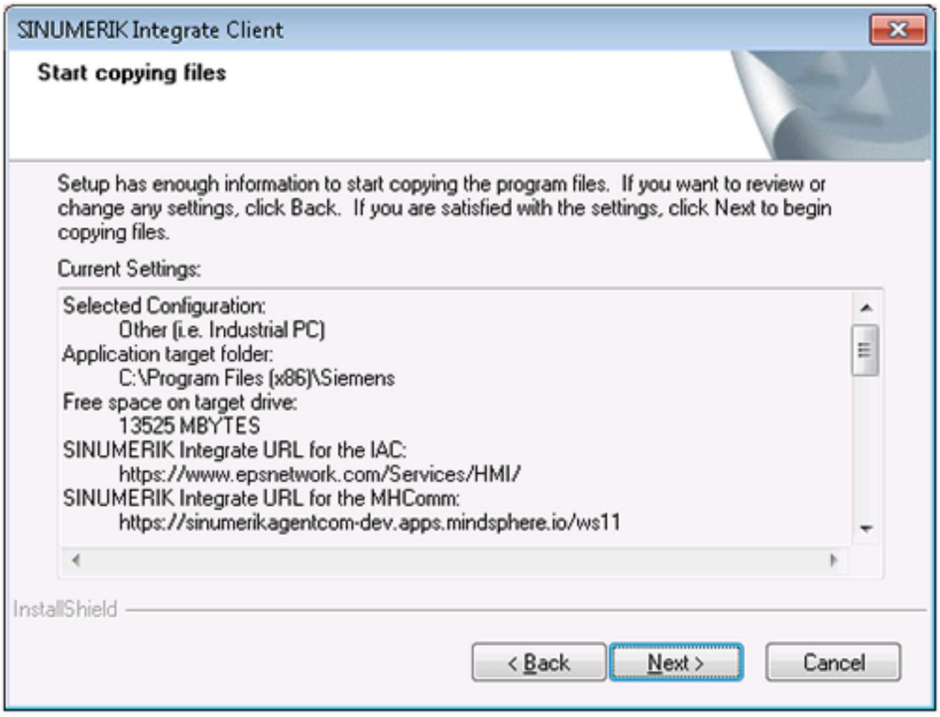
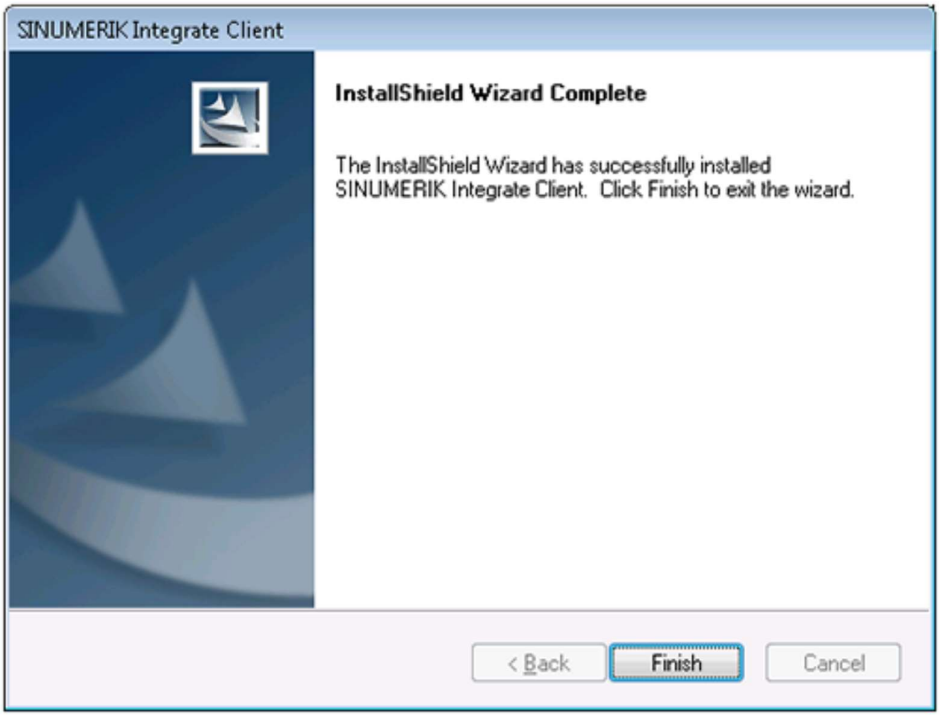


17. The "InstallShield Wizard Complete" window opens.
Click "Finish".



18. You see a message to execute a restart.

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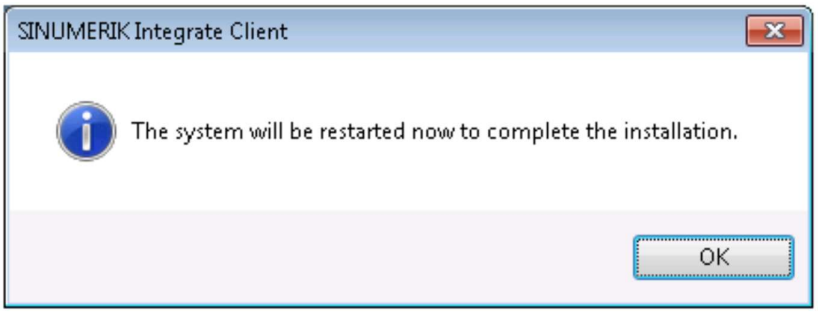
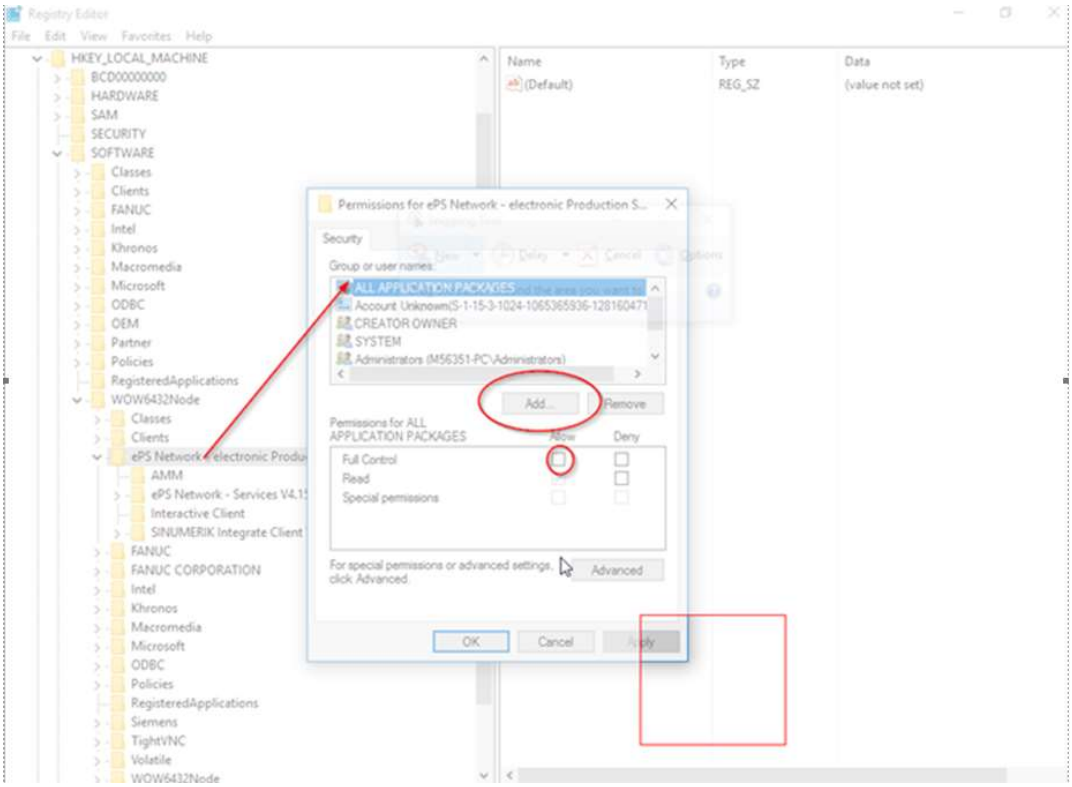
To do this, click "OK".



Access rights for the logged in user have to be changed accordingly:

Run regedit.exe and change the key HKLM\Software\WoW6432Node\ePS as follows



2.1.3 Installing FanucModule

Procedure

1. Open the installation directory on the computer.
2. Double-click to run the "FanucModuleSetup.exe" setup file.

The welcome dialog box "FanucModule - InstallShield Wizard" is opened.

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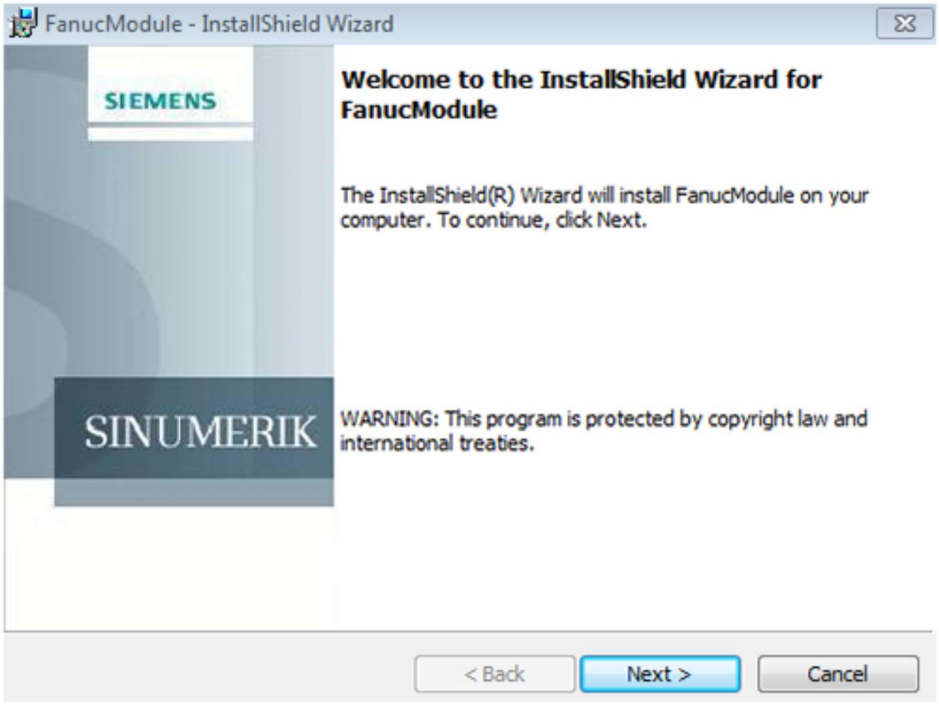
English is the installation language.

Click "Next >".



3. The "License Agreement" window opens.

Read the license agreement.

– Click "Print" if you want to print out the terms.

– Then activate the "I accept the terms in the license agreement" checkbox and click "Next >".

– Click "< Back" to return to the previous window.

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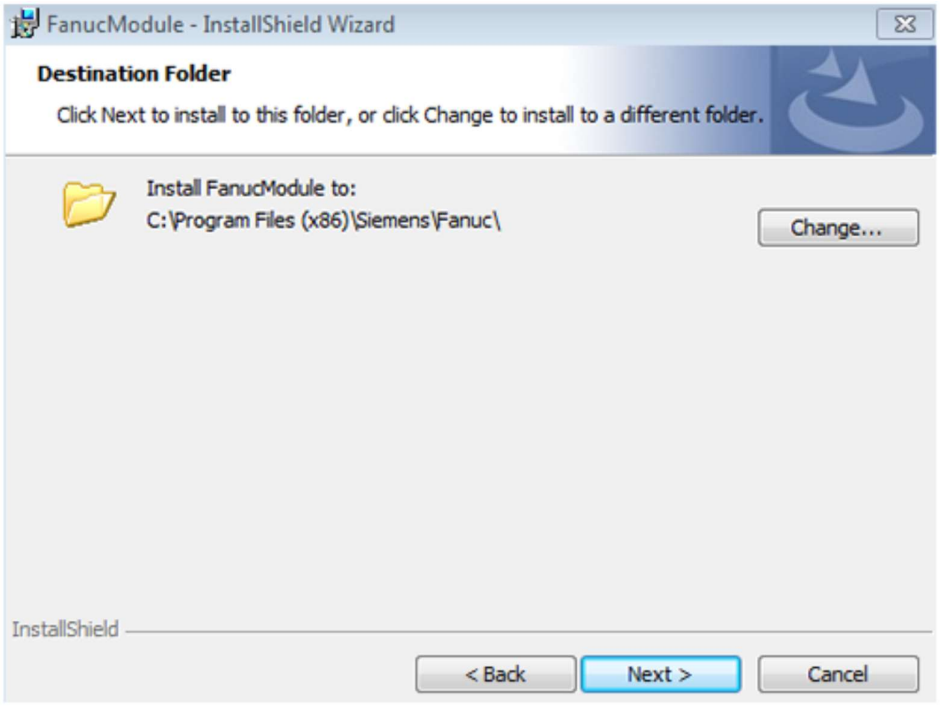
4. The "Destination Folder" window opens.

Open the specified installation directory and click "Next >".



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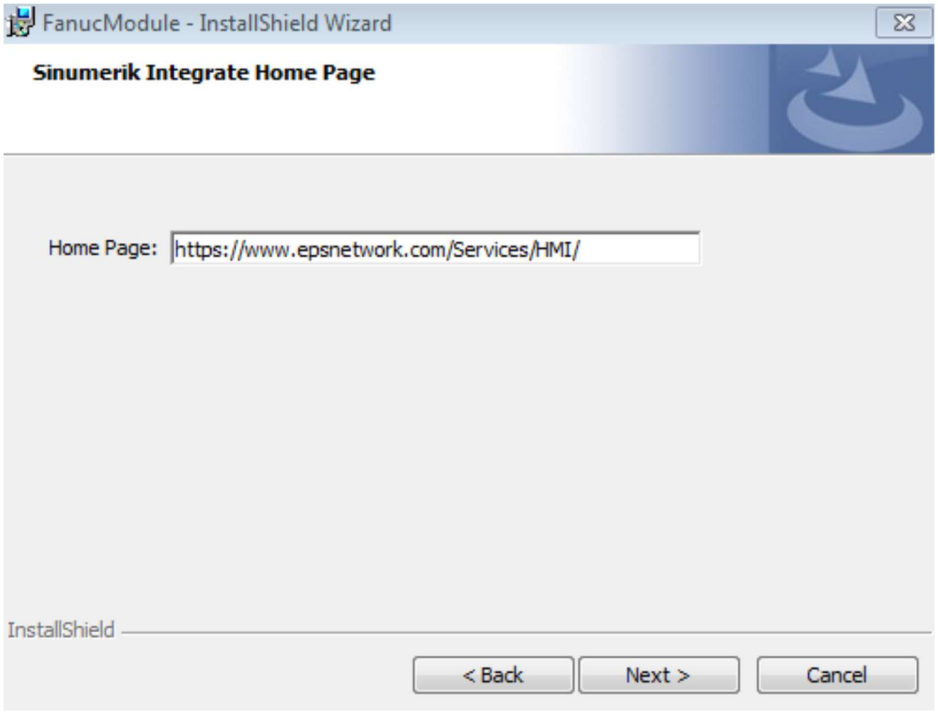
5. The "SINUMERIK Integrate Home Page" window opens and shows the link to the home page.

Click "Next >".



6. The preparations are complete, and the "Ready to Install the Program" window opens.

Click "Install" to start the installation.

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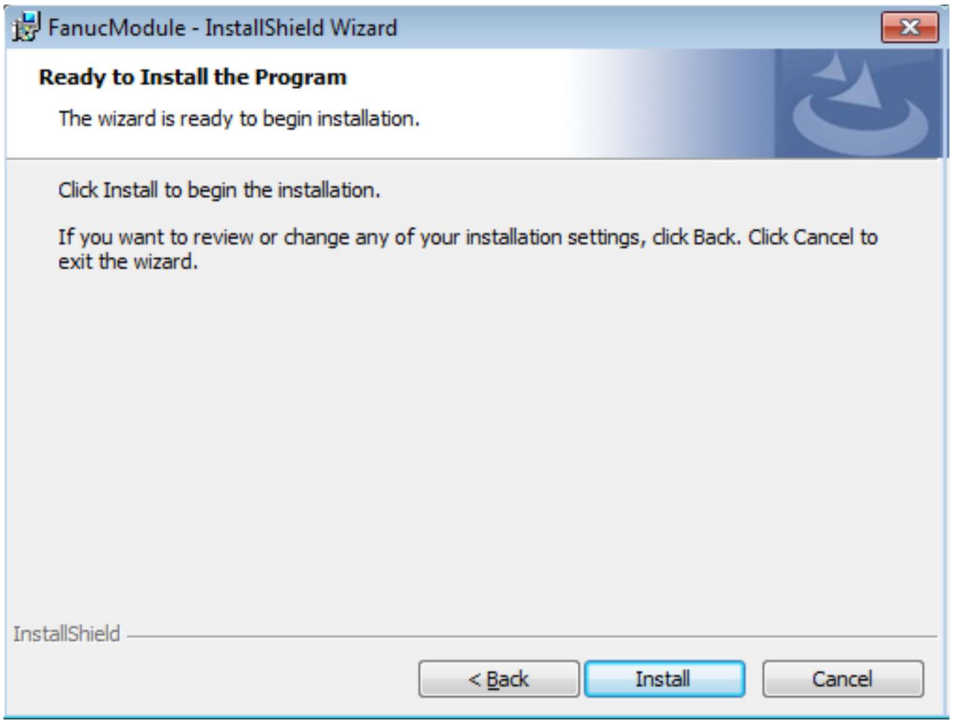
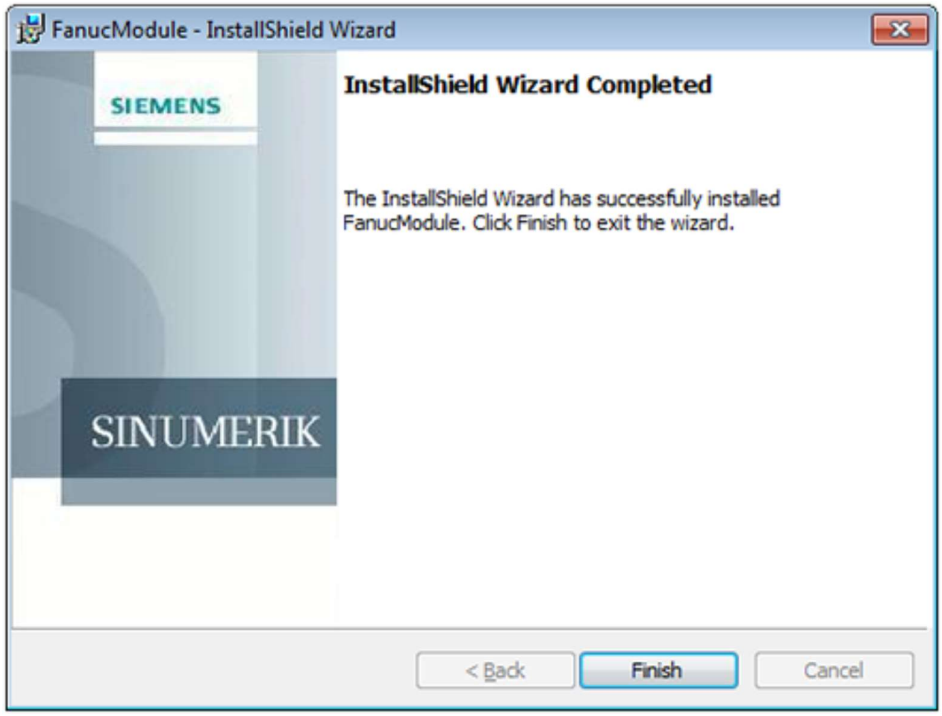


7. You see the successfully completed installation.
Click "Finish".



8. A dialog window with the prompt to restart the system opens.

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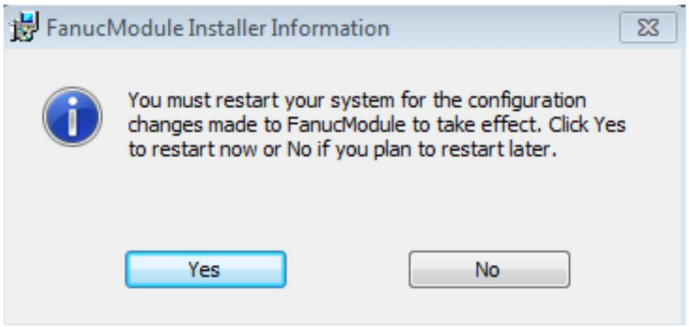
– Click "No" to configure the client before the restart.

– Click "Yes" to restart the system and therefore activate the configuration.



2.1.4 Integrating the FanucModule inte the SINUMERIK Integrate client

To integrate "FanucModule", you must manually adapt the configuration file of the client "settings.ini".

If the client was installed in the standard directory, then the ini file is located in the following directory:

C:\Program Files(x86)\Siemens\MH\settings.ini

Procedure

1. Open the file with any editor.
2. Search for the [DispatcherConfig], [DispatcherLibraries] and [GenTechConfig] areas.
3. Change these areas as follows:

```
[DispatcherConfig]
;Primary="ePSStore"
Primary="ePSFanuc"
[DispatcherLibraries]
ePSStore="GenTechAccess.dll"
ePSFanuc="GenTechAccess.dll"
[DispatcherMapping]
[GenTechConfig]
ePSStore="GTePSDataStore.ePSDataStoreRequestFacto"
ePSFanuc="{f36e2831-f2f5-4788-b25f-0d5c6b5f524e}"
```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settings.ini

```
80
81  [DispatcherConfig]
82  ;Primary="ePSStore"
83  Primary="ePSFanuc"
84
85
86  [DispatcherLibraries]
87  ePSStore="GenTechAccess.dll"
88  ePSFanuc="GenTechAccess.dll"
89
90  [DispatcherMapping]
91
92  [GenTechConfig]
93  ePSStore="GTePSDataStore.ePSDataStoreRequestFacto"
94  ePSFanuc="{f36e2831-f2f5-4788-b25f-0d5c6b5f524e}"
95
96
```

4. Save your changes and restart the computer to activate the changes.

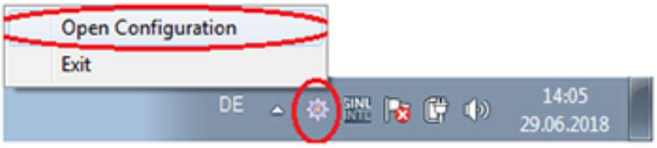
2.1.5 Configuring FanucModule and MindSphere

Requirement

Carry out a restart to configure the IP address of the machine to be connected in the "FanucModule".

Configuring FanucModule – connection to the machine

1. Right click on the "FanucConfig" icon in the info area of the task bar "system tray". Select "Open Configuration".



2. Enter the IP address of the FANUC controller, e.g.

– Fanuc CNC address: 127.0.0.1

– Do not change the TCP port.

Click "OK".

The configuration has been activated, and the FanucModule is ready to acquire data.

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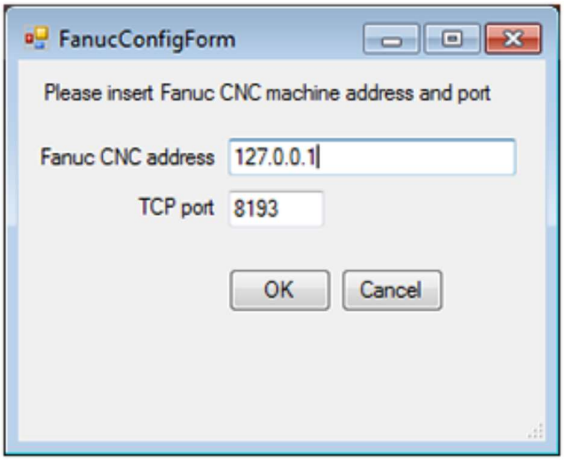

2.1.6 Configuring MindSphere

Onboarding

To acquire data from a FANUC control, create a "Basic Device" type asset in the MindSphere Asset Manager and carry out "onboarding" like it is shown in the following chapters.

Opening the Asset Manager

1. Click on the "MindSphere Asset Manager" icon.

2. The "Asset Manager" window opens.

2.1.6.1 Creating an asset type

Note

Dedicated Asset Types

Although it is theoretically possible to use a created asset type for more than one machine, it is recommended to use a dedicated asset type for each machine in

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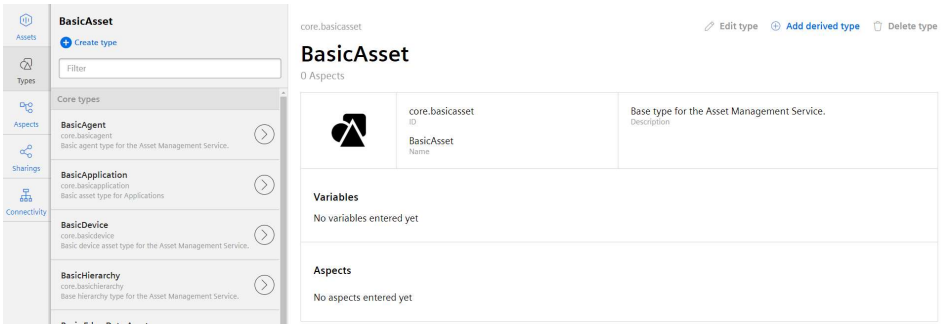
order to make the asset type customizable for every machine (e.g. with an individual picture).

Open the “Asset Manager” window as described in chapter “Configuring MindSphere”

For further Information on the Asset Manager check the Asset Manager documentation.

Procedure

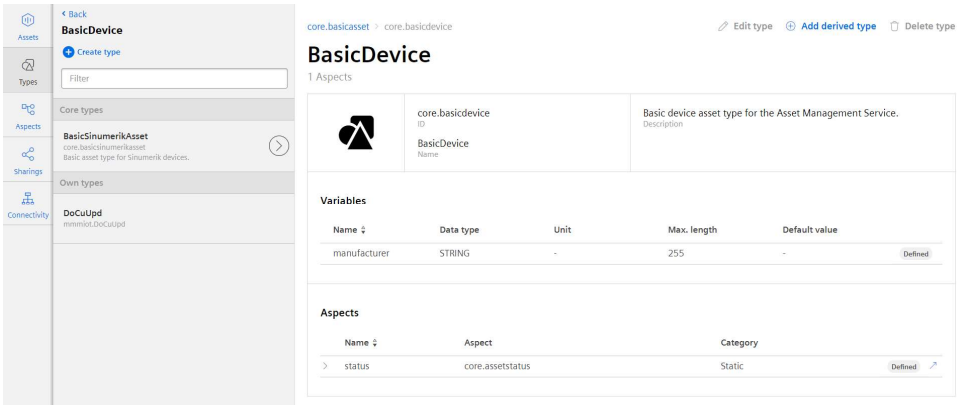
1. In the left windowpane, click the "Types" button.
2. The "BasicAsset" window opens.



3. In the center windowpane, select "BasicDevice" and click the small grey arrow (navigate to children).

   The "BasicDevice" window opens.

4. In the center windowpane, click "+ Create type" to create a new asset type.



The "Create type" window open

5. Enter a name for the new asset type.

   Entering the name is mandatory and activates the "Save" button.

   – Enter a description of the new asset type.

   – Select an image with the maximum permitted size of 5 MB.

Note

Images in the working area

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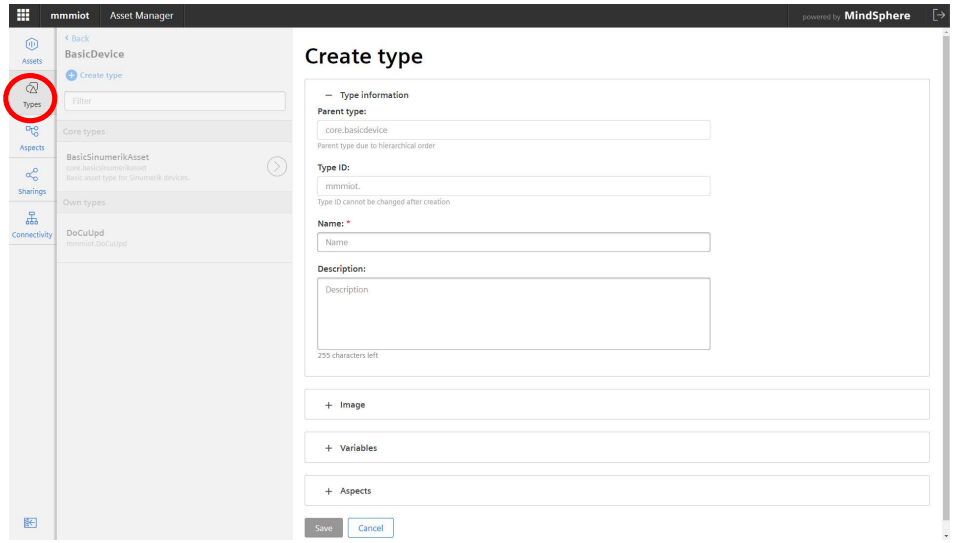
Ensure that the name of the image in your working area is unique.

– Add your chosen variables.
– Add your chosen aspects.
– Click "Save" to create the new type.



View asset type (to ensure the type is created)

1. Open the "Types" window.
2. In the center window panel, select "BasicDevice" > "BasicSinumerikAsset".
3. In the text box "Filter", enter the name.
   The corresponding data is displayed in the right-hand window area

2.1.6.2 Creating an asset

Open the “Asset Manager” window as described in chapter “Configuring MindSphere”

Procedure

1. In the left window panel, click "Assets".
2. In the center window panel, click "+ Create asset".
   In the right window panel, you can see "Select type".
3. In the "Filter" field, enter the name of the required asset type or select the type that you have just generated, as described in chapter “Creating an asset type”, from the list. Select the asset type by clicking “create” in the lower right corner.

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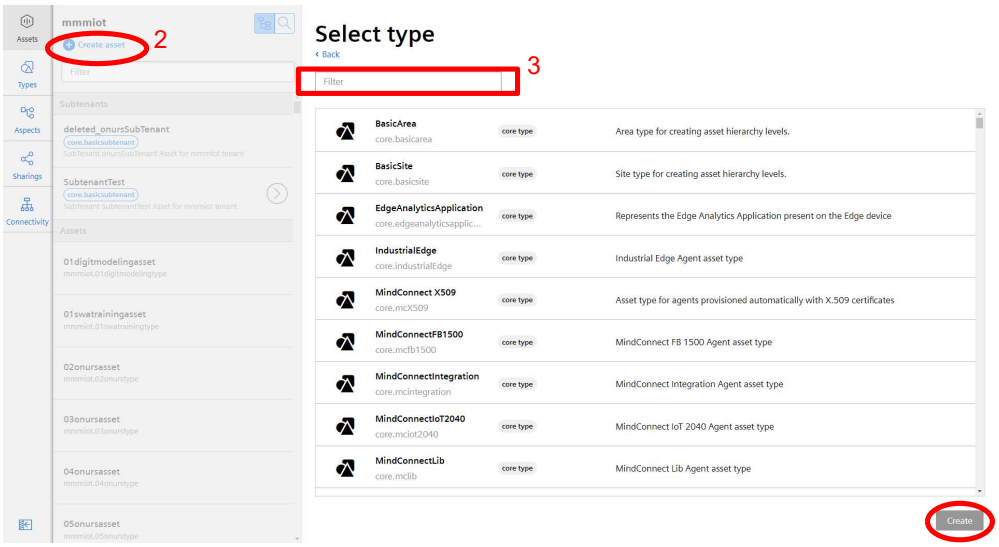

4. The "New asset" window opens.
   – In the "Name: *" input field, enter a name. This input field is a mandatory field.
   – Populate the input fields in the "General" and "Location" areas.
   The "Save" button is activated.
   – Click "Save" to save the new asset.

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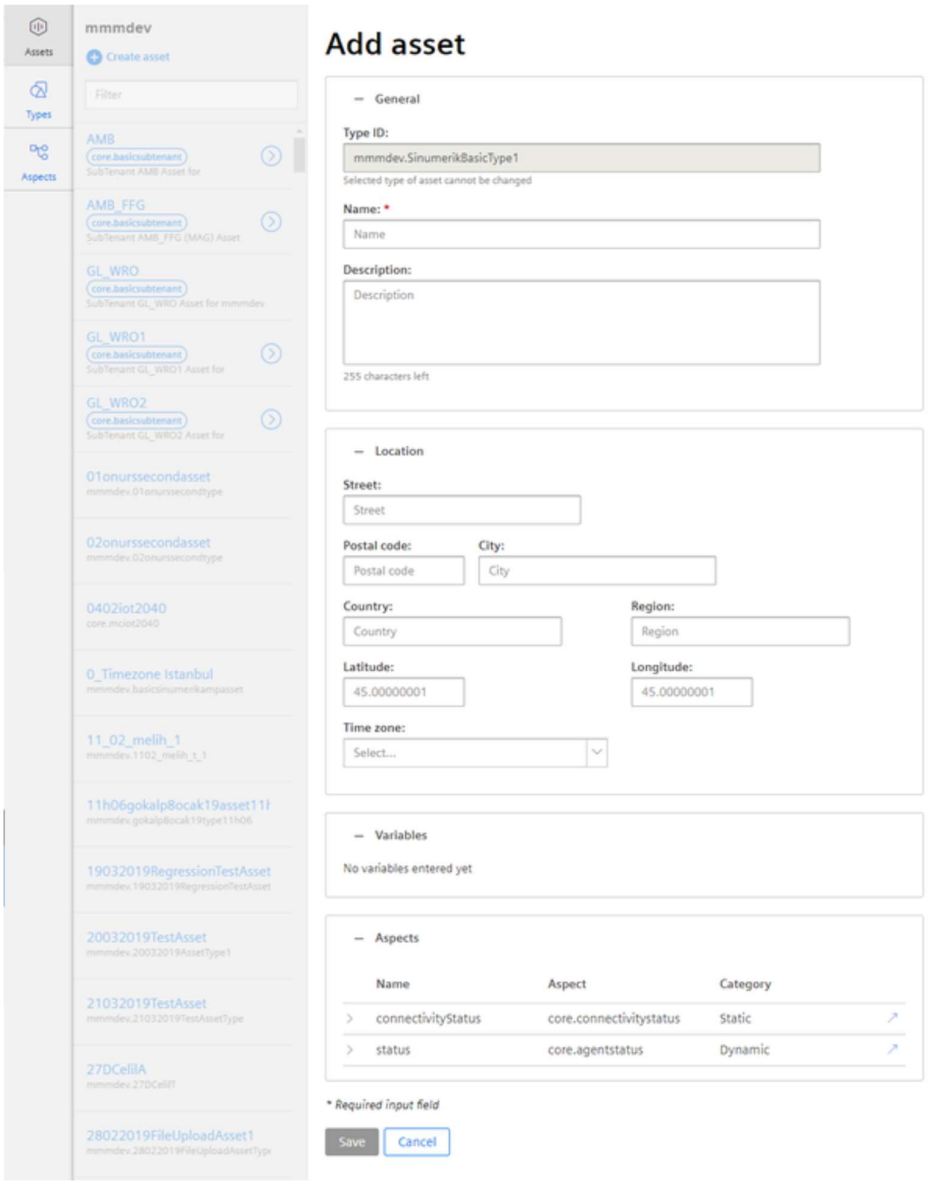

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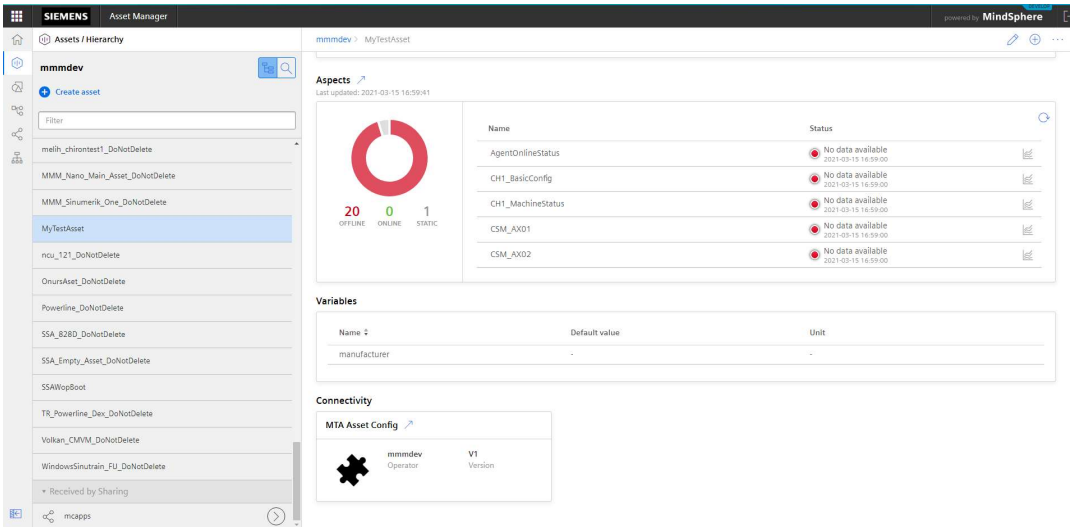
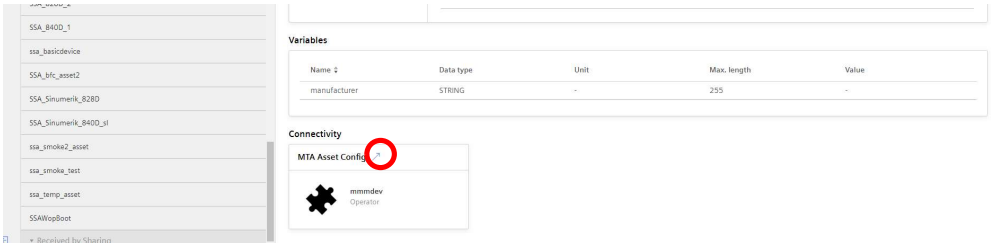
5. The new asset is displayed.



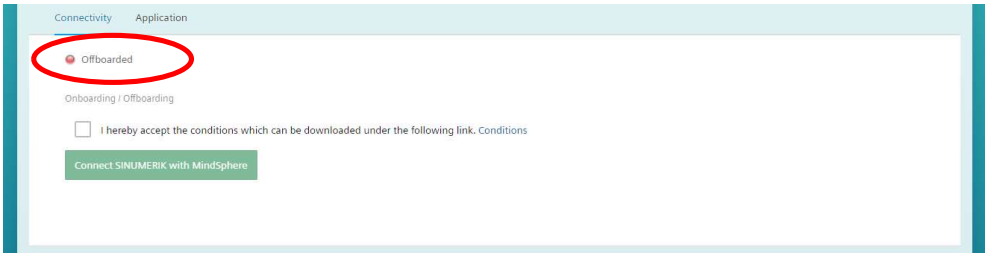
2.1.6.3 Onboarding an asset

Open the “Asset Manager” window as described in chapter “Configuring MindSphere”

1. Select an asset in the center windowpane.
2. Click the blue arrow icon next to "MTA Asset Config" icon in the bottom side of the webpage:



3. The "MTA Asset Config" window opens, and you can see the connection status in the "Connectivity" tab, e.g. "Offboarded"



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4. Select the "I hereby accept the conditions, which can be downloaded under the following link. Conditions" check box.

   – Click the "Conditions" link.

   The "MindSphere Terms & Conditions" window opens.

   – Click on your region.

   – From the list, select the appropriate Terms & Conditions.

   – Read the Terms & Conditions.

   - OR –

   Download the Terms & Conditions.

   - OR -

   Print the Terms & Conditions.

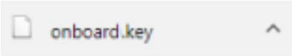
   – Close the window.

   The "Connectivity" window is displayed again.

5. Click the "Connect SINUMERIK with MindSphere" button to connect the asset with MindSphere.

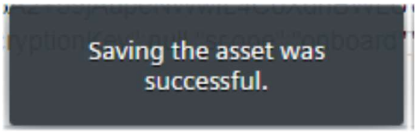
   More information on Asset Manager can be found in the following documentation: "Manage MyMachines" Function Manual, in the "Integrating MindSphere" Chapter.

6. The "onboard.key" is generated and shown below the status bar. Please note that you neither change the name nor content of the file.



7. Click the "Save" button to accept the entries and save a consistent version of the configuration.

   Wait for confirmation that the asset was successfully saved.



8. Then copy the "onboard.key" to the control system.

   Insert the "onboard.key" file into the "boot_job" folder.

   Alternatively, you can also insert the "onboard.key" file into the following directory: /user/sinumerik/hmi/appl.

   If there is already a "cert.key" file in the /var/tmp/boot_job folder, the control was already connected to MindSphere. If you want to establish a new connection, then delete the existing file and insert the new "onboard.key" file.

Note

It is recommended to use an External drive (e.g. 4GB USB Pen) or network fileshare to transfer the onboard.key file into the respective directory.

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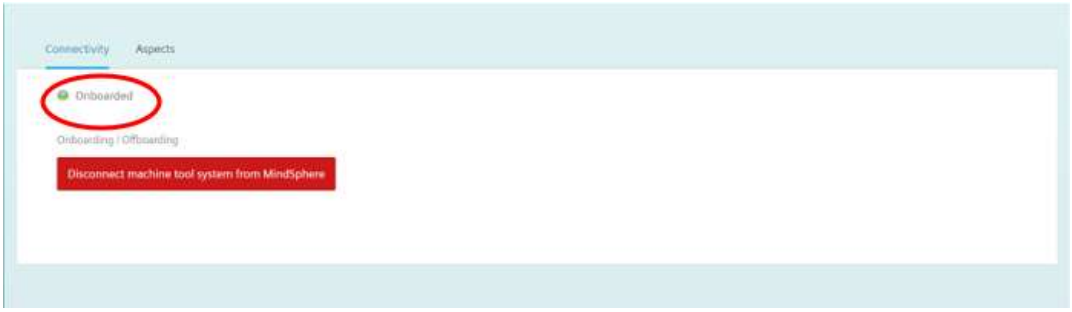
9. The displayed green lamp next to the connectivity status “Onboarded” indicates that the onboarding procedure was successful.



2.1.7 Configuring data acquisition

2.1.7.1 Variable types

Several examples of acquiring variables from a FANUC control are listed in the following table. Additional variables, which are supported by the FOCAS library, are also possible.

Name	Data type	Adress
AxisAbs1	DOUBLE	/TPC/focas/cnc/dynamic2/pos/absolute[1]
AxisAbs2	DOUBLE	/TPC/focas/cnc/dynamic2/pos/absolute[2]
AxisAbs3	DOUBLE	/TPC/focas/cnc/dynamic2/pos/absolute[3]
AxisRel1	DOUBLE	/TPC/focas/cnc/dynamic2/pos/relative[1]
AxisRel2	DOUBLE	/TPC/focas/cnc/dynamic2/pos/relative[2]
AxisRel3	DOUBLE	/TPC/focas/cnc/dynamic2/pos/relative[3]
Axis1_dist	DOUBLE	/TPC/focas/cnc/dynamic2/pos/distance[1]
Axis2_dist	DOUBLE	/TPC/focas/cnc/dynamic2/pos/distance[2]
Axis3_dist	DOUBLE	/TPC/focas/cnc/dynamic2/pos/distance[3]
Axis1	STRING	/TPC/focas/cnc/axisname[1]
Axis2	STRING	/TPC/focas/cnc/axisname[2]
Axis3	STRING	/TPC/focas/cnc/axisname[3]
Spindle1	STRING	/TPC/focas/cnc/spdlname[1]
ActFeedRate	DOUBLE	/TPC/focas/cnc/dynamic2/actf
SequenceNr	DOUBLE	/TPC/focas/cnc/dynamic2/seqnum

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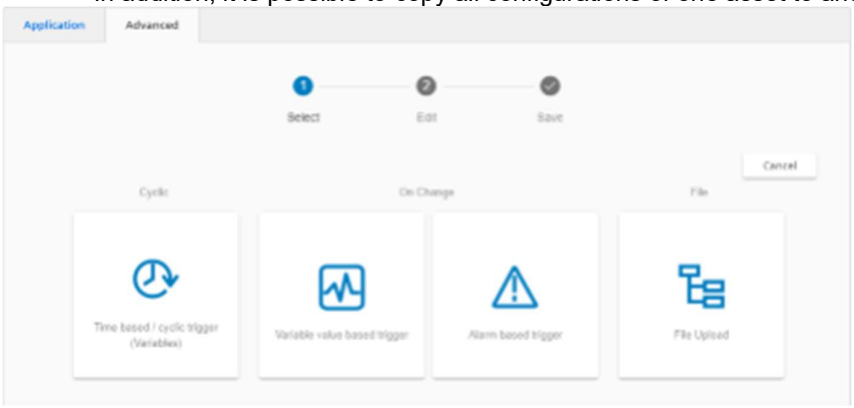
Name	Data type	Adress
feedRateIpoOvr	DOUBLE	/TPC/focas/pmc/pmcrng/G/byte[1,12](mmm_fanuc_feedoverride)
speedOvr	DOUBLE	/TPC/focas/pmc/pmcrng/G/byte[1,30](mmm_fanuc_spindleoverride)

2.1.7.2 Overview

Using this function, you can individually configure which data is sent from the machine to MindSphere and how this data is sent. If a specific alarm occurs, for example, you can define that

the HMI trace, NC status and machine data are sent from the machine to MindSphere.
The MindSphere "Shopfloor Management Application" application allows you to individually
configure the following trigger:
• Time-based/cyclic trigger
• Configuring a value-based trigger (variable)
• Alarm based trigger
In addition, you can also send an alarm by email.
More information on the configuration is provided in Chapter: Configuring an alarm message
and sending by email
• File Upload
In addition, it is possible to copy all configurations of one asset to another asset.



2.1.7.3 Time-based/cyclic trigger

Configure the "Time-based/cyclic trigger", to send variable values from the machine to MindSphere at regular intervals:

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Parameter	Description	
Create aspect		
Aspect name	Enter a name to designate a common group of variables. The name must be unique and not exceed 30 characters. The following characters are permissible: • Letters • Underscore • Numbers	
Read cycle used		
Time interval	The sampling rate of the data acquisition is specified with this value. Select the time period from the drop-down list: • 5 seconds • 30 seconds • 1 minute • 5 minutes • 15 minutes • 30 minutes • 1 hour • 4 hours • 12 hours • 24 hours	
Variable		
Name	In the variable set, enter a name for the variables to be acquired. The name must be unique and not exceed 30 characters. The following characters are permissible: • Letters • Underscore • Numbers Remark: The name of the variable must not consist solely of numbers. In this case, the input field is marked red.	
Address	Enter the address or the path of the variable. Examples:	
	Axis data:	/Nck/MachineAxis/AATRAVELCOUNT[1] /Nck/MachineAxis/AATRAVELDIST[2]
	Channel data:	/Channel/ChannelDiagnose/CuttingTime[u1] /Channel/ChannelDiagnose/OperatingTime[u1]
	Machine operating mode:	/Bag/State/opMode[u1]

Parameter	Description
Data type	Select the data type of the variable from the drop-down list: • DOUBLE • BOOLEAN • STRING **Note:** If values exceed the floating-point number accuracy, they are displayed with faulty decimal places.
Unit	Select the physical unit of the variable from the drop-down list. Example: m/s²

1. Click on the "Time-based / cyclic trigger (variables)" function.

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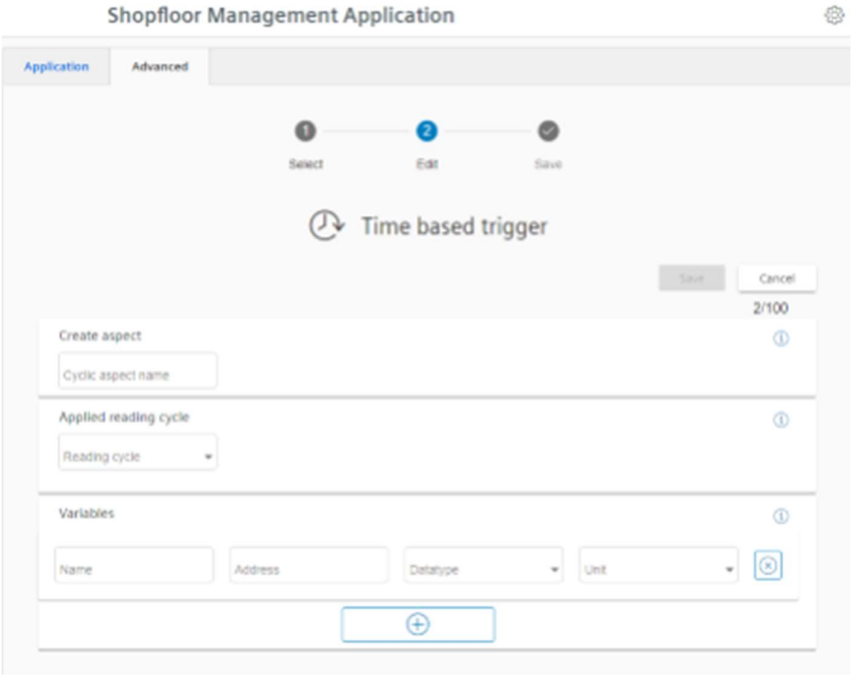
2. The "Time-based trigger" input window opens.
– Enter a name in the "Create aspect" input field.
– Enter the sampling rate in the "Read cycle used" input field.
– Enter the variable properties in the input fields.
– Click the "+" button to add a new variable.
Repeat this step as often as is necessary.
Note
Limiting the number of variables
You can create a maximum of 50 variables with 5-second options.
A warning message appears when the maximum number is reached.
– Click the "Cancel" button to exit the Properties window without saving the entries.
You are taken back to the aspects overview.
- OR -
Click the "Save" button to accept the entries.
The "Data recording saved successfully" message appears.
– Click the "OK" button to exit the operation.
You are taken to an overview of the aspects.



2.1.7.4 Configuring a value-based trigger (variable)

View "Variable-based trigger" provides you with functions to create user-defined condition rules
based on variable values.

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If a configured condition occurs, then the following data and values are sent to MindSphere:
• Variable value
• Machine trace files
• User-defined file(s) in the specified directory

Parameter	Description
Create aspect	
Aspect name	Enter a previously created variable name. The name must be unique. If the aspect does not yet exist in MindSphere, the aspect is created when saving the configuration.
Configuring a trigger With these settings, you specify the trigger conditions for the following actions.	
Variable address	Enter the address of the variables.
Data type	From the drop-down list select the data type of the variable. • DOUBLE • BOOLEAN • STRING
	From the drop-down list, select the comparison operation that is restricted to the format of the variables: • Greater than • Less than • Equal to • Not equal to
Variable value	Enter a value.
With the following configuration	
Debounce time	Enter the debounce time. Remark: After the Condition variable has reached a specified value, the control checks whether the condition is still present until the debounce time has expired. The control does not check the status again during this time.
sec	Select the time unit from the drop-down list: • sec • min • hr

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Parameter	Description
Hysteresis	Select the check box if you want to include hysteresis.
	The hysteresis can be a value or a percentage (absolute or relative). Example: The temperature is 30 degrees. The absolute hysteresis equals 5. In this case, the check is from 25 to 35 °C instead of 30 °C. Activate the "Quick Range" option button if the relative value in relation to the comparison value is to be recorded. Activate the "Absolute" option button if the absolute value in relation to the comparison value is to be recorded. A new trigger on the comparison value is only performed when the actual value differs from the comparison value by more than the specified hysteresis. Enter a comparison value, this is restricted according to the selection of the address format.
Then acquire the following values The following variable is recorded and sent to MindSphere.	
Variable address	Shows the address of the variable.
Data type	Select the data type of the variable from the drop-down list: • DOUBLE • BOOLEAN • STRING
Duration	Enter the recording duration. The duration must be longer than the cycle.
	Select the time unit from the drop-down list: • sec • min • hr Minimum of 30 seconds. Maximum of 24 hours.
Cycle	Enter the cycle duration.
	Select a time unit from the drop-down list: • sec • min • hr 30 seconds is the minimum 24 hours is the maximum
Adding trace files to the trigger Recorded traces are sent as files to MindSphere.	
Trace files	Activate the option checkbox for the following data: • HMI trace • NC status • Machine data Activate the action log setting on the machine. More information can be found in this Chapter: Setting the action log (Page 51).

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Parameter	Description
Selecting file(s) to be uploaded The selected files that are available on the machine will be transferred to the corresponding MindSphere tenants database.	
File or directory path *	Enter the file or directory path. • The maximum file size is 100 MB • If the agent is offline, the maximum buffer size for storage is 100 MB. • If the hard disk is full, it is possible that not all of the files are sent to MindSphere. • When the directory path has been created, the file upload of the last 15 files in this directory to MindSphere takes place.

Icons	Description
	You will receive further information.
	Closes the entry field.
	Click on the down arrow to open and create further configurations.
	Click on the up arrow to close the area of further configurations.

Click on function "Variable value based trigger" to specify dependencies.

2. The "Variable-based trigger" input window opens.
3. Enter a name in the "Cyclic aspect name" input field.
4. Define a variable as trigger.
5. Define the settings for the trigger.
6. Define which data is sent to MindSphere if the trigger occurs:
– Recording variables
Enter a variable address.
– Trace files
Activate the corresponding checkbox for "HMI-Trace", "NC-Status" or "Machine Data".
– Files
Enter a file name or a directory path.
7. Click the "Cancel" button to exit the Properties window without saving the entries.
A safety message is output, which you must confirm
You are taken back to the aspects overview.
- OR -
Click on "Save" to accept the data entered.
Message "Data recording saved successfully" is output.
Click on "OK" to exit the operation.
You are taken back to the aspects overview.

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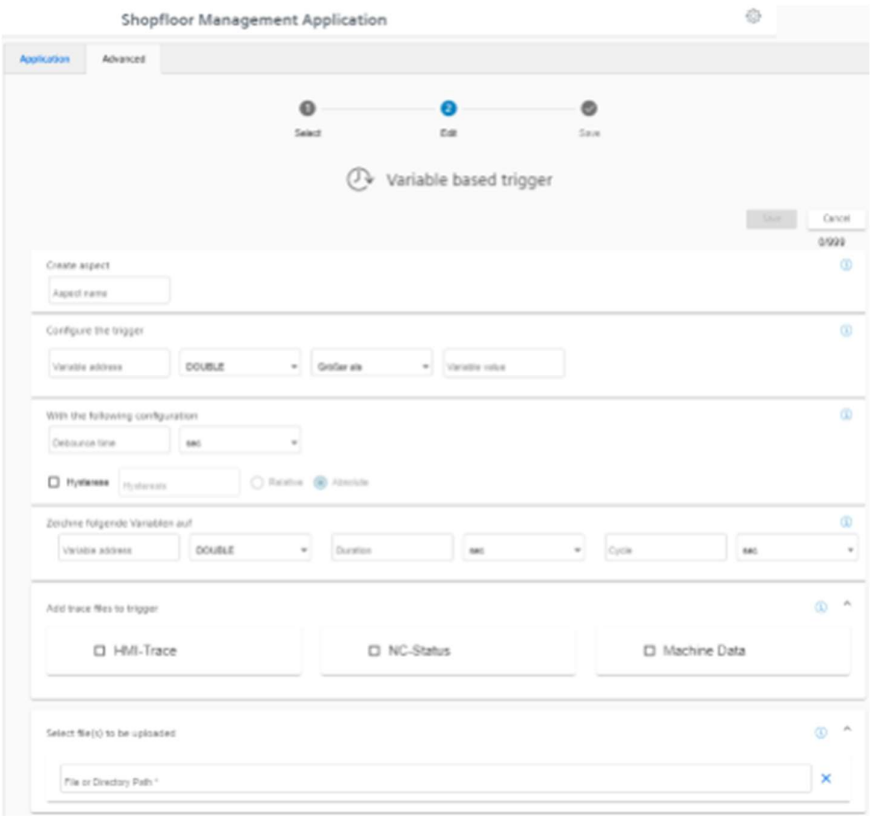

2.1.7.5 Alarm-based trigger

The "alarm-based trigger" reacts to all alarms programmed in the control.
With this function, you can send specific alarms for a certain aspect and acquired status d ata to MindSphere.
These alarms also contain the user range of alarm numbers that are assigned the machine functions for the machine diagnostics. If machine diagnostics are not performed on the basis of alarm numbers, these error messages cannot be integrated.
The alarm numbers that are triggered can be entered individually or in ranges. You individual or ranges of alarms from a selection.
When certain alarms occur, you can upload user-defined files to MindSphere.

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Parameter	Description
Create aspect	
Aspect name	Enter a descriptive name for the aspect. The name must be unique.
Include alarms	
Alarm numbers:	In the case of individual alarms, enter the alarm number or the alarm ID that activates the trigger. The alarm number must be within the range from 0 to 999999. The alarms are entered in the following notation: • Separate the individual alarms through a comma, e.g. 3200, 32100, ... • Enter the alarm number ranges with a "-" character, e.g. 4000-5000 The alarm list must not exceed 200 characters.
Alarm intervals:	Enter the alarm limits. • From: Enter the lowest alarm ID, e.g. 0 • To: Enter the highest alarm ID, e.g. 999999 All alarms between 0 and 999999 are included.
Exclude alarms	
Alarm numbers:	Enter the alarm numbers that do not activate the trigger. Excluded alarms are not transmitted to MindSphere. The alarm number must lie within the range from 0 to 999999. The alarms are entered in the following notation: • Separate the individual alarms through a comma, e.g. 3200, 32100, ... • Enter the alarm number ranges with a "-" character, e.g. 4000-5000 The list of alarm numbers must not exceed 200 characters.
Alarm intervals:	Enter the alarm limits: • From: Enter the lowest alarm ID, e.g. 0 • To: Enter the highest alarm ID, e.g. 999999 All alarms between 0 and 999999 are included.
Add trace files to the trigger	
Trace files	Activate the option checkbox for the following data: • HMI trace • NC status • Machine data The sum of all data is limited to a maximum of 100 MB. Activate the action log setting on the machine. You can find more information in this Chapter: Setting the action log (Page 51).

Parameter	Description
Select file(s) to be uploaded The selected files that are available on the machine will be transferred to the corresponding MindSphere tenants database.	
File or directory path *	Enter the file or directory path. • The maximum permissible file size is 100 MB • If the agent is offline, the maximum buffer size for storage is 100 MB. • If the hard disk is full, it is possible that not all of the files are sent to MindSphere. • When the directory path has been created, the file upload of the last 15 files in this directory to MindSphere takes place.

Icons	Description
ⓘ	You will receive further information.
✕	Closes the entry field.
⌄	Click on the down arrow to open and create further configurations.
⌃	Click on the up arrow to close the further configurations area.

1. Click the "Alarm-based trigger" function to define alarm properties, such as when an alarm
should be displayed.

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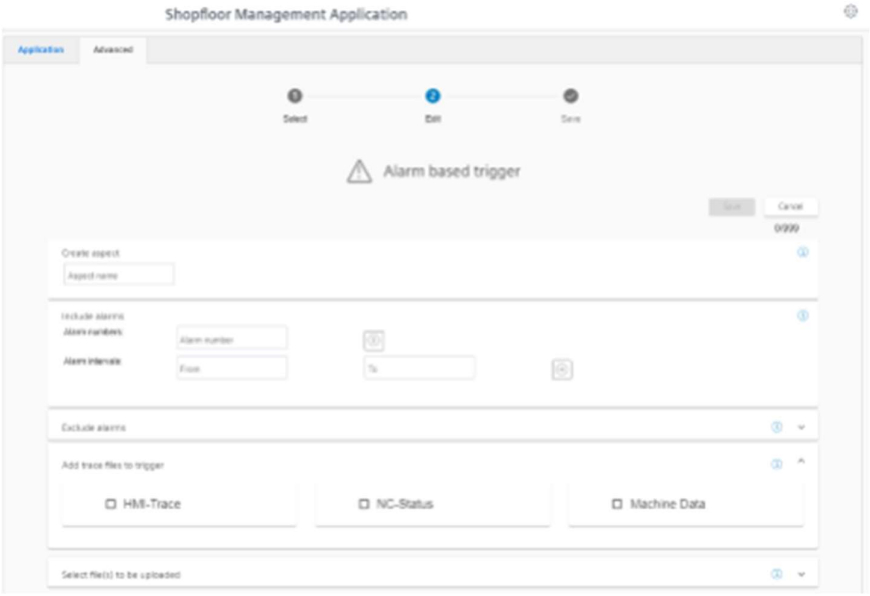
2. The "Alarm-based trigger" input window opens.
– Enter a name for the aspect and specify the properties.
– Click on the "Cancel" button.
You receive a safety message that you must confirm.
Then you will be returned to the overview.
- OR -
– Click the "Save" button to accept the entries.
The "Data recording saved successfully" message appears.
– Click the "OK" button to exit the operation.
You are taken to the overview.



Enter a file or directory path to load data from the control to MindSphere.

Alarm types
FANUC controls support 16 alarm types. In turn, each alarm type can have up to 10,000 numerical variables.
The following table lists all of the possible alarms:

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FANUC Alarm type	FANUC Alarm range	Numerical alarm ID area
IO	IO0000 – IO9999	120000 – 129999
PS	PS0000 – PS9999	130000 – 139999
OT	OT0000 – OT9999	140000 - 149999
OH	OH0000 – OH9999	150000 - 159999
Sv	Sv0000 – Sv9999	160000 - 169999
SR	SR0000 – SR9999	170000 - 179999
MC	MC0000 – MC9999	180000 - 189999
SP	SP0000 – SP9999	190000 - 199999
DS	DS0000 – DS9999	200000 - 209999
IE	IE0000 – IE9999	210000 - 219999
BG	BG0000 – BG9999	220000 - 229999
SN	SN0000 – SN9999	230000 - 239999
EX	EX0000 – EX9999	240000 - 249999
PC	PC0000 – PC9999	250000 - 259999

- Either configure the individual subranges - or all of the alarms at once.
- To acquire all of the alarms, configure the range from 100,000 to 260,000.

Example
You want to see the display of all software alarms:

Enter:
- Left: 100,000
- Right: 260,000

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2.1.7.6 File Upload

Function "File Upload" allows files to be sent from the SINUMERIK control to MindSphere.

You can send multiple files from various directories in the same trigger. In a cyclical trigger, you

can upload trace files along with the customer-specific files.

There are two variants of the "File upload" function:

• Change-dependent file upload

The upload is carried out after a file is changed on the SINUMERIK control. The change date

of the files is checked cyclically, i.e. hourly, on the SINUMERIK control.

• Cyclic file upload

The upload is carried out in a defined time cycle. The cycle duration is specified in the user

interface.

The cyclic file upload does not check files for changes.

Parameter	Description
Configuration name	Enter a name for the configuration. The name must be unique and not exceed 30 characters. The following characters are permissible: • Letters • Underscore • Numbers
Cyclic	The files are transmitted to MindSphere at defined intervals. Select the time interval from the drop-down list: • 1 hour • 2 hours • 4 hours • 6 hours • 8 hours • 12 hours • 24 hours • 1 week • 1 month
When modified	The control checks the files at 1-hour intervals. If the file or directory changes, the relevant files are uploaded to MindSphere.
Add trace files to the trigger	Recorded traces are sent as files to MindSphere. Activate the checkbox for the following data: • HMI trace • NC status • Machine data Activate the action log setting on the machine. More information can be found in this Chapter: Setting the action log (Page 51).
File path	Enter the correct file path. A directory path must end with a "/" or "\" character. A maximum of 10 directories is allowed.
File	Enter the file name. You can use the asterisk symbol (*) as a placeholder. A maximum of 10 files per directory is allowed. If only a directory path is entered instead of a file, the last 10 modified files in the directory will be sent to MindSphere.

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Icon	Description
	Create a new entry for the file or directory path.
	Change the entry for the file or directory path.
	Save the entry for the file or directory path.
	Delete the entry for the file or directory path.
	You will receive further information.

Files

The maximum file size is 100 MB.
Use the following file extensions for the "File Upload" function:

- .xml
- .txt
- .log
- .png
- .jpg
- .ohs
- .pms
- .ems
- .mds
- .pdf
- .ini
- .csv
- .json
- .sav
- .mst
- .bst
- .stt

Directory paths

The following directories are available for the file upload:

- /card/user/sinumerik/hmi/appl/
- /card/oem/sinumerik/hmi/appl/
- /card/oem/sinumerik/hmi/OMATIVE_ACM/data/
- C:\ProgramData\Siemens\MotionControl\oem\sinumerik\hmi\appl\
- C:\ProgramData\Siemens\MotionControl\user\sinumerik\hmi\appl\
- /card/user/sinumerik/hmi/cfg/
- /card/oem/sinumerik/hmi/cfg/
- /card/user/sinumerik/hmi/log/
- /card/oem/sinumerik/data/archive/
- /card/system/tmp/

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• <temp>\

You can create multiple subdirectories in this directory.

• /var/user/

• C:\temp\datatransfer\

On PCU WIN NT

• C:\ProgramData\Siemens\MotionControl\oem\sinumerik\hmi\OMATIVE_ACM\data\

• C:\temp\datatransfer\

On PCU WIN XP

• var\tmp\datatransfer\

For Linux

• /user/sinumerik/hmi/data/version/

SINUMERIK Operate also supports the following directories:

• D:\backups\

• D:\description\

Procedure

1. Click the "File Upload" function.

2. The "File Upload" input window opens.

In the "File Upload" area, you can see the number of configurations created/number of

possible configurations on the right.

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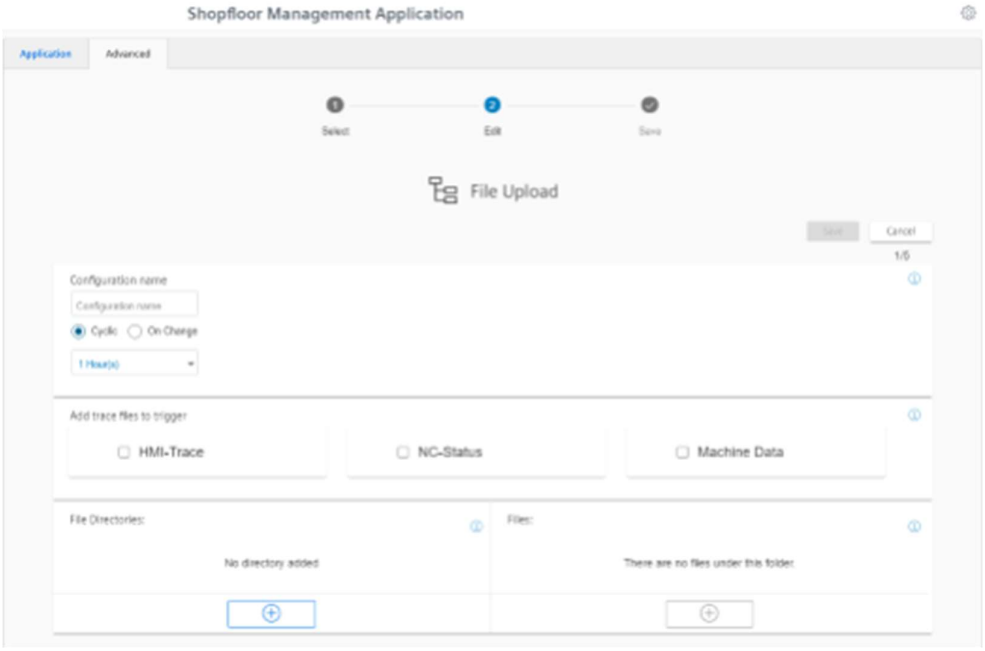

3. Enter the name for the configuration.

4. Select the type of file upload and, if applicable, the cycle length.

5. Activate the checkboxes for the trace files that you want to transfer along with the customer-

specific files.

6. Click the "+" button in the file paths area.

To simultaneously send files from multiple directories, click on this button for each directory.

Once the maximum possible number of directories is reached, the button is deactivated.

7. Enter the directory path and click on the check mark.

8. Specify the files to be transferred for each directory:

– Click the "+" button in the file area.

To send multiple files from this directory, click on the "+" button for each file.

Once the maximum possible number of files is reached, the button is deactivated.

– Enter the file name. You can use the asterisk symbol (*) as a placeholder.

If more than 10 files correspond to the file name with placeholder, only the last 10 most

recently modified files will be sent to MindSphere.

– Click on the check mark.

9. Click on the "Recycle bin" icon in the appropriate line to delete a directory path or a file.

10.Click on "Save" to save the configuration.

- OR -

Click the "Cancel" button to exit the window without saving the entries.

You are taken back to the overview.

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11.The "Data recording saved successfully" message appears.

Click the "OK" button to exit the operation.

12.You can view the uploaded files in the Fleet Manager.

You can find more

2.1.7.7 Copying configurations

You have the option of copying the configurations for variables and file upload from one asset

to any number of assets.

If a variable with the same name already exists for the target asset, then the address of the

variables on the target asset are overwritten when copying.

The copying procedure is canceled as soon as the target asset has reached the maximum number

of variables.

Icons	Description
	Copies all configurations of an asset to other assets.
	Shows the source and target of the last copying procedure.

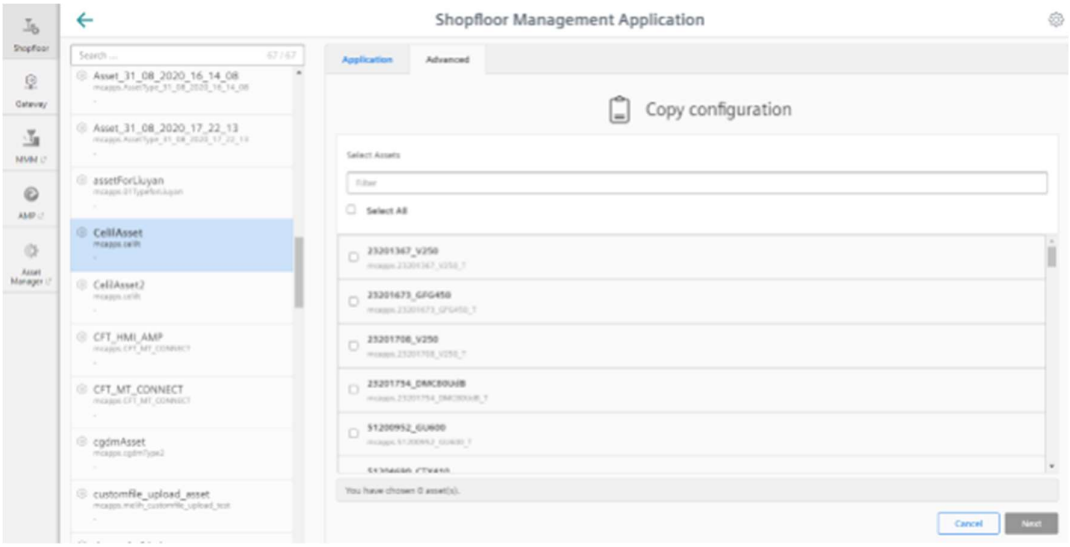
Procedure

1. In the "Shopfloor Management Application", select the asset with the required configurations.

2. Open the "Advanced" tab on the right-hand side of the window.

3. Click on "Copy".

All of the available target assets are listed.



4. To filter the list, enter the name of the asset (or parts of it) in the search field.

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5. Activate the checkbox in front of the required asset, or activate checkbox "Select All".

6. Click on "Next".

The selected assets are displayed for checking.

7. Click on "Apply".

The copying procedure starts. Progress is displayed for each asset.

2.2 Operation

2.2.1 Activating the data acquisition

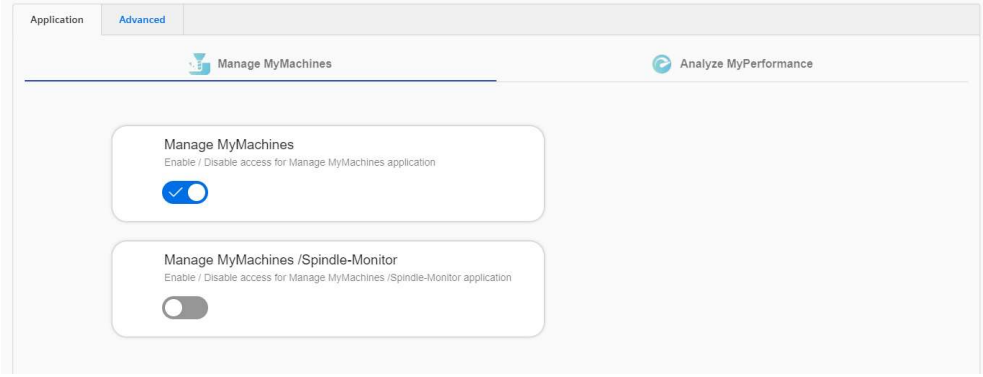
2.2.1.1 Overview

The "Shopfloor Management Application" MindSphere application allows you to configure the assets.

1. Click "Shopfloor Management Application" app:

2. Find the required asset using “Search…” panel.
3. Click the "Application" tab.

   The following slide toggles are available in the "Application" tab:



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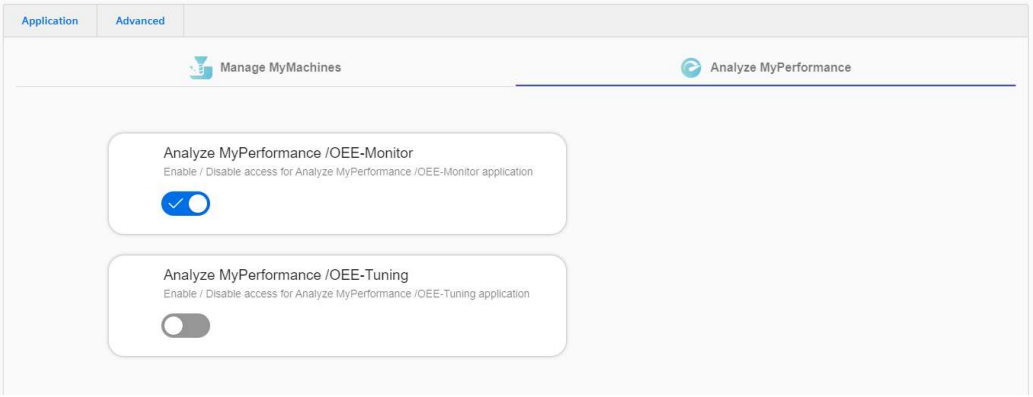

- Manage MyMachines
  Activation/deactivation of access to the "Manage MyMachines" application
- Analyze MyPerformance
  Activation/deactivation of access to the "Analyze MyPerformance" application

2.2.1.2 Procedure

1. Click "Shopfloor Management Application" app:

2. Find the required asset using “Search…” panel.
3. Click the "Application" tab:

   If you wish to activate of access to the “Manage MyMachines” application for this asset, select Manage MyMachines tab:

   – Set the slide toggle for "Manage MyMachines" to "ON" to activate Manage MyMachines usage for this asset

   – Set the slide toggle for "Manage MyMachines /Spindle-Monitor" to "ON" to activate Manage MyMachines/Spindle-Monitor usage for this asset

   – Click "Save" to save the settings.

   If you wish to activate of access to the “Analyze MyPerformance” application for this asset, select Analyze MyPerformance tab:

   – Set the slide toggle for "Analyze MyPerformance /OEE-Monitor" to "ON" to activate Analyze MyPerformance /OEE-Monitor usage for this asset

   – Set the slide toggle for "Analyze MyPerformance /OEE-Tuning” to "ON" to activate Analyze MyPerformance /OEE-Tuning usage for this asset

   – Click "Save" to save the settings.

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NOTICE

Deactivation of the Application

If you want to deactivate the application in order to stop the data acquisition and thus to stop the payment rhythm, set the slide toggle for the application to “OFF”.

Note that each time you set the slide toggle to “ON” fees are incurred.

Important:

Please note that if you disable the following toggle for Manage MyMachines access and enable the toggle again, according to the Terms and Conditions the Pricing Model will be charged again.

Please note that if you disable the following toggle for Analyze MyPerformance access and enable the toggle again, according to the Terms and Conditions the Pricing Model will be charged again.

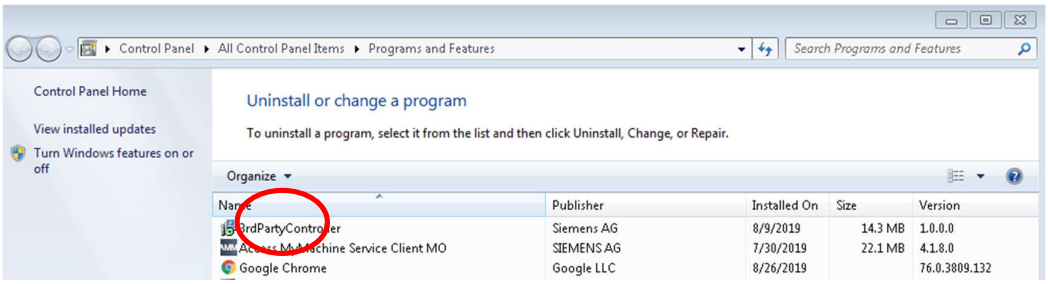
2.2.2 Uninstall procedure

2.2.2.1 Restore ePS-Client settings file

ePS-Client settings file needs to be restored, otherwise it can still try to load 3rdParty technology driver which will no longer be present once 3rdPartyController is uninstalled.

2.2.2.2 Uninstall 3rdPartyController

Use Control Panel to locate 3rdPartyController installation. Simply press uninstall.



After uninstall is complete, machine need not to be restarted.

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3 Appendix

3.1 Service and support

Industry Online Support

Do you have any questions or need assistance?

Siemens Industry Online Support offers round the clock access to our entire service and support know-how and portfolio.

The Industry Online Support is the central address for information about our products, solutions and services.

Product information, manuals, downloads, FAQs, application examples and videos – all information is accessible with just a few mouse clicks:
support.industry.siemens.com

Technical Support

The Technical Support of Siemens Industry provides you fast and competent support regarding all technical queries with numerous tailor-made offers – ranging from basic support to individual support contracts. Please send queries to Technical Support via Web form:
www.siemens.com/industry/supportrequest

SITRAIN – Training for Industry

We support you with our globally available training courses for industry with practical experience, innovative learning methods and a concept that's tailored to the customer's specific needs.

For more information on our offered trainings and courses, as well as their locations and dates, refer to our web page:
www.siemens.com/sitrain

Service offer

Our range of services includes the following:

- Plant data services
- Spare parts services
- Repair services
- On-site and maintenance services
- Retrofitting and modernization services
- Service programs and contracts

You can find detailed information on our range of services in the service catalog web page:
support.industry.siemens.com/cs/sc

Industry Online Support app

You will receive optimum support wherever you are with the "Siemens Industry Online Support" app. The app is available for iOS and Android:
support.industry.siemens.com/cs/ww/en/sc/2067

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3.2 Application support

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3.3 Links and literature

Table 3-1

No.	Topic
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to this entry page of this application example https://support.industry.siemens.com/cs/ww/en/view/Entry ID
\3\	

3.4 Change documentation

Table 3-2

Version	Date	Modifications
V1.0	12/2019	First version of the document
V1.1	06/2020	Added support for Windows 10

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