

# SIEMENS

## SINUMERIK

### Manage MyMachines, Manage MyMachines /Spindle Monitor

Function Manual

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Valid for control:  
SINUMERIK 840D s// 840DE s// 828D  
SINUMERIK ONE  
Software  
Manage MyMachines /Spindle Monitor, Version  
02.05.01.00




03/2024

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## Legal information

### Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

 <b>DANGER</b>
indicates that death or severe personal injury <b>will</b> result if proper precautions are not taken.
 <b>WARNING</b>
indicates that death or severe personal injury <b>may</b> result if proper precautions are not taken.
 <b>CAUTION</b>
indicates that minor personal injury can result if proper precautions are not taken.
<b>NOTICE</b>
indicates that property damage can result if proper precautions are not taken.


If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

### Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

### Proper use of Siemens products

Note the following:

 <b>WARNING</b>
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

### Trademarks

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### Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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# Introduction

## 1.1 About Manage MyMachines

### Insights Hub

Insights Hub is a cloud-based, open IoT operating system from Siemens that connects your machines and physical infrastructure with the digital world. This gives you a complete overview of your data at all times.

Several Insights Hub-based applications are available – the "Manage MyMachines for Industrial Operations X Cloud".

### Manage MyMachines

The "Manage MyMachines" MindApp visualizes numerous operating and plant-specific data of machine tools or individual machine components for production, service and maintenance. This increases the transparency of the machine tools connected in Insights Hub.

The following functions are possible:

- Globally distributed machines can be managed and displayed.
- Visualize relevant information in an overview page.
- Intuitive creation of rules and queries.
- Simple installation through integrated SINUMERIK Integrate client.
- Combines critical machine data for a meaningful analysis.
- Create your own digital service portfolio based on the MindApp.

The data that you provide is exclusively variables from the NC, the PLC or from the drives. This data enables conclusions to be drawn with regard to:

- Availability
- Operating times
- Operating state, state duration
- Maintenance, wait times
- Technical state

The corresponding data is either preconfigured or can be defined centrally by the user and configured with appropriate warning limits. It is also possible to identify trends with the aid of measuring series.

Data processing and visualization are realized on the Insights Hub platform.

## 1.2 About this documentation

### Overview

This document describes the following:

- How to connect Insights Hub to the SINUMERIK control  
**More information** can be found at: Setting up the SINUMERIK control system for Manage MyMachines (Page 31)
- The functionality of Manage "MyMachines for Industrial Operations X Cloud"  
**More information** can be found at: Working with Manage MyMachines (Page 209)

### Target group

This publication is intended for:

- Project engineers
- Technology experts (from machine manufacturers)
- Commissioning engineers (systems/machines)
- Programmer-users

### Benefits

The Function Manual describes the functions in such a way that the target group is aware of them and can select them. The manual provides the target group with the information required to implement the functions.

### Standard scope

This documentation only describes the functionality of the standard version. This may differ from the scope of the functionality of the system that is actually supplied. Please refer to the ordering documentation only for the functionality of the supplied drive system.

It may be possible to execute other functions in the system which are not described in this documentation. This does not, however, represent an obligation to supply such functions with a new control or when servicing.

For reasons of clarity, this documentation cannot include all of the detailed information on all product types. Further, this documentation cannot take into consideration every conceivable type of installation, operation and service/maintenance.

The machine manufacturer must document any additions or modifications they make to the product themselves.

### Websites of third-party companies

This document may contain hyperlinks to third-party websites. Siemens is not responsible for and shall not be liable for these websites and their content. Siemens has no control over the information which appears on these websites and is not responsible for the content and information provided there. The user bears the risk for their use.

## 1.3 Documentation on the internet

### 1.3.1 Documentation overview Manage MyMachines

You can find comprehensive documentation on Manage MyMachines and Manage MyMachines /Spindle Monitor functions under: Documentation in Insights Hub (<https://siemens.mindsphere.io/en/docs/ManageMyMachine.html>).

You can find information on Insights Hub at the following link: Insights Hub (<https://plm.sw.siemens.com/en-US/insights-hub/>).

You can find information on the topic of industrial security at Cybersecurity information (Page 19) and in the Configuration Manual "SINUMERIK / SIMOTION / SINAMICS, Motion Control, Industrial Security".

## 1.4 Feedback on the technical documentation

If you have any questions, suggestions, or corrections regarding the technical documentation published in the Siemens Industry Online Support, use the link "Give feedback" link which appears at the end of the entry.

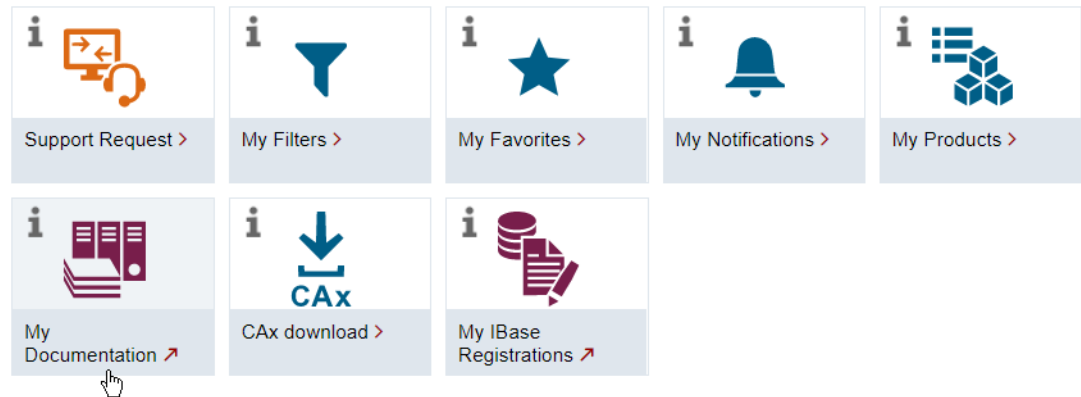


## 1.5 mySupport documentation

With the "mySupport documentation" web-based system you can compile your own individual documentation based on Siemens content, and adapt it for your own machine documentation.

To start the application, click on the "My Documentation" tile on the "mySupport links and tools" (<https://support.industry.siemens.com/cs/ww/en/my>) portal page:

### mySupport Links and Tools



The configured manual can be exported in RTF, PDF or XML format.

### Note

Siemens content that supports the mySupport documentation application can be identified by the presence of the "Configure" link.

## 1.6 Service and Support

### Product support

You can find more information about products on the internet:

Product support (<https://support.industry.siemens.com/cs/ww/en/>)

The following is provided at this address:

- Up-to-date product information (product announcements)
- FAQs (frequently asked questions)
- Manuals
- Downloads
- Newsletters with the latest information about your products
- Global forum for information and best practice sharing between users and specialists
- Local contact persons via our Contacts at Siemens database (→ "Contact")
- Information about field services, repairs, spare parts, and much more (→ "Field Service")

### Technical support

Country-specific telephone numbers for technical support are provided on the internet at address (<https://support.industry.siemens.com/cs/ww/en/sc/4868>) in the "Contact" area.

If you have any technical questions, please use the online form in the "Support Request" area.

### Training

You can find information on SITRAIN at the following address (<https://www.siemens.com/sitrain>).

SITRAIN offers training courses for automation and drives products, systems and solutions from Siemens.

### Siemens support on the go



With the award-winning "Industry Online Support" app, you can access more than 300,000 documents for Siemens Industry products – any time and from anywhere. The app can support you in areas including:

- Resolving problems when implementing a project
- Troubleshooting when faults develop
- Expanding a system or planning a new system

Furthermore, you have access to the Technical Forum and other articles from our experts:

- FAQs
- Application examples
- Manuals
- Certificates
- Product announcements and much more

The "Industry Online Support" app is available for Apple iOS and Android.

## 1.7 OpenSSL

This product can contain the following software:

- Software developed by the OpenSSL project for use in the OpenSSL toolkit
- Cryptographic software created by Eric Young.
- Software developed by Eric Young

You can find more information on the internet:

- OpenSSL (<https://www.openssl.org>)
- Cryptsoft (<https://www.cryptsoft.com>)

## 1.8 General Data Protection Regulation

Siemens observes standard data protection principles, in particular the data minimization rules (privacy by design).

For this product, this means:


The product does not process or store any personal data, only technical function data (e.g. time stamps). If the user links this data with other data (e.g. shift plans) or if he/she stores person-related data on the same data medium (e.g. hard disk), thus personalizing this data, he/she must ensure compliance with the applicable data protection stipulations.




# Security instructions

## 2.1 Fundamental safety instructions

### 2.1.1 General safety instructions

 <b>WARNING</b>
<b>Danger to life if the safety instructions and residual risks are not observed</b>
If the safety instructions and residual risks in the associated hardware documentation are not observed, accidents involving severe injuries or death can occur.
<ul style="list-style-type: none"><li>• Observe the safety instructions given in the hardware documentation.</li><li>• Consider the residual risks for the risk evaluation.</li></ul>

 <b>WARNING</b>
<b>Malfunctions of the machine as a result of incorrect or changed parameter settings</b>
As a result of incorrect or changed parameterization, machines can malfunction, which in turn can lead to injuries or death.
<ul style="list-style-type: none"><li>• Protect the parameterization against unauthorized access.</li><li>• Handle possible malfunctions by taking suitable measures, e.g. emergency stop or emergency off.</li></ul>

### 2.1.2 Warranty and liability for application examples

Application examples are not binding and do not claim to be complete regarding configuration, equipment, or any eventuality which may arise. Application examples do not represent customer-specific solutions, but merely serve to provide assistance with typical tasks.

As the user you yourself are responsible for ensuring that the products described are operated correctly. Application examples do not relieve you of your responsibility for safe handling when using, installing, operating and maintaining the equipment.

### 2.1.3 Cybersecurity information

Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks.

2.1 Fundamental safety instructions

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens’ products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.


For additional information on industrial cybersecurity measures that may be implemented, please visit <https://www.siemens.com/cybersecurity-industry>.

Siemens’ products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer’s exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under <https://new.siemens.com/cert>.

Further information is provided on the Internet:

Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/ww/en/view/108862708>)

 <b>WARNING</b>
<b>Unsafe operating states resulting from software manipulation</b>
Software manipulations, e.g. viruses, Trojans, or worms, can cause unsafe operating states in your system that may lead to death, serious injury, and property damage.
<ul style="list-style-type: none"><li>• Keep the software up to date.</li><li>• Incorporate the automation and drive components into a state-of-the-art, integrated industrial cybersecurity concept for the installation or machine.</li><li>• Make sure that you include all installed products in the integrated industrial cybersecurity concept.</li><li>• Protect files stored on exchangeable storage media from malicious software by with suitable protection measures, e.g. virus scanners.</li><li>• Carefully check all cybersecurity-related settings once commissioning has been completed.</li></ul>



## 2.2 Security instructions in Insights Hub documentation

Take into consideration the content of the following Insights Hub documentation:

- Insights Hub security model (<https://assets.new.siemens.com/siemens/assets/api/uuid:6b876b5e-5594-4da4-90e0-e9e0c6f1f1e1/siemens-plm-mindsphere-security-model-wp-75966-a7.pdf>)
- Insights Hub architecture (<https://documentation.mindsphere.io/MindSphere/concepts/concept-architecture.html>)
- Authentication & Authorization (<https://documentation.mindsphere.io/MindSphere/concepts/concept-authentication.html>)

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### Note

#### Applying the defense-in-depth concept

To protect industrial plants and systems comprehensively against cyber attacks, measures must be applied simultaneously at all levels. From the operational level up to the field level – from access control to copy protection. Therefore, apply the "Defense in depth" protection concept to avoid security risks in your environment before setting up the OPC UA server.

Note in particular that the company network must not be connected to the Internet without suitable protective measures.

More information on the defense-in-depth concept, protective measures and general Industrial Security can be found in the Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/ww/de/view/108862708>).

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## 2.3 Data management, confidentiality and encryption

If you connect your machines using "Manage MyMachines", "Manage MyMachines" generates public/private encrypted "onboard.key" files, which are used to onboard assets.

Furthermore, when transferring data from your machine to Insights Hub, "Manage MyMachines" uses customer-specific OAUTH-2.0 tokens, which are provided by Insights Hub.

HTTPS with TLS 1.2 is used to establish all of the communications between the individual components.

## System requirements

### Hardware and operating software

#### SINUMERIK 840D sl

SINUMERIK Integrate client software version	Operating software SINUMERIK Operate version	Hardware version	Operating system
2.0.11 2.0.12 2.0.13	4.5 SP4, HF1, 2, 3, 4 4.5 SP6, HF1, 3, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	NCU 7x0.3 PN NCU 7x0.3B (PN)	Linux
2.0.14 2.0.16 2.0.18 2.0.19 2.0.20 2.0.21 2.0.22 2.0.24	4.5 SP5, HF1, 3, 5 4.5 SP6, HF2, 3, 5, 7, 8, 10, 11, 13, 14, 15, 16, 17, 18, 19	PCU 50.5 IPC427E IPC477E	Windows 7 Windows 10
3.0.11 3.0.12 3.0.13 3.0.14 3.0.16 3.0.18 3.0.19 3.0.24 3.0.26	4.7 SP1, HF1 4.7 SP2, HF1, 3, 4 4.7 SP3, HF1, 2, 3 4.7 SP4, HF1, 3, 4, 5, 6 4.7 SP5, HF1 4.7 SP6, HF1, 3, 4, 5, 6, 7 4.7 SP7, HF1, 3 4.7 SP7, HF14 4.8 SP1, HF1, 2, 3 4.8 SP2, HF1, 3 4.8 SP3, HF1 4.8 SP4, HF1, 3, 4, 6, 8 4.8 SP5, HF5, 6 4.8 SP6, HF1, 3, 4, 5 4.8 SP7 4.95	NCU 7x0.3 PN NCU 7x0.3B (PN) PCU 50.5 IPC427E IPC477E	Linux Windows 7 Windows 10

SINUMERIK Integrate client software version	Operating software SINUMERIK Operate version	Hardware version	Operating system
4.0.15	4.92, HF3	NCU 710.3B	Linux
4.0.16	4.93, HF1, 2	NCU 7x0.3B (PN)	
4.0.18	4.94, HF3, 4	PCU 50.5 IPC427E IPC477E	Windows 7 Windows 10
4.0.19	4.95		
4.0.20	4.95, HF1		
4.0.22	4.95 SP1, HF1		
4.0.25	4.95 SP1, HF3		
4.0.26	4.95 SP3, HF2		
4.0.27			

### SINUMERIK ONE

SINUMERIK Integrate client software version	Operating software SINUMERIK Operate version	Hardware version	Operating system
4.0.15	6.13, HF1, 2, 4, 6	NCU 1740	Linux
4.0.16	6.14, HF3	NCU 1750	
4.0.18	6.15, HF1	NCU 1760	
4.0.19	6.15 SP1	IPC 427E MCU 1720	<i>Windows 10 IoT Enterprise LTSB 2016, 64 bit</i>
4.0.20	6.15 SP1, HF1		
4.0.21	6.15 SP1, HF3		
4.0.22	6.15 SP1, HF5		
4.0.23	6.15 SP3		
4.0.26			
5.0.27	6.23	NCU 1750	Linux

**SINUMERIK 828D**

SINUMERIK Integrate client software version	Operating software SINUMERIK Operate version	Hardware version	Operating system
2.0.11	4.5 SP4	PPU 281.3	Linux
2.0.12	4.5 SP5, HF1, 2	PPU 261.3	
2.0.13	4.5 SP6, HF1, 2, 3, 4	PPU 241.3	
2.0.14			
2.0.16			
2.0.18			
2.0.19			
2.0.20			
2.0.21			
2.0.22			
2.0.24			
2.0.26			
2.0.27			
3.0.11	4.7 SP2, HF1	PPU 290.3	
3.0.12	4.7 SP3, HF2	PPU 28x.3	
3.0.13	4.7 SP4, HF1, 2	PPU 26x.3	
3.0.14	4.7 SP5	PPU 24x.3	
3.0.16	4.7 SP6, HF1, 2		
3.0.18	4.7 SP7, HF1, 3, 4, 5		
3.0.19			
3.0.24			
3.0.26			
3.0.13	4.8 SP4, HF1	PPU 271.4	
3.0.11	4.8 SP4, HF1, 2, 3, 4, 5	PPU 27x.4	
3.0.12	4.8 SP5, HF5, 6	PPU 29x.4	
3.0.13	4.8 SP6, HF1, 2, 3		
3.0.14	4.8 SP7		
3.0.19			
3.0.20			
3.0.21			
3.0.22			
3.0.27			
4.0.17	4.94		
4.0.18	4.95, HF1		
4.0.19	4.95 SP3		
4.0.21			
4.0.22			
4.0.25			
4.0.26			
4.0.27			

### Retrofit

SINUMERIK Integrate Client Version	Operating software HMI Advanced Version	Hardware version	Operating system
4.15.0.13	7.7.1.0 7.7.1.1	IPC 427D	Windows 10

### Controllers from third-party suppliers

Controller name	MA Adapter software version	Machine Agent Core version	Hardware	Remarks
Fanuc	2.0.0-44	From 1.2.0	Oi 31i-B	All systems are supported
Heidenhain	1.0.0	From 1.2.0	iTNC530 TNC128 TNC320 TNC620 TNC640	Cyclic triggers and value-based triggers are supported
Beckhoff	2.0.0-12	From 1.9.2	Twincat3 PLC Twincat3 CNC	Only cyclic triggers are supported
Mitsubishi	2.0.1-2	From 1.11.4	M800W	All functions are supported
OPC UA	1.3.0	From 1.5.7	Controllers that have an OPC UA server license and are installed	Cyclic triggers and value-based triggers are supported
MT Connect	1.0.0	From 1.2.0	MT Connect-compatible controllers	Cyclic triggers and value-based triggers are supported

### SINUMERIK Integrate Gateway

The following SINUMERIK Integrate Client software versions support the Gateway function:

- 04.01.08.01
- 04.01.10.00

### Operator PC

Processor	1 GHz processor
RAM (GB)	4
Free hard disk capacity (GB)	1
Operating systems	Windows 7 SP1 (x64) Professional/Enterprise/Ultimate Windows 10 (x64) Pro/Enterprise
Screen resolution	At least 1980 x 1080 pixels

## Web browser or tablet

You can use the following web browsers:

- Chrome  
Version from 65.0.3325.18 (64 bit) up to the current version
- Firefox  
Version 59.0.2 (64 bit) up to the current version
- Microsoft Edge (Chromium based)  
Version from 85.0.564.51 up to the current version
- Safari for tablets  
iOS and Android systems are supported for the current version and 10 inch tablet size.

---

### Note

Parallel operation with SINUMERIK Integrate applications is not possible

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## Security notes

<b>NOTICE</b>
---------------

<b>Security standards for SINUMERIK controls connected to Insights Hub</b>
--

SINUMERIK controls connected to Insights Hub via TLS 1.2 /https comply with the highest security standards.
---

SINUMERIK versions that do not meet these standards are not part of the product. For these versions, additional security measures must be taken.
--

You are solely responsible for preventing unauthorized access to your plants, systems, machines and network. Systems, machines and components should only be connected to the company's network or the Internet if and to the extent necessary and with appropriate security measures (e.g. use of firewalls and network segmentation) in place.
--

The actions required in this regard are described in the following Configuration Manual: Industrial Security ( <a href="https://support.industry.siemens.com/cs/ww/en/view/108862708">https://support.industry.siemens.com/cs/ww/en/view/108862708</a> ).
---

<b>NOTICE</b>
---------------

<b>Data misuse due to an unprotected Internet connection</b>
--

An unrestricted Internet connection can lead to data misuse, e.g. when transferring asset data.
---

Before establishing a network connection, ensure that your PC is only connected to the Internet via a secure connection. Pay attention to the security-relevant notes.
--

More information about communications security can be found in the Configuration Manual: Industrial Security ( <a href="https://support.industry.siemens.com/cs/ww/en/view/108862708">https://support.industry.siemens.com/cs/ww/en/view/108862708</a> ).
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**Note**

**SINUMERIK control system security**

The necessary security measures (e.g. virus scanner, firewalls, operating system patching) must be implemented on the SINUMERIK controllers.

More information about communications security can be found in the Configuration Manual: Industrial Security (<https://support.industry.siemens.com/cs/ww/en/view/108862708>).

---

**Note**

**Operating PC security**

The security measures required (e.g. virus scanner, firewalls, operating system patching) must be implemented on the PCs that are used to visualize and configure Insights Hub applications at the OEM or end user facility.

More information about PCs in the industrial environment can be found in the Configuration Manual: Industrial Security (<https://support.industry.siemens.com/cs/ww/en/view/108862708>).

---

**Note**

**Data archiving**

When archiving your exported data, observe that you are responsible for ensuring that this data is securely archived.

This also includes the following measures:

- Save exported data to an area with restricted access within the OEM/end customer location. These include, for example, restricted access to SharePoints or databases through user administration with proof of authorization.
  - Protect your encrypted storage locations, such as SharePoints, against manipulation.
  - If absolutely necessary, only store your confidential or security-relevant data encrypted on your PC / systems or the network. Security-relevant data includes sensitive data, such as archives, passwords, or executable files (\*.exe).
  - Regularly back up your security-relevant data and carefully protect it against loss and manipulation.
- 

**Note**

**Transporting data**

Apply the following measures when transporting data:

- If you send confidential and/or security-relevant data by e-mail, always send this e-mail encrypted or signed, especially in the public domain or on the Internet.
- If you wish to transport confidential and/or security-relevant data on a data storage medium (USB flash drive, hard disk, etc.), carefully investigate as to which data storage media are considered secure. These data storage media must be regularly checked for viruses. Always save your data on local data storage media so that the data is encrypted.

These measures are especially important for sensitive data, such as archives, passwords or executable files (\*.exe).

---



## Type of delivery

The updates and more information on the applications and products are stored on PridaNet and can be downloaded directly from there.

- OR -

You can contact your machine manufacturer.

- OR -

You contact Siemens Service and Support.



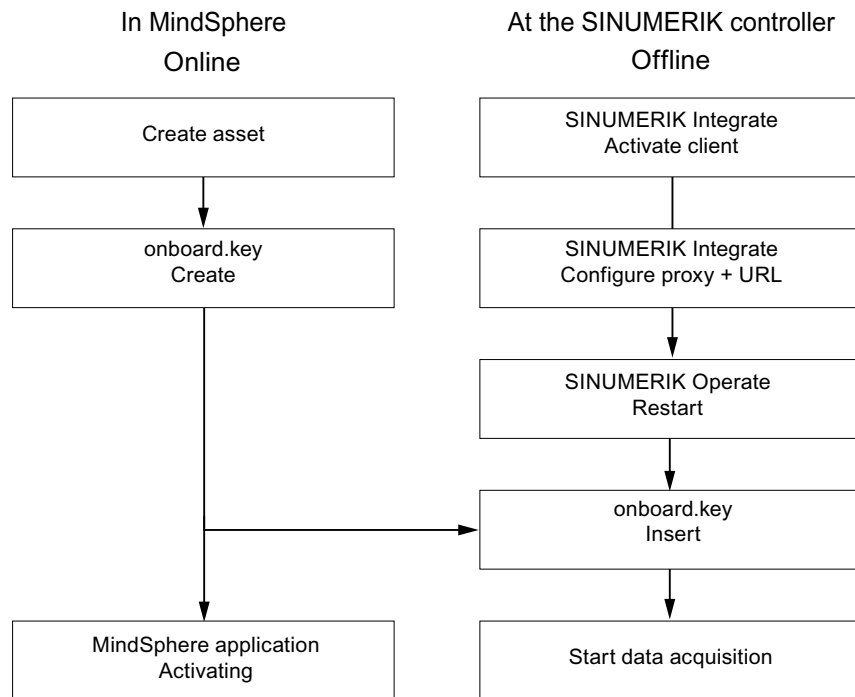
# Setting up the SINUMERIK control system for Manage MyMachines

# 4

## 4.1 Activating the data acquisition

### Overview

To use the Insights Hub application, you must carry out various steps in Insights Hub and on the SINUMERIK control itself.



### Procedure

#### In Insights Hub:

1. Create the desired assets.  
**More information** can be found at: Asset Manager (Page 100)  
**Detailed information** can be found at: Insights Hub - Asset Manager System Manual
2. Create the "onboard.key".  
**More information** can be found at: Connecting controls with Insights Hub (Page 156)
3. Activate the required Insights Hub application.  
**More information** is provided at: Activating Manage MyMachines (Page 112)

#### 4.1 Activating the data acquisition

**At the SINUMERIK control system:**

1. Check the installed version.  
**More information** can be found at: Displaying version data (Page 33)
  - If an appropriate SINUMERIK Integrate version is not installed, then perform a client update.  
**More information** can be found at: Client update under Windows (Page 36)
2. Activate the SINUMERIK Integrate client.  
**More information** can be found at: Activating the SINUMERIK Integrate client (Page 45)
3. Enable the use of SINUMERIK Integrate.  
**More information** can be found at: Activating SINUMERIK Integrate use (Page 46)
4. Configure the URL and proxy.
  - On the SINUMERIK 840D sl control system:  
**More information** can be found at: Configuring the URL and proxy (Page 47)
  - OR -
  - On the SINUMERIK 828D control system:  
**More information** can be found at: Configuring the URL and proxy (Page 55)
5. Restart Windows.
6. Insert "onboard.key".
  - On the SINUMERIK 840D sl control system:  
**More information** can be found at: Install the registration key on a SINUMERIK control system (Page 50)
  - OR -
  - On the SINUMERIK 828D  
**More information** can be found at: Install the registration key on a SINUMERIK control system (Page 58)
7. Start with editing the diagram.

---

**Note**

**File "onboard.key"**

The file "onboard.key" contains security-related information for the one-time connection setup of a SINUMERIK control with Insights Hub and must therefore be stored securely – both on the end device on which the file is temporarily stored, and on the target controller. This connection setup key is only no longer relevant when the connection between the SINUMERIK control system and Insights Hub has been completely established.

This file is then automatically deleted on the SINUMERIK control system.

Secure the end devices used for this accordingly, for example, using antivirus programs, firewalls, OS updates, etc.

---

## 4.2 Checking and updating the versions

### 4.2.1 Displaying version data

In the "Version data" window you can check whether you are using a suitable version.



Only use the versions specified in this document.

Additional information is provided in Chapter: System requirements (Page 23).

The following components with the associated version data are specified:

- CNC software  
Among other things, the SINUMERIK Operate version is displayed in the details.
- PLC basic program
- PLC user program
- System extensions  
Among other things, the SINUMERIK Integrate version is displayed in the details.
- OEM applications
- Hardware

Information is provided in the "Nominal version" column as to whether the versions of the components differ from the version supplied on the CompactFlash card.

Icon	Description
	The version displayed in the "Actual version" column matches the version of the CF card.
	The version displayed in the "Actual version" column does not match the version of the CF card.

### Procedure

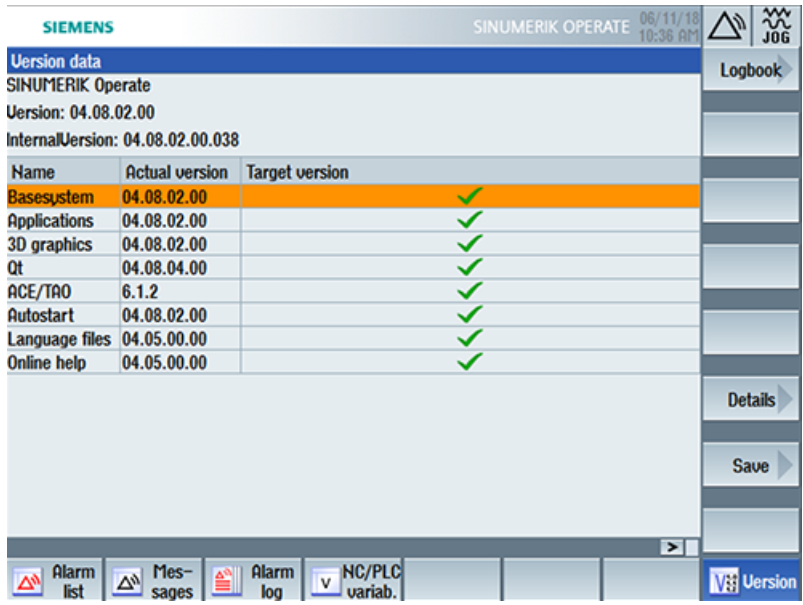


1. Start the SINUMERIK Operate operating software on the SINUMERIK control system.
2. Press the <MENU SELECT> key.
3. Select the "Diagnostics" operating area.
4. Press the "Version" softkey.  
The "Version data" window opens.  
The data of the available components is displayed.
5. Select the component for which you would like more information.

4.2 Checking and updating the versions



6. Press the "Details >" softkey in order to obtain more detailed information on the components displayed.



Start a client update if you have the required SINUMERIK Integrate version on your SINUMERIK control system.

Information is provided in the following chapter as to how you perform a client update:


- Client update under Windows (Page 36)  
- OR -
- Client update under Linux (Page 41)

### 4.2.2 Installing a SINUMERIK 828D update

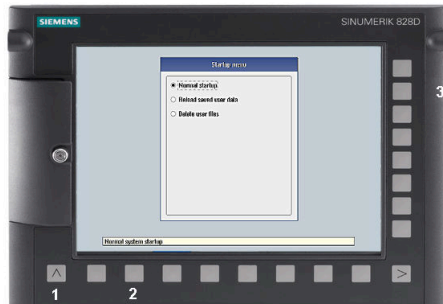
If you are not using a suitable software version on the SINUMERIK 828D control, you must install the required software update/backup.

## Procedure

1. Switch the control on.  
The following is displayed during startup:

 Press **SELECT** key to enter setup menu

2. Press the <SELECT> key within three seconds.  
To call the "Startup menu", press the following keys in succession:  
Menu back key, **HSK2** (horizontal softkey 2), **VSK2** (vertical softkey 2)



### Note

#### PPU with touch operation

To call the "Startup menu" during startup, there is an additional shortcut key for all PPU: **"8"**  
→ **"2"** → **"8"**

3. The "Startup menu" is displayed, "Normal startup" is the default setting.



4. Select the "Install software update/backup" option to install an update on the system CompactFlash card from the user CompactFlash card or USB flash drive.

#### 4.2 Checking and updating the versions

5. The following message is displayed:  
"Do you want to install the software update? Either CF card or USB stick must be plugged in".
6. Insert the USB flash drive into the USB interface on the front of the operator panel. Click on "Yes".
7. Make sure that only individual ".tgz" files are located on the USB flash drive. Press the <INPUT> key to install the required files.
8. The installation preparation and then the installation procedure are shown on the screen.
9. At the end, the following message is displayed: "Restoring complete. Switch off and remove data medium!"  
Switch off the control. Remove the storage medium.

**Further information** on commissioning SINUMERIK 828D can be found in the SINUMERIK 828D Commissioning Manual.

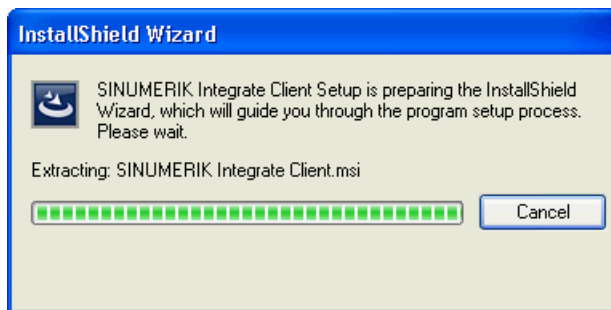
#### 4.2.3 Client update under Windows

##### Requirement

The SINUMERIK Integrate client update required "setup.exe" was transferred into the installation directory.

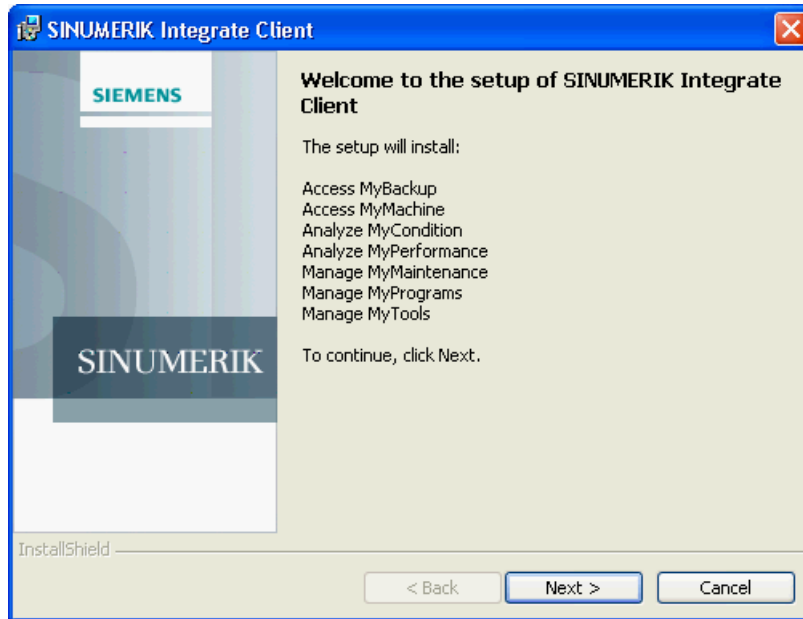
##### Procedure

1. Start the SINUMERIK control system in the Windows service mode.
2. Open the installation directory.
3. Start setup file "setup.exe" with a double-click.  
SINUMERIK Integrate Client - InstallShield Wizard opens.





- The welcome screen opens and shows the applications to which the update applies. Click "Next >" to start the installation preparation.

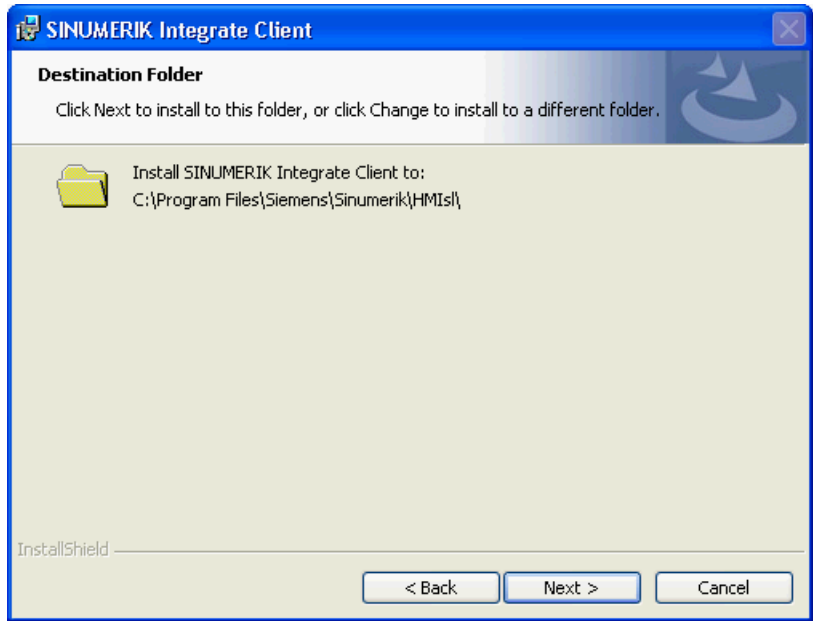


- The "License Agreement" window opens. Read the license agreement.
  - If you want to print the terms, click "Print."
  - Then activate the "I accept the terms in the license agreement" checkbox and click "Next >".
  - OR –
  - Click "< Back" to return to the previous window.

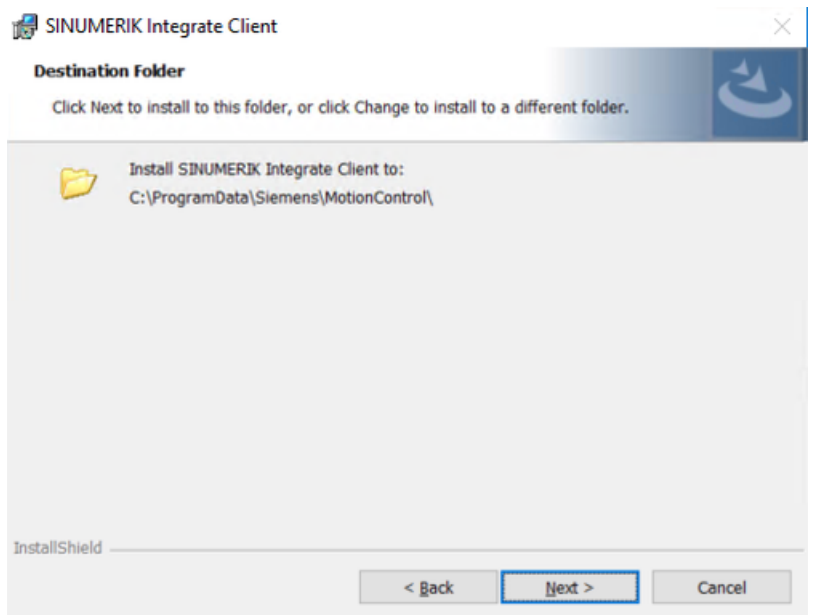


4.2 Checking and updating the versions

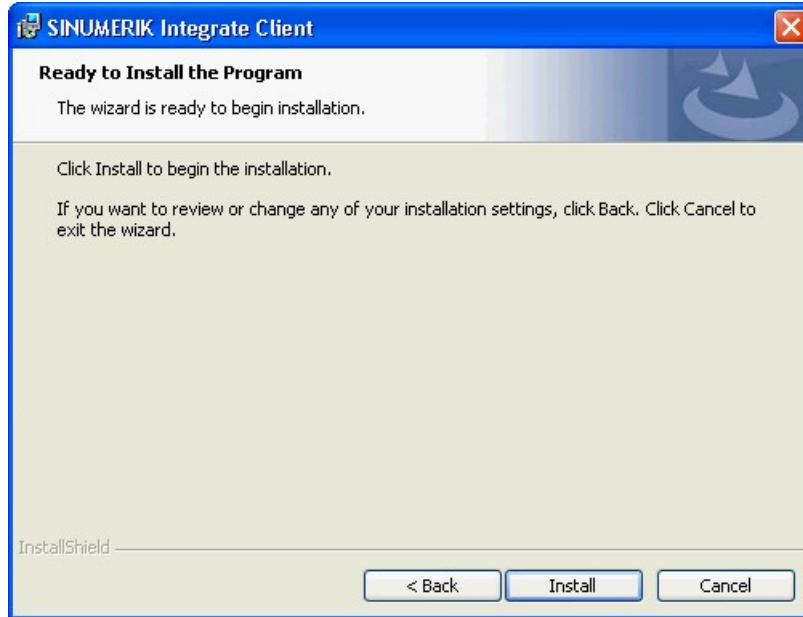
- 6. The next window displays the installation directory for the application. Click "Next >" to accept the directory suggested by the setup.



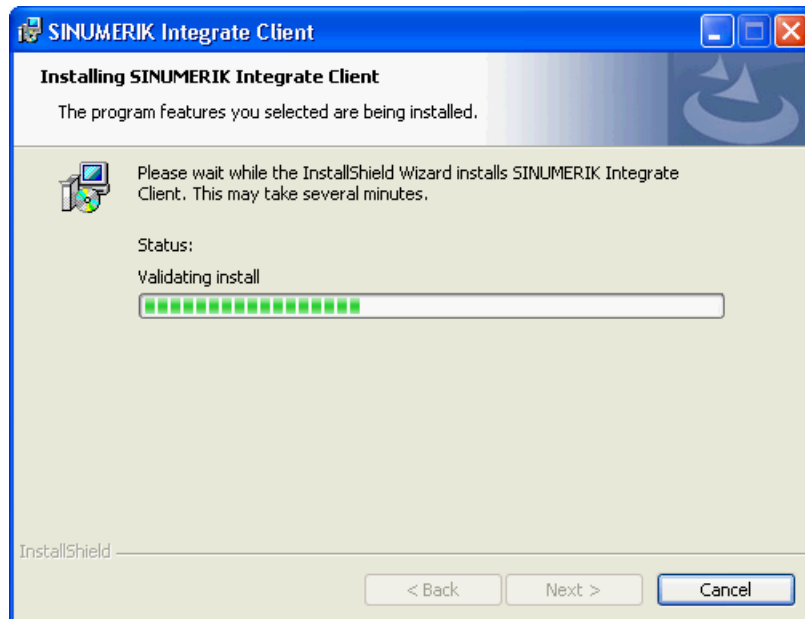
The default path for installing the SINUMERIK Integrate client is identical for SINUMERIK One. The screens displayed are different:



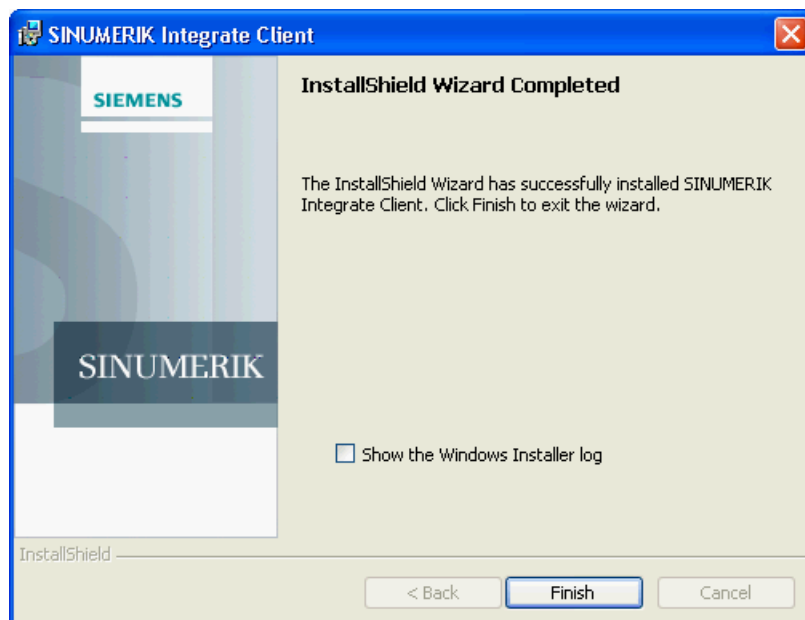
7. The Wizard is ready to start the installation.  
Click "Install" to start the installation.



- The installation is started, and the progress is displayed with a progress bar.



- Click "Finish" to complete the installation.



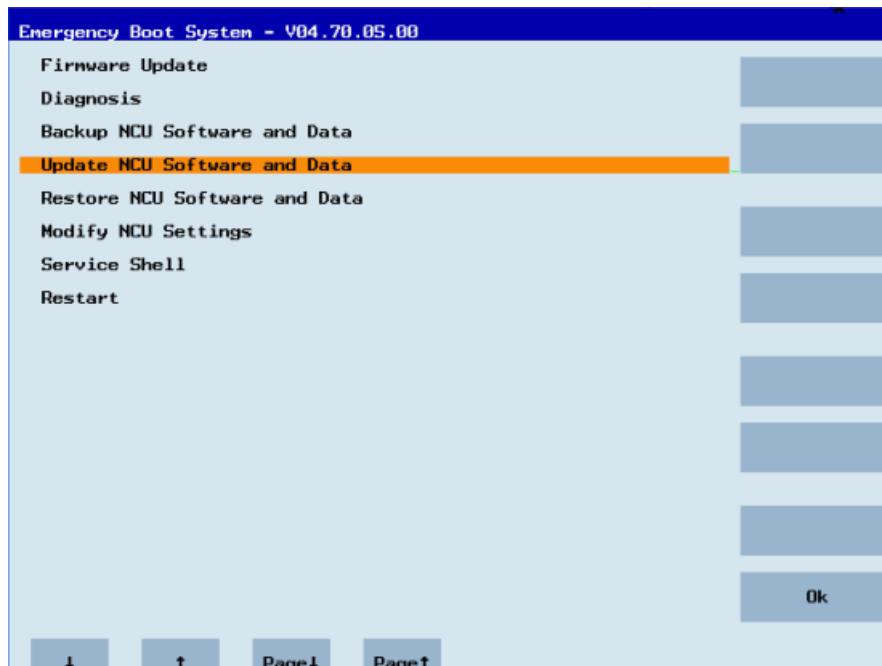
## 4.2.4 Client update under Linux

### Precondition

- Emergency Boot System V04.70.05.00
- SINUMERIK Operate 4.5 SP4  
- OR -
- SINUMERIK Operate 4.7 SP2  
- OR -
- SINUMERIK Operate 4.9x

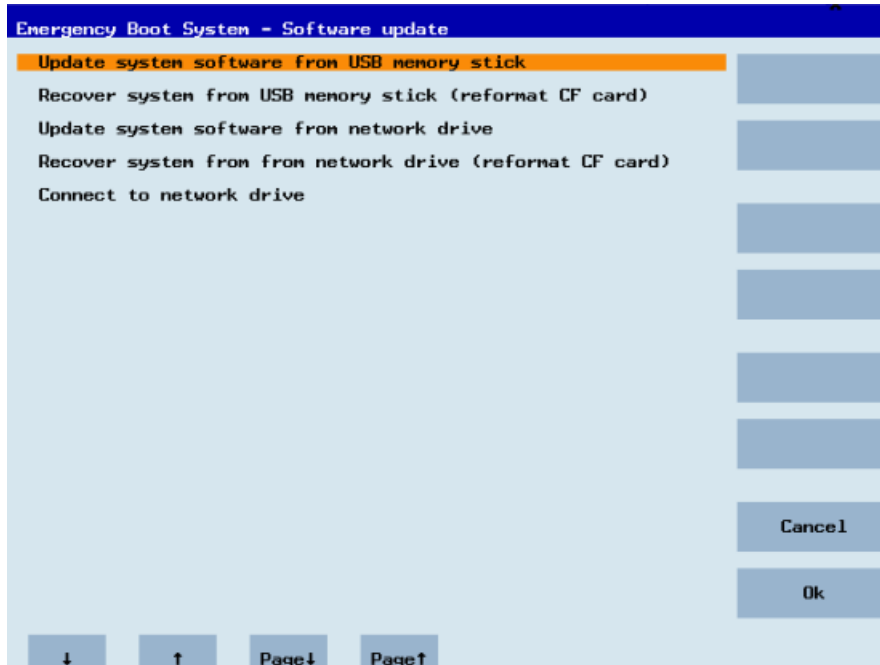
### Procedure

1. Copy the "sinintclient.tgz" file to the USB flash drive.
2. Insert the USB flash drive into the NCU.
3. Start the NCU.
4. In the menu, select "Update NCU Software and Data" with the cursor keys and press the "OK" softkey.

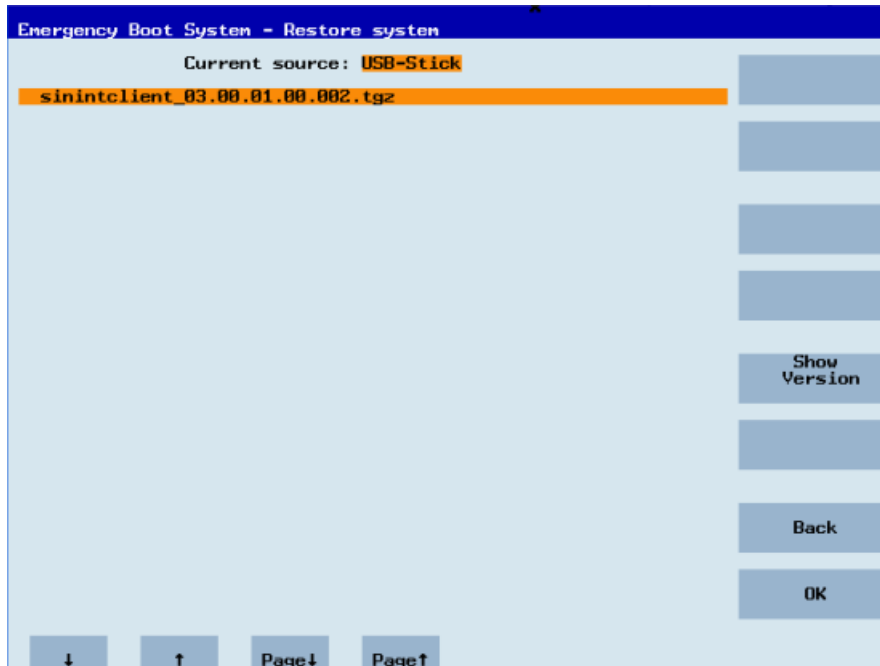


4.2 Checking and updating the versions

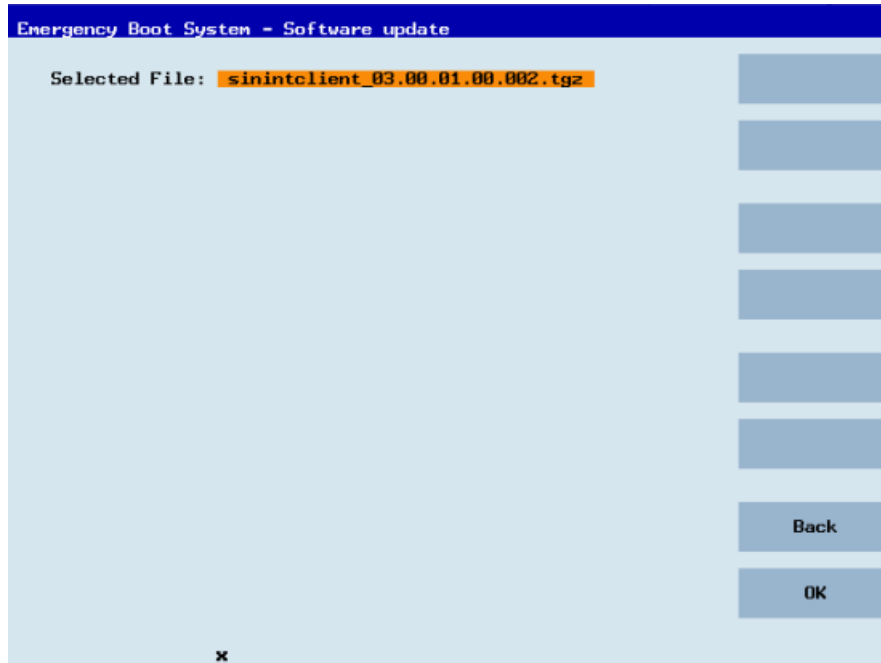
- 5. In the menu, select "Update system software from USB memory stick" with the cursor keys and press the "OK" softkey.



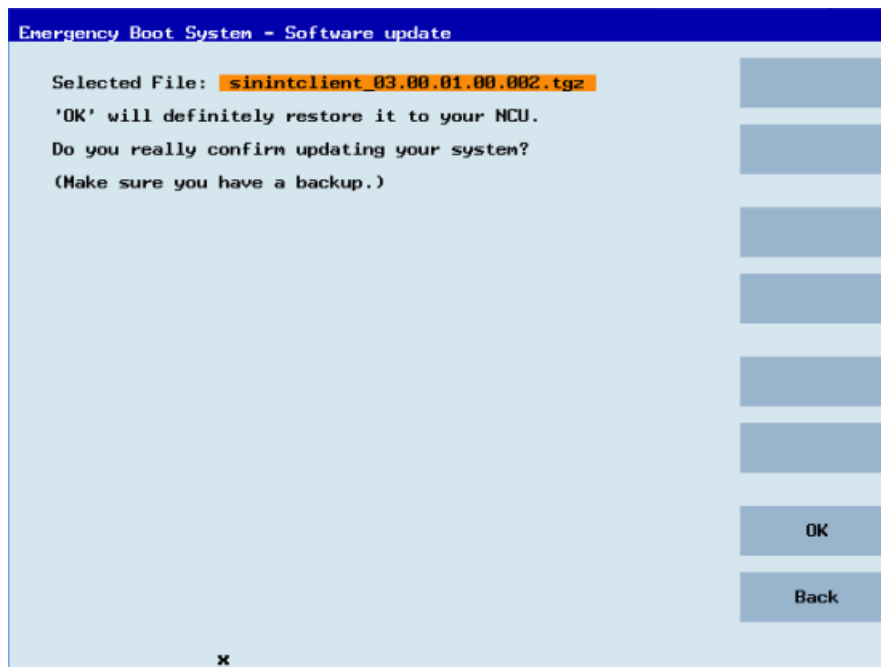
- 6. You receive a list with all tgz files. Select the current file. Press the "OK" softkey to confirm your selection.  
- OR -  
Press the shortcut key <Shift> + <F8> on the operator panel.



7. The selected file is displayed.  
Press the "OK" softkey to confirm your selection.  
- OR -  
Press the shortcut key <Shift> + <F8> on the operator panel.

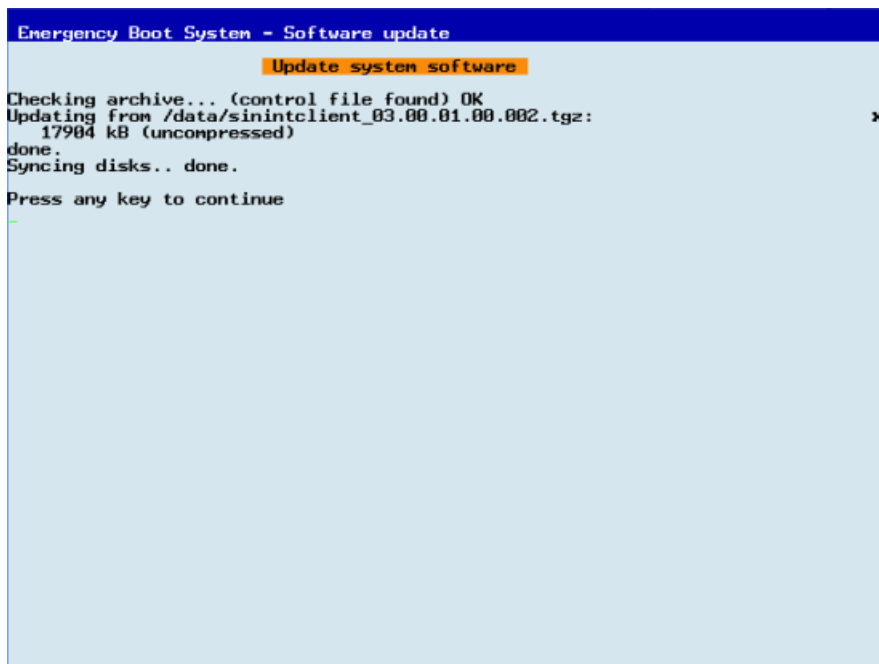


8. A confirmation prompt appears.  
Press the "OK" softkey to confirm the confirmation prompt.  
- OR -  
Press the shortcut key <Shift> + <F7> on the operator panel.

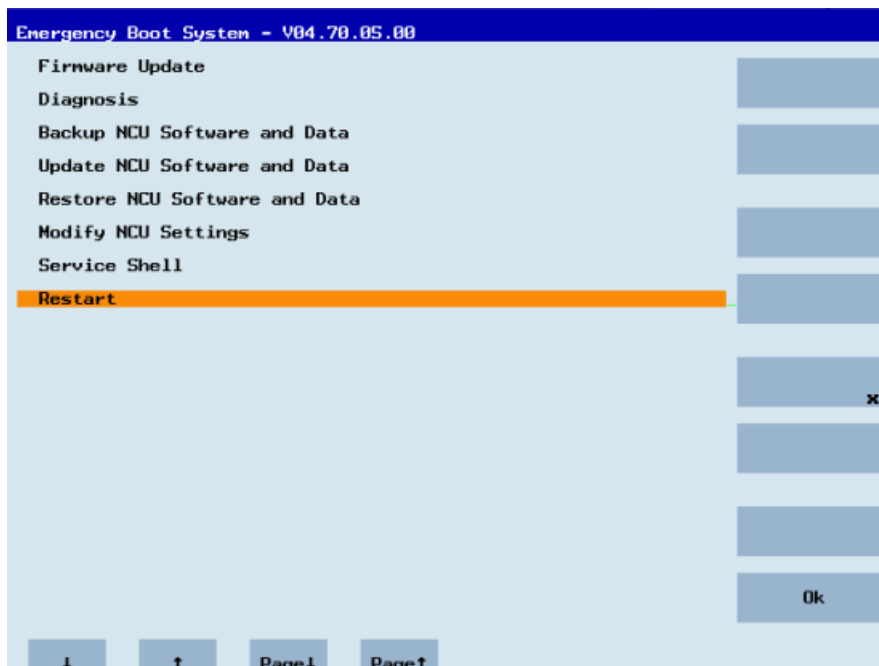


4.2 Checking and updating the versions

9. The installation is started.



10. When the installation has been completed, the following message appears. Remove the USB flash drive. Select "Restart" from the menu and press the "OK" softkey.





## 4.3 SINUMERIK Integrate

### 4.3.1 Activating the SINUMERIK Integrate client

#### Procedure

1. Start the SINUMERIK Operate operating software on the control.
2. Press the "Setup" and "Mach. data" softkeys.
3. Press the "Password" softkey.
4. The "Set password" window opens.
5. Enter the password for "Manufacture" and press the "OK" softkey.
6. Press the menu forward key and the "Display MD" softkey.
  - Set the machine data  
MD9108 \$MM\_SINUMERIK\_INTEGRATE to "1".

Parameter	Value	Unit	Access
9006 \$MM_DISPLAY_SWITCH_OFF_INTERVAL	60 min	po	
9009 \$MM_KEYBOARD_STATE	0	po	
9032 \$MM_HMI_MONITOR	"	po	
9056 \$MM_ALARM_ROTATION_CYCLE	0 ms	po	
9057 \$MM_ENABLE_CHANNEL_MSG_FILTER	1	po	
9100 \$MM_CHANGE_LANGUAGE_MODE	1	im	
9102 \$MM_SHOW_TOOLTIP	1	im	
9103 \$MM_TOOLTIP_TIME_DELAY	1 s	im	
9104 \$MM_ANIMATION_TIME_DELAY	10 s	im	
9105 \$MM_HMI_WIDE_SCREEN	0	po	
9106 \$MM_SERVE_EXTCALL_PROGRAMS	1	po	Reset (po)
9107 \$MM_DRU_DIAG_DO_AND_COMP_NAMES	3H	im	Search
9108 \$MM_SINUMERIK_INTEGRATE	1	im	Filter
9110 \$MM_ACCESS_HMI_EXIT	1	po	
9111 \$MM_HMI_MEM_LIMIT_USER	0	po	
9112 \$MM_HMI_SKIN	1	po	
9900 \$MM_MD_TEXT_SWITCH	0	im	
9990 \$MM_SW_OPTIONS	0H	im	

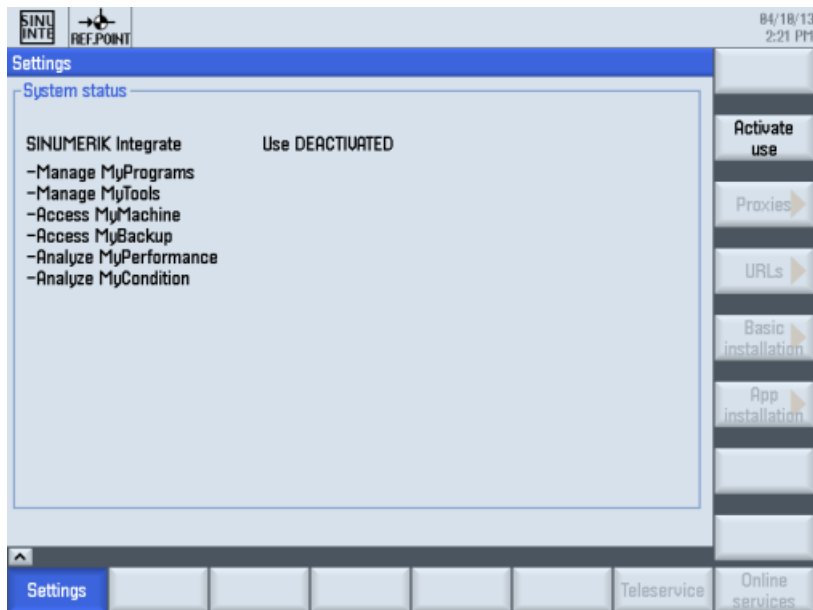
7. Press the <MENU SELECT> key followed by the menu forward key.
8. The "SINUMERIK Integrate" softkey is displayed on the extended horizontal softkey bar.



### 4.3.2 Activating SINUMERIK Integrate use

#### Procedure

1. Press the "SINUMERIK Integrate" softkey.  
The "SINUMERIK Integrate" welcome window opens.
2. Press the "Settings" softkey.  
The "Settings" window opens displaying the system status "Use DEACTIVATED".
  - Press the "Activate use" softkey.



3. The confirmation prompt "Do you want to activate the use of SINUMERIK Integrate applications?" is displayed.
  - Press the "OK" softkey to confirm the prompt.  
The use of SINUMERIK Integrate applications is enabled.

## 4.4 SINUMERIK ONE and SINUMERIK 840D sl

### 4.4.1 Configuring the URL and proxy

---

#### Note

##### Transferring SINUMERIK data to the Insights Hub platform

The following steps allow you to transfer SINUMERIK data to the Insights Hub platform.

By performing the steps described below, in particular through input and confirmation of the Web service URL, processes are performed automatically in which software scripts are loaded to the SINUMERIK control.

---

#### Precondition

The use of SINUMERIK Integrate has been activated.

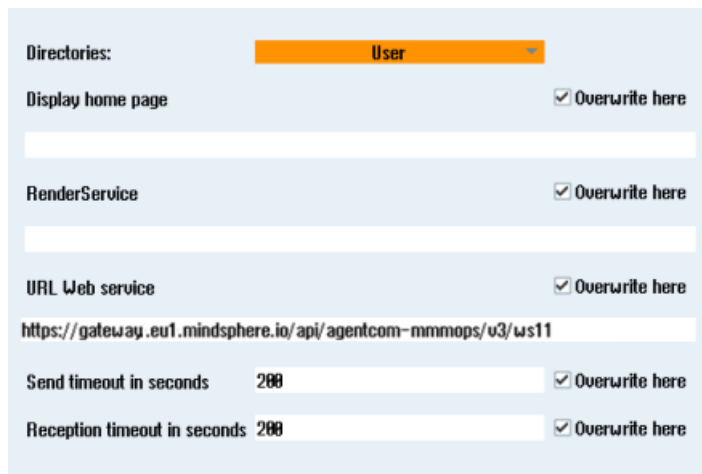
Check whether the Internet connection is available and activated:

- TCU:  
Press "Online Services". The "Login" window is opened.  
If this is not the case, check the connected Internet connection.
- PCU:  
Start the control in service mode, and call up an Internet page using the Web browser, for example, "www.siemens.com".

### Procedure

The "Settings" window is open.

1. Press the "URLs >".
2. Press "Edit" and select the following settings:
  - Directory: Select the "User" entry in the "Directory" drop-down list.
  - Display home page: Select the "Overwrite here" check box.
  - RenderService: Select the "Overwrite here" check box.
  - Web service URL: Select the "Overwrite here" check box.
  - Enter the following web service URL depending on which Insights Hub system you are connected to:  
Insights Hub V3 Livesystem (<https://gateway.eu1.mindsphere.io/api/agentcom-mmmops/v3/ws11>)  
Insights Hub Alibaba (<https://gateway.cn1.mindsphere-in.cn/api/agentcom-dimcopt/v3/ws11>)
  - Enter the required value in the "Transmit timeout in seconds" input field. The default value is 200. Then select the "Overwrite here" check box.
  - Enter the required value in the "Receive timeout in seconds" input field (default value is 200), and select the "Overwrite here" check box.



3. Press "OK".  
A syntax check is performed and the access data is saved.  
Usually, the settings are now complete. If further adaptations need be made within your company network, read the following paragraph:

#### Proxy adaptations (optional)

1. Clarify with your network administrator whether the Proxy settings have to be adjusted for the connection to Cloud mode.  
If this is necessary, proceed as follows:
2. Press "Proxys >".  
The stored settings are displayed.

3. Press "Edit" and then select the following settings:
  - Select the "Use fix proxy" check box.
  - Enter your proxies in the "Proxy 1" to "Proxy 3" input fields.
  - Select the "Overwrite here" check box even if you only enter one proxy in order to accept the new entry.

Directories: **User**

Use system proxy settings  Overwrite here

Automatic  Overwrite here

Use proxy script  Overwrite here

URL (proxy script)

Use fix proxy  Overwrite here

Proxy 1:

Proxy 2:

Proxy 3:

Direct  Overwrite here

4. Press "OK" to save the settings.
5. If authentication is required for the proxy, press "Authorization".
  - Select the "Overwrite here" check box to accept the new entry.
  - Enter the user data in the "Domain", "User name" and "Password" input fields.

Directories: **User**

Overwrite here

Domain:

User name:

Password:

Overwrite here

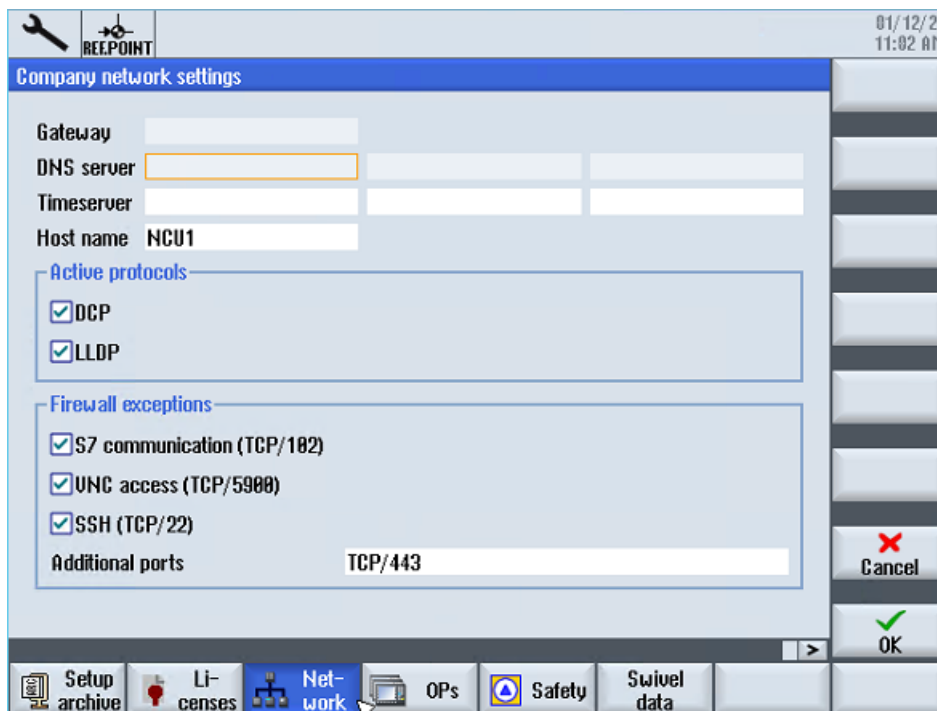
Workstation:

6. Press "OK" to save the settings.
7. Restart the control so that the access data can take effect.

## Additional ports

Activate the port for HTTPS communication to ensure secure data transfer between the user server and the control.

1. Press softkey "Commissioning" > "Network" > "Company network".  
The "Company network settings" window opens.
2. Press "Change" to edit the settings.
3. In the "Firewall exceptions" area, add port "TCP/443" in the "Additional ports" input box.
4. Press "OK".



### 4.4.2 Install the registration key on a SINUMERIK control system

Activating SINUMERIK Integrate generates the setup of the URL/proxy and the restart in the directory of the "boot\_job" folder.

- Operate (PCU): C:\temp\boot\_job
- Operate (NCU): /var/tmp/boot\_job (accessible on the CF card via WinSCP)

The boot\_job folder is created automatically. If the folder was not set up, then check that the device has the correct network connection (e.g. proxy settings, permitted IP list for Insights Hub addresses, etc.).

There are 2 ways to copy the "onboard.key" to the SINUMERIK control system:

- Via the SINUMERIK Operate user interface
- With the aid of WinSCP

## Precondition

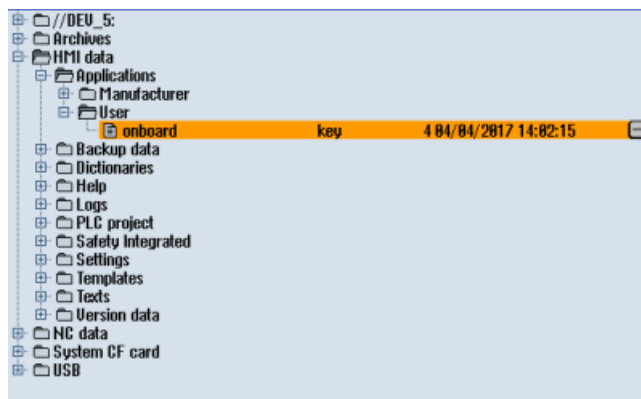
- The "onboard.key" has been generated.
- The "boot\_job" folder is created on the SINUMERIK control system, e.g. at C:\temp
- The time and date on the control system has been synchronized with the current time and date.
- The Internet connection has been checked and is established.

## Procedure with SINUMERIK Operate (PCU 50)

1. Insert the USB flash drive with the "onboard.key" file into the PCU.  
The USB flash drive is shown in the directory tree.
2. Copy the file "onboard.key" into the following directory: C:\temp\boot\_job.
3. Check the PCU configuration.

## Procedure with SINUMERIK Operate (NCU)

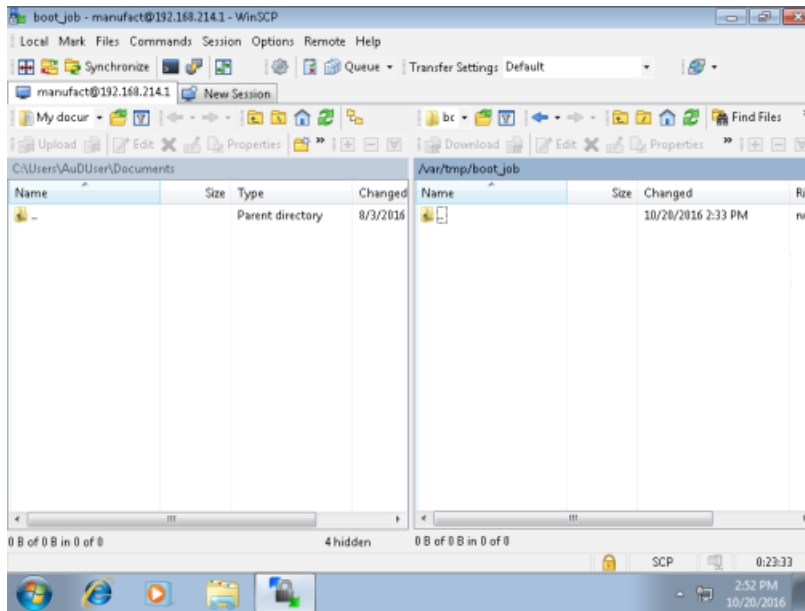
1. At the SINUMERIK control system, start the SINUMERIK Operate operating software.
2. Press "Setup".
3. Press "System data".  
The directory tree is displayed.
4. Insert the USB flash drive with the "onboard.key" file into the NCU.  
The USB flash drive is displayed in the directory tree.  
If the USB flash drive is not detected by SINUMERIK Operate, you must change to a different USB port or configure a logical drive.  
Further information is provided in Chapter: Create drive (Page 53)
5. Select the "onboard.key" and press "Copy".
6. Navigate in the following directory: HMI data\Applications\User and press "Paste".



7. Then restart.

**Procedure with, e.g. WinSCP (NCU)**

1. Copy the generated "onboard.key" file using a suitable tool, e.g. using WinSCP via the network to the control system.
2. Start the SINUMERIK control system and open the directory /var/tmp/boot\_job.



3. Insert the "onboard.key" file in the "boot\_job" directory.
  - If a "cert.key" file exists in the /var/tmp/boot\_job folder, then the control system was already connected to Insights Hub. Delete the complete content of folder "boot\_job" and empty the cache. Then insert the new "onboard.key" file.
  - Alternatively, you can also insert the "onboard.key" file into the following directory: /user/sinumerik/hmi/appl.
4. Then start the SINUMERIK Operate operating software. When the connection to the server is successful, the "cert.key" file is created.
5. The onboarding process is completed. The "onboard.key" is no longer displayed in the directory.

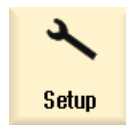


### 4.4.3 Create drive

#### Parameters

Entry		Meaning
Connection	Front	USB interface that is located at the front of the operator panel.
	X203/X204	USB interface X203/X204 that is located at the rear of the operator panel.
	X212/X213	TCU20.2/20.3
Symbolic		Symbolic name of the drive

#### Procedure



1. Select the "Start-up" operating area.



2. Press the "HMI" and "Log. drive" softkeys.  
The "Set up drives" window opens.



3. Select the softkey that you want to configure.



4. To configure softkeys 9 to 16 or softkeys 17 to 24, click the ">> Level" softkey.



5. To allow input fields to be edited, press the "Change" softkey.



6. Select the data for the appropriate drive or enter the required data.
7. Press the "Details" softkey if you want to enter additional parameters.  
Press the "Details" softkey to return to the "Set up drives" window.

4.4 SINUMERIK ONE and SINUMERIK 840D sl



8. Press the "OK" softkey.

The entries are checked.



A window with a prompt opens if the data is incomplete or incorrect. Acknowledge the prompt with the "OK" softkey.

The drive, e.g. "usb-NEU" is shown in the directory tree.



## 4.5 SINUMERIK 828D

### 4.5.1 Configuring the URL and proxy

---

#### Note

#### Transferring SINUMERIK data to the Insights Hub platform

The following steps allow you to transfer SINUMERIK data to the Insights Hub platform.

By performing the steps described below, in particular through input and confirmation of the Web service URL, processes are performed automatically in which software scripts are loaded to the SINUMERIK control.

---

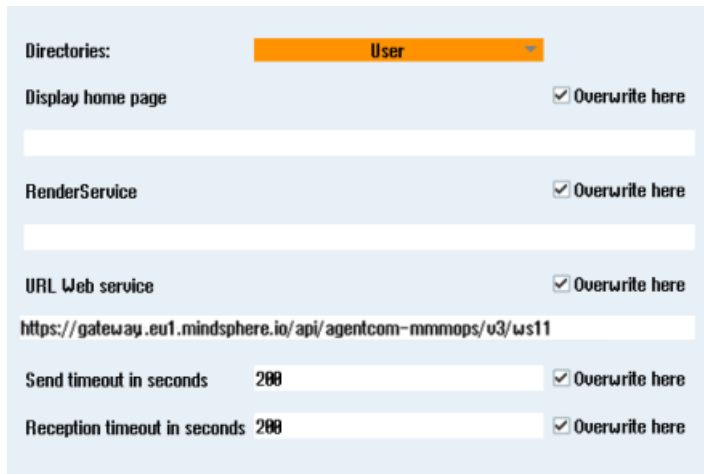
#### Precondition

The use of SINUMERIK Integrate has been activated.

### Procedure

The "Settings" window is open.

1. Press the "URLs >".
2. Press "Edit" and then select the following settings:
  - Directory: Select the "User" entry in the "Directory" drop-down list.
  - Display home page: Select the "Overwrite here" check box.
  - RenderService: Select the "Overwrite here" check box.
  - Web service URL: Select the "Overwrite here" check box.
  - Enter the following web service URL depending on which Insights Hub system you are connected to:  
Insights Hub V3 Livesystem (<https://gateway.eu1.mindsphere.io/api/agentcom-mmmops/v3/ws11>)  
Insights Hub Alibaba (<https://gateway.cn1.mindsphere-in.cn/api/agentcom-dimcopt/v3/ws11>)
  - Enter the required value in the "Transmit timeout in seconds" input field. The default value is 200. Then select the "Overwrite here" check box.
  - Enter the required value in the "Receive timeout in seconds" input field (the default value is 200), and select the "Overwrite here" check box.



3. Press "OK".  
A syntax check is performed and the access data is saved.
4. In order to establish a connection from the customer network, you must adapt the proxy settings.  
Press "Proxys >".  
The stored settings are displayed.

5. Press "Edit" and then select the following settings:
  - Select the "Use fix proxy" check box.
  - Enter your proxies in the "Proxy 1" to "Proxy 3" input fields.
  - Select the "Overwrite here" check box even if you only enter one proxy in order to accept the new entry.

Directories: **User**

Use system proxy settings  Overwrite here

Automatic  Overwrite here

Use proxy script  Overwrite here

URL (proxy script)

Use fix proxy  Overwrite here

Proxy 1: sq4.ocimaws.net:3128

Proxy 2:

Proxy 3:

Direct  Overwrite here

6. Press "OK" to save the settings.
7. If authentication is required for the proxy, press "Authorization".
  - Select the "Overwrite here" check box to accept the new entry.
  - Enter the user data in the "Domain", "User name" and "Password" input fields.

Directories: **User**

Overwrite here

Domain:

User name: mtaproxy

Password:

Workstation:

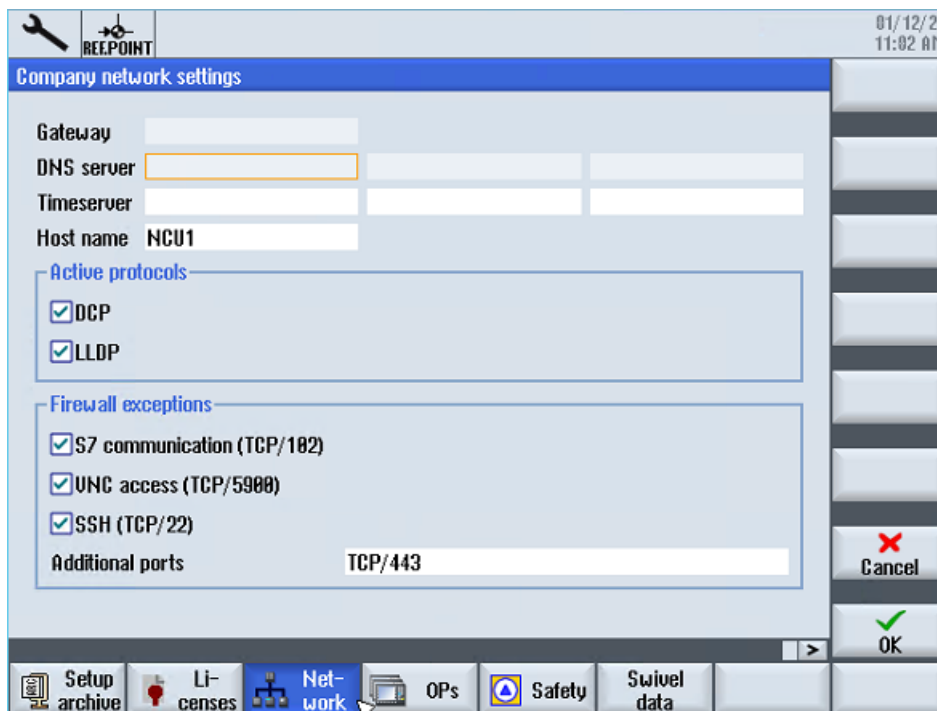
Overwrite here

8. Press "OK" to save the settings.
9. Restart the control so that the access data can take effect.

### Additional ports

Activate the port for HTTPS communication to ensure secure data transfer between the user server and the control.

1. Press "Commissioning" > "Network" > "Company network".  
The "Company network settings" window opens.
2. Press "Change" to edit the settings.
3. In the "Firewall exceptions" area, add port "TCP/443" in the "Additional ports" input box.
4. Press "OK".



### 4.5.2 Install the registration key on a SINUMERIK control system

The activation of SINUMERIK Integrate, the setting up of the URL/proxy and the restart creates the "boot\_job" folder in the /var/tmp/ directory.

The boot\_job folder is created automatically. If the folder was not set up, then check that the device has the correct network connection (e.g. proxy settings, permitted IP list for Insights Hub addresses, etc.).

Copy the "onboard.key" to the SINUMERIK control system, e.g. using WinSCP.

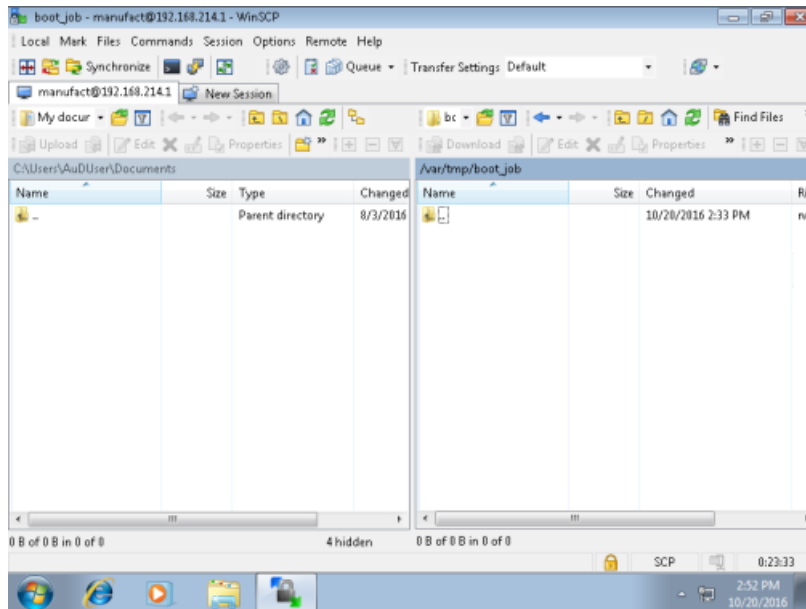
#### Precondition

- The "onboard.key" has been generated.
- The "boot\_job" folder is created on the SINUMERIK control system, e.g. at C:\tmp

- The time and date on the control system has been synchronized with the current time and date.
- The Internet connection has been checked and is established.

## Procedure

1. Copy the generated "onboard.key" file using WinSCP for example via the network to the SINUMERIK control system.
2. Start the SINUMERIK control system and open the directory, e.g. /var/tmp/boot\_job. If the "boot\_job" folder does not exist, then create the folder manually.



3. Open folder "boot\_job" and insert file "onboard.key".
  - If a "cert.key" file exists in the /var/tmp/boot\_job folder, then the control system was already connected to Insights Hub. Delete the complete content of folder "boot\_job" and empty the cache. Then insert the new "onboard.key" file.
4. Then start the SINUMERIK Operate operating software. When the connection to the server has been successfully established, then the "cert.key" file is created.
5. The onboarding is completed and the "onboard.key" is no longer displayed in the directory.

## 4.6 Adapting SINUMERIK Operate

### 4.6.1 Exchanging a certificate (optional)

In order to achieve comprehensive security, it is necessary to update the certificate "cacert.pem". The following manual steps are required for this purpose.

---

#### Note

##### **Manage MyMachines and Manage MyMachines /Remote**

On SINUMERIK devices with Integrate Clients, versions exists with expired QuoVadis intermediate certificate signatures. This certificate expired on November 06, 2022. Checking the validity of this certificate leads to an immediate connection abort or failure of onboarding in the SINUMERIK Integrate Client. This prevents remote access sessions from occurring.

Due to the expiry of the QuoVadis Global SSL ICA G3 certificate, the connection to the machine is terminated if the following SINUMERIK Integrate Client versions are involved:

- 02.00.19 / 02.00.20 / 02.00.21
- 03.00.19 / 03.00.20 / 03.00.21
- 04.00.19 / 04.00.20 / 04.00.21

This only applies to the SINUMERIK ONE, SINUMERIK 840D sl, and SINUMERIK 828D Operate controls.

The SINUMERIK 840 D PL is not affected.

---

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#### Note

##### **SINUMERIK Integrate clients: previous versions**

For previous versions, the certificate in the cacerts.pem file is still valid. No update is required for these clients.

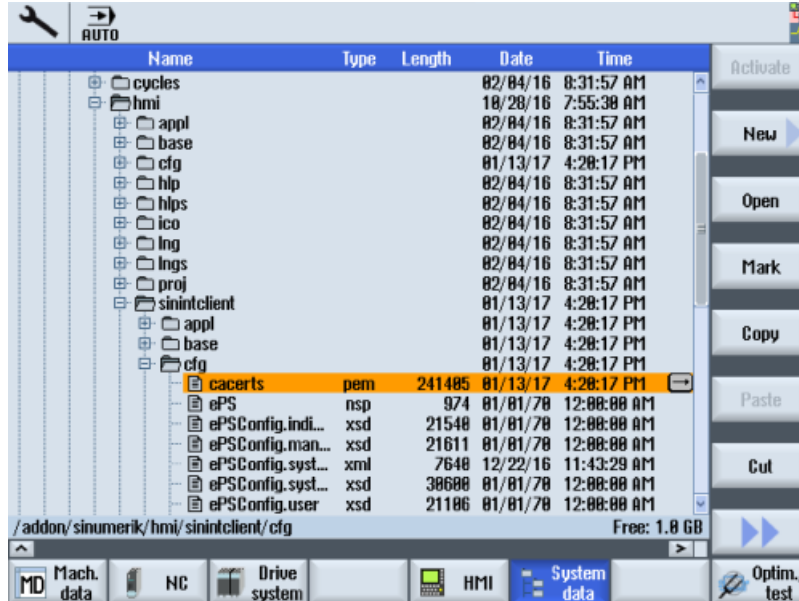
Please check the SINUMERIK Integrate Client version before performing a certificate update.

---

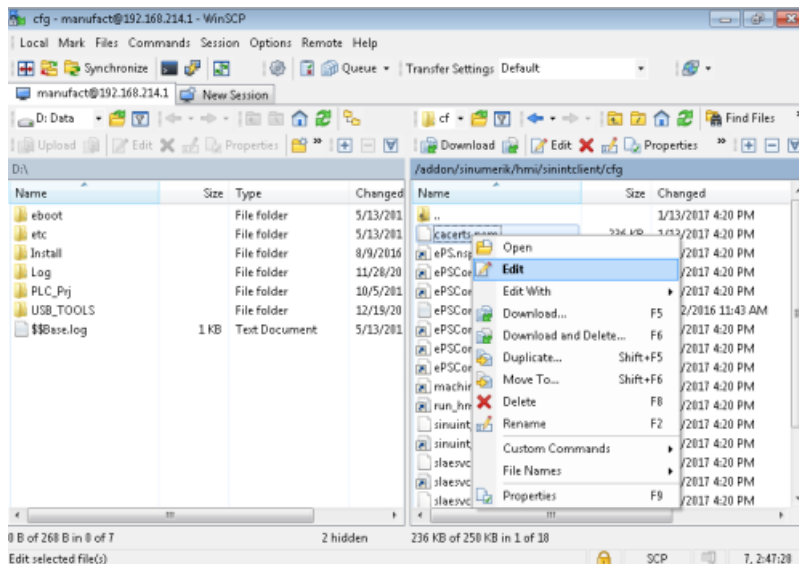


## SINUMERIK Operate with SINUMERIK Integrate client under Linux

1. Open the directory: card/addon/sinumerik/hmi/sinintclient/cfg
2. Select "cacerts.pem".

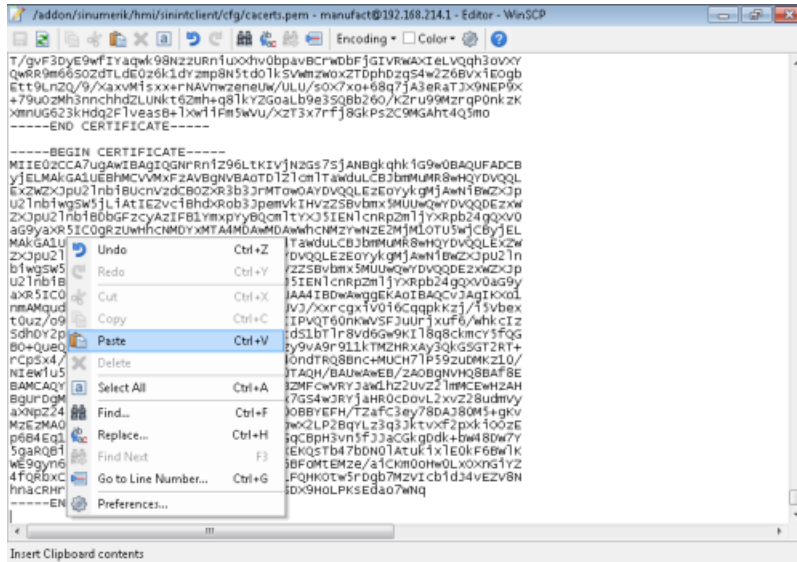


3. Use WinSCP, for example, to open "cacerts.pem" in the editor.



4.6 Adapting SINUMERIK Operate

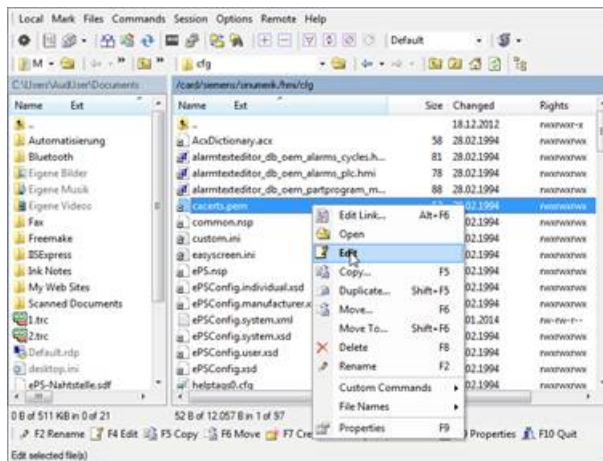
4. Insert the content of "Customer Root CA" at the end of "cacerts.pem".



5. Close the file to save the certificate.
6. Perform a restart.

SINUMERIK Operate under Windows

1. Open the "Customer Root CA" file in the editor and copy the entire content to the clipboard.
2. Use WinSCP, for example, to open "cacerts.pem" in the editor.  
C:\ProgramData\Siemens\MotionControl\addon\sinumerik\hmi\sinintclient\cfg\cacerts.pem





#### 4.6 Adapting SINUMERIK Operate

4. Make the following setting:

```
<logging>  
<separateScriptLog active="1">1</separateScriptLog>  
<scriptLogPath active="1">/var/tmp/scriptLog</scriptLogPath>  
<scriptLogSeverity active="1">8</scriptLogSeverity>  
<uiScriptLogSeverity active="0">2</uiScriptLogSeverity>  
<maxScriptLogSize active="1">10000</maxScriptLogSize>  
<maxLogLifeTimeDays active="0">30</maxLogLifeTimeDays>  
</logging>
```

5. Restart the SINUMERIK control system and have the log files sent to you.

## 4.7 Setting the action log

In the "Action log Settings" window you can specify whether the operating sequences are to be logged.

Here, you select which control actions should be logged, so that operating sequences can be tracked and understood at a later date.

---

### Note

#### No liability

Siemens accepts no responsibility for the completeness of the action log data or for any subsequent data manipulation.

---

When the action log is active, you can display recorded traces in the system data using the following files:

- "actual\_actionlog.com", actual action log report
- "actual\_crashlog.com", crashlog backup

### Data that can be logged

Parameter	Description
Logging on	Logging is activated or deactivated.
Logged data:	
Alarm status change	Incoming and outgoing alarms are logged.
Keyboard actions	All actions on the operator panel front and on an external keyboard are logged.
Channel status change	NC/PLC states are logged via the information channel status. If this information can be obtained in a timely manner, in many cases these states can be used to verify the operation of the machine control panel.
Window switchover	The form and dialog names (assigned by the programmer) are logged each time a window is opened or closed.
Writing NCK/PLC data	The writing of NCK and PLC variables is logged.
File access	Copying to the NC is logged.
Function calls in the NCK (PI service)	Some program calls, for example, ASUB, are logged.
Curr. program status	Additional information for particular events is activated. For important alarms that require NC stop, NC start, or NC reset, actual values and the current block are recorded, for example.  The program ascertains which channel and which spindle are used for the additional information.

4.7 Setting the action log

Parameter	Description
Write interval for file:	Settings for updating files: <ul style="list-style-type: none"> <li>"automatic": The action log saves the information to an internal buffer. If the buffer is full, the entries are written to the CF card. The entries may be lost when the control is switched off.</li> <li>"after every event": All entries are backed up immediately, thus preventing data loss due to a power failure or similar. Notice: As CF cards only permit a limited number of write accesses, this setting is not recommended for normal operation.</li> <li>"time-controlled": New entries are backed-up for a defined length of time. An additional input field appears in which you can specify a period in seconds.</li> </ul>
Save log as file for alarm(s)	The alarm numbers for which a "crash log" is generated are specified. The alarms are entered separated by a comma.

Procedure



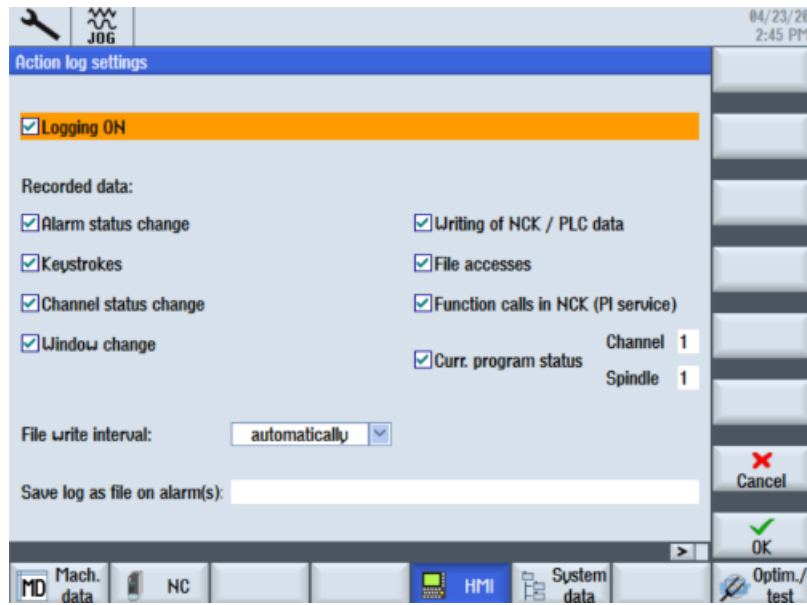
1. Select the "Setup" operating area.



2. Press the "HMI", "Diagnostics", and "Action log" softkeys  
The "Action log" window appears.



3. Activate the "Logging on" checkbox to activate the action log.  
4. Check the relevant checkbox if you want to acquire particular events in the action log.

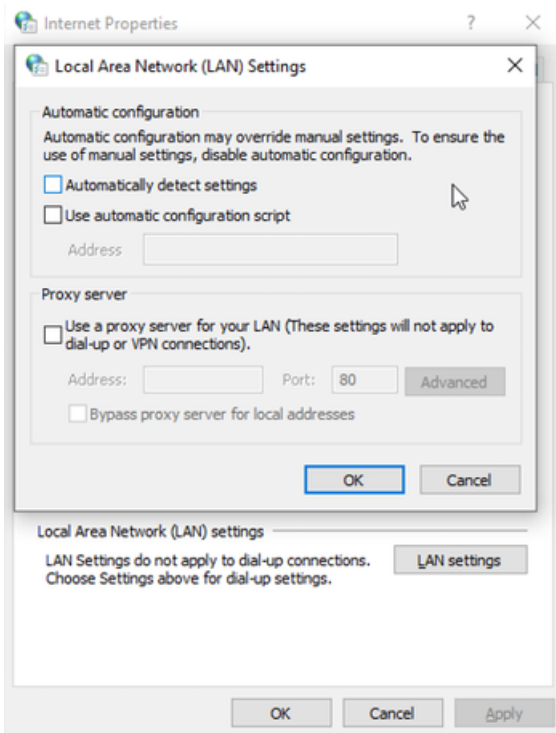


## 4.8 PCU retrofit

### Precondition

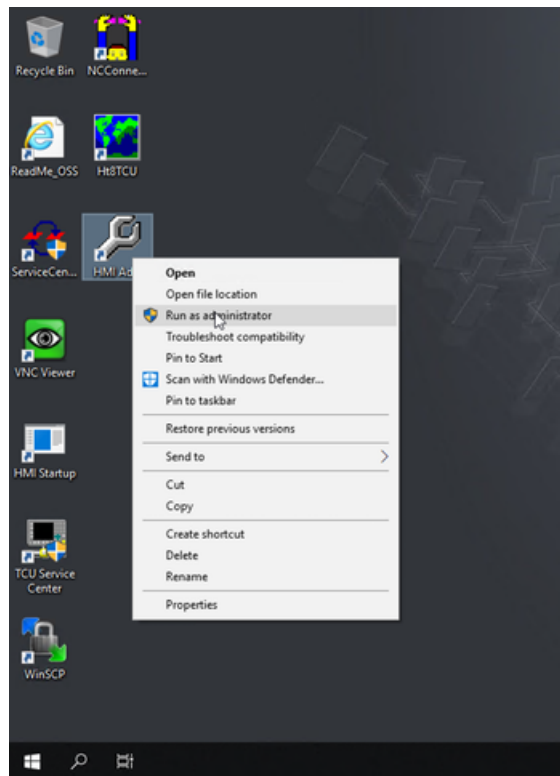
HMI-Advanced V7.7 is installed. More information about the installation is provided in the Commissioning Manual SINUMERIK 840D PCU Retrofit.

When configuring the "Local Area Network (LAN) Settings", "Automatically detect setting" should be disabled.



HMI-Advanced must be started as administrator:





## Setting up SINUMERIK Integrate Client for PCU Retrofit

1. Install the current SINUMERIK Integrate Client. More information is provided in the Installation Manual SINUMERIK Integrate 5, Manage MyResources, Optimize MyProgramming /NX-Cam Editor, Analyze MyPerformance /OEE.
2. Open the following file: F:\add\_on\MH\settings.ini
  - Change the following entry:
 

```
[APP]
ACCESSTYPE ="DDE"
```
  - Save and close the file.
3. Open the following file: F:\add\_on\regie.ini
  - Change the following entry:
 

```
[StartupConfiguration]
Startup42 = name := oemframe, cmdline := "cmd.exe /c F:\add_on\MH\
\MhDdeService.exe"
Startup43 = name := oemframe, cmdline := "cmd.exe /c F:\add_on\MH\
\MachineHandler.exe"
```
  - Save and close the file.
4. Create and connect the machine with Insights Hub. More information is provided in Chapters:
  - Setting up the SINUMERIK control system for Manage MyMachines (Page 31)
  - Connecting controls with Insights Hub (Page 156)



# Integrating Insights Hub

## 5.1 Activating data acquisition with Machine Agent

### Overview

To be able to use Insights Hub, several different steps must be made in Insights Hub and in the Machine Agent software.

### Procedure in Insights Hub

1. Install the latest version of the Machine Agent Management app.
2. Create the required assets.  
For more information: Asset Manager (Page 100) or in the Insights Hub - Asset Manager System instructions.
3. Generate the "Onboard Key"  
For more information: Activating Manage MyMachines (Page 112)
4. Activate the required "Manage MyMachines for Industrial Operations X Cloud".  
For more information: Overview (Page 193)

### Procedure for the Machine Agent software

1. Check the network settings and the configuration of the machine IP.  
For Internet access: Connect port x1P1 with the PC/IPC.  
For the connection between the machine and Machine Agent: For Fanuc, use port 8193 to connect with the PC/IPC.
2. Install the Machine Agent Launcher on your PC/IPC.  
More information is provided in the installation instructions of the Machine Agent software.
3. Check the Machine Agent folder.  
Check that the "commands" folder exists on your PC/IPC.  
Enter the Ethernet settings of your machine system/Ethernet/IP.

5.1 Activating data acquisition with Machine Agent

4. Enter the onboard Key "commands" folder of your PC/IPC.
  5. Start the Machine Agent Launcher from your PC/IPC.
- 

**Note**

**"Onboard key" file**

The "onboard key" file contains security-relevant information for a one-time connection between a SINUMERIK control system and Insights Hub, and must therefore be securely saved on the end device AND the target control system. The setup key is no longer required only after the connection between the SINUMERIK control system and Insights Hub has been fully established.

The SINUMERIK control system then automatically deletes the file.  
Install antivirus programs, firewalls etc. on the end devices that you are using, etc.

---

## 5.2 Logging in to Insights Hub

### Precondition

You require a MindAccess user account in Insights Hub.

**More information** on creating an account can be found at:

- "Insights Hub - Settings System Manual"
- "Insights Hub - Asset Manager System Manual"

### Procedure

1. Click the link provided by email from Siemens AG.  
The website is displayed: `https://<tenant-Name>.eu1.mindsphere.io`  
The "Sign In" window opens.
2. Enter your e-mail address and your password.
3. Click on "Sign In".

**SIEMENS**

Sign In  
or [create an account](#)

---

Sign In has changed. If you previously signed in with a username, please use your email. [Need help?](#)

Email

Password [Show](#)

[Forgot your password?](#)

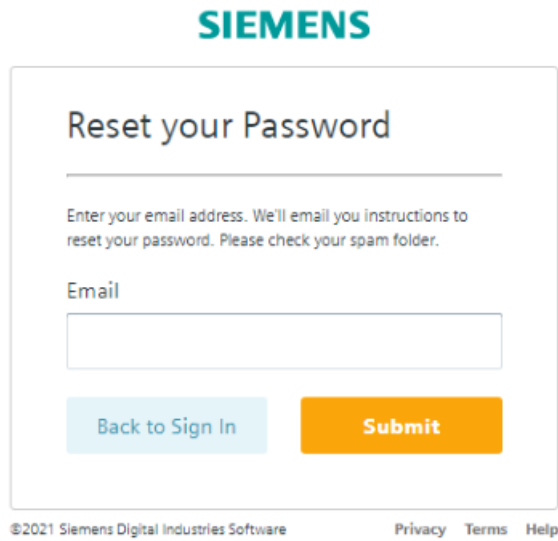
**Sign In**

©2021 Siemens Digital Industries Software [Privacy](#) [Terms](#) [Help](#)

- OR -

If you have forgotten your password, click "Forgot Password?".  
The "Reset your Password" window opens.  
Enter your e-mail address and click the "Submit" button.  
Your password is reset and you are informed of this via e-mail.

4. Click on "Back to Sign In".



5. The launch pad opens. You can access the individual applications via this user interface.



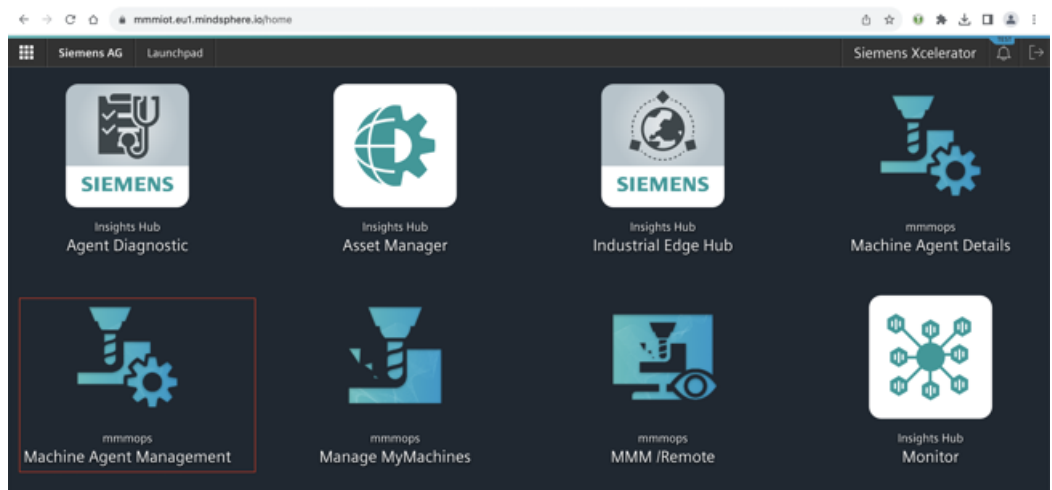
## 5.3 Using the Machine Agent

### 5.3.1 Installing the machine agent

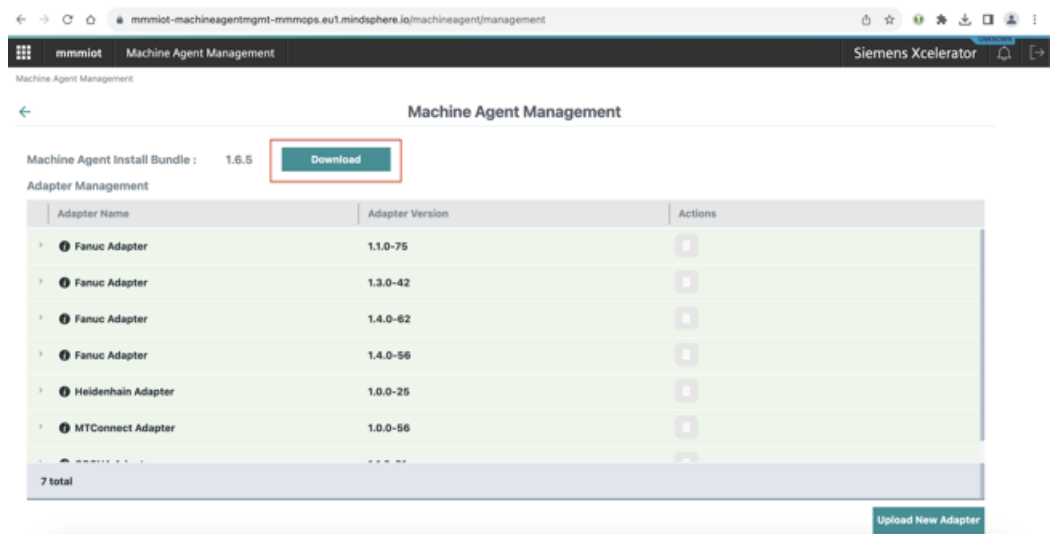
Using machine agents, you have the option of connecting other controls (not SINUMERIK controls) with Insights Hub.

#### Procedure

1. Install the "MachineAgentLauncher" on your IPC.  
Click on the Machine Agent Management App.



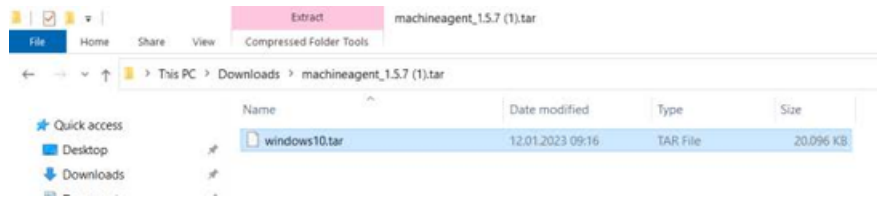
2. Download the Machine Agent.



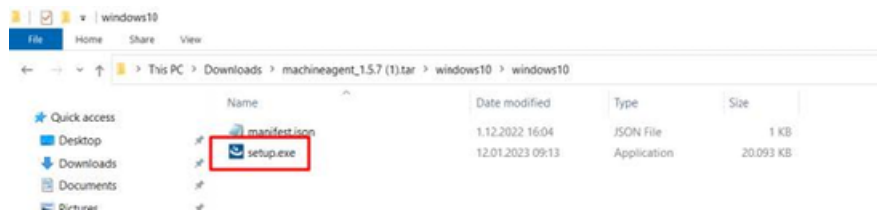
A ZIP folder is created after a successful download.



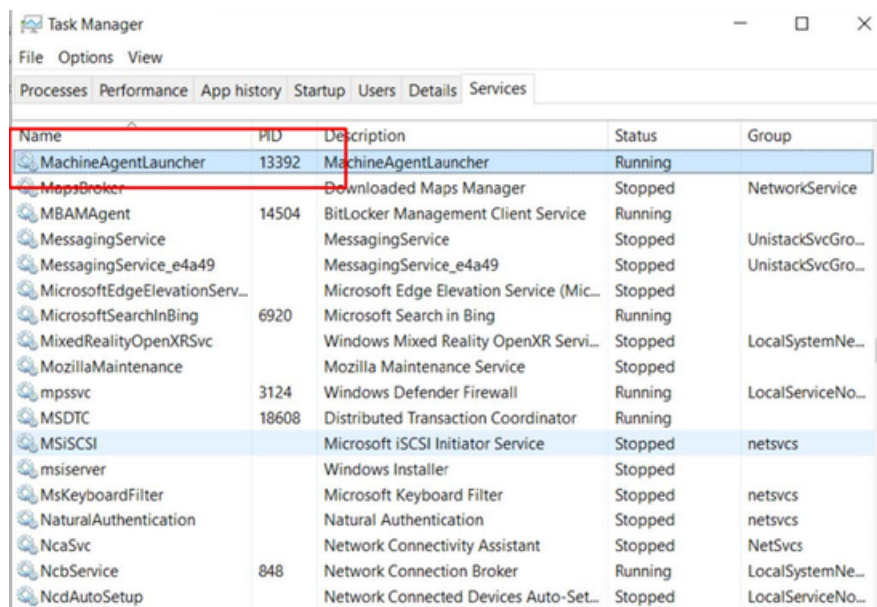
3. Unzip the ZIP folder.



4. Install the .exe file.

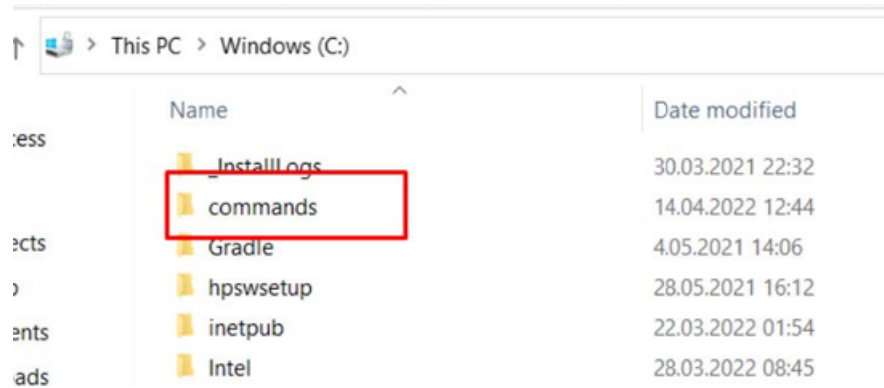


The Machine Agent has been installed on your PC:



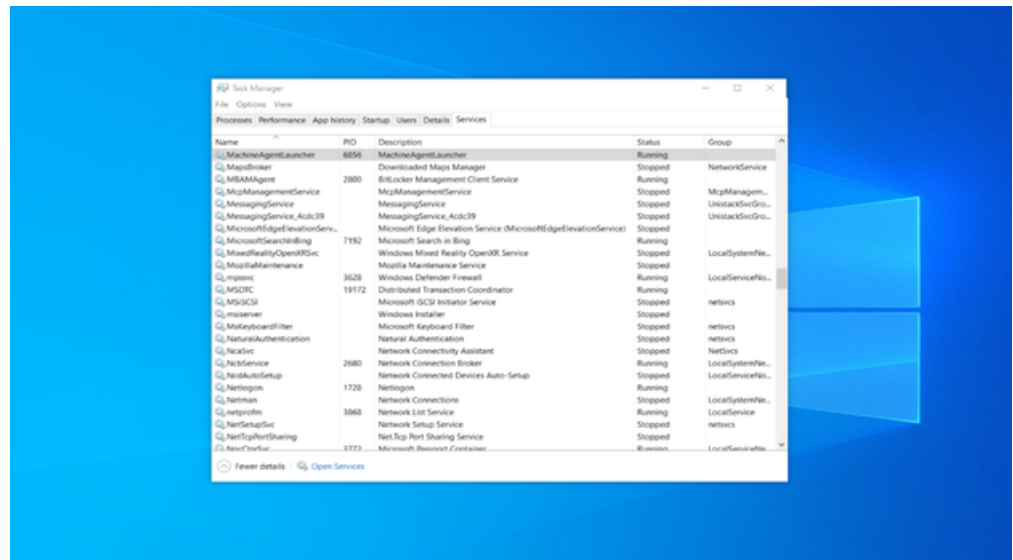


5. Create a folder "commands" in your temporary C:\directory.



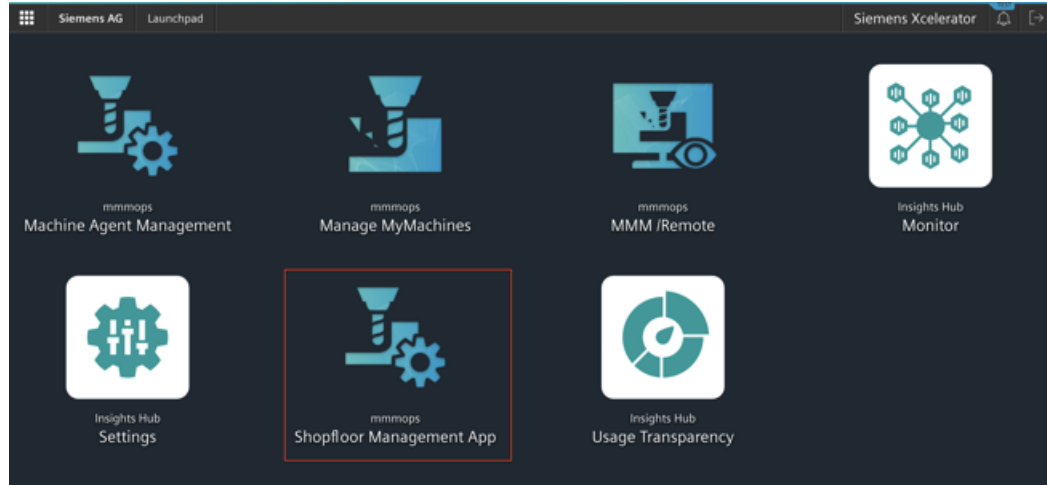
Check the "Machine Agent Core installation" on the IPC:

- Open the task manager
- Switch to the Service tab
- Find the "MachineAgentLauncher"
- Check whether the "MachineAgentLauncher" is active and is running.

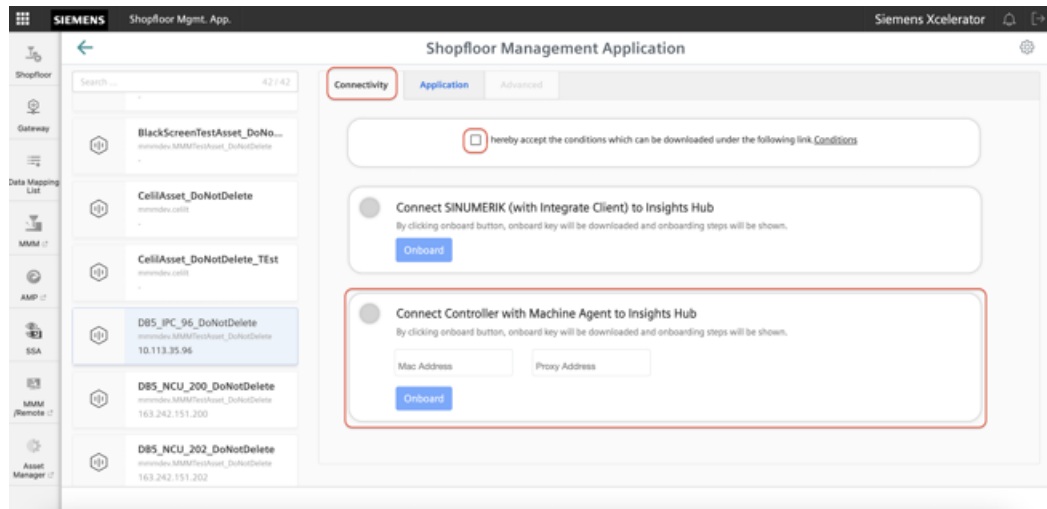


6. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Asset Manager" and create an asset.  
Further information is provided in Chapter: Asset Manager (Page 100)

- In the launch pad, open Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App" and connect the control with Insights Hub. Further information is provided in Chapter: Connecting controls with Insights Hub (Page 156)

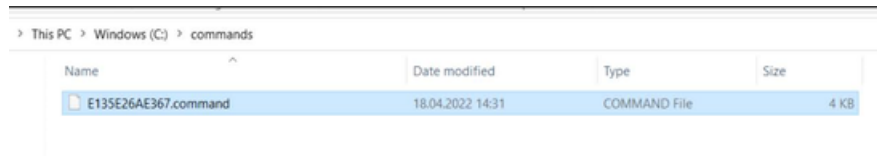


- Select the required assets in the left-hand side of the window. To filter the assets, use the search function and open "Connectivity".
- Enter the Mac address and the proxy value into the associated input fields and click on "Connect Controller with Machine Agent to Insights Hub".

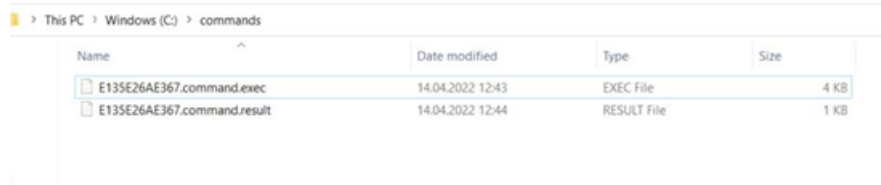


The onboard key is downloaded.+

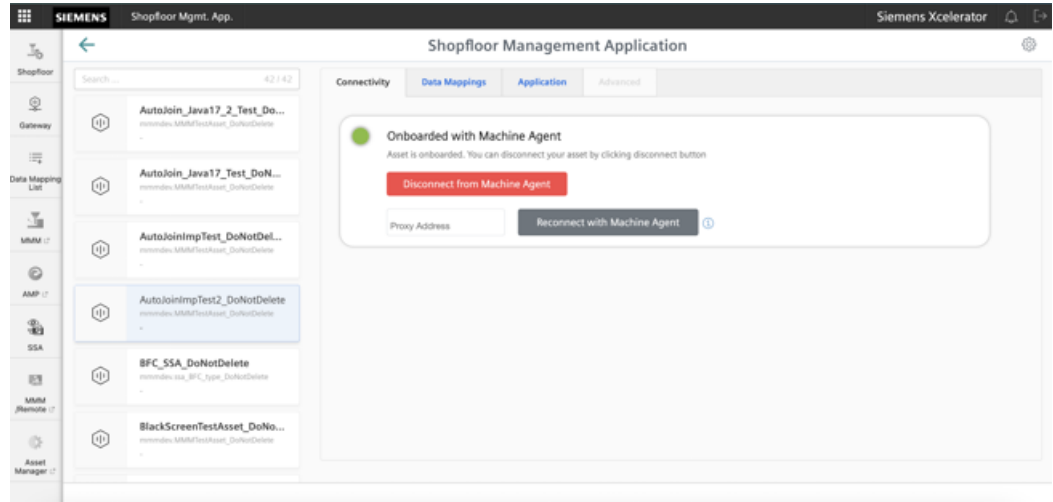
- Enter the key into the commands folder in your temporary C:\directory. The commands folder must be empty. Any file located in it must be deleted.



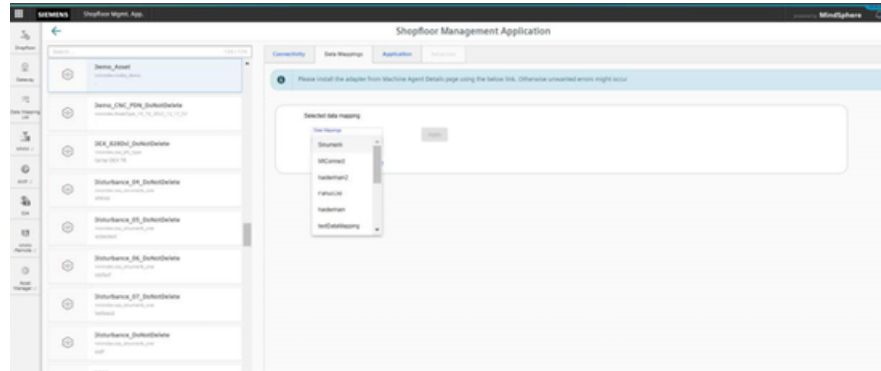
11. Wait a short time until the .exe file and the .result file are displayed.



12. Reload the Shopfloor Management app to check whether the onboard status has changed.

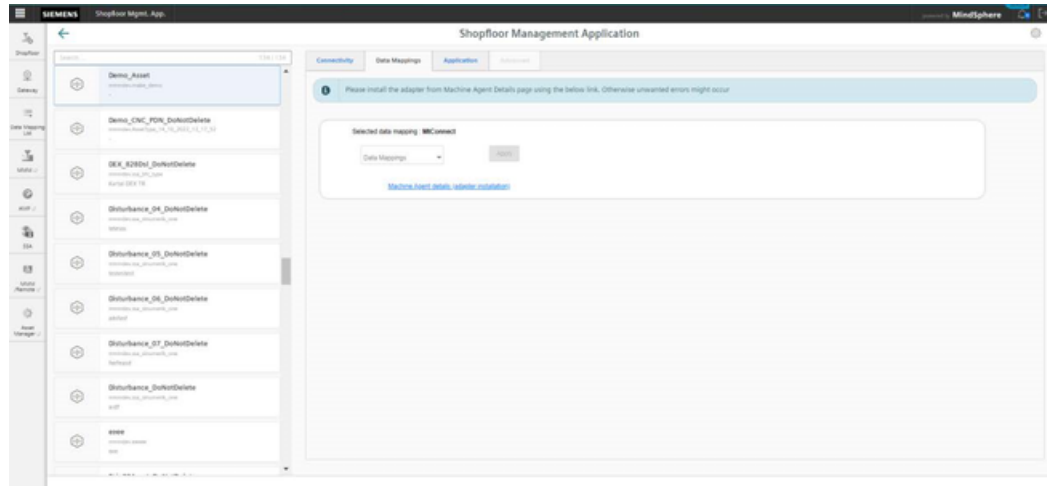


13. In window "Shopfloor Management Application" > "Shopfloor", open tab "Data Mappings".

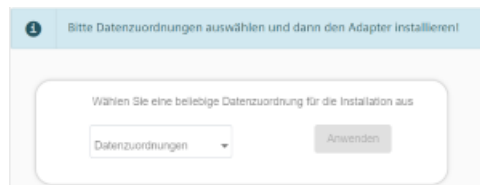


14. Select the required data mapping from the drop-down list and click on "Apply".  
The "Machine Agent Details (adapter installation)" link is displayed.

15. Click on the link.



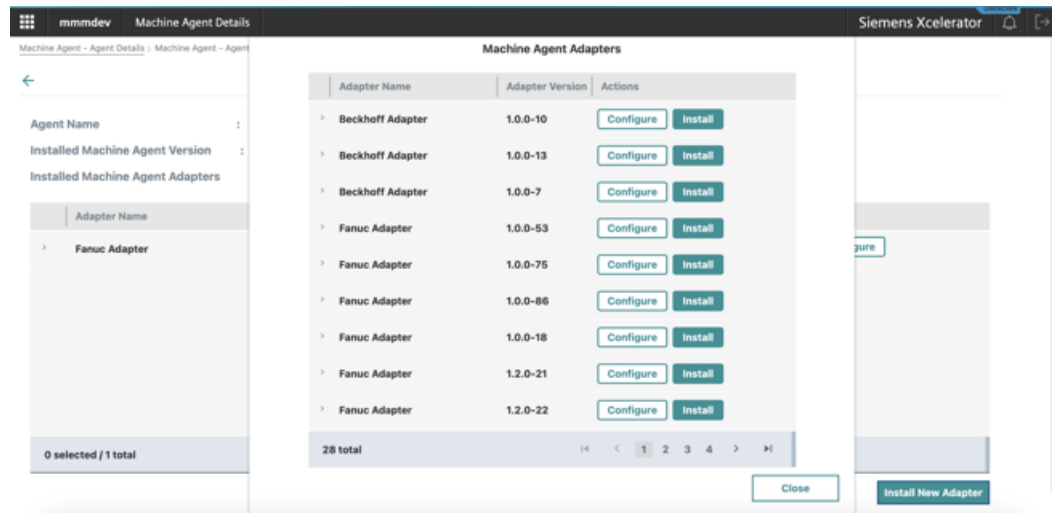
The appropriate notes are displayed if you have not selected a data mapping, or have not installed an adapter:



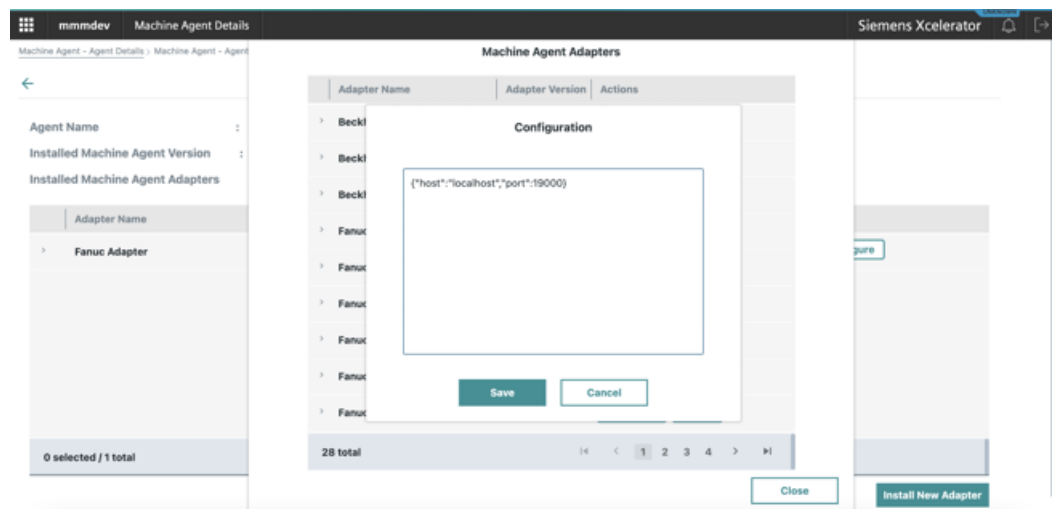
16. Select the required data mapping from the drop-down list and click on "Apply". The "Machine Agent Details (adapter installation)" link is displayed.

17. Click on "Install new adapter" to install the corresponding adapter for the asset. More information is provided in Chapter: Machine Agent Details (Page 82)

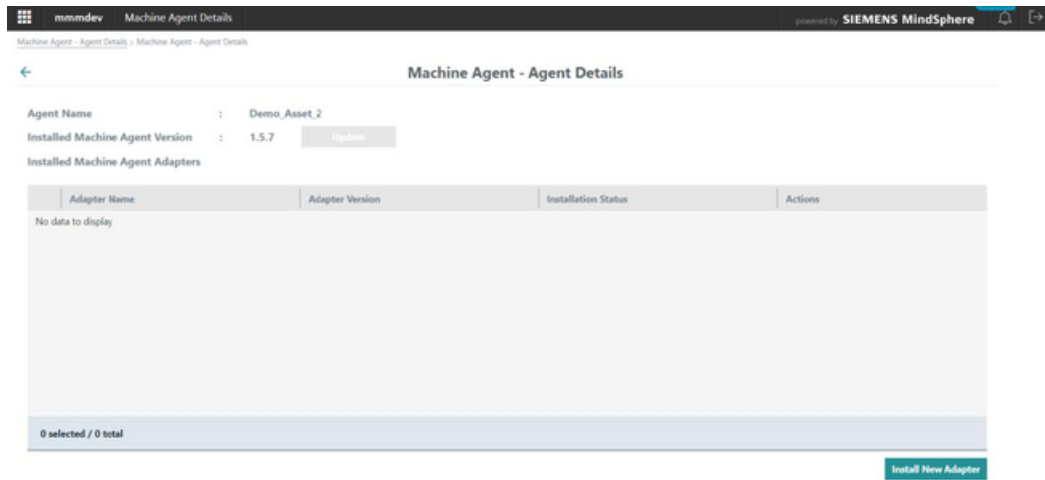
18. Click on "Configure".



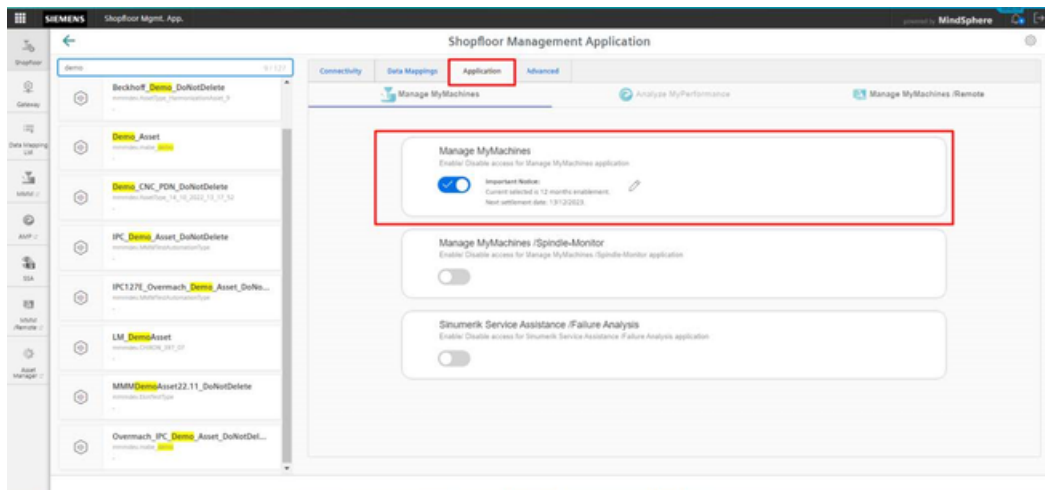
19. Populate the field and then click on "Save".  
Each adapter has its own default configuration. You must adapt these.



20. Wait until the adapter status has changed.



21. In window "Shopfloor Management Application" > "Shopfloor", open tab "Application". Move the slider to the right to activate access to "Manage MyMachines".



An application cannot be selected under tab "Application" if you have not selected a data mapping or have not installed an adapter. A note is displayed.

### 5.3.2 Machine Agent Details

The "Machine Agent Details" application includes an overview of all available agents in the machine agent backend and lists the following parameters:



- Machine name
- MAC address
- Status
- Connection status

The application provides the following functions:

- Querying and if necessary updating the machine agent version of each individual machine
- Remote management of the agent adapter:
  - Overview of the available adapters on the server
  - Configuration, installation and deletion of adapters

## Parameters

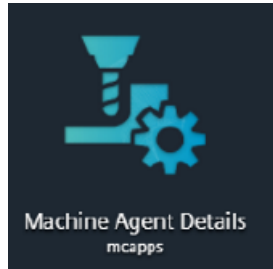
Parameters	Description
<b>Machine Agent - Agent Details</b>	
Machine name	Displays the agent name. You can enter between 2 and 256 characters.
MAC address	Displays the MAC address of the machine on which the machine agent is installed. The address is unique in the backend.
Status	Displays the onboard status: <ul style="list-style-type: none"> <li>• NONE</li> <li>• ONBOARDED</li> <li>• OFFBOARDED</li> <li>• WAITING TO ONBOARD</li> <li>• WAITING TO OFFBOARD</li> <li>• RECONNECT REQUESTED</li> <li>• DELETED</li> </ul>
Connection status	<ul style="list-style-type: none"> <li>• ONLINE</li> <li>• OFFLINE</li> </ul> The agent is displayed as being "offline" if no data have been uploaded in the last five minutes.
<b>Installed machine agent adapter</b>	
Agent name	Displays the agent name.
Version of the installed machine agent	Displays the version of the installed machine agent.
Update	The "Update" field is activated if a new machine agent version is available. Click on "Update", to install the latest machine agent version.
Adapter name	Displays the installed adapter names.
Adapter version	Displays the installed adapter version.
Installation status	Displays the installation status: <ul style="list-style-type: none"> <li>• NONE</li> <li>• WAITING_TO_INSTALL</li> <li>• INSTALLED</li> <li>• WAITING_TO_UNINSTALL</li> <li>• INSTALLATION_ERROR</li> <li>• UNINSTALLATION_ERROR</li> </ul>

Parameters	Description
Actions	<ul style="list-style-type: none"> <li>• "Delete" symbol: Click on the "Delete" symbol to uninstall the adapter on the agents.</li> <li>• Click on "Configure" to enter a new configuration for the adapter.</li> </ul>
	Removing the adapter on the agent.
	Opens the launch pad.
<b>Machine agent adapter</b>	
Adapter name	Displays the name of the available adapter.
Adapter version	Displays the versions of the available adapters.
Actions	<p>Contains the buttons</p> <ul style="list-style-type: none"> <li>• Installing</li> <li>• Configure Click on "Configure" to call the current adapter information.</li> </ul> <p>Click on the "Expansion" icon to display the meta data of the adapter in the "pkginfo.json" file.</p>



## Procedure

1. In the launch pad, open Manage MyMachines for Industrial Operations X Cloud "Machine Agent Details".  
The home page "Machine Agent - Agent details" opens and displays the machine overview.



2. Click on an underscored agent machine name in the left-hand column.

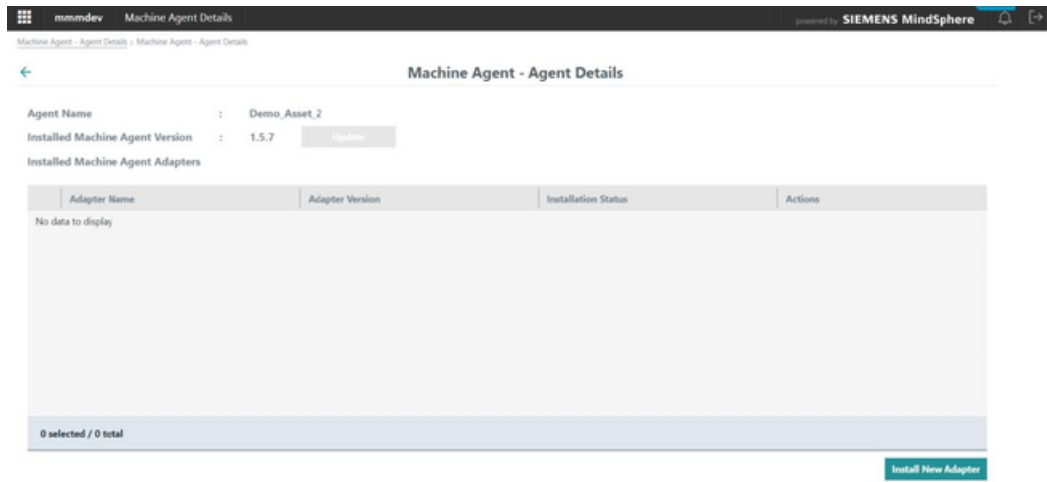
Machine Agent - Agent Details

Machine Name	MAC Address	Status	Connection State
<u>DenemeTicnortSan</u>	00-1F-F0-24-3B-66	NONE	Offline
DenemeTicnortSan	00-1F-F0-24-3B-16	OFFBOARDED	Offline
Heiden1602	95-01-79-59-29-4C	ONBOARDED	Offline
Heiden1602_1	14-CB-38-9C-66-77	OFFBOARDED	Offline
Heiden1602_2	8E-20-30-9C-C2-36	ONBOARDED	Offline
<u>HeidenHala_TestAgent_001</u>	00-1F-F0-10-5B-81	OFFBOARDED	Offline
HeidenHala_Test1	85-19-0F-55-55-32	OFFBOARDED	Offline
make_test_50_03_22_test_1	24-4C-95-05-04-43	ONBOARDED	Offline
make_test_22_03_22_DeHlerDelete	AC-06-05-6E-05-F9	OFFBOARDED	Offline
make1502_1	86-6C-F0-50-7B-9E	OFFBOARDED	Offline
make1502_2	D0-C7-62-7B-A1-21	ONBOARDED	Offline
make1503_1	5D-6B-2C-04-A9-43	ONBOARDED	Offline
make1703	F0-8E-84-8D-F9-CE	ONBOARDED	Online

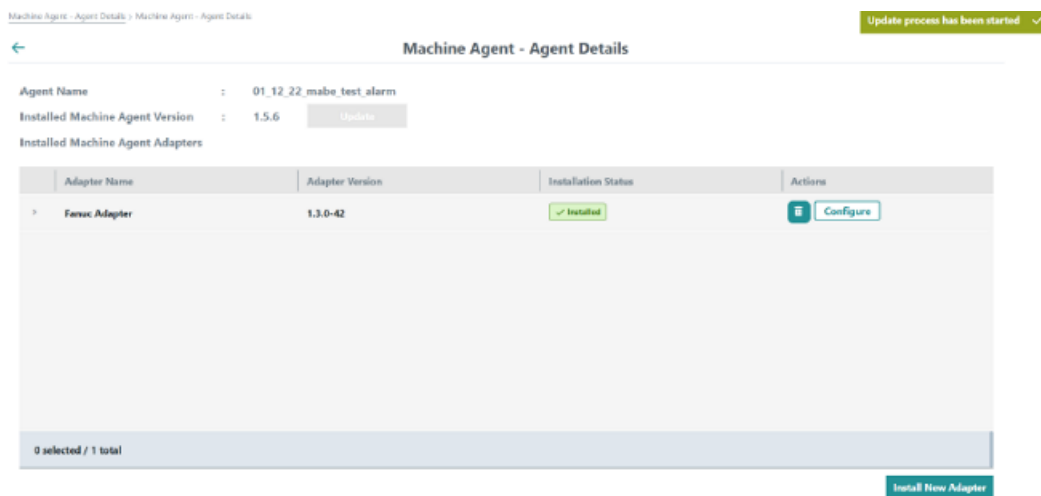
54 total

Window "Installed Machine Agent Adapter" with information on the selected machine agent adapter opens.  
Button "Update" at the top left in the window is activated if the machine agent version must be updated.

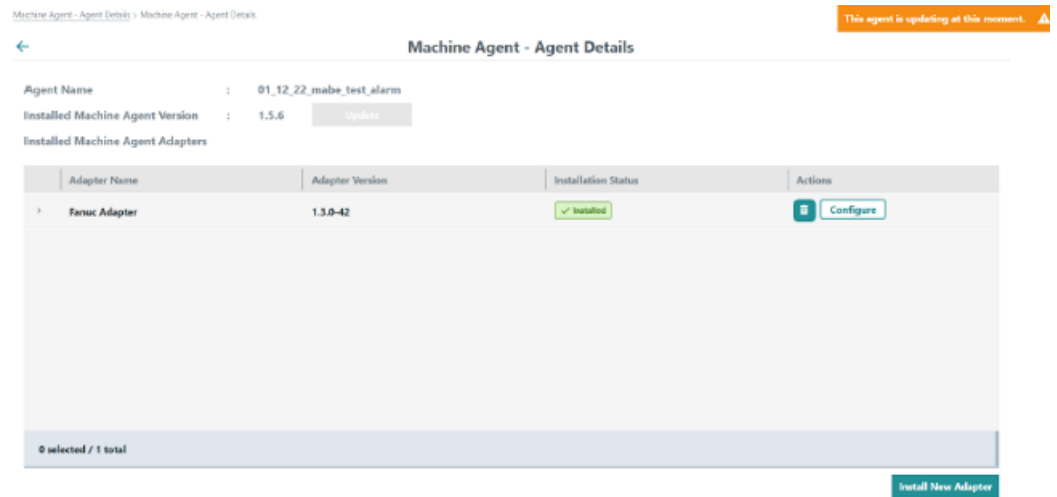
- 3. Click on button "Update" to install the latest machine agent version.



When clicking on "Update", the green status message "Update process has been started" is displayed at the upper right in the window.



If you click on button "Update" while an update is active, the orange warning "The agent is updating at this moment" is displayed at the upper right in the window.



## Note

### Displaying adapter metadata

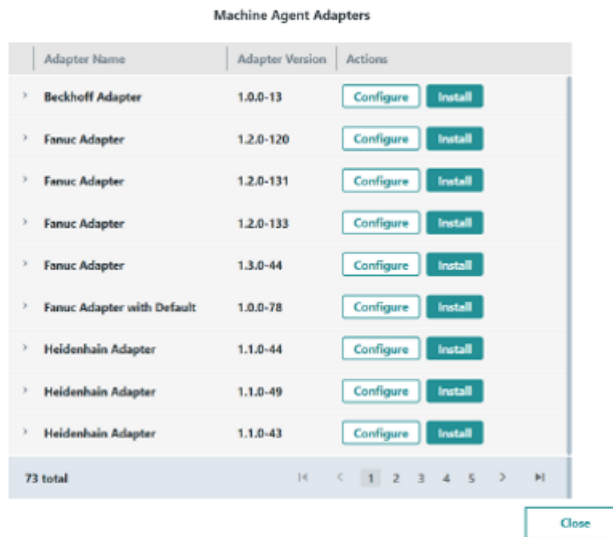
You can display the metadata via symbol "Expansion" to the left of the particular Machine Agent adapter in file "pkginfo.json".

This is possible in window "Installed Machine Agent Adapter" and in the overview of available adapters in window "Machine Agent Adapter".

The list of machine agent adapters is displayed.

4. Click on the "Delete" icon in the right-hand column "Actions" to uninstall an agent.  
- OR -  
To configure an agent, click on the "Configure" field in the "Actions" column on the right.
5. To install a new adapter, click at the lower right in the window on "Install New Adapter".  
Pop-up "Machine Agent Adapters" opens. It includes the list of requested and not yet installed machine agent adapters available in the backend.

- Click on "Install" to install the required adapter.  
- OR -  
Click on "Close" to close the window.

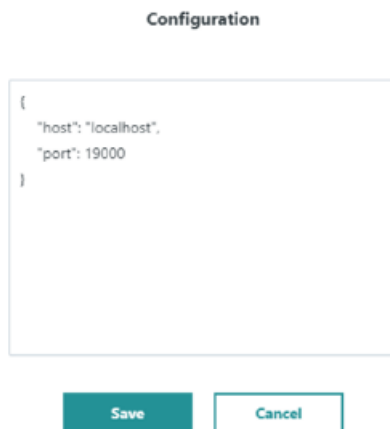


**Note**

**Installation status "WAITING\_TO\_INSTALL"**

Installation status "WAITING\_TO\_INSTALL" is displayed if you have requested a new adapter. This adapter is no longer displayed in pop-up "Machine Agent Adapters".

- Click on "Configure" to configure the required adapter to connect to the machine.  
The "Configuration" pop-up menu opens.  
The actual configuration requirements depend on the adapter type:



- SINUMERIK adapters do not have to be configured.  
If required, enter the parameters for the configuration and click on "Save".  
- OR -  
Click on "Close" to close the window.

8. To uninstall an adapter from an asset, on the start page "Machine agent - details on the agents" click on the underscored machine name in the first column.  
The list of installed adapters is displayed.
9. In the adapter line, click on the "Delete" icon in the right-hand column.  
The changed status is displayed in column "Installation status".

---

**Note**

**Uninstalling an adapter**

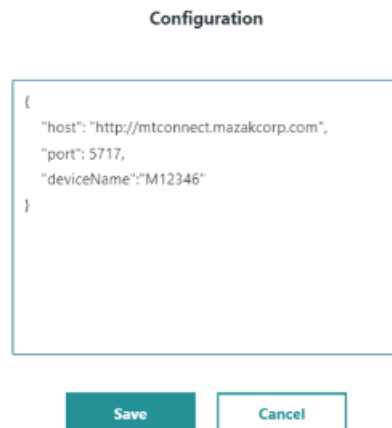
After uninstalling the adapter, you must restart the machine agent before you can install a new adapter.

---

### Configuration example MT Connect Adapter

For MTConnect adapters you must enter the following parameters:

- Host
- Port
- Device name



### Configuration example for a Fanuc adapter

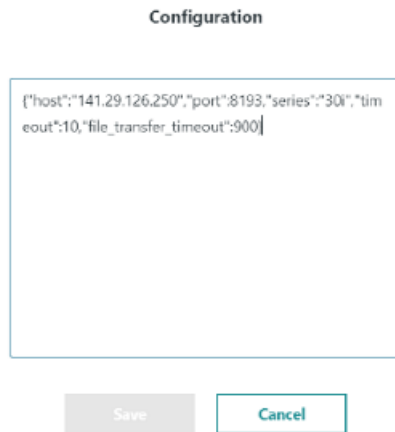
For Fanuc adapters you must enter the following parameters:

- Host
- Port
- Timeout
- File transfer time out

```
{
  "host": "localhost",
  "port": 8193,
  "timeout": 10,

```

```
"file_transfer_timeout": 900  
}
```



### Configuration example for an OPC UA adapter

- Host
- Port
- Username
- Password
- AlarmNI
- AlarmNode

```
{  
  "host": "localhost",  
  "port": 8193,  
  "userName": "username",  
  "password": "",  
  "alarmNI": 2,  
  "alarmNode": "Sinumerik"  
}
```

### 5.3.3 Machine Agent Management

The "Machine Agent Management" application contains an overview of all the adapters available in the machine agent backend and lists the following parameters:





- Adapter name
- Adapter version

The application provides the following functions:

- Checks the current version of the machine agent installation bundle
- Downloads the machine agent installation bundle

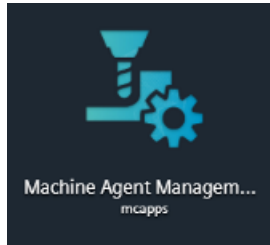
- Overview of the adapters
- Displays the "pkginfo.json" file with all adapter package information
- New adapter upload
- Deletes the adapters if they are not installed on any agent

## Parameters

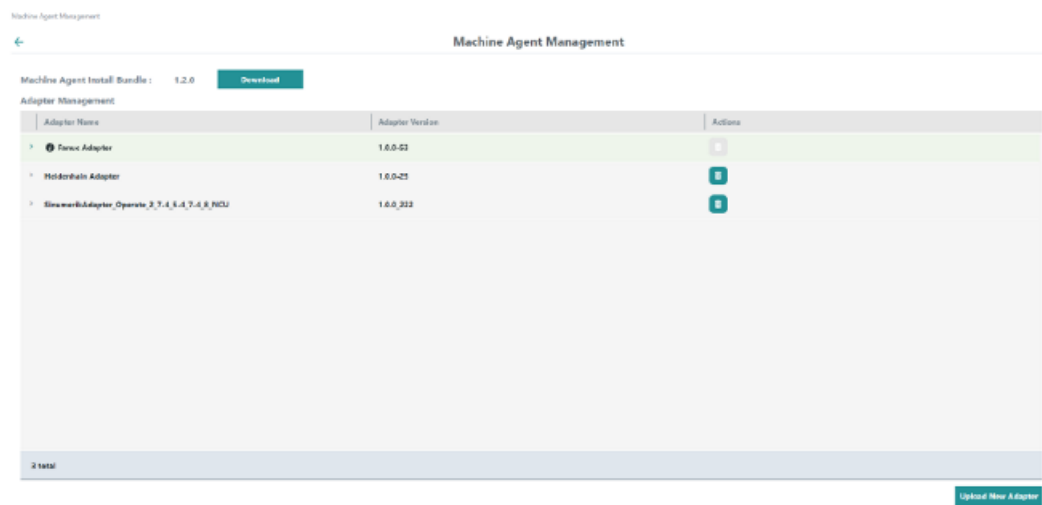
Parameters	Description
Machine agent installation bundle	Displays the installation bundle version.
Adapter name	Displays the adapter name.
Adapter version	Displays the adapter version.
Actions	The adapter is removed by clicking on the "Delete" icon.
	Opens the file with the package information.
	The black "Info" icon is in front of the adapters installed by the superuser. The line is marked in green. As a user, you cannot delete these adapters.
	Removes the adapter. <ul style="list-style-type: none"> <li>• The "Delete" icon is only activated with non-SINUMERIK adapters and deactivated generic adapters. Generic adapters cannot be deleted.</li> <li>• An adapter can only be deleted if it is not installed on an agent.</li> </ul>
	Opens the launch pad.

### Procedure

1. In the launch pad, open Manage MyMachines for Industrial Operations X Cloud "Machine Agent Management".



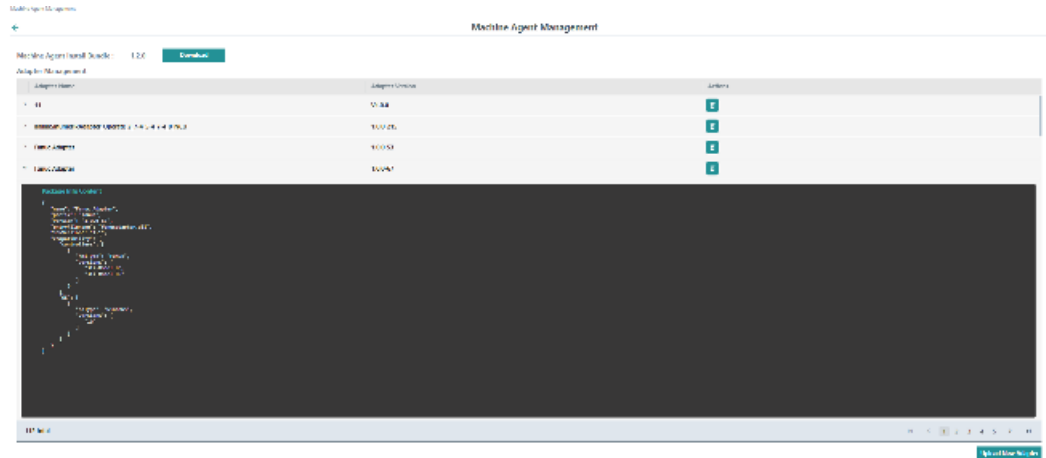
Home page "Machine Agents - Management" opens.



2. Click on "Download" to download the current version of the installation bundle. A "tar.gz" file is downloaded.
3. Click the "Delete" icon in the right column "Actions" to delete an adapter. The "Delete" icon appears only for third-party adapters. You can delete the adapter only if it is not installed on any agent.

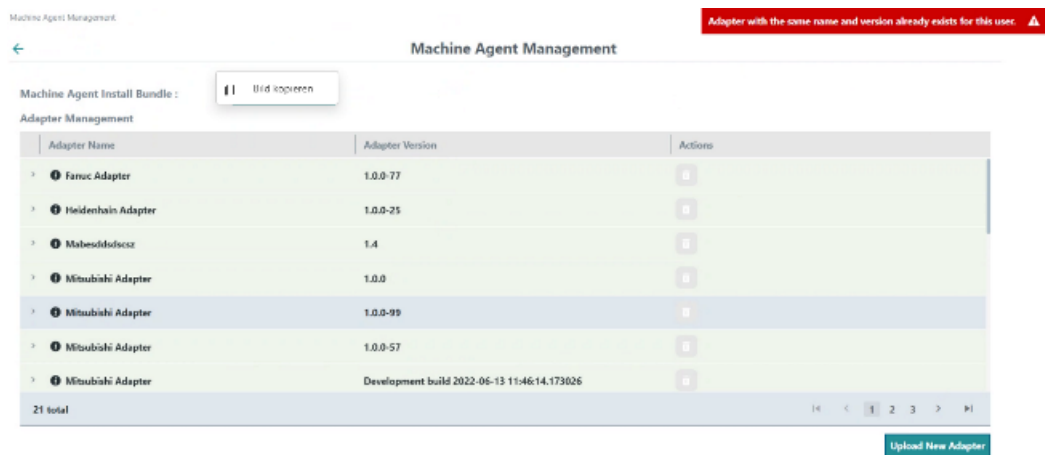


- Click on the extension arrow at the left in front of the particular adapter name to open the "Pkginfo.json" file with the package information.

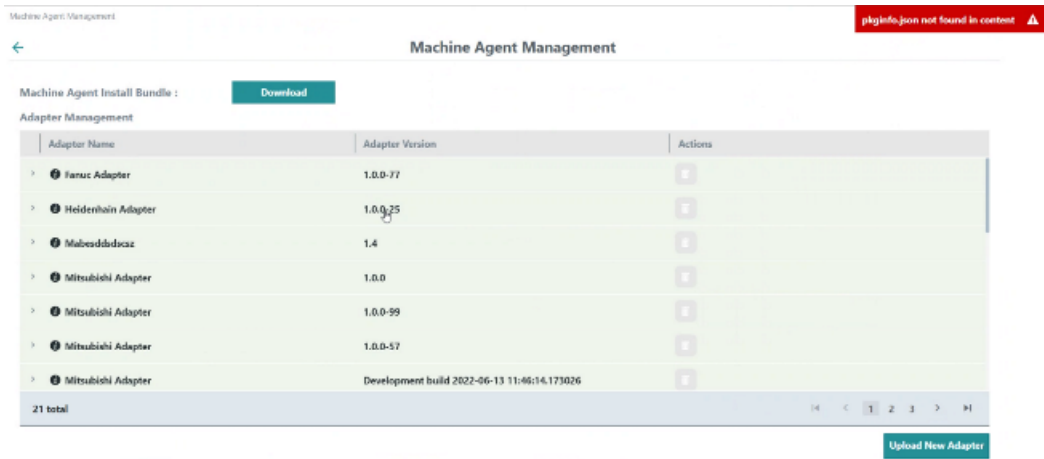


- Click on "Upload new adapter" to install a new adapter.  
The available adapters are displayed in the "tar.gz" file format.

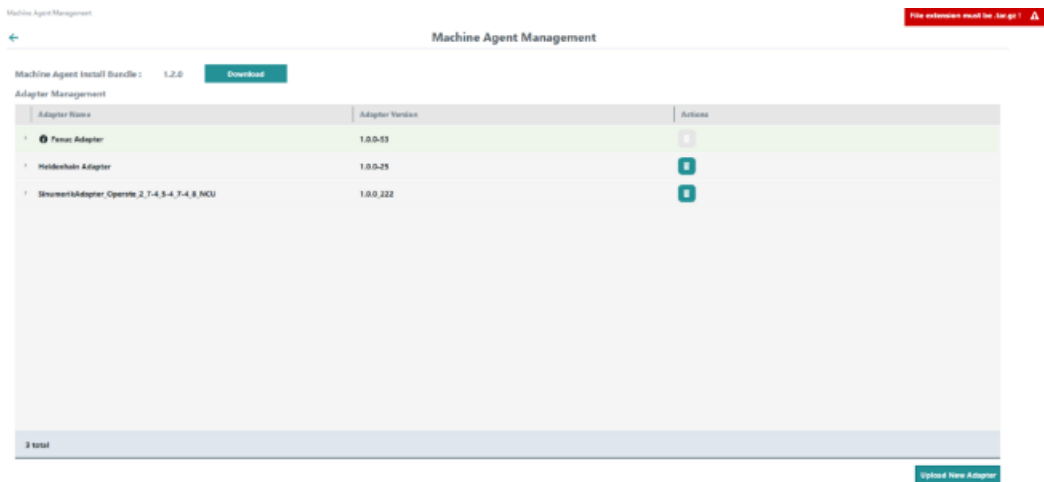
If an adapter with the same name and version already exists, the following error message is displayed in the upper right corner: "Adapter with the same name and version already exists for this user"




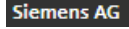
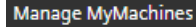


If the files you want to upload are without the "pkginfo.json" information, the following error message is displayed in the upper right corner: "pkginfo.json not found in content"

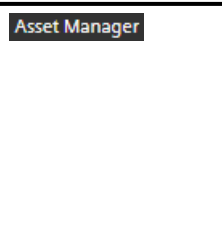






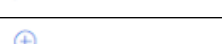




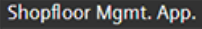

If the format of the selected file is not "tar.gz", the following error message is displayed in the upper right corner: "File extension must be tar.gz"



## 5.4 Icons and buttons in Insights Hub

Icon	Description
	Switches to the launch pad.
Customer-specific tenant name, e.g. 	Opens a menu and shows the following data: <ul style="list-style-type: none"> <li>• Tenant name</li> <li>• Tenant type</li> <li>• Tenant location</li> </ul>
	Opens a menu with the following information: <ul style="list-style-type: none"> <li>• Shows the version</li> <li>• Copyright Siemens AG</li> </ul> Links to the product: <ul style="list-style-type: none"> <li>• Function Manual</li> <li>• Readme</li> <li>• Application Note</li> <li>• Readme OSS</li> <li>• Insights Hub OSS</li> <li>• Support information</li> <li>• Release notes</li> <li>• Insights Hub status</li> </ul>
	Opens a menu with the following information and links to the product: <ul style="list-style-type: none"> <li>• Privacy <ul style="list-style-type: none"> <li>– App Store</li> <li>– Platform status</li> <li>– Platform data</li> </ul> </li> <li>• Information <ul style="list-style-type: none"> <li>– Training Academy</li> <li>– Documentation</li> <li>– Support Center</li> <li>– Online Community</li> <li>– Company</li> </ul> </li> <li>• Directive <ul style="list-style-type: none"> <li>– Permissible use</li> </ul> </li> </ul>
	Logs out of Insights Hub after a confirmation prompt.
Asset Manager	

Icon	Description
	<p>Opens a menu with the following information:</p> <ul style="list-style-type: none"> <li>Shows the version</li> <li>Copyright Siemens AG</li> </ul> <p>Links to the product:</p> <ul style="list-style-type: none"> <li>Third-party software</li> <li>Documentation - System Manual Asset Manager</li> </ul>
	Hides the list of assets.
	Shows the list of assets again.
	Text box for free text search
	Opens the Asset search
	Switches to the hierarchical view of the assets
	Edits an asset
	Adds a subordinate asset
	<p>Opens a selection of "Asset Manager" functions, and provides the option of directly accessing the required view.</p> <ul style="list-style-type: none"> <li>Share asset</li> <li>Move asset</li> <li>Files</li> <li>Operations Insight</li> <li>Delete asset</li> </ul>
<b>Operations Insight</b>	
	<p>"Operations Insight" is the successor of the "Fleet Manager" application.</p> <p>Opens a menu with the following information and links to the product:</p> <ul style="list-style-type: none"> <li>Shows the version</li> <li>Copyright Siemens AG</li> </ul> <p>Links to more information:</p> <ul style="list-style-type: none"> <li>Third-party software: Frame Application</li> <li>Third-party software: Frame Dashboards</li> <li>Third-party software: KPIs</li> <li>Third-party software: Work orders</li> <li>Third-party software Web</li> </ul> <p>Components</p> <ul style="list-style-type: none"> <li>Third-party software: Tour guide</li> <li>Documentation - Operations Insight System Manual</li> </ul>
<b>Shopfloor Management App</b>	

Icon	Description
	<p>Opens a menu with the following information:</p> <ul style="list-style-type: none"> <li>• Shows the version</li> <li>• Copyright Siemens AG</li> </ul> <p>Links to the product:</p> <ul style="list-style-type: none"> <li>• Function Manual</li> <li>• Readme</li> <li>• Application Note</li> <li>• Readme OSS</li> <li>• Insights Hub OSS</li> <li>• Support information</li> <li>• Release notes</li> <li>• Insights Hub status</li> </ul>
ManageMyMachines /Remote	
	<p>Opens a menu with the following information:</p> <ul style="list-style-type: none"> <li>• Shows the version</li> <li>• Copyright Siemens AG</li> </ul> <p>Links to the product:</p> <ul style="list-style-type: none"> <li>• Function Manual</li> <li>• Readme</li> <li>• Application Note</li> <li>• Third-party software</li> <li>• Release notes</li> <li>• Insights Hub status</li> </ul>

## 5.5 Managing users

You process/edit users, roles and rights in the Manage MyMachines for Industrial Operations X Cloud "Settings".

**More information** can be found at: MindSphere documentation (<https://siemens.mindsphere.io/en/docs/mindaccess.html>)

### Precondition

The following roles are required to use "Manage MyMachines":

- mmmdashboard
- user
- admin

The following role is required to use the "Shopfloor Management Application":

- shopfloormgmtapp

### Manage MyMachines

For "Manage MyMachines", you can create users with different rights.

The following users are available:

- Standard users
  - mtaassetconfig.user
  - mmmdashboard.user
  - basicservice.user
  - agentcom.user
- Administrator
  - mtaassetconfig.admin
  - mmmdashboard.admin
  - basicservice.admin
  - agentcom.admin
- Subtenant user

### Shopfloor Management Application

You create users with various rights for the "Shopfloor Management Application":

- Standard user: shopfloormgmtapp.user
- Administrator: shopfloormgmtapp.admin

The following roles are required for the use of Machie Agent Connectivity:

- machineagentdetails
- machineagentmgmt

## Procedure

1. In the launch pad, click on the "Settings" application.



The "Settings" window opens and offers you user administration for editing/processing.

2. Create or edit the users.
3. Assign the corresponding roles.

## 5.6 Asset Manager

### 5.6.1 Overview

#### Functions

"Asset Manager" is a Manage MyMachines for Industrial Operations X Cloud of the Industrial IoT platform from Siemens. In the "Asset Manager", using assets, you model the structure of an industrial process within Insights Hub.

The specific functions and configuration options for the "SINUMERIK" area are discussed in the following.

Using an asset type, you can define which aspects should be integrated into the template. Using asset types, you have the option of creating a template, e.g. for several devices, and linking this with your aspects. When creating a new asset, you can access the template or the type.

Aspects are combined, preconfigured data and form the context for evaluating industrial processes. An aspect can comprise several variables. Within an industrial process, assets transfer the aspects into the Manage MyMachines for Industrial Operations X Cloud as time series data.



## 5.6.2 Opening the Asset Manager

### Procedure

1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Asset Manager".



The "AssetManager" window opens and you have the following options:

- Edit assets
- Add subordinate assets
- Creating assets  
More information can be found in the following section: Creating an Asset (Page 104).
- Creating and editing types  
More information can be found in the following section: Creating an asset type (Page 102)
- Creating and editing aspects

The screenshot displays the Asset Manager interface. At the top, there's a navigation sidebar with icons for Home, Asset Manager, and other functions. The main content area is titled "AssetManager" and includes a "Tenant details" section with fields for Name, Time zone, Location, and Lock status. A "Consumption" summary on the right shows 103 of 200 Assets, 43 of 50 Types, and 10 of 10 Agents. Below this, the "Asset Model" section contains three cards: "Assets", "Types", and "Aspects", each with a "view your" button. The "Features" section contains two cards: "Sharings" and "Connectivity", also with "view your" buttons.

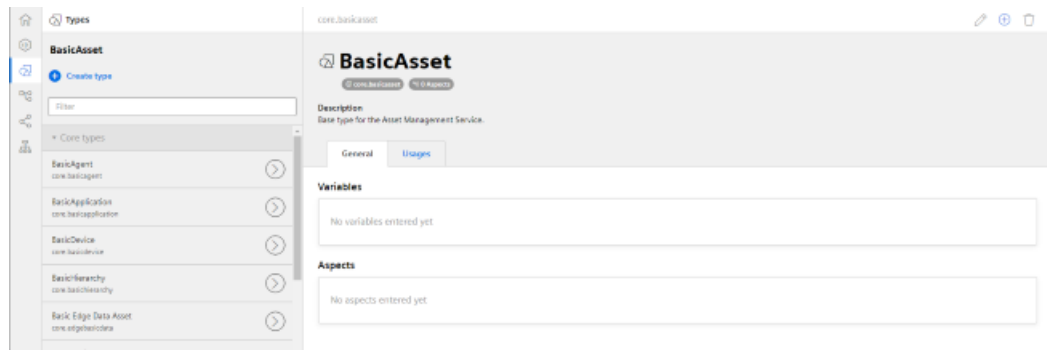
### 5.6.3 Creating an asset type

The following asset types are supported:

- BasicAsset
- BasicAsset > BasicDevice
- BasicAsset > BasicDevice > BasicSinumerikAsset
- BasicAsset > BasicAgent
- BasicAsset > BasicAgent > MindConnectIoT2040
- BasicAsset > BasicAgent > MindConnectLib
- BasicAsset > BasicAgent > MindConnectNano

#### Procedure

1. In the left window pane, click the "Library" > "Asset Types" button. The "BasicAsset" window opens.



2. Select "BasicDevice" and click on the small arrow (navigate to the child element). The "BasicDevice" window opens.

3. Select "BasicSinumerikAsset" and click on the small arrow (navigate to the child element). The "BasicSinumerikAsset" window opens.
4. Click on "+ Create type" to create a new asset type. The "Create type" window opens.
  - Enter a name for the new asset type. You must enter a name and this 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

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.

**Add asset**

— General

**Type ID:**  
  
Selected type of asset cannot be changed

**Name: \***

**Description:**  
  
255 characters left

**Please classify your asset:**

The classification of an asset cannot be changed afterwards.

**Performance**  
Use this option to represent your assets in the field with timeseries resolution of milliseconds

**Simulation**  
Use this option to represent simulation data of an asset with timeseries resolution up to microseconds

### Filtering an asset type

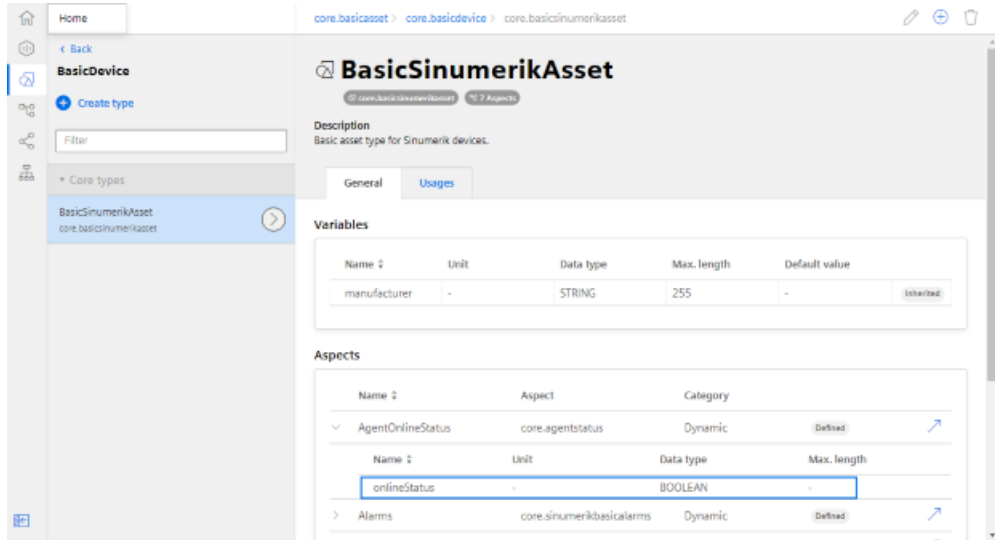
1. Open the "Types" window.
2. In the center window pane, select "BasicDevice" > "BasicSinumerikAsset".
3. In the input field "Filter", enter the name. The corresponding data is displayed in the right-hand window area.

### 5.6.4 Creating an Asset

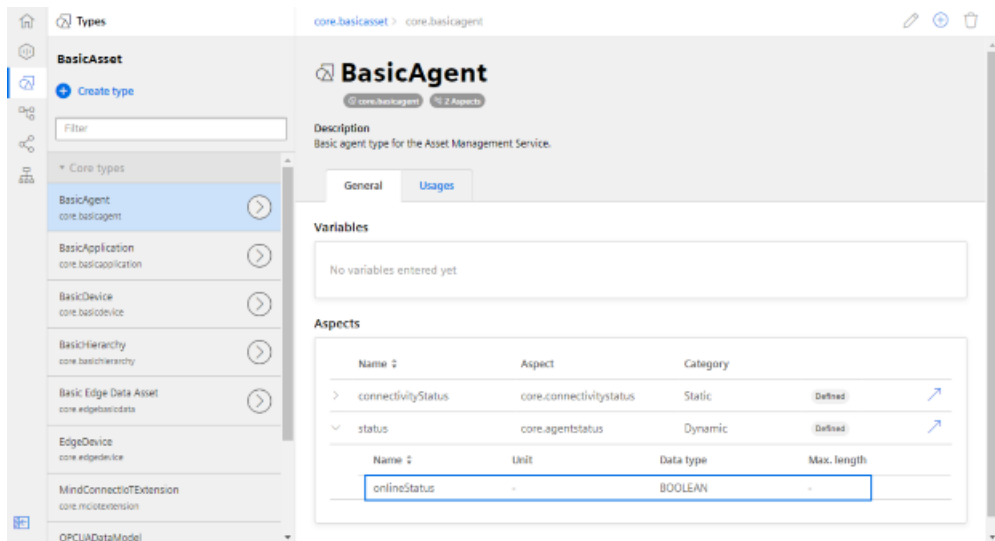
#### Online status

Manage MyMachines for Industrial Operations X Cloud can evaluate the status of an asset using variable "OnlineStatus". This variable is predefined in the aspects of the following asset types:

- BasicSinumerikAsset



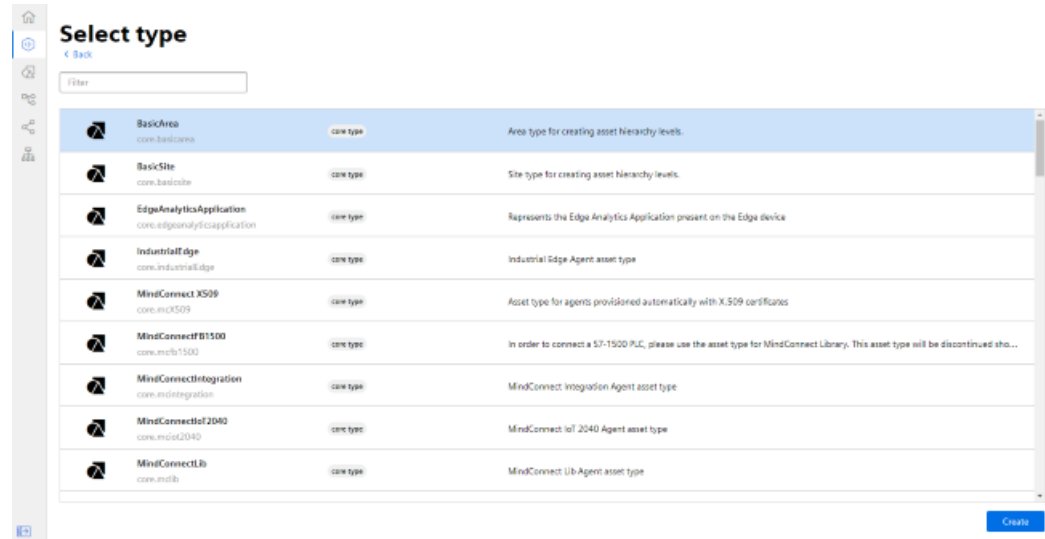
- BasicAgent



To monitor the online status, use an asset type that is based on these types.

## Procedure

1. In the left window pane, click "Assets".
2. In the center window pane, click "+ Create asset".  
In the right window pane, 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 from the list.
4. Click on "Create".



The "Add asset" window opens.

5. In the "Name: \*" input field, enter a name.  
This input field is a mandatory field.

- 6. Populate the input fields in the "General" and "Location" areas. The "Save" button is activated.
- 7. Click "Save" to save the new asset.

**Add asset**

General

Type ID:   
Selected type of asset cannot be changed

Name: \*

Description:

Location

Variables

Static aspects

Name:

contactPoint:

\* Required input field

Save Cancel

The new asset is displayed.

**Events**

Last updated: 2020-03-02 10:26:56

No events in the last 24 hours

Refresh

**Aspects**

Last updated: 2020-03-02 10:26:56

9 OFFLINE 4 ONLINE 1 STATIC

Name	Status
feedrate_FLIC_bit	No data available 2020-03-02 10:20:00
MachineOee	No data available 2020-03-02 10:20:00
MachineState	No data available 2020-03-02 10:20:00
TimeBased	No data available 2020-03-02 10:20:00
valuebased	No data available 2020-03-02 10:20:00

**Variables**

Name	Data type	Unit	Max. length	Value
manufacturer	STRING	-	255	-

### 5.6.5 Share asset

You have the option of releasing assets for other tenants using the "Cross Tenancy" function.

Insights Hub functions, such as data associated with time series, asset information, aspects etc. are then visible for these end users.

---

**Note****Functions that are not supported**

The following functions are not supported:

- File upload
  - Asset localization
- 

Any data shared requires an active authorization or rejection by the receiving tenant. Within a cooperation, the tenant that has been released remains the sole owner of the data that has been released.

---

**Note****Data and configuration visible in shared assets**

If the "Manage MyMachines" application is used with function "Cross-Tenancy", then data and configurations are also visible in those tenants at which the assets have been shared. Carefully check the level of criticality of the configuration used by you or your customer and the data that could be possibly disclosed.

---

---

**Note****Role as tenant administrator**

If you use function "Cross-Tenancy" in your role as "Tenant-Admin", then comply with the description in the corresponding Insights Hub Manual.

More information on the "Cross-Tenancy" function is provided in the manual: Asset Manager System Manual (<https://siemens.mindsphere.io/en/docs/mindaccess.html>).

---

**Precondition**

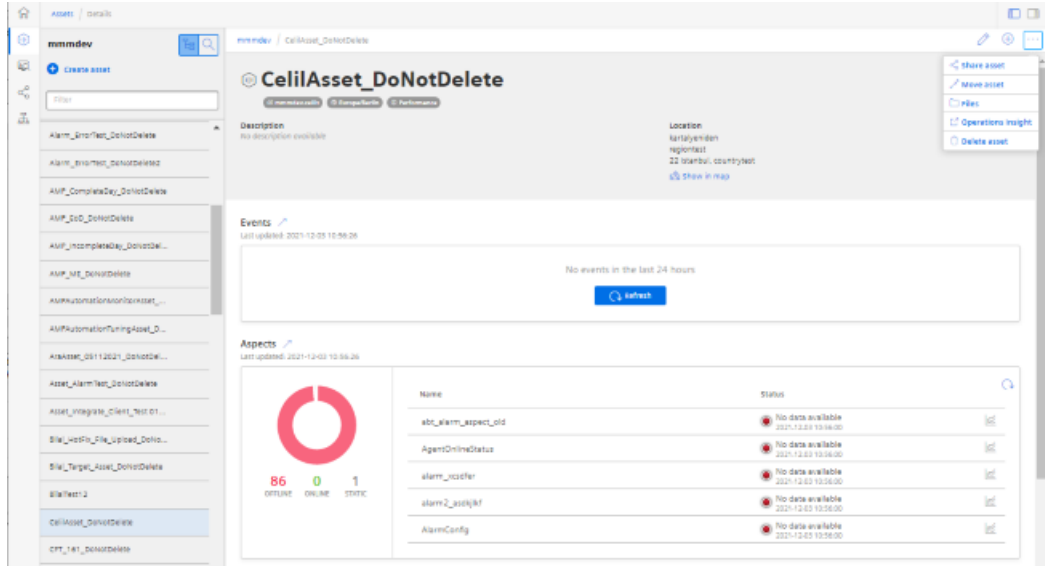
You need an existing cooperation with another tenant.

More information on creating a cooperation is provided in the Manual: System Manual Settings (<https://siemens.mindsphere.io/en/docs/mindaccess.html>)

**Procedure**

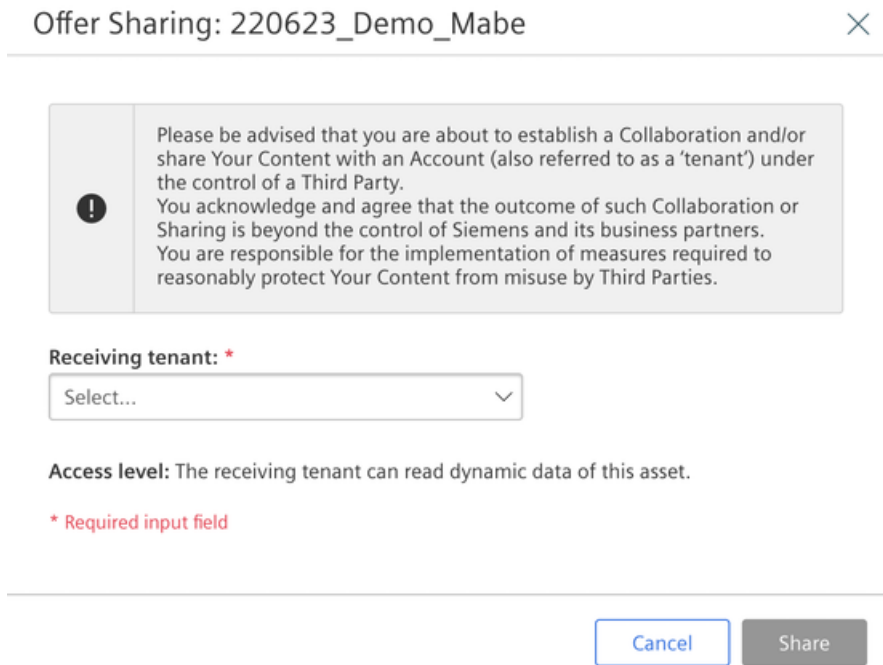
1. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Asset Manager".
2. Select the required asset in the left-hand side of the window.
3. Click on the button with dots in the top right hand section of the screen.

4. Select "Share asset".



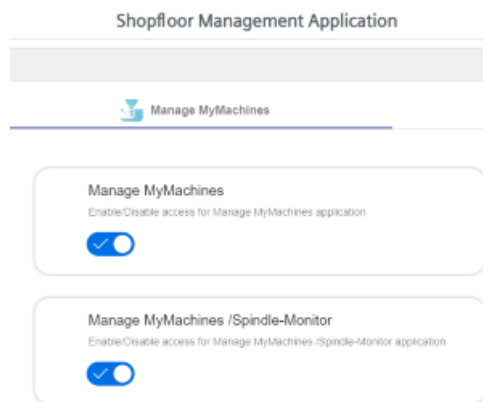
Window "Offer Sharing" opens.

- 5. Read the note:
- 6. Select the receiving tenant from the drop-down list.
- 7. Click on "Share".





8. You receive a message, and in the lower section of the window in the "Shares" area you can see the status of the asset:
  - Accepted
  - Open
  - Failed
9. Open application "Shopfloor Management Application".  
The "Shopfloor Management Application" window opens.
  - Activate the functionality for "Manage MyMachines".
  - Activate the functionality for "Manage MyMachines /Spindle Monitor".  
Option "Manage MyMachines /Spindle Monitor" must be available and visible.
10. Activate the functionality for "Manage MyMachines".
11. Activate the functionality for "Manage MyMachines /Spindle Monitor".  
Option "Manage MyMachines /Spindle Monitor" must be available and visible.



You can identify the released asset at the following icon:



## 5.7 Shopfloor Management Application

### 5.7.1 Overview

Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" has buttons in the left-hand section of the window that allow you to do the following.

- Activation of assets for the applications:
  - "Manage MyMachines"
  - "Analyze MyPerformance"
  - "Manage MyMachines /Remote"
  - "Asset Manager"
- Configuring variables
- Configuration of a gateway




### Precondition





You require the following user role to use the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application":

- shopfloormgmtapp

More information is provided in Chapter: Managing users (Page 98).

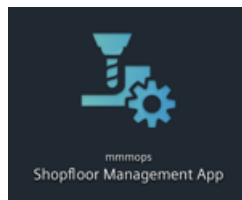
### Buttons

Button	Description
	<p>Select an asset from "Shopfloor".</p> <p>In the "Application" tab, activate or deactivate access to the applications "Manage MyMachines" and/or "Manage MyMachines / Spindle Monitor".</p> <p>More information can be found in the following chapters:            Billing model UTS (Usage Transparency Service) (Page 112)            Billing model PB (Package Builder) (Page 122)</p> <p>You configure the variables and file upload in the "Advanced" tab.</p> <p>More information on the configuration of triggers can be found in this Chapter: Configuring variables (Page 130)</p> <p>More information about the file upload function can be found in this chapter: File upload (Page 142)</p>
	<p>Under "Gateway", you integrate data from "SINUMERIK Integrate Analyze MyCondition" into Insights Hub.</p> <p>More information is provided in Chapter: SINUMERIK Integrate Gateway (Page 203)</p>
	<p>Add other controllers under "Data Mapping List".</p> <p>More information is provided in Chapter: Data mapping list (Page 153)</p>

Button	Description
	Window "Machine overview" of the Insights Hub Application Manage MyMachines for Industrial Operations X Cloud "Manage MyMachines" is opened under "MMM". More information is provided in Chapter: Working with Manage MyMachines (Page 209) Note: A prerequisite is that you have the appropriate MMM user role.
	The "Overview" window of Manage MyMachines for Industrial Operations X Cloud "Analyze MyPerformance" is opened under "AMP". More information can be found in the "Analyze MyPerformance" Function Manual.
	Window "Navigation view" of the Manage MyMachines for Industrial Operations X Cloud "Manage MyMachines / Remote" is opened under "MMM /Remote". More information is provided in Function Manual "Manage MyMachines /Remote".
	Manage MyMachines for Industrial Operations X Cloud "Asset Manager" is opened under "Asset Manager". More information is provided in Chapter: Asset Manager (Page 100)

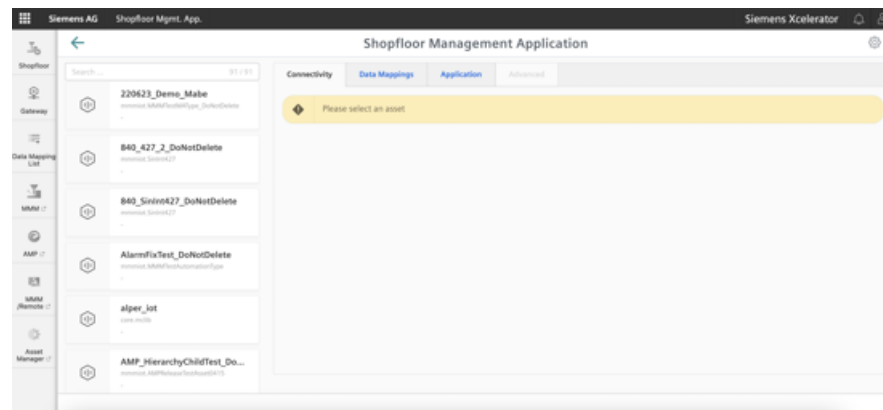
## Procedure

1. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".



Window "Shopfloor Management Application" > "Shopfloor" opens.

2. Select the required asset in the central section of the window.



## 5.7.2 Billing model UTS (Usage Transparency Service)

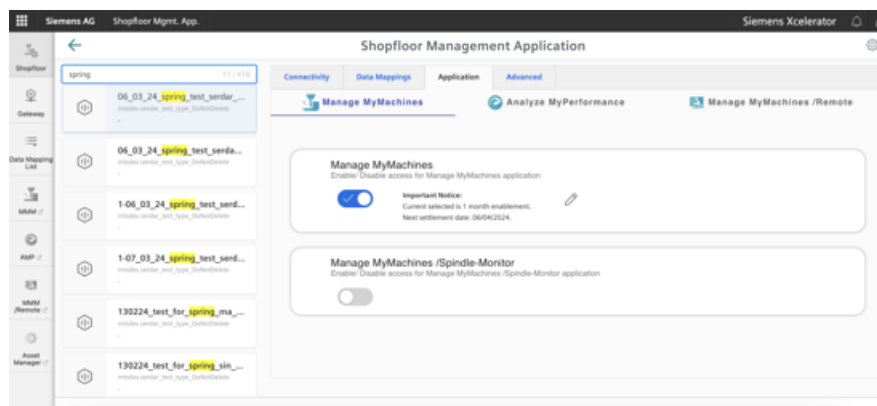
### 5.7.2.1 Activating Manage MyMachines

#### Precondition

- You have purchased Manage MyMachines for Industrial Operations X Cloud.
- You require the following user roles:
  - mmmdashboard.admin
  - shopfloormgmtapp.admin
 More information is provided in Chapter: Managing users (Page 98)
- You have connected the machine with Insights Hub.  
More information is provided in Chapter: Connecting controls with Insights Hub (Page 156)

#### Procedure

- In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".  
Window "Shopfloor Management Application" > "Shopfloor" > tab "Application" > "Manage MyMachines" opens.
- Select the required asset in the left-hand side of the window.
- To filter the assets, enter a character string in the "Search ..." field.



- Move the slider to the right to activate the use of "Manage MyMachines" for this asset. A "Charging Model" pop-up opens and you can choose between different charging models. More information is provided in Chapter: Defining the billing period (Page 115)

### 5.7.2.2 Deactivating Manage MyMachines

If you deactivate Manage MyMachines, you receive information about the availability of the asset configuration. If you are still in the subscription period, the configurations remain available until the specified date. If you do not reactivate Manage MyMachines, all asset configurations will be deleted.

## Procedure

1. Window "Shopfloor Management Application" > "Shopfloor" > tab "Application" > "Manage MyMachines" opens.  
Select the required asset in the left-hand section of the window.
2. Move the slider to the left to deactivate the use of "Manage MyMachines" for this asset.
3. A pop-up "confirmation" opens.
  - Click on "Confirm" to deactivate Manage MyMachines.
  - OR -
  - Click on "Cancel" to cancel the operation.



### 5.7.2.3 Activating Manage MyMachines /Spindle Monitor

You can display information and recorded operating conditions from the SMI24 Sensor Module of a spindle. The SMI24 is available as an option for a large number of Weiss spindles. After being tested, the spindles of other manufacturers can be converted to SMI24.

More information can be found in the following Chapters:

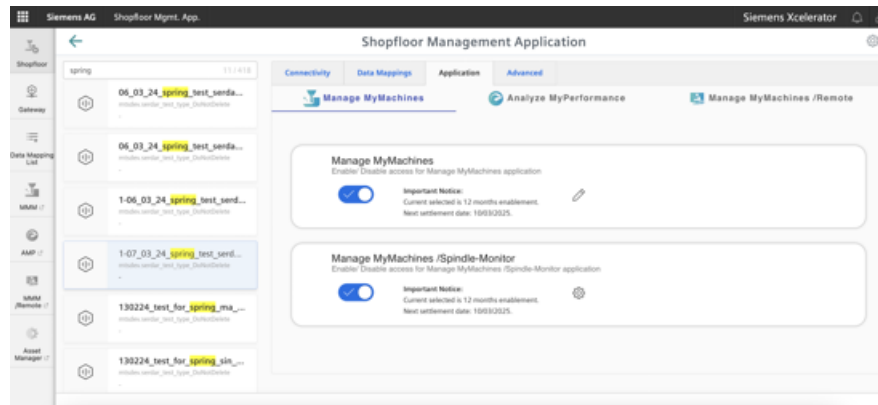
- Manage MyMachines /Spindle Monitor (Page 308)
- Determining the address of the spindles (only for 840D sl) (Page 375)
- Determining the address of the spindles (only for 828D) (Page 373)

## Precondition

- You have purchased Manage MyMachines for Industrial Operations X Cloud.
- For Manage MyMachines for Industrial Operations X Cloud "Manage MyMachines", option button "12 months enablement (charged annually upfront)" is activated under "Charging Model".
- The Weiss spindle is equipped with an SMI24 module.

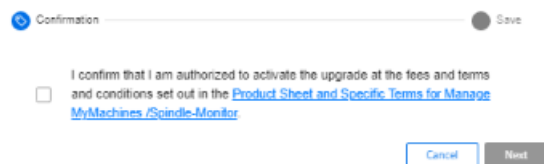
## Procedure

1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".  
Window "Shopfloor Management Application" > "Shopfloor" > tab "Application" > "Manage MyMachines" opens.
2. Select the required asset in the left-hand part of the window.  
To filter this asset, enter a character string in text box "Search".  
Set the slider to the right to activate the use of "Manage MyMachines /Spindle Monitor" for this asset.



A pop-up "confirmation" opens.

3. Click on link "Product Sheet and Specific Terms for Manage MyMachines" and read through the information.
4. Activate the "I confirm that I am authorized to activate the upgrade at the fees and terms and conditions set out in the Product Sheet and Specific Terms for Manage MyMachines /Spindle Monitor." check box.
5. Click on "Next".  
- OR -  
Click on "Cancel" to cancel the operation.



The window with message "Measured values and information from the additional main spindle device SMI24 are shown and stored." opens.

6. Click "OK" to confirm and to save the displayed values.

A confirmation dialog box titled "Confirmation" with a "Save" button in the top right corner. The text inside reads: "Measured Values and Information from the additional main spindle device SMI24 are shown and stored." Below this text are three input fields: "Slave Number" with the value "4", "Drive Number" with the value "4", and "Bus Number" with the value "1". At the bottom of the dialog are two buttons: "Cancel" and "OK".

You receive confirmation that the configuration has been saved successfully.

7. Click on "OK" to close the message.

A confirmation dialog box titled "Confirmation" with a "Save" button in the top right corner. A green success message banner is displayed in the center, containing a checkmark icon and the text: "The configurations were successfully saved." Below the banner is an "OK" button.

## Manage MyMachines /Spindle-Monitor Product Sheet and Specific Terms

If you click on the link "Product Sheet and Specific Terms for Manage MyMachines /Spindle Monitor", the document will be downloaded.

You obtain information about the product:

- Preconditions
- A brief product description
- Cost model
- Special Terms & Conditions
- Export control regulations
- Safety information
- Explanation of terms

### 5.7.2.4 Defining the billing period

You can select one of the following settlement models:

- Monthly package
- Annual package
- Regularly annually

You can only activate the separate "Manage MyMachines /Spindle Monitor" offer if you have activated "Manage MyMachines" as an annual package or regularly annually. You can also activate "Manage MyMachines /Spindle Monitor" if the remaining activation duration of "Manage MyMachines" is less than 1 year. "Manage MyMachines /Spindle Monitor" is then only available up to the end of the quotation validity period.

## Precondition

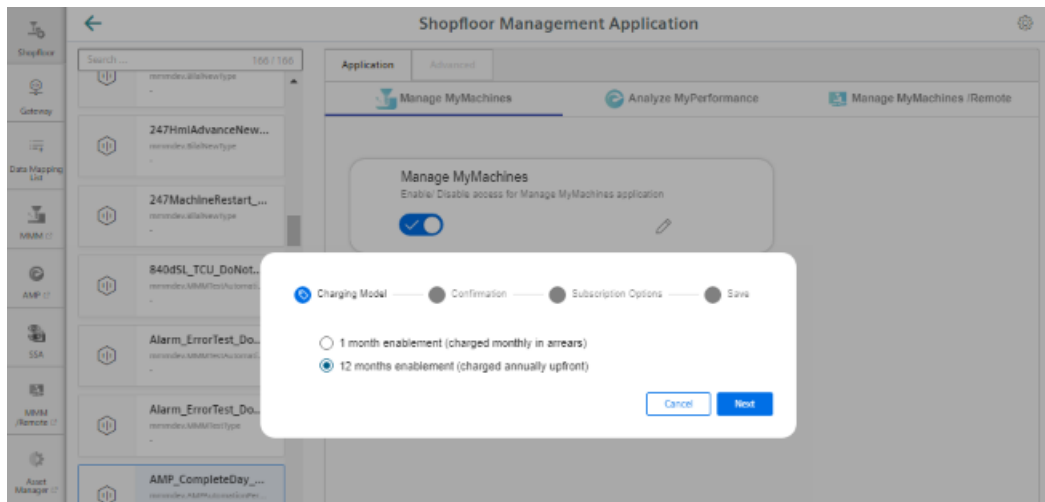
You require the following user roles:

- shopfloormgmtapp.admin
- Admin role for the application (mmm/amp/mmmremote) you are changing

More information is provided in Chapter: Managing users (Page 98)

## Activating the 12-month charging model

1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".  
Window "Shopfloor Management Application" > "Shopfloor" > tab "Application" > "Manage MyMachines" opens.
2. Select the required asset in the left-hand side of the window.  
To filter the assets, enter a character string in the "Search ..." field.
3. To activate the use of "Manage MyMachines" for this asset, move the slider to the right. The access is activated.  
A pop-up "Charging model" opens.
4. Activate the "12 months enablement (charged annually upfront)" option button.
5. If you do not want the selection, click the "Cancel" button.  
- OR -  
To confirm the selection, click on "Next".



6. Click on link "Product Sheet and Specific Terms for Manage MyMachines" and read through the information.
7. Activate the "I confirm that I am authorized to activate the upgrade at the fees and terms and conditions set out in the Product Sheet and Specific Terms for Manage MyMachines." check box.



8. Click on "Next".  
- OR -  
Click on "Cancel" to cancel the operation.

The screenshot shows a progress bar with four steps: Charging Model, Confirmation, Subscription Options, and Save. The Confirmation step is active. Below the progress bar, there is a checkbox that is checked, followed by the text: "I confirm that I am authorized to activate the upgrade at the fees and terms and conditions set out in the [Product Sheet and Specific Terms for Manage MyMachines](#)". At the bottom, there are two buttons: "Cancel" and "Next".

9. Activate the "Start Now (Automatically renewed)" option button to start the runtime with the current date.

The screenshot shows the progress bar with the Subscription Options step active. Below it, there are two radio button options: "Start Now (Automatically renewed)" which is selected, and "Custom Duration". At the bottom, there are "Cancel" and "Confirm" buttons.

- OR -

Activate the "Custom Duration" option button to specify the runtime individually.

The screenshot shows the progress bar with the Subscription Options step active. Below it, the "Custom Duration" radio button is selected. A form is displayed with the following fields:  
 - Start Date: 09/02/2023  
 - Renewal Cycle: 1 Year(s)  
 - Renewal Date: 09/02/2024  
 - Subscription End Date: 09/02/2025  
 - Three rows of Tag Name and Tag Value input fields.  
 At the bottom, there are "Cancel" and "Confirm" buttons.

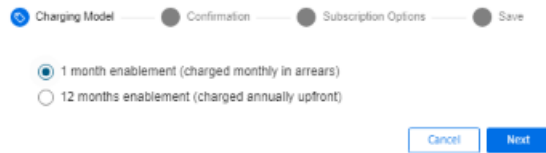
10. If you only wish to use "Manage MyMachines", click on "Next".

The screenshot shows the progress bar with the Save step active. Below it, there is a green success message: "The configurations were successfully saved." with a checkmark icon. At the bottom, there is an "OK" button.

Data acquisition is initiated if the "Start Now" (Automatically renewed) option is enabled or the "Custom Duration" option is enabled and the start date is set to "Today".  
If the "Custom Duration" option is enabled and the start date is not set to "Today", data acquisition will start at the date you specified.

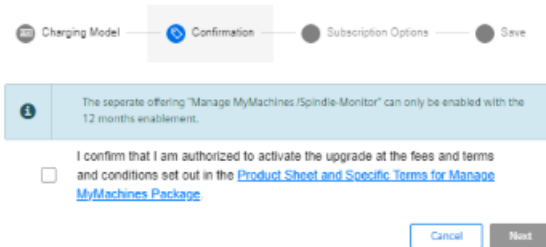
### Activating the 1-month charging model

1. To select a monthly period, activate the "1 month enablement (charged monthly in arrears)" option button and click on "Next".



A note is displayed indicating that you cannot activate the "Manage MyMachine /Spindle Monitor" application.

2. Click on link "Product Sheet and Specific Terms for Manage MyMachines Package " and read through the information.
3. Activate the "I confirm that I am authorized to activate the upgrade at the fees and terms and conditions set out in the Product Sheet and Specific Terms for Manage MyMachines Package." check box.  
If you wish to use "Manage MyMachines /Spindle Monitor", then the annual payment option is required.
4. Click on "Cancel" to return to the selection.  
- OR -  
If you only wish to use "Manage MyMachines", click on "Next".



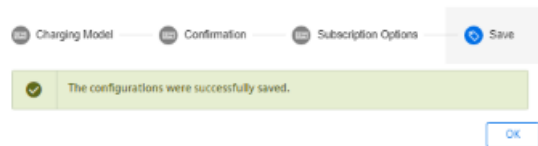
5. Activate the "Start Now (Automatically renewed)" option button to start the runtime with the current date.



- OR -

Activate the "Custom Duration" option button to define the runtime individually. You receive confirmation that the configuration has been saved successfully.

6. Click on "OK" to close the message.



Data acquisition is initiated if the "Start Now" (Automatically renewed) option is enabled or the "Custom Duration" option is enabled and the start date is set to "Today". If the "Custom Duration" option is enabled and the start date is not set to "Today", data acquisition will start at the date you specified.

### Setting the "Custom Duration"

1. In the "Start Date" input field, open the calendar to define the start date.
  2. In the "Renewal Date" input field, open the calendar to define the start date.
  3. In the "Renewals/Cycles" input field, specify the renewal period in years. The "Subscription End Date" field is automatically populated if you define the "Start Date", "Renewal Date" and "Renewals/Cycles" text boxes. The subscription end date obtained from the renewal period is displayed.
  4. Add the individual tag names in the "Custom Tag Name" input field.
  5. Add the individual tag values in the "Custom-Tag Value" input field.
  6. Click "Cancel" to exit the procedure.
- OR -
- Click the "Confirm" button to confirm the time period. You receive confirmation that the configuration has been saved successfully.

### Editing the billing period

When entering the data for the custom period, note the following:

- The renewal cycle for years/months must be between 0 and 99.
- The name of the custom tag and the value of the custom tag must not exceed 30 characters.

**Note**

**Multiple billing when changing the start date or subscription option**

If you change the start date of an active billing period or the subscription option, then you receive a new billing, even if the new billing period already lies in the active billing period.

- 1. To change the billing period, click the "Change Configuration" icon.

A "Charging Model" pop-up opens and you are notified when the next settlement date will be.

The "Subscription Options" pop-up contains a note that the subscription for the asset is already active for a billing period.

If you change the "Renewal date" or the "Renewals/Cycles" of the billing period, the newly selected option will not take effect until the end of the currently active subscription option.

If you change the "Start date" of the billing period, the newly selected option becomes active at the defined start date.

The billing occurs either on the same day or later.

The "Subscription Options" pop-up contains a note that the subscription for the asset is already active for a billing period.

Charging M...   
 Confirma...   
 Subscription Opti...   
 Save

**Important Notice:**  
Current selected is 12 months enablement.  
The subscription will end on: 09/11/2023.  
Asset has already subscription between 09/11/2022 and 09/11/2023.

**Next Order Information:**  
Next order payment selection is 12 months enablement.  
Next order will start on date: 15/12/2022.

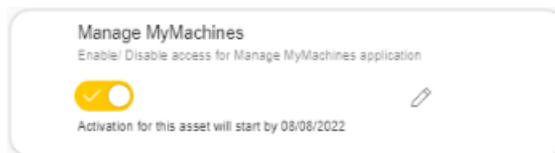
Start Now (Automatically renewed)  
 Custom Duration

Start Date 09/11/2022	Renewals/Cycles 0	Year(s)
Renewal Date 09/11/2023	Subscription End Date 09/11/2023	
Tag Name	Tag Value	
Tag Name	Tag Value	
Tag Name	Tag Value	

The "Subscription Options" pop-up contains a note that the subscription for the asset is already active for a billing period.

If you set the billing period in the future, you will see the activation date and the slider will be displayed in yellow.



## NOTICE

### Billing data as static variables

The billing data are saved as static variables, and can be displayed in the machine view.

More information is provided in Chapters:

- Configuring a machine overview (Page 215)
- Filtering according to static variables (Page 224)

## Manage MyMachines Product Sheet and Specific Terms

If you click on link "Product Sheet and Specific Terms for Manage MyMachines Package", window "Manage MyMachines /Remote Product Sheet and Specific Terms" opens.

You obtain information about the product:

- Preconditions
- A brief product description

- Cost model
- Special Terms & Conditions
- Export control regulations
- Safety information
- Explanation of terms

### 5.7.3 Billing model PB (Package Builder)

#### 5.7.3.1 Activating Manage MyMachines

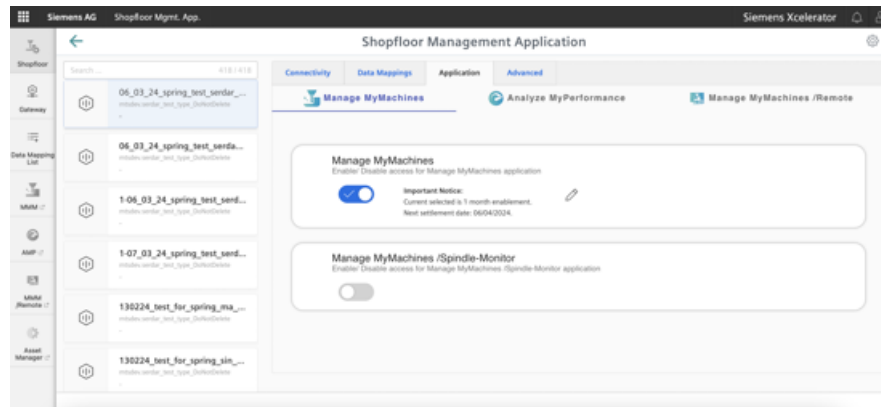
##### Precondition

- You have purchased Manage MyMachines for Industrial Operations X Cloud, and you have a package quota to activate the use of "Manage MyMachines Package" for assets.
- You require the following user roles:
  - mmmdashboard.admin
  - shopfloormgmtapp.adminMore information is provided in Chapter: Managing users (Page 98)
- You have connected the machine with Insights Hub.  
More information is provided in Chapter: Connecting controls with Insights Hub (Page 156)

##### Procedure

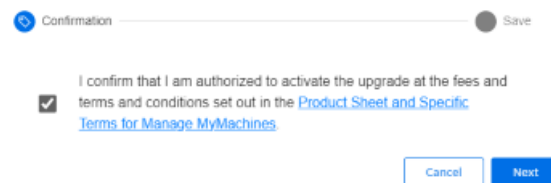
1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud Application "Shopfloor Management App".
2. Window "Shopfloor Management Application" > "Shopfloor" > tab "Application" > "Manage MyMachines" opens.
3. Select the required asset on the left-hand side of the window.  
To filter the assets, enter a character string in the "Search ..." field.

- To activate the use of "Manage MyMachines" for this asset, move the slider to the right.



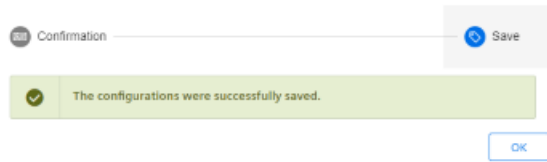
A pop-up "confirmation" opens.

- Click on link "Product Sheet and Specific Terms for Manage MyMachines" and read through the information.
- Activate the "I confirm that I am authorized to activate the upgrade at the fees and conditions set out in the Product Sheet and Specific Terms for Manage MyMachines." check box.
- Click on "Next".  
- OR -  
Click on "Cancel" to cancel the operation.



You receive confirmation that the configuration has been saved successfully.

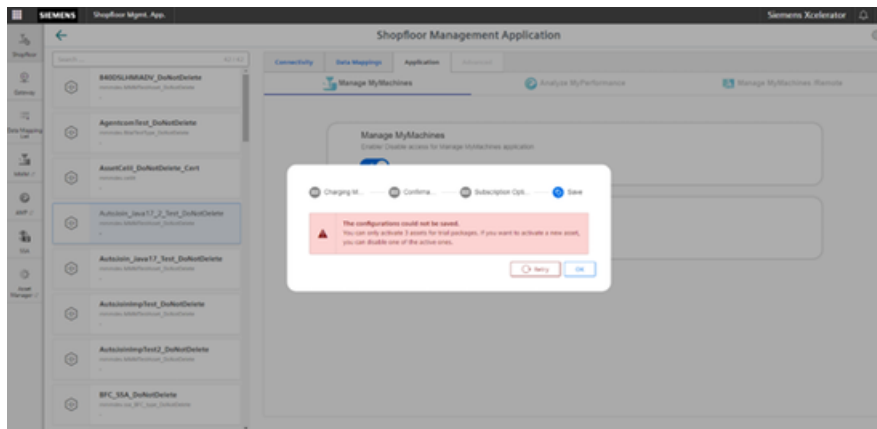
- 8. Click on "OK" to close the message.



- OR -

You receive a message that the configuration was not able to be saved due to the package quota. The reason for this are the assets, which are activated in the tenant and which therefore exceeds the package quota. You must visit the store to increase your package quota and to activate the assets in the tenant.

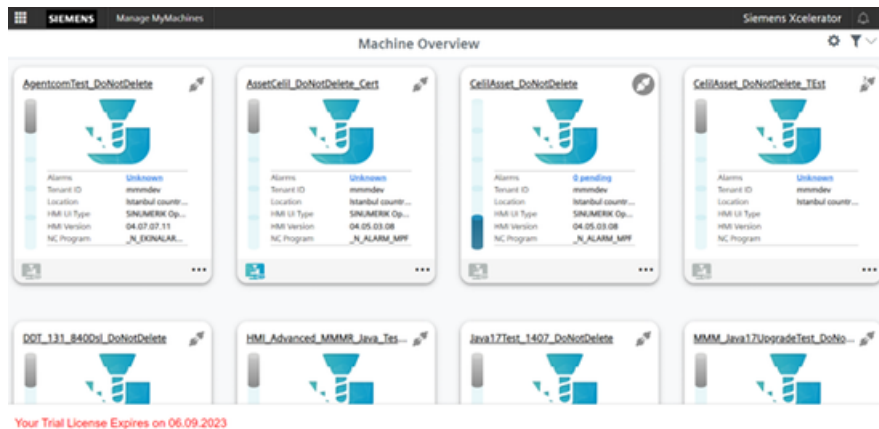
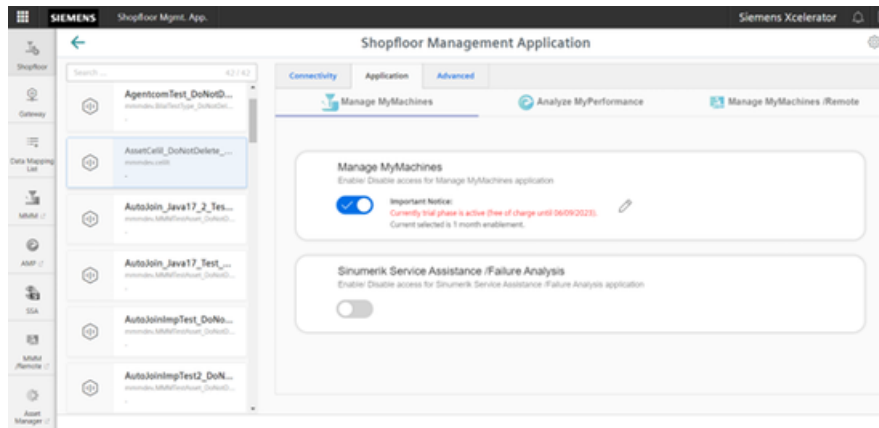
- 9. Update your package quota and click on "Retry".



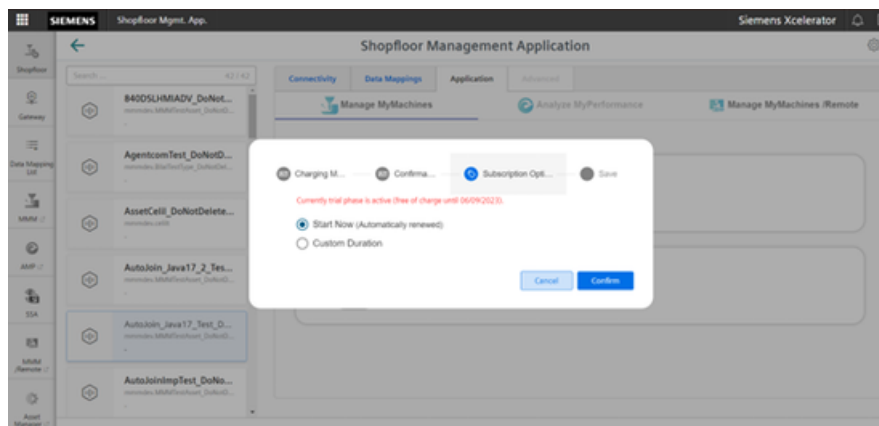


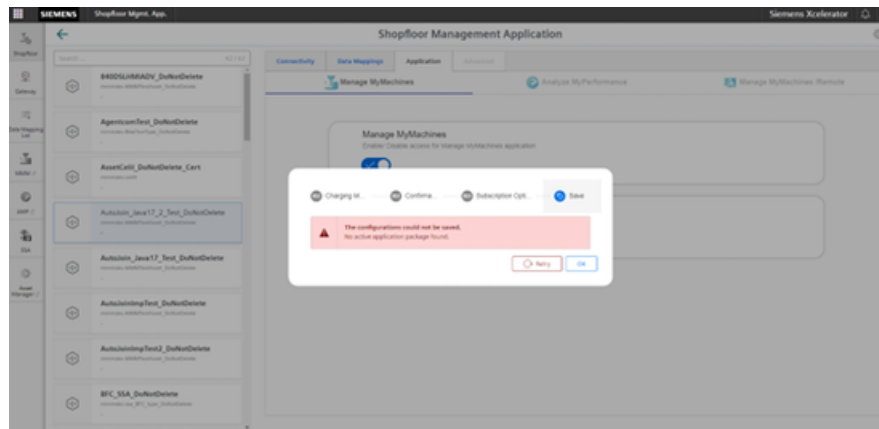
## Notifications about packages that have expired

- If you have purchased a test package, before the package expires, you receive the following messages in applications "Shopfloor Management App" and "Manage MyMachines".



- If you purchased a "Manage MyMachines" test package, you are informed in two areas about the expiration date of your tenant. Initially this message is displayed while activating in the "Shopfloor Management App". Additional permanent information is displayed in the lower area of the tenant.



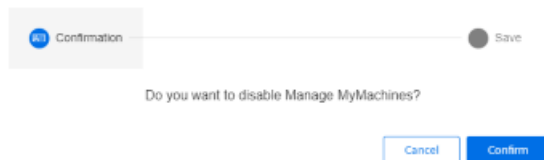


### 5.7.3.2 Deactivating Manage MyMachines

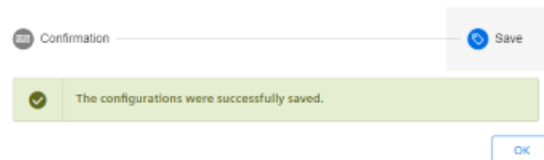
If you deactivate Manage MyMachines, all asset configurations are deleted.

#### Procedure

1. Window "Shopfloor Management Application" > "Shopfloor" > tab "Application" > "Manage MyMachines" opens.  
Select the required asset in the left-hand section of the window.
2. Move the slider to the left to deactivate the use of "Manage MyMachines" for this asset.
3. A pop-up "confirmation" opens.
  - Click on "Confirm" to deactivate Manage MyMachines.
  - OR -
  - Click on "Cancel" to cancel the operation.



4. You will receive a confirmation that the configuration has been saved successfully. Click the "OK" button to close the message.



### 5.7.3.3 Activating Manage MyMachines /Spindle Monitor

You can display information and recorded operating conditions from the SMI24 Sensor Module of a spindle. The SMI24 is available as an option for a large number of Weiss spindles. After being tested, the spindles of other manufacturers can be converted to SMI24.

More information can be found in the following Chapters:

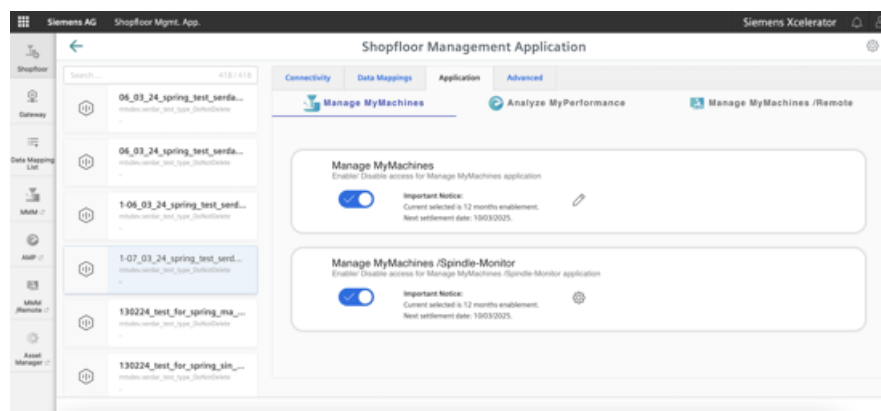
- Manage MyMachines /Spindle Monitor (Page 308)
- Determining the address of the spindles (only for 840D sl) (Page 375)
- Determining the address of the spindles (only for 828D) (Page 373)

#### Precondition

- You have purchased Manage MyMachines for Industrial Operations X Cloud "Manage MyMachines /Spindle Monitor", and you have a package quota to activate the use of "Manage MyMachines /Spindel Monitor Package" for assets.
- The use of "Manage MyMachines" is activated for the required asset.
- The Weiss spindle is equipped with an SMI24 module.

#### Procedure

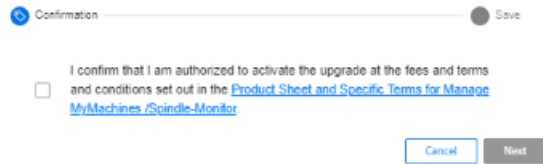
1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".  
The "Shopfloor Management Application" > "Shopfloor" > "Application" tab > "Manage MyMachines" window opens.
2. Select the required asset in the left-hand part of the window.  
To filter this asset, enter a character string in text box "Search".
3. To activate this asset to use "Manage MyMachines /Spindle Monitor", set the slider to the right.



A pop-up "confirmation" opens.

4. Click on link "Product Sheet and Specific Terms for Manage MyMachines" and read through the information.

5. Activate the "I confirm that I am authorized to activate the upgrade at the fees and terms and conditions set out in the Product Sheet and Specific Terms for Manage MyMachines /Spindle Monitor." check box.
6. Click on "Next".  
- OR -  
Click on "Cancel" to cancel the operation.



A confirmation dialog box with a progress bar at the top. The progress bar is labeled "Confirmation" on the left and "Save" on the right. Below the progress bar, there is a checkbox that is currently unchecked. To the right of the checkbox is the text: "I confirm that I am authorized to activate the upgrade at the fees and terms and conditions set out in the [Product Sheet and Specific Terms for Manage MyMachines /Spindle-Monitor](#)". At the bottom of the dialog, there are two buttons: "Cancel" and "Next".

The window with message "Measured values and information from the additional main spindle device SMI24 are shown and stored." opens.

- Click "OK" to confirm and to save the displayed values.

Confirmation Save

Measured Values and Information from the additional main spindle device SM124 are shown and stored.

Slave Number: 4      Drive Number: 4      Bus Number: 1

Cancel OK

You receive confirmation that the configuration has been saved successfully.

- Click on "OK" to close the message.

Confirmation Save

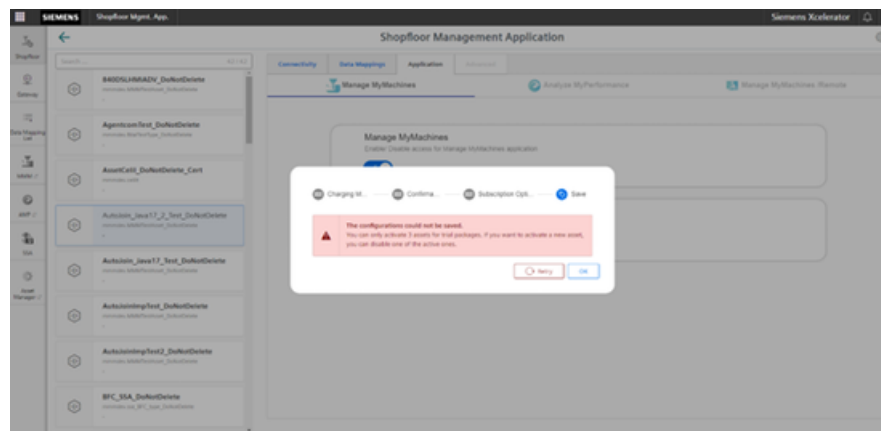
✔ The configurations were successfully saved.

OK

- OR -

You receive a message that the configuration was not able to be saved due to the package quota. This is due to assets that are activated in the tenant, thereby exceeding the package quota. You must visit the store to increase your package quota and to activate the assets in the tenant.

Update your package quota and click on "Repeat".



#### 5.7.4 Changing the billing model

You can migrate an application, such as "Manage MyMachines", from a standalone application to a package version and vice versa.

On migration from a standalone application to a package version, the assets activated for the application are retained. They are not deactivated. Due to the limited resources that are assigned to the package version, compatibility must be checked with product management to avoid performance problems.

In the migration from a package version to a standalone application, the application is deactivated for assets that are already activated.

## 5.7.5 Configuring variables

### 5.7.5.1 Overview

Using this function, you can individually configure which data is sent from the machine to Insights Hub, 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 Insights Hub.

Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" allows you to individually configure the following trigger:

- Time-based/cyclic trigger (Page 133)
- Configuring a value-based trigger (variable) (Page 135)
- Alarm-based trigger (Page 139)  
You also have the option of sending an alarm per email.  
You can find more information on the configuration in this Chapter: Configuring an alarm message and sending by email (Page 161)
- File upload (Page 142)

It is also possible to copy all configurations of one asset to another asset.

**More information:** Copying configurations (Page 148)

### Precondition

- Manage MyMachines is activated for the required asset or the activation date has been defined to be in the future.  
More information is provided in Chapter: Activating Manage MyMachines (Page 112)  
For an activation data in the future, the previously set configurations only become active on the activation date.
- To send HMI traces to Insights Hub, the HMI action log on the machine must be activated for the following data:
  - HMI trace
  - NCU data
  - Machine data











### Software option

In order to use the variable data, you need the "Path length evaluation" software option (6FC5800-0AM53-0YB0).

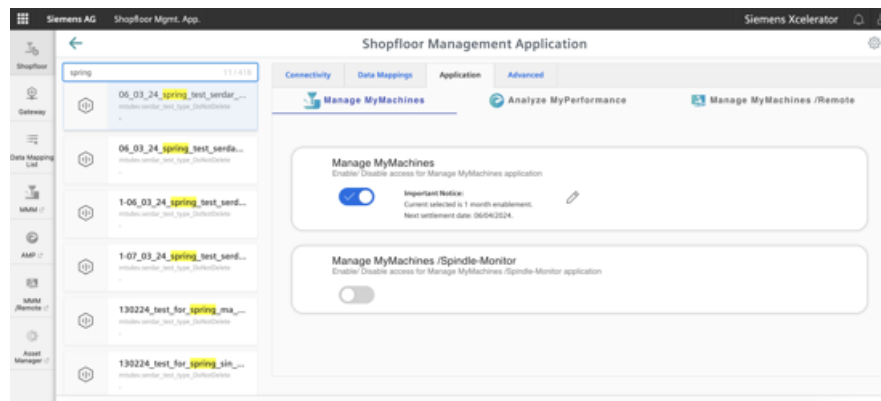
- If the "Manage MyMachines" application is used with the "Cross-Tenancy" function, the data and configurations are then visible in the tenants, but they cannot be changed.

## Icons

Icons	Description
	Creates a new configuration.
	Copies the configurations of an asset to other assets. More information is provided in Chapter: Copying configurations (Page 148) When copying, the "Configuration activated" or "Configuration deactivated" setting is also copied.
	Click the down arrow to open the area and to display the associated configurations.
	Click on the up arrow to close the area.
	Set the slider to the right to activate the corresponding configuration. The data for this configuration are recorded and sent to Insights Hub. As default setting, each new configuration is activated.
	Set the slider to the left to deactivate the corresponding configuration. The data for this configuration are not recorded and sent to Insights Hub.
	Opens a configuration that has already been created in order to make changes.
	Deletes a configuration that has already been created.

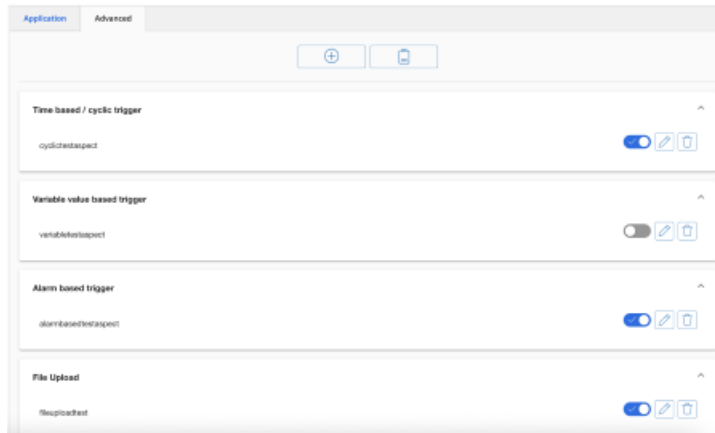
## Procedure

- In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".  
The "Shopfloor Management Application" > "Shopfloor" > "Application" tab > "Manage MyMachines" window opens.

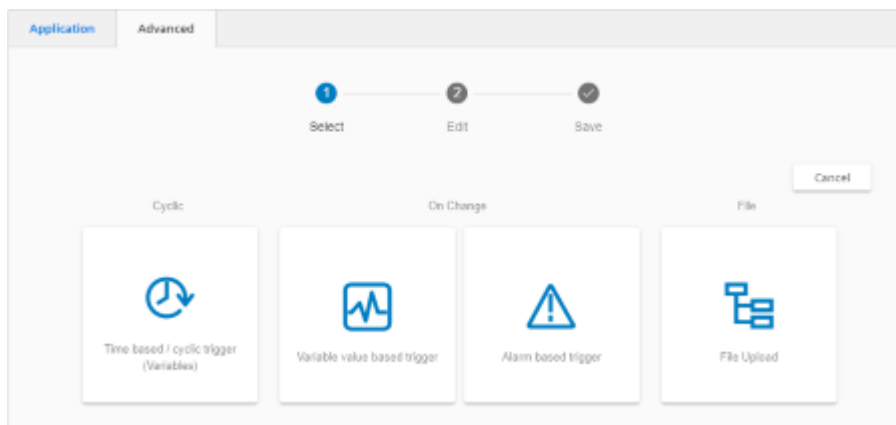


- Select the required asset in the central section of the window.

3. Open the "Advanced" tab in the right-hand section of the window. The window with the overview of the configurations that have been created opens.
  - If you have an incorrect configuration or a configuration that is no longer required, set the slider to the left to deactivate the configuration. The data flow from the machine to Insights Hub is stopped. The associated configuration is not displayed in window "Machine aspects". It takes up to 15 seconds until data recording stops.
  - Set the slider to the right to activate the required configuration.
  - To change an existing configuration, click on the "Edit" icon in the corresponding line.
  - To delete an existing configuration, click on the "Recycle bin" icon in the appropriate line. Confirm the message that the operation cannot be undone.



4. Click on the "+" button to add a new configuration. The input window to select the functions opens. Select one of the following functions:
  - Time-based/cyclic trigger (Page 133)
  - Configuring a value-based trigger (variable) (Page 135)
  - Alarm-based trigger (Page 139)
  - File upload (Page 142)





## More information

You can find **more information** about NC variables in the List Manual:

- SINUMERIK 840D sl, NC variables
- SINUMERIK 828D, NC variables

### 5.7.5.2 Time-based/cyclic trigger

Configure the "Time-based/cyclic trigger", to periodically send variable values from the machine to Insights Hub:

If you no longer require the configuration, you can deactivate this in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" using the slider.

## Parameters

Parameters	Description
<b>Create aspect</b>	
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: <ul style="list-style-type: none"> <li>• Letters</li> <li>• Underscore</li> <li>• Numbers</li> </ul>
<b>Read cycle used</b>	
Time interval	The sampling rate of the data acquisition is specified with this value. Select the time period from the drop-down list: <ul style="list-style-type: none"> <li>• 5 seconds</li> <li>• 30 seconds</li> <li>• 1 minute</li> <li>• 5 minutes</li> <li>• 15 minutes</li> <li>• 30 minutes</li> <li>• 1 hour</li> <li>• 4 hours</li> <li>• 12 hours</li> <li>• 24 hours</li> </ul>
<b>Variable</b>	

Parameters	Description
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: <ul style="list-style-type: none"> <li>• Letters</li> <li>• Underscore</li> <li>• Numbers</li> </ul> Remark: The name of the variable must not consist solely of numbers. In this case, the text box 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]
Data type	Select the data type of the variable from the drop-down list: <ul style="list-style-type: none"> <li>• DOUBLE</li> <li>• BOOLEAN</li> <li>• STRING</li> </ul> <b>Note:</b> 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/s <sup>3</sup>

**Procedure**

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



The "Time-based trigger" input window opens.

2. Enter a name in the "Create aspect" input field.
3. Enter the sampling rate in the "Read cycle used" input field.
4. Enter the variable properties in the text boxes.

- Click the "+" button to add a new variable.  
Repeat this step as often as 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.

---

The "Time-based trigger" input window opens.

- Click the "+" button to add a new variable.  
Repeat this step as often as necessary.
- 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 complete the operation.  
You are taken to an overview of the aspects.

The "Time-based trigger" input window opens.

- Click the "OK" button to complete the operation.

### 5.7.5.3 Configuring a value-based trigger (variable)

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

If a configured condition occurs, then the following data and values are sent to Insights Hub:

- Variable value
- Machine trace files
- User-defined file(s) in the specified directory





If you no longer require the configuration, you can deactivate this in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" using the slider.

## Parameters

Parameters	Description
<b>Create aspect</b>	
Aspect name	Enter a previously created variable name. The name must be unique. If the aspect does not yet exist in Insights Hub, then the aspect is created when saving the configuration.
<b>Configuring a trigger</b>	
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. <ul style="list-style-type: none"> <li>• DOUBLE</li> <li>• BOOLEAN</li> <li>• STRING</li> </ul>
	Select a comparison operation from the drop-down list. <ul style="list-style-type: none"> <li>• Greater than</li> <li>• Less than</li> <li>• Equal to</li> <li>• Not equal to</li> </ul>
Variable value	Enter a value.
<b>With the following configuration</b>	
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 within this time.
sec	Select the time unit from the drop-down list: <ul style="list-style-type: none"> <li>• sec</li> <li>• min</li> <li>• hr</li> </ul>

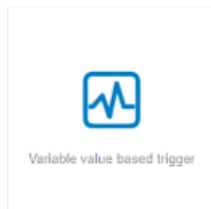
Parameters	Description
Hysteresis	<p>Activate the check box to include the hysteresis.</p> <p>The hysteresis can be a value or a percentage (absolute or relative).</p> <p>Example:</p> <p>The temperature is 30 degrees. The absolute hysteresis equals 5. In this case, the check is from 25 to 35 °C instead of 30 °C.</p> <p>Activate the "Relative" option button to record the relative value in relation to the comparison value.</p> <p>Activate the "Absolute" option button to record the absolute value.</p> <p>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.</p> <p>Enter a comparison value, this is restricted according to the selection of the address format.</p>
<b>Then acquire the following values</b>	
The following variable is recorded and sent to Insights Hub.	
Variable address	Shows the address of the variable.
Data type	<p>Select the data type of the variable from the drop-down list:</p> <ul style="list-style-type: none"> <li>• DOUBLE</li> <li>• BOOLEAN</li> <li>• STRING</li> </ul>
Duration	<p>Enter the recording duration.</p> <p>The duration must be longer than the cycle.</p> <p>Select the time unit from the drop-down list:</p> <ul style="list-style-type: none"> <li>• sec</li> <li>• min</li> <li>• hr</li> </ul> <p>Minimum of 30 seconds.</p> <p>Maximum of 24 hours.</p>
Cycle	<p>Enter the cycle duration.</p> <p>Select a time unit from the drop-down list:</p> <ul style="list-style-type: none"> <li>• sec</li> <li>• min</li> <li>• hr</li> </ul> <p>30 seconds is the minimum</p> <p>24 hours is the maximum</p>
<b>Adding trace files to the trigger</b>	
Recorded traces are sent as files to Insights Hub.	
Trace files	<p>Activate the option check box for the following data:</p> <ul style="list-style-type: none"> <li>• HMI trace</li> <li>• NC status</li> <li>• Machine data</li> </ul> <p>Activate the action log setting on the machine.</p> <p>More information is provided in Chapter: Setting the action log (Page 65).</p>

Parameters	Description
<b>Selecting file(s) to be uploaded</b>	
The selected files that are available on the machine are transferred to the corresponding Insights Hub tenants database.	
File or directory path *	Enter the file or directory path. <ul style="list-style-type: none"> <li>• The maximum file size is 100 MB</li> <li>• If the hard disk is full, then it is possible that not all of the files are sent to Insights Hub.</li> <li>• When the directory path has been created, the last 10 files in this directory are uploaded to Insights Hub.</li> </ul>

Icons	Description
	You will receive more 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.

**Procedure**

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



The "Variable-based trigger" input window opens.

2. Enter a name in the "Cyclic aspect name" input field.
3. Define a variable as trigger.
4. Define the settings for the trigger.

5. Define which data is sent to Insights Hub if the trigger occurs:
  - Recording variables  
Enter a variable address.
  - Trace files  
Activate the corresponding check box for "HMI-Trace", "NC-Status" or "Machine Data".
  - Files  
Enter a file name or a directory path.
6. 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.

The screenshot shows the 'Advanced' configuration window for a 'Variable based trigger' in the Shopfloor Management Application. The window is titled 'Shopfloor Management Application' and has a 'Variable based trigger' section. It includes a progress bar with 'Select', 'Edit', and 'Save' steps. The configuration fields are as follows:

- Create aspect:** Aspect name (text input).
- Configure the trigger:** Variable address (text input), DOUBBLE (dropdown), Greater or equal (dropdown), Variable value (text input).
- With the following configuration:** Debounce time (text input, unit: sec), Hysteresis (checkbox), Relative (radio), Absolute (radio).
- Zieh die folgenden Variablen auf:** Variable address (text input), DOUBBLE (dropdown), Duration (text input, unit: sec), Cycle (text input, unit: sec).
- Add trace files to trigger:** HMI-Trace (checkbox), NC-Status (checkbox), Machine Data (checkbox).
- Select file(s) to be uploaded:** File or Directory Path\* (text input).

#### 5.7.5.4 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 data to Insights Hub.

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 can also hide individual or ranges of alarms from a selection.

When certain alarms occur, you can upload user-defined files to Insights Hub.





If you no longer require the configuration, you can deactivate this in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" using the slider.

## Parameters and icons

Parameters	Description
<b>Create aspect</b>	
Aspect name	Enter a descriptive name for the aspect. The name must be unique.
<b>Include alarms</b>	
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: <ul style="list-style-type: none"> <li>• Separate the individual alarms through a comma, e.g. 3200, 32100, ...</li> <li>• Enter the alarm number ranges with a "-" character, e.g. 4000-5000</li> </ul> The alarm list must not exceed 200 characters.
Alarm intervals:	Enter the alarm limits. <ul style="list-style-type: none"> <li>• From: Enter the lowest alarm ID, e.g. 0</li> <li>• To: Enter the highest alarm ID, e.g. 999999</li> </ul> All alarms between 0 and 999999 are included.
<b>Exclude alarms</b>	
Alarm numbers:	Enter the alarm numbers that do not activate the trigger. Excluded alarms are not transmitted to Insights Hub. The alarm number must lie within the range from 0 to 999999. The alarms are entered in the following notation: <ul style="list-style-type: none"> <li>• Separate the individual alarms through a comma, e.g. 3200, 32100, ...</li> <li>• Enter the alarm number ranges with a "-" character, e.g. 4000-5000</li> </ul> The list of alarm numbers must not exceed 200 characters.
Alarm intervals:	Enter the alarm limits: <ul style="list-style-type: none"> <li>• From: Enter the lowest alarm ID, e.g. 0</li> <li>• To: Enter the highest alarm ID, e.g. 999999</li> </ul> All alarms between 0 and 999999 are included.
<b>Adding trace files to the trigger</b>	

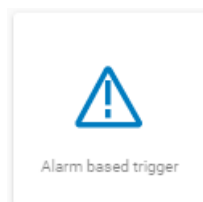


Parameters	Description
Trace files	Activate the option check box for the following data: <ul style="list-style-type: none"> <li>• HMI trace</li> <li>• NC status</li> <li>• Machine data</li> </ul> Activate the action log setting on the machine. More information is provided in Chapter: Setting the action log (Page 65).
<b>Selecting file(s) to be uploaded</b> The selected files that are available on the machine are transferred to the corresponding Insights Hub tenants database.	
File or directory path *	Enter the file or directory path. <ul style="list-style-type: none"> <li>• The maximum file size is 100 MB</li> <li>• If the hard disk is full, then it is possible that not all of the files are sent to Insights Hub.</li> <li>• When the directory path has been created, the last 10 files in this directory are uploaded to Insights Hub.</li> </ul>

Icons	Description
	You will receive more 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.

## Procedure

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



The "Alarm-based trigger" input window opens.

2. Enter a name for the aspect and specify the properties.
3. 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.

- To exit the operation, click on "OK".  
Click on "Save" to accept the entries.

- Enter a file or a directory path to load data from the control to Insights Hub.

### 5.7.5.5 File upload

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

**Parameters**

Parameters	Description
Configuration name	Enter a name for the configuration. The name must be unique and not exceed 30 characters. The following characters are permissible: <ul style="list-style-type: none"> <li>• Letters</li> <li>• Underscore</li> <li>• Numbers</li> </ul>
Cyclic	The files are sent to Insights Hub at defined intervals. Select the time interval from the drop-down list: <ul style="list-style-type: none"> <li>• 1 hour</li> <li>• 2 hours</li> <li>• 4 hours</li> <li>• 6 hours</li> <li>• 8 hours</li> <li>• 12 hours</li> <li>• 24 hours</li> <li>• 1 week</li> <li>• 1 month</li> </ul>
Regarding the change	The control checks the files at 1-hour intervals. If the file or directory changes, the relevant files are uploaded to Insights Hub.
Adding trace files to the trigger	Recorded traces are sent as files to Insights Hub. Activate the check box for the following data: <ul style="list-style-type: none"> <li>• HMI trace</li> <li>• NC status</li> <li>• Machine data</li> </ul> Activate the action log setting on the machine. More information is provided in Chapter: Setting the action log (Page 65).
File directories	Enter the correct file directory. A directory path must end with a "/" or "\" character. A maximum of 10 directories is permitted.
Files	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 are sent to Insights Hub.

**Icons**

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.

Icon	Description
	Delete the entry for the file or directory path.
	You will receive more information.

**NOTICE****Data manipulation possible**

There is a risk that an attacker, within the network between SINUMERIK Integrate and Insights Hub, gains access to the file system of the server or service clients. The attacker can then read or manipulate various system components (e.g. database content). As a consequence, the attacker can manipulate tool data, NC programs, machine archives or the system structure itself, for example. This type of attack cannot be prevented by Insights Hub.

- It is therefore imperative that the person responsible for the machine network takes the appropriate industrial security measures for the production/machine network.

Siemens AG does not accept any liability in this regard.

**Files**

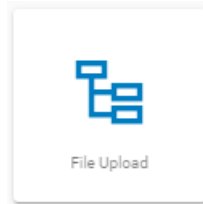
The maximum file size is 100 MB.

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

## Procedure

1. Click the "File Upload" function.



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.

 A screenshot of the "File Upload" configuration window. The window title is "Shopfloor Management Application". It has a progress bar at the top with three steps: "Select" (1), "Edit" (2), and "Save" (3). The current step is "Edit". The window contains the following fields:
 

- Configuration name:** A text input field with a "1/5" indicator on the right.
- Configuration type:** Radio buttons for "Cyclic" (selected) and "On Change".
- Cycle length:** A dropdown menu currently set to "1 Hour(s)".
- Add trace files to trigger:** Three checkboxes: "HMI-Trace", "NC-Status", and "Machine Data".
- File Directories:** A section with the text "No directory added" and a "+" button.
- Files:** A section with the text "There are no files under this folder" and a "+" button.

The "File Upload" input window opens.

2. Enter the name for the configuration.
3. Select the type of file upload:
  - Cyclic  
Select the cycle length.
  - OR -
  - On Change  
If you activate "On Change", you can select a directory.

 A screenshot of the "File Upload" configuration window, showing the "On Change" configuration. The configuration name is "CyclicFileUploadTest". The "On Change" radio button is selected. Under "File Directories", two directories are listed:
 

- "/var/tmp/datatransfer/" with a checkmark and a trash icon.
- "<temp>/" with a checkmark and a trash icon.

 The "Files" section still shows "There are no files under this folder" with a "+" button.

4. Activate the check boxes for the trace files that you want to transfer along with the customer-specific files.
5. 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.
6. Enter the directory path and click the "Checkmark" icon.
7. 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 are sent to Insights Hub.
  - Click the "Checkmark" icon.
8. Click on the "Recycle bin" icon in the appropriate line to delete a directory path or a file.
9. 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.
10. The "Data recording saved successfully" message appears.  
Click the "OK" button to complete the operation.
11. You can see an overview of the files in the "Operations Insight" application.  
For more information, see Chapter: Displaying uploaded files in "Insights Hub Monitor" (Page 162).

### 5.7.5.6 Restrictions when uploading files

#### Restrictions

The following restrictions apply for the following applications:

- You can simultaneously upload 10 files or directories.
- Ensure that no other processes obstruct the upload so that the latest version of a file can be called and uploaded.
- You can assign a name to the file or the directory.  
You can load 10 files to this directory once you have defined it. These files are sorted according to date of change; the latest 10 files are displayed.
- To be able to distinguish between a file and a directory, directories must end with a "/" or "\".
- Subdirectories in the selected directory are not taken into account.
- The time limit of the SINUMERIK control system must be set to 200 msec.

The following Insights Hub restrictions apply for the applications:

- Special characters are not supported for the upload.  
Do not use the following characters: ?, :, \*, &, ", \$, |, `, <, >, +, !, [, ]
- If files are larger than 8 MB, it is not permissible that the maximum path length of 60 characters is exceeded.
- The file size is limited to 100 MB. Files larger than 100 MB are not transferred.
- The size of a directory is limited to 500 MB. If, for example, the first 3 files in the directory exceed 500 MB, then the fourth file is not transferred.

The tested machines are listed in the following table. If the first four machines do not have a 2.5 GB memory, then only a certain amount of data is transferred. If the last 2 machines have the amount of memory required, then a total of 2.5 GB data can be transferred. Ensure that the machine has a total memory size of 2.5 GB to ensure that data is transferred.

SINUMERIK type	SINUMERIK Operate	SINUMERIK Integrate	File size (max.)	Folder size (max.)	Trigger size (max.)
SINUMERIK 840D pl PCU 50.2	HMI Advanced 7.6.2	SINUMERIK Integrate 4.15.0.13	100 MB	500 MB	500 MB
SINUMERIK 840D sl NCU 710.3B PN	SINUMERIK Operate 04.08.04.06	SINUMERIK Integrate 03.00.17.00	100 MB	500 MB	500 MB
SINUMERIK 828 PPU 271.4	SINUMERIK Operate 04.08.06.02	SINUMERIK Integrate 03.00.13.00	100 MB	500 MB	500 MB
SINUMERIK ONE NCU 1750	SINUMERIK Operate 4.5.SP6 HF19 SINUMERIK ONE OP 04.93.00.04	SINUMERIK Integrate 04.00.19.00	100 MB	500 MB	500 MB
SINUMERIK 840D sl PCU 0220 (Windows)	SINUMERIK Operate 4.5.SP6 HF19	SINUMERIK Integrate 02.07.00.006	100 MB	500 MB	500 MB

### Restrictions in order to avoid corrupted data transfer

To prevent data loss, Manage MyMachines creates an "uploadRecovery" folder into which data is transferred if the transfer to Insights Hub does not take place.

#### Note

##### Please note the following:

- The maximum directory size must not exceed 1 GB.
- Prevent changes to the upload directory, which is saved in SINUMERIK control system "uploadRecovery" folder ("`<temp>/fileupload`" and "`<temp>/uploadRecovery`"). The failover mechanism uses this folder.
- If the transfer was unsuccessful, additional transfer attempts are started within a 4-hour cycle.

## Supported directories and folders

### **It is not permissible to upload confidential files.**

Permitted file and folder extensions have been generated to comply with the security guidelines and to prevent confidential files from being uploaded.

The user is responsible for ensuring that the correct files are sent to the appropriate directory and uploaded.

### **The special <temp> directory**

To increase the flexibility when uploading files, directory "epsConfig temp" was added to the authorized list.

## Example

"epsconfig.xml" - the associated temp file is: C:\temp\

<temp>\ file is C:\temp\files\

## File names

An asset cannot be saved as file if the name contains special characters.

It is not permissible that the following characters are used in file names: !, +, ?, ;, \*, &, ", \$, /, \, <, >, [, ]

### 5.7.5.7 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.

---

#### **Note**

#### **Continuing the copying procedure after closing the browser**





Copying is interrupted if you close the browser window while copying. If you open the "Shopfloor Management Application" again, you can continue the operation by clicking on "Continue".

However, this is not possible if you are using an incognito window for the copying procedure, since no data is written to the cache in the incognito window.


---



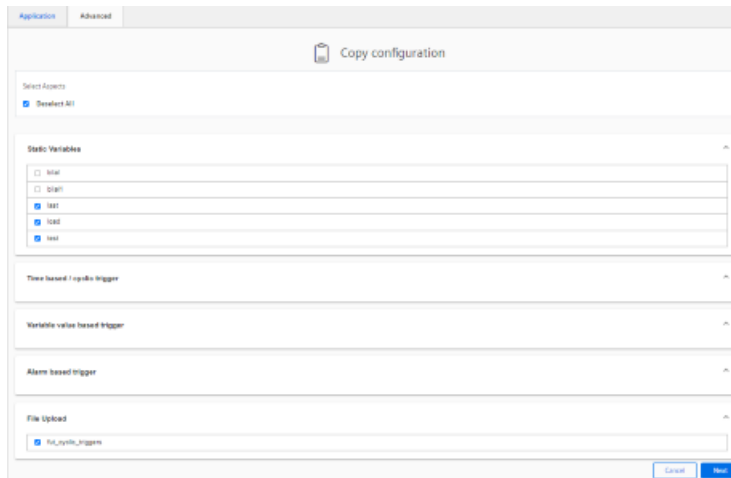
## Icons

Icons	Description
	Opens the "Copy configuration" window. The "Configuration activated" or "Configuration deactivated" setting is also copied.
	Shows the source and target of the last copying procedure.
	The yellow symbol indicates that there is a merge conflict warning. If you click on the icon, the warning will be displayed.
	The red symbol indicates that there is a merge conflict error. If you click on the icon, the error will be displayed. You will find more information on messages in the following chapter "Messages".

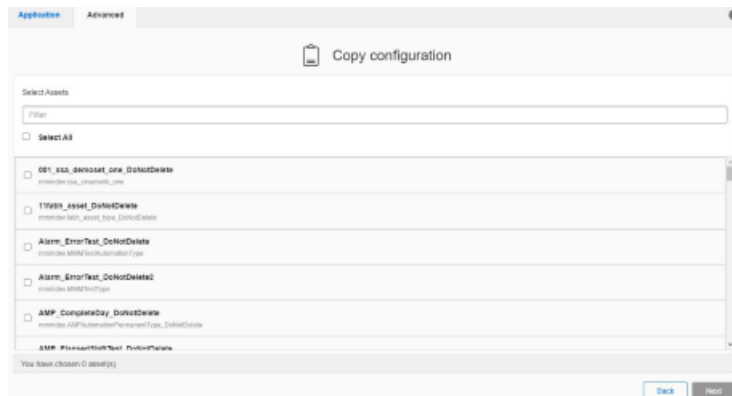
## Procedure

1. In the "Shopfloor Management Application", select the asset with the required configurations.
2. Open the "Advanced" tab in the right-hand section of the window.
3. Click the  button.

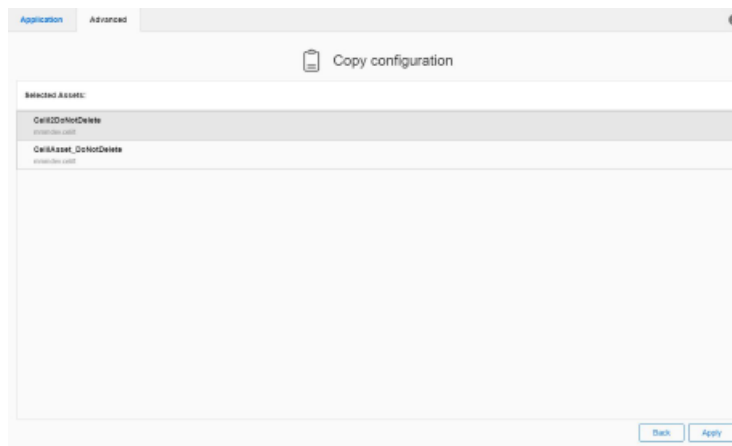
4. The "Copy configuration" window opens.
  - In the "Select aspects" list, select the "Select All" check box.  
All aspects are selected.  
- OR -
  - In the "Select aspects" list, select the "Deselect All" check box.
  - Then activate only the check boxes whose triggers you want to copy:  
Static Variables  
Time-based / cyclic trigger  
Variable value-based trigger  
Alarm-based trigger  
File upload
  - Click "Cancel" to cancel to the process.  
- OR -  
click "Next".  
This button is only active if you have made at least one selection.



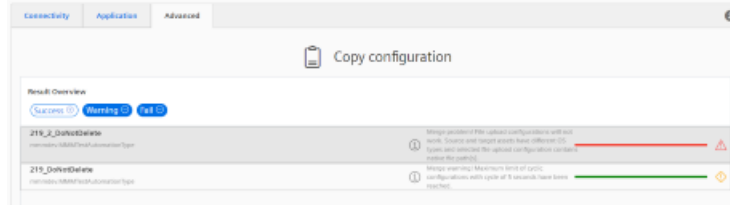
5. Another "Copy configuration" window opens. All available target assets are listed.
  - To filter the list, enter the name of the asset (or parts of it) in the search field.
  - Activate the check box in front of the required asset.
    - OR -
    - activate check box "Select All".
  - Click the "Return" button to make a new selection.
    - OR -
    - click "Next".



6. The selected assets are displayed for checking. If red or yellow warning icons are displayed for the selected assets, you must resolve the conflicts first. As long as warnings are displayed, the "Apply" button is not selectable.
  - Click the warning icon. You will receive a description and resolution of the conflict. You will find more information on warnings in the following chapter "Messages".
  - When all conflicts are resolved, click the "Apply" button.



- 7. The copying process is started. Progress is displayed for each asset.
- 8. In the result overview, click on one of the three badges "Successful", "Warning" or "Error" to filter the results.



### Messages

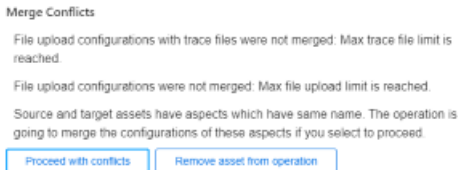
The system checks various configurations when copying the data.

The following messages "Merge conflicts" are displayed:

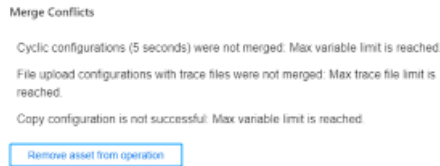
- It is possible that the file upload path does not function on the target assets, as an unknown or different operating system type is involved. Source and target asset have aspects that have the same name. The operation merges the configuration of these aspects if continue has been selected.



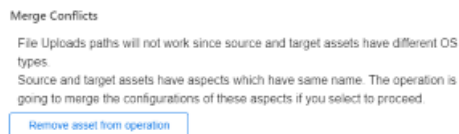
- File upload configurations with trace files are not merged. The maximum trace file limit has been reached. File upload configurations were not merged. Max. file upload limit was reached. Source and target asset have aspects that have the same name. The operation merges the configuration of these aspects if continue has been selected.



- Cyclic configurations (5 seconds) were not merged. Max. variable limit was reached.  
File upload configurations with trace files are not merged. The maximum trace file limit has been reached.  
Copying the configuration was unsuccessful. Max. variable limit was reached.



- File upload paths will not function as the source and target assets have different operating system types.  
Source and target asset have aspects that have the same name. The operation merges the configuration of these aspects if continue has been selected.

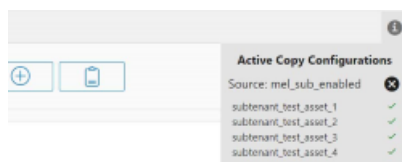


You have the option of clicking on the following buttons: "Proceed with conflicts" or "Remove asset from operation".

## Displaying information and switching between the assets

After completing a copying procedure, the information symbol is shown in the register line. The symbol is also displayed if you switch between various assets. The information is only deleted if you start a new copying procedure.




1. Click on the "i" symbol to display the source and target of the last copying procedure.
2. In window "Active Copy Configuration", click on an asset name.  
Tab "Advanced" is displayed for the corresponding asset.



### 5.7.6 Data mapping list

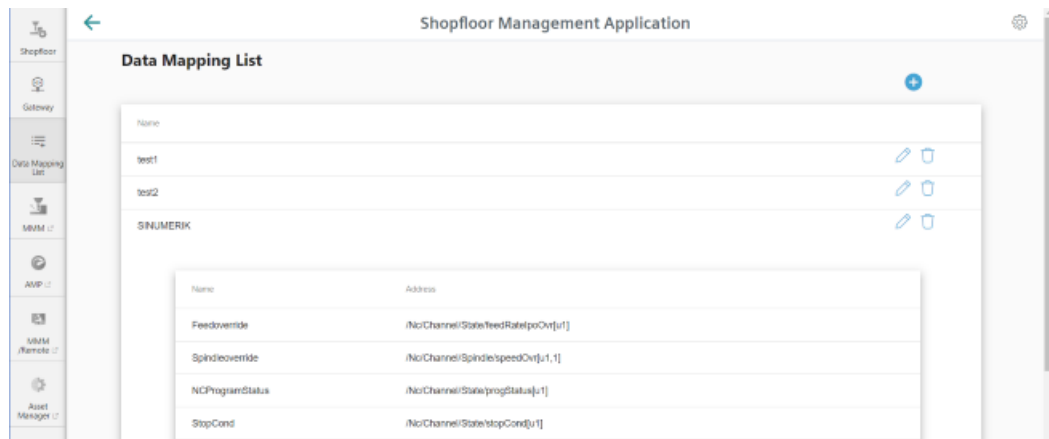
You have the option of saving your own controls in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App" under "Data Mapping List".

Icons

Icon	Description
	Creates a new controller.
	Deletes a controller that has already been created.
	Opens a controller that has already been created for editing.

Procedure

1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".  
Window "Shopfloor Management Application" opens.
2. In the left-hand window area, click on "Data Mapping List".  
A list of the controllers that have been created is displayed.



3. Click on the "+" icon to create a new control.  
Window "Mapping Name" opens.
4. Enter a data mapping name of the control, and click on "Next".  
- OR -  
Click on "Cancel" to cancel the operation.



Window "Mapping Parameters" opens.

5. Enter the addresses of the control.
  - FeedOverride address
  - NcProgramStatus address
  - NcProgram address
  - ProtectionLevel address
  - SpindleOverride address
  - StopCondition address
  - OpMode address
  - NrOfAlarms address
6. Click on "Save" to save the entries.
  - OR -
  - Click on "Cancel" to cancel the operation.

The screenshot shows a configuration window with two tabs: "Mapping Name" (selected) and "Mapping Parameters". The "Mapping Parameters" tab is active, displaying eight input fields arranged in a 4x2 grid. Each field is labeled with a parameter name followed by an asterisk, indicating it is required. The fields are: FeedOverride Address\*, SpindleOverride Address\*, NcProgramStatus Address\*, StopCondition Address\*, NcProgram Address\*, OpMode Address\*, ProtectionLevel Address\*, and NrOfAlarms Address\*. At the bottom right of the form, there are two buttons: "Cancel" (highlighted in blue) and "Save" (greyed out).

## 5.8 Connecting controls with Insights Hub

Connect SINUMERIK controls or other controls with Insights Hub using the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".

**More information** about roles within Insights Hub and on configuring assets is provided in: Documentation Insights Hub (<https://siemens.mindsphere.io/en/docs/mindaccess.html>)

### Precondition

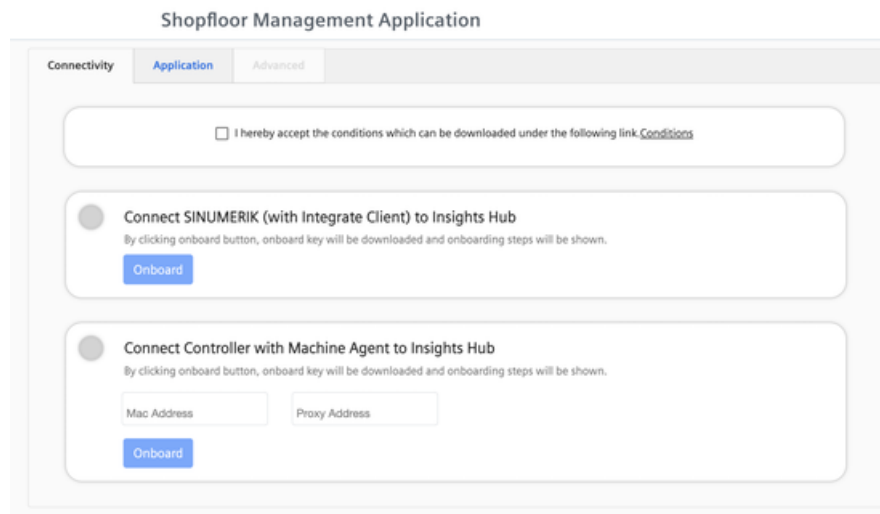
- Manage MyMachines for Industrial Operations X Cloud is activated.  
More information is provided in Chapter: Shopfloor Management Application (Page 110)
- You need the "shopfloormgmtapp" role as a standard user or administrator in Insights Hub
- The configuration must have been saved.

### Procedure

1. Click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".
2. Select the required asset in the left-hand side of the window.
3. Open the "Connectivity" tab in the right-hand section of the window.
4. Select check box "I accept the conditions, which can be downloaded from the following link. Conditions".
5. Click on the "Conditions" link.  
The "Insights Hub – Terms & Conditions" window opens.
6. Click on your region.
7. From the list, select the appropriate Terms & Conditions.
8. Read the Terms & Conditions.  
- OR -  
Download the Terms & Conditions.  
- OR -  
Print the Terms & Conditions.



9. Close the window.  
The "Connectivity" tab is displayed again.
10. Connect the asset with Insights Hub:
  - **SINUMERIK controller:** Activate option button "Connect SINUMERIK (with Integrate Client) to Insights Hub" and click on "Onboard".
  - OR -
  - **Another controller:** Activate option button "Connect Controller with Machine Agent to Insights Hub". Enter the address of the controller (MAC address) and a proxy URL and click on "Onboard".



## Connecting SINUMERIK (with Integrate Client) to Insights Hub

The "onboard.key" is generated. Window "Connect with SINUMERIK" opens.

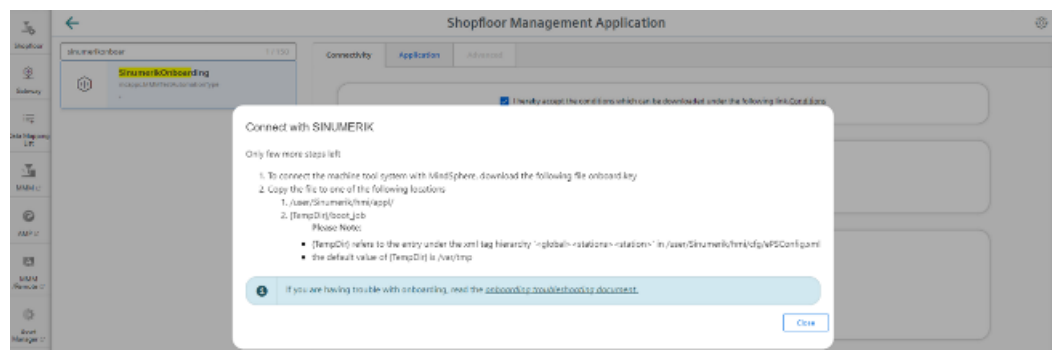
1. Download file "onboard.key".
2. Copy the file to one of the specified storage locations in the controller.

**More information** can be found in the following chapters:

SINUMERIK 840D sl: Install the registration key on a SINUMERIK control system (Page 50)

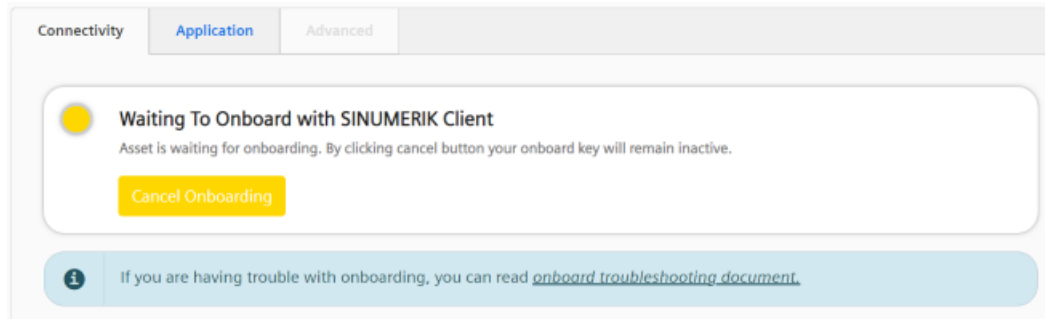
SINUMERIK 828D: Install the registration key on a SINUMERIK control system (Page 58)

Call the troubleshooting document if you have problems with onboarding.

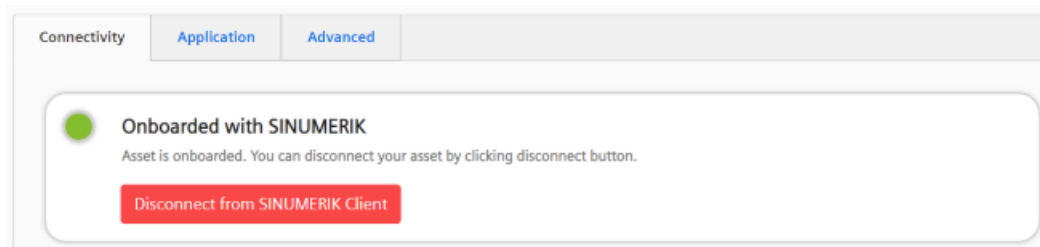


The status is displayed as "Waiting to Onboard with SINUMERIK Client".

3. Call the document for troubleshooting during the onboarding process: Troubleshooting when onboarding (Page 351)
4. Wait until the status changes to "Onboarded with SINUMERIK"  
- OR -  
Click on button " Cancel Onboarding" to cancel the operation.  
The window with the two connection options re-opens.



The connection was successfully established, and the status is displayed as "Onboarded with SINUMERIK".

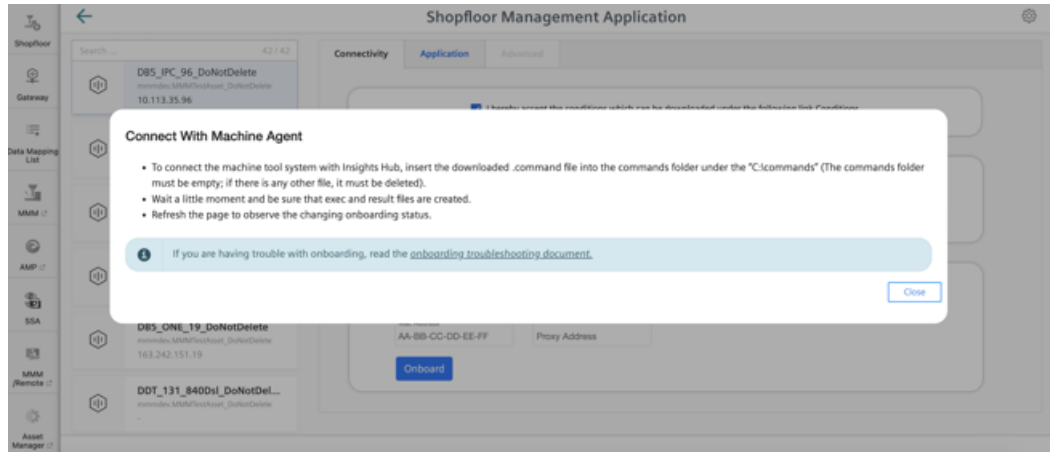


### Connecting the control with Insights Hub (Machine Agent)

File "<macaddress>.command" is downloaded. Window "Connect with Machine Agent" opens.

1. Save file "<macaddress>.command" to the following directory: "C:/commands"
2. Wait until the execution and result files have been created and then refresh the page.

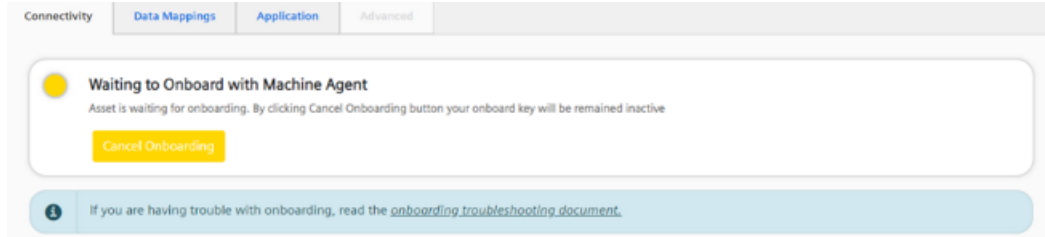
3. Call the troubleshooting document if you have problems with onboarding.



The status is displayed as "Waiting for Onboard with Machine Agent".

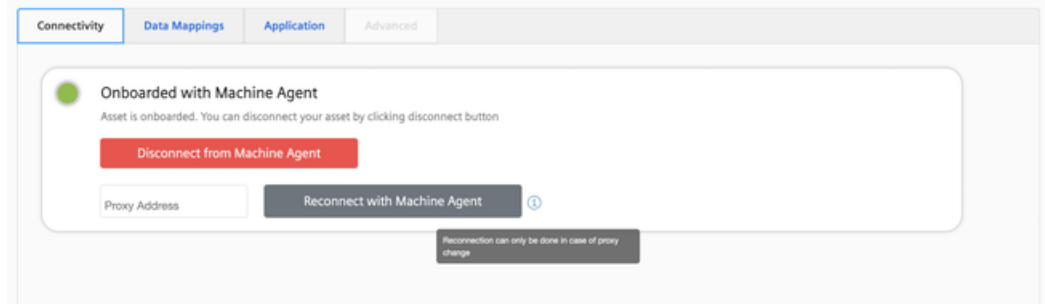
4. Call the document for troubleshooting during the onboarding process: Troubleshooting when onboarding (Page 351)

5. Wait until the status changes to "Onboarded with Machine Agent"  
- OR -  
Click on button "Cancel Onboarding" to cancel the operation.  
The window with the two connection options re-opens.



The connection was successfully established, and the status is displayed as "Onboarded with Machine Agent".

6. You have two options here:  
Click on button "Disconnect from Machine Agent" to disconnect the asset from the Machine Agent.  
The window with the two onboarding options opens.  
- OR -  
Click on button "Reconnect with Machine Agent" to reconnect the asset.  
This option exists if, for example, changes were made to the proxy settings.  
The new file "<macaddress>.command" is downloaded.  
To reconnect the asset, save file "<macaddress>.command" in directory "'C:/commands'".



## 5.9 Configuring an alarm message and sending by email

You have the option of configuring an alarm trigger, which notifies you by email if a "Manage MyMachines" event occurs.

### Note

#### Maximum number of alarms per machine

Insights Hub supports a maximum of 40 alarms for an individual aspect of a machine. An email cannot be sent if this number is exceeded.

### Procedure

1. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".
2. Select the required asset in the left-hand side of the window.
3. Click the "Alarm-based trigger" function.
4. The "Alarm-based trigger" input window opens.
  - Enter a name for the alarm. Specify the properties.
  - 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 complete the operation.

5. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Insights Hub Monitor". The "Insights Hub Monitor" window opens. More information can be found in Chapter: Displaying uploaded files in "Insights Hub Monitor" (Page 162) and in the "Operations Insight" documentation (<https://documentation.mindsphere.io/MindSphere/apps/insights-hub-monitor/introduction.html>).

## 5.10 Displaying uploaded files in "Insights Hub Monitor"

The files that you uploaded with the "File Upload" function are displayed in the "Insights Hub Monitor" application.

This application replaces the "Fleet Manager" application.

More information is provided in the Documentation "Insights Hub Monitor" (<https://documentation.mindsphere.io/MindSphere/apps/insights-hub-monitor/attachments.html>).

### Precondition

You have uploaded files.

You will find further information on how to set up "File Upload" in Chapter: File upload (Page 142).

#### NOTICE

##### Data manipulation possible

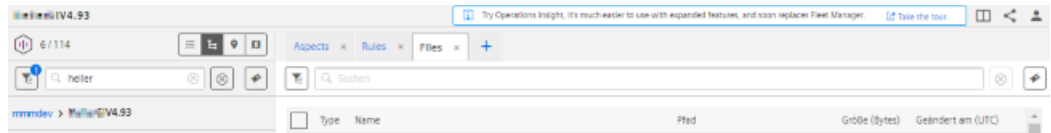
There is a risk that an attacker, within the network between Mcenter and Insights Hub, gains access to the file system of the server or service clients. The attacker can then read or manipulate various system components (e.g. database content). As a consequence, the attacker can manipulate tool data, NC programs, machine archives or the system structure itself, for example. This type of attack cannot be prevented by Insights Hub.

- As the person responsible for the machine network, take measures to ensure the industrial security of the production/machine network.

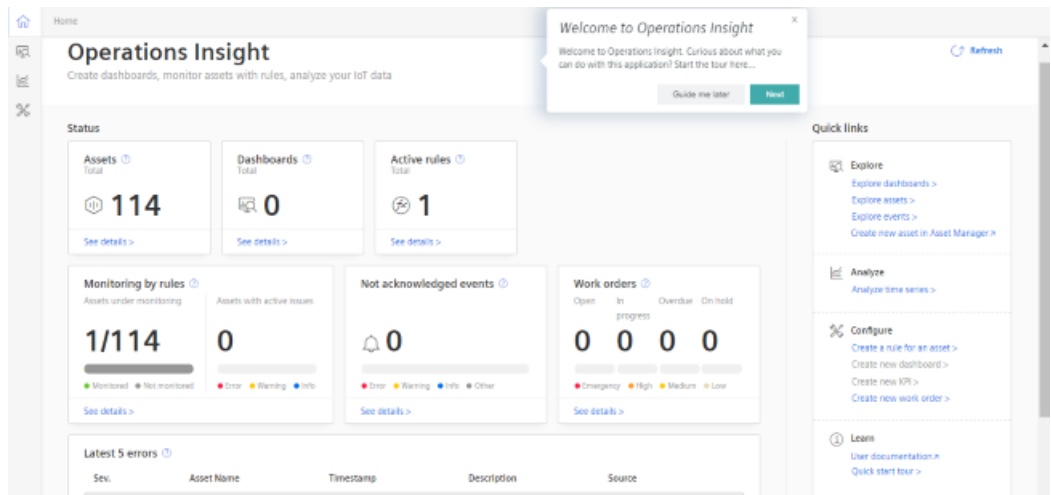
Siemens AG does not accept any liability in this regard.

## Procedure

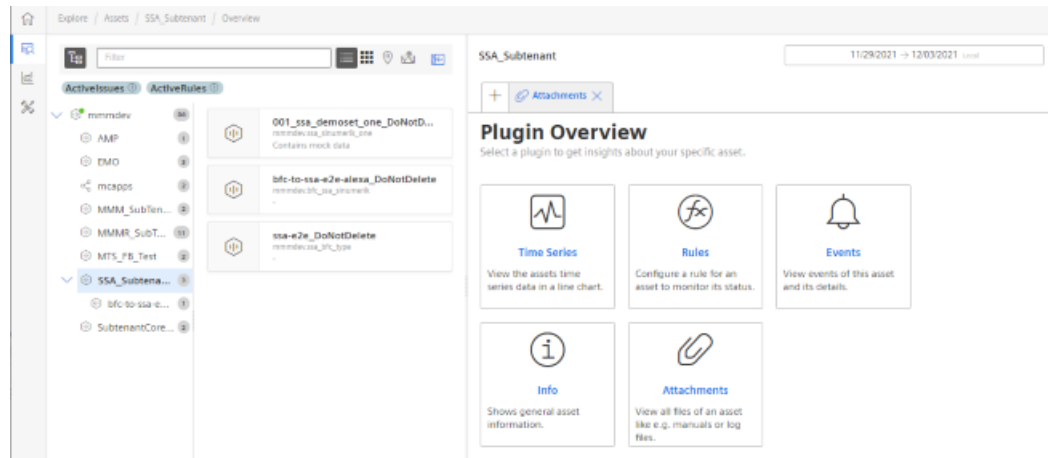
1. To see the loaded files, open the new application "Insights Hub Monitor".  
- OR -  
If you open the "Fleet Manager" application, a message will be displayed prompting you to use the new application. Click on "Take the tour".



2. The new "Insights Hub Monitor" application opens.

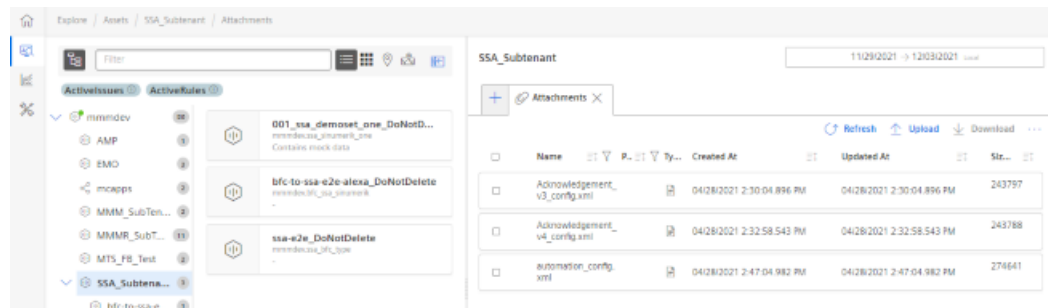


3. Select the asset.



4. Click the "Attachments" tile. All files are displayed.

- If you want to download a file, activate the check box in front of the required file. Click the "Download" button.
- If you want to upload a file from your directory, click the "Upload" button. The Explorer opens. Navigate to the directory in which the file is located. Click the "Open" button.
- If you want to delete a file, check the box in front of the desired file and click the dots button. Click the "Delete" button. A security warning is output. Click the "Delete" button to delete the file.



**Note**

**Loading identical files at different times**

Insights Hub does not permit multiple instances of the same file name. The files are loaded with names and time stamps: Filename\_timestamp.



## 5.11 Machine agent

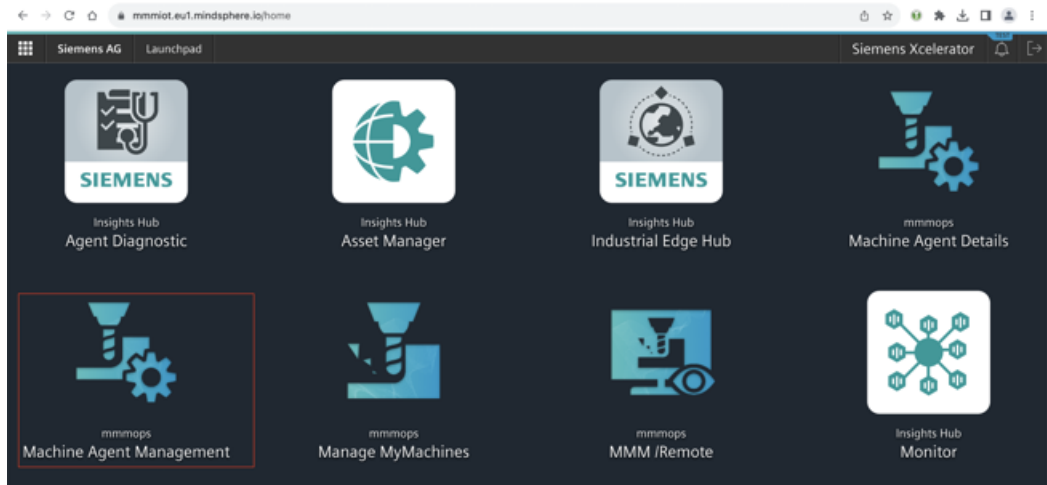
### 5.11.1 Using the machine agent on the server

#### 5.11.1.1 Installing the machine agent

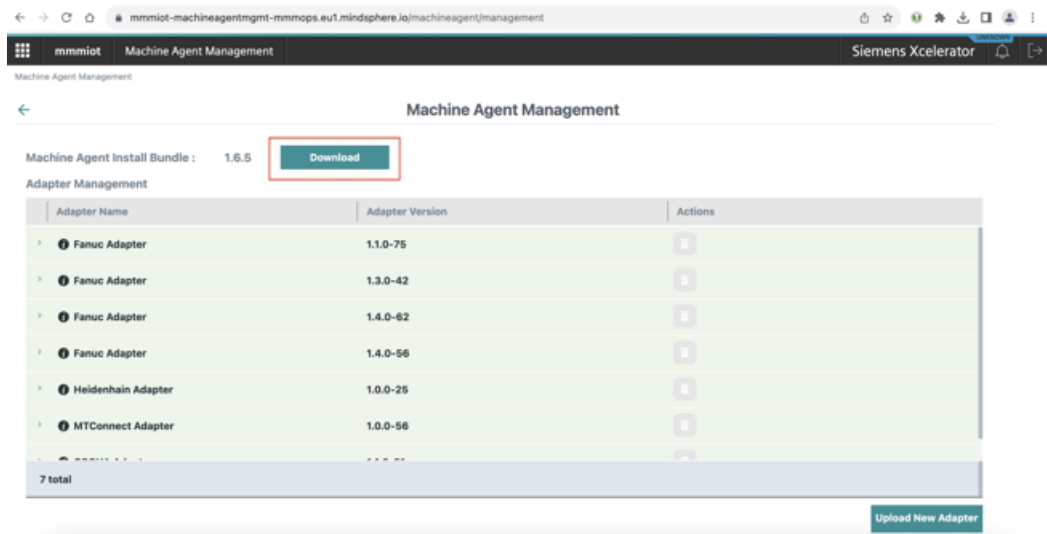
Using machine agents, you have the option of connecting other controls (not SINUMERIK controls) with Insights Hub.

Procedure

1. Install the "MachineAgentLauncher" on your IPC.  
Click on the Machine Agent Management App.



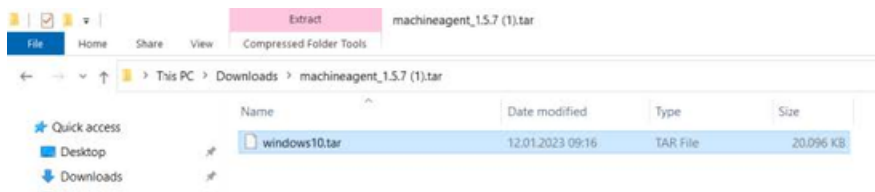
2. Download the Machine Agent.



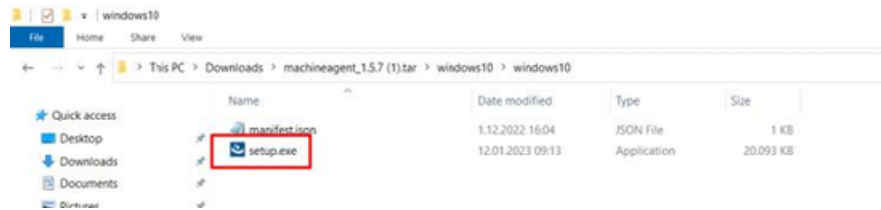
A ZIP folder is created after a successful download.



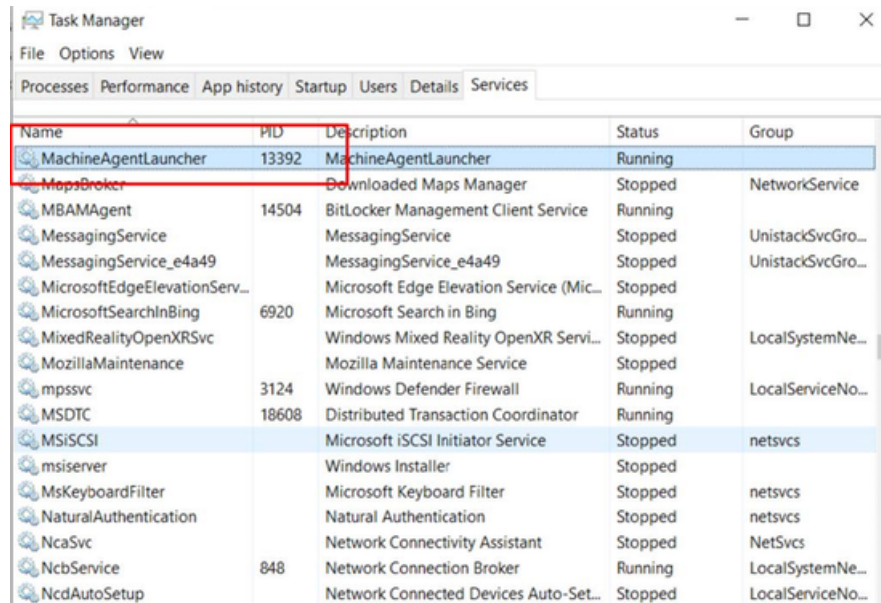
3. Unzip the ZIP folder.



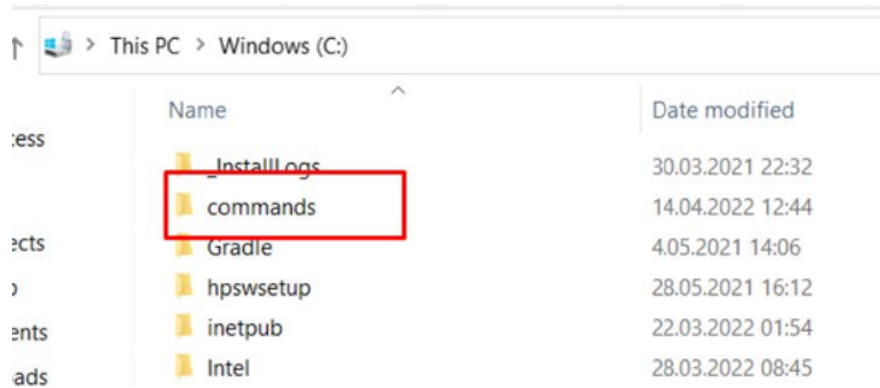
## 4. Install the .exe file.



The Machine Agent has been installed on your PC:

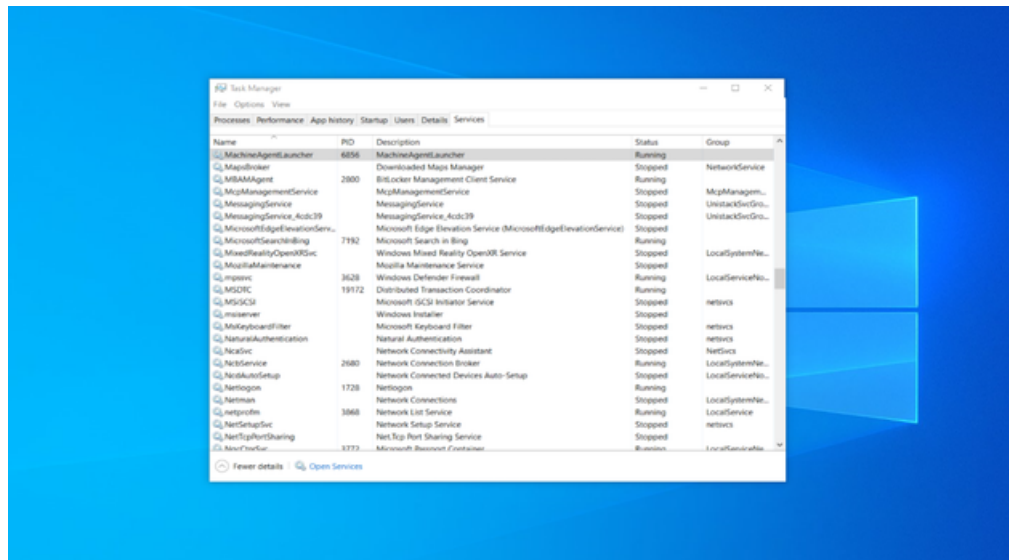


5. Create a folder "commands" in your temporary C:\directory.



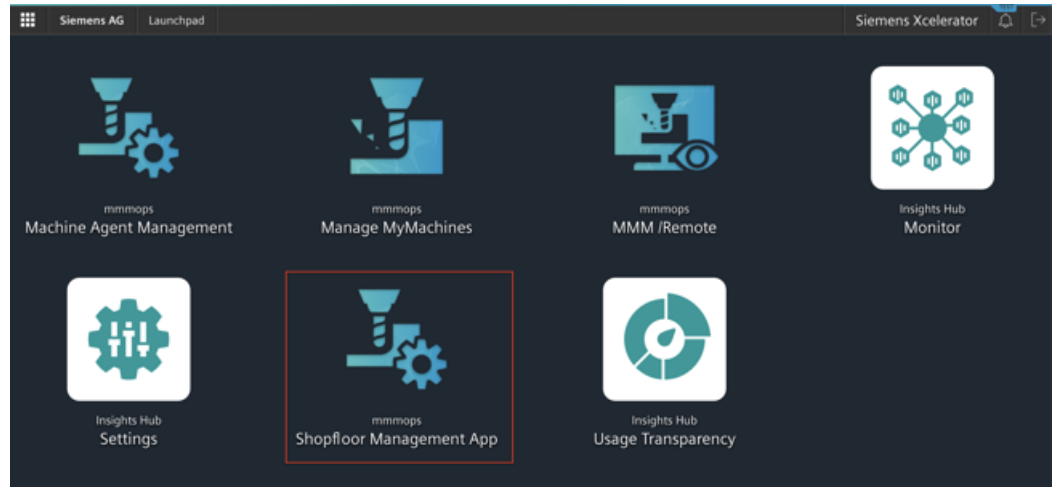
Check the "Machine Agent Core installation" on the IPC:

- Open the task manager
- Switch to the Service tab
- Find the "MachineAgentLauncher"
- Check whether the "MachineAgentLauncher" is active and is running.

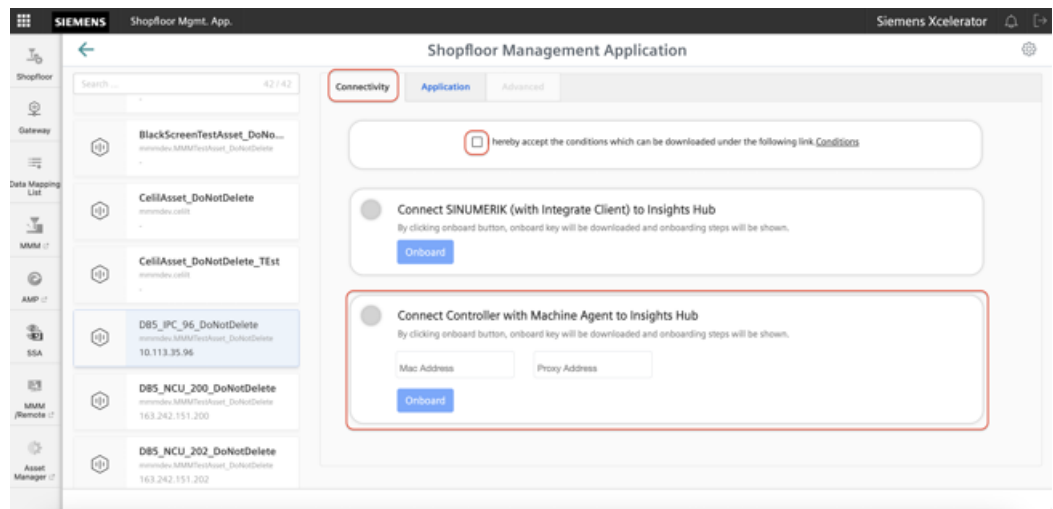


6. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Asset Manager" and create an asset.  
Further information is provided in Chapter: Asset Manager (Page 100)

- In the launch pad, open Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App" and connect the control with Insights Hub. Further information is provided in Chapter: Connecting controls with Insights Hub (Page 156)

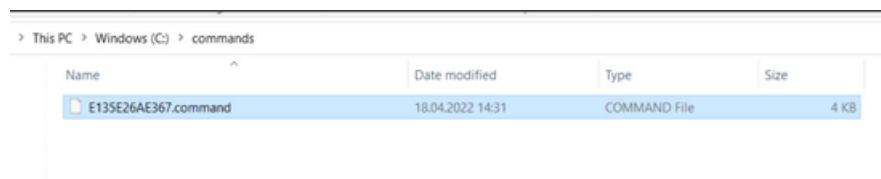


- Select the required assets in the left-hand side of the window. To filter the assets, use the search function and open "Connectivity".
- Enter the Mac address and the proxy value into the associated input fields and click on "Connect Controller with Machine Agent to Insights Hub".

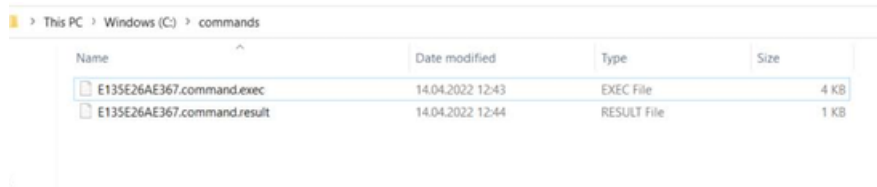


The onboard key is downloaded.+

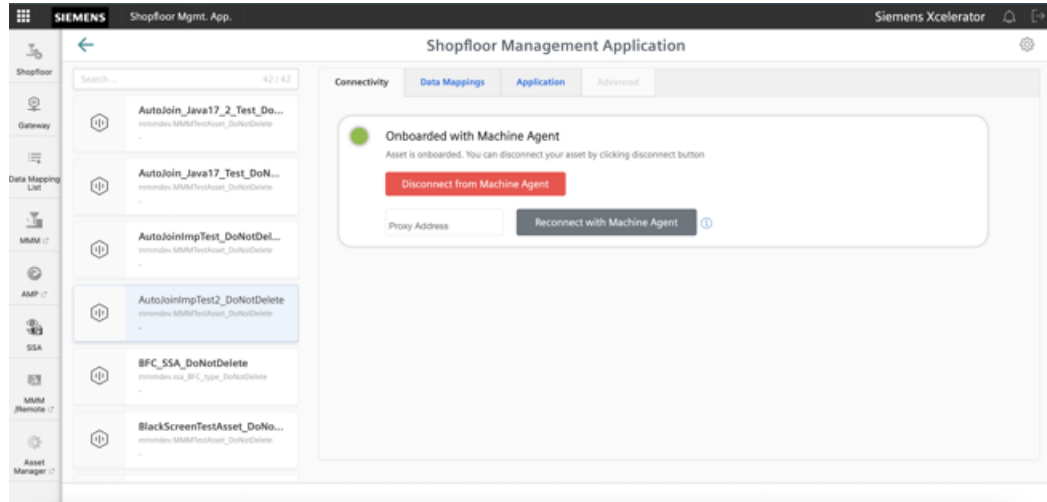
- Enter the key into the commands folder in your temporary C:\directory. The commands folder must be empty. Any file located in it must be deleted.



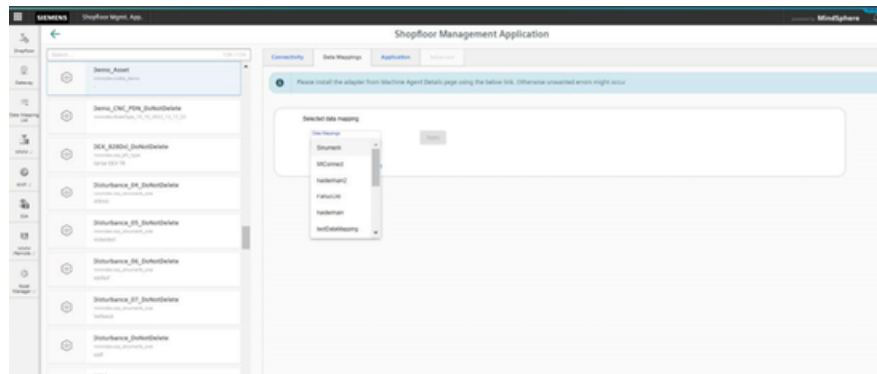
11. Wait a short time until the .exe file and the .result file are displayed.



12. Reload the Shopfloor Management app to check whether the onboard status has changed.

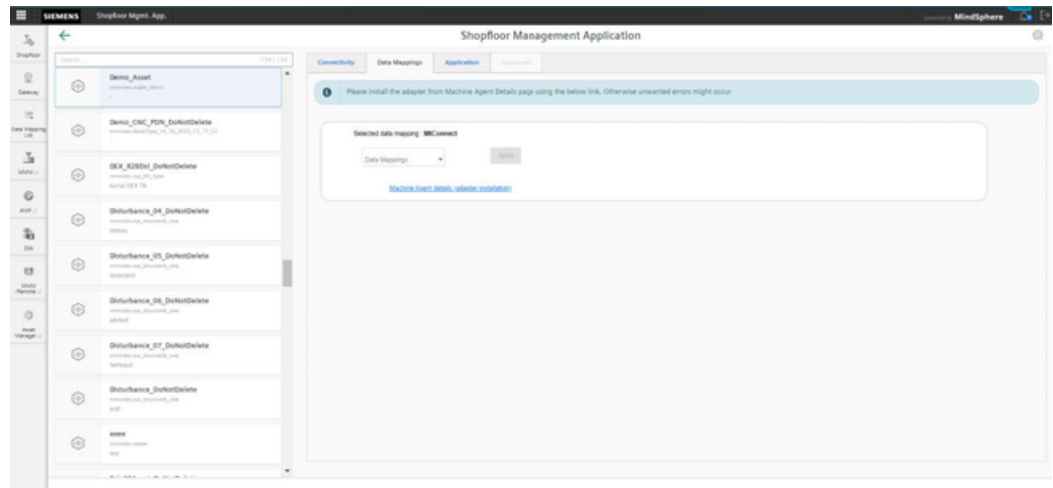


13. In window "Shopfloor Management Application" > "Shopfloor", open tab "Data Mappings".

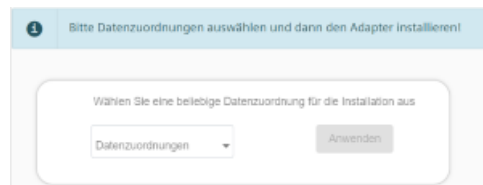


14. Select the required data mapping from the drop-down list and click on "Apply". The "Machine Agent Details (adapter installation)" link is displayed.

15. Click on the link.



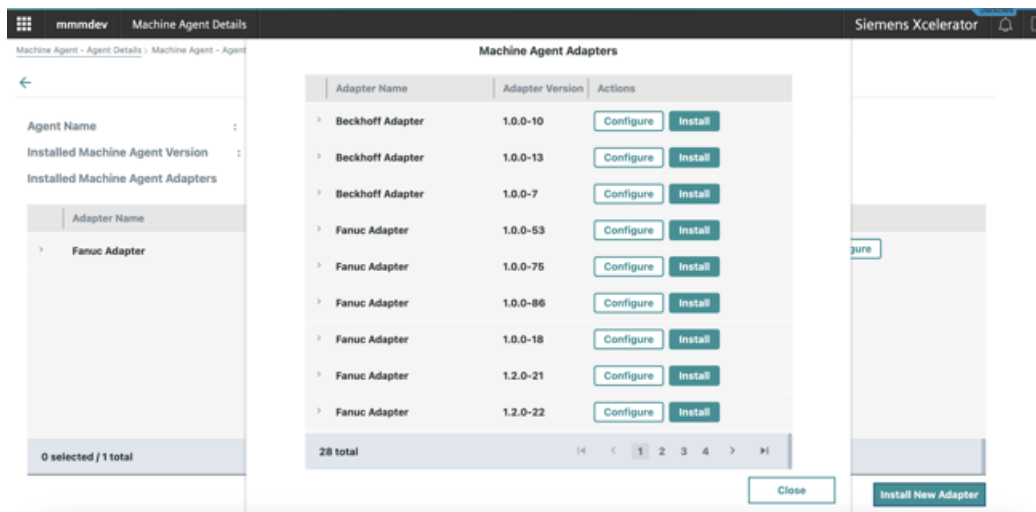
The appropriate notes are displayed if you have not selected a data mapping, or have not installed an adapter:



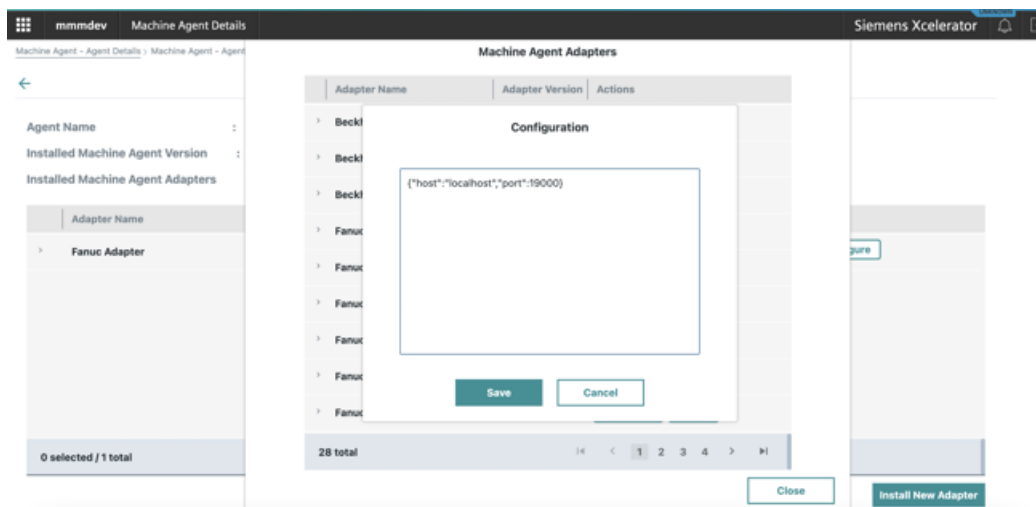
16. Select the required data mapping from the drop-down list and click on "Apply". The "Machine Agent Details (adapter installation)" link is displayed.

17. Click on "Install new adapter" to install the corresponding adapter for the asset. More information is provided in Chapter: Machine Agent Details (Page 82)

18. Click on "Configure".

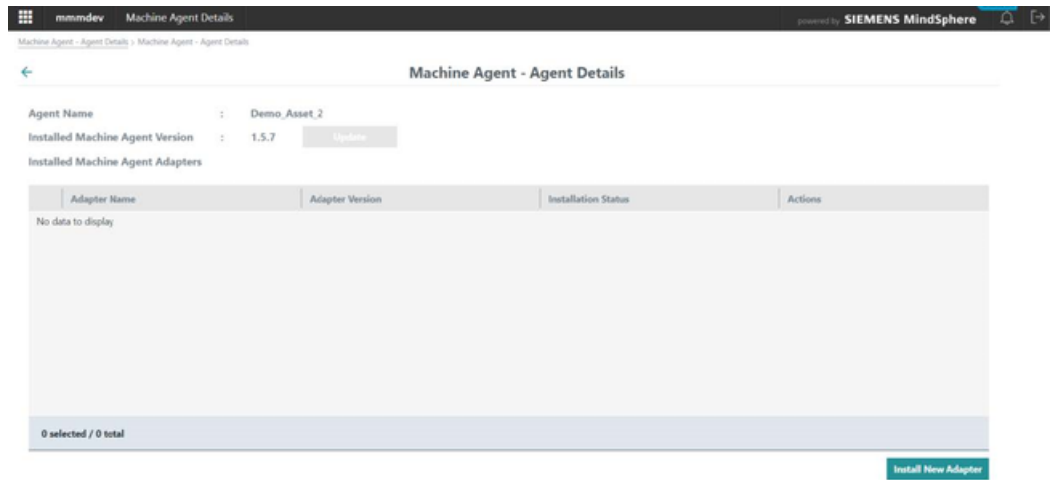


19. Populate the field and then click on "Save".  
Each adapter has its own default configuration. You must adapt these.

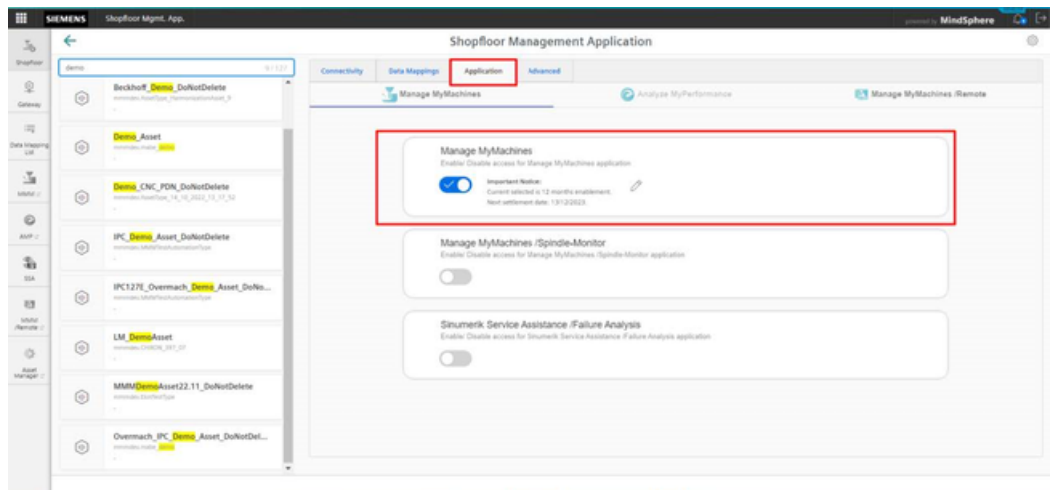




20. Wait until the adapter status has changed.



21. In window "Shopfloor Management Application" > "Shopfloor", open tab "Application". Move the slider to the right to activate access to "Manage MyMachines".



An application cannot be selected under tab "Application" if you have not selected a data mapping or have not installed an adapter. A note is displayed.

## 5.11.2 Using the machine agent in the Insights Hub application

### 5.11.2.1 Configuring variables

#### Overview

Using this function, you can individually configure which data is sent from the machine to Insights Hub, and how this data is sent. You can configure cyclic values and variables using machine agents.

Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" allows you to individually configure the following trigger:

- Time-based/cyclic trigger
- Variable value-based trigger

More information is provided in Chapters:









- Time-based/cyclic trigger (Page 176)
- Variable value-based trigger (Page 179)
- Alarm-based trigger (Page 183)

You also have the option of sending an alarm per email.

You can find more information on the configuration in this Chapter: Configuring an alarm message and sending by email (Page 161)

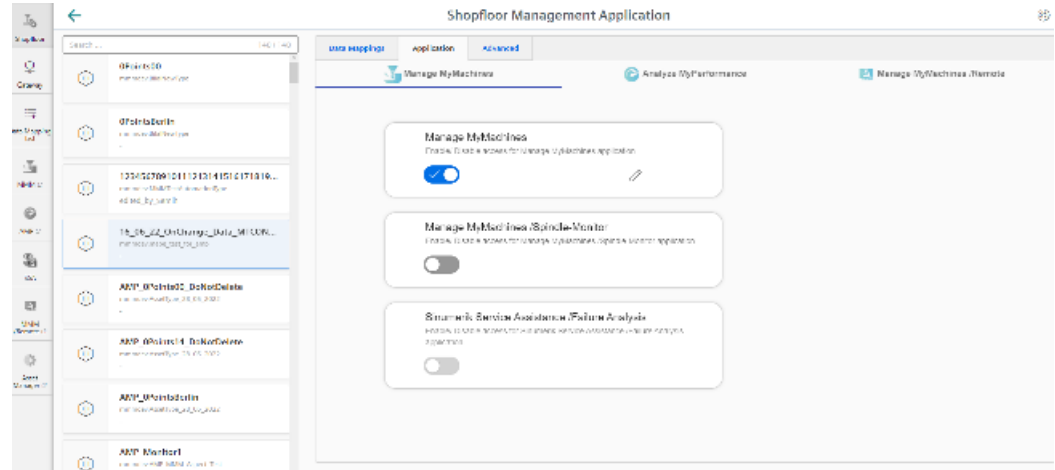
- File upload (Page 187)

### Principle

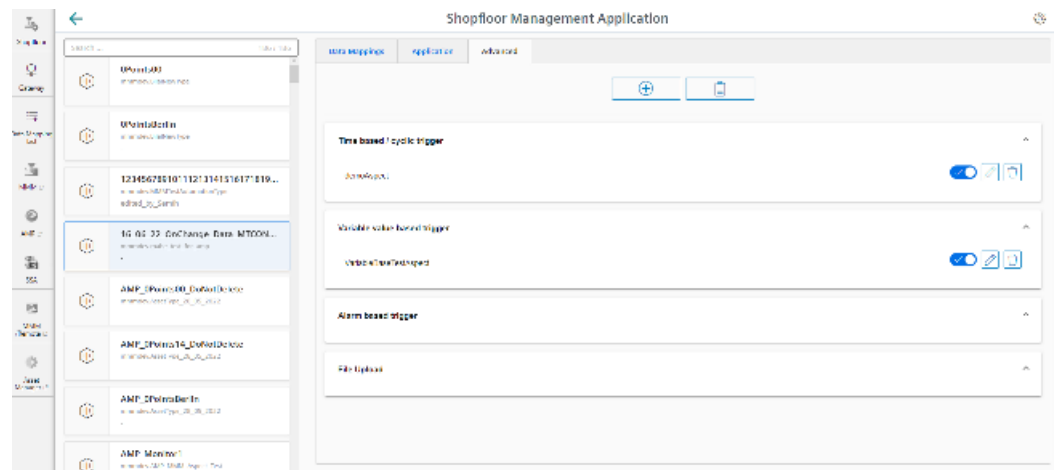
Icons	Description
	Creates a new configuration.
	Copies the configurations of an asset to other assets. More information is provided in Chapter: Copying configurations (Page 148) When copying, the "Configuration activated" or "Configuration deactivated" setting is also copied.
	Click the down arrow to open the area and to display the associated configurations.
	Click on the up arrow to close the area.
	Set the slider to the right to activate the corresponding configuration. The data for this configuration are recorded and sent to Insights Hub. As default setting, each new configuration is activated.
	Set the slider to the left to deactivate the corresponding configuration. The data for this configuration are not recorded and sent to Insights Hub.
	Opens a configuration that has already been created in order to make changes.
	Deletes a configuration that has already been created.

## Procedure

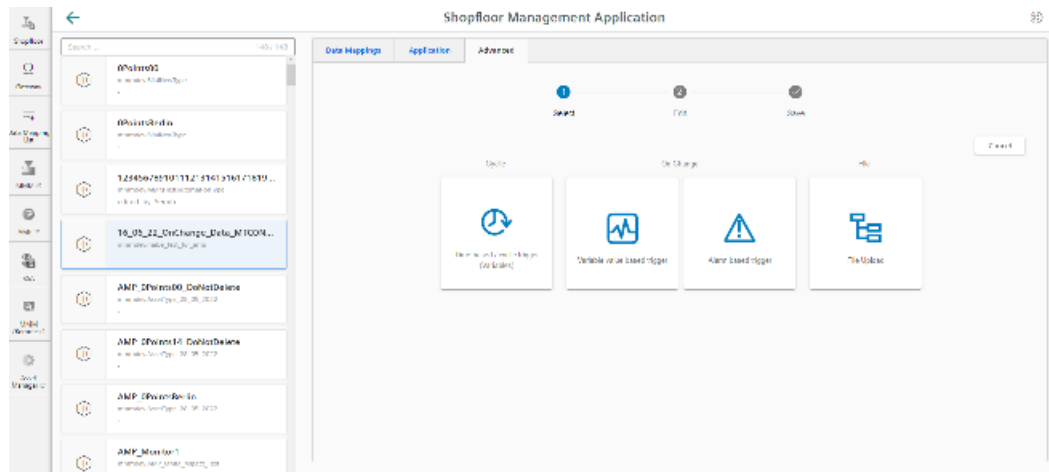
1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".  
Move the slider to the right to activate access to "Manage MyMachines".



2. In the tab line, open tab "Advanced".  
The input window for function selection opens.



3. Click on "+" to select the configuration window for the following functions:
  - Time-based / cyclic trigger
  - Variable value-based trigger



**Time-based/cyclic trigger**

By configuring "Time-based/cyclic trigger" you can send values of variables at periodic intervals from the machine to Insights Hub.

If you no longer require the configuration, you can deactivate this in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" using the slider.

**Parameters**

Parameters	Description
<b>Create aspect</b>	
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: <ul style="list-style-type: none"> <li>• Letters</li> <li>• Underscore</li> <li>• Numbers</li> </ul>
<b>Read cycle used</b>	

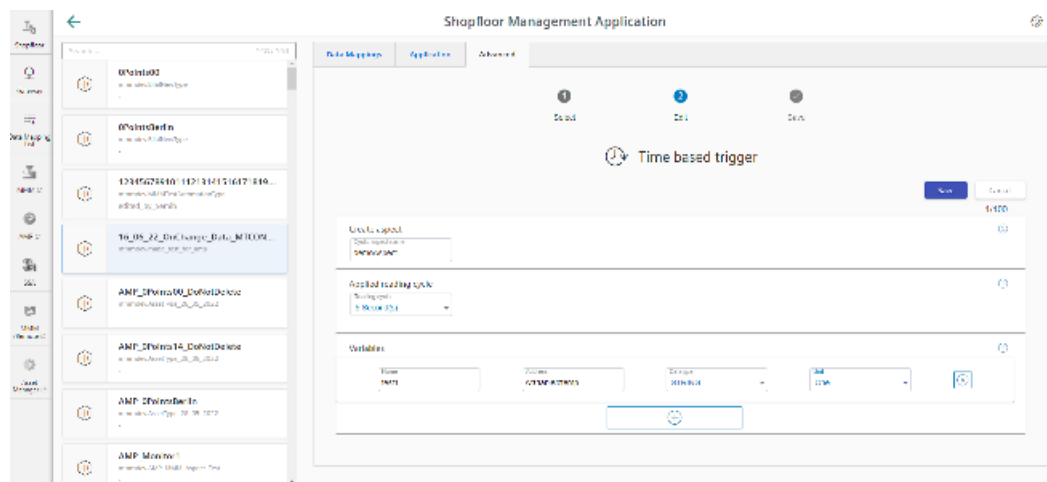
Parameters	Description						
Time interval	<p>The sampling rate of the data acquisition is specified with this value. Select the time period from the drop-down list:</p> <ul style="list-style-type: none"> <li>• 5 seconds</li> <li>• 30 seconds</li> <li>• 1 minute</li> <li>• 5 minutes</li> <li>• 15 minutes</li> <li>• 30 minutes</li> <li>• 1 hour</li> <li>• 4 hours</li> <li>• 12 hours</li> <li>• 24 hours</li> </ul>						
<b>Variable</b>							
Name	<p>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:</p> <ul style="list-style-type: none"> <li>• Letters</li> <li>• Underscore</li> <li>• Numbers</li> </ul> <p>Remark: The name of the variable must not consist solely of numbers. In this case, the text box is marked red.</p>						
Address	<p>Enter the address or the path of the variable. Examples:</p> <table border="1"> <tbody> <tr> <td>Axis data:</td> <td>/Nck/MachineAxis/AATRAVELCOUNT[1] /Nck/MachineAxis/AATRAVELDIST[2]</td> </tr> <tr> <td>Channel data:</td> <td>/Channel/ChannelDiagnose/CuttingTime[u1] /Channel/ChannelDiagnose/OperatingTime[u1]</td> </tr> <tr> <td>Machine operating mode:</td> <td>/Bag/State/opMode[u1]</td> </tr> </tbody> </table>	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]
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]						
Data type	<p>Select the data type of the variable from the drop-down list:</p> <ul style="list-style-type: none"> <li>• DOUBLE</li> <li>• BOOLEAN</li> <li>• STRING</li> </ul> <p><b>Note:</b> If values exceed the floating-point number accuracy, they are displayed with faulty decimal places.</p>						
Unit	<p>Select the physical unit of the variable from the drop-down list. Example: m/s<sup>3</sup></p>						

## Procedure

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



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 text boxes.
- Click the "+" button to add a new variable.  
Repeat this step as often as necessary.

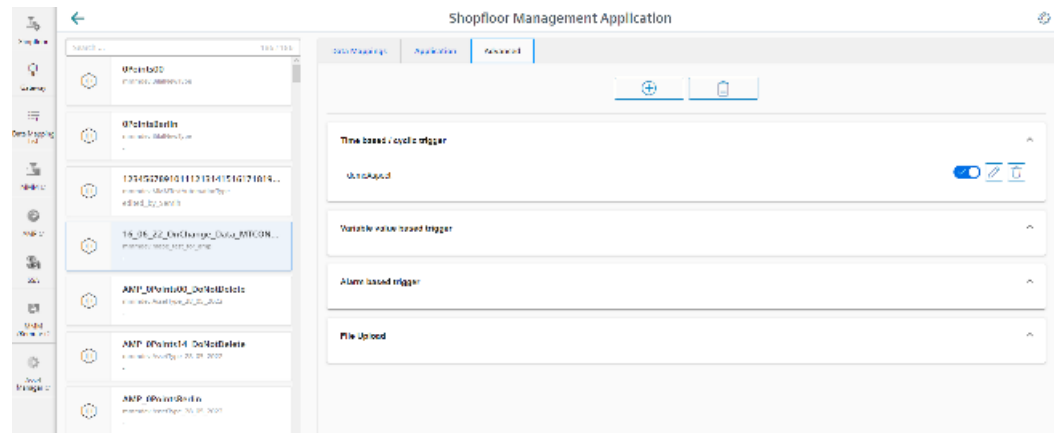
### Note

#### 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 complete the operation.  
You are taken to an overview of the aspects. The supplementary time-based / cyclic trigger is displayed



- The new configuration is displayed in overview "Aspects".  
More information is provided in Chapter: Aspects (Page 244)

## Variable value-based trigger

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

If a configured condition occurs, then the following data and values are sent to Insights Hub:

- Variable value
- Machine trace files
- User-defined file(s) in the specified directory

If you no longer require the configuration, you can deactivate this in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" using the slider.

## Parameters

Parameters	Description
<b>Create aspect</b>	
Aspect name	Enter a previously created variable name. The name must be unique. If the aspect does not yet exist in Insights Hub, then the aspect is created when saving the configuration.
<b>Configuring a trigger</b>	
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. <ul style="list-style-type: none"> <li>• DOUBLE</li> <li>• BOOLEAN</li> <li>• STRING</li> </ul>

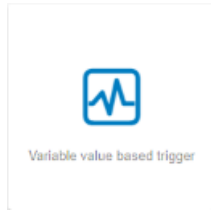
Parameters	Description
	<p>From the drop-down list, select the comparison operation that is restricted to the format of the variables:</p> <ul style="list-style-type: none"> <li>• Greater than</li> <li>• Less than</li> <li>• Equal to</li> <li>• Not equal to</li> </ul>
Variable value	Enter a value.
<b>With the following configuration</b>	
Debounce time	<p>Enter the debounce time.</p> <p>Remark:</p> <p>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.</p>
sec	<p>Select the time unit from the drop-down list:</p> <ul style="list-style-type: none"> <li>• sec</li> <li>• min</li> <li>• hr</li> </ul>
Hysteresis	<p>Select the check box if you want to include hysteresis.</p> <p>The hysteresis can be a value or a percentage (absolute or relative).</p> <p>Example:</p> <p>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.</p> <p>Activate the "Quick Range" option button if the relative value in relation to the comparison value is to be recorded.</p> <p>Activate the "Absolute" option button if the absolute value in relation to the comparison value is to be recorded.</p> <p>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.</p> <p>Enter a comparison value, this is restricted according to the selection of the address format.</p>
<b>Then acquire the following values</b>	
The following variable is recorded and sent to Insights Hub.	
Variable address	Shows the address of the variable.
Data type	<p>Select the data type of the variable from the drop-down list:</p> <ul style="list-style-type: none"> <li>• DOUBLE</li> <li>• BOOLEAN</li> <li>• STRING</li> </ul>



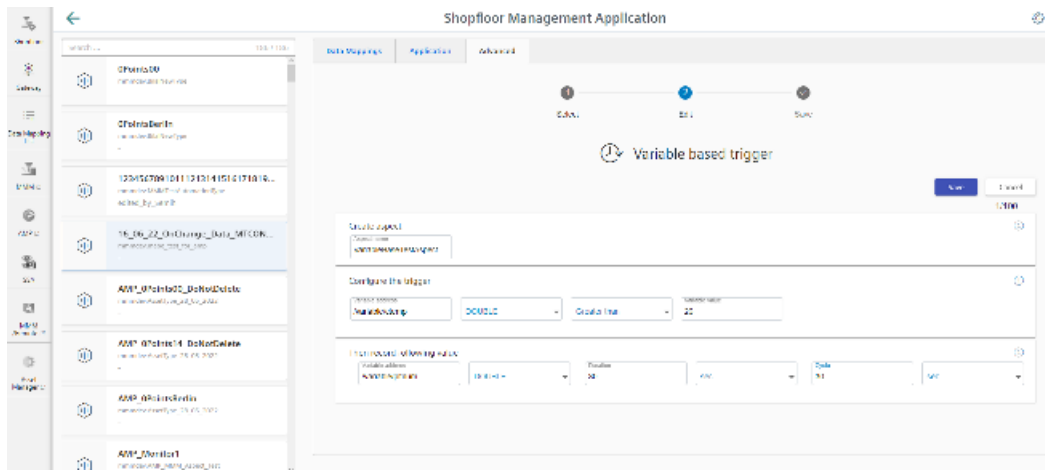
Parameters	Description
Duration	<p>Enter the recording duration. The duration must be longer than the cycle.</p> <p>Select the time unit from the drop-down list:</p> <ul style="list-style-type: none"> <li>• sec</li> <li>• min</li> <li>• hr</li> </ul> <p>Minimum of 30 seconds. Maximum of 24 hours.</p>
Cycle	<p>Enter the cycle duration.</p> <p>Select a time unit from the drop-down list:</p> <ul style="list-style-type: none"> <li>• sec</li> <li>• min</li> <li>• hr</li> </ul> <p>30 seconds is the minimum 24 hours is the maximum</p>
<p><b>Adding trace files to the trigger</b> Recorded traces are sent as files to Insights Hub.</p>	
Trace files	<p>Activate the option check box for the following data:</p> <ul style="list-style-type: none"> <li>• HMI trace</li> <li>• NC status</li> <li>• Machine data</li> </ul> <p>Activate the action log setting on the machine. More information is provided in Chapter: Setting the action log (Page 65).</p>
<p><b>Selecting file(s) to be uploaded</b> The selected files that are available on the machine are transferred to the corresponding Insights Hub tenants database.</p>	
File or directory path *	<p>Enter the file or directory path.</p> <ul style="list-style-type: none"> <li>• The maximum file size is 100 MB</li> <li>• If the hard disk is full, then it is possible that not all of the files are sent to Insights Hub.</li> <li>• When the directory path has been created, the last 10 files in this directory are uploaded to Insights Hub.</li> </ul>

**Procedure**

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

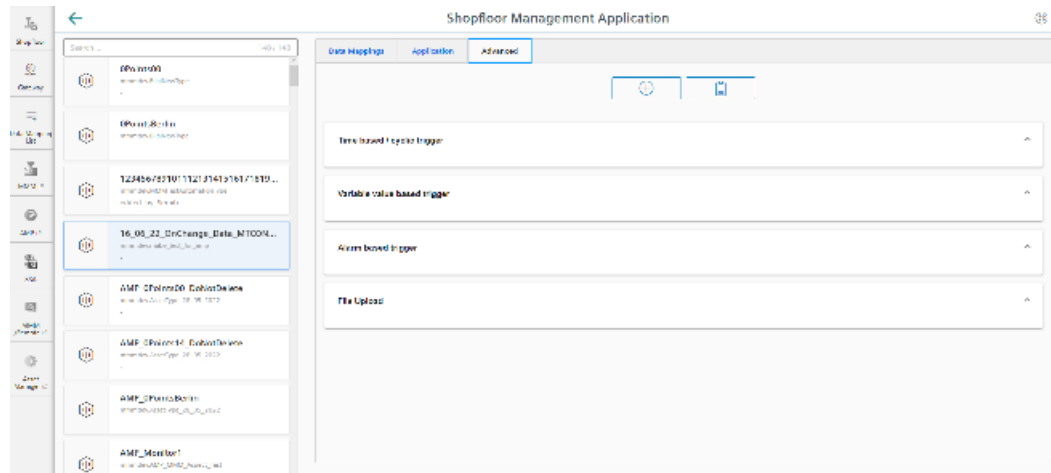


2. The "Variable-based trigger" input window opens.

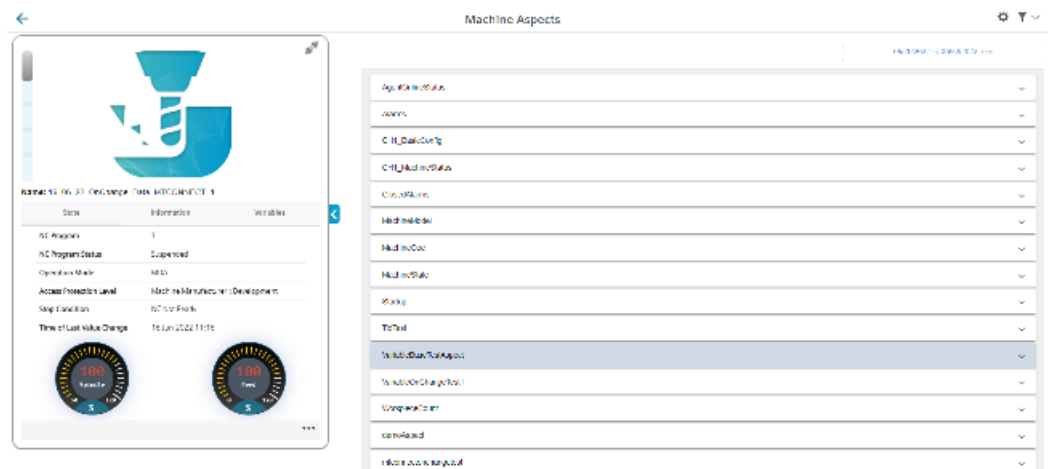


3. Enter a name in the "Cyclic aspect name" input field.
4. Define a variable as trigger.
5. Define the settings for the trigger.
6. Define which data is sent to Insights Hub if the trigger occurs:
  - Recording variables  
Enter a variable address.
  - Trace files  
Activate the corresponding check box 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. The "Variable value-based trigger" that has been added is displayed.



8. The new configuration is displayed in overview "Aspects".  
More information is provided in Chapter: Aspects (Page 244)



## Alarm-based trigger

The "alarm-based trigger" reacts to all alarms programmed in the Fanuc control.

With this function, you can send specific alarms for a certain aspect and acquired status data to Insights Hub.

These alarms also contained the user range of alarm numbers, which are assigned machine functions for machine diagnostics. If machine diagnostics are not performed on the basis of alarm numbers, these error messages cannot be integrated.

5.11 Machine agent

You can enter the alarm numbers that are triggered, either individually or in ranges. You can also hide individual alarms or ranges from a selection.

If certain alarms occur, you can upload user-defined files in Insights Hub.



If you no longer require the configuration, you can deactivate this in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" using the slider.

The following special features should be noted for Fanuc controls:

- No check box is displayed as no trace files can be used for the trigger.
- Alarms cannot be excluded.
- For an alarm-based trigger, you must also enter the channel and the alarm type.

Parameters and icons

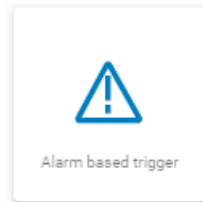
Parameters	Description
<b>Create aspect</b>	
Aspect name	Enter a descriptive name for the aspect. The name must be unique.
<b>Include alarms</b>	
Alarm numbers:	In the case of individual alarms, enter the alarm number or the alarm ID that activates the trigger. The alarm number must be within the range from 0 to 999999. The alarms are entered in the following notation: <ul style="list-style-type: none"> <li>• Separate the individual alarms through a comma, e.g. 3200, 32100, ...</li> <li>• Enter the alarm number ranges with a "-" character, e.g. 4000-5000</li> </ul> The alarm list must not exceed 200 characters.
Alarm intervals:	Enter the alarm limits. <ul style="list-style-type: none"> <li>• From: Enter the lowest alarm ID, e.g. 0</li> <li>• To: Enter the highest alarm ID, e.g. 999999</li> </ul> All alarms between 0 and 999999 are included.
<b>Selecting file(s) to be uploaded</b>	
The selected files that are available on the machine are transferred to the corresponding Insights Hub tenants database.	
File or directory path *	Enter the file or directory path. <ul style="list-style-type: none"> <li>• The maximum file size is 100 MB</li> <li>• If the hard disk is full, then it is possible that not all of the files are sent to Insights Hub.</li> <li>• When the directory path has been created, the last 10 files in this directory are uploaded to Insights Hub.</li> </ul>

Icons	Description
	You will receive more information.
	Closes the entry field.

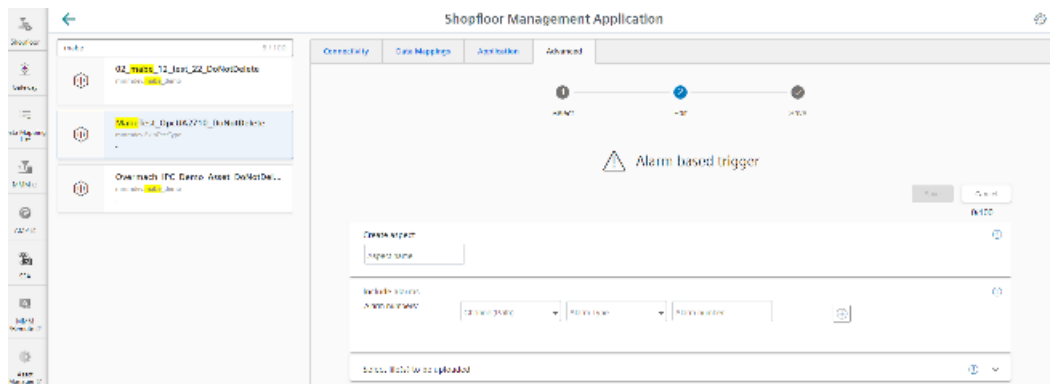
Icons	Description
▼	Click on the down arrow to open and create further configurations.
▲	Click on the up arrow to close the area of further configurations.

## Procedure

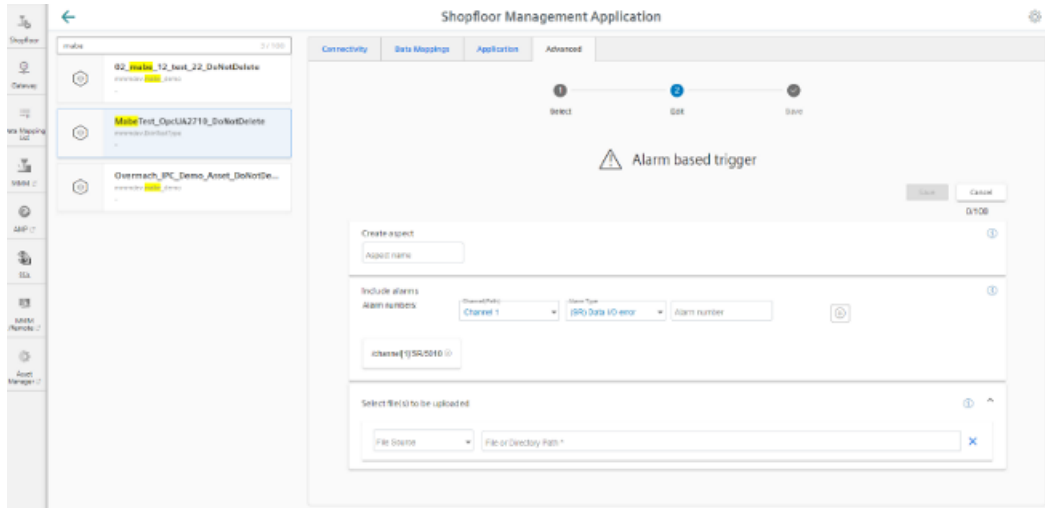
1. Click the "Alarm-based trigger" function to define alarm properties, such as when an alarm should be displayed.



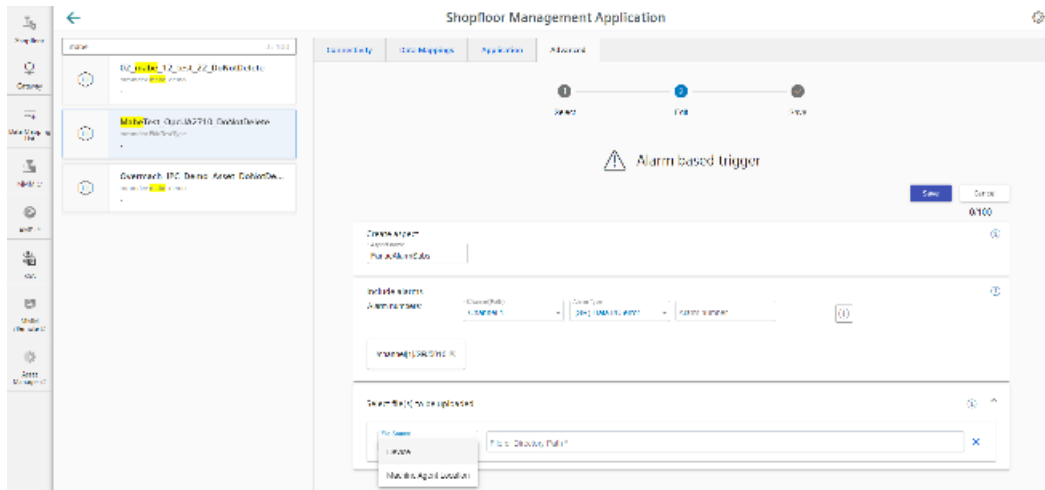
2. The "Alarm-based trigger" input window opens.
  - Enter a name for the aspect and specify the properties.
  - Click on the "Cancel" button.  
You receive a safety message that you must confirm.  
Then you will be returned to the overview.  
- OR -
  - Click the "Save" button to accept the entries.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



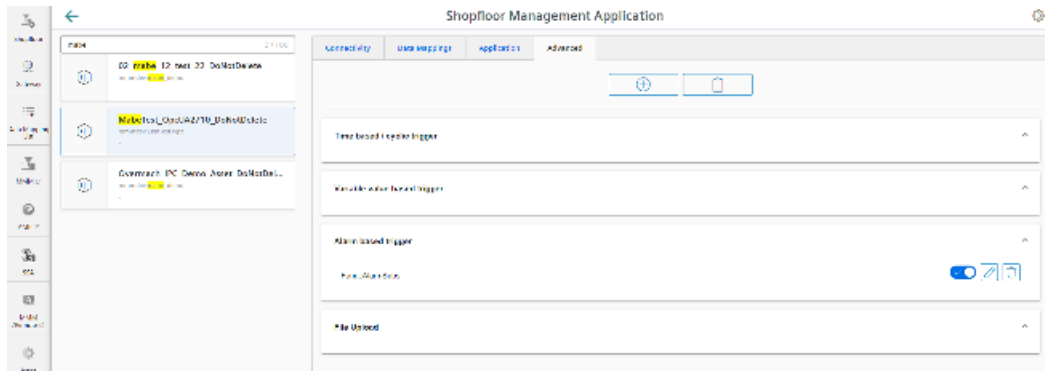
- 3. To add an alarm number, populate fields "Create aspect" and "Include alarms":



- 4. Enter a file or a directory path to load data from the control to Insights Hub. To do this, in the drop-down list "File source", select the "Machine Agent Location". If the alarm is triggered, the file source is uploaded to the machine agent with the storage location.



- 5. Once configuring has been completed, the alarm is displayed in the shopfloor management application:



## File upload

Function "File Upload" provides the option of sending files from the control to Insights Hub.

This is also possible from Fanuc controls, whereby the following must be observed:

- Trace files are not used for the trigger.
- You do not select file paths, only files.






The upload is performed in a defined time cycle. The cycle duration is defined in the user interface.

The cyclic file upload does not check files for changes.

## Parameters

Parameters	Description
Configuration name	Enter a name for the configuration. The name must be unique and not exceed 30 characters. The following characters are permissible: <ul style="list-style-type: none"> <li>• Letters</li> <li>• Underscore</li> <li>• Numbers</li> </ul>
Cyclic	The files are sent to Insights Hub at defined intervals. Select the time interval from the drop-down list: <ul style="list-style-type: none"> <li>• 1 hour</li> <li>• 2 hours</li> <li>• 4 hours</li> <li>• 6 hours</li> <li>• 8 hours</li> <li>• 12 hours</li> <li>• 24 hours</li> <li>• 1 week</li> <li>• 1 month</li> </ul>
File source	<ul style="list-style-type: none"> <li>• Device Stands for the machine.</li> <li>• Machine Agent Location Stands for the installed machine agents.</li> </ul>
File	Enter the file name. You can use the asterisk symbol "*" as placeholder. A maximum of 10 files is permitted.

## Icons

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 more information.

## Precondition

Function "Variable Recording" was activated in Manage MyMachines for Industrial Operations X Cloud "Asset Manager".

### NOTICE

#### Data manipulation possible

There is a risk that an attacker, within the network between SINUMERIK Integrate and Insights Hub, gains access to the file system of the server or service clients. The attacker can then read or manipulate various system components (e.g. database content). As a consequence, the attacker can manipulate tool data, NC programs, machine archives or the system structure itself, for example. This type of attack cannot be prevented by Insights Hub.

- It is therefore imperative that the person responsible for the machine network takes the appropriate industrial security measures for the production/machine network.

Siemens AG does not accept any liability in this regard.

## Principle

The maximum file size is 100 MB.

Use the following file extensions for the "File Upload" function:

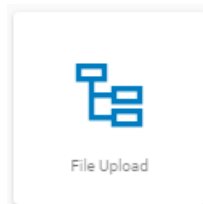
- .xml
- .txt
- .log
- .png
- .jpg
- .ohs
- .pms
- .ems
- .mds
- .pdf



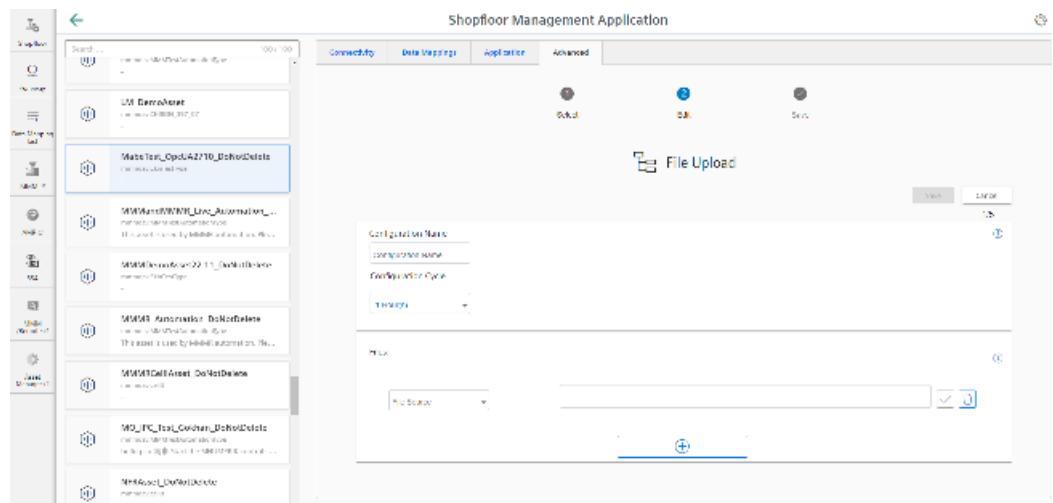
- .ini
- .csv
- .json
- .sav
- .mst
- .bst
- .stt

## Procedure

1. Click the "File Upload" function.



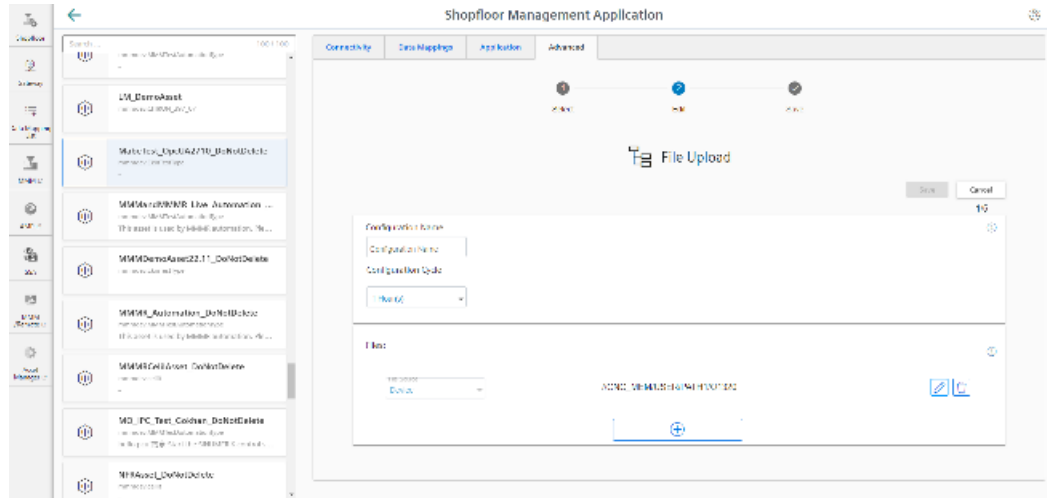
2. The "File Upload" input window opens. In the "File Upload" area, you can see the number of configurations created/number of possible configurations on the right.



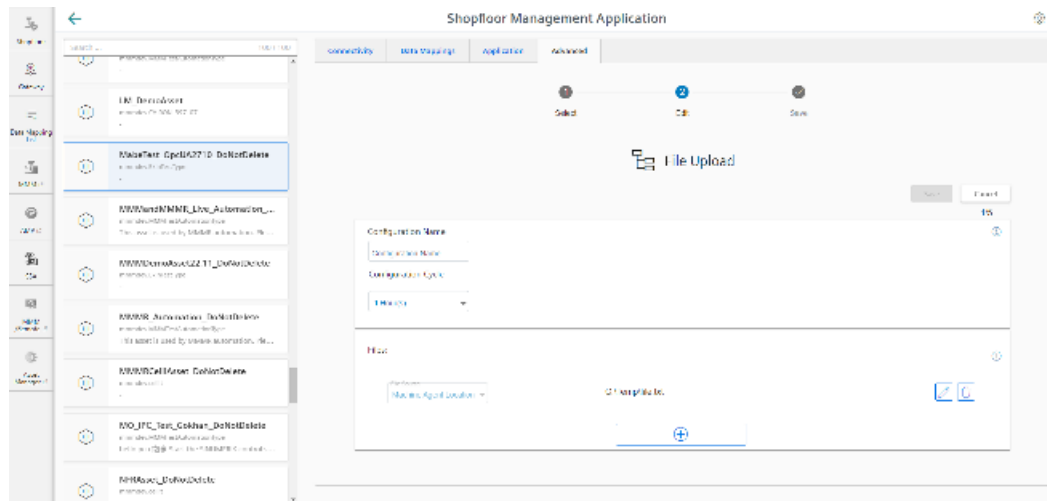
3. Enter the name for the configuration.
4. Select the cycle length of the file upload.

5. Select the file source.

The following view appears if you select "Device" as file source:



The following view appears if you select "Machine Agent Location" as file source:



6. Specify the files to be transferred:

- Click the "+" button in the file area.  
Click on the "+" button for each file.  
The button is deactivated once the maximum possible number of files is reached.
- 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 are sent to Insights Hub.
- Click the "Checkmark" icon.

7. Click on the "Recycle bin" icon in the appropriate line to delete a file.

8. 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.

9. The "Data recording saved successfully" message appears.  
Click the "OK" button to complete the operation.
10. You can see an overview of the files in the "Operations Insight" application.  
For more information, see Chapter: Displaying uploaded files in "Insights Hub Monitor"  
(Page 162).



# Setting up MindConnect Nano for Manage MyMachines

# 6

## 6.1 Overview

### Precondition

- The setup is always performed with the SINUMERIK Operate operating software.



#### Software option

You require the following option in order to use this function: SINUMERIK Integrate for Engineering "Access MyMachine / OPC UA".

- Applications must be activated via the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application".  
More information can be found in this Chapter: Shopfloor Management Application (Page 110).

### Introduction

The following steps are required to set up MindConnect Nano:

1. For example, at the SINUMERIK open-loop control, activate the "Access MyMachine / OPC UA" software option.
2. For example, at the SINUMERIK open-loop control, configure the network.
3. Create aspects in Insights Hub.
4. Create asset type in Insights Hub.
5. Create asset in Insights Hub.
6. Assign variable in Insights Hub.
7. Onboard in Insights Hub.
8. Acquire data in Insights Hub.

### See also

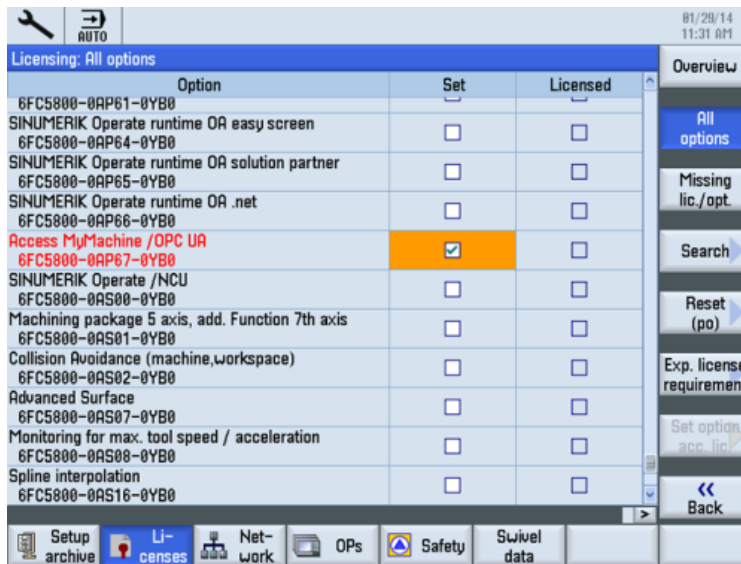
Industrial Security Configuration Manual (<https://support.industry.siemens.com/cs/ww/en/view/108862708>)

## 6.2 Setting up at the control system

### 6.2.1 Setting the license

#### Procedure

1. Open the "Setup" operating area.
2. Press the "Licenses" softkey and activate the "Access MyMachine / OPC UA" option.



3. Restart SINUMERIK Operate to activate the license.

### 6.2.2 Configuring the network

#### Requirement

Settings of the OPC UA configuration dialog

Setting	Description	
Connection settings		
Company network:	Activate the check box.	
System network:	Activate the check box.	
TCP port:	TCP port via which the OPC UA communicates. This is added to the firewall exceptions for NCU and PPU. (Standard for the OPC UA communication is the TCP port 4840)	
Message encryption	None:	Deselect the check box.
	128-bit:	Activate the check box.
	256-bit	Activate the check box.

Setting	Description
Authentication	
Admin user:	Name of the administrator with which you can add or delete other users and assign or delete user rights.
Password:	Administrator password You can change the password at a later point in time using the "ChangeMyPassword" OPC UA method.
Confirm password:	Confirm the entered password.
Allow anonymous access	Activate the check box.
Automatically accepting certificates:	Activate the check box.
Activation	
Activate OPC UA	Activate the check box.

**Note****Security risk through no or weak encryption**

If no message encryption has been set up to the client, there is a risk of data manipulation. It is therefore strongly recommended that you set up a message encryption to the client.

Use the highest possible encryption standard (256 bit) to ensure secure message transmission.

**Note****Assigning secure passwords**

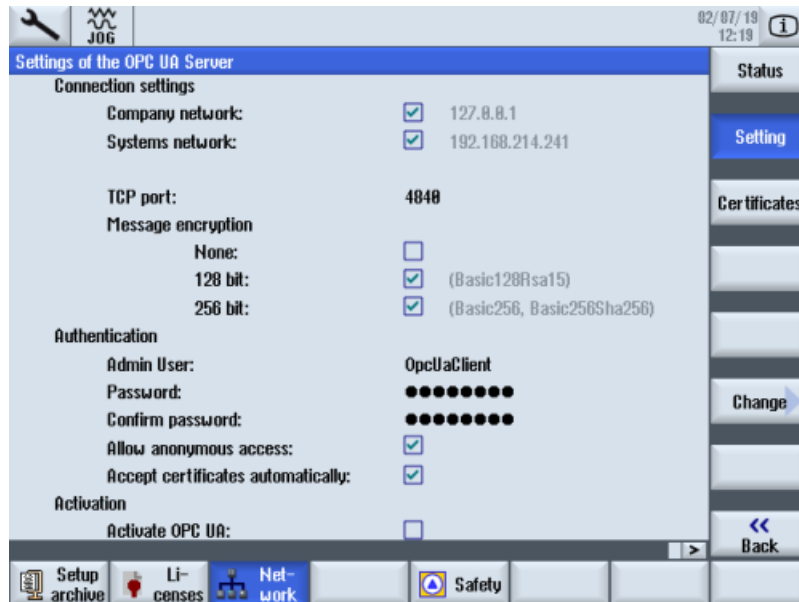
Observe the following rules when creating new passwords:

- Note that when assigning new passwords you should never assign passwords that can be easily guessed, such as simple words, easy to guess key sequences on the keyboard, etc.
- Passwords must always contain a combination of upper- and lower-case letters as well as numbers and special characters. Passwords must comprise at least 8 characters. PINs must comprise an arbitrary sequence of digits.
- Wherever possible and where it is supported by the IT systems and the software, a password must always have a character sequence as complex as possible.

**Procedure**

1. Open the "Setup" operating area.
2. Press the "Network" softkey.
3. Make the required settings for the connection, authentication and activation.

4. Press the "OK" softkey.



5. Perform a hardware reset on the NCU and PPU target systems.  
Restart the operating software on the PCU.

## Further information

You can find further information in:  
Configuration Manual Access MyMachine / OPC UA.



## 6.3 Configuring Manage MyMachine functions in Insights Hub

Configure the MindConnect Nano Aspects so that these can be displayed on the "dashboard".

### Reference

A detailed description of the Asset Manager can be found at the following link: Documentation Insights Hub (<https://documentation.mindsphere.io/MindSphere/apps/asset-manager/introduction.html>), "Asset Manager" System Manual.

### Variable/data point

Use the variables/data points with exactly this name:

Name	Data type	Unit	Max. length	Data point address (SINUMERIK example address)
Feed override	Double	%		ns=2;s=/Channel/State/feedRateIpoOvr[u1]
Opmode	Double	%		ns=2;s=/Bag/State/opMode[u1]
Spindleoverride	Double	%		ns=2;s=/Channel/Spindle/speedOvr[u1,1]
NCProgramStatus	Double	%		ns=2;s=/Channel/State/progStatus[u1]
StopCond	Double	%		ns=2;s=/Channel/State/stopCond[u1]
ProtectionLevel	Double	%		ns=2;s=/Nck/Configuration/accessLevel
NrOfAlarms	Double	%		ns=2;s=/Nck/State/numAlarms
NCProgram	String	%	255	ns=2;s=/Channel/ProgramPointer/progName[u1,1]

#### Note

##### "Current Alarms" function currently available

Note that the "Current Alarms" function is not supported by MindConnect Nano systems. The function shows all active alarms of a machine.

Users who use the MindConnect Nano connection do not have access to this function.

#### Note

##### "Machine status" function not available

Note that the "Machine status" function is not supported by MindConnect Nano systems. The function provides real-time updates on the machine's operating status.

Users who use the MindConnect Nano connection do not have access to this function.

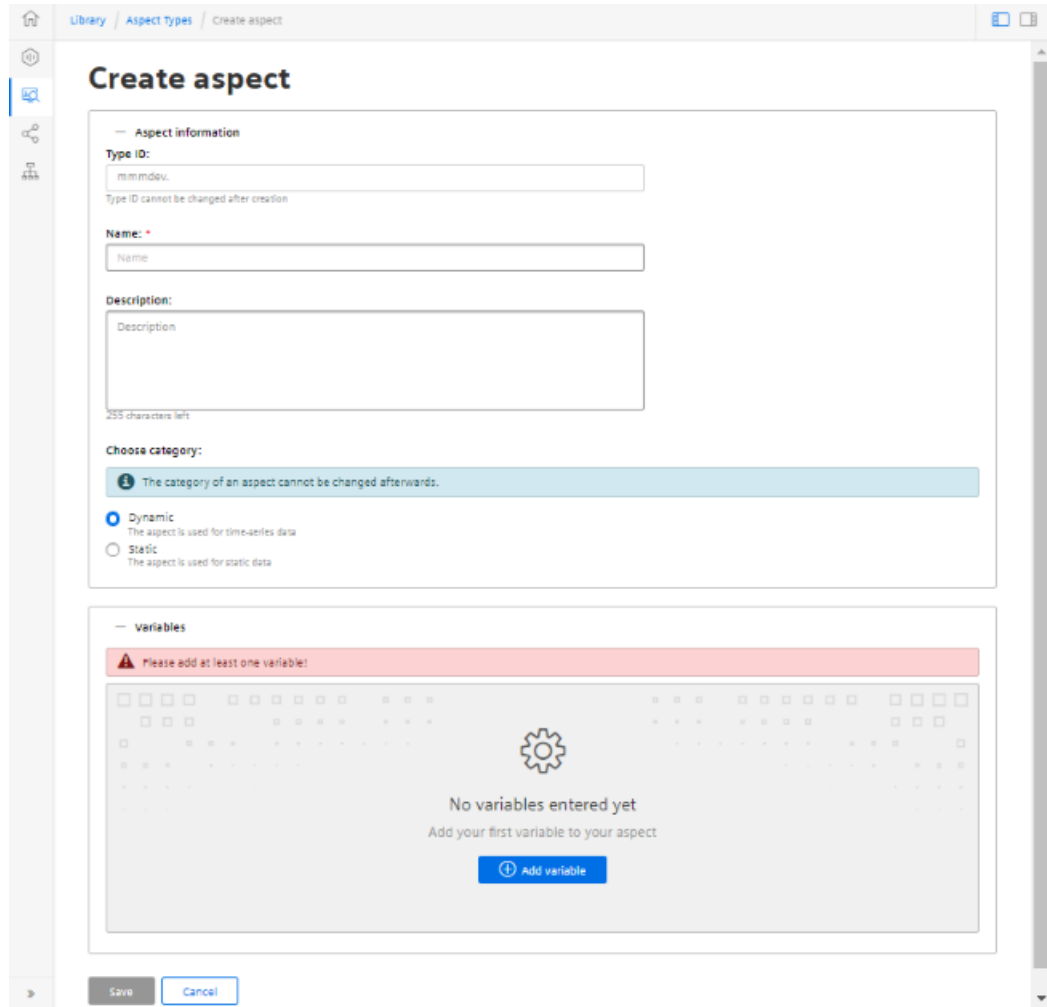
#### Note

##### Unit designation for variables

The variables listed above always require a unit. The unit can either be % or a space.

**Procedure**

1. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Asset Manager".
2. In the left-hand side of the window, select "Aspect Types" > "Add Aspect".  
The following window is displayed if you have not created any variables yet:



More information on creating variables is provided in Chapter: Configuring variables (Page 130).

3. Create the new Aspect "SinumerikBasicConfig" in the "Dynamic" category with the variables listed, **without** specifying the data point address.

**Create aspect**

**Aspect information**

Type ID: testwindow.TEST  
Type ID cannot be changed after creation.

Name: test

Description: Description  
255 characters left

**Choose category:**

The category of an aspect cannot be changed afterwards.

Dynamic  
The aspect is used for time-series data

Static  
The aspect is used for static data

**variables**

- variable names must be unique inside an aspect.
- Once a variable is added to the aspect it cannot be renamed or removed.
- The data type BIG\_STRING is only available for a dynamic aspect.

[Add variable](#) [Import variables](#) [Download template](#) [Export variables](#) [Delete all new](#)

Name	Unit	Data type	Max. length
FeedState	Unit	DOUBLE	Max. length

[Save](#) [Cancel](#)

6.3 Configuring Manage MyMachine functions in Insights Hub

- 4. Create a new Asset Type under "Asset Types" > "BasicAgent" > "MindConnect Nano" with the Aspect Type "<TenantName>.SinumerikBasicConfig" with the Aspect name "CH1\_BasicConfig".  
Optionally, you can define additional variables in the new Asset Type.

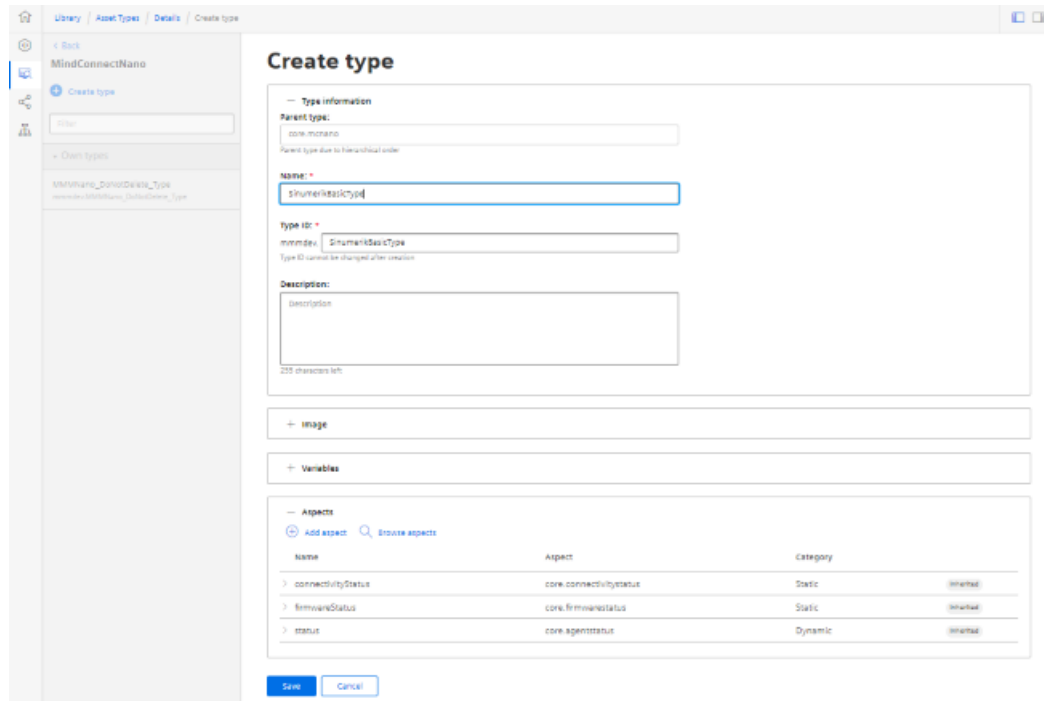
**Note**

**Do not confuse**

The following two aspects exist:

- core.SinumerikBasicConfig
- <tenant\_name>.SinumerikBasicConfig

Always work on aspect "<tenant\_name>.SinumerikBasicConfig" .



5. Create a new Asset based on the Type previously created.

The screenshot shows the 'Add asset' form in the Insights Hub interface. The form is divided into sections: General, Location, and Variables. The General section includes fields for Type ID (set to 'MindConnect Nano'), Name (set to 'MINDMOT'), and Description. The Location section includes fields for Street, Postal code, City, Country, Region, Latitude, and Longitude, along with a Time zone dropdown menu. A note indicates that the location is inherited and will be overwritten if any location field is entered. The Variables section is currently collapsed.

6. To connect to MindConnect Nano, click on "MindConnect Nano" in the asset.  
Enter the device ID of MindConnect Nano.
7. Configure the MindConnect Nano network settings for the SINUMERIK controller or Insights Hub by clicking on the "Gear wheel" icon.  
Once configuration is complete, click "Download connection key."  
Transfer the connection key to MindConnect Nano using a USB flash drive.
8. Click "Add new data source" and configure the connection to your OPC UA server.
9. Click "Start edit mode."  
Add new data points, corresponding to the values in the table above, with the data point address (SINUMERIK example address).
10. To establish a relationship between data points and variables, click "Show links."  
To link a data point, click "Link variable".  
Select the appropriate variable in the dialog.



# SINUMERIK Integrate Gateway

## 7.1 Connecting the SINUMERIK Integrate gateway

### Precondition

You need administrator rights.

Various settings are configured in SINUMERIK Integrate AMC.

As "Subtenant" user, the functionality of the "SINUMERIK Integrate Gateway" is not available!

<b>NOTICE</b>
<p><b>Setting up encrypted data transmission</b></p> <p>To ensure that no attacker can gain access to your secret key, an encrypted connection must be set up between SINUMERIK Integrate and Insights Hub.</p> <p>More information on setting up secure communication can be found in the SINUMERIK Integrate Installation Manual, in the chapter "Setting up an encrypted connection".</p>

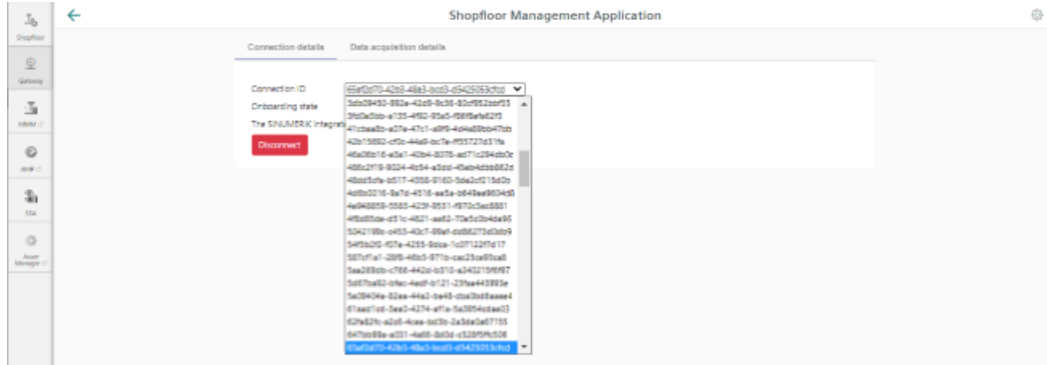
<b>NOTICE</b>
<p><b>Data manipulation possible</b></p> <p>There is a risk that an attacker, within the network between SINUMERIK Integrate and Insights Hub, gains access to the file system of the server or service clients. The attacker can then read or manipulate various system components (e.g. database content). As a consequence, the attacker can manipulate tool data, NC programs, machine archives or the system structure itself, for example. This type of attack cannot be prevented by Insights Hub.</p> <ul style="list-style-type: none"> <li>As the person responsible for the machine network, take measures to ensure the industrial security of the production/machine network.</li> </ul> <p>Siemens AG does not accept any liability in this regard.</p>

### More information

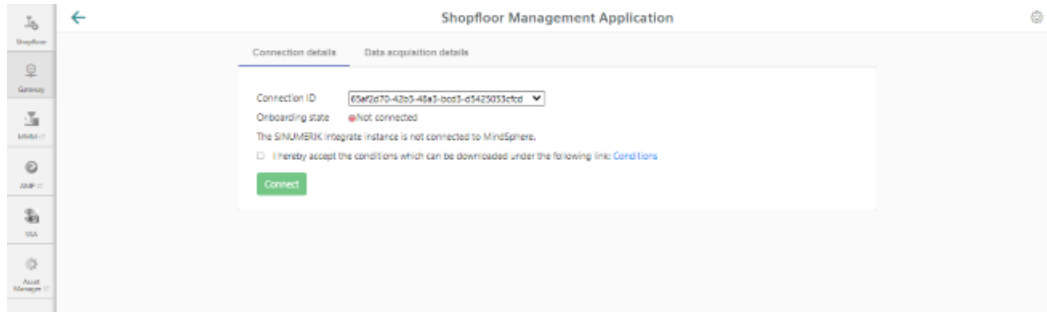
More information on configuring Insights Hub can be found in:  
Installation Manual "SINUMERIK Integrate MMP, MMT, AMC, AMP, AMM/E, AMD"

Procedure

1. In the launch pad, click on Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".
2. The "Shopfloor Management Application" window opens.
  - Click "Gateway" button on the left-hand side of the window.
  - Open the "Connection details" tab
  - Select entry "Create new connection" from the drop-down list.

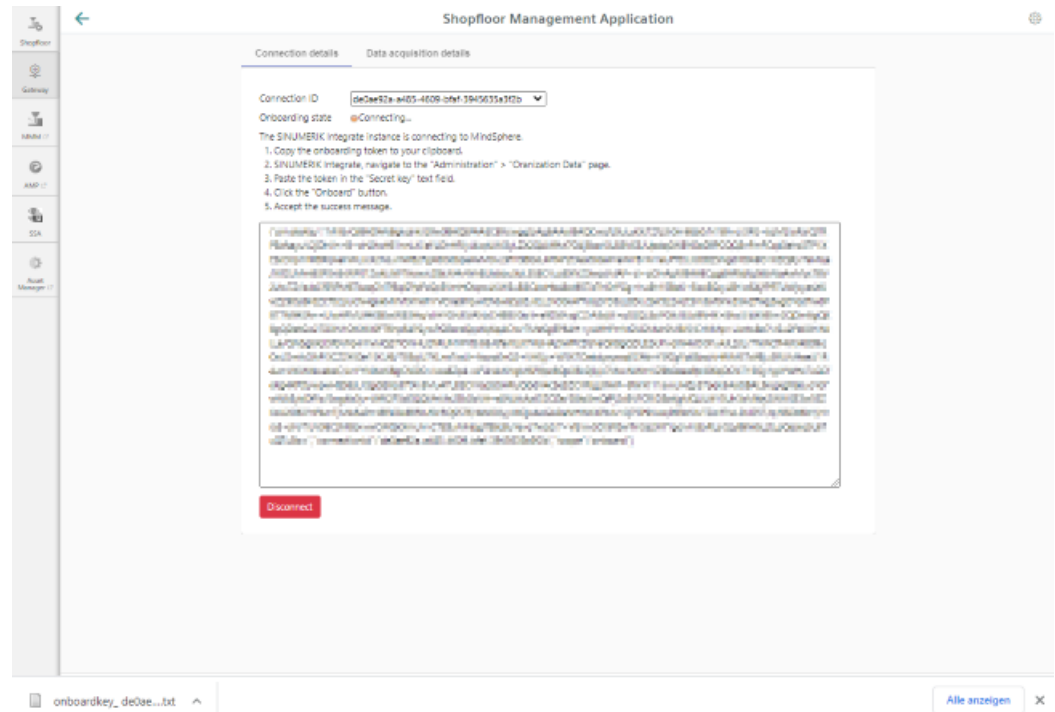


3. Click on the "Conditions" link and read the conditions.
  - Then activate the check box "I hereby accept the conditions which can be downloaded under the following link. Conditions".
  - Click on "Connect" to connect Insights Hub with SINUMERIK Integrate Analyze MyCondition.

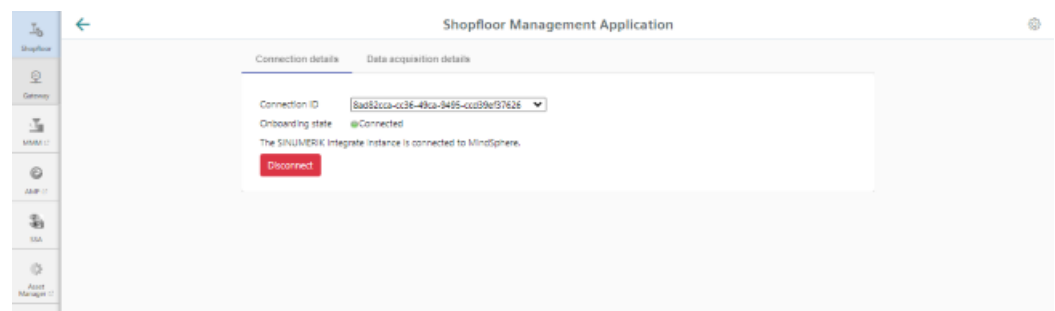




4. The "onboard.key" is generated and available for the connection to Insights Hub.



5. Configure the "onboard key" in SINUMERIK Integrate Analyze MyCondition. More information is provided in the Function Manual "Analyze MyCondition".
6. From the drop-down menu "Connection ID", select the connection ID that you configured in SINUMERIK Integrate Analyze MyCondition. The connection is then established.



7. Open tab "Data acquisition details". More information is provided in the following Chapter: Activating the variable monitor for Manage MyMachines (Page 207)

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**Note**

**SINUMERIK Integrate Gateway**

Machines connected to the SINUMERIK Integrate Gateway interface are displayed as being online. To do this, for at least one aspect of the particular machine, data should be uploaded in a time interval of less than five minutes. If this is not the case, then the machine can appear offline.

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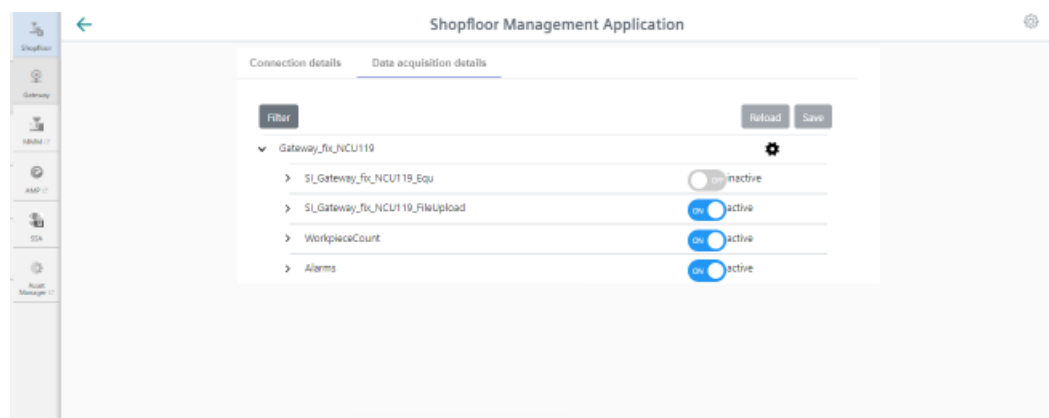
## 7.2 Activating the variable monitor for Manage MyMachines

### Requirement

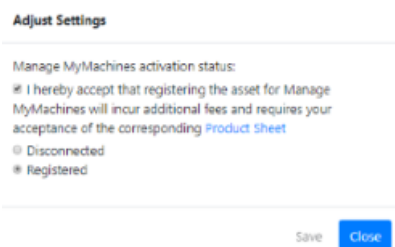
In SINUMERIK Integrate Analyze MyCondition, the check box "Activated on MSP" is selected under tab "Set up functions" > "Variable monitors".

### Procedure

1. Open the "Data acquisition details" tab.
  - Click the "Filter" button to specifically filter for "Machine / Assets" and "Variables Monitor / Aspect".
  - Click the "Load New" button if you have moved the slide for a function to "ON".
  - To save your settings, click "Save".

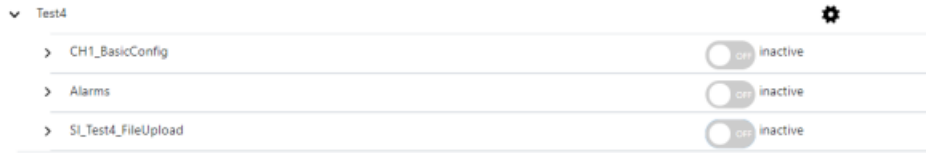


2. Click on the "Gearwheel" icon. You obtain information on the "Manage MyMachines" settings. Select the "I hereby accept ..." check box and then click "Save".



7.2 Activating the variable monitor for Manage MyMachines

- Using the slides, activate and/or deactivate functions to receive the relevant information. If you change a stored data selection, the status "changed" is displayed.



- Click the "Save" button to save the settings.  
- OR -  
Click "Reload" to restore the default setting.

# Working with Manage MyMachines

## 8.1 Overview

### Introduction

"Manage MyMachines" visualizes numerous operating and system-specific data of machine tools or individual machine components for production, service and maintenance. This increases the transparency of the machine tools connected in Insights Hub.

The following functions are possible:

- Administration and display of machines distributed around the world
- Visualization of relevant information in the overview page
- Intuitive creation of rules and queries
- Simple installation using the integrated SINUMERIK Integrate client
- Critical machine data can be combined to provide an informative analysis
- You can create your own digital service portfolio based on the Manage MyMachines for Industrial Operations X Cloud

The data that you provide is exclusively variables from the NC, the PLC or from the drives. This data enables conclusions to be drawn with regard to:

- Availability
- Operating times
- Operating state, state duration
- Maintenance, wait times
- Technical state

The corresponding data is either preconfigured or can be defined centrally by the user and configured with appropriate warning limits. It is also possible to identify trends with the aid of measuring series.

Data processing and visualization are realized on the Insights Hub platform.

### Overview

"Manage MyMachines" visualizes the data that you have transferred and offers the following:

- Overview of the created machines  
**More information** is provided in Chapter: Machine overview (Page 220).
- Overview of the operating data of an asset  
**More information** is provided in Chapter: Dashboard (Page 226)
- Filter and display alarms  
**More information** is provided in Chapter: Displaying machine alarms (Page 238)


## 8.1 Overview

- Analyses based on Aspects defined by the user and critical machine data  
**More information** is provided in Chapter: Aspects (Page 244)
- Displaying the machine events  
**More information** is provided in Chapter: Events (Page 281)
- Export of data points of an Aspect  
**More information** is provided in Chapter: Exporting (Page 284)
- Display Weiss spindle data  
**More information** is provided in Chapter: Manage MyMachines /Spindle Monitor (Page 308)
- Displaying the machine location  
**More information** is provided in Chapter: Machine location (Page 316)
- Displaying the motor temperature  
**More information** is provided in Chapter: Motor temperature (Page 319)
- Files in Insights Hub  
**More information** is provided in Chapter: Files (Page 321)
- Creating the dashboard user interface  
**More information** is provided in Chapter: My Dashboards (Page 286)
- Machine snapshot  
**More information** can be found in Chapter: Machine snapshot (Page 323).

## 8.2 Selecting a language

You have the option of displaying the user interface in various languages. The switchover is immediate.

### Parameter

Parameter	Description
	Opens the "User Settings" window in tab "Language", and lists the following languages that can be selected: <ul style="list-style-type: none"> <li>• English</li> <li>• German</li> <li>• Simplified Chinese</li> </ul>

### Procedure

1. Click in the top right-hand section of the window on the "Settings" icon.
2. Window "User Settings" opens.
3. Select the required language.  
The user interface is immediately displayed in this language.

#### User Settings

##### Language

- English
- Deutsch
- 简体中文

4. To close the menu, click on the "Settings" icon again.

## 8.3 Using the calendar function

Some Manage MyMachines pages offer the option of adapting the display to address your specific requirements by allowing you to set the time range and time zone using the calendar function.

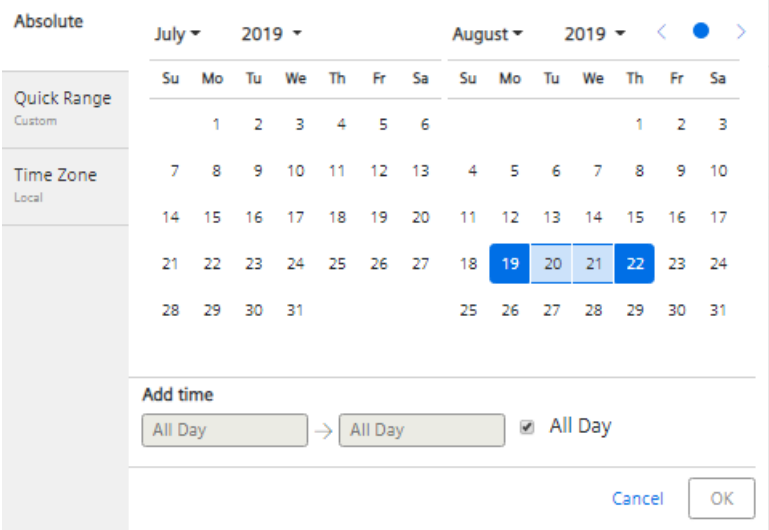
### Button / parameter

Button/parameter	Description
05/12/2020 → 06/16/2020 UTC	Displays the time range and the time zone used. Opens the calendar function.
Absolute	Manually entering a fixed time range
Relative	Selecting a relative time range: <ul style="list-style-type: none"> <li>• Last 60 minutes</li> <li>• Last 24 hours</li> <li>• Last 7 days</li> <li>• Last 30 days</li> <li>• Last 90 days</li> <li>• Today</li> <li>• Yesterday</li> <li>• Last week</li> <li>• Last month</li> <li>• Last quarter</li> </ul>
Time zone	Selecting the time zone used <ul style="list-style-type: none"> <li>• Local: Local time at the machine location</li> <li>• UTC: World time</li> </ul>

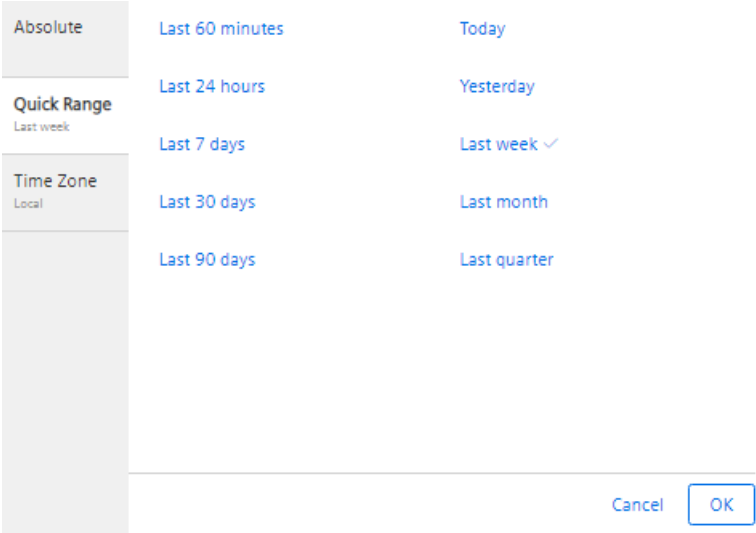


Procedure

1. Click on the time range display.  
The calendar window opens.
2. To use a fixed time range:
  - Open the "Absolute" tab.
  - Click on the required start date.
  - Click on the required end date.
  - Enter a precise time in format hh:mm:ss.
  - OR -  
Activate the checkbox "All Day".



3. To use a relative time range:
  - Open the "Quick Range" tab.
  - Click on the required time range.



*8.3 Using the calendar function*

4. Open the "Time zone" tab, and select the required time zone.
5. Click on "OK".  
The calendar window is closed. The new time range and the time zone used are displayed on the button.

## 8.4 Configuring a machine overview

You have the possibility of adapting the data displayed in the machine overview to address your specific requirements.

In area "Customize Fields", you select up to 20 variables to be displayed, and define the associated names. After saving, this data is displayed in the machine overview for all assets.

---

### Note







#### User-dependent settings

Customized fields are user-dependent settings; this means that other users are not affected by the changes.

Customized fields utilize browser-based functions. This is the reason that the configurations are not displayed for the following cases:

- After clearing the browser cache
  - When starting Manage MyMachines in the incognito window
- 

### Parameter

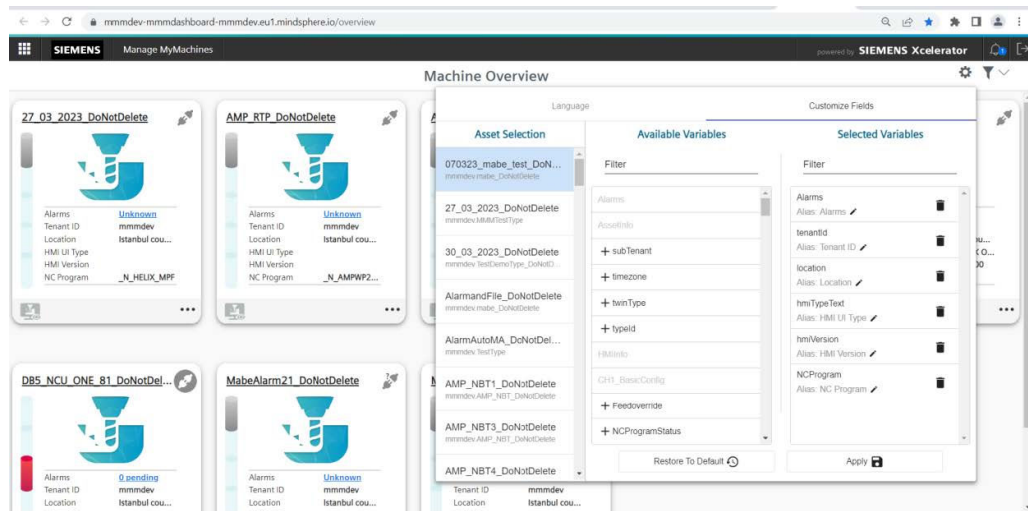
Parameter	Description
	Opens window "User Settings" with the following tabs: <ul style="list-style-type: none"> <li>• Language</li> <li>• Customize Fields</li> </ul>
	Selects the variable for display in the machine overview
	Releases the display names of the variables for processing
	Deletes the variable in the machine overview
	Selection is applied
	Restores the default setting

### Procedure

1. Click in the top right-hand section of the window on the "Settings" icon.
2. Window "User Settings" opens.

8.4 Configuring a machine overview

3. Open tab "Customize Fields".
4. In column "Asset Selection", select an asset for which the required variable was defined. All variables of the asset are displayed in column "Available Variables".
  - To reduce the number of displayed variables, in field "Filter", enter the variable name you are searching for, or parts of it.
  - Click on icon "+" in front of the required variables to add these to column "Selected Variables". You can also drag & drop the variables, and therefore arrange them in any order.
  - Click on icon "Edit" to enter the name for the variable in the machine overview.
  - Click on the "Recycle bin" icon behind the variables to clear these from the display.
  - Click on "Restore to Default" to restore the default settings.
  - Click on "Apply" to accept the changes.

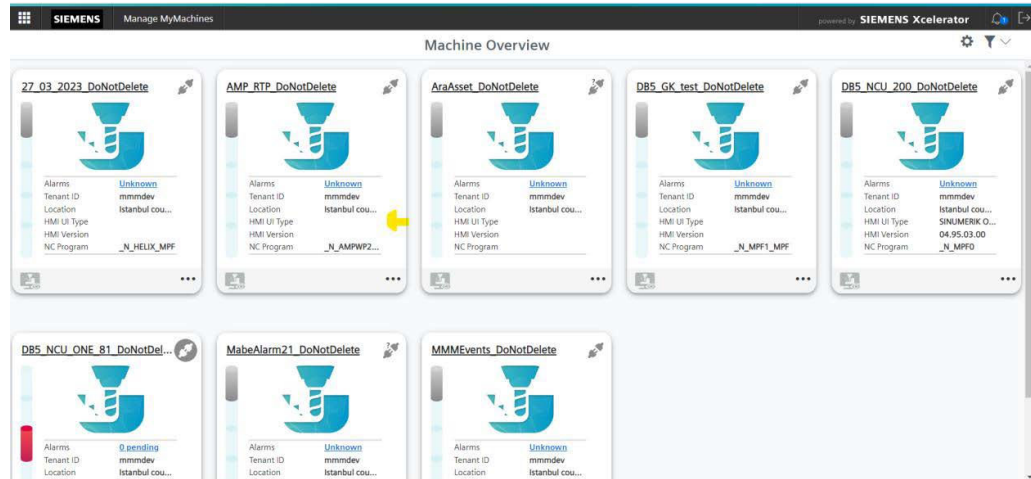


Implementations

Due to new requirements, model data of a machine can be analyzed:

- SI client version
- Device type
- HMI version
- NCK type
- NCK version
- PLC type
- PLC version
- HMI UI type (already possible)
- PCU base name
- OS version

The logic behind the overview tiles is that an empty value is displayed if no data have been specified for an asset on the overview page.



## Restrictions




- The maximum number of selected variables is 20
- "Customized fields" is a browser-based function that does not influence other users. The changes cannot be seen if the cache memory was cleared, and the user logs on again or uses an incognito mode.
- If users cannot save their own settings, and an error message is output this means that the web browser cache is full and the cache should be cleared.
- If a user cannot see the NCK type, then the NC program should be shifted into "Available variables" so that the user can see the NCK type.
- If users cannot see the HMI UI type, then hmiTypeText is not in an alias form of the HMI UI type.

## 8.5 Filtering machines

When you open Manage MyMachines, the "Machine Overview" window opens and all of the available machines are listed together with the associated data. You can apply a filter to reduce the number of displayed machines.

If you save a filter as default, the "Machine overview" window is displayed filtered the next time that it is opened.

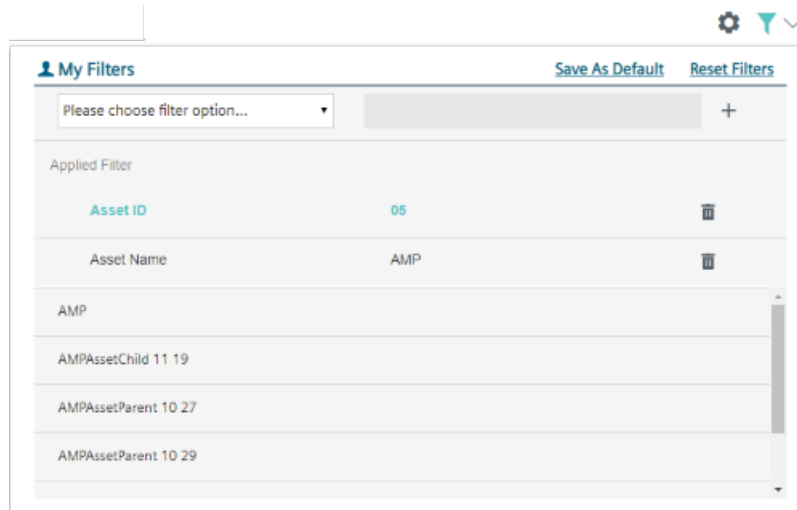
### Parameters

Parameter	Description
	Opens the "My Filters" window with the following search and filter options: <ul style="list-style-type: none"> <li>• Hierarchy</li> <li>• Asset ID</li> <li>• Asset name</li> <li>• Asset type</li> <li>• Online status                             <ul style="list-style-type: none"> <li>– Online</li> <li>– Offline</li> <li>– Unknown</li> </ul> </li> <li>• Machine status                             <ul style="list-style-type: none"> <li>– Production</li> <li>– Techn. Disturbance</li> <li>– Org. Disturbance</li> <li>– No Disturbance</li> </ul> </li> <li>• Alarm status                             <ul style="list-style-type: none"> <li>– Active alarm</li> <li>– No alarms</li> </ul> </li> <li>• Variables</li> </ul>
	Adds additional criteria to the current filter.
	Removes the selected filter criterion from the current filter.

### Procedure

1. Click in the top right-hand section of the window on the "Filter" icon. The "My Filters" window opens.
2. In the "Filter option" drop-down list, select the criterion for which the machines should be filtered.
3. Enter the text being searched for in the input field.
4. Click on icon "+" to add the filter criterion to the current filter. Remove the corresponding filter criterion using the "Delete" icon. The available machines are displayed in alphabetical order under the filter criteria.

5. Click on "Save as Default" to always display the "Machine overview" window filtered. Filter criteria that belong to the standard are shown in blue. Filter criteria that are only being currently used are shown in black.
6. To display all machines, click on the "Reset Filter" function to display all machines.



---

**Note**







You can also filter subtenants.

---

## 8.6 Machine overview

When you open Manage MyMachines for Industrial Operations X Cloud "Manage MyMachines", the "Machine Overview" window opens and all of the available machines are listed together with the associated data.

### Parameters

	Description
Underlined asset name	Displays the machine names By clicking on the underscored machine name, the "Machine Dashboard" window opens and additional machine information is displayed.
	Displays the status of the machine: <ul style="list-style-type: none"> <li>• Online</li> </ul>
	<ul style="list-style-type: none"> <li>• Offline</li> </ul>
	<ul style="list-style-type: none"> <li>• Unknown</li> </ul>
<b>Status of the remote session</b>	
	<ul style="list-style-type: none"> <li>• You have no rights to start the remote session. <ul style="list-style-type: none"> <li>– The rights for Manage MyMachines /Remote were not assigned to the user or were removed.</li> <li>– Manage MyMachines /Remote was not purchased for the tenant</li> </ul> </li> <li>- OR -</li> <li>• Manage MyMachines /Remote is not activated. <ul style="list-style-type: none"> <li>– The subscription is not activated or has expired.</li> </ul> </li> </ul>
	You can start a new remote session
	You can join an existing remote session
<b>Note:</b>	
There is no online status check when starting a remote session via MMM Machine Overview and MMM Dashboard. Please note that the IPC use cases do not have online status information.	
<b>Machine status</b>	
To the left of the machine information, you will see a bar that displays the machine status, color-coded. When passing over with the mouse, a tooltip is displayed showing some information:	
<ul style="list-style-type: none"> <li>• Unknown status (gray)</li> </ul>	The machine status is not known if one of the following reasons exists: <ul style="list-style-type: none"> <li>• "Manage MyMachines" was enabled for a machine and an "onboard.key" was created, but no onboarding was performed.</li> <li>• "AgentOnlineStatus" data was last transmitted more than 12 months ago.</li> <li>• No transmission of "AgentOnlineStatus" data has taken place.</li> </ul>
<ul style="list-style-type: none"> <li>• Production (green)</li> </ul>	The operating mode is "AUTO", none of the stop conditions listed below apply, and the following situation exists: <ol style="list-style-type: none"> <li>1. The feedrate is greater or equal to 70.</li> <li>2. The program is running or is waiting.</li> </ol>



	Description
<ul style="list-style-type: none"> <li>Tech. Disturbance (red)</li> </ul>	<p>The machine status displays "Technical Disturbance".</p> <p>The operating mode is "AUTO", and one of the following stop conditions is active:</p> <ul style="list-style-type: none"> <li>NC not ready</li> <li>Mode group not ready</li> <li>Emergency stop active</li> <li>Alarm with stop function active</li> <li>Wait for position control</li> <li>Wait for Safe Operating Stop</li> <li>No channel ready</li> <li>Fast retraction activated</li> </ul>
<ul style="list-style-type: none"> <li>Org. Disturbance (yellow)</li> </ul>	<p>The machine status displays "Organizational Disturbance".</p> <p>No other disturbances or conditions occur than are described under "Tech. Disturbance".</p>
<ul style="list-style-type: none"> <li>No Disturbance (blue)</li> </ul>	<p>The operating mode is not "AUTO".</p>
<b>Information about the machine</b>	
Alarms	<p>Displays the number of active alarms.</p> <p>Window "Machine alarms" opens if you click on the underlined data.</p> <p>More information is provided in Chapter: Displaying machine alarms (Page 238).</p>
HMI-UI type	<p>Displays the operating software:</p> <ul style="list-style-type: none"> <li>HMI-Advanced</li> <li>SINUMERIK Operate</li> <li>HMI Base</li> </ul>
Location	Time at the machine location
NC program	Displays the NC program

8.6 Machine overview

	Description
Tenant ID	Displays the customer name.
...	<p>Opens an additional window:</p> <ul style="list-style-type: none"> <li>• Alarms: Opens the "Machine Alarms" window. More information is provided in Chapter: Displaying machine alarms (Page 238)</li> <li>• Dashboard: Opens the "Machine Dashboard" window. More information is provided in Chapter: Dashboard (Page 226)</li> <li>• Aspects: Opens the "Machine Aspects" window. More information is provided in Chapter: Aspects (Page 244)</li> <li>• Events: Opens the "Machine Events " window. More information is provided in Chapter: Events (Page 281)</li> <li>• Exporting: Opens the "Export " window. More information is provided in Chapter: Exporting (Page 284)</li> <li>• Spindle monitor: Opens the "Spindle Monitor" window. More information is provided in Chapter: Manage MyMachines /Spindle Monitor (Page 308)</li> <li>• Machine location: Opens the "Machine Location" window and displays where the machine is located on a world map. More information is provided in Chapter: Machine location (Page 316)</li> <li>• Motor temperature: Opens the "Motor Temperature" window. More information is provided in Chapter: Motor temperature (Page 319)</li> <li>• Files: Opens the "Files" window. More information is provided in Chapter: Files (Page 321)</li> <li>• My Dashboards: Opens the "My Dashboards" window. More information is provided in Chapter: My Dashboards (Page 286)</li> <li>• Machine Snapshot Opens the "Machine Snapshot" window More information can be found in Chapter Machine snapshot (Page 323)</li> </ul>

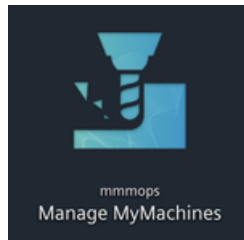
**Note**

**SINUMERIK Integrate Gateway**

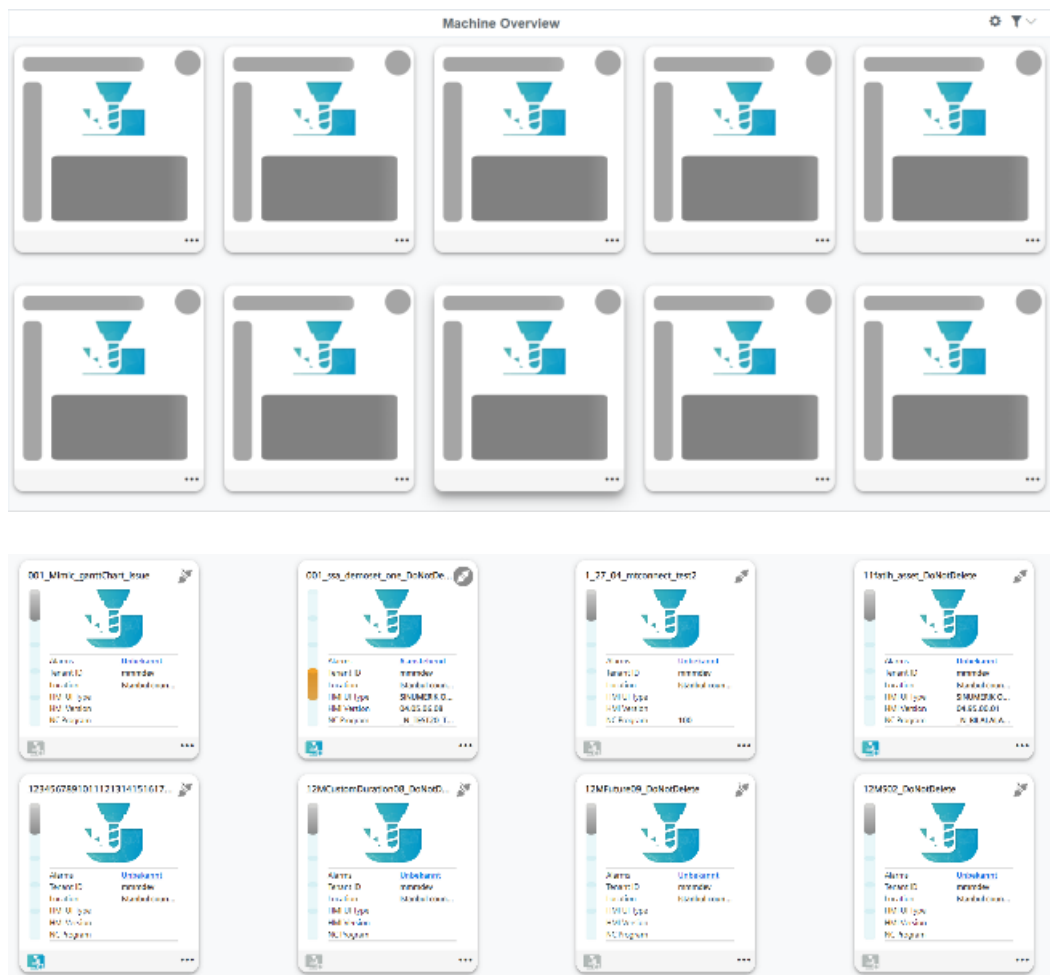
Machines connected to the SINUMERIK Integrate Gateway interface are displayed as being online. To do this, for at least one aspect of the particular machine, data should be uploaded in a time interval of less than five minutes. If this is not the case, then the machine can appear offline.

## Procedure

1. In the launch pad, click on the "Manage MyMachines" icon.



2. The "Machine Overview" window opens.
  - The machines are loaded depending on the resolution of the screen and the degree of scaling of the settings in the web browser. Scroll down to display all of the machines.
  - You see a skeleton list view when loading data. The available machines are displayed as soon as the data has been loaded.



3. Click on the required machine. The "Machine Dashboard" window opens and you can view additional data. More information is provided in Chapter: Dashboard (Page 226).

## 8.7 Filtering according to static variables

When you have set the slider to "Manage MyMachines /Spindle Monitor" or "Manage MyMachines /Remote", the following four static variables are created:

- ChargingModel
- Renewal
- RenewalDate
- SubscriptionStartDate

You can configure the machine overview so that billing information is displayed in the machine field as static variable.

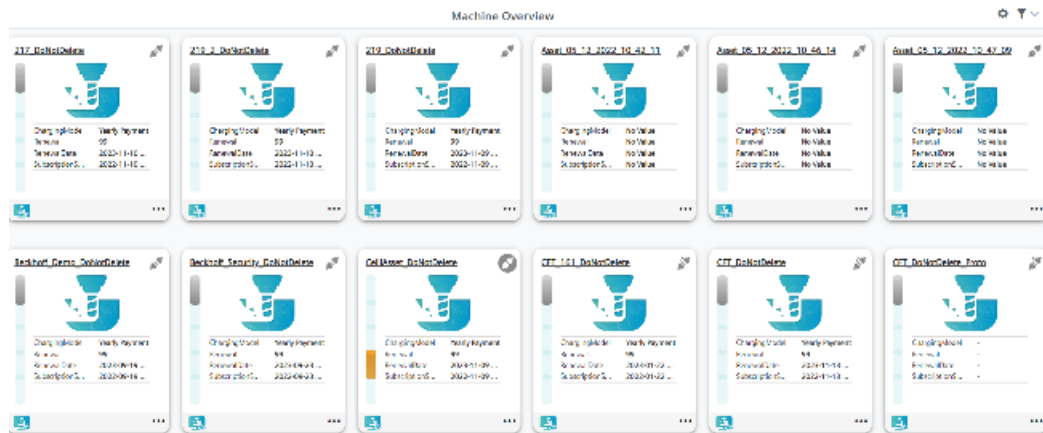
More information is provided in Chapter: Configuring a machine overview (Page 215)

You can filter variables in the machine overview.

### NOTICE

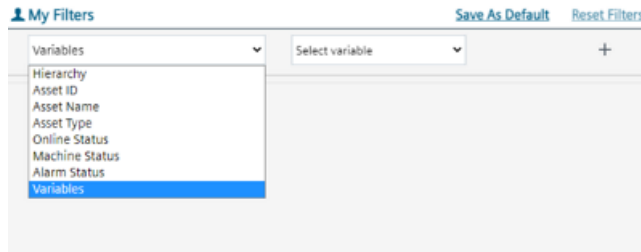
#### Variable marking, "Manage MyMachines" and "Manage MyMachines /Remote"

The associated static variables are marked with "MMMR" if you have activated "Manage MyMachines /Remote".

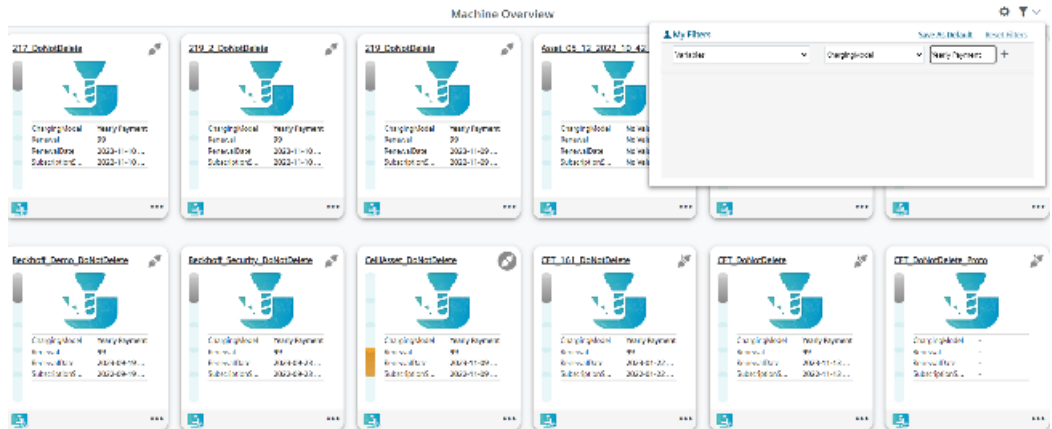


### Procedure for filtering static variables

1. You have the option of filtering machines according to a certain static variable. In the right-hand upper section of the window, click on the "Filter" icon. The "My filter" window opens.
2. In the left-hand drop-down list, select "Variables". Open the right-hand drop-down list "Select variables" and select the variable.



You obtain an overview of the machine with the filter result. The second variable appears in the first line of the field.



## 8.8 Dashboard

### 8.8.1 Overview

The "Machine dashboard" view shows information about each CNC type.

The machine status, NC program status as well as the operating mode can be simultaneously displayed.

---

**Note**




**SINUMERIK machines**

The aspect of the machine status shown shows the status for channel 1











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### Parameters


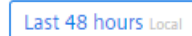




#### Displaying machine data

Parameters	Description	
	Displays the status of the machine: <ul style="list-style-type: none"> <li>Online - with date and time</li> </ul>	
	<ul style="list-style-type: none"> <li>Offline - with date and time</li> </ul>	
	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	
Machine status	To the left of the machine information, you will see a bar that displays the machine status, color-coded. When passing over with the mouse, a tooltip is displayed showing some information: <ul style="list-style-type: none"> <li>Unknown status (gray)</li> <li>Production (green)</li> <li>Tech. Disturbance (red)</li> <li>Org. Disturbance (yellow)</li> <li>No Disturbance (blue)</li> </ul> More information about machine statuses can be found in this Chapter: Machine overview (Page 220).	
Name:	Shows the machine name.	
<b>State</b>		
NC program	Displays the selected NC program.	
NC program status	Displays the last value of the NC program status. You can find more information in the following paragraph "NC program status".	The data is displayed as a bar chart in the right-hand section of the window.
Operating mode	Displays the last value of the machine tool operating modes.	The data is displayed as a bar chart in the right-hand section of the window.

Parameters	Description
Access protection level	<p>The access to functions and data areas is controlled via the access rights. Access levels 0 to 7 are available, where 0 represents the highest level and 7 the lowest level.</p> <p>Access levels 0 to 3 are locked via a password and access levels 4 to 7 via a key switch.</p> <ul style="list-style-type: none"> <li>• 1 = Password - Machine manufacturer: Development</li> <li>• 2 = Password - Machine manufacturer: Commissioning engineer</li> <li>• 3 = Password - End user: Service</li> <li>• 4 = Keyswitch position 3 - Programmer, machine setter</li> <li>• 5 = Keyswitch position 2 - Qualified operator</li> <li>• 6 = Keyswitch position 1 - Trained operator</li> <li>• 7 = Keyswitch neutral position - Trainee operator</li> </ul>
Stop condition	Displays the "StopCondition" NC variable that describes the cause of the NC program stop in more detail.
Time of the last value change	Displays the date and time of the last recording.
Spindle override	Displays the last value of the spindle override in percent.
Feedrate override	Displays the last value of the feedrate override in percent.
<b>Information</b>	
Asset hierarchy	Displays the path.
Machine type	Displays the machine type or the operating software.
Location	Displays the location.
SINUMERIK version	Displays the operating software version.

Parameters	Description
	Switching to other windows: <ul style="list-style-type: none"> <li>• Overview: Opens the "Machine overview" window. More information is provided in Chapter: Machine overview (Page 220)</li> <li>• Alarms: Opens the "Machine Alarms" window. More information is provided in Chapter: Displaying machine alarms (Page 238)</li> <li>• Aspects: Opens the "Machine Aspects" window. More information is provided in Chapter: Aspects (Page 244)</li> <li>• Events: Opens the "Machine Events " window. More information is provided in Chapter: Events (Page 281)</li> <li>• Exporting: Opens the "Export" window. More information is provided in Chapter: Exporting (Page 284)</li> <li>• Spindle monitor: Opens the "Spindle Monitor" window. More information is provided in Chapter: Manage MyMachines /Spindle Monitor (Page 308)</li> <li>• Machine location: Opens the "Machine Location" window and displays where the machine is located on a world map. More information is provided in Chapter: Machine location (Page 316)</li> <li>• Motor temperature: Opens the "Motor Temperature" window. More information is provided in Chapter: Motor temperature (Page 319)</li> <li>• Files: Opens the "Files" window. More information is provided in Chapter: Files (Page 321)</li> <li>• My Dashboards: Opens the "My Dashboards" window. More information is provided in Chapter: My Dashboards (Page 286)</li> <li>• Machine Snapshot Opens the "Machine Snapshot" window More information can be found in Chapter Machine snapshot (Page 323)</li> </ul>
	Collapses the machine information display.
	Expands the machine information display.
<b>Variables</b>	
Name	Shows the names of the variables
Value	Shows the value of the variables.
	Activates the search for names or the value of a variable.
	Adds a new variable. Enter a name and a value for the new variable (it is not permissible that fields are left empty). If the asset already has 5 or more configured variables, the "+" icon is deactivated.
	Saves the newly added variable.
	Activates text box "Value" of the selected variable for editing.
	Deletes the selected variable.
	Interrupts editing.
	Saves what has been edited.



Display	Description
	Displays the number of active alarms.
	Shows the selected time period. Opens the calendar function to set the time period.
<b>Status of the remote session</b>	
There is no online status check when starting a remote session via MMM Overview and MMM Dashboard. The IPC use cases do not have online status information.	
	<p>You have no rights to start the remote session.</p> <ul style="list-style-type: none"> <li>The rights for Manage MyMachines /Remote were not assigned to the user or were removed.</li> <li>Manage MyMachines /Remote was not purchased for the tenant</li> </ul> <p>- OR -</p> <p>Manage MyMachines /Remote is not activated.</p> <ul style="list-style-type: none"> <li>The subscription is not activated or has expired.</li> </ul>
	You can start a new remote session.
	You can join an existing remote session.
Status summary	<p>Displays the machine information as bar chart:</p> <ul style="list-style-type: none"> <li>Machine status <ul style="list-style-type: none"> <li>Machine off</li> <li>Unknown status</li> <li>Production</li> <li>Tech. Disturbance</li> <li>Org. Disturbance</li> <li>No error</li> </ul> </li> <li>NC program status <ul style="list-style-type: none"> <li>Machine off</li> <li>Unknown status</li> <li>Interrupted</li> <li>Stopped</li> <li>In operation</li> <li>In the wait position</li> <li>Cancelled</li> </ul> </li> <li>Operating mode <ul style="list-style-type: none"> <li>Machine off</li> <li>Unknown status</li> <li>JOG</li> <li>MDA</li> <li>AUTO</li> </ul> </li> </ul> <p>More information is provided in Chapter: Status summary (Page 234)</p>
	Opens the drop-down list.

Display	Description
▼	Closes the drop-down list.
Pending alarms	Displays the pending alarms. More information is provided in Chapter: Pending alarms (Page 233)

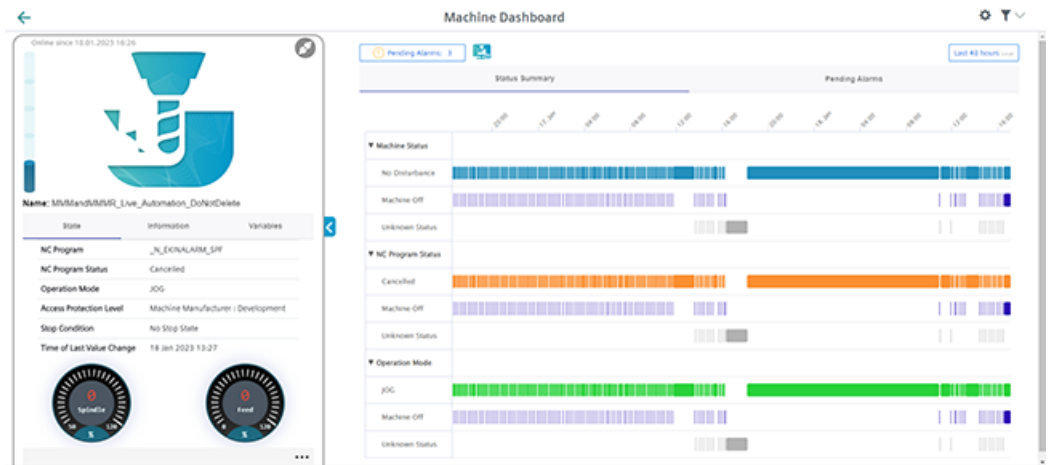
**Note**

**UTC time definition**

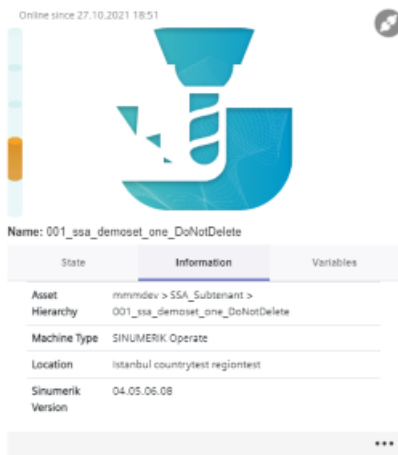
Independent of the time zone settings, all variables are displayed with a UTC time stamp.

**Procedure**

1. Click in the machine overview on the underscored name of the required machine.
2. Window "Machine Dashboard", tab "Status" opens displaying additional machine data. All machine information is displayed in bar charts in the right-hand section of the window. Using the slider bar, you can scroll backwards and forwards in the lateral scroll bar.



3. You obtain more information about the machine if you open tab "Information".



4. You obtain an overview of the variables configured for the machine if you open tab "Variables".

- Click on the "+" icon to add a new variable.
- Click on the "Recycle bin" icon to delete a variable.
- Click on the "Edit" icon to edit the value of a variable.  
To edit variables, you need the user role mmm.admin

You cannot create empty variables.

The following names are blocked and may not be assigned:

- id
- name
- description
- tenant
- etag
- scope
- properties
- propertySets
- extends
- variables
- aspects
- parentTypeld
- timezone
- type
- parent

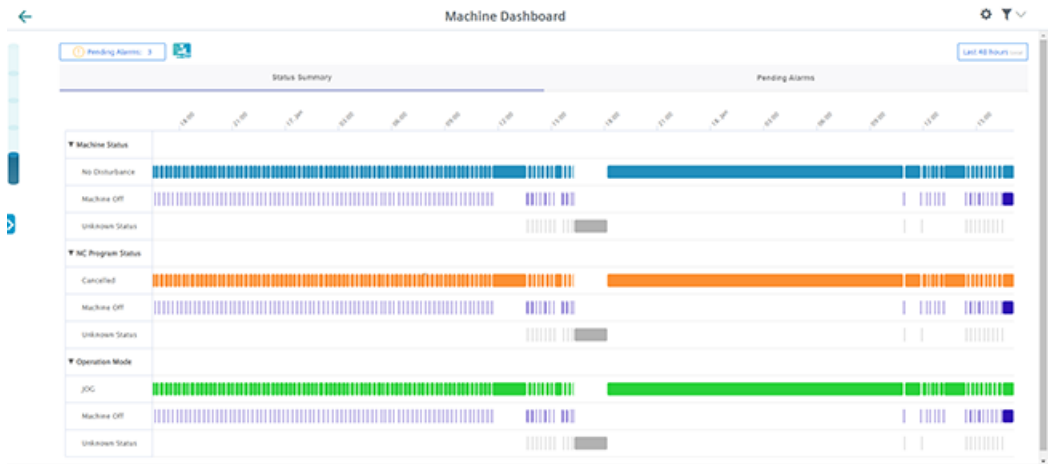
When the configuration is copied, the following applies:

- If a variable already exists in the target asset, the variable in the target asset is retained.
- If the variable does not exist yet, it will be added in the target asset.

For more information on copying configurations, see Chapter Copying configurations (Page 148).



- 5. To collapse the machine description, click on the left-pointing arrow symbol on the right side of the frame.  
The bar chart is displayed in the full-screen mode.  
If the machine description is collapsed, the color display of the machine status remains at the left-hand edge of the window.  
To exit the full-screen mode, click on the right-pointing arrow symbol on the left-hand edge of the window.



### Setting the time range

- You can set a time period of up to 2 days.
1. Click on the set time range. The calendar view opens.
  2. You can select either a relative or an absolute time period.

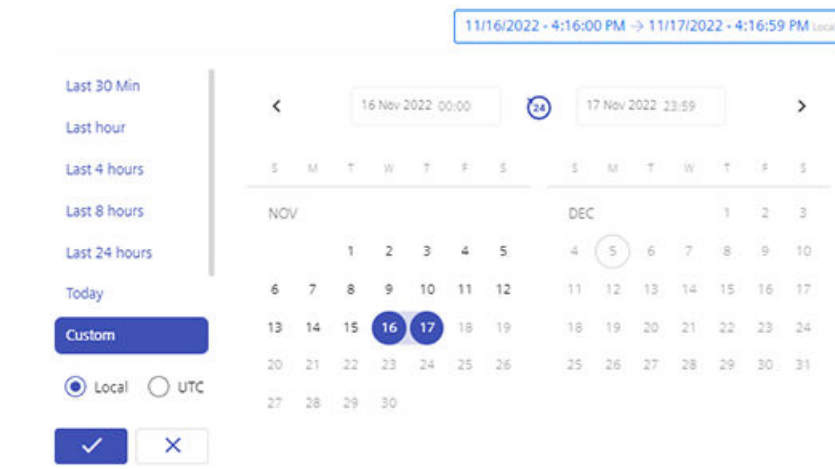
3. Select one of the entries to select a relative time period.

- Last 30 minutes
- Last hour
- Last 4 hours
- Last 8 hours
- Last 24 hours
- Today
- Last 48 hours

Click on "Custom" to select an absolute time period.

- Select the time zone, "Local" or "UTC".
- Select a start and end date in the calendar.

4. Confirm using the checkmark button.



## Displaying details



You have the option of viewing more data in the following tabs:

- Pending alarms (Page 233)
- Status summary (Page 234)

### 8.8.2 Pending alarms

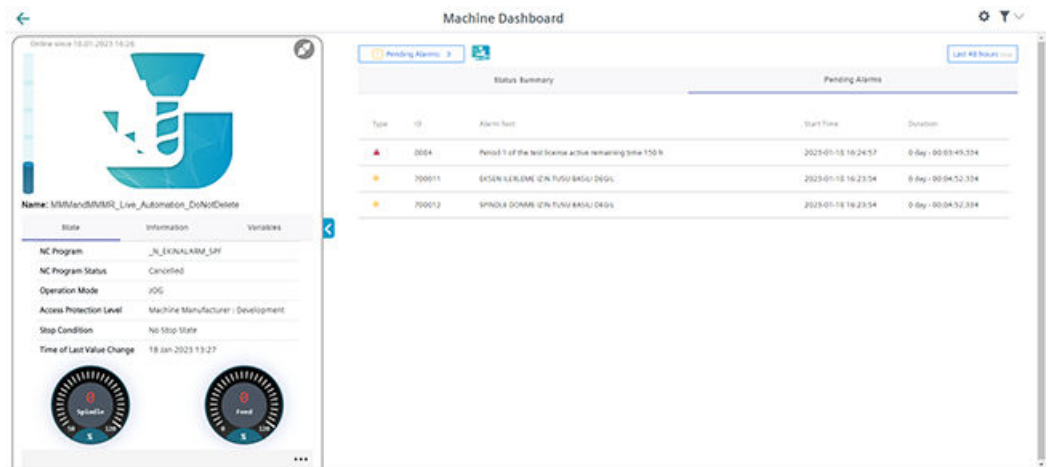
For the selected SINUMERIK control system, the "Machine Dashboard" view > "Pending Alarms" tab provides an overview of the alarms for a defined time interval.

Parameters

Parameters	Description
Type	Displays the following icons:
	 Notice
	 Note
ID	Displays the alarm identifier.
Alarm text	Displays an alarm description.
Start time	Shows the start time with the date YYYY-MM-DD and time hh:mm:ss
Duration	Displays the alarm duration in days and hours.

Procedure

1. In the right-hand section of the window, open tab "Pending Alarms". The details of the pending alarms are displayed. In the right-hand section of the window, use the slider bar to scroll up and down in the lateral scroll bar.



8.8.3 Status summary

For the selected SINUMERIK controller, the "Machine Dashboard" view > "Status summary" tab provides an overview of the machine statuses for a selected period.

Parameters

Status	Description
Machine status	
Machine off	The machine is switched off.
Unknown status	The machine status is not known.
Production	The machine is presently running.

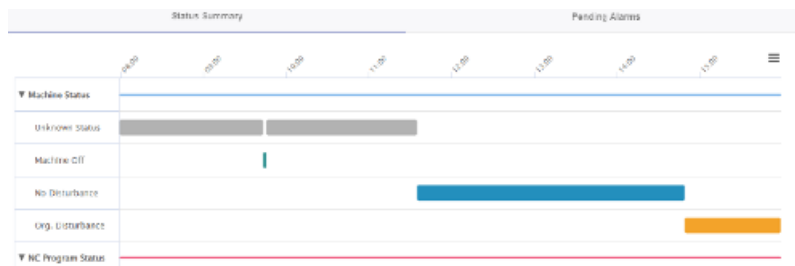
Status	Description
Tech. Disturbance	Because of a technical disturbance, the machine was stopped or the operator exited the NC program.
Org. Disturbance	Because of an organizational disturbance, the machine was stopped or the operator exited the NC program.
No Disturbance	The machine operates disturbance-free.
NC program status	
Machine off	The NC program is not running as the machine is switched off.
Unknown status	The NC program is not running as the machine status is not known.
Interrupted	The NC program was stopped and is restarted by the operator.
Stopped	The NC program has been stopped and will be exited by the operator.
In operation	The NC program is currently running.
In the wait position	The NC program is waiting. For example, the program is waiting for the execution of an NC program in a different channel or the operator is changing a tool.
Cancelled	The NC program has been cancelled by the operator at the SINUMERIK controller.
Operating mode	
Machine off	The NC program is not running as the machine is switched off.
Unknown status	The NC program is not running as the machine status is not known.
JOG	The machine is running in the "JOG" operating mode.
MDA	The machine is running in the "MDA" operating mode.
AUTO	The machine is running in the "AUTO" operating mode.

## Procedure

There are several drop-down lists in the right window area.

### Machine status

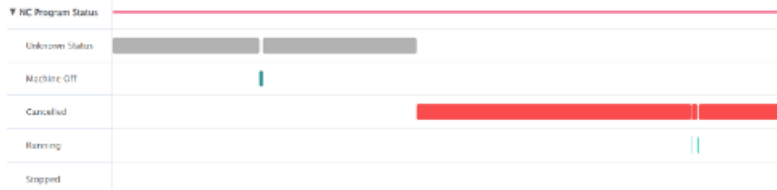
1. In the right-hand section of the window, click on the down arrow in tab "Machine status".
2. The drop-down list with the machine status data opens.  
Details on the machine status are displayed in a bar chart.



More information about the machine status is provided in Chapter: Machine overview (Page 220)

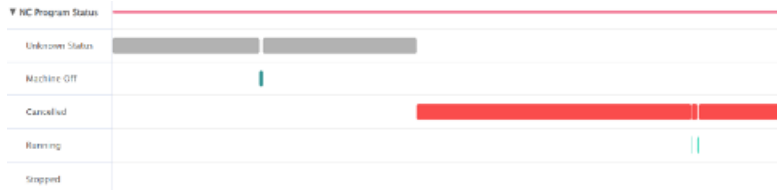
**NC program status**

1. In the right-hand section of the window, click on the down arrow in the tab "NC Program Status".
2. The drop-down list with NC program status data opens. Details on the NC program status are displayed in a bar chart.



**Operating mode**

1. In the right-hand section of the window, click on the down arrow in tab "Mode".
2. The drop-down list with the machine status data opens. Details on the machine status are displayed in a bar chart.



**8.8.4 Failure analysis**

**Overview**

In section "Failure analysis", error states that occur for a machine tool equipped with a SINUMERIK control system can be identified and evaluated. As a result of the higher transparency, all of the required service work can be executed more efficiently and machine downtimes can be reduced.

It is important that these errors are checked, and based on a combination comprising "Machine status", "NC program status" and "Operating mode", action is taken so that users can define the cause therefore avoiding that these errors are triggered.

The section contains a list of the technical errors and NC stops that occurred 60 seconds before and remain for an additional 60 seconds. Alarms +/- 60 seconds are listed for these technical errors and NC stops.

**Parameters**

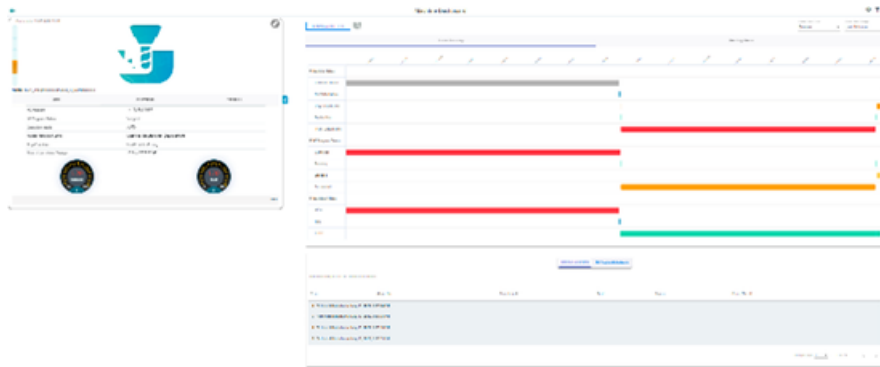
Parameters	Description
<b>Error type</b>	
Technical error	Displays a technical error.
NC program error	Displays an NC program error



Parameters	Description
<b>Alarms</b>	
From	Displays the instant in time
Alarm number	Displays the alarm number
Deletion information	Displays the deletion information
Alarm text	Displays the alarm text
Source	Displays the source
From (client)	Displays the client

## Procedure

1. Click on the dots in the "Machine description" area.
2. Select "Failure analysis".  
The failure analysis is displayed in the lower right-hand window.



3. Click on the diagram to select between:
  - Machine status: Technical error
  - NC program status: stops, freezes
4. Select one of the dots to scroll there.  
All the associated technical errors are listed in the table.

## 8.9 Displaying machine alarms



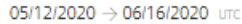
The following data relating to alarms is displayed in the "Machine Alarms" window:

- Occurrence
- Duration
- List:
  - ID - alarm ID
  - Service life
  - Duration
  - End time
- Alarm Filtering
  - Alarm number
  - Alarm range

Further, you can display alarms in various views:

- In a bar chart
- In a pie chart

### Button / parameter

Button/parameter	Description
	Displays the pending alarms: <ul style="list-style-type: none"> <li>• != specifies the number</li> <li>• Checkmark = no active alarms</li> <li>• ? = unknown</li> </ul>
	You update the data that is located in the time interval by pressing the "Refresh" button.
	Displays the time range and the time zone in which alarms are captured. A calendar opens when if you click on the button. More information is provided in Chapter: Using the calendar function (Page 212).

## Occurrence

Alarm display	Description
Occurrence	Displays how often the alarm has occurred in the selected time interval. All alarms have different alarm identifiers - the alarm ID. The alarms are displayed with different colors. How often the alarm has occurred is shown as a percentage in the pie chart. If you move the mouse over the bar of the corresponding alarm, a tooltip is displayed indicating how often the alarm has occurred.
ACTIVE	Displays the number of active alarms.
TOTAL	Displays the number of all alarms.

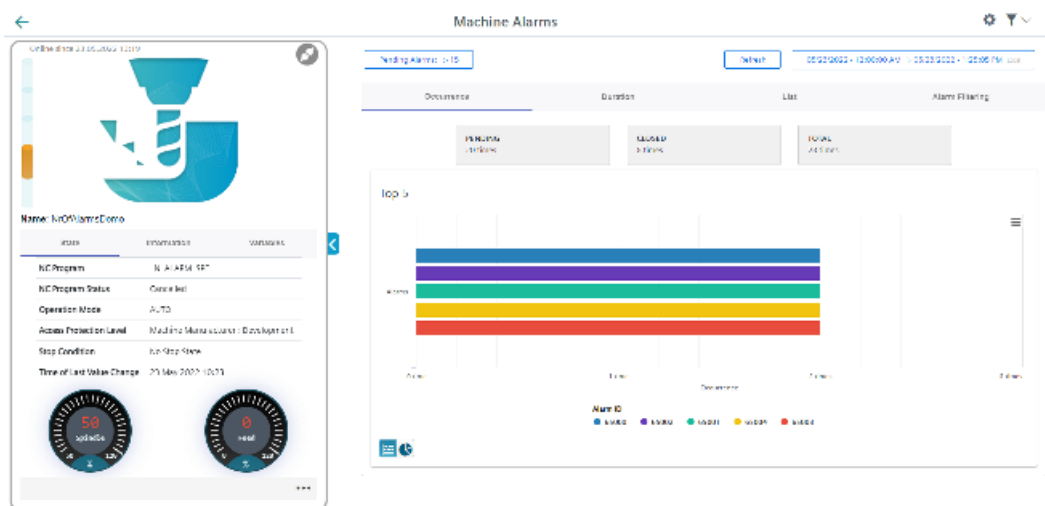
### Note

#### Alarm display

5 alarms that occur most frequently are displayed.

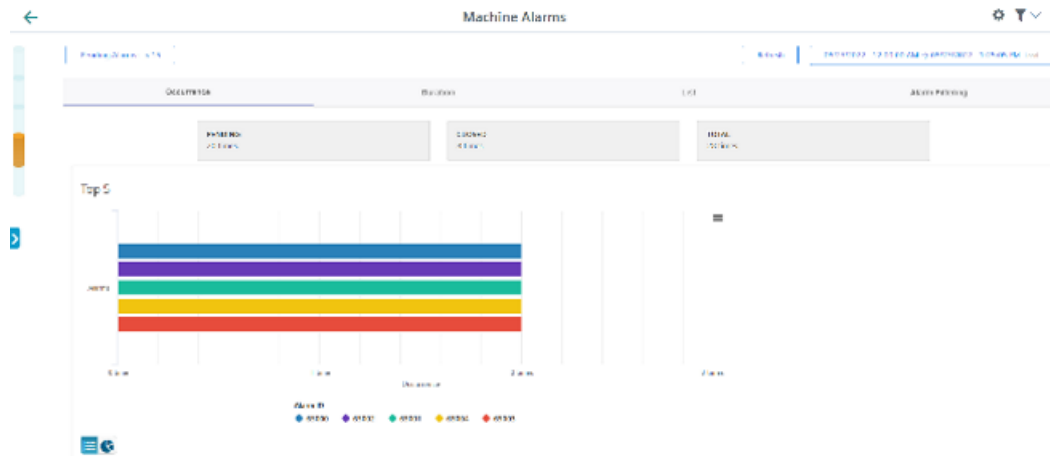
### Procedure

1. In the "Information" area, click on the button with dots.
2. Click on "Alarms".  
The "Machine alarms" window opens.
3. The machine description is shown in the left-hand section of the window.
4. Select a specific time period using the calendar function.
5. Click on "Apply".
6. Open the "Occurrence" tab.
7. The alarms are shown in a bar chart where you can see how often the alarms have occurred.



8.9 Displaying machine alarms

- 8. To collapse the machine information, click on the left-pointing arrow symbol on the right side of the frame.  
The bar chart is displayed in the full-screen mode.



- 9. Click on the "Pie chart" icon to change the display type.

Duration

Alarm display	Description
Duration	Displays the duration of the alarms within the defined time period in a chart. All alarms have different alarm identifiers. The alarms are displayed with different colors. The duration of the alarm is specified as a percentage. The alarm identifier - the alarm ID - is displayed below the diagram. If you move the mouse over the bar of the corresponding alarm, a tooltip is displayed, indicating the duration in days, hours, minutes and seconds.
ACTIVE	Displays the duration of active alarms in days and time.
CLOSED	Displays the duration of closed alarms in days and time.
TOTAL	Displays the total duration of all alarms in days and time.

Procedure

1. Select a certain time period using the calendar function.
2. Click on "Apply".
3. Open tab "Duration".

4. The alarms are displayed in a bar chart where you can see the duration of the alarms.



5. Click on the "Pie chart" icon to change the display type.

## List

Parameters	Description
ID	Displays the alarm identifier.
Start time	Shows the start time with the date (YYYY-MM-DD) and time (hh:mm:ss)
Duration	Displays the duration in days and time (hh:mm:ss)
End time	Shows the start time with the date (YYYY-MM-DD) and time (hh:mm:ss)
>	You can obtain more alarm information using the icon: <ul style="list-style-type: none"> <li>Alarm text</li> <li>Machine type</li> <li>Sender</li> <li>Type</li> </ul>
Buttons in the lower section of the window	
Item per page	From the drop-down list, select how many alarms should be displayed on one page: <ul style="list-style-type: none"> <li>5</li> <li>10</li> <li>25</li> <li>100</li> </ul>
x - y of xy	Displays how many pages there are, with the corresponding number of alarms per page.
<	The first page is displayed.
<	The previous page is displayed.
>	The next page is displayed.
>	The last page is displayed.

**Procedure**

1. Select a certain time period using the calendar function.
2. Open tab "List".
3. The alarms are listed in a structured table form.

Occurrence		Duration	List	Alarm Filtering
ID	Start Time	Duration	End Time	
>	8084 2020-06-16 12:54:52	0 day - 00:06:00 hour	-	
>	8084 2020-06-16 11:54:56	0 day - 01:05:56 hour	-	
>	8084 2020-06-16 10:55:00	0 day - 02:05:52 hours	-	
>	8084 2020-06-16 09:55:03	0 day - 03:05:49 hours	-	
>	8084 2020-06-16 08:55:07	0 day - 04:05:45 hours	-	
>	8084 2020-06-16 07:55:11	0 day - 05:05:41 hours	-	
>	8084 2020-06-16 06:55:15	0 day - 06:05:37 hours	-	
>	8084 2020-06-16 05:55:19	0 day - 07:05:33 hours	-	
>	8084 2020-06-16 04:55:23	0 day - 08:05:29 hours	-	
>	8084 2020-06-16 03:55:26	0 day - 09:05:26 hours	-	

Items per page: 10 1 - 10 of 122 |< < > >|

4. Select an alarm from the list and click on icon ">".
5. A menu opens and you can see more information about the alarm.

Occurrence		Duration	List	Alarm Filtering
ID	Start Time	Duration	End Time	
>	8084 2020-06-16 12:54:52	0 day - 00:06:00 hour	-	

Alarm Text: Period 1 of the test license active remaining time 166 h

---

Machine Type: core.basics/numerikasset

---



Sender: /NCK

---

Type: NC\_CANCEL

**Alarm Filtering**

Alarm display	Description
Type	Select the alarm number or the alarm range from the drop-down list. In the overview you can alphabetically sort the alarm type (either in ascending or descending alphabetical order).
Alarm number/area	Enter the alarm number or the alarm range in the input field. In the overview, you can numerically sort the alarms (either in ascending or descending numerical order).


Alarm display	Description
	Selected alarms are no longer saved in Insights Hub. The alarms are displayed in the overview.
	Individually removing alarms or alarm ranges from the overview.

### Procedure



1. Open tab "Alarm Filtering".
2. Select "Alarm Number" or "Alarm Range" from the drop-down list.
3. Enter the required alarms in the input field and click on the "Do not save" icon.

Occurrence
Duration
List
Alarm Filtering

Alarm Range ▾

**Filtered Alarms**

Type	Alarm Number / Range	
Alarm Number	60008	
Alarm Range	600010 - 600015	

## 8.10 Aspects

User-defined aspects combine your selected data for a meaningful analysis.

All aspects are displayed in an overview. You can influence the view by applying different filter criteria.

For the individual parameters of an asset, you can create queries manually or controlled by variables.

### Precondition

The configuration of the variables must be activated in the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application".

More information is provided in Chapter: Overview (Page 130).

### Parameters and buttons

The following aspects are displayed as default setting. You also have the option of configuring your own aspects.

You can display variable data as diagram (diagram variables) or in a tabular form (table variables).

In the tabular view you can sort the data either alphabetically or numerically (either in ascending or descending order).

Parameters	Description
SpindleMonitorConfig	The following data is displayed: <ul style="list-style-type: none"> <li>• Time stamp with the date and time</li> <li>• Variable - OnlineStatus</li> <li>• Value                             <ul style="list-style-type: none"> <li>– false</li> <li>– true</li> </ul> </li> <li>• Quality code</li> </ul>
AgentOnlineStatus	The following data is displayed: <ul style="list-style-type: none"> <li>• Time stamp with the date and time</li> <li>• Variable - OnlineStatus</li> <li>• Value                             <ul style="list-style-type: none"> <li>– false</li> <li>– true</li> </ul> </li> <li>• Quality code</li> </ul>
Alarms	The following data is displayed: <ul style="list-style-type: none"> <li>• Time stamp with the date and time</li> <li>• Variable</li> <li>• Value</li> <li>• Quality code</li> </ul>




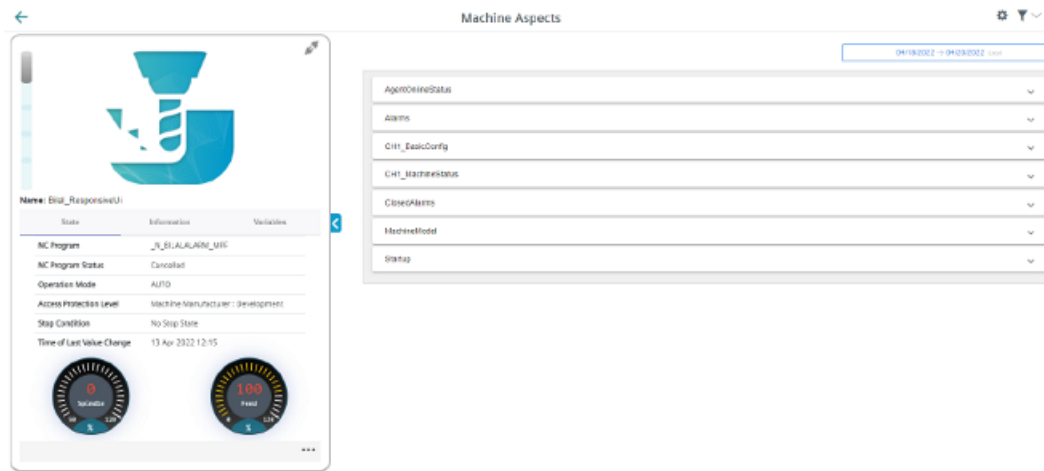
Parameters	Description
CH1_BasicConfig	<p>SINUMERIK basic configuration</p> <p>The following data is displayed:</p> <ul style="list-style-type: none"> <li>• Feed override</li> <li>• NCPProgramStatus</li> <li>• NrOfAlarms</li> <li>• Opmode</li> <li>• ProtectionLevel</li> <li>• Spindle override</li> <li>• StopCond</li> </ul>
CH1_MachineStatus	<p>Time of the machine status in the selected time period.</p> <p>The machine status is displayed numerically:</p>
	0   Unknown status
	1   Production
	2   Technical Disturbance
	3   Organizational Disturbance
4   No Disturbance	
MachineModel	<p>The following data is displayed:</p> <ul style="list-style-type: none"> <li>• Time stamp with the date and time</li> <li>• Variable</li> <li>• Value</li> <li>• Quality code</li> </ul>
Startup	<p>The following data is displayed:</p> <ul style="list-style-type: none"> <li>• Time stamp with the date and time</li> <li>• Variable</li> <li>• Value</li> <li>• Quality code</li> </ul>

Mode	Description
Aggregate mode	Displays the first and last value, sorted according to units.
Unprocessed mode	Displays the last 256 values. If there are more values in the selected time range, then this is indicated by a dotted line.
Automatic mode	Automatically switches between the two modes depending on the time range.

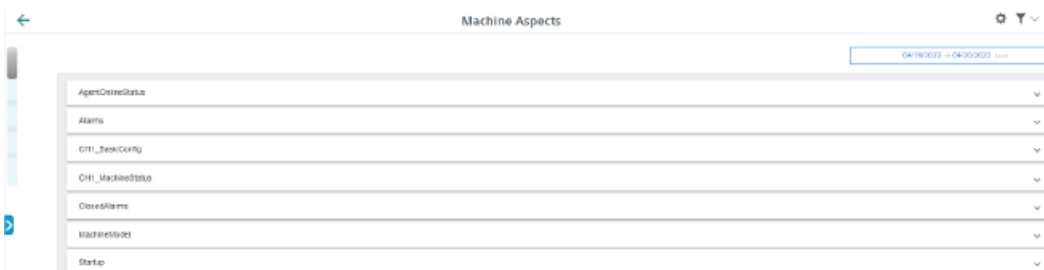
Button	Description
05/12/2020 → 06/16/2020 UTC	Displays the time range and the time zone used. Opens the calendar function.
▼	Opens the detailed view of the data.
▲	Closes the detailed view of the data.

Procedure

1. In the "Information" area, click on the button with dots.
2. Click on "Aspects".  
The "Machine Aspects" window opens.
3. The machine description is shown in the left-hand section of the window.
4. In the right-hand section of the window, select the time range using the calendar function.  
**More information** is provided in Chapter: Using the calendar function (Page 212)
5. To see the data recording, right-click on button .



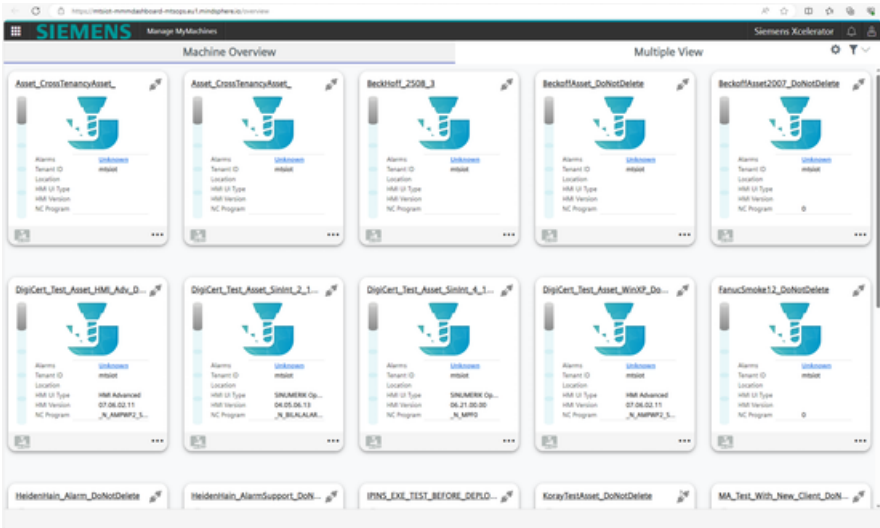
6. To collapse the machine description, click on the left-pointing arrow symbol on the right side of the frame.  
The bar chart is displayed in the full-screen mode.



# 8.11 Comparing machines

## Overview

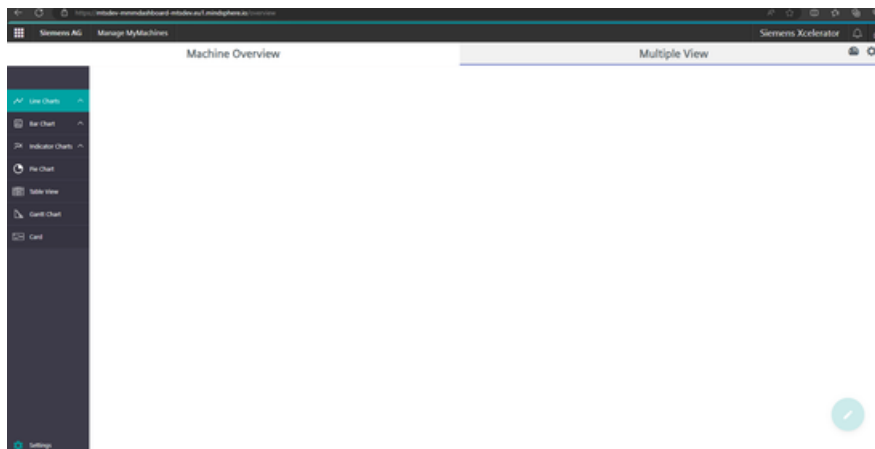
Using this function, several machines are visualized in a Dashy diagram. A similar option is provided on "My Dashboard". The data of an individual plant can be displayed on this page. The function for the machine comparison was subdivided into tabs:



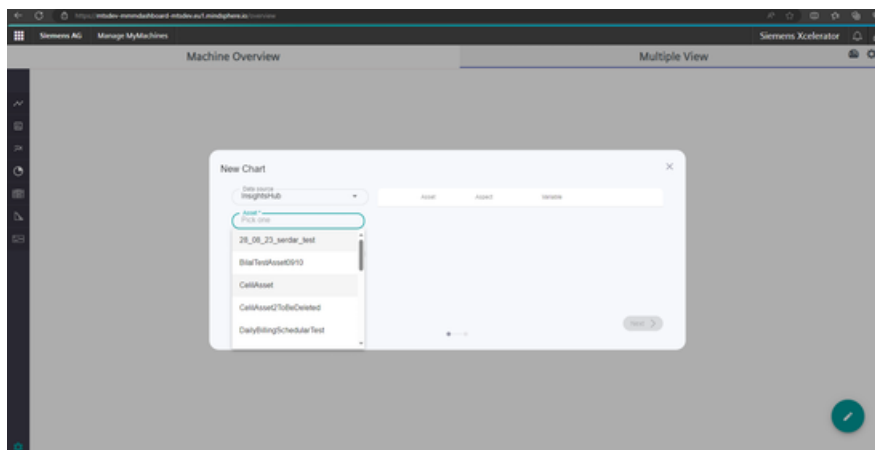
The content of the machine comparison can be displayed by clicking on tab "Machine comparison". The start page and an empty machine comparison configuration are displayed:



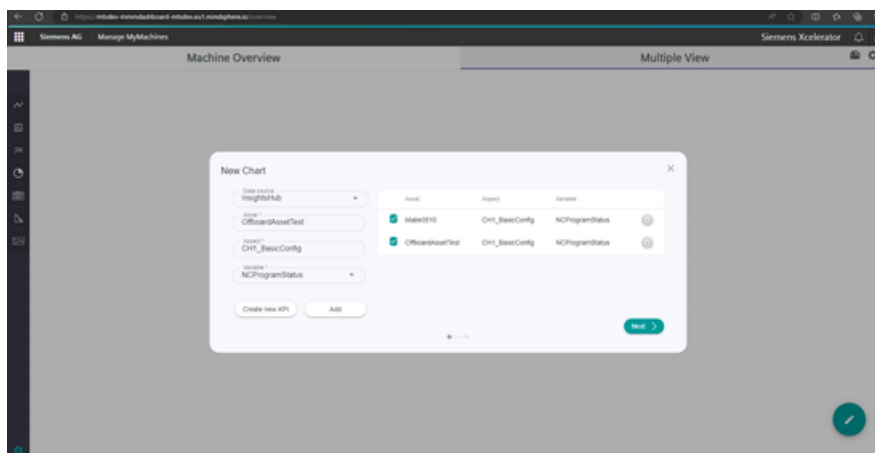
### Add broken-line graphics



Example of a graphic:

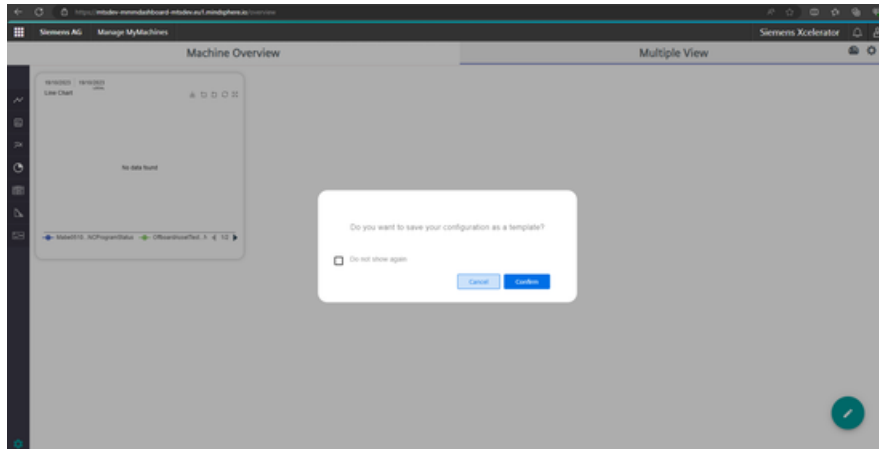


Once a variable for the plant was selected, an additional variable can be selected.



A diagram is created by clicking on "Next". The new diagram is added to the current configuration for the machine comparison.

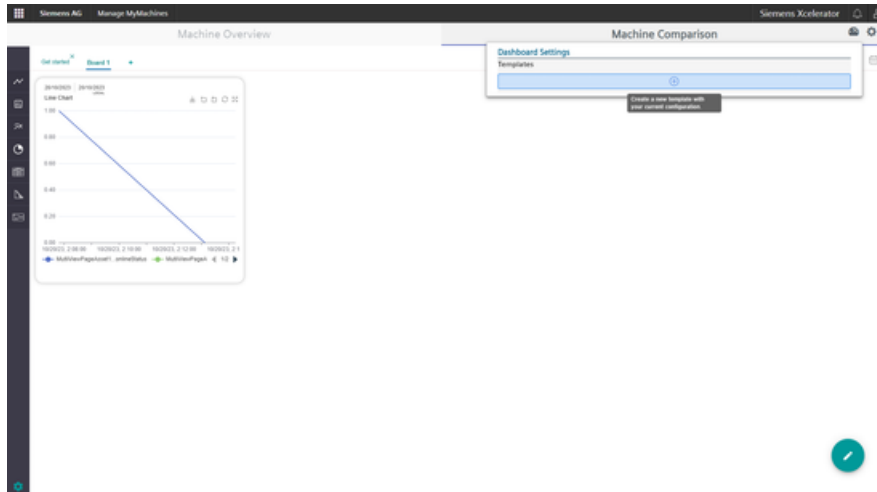
### Saving the current configuration as template



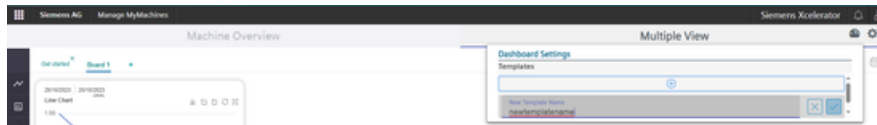
1. Save the current machine comparison configuration under "My Dashboard".
2. Define the configuration.
3. Click on "Do not show again" to hide the pop-up.
4. Click on "Cancel" to save the configuration as user template.
5. Click on "Confirm" to open the template panel.

8.11 Comparing machines

- 6. Click on "+" to continue.

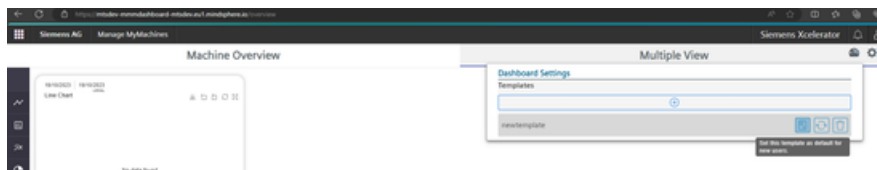


- 7. Click on "Confirm".



You can use the following templates:

- Default template for a tenant  
In this case, the template is used as configuration, if there is a tenant user that does not have a machine confirmation for the Dashy configuration.  
Click on button:

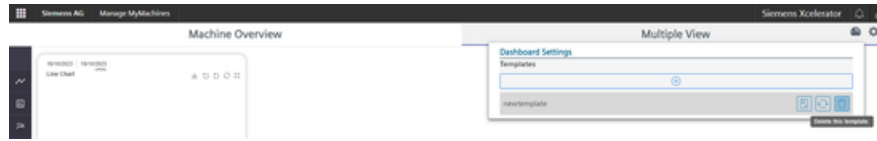


- Current configuration  
In this case, an already defined template can be used for its current machine confirmation configuration.  
Click on button:



## Delete an already defined template

An already defined template can be deleted by clicking on the following button:



## Update an already defined template

A customer can update an already defined template by their current template by clicking on the already defined template.

An already defined template can be replaced by a current template.

1. Click on the already defined template.



The configuration template is updated.

### Note

An update has no effect on the configurations of other users, which are based on this template. If this template is reloaded then a new configuration is loaded.

The update acts on the default machine confirmation configuration of the tenant. A new configuration is loaded if a user without configuration opens of the page.

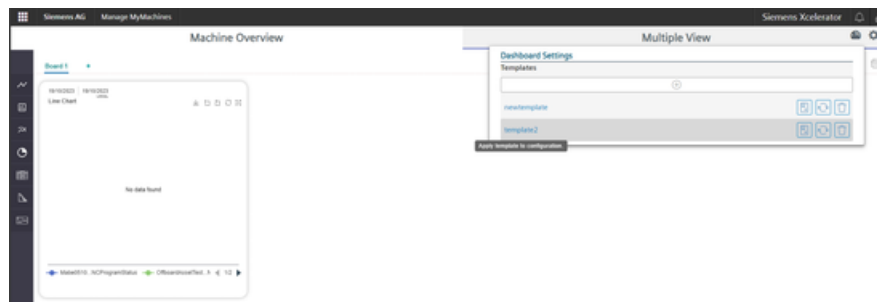
## Using an already defined template

Templates that have already been defined can be used for a machine comparison.

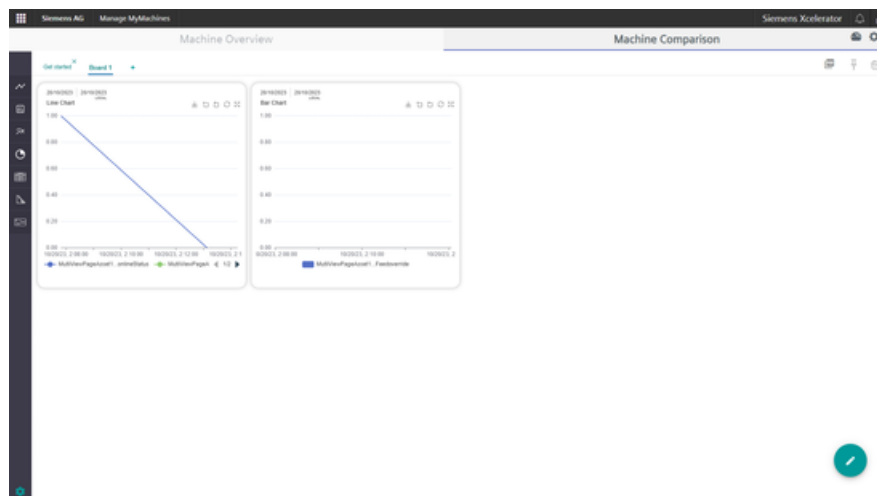


8.11 Comparing machines

1. Click on the template icon
2. Click on the already defined template.



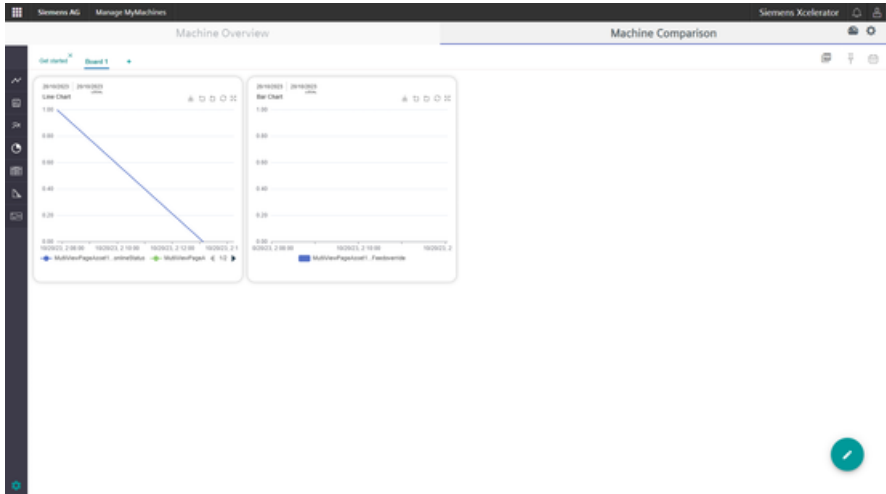
3. Click on "Confirm".  
The template is loaded as Dashy configuration.



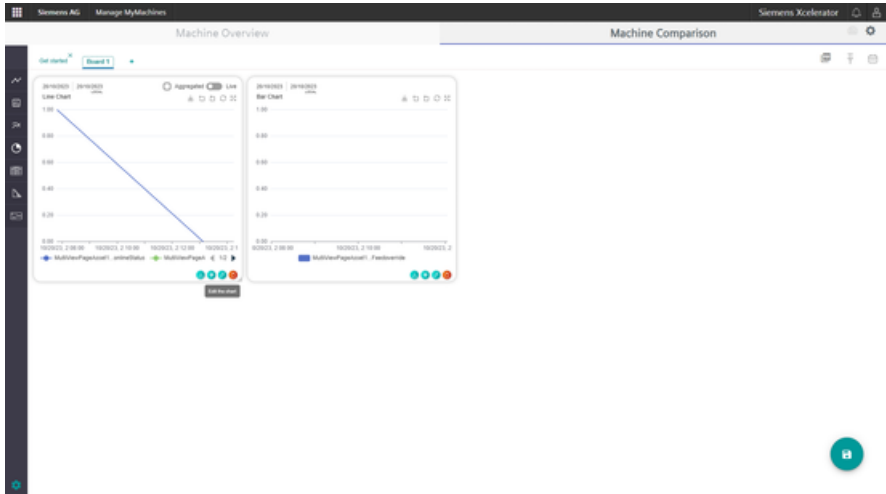


### Update a diagram

- 1. Click on "Edit".

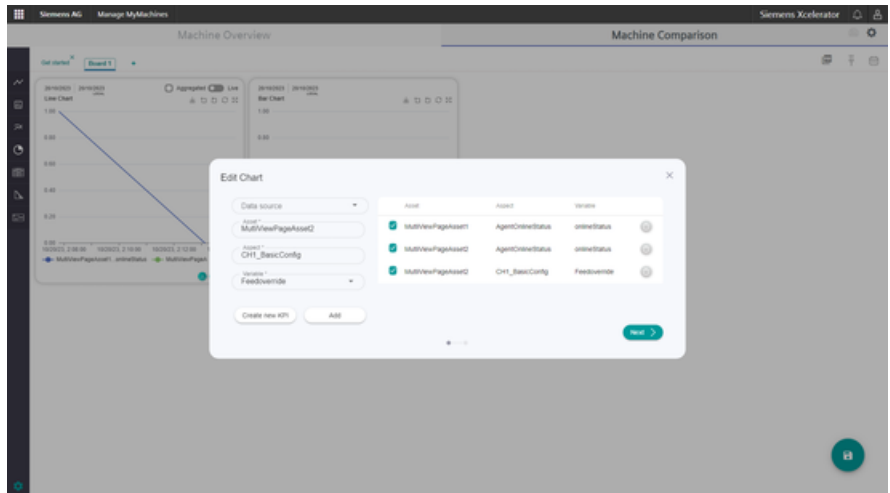
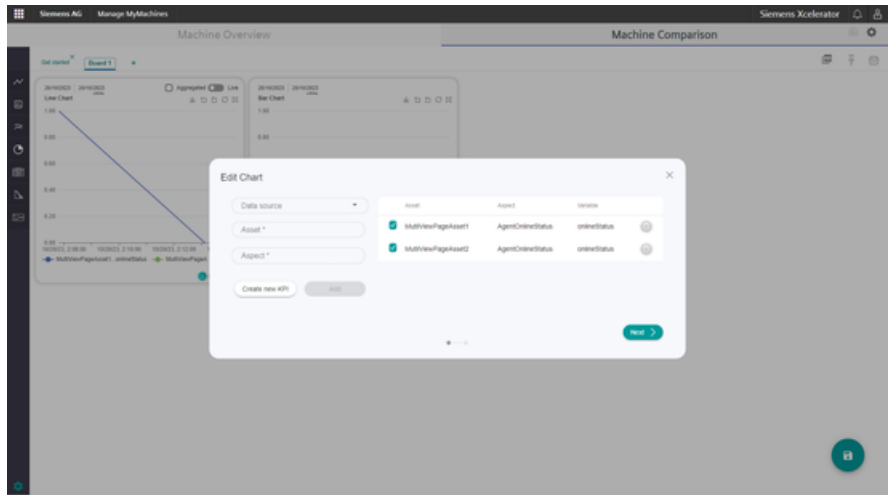


Diagrams and boards can be edited.

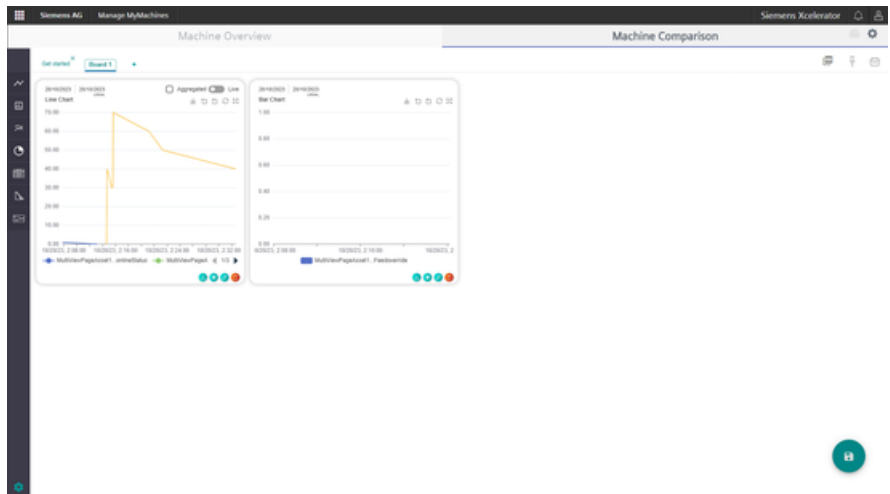


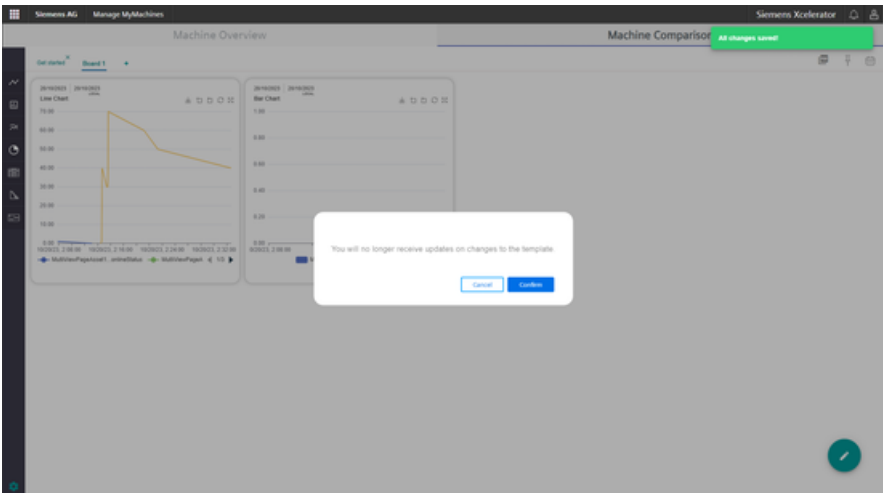
- 2. Click on "Edit" to edit the diagram configuration.

8.11 Comparing machines

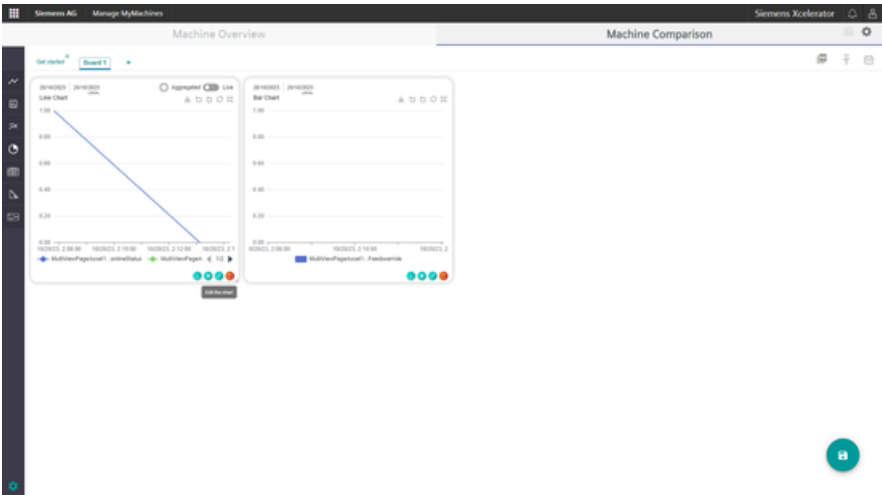


3. Click on "Save" if the diagram was updated.



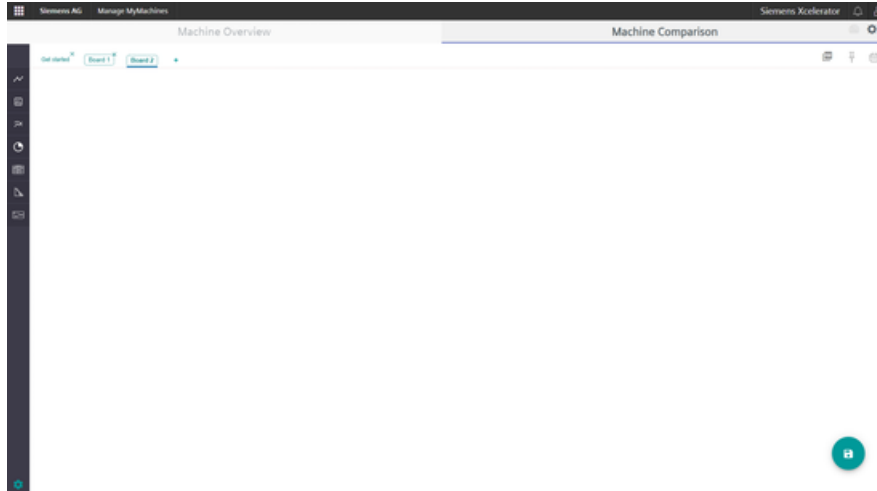


When updating the configuration the template is not updated. Updating the template must be acknowledged.

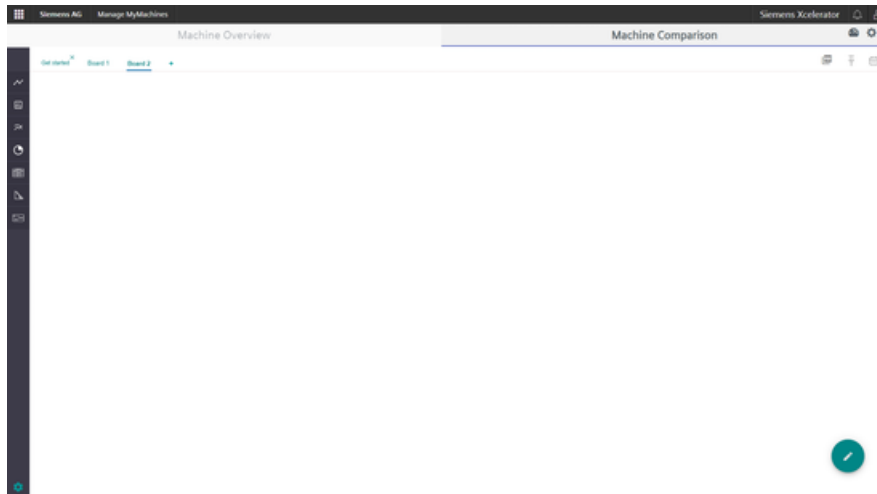


### Add and delete a new board

1. Click on "Edit".
2. Click on "+".



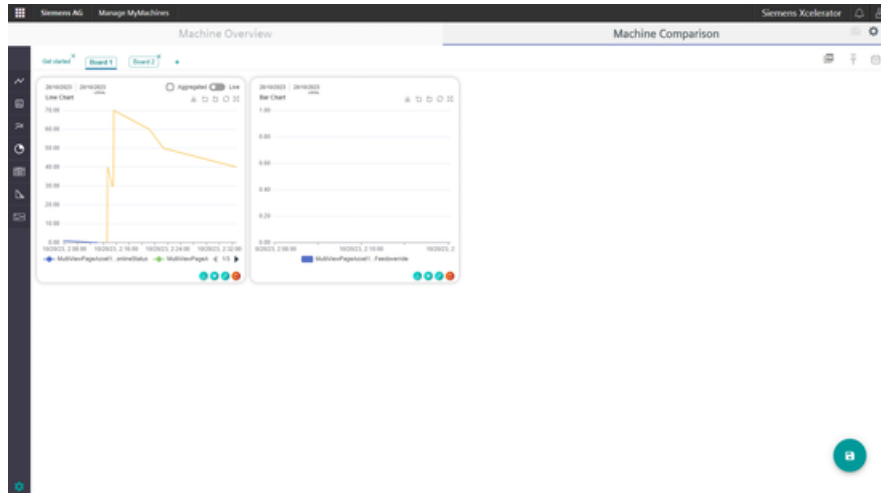
3. Click on "Save".  
The following screen is displayed:



A customer can delete the board in the same way. Click on "Edit" and then delete the board from here;

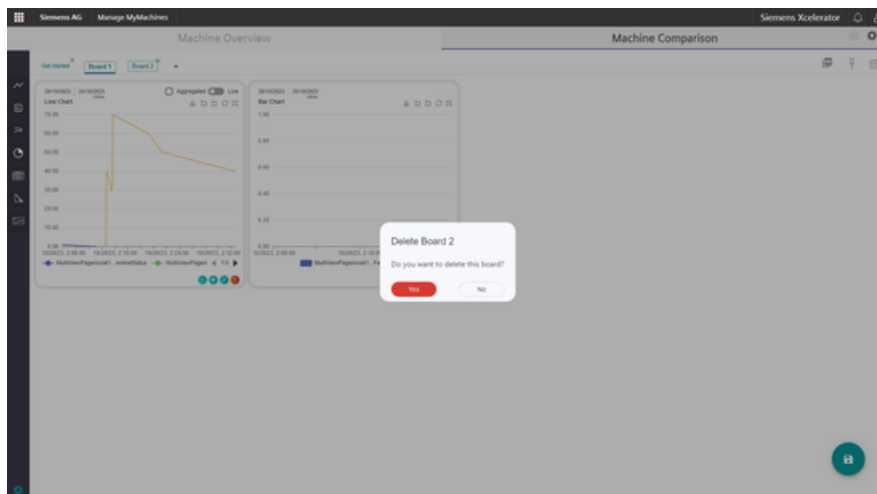
Proceed in a similar way to delete a board:

1. Click on "Edit".
2. Delete the board.

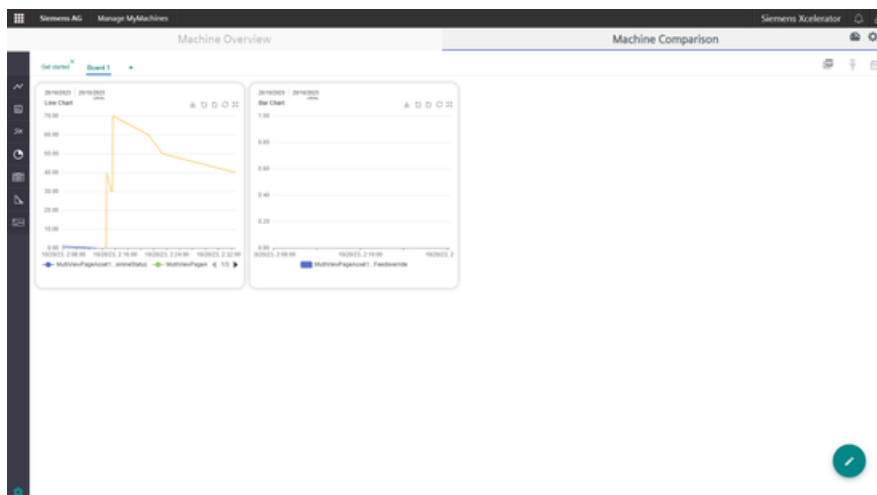


8.11 Comparing machines

- 3. Confirm that the board will be deleted.



- 4. Click on "Save".



## 8.12 Machine status

### 8.12.1 Machine status calculation

#### Requirement

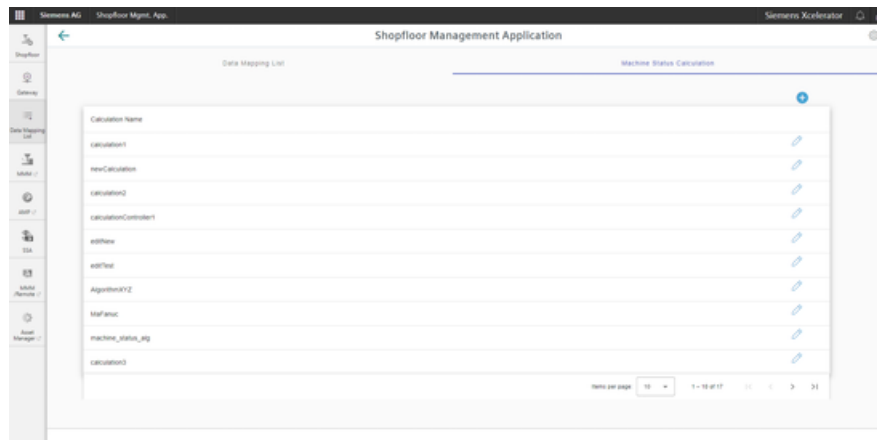
Users must add a new calculation by switching from the Data Mapping List tab in the Shopfloor Management Application to the Machine Calculation tab.

The Shopfloor Admin or Shopfloor User role is required to view the sub-application for data mapping on the shopfloor side.

#### Overview

The new function to calculate the machine status allows different algorithms to be used. A new calculation must be added so that a new calculation can be applied.

List view of all calculations in clients:



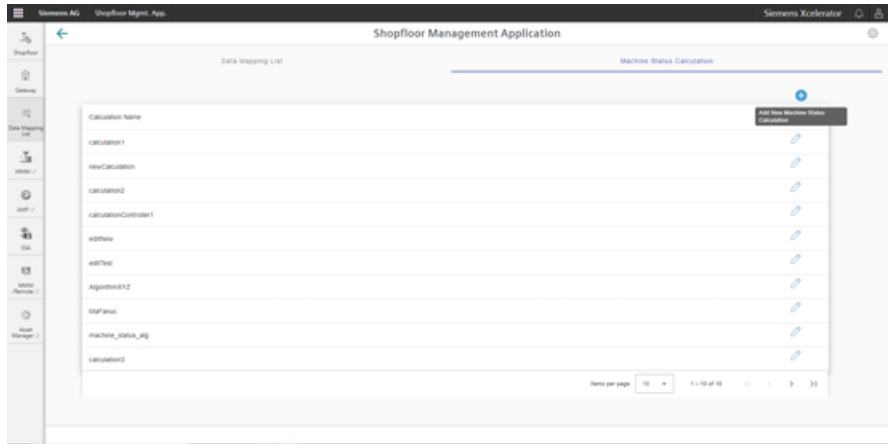
The screenshot displays the 'Shopfloor Management Application' interface. The main content area is titled 'Machine Status Calculation' and shows a list of calculations. The list includes the following entries:

Calculation Name	Action
calculation1	edit
newCalculation	edit
calculation2	edit
calculationController1	edit
editFlow	edit
editText	edit
AlgorithmV2	edit
MaPlanuc	edit
machine_status_jsp	edit
calculation3	edit

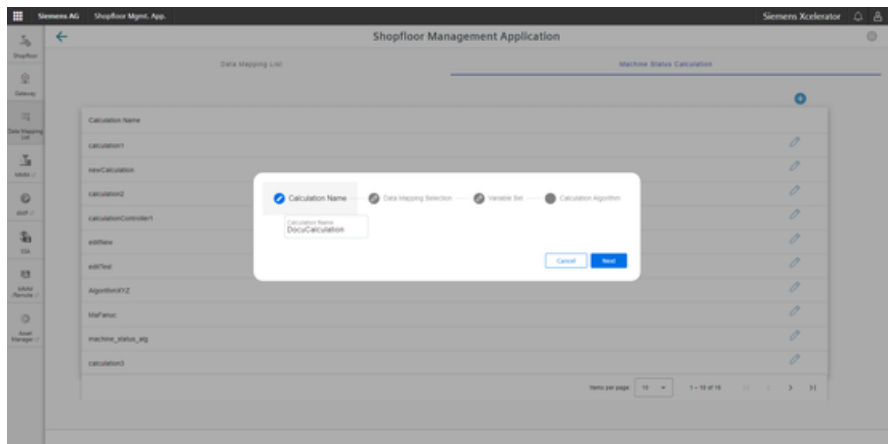
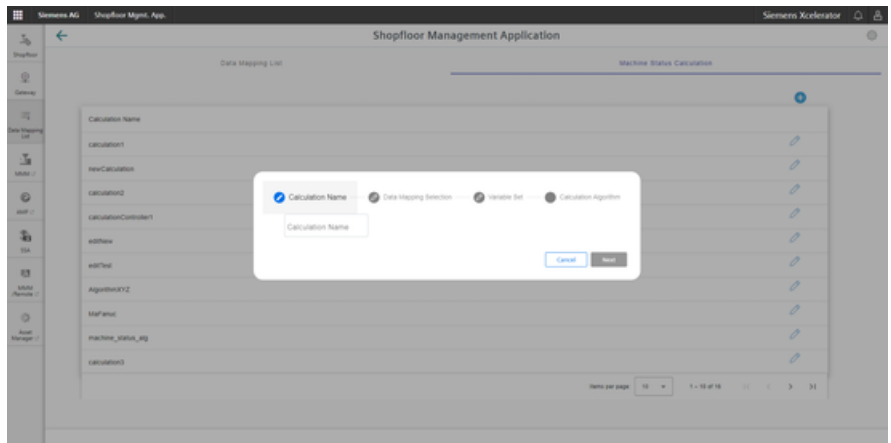
At the bottom of the list, there is a pagination control showing 'Items per page' set to 10, and '1 - 10 of 17' items.

8.12 Machine status

- 1. Add a new calculation.



- 2. Enter a name.



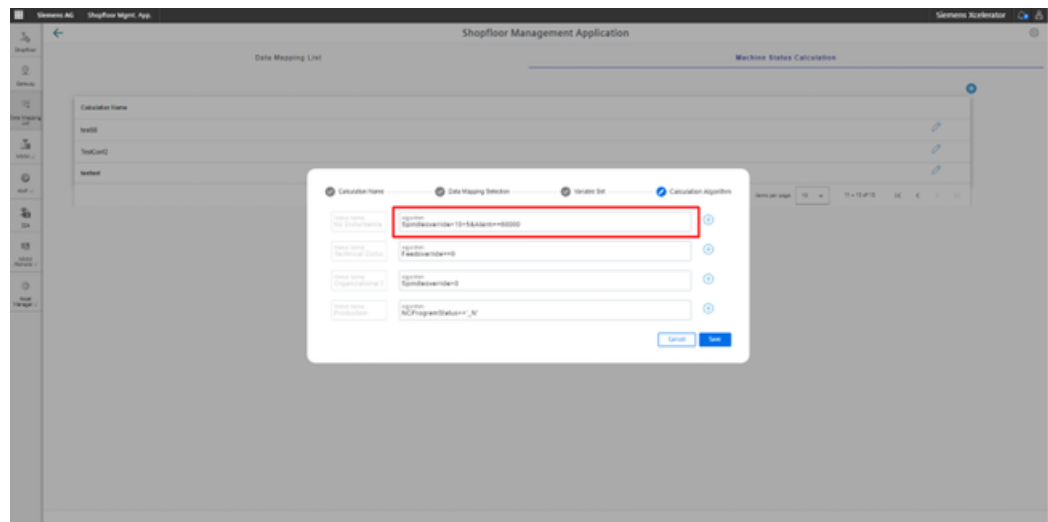


**Note****Calculation name**

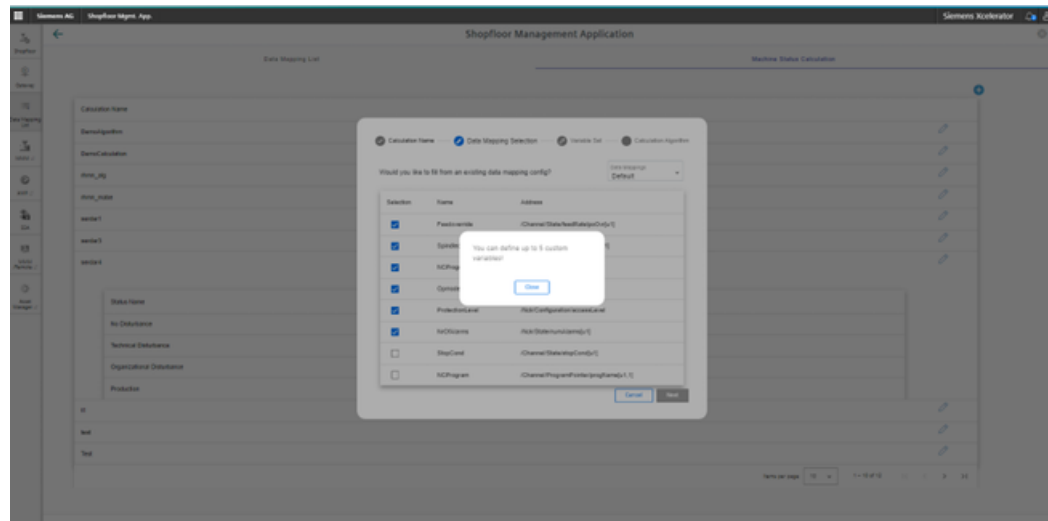
The calculation name may not contain any special characters.

Do not use the following characters: ?, :, \*, &, ", \$, |, `,<, >, +, !, [, ]

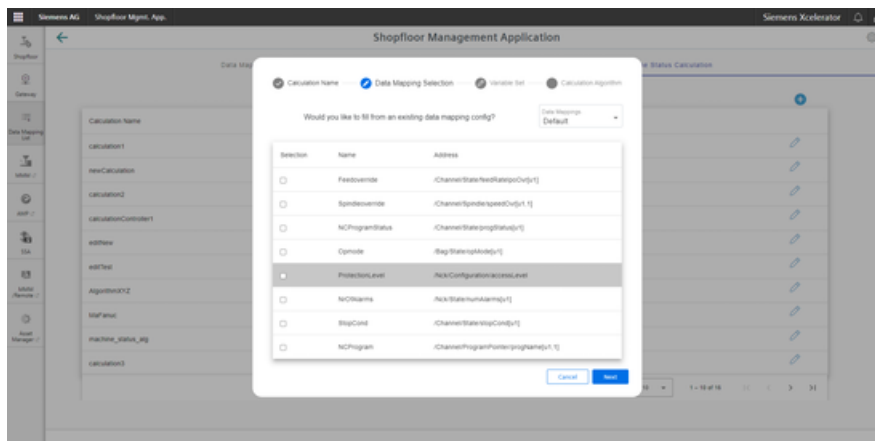
3. Ensure that the name is unique.



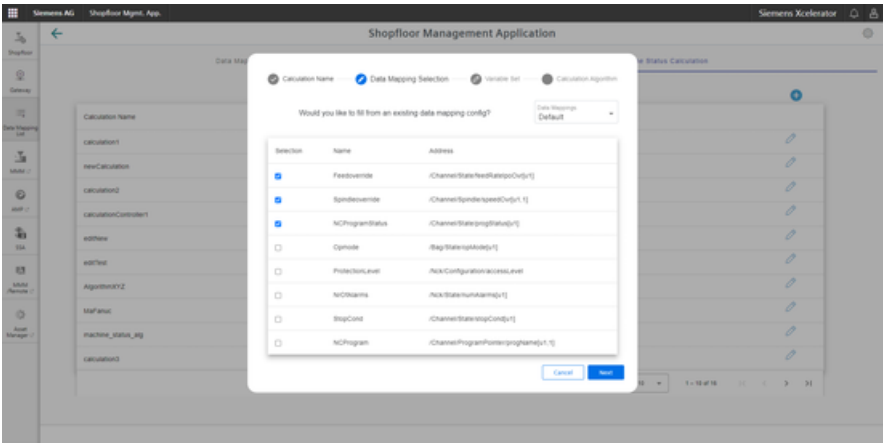
4. From the assigned data, select up to 5 user-defined variables.



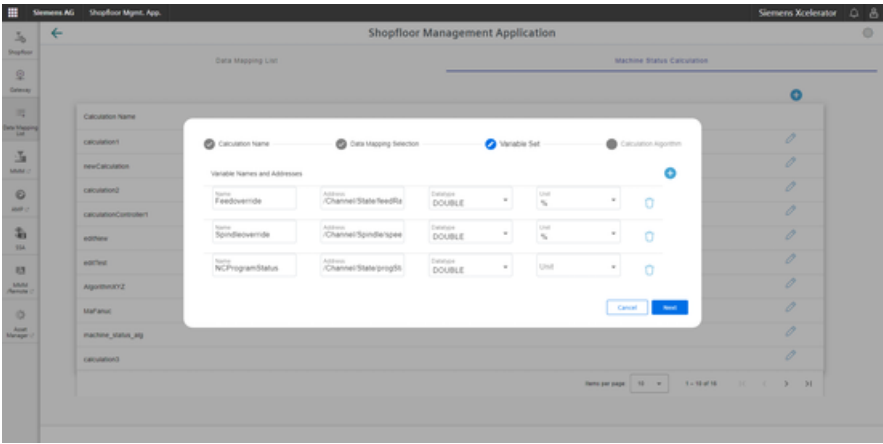
5. From the assigned data, select the optional addresses of variables.



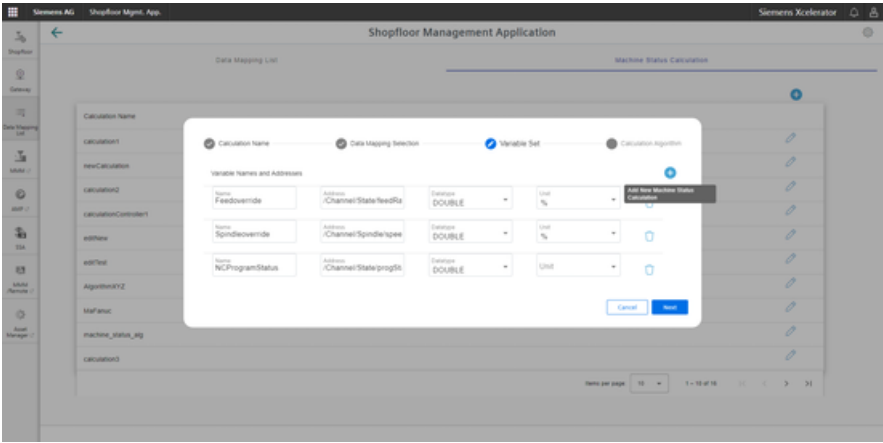
6. Select the addresses.



The selected addresses can be seen here:



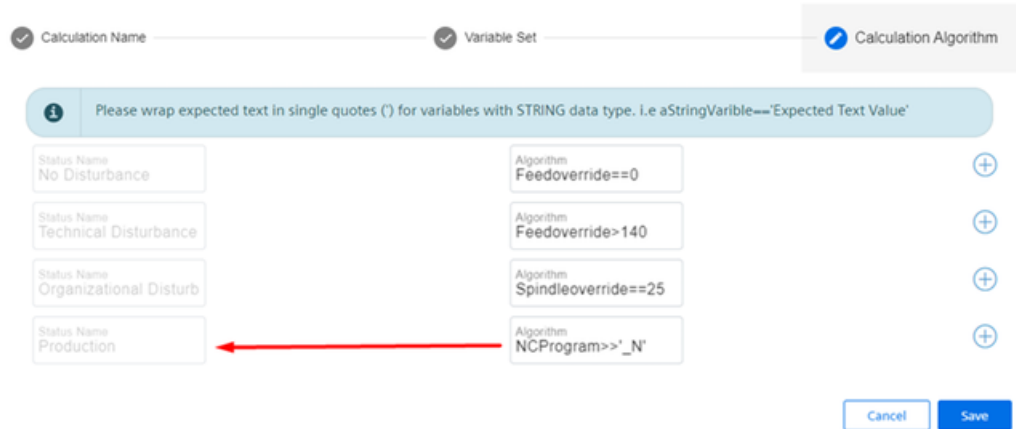
7. Add additional variables.



**Note**

**String variables**

If the data type of the variable is specified as a string, the expected text must be wrapped in single quotation marks (').



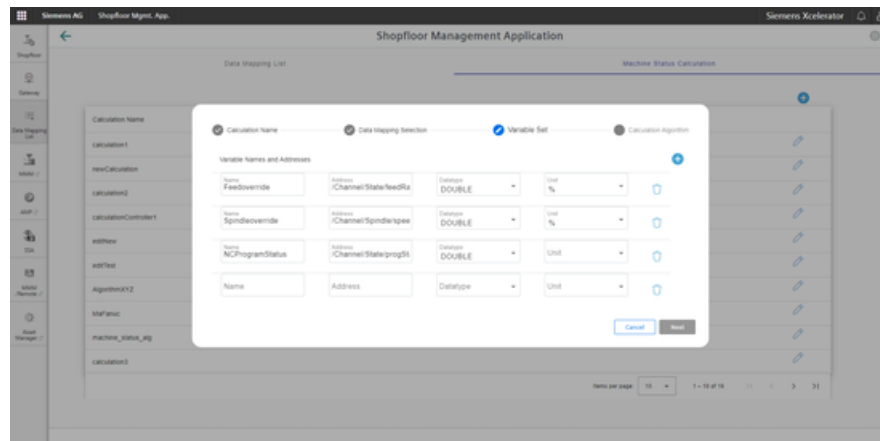
**Note**

**Variable names**

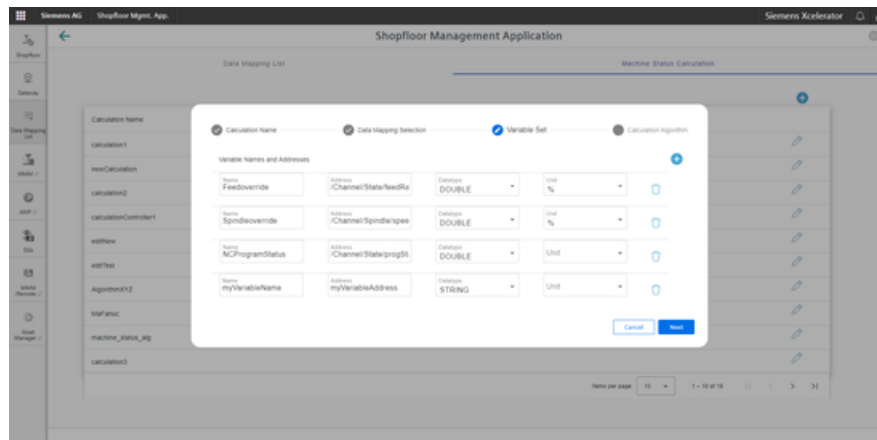
There must be no spaces between the variable names, for example:

- Feedrate
- NC program status
- Spindle override
- etc.

The following input fields can be seen:



Example of a variable with string data type:



## Enter algorithm expressions for every condition

### These conditions are permissible:

- No fault
- Technical fault
- Organizational fault
- Production

The calculation is realized in the sequence specified above from top to bottom. If expressions apply, then they are not evaluated any further.

For example, if expression "No fault" is true, then it is no longer evaluated and the machine status is set to "No fault" even if the other algorithms are also true.

The sequence is important.

For string variables, the expected text must be enclosed in single quotation marks (').

Condition "myStringVariable" should be the same as "myExpectedString". This means that the expression is written as follows: `myStringVariable=='myExpectedString'`.

The user can define a logical condition with alarm as follows:

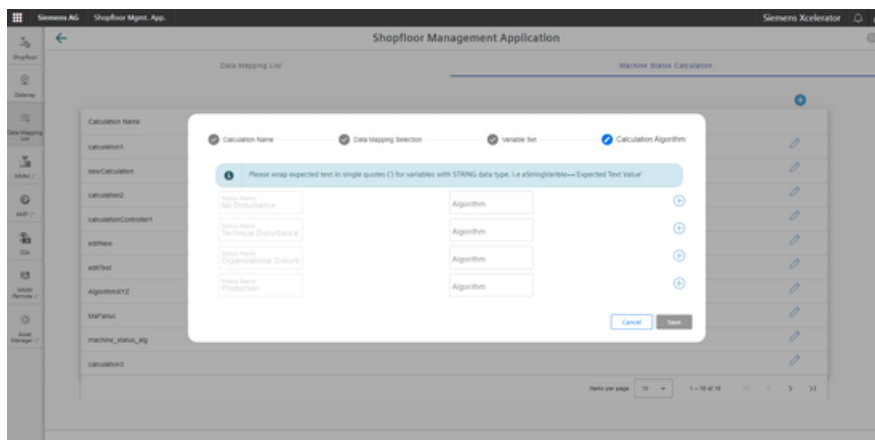
For onboarded assets with SINUMERIK, i.e.:

- Alarm == [60000, 60001]
- Alarm == 60000

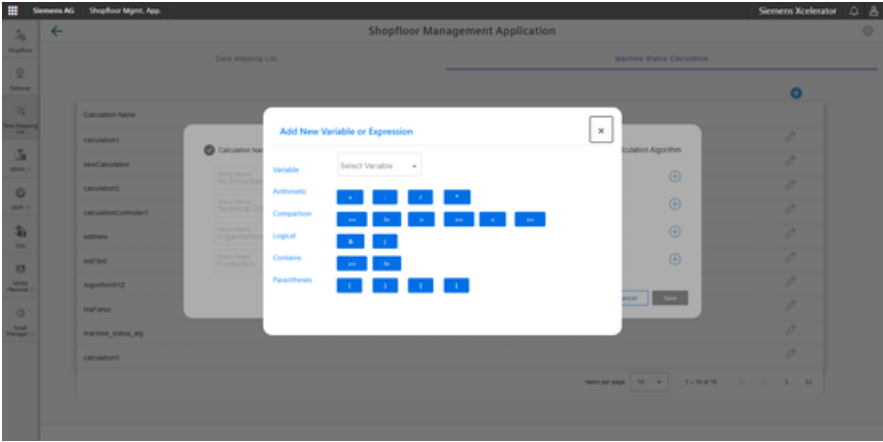
For onboard assets with Machine Agent:

- Alarm == ["/channel[1]/PS/0004", "/channel[1]/PS/0005"]
- Alarm == "/channel[1]/PS/0004"

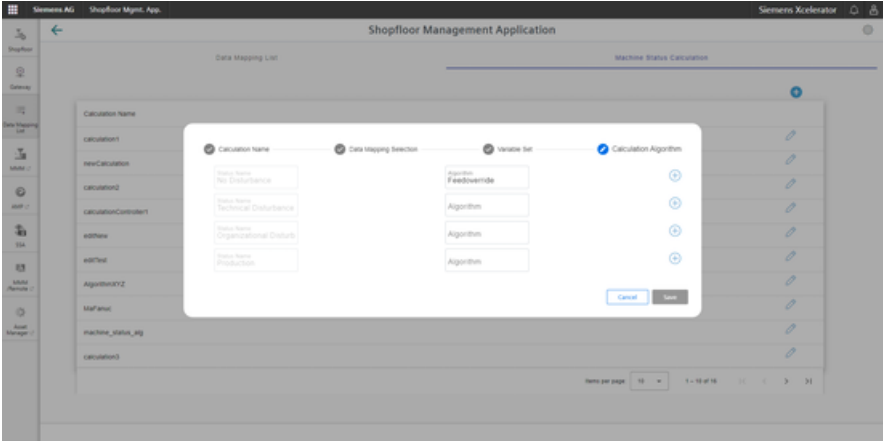
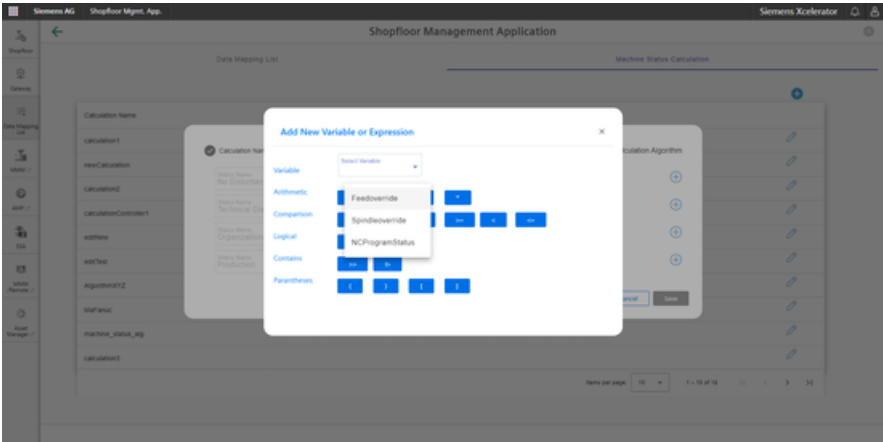
8.12 Machine status



1. Click on the plus icon to write the algorithm.

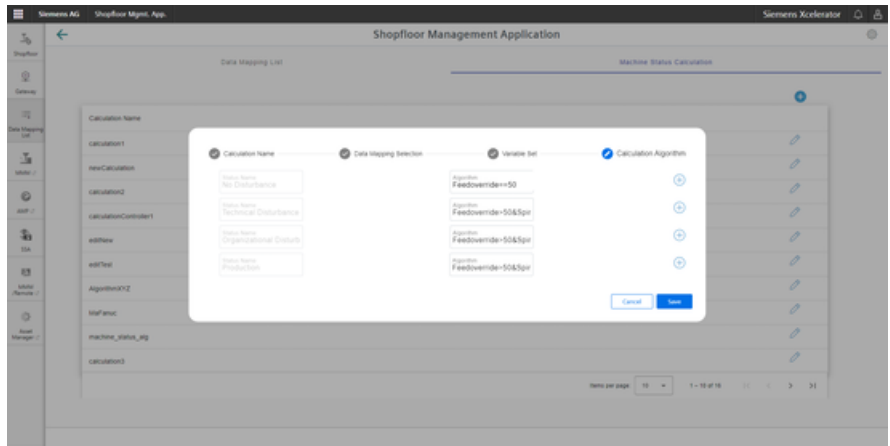


2. Select the variable or expression.

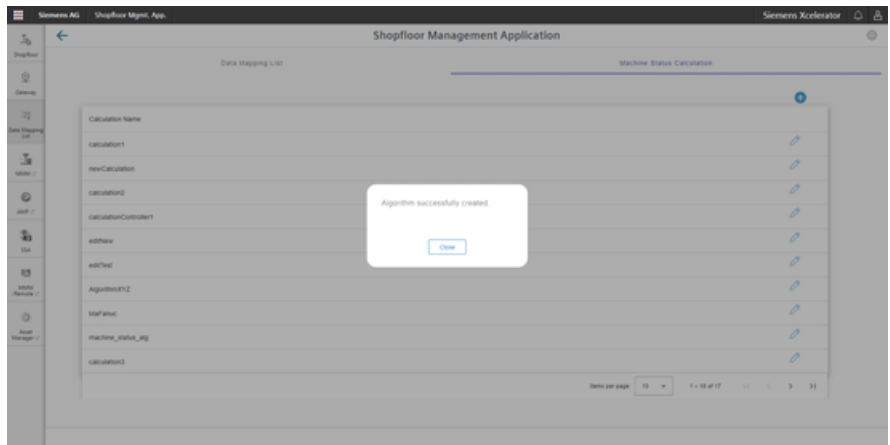


3. Click on "Save" once you have entered the algorithms.

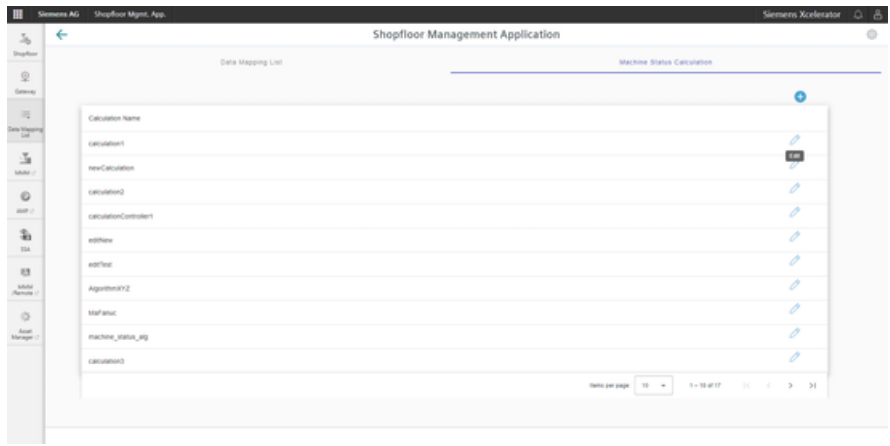
8.12 Machine status



The following information can be seen:

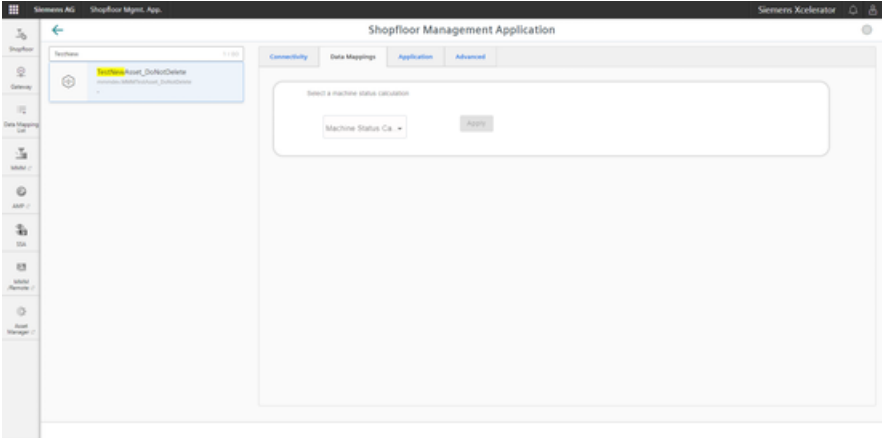


Further editing is possible; however, deletion is not possible.

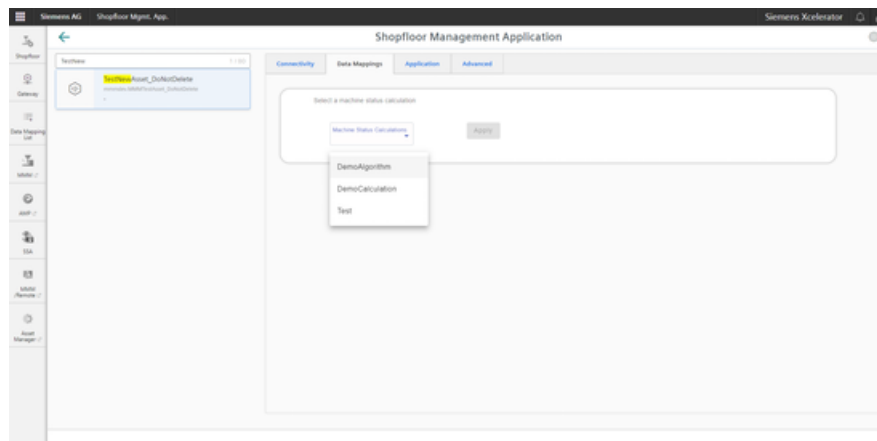




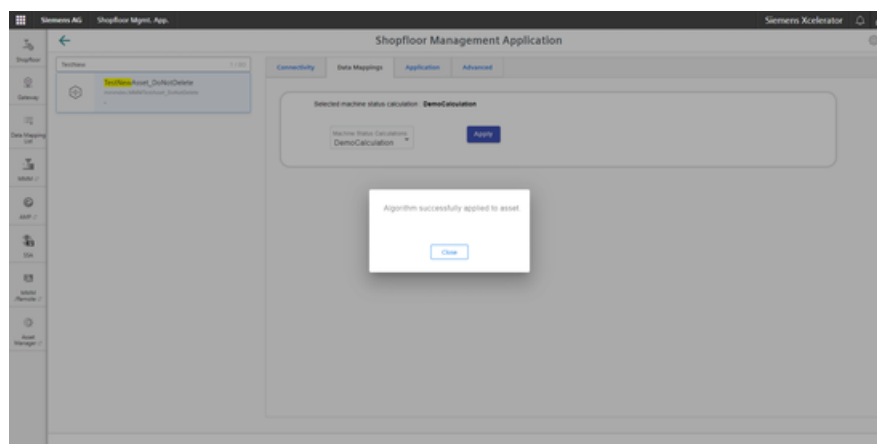
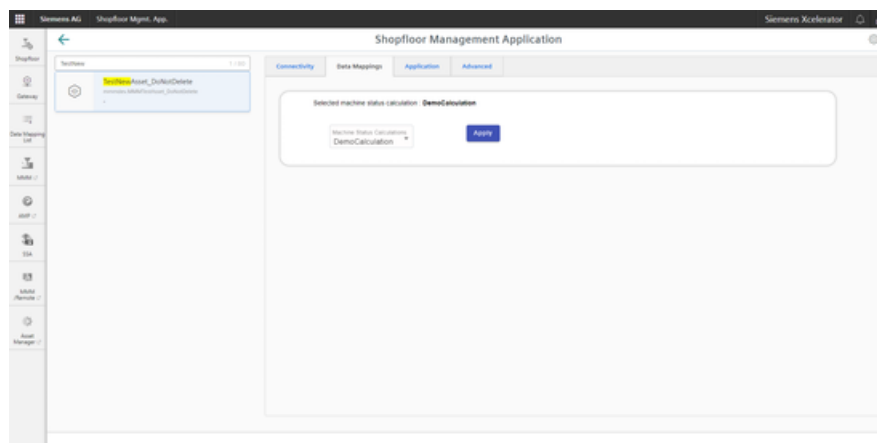
### Applying a calculation to an asset value



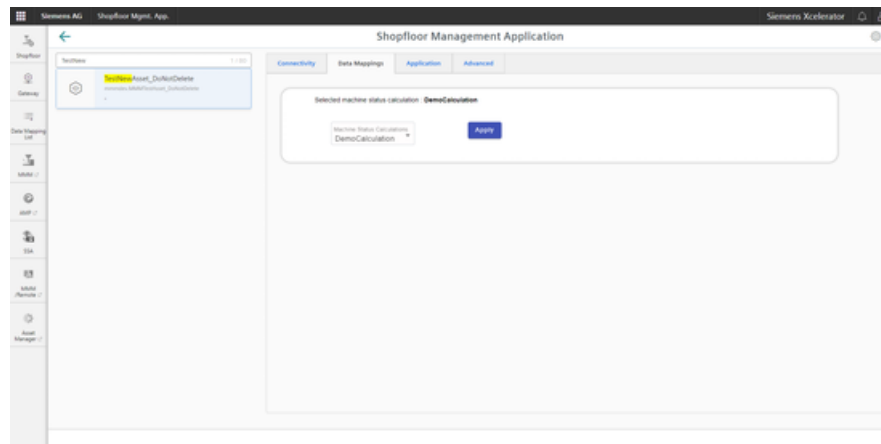
1. Select the algorithm.



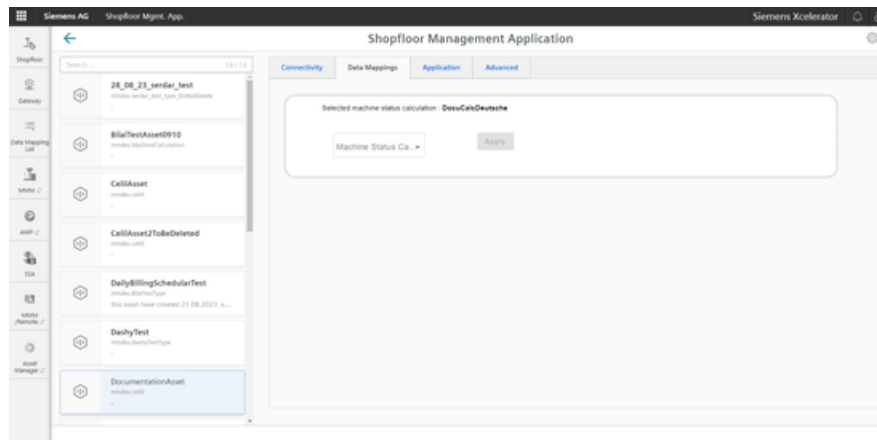
2. Click on "Apply".



The result is displayed:



If an algorithm has already been applied to an asset, then this is displayed at the top. A user can always change the applied algorithm.



## 8.12.2 Machine status calculation with alarm

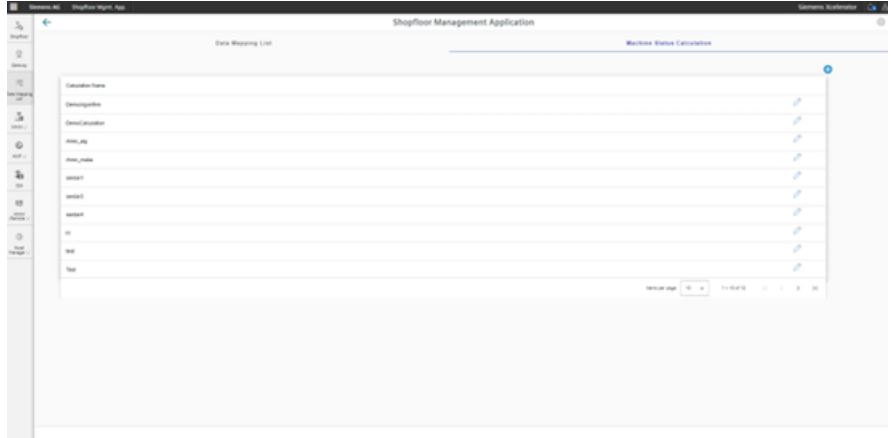
### Overview

The user-defined machine status can be calculated using alarms. The calculation of the machine status can be applied to systems that are connected with SINUMERIK Machine Agent.

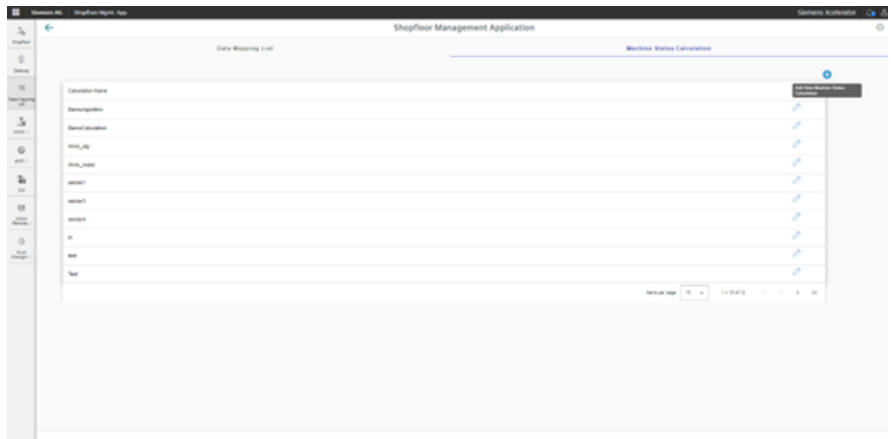
8.12 Machine status

Users must add a new calculation:

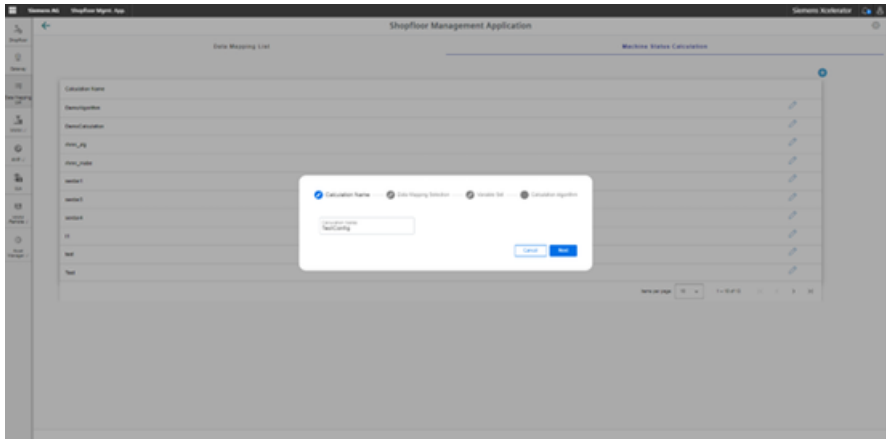
1. In the Shopfloor app, go from "Data Mapping List" to "Machine Calculation". Roles "Shopfloor Admin" and "Shopfloor User" are required to see app "Data Mapping" on the Shopfloor page.



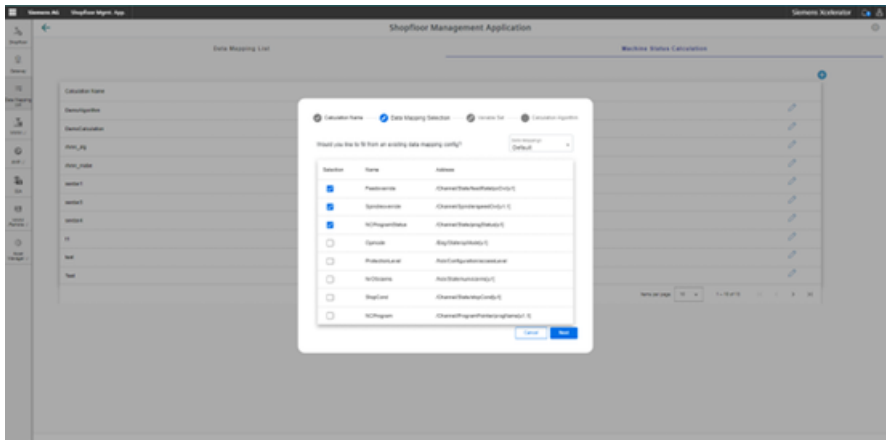
2. Add a new calculation.



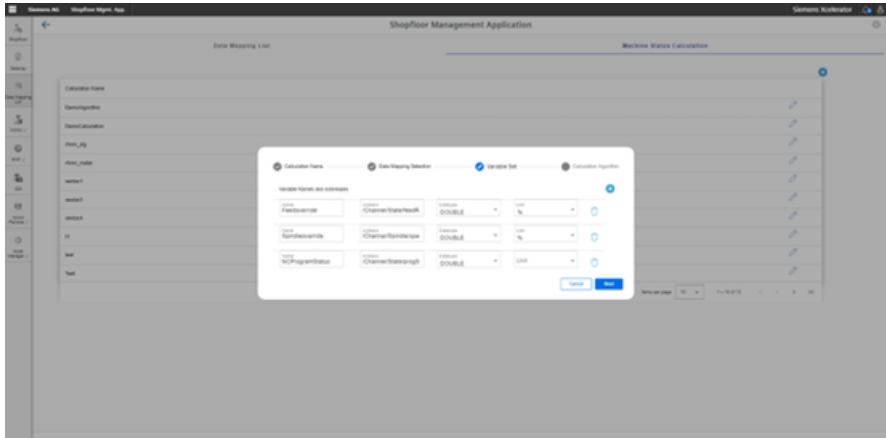
3. Assign a configuration name.



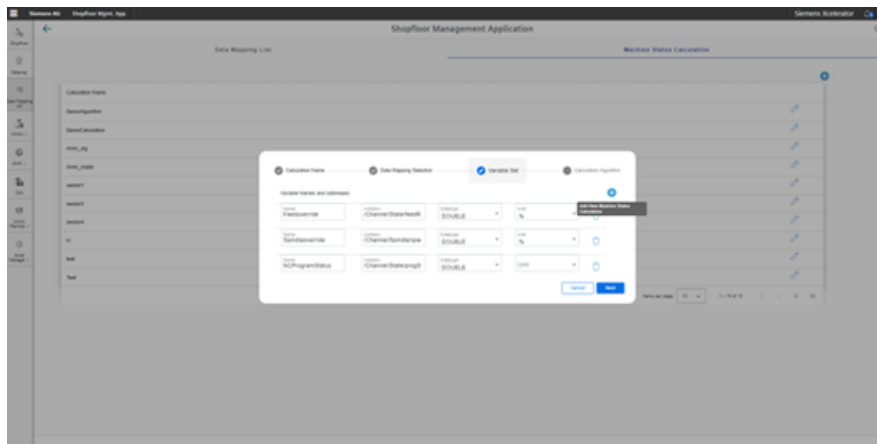
4. Select the variable addresses of the data mapping.



The selected addresses appear:



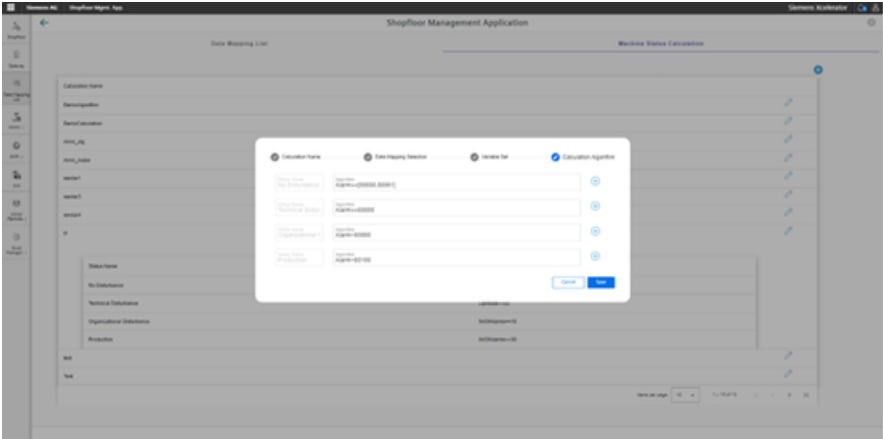
Additional variables can be added.



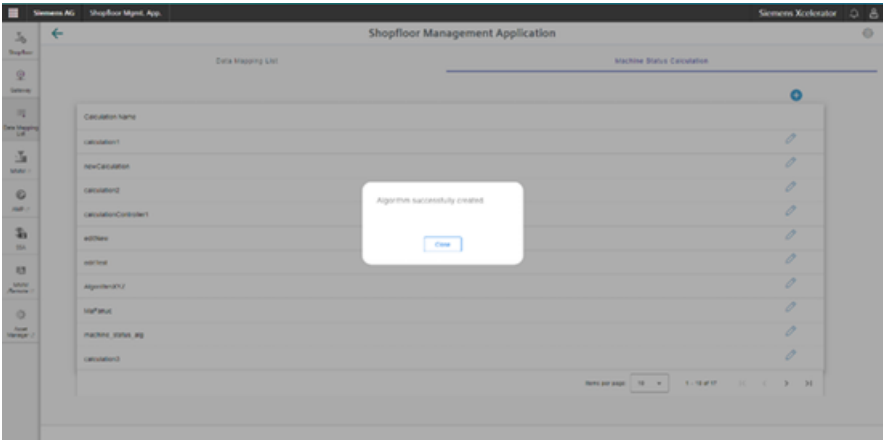
Currently, 4 conditions are permitted:

- No error
- Technical error
- Organizational error
- In production

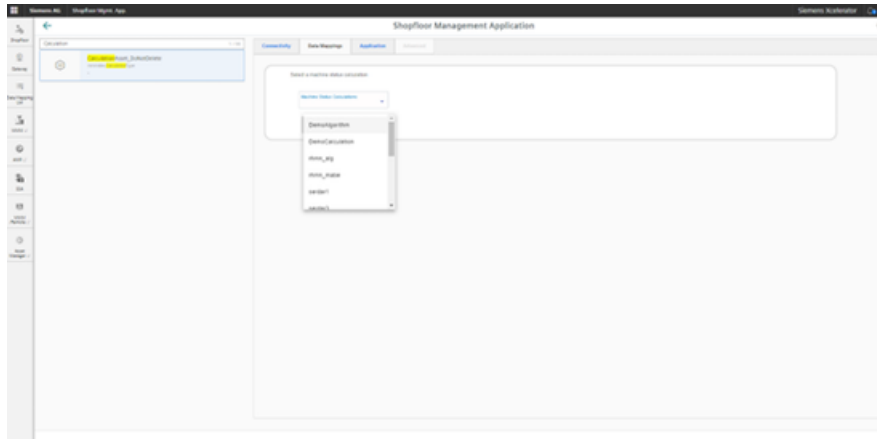
1. Enter your algorithm.



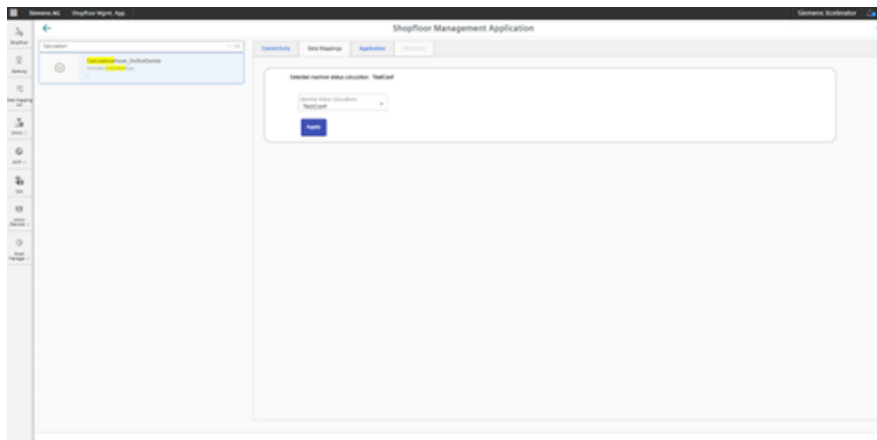
2. Click on "Save".



3. Apply a calculation to a system.



4. Select the algorithm.



---

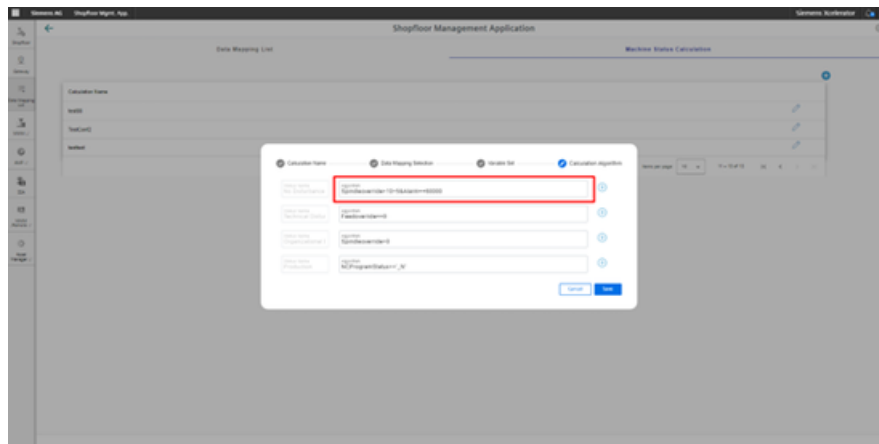
**Note**

The calculation is realized in the sequence from top to bottom. No further evaluation takes place if an expression matches.

For example, if condition "No error" is true, then this is not evaluated any further. The machine status is set to "No error", even if the algorithms are true.

---

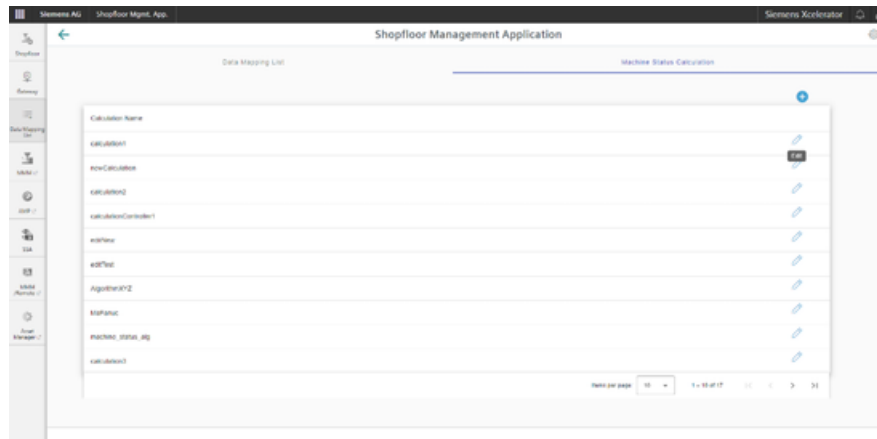




Users can define a logical condition with alarms, for example with SINUMERIK:  
 Alarm=[60000, 60001]  
 Alarm=60000  
 For onboard assets with Machine Agent:  
 Alarm=["/channel[1]/PS/0004", "/channel[1]/PS/0005"]  
 Alarm="/channel[1]/PS/0004"

### Configuration panel - restrictions

A new configuration can be added and edited; however, it cannot be deleted.

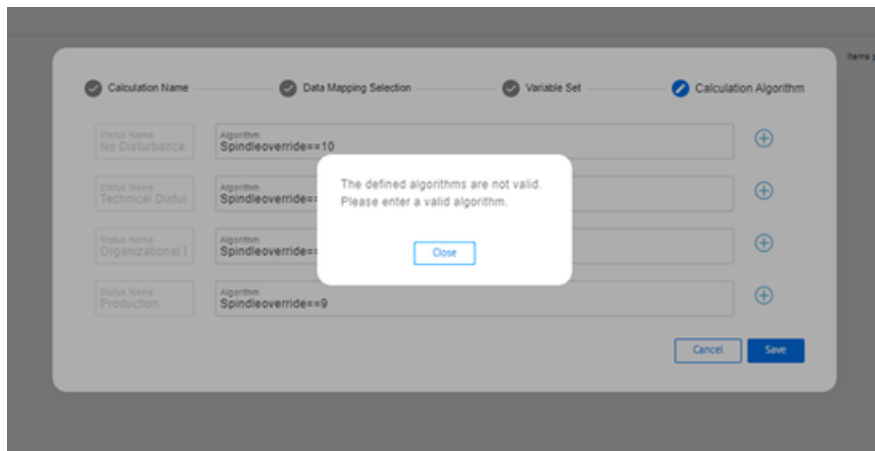
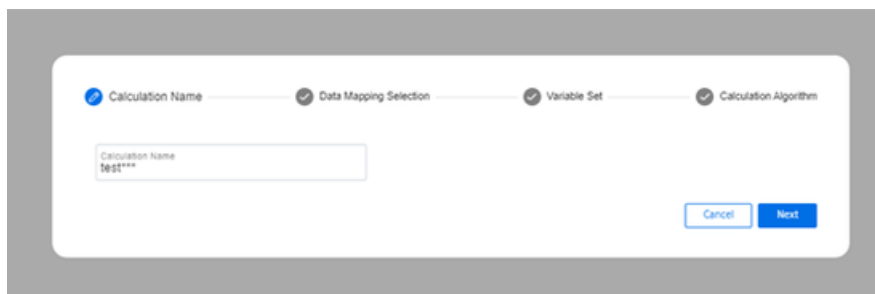


#### Note

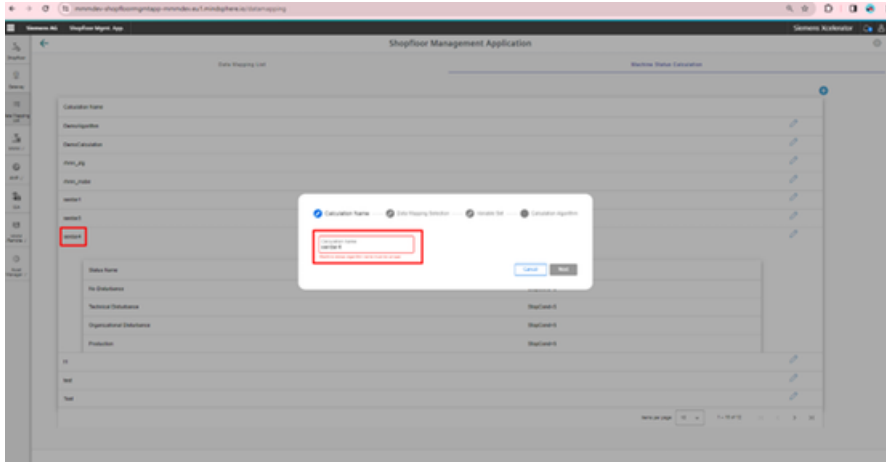
The name of a calculation may not contain any special characters.

Do not use the following characters: ?, : , \* , & , " , \$ , | , ` , < , > , + , ! , [ , ]

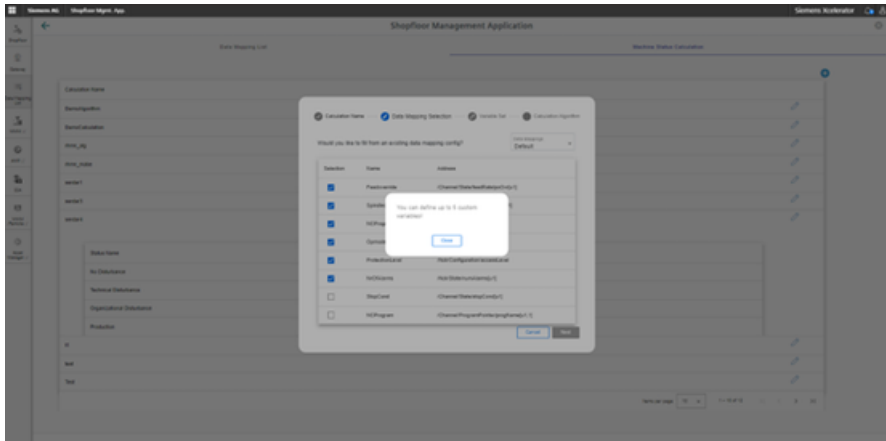
8.12 Machine status



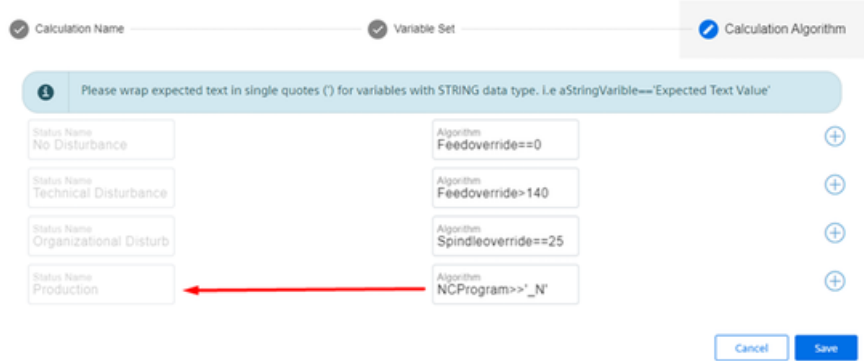
1. Assign a unique name.



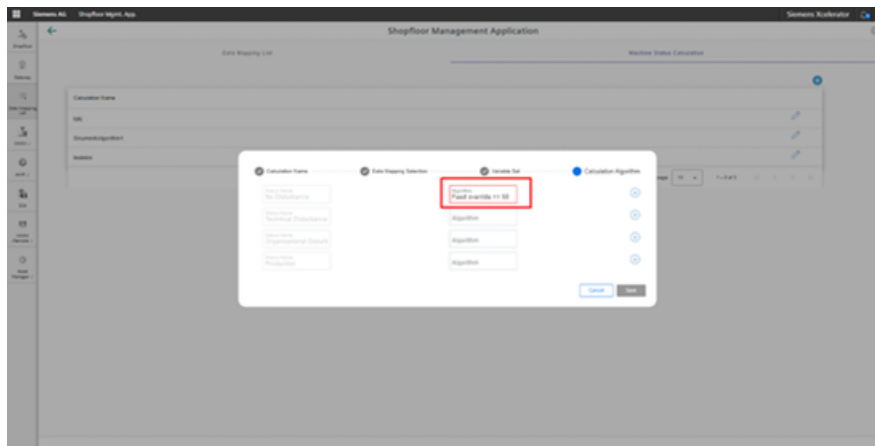
2. Under "Data Mapping Selection" select up to 5 user-defined variables.



If the data type of the variable is specified as a string, then the text is displayed in single quotation marks.



There must be no spaces between the variable names, for example feed rate, NC program status, spindle override etc.



The text box must not contain "Alarm". "Alarm" is reserved.

**Example:**

Alarm=='my expected alarm' results in an error.

## 8.13 Events

All events of a machine are displayed in the "Machine Events" overview. You can influence the view by applying different filter criteria. You also have the opportunity of confirming events.

Under the list, you can find all details of the selected event.


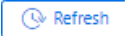

### Machine events in Operations Insight

With machine events, you log all machine incidents. In Insights Hub Monitor, you can create purely manual events as well as events for the regular acquisition of measured quantities with measuring series.





**More information** is provided in the Documentation Insights

Hub Monitor (<https://documentation.mindsphere.io/MindSphere/apps/insights-hub-monitor/introduction-events.html>).

### Parameters

Parameters	Description
05/12/2020 → 06/16/2020 utc	Displays the time range and the time zone used Opens the calendar function <b>More information:</b> Using the calendar function (Page 212)
	Shows the event type used Opens the list to select the event type The list can be filtered according to the following criteria: <ul style="list-style-type: none"> <li>• Relevant</li> <li>• All</li> <li>• Text filter in the search field</li> </ul>
<input checked="" type="checkbox"/> acknowledge	Sets the confirmation for the selected event to "True"
	Refreshes the displayed list
	Opens a window to select the displayed columns. The following selection is offered: <ul style="list-style-type: none"> <li>• Severity Level</li> <li>• Asset name</li> <li>• Time stamp</li> <li>• Description</li> <li>• Source</li> <li>• Confirmation</li> <li>• Relation</li> <li>• Event type</li> <li>• Code</li> </ul>

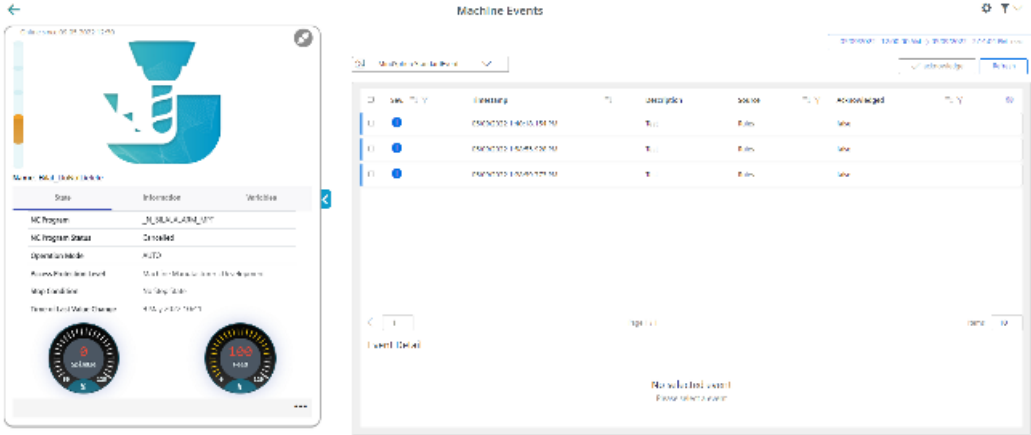
## Filtering and sorting

Filter	Description
Severity Level 	The following filters are listed: <ul style="list-style-type: none"> <li>• Urgent</li> <li>• Important</li> <li>• Information</li> <li>• Customized</li> </ul>
Confirmation 	The following choices are offered: <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul>
	A text filter is listed for all other columns.
Sorting 	Sorts the list according to the selected column, ascending or descending order.

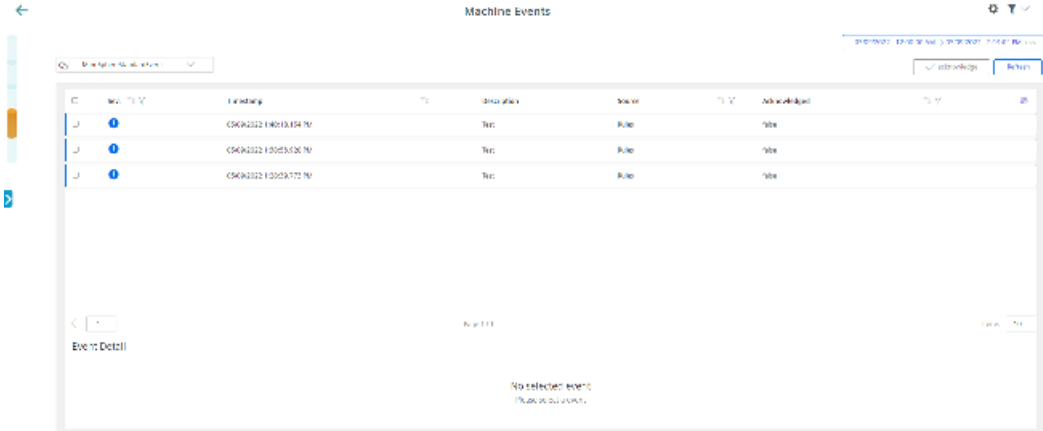
## Procedure

1. Select the required machine in "Manage MyMachines".
2. Click on the button with dots and select function "Events".  
Window "Machine Events" opens.
3. If relevant, select the required time range.
4. Reduce the number of displayed events by setting specific filters:
  - Select the event type.
  - Activate the corresponding option of the filter criteria.
5. Click on the icon "Sort" in the column header to sort the list by column.

- 6. To select an event, activate the checkbox in front of the event. Multiple selection is possible. To select all events, activate the checkbox in the table header.



- 7. To collapse the machine description, click on the left-pointing arrow symbol on the right side of the frame. The machine events are displayed in the full-screen mode.



## 8.14 Exporting

You have the option of exporting the data points of an aspect.

You can export data of a specific time period and select between 2 export methods.

---

### Note


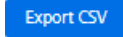
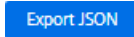
#### Configuring the target directory for the download

Ensure that a target directory for the download has been configured in your browser.

The exported data is stored in several files depending on the data volume.

---

### Parameter

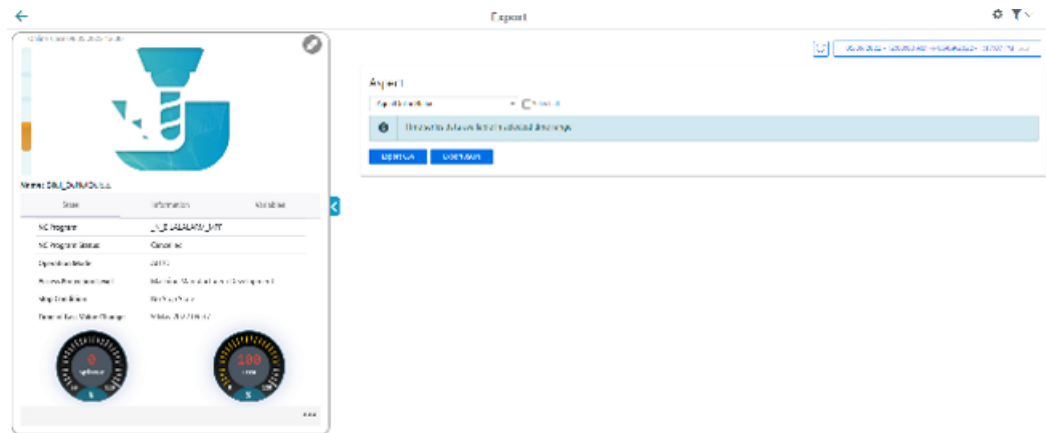
Parameter	Description
	Activates the automatic data refresh. When doing this, every 30 s the end of the time range is set to the current time and the data is refreshed. To stop the refresh operation, press the button again.
05/12/2020 → 06/16/2020 UTC	Displays the time range and the time zone used. Opens the calendar function. <b>More information:</b> Using the calendar function (Page 212)
Aspect	Selects an individual aspect. All available aspects are listed in a drop-down list.
Select all	Selects all available aspects.
	Data export in the CSV format.
	Data export in the JSON format.

### Procedure

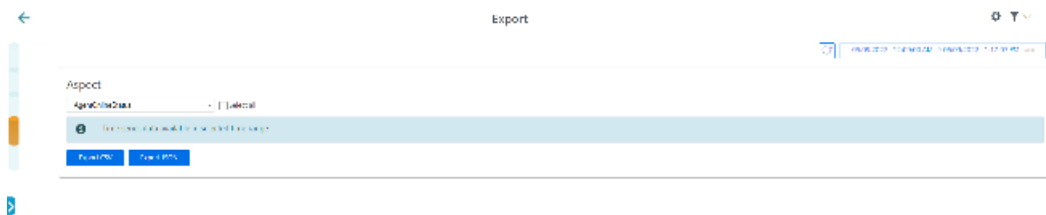
1. Select the required machine in "Manage MyMachines".
2. Click on the button with dots and select function "Export".
3. Select the required time range.
4. From the drop-down list, select the required aspect.  
To select all of the available aspects, activate the checkbox next to the list.  
The export buttons are only activated if data is available for the aspect in the selected time range.



5. Click the button of the desired export.  
The export is started.  
The exported data is stored in several files depending on the data volume.



6. To collapse the machine description, click on the left-pointing arrow symbol on the right side of the frame.  
The export is displayed in the full-screen mode.











7. The file is displayed in the lower left-hand section of the window, and you can make the following selection:
  - Open
  - Always open files of this type
  - Display in the folder (in the Downloads directory)












## 8.15 My Dashboards

### 8.15.1 Overview

"My Dashboards" provides you with the opportunity of configuring new charts and using them for other assets in your tenant.

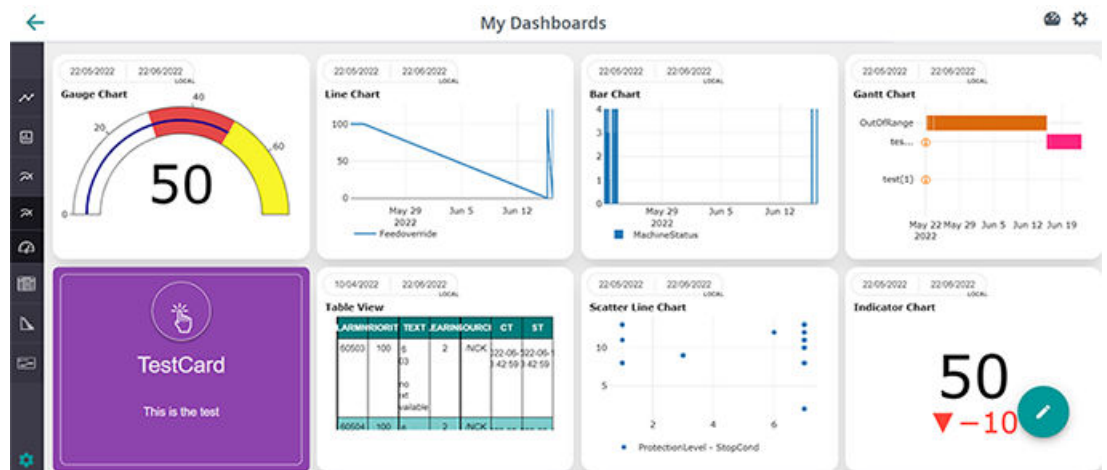
#### Parameters and icons

Parameters	Description
	Opens the "Dashboard Settings" template menu. This icon only appears in menu "My Dashboards". The icon is deactivated if you are in the edit mode. More information is provided in Chapter: Working with templates (Page 302)
	Fixes the pulled-down header. Move the mouse to the upper edge of the window. The header is pulled down.
	Opens the calendar function. More information can be found in Chapter Setting the dashboard display (Page 298)
<b>Board 2</b>	Opens the tab with your configured dashboard. You can save up to seven tabs. More information is provided in Chapter: Editing tabs (Page 305)
	Creates an additional tab. More information is provided in Chapters: <ul style="list-style-type: none"> <li>Editing tabs (Page 305)</li> <li>Working with templates (Page 302)</li> </ul>
	The "Pen" icon activates the edit menu: <ul style="list-style-type: none"> <li>Editing charts (Page 296)</li> <li>Editing tabs (Page 305)</li> </ul>
	The "Floppy disk" icon opens the dialog box to save as template. The icon only appears in the edit mode.
	Opens the menu for graphical chart design and tab editing: <ul style="list-style-type: none"> <li>Dark Mode More information on the "Dark Mode" is provided in Chapter: Setting the dashboard display (Page 298)</li> <li>Grid Options More information on grid options is provided in Chapter: Generating charts (Page 288)</li> <li>Tabs More information on the tabs is provided in Chapter: Editing tabs (Page 305)</li> </ul>
	The "Line Charts" icon opens all available line charts.

Parameters	Description
 Line Chart	Opens the menu for creating a line chart.
 Line Dot Chart	Opens the menu for creating a line dot chart.
 Scatter Line Chart	Opens the menu for creating a scatter line chart.
 Filled Line Chart	Opens the menu for creating a filled line chart.
	Opens the menu for creating a bar chart.
	The "Indicator Charts" icon opens all available indicator charts.
 Indicator Chart	Opens the menu for creating an indicator chart.
 Gauge Chart	Opens the menu for creating a gauge chart.
	Opens the menu for creating a table overview.
	Opens the menu for creating a Gantt chart.
	Opens the menu to create a chart with a link.

## Procedure

1. Select an asset in the machine overview. Click on the button with dots at the lower right on the asset. The drop-down list with the menu selection opens.
2. To open the "My Dashboards" window, select the "My Dashboards" entry.



You have the following options to continue editing:

- Generating charts (Page 288)
- Editing charts (Page 296)
- Setting the dashboard display (Page 298)


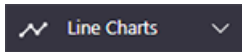
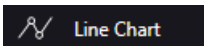

8.15 My Dashboards

- Working with templates (Page 302)
- Editing tabs (Page 305)

8.15.2 Generating charts

Using the "My Dashboards" function, you can create and edit line, bar, indicator and Gantt charts as well as table overviews.

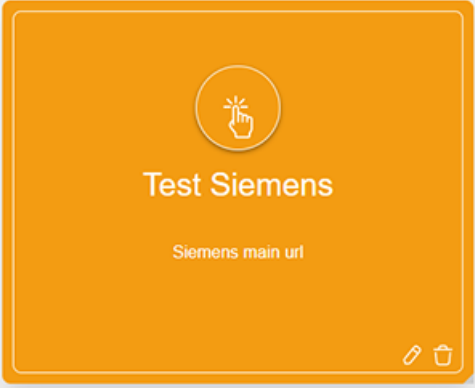



Icons and buttons

Parameters	Description
	The "Gear wheel" icon opens the menu for graphic chart layout and tab editing: <ul style="list-style-type: none"> <li>• Dark Mode More information on the "Dark Mode" is provided in Chapter: Setting the dashboard display (Page 298)</li> <li>• Grid Options More information on grid options is provided in Chapter: Editing charts (Page 296)</li> <li>• Tabs More information on the tabs is provided in Chapter: Editing tabs (Page 305)</li> </ul>
<b>Chart type</b>	
	The "Line Charts" icon opens all available line charts.
	Opens the menu for creating a line chart.
<div style="border: 1px solid black; padding: 5px;"> <p><b>Line Chart</b></p>  <p style="font-size: small;">Nov 13, 2021</p> <p style="font-size: x-small;">MachineStatus</p> </div>	

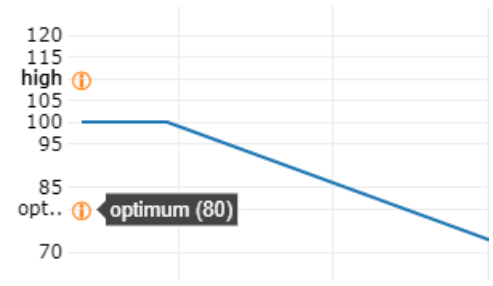
Parameters	Description
<p data-bbox="475 278 679 321"><b>Line Dot Chart</b></p> 	<p data-bbox="738 278 1219 310">Opens the menu for creating a line dot chart.</p>
<p data-bbox="475 832 679 874"><b>Scatter Line Chart</b></p> 	<p data-bbox="738 832 1254 863">Opens the menu for creating a scatter line chart.</p>

Parameters	Description
 <p><b>Filled Line Chart</b></p> 	<p>Opens the menu for creating a filled line chart.</p>
 <p><b>Bar Chart</b></p> 	<p>Opens the menu for creating a bar chart.</p>
 <p><b>Indicator Charts</b></p>	<p>The "Indicator Charts" icon opens all available indicator charts.</p>
 <p><b>Indicator Chart</b></p> 	<p>Opens the menu for creating an indicator chart.</p>
 <p><b>Gauge Chart</b></p>	<p>Opens the menu for creating a gauge chart.</p>

Parameters	Description																																																																													
<p>Gauge Chart</p>																																																																														
<p> Table View</p>	<p>Opens the menu for creating a table overview.</p>																																																																													
<p>Table View</p> <table border="1"> <thead> <tr> <th>ALARMNO</th> <th>PRIORITY</th> <th>TEXT</th> <th>CLEARINFO</th> <th>SOURCE</th> <th>CT</th> <th>ST</th> </tr> </thead> <tbody> <tr> <td>2130</td> <td>100</td> <td>Note: The standard p</td> <td>3</td> <td>INCK</td> <td>2021-10-06 14:18:27</td> <td>2021-10-06 14:18:45</td> </tr> <tr> <td>0060</td> <td>100</td> <td>2 option(s) is/are</td> <td>3</td> <td>INCK</td> <td>2021-10-06 14:19:40</td> <td>2021-10-06 14:19:58</td> </tr> <tr> <td>150412</td> <td>100</td> <td>No information about SIEMENS warranty available.</td> <td>0</td> <td>HMW</td> <td>2021-10-06 17:08:08</td> <td>2021-10-06 17:09:26</td> </tr> <tr> <td>0060</td> <td>100</td> <td>2 option(s) is/are</td> <td>3</td> <td>INCK</td> <td>2021-10-06 15:19:39</td> <td>2021-10-06 15:19:57</td> </tr> <tr> <td>2130</td> <td>100</td> <td>Note: The standard p</td> <td>3</td> <td>INCK</td> <td>2021-10-06 15:30:46</td> <td>2021-10-06 15:30:04</td> </tr> <tr> <td>0060</td> <td>100</td> <td>2 option(s) is/are</td> <td>3</td> <td>INCK</td> <td>2021-10-06 16:19:34</td> <td>2021-10-06 16:19:52</td> </tr> <tr> <td>2130</td> <td>100</td> <td>Note: The standard p</td> <td>3</td> <td>INCK</td> <td>2021-10-06 16:42:21</td> <td>2021-10-06 16:39:39</td> </tr> <tr> <td>0060</td> <td>100</td> <td>2 option(s) is/are</td> <td>3</td> <td>INCK</td> <td>2021-10-06 17:19:30</td> <td>2021-10-06 17:19:48</td> </tr> <tr> <td>2130</td> <td>100</td> <td>Note: The standard p</td> <td>3</td> <td>INCK</td> <td>2021-10-06 17:53:56</td> <td>2021-10-06 17:51:14</td> </tr> <tr> <td>0060</td> <td>100</td> <td>2 option(s) is/are</td> <td>3</td> <td>INCK</td> <td>2021-10-06 18:19:25</td> <td>2021-10-06 18:19:43</td> </tr> </tbody> </table>	ALARMNO	PRIORITY	TEXT	CLEARINFO	SOURCE	CT	ST	2130	100	Note: The standard p	3	INCK	2021-10-06 14:18:27	2021-10-06 14:18:45	0060	100	2 option(s) is/are	3	INCK	2021-10-06 14:19:40	2021-10-06 14:19:58	150412	100	No information about SIEMENS warranty available.	0	HMW	2021-10-06 17:08:08	2021-10-06 17:09:26	0060	100	2 option(s) is/are	3	INCK	2021-10-06 15:19:39	2021-10-06 15:19:57	2130	100	Note: The standard p	3	INCK	2021-10-06 15:30:46	2021-10-06 15:30:04	0060	100	2 option(s) is/are	3	INCK	2021-10-06 16:19:34	2021-10-06 16:19:52	2130	100	Note: The standard p	3	INCK	2021-10-06 16:42:21	2021-10-06 16:39:39	0060	100	2 option(s) is/are	3	INCK	2021-10-06 17:19:30	2021-10-06 17:19:48	2130	100	Note: The standard p	3	INCK	2021-10-06 17:53:56	2021-10-06 17:51:14	0060	100	2 option(s) is/are	3	INCK	2021-10-06 18:19:25	2021-10-06 18:19:43	
ALARMNO	PRIORITY	TEXT	CLEARINFO	SOURCE	CT	ST																																																																								
2130	100	Note: The standard p	3	INCK	2021-10-06 14:18:27	2021-10-06 14:18:45																																																																								
0060	100	2 option(s) is/are	3	INCK	2021-10-06 14:19:40	2021-10-06 14:19:58																																																																								
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0060	100	2 option(s) is/are	3	INCK	2021-10-06 16:19:34	2021-10-06 16:19:52																																																																								
2130	100	Note: The standard p	3	INCK	2021-10-06 16:42:21	2021-10-06 16:39:39																																																																								
0060	100	2 option(s) is/are	3	INCK	2021-10-06 17:19:30	2021-10-06 17:19:48																																																																								
2130	100	Note: The standard p	3	INCK	2021-10-06 17:53:56	2021-10-06 17:51:14																																																																								
0060	100	2 option(s) is/are	3	INCK	2021-10-06 18:19:25	2021-10-06 18:19:43																																																																								
<p> Gantt Chart</p>	<p>Opens the menu for creating a Gantt chart.</p>																																																																													
<p>Gantt Chart</p>																																																																														
<p> Card</p>	<p>Opens the menu to create a card with a link. The page with the specified address is opened by clicking on the card.</p>																																																																													

Parameters	Description
	
<b>Parameters and functions</b>	
<b>New Chart</b>	
Asset	Displays the asset selected in the machine overview. More information is provided in Chapters: Machine overview (Page 220) Asset Manager (Page 100)
Aspect	Opens the drop-down list with the predefined aspects. More information is provided in Chapter:Aspects (Page 244)
Variables	Opens the drop-down list with the predefined variables. More information is provided in Chapter: Configuring variables (Page 130)
Add ...	Confirms and supplements the selected aspects and variables.
Create a New KPI	Opens the menu for creating a new KPI: <ul style="list-style-type: none"> <li>• KPI name</li> <li>• Operators:                             <ul style="list-style-type: none"> <li>- +</li> <li>- -</li> <li>- ÷</li> <li>- x</li> </ul> </li> <li>• Variable or value</li> <li>• Create</li> </ul> Number of variables per KPI: For Line Charts, Line Dot Charts, Scatter Line Charts and Bar Charts, you can select seven KPI variables for each chart. For Filled Line Charts, Indicator Charts, Gauge Charts, Gantt Charts and Table Views, you can select one KPI variable for each chart.
	Deletes the selected parameter. The respective check box must be deactivated.
	Adds a new value range or task to line charts, gauge charts and Gantt charts.
	Deletes the value ranges or tasks in line charts, gauge charts and Gantt charts.
Label	The value of the label is entered in the chart and marked using a horizontal line. The name is displayed when the mouse hovers over the icon.



Parameters	Description
<p><b>Line Chart</b></p>  <p>The chart displays a blue line on a grid. The y-axis ranges from 70 to 120. The line starts at 100, remains constant until a 'high' indicator (105) is reached, then slopes downward to an 'optimum (80)' indicator.</p>	
<b>Date Time Range</b>	
05/12/2020 → 06/16/2020 UTC	<p>Opens the calendar function to define a time period. Select a time period of up to 90 days.</p> <p>More information can be found in Chapter Setting the dashboard display (Page 298).</p>
Chart name (optional)	Provides the option of entering a chart name.

## Procedure

1. Move the mouse onto the bar at the lefthand edge of the window. The bar with the edit icons is pulled down.
2. Click on "Line Charts" or "Indicator Charts". Additional edit icons are displayed.
3. Click on the required chart type to create a new chart.
4. For "Card", a window opens to enter a name, description and URL.

**Create Card** ✕

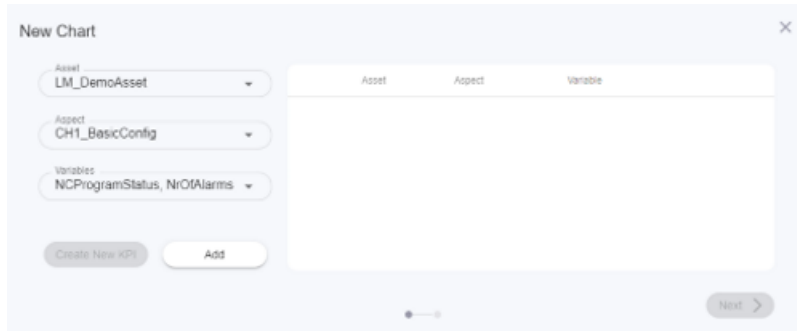
Name \*

Description \*

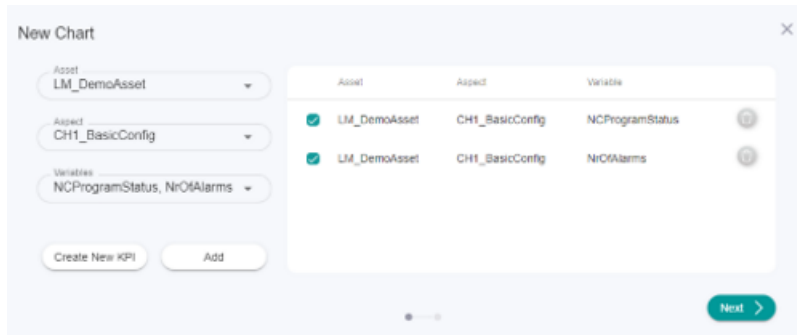
Link \*

8.15 My Dashboards

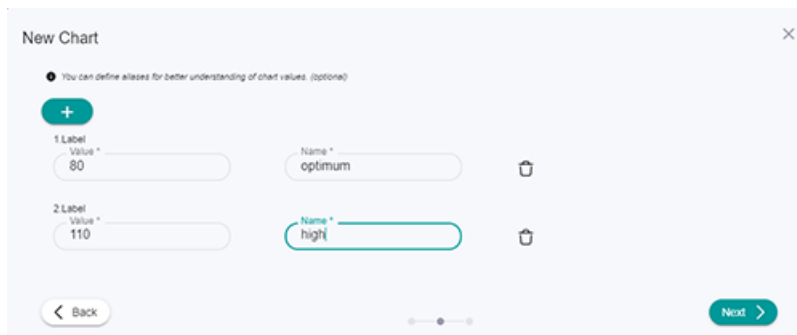
- 5. For all other chart types, the window opens to select the aspect and variables. The name of the asset that you selected is automatically displayed in the "Asset" field.
  - Select the required entry from the "Aspect" drop-down list.
  - Select the required options from the "Variables" drop-down list.
  - Click on "Add".



- 6. The selection is displayed. Activate the required check box and click the "Next" button.



- 7. For line charts and bar charts, a dialog is displayed to specify a label.
  - Click on the "+" icon to create a new label.
  - Enter the label name.
  - Enter the value.
  - Click on "Next".



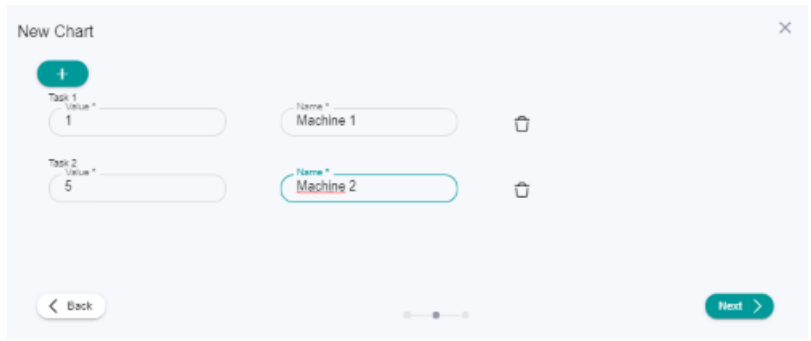
8. The following window opens for the "Filled Line Chart":
  - Click the "+" icon to create a new value range.
  - Click in the Color text box to select a color.
  - Click on "Next".

The following window opens for the "Gauge Chart":

- Click the "+" icon to create a new value range.
- Click in the Color text box to select a color.
- Click on "Next".

The following window opens for the "Gantt Chart":

- Enter a value and a machine name.
- Click on the "+" icon to enter another value and device name.
- Click on "Next".



- 9. The "Date Time Range" window opens.
  - To open the calendar, click on the time range display.
  - Select a time period.
  - Optionally enter a chart name in the "Chart Name" text box.



Click on "Save" in the lower right part of the window. You return to the "My Dashboards" window.







### 8.15.3 Editing charts

You can edit the individual charts and change parameters.

#### Parameters and icons

Icon	Description
	The "Pen" icon activates the edit menu.
	The floppy disk icon exits the edit menu.

Icon	Description
	The "Tool" icon opens the menu for graphic chart layout and tab editing: <ul style="list-style-type: none"> <li>• Dark Mode More information on the "Dark Mode" is provided in Chapter: Setting the dashboard display (Page 298)</li> <li>• Grid Options</li> <li>• Tabs More information on the tabs is provided in Chapter: Editing tabs (Page 305)</li> </ul>
	Opens the chart menu to select additional aspects and variables.
	Opens the chart menu to set the filter.
	Deletes the chart.
<b>Grid Options</b>	
Grid Options	Displays the parameters for the grid: <ul style="list-style-type: none"> <li>• Grid Type <ul style="list-style-type: none"> <li>– Fit</li> <li>– Fixed</li> <li>– HorizontalFixed</li> <li>– ScrollHorizontal</li> <li>– ScrollVertical</li> <li>– VerticalFixed</li> </ul> </li> <li>• Number of rows</li> <li>• Number of columns</li> </ul> You can define up to 4 rows and 12 columns.

## Procedure

To activate the edit mode in the "My Dashboards" window, click on the "Pen" icon in the lower right part of the window.

Edit the individual charts using the icons in the chart window.

Additional options are provided in Chapter Setting the dashboard display (Page 298).

### Changing aspects and variables

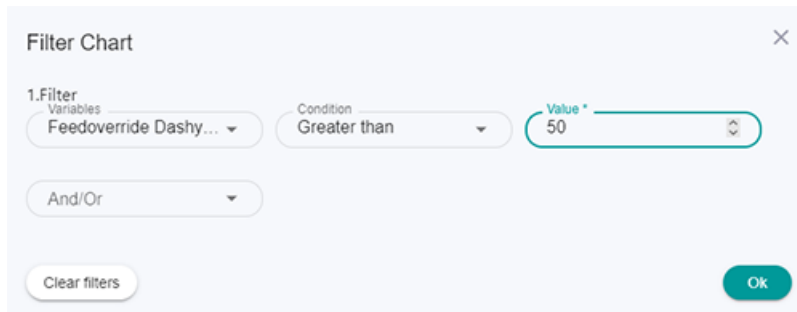
1. In the chart, click on the "Pen" icon at the lower right.  
The chart menu opens.
2. Open the drop-down lists "Aspect" and "Variables". Change the required parameters.  
To confirm your selection, click on "Next".  
More information is provided in Chapter: Generating charts (Page 288)

### Filtering

1. In the chart, click on the "Filter" icon.  
The filter menu opens.
2. Select the required variable.

8.15 My Dashboards

3. Set the condition for the value of the variables.  
Use "And/OR" to logically link 2 conditions.
4. Only the values within this value range are displayed in the chart.



**Changing the time range**

- At the top left in the chart, click on the time range display. Enter another time range.
- More information on the calendar is provided in Chapter: Setting the dashboard display (Page 298)

**Deleting a chart**





To delete the chart, click on the "Recycle bin" icon at the bottom right in the chart.

**8.15.4 Setting the dashboard display**

You can change the position, the size and the display area of the charts on the dashboard display.

**Icons and buttons**

Parameters	Description
05/12/2020 → 06/16/2020 UTC	Displays the time range and the time zone used.
Aggregated	Displays the aggregated data
Live	Displays the refreshed data starting at the time of activation.
	Creates a snapshot in the "png" format.
	Activates the "Zoom" function.
	Activates the "Shift" of the display area function.
	Zooms into the display area.
	Zooms out of the display area.
	Resets the complete display area
	Resets the axis view

Parameters	Description
	Switches over to a dotted line.
	Displays the data when moving the mouse over the selected point in the chart.
	Compares the data when moving the mouse over the selected point in the chart.
	Connects to the plotly.com web page More information about third-party web pages is provided in Chapter: About this documentation (Page 10).

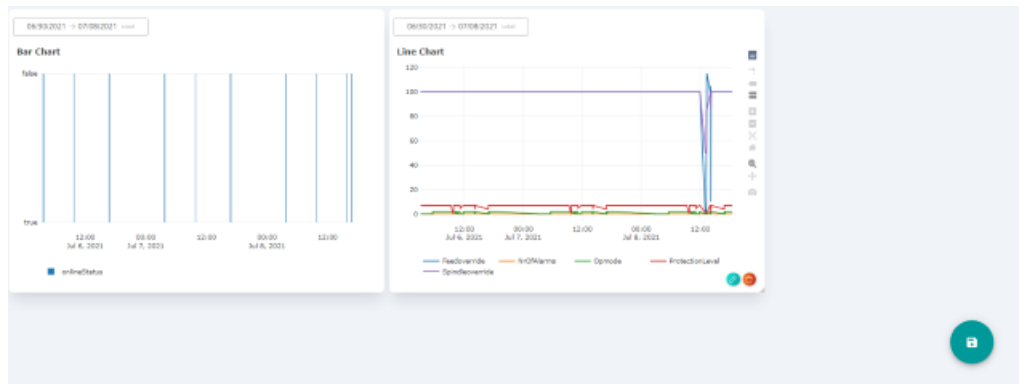
## Procedure

### Rearranging charts

1. The charts can only be rearranged in the edit mode.  
Click on the pen icon at the lower right. The edit mode is started.
2. Click on the chart that you wish to reposition on "My Dashboards".



3. Drag & drop it at the required position. You can arrange all charts in any sequence.



### Changing the size of a chart

1. The chart size can only be changed in the edit mode.  
Click on the pen icon at the lower right. The edit mode is started.
2. Click on the zoom magnifying glass icon in the chart menu bar.

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3. Move the mouse to one edge of the chart until the mouse pointer changes to an arrow with two points.
4. Stretch the window to the required size

**Dark Mode**

- Open the setting menu using the "Tool" icon.
- Select the "Dark Mode". The background becomes dark and the writing light.

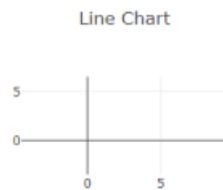




### Changing the display area

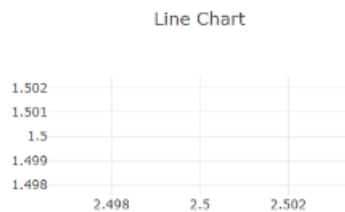
- To display the menu bar, move the mouse cursor over the chart.
  - Click on "+" icon to zoom into the display area.
  - OR -
  - Press and hold the left mouse button, and use the mouse to zoom into the required display area.

06.05.2021 → 07.05.2021 Lokal  Aggregated  Live



- Click on "-" in the bar to zoom out of the display area.
- OR -
- Press and hold the left mouse button, and use the mouse to zoom out of the required display area.

06.05.2021 → 07.05.2021 Lokal  Aggregated  Live



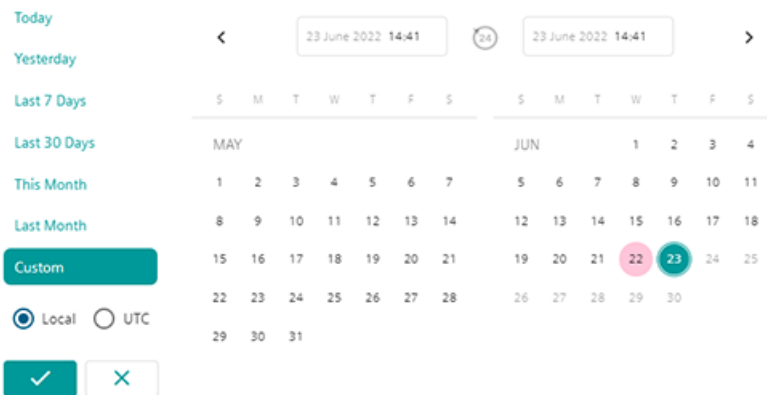
### Setting the time range

You can set the time range for individual charts or for all charts at one tab.

- Click on the time range in an individual chart. Only set the time range for this chart.
- Click on the calendar icon at the top right. Set the time range for all charts at the tab.

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- You can set a time period of 90 days.
- Select one of the upper entries to select a relative time period.
  - Today
  - Yesterday
  - Last 7 Days
  - Last 30 Days
  - This Month
  - Last Month
  - OR -
- Click on "Custom" to select an absolute time period. The calendar opens.
  - Select the time zone, "Local" or "UTC".
  - Select a start and end date in the calendar.
- Confirm using the checkmark button.



### 8.15.5 Working with templates









You have the option of creating 10 templates.

The selected template and the default template are shown in different colors to clearly distinguish between them.

#### Requirements

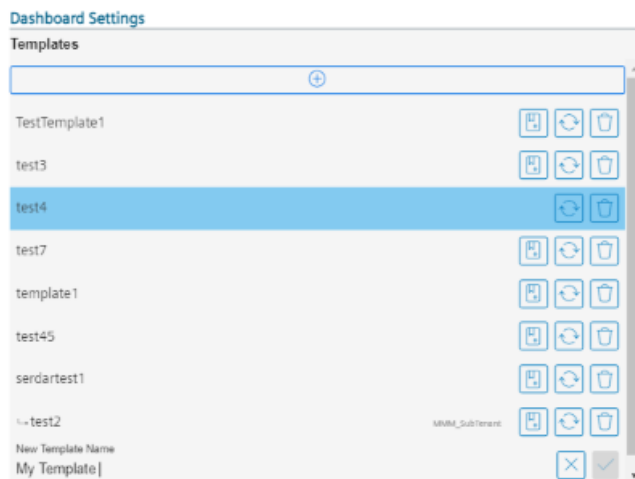
As "Tenant" user, you can also access templates of a "Subtenant".

## Icons and buttons

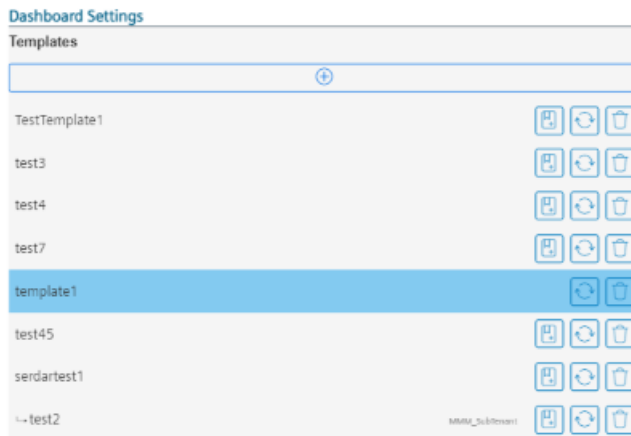
Icon	Description
	The "Dashboard Settings" icon opens the template menu. The icon is deactivated if you are in the edit mode.
	The "Floppy disk" icon opens the dialog box to save as template.
	Opens a text box for the name of the new template.
	Confirms the template name.
	Deletes the template name.
	The "Floppy disk" icon defines the default template for the "Tenant" user.
	The "Arrows" icon completes the template with your current settings.
	The "Recycle bin" icon deletes the template.

## Procedure

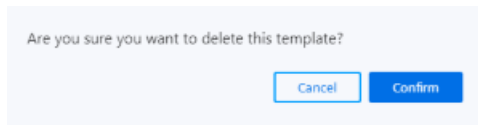
- Click the "Dashboard Settings" icon in the upper right-hand part of the window.  
- OR -  
Click the "Floppy disk" icon in the lower right-hand part of the window.
- Window "Dashboard Settings" > "Templates" with the template list of the user opens.
  - Click on the "+" icon in the upper part of the window to create a new template with the current chart settings.
  - In the lower part of the window in text box "New Template Name", enter a name and click on the "Checkmark" icon.  
All other users of this tenant can now see and use your template.  
- OR -  
To delete the template name, click on the "X" icon.



3. If you wish to use a template as default template, select a template from the list and click on the "Floppy disk" icon.  
The template is saved as default template and the "Floppy disk" icon is no longer displayed for this template.  
You can only define ONE default template.  
The default template is displayed in the "My Dashboards" window.



4. If you wish to update a template with your new configuration, click the "Arrows" icon.
5. If you wish to delete a template, select the template and click on the "Recycle bin" icon.  
You receive a confirmation prompt: "Are you sure you want to delete this template?".
  - Click "Confirm" to delete to the template.
  - OR -
  - Click "Cancel" to cancel the operation.



---

**Note**

**Deleting the default template**

If you delete your default template, then the default template is also no longer available to another tenant. A blank page is displayed.

---

6. Message "You will no longer receive updates on changes to the template" is displayed if you have selected a template, and you change the chart or board.
  - Click "Confirm" to confirm the message.
  - OR -
  - Click the "Cancel" button to cancel the operation.

You will no longer receive updates on changes to the template.



7. Message "Do you want to continue to override your current chart configurations?" is displayed if you have configured charts without a template, and you click on a template from "Dashboard Settings".
  - Click "Confirm" to overwrite your configured charts.
  - OR -
  - Click "Cancel" to cancel the operation.

Do you want to continue to override your current chart configurations?






### 8.15.6 Editing tabs

You have the option of creating additional tabs and deleting tabs.

You can create up to seven tabs.

#### Icons and buttons

Parameters	Description
	Opens the tab with your configured dashboard. You can save up to seven tabs. More information is provided in Chapters: Generating charts (Page 288) Editing charts (Page 296) Setting the dashboard display (Page 298) Working with templates (Page 302)
	Creates a new tab.
Tabs	Opens the menu with your list of tabs.
Dashboard name	Displays the particular tab.
	The "Pen" icon activates the edit menu.

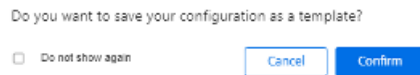
### Procedure

#### Creating a tab

1. To create a new tab, in the upper window bar click on the "+" icon to the right of the Board tab.



2. Message "Do you want to save your configuration as a template" is displayed.
  - Click on "Confirm" to save the settings as template.  
The "Dashboard Settings" menu with the template menu opens.  
More information is provided in Chapter: Working with templates (Page 302).  
- OR -
  - Click on "Cancel" to cancel the operation.



#### Deleting a tab

1. Tabs are deleted in the edit mode.  
Click on the "Pen" icon to activate the edit mode.
2. You can see the tabs in the edit mode.



3. Click on the cross on the top right of a tab.
4. The dialog box to delete the tab opens.
  - Click on "Yes" to delete the tab.  
- OR -  
Click on "No" to cancel the operation.

#### Dashboard Deletion

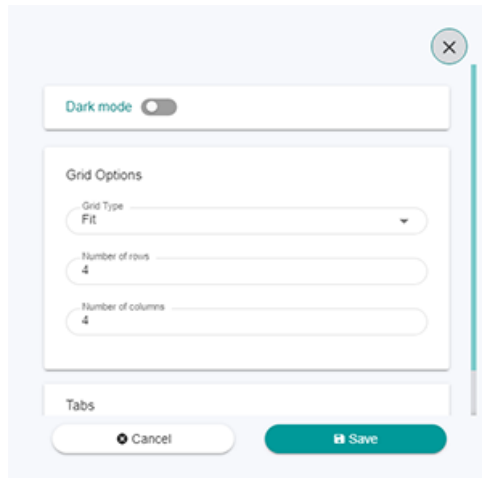
Do you want to delete this Dashboard?



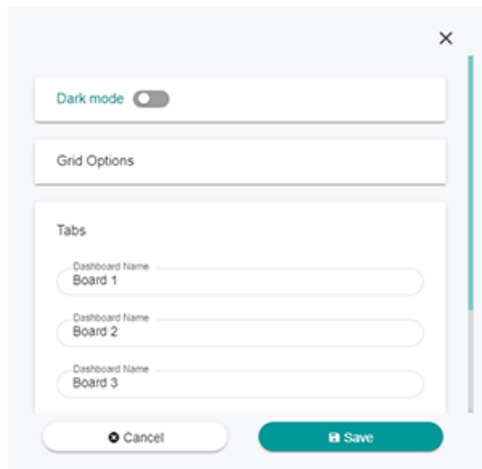
5. Click on the "Save" button to save the setting.

### Renaming a tab

1. In "My Dashboards", click the "Gear wheel" icon in the lower left window section.
2. The edit window opens.  
Click on "Tabs".



3. The menu with your list of tabs opens. Select the tab that you wish to rename. Enter the new tab name.



4. Click on the "Save" button to save the setting.  
- OR -  
Click "Cancel" to cancel the operation.

## 8.16 Manage MyMachines /Spindle Monitor

### 8.16.1 Overview

You can display the following data of the Weiss spindle:

- Display of the operating data (Page 310)
- Analysis of the clamping system (Page 311)
- Display of the occasions (Page 312)
- Display of the spindle operating diagram (Page 313)
- Display of the operating time (Page 314)
- Display of the tool clamping cycles (Page 314)

### Precondition

The "Spindle Monitor" function is activated under SINUMERIK defaults.

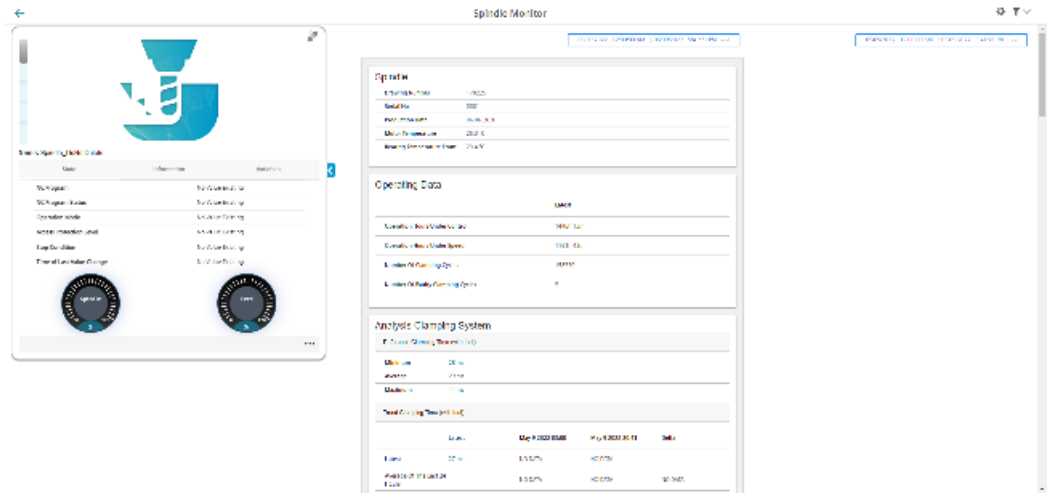
Further information on this can be found in Chapter: Activating Manage MyMachines / Spindle Monitor (Page 113)

### Procedure

1. In the "Machine Description" area, click on the button with dots.  
The list of the other pages is displayed.
2. Select "Spindle monitor".  
The "Spindle monitor" page opens.

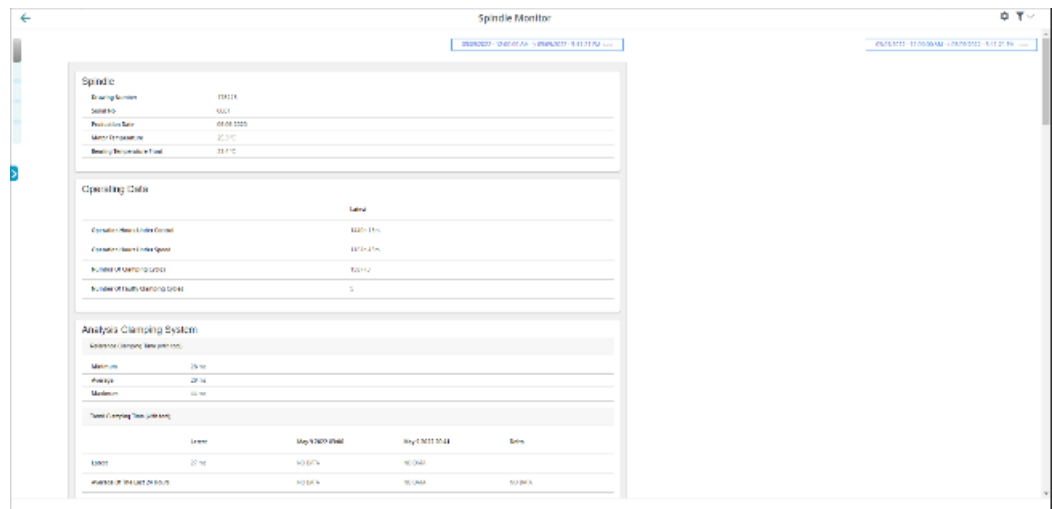


3. The machine description is shown in the left-hand section of the window. You can see the spindle data in the right-hand section of the window.



4. To collapse the machine description, click on the left-pointing arrow symbol on the right side of the frame.

The spindle monitor is displayed in the full-screen mode.



## 8.16.2 Displaying spindle data

### Weiss spindle data

Display	Description
Drawing Number	The drawing number is comprised of at least 6 digits. The number can also contain the following combinations of letters and digits. The drawing number defines the technical design of the spindle.
Serial No	The serial number is a consecutive number comprised of 4 digits. The drawing number and the serial number precisely define a built spindle.

8.16 Manage MyMachines /Spindle Monitor

Display	Description
Date of manufacture	The production date shows the date of manufacture of the spindle.
Motor Temperature	The motor temperature shows the last measured value of the motor winding temperature in °C before the transfer to Insights Hub.
Additional temperature, "Bearing Temperature Front " in this example	The second temperature display stands for an additional measured temperature. The additional temperature is only displayed if a corresponding temperature sensor is installed in the respective spindle. It displays the last measured value before the transfer to Insights Hub.

Spindle

Drawing Number	178225
Serial No	0001
Production Date	06.06.2020
Motor Temperature	25.3 °C
Bearing Temperature Front	23.4 °C

8.16.3 Display of the operating data

The following operating data is displayed for the Weiss spindle.

Display	Description
Operation Hours Under Control	Shows the operating period of the spindle under control in hours and minutes.
Operation Hours Under Speed	Shows the operating period of the spindle under speed in hours and minutes.
Number Of Clamping Cycles	Shows the total number of clamping cycle operations. "Clamping state released" → "Clamped with tool" or "Clamped without tool"
Number of incorrect clamping cycles	Shows the accumulated number of the following procedures: Incorrect execution: No completed cycle "Clamping state released" → "Clamped with/without tool" → "Clamping state released"

Operating Data	Latest	Mar 29 2022 09:57	Mar 29 2022 09:55	Delta
Operation Hours Under Control	1446h 13m	1446h 13m	1446h 13m	NO DATA
Operation Hours Under Speed	1161h 43m	1161h 43m	1161h 43m	NO DATA
Number of clamping cycles	158770	158770	158770	NO DATA
Number Of Faulty Clamping Cycles	5	5	5	NO DATA

### 8.16.4 Analysis of the clamping system

The following analysis data is displayed for the Weiss spindle.

Display	Description	
Reference Clamping Time (with tool)	Shows the values of the first 100 clamping procedures that were measured during the commissioning phase of the spindle by the SMI24.	
	Minimum	The shortest determined reference clamping time from the first to the last measured time, with a maximum of 100. Clamping procedure: Clamping state "Released" → "Clamped with tool"
	Average	The average, determined reference clamping time from the first to the last measured, with a maximum of 100. Clamping procedure: Clamping state "Released" → "Clamped with tool"
	Maximum	The longest determined reference clamping time from the first to the last measured, with a maximum of 100. Clamping procedure: Clamping state "Released" → "Clamped with tool"
Trend Clamping Time (with tool)	Shows the values that were measured in the corresponding time periods by the SMI24.	
	Latest	The last determined reference clamping time
	Average Of The Last 24 Hours	The average reference clamping time determined over the last 24 hours from the clamping procedures that took place during that time: Clamping state "Released" → "Clamped with tool"
	Average Of The Last 240 Hours	The average reference clamping time determined over the last 240 hours from the clamping procedures that took place during that time: Clamping state "Released" → "Clamped with tool"
	Average Of The Last 2400 Hours	The average reference clamping time determined over the last 2400 hours from the clamping procedures that took place during that time: Clamping state "Released" → "Clamped with tool"
Number Clamping Operations Tolerance	Shows the time within a clamping procedure between the clamping state "Tool released" and "Clamped without tool"	
	Number of clamping cycles within the clamping time tolerance (without tool)	Accumulated number of clamping cycles without tool, which were within the clamping time tolerance
	Number of clamping cycles outside the clamping time tolerance (without tool)	Accumulated number of clamping cycles without tool, which were outside the clamping time tolerance
	Reference clamping time (without tool)	Factory specification of the time for the clamping operation without tool
	Actual clamping time (without tool)	Measured time for the last performed clamping operation without tool

8.16 Manage MyMachines /Spindle Monitor

Analysis Clamping System				
Reference Clamping Time (with tool)				
Minimum	28 ms			
Average	29 ms			
Maximum	44 ms			
Trend Clamping Time (with tool)				
	Latest	Mar 29 2022 09:37	Mar 29 2022 09:55	Delta
Latest	27 ms	27 ms	27 ms	
Average Of The Last 24 Hours		28 ms	28 ms	-0 ms
Average Of The Last 240 Hours		28 ms	28 ms	-0 ms
Average Of The Last 2400 Hours		28 ms	28 ms	0 ms
Number Clamping Operations Tolerance				
	Latest	Mar 29 2022 09:37	Mar 29 2022 09:55	Delta
Number of clamping cycles within clamping time tolerance (w/o tool)	9991	9991	9991	0
Number of clamping cycles outside clamping time tolerance (w/o tool)	0	0	0	0
Clamping reference time (w/o tool)	180000			
Clamping actual time (w/o tool)	44625			

8.16.5 Display of the occasions

The following occasions are displayed for the Weiss spindle.

Display	Description
Upper limit violation type	<ul style="list-style-type: none"> <li>• PTC motor temperature</li> <li>• Alarm motor temperature</li> <li>• Incorrect motor temperature</li> <li>• Alarm KTY2 temperature</li> <li>• Incorrect KTY2 temperature</li> </ul>
Occurrence	Display of the accumulated number of upper limit violations
Total duration	Display of the accumulated time during which a violation of the limit value existed
Last point in time	Display of the time stamp of the exceedance of the limit value: date, time
Δ Occurrence	Display of the accumulated number of the upper limit violations during a predefined time period
Δ Total duration	Display of the accumulated time during which upper limit violations existed during a predefined time period

## Occasions

Exceedance Type	Occurrence	Total Duration	Last Time	Δ Occurrence Mar 29 2022 09:37 Mar 29 2022 09:55	Δ Total Duration Mar 29 2022 09:37 Mar 29 2022 09:55
PTC Motor Temperature	0	0 s	01.01.1970	0	0 s
Warning Motor Temperature	80	4450 s	20.01.2018	0	0 s
Faulty Motor Temperature	28	3680 s	20.01.2018	0	0 s
Warning KTY2 Temperature	0	0 s	01.01.1970	0	0 s
Faulty KTY2 Temperature	0	0 s	01.01.1970	0	0 s

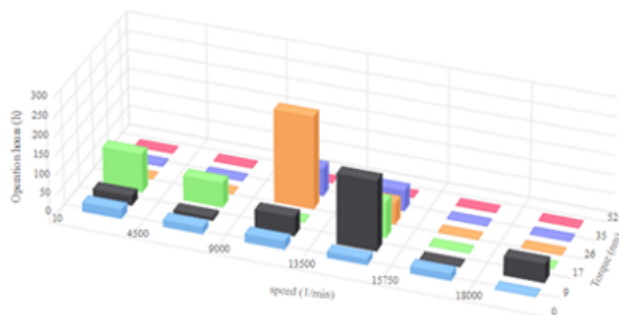
### 8.16.6 Display of the spindle operating diagram

The heights of the individual bars correspond to the percentage time shares, the dwell time, relative to the operating hours under speed.

The widths of the bars correspond to the evaluated speed or torque range.

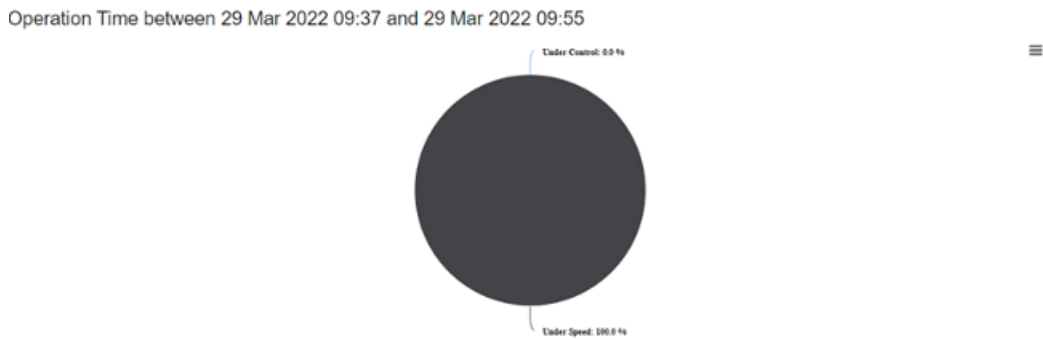
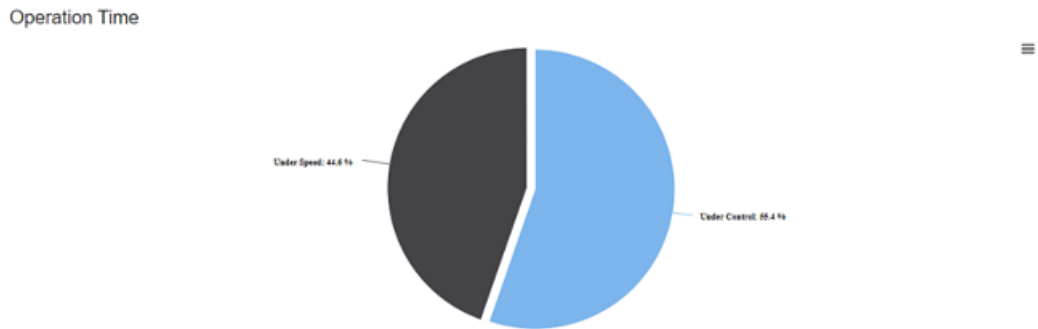
Position the cursor on the respective bar to also display the number of accumulated operating hours under speed.

## Spindle Operation Chart



### 8.16.7 Display of the operating time

The runtime diagram shows the ratio of measured runtime under control and the measured runtime under speed.  
 If the operating time of the spindle under speed was exactly as long as it was under control, the time shares are displayed with 50% respectively.



### 8.16.8 Display of the tool clamping cycles

The following tool clamping cycles are displayed in the bar diagram for the Weiss spindle:

Display	Description
Total clamping cycles	The height of the bar "Total clamping cycles" shows the number of all cycles "Clamping state released" → "Clamped with tool"
Total erroneous clamping cycles	The height of the bar "Total erroneous clamping cycles" shows the number of clamping cycles that fulfilled the following criteria: Incorrect execution No completed cycle "Clamping state released" → "Clamped with/without tool" → "Clamping state released"












## 8.17 Machine location

In the "Machine Location" view, you can view the locations of your assets in different environments:

- Global - assets are shown on a world map
- Street - assets are shown on a street map
- Shopfloor - assets are shown in the machine hall

### Parameter

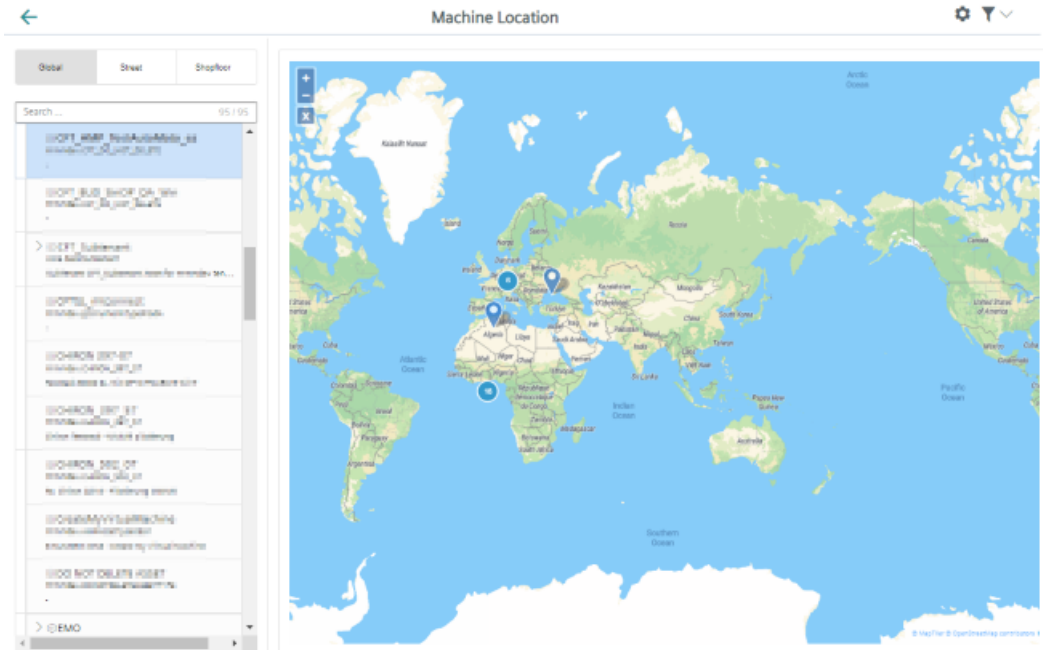
Tabs/buttons	Description
Global	Displays the machine locations on a map of the world
Street	Displays the machine location with precise address.
Shopfloor	Displays the machine location on the shopfloor.
Search ...	Enter the name of the asset in the input field. You obtain a selection of your assets after entering just a few letters.
Tab "Global" / "Street" / "Shopfloor"	
	You can zoom in or out of the map view using "+" and "-".
Tab "Shopfloor"	
	Adapting to the view.
	Returning to the previous level.
	You can edit the hall layout if the machine location changes in the machine hall.
	Save changes
	Do not apply changes
	Opens the Explorer to open and upload the required hall plan.
	Additional options
	Deletes the saved hall plan.

### Procedure

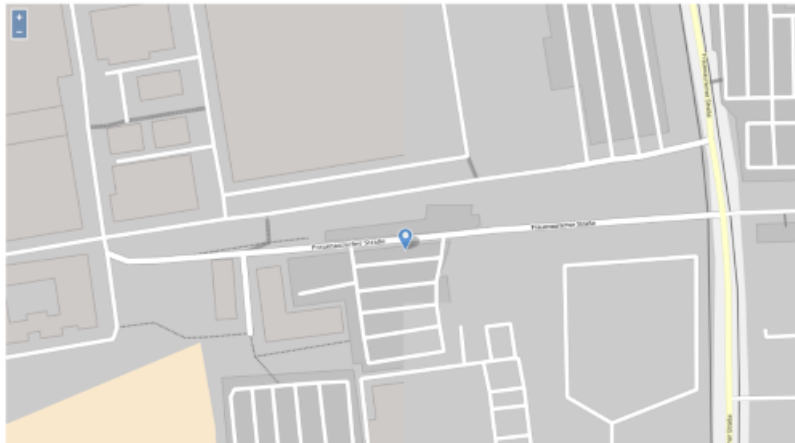
1. In the machine overview, select the required machine and click on the button with dots.
2. Click on "Machine Location".
3. The "Machine Location" window opens.  
The selected machine is displayed in a map of the world.



- Zoom in or out of the map using the "+" or "-" buttons.  
- OR -  
Zoom using the mouse wheel.



- Click on "Street".  
The machine location is displayed on a street map.



8.17 Machine location

6. Click on "Shopfloor".  
The location of the machine on the shopfloor is shown.
  - Click on "Upload".  
The Explorer opens. Navigate in the directory to select a hall plan.
  - You can edit the hall layout if the machine location changes in the machine hall.  
Click on "Edit".



7. Message "Level diagram not found" is displayed if a hall layout has not been assigned to a machine.
  - Click on "Back" if you do not wish to create a hall layout.
  - Click on "Upload" to save a hall layout.

## 8.18 Motor temperature

"Motor temperatures" is a user-defined view to monitor the motor temperatures of a machine.

The temperature characteristics of all configured axes are displayed in an overview. A separate chart is displayed for each axis. You can influence the view based on different criteria.

### Precondition

- The motor temperature variable must be configured.  
**More information** is provided in Chapter: Configuring variables (Page 130) and Configuration example for the motor temperature (Page 379).
- The name of the motor temperature variable must start with "mmm\_mt" so that the data sets are displayed on the "Motor Temperature" page.

### Parameters

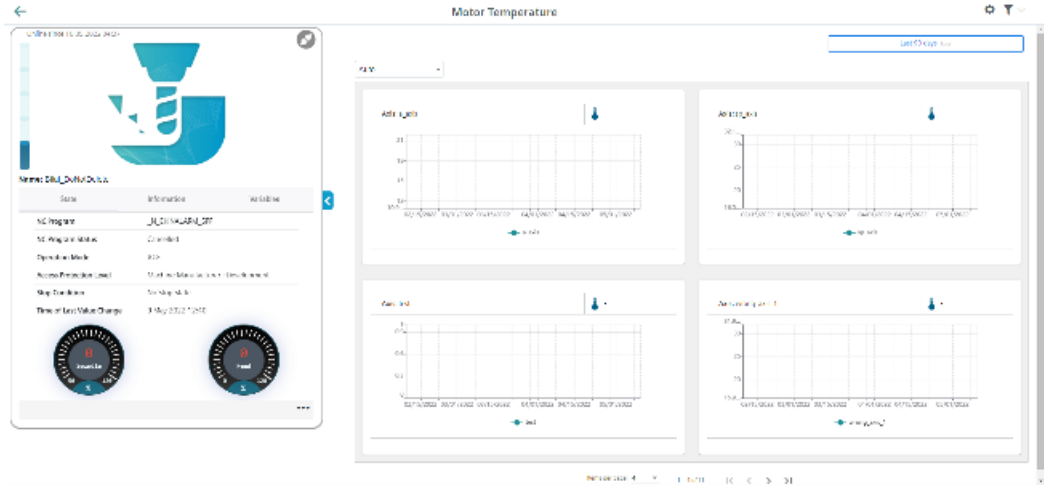
Button	Description
05/12/2020 → 06/16/2020 utc	Displays the time range and the time zone used. Opens the calendar function.
Item per page	From the drop-down list, select how many charts should be displayed on one page: <ul style="list-style-type: none"> <li>• 4</li> <li>• 8</li> <li>• 20</li> <li>• 40</li> </ul>
x - y of z	Indicates which charts are displayed from a total number.
Mode	The following modes can be selected: <ul style="list-style-type: none"> <li>• Aggregate mode: Displays the first and last values, sorted by time stamp for each unit.</li> <li>• Raw mode: Displays the last 256 values. If there are more data points in the selected time range, this is indicated by a dotted line.</li> <li>• Auto mode: Switches automatically between both modes depending on the time range.</li> </ul>
<	Scrolls to the first page.
<	Scrolls to the previous page.
>	Scrolls to the next page.
>	Scrolls to the last page.

### Procedure

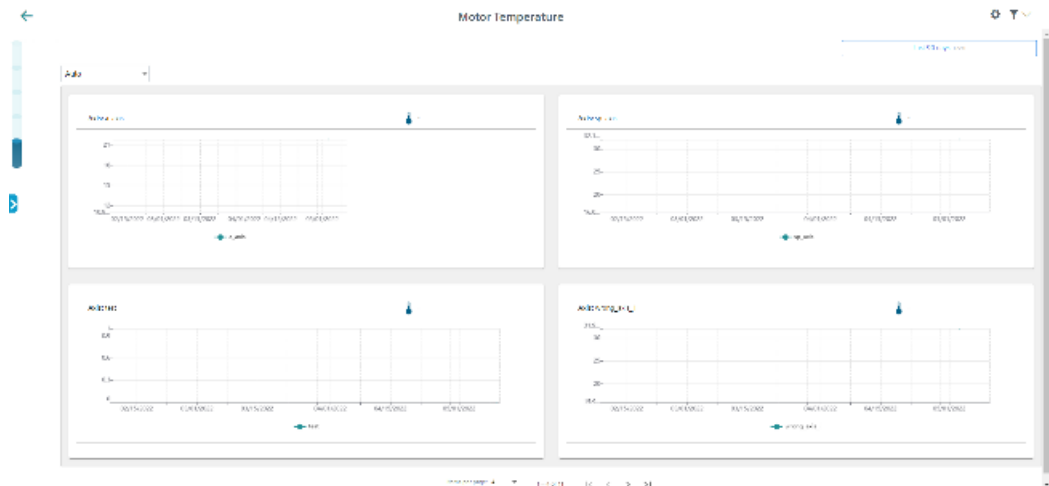
1. In the "Machine Description" area, click on the button with dots.  
The list of the other pages is displayed.
2. Select "Motor Temperature".  
The "Motor Temperatures" page opens.

8.18 Motor temperature

- The machine description is shown in the left-hand section of the window.
- In the right-hand section of the window, select the time range using the calendar function.  
**More information** is provided in Chapter: Using the calendar function (Page 212)
- The underlying data are displayed when you move the mouse over the chart.
  - The charts show a line chart of the aggregated or raw time series data for the motor temperature aspect variables during a specific date/time range.
  - You can select Aggregate, Raw, or Auto mode.



- To collapse the machine description, click on the left-pointing arrow symbol on the right side of the frame. The motor temperature is displayed in the full-screen mode.



## 8.19 Files

You have the option of saving files for an asset in Insights Hub. Manage MyMachines provides the following functions:

- Listing files
- Upload
- Download
- Deleting





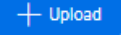

### Note

#### Configuring the target directory for the download

Ensure that a target directory for the download has been configured in your browser.

The exported data is stored in several files depending on the data volume.

### Parameters

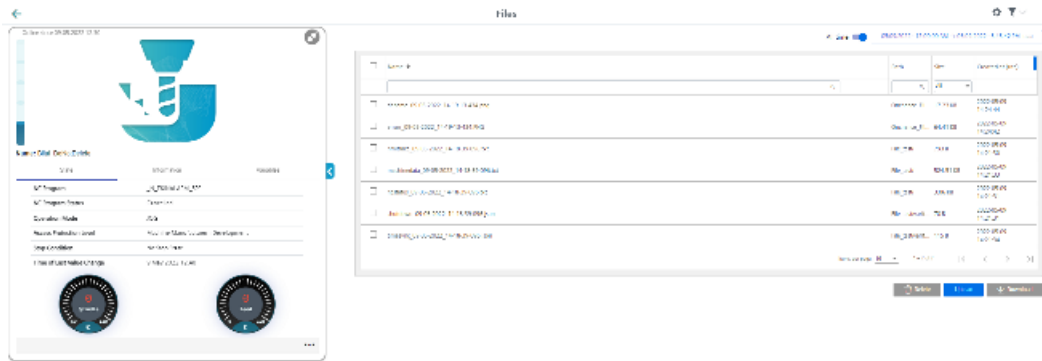
Parameters	Description
	Switch to select the time: <ul style="list-style-type: none"> <li>• Activated - all files are displayed</li> <li>• Deactivated - only files of the selected time range are displayed</li> </ul>
	Displays the time range and the time zone used Opens the calendar function <b>More information:</b> Using the calendar function (Page 212)
	Opens a window with switches to select the displayed columns: <ul style="list-style-type: none"> <li>• Name</li> <li>• Path</li> <li>• Type</li> <li>• Size</li> <li>• Date of creation</li> <li>• Date of change</li> <li>• Description</li> </ul>
	Deletes the selected file in Insights Hub after a confirmation prompt
	Loads a file to Insights Hub
	Creates a local copy of the file

### Procedure

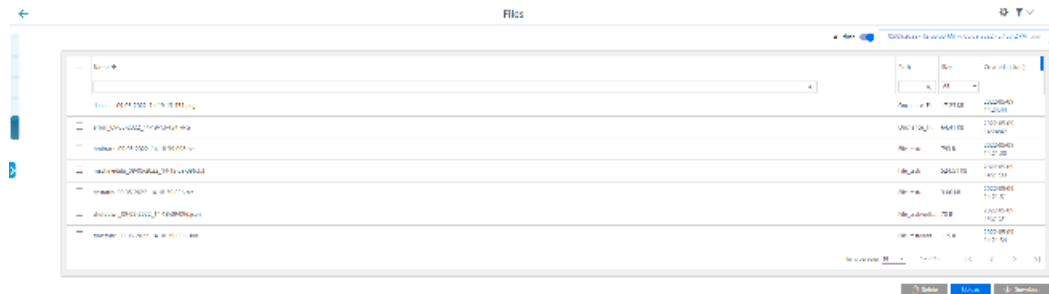
1. Select the required machine in "Manage MyMachines".
2. Click on the button with dots and select function "Files".

8.19 Files

3. Select the required time range to reduce the number of files that are displayed.
4. Enter names or parts of names into the search fields to filter the list more specifically.
5. Click on the column header to sort the list by column.
6. To load a file to Insights Hub:
  - Click the "Upload" button.
  - Navigate to the required file and click on "Open".The upload is started. Depending on the data quantity, the file is split up into several files.
7. To save a local copy:
  - Activate the checkbox in front of the file. Multiple selection is possible. To select all files, activate the checkbox in the table header.
  - Click on "Download".



8. To collapse the machine description, click on the left-pointing arrow symbol on the right side of the frame. The files are displayed in the full-screen mode.



9. The file is displayed in the lower left-hand section of the window, and you can make the following selection:
  - Open
  - Always open files of this type
  - Display in the folder (in the Downloads directory)

## 8.20 Machine snapshot

### Overview

Machine Snapshot allows information about hardware components and software versions, which are used in a SINUMERIK control system for machine tools, to be automatically retrieved. Based on the transparency regarding the components that the user installed, expert support can be offered for handling hardware and software.

Section "Change Protocol" contains information to identify changes, which are important for experts and other users that operate a machine.

Important information can be saved, for instance information on the machine and address information for every machine, which uses identSNAPSHOT.xml files.

Creating an identSnapshot.xml only applies to SINUMERIK Operate.

Additional information is provided at Generating the identSNAPSHOT file on the SINUMERIK controller (Page 333)

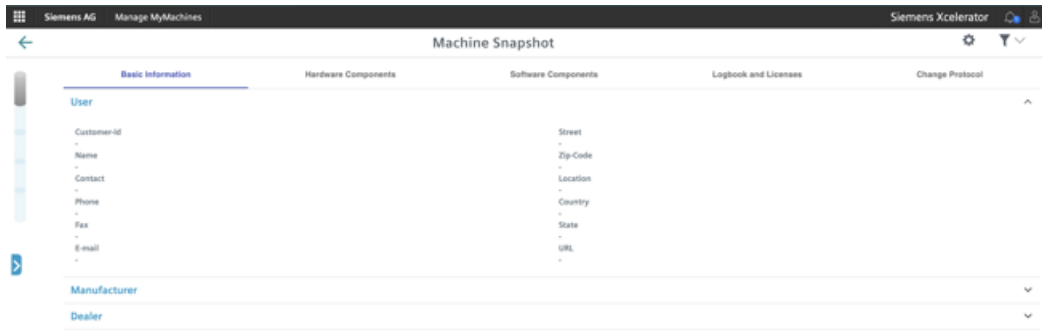
### Basic information

The "Basic information" displays details about the controller and user. User data are divided into 3 groups:

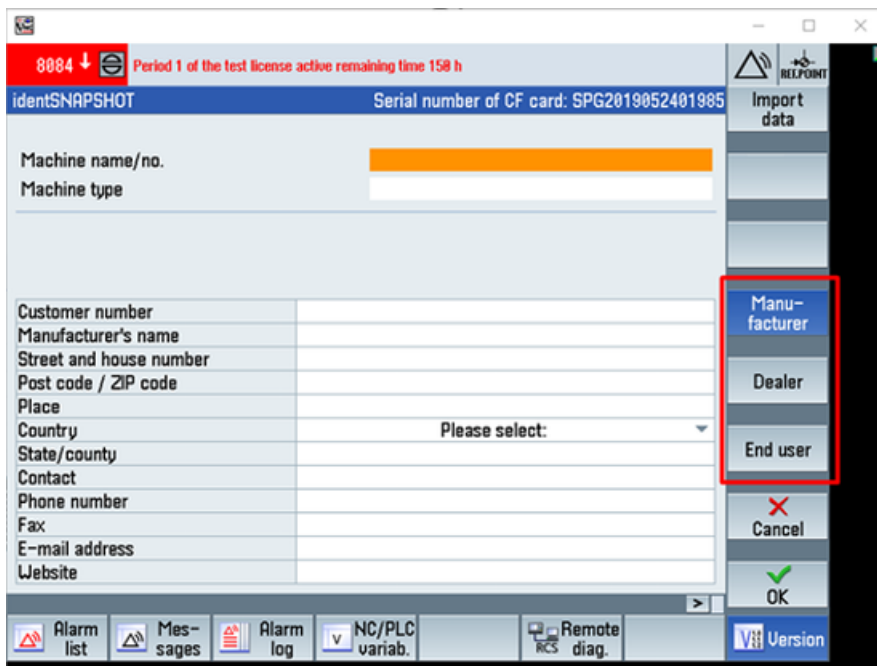
- User data  
This section contains information about the end user/purchaser of the controller
- Manufacturer data  
This section contains information about the controller manufacturer.
- Dealer data  
This section contains information about the OEM/purchaser of the controller.



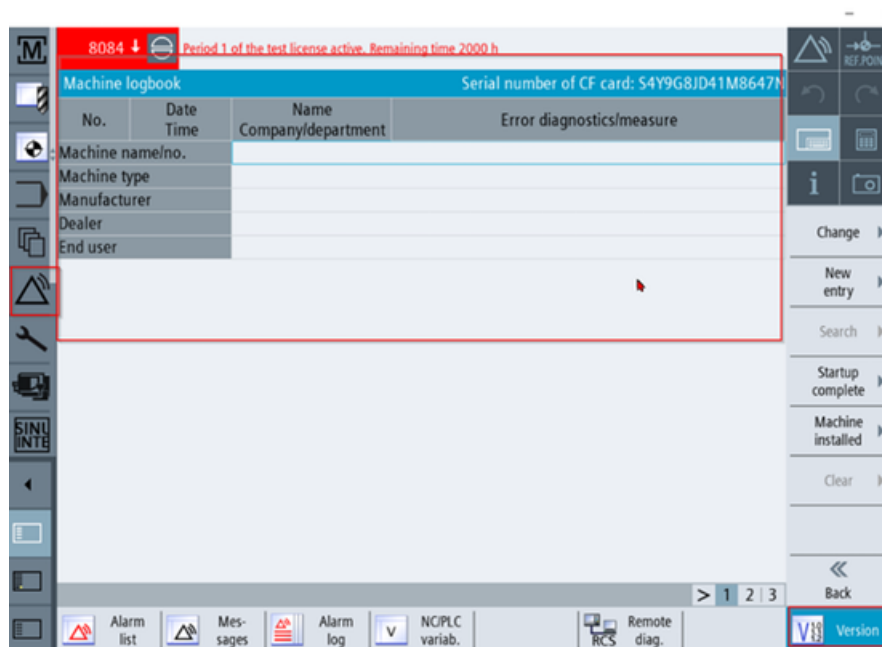
8.20 Machine snapshot



The "Basic Information" section displays the dataset that was created on the machine via the "Diagnostics" > "Version" > "Logbook" > "Change" path.







## Hardware components

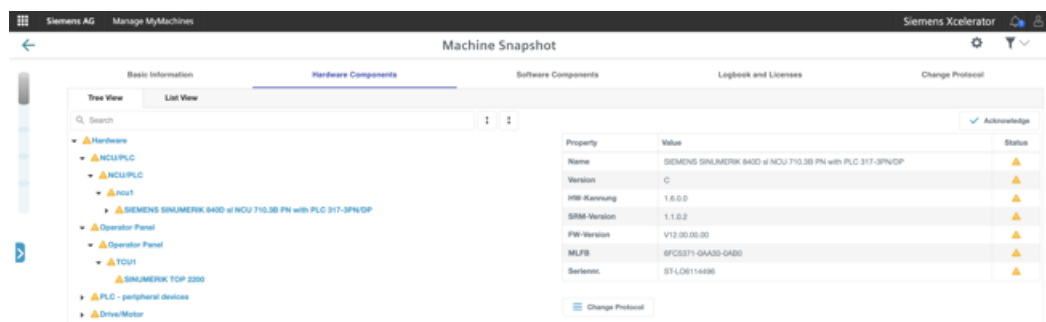
Section "Hardware components" shows information about the controller hardware.

The following views can be selected:

- Tree view
- List view

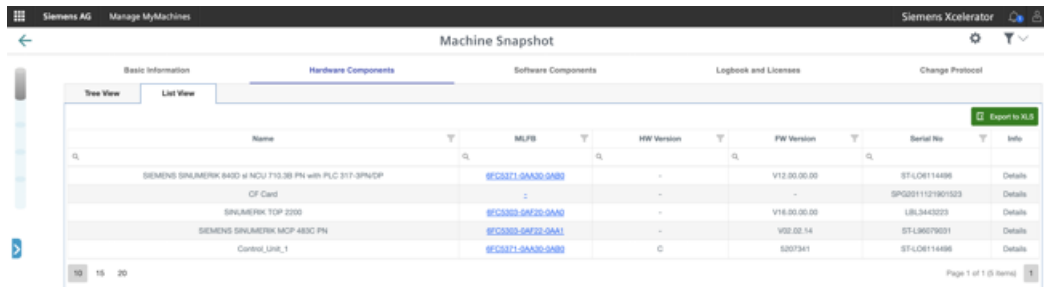
### Tree view

The tree view in Section "Hardware components" shows all of the information in a hierarchic structure. In the tree, a hardware component can be selected, for instance NCU. The relevant data can be seen to the right.



### List view

The list view in Section "Hardware components" shows all of the relevant data of the hardware components in a table. The table can be filtered and a search made for specific data. Further, the table can be exported as Excel file (\*.xls) using "Export as XLS".



---

### Note

#### Exported hardware components

Note that the .xls file is downloaded and saved in a standard file folder, as was made in the web browser settings.

---

### Note

#### SIOS link

The *Siemens Industry Online Support (SIOS)* page can be directly called by clicking on the MLFB number. The associated instructions and manuals or technical manuals for hardware components are saved.

## Acknowledgment function

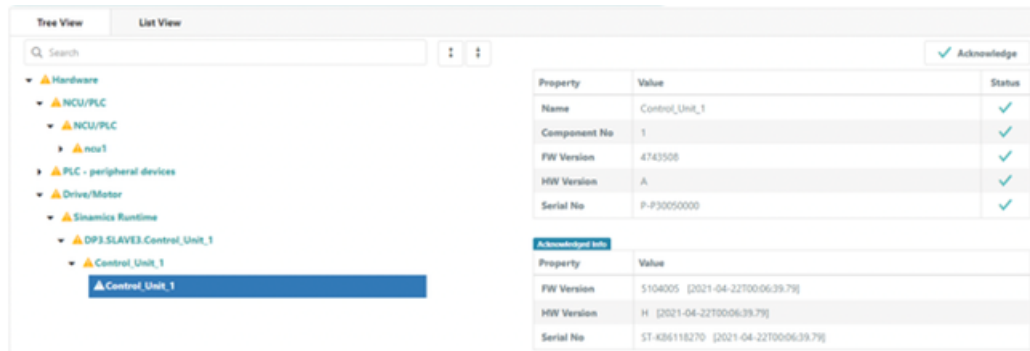
Machine Snapshot provides an acknowledgment function to identify changes that may harm the machine or to clarify important changes on the machine side.

The following hardware changes to the system can be made using this function:

- Hardware components that were replaced by new ones
- Hardware components that were removed or are missing

A warning is not displayed if an identSNAPSHOT file was uploaded for the first time to an asset. A warning is displayed if an additional identSNAPSHOT file is uploaded to the asset and additional changes were made between the current and the previous file. But when another identSNAPSHOT file is uploaded to the asset and if there are any changes between the current and previous file, you will be warned with an unacknowledged sign on the component name and corresponding items' status section.

The differences between the current value and the last acknowledged value of the component item is shown.



1. To acknowledge a component, select the component in the tree view.

2. Click on "Acknowledge".

You can navigate directly to the change report via "Change protocol".

## Software components

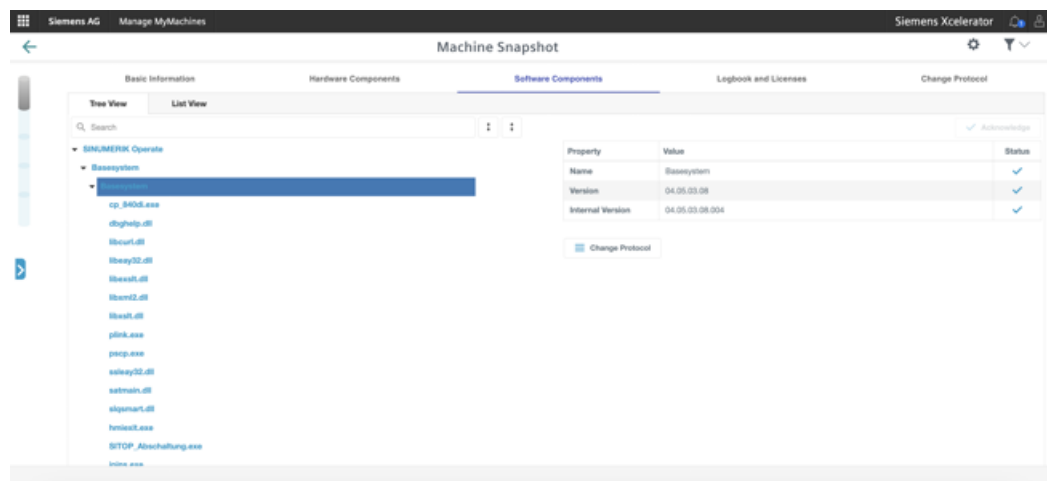
The "Software components" view shows information about the controller software that has been installed.

The following views can be selected:

- Tree view
- List view

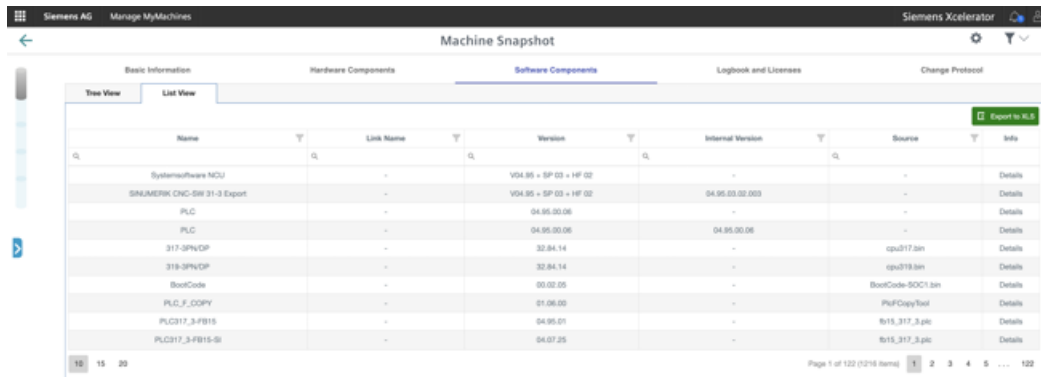
### Tree view

The tree view in Section "Software components" shows all of the information in a hierarchic structure. In the tree, a software component can be selected, for instance NCU. The relevant data can be seen to the right.



**List view**

The list view in Section "Software components" shows all of the relevant data of the software components in a table. The table can be filtered and a search made for specific data. Further, the table can be exported as Excel file (\*.xls) using "Export as XLS".



**Note**

**Exported software components**

Note that the .xls file is downloaded and saved in a standard file folder, as was made in the web browser settings.

**Logbook and licenses**

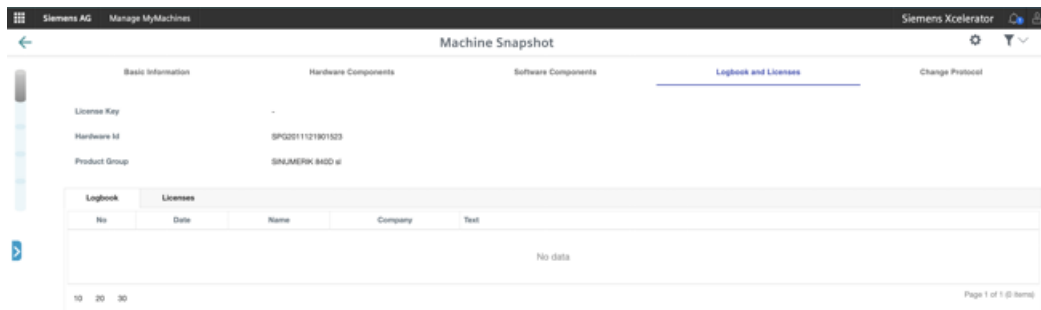
Information about the controller logbook and the active installed licenses is shown in Section "Logbook and licenses".

The following views can be selected:

- Logbook
- Licenses

**Logbook view**

The logbook view shows all of the relevant information about the controller logbook.



**Note****Change logbook**

If the logbook is manually changed at the controller, then the identSNAPSHOT file must be saved. Otherwise, changes in the logbook view are not shown.

**Licenses view**

The licenses view lists all relevant automation about active installed licenses of the machine in a table. The table can be filtered and a search made for specific data. Further, the table can be exported as Excel file (\*.xls) using "Export as XLS".

No.	MLFB	Description	Serial No.	Active Licenses	Installed Licenses
1	6FC5800-SAA00-0YB0	Additionally 1 axis/spindle	LCq#K000006	0	255
2	6FC5800-SAB00-0YB0	Additional 1 positioning axis/auxiliary spindle	LCq#K000109	0	255
3	6FC5800-SAC00-0YB0	Additional 1 operation mode modul (BAQ)	LCq#K000002	0	255
4	6FC5800-SAC10-0YB0	Additional 1 machining channel	LCq#K000003	0	255
5	6FC5800-SACT0-0YB0	Sl axis/spindle, add. 1 axis/spindle	LCq#K000088	0	255
6	6FC5800-SAD00-0YB0	Add. 2 Mbyte CNC user memory	LCq#K000004	0	255
7	6FC5800-SAD10-0YB0	Add. 128 KB PLC user memory	LCq#K000056	0	255
8	6FC5800-SAM01-0YB0	Travel to a fixed stop with force control	LCq#K000010	0	1
9	6FC5800-SAM02-0YB0	Synchronous axes pair (SANTRY)	LCq#K000211	0	1

**Note****SIOS link**

The *Siemens Industry Online Support* (SIOS) page can be directly called by clicking on the MLFB number. The associated instructions and manuals or technical manuals for hardware components are saved.

**Change protocol**

The "Change Protocol" view shows information to identify changes which are important for experts or other users which monitor the actual machine status.

8.20 Machine snapshot

This function allows the system to recognize the following hardware changes:

- Software changes
  - Software that was upgraded/downgraded
  - New software that was added/removed
- Hardware changes
  - New hardware that was added
  - Hardware that was removed or is missing
- License changes
  - Licenses that were newly added
  - Licenses that are missing

The "Change Protocol" view shows changes to software, hardware and licenses for identSNAPSHOT files. The items of the change protocol are marked with "Hardware", "Software" and "Licenses". The table of the change protocol can be filtered for "Item Name", "Change Date", "Path", "Current value" and "Acknowledge status".

A search can be made for items based on name, change date, path and the current value.

Item Name	Change Date	Path	Current Value
erSeCount	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 1 (finished part)/erSeCount	-
ppCount	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 1 (finished part)/ppCount	-
ppDispName	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 1 (finished part)/ppDispName	-
ppMfb	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 1 (finished part)/ppMfb	-
ppSerialNo	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 1 (finished part)/ppSerialNo	-
erSeCount	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 2 (finished part and working area)/erSeCount	-
ppCount	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 2 (finished part and working area)/ppCount	-
ppDispName	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 2 (finished part and working area)/ppDispName	-
ppMfb	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 2 (finished part and working area)/ppMfb	-
ppSerialNo	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D simulation 2 (finished part and working area)/ppSerialNo	-
erSeCount	2024/03/14, 12:01 PM	almPgeEntsmPgEntLicense/3D Tool radius compensation/erSeCount	-

## Change history

A detailed history of each component item can be viewed.

1. Click on the list to view a detailed history of every component item. The change item history is shown on the right-hand side of the list.

Changed Item History <span style="float: right;">✕</span>	
<b>Current Version at 2020/04/01, 4:36 PM</b>	
Item Name	Value
name	CYCLES
version	04.10.83.00
<b>Previous Version at 2020/04/01, 4:18 PM</b>	
Item Name	Value
name	CYCLES
version	04.09.83.00
<b>Previous Version at 2020/04/01, 4:06 PM</b>	
Item Name	Value
name	CYCLES
version	04.08.83.00
<b>Previous Version at 2020/04/01, 3:53 PM</b>	
Item Name	Value
name	CYCLES
version	04.05.83.00

## Acknowledge changed items

The "Page Summary" window shows the last date when a identSNAPSHOT file was uploaded, the number of acknowledged hardware and software items and license changes as summary.

1. Select changes that have not been acknowledged but that should be acknowledged. All items that are not acknowledged are marked using the following symbol:



2. Activate the check box in the table.
3. Click on "Acknowledge Changes".

- Acknowledge by clicking on "Confirm".

Selected changelog items will be acknowledged:

- almPgiErt/almPgiErtLicense/3D simulation 1 (finished part)/ppSerialNo
- almPgiErt/almPgiErtLicense/3D simulation 2 (finished part and working area)/ertSwCount
- almPgiErt/almPgiErtLicense/3D simulation 2 (finished part and working area)/ppCount
- almPgiErt/almPgiErtLicense/3D simulation 2 (finished part and working area)/ppDispName
- almPgiErt/almPgiErtLicense/3D simulation 2 (finished part and working area)/ppMlfb
- almPgiErt/almPgiErtLicense/3D simulation 2 (finished part and working area)/ppSerialNo



The selected entries are marked as "Acknowledged".



- Click on "Acknowledge all changes" to acknowledge all items at once, without selecting these.



## 8.21 Generating the identSNAPSHOT file on the SINUMERIK controller

### Overview

A single XML file of the controller generates all the information in the Machine Snapshot page. The file is called "identSNAPSHOT". This file is imported into Manage MyMachines once the identSNAPSHOT file was generated manually on the controller.

Generating and uploading the identSNAPSHOT file is described in this chapter.

---

#### Note

The identSNAPSHOT file must be manually regenerated each time a change was made to the machine (hardware and/or software).

---

### Generating the identSNAPSHOT file on the SINUMERIK controller

1. Open SINUMERIK Operate.
2. Select "Diagnostics".



3. Click on "Version".



It can take some time to display the version. An appropriate message is displayed while the data are being determined.

4. Click on "Save".



Window "Save version information: Select Archive" opens. Depending on the configuration, the following storage locations are:

- Local drive
- Network drive
- USB
- Version data (archive: Data tree in directory "HMI data")

5. Click on "New directory" if you wish to create your own directory:



8.21 Generating the identSNAPSHOT file on the SINUMERIK controller

- Click on "OK".



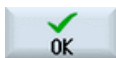
The directory was created.

- Click on "OK" again to acknowledge the storage location.



Window "Save version information: Select Archive" opens.

- Make the required settings.
  - Name - input field  
The file name is already assigned with <Machine name/no.>+<CF-cardnumber>. "\_config.xml" or "\_version.txt" is automatically assigned to the file names.
  - Comment - input field  
A comment can be entered, which is stored with the configuration data.
  - Version data (.txt)  
The checkbox can be deactivated.
  - Configuration data (.xml)  
The checkbox can be activated.
- Click on "OK" to start file transfer.



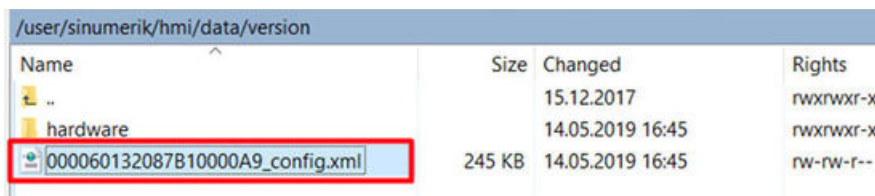
**Default path for identSNAPSHOT files on the NCU/PCU**

Location	Path
NCU	/user/sinumerik/hmi/data/version/
PCU	C:\Program Files (x86)\Siemens\MotionControl\user\sinumerik\hmi\data\version\

**Result**

Once the process has been completed, the identSNAPSHOT file appears under path:

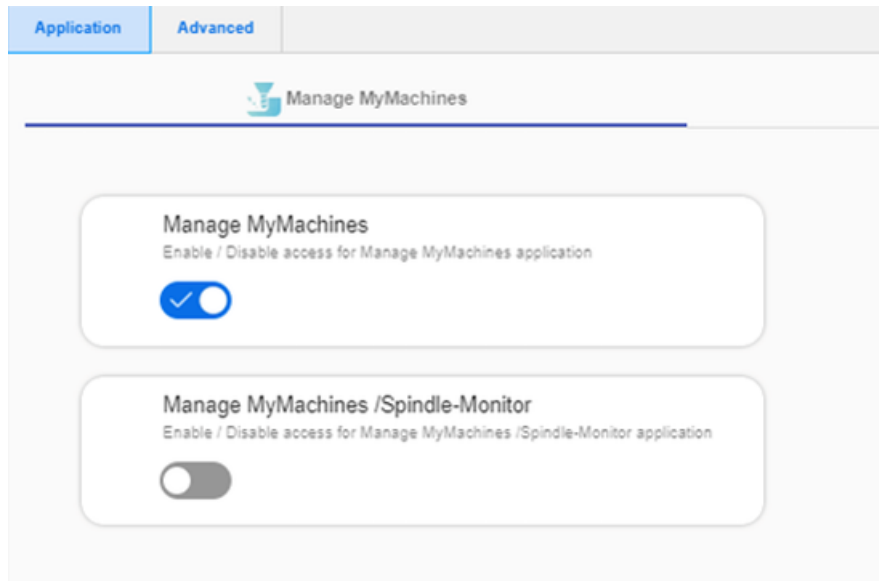
/user/sinumerik/hmi/data/version



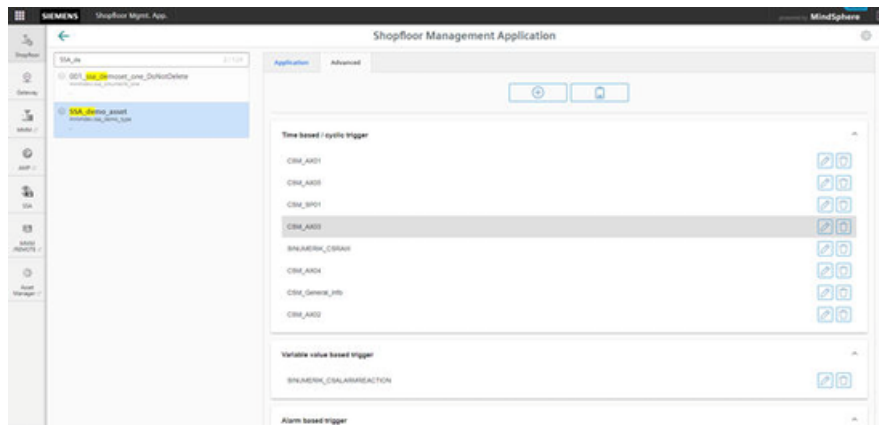
**Uploading the identSNAPSHOT file to MindSphere**

- Connect with InsightsHub and open the "Shopfloor Management" app.
- Select your asset name.

3. Ensure that the following options are shown in the "Manage MyMachines" view:



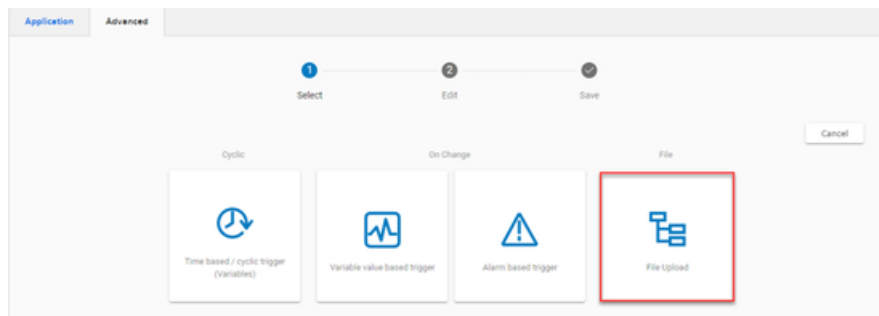
4. Click on "Advanced".  
The following view appears:



5. Click on "Add".



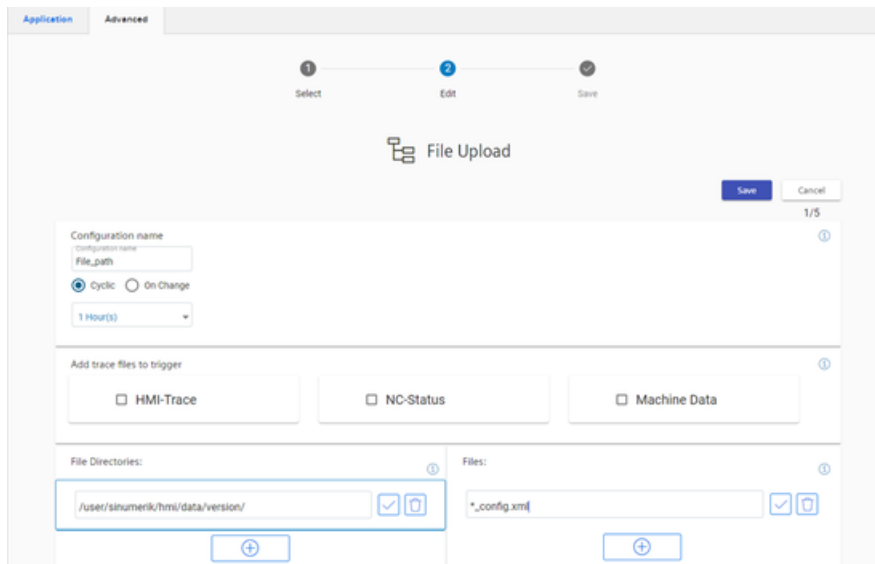
6. Select "File Upload".



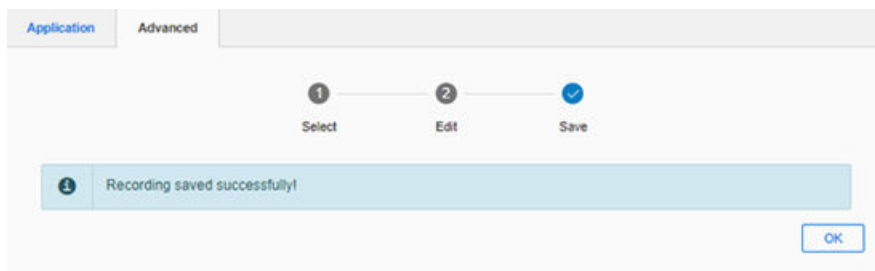
7. Click on "Add file upload item".

### Upload the identSNAPSHOT file

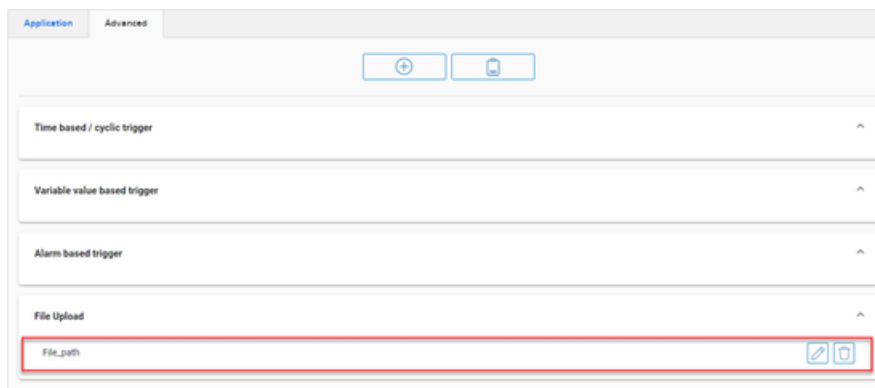
1. Enter the path of the identSNAPSHOT file under "File Directories".
2. Enter the file name or use a term such as ""\*\_config.xml".  
All "\_config.xml" files are loaded in the input field under "Files".
3. Select "On Change" (recommended) or "Cyclic".
4. Enter a configuration name and click on "Save".



5. Wait for acknowledgment that the data was successfully saved.



6. Click on "OK".
7. Check whether the path was entered as expected.



---

**Note**

**Limitations when uploading files**

Check the readme of the Manage MyMachines.

MMM readme (<https://documentation.mindsphere.io/resources/html/manage-my-machine-readme/en-US/index.html>)

---




## 8.22 Remote sessions with Manage MyMachines

You can also start or enter remote sessions via Manage MyMachines.

### Precondition

- You have purchased Manage MyMachines and Manage MyMachines /Remote for the particular tenant.
- You are logged in as user and have Manage MyMachines and Manage MyMachines /Remote rights.
- Access to Manage MyMachines and Manage MyMachines /Remote for the required asset is activated.  
More information can be found in Chapter: Activating Manage MyMachines (Page 112).

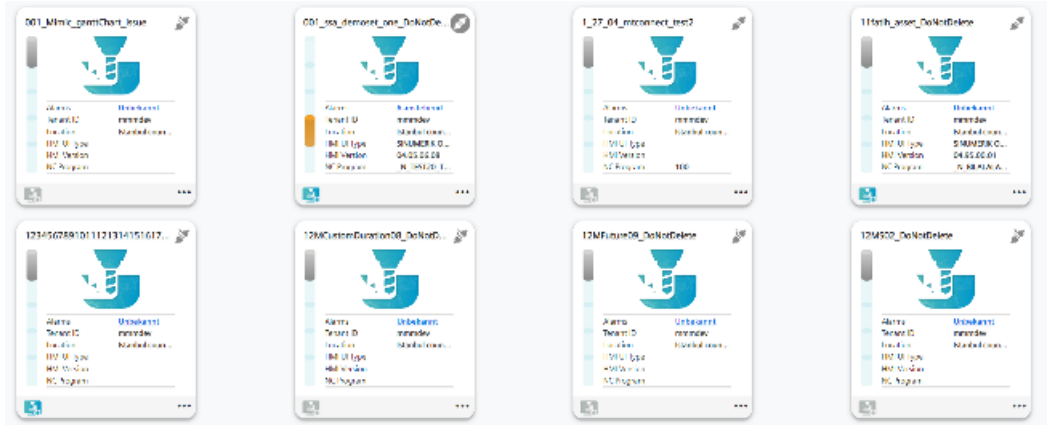
### Parameters



Icon	Description
	<ul style="list-style-type: none"><li>• You have no rights to start the remote session.<ul style="list-style-type: none"><li>– The rights for Manage MyMachines /Remote were not assigned to the user or were removed.</li><li>– Manage MyMachines /Remote was not purchased for the tenant</li></ul></li><li>- OR -</li><li>• Manage MyMachines /Remote is not activated.<ul style="list-style-type: none"><li>– The subscription is not activated or has expired.</li></ul></li></ul>
	You can start a new remote session.
	You can join an existing remote session.

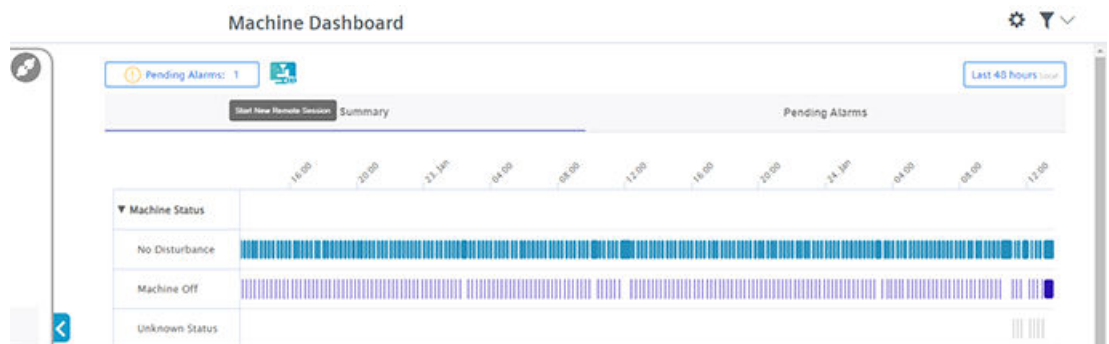
## 8.22.1 Start new remote session

### Procedure

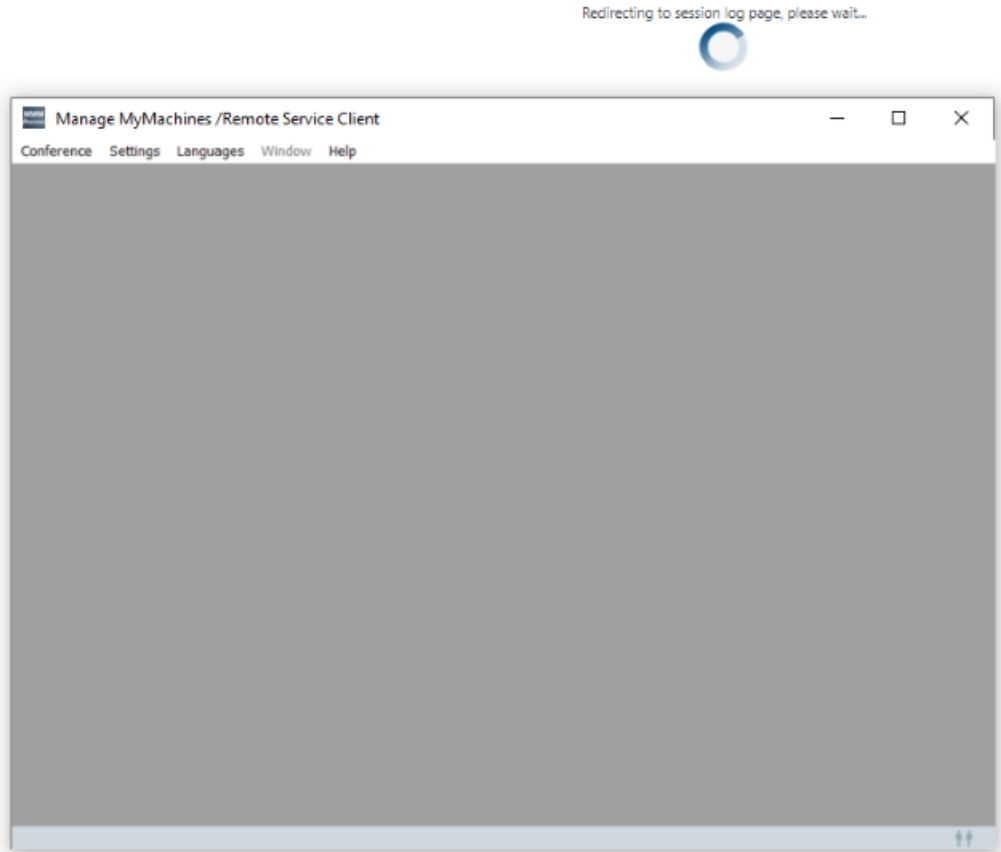
1. In the launch pad, click on the "Manage MyMachines for Industrial Operations X Cloud" icon.
2. The "Machine Overview" window opens and the available machines are displayed.



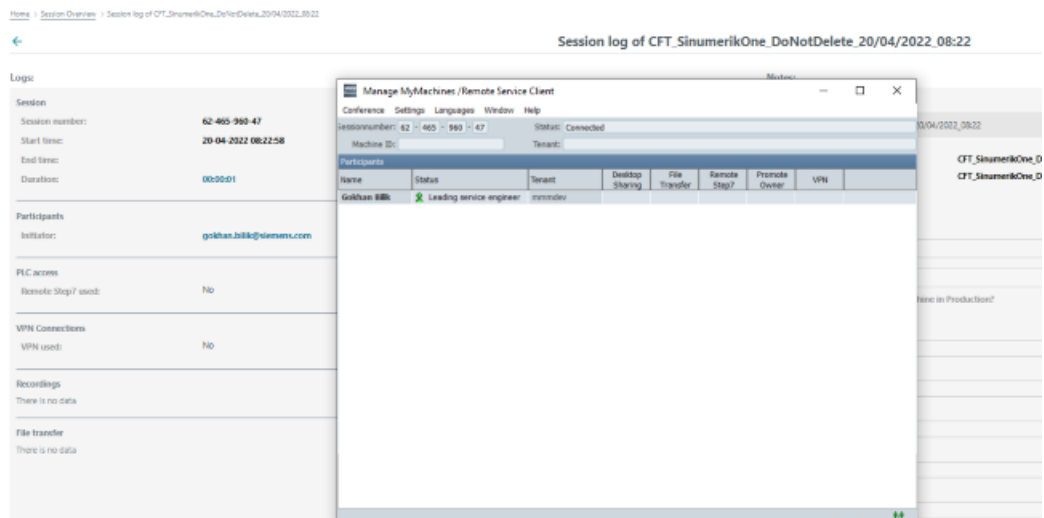
3. Click on the blue "MMM /R" icon "Start new remote session"  of the required asset.  
- OR -  
Click on the underscored name of the required machine.  
The "Machine Dashboard" window opens.  
Click on the blue "MMM /R" icon next to the "Pending Alarms" display.  
- OR -  
Click on the  icon of the required machine and click on "Dashboard".  
The "Machine Dashboard" window opens.  
Click on the blue "MMM /R" icon next to the "Pending Alarms" display.



- 4. The "Manage MyMachines /Remote Service Client" session window opens.



- 5. A new remote session is started and the log details for the selected asset are displayed.





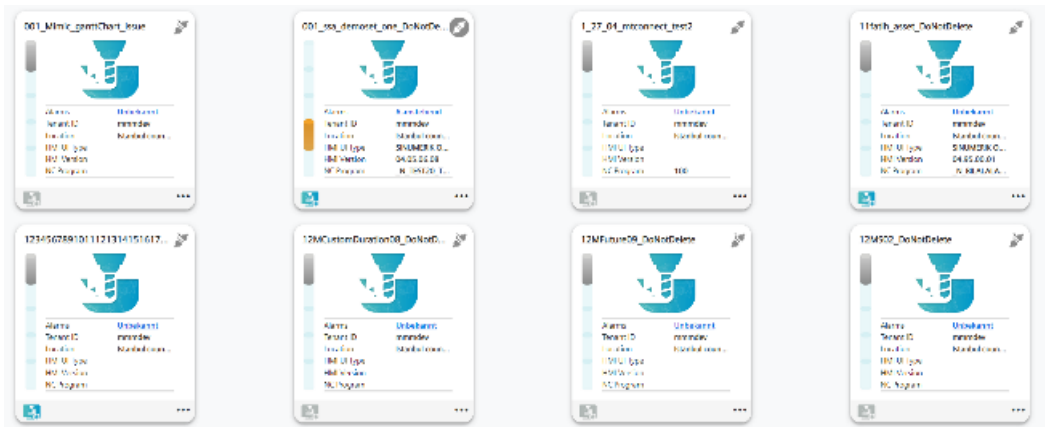
## 8.22.2 Joining a remote session

### Precondition



- The session is active.
- The service engineer and machine operator have already joined the session.  
The following warning message is output if there are no active owners in the session:  
"Terminated: There is no owner SE or MO yet".
- It is not permissible that a desktop is continually shared and/or files transferred.  
The following warning message is output if the desktop is shared and/or files transferred.  
"Aborted: Joining is not allowed during ongoing desktop sharing or file transfer".

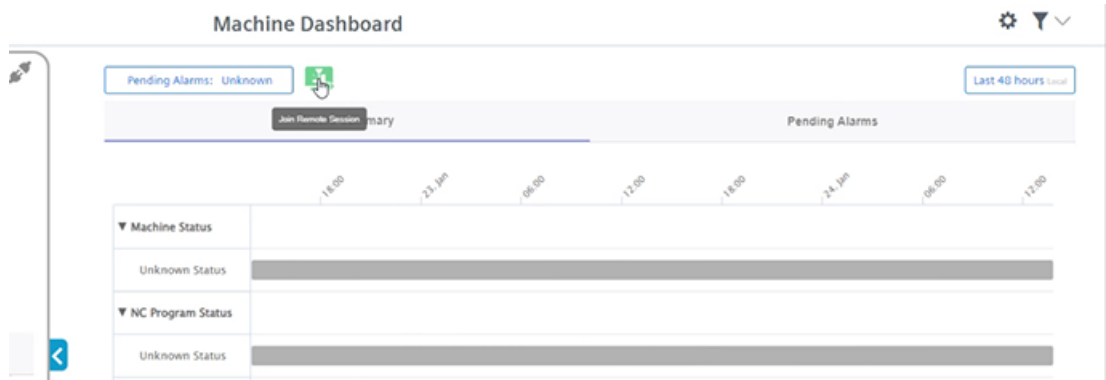
### Procedure

1. In the launch pad, click on the "Manage MyMachines for Industrial Operations X Cloud" icon.
2. The "Machine Overview" window opens and the available machines are displayed.

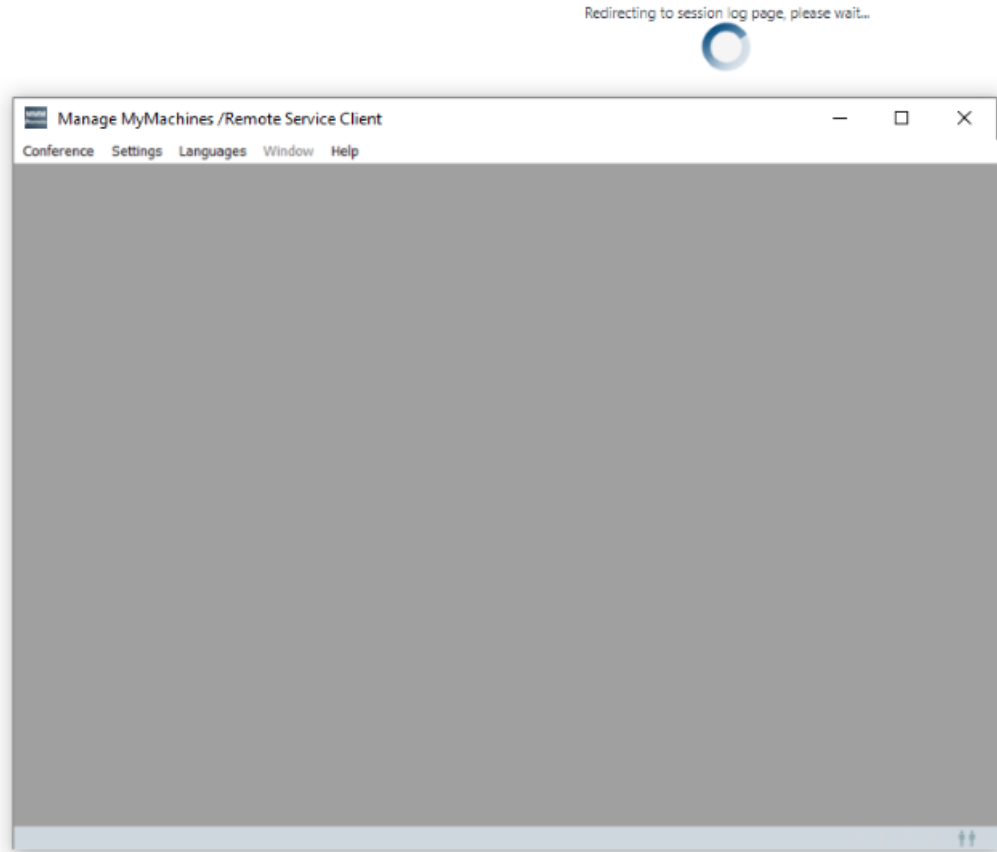


8.22 Remote sessions with Manage MyMachines

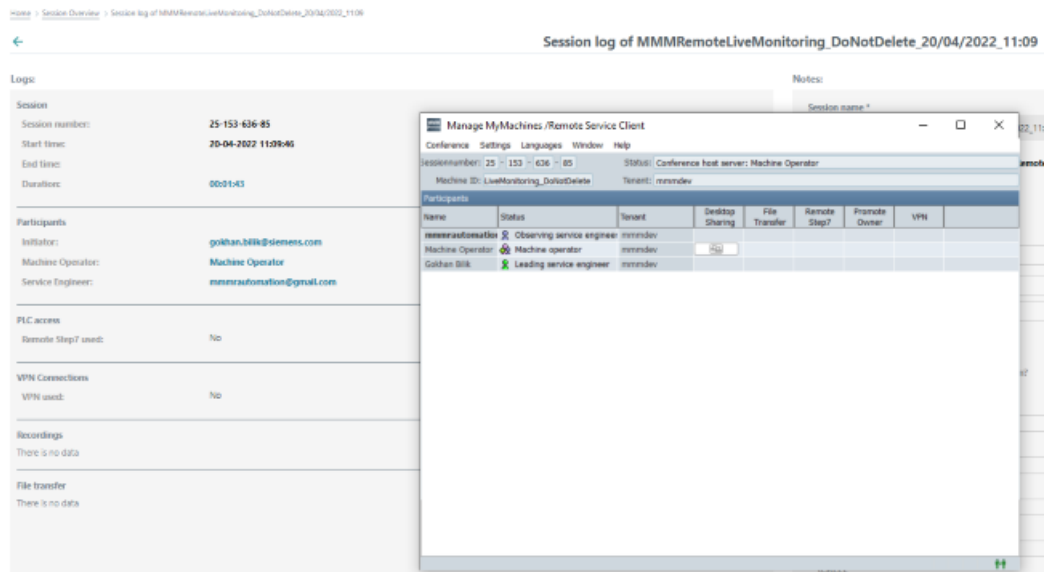
3. Click on the blue "MMM /R" icon "Join remote session"  of the required asset.  
- OR -  
Click on the underscored name of the required machine.  
The "Machine Dashboard" window opens.  
Click on the green "MMM /R" icon next to the "Pending Alarms" display.  
- OR -  
Click on the  icon of the required machine and click on "Dashboard".  
The "Machine Dashboard" window opens.  
Click on the green "MMM /R" icon next to the "Pending Alarms" display.



- The "Manage MyMachines /Remote Service Client" session window opens.



- You join the remote session and the log details for the selected asset are displayed.





# Disconnecting controls from Insights Hub

## 9.1 Disconnecting other controls from Insights Hub

Disconnect SINUMERIK controls or other controls from Insights Hub using the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".

**More information** about roles within Insights Hub and on configuring assets is provided in: Documentation Insights Hub (<https://documentation.mindsphere.io/MindSphere/index.html>)

### Precondition

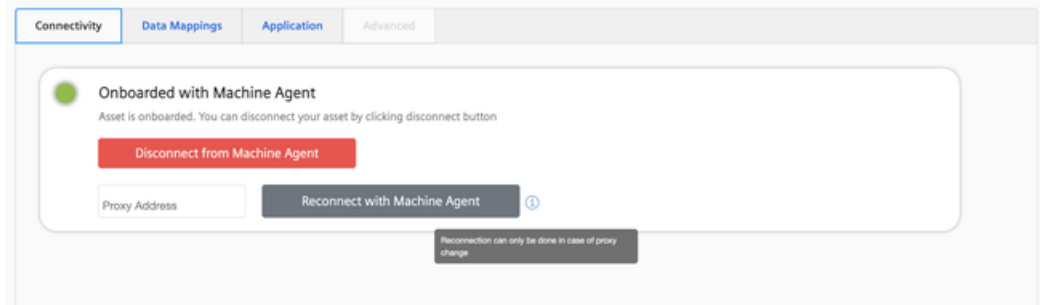
In Insights Hub, you require the role "shopfloormgmtapp" as standard user or administrator.

### Procedure

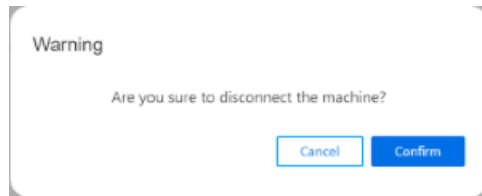
1. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".
2. Select the required asset in the left-hand side of the window.
3. Open the "Connectivity" tab in the right-hand section of the window.

9.1 Disconnecting other controls from Insights Hub

- 4. Under the "Connectivity" tab, you can see the connection status, e.g. "Onboarded with Machine Agent".
  - Click the "Disconnect from Machine Agent" button to disconnect the asset from Insights Hub.



- 5. You receive a confirmation prompt: "Are you sure to disconnect the machine?".
  - Click on the "Confirm" button to disconnect the connection.
  - OR -
  - Click "Cancel" to abort the operation.



**Note**

After Insights Hub and the machine tool have been disconnected, we recommend deleting the following files from your SINUMERIK control:

- All files in the "boot\_job" folder
- All files in the "cache" folder
- All files in the "service\_job" folder

You will find the files:

- If you use PCU/IPC under: C:\temp
- If you use NCU under: /var/tmp

## 9.2 Disconnecting a SINUMERIK control from Insights Hub

### Introduction

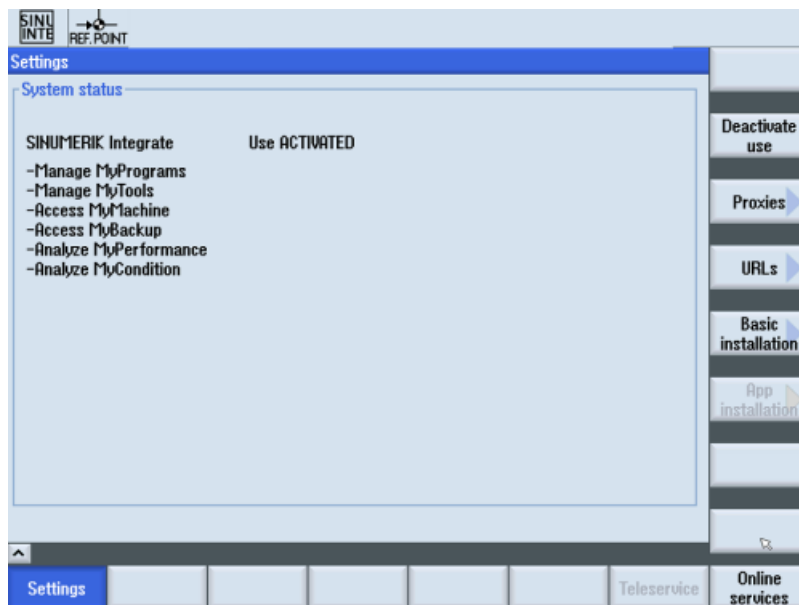
If you no longer wish to use the Manage MyMachines for Industrial Operations X Cloud on your SINUMERIK control, proceed as follows:

1. Lock SINUMERIK Integrate: Deactivating use of SINUMERIK Integrate (Page 347)
2. In the "Shopfloor Management App", disconnect the machine tool system from Insights Hub: Disconnecting a SINUMERIK control from Insights Hub (Page 348)

### 9.2.1 Deactivating use of SINUMERIK Integrate

#### Procedure

1. Press the "SINUMERIK Integrate" softkey.  
The "SINUMERIK Integrate" welcome window opens.
2. Press the "Settings" softkey.  
The "Settings" window opens displaying the system status "Use ACTIVATED".
  - Press the "Deactivate use" softkey.



3. You obtain the confirmation prompt "Do you really want to deactivate the use of the SINUMERIK Integrate applications?".
  - Press the "OK" softkey to confirm the prompt.  
The use of SINUMERIK Integrate applications is deactivated.

## 9.2.2 Disconnecting a SINUMERIK control from Insights Hub

Disconnect SINUMERIK controls or other controls from Insights Hub using the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".

**More information** about roles within Insights Hub and on configuring assets is provided in: Documentation Insights Hub (<https://documentation.mindsphere.io/MindSphere/index.html>)

### Precondition

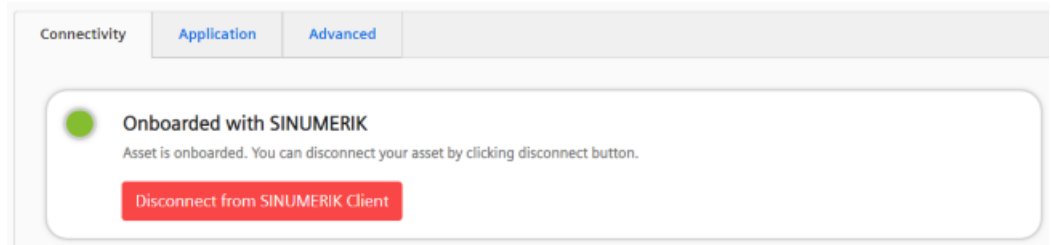
In Insights Hub, you require the role "shopfloormgmtapp" as standard user or administrator.

### Procedure

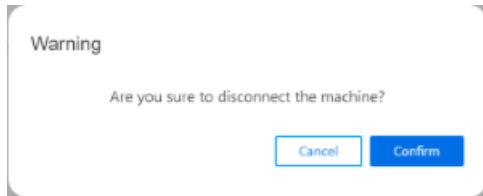
1. In the launch pad, open the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management App".
2. Select the required asset in the left-hand side of the window.
3. Open the "Connectivity" tab in the right-hand section of the window.



4. Under the "Connectivity" tab, you can see the connection status, e.g. "Onboarded with SINUMERIK".
  - Click the "Disconnect from SINUMERIK client" button to disconnect the asset from Insights Hub.



5. You receive a confirmation prompt: "Are you sure to disconnect the machine?".
  - Click on the "Confirm" button to disconnect the connection.
  - OR -
  - Click "Cancel" to abort the operation.



**Note**

After Insights Hub and the machine tool have been disconnected, we recommend deleting the following files from your SINUMERIK control:

- All files in the "boot\_job" folder
- All files in the "cache" folder
- All files in the "service\_job" folder

You will find the files:

- If you use PCU/IPC under: C:\temp
- If you use NCU under: /var/tmp



## Troubleshooting when onboarding

These troubleshooting instructions help you to find and resolve faults when onboarding. Ensure that all preconditions are satisfied before you start onboarding.

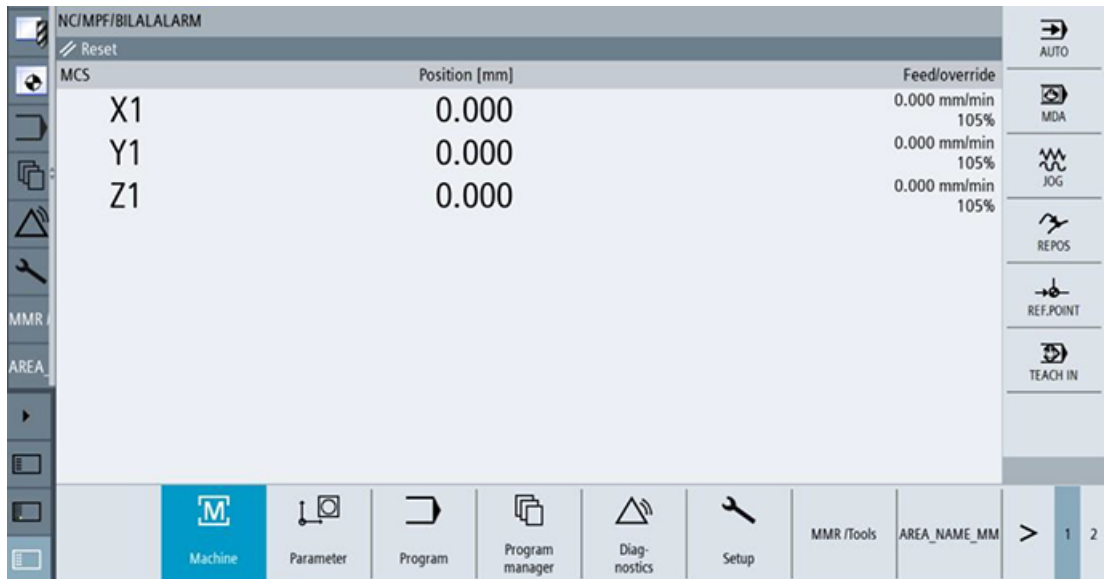
## 10.1 SINUMERIK controls

### 10.1.1 Preconditions

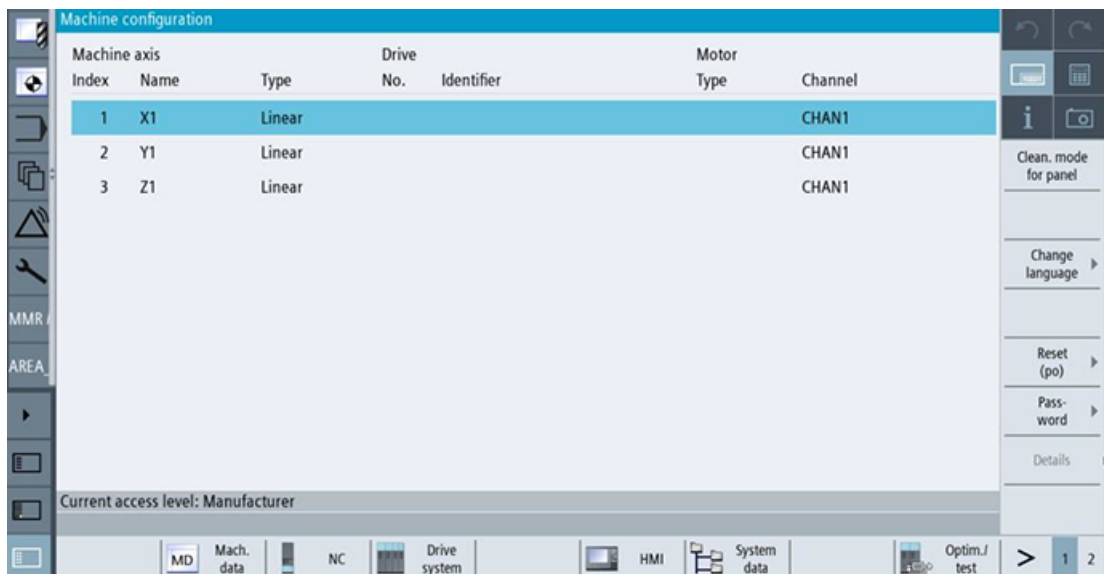
#### 10.1.1.1 Checking the network configuration

#### Procedure

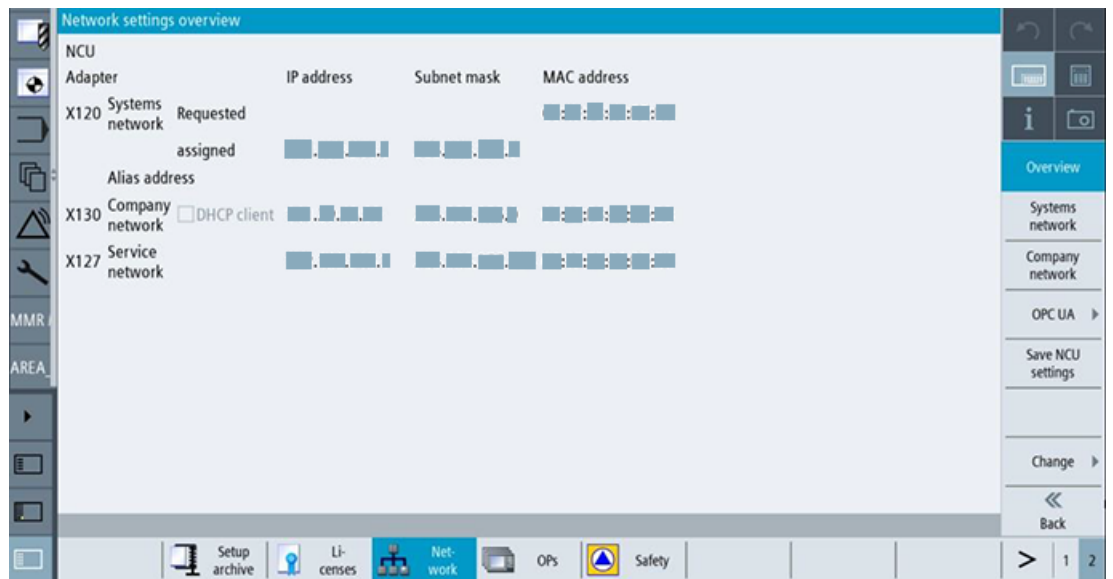
1. Press "F10" on the HMI operator panel.



2. Select "Setup".



3. Select the right-hand arrow.
4. Select "Network".

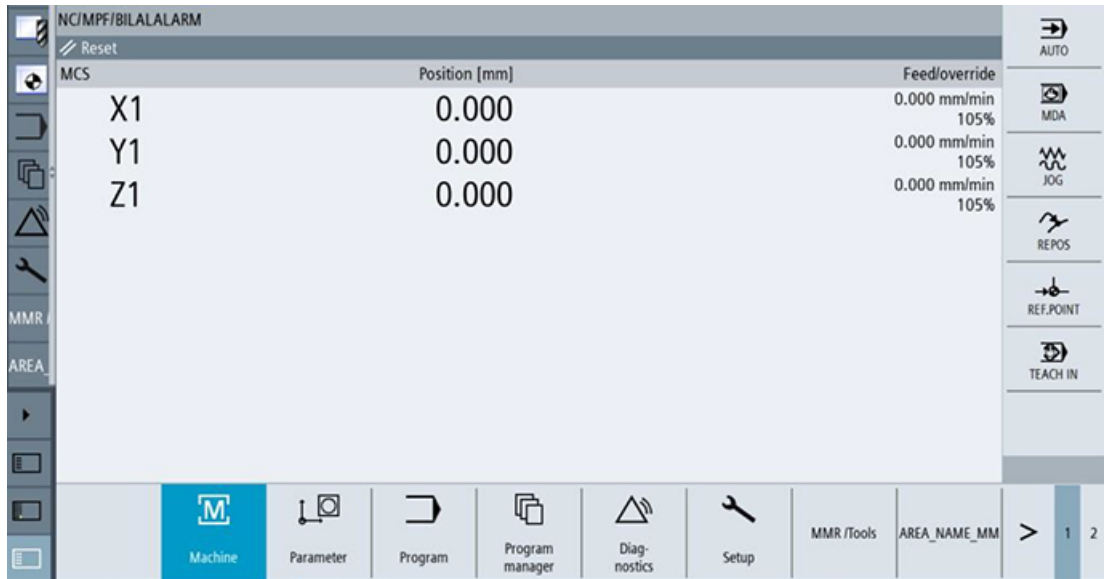


5. Check that the correct IP has been entered for x130.

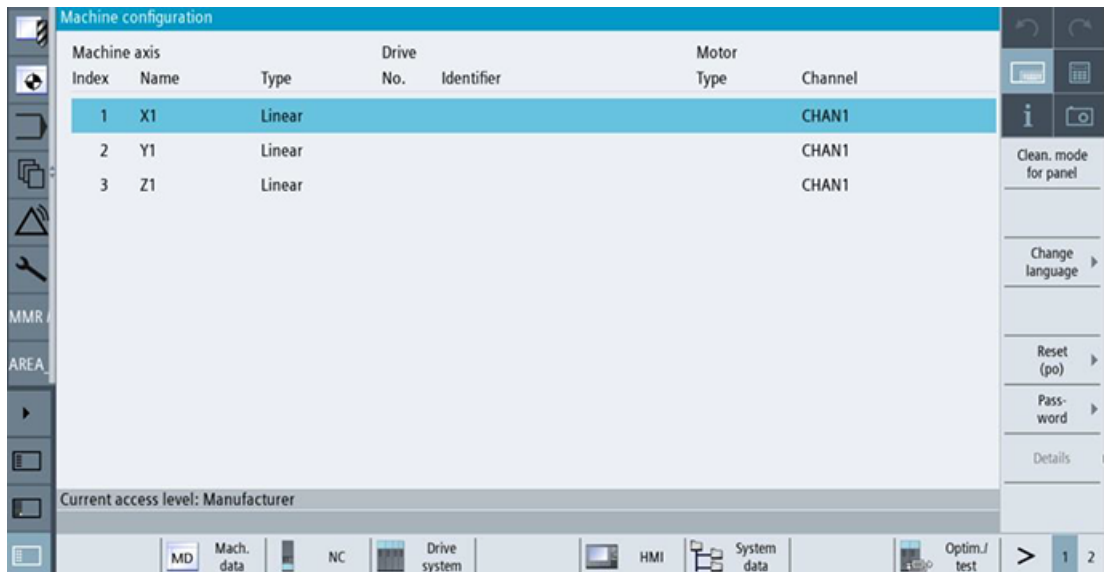
### 10.1.1.2 Checking that SINUMERIK Integrate has been enabled

#### Procedure

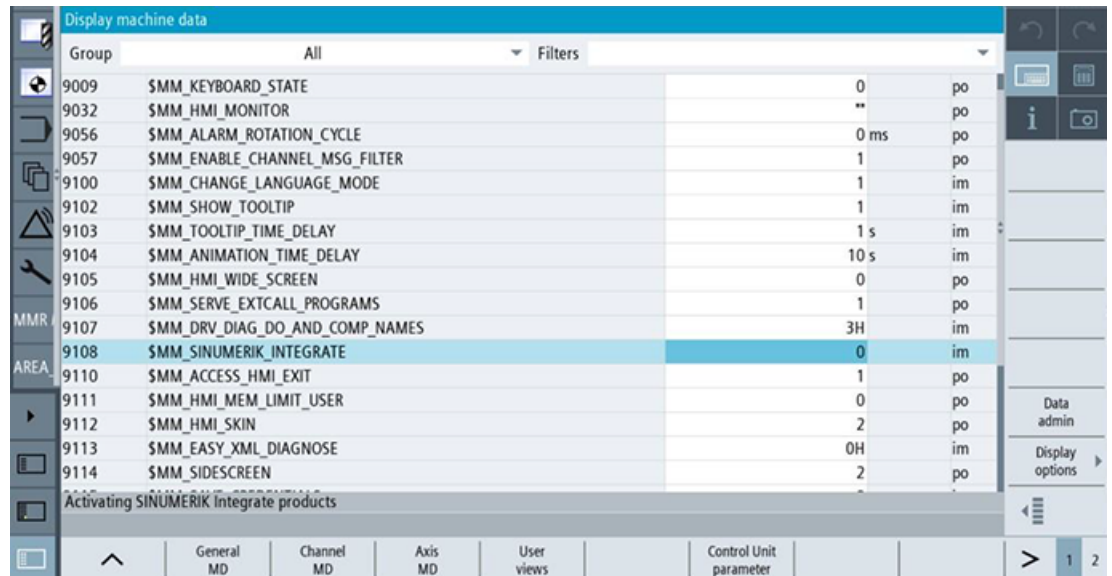
1. Press "F10" on the HMI operator panel.



2. Select "Setup".

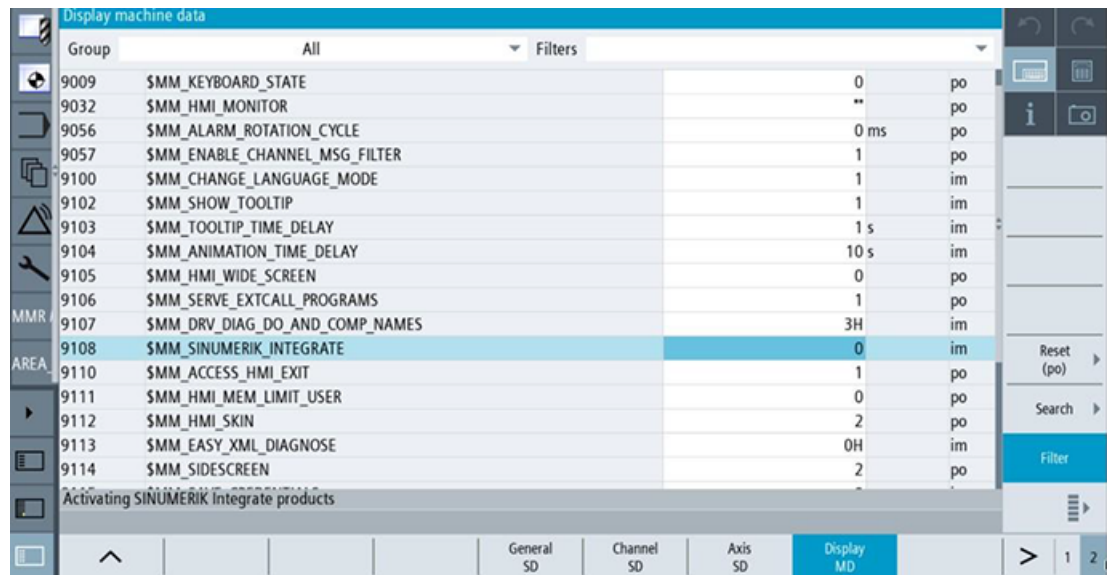


3. Select "Machine data".



4. Select the right-hand arrow.

5. Select "Display MD".



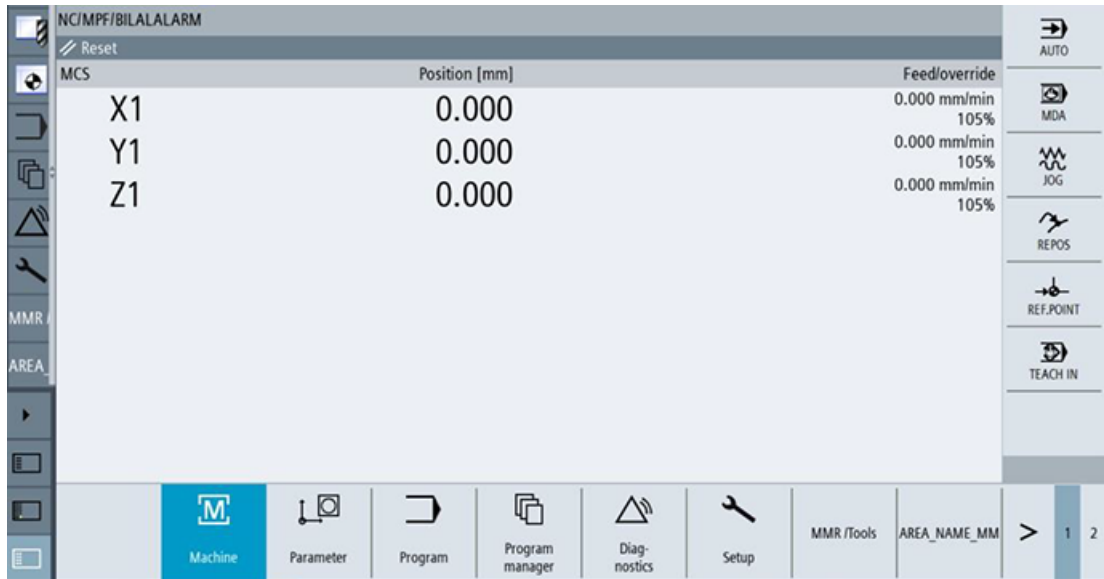
6. Check whether "9108 MM\_SINUMERIK\_INTEGRATE" is equal to "1".

7. If "9108 MM\_SINUMERIK\_INTEGRATE" is not equal to "1":  
Then set "9108 MM\_SINUMERIK\_INTEGRATE" equal to "1".

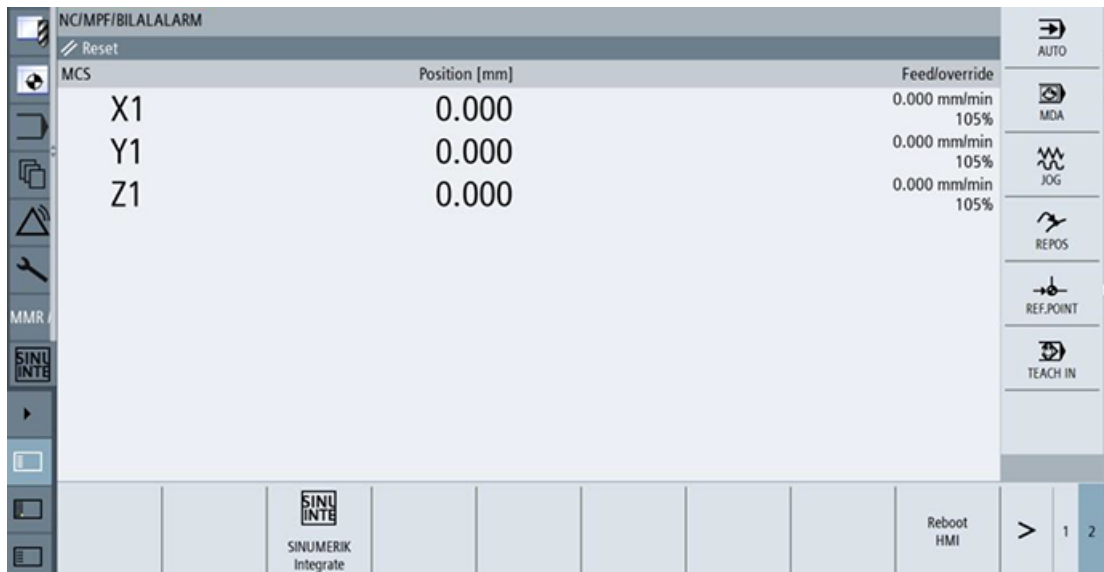
### 10.1.1.3 Checking that SINUMERIK Integrate has been activated

#### Procedure

1. Press "F10" on the HMI operator panel.

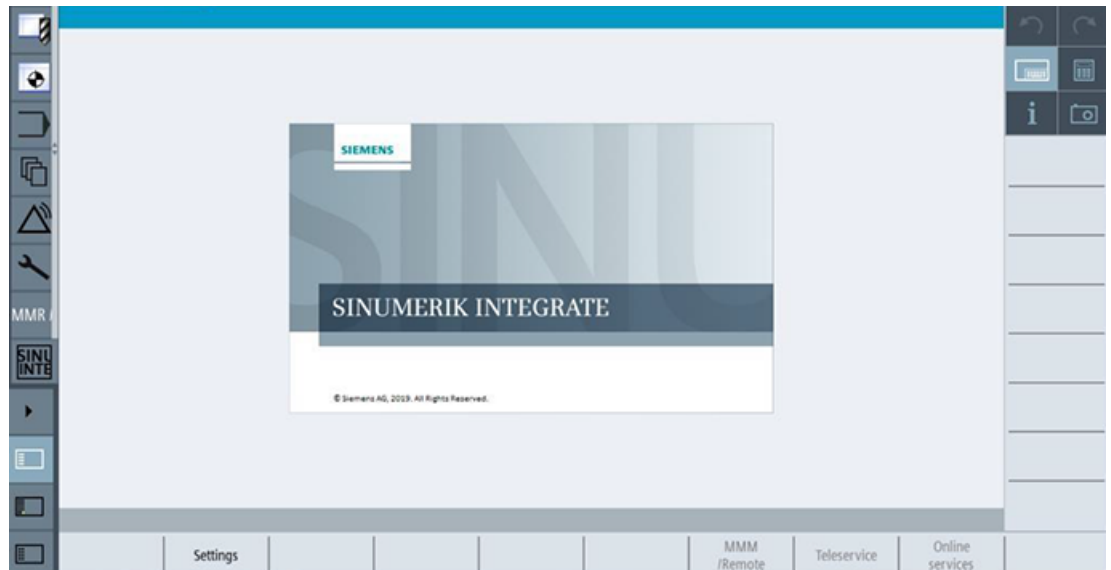


2. Select the right-hand arrow.





3. Select "SINUMERIK Integrate".



4. Select "Settings".



5. Check whether "SINUMERIK Integrate" is enabled.

6. If SINUMERIK Integrate is locked

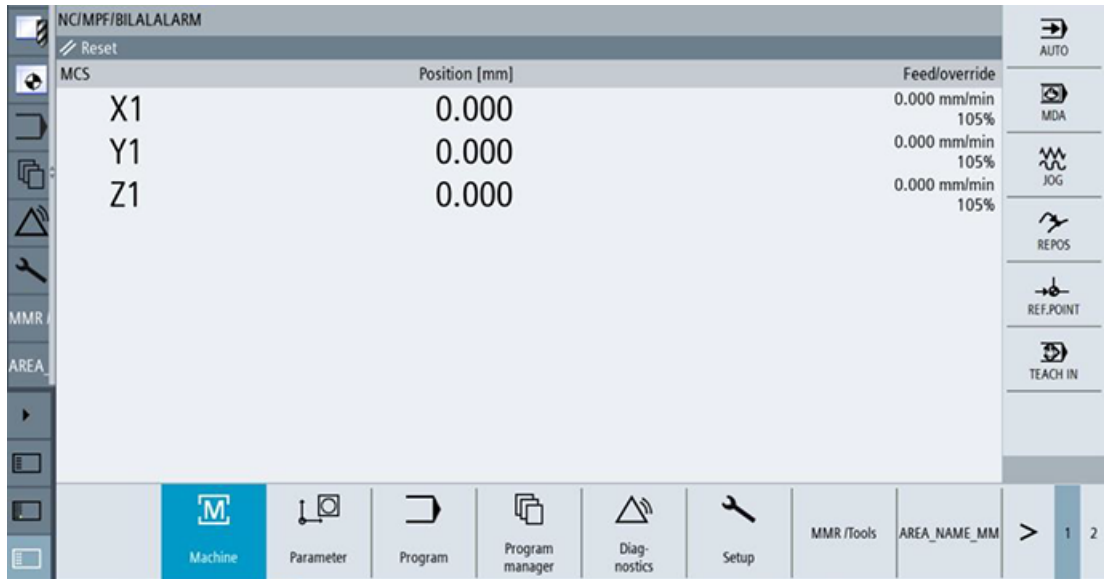
- Select "Activate use".
- Confirm the activation

#### 10.1.1.4 Checking proxy settings

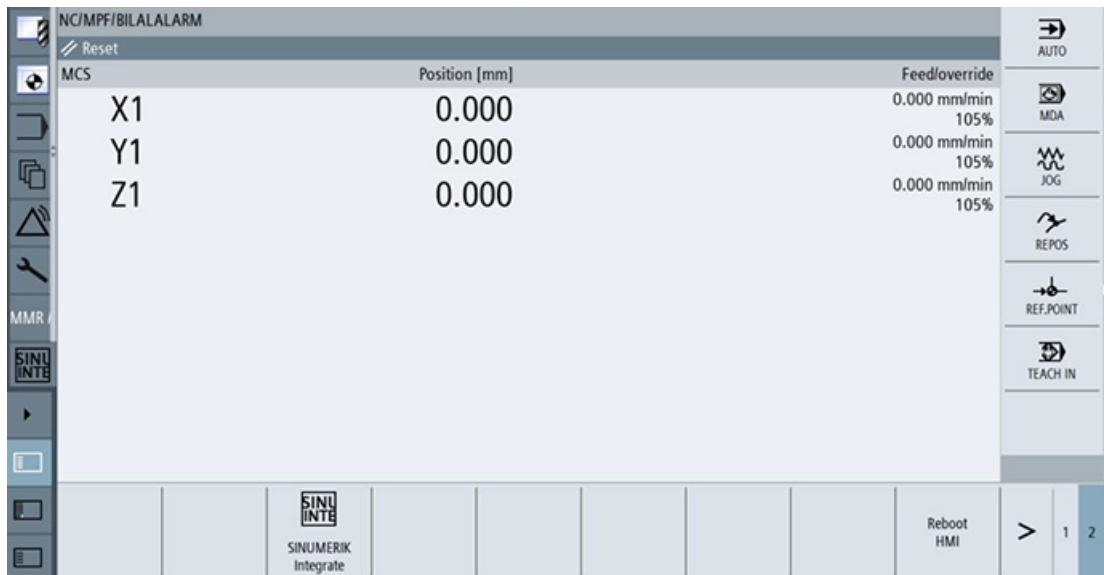
Check that the proxy settings are correct if the machine accesses a network via a proxy.

Procedure

- 1. Press "F10" on the HMI operator panel.



- 2. Select the right-hand arrow.



3. Select "SINUMERIK Integrate".



4. Select "Settings".



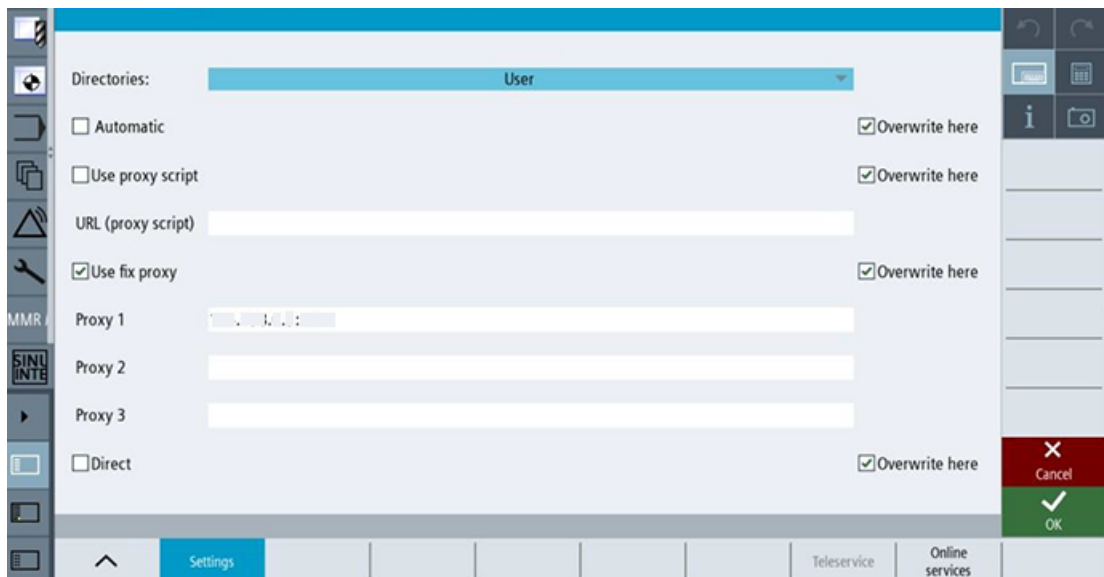
5. Select "Proxies".



6. Check the proxy information.

7. If the proxy settings are not correct

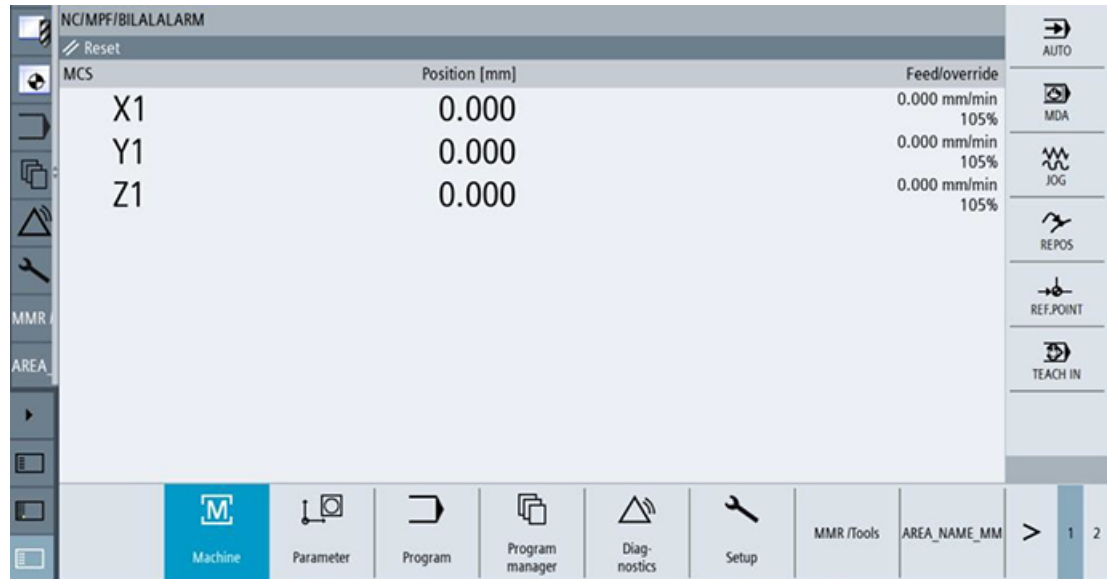
- Select "Edit".
- For the proxy settings, select "Overwrite here"
- Enter the correct settings
- Select "OK"
- Restart the machine.



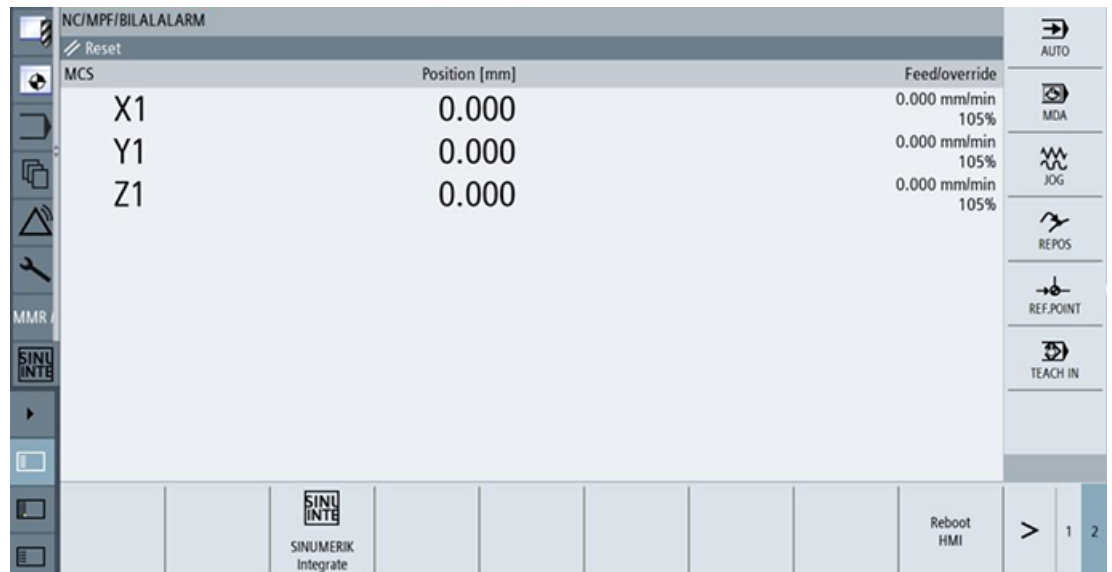
### 10.1.1.5 Checking the SINUMERIK Integrate URL

#### Procedure

1. Press "F10" on the HMI operator panel.



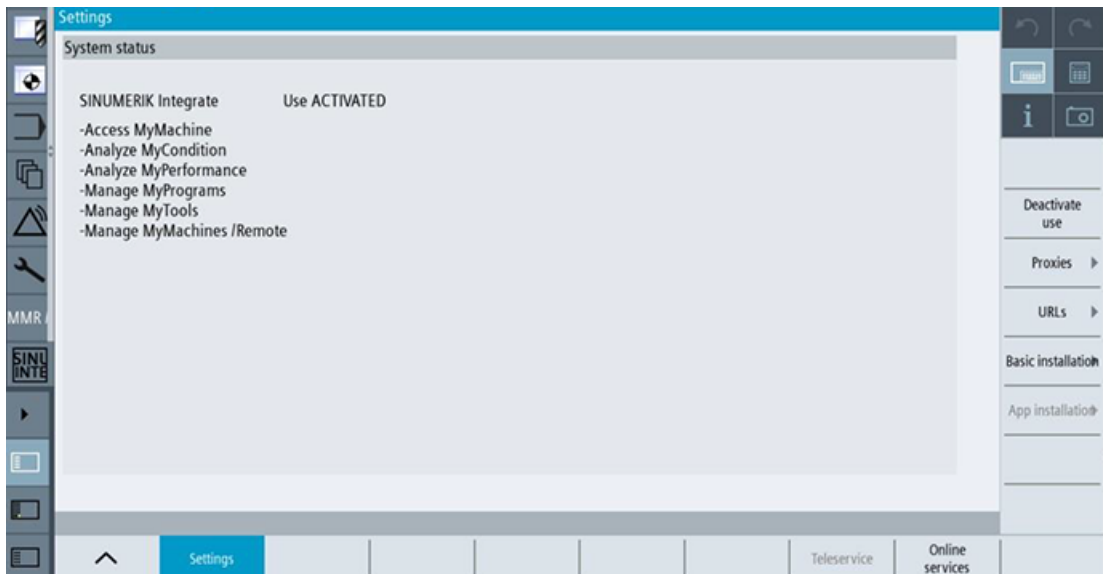
2. Select the right-hand arrow.



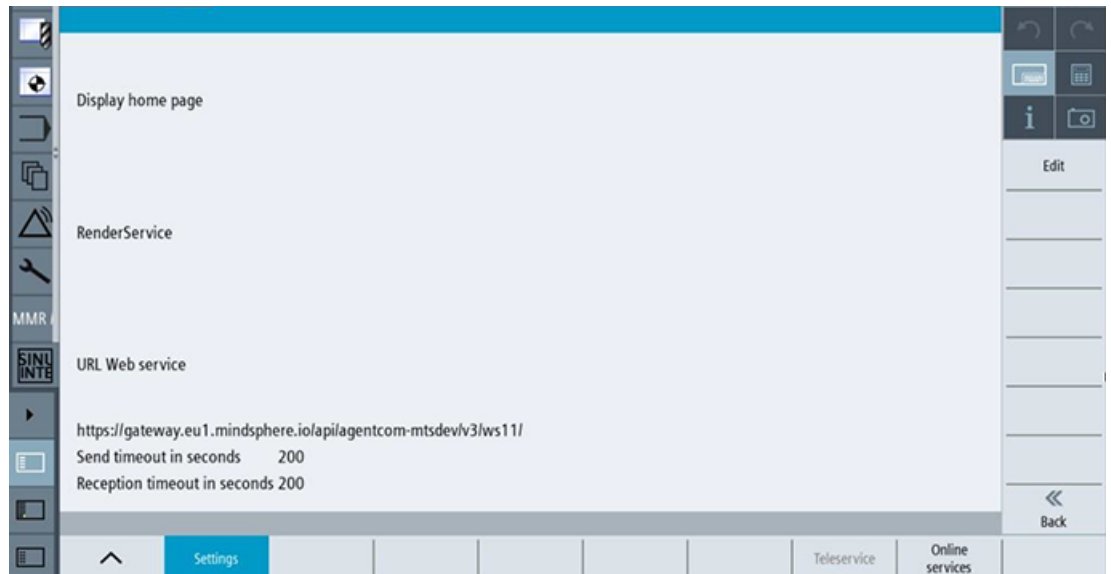
3. Select "SINUMERIK Integrate".



4. Select "Settings".



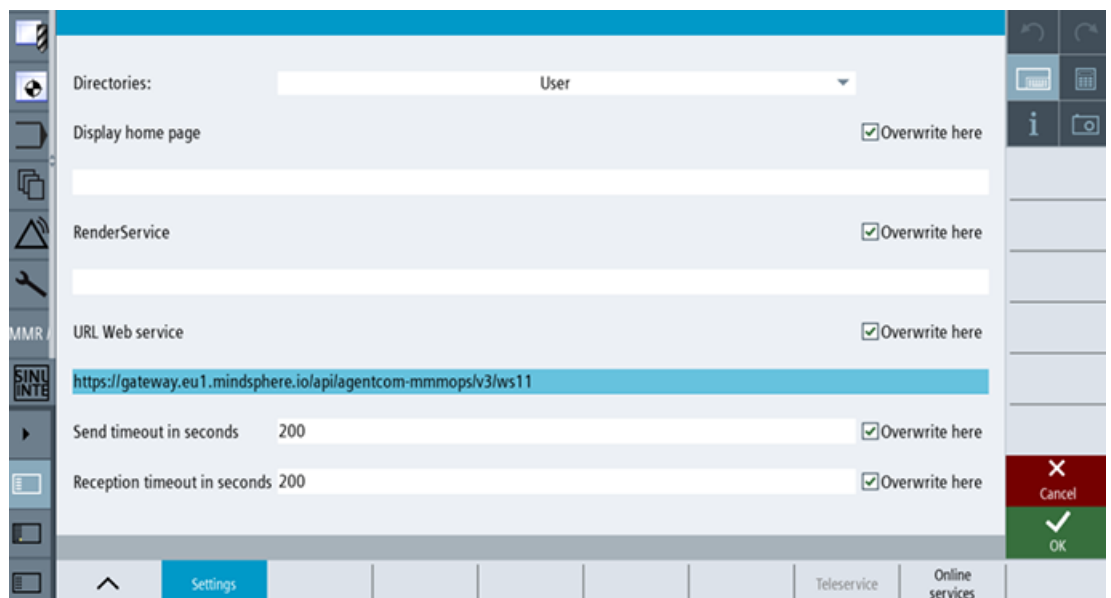
5. Select "URLs".



6. Check whether the specified URL information is correct.

7. If the URL is not correct

- Select "Edit".
- For the web service, select "Overwrite here"
- Enter the correct URL.
- Select "OK".
- Perform an "sc reboot".



### 10.1.1.6 Checking the network connection

#### Procedure

Check whether there is an Internet connection at the machine. Onboarding does not start correctly if there is no Internet connection.

### 10.1.1.7 Checking directory "boot\_job"

#### Procedure

1. Check whether the following folders exist:
  - On the PCU: C:\Temp\boot\_job
  - On the NCU: var/tmp/boot\_job
2. If the folders do not exist, even though the previous preconditions have been satisfied, check the network connection.

### 10.1.1.8 Checking the asset type in Insights Hub

#### Procedure

Assets must be created as asset type under "BasicSinumericAsset".

1. Select: "BasicDevice > BasicSinumerikAsset > YourAssetType"
2. Create a new asset if the asset type does not exist there.

### 10.1.1.9 Checking the existence of onboard.key

#### Procedure

File onboard.key must exist in directory "boot\_job".

Onboarding does not start if onboard.key does not exist.

## 10.1.2 Resolving known faults

### 10.1.2.1 Onboard key exists but onboarding does not start

- "onboard key" exists in directory "boot\_job".
- Onboarding does not start.



### Cause

- There are problems with the network connection.
- The date or time set at the HMI is incorrect.

### Remedy

- Check the network connection.
- Check whether the date and time settings are correct.
- If the date or time is incorrect
  - Select "Settings > HMI > DateTime".
  - Enter the correct date and time.
  - Select "OK".
  - Restart the HMI.

### 10.1.2.2 Onboarding starts, cert.key is created; however, onboard.key does not disappear

- Onboarding starts.
- "cert.key" exists.
- "onboard.key" does not disappear.



Name	Size	Changed
.		21.09.2022 15:20:39
..		21.09.2022 15:20:39
onboard.key	2 KB	21.09.2022 16:01:44
onboardClientId.dat	1 KB	21.09.2022 15:20:39
cert.key	2 KB	21.09.2022 15:20:39
shutdown.json	1 KB	21.09.2012 15:10:02
timesync.json	1 KB	21.09.2012 15:09:32

### Cause

The SINUMERIK Integrate URL is incorrect.

### Remedy

- Check whether the SINUMERIK Integrate URL has been correctly specified.
- Check whether "onboard.key" has expired. The expiration time is 30 minutes.
  - Clean all the files in the "boot\_job" folder.
  - Create a new onboard.key and save it.
  - Perform an "sc reboot". It is not sufficient to just restart the HMI.

### 10.1.2.3 No boot script available

An error message indicating that a boot script is not available is displayed at the HMI.



#### Cause

- Problems with the network connection have occurred.
- There is a problem with the date or time setting.
- The SINUMERIK Integrate URL is incorrect.

#### Remedy

- Check the network connection to the machine. Also check the proxy settings.
- Check whether the date and time settings at the HMI are correct.
- Check whether the SINUMERIK Integrate URL is correct.

### 10.1.3 More information

#### Running "sc reboot"

You can use WinSCP.

1. Open WinSCP.
2. Log on with the user name and password of the device.
3. Open the console using "Open Terminal".
4. Enter "sc reboot".
5. Click on "Execute".

## Executing an HMI reboot

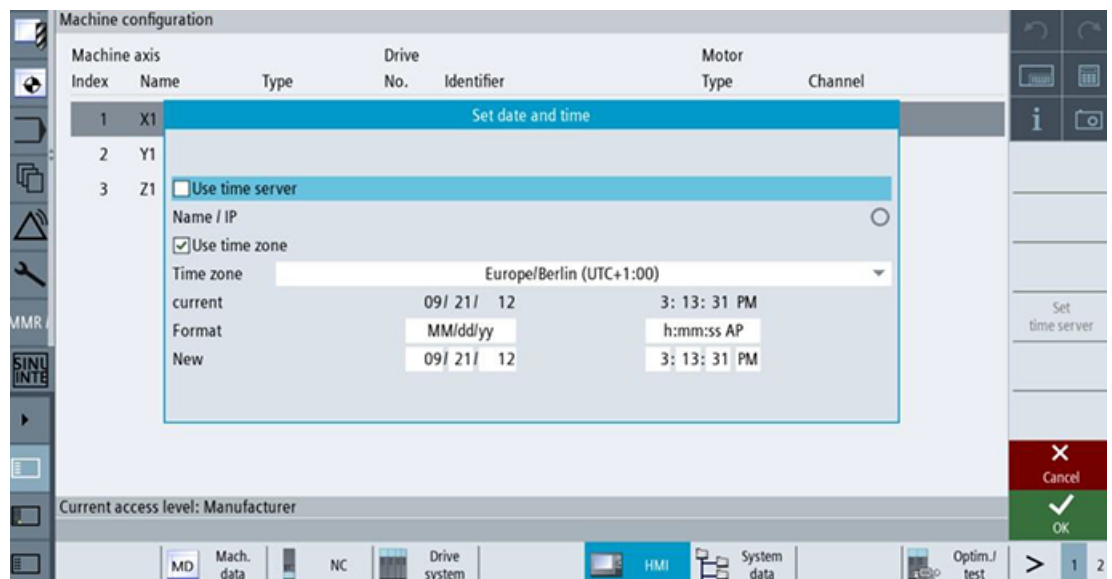
1. Press "F10" on the HMI panel.
2. Select the right-hand arrow.
3. Select "HMI reboot".

## Updating SINUMERIK Operate causes problems relating to date and time

If HMI date and time are not current, the directories have the following creation dates and times.

/var/tmp/		
Name	Size	Changed
..		19.05.2022 16:45:09
simulation		21.09.2012 15:12:44
dtsTmpDir		21.09.2012 15:12:34
dtsDir		21.09.2012 15:12:34
dh		21.09.2012 15:12:34
boot_job		21.09.2012 15:09:32

Check whether the HMI date and time are current.



## Onboarding duration

If you have saved onboard.key, then onboarding is completed within between 2 and 3 minutes. The duration depends on the SINUMERIK device that is used for onboarding.

## Directory {TempDir}/boot\_job

The value of {TempDir} refers to the following entry from file "/user/Sinumerik/hmi/cfg/ePSConfig.xml":

```
<global><stations><station name="NCU840D"><tempDir>
```

The default value of {TempDir} is "/var/tmp".

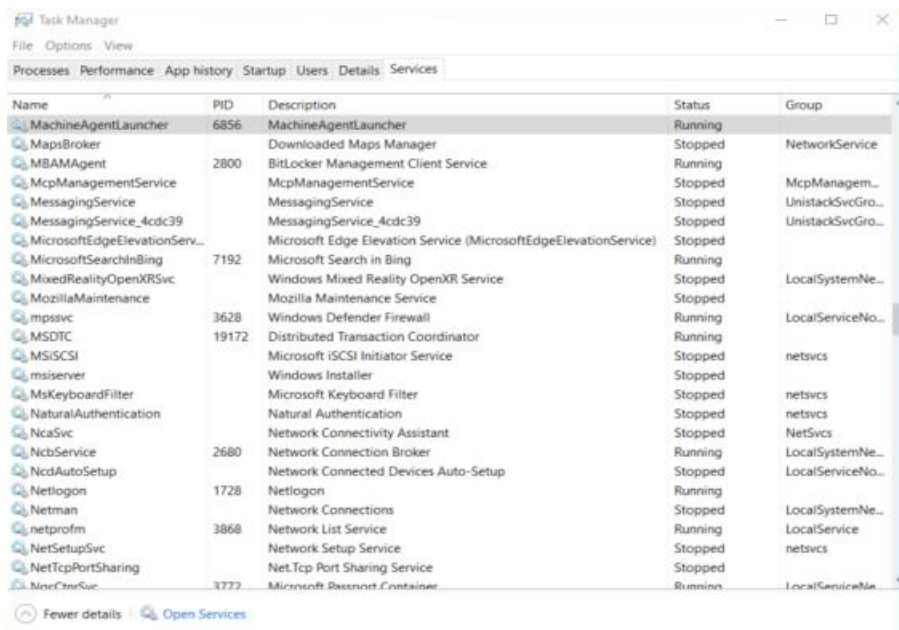
## 10.2 Machine Agent

### 10.2.1 Preconditions

#### 10.2.1.1 Checking the core installation of the machine agent on the IPC

##### Procedure

1. Open the task manager.
2. Switch to "Services".
3. Search for "MachineAgentLauncher".
4. Check whether "MachineAgentLauncher" is running.



#### 10.2.1.2 Checking directory "commands"

##### Procedure

- Open directory "C:\".
- Check whether folder "commands" exists.

### 10.2.1.3 Checking the asset type in Insights Hub

#### Procedure

Assets must be created as asset type under "BasicSinumericAsset".

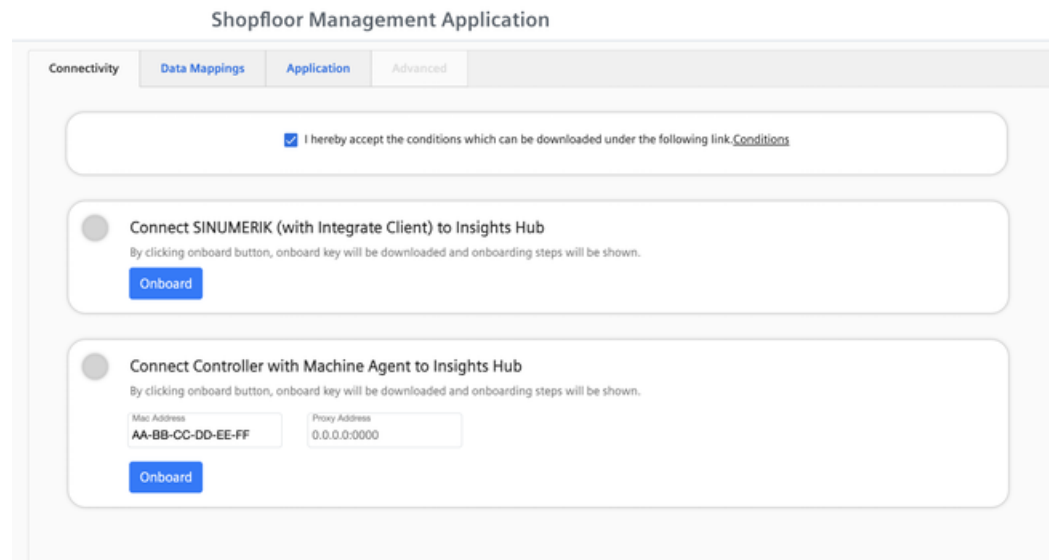
1. Select: "BasicDevice > BasicSinumerikAsset > YourAssetType"
2. Create a new asset if the asset type does not exist there.

### 10.2.1.4 Checking the proxy

#### Procedure

Check the proxy if one is being used at your workplace.

If a proxy is not being used, then you do not require one.



## 10.2.2 Resolving known faults

### 10.2.2.1 Command file does not disappear

#### Cause

- Problems with the network connection have occurred.
- A problem has occurred with the machine agent core installation.

**Remedy**

- Check the network connection of the machine.
- Check whether the machine agent core installation was successful.

**10.2.2.2 The command file disappears; however, the status is not onboarded**

- File "command" has disappeared.
- Files "command.exec" and "command.results" exist.
- The status is not "onboarded".

**Cause**

Problems relating to core access to the machine agents has occurred.

**Remedy**

Run Telnet with the IP of the appropriate machine.

**10.2.2.3 Mac address has been entered; however, the command file is not downloaded**

**Cause**

The Mac address is not unique.

**Remedy**

Use the unique Mac addresses for the asset.

**10.2.3 Machine agent connectivity with the IPC**

For the machine agent connectivity, direct communication with the machines is not possible. An IPC communicates with the machine. The machine agent must be installed on the IPC.

## Secure product disposal

### Secure deletion of the product

The product does not store any personal data.

More information can be found at: General Data Protection Regulation (Page 17)

To ensure the product disposal of data related to you as a customer (e.g. machine data, configurations in InsightsHub Datamodel), please contact SIEMENS (via Support request).

More information can be found at: Service and Support (Page 14)

For additional information please check the available SIEMENS documentation on Industrial Security.





## Appendix

### A.1 Determining the address of the spindles (only for 828D)

The address of a spindle with Sensor Module SMI24 is defined during commissioning. It depends on the position of the spindle in the SINAMICS topology and on the identifiers used.

You can subsequently determine the address in SINUMERIK Operate.

#### Determining machine axes of type Spindle

1. In SINUMERIK Operate, select operating area "Startup"  
The "Machine Configuration" list opens.
2. Look for the rows whose machine axes are of type Spindle and note down their drive numbers and identifiers.

Machine axis Index	Name	Type	Drive No.	Identifier	Motor Type	Channel
1	MX1	Linear				CHAN1
2	MY1	Linear				CHAN1
3	MZ1	Linear				CHAN1
4	MSP1	Spindle	1	SPINDLE	ARM1	CHAN1
5	MSP2	Spindle	5	SERVO 4	ARM1	CHAN1

Current access level: Manufacturer

#### Check whether Sensor Module SMI24 is connected

1. Press softkey "Masch. Data" and "Drive Parameters" to show the drive parameters.
2. Press the "Select Drive" softkey and select the drive that you noted down.
3. Press the "Search" softkey and enter "p4100" as the search form.  
If parameter "p4100" is found, this means that a SMI24 is connected to the drive that you selected.
4. If parameter "p4100" is not found, check the parameter of the next spindle.

## A.1 Determining the address of the spindles (only for 828D)

Group	All	Filters						
r3925[0]	Identification final display	21H M						
p3940[0]	Motor/controller data calculation	[0] No calculation M						
p3981	Acknowledge drive object faults	0 M						
p3985	Master control mode selection	[0] Change master contro... M						
r3986	Number of parameters	1333 M						
r3996[0]	Parameter write inhibit status:Progress calculations	0 M						
r3996[1]	Parameter write inhibit status:Cause	0 M						
r3998[0]	First drive commissioning	2 M						
p4100	Spindle supplementary temperature sensor type	[2] KTY84 M						
p4102[0]	Spindle supplementary temperature fault threshold/alarm thresh.:Alarm...	60.0 °C M						
p4102[1]	Spindle supplementary temperature fault threshold/alarm thresh.:Fault ...	70.0 °C M						
p4103	Spindle supplementary temperature delay time	0.000 s M						
r4104	Spindle supplementary temperature status	0H M						
r4105	Spindle supplementary temperature actual value	29.3 °C M						
r4107	Spindle supplementary temperature sensor use	[2] Bearing temperature f... M						
Spindle supplementary temperature sensor type								
Search term no longer found.								
^	General MD	Channel MD	Axis MD	User views	Control Unit parameter	Infeed parameter	Drive parameter	>

## Determining the address of the SM124

You can read off the position of the spindle in the SINAMICS topology on the title bar of the drive parameter. The information is displayed as follows:

<number of machine axis>:<name of machine axis>:<bus number>.<slave number>:<DO number>/<identifier of machine axis>

- Note down the "Bus number" and "Slave number" of the spindle.  
In the following example, the "Bus number = 3" and the "Slave number = 3":

**AX4:MSP1/3.3:3/SPINDLE**

- In the "SINUMERIK presets" window of the Asset Manager, you require both of these values as well as the drive number from the "Machine Configuration" list.

## A.2 Determining the address of the spindles (only for 840D sl)

The address of a spindle with Sensor Module SMI24 is defined during commissioning. It depends on the position of the spindle in the SINAMICS topology and on the identifiers used.

You can subsequently determine the address in SINUMERIK Operate.

### Determining machine axes of type Spindle

1. In SINUMERIK Operate, select operating area "Startup"  
The "Machine Configuration" list opens.
2. Look for the rows whose machine axes are of type Spindle and note down their drive numbers and identifiers.

Machine configuration						
Machine axis Index	Name	Type	Drive No.	Identifier	Motor Type	Channel
1	X1	Linear				CHAN1
2	Y1	Linear				CHAN1
3	Z1	Linear				CHAN1
4	SP1	Spindle	4	SERVO_3.3:3	ARM1	CHAN1
5	SP2	Spindle	5	SERVO_3.3:4	ARM1	CHAN1

Current access level: Manufacturer

MD Mach. data NC Drive system HMI System data Optim./test

### Check whether Sensor Module SMI24 is connected

1. Press softkey "Masch. Data" and "Drive Parameters" to show the drive parameters.
2. Press the "Select Drive" softkey and select the drive that you noted down.
3. Press the "Search" softkey and enter "p4100" as the search form.  
If parameter "p4100" is found, this means that a SMI24 is connected to the drive that you selected.
4. If parameter "p4100" is not found, check the parameter of the next spindle.

SIEMENS		SINUMERIK OPERATE 04/17/19 3:48 PM		AX4:SP1/SERVO_3.3:3															
r3927[0]	Motor data identification induction motor data det...	0H																	
r3928[0]	Motor data identification synchronous motor data ...	0H																	
p3940[0]	Motor/controller data calculation	[0] No calculation																	
r3979	BICO counter drive object	24CH																	
p3981	Acknowledge drive object faults	0																	
p3985	Master control mode selection	[0] Change mast...																	
r3986	Number of parameters	1357																	
r3996[0]	Parameter write inhibit status:Progress calculations	0																	
r3996[1]	Parameter write inhibit status:Cause	0																	
r3998[0]	First drive commissioning	2																	
p4100	Spindle supplementary temperature sensor type	[2] KTY84																	
p4102[0]	Spindle supplementary temperature fault threshol...	55.0 °C																	
p4102[1]	Spindle supplementary temperature fault threshol...	60.0 °C																	
p4103	Spindle supplementary temperature delay time	0.000 s																	
r4104	Spindle supplementary temperature status	0H																	
r4105	Spindle supplementary temperature actual value	21.3 °C																	
r4107	Spindle supplementary temperature sensor use	[2] Bearing tem...																	
p4600[0]	Motor temperature sensor 1 sensor type	[0] No sensor																	
p4601[0]	Motor temperature sensor 2 sensor type	[0] No sensor																	
p4602[0]	Motor temperature sensor 3 sensor type	[0] No sensor																	
p4603[0]	Motor temperature sensor 4 sensor type	[0] No sensor																	
Spindle supplementary temperature sensor type																			
<table border="1"> <thead> <tr> <th>General MD</th> <th>Channel MD</th> <th>Axis MD</th> <th>User views</th> <th>Control Unit parameter</th> <th>Infeed parameter</th> <th>Drive parameter</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						General MD	Channel MD	Axis MD	User views	Control Unit parameter	Infeed parameter	Drive parameter							
General MD	Channel MD	Axis MD	User views	Control Unit parameter	Infeed parameter	Drive parameter													

## Determining the address of the SMI24

You can read off the position of the spindle in the SINAMICS topology on the title bar of the drive parameter. The information is displayed as follows:

<number of machine axis>:<name of machine axis>/<identifier of machine axis>

The <identifier of machine axis> comprises

<string>\_<bus number>.<slave number>:<DO number>

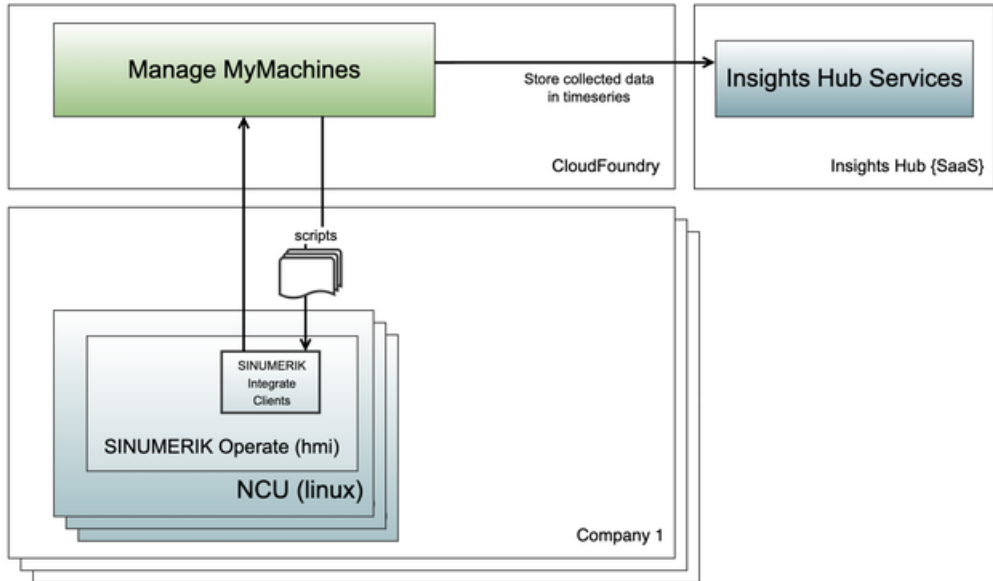
- Note down the "Bus number" and "Slave number" of the spindle.  
In the following example, the "Bus number = 3" and the "Slave number = 3":

**AX4:SP1/SERVO\_3.3:3**

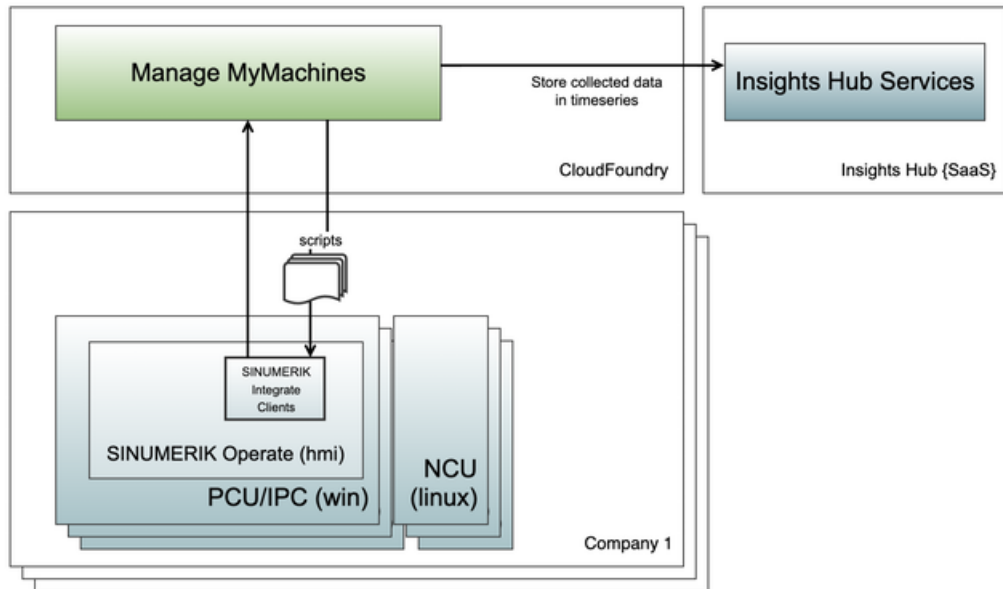
- In the "SINUMERIK presets" window of the Asset Manager, you require both of these values as well as the drive number from the "Machine Configuration" list.

## A.3 Preconditions for the Shopfloor Management Application

### NCU



### PCU/IPC



### Precondition

The system on which "SINUMERIK Integrate" or "HMI Advanced" is installed has access to the internal network and to the Internet.

## Connections required

### Connections with SINUMERIK Integrate

The SINUMERIK Integrate client is installed and activated in SINUMERIK Operate or HMI Advanced.

Configure the MMM Machine Communication URL in the SINUMERIK Integrate client. If a proxy is installed in the network, configure the proxy in the SINUMERIK Integrate client. More information is provided in Chapters "Configuring URL and proxy" for

- SINUMERIK ONE and SINUMERIK 840D sl (Page 47)
- SINUMERIK 828D (Page 55).

The SINUMERIK Integrate client is connected with the Internet and has access to the address Gateway client based (<https://gateway.eu1.mindsphere.io/api/agentcom-mmmops/v3/ws11>).

### Connections to the machine agents

The machine agent is installed there where also SINUMERIK Operate or HMI Advanced is installed.

If a proxy is installed in the network, configure the proxy while you generate the "onboard.key".

The machine agent is connected to the Internet, and can access address Gateway machine agent based (<https://gateway.eu1.mindsphere.io/api/mabackend-mmmops/v1/south>).

### Internal links required

To access machines at the "MMM Machine Communication" URL:

- Access \*.mindsphere.io (<https://mindsphere.io>) is permitted within the firewall of the internal network.

To register machines in the MMM connection:

- Call the following page:  
Shopfloor Management Application (<https://yourtenant-shopfloormgmtapp-mmmops.eu1.mindsphere.io/shopfloor/connectivity?assetId=yourassetid>).  
"yourtenant" must be replaced by the name of your tenant.  
"yourassetid" must be replaced by the name of your asset ID.
- Download the "onboard.key".

### Summary

- Devices in the factory have access via the Internet to \*.mindsphere.io (<https://mindsphere.io>).
- The proxy and MAC address configuration for the machine agents is correct. If the internet connection is interrupted, then data are backed up encrypted and locally in the buffer of the client/agent.

## A.4 Configuration example for the motor temperature

### Overview

To be able to use the motor temperature function, motor temperature variables with the prefix "mmm\_mt" must be configured in the Shopfloor Management App. This allows the Manage MyMachines App to find the associated configuration and display it in the motor temperature UI.

Example for using a prefix:

- mmm\_mt\_demo
- mmm\_mt\_s120

### Configuration example

The points and variables are configured as follows:

35	3	1	3
(r data from drive)	(subordinate No.)	(drive No.)	(bus No.)

Shopfloor Management Anwendung

Konnektivität Anwendung Advanced

1 Anzahlen 2 Bearbeiten 3 Speichern

Zeitbasierter Trigger

Speichern Abbrechen 5/100

Aspekt erstellen

Aspekt Name: mmm\_mt\_Temperatur

Verwendeter Lesezyklus:

5 Sekunden

Name	Adresse	Dimension	Einheit
a_819	35.3.5.3	DOUBLE	%
10_819	35.3.4.3	DOUBLE	%
x_819	35.3.1.3	DOUBLE	%
y_819	35.3.2.3	DOUBLE	%
z_819	35.3.3.3	DOUBLE	%

The drives are configured in an 828 device, which is integrated in an S120 module.

To obtain the following view, use menu > Drive System:

A.4 Configuration example for the motor temperature

The screenshot shows a software interface for drive system configuration. At the top right, the date and time are 12/09/19 1:09 PM. The main area is titled 'Drive System Overview' and contains a table with the following data:

Axis	Bus	Address	Drive object Name	Number
	3	3	CU_3.3:1	1
			ALM_3.3:2	2
MX1			SERVO_3.3:3	3
MY1			SERVO_3.3:4	4
MZ1			SERVO_3.3:5	5
MSP1			SERVO_3.3:6	6
MA1			SERVO_3.3:7	7

Below the table, there is a red circular icon with the letter 'A'. At the bottom of the main area, it says 'Current access level: Manufacturer'. To the right of the table is a vertical sidebar with buttons: 'Hardware replacement', 'Activate drives', 'Factory setting', 'Reset (po)', and 'Identify via LED'. At the very bottom, there is a navigation bar with buttons for 'Drive device', 'Supply', 'Drives', and 'Topology display'.

After the configuration is set and the machine sends the motor temperature data to the MMM, then the data is listed on the tables of the motor temperature page.



## A.5 Restrictions when uploading files

### 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/user/sinumerik/hmi/trace
- /card/oem/sinumerik/data/archive/
- /card/system/tmp/
- <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/
- /card/user/sinumerik/hmi/data/trace/CM
- C:\Program Files (x86)\Siemens\MotionControl\user\sinumerik\hmi\data\version\

SINUMERIK Operate also supports the following directories:

- D:\backups\
- D:\description\

HMI-Advanced also supports the following directories:

- F:\dh\
- F:\privatesyncdata\
- F:\oem\
- F:\user\

- F:\mmc2\
- f:\hmis\loem\sinumerik\hmi\OMATIVE\_ACM\data\
- F:\hmis\siemens\sinumerik\hmi\trace
- F:\hmis\siemens\sinumerik\hmi\data\trace\CM

## A.6 List of abbreviations

Admin	Administrator (user role)
AMC	Analyze MyCondition
AMP	Analyze MyPerformance
CNC	Computerized Numerical Control
COM	Communication
DIR	Directory
FAQ	Frequently Asked Questions
h	Hour
HTTP	Hypertext Transfer Protocol
HTTPS	HyperText Transfer Protocol Secure
IB	Commissioning engineer (user role)
ID	Identification number
IFC	Interface Client
IoT	Internet of Things
IPC	Industrial PC
KPI	Key Performance Indicator
MB	Megabyte
MLFB	Machine-Readable Product Code
MMM	Manage MyMachines
MSTT	Machine control panel
NC	Numerical Control
NCU	Numerical Control Unit, NC hardware unit
OEE	Overall Equipment Efficiency
OEM	Original Equipment Manufacturer
OP	Operation Panel
OSS	Open Source Software
PB	Package Builder
PC	Personal Computer
PCU	PC Unit, computing unit
PLC	Programmable Logic Control: PLC
SI	SINUMERIK Integrate
SK	Softkey
SW	Software
URL	Uniform Resource Locator
UTC	Universal Time Coordinated, coordinated global time
UTS	Usage Transparency Service



# Glossary

## Alarm

Alarms can be configured using variables. Certain alarms also have alarm numbers that are assigned to machine functions for machine diagnostics. When certain alarms occur, you can upload user-defined files to Insights Hub.

## Aspects

Aspects or variable sets are a group of the same data points / variables and describe the context of the imported data, e.g. wear.

## Asset

For Insights Hub, an asset is each connected element that provides data. This can be a machine or an individual component. In conjunction with this documentation, an "asset" is a machine tool with SINUMERIK 840D sl.

## Asset Manager

The "Asset Manager" is a Manage MyMachines for Industrial Operations X Cloud. The assets of a machine are created and configured in the "Asset Manager". The application is also used for the management of customers, users and shop floors.

## Certificate

A certificate must be regularly updated to achieve comprehensive security.

## Charts

Using function "My Dashboards", you can create and edit various diagrams and table overviews. The individual diagrams can be edited using icons in the diagram window and parameters changed.

## Configuration

SINUMERIK offers various functions that can be applied in various configurations. Individual adaptations can be made.

## Cross Tenancy

You have the option of releasing assets for other tenants using the "Cross Tenancy" function. Insights Hub functions, such as data associated with time series, asset information, aspects etc. are then visible for these end users. Any data shared requires an active authorization or rejection by the receiving tenant.

## Data points or variables

For "Manage MyMachines", data points or variables are all the values that can be acquired from the NC, the PLC and from the drives, e.g. sampling rate, temperature, jerk. They must be defined and configured in the asset configuration as data points. The data is combined into aspects. The captured values are then displayed as time series in "Manage MyMachines" under "Aspects". There are also preconfigured data sets, such as the SINUMERIK basic configuration and the machine availability. Details can be found in the relevant sections.

## Export

You have the option of exporting data points of an aspect. Data in a certain time range can be exported in two ways. The exported data is stored in several files depending on the data volume.

## Failure analysis

You have the option of displaying a failure analysis on the machine dashboard. All assets, which have a matching configuration, are checked using the failure analysis function.

## Insights Hub - Industrial IoT ecosystem from Siemens

Insights Hub – the open cloud platform from Siemens – is the core component of a high-performance IoT operating system. It offers data analysis, comprehensive connectivity, tools for developers, applications and services. Insights Hub supports you in the analysis and utilization of your data in order to obtain new insights. In this way, you can optimize your resources for maximum availability.

## Machine agent

Using machine agents, you have the option of connecting other controls (not SINUMERIK controls) with Insights Hub. The machine agent shows an overview of all available agents in the machine agent backend and the following parameters in "Machine Agent Details".

## Machine dashboard

The "Machine Dashboard" view provides a summary of the SINUMERIK basic configuration and machine availability for the selected SINUMERIK control. The machine status, NC program status as well as the operating mode can be simultaneously displayed.

## Main entry

In the status summary, you can view various parameters for the machine, the NC program and the operating mode. These parameters are created as drop-down list.

## onboard.key

onboard-key is a file that is used to onboard assets. The file contains safety-relevant information for establishing a connection between a SINUMERIK control and Insights Hub.

The file can be temporarily saved on the end device. The onboard.key is no longer relevant if the connection between the SINUMERIK control and Insights Hub has been fully established.

## Proxy

A proxy is a communication interface within a network. This proxy acts as an intermediary between various computers or networks. The communication partner addresses remain hidden; however, a connection between them can still be established.

## Shopfloor Management Application

Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application" has buttons in the left-hand section of the window which make it possible for you to use various applications. You require user role shopfloormgmtapp to use the Manage MyMachines for Industrial Operations X Cloud "Shopfloor Management Application"

## Spindle monitor

You can display information and recorded operating conditions from the SMI24 Sensor Module of a spindle. The precondition for this is the Manage MyMachines for Industrial Operations X Cloud "Manage MyMachines /Spindle Monitor".

## Time range

Some Manage MyMachines pages offer the option of adapting the display to address your specific requirements by allowing you to set the time range and time zone using the calendar function.

## User settings

For example, under "User settings" you can change the language and the machine overview

## Variables

The software uses different variables that you can set.

For example, variables can be set to define when a specific alarm occurs.





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