SIEMENS

MindSphere

Collaboration Board

Operating Manual

3/2022

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.

> ⚠ **DANGER**
>
> indicates that death or severe personal injury **will** result if proper precautions are not taken.

> ⚠ **WARNING**
>
> indicates that death or severe personal injury **may** result if proper precautions are not taken.

> ⚠ **CAUTION**
>
> indicates that minor personal injury can result if proper precautions are not taken.

> **NOTICE**
>
> 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:

> ⚠ **WARNING**
>
> 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

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

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.

Table of contents

Introduction 1

1.1 Important notes

Purpose of this documentation

This documentation is supplied with the Collaboration Board.

This manual describes functionalities and structure of the application.

Scope of this documentation

This documentation is valid for the Collaboration Board application.

1.2 Introduction to Collaboration Board

Collaboration Board is a component of MindSphere, the industrial IoT platform from Siemens.

You can use the application to perform the classic problem-solving process based on the Ishikawa diagram or the 5-Why method.
The causes of the problem are analyzed and documented. Approved results are put online.

Problem solving process

Problem description

First describe the problem in detail using pre-defined questions. Then evaluate the causes of the problem using either the Ishikawa diagram or the 5-Whys method.

Evaluate the causes of the problem using the 5M method

To identify the causes of problems, use the Ishikawa diagram with 5 influencer variables:

- Person
- Machine
- Environment
- Material
- Methods

Evaluation of the causes of the problem with the 5-Whys method

With this alternative approach, you ask "Why..." until you find the actual cause. The number of questions is not limited to 5.

This method works best with simpler and a smaller number of potential causes.

Problem solution

Determine the possible tasks to solve the most likely causes.

Effectiveness check

With effectiveness testing, you test whether the tasks have led to the solution of the problem or not.

Version information

<div style="text-align: right">

2

</div>

2.1 Version history

Revision number	What is new
1.6.3	New functions: • Machines (Manual Assets) can be linked to MindSphere Assets • UX improvements for editing and linking machines • Various bug fixes
1.5.7	New functions: • Support of multi-tenancy concept • Change of user management, user synchronization in the "Settings" tab • Change of filter, search and display functions in the "Dashboard" tab • Client/server encryption • Attachments for problem solutions are stored on the IoT Value Plan tenant • Change in the transmission of billing-related usage data
1.0.3	The Collaboration Board is released to the market with version 1.0.3. The main functions of this release status are: • Systematic problem description based on an editable questionnaire • Assignment of problems to specific production plants • The ability to attach various files (e.g. images, PDF files) to the problem description • Real-time connection of machine data via standard interfaces • Determination of possible causes using the 5M method or 5-Whys method • Definition of tasks and their assignment to the individual team members • Evaluation of the effectiveness of the solution • Graphical representation of the problems described and solved • Export of XLS files with problem descriptions in selectable intervals

Security information

3

3.1 Security information

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

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 security 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 security measures that may be implemented, please visit (https://www.siemens.com/industrialsecurity).

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 customers' exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed visit (https://www.siemens.com/cert).

3.2 Note on general data protection regulation

Siemens observes the principles of data protection, in particular the rules for data minimization (privacy by design). For this Collaboration Board product, this means:

The product does not process or store any personal data, only technical functional data (e.g. time stamps, IP addresses of the connected production machines). If the user links this data with other data (e.g. shift schedules) or stores personal data on the same medium (e.g. hard disk) and thus establishes a personal reference, the user himself must ensure compliance with data protection regulations.

Description

4

4.1 General information

The MindSphere application Collaboration Board helps document and resolve manufacturing issues. The app enables the exchange of knowledge between different factories and helps to increase the availability of machines and plants. Digitizing the classic problem-solving process makes it possible to reduce paperwork and make operating data available for analysis.

Requirements

A valid MindAccess IoT Value Plan subscription (Small/Medium/Large) is required.

An HTML5-compatible Internet browser with a screen resolution of 1920 x 1080 or higher is required (e.g. Google Chrome or Microsoft Edge). Google Chrome is recommended. Smart devices are supported with HTML5-capable Internet browsers.

Secure communication

Data is transferred from the asset to your MindAccess account using the HTTPS protocol.

Enforce a comprehensive, state-of-the-art industrial security concept to protect plants/locations, systems, machines and networks from cyber threats.

Application rights

Collaboration Board reads, processes and writes the following data:

- Time series data containing the variables received from an asset within defined continuous time cycles
- Asset configuration data that describes the asset (e.g. asset name, location)
- User data: User name (first and last name), e-mail address, assigned user rights, user role and language

The application performs the following activities that change or add content to your MindAccess account on your behalf:

- Read access to your time series data:
  The application reads uploaded data from your data repository to evaluate and process certain information, which is displayed in different views in this application.

- Read access to your asset configuration data:
  The application requires access to the data of the configured asset.

Rights of use

Collaboration Board can be used within the scope of OEM services as described in the Specific conditions for MindAccess IoT Value Plan (https://siemens.mindsphere.io/en/terms).

As part of your MindAccess IoT Value Plan account, you may allow third-party users to access and use this application for the purpose of receiving a service from you.

Billing

The basic subscription to the Collaboration Board application is free of charge. It only allows access to the application in order to get an impression of its look and feel. No free factory is included in the basic subscription.

To use the application, you must configure and activate at least one factory, which you must book for a monthly usage fee.

Activating a factory

1. Configure a factory in the "Settings" menu item, "Factory" tab.

2. Click "Request activation".

3. Accept the legal notice regarding potential costs.

Deactivating a factory

Click the green "Active" button. The button turns red.

After deactivation, the factory is still visible, but marked as deactivated. You cannot create new problems related to this factory. Data that was created before deactivation is still available after deactivation.

License fee for a factory

Within one calendar month, you have to pay a monthly usage fee for each active factory. The fees are calculated according to the monthly principle.

The total number of active factories within a calendar month is transferred on the first day of the following month and calculated accordingly.

Deactivation of a factory that has already been activated only takes effect for the calendar month following the calendar month in which the factory was deactivated.

The usage fee for factories is calculated monthly in arrears.

Example

Factories A and B are activated in January and remain active. Factory C was activated and deactivated in February.

Monthly fee for February consists of 3 usage fees for factories A, B and C. Monthly fee for March consists of 2 usage fees for factories A and B.

Subscription period and cancellation

The minimum subscription period for the basic subscription of this application is one month. After the previous subscription period expires, the subscription is automatically renewed for a subscription period of one month until you or we cancel it at least 30 days in advance. The cancellation takes effect at the end of the month.

We will notify you of any termination through your account or by sending a message to the e-mail address you provided to us.

Your notice of termination must be sent to the following e-mail address (mailto:contract@mindsphere.io).

4.2 Description of the method

**Digitalization of the problem solving process**

Collaboration Board is a user-friendly, wizard-based app that simplifies problem definition, identification and root cause determination.

You define possible solutions and follow-up tasks in just a few steps. The application works in the environment of the cloud-based, open IoT operating system, MindSphere.

The advantages of the digitalized problem solving process include:

- Shorter clarification processes
- Efficient problem solving cycles
- Better exchange of knowledge
- Analysis of accumulated problems and their solutions

The following figure shows individual steps in solving the problem:
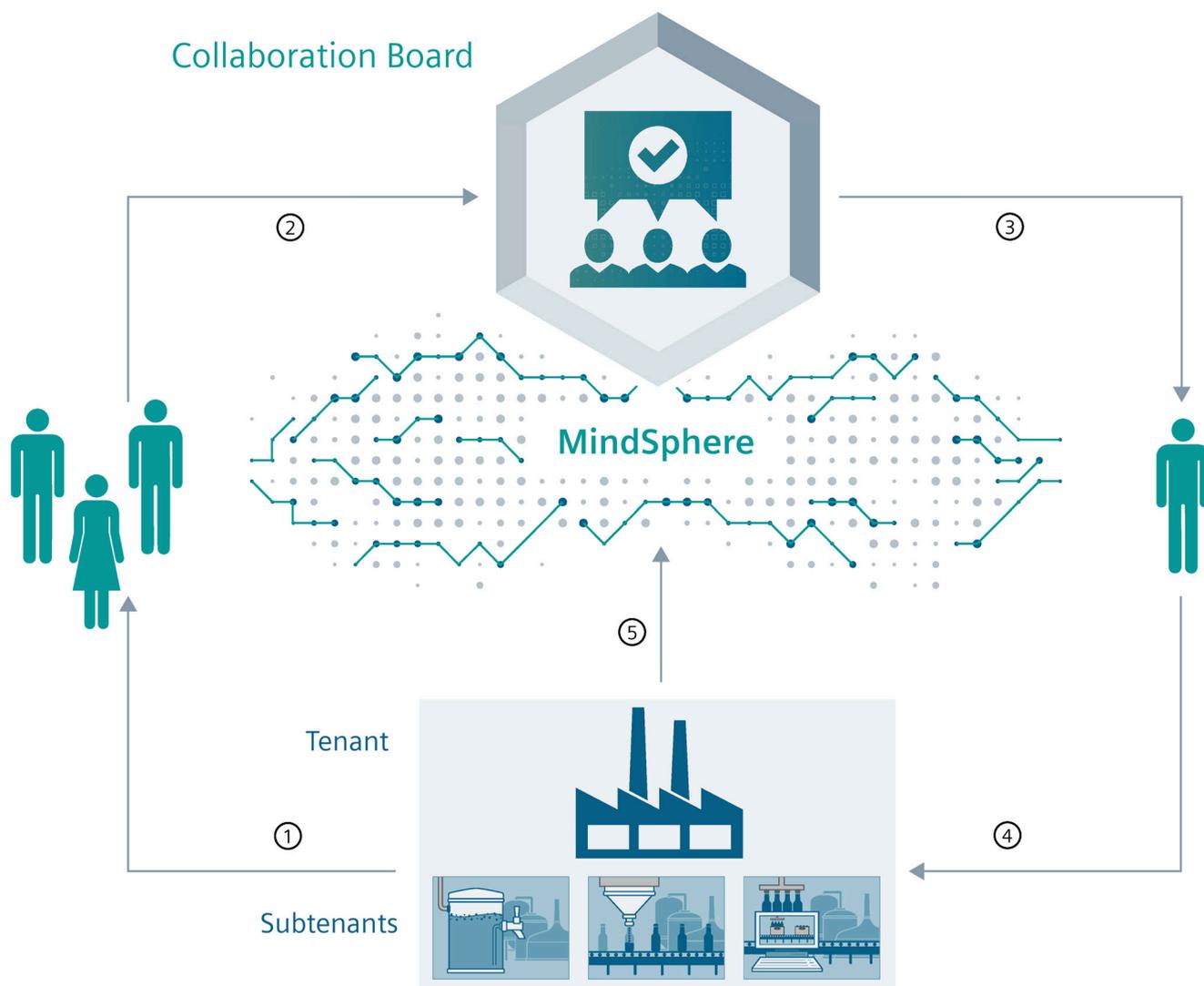
① **Describe the problem**

> You search the database of events and determine if it is a known problem with the tested solution.
>
> You describe the problem.
>
> You collect potential causes.
>
> You archive the digital A3 report.

② **Assess a problem in the team**

> The experts identify and record possible causes. Depending on the assessment of importance and estimated effectiveness, the team proposes appropriate solutions.

③ Determine measures

You determine concrete measures based on the selected causes.

④ Manage follow-up tasks

You manage the follow-up tasks. If the implemented tasks are not successful, you determine another variant of the tasks.

⑤ Retrieve machine data

You retrieve the machine data from production via MindSphere, if available. This allows you to shorten the search for the cause considerably.

Tenant

A "Tenant" represents a real organization. The tenant includes properties such as users, data, assets and entities.

Subtenant

A "Subtenant" is a specific limited resource of a tenant. A "Subtenant" represents a part of the real organization. The subtenant is also used to assign and access apps. You can only create one level of subtenants.

Ishikawa diagram

The Ishikawa diagram is the most popular form of presentation for problem solving, as it clearly shows cause and effect relationships. The form of the diagram looks like the bones of a fish, hence the often used name, fishbone diagram.

Using the diagram has the following advantages:

- Detailed collection of causes for problems
- Representation of the interdependencies of problems
- Clear graphical representation
- Method for the visual development of causes in the team
- Sensible structuring of processes

Possible causes are located on the main branches of the diagram. Possible categories of causes are provided for orientation.

Collaboration Board App uses categorization according to the 5M method:

- Person
- Material
- Machine
- Environment
- Methods

A decision-making process even more efficient is achieved if important data from production is available from MindSphere via standard interfaces.

You select the most probable causes from the collected points.

5-Whys method

If you expect a single cause, you can use this simpler method instead of the Ishikawa diagram.

You determine the root cause of an error or problem by repeating the question "Why?" Each answer forms the basis for the next question.

The number of questions is not limited to 5.

4.3　　　Login area

Start the Collaboration Board app

1. To open the Collaboration Board app, enter the correct address of the app in your browser. The address is provided by your OEM, who manages your application.
   The login screen opens:
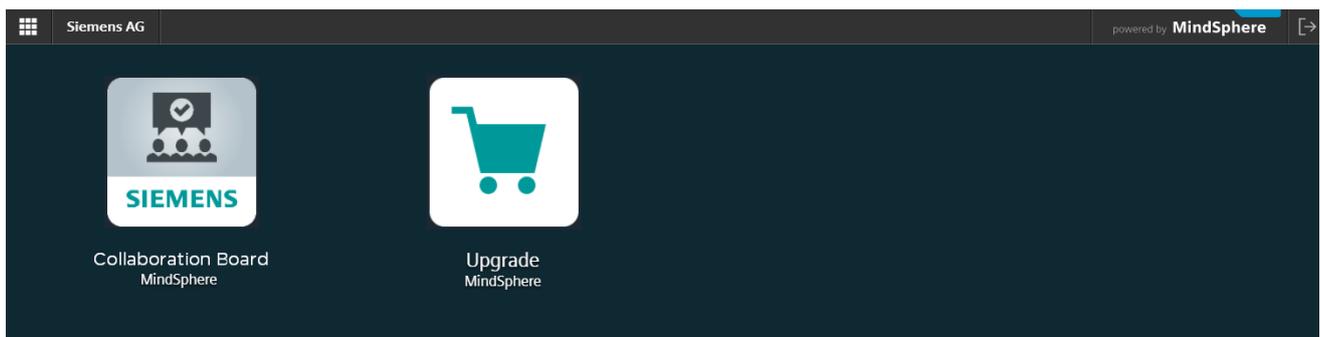
2. Click on the logo of the Collaboration Board application and enter your login data.
   The app opens with the "Dashboard" tab.

4.4   User management

Access to the Collaboration Board App

Access to Collaboration Board App requires a user account in your MindSphere Tenant.

In addition, as a MindSphere user, you require certain roles in the tenant.

Users, user groups and roles are managed in MindSphere by the tenant administrator. The tenant administrator also assigns the required roles to users.

Depending on user type (SubTenant-User or Tenant-User), data of the subtenant only or data of the entire tenant can be edited.

You can find more information about MindSphere user management in the MindSphere documentation.

4.5   User rights

For the Collaboration Board , there are the following categories of user rights.

User

As *AppUser*, you see the problem descriptions, tasks and reports for the factories that are approved for you.
The visibility of the machine data depends on your MindSphere user role.

Application administrator

As *AppAdmin*, you have the same rights as a user.

In addition, you can edit and activate or deactivate the machines, lines and plants in the "Settings" menu item.

Furthermore, you can edit the question catalog in "Settings".

Access right concept

The *AppAdmin* role is required for full access. If the role *AppAdmin* is not assigned to the user, the menu item "Settings" is not displayed to the user concerned.

Your TenantAdmin creates the SubTenants for you and assigns the app-specific roles *AppAdmin (scb.admin)* or *AppUser (scb.user)* to authorized persons in your company.

The following table shows the access rights according to the user roles.

Access right	MindSphere role			
	App role			
	StandardUser		SubTenantUser	
	scb.user	*scb.admin*	*scb.user*	*scb.admin*
Start application	✔	✔	✔	✔
Synchronize user accounts		✔		✔
Change the settings of the app				
Tenant factory		✔		
Own SubTenant factory	N/A	N/A		✔
Other SubTenant factory		✔		
Retrieve machine data				
Tenant factory	✔	✔		
Own SubTenant factory	N/A	N/A	✔	✔
Other SubTenant factory	✔	✔		
Other functions of the app				
Tenant factory	● (R/W)	● (R/W)	● (R)	● (R)
Own SubTenant factory	N/A	N/A	● (R/W)	● (R/W)
Other SubTenant factory	● (R)	● (R)	● (R)	● (R)

✔	Available
N/A	Not applicable
● (R/W)	Adjustable, initial setting: Read and write rights
● (R)	Adjustable, initial setting: Read rights

Enabling Collaboration Board User rights

The Teant administrator must add the role "scb.user" or "scb.admin" to the user. After adding the role, the application is visible in the user's launch pad. After adding the user, a Collaboration Board user must click "Synchronize users" in the Collaboration Board settings.

Recommendation on the authorization concept

1. Create two user groups:

   – scb-admin-group

   – scb-user-group

2. Assign the appropriate app roles to the two user groups:

   – scb-admin (app admin authorization)

   scb-user (app user authorization)

3. Add the user accounts to the appropriate user groups.

Note

When the app is updated, the roles and scopes in MindSphere may be lost and must be reassigned. Managing user permissions with user groups makes this step easier.

Note

Each time the user inventory is changed (e.g. when a new user is created on the MindSphere), the app must be synchronized with the MindSphere database. This is done by pressing the "Synchronize user" button on the "Settings" tab.

Working with the software

5

5.1 Dashboard

The "Dashboard" provides you with a list of available problem solutions. You can determine whether or not a similar problem has already occurred.

The following figure shows the individual areas:

① Side menu
② Information on the app: Version, links to online help and OSS information
③ Filter and search area
④ Information on the MindSphere platform
⑤ Presentation of the successfully completed problem solutions
⑥ Display of the machines in a line
⑦ Dashboard of all problem solutions
⑧ Dashboard for team tasks
⑨ Dashboard of my tasks

① Side menu

Side menu is located in the left area of the application. Use the arrow key to expand or collapse it. You will find the following items:

User information

- Picture of the user

- User name

- Location

- Language switch

Menu items

Symbol	Tab
	Dashboard
	New Problem
	Report
	Tasks
	Problem Editor
	Settings (only possible with administrator access)

② Information on the app

Click on the name of the "SIMATIC Collaboration Board" application in the title bar to display the version of the application, copyright and links to the online help and OSS information.
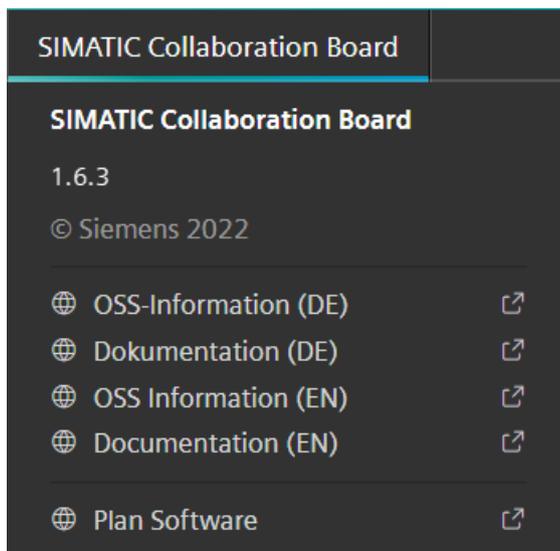
③ **Filter and search area**

> In this area, you have the following options:
>
> - Filter by factories/locations
>
> - Filter by machines
>
> - Search for a specific title of the problem solution
>   The search function is not case sensitive and searches through parts of the titles.

④ **Information on the platform**

> Click on "powered by MindSphere" in the title bar to display the platform information.
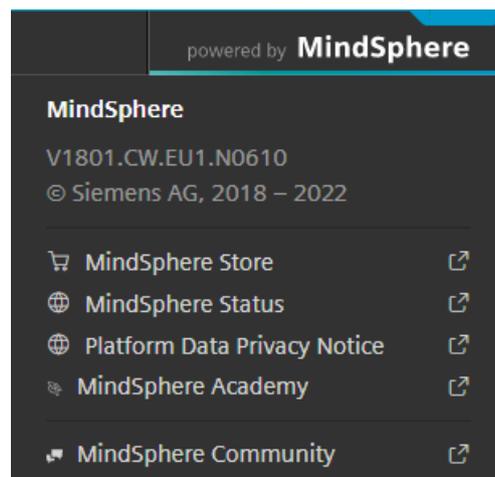
⑤ **Representation of successfully completed problem solutions**

> Graphical representation of the share of successfully completed problem solutions.
>
> The diagram on the left shows the tasks you have solved. The right diagram shows the tasks that your team has solved.

⑥ **Display of the individual elements in a line**

> The individual machines in a line are graphically displayed here using templates. The display can also provide information about the machine status if the machine connection is correct.

⑦ Overview of all problem solutions

List display of all existing problem solutions from you.

You will find the following information here:

- Status
  - Done (green)
  - In progress (yellow)
  - Undone (red)

- Title (short description)

- Date (entry date)

- Problem ID

- Assigned to

- Machine

- Location

The list can be sorted by clicking on a column header.

⑧ Overview of team tasks

List view of the tasks assigned to the team of the logged-in user.

See also

MindSphere Store (https://siemens.mindsphere.io/en/store)

MindSphere Status (https://status.mindsphere.io/)

MindSphere Academy (https://siemens.mindsphere.io/en/training.html)

MindSphere Community
(https://community.sw.siemens.com/s/topic/0TO4O000000MihsWAC/mindsphere)

5.2　　　Step 1: Problem description

Start with the description of the problem in the tab "New Problem". The upper part of the screen has a navigation bar with 4 phases of problem solving:

1. Problem Description

2. Problem Cause

3. Problem Solution

4. Problem completion

The question catalog is below the navigation bar. The following figure shows the screen before you start filling out the questionnaire.

Question catalog

Pre-defined questions help you to describe and narrow down the problem more precisely. The list of questions can be adapted at any time by the administrator in the "Settings" tab. There are the following types of questions:

- Question with free possibility to answer

- Question with possibility to choose

- Question with possibility to choose and/or answer

Selection of the team leader and team members

When describing the problem, you are selected as the team leader by default.
You select the team members by clicking the corresponding button, which then turns dark gray.
To select another team leader, you need to keep the mouse button pressed on the corresponding button until the button turns green.
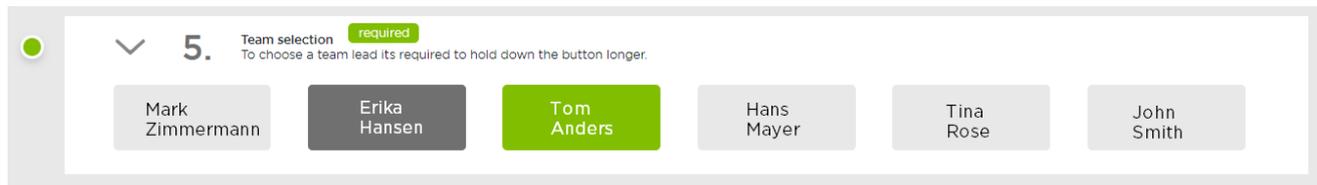
Mandatory questions and optional questions

The mandatory questions are at the top of the catalog and are marked "required".

Questions that have been answered are marked green at the beginning of the line. Unanswered questions are marked in red.

Answer the questions and upload any attachments.
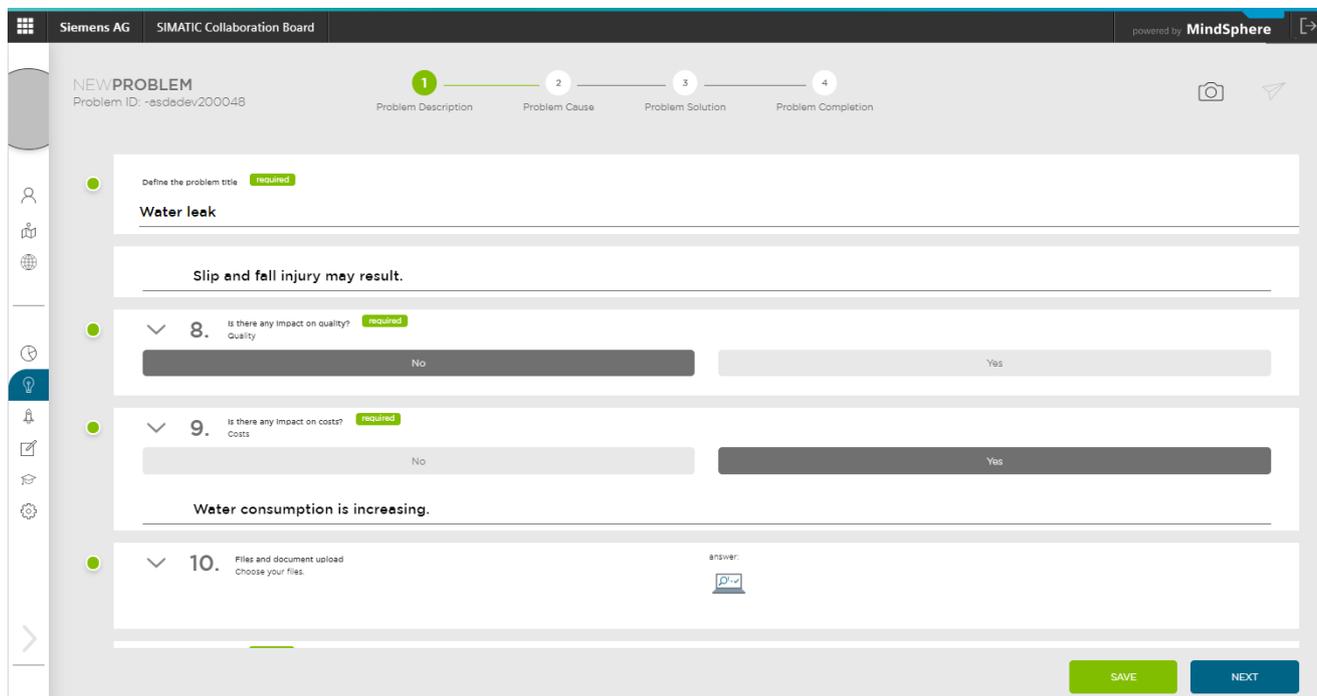
Uploading attachments

You can upload the following types of files:

• Images in the formats PNG, GIF, JPG

• Documents in PDF, RTF, TXT, DOC, DOCX, XLS, XLSX, PPT, PPTX, ODT, ODS, ODP formats

• ZIP archives

The maximum size for an attachment is limited to 4 MB.

You can upload a maximum of 5 files.

The attachments are stored in the IoT Value Plan Tenant.

Additional tools

With the icon

[camera icon]

you can upload an attachment.

With the icon

[send/paper plane icon]

you can send an email, if this function has been activated.

Searching for the cause of the problem

The "NEXT" button takes you to step 2 of the wizard, the problem cause.

5.3 Step 2: Problem cause

In step 2, you use visual representation of the Ishikawa diagram (fishbone model) with 5 factors involved ("FISHBONE" tab).
Alternatively, you can use the 5-Whys method ("FIVE WS" tab). The choice of method remains unchanged throughout the process.

The left column displays the answers from the question catalog.

3 elementary tools facilitate the display on the workspace:

[plus icon]	Add influence factor
[enlarge icon]	Enlarge workspace
[printer icon]	Print workspace

Since it can happen that no problem solution is achieved in one pass, it is possible to work with different versions at this point.

You can work with 3 versions. You can hide and show the contents using the version switch.

[Version 1 — eye icon]   [Version 2 — eye-off icon]   [Version 3 — eye icon]

FISHBONE tab

The main branches of the Ishikawa diagram have 5 possible categories of causes.
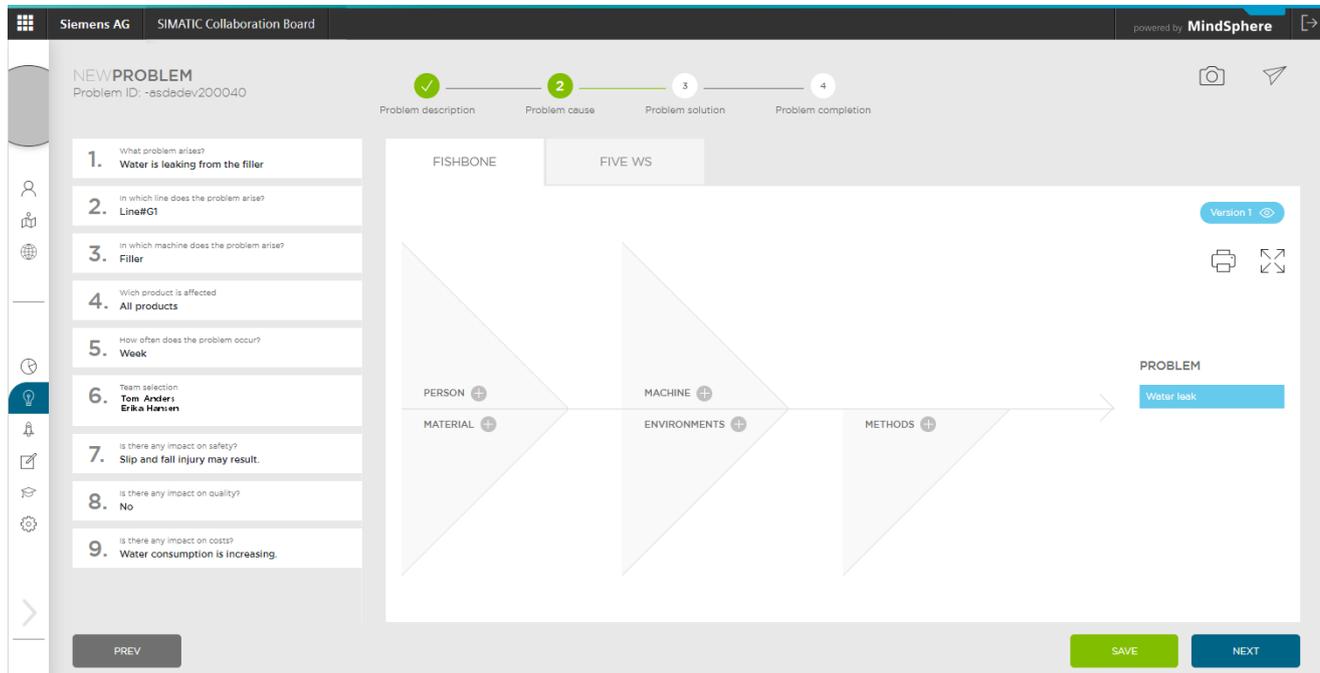
Entering potential causes

Collect potential causes in the workspace for each 5M factors:

- Person
- Material
- Machine
- Environment
- Methods

That way you can make sure that no influencing factors are forgotten.

Follow these steps:

1. Click the icon

 for the selected factor in the Ishikawa diagram.

2. A dialog box opens:

title

Maintenance

11/40

Description

To determine the tightness of the pipeline.
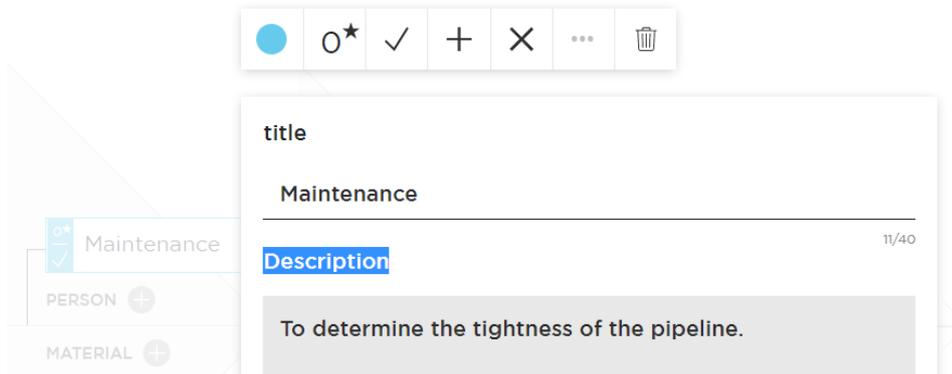
3. Fill in the "Title" and "Description" field.

4. Click "0*". The "+" and "-" buttons appear above and below the "0*" button.

5. Set the priority or importance of the cause from 0 to 10.

   The priority can then be processed further by the team.

6. Click "✓". The cause is saved and displayed in the diagram.

   By default, the check mark is added to the new cause.

   Sealing

   MACHINE

   ENVIRONMENT

7. If you want to clear the check mark (cause not relevant), click "...". .
   Clear the "Add to problem" check box under the toolbar and click the "✓" icon in the toolbar.

   Add to Problem

   Title

   Sealing
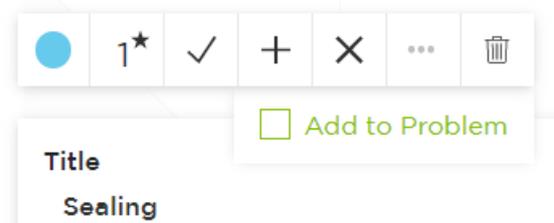
8. If you want to close the dialog box without saving the cause, click "x".

Entering the child element of the cause

1. Click the parent element of the cause and select "+" in the toolbar.

2. Fill in the "Title" and "Description" field.

3. Then continue with the next steps as in the parent element.

Deleting potential causes

Follow these steps:

1. Click the cause and select the icon

   🗑

   in the toolbar.

Example

For a problem with a water leak, the team has collected 7 potential causes.

FIVE WS tab

If you expect a single cause, you can use this simple method instead of the Ishikawa diagram.

You determine the root cause of an error or problem by repeating the "Why" question. Each answer forms the basis for the next question.

The number of questions is not limited to 5.

Solution action

You set tasks for your team based on all the collected causes.

The "NEXT" button takes you to step 3 of the wizard, the problem solution.

5.4 Step 3: Problem solution

In the "Problem Solution" tab, you can determine various measures for solving the relevant causes.

Determine measures

Click the "+" symbol on the right side of the cause. This displays the dialog box.

1. Check the cause.

2. Fill in the problem solution title.

3. Select the person responsible.

4. Set a deadline.

5. Change the status if required.

6. Evaluate the proposed task from the "TIME", "COST" and "BENEFIT" views.
   Slide the blue dots to the right or left along the axis according to your evaluation of efficiency.

7. Describe the task.

8. If the task is relevant, select "Add to solution".

9. Save the task.
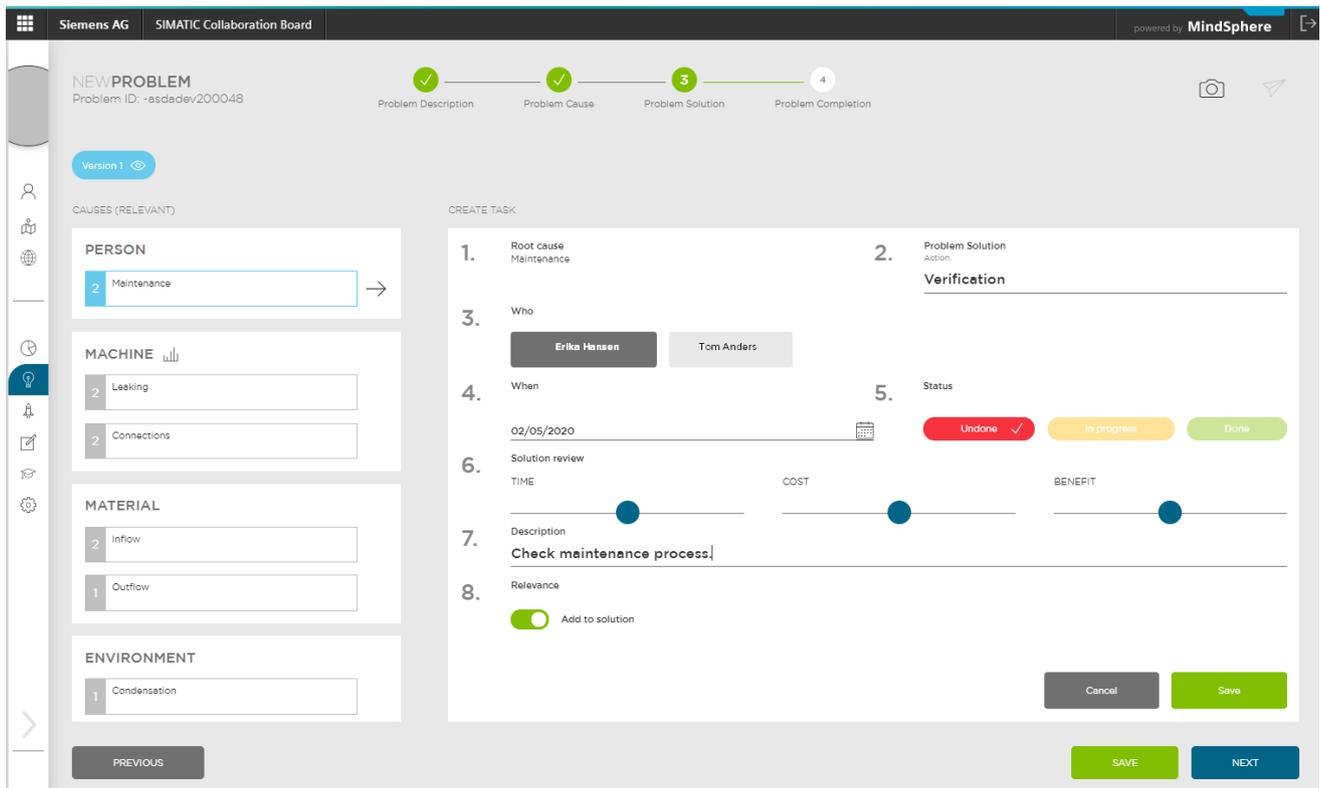
With the "MACHINE" factor, you also have the possibility to obtain and evaluate machine data.

Connecting machine data

Collaboration Board shows time series of machine data recorded in MindSphere. Direct and secure connection for encrypted data transfer from MindSphere sources is possible in two ways:

• With the MindConnect Nano Box

• With the WinCC/Cloud Connector

The amount of data collected in MindSphere is limited to 2000 entries.

Retrieving machine data

1. Click the ⊪ icon. A dialog box is displayed.

2. Select the "Machine".

3. Select the beginning and end of the time window. When selecting the time interval, note that the amount of exported data is limited to 2000 entries.

4. Select the signals.
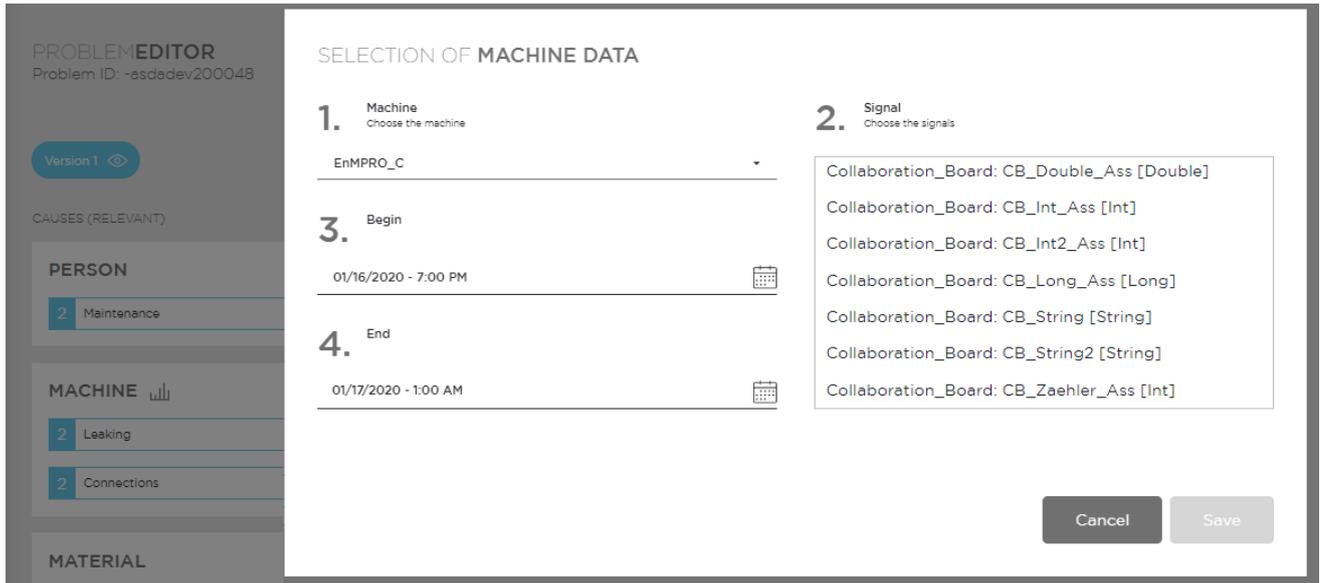
5. The selected signals are displayed as a graph.

6. Save the data.

SELECTION OF **MACHINE DATA**

1. Machine
Choose the machine

EnMPRO_C ▼

2. Signal
Choose the signals

| Collaboration_Board: CB_Double_Ass [Double] |
| Collaboration_Board: CB_Int_Ass [Int] |
| **Collaboration_Board: CB_Int2_Ass [Int]** |
| Collaboration_Board: CB_Long_Ass [Long] |
| Collaboration_Board: CB_String [String] |
| Collaboration_Board: CB_String2 [String] |
| **Collaboration_Board: CB_Zaehler_Ass [Int]** |

3. Begin

01/16/2020 - 7:00 PM

4. End

01/17/2020 - 1:00 AM

01/16/2020   19:09
● CB_Int2_Ass: 12
● CB_Zaehler_Ass: 21

● CB_Int2_Ass ● CB_Zaehler_Ass
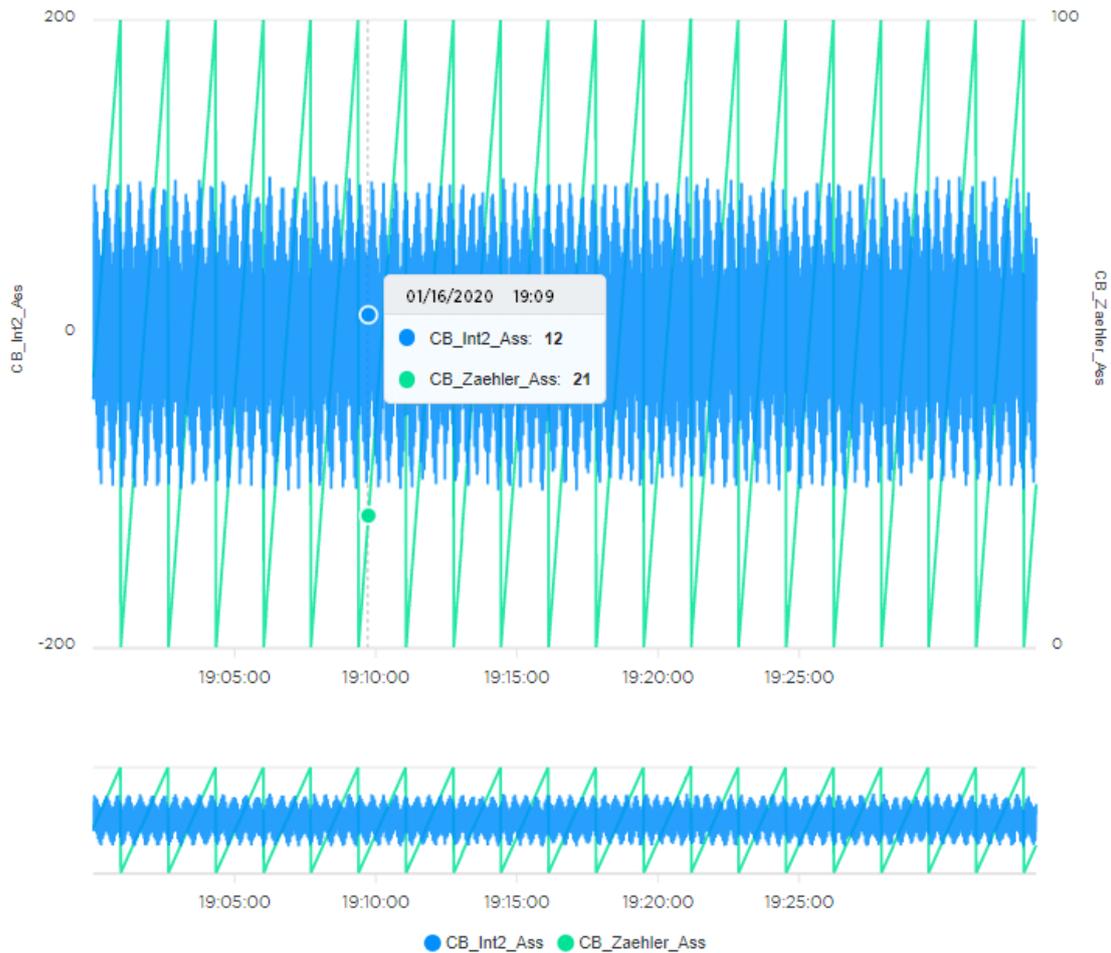
Cancel   Save

5.5 Step 4: Problem completion

In the "Problem Completion" tab, you describe the measures used to eliminate the relevant causes.

Problem was solved

Complete the title of complaints and describe details of the effective solution. This information will help other users to solve similar problems in the future.

If the problem has been solved, click "Yes". A green symbol with a rocket appears.

Save the problem solution.
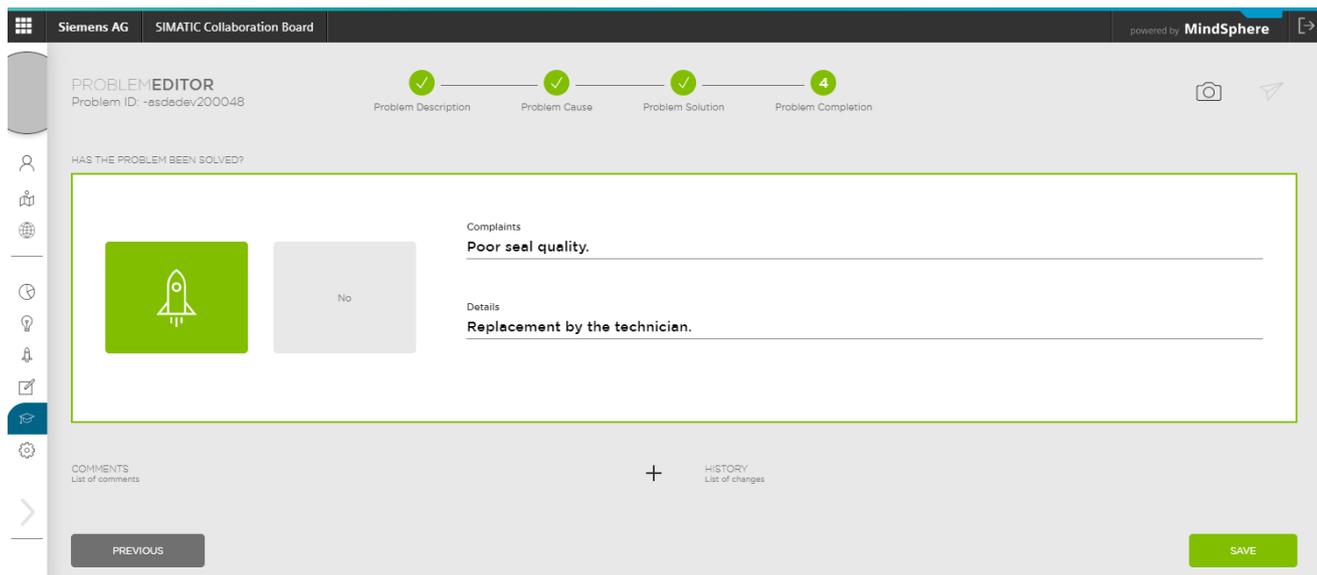
Problem was not solved

Complete the title of complaints and describe details of the solution.

If the problem has not been solved, click "No".

Save the problem solution.

If necessary, start with version 2 or version 3.

5.6   Report

Creating a report

You will find a clear graphical representation of the problems described and solved in the "Report" tab.

The displayed graphics show:

- Your problems in a factory
- Your tasks in a factory
- All problems from all factories
- All tasks from all factories

You can adjust the range of the displayed interval depending on the selection in the drop-down list:

- Last month
- Last year
- Last week
- Last 24 hours
- Today
- Other (calendar selection)

In the diagram area, you can use the sliding ruler to directly read the values of problems and tasks.
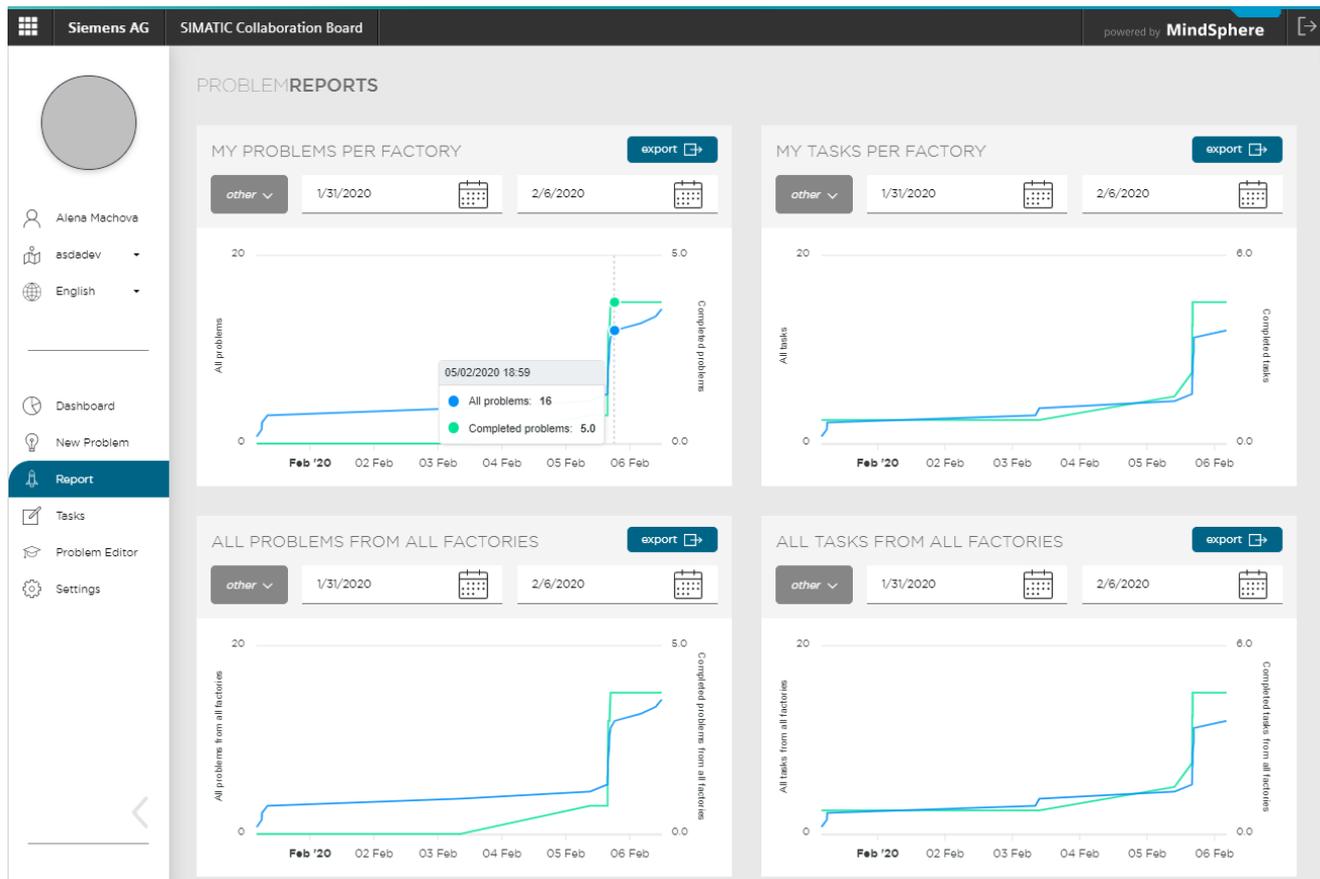
Exporting data

You can export all data records for the specified period in XLS format.

The exported Excel workbook contains 4 separate worksheets for:

- Problems
- Tasks
- Descriptions
- Factory information

The data do not include the measures used.

You can obtain valuable analyses from the exported data.

5.7 Tasks

You can open an overview of the individual tasks using the "Tasks" menu item.

Editing tasks

The tasks are sorted by status in the left column:

• Undone (red)

• In progress (yellow)

• Done (green)

The categories in the top row allow you to sort and filter the tasks.

You can open, edit or add more attachments to the task at any time:

• Click the corresponding white button in the left column.

• A dialog box with detailed information is displayed.

• Make the changes and save the entry.

In the right column, you will find the progress of the steps of the individual team members.

Storing attachments

Attachments are stored on the customer's IoT Value Plan tenant. To reduce delays in displaying the PCS mask, no thumbnails are displayed for attachments. The corresponding attachment is downloaded from the customer's IoT Value Plan tenant and displayed to the user in full size only when clicked. The user has the option to then download the attachment.

5.8 Problem Editor

You use the "Problem Editor" to edit the records of problems that have not yet been solved.

Editing a problem solution

1. Select the "Dashboard" tab. Problem Editor is started and shows the questions answered earlier.
2. Edit the answers to the questions and save the changes.
3. Click "NEXT" to proceed to step 2.
4. Add possible causes for the problem and click "NEXT" to proceed to step 3.
5. Add tasks to solve the problem and click "NEXT" to proceed to step 4.
6. Once the tasks are solved, you can close the problem in the editor.

Settings

<div style="text-align: right; font-size: 2em;">6</div>

6.1 Language setting

The Collaboration Board App user interface is available in English and German.

Change the language in the side menu.
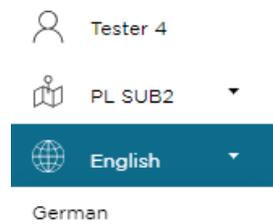
6.2 Editing and adding a factory

The "Settings" tab is only accessible to the administrator.

Every time the user inventory is changed (e.g. when a new user is created on the MindSphere site), the app must be synchronized with the MindSphere database. This is done by pressing the "Synchronize users" button.

The administrator can press the "Factory" button to edit existing factories and add new ones.

To edit the factory, click the ✏ icon.

To create a new factory, click "Add new factory".

To create a factory, proceed as follows:

CREATE **FACTORY**   STEP 1 OF 2

Displayname
Enter factory displayname

SCB 1

Description
Enter factory description

Main factory

Select country
Choose factory location

Germany   ✕

Longitude
Enter factory location longitude

Latitude
Enter factory location latitude

Cancel   Next

1. Fill in the fields "Factory name" and "Description".

2. Select the country.

3. Add longitude and latitude, if available.

4. Click "NEXT".

5. The next step is to set read or write permissions for each user.

CHOOSE **USER**   STEP 2 OF 2

Tom Anders	R W
Else Last	
Mark Zimmermann	R W
Tina Rose	

John Smith	R W
Hans Mayer	
Erika Hansen	R
Emil Rueckel	R W

Write ⬤

Mona Larsen	R
MindSphere Funktionsaccount 1	R W
MindSphere Funktionsaccount 2	R W
Mindsphere Funktionsaccount 3	R W

Cancel   Save

Other entries for editing are:

- Subtenant

- Activity status

The date of the last update is automatically updated.

Activating a factory

To activate the factory, click the "Request activation" button.

Note that activation is subject to additional costs.

A legal notice will be displayed:

REQUEST **ACTIVATION**

Activation of new factory

I am authorized to activate the upgrade at the fees and terms and conditions set out in the Product Sheet and Specific Terms for Collaboration Board.

Cancel   Request

Deactivating a factory

Follow these steps:

Click the green "Active" button. The button turns red.

After deactivation, the factory is still visible, but marked as deactivated. You cannot create new problems in this factory. Data that was created before deactivation is still available after deactivation.

It is not possible to delete a factory.

Editing and adding lines

To edit a line, click "Edit machines" in the corresponding plant.

1. Click on "Edit machine ✎ ".
2. Click on "Edit line ✎ ".
3. Add machines from the list.
4. If necessary, add a new machine.
5. Reposition the machine if necessary by dragging and releasing the icon.
6. Click "Save".

Machines

Machines or Assets represent parts of a production line. These can be either "Manual Assets" (machines or Assets that are not represented in MindSphere and do not contain data) or MindSphere Assets. They can be active or non-active (i.e. cannot be used in lines).

Search / filter / sort Machines

Existing machines can be searched by term, filtered and sorted (alphabetical and newest).

MACHINES

Search Asset   🔍   ☰ Filter   alphabetical ⌄

Editing and adding machines

To edit a machine, click the machine icon.

To add a new machine, enter the name of the machine and upload a graphic representation. The images for created machines are stored in the app database. Uploaded images larger than 4 MB are automatically reduced in size when uploaded.

PROBLEM**SETTINGS**

← Factory

_Bottle Washer

📄 Manual Asset
Update   3/14/2022
🔗 no line connected

_Crate Washer

📄 Manual Asset
Update   3/14/2022
🔗 no line connected

_Depalletizer

📄 Manual Asset
Update   3/14/2022
🔗 no line connected

_Filler

📄 Manual Asset
Update   3/14/2022
🔗 no line connected

Bottle Inspector
_Inspector

📄 Manual Asset
Update   3/14/2022

_Packer

📄 Manual Asset
Update   3/14/2022

_Palletizer

📄 Manual Asset
Update   3/14/2022

_Pasteurizer

📄 Manual Asset
Update   3/14/2022

The machine icon shows machine image and name, when they have been updated last, and if they are used in one or more lines.

The vertical color line at the left represents the line they are used in. The line will have the same colored vertical line. A machine can be used in one or more lines.
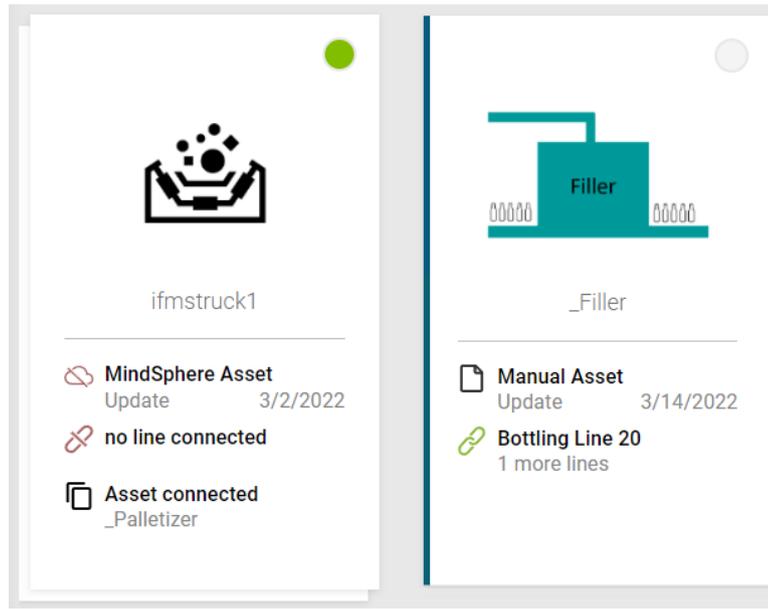
Link Machine to MindSphere Asset

To link a "Manual Asset" to a MindSphere Asset, proceed as follows:
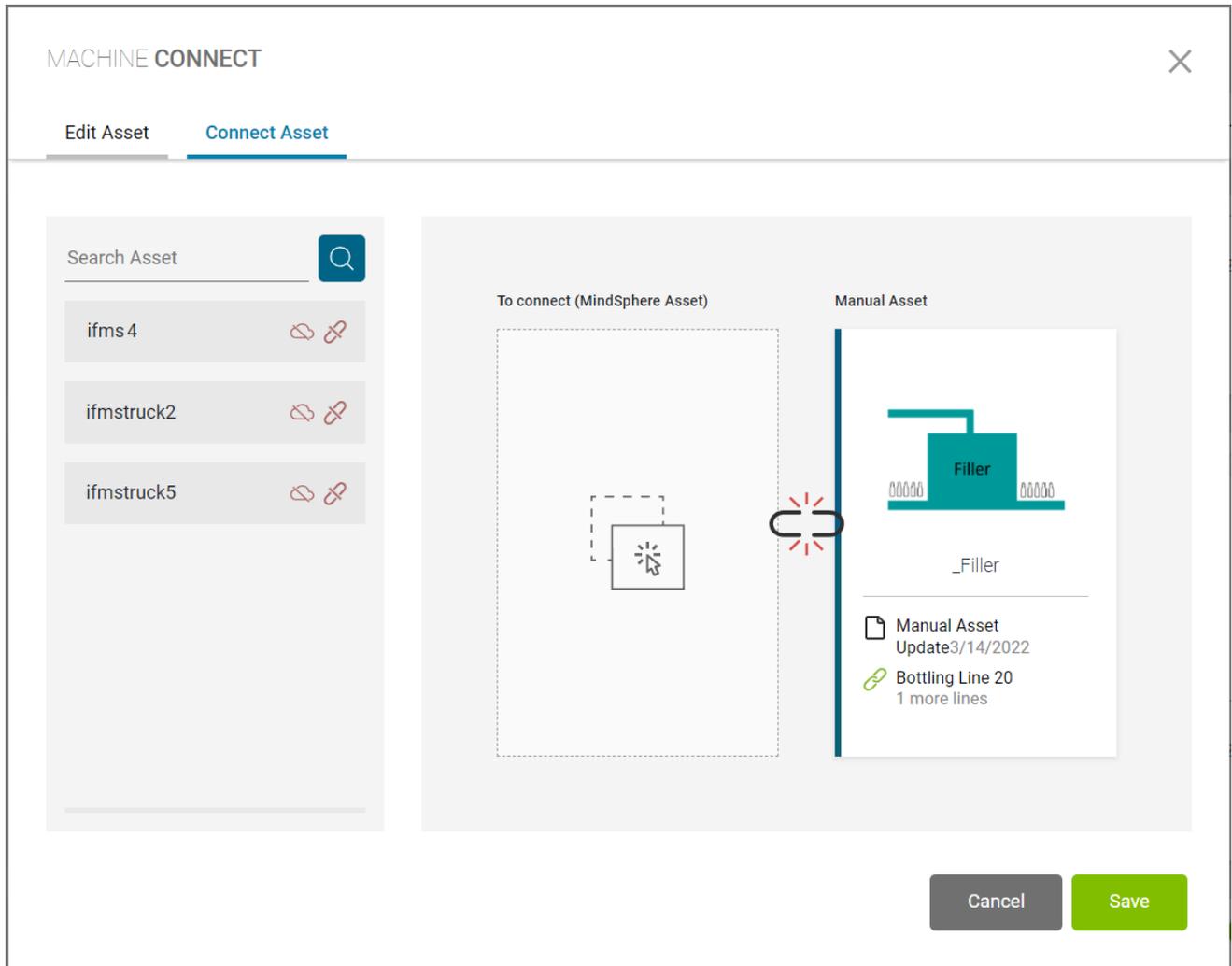
1. Click on the machine icon.

2. Click tab "Connect Asset".

3. Search and select the MindSphere Asset to be linked.
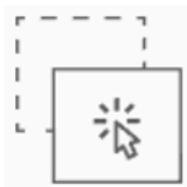
4. Drag the asset and onto the icon
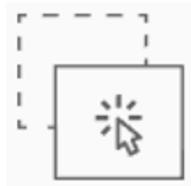
and release it.

5. Click "Save".

6. Confirm the "Information" box by clicking "Accept".

Information

Once you link a Manual Asset to a Mindsphere Asset, the placements are replaced by the Mindsphere Asset and the Manual Asset is removed from the overview. You can remove the link once you edit the Mindsphere asset and unlink it.

Cancel   Accept

To unlink a machine from a MindSphere Asset, follow these steps:

1. Click the Machine.

2. Click tab "Connect Asset".

3. Click "Disconnect".

4. Click "Save".

6.3   Modifying the question catalog

This "Settings" tab is accessible only to the administrators. The administrator can customize the question catalog via the "Questions" button.

The mandatory questions are relevant for the system and cannot be changed. You can only modify the optional questions in this step.

You can deactivate the question with the option button. The deactivated question is hidden in the "Problem Description" and in the "Problem Editor".

Adding new questions

Follow these steps:

1. Fill in the "Name" and "Description" fields.

2. Select the question type
   - Text
   - Select
   - Multiselect

3. For questions with selection, fill in the possible values.

4. The "Question required" option button is enabled by default.
   Note that this selection also affects the problems described above that have not been solved.
   If necessary, switch off the "Question required" option button.

5. Click "Add new question".

6. Click "Save".