Dual Inventive
Transforming Rail Safety

MTinfo 3000 web app

User Manual

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1 VERSION HISTORY

Version number	Date	Change log	Reference (Chapter/Section/Figure)
2.0	08.09.2023	Addition: Notifications and remote switching, knowledgebase description, mobile phone number note, Disclaimer Improvements: Screenshots, System Health chapter, RDI RTS explanation	
2.1.0	22.09.2023	Addition: Notification	
2.1.1	02.10.2023	Addition: 2FA & Password reset	
2.1.2	26.10.2023	Modification: Asset management Screenshot, Notification logic diagram Deletion: Excel as a reporting option	
2.2.0	16.01.2024	Addition : Time zone feature (Screenshots), List of Figures Modification: Rebranded, Terminology ('Alerts' replaced as 'Notifications')	
2.2.1	20.03.2024	Addition:	
		Filter option added for other devices (RDI 3000, RSS 3000 etc.),	Figure 76, Figure 85
		Report expiry detail	8
		CSV as a reporting option for Project downloads	Figure 90
2.3.0	26.03.204	Addition: Return via mobile application	6.10.5.2.2
		Modification: Screenshots with the 'Return via mobile application' feature	Figure 18, Figure 21, Figure 22, Figure 26, Figure 28, Figure 32, Figure 41, Figure 33
2.3.1	21.08.2024	Addition: User right 'Device: change Unique ID'	Figure 29
		Modification: User Manual naming conventions	All

Version number	Date	Change log	Reference (Chapter/Section/Figure)
2.3.2	16.09.2024	Addition: Key switch notification	Errors and Notifications (item 29), Errors and Notifications (item 15), Errors and Notifications (item 3)
2.4.0	13.11.2024	Addition: SRACs, New Project log screenshots and content, DI Technical Support	Safety Related Application Conditions, Project log. DI Technical Support
2.4.1	29.11.2024	Modification: Status page	Status page, Dashboard
2.5.0	09.05.2024	Modification: Identification provider, SRAC	Getting started, Creating users, Managing users, Safety Related Application Conditions
2.5.1	16.06.2025	Addition: New error icon for protection zone and rail device during switching and RTS. Modification: Switch protection zones, Login session duration Security Contact	Session timeout, Switch Protection Zones,Real-time status, DI Security Contact

2 SAFETY RELATED APPLICATION CONDITIONS

Safety Related Application Conditions OR SRAC(s) are *essential requirements* that must be fulfilled to ensure the safe use of MTinfo 3000. You will find references to SRACs throughout the User Manual.

SRAC MTI 1	The user must complete training before using MTinfo 3000.
SRAC MTI 2	The administrator in the user's organisation must enter users into the system according to the relevant training.
SRAC MTI 3	The user must read and follow the User Manual before using MTinfo 3000.
SRAC MTI 4	The user must know national legislation before creating a safety plan.
SRAC MTI 5	The user may only access the track according to national and company safety instructions.
SRAC MTI 6	Assign at least two people per project to release a project or (de)activate a protection zone.
SRAC MTI 7	Ensure your mobile device has the latest security patch installed. Use mobile devices, web browsers, and operating systems per DI policy, which is available on request via DI Technical Support.
SRAC MTI 8	Keep your login details and PIN code private and secure.
SRAC MTI 9	The user must check if the protection zone is (de)activated, after making changes to its status.
SRAC MTI 10	Contact your local IT department if you experience internet connectivity issues.
SRAC MTI 11	Only users with switch user rights can (de)activate a device in a released project.
SRAC MTI 12	Ensure track workers are safe before (de)activating a device.
SRAC MTI 13	To prevent misuse of password and PIN code, immediately contact the responsible person in the organisation to block the account. If possible, go to MTinfo 3000 and change the password.
SRAC MTI 14	Assign only the correct and necessary user rights for each worker to perform their job.
SRAC MTI 15	If the project cannot be released, it is because it has not received the 'Validated' status, is not considered safe, one or more devices are offline, or the key switch is not in 'Operational' status.

3 PREFACE

The MTinfo 3000 IoT platform has been developed in line with the rail and information standards EN 50126, EN 50128, EN 50129, ISO 9001, ISO 14000 and ISO 27001 for maximal safety and security. In addition to having its private cloud, which can be accessed via the internet, MTinfo 3000 also offers worldwide secure mobile communication with systems in the field. According to the new European legislation, the platform also complies with all privacy standards. The platform has Safety Integrity Level 4 (SIL 4), which is the highest available standard in the market for managing railway safety plans.

The user must read and follow the User Manual before using MTinfo 3000. (SRAC MTI 3)

For MTinfo 3000 to be used safely and correctly, it's important that you fully understand and follow each step accordingly. Always keep this manual on hand, so you can use it at any time.

This manual is also available at https://www.dualinventive.com/en/downloads.

If you encounter any ambiguities while using MTinfo 3000, please report them via info@dualinventive.com or by telephone. Your feedback is important to us.

To support the use of MTinfo 3000, resources have been made available by Dual Inventive which can be found on our website https://dualinventive.com/en/.

No rights can be derived from the information in this User Manual. The reproduction or distribution in print, written and/or audio-visual form is prohibited, unless Dual Inventive has permitted this beforehand.

Dual Inventive has originally written this manual in English. If anything is unclear or deviates from the original in a translated version, the original English document is leading.

3.1 Purpose of the User Manual

The purpose of this User Manual is to instruct the user on the correct and safe use of MTinfo 3000. The platform is the web interface for various Dual Inventive products, for example ZKL 3000 RC and RDI 3000. New products are under development and will be added to MTinfo 3000.

This User Manual contains instructions regarding the:

a. Setup of safety plans;

b. Design and planning of safety plans;

c. Remote switching of protection zones; a protection zone is a group of one or more devices that always switch together. It is possible to use multiple dual inventive products, named devices, in the same protection zone and to manage them simultaneously. Multiple protection zones can be created, giving the project planner operational flexibility. As you will see in the main menu, mtinfo 3000 has many functions and possibilities. For more information you can always contact us;

d. Real-time monitoring of safety devices;

e. Generating reports.

How to use MTinfo 3000 is similar for Dual Inventive's safety products. If any product specific information is applicable, see the appendix for that product in this manual.

3.2 Users

Typical users of MTinfo 3000 are:

a. The work planner who prepares safety plans and assigns the locations for installing devices on the railway track;

b. The installer, the track worker who installs devices on the railway track;

c. The operator, the track worker, switches devices on the railway track.

The work planner will frequently use the MTinfo 3000 web app. The installer and operator will frequently use the MTinfo 3000 mobile app. Users can be named by their assigned task in MTinfo 3000, for example, Project Designer, Project Planner, Project Validator, Project Verifier, etc.

a. Every user of MTinfo 3000 must be trained to work with MTinfo 3000;

b. Be authorised by the company administrator for the necessary access and user rights for MTinfo 3000.

c. The administrator in the user's organisation must enter users into the system according to the relevant training. (SRAC MTI 2)

After certification, the user receives a personal MTinfo 3000 account. See 5.1 for the terms of use.

The user (operator) must follow the real-time status (RTS) and notifications in the app and respond. RTS information is more accurate than device notifications.

The operator may only access the track according to national and company safety instructions.

3.3 Reading guide

To alert the reader to safety issues and important information, the following symbols and terms are used in this manual:

SYMBOL	MEANING
	WARNING Indicates a hazardous situation which could result in death or serious injury and/or damage to the product or the surrounding area if the safety instructions are not followed.
	NOTE Provides important information.
	NOTE Refers to a document.

3.4 Glossary

Glossary	MEANING
Project	A project allows multiple rail devices & certified users to be aligned to protection zones, which can be remotely (de)activated via the MTinfo 3000 web or mobile app.
SIL	Safety Integrity Level
RDI 3000	Remote Detonator Installer 3000
RSS 3000	Remote Safety Switch 3000
ZKL 3000 RC	Line Blockage System 3000 Remote Control

Table 3-1: Abbreviations

NOTE

The screenshots in this user manual show examples of several devices and projects in a figurative sense.

4 TECHNICAL SPECIFICATIONS

MTinfo 3000 is an online application that does not require any software to be installed on your computer. After registration, authorisation and authentication, MTinfo 3000 can be used on any computer with an internet connection.

The minimum requirements are:

SPECIFICATION	VALUE
Internet	a. Broadband
Computer	b. Processor at least 1.5 GHz c. Internal memory at least 2,048 MB d. Video card at least 512 MB e. Screen resolution of at least 1,366p by 768p
Web browser	f. Google Chrome latest version (recommended) g. Microsoft Edge latest version
Recommended Software	h. Adobe Acrobat as PDF reader to view reports i. Google Earth (for projects 'GPS-Track')

Table 4-.2: Minimum requirements

NOTE

If the requirements for the needed software and hardware are incorrect or absent, Dual Inventive is not responsible for the consequences.

5 TERMS OF USE

DANGER

Please read all terms of use and instructions for the first use carefully before using MTinfo 3000. Ensure that you fully understand the principles of MTinfo 3000 and how it works practically. When precautionary measures and safety instructions are not properly followed by the user there is a risk of electrocution, fire or even death due to the railway environment.

5.1 Terms of use

1. You may only use MTinfo 3000 when:
   a. You are certified to work with the applicable Dual Inventive products;
   b. You are authorised by the user company for the right access and user rights;
   c. The products are certified for the deployment area.
2. The user must complete training before using MTinfo 3000. (SRAC MT1 1)
3. Dual Inventive creates a user account for the company. This user account is the company's administrator and is the nominated contact person for your company. The administrator is responsible for creating and managing users and their respective rights for using Dual Inventive product(s), in such a manner that misuse is avoided.
4. As a certified user, you are responsible for:
   a. The received user rights, username and password and/or PIN code;
   b. Keeping the password and/or PIN code secret;
   c. Working safely with Dual Inventive products.

WARNING

Always respond to notifications from devices when something is not working correctly.

5. There are certain situations where you may be prevented from switching protection zones. For more information about these situations, refer to the applicable User Manual of the Dual Inventive product.
6. Used hardware, software settings, firewalls etc. could limit the connection to MTinfo 3000. When you encounter any issues, please discuss it with your IT staff.
7. See Table 4-.2 and visit https://dualinventive.com/en/ to find out which browsers and devices are supported by MTinfo 3000 and the app. If needed, request support from Dual Inventive.
8. Ensure you have the right SIM card inserted into your mobile phone. The system links your mobile phone number with your assigned user account.
9. Ensure your mobile phone is in good working condition. You should be able to send and receive messages via MTinfo 3000.

10. When entering a user into MTinfo 3000, ensure that the correct language is activated. If needed, users can change the language.
11. User must set their preferred time zone under 'My profile' in MTinfo 3000. This will be automatically applied as default across various functionalities in MTinfo 3000.
12. If you have lost login details and/or PIN codes, immediately contact the company administrator within your organisation to block the account to avoid misuse. If internet is available, please go to MTinfo 3000 and change the password and PIN code to avoid misuse.
13. While preparing projects, make sure to have internet connection.
14. **Assign at least two people per project to release a project or (de)activate a protection zone. (SRAC MTI 6).** MTinfo 3000 offers the possibility to grant several users the rights to manage projects.
15. If a scheduled user is ill or absent, contact the person with rights for the project planning. Change the project planning according to the procedure. Schedule another or second user.
16. If the location of a device must be changed, contact the person with rights for the project design. Change the project design according to the procedure.
17. Check the connection with MTinfo 3000 if it cannot be reached. If a device is not present in MTinfo 3000, the project cannot be released.
18. **Contact your local IT department if you experience internet connectivity issues. (SRAC MTI 10)**

5.2 Instructions for first use

1. Ensure that the software on your computer is kept up to date, including your web browser, Google Earth and PDF reader.
2. Follow the applicable local regulations before entering the worksite.
3. Always take care of your safety within the track environment, following the current applicable legislation.
4. Always use a secure connection with MTinfo 3000. The connection is safe to use when the web address is preceded by https://.
5. **Ensure your mobile device has the latest security patch installed. Use mobile devices, web browsers, and operating systems in accordance with DI policy. (SRAC MTI 7)**

6 PROJECT USERS AND TASKS

MTinfo 3000 utilises a role-based access control system. Project users are created by the company's administrator (see 7.6). For each project, MTinfo 3000 tasks are assigned to the right-bearing project users. The order of the project tasks is not fixed.

Table 6-3 shows an overview of the MTinfo 3000 tasks:

TASK	EXPLANATION
Setup	Creating projects and assigning tasks to project users.
Design	Creating protection zones and assigning devices to protection zones.
Verify design	Verification of the project design. **Do not assign this task to a project user who is also responsible for the design.**
Validate design	Validation of the project design. **Do not assign this task to a project user who is also responsible for the design or design verification.**
Plan	Assigning switch users to protection zones. This means linking switch users to protection zones and determining the time frames for switching protection zones.
Verify planning	Verification of the project planning. **Do not assign this task to a project user who is also responsible for the planning.**
Validate planning	Validation of the project planning. **Do not assign this task to a project user who is also responsible for the planning or planning verification.**
Release	Release the project to be able to use it. Devices will be reserved to the project.
Return	Return the project so the protection zones can no longer be switched. The devices are no longer reserved for the project.
Closing	Close the project to archive it. A closed project can never be released again, but it can still be viewed or duplicated.

Table 6-3MTinfo 3000 tasks

7 USING MTINFO 3000

This section provides an overview of the MTinfo 3000 functions.

7.1 Overview of functions

7.1.1 Main functions

The MTinfo 3000 functions are divided into three main sections:

a. Creating projects: setup, design and plan projects;
b. Managing projects: release, return and close projects;
c. Switching protection zones.

7.1.2 Additional functions

a. Logging users and tasks within projects.
b. Adding data to devices;
c. Viewing the real-time status of devices;
d. Creating and managing various types of reports;
e. Managing documents within projects;

NOTE

1. The functions within MTinfo 3000 that users can access depend on the rights assigned to them.
2. Several MTinfo 3000 functions consist of multiple steps. Some of these steps are optional.

Table 7-4 shows an overview of the MTinfo 3000 functions and their steps:

SECTION	FUNCTION	STEP		OPTIONAL
7.11.1	Setup project	1.	Project info	
		2.	Users	
		3.	Tasks	
7.11.2	Design project	1.	Devices	
		2.	Protection zones	
		3.	Setup	
		4.	Message	X
7.11.3	Plan project	1.	Switch users	
		2.	Protection zones	
		3.	Instruction app	X
		4.	Documents	X
		5.	Access levels	X
		6.	Devices	X
7.11.4	Verification and validated			
7.11.5.1	Release			
7.11.5.2	Return			
7.11.5.3	Close			
8	Switching protection zones	1.	Protection zone(s)	
		2.	Switch	
9	Reports	1.	Report info	
		2.	Users*	
		3.	Devices	
		4.	Display	
		5.	General	
10.1	Real-time status			
10.2	Adding data to devices			
10.3	Templates	1.	General	

SECTION	FUNCTION		STEP	OPTIONAL
		2.	Questions	X
10 .4	Project documents	1.	General	
		2.	Documents through the app	
10.5	Project log			

Table 7-4: MTinfo 3000 functions

*Some reports also have the step Projects.

7.2 Icons and actions

MTinfo 3000 uses a set of recurring icons for actions. The table below explains the icons:

	EXPLANATION
	Back to the Dashboard.
	Create a new item (project, user, company, etc.).
	Cancel or close an item. The item will not be saved.
	Download a report or document.
	Duplicate an item.
	Return to the user overview.
	Return to the user roles
	Generate a report.
	Check and approve or reject the performed step.
	Personal MTinfo 3000 profiles.
	Save an item.
	Show the project overview.
	Switch protection zones.
	Close a project. See all closed projects.
	Show the reports overview.
	View the real-time status of devices.
	Show the assigned tasks.
	Start an assigned task.
	Upload files.
	Delete selected items.
	Go to the next step.
	Go back to the previous step.
	Edit an item.
	Add comments.
	Search for an item.
	Warning for unwanted conditions.

Table 7-5: Explanation of icons

7.3 Getting started

7.3.1 Landing page and login

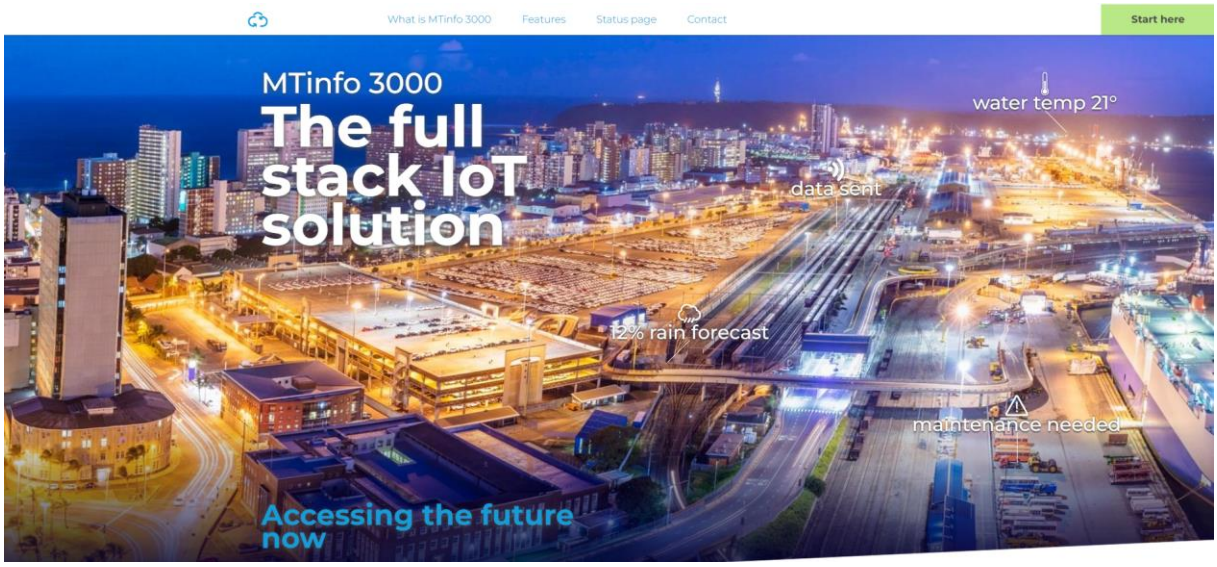


Figure 1 Landing page MTinfo 3000

1. Open your web browser and navigate to https://www.mtinfo3000.com/landingpage/
2. Click '**Start here**' in the upper-right corner of the landing page (see Figure 1).
3. The login window will be displayed (see Figure 2)
4. Enter your **email address** or **username**, along with your **password**, in the respective fields.
5. Before ticking '**Accept agreement**', read and agree to the '**IoTaaS Terms of Use MTinfo 3000**'.
6. Select '**Log in**' to access your account. For first-time user, refer to New user account activation and setup.

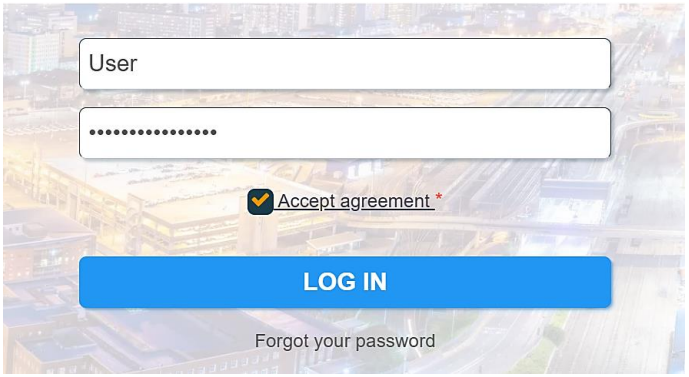


Figure 2 Log in

7.3.2 Two-Factor authentication

Two-factor authentication is required when logging in from a new or untrusted device. Follow these steps to authenticate your account:

1. When prompted, the **2FA Authentication Window** will appear:
   - Copy the verification code sent to you via **SMS or email.**
   - Enter the code into the authentication window.
2. (Optional) Tick the **'Trust this browser for 30 days'** box to avoid re-authenticating for the next 30 days on the same browser and device.
3. Click **'Verify'** to authenticate your account.

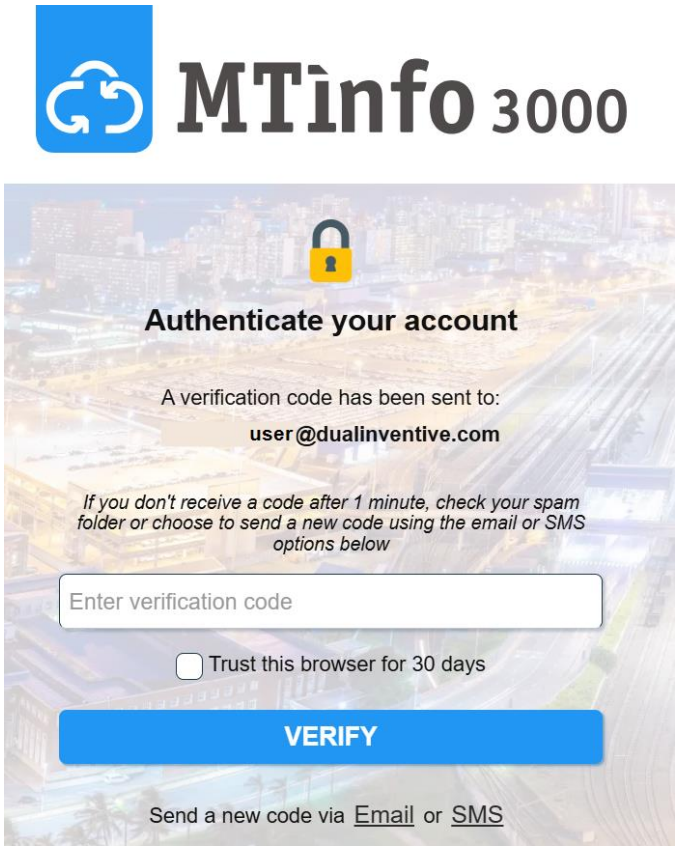


Figure 3 2FA via SMA and Email

NOTE

a. Avoid ticking 'Trust this browser for 30 days' on public or shared devices.

b. You have **10 attempts** to enter a valid verification code. After the 10th last attempt, Two-Factor authentication will be temporarily disabled for **15 minutes.**

c. **To prevent misuse, immediately contact the responsible person in the organisation to block the account. If possible, go to MTinfo 3000 and change the password. (SRAC MTI 13)**

7.3.3 Select and change company

1. After logging in, if you are part of *multiple companies*, the **Company Select page** will appear.

- If you belong to **5 or fewer companies**, the companies will be shown as buttons.
- If you belong to **more than 5 companies**, the companies will appear in a drop-down list (see Figure 4).

2. Select the appropriate company to continue to the app.

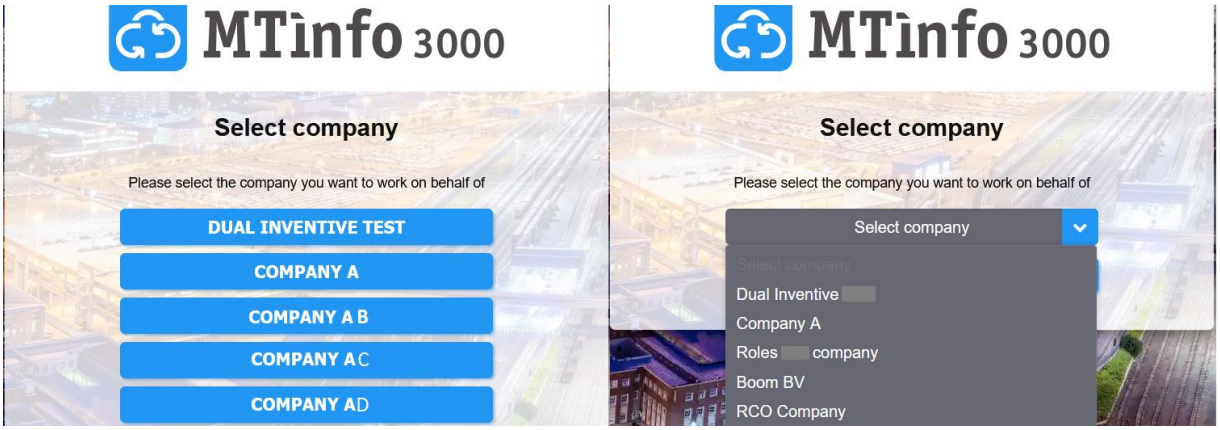


Figure 4 Select company

To change company,

1. Once logged into MTinfo, navigate to your **profile settings** on the top-right corner.
2. Select '**Change company**' (see Figure 5) to switch your company.

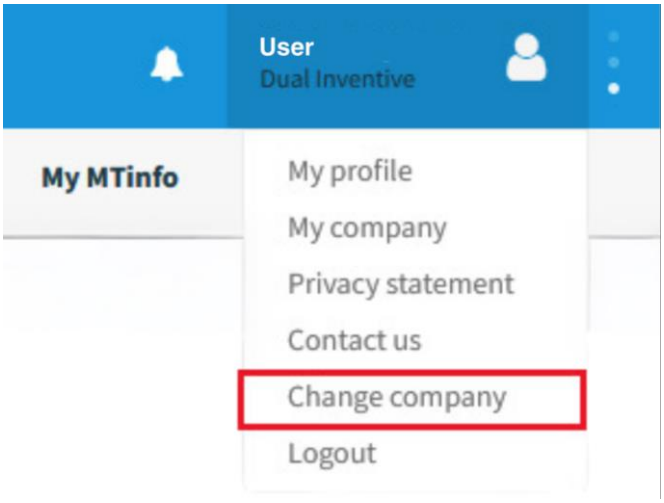


Figure 5 Change company

7.3.4 Session timeout

If your session times out, you will have the option to:

1. Select **'Continue as [username]'** to automatically continue the session with the same credentials.
2. Select **'Use another account'** to log in using a different account.

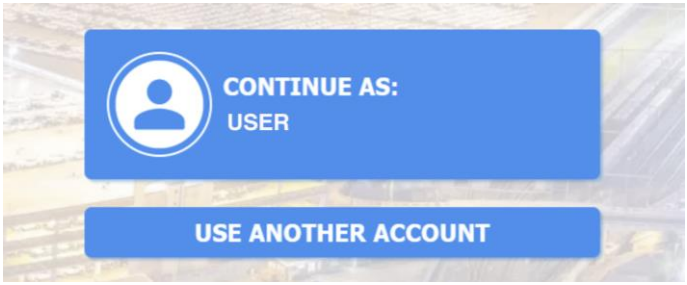


Figure 6 Session timeout

NOTE

a. You will stay logged in for *7 days*, unless you log out manually.

b. **Keep your login details and PIN code private and secure.** (SRAC MTI 8)

7.3.5 Password reset

If you are unable to log in due to a forgotten password:

1. Click on the **'Forgot Password'** link in the login window.
2. The **Password Reset Request** window will appear (see Figure 7)
3. Click **'Submit'.**

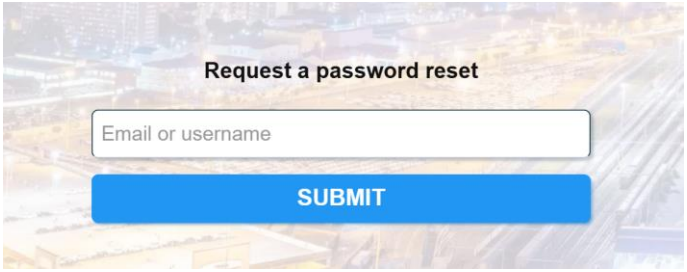


Figure 7 Request Password reset

NOTE

a. Ensure there are no typos, and the correct username are entered to receive the reset email.

b. If you don't receive an email, you may have entered incorrect details.

4. Check your email for the MTinfo 3000 **password reset link.**
5. Click on the **link** in the email. The Reset Password window will open in your browser (see Figure 8)
6. Enter a new password following the **'Password rules'** as shown in the figure.
7. Confirm the new password by entering it again.
8. Click **'Submit'**. If successful, a message will appear **'Your password has been successfully updated'.**
9. You can now log in to MTinfo 3000 using your new password.

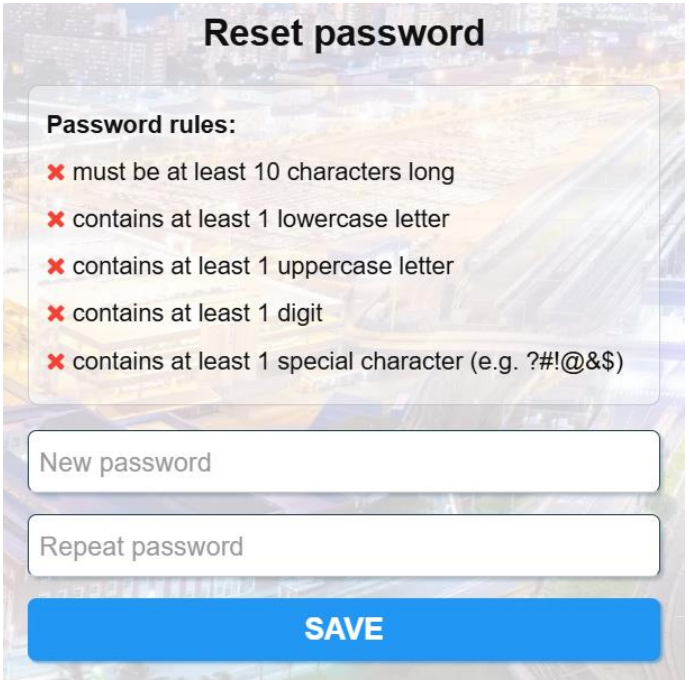


Figure 8 Reset password

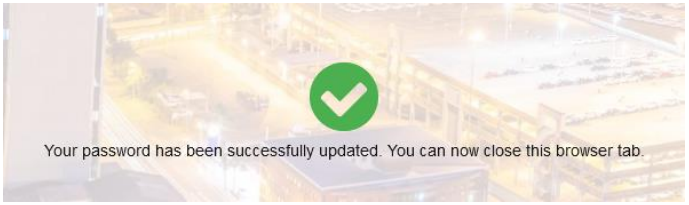


Figure 9 Password reset successful

7.4 Dashboard

After signing in, you will see the dashboard:

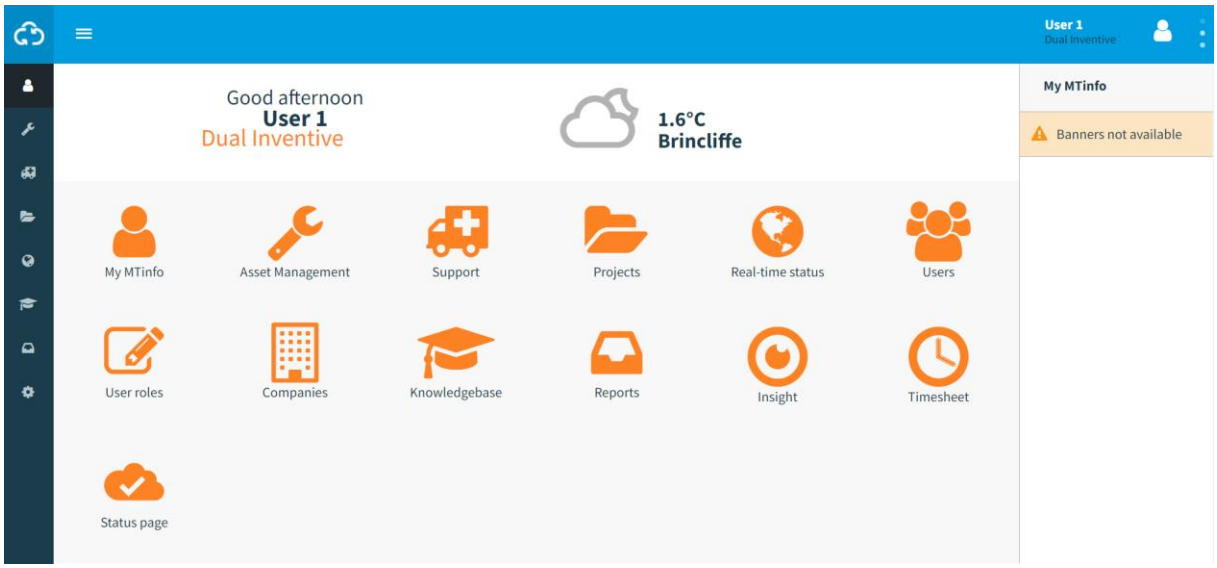


Figure 10 Dashboard

From the dashboard, you can navigate to projects, reports, devices, change settings, etc. The applicable functions will be discussed in the next sections of this User Manual.

The upper right corner of the Dashboard has the following functions:

- The button User/Company Name, gives you access to:
  - My profile;
  - My company;
  - Privacy statement;
  - Contact us;
  - Logout.
- The blinking ellipses at the top right corner (⋮) indicates a good internet connection. A blinking exclamation (!)indicates no internet connection;
- Displaying banners, notifications and tasks.

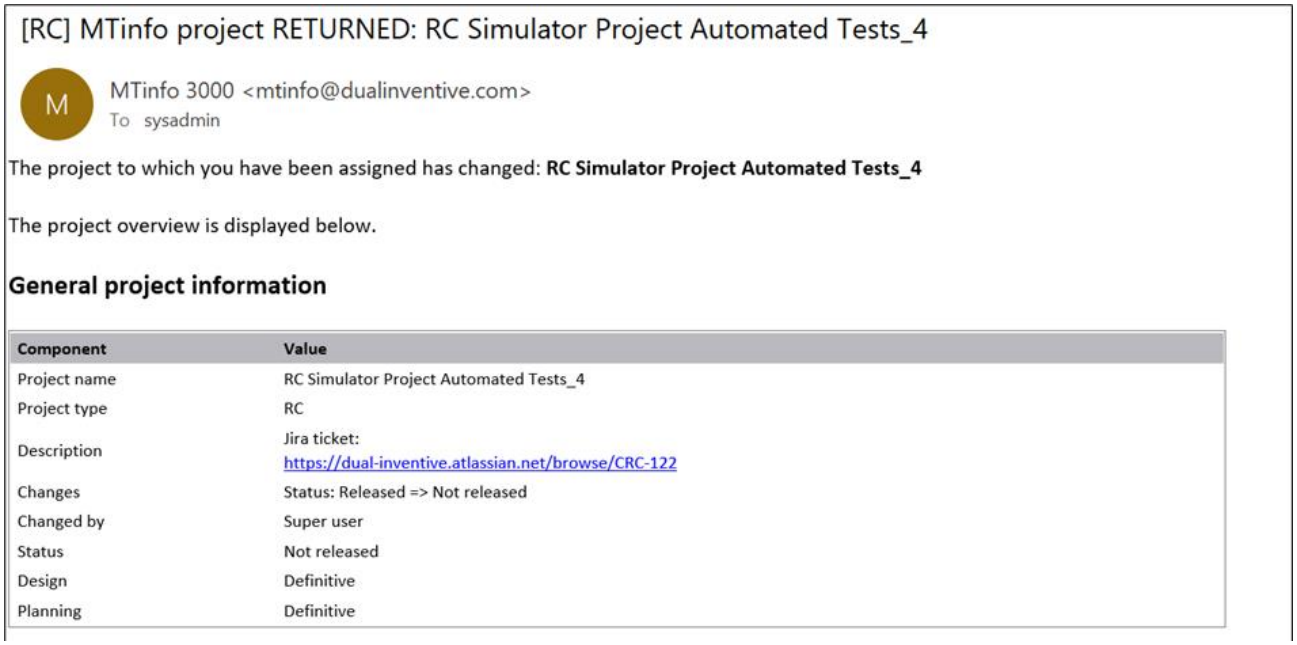
On the left side, you see a menu with several functions. This menu is always available on the individual screens of MTinfo 3000. You can hide (←) or display (≡) this menu.

On the right side, you see My MTinfo. This menu shows an overview of the assigned tasks in MTinfo 3000.

7.5 Service messages

Users can receive the following service messages from MTinfo 3000:

1. Emails regarding project release and return notifications.



[RC] MTinfo project RETURNED: RC Simulator Project Automated Tests_4

M MTinfo 3000 <mtinfo@dualinventive.com>
To sysadmin

The project to which you have been assigned has changed: **RC Simulator Project Automated Tests_4**

The project overview is displayed below.

General project information

Component	Value
Project name	RC Simulator Project Automated Tests_4
Project type	RC
Description	Jira ticket: https://dual-inventive.atlassian.net/browse/CRC-122
Changes	Status: Released => Not released
Changed by	Super user
Status	Not released
Design	Definitive
Planning	Definitive

Figure 11 Sample notification email of return project

2. Critical service notifications via text message (SMS). Examples of these critical notifications are:
   a. Detection not OK;
   b. Back-up or main battery status;
   c. Device is offline;
   d. Device Maintenance.

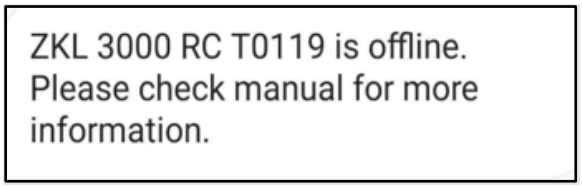


Figure 12 Sample SMS Notification

3. Reminder functionality for the following notifications, for example:
   a. Device offline, when the device is in an activated protection zone;
   b. Detection is not OK when the device is in an activated protection zone.

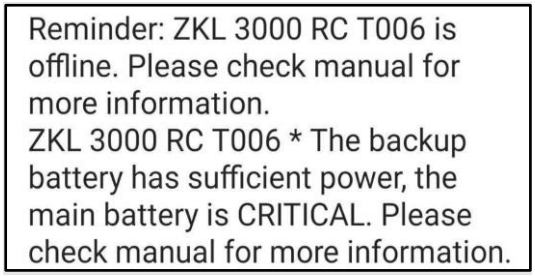


Figure 13 Sample Reminder SMS Notification

NOTE

For more information on Notifications and Notifications reminders, please refer to Appendix Notification Messages.

Notifications ZKL 3000 RC for ZKL devices
Notifications RDI 3000 for RDI devices
Notifications RSS 3000 for RSS devices

4. Security warnings (in case rights have changed or a user logs in from a different IP address);

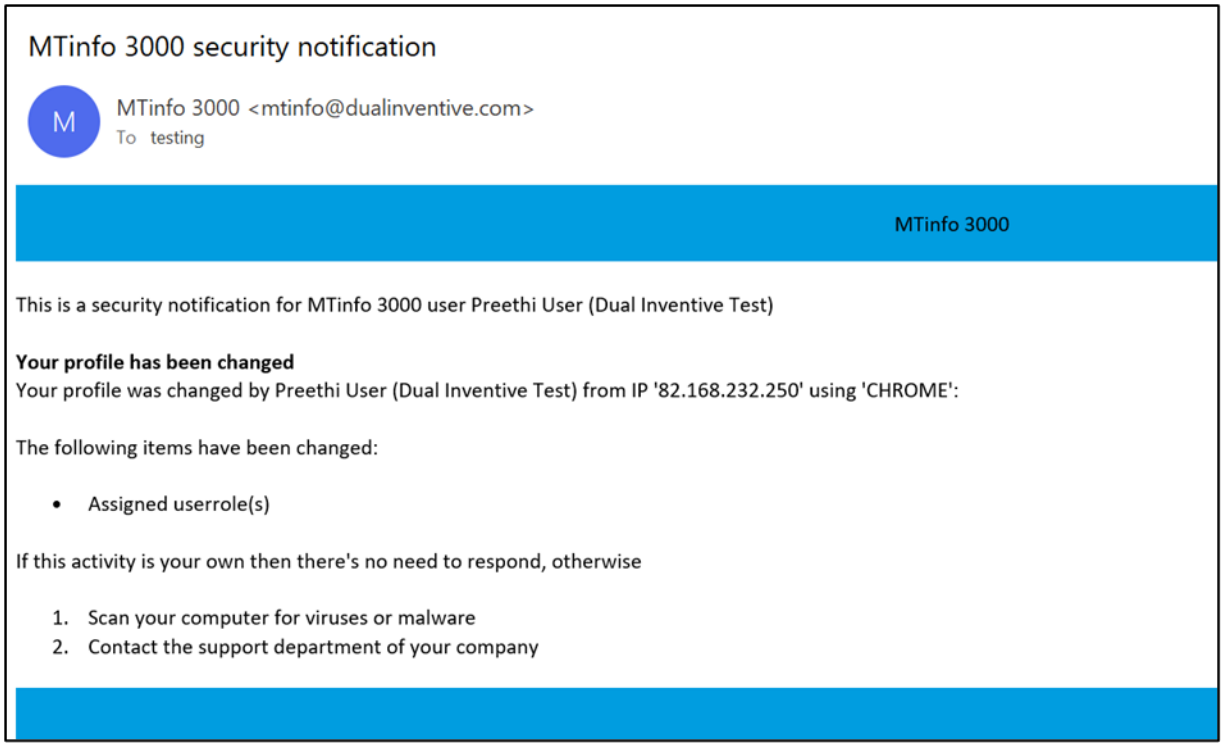


Figure 14 Security Notification Sample

5. (Periodic) reports were generated and documents were filled in by/for project users.

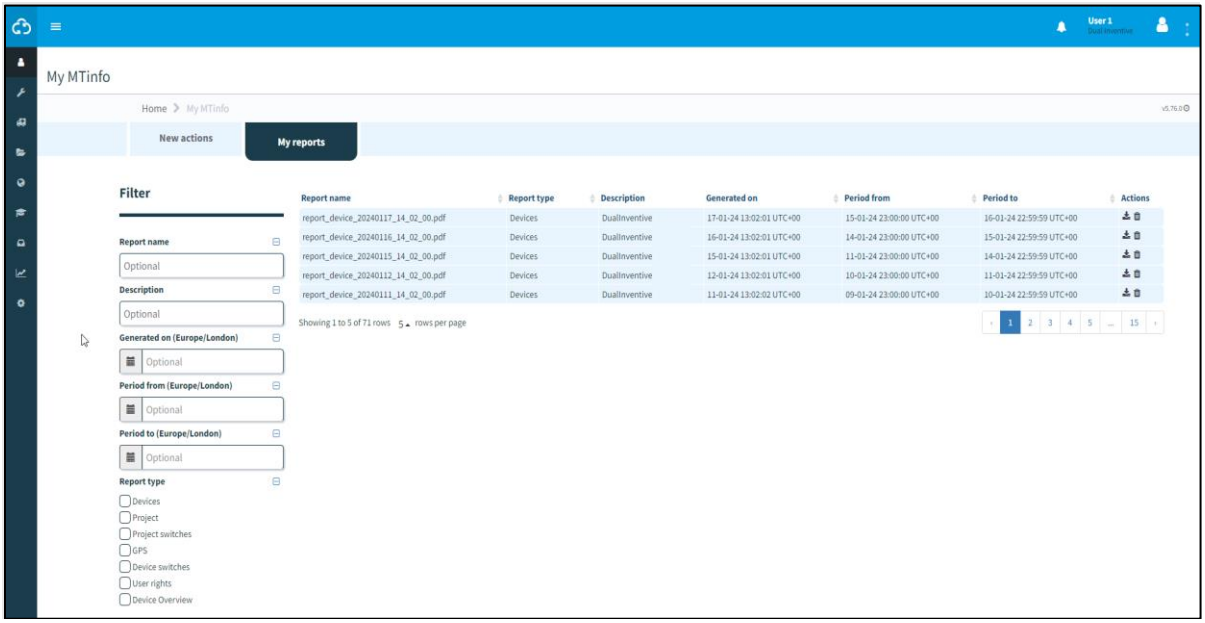


Figure 15 Security Notification Sample

NOTE

Emails regarding projects can be turned off under My profile (Receive project emails: No).
Services notifications are safety-related and cannot be turned off.

NOTE

A notification is a message, or a reminder of a message sent by MTinfo 3000 to a users' mobile device (tablet, phone). A reminder for a critical notification is an extra service to help the user but it is explicitly not a mitigation of an identified risk.

WARNING

SMS messages will not be delivered to the user if a wrong telephone number is registered or when the user blocks the sender's phone number MTinfo 3000.

Verify if you have entered your correct telephone number and do not block the sender.

7.6 Creating and managing companies

If you have the assigned rights, you can create and manage companies.

1. Go to the Dashboard (Figure 11) and click Companies.

The page Search companies appear:

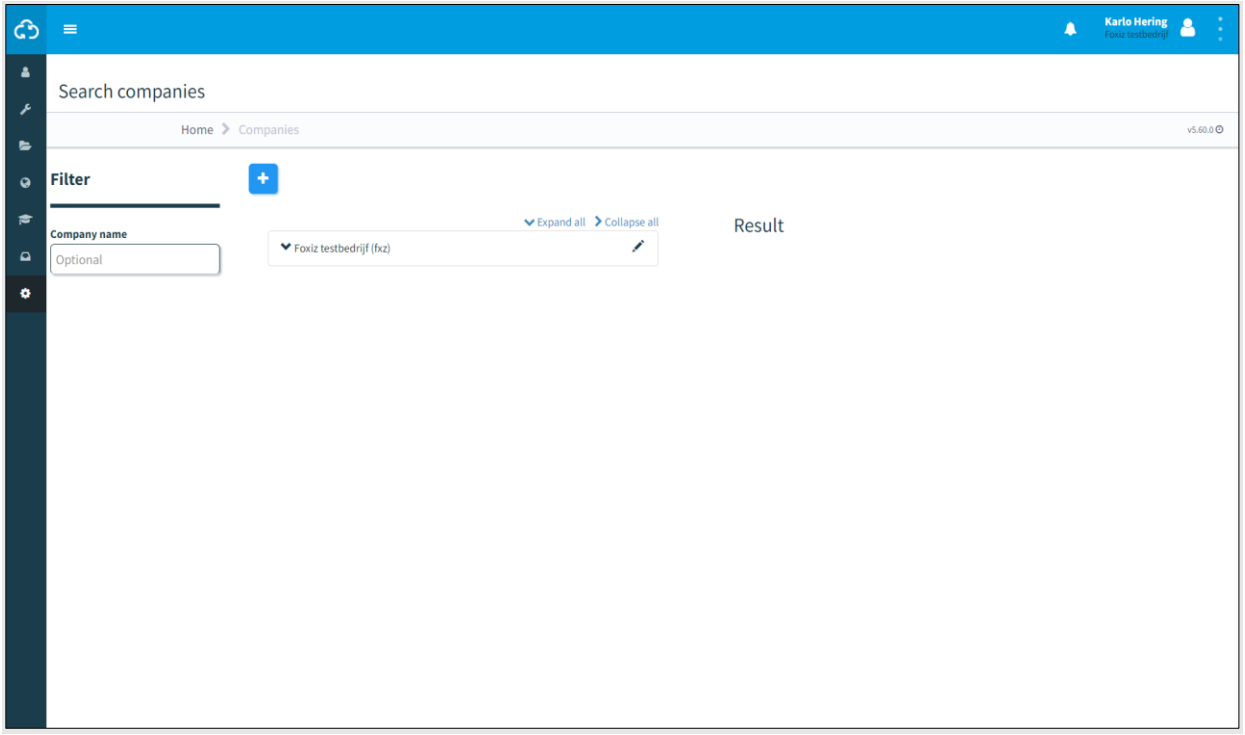


Figure 16 Search companies

2. Click the icon to start creating a new company within the parent company.

Follow steps 1 to 3 to create a new company.

7.6.1 Step 1 - Info

In step 1 of creating companies, add the required company information.

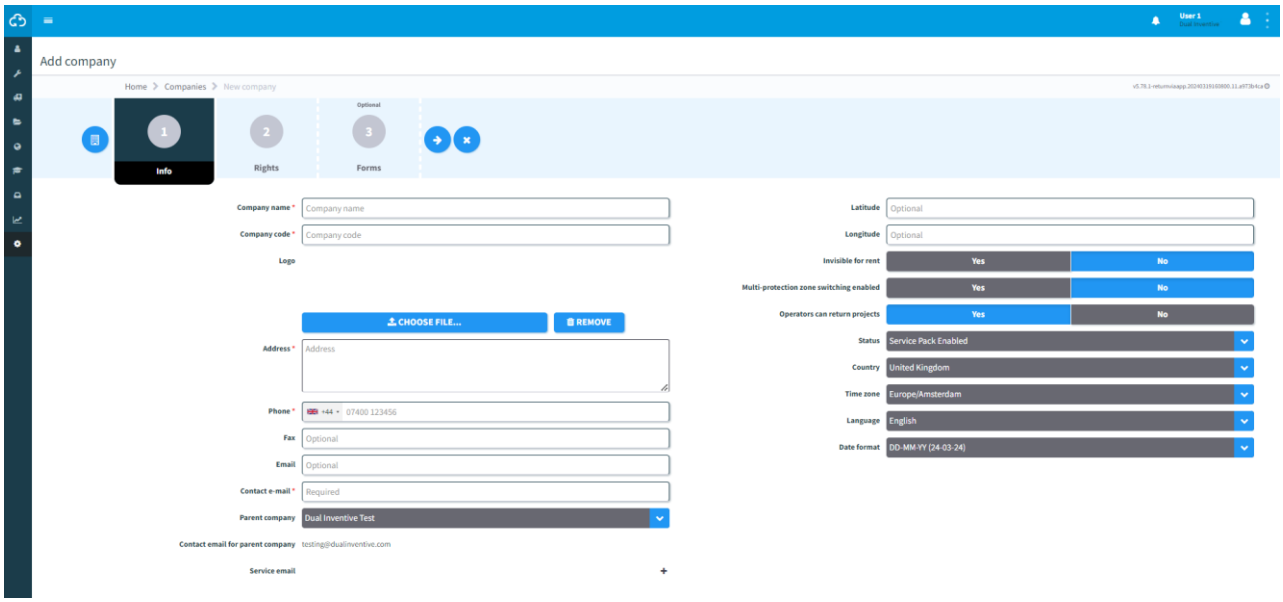


Figure 17 Creating companies - info

1. Fill out the required fields.

   Note: select the country code of the telephone number.

2. Fill out the optional fields.

3. Upload optionally files (max. 8 MB).

4. Go to step 2.

7.6.2 Step 2 - Rights

In step 2 of creating companies, select the available rights.

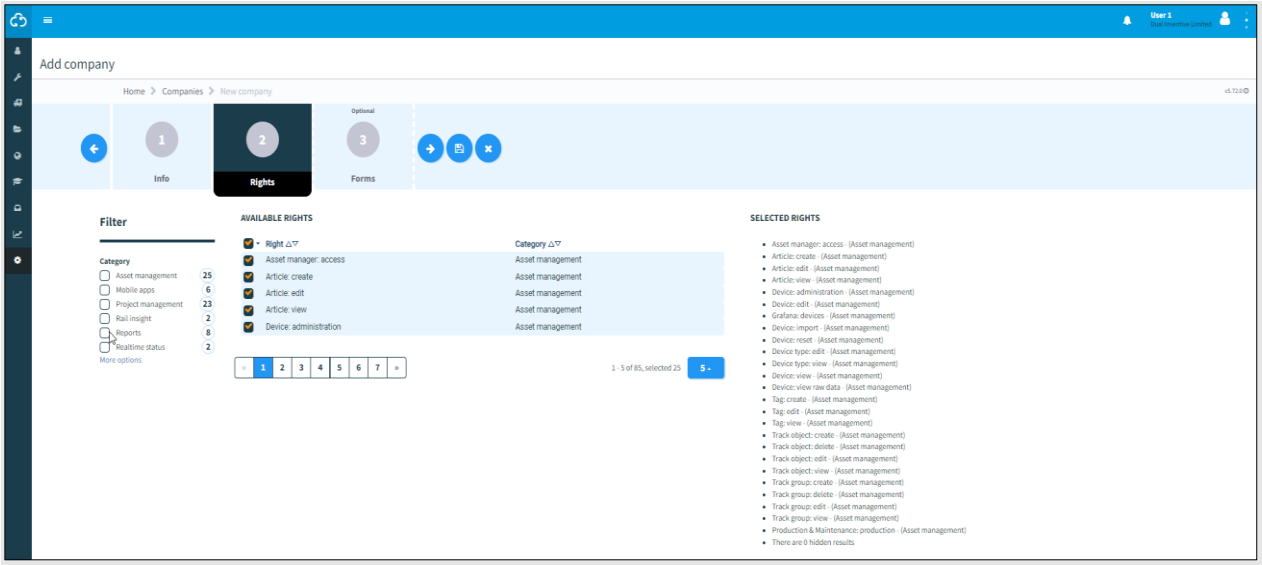


Figure 18 Creating companies - rights

1. Select the available rights.
2. Go to step 3.

Assign only the correct and necessary user rights for each worker to perform their job. (SRAC MTI 14)

7.6.3 Step 3 - Forms

In step 3 of creating companies, select forms. This is an optional step. Before you can select forms, templates must be created (see 10.3).

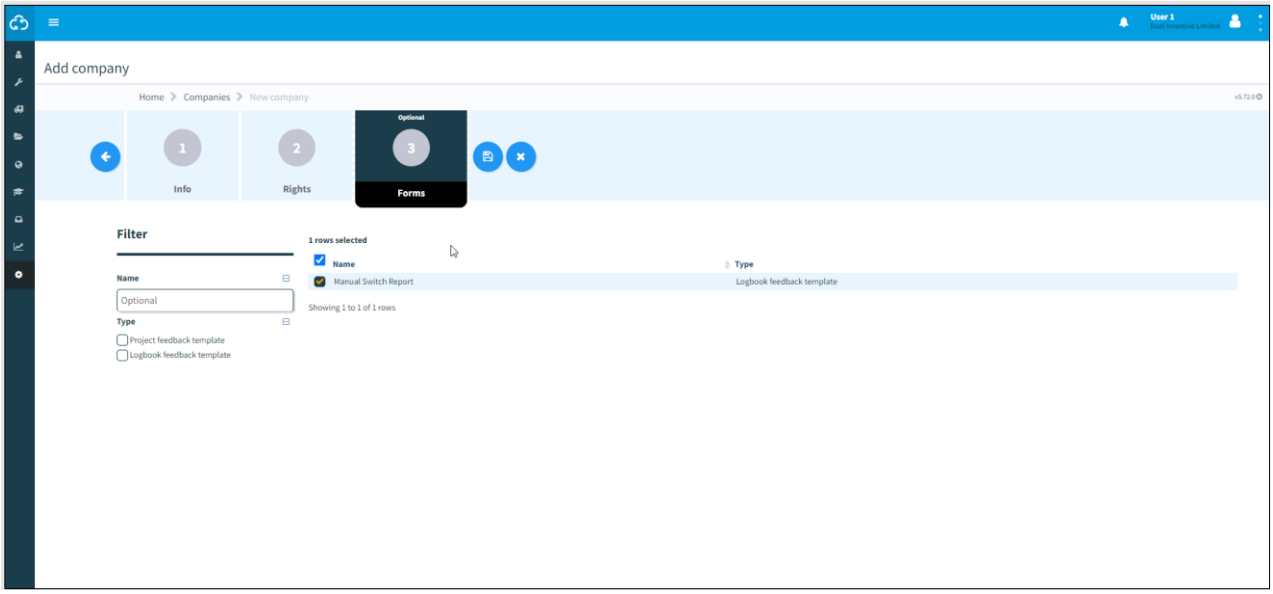


Figure 19 Creating companies - forms

1.	Optional: select one or more forms.
2.	If needed: change any entered data of steps 1 and 2 before saving the company.
3.	Save the company.
4.	If needed: cancel the company at any point. The entered data will not be saved.

After saving the company, the page View company appears:

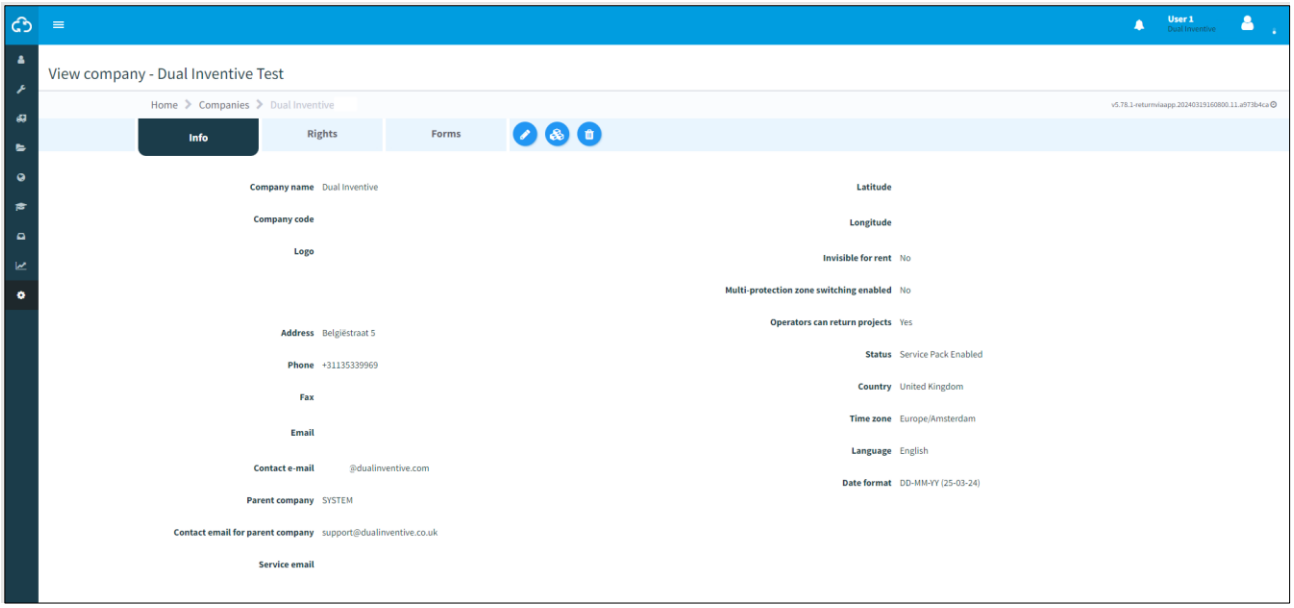


Figure 20 View company

From this page, you can manage companies:

	1. If needed, edit company information. Select the applicable tab Info, Right or Forms to edit.
	2. If needed, change the user roles.
	3. If needed, delete the company.

7.6.4 Company editing

After creating the company, you can edit it. This process is almost identical to that of creating a company. The notable exception is that you can set up a contact, to whom any support questions will be sent via email. You can select any user, that exists within the created company, that has the *User: administration* right.

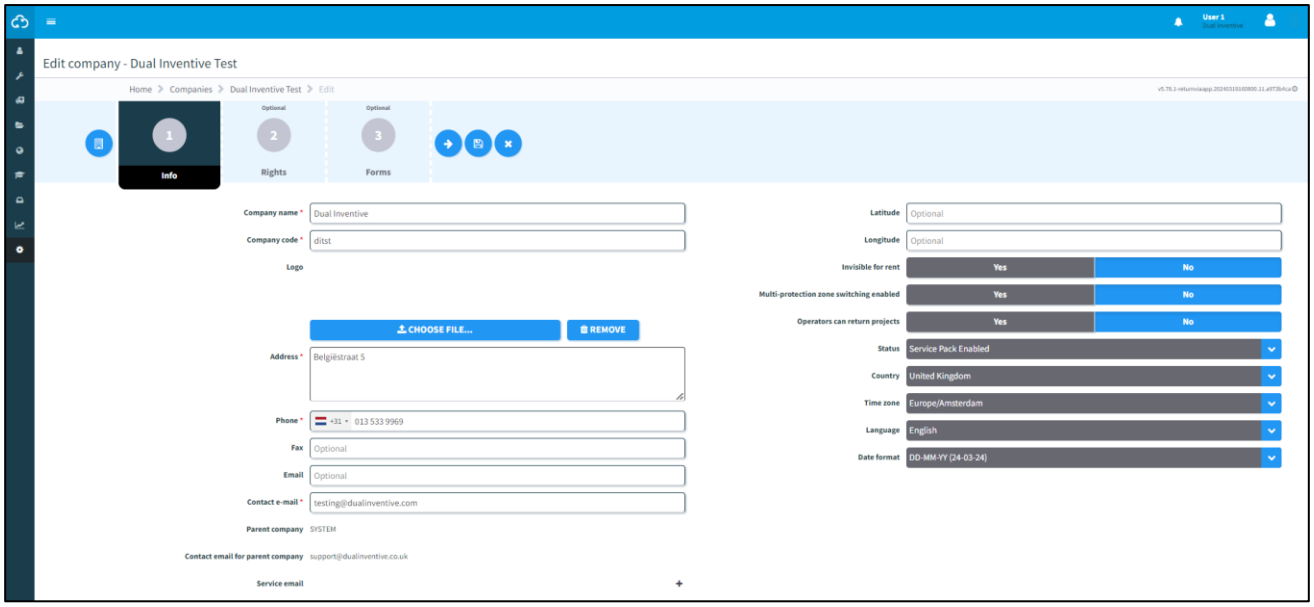


Figure 21 Edit company page

If left blank, any support question will be sent to Dual Inventive.

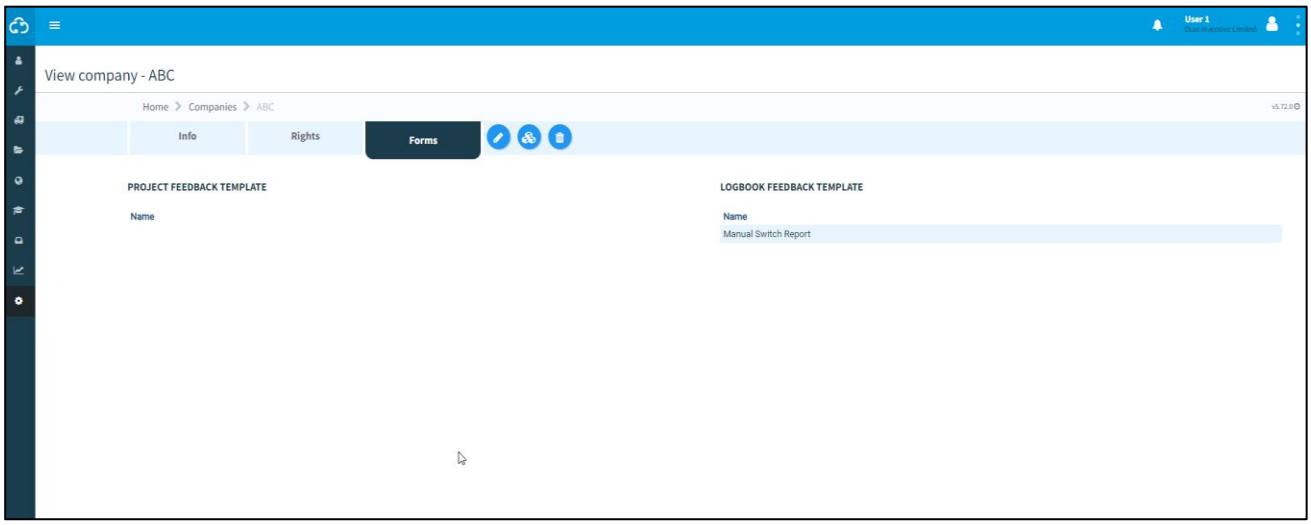
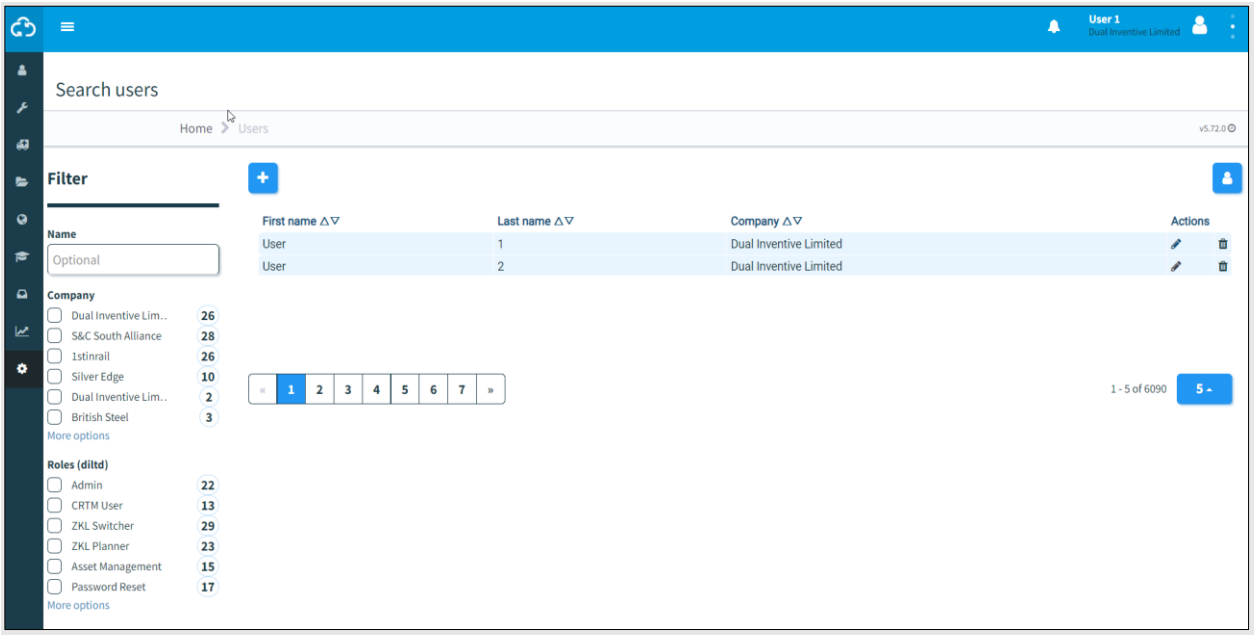


Figure 22 Edit company page

7.7 Create users

Before you set up a project, you must create new users.

1. Go to the Dashboard (see Figure 10) and select Users.
2. The page Search users appears.
3. Click the + icon to start creating a new user.



Figuur 23 Search users

7.7.1 Step 1 – Info

1. In Step 1 of creating a user, fill in the required user information (see Figure 24).
2. Required Fields:
   - Email address
   - Username: Spaces are not allowed.
   - Begin login
   - Outsourced: Select Yes or No.
   - Receive project emails: Select Yes or No.
   - Company
3. After entering the required information, proceed to Step 2.

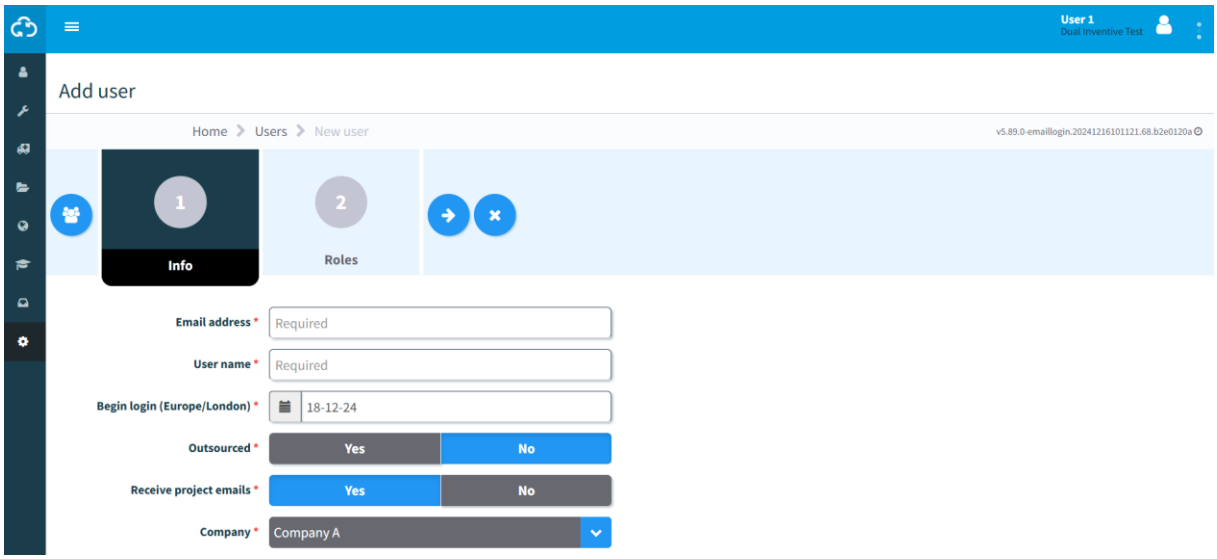


Figure 24 Creating users - info

NOTE

a. Only the company administrator has the right to create users.

b. Fields marked with a red asterisk (*) are required and must be completed to continue. If a required field is not filled or the information does not meet requirements, a pop-up will indicate missing or incorrect information.

7.7.2 Step 2 – Roles

Assign a role and save the user in step 2.

1. Select one or more **User roles** for the new user.
2. If needed, edit any information entered in step 1 before saving the user.
3. Click **Save** to complete the user creation.
4. If needed, click **Cancel** at any point. The entered data will not be saved.

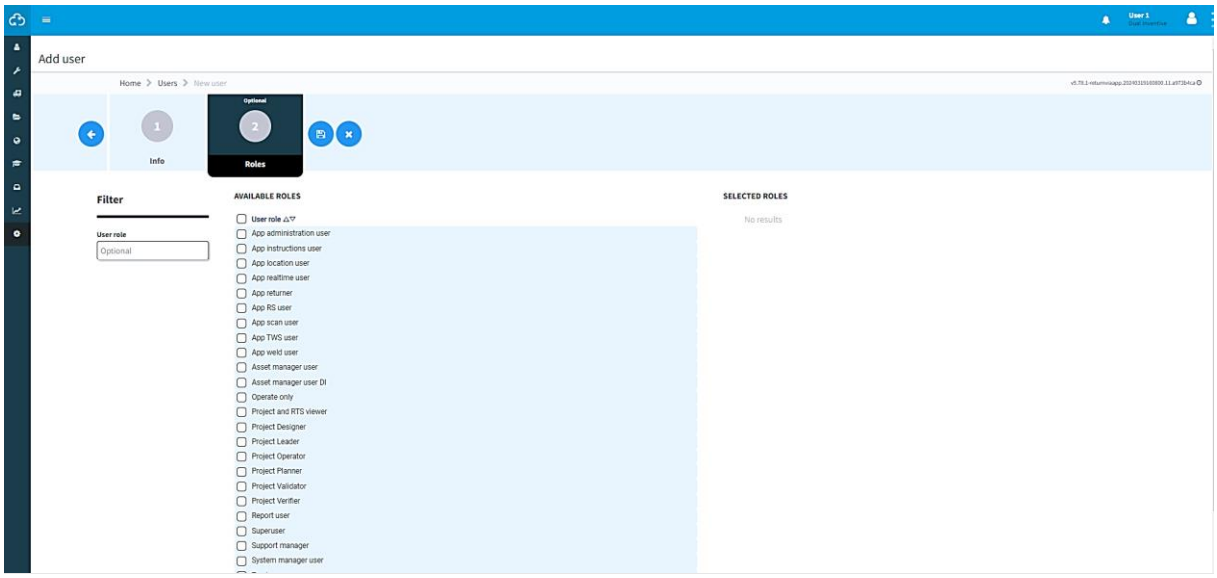


Figure 25 Adding users - roles

7.7.3 New user account activation and setup

After you successfully complete Steps 1 and 2, the following steps need to be followed for account activation and setup.

1. The new user receives an **activation email** with an account activation link (see Figure 26).
2. This link opens the **Account Setup** page (see Figure 27)

Figure 26 New user activation email

NOTE

a. If the *link has expired*, the user will see a button to request a new email. If the user didn't receive it or deleted it, the admin can resend the activation email from the user's profile page in MTinfo 3000, with the "Send activation mail" button only visible if the user hasn't set up their account yet.

b. All the fields on the account setup page must be filled out.

c. The user must set their **preferred time zone.** This time zone will automatically apply as the default for all functionalities in MTinfo 3000.

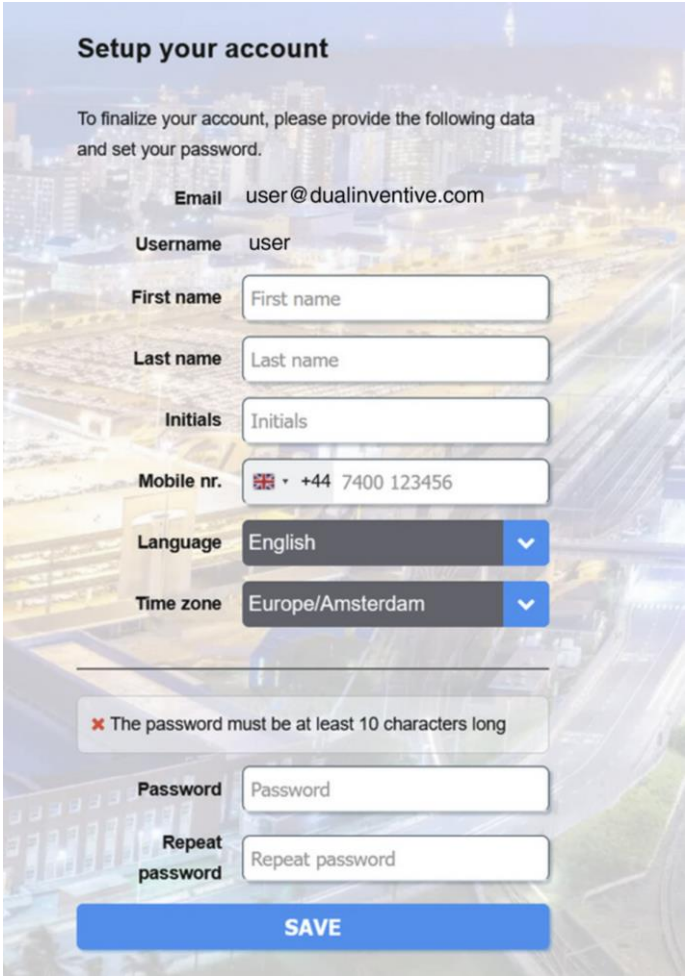


Figure 27 Account Setup

7.7.3.1 Mobile phone number verification

1. A verification code will be sent to the entered mobile phone number.
2. A verification screen will appear where the user must enter the code (see Figure 28).
3. The user has the option to:
   - Resend the code (with a 30-second interval to prevent spamming).
   - Return to the setup screen to edit the phone number.
4. Once the user enters a valid verification code, all details will be saved, and the account will be set up.

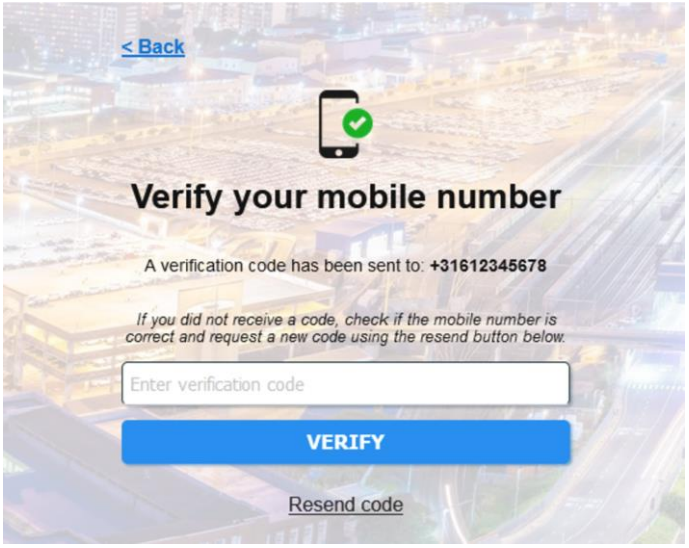


Figure 28 Mobile phone number verification

7.7.3.2 Enter PIN code

1. Enter a new PIN code following the 'PIN code rules'. (see Figure 29).
2. Confirm the new PIN code by entering it again.

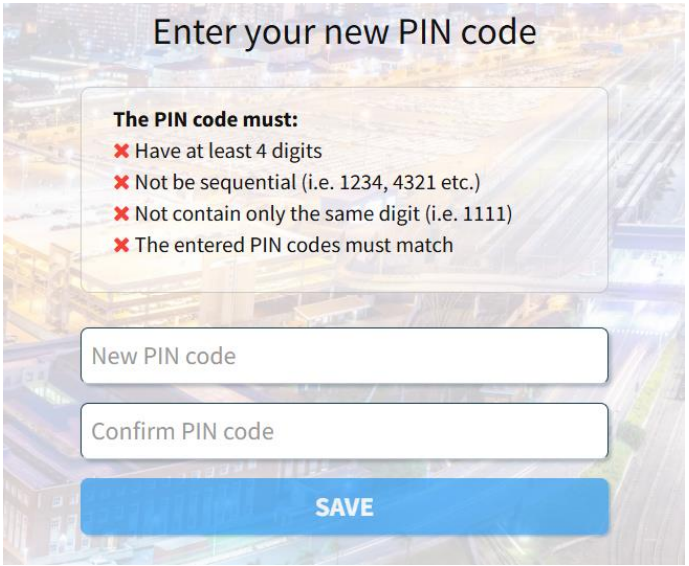


Figure 29 Enter PIN code

NOTE

You can update your username, password, PIN code, mobile phone number, and email address in 'My profile'.

7.8 Manage users

7.8.1 Edit username

1. Only company administrators can change a user's username.
2. To change the username, the administrator clicks the “Edit username” button on the target user's profile page (see Figure 30).
3. The user will be notified of the change via email (see Figure 30).

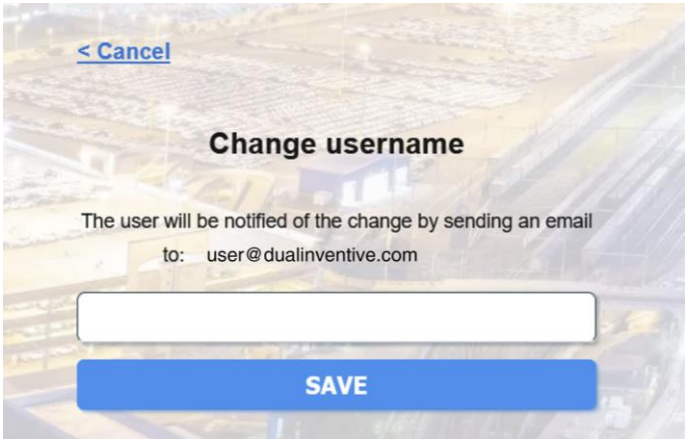
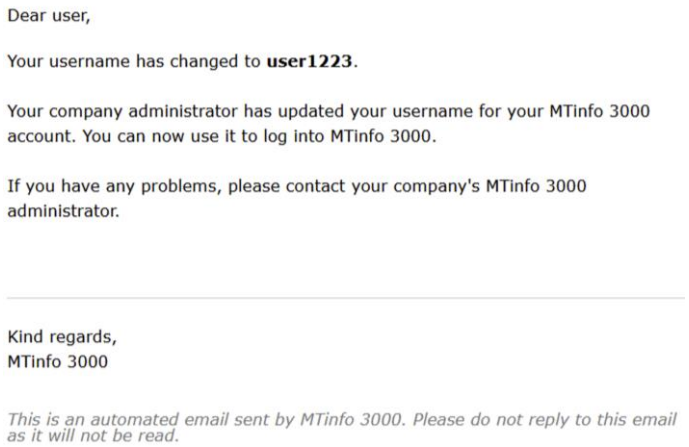


Figure 30 Edit username


Dear user,

Your username has changed to **user1223**.

Your company administrator has updated your username for your MTinfo 3000 account. You can now use it to log into MTinfo 3000.

If you have any problems, please contact your company's MTinfo 3000 administrator.

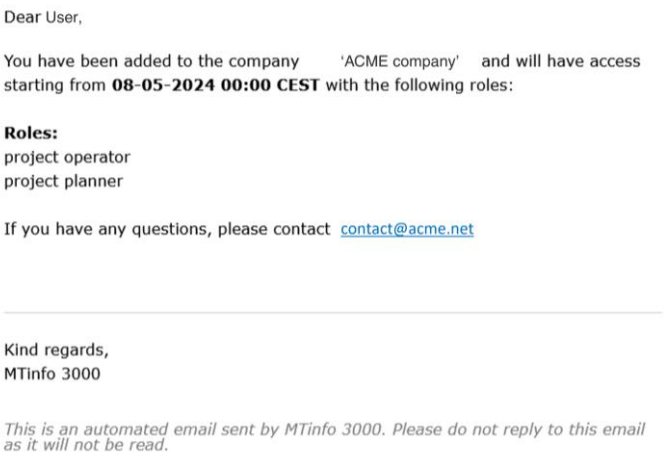
Kind regards,
MTinfo 3000

This is an automated email sent by MTinfo 3000. Please do not reply to this email as it will not be read.

Figure 31 Username change email confirmation

7.8.2 Add existing user to new company

If the email address exists but the user is not part of the company, they will receive an email notifying them of their addition to the company and the roles assigned to them (see Figure 32).



Dear User,

You have been added to the company 'ACME company' and will have access starting from **08-05-2024 00:00 CEST** with the following roles:

Roles:
project operator
project planner

If you have any questions, please contact contact@acme.net

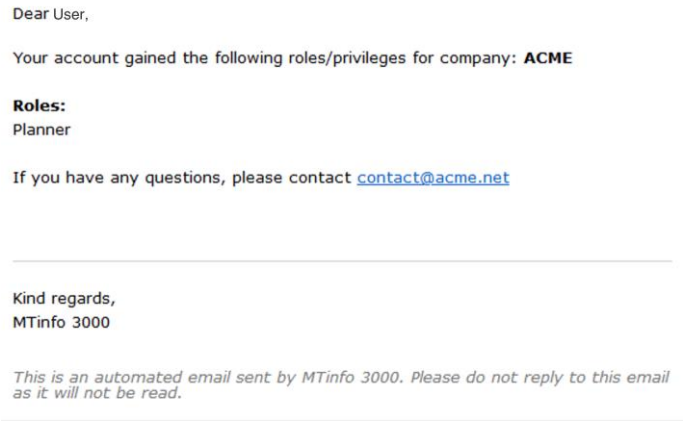
Kind regards,
MTinfo 3000

This is an automated email sent by MTinfo 3000. Please do not reply to this email as it will not be read.

Figure 32 Notification to the existing user added a new company

7.8.3 Give the existing user a new role

If the email address exists and the user is already part of the company, they will receive an email notifying them of the new roles assigned to them (Figure 33).



Dear User,

Your account gained the following roles/privileges for company: **ACME**

Roles:
Planner

If you have any questions, please contact contact@acme.net

Kind regards,
MTinfo 3000

This is an automated email sent by MTinfo 3000. Please do not reply to this email as it will not be read.

Figure 33 Notification to existing users on new roles

7.8.4 Deactivate user

When an employee works in a different place, you must remove or deactivate the user from the project.

You can only remove a user if the user is not in a project that is in use.

To deactivate a user, you can click on the delete icon on the user list of that company (see Figure 34). They will receive an email notification.

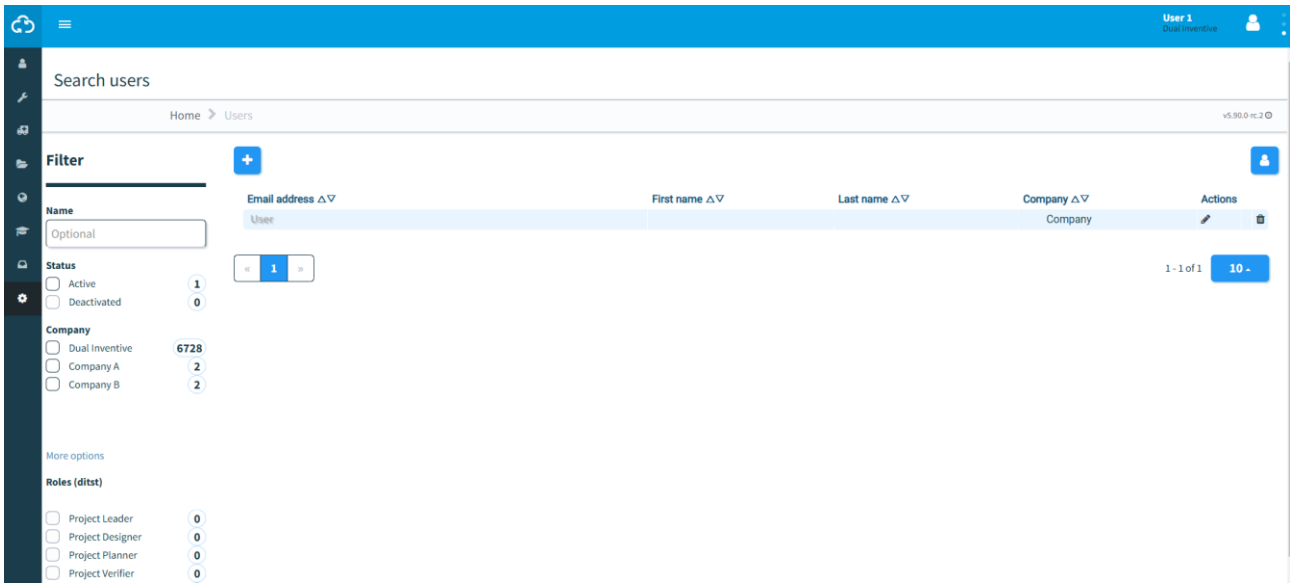


Figure 34 Deactivate user

Dear user,

You have been removed from company 'ACME company' This means that you no longer have access to this company in MTinfo 3000.

If you have questions or concerns regarding the removal, please contact user@acme.nl

Kind regards,
MTinfo 3000

This is an automated email sent by MTinfo 3000. Please do not reply to this email as it will not be read.

Figure 35 Deactivate user email notification

If the user is in an active project and you want to update the "Begin login" date, the system shows this warning: "This is critical information. You cannot modify it as long as the user is assigned to an open project."

7.8.5 Restore user

To restore a user, click on the icon on the company's user list. The user will receive an email notification.

Once Restored, they would regain access to the company.

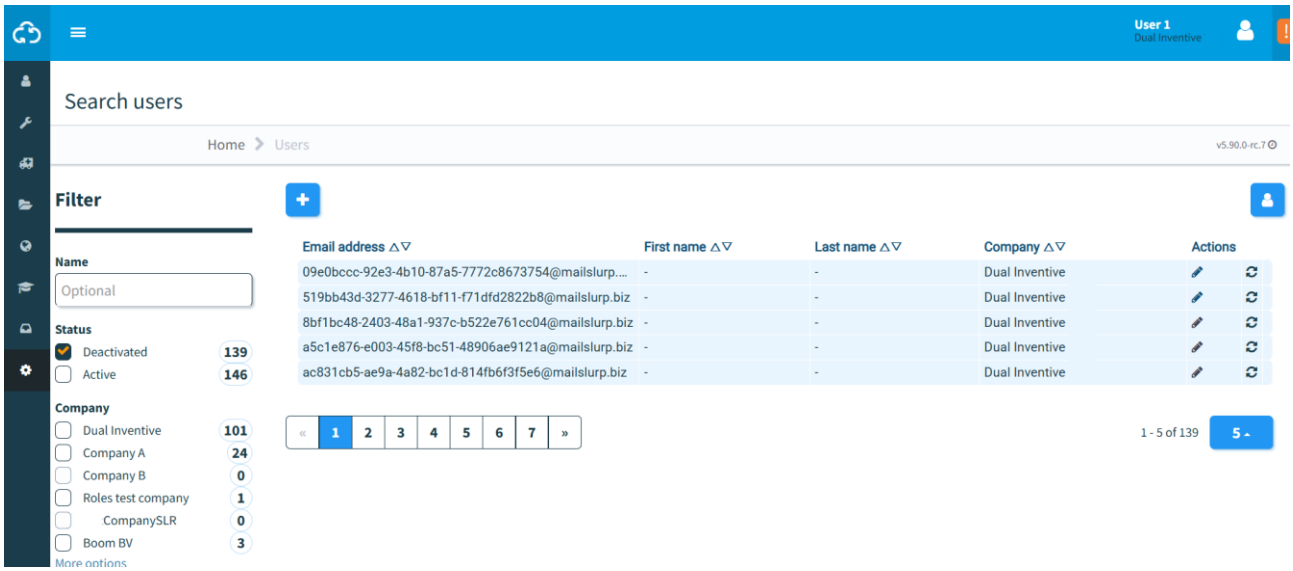


Figure 36 Restore user

7.9 Creating and managing user rights roles

User rights in MTinfo 3000 allow what a user is allowed to see and do in the application, and what not. Each right corresponds to one or more features/functionalities in the system.

User roles are bundles of user rights which can be assigned to a user. The added value of this feature is that instead of having to select multiple users per right, they can instead be assigned one user role that covers all of these rights.

In order to create a new user role, navigate to the company in which you want to create a user role first.

1. Press the user roles button
2. You will see an overview of the current user roles. Press the following button to create a new user role

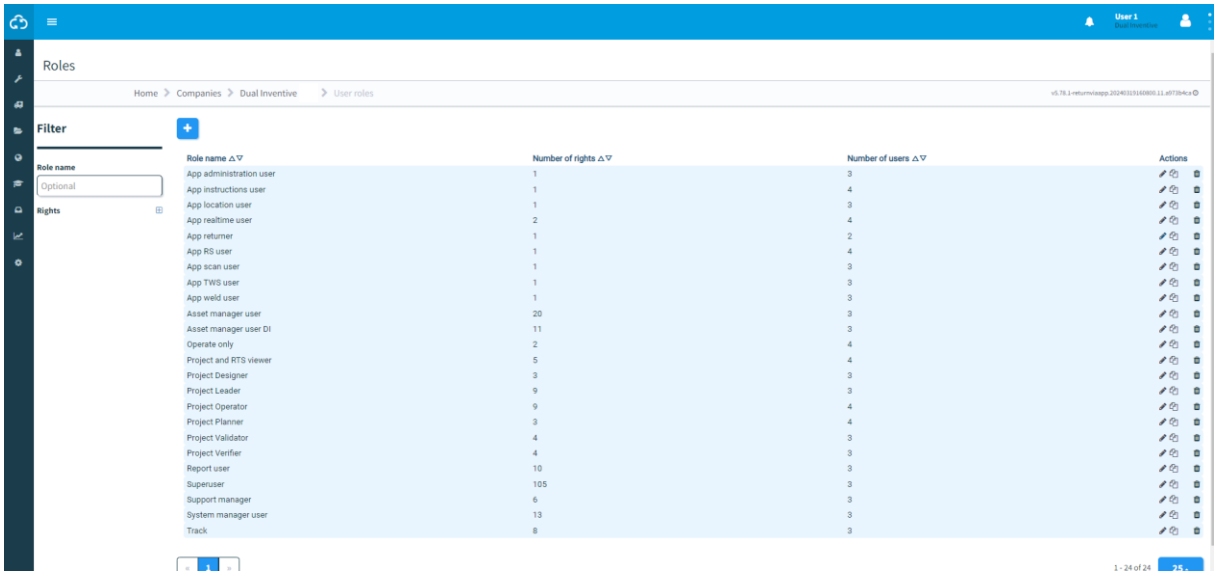


Figure 37 Creating user roles

3. Give the user role a name and select the appropriate rights. The names of the rights are self-explanatory and show which area or functionality they grant access to within MTinfo 3000. Multiple rights can be selected for one user role.

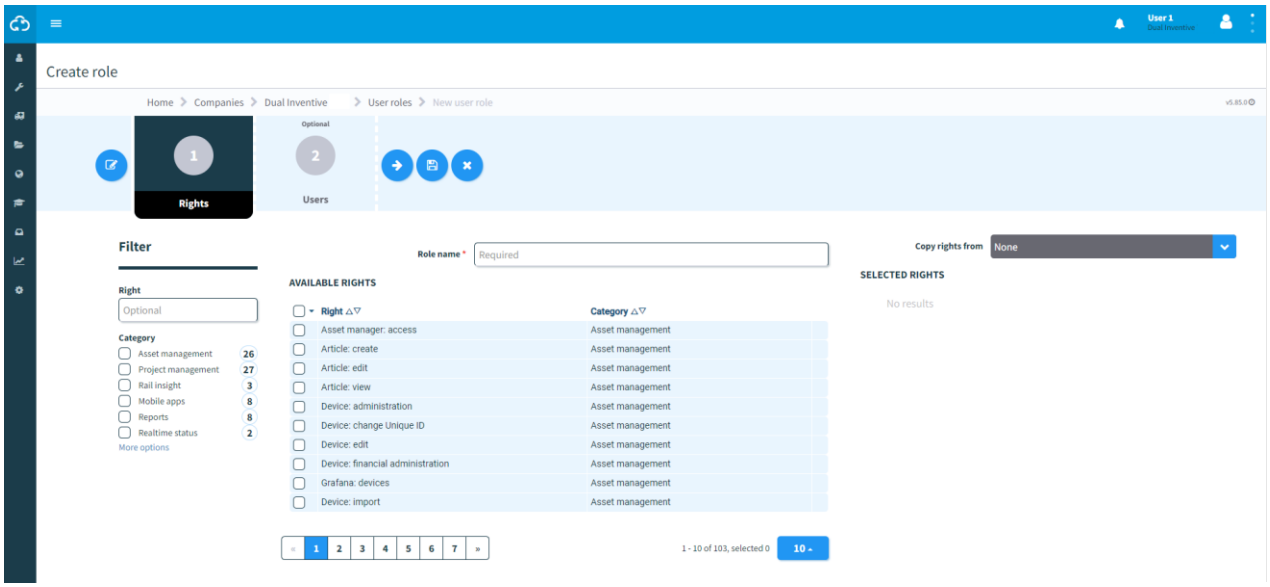


Figure 38 Creating a user role – step 1

If required, you can copyrights from an existing role using the drop-down menu on the right side.

4. After creating the user role, you can immediately add one or more users to this role. This step is optional.
5. Once all these steps have been completed, press the save button to save the user role.

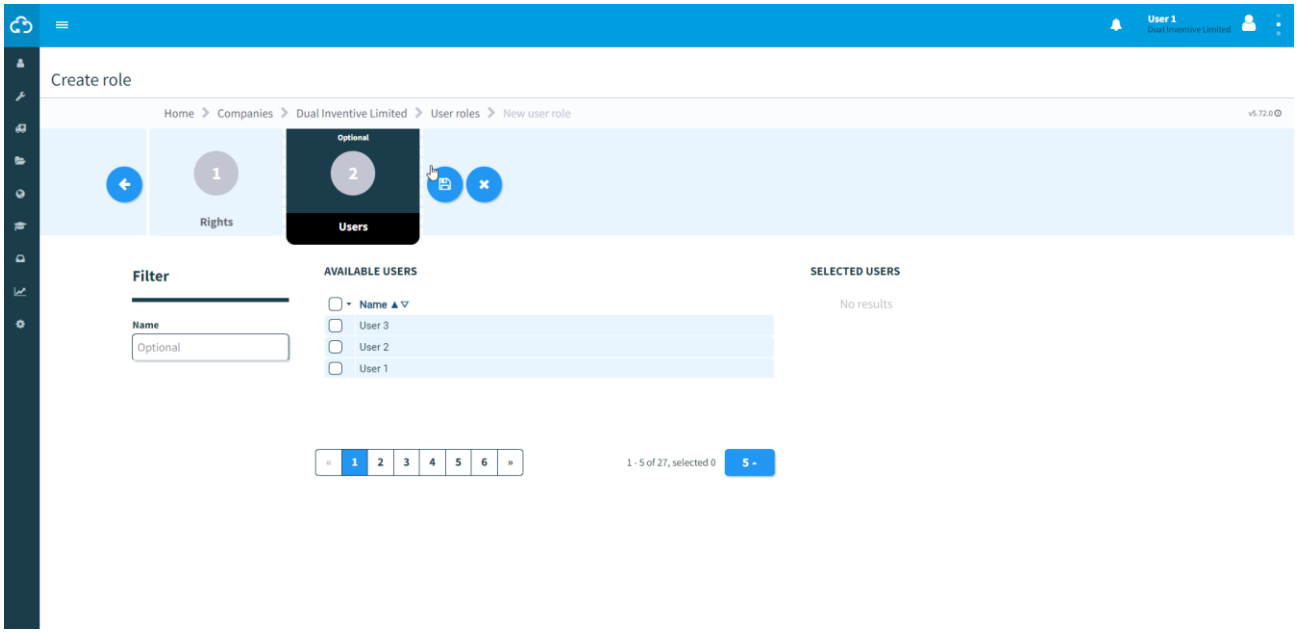


Figure 39 Creating a user role – step 2

7.10 Search and view projects

From the page Search project, search for existing projects:

	Go to the Dashboard and click Projects.

The page Search project appears with an overview of the existing projects:

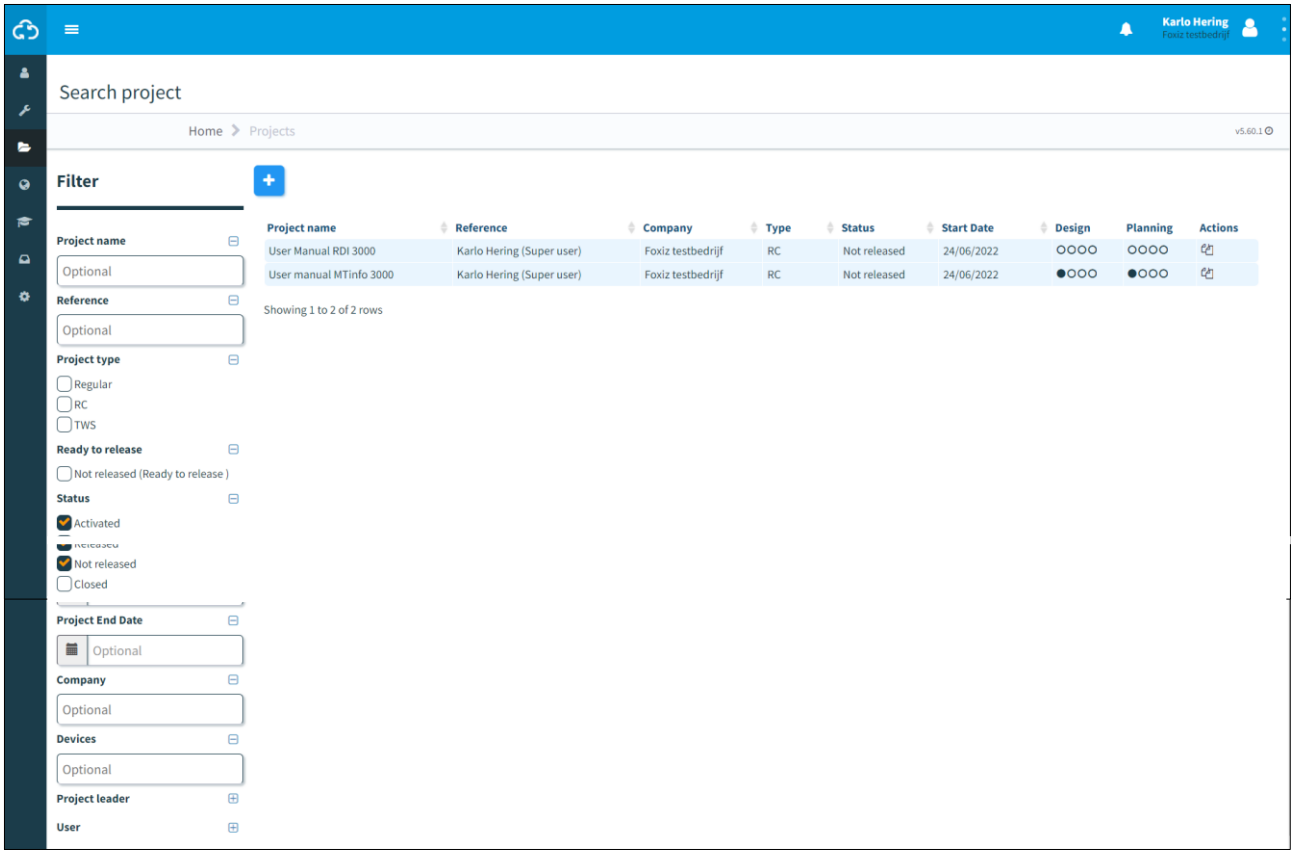


Figure 40 Search project

From this page, search, filter and sort projects. On the left side, you see Filter. Enter a project name and/or reference, partially or as a whole. Use filters (project type, ready to release, status, etc.) for effective searching.

	Use the arrows to sort projects alphabetically (a-z or z-a).

NOTE

Search, filter, and sort are available for many overviews, for example, users, reports, etc.

To view an individual project, click the project's row. The page View project appears:

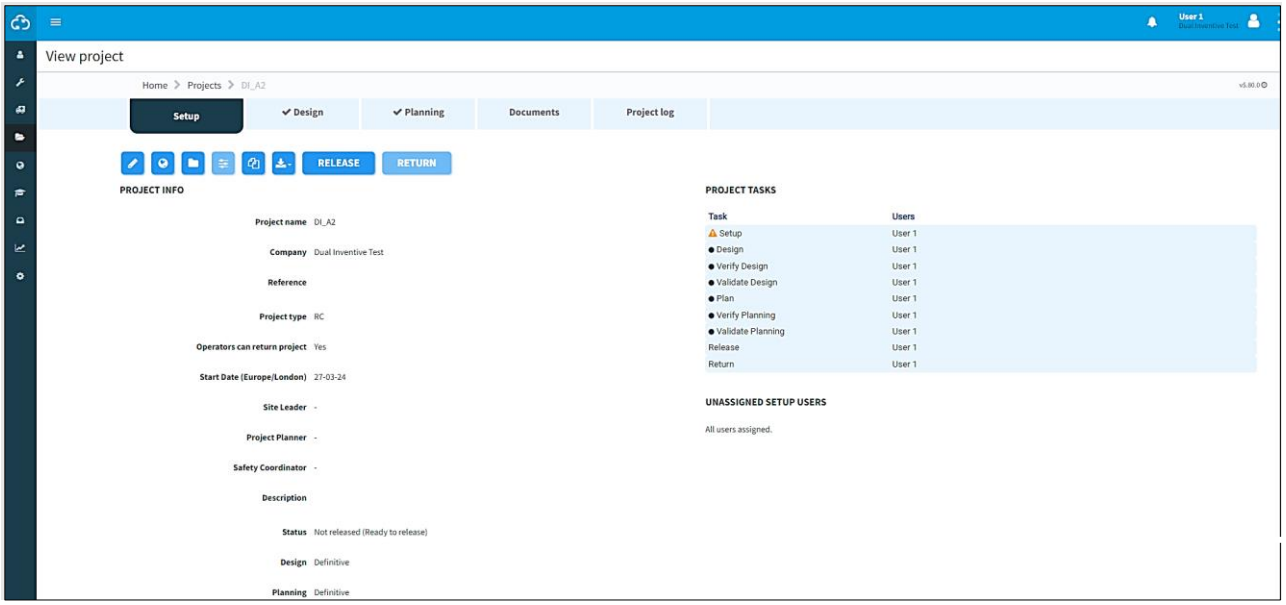


Figure 41 View project

From the tab Setup, you have access to several functions for the selected project:

	Edit a project.
	View the real-time status.
	Close a project.
	Switch protection zones (not active).
	Duplicate a project.
	Download a report or document.
RELEASE	Release a project (not active).
RETURN	Return a project (not active).

When a button is not active, it is colours light blue. Not active buttons become active (blue) after having performed the applicable actions in MTinfo 3000.

You can also view:

a. Project details: project name, company, project type, start date, Site Leader, Project Planner, etc. (scroll down to see more);

b. The status of project tasks.

	Click the icon to go back to the Dashboard.

NOTE

There are different ways to access several functions in MTinfo 3000, for example from the Dashboard or the page View project. Not all different ways are discussed in this manual. You will learn by doing and finding your own way in MTinfo 3000.

7.11 Create projects

This section explains how to create MTinfo 3000 projects. A project allows you to easily set up, design, plan and control protection zones.

7.11.1 Setup projects

Before you set up a project, first create a new project:

	1. Go to the Dashboard (Figure 11).
	2. Click on Projects to access the page Search Projects.
	3. Create a new project.
	4. Start the setup.

The page Setup project appears. Follow steps 1 to 3 to set up a new project.

7.11.1.1 Step 1 - Project info

In step 1 of the project setup, add the applicable project information.

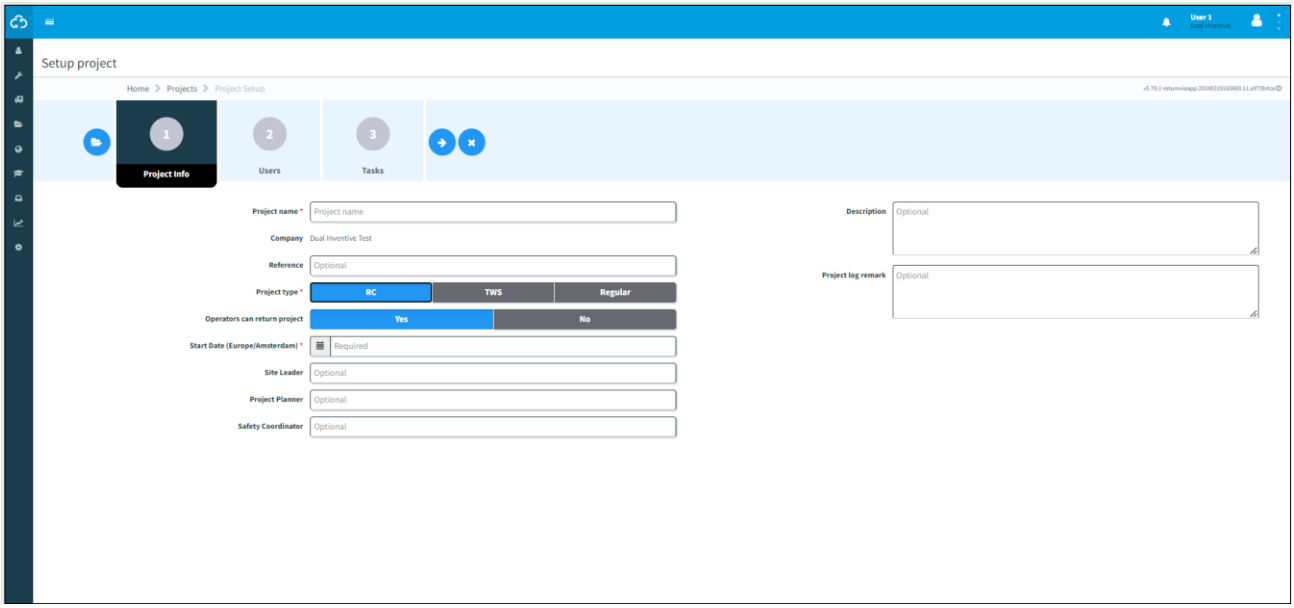


Figure 42 Setup project - project info

1. Fill in a Project name.
2. Optional: add a Reference.
3. Select RC as Project type.
4. Select Yes/No if 'Operators can return RC projects'.
5. Fill in the Start date (this date is just used as an indication to know when the project is planned to start but does not actually do anything).
6. Optional: add a Site Leader.
7. Optional: add a Project Planner.
8. Optional: add a Safety Coordinator.
9. Optional: add a Description.
10. Optional: add a Project log remark.
11. Go to step 2.

7.11.1.2 Step 2 - Users

In step 2 of the project setup, select the project users (planners).

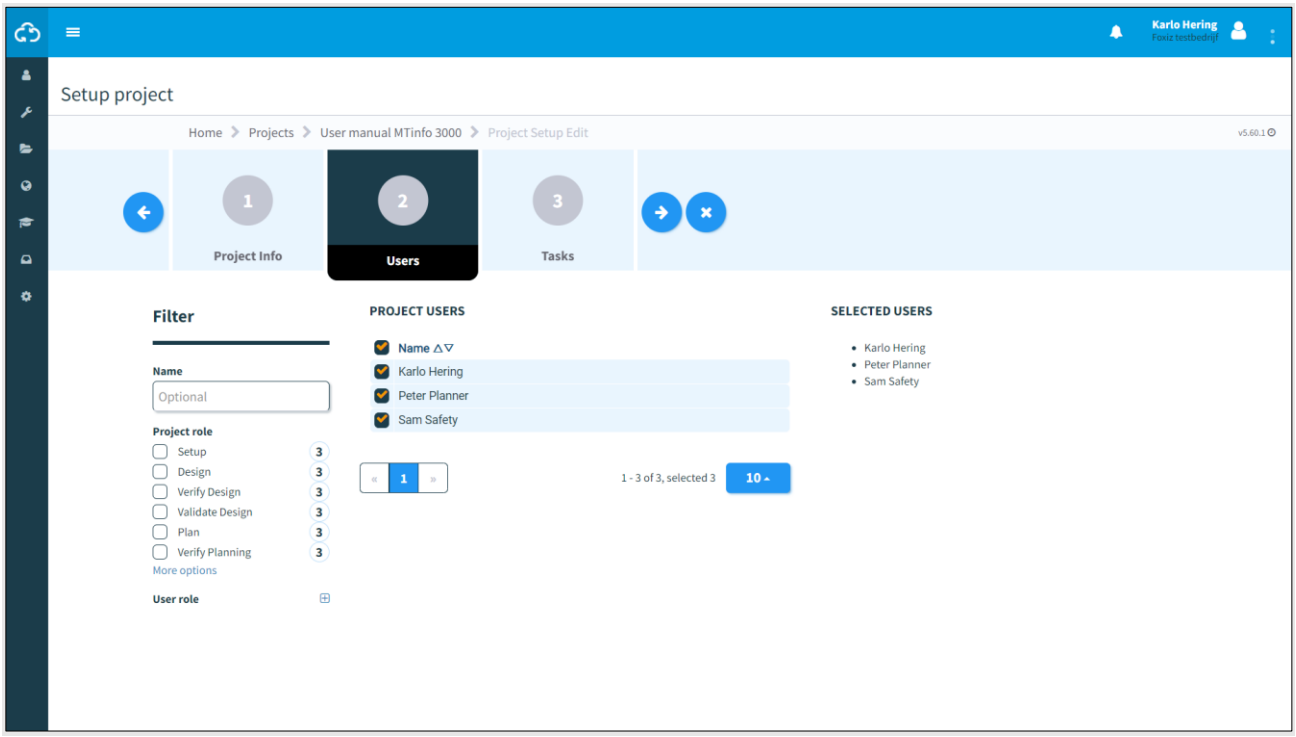


Figure 43 Setup project - users

1. Select the project users.
2. Go to step 3.

7.11.1.3 Step 3 - Tasks

In step 3 of the project setup, connect the project users and tasks.

WARNING

Never assign a single project user to all tasks. Verification and validation should be independent of the project design and planning. MTinfo 3000 recommends assigning at least two users to the setup stage.

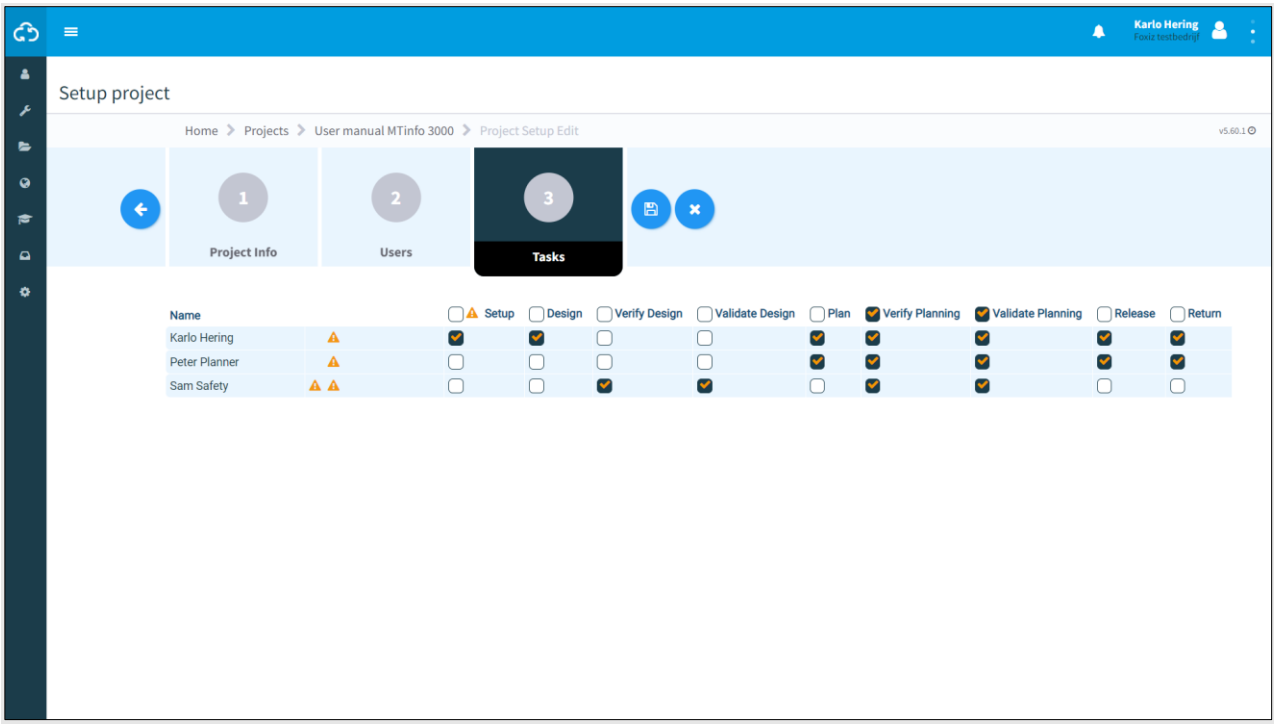


Figure 44 Setup project - tasks

1. Assign the project users to their tasks.
2. If needed: change any entered data of the previous steps before saving the project setup.
3. Save the project setup.
4. If needed: cancel the project setup at any point. The entered data will not be saved.

NOTE

It is recommended to assign a minimum of two people to the “Release” and “Return” to not be dependent on one person to release or return a project.

7.11.2 Design projects

Design projects are used to create protection zones and assign devices to them.

1. Go to the page View project (Figure 32)
2. Click the tab Design for access to the steps of the project design.
3. Start the design.

The page Design projects (Figure 36) appears. Follow steps 1 to 4 to design the project.

7.11.2.1 Step 1 - Devices

In step 1 of the project design, select which devices are to be switched on the project. Only switchable devices are displayed.

WARNING

Make sure that the devices on the project are located at the correct location in the track. Do not do this via GPS tracking but check the actual position in the track.

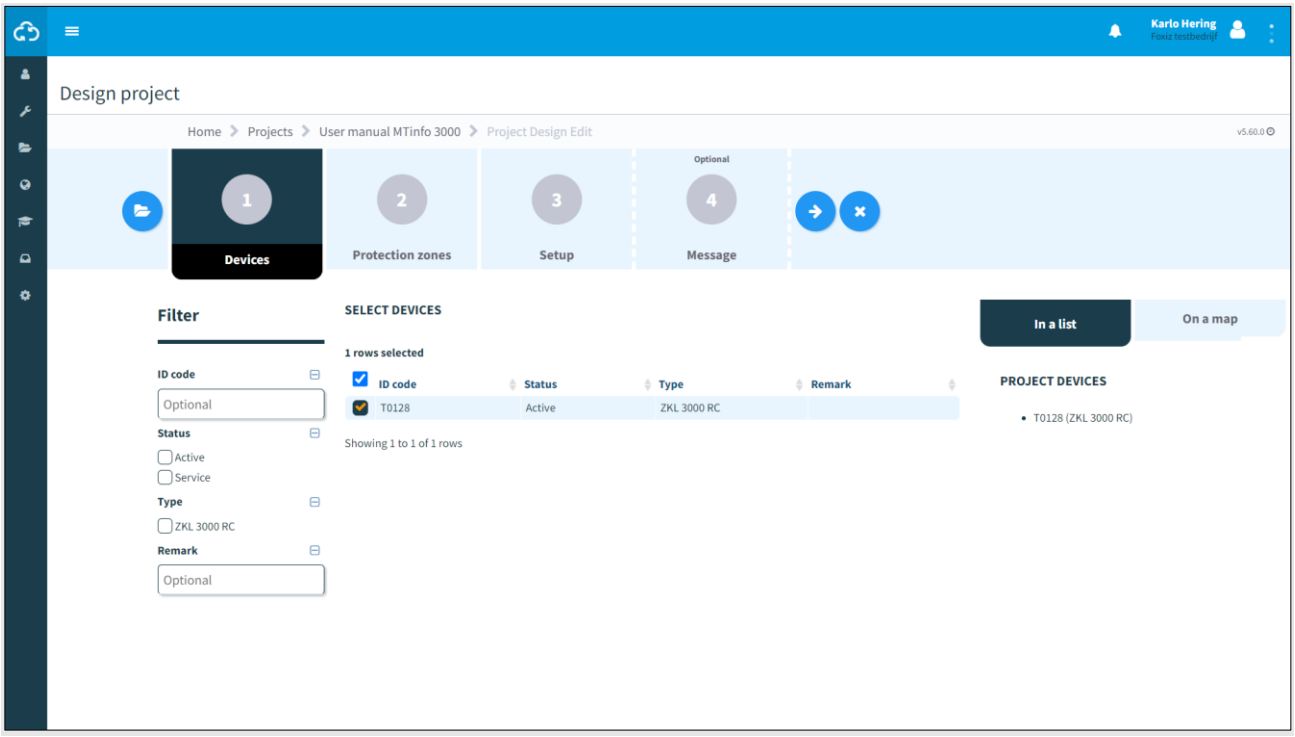


Figure 45 Design project - devices

1. Select the devices to be switched. See the selected devices on the right side of this screen: In a list or on a map.
2. Go to step 2.

NOTE

In case the location of a device needs to be changed later on, contact the person with the project's Right *Design* and change the design according to the process.

NOTE

Ensure that before and during the design, connections are present with the devices that are to be used. If connections are not present, a project can never be released.

7.11.2.2 Step 2 - Protection zones

In step 2 of the project design, create protection zones.

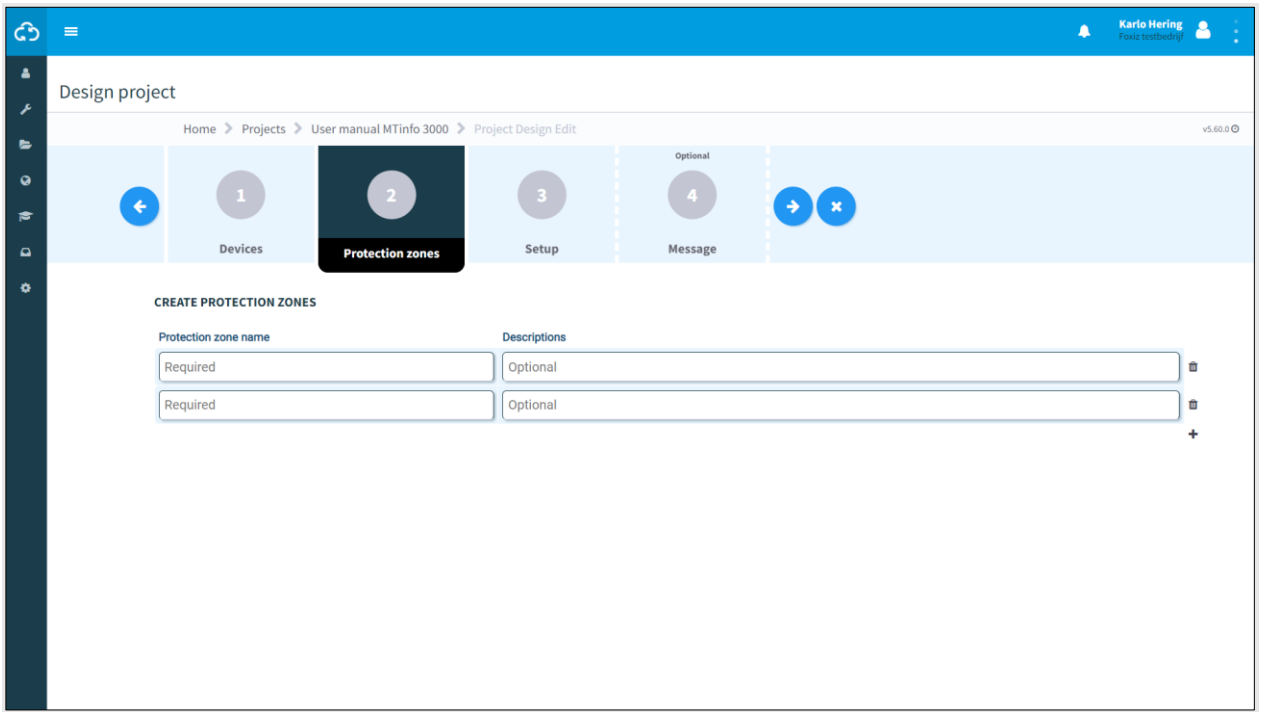


Figure 46 Design project - protection zones

	1.	Create one or more protection zones.
	2.	Fill in a Protection zone name. The name must be unique within the project.
	3.	Optional: fill in a Description.
	4.	Go to step 3.

7.11.2.3 Step 3 - Setup

In step 3 of the project design, link the selected devices (step 1) and protection zones (step 2).

NOTE

It is not possible within a project to add the same device to two protection zones.

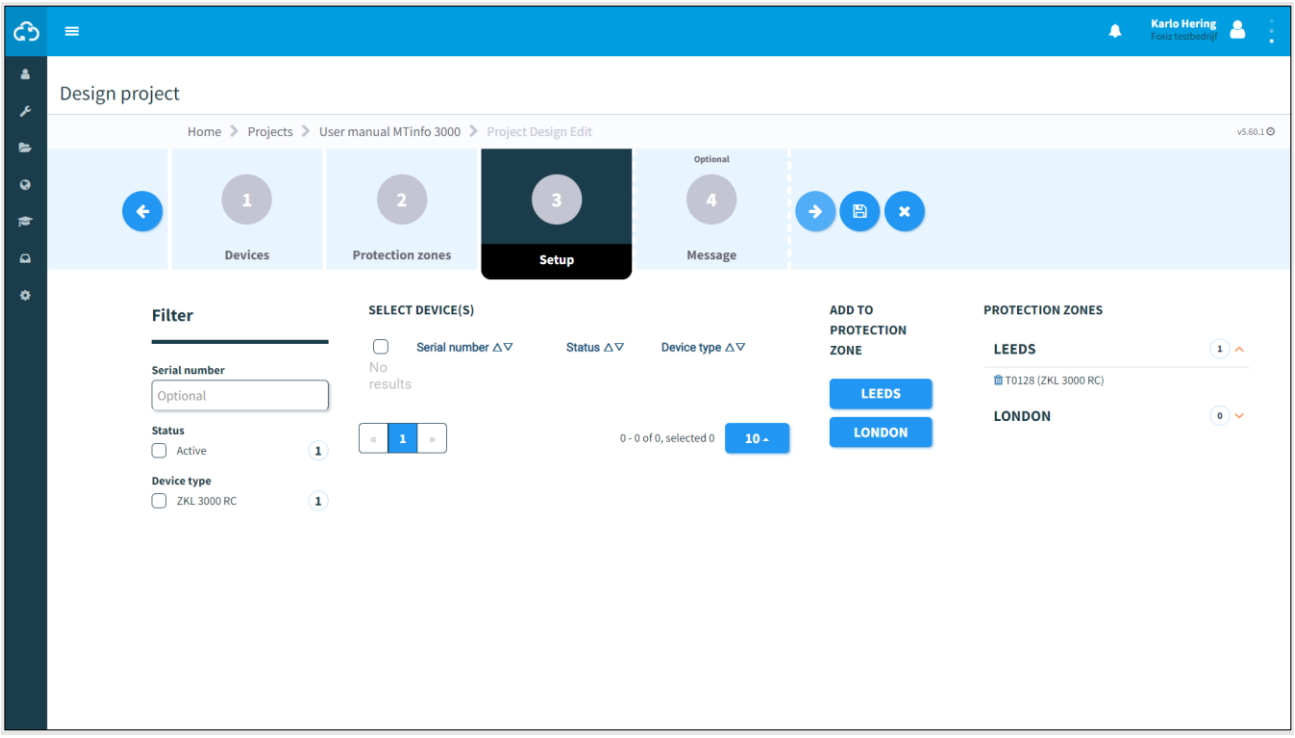


Figure 47 Design project - setup

1. Select one or more devices.
2. Click the button with the name of the protection zone to add the selected devices to the protection zone. At the right-side, see an overview of the linked devices and protection zones.
3. If needed: remove a device from the linked protection zone.
4. Go to step 4.

7.11.2.4 Step 4 - Message

In the optional step 4 of the project design, messages can be added. They will be displayed when a user opens protection zones in the app.

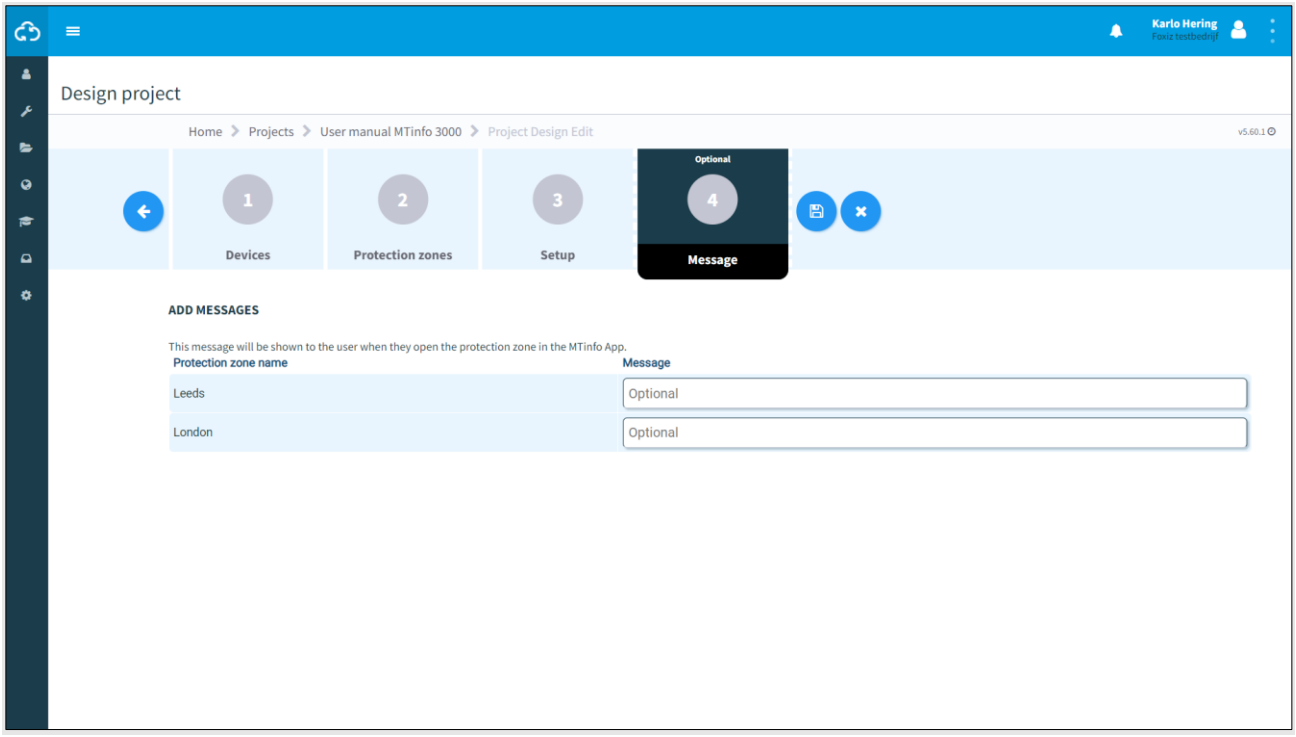


Figure 48 Design project - message

1.	Optional: Add a message to each Protection zone name.

The last step is to save the project design (see 7.11.2.5).

7.11.2.5 Step 5- Save project design

Save the project design before starting the verification and validation. Or verify and validate the project design directly (see 7.11.3).

NOTE

To reduce risks, MTinfo 3000 uses the six-eyes principle. It is strongly recommended that a second authorised user should verify the design and a third authorised user should validate the design.

NOTE

You can verify and validate the design directly if you are authorised. Because of the six-eyes principle, Dual Inventive does not recommend this step in operational use.

1. Click the icon.

This screen appears:

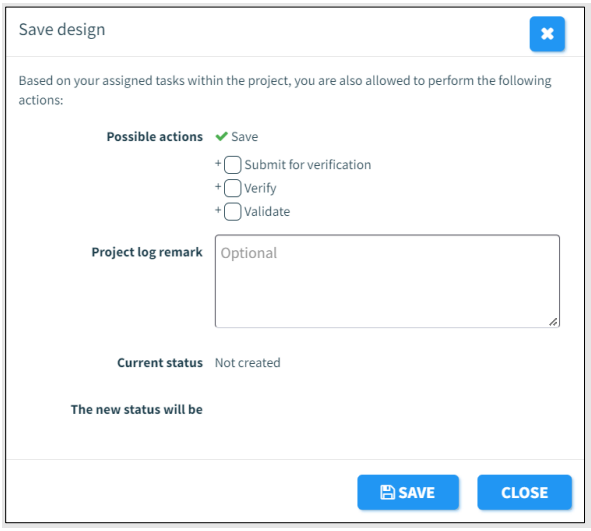


Figure 49 Save design

2. Tick the box Submit for verification. Authorised project users will be assigned to the task Verify project in My MTinfo.
3. Tick the box Verify if you want to verify the project design directly.
4. Tick the box Validate if you want to validate the project design directly.
5. Optional: add a Project log remark. This will be shown in the Project log (see 10.5).
6. If needed: change any entered data before saving the design as final. Click on any of the previous steps and change the data accordingly.

7. Save the project design.

7.11.3 Plan projects

Plan projects is used to assign project users to protection zones which they are allowed to switch.

The MTinfo 3000 planner must know national legislation before creating a safety plan. (SRAC MTI 4)

1. Go to the page View project (Figure 32).
2. Click the tab Planning for access to the steps of the project planning.
3. Start the project planning.

The page Plan project (Figure 41) appears. Follow steps 1 to 6 to plan the project.

7.11.3.1 51 - Switch users

In step 1 of the project planning, select the switch users.

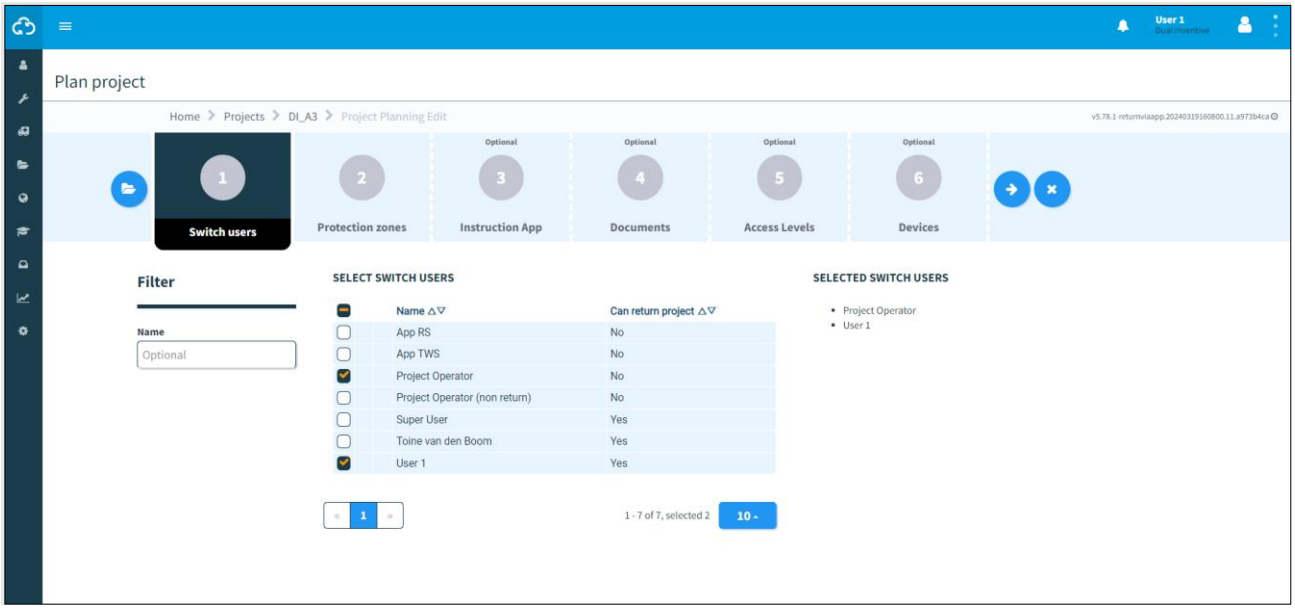


Figure 50 Plan project - switch users

1. Select the Switch users that are allowed to switch protection zones and return projects via mobile application.
2. Go to step 2.

NOTE

This icon shows users without access to the app or rights to view the project in MTinfo 3000. Users without switching rights are not shown in this step to begin with

NOTE

If a scheduled switch user becomes ill or is absent, contact the person with the project's Right Planning and change the planning according to the process.

It is advised to schedule a backup.

7.11.3.2 Step 2 - Protection zones

In step 2 of the project planning, assign the selected switch users (step 1) to the protection zones they are allowed to switch. The time period during wherein the switch users can switch the protection zone can be determined in this step.

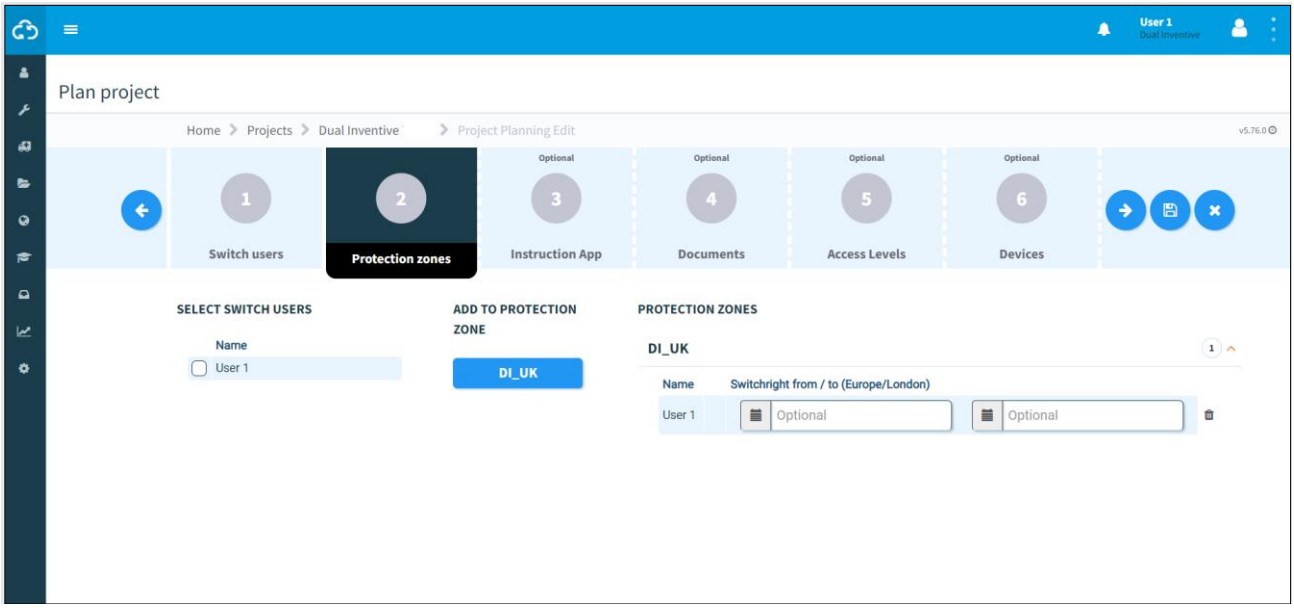


Figure 51 Plan project - protection zones

1. Select one or more switch users.
2. Add switch users to the protection zone by clicking the button(s) with the name(s) of the protection zone(s). On the right side, the time period for switching appears.
3. If needed: remove a user from a protection zone.
4. Optional: fill in the time period (from/to). Switch users can only switch the protection zone within this period. If the fields are kept empty, switch users are not limited; in that case, protection zones can be switched by the assigned user(s) until the project is returned.
5. Go to step 3.

The operator may only access the track according to national and company safety instructions. (SRAC MTI 5)

7.11.3.3 Step 3 - Instruction app

In the optional step 3 of the project planning, switch users are automatically selected. This step serves to select the non-switch users who need access to documentation. The instruction tile of the app tile contains all relevant instructions for the project.

NOTE

If switch users are assigned to protection zones within a switching period, they cannot be deselected.

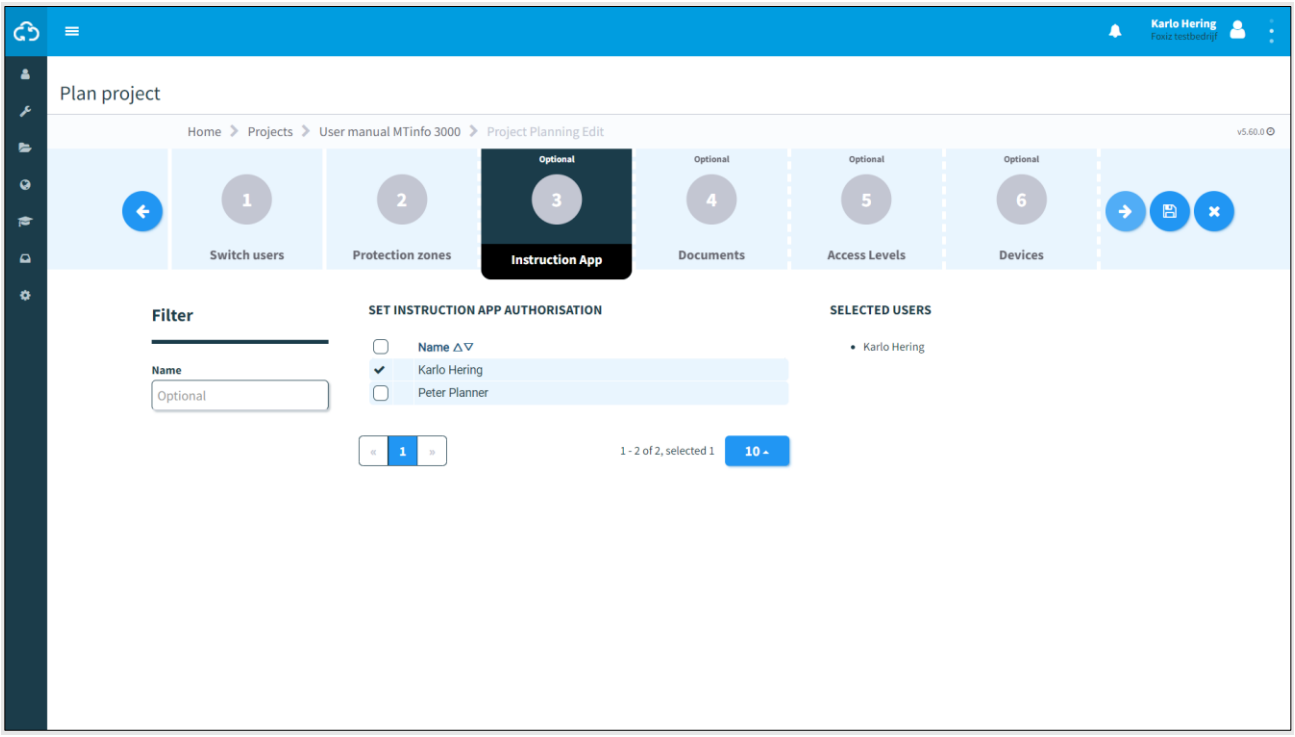


Figure 52 Plan project - instruction app

1. Select the users who need access to the instruction tile of the app.
2. Go to step 4.

7.11.3.4 Step 4 - Documents

In the optional step 4 of the project planning, upload documents that users can consult through the instruction tile of the app.

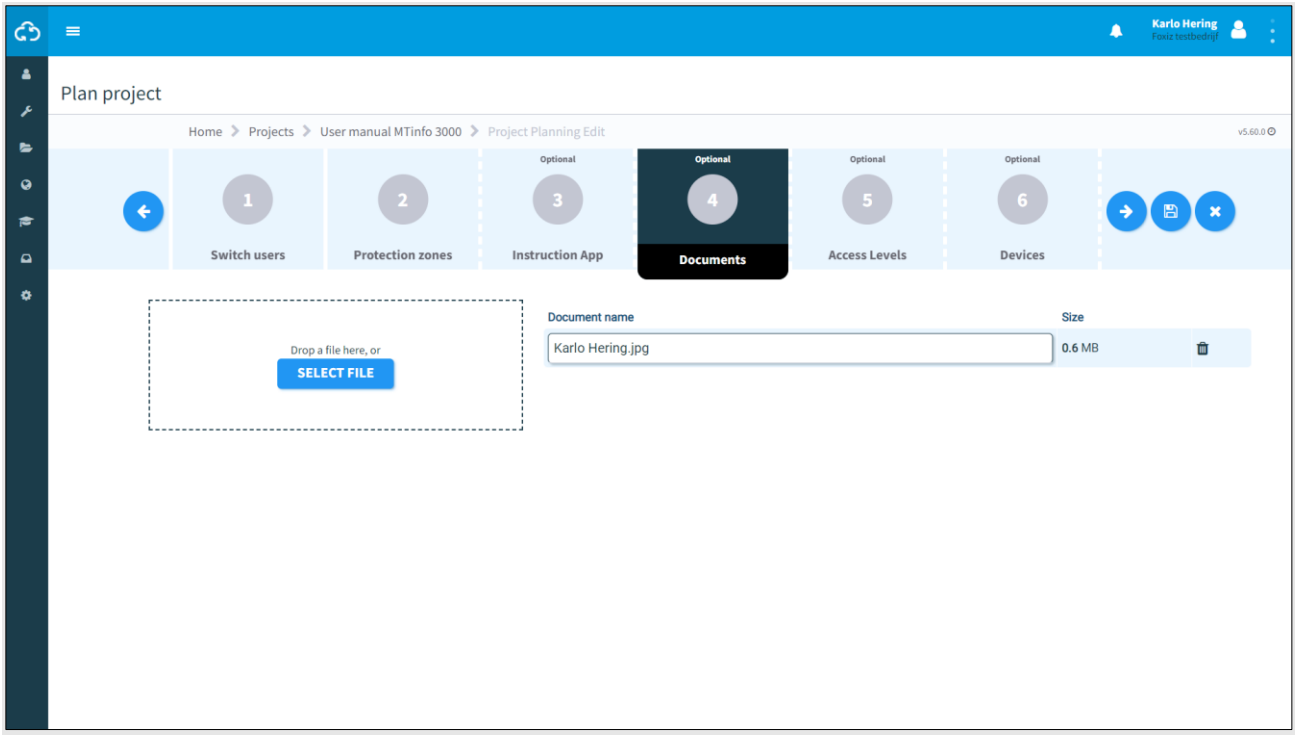


Figure 53 Plan project - documents

1. Upload one or more documents by dropping them into the indicated box or select files (max. 8 MB) manually. The names of the uploaded files appear after uploading.
2. If needed: change Document names.
3. If needed: delete files.
4. Go to step 5.

7.11.3.5 Step 5 - Access levels

In the optional step 5 of the project planning:

a. Determine the user authorisation;

b. Determine the document authorisation levels;

c. Add users to the documentation mailing list.

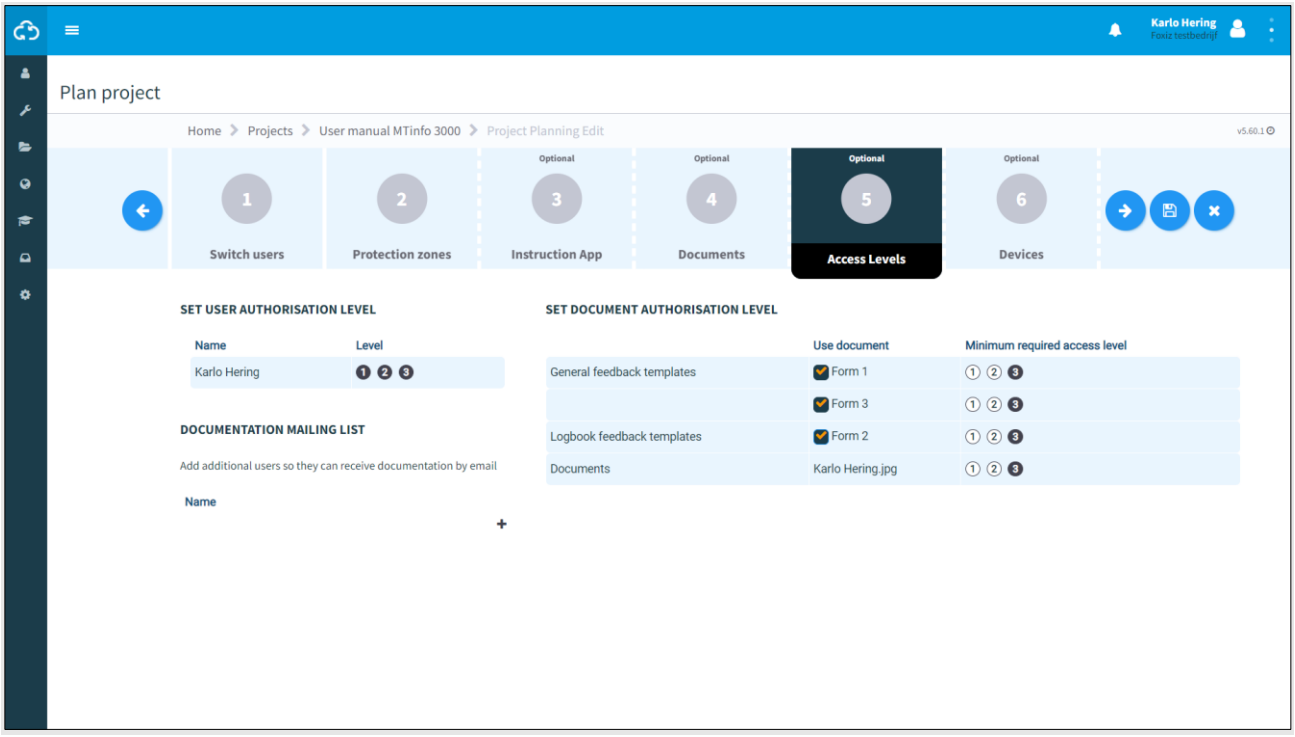


Figure 54 Plan project - access levels

The black coloured numbers determine the authorization levels:

❶ ② ③	Only users with level 1 have access to documents.
① ❷ ③	Only users with level 1 and 2 have access to documents.
① ② ❸	All users have access to documents.

1. Set the User authorisation level by clicking the level.
2. Set the Document authorisation level by clicking the level.
3. Optional: Add users to the Documentation mailing list.
4. Go to step 6.

7.11.3.6 Step 6 - Devices

NOTE

This optional step 6 of the project planning is currently being decommissioned; you can skip this step.

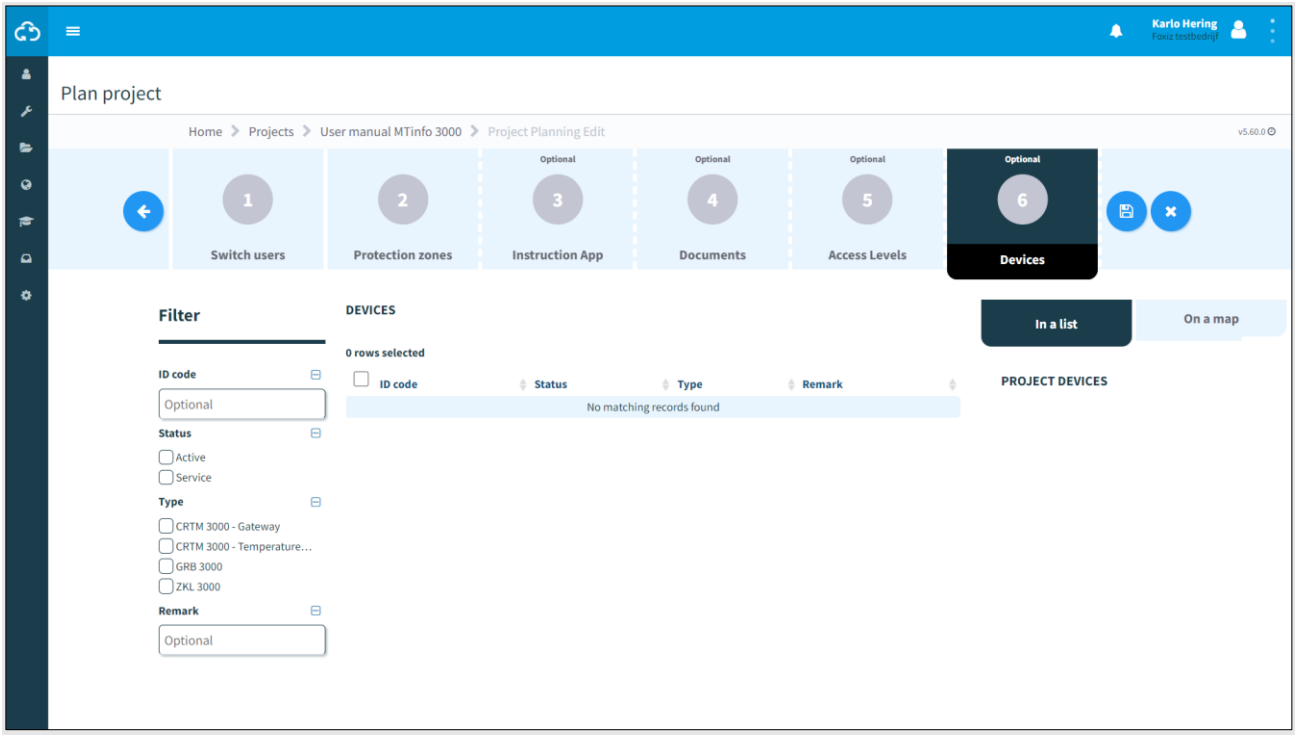


Figure 55 Plan project - devices

The last step is to save the project planning.

7.11.3.7 Step 7 - Save project planning

Save the project planning and submit it for verification or validation. Or verify and validate the project planning directly (see 7.11.3).

NOTE

To reduce risks, MTinfo 3000 uses the six-eyes principle. It is strongly recommended that a second authorised user should verify the planning, and a third authorised user should validate the planning.

NOTE

You can verify and validate the planning directly if you are authorised. Because of the six-eyes principle, Dual Inventive does not recommend this step in operational use.

1. Save.

This screen appears:

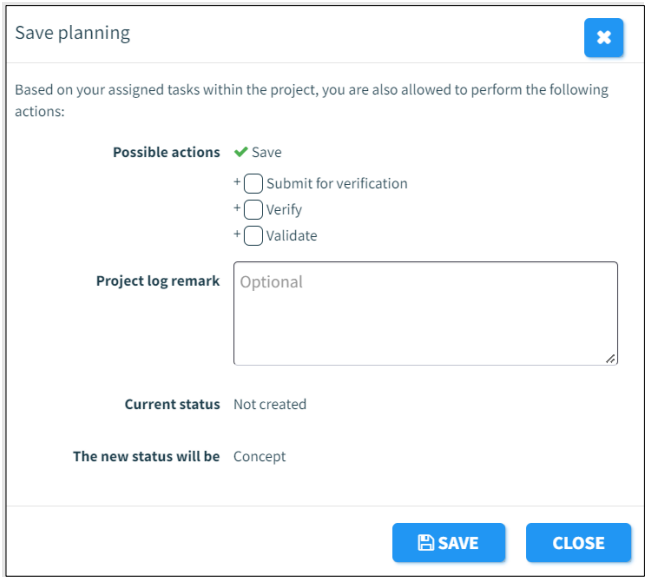


Figure 56 Save planning

Saving the project planning works similar as saving the project design (see 7.11.2.5).

7.11.4 Verification and validation

To utilise the six-eyes principle in MTinfo 3000, at least three people need to check both the project design and the project planning before releasing projects. When a project is ready to be verified or validated, My MTinfo shows the applicable actions to be performed.

1. Go to the Dashboard and go to My MTinfo (on the right side, see Figure 11) which shows an overview of the assigned tasks in MTinfo 3000.
2. Click the task Verify or Validate.

The page View project appears. Depending on the task, the tab Design or tab Planning is selected:

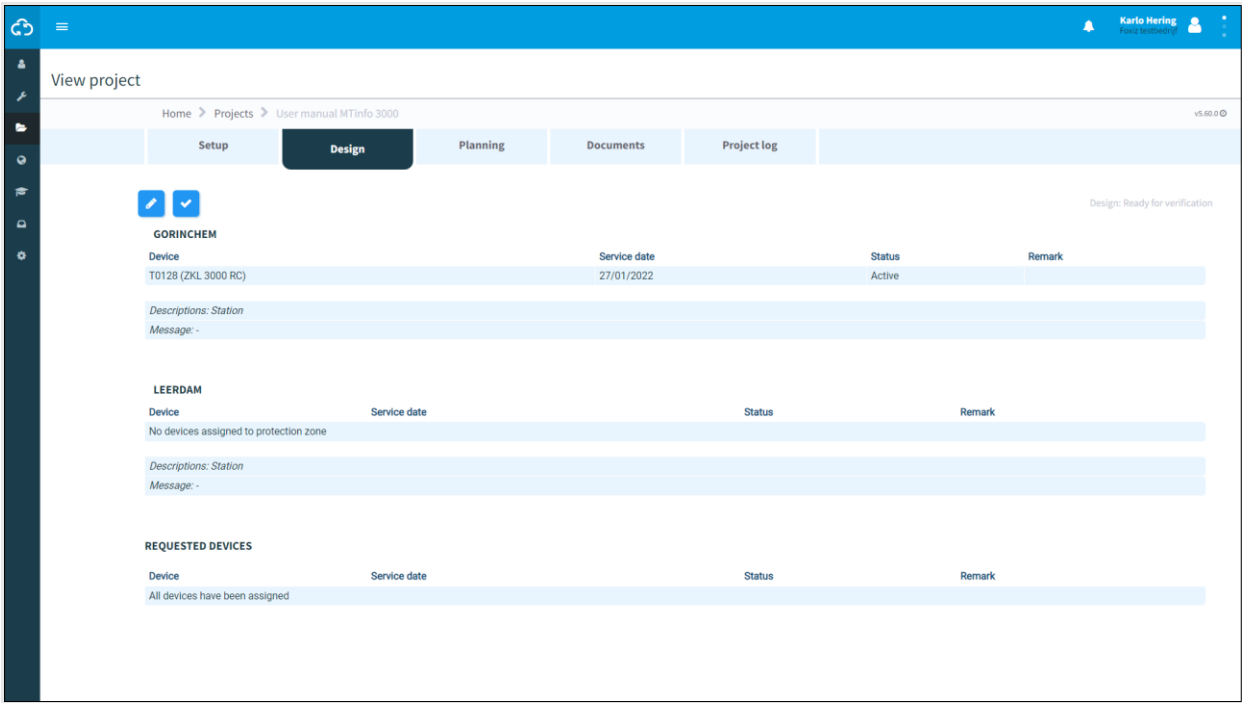


Figure 57 View project - verify and validate

3. Click the icon.

Depending on the task, the screen Check design or Check planning appears:

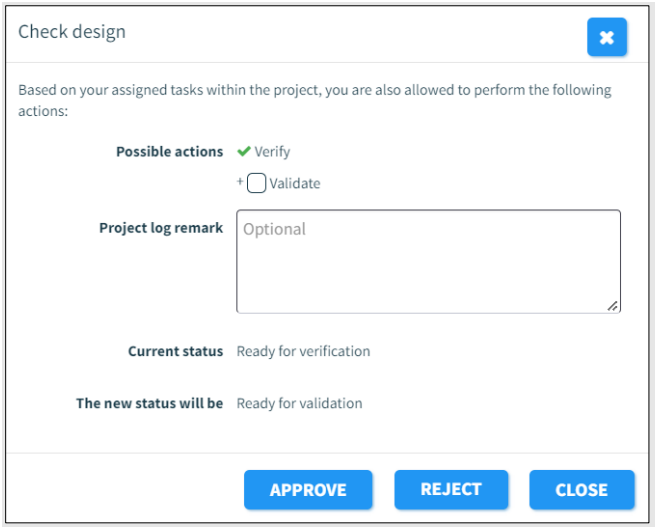


Figure 58 Check design

4. Optional: fill in a reason in the field Project log remark.
5. Click to approve or reject the validation or verification.

7.11.5 Release, Return and Close projects

Once MTinfo 3000 projects have been set up, designed and planned, projects must be released before they can be operational. Return and close are two more functions for managing projects.

NOTE

For safety reasons, you can only change a project when it is not released. To change a released project, first, it needs to be returned (see 7.11.5.2).

7.11.5.1 Release project

When a project is released, the assigned devices are locked to the project. They cannot be used simultaneously on different (released) projects.

To release a project:

1. Go to the page View project (Figure 32), tab Setup.
2. RELEASE Click the button.

This screen appears:

Figure 59 Release - start

3. RELEASE Click this button.

NOTE

Before releasing a project, please check the battery history of assigned devices.

MTinfo 3000 performs several checks before releasing a project:

Figure 60 Release - finished

Figure 51 explains the checks:

CHECK	EXPLANATION
Planning	Checking the project planning.
Design	Checking the project design.
Device availability	Checking the device availability.
Request release	Checking if the project can be released.
Project released	The project is released.
Inform users	Informing the project users through e-mails that a project has been released.

When a check is successful, a green checkmark appears next to it. When a check is not successful, a red cross appears in front of the specific step with its cause. Resolve the problem:

CHECK	PROBLEM	SOLUTION
Planning	The project planning is not completed. The planning is not verified and/or validated.	Complete the project planning. Verify and/or validate the project planning.
Design	The project design is not completed. The design is not verified and/or validated.	Complete the project design. Verify and/or validate the project design.
Device availability	The device is not available because of several reasons, e.g., the device is defect, empty batteries.	Check the real-time status of the device and resolve the problem.
Request release	The project cannot be requested for release for many reasons: • the secure server is down;	Check if the device is not used in any other projects. Check if the device does not have any errors or else contact Dual Inventive to resolve the issue.

CHECK	PROBLEM	SOLUTION
	• the device is used in other projects; • the device has errors.	
Project released	The project cannot be released.	A project cannot be released when one or more devices are offline. Please check the device's batteries and reset the device. If this does not solve the issue, contact Dual Inventive.
Inform users	Users do not receive any SMS or email when the project has been released.	Check if the correct phone number and email is filled in. Also check if the email notifications are turned on. If so, then contact Dual Inventive.

Once the problem has been solved, attempt to release the project again. When all checks are successful, the project is released. All project users receive an e-mail.

During "project released" check MTinfo 3000 can give a warning when the critical maintenance date of a device expires during the project.

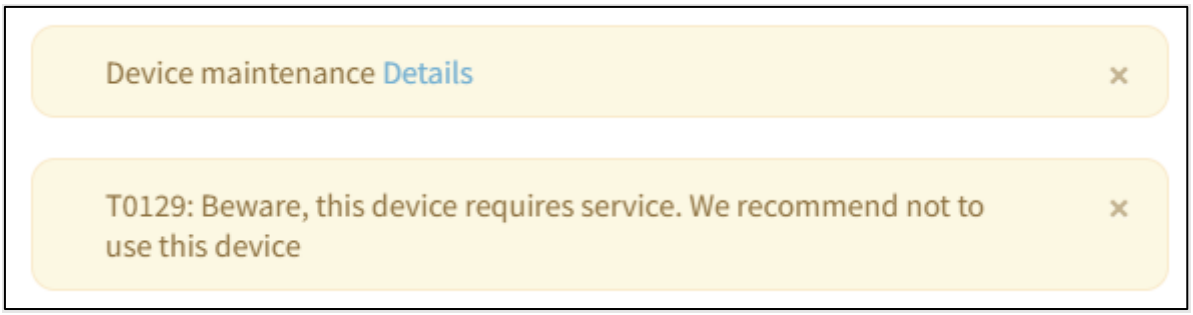


Figure 61 Release – warning service date of a device expires

If the project cannot be released, it is because it has not received the 'Validated' status, is not considered safe, one or more devices are offline, or the key switch is not in 'Operational' status. (SRAC MTI 15)

7.11.5.2 Return project

If you want to end or edit a released project, first it must be returned. This is for safety reasons and it prevents that devices are used simultaneously on multiple projects. As soon as a project has been returned, the devices can be released on other projects.

NOTE

After returning a project, users cannot switch protection zones on the project anymore. Any devices that have been switched on, will remain switched on even after the project is returned.

7.11.5.2.1 Return via web application

1. Go to the page View project (Figure 32), tab Setup.
2. RETURN Click the button.

This screen appears:

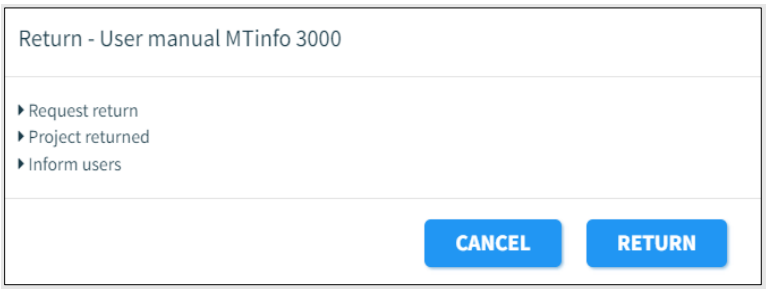


Figure 62 Return - start

3. RETURN Click this button.

MTinfo 3000 performs several checks again before returning a project:

Figure 63 Return - finished

When a check is successful, a green checkmark appears next to it. When a check is not successful, a red cross appears in front of the specific step with its cause. This will normally not happen because you can return a device in most circumstances, even when a battery is empty. When a red cross appears, please follow the section troubleshooting in the User Manual of your device. If that does not help, please contact Dual Inventive

When all checks are successful, the project is returned. All project users receive an e-mail. If the project cannot be returned, MTinfo 3000 will notify the user who is trying to return the project.

7.11.5.2.2 Return via mobile application

This feature allows **operators on site** to 'Return' a project through their mobile application once it is released. The purpose of this feature is to **free the device(s)** under the released project(s) so that the **device(s) are immediately available** for other projects.

To **enable the 'Return'** via mobile app**, all the points in** Table 3 **must checked.**

Table 6 Enable Return via mobile application

Checks	Company Level	User Role Level	Project Level	Outcome
Enable Return via Mobile app	**Check 1:** Under 'Add Company' or 'Edit Company', 'Operators can return' is enabled. (see Figure 18, Figure 22)	**Check 2:** User must be assigned to the *'Project: return (operator)'* right (in one or more of their assigned user roles). (see Figure 26)	**Check 3:** Under 'Project Setup' or 'Project Edit', 'Operators can return' is enabled. (see Figure 33) **Check 4:** Operator is appointed operator for minimum 1 protection zone. (see Figure 42)	Operator can return via mobile application.

Other configuration for enabling returns:

The check under thse company level must be enabled, to enable the feature at the project level. The user role level check is independent of either setting.

To **disable the "Return"** functionality via the mobile app, follow these steps:

1. **Uncheck** any one of the points listed in Table 3.
2. **Revoke the rights** of all user(s) assigned to the **'Project: return (operator)'** under the project.

Keep in mind that a user's right to "Return" via the mobile application can only be revoked if the user is **not an operator** for a **released project** with the feature enabled.

NOTE

Refer to MTinfo 3000 mobile app_User Manual_EN for more information on 'Return' function used in mobile application.

7.11.5.3 Close projects

Once a project has been completed, it remains on your list of available projects, so you can release a project again. If you want to delete projects on your list, close the project. It is only possible to close a project when it is not released.

NOTE

Closing a project is irreversible. Be aware that a closed project can still be duplicated (see Figure 32).

To close a project:

1. Go to the page View project (Figure 32), tab Setup.
2. Click the icon.

This screen appears:

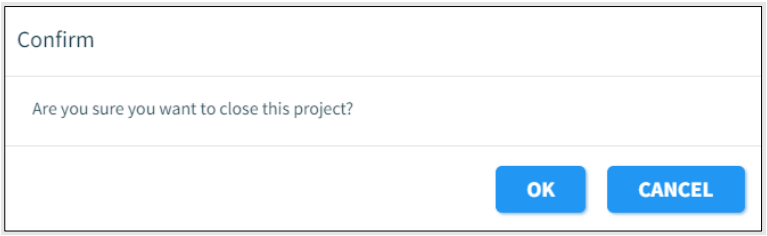


Figure 64 Close

3. Click OK to close the project permanently.

Closed projects can be viewed for reference when you change your filter to 'closed'.

8 SWITCH PROTECTION ZONES

You can switch protection zones through the MTinfo 3000 web app and mobile app. To switch protection zones remotely, you must have authorisation.

NOTE

a. Only users with switch user rights can (de)activate a device in a released project. (SRAC MTI 11)

b. Ensure track workers are safe before (de)activating a device. (SRAC MTI 12).

c. For switching protection zones through the mobile app, refer to the MTinfo 3000 mobile app_User Manual.

This section tells you how to select and switch protection zones through the MTinfo 3000 web app.

1. Go to the page View project (Figure 41), tab Setup.
2. Click the switch protection zone icon.

   You can only switch protection zones for a *released project*. If the project is not released the button will be disabled.

The page Switch protection zone(s) appears. Follow steps 1 and 2 to switch single or multiple protection zones.

8.1 Single zone switching

8.1.1 Step 1 - Protection zones

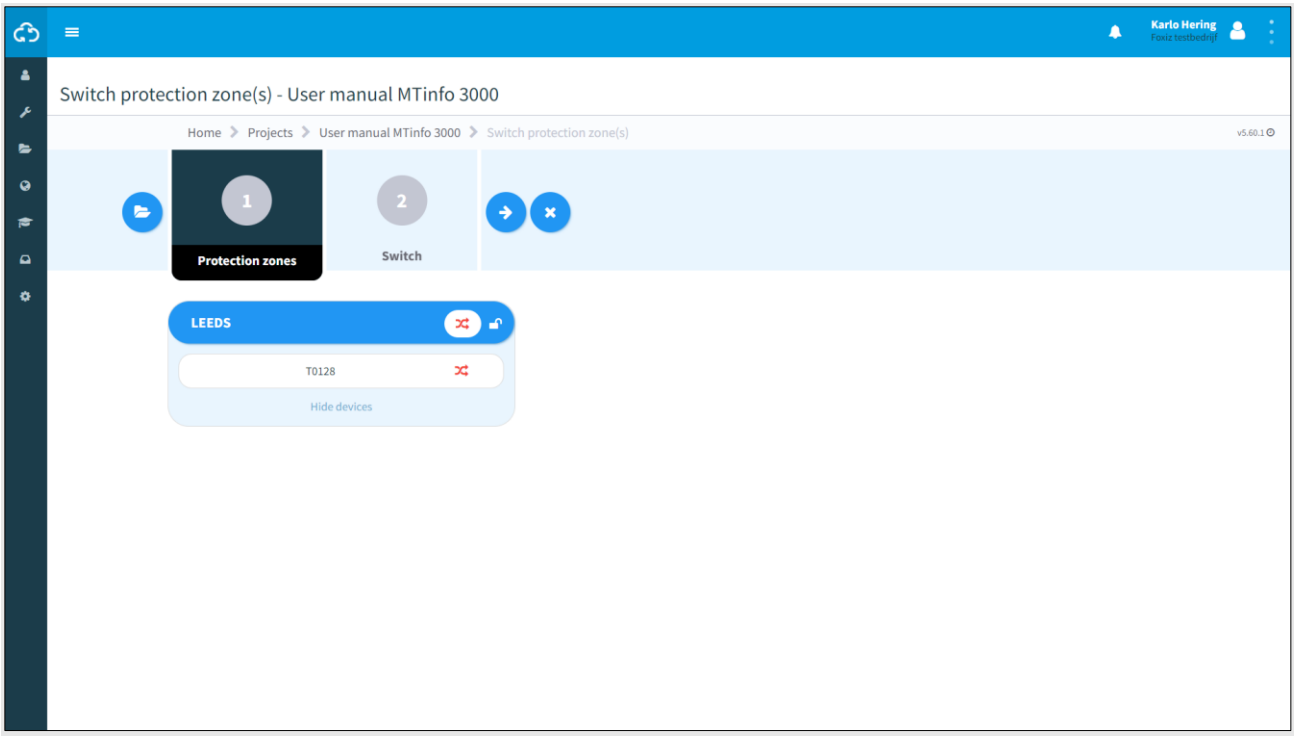


Figure 65 Switching single protection zone

1. Select the protection zone to switch.
   The status of the zone will be indicated by a shift icon (see Figure 66).
   - A green shift icon indicates all devices within the zone are activated and have no errors.
   - A red shift icon indicates all devices within the zone are deactivated.
   - An amber shift icon indicates one or more devices within the zone are deactivated, and other devices are activated.
   - A grey shift icon indicates the status is unknown or no devices are assigned to the zone.
2. Click “Show devices” to see which devices are contained in the protection zone.
   The status of each device will be indicated by a shift icon.
   - A green shift icon indicates the device is activated.
   - A red shift icon indicates the device is deactivated.
   - A grey shift icon indicates the device status is unknown.

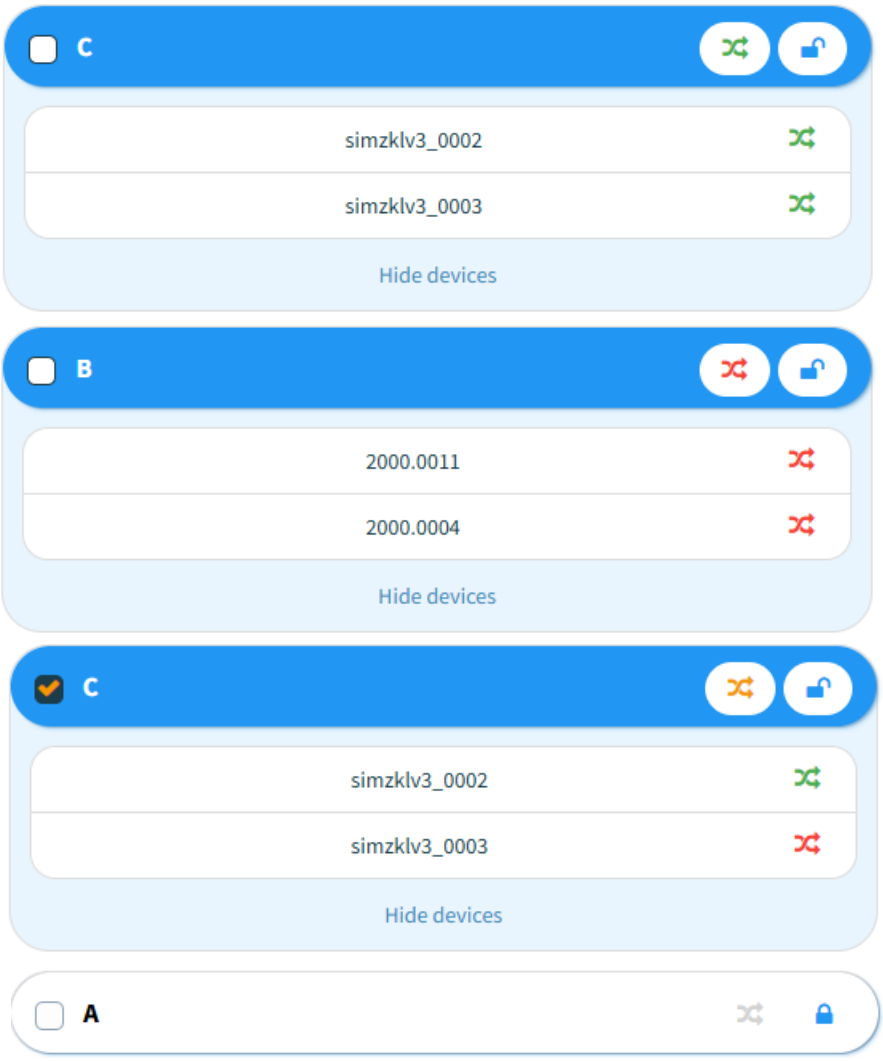


Figure 66 Switch protection zone status

The system disables the protection zone and shows a closed lock icon if one of these conditions is true:

- No devices are assigned to the protection zone.
- You are not the assigned operator.
- You are not allowed to switch the protection zone currently.

3. Go to step 2.

8.1.2 Step 2 - Switch

In the second step, choose to switch the devices on (activate) or off (deactivate).

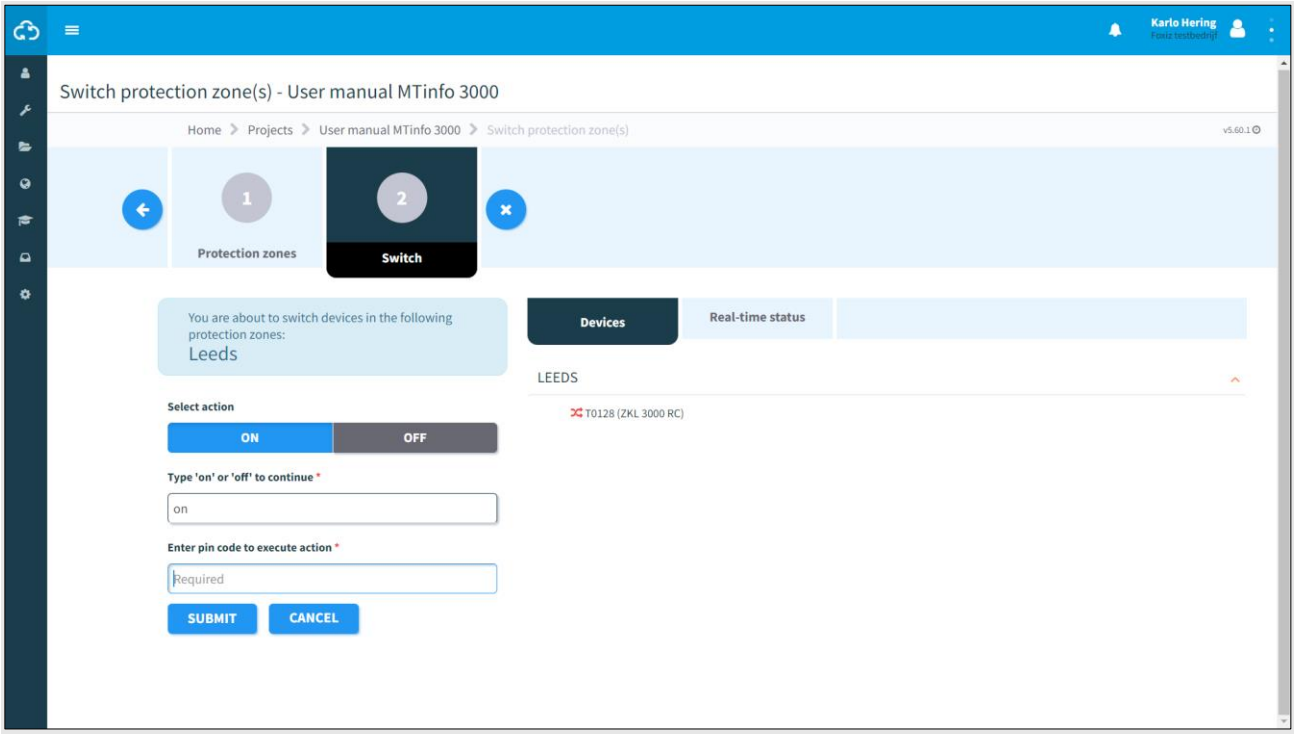


Figure 67 Switching single protection zone (b)

1. Select: ON or OFF
2. Type: on or off.
3. Enter your PIN code.
4. Submit.

On the right side, under the Devices tab, you can see if the action was successful or not. You can also see this in the Real-time status tab (see 10.1).

When the request is successful, the result will be like the example below:

Figure 68 Switch successful message

NOTE

a. The user must check if the protection zone is (de)activated, after making changes to its status. (SRAC MTI 9)

b. By default, you can switch only one protection zone at a time. It is possible to switch more than one protection zone at the same time if you have company-level authorisation.

c. If you try to switch more than one protection zone and one or more zones do not respond (for example, because of a temporary connectivity problem), the system may switch on a zone that is already on or switch off a zone that is already off.

8.2 Multiple zones switching

> **NOTE**
>
> It is only possible to switch multiple zones at once *if this setting is enabled for your company.*

8.2.1 Step 1 - Protection zones

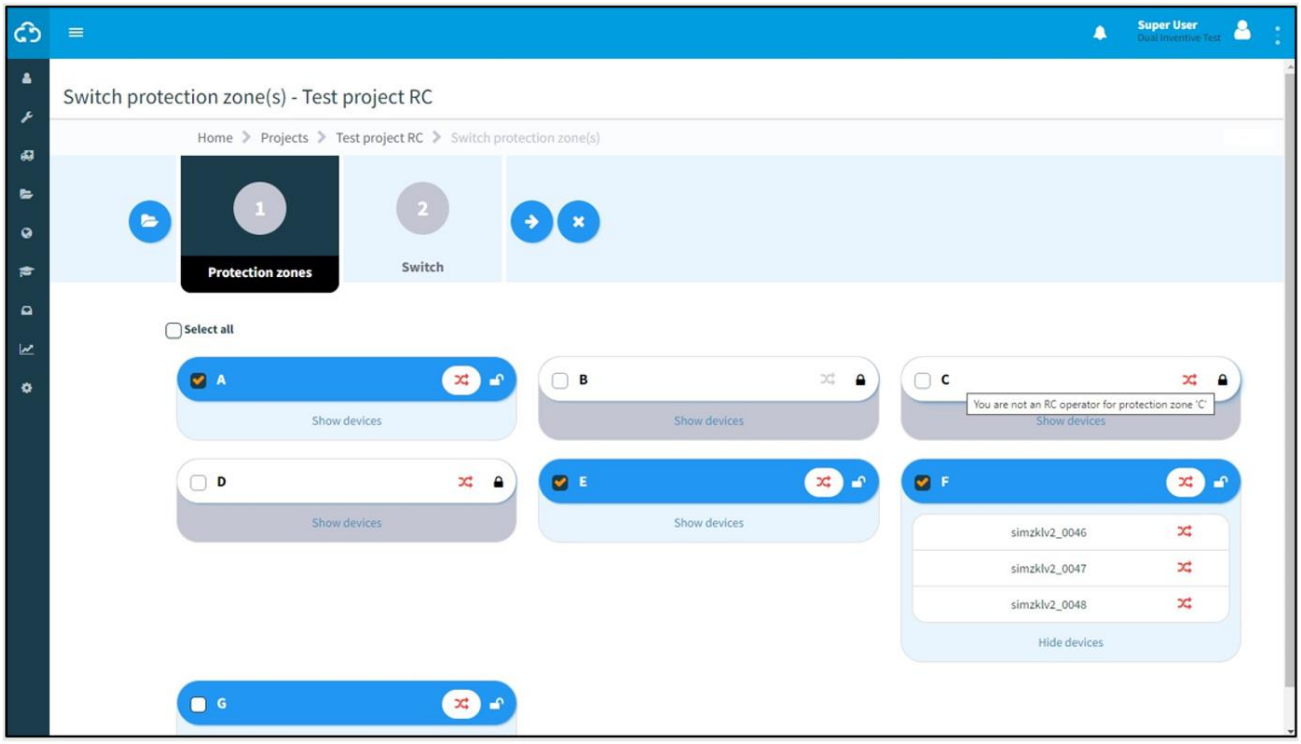


Figure 69 Switching multiple protection zones

1. Select the protection zone(s) to switch.
   The status of the zone(s) will be indicated by a shift icon (see Figure 66).
   - A green shift icon indicates all devices within the zone(s) are activated.
   - A red shift icon indicates all devices within the zone(s) are deactivated.
   - An amber shift icon indicates one or more devices within the zone(s) are deactivated, and other devices are activated.
2. A grey shift icon indicates the status is unknown or no devices are assigned to the zone(s).
3. Click “Show devices” to see which devices are contained in the protection zone(s).
   The status of each device will be indicated by a shift icon.
   - A green shift icon indicates the device is activated.

- A red shift icon indicates the device is deactivated.

4. A grey shift icon indicates the device status is unknown.

The system disables the protection zone(s) and shows a closed lock icon if one of these conditions is true:

- No devices are assigned to the protection zone.
- You are not the assigned operator.
- You are not allowed to switch the protection zone(s) currently.

8.2.2 Step 2 – Switch

In the second step, choose to switch the devices on (activate) or off (deactivate).

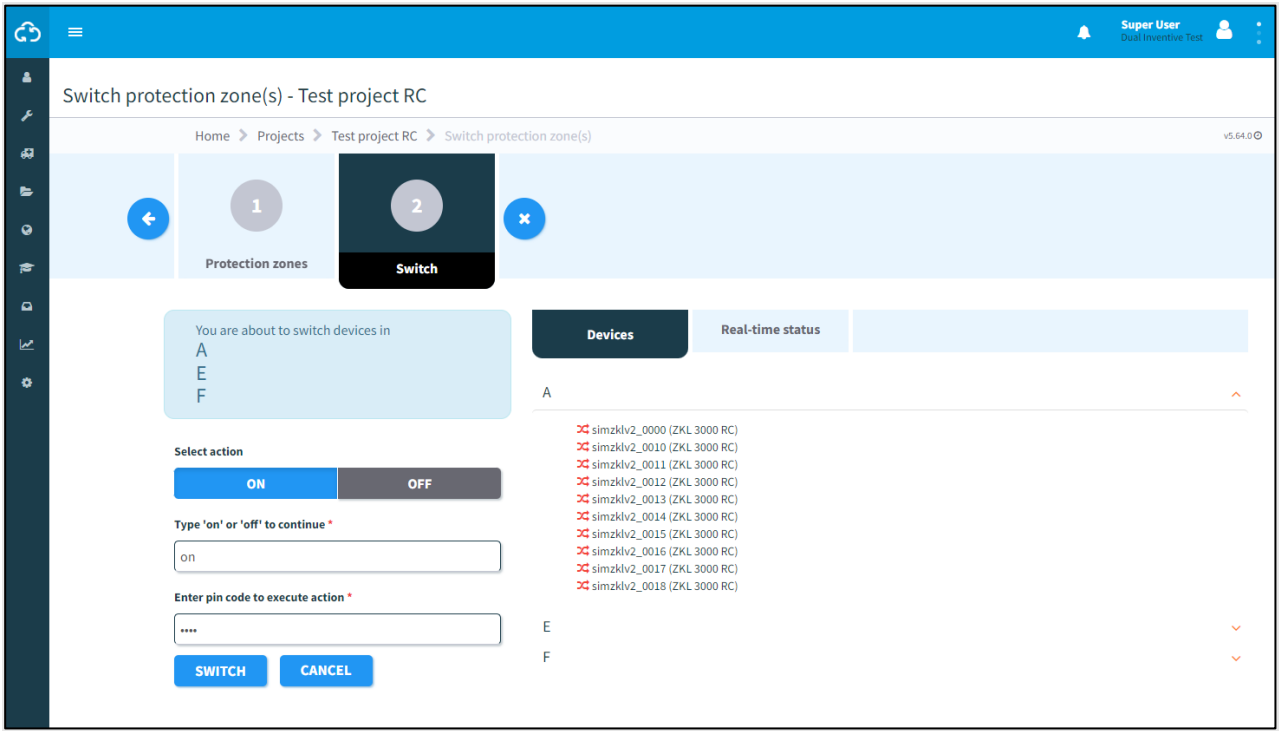


Figure 70 Switching multiple protection zones (b)

1. Select: ON or OFF
2. Type: on or off.
3. Enter your PIN code.
4. Submit.

On the right side, under the Devices tab, you can see if the action was successful or not. You can also see this in the Real-time status tab (see 10.1).

When the request is successful, the result will be like the example below:

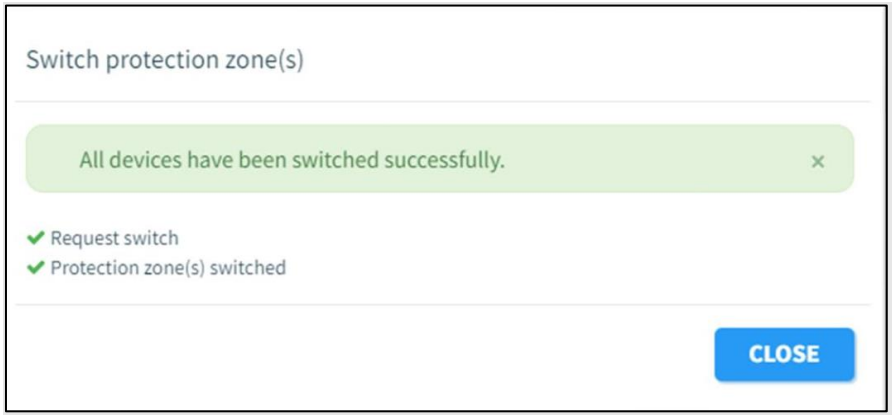


Figure 71 Switch successful message

8.3 Switch errors and warnings

The system groups errors and warnings by protection zone and by rail device

- A rail device with this *amber error icon* indicates error.
- A protection zone with red shift icon with an error icon indicates the zone is *deactivated and one of the devices has an error.*
- A protection zone with an amber shift icon with an error icon indicates the zone is *activated and one of the devices has an error.*

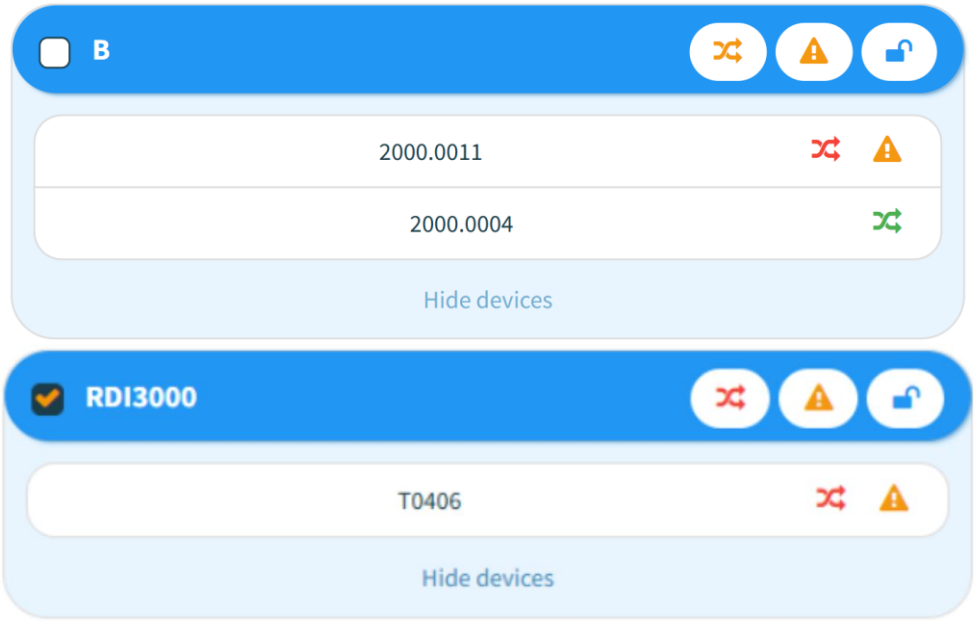


Figure 72 Switch errors

Move the pointer over the icon on the rail device to see *more information about the error code.*

In case there are errors and/or warnings, the result of the switch appears in a pop-window, as shown in the example below:

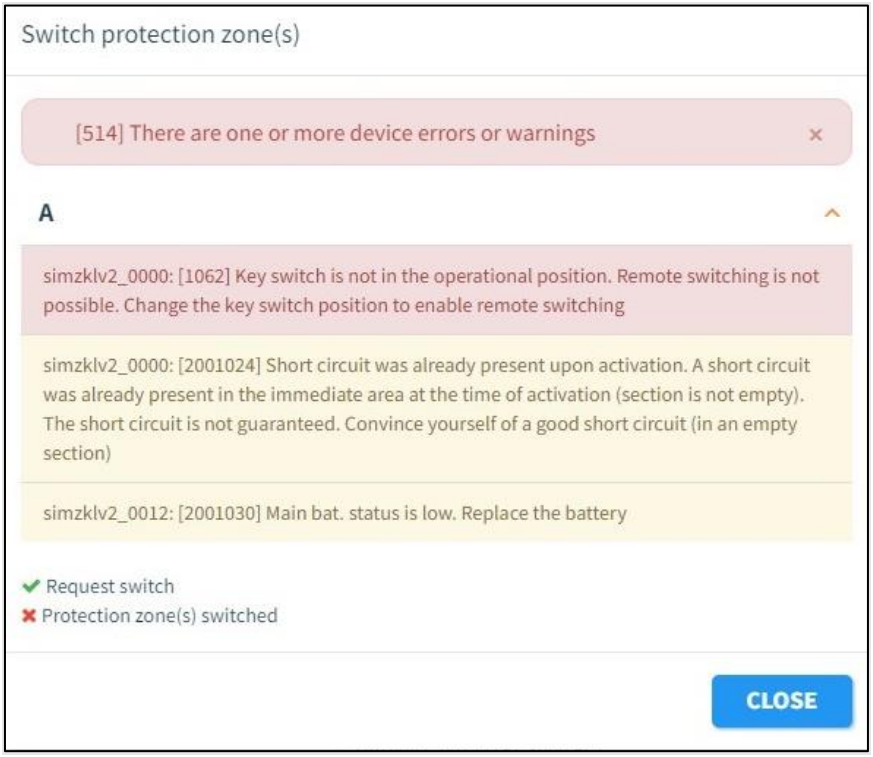


Figure 73 Switching error - Single zone

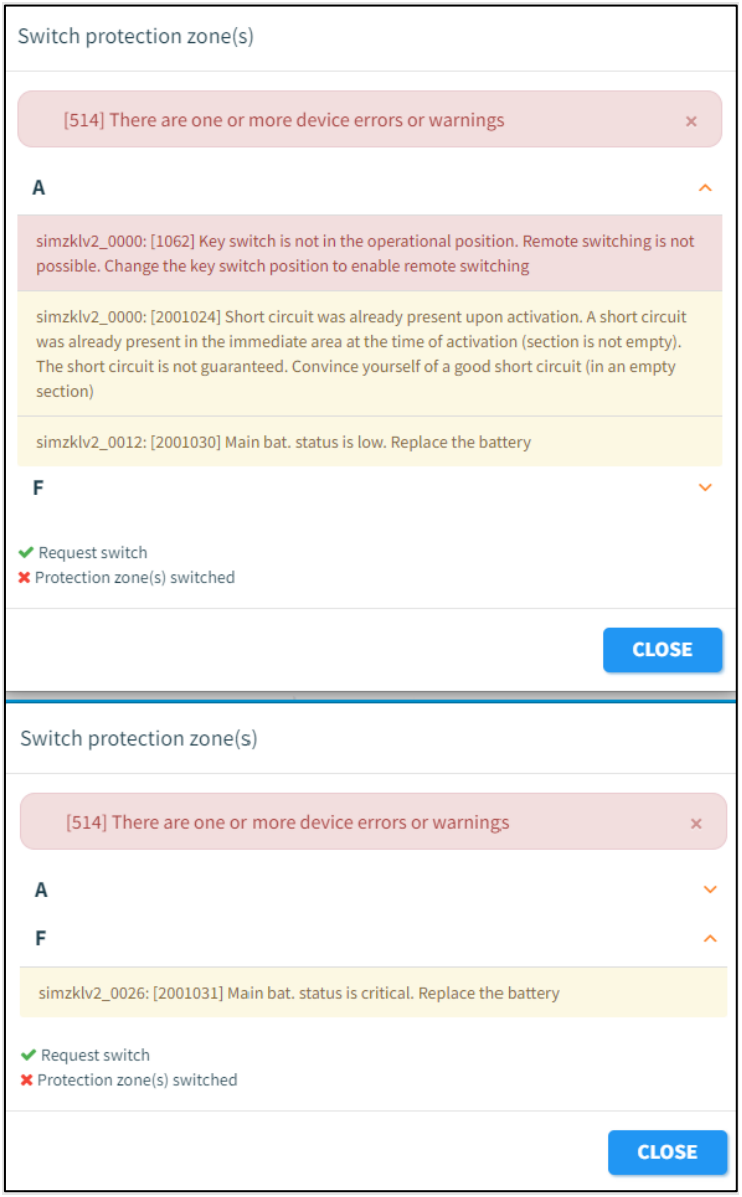


Figure 74 Switch error - multi zone

- A green colour indicates the device switched successfully.
- A yellow colour indicates switching succeeded, but one or more devices reported a *warning*.
- A red colour indicates one or more devices did not switch successfully and reported an *error*.

To resolve the issue, refer to the section “Troubleshooting” of the rail device’s user manual. If this does not solve the problem, contact DI Technical Support.

9 REPORTS

Reports provide various aspects of project data, user rights, and device performance, such as detection, location data, battery levels, and more. With MTinfo 3000, the user can generate different types of reports:

There are two broad categories of reports:

1. Periodically generated reports

- User generated
- Runs periodically for an indefinite time
- Report data is available for 90 days only.

2. One-time generated reports

- User generated
- Runs only once
- Report data is available for 90 days only.

Additionally, there are different sub-categories of reports accessible under both:

Project
A project report is used when multiple devices of the same project need to be added to a report. In that case, the user can search for the relevant project and immediately select all the devices on that project instead. The data that will be generated in this report consists of a history or snapshot of the selected sensor data of devices, such as switch status, detection status and battery voltage.

Project switches
A project switches report shows the switch actions that are done on a project, per device, paired with:

- how long it took for the command to be executed (measurement of the time it took for the switch command to be sent to the device, and for the device to actually perform the switch action)
- whether this command was executed successfully.

Devices
Devices (periodical) reports show the same data as Project (periodical) reports. The only difference is that no project needs to be selected in the Devices (periodical) report. That makes this a faster option if a user only wants to generate the report of one device, or of multiple devices spread out over different projects.

Device switches
This is a detailed report that shows exactly how long and how often selected devices have been switched. It uses a different formula to determine these switches, so that it also includes different scenarios such as devices being offline, and key switch actions. Because of this, the switch data of this report may differ from other reports such as Devices and Project switches.

GPS
This report is exported as a .kml file, which is used to display geographic data in Earth browsers such as Google Earth. In this report, users can see the geographic history of selected devices in such an Earth browser."

9.1 Periodical Reports

This section explains how to generate a periodical report. As an example, a Devices report is generated.

1. Go to the Dashboard and click Reports.

The page Reports appears:

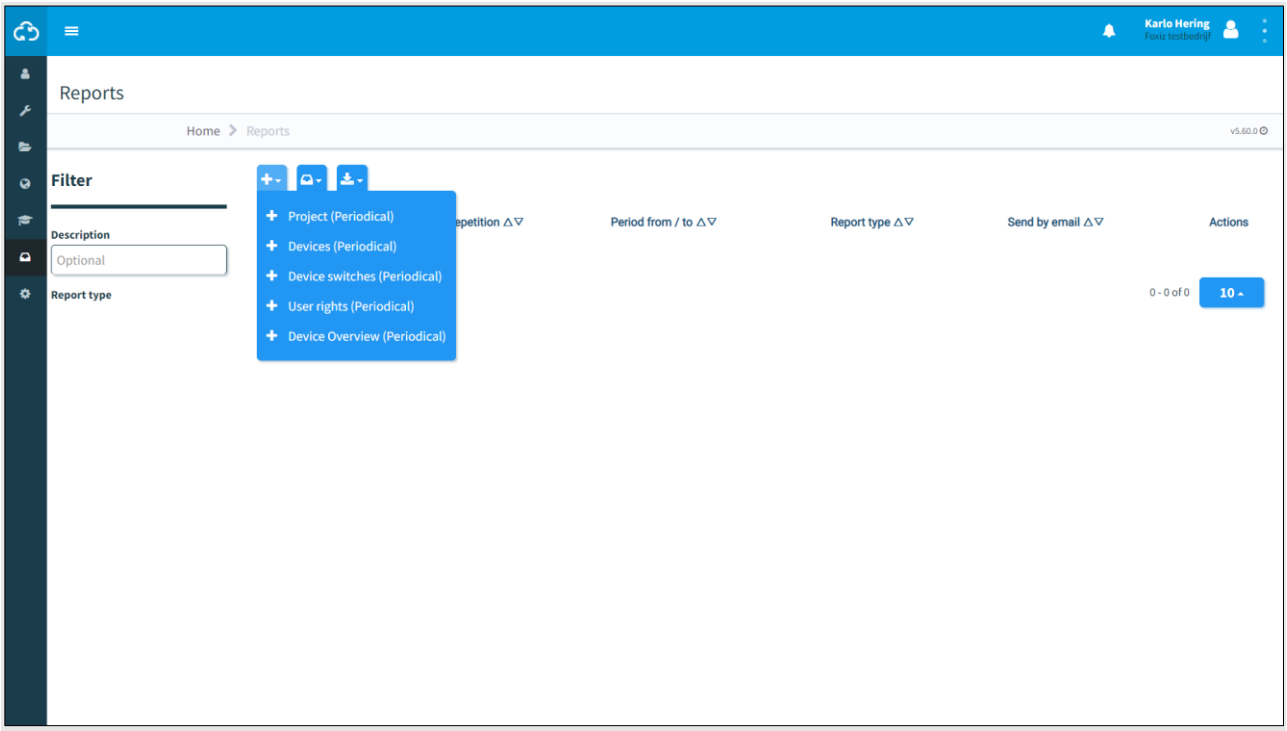


Figure 75 Reports - periodical

2. Click the + icon.
3. Select Devices (Periodical).

The page View Report appears. Follow steps 1 to 5 to generate a report.

9.1.1 Step 1 - Report info

In step 1 of generating a report, add basic information.

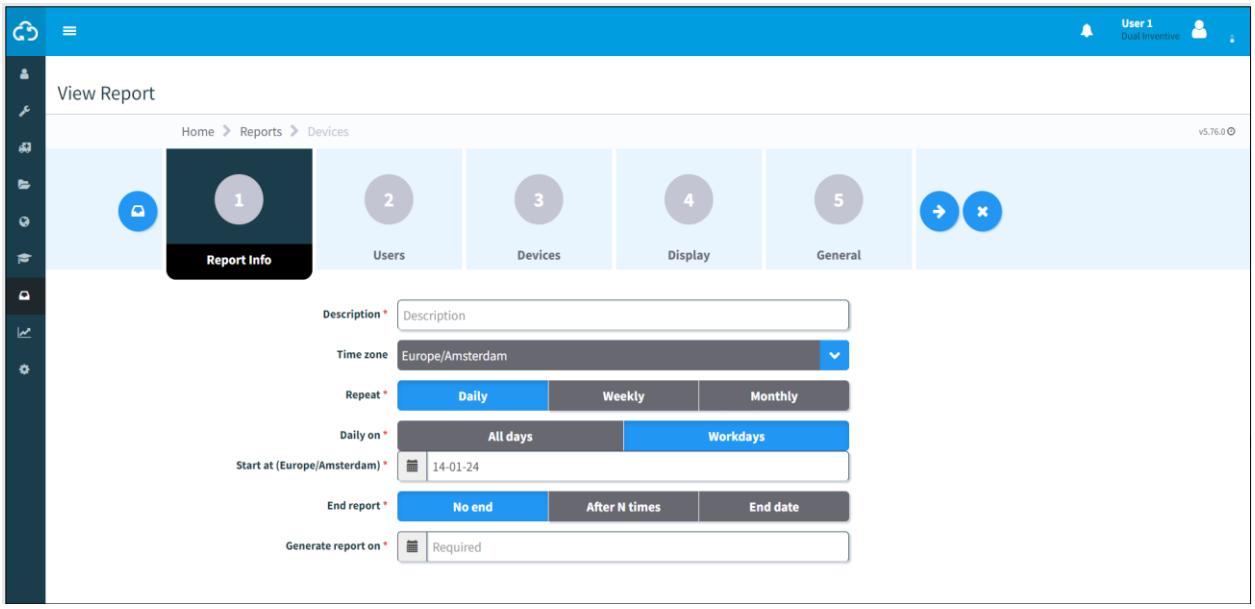


Figure 76 View report - report info

1. Fill in the Description of the report.
2. Choose the preferred time zone.
3. Choose the frequency of report generation: Daily, Weekly or Monthly.
4. Choose when the report is generated: All days or Workdays.
5. Choose when the report must be started.
6. Choose when the report must end: No end, After a number (N) times or End date.
7. Choose the daily time when the report must be generated.
8. Go to step 2.

9.1.2 Step 2 - Users

In step 2 of generating a report, select the users who will receive the report.

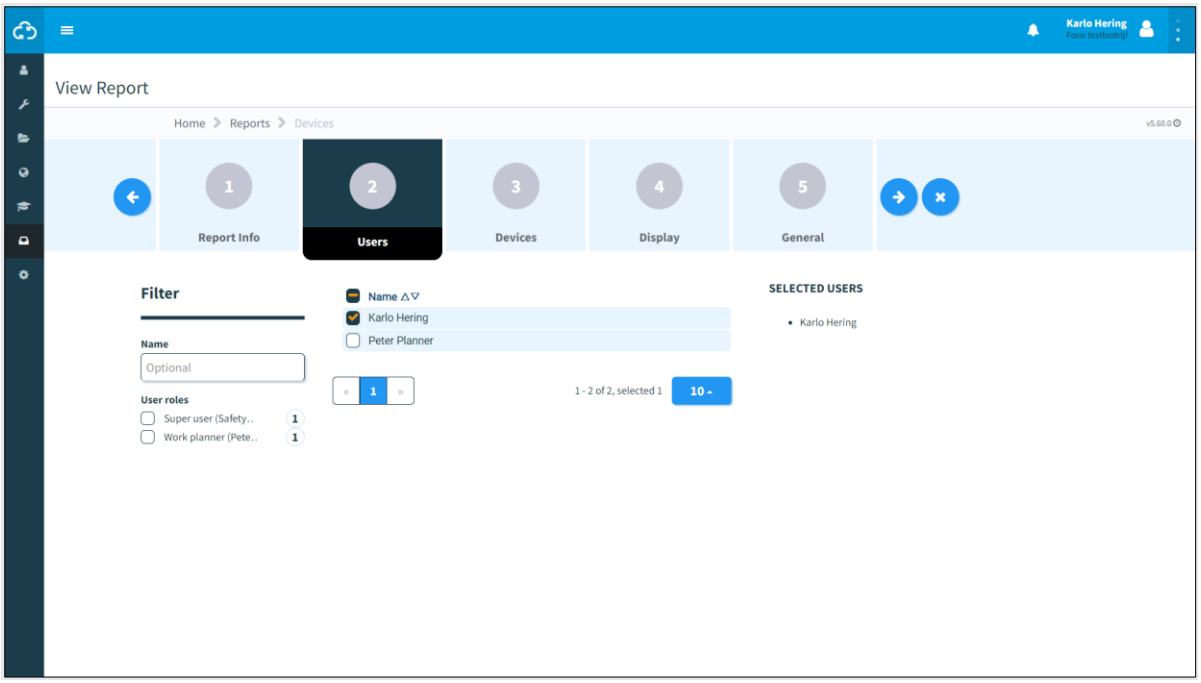


Figure 77 View report - users

1. Select at least one user.
2. Go to step 3.

9.1.3 Step 3 - Devices

In step 3 of generating a report, select the devices where you want to receive the report from. When the devices are selected, they will appear automatically under the tab in a list and the tab On a map.

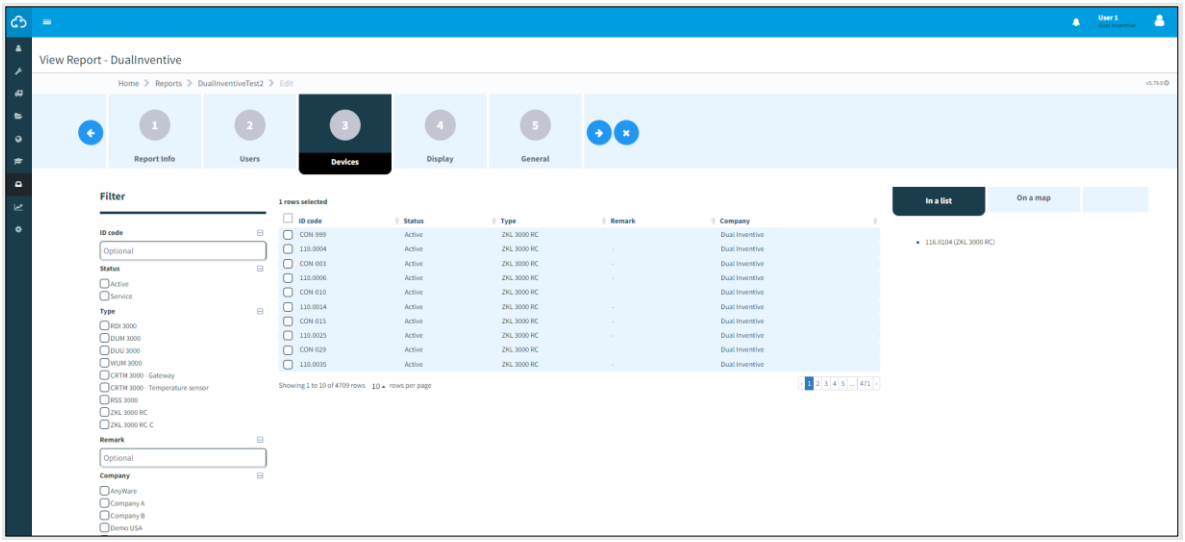


Figure 78 View report - Devices

1. Select one or more devices.
2. Go to step 4.

9.1.4 Step 4 - Display

In step 4 of generating a report, select the report type and the data to be reported.

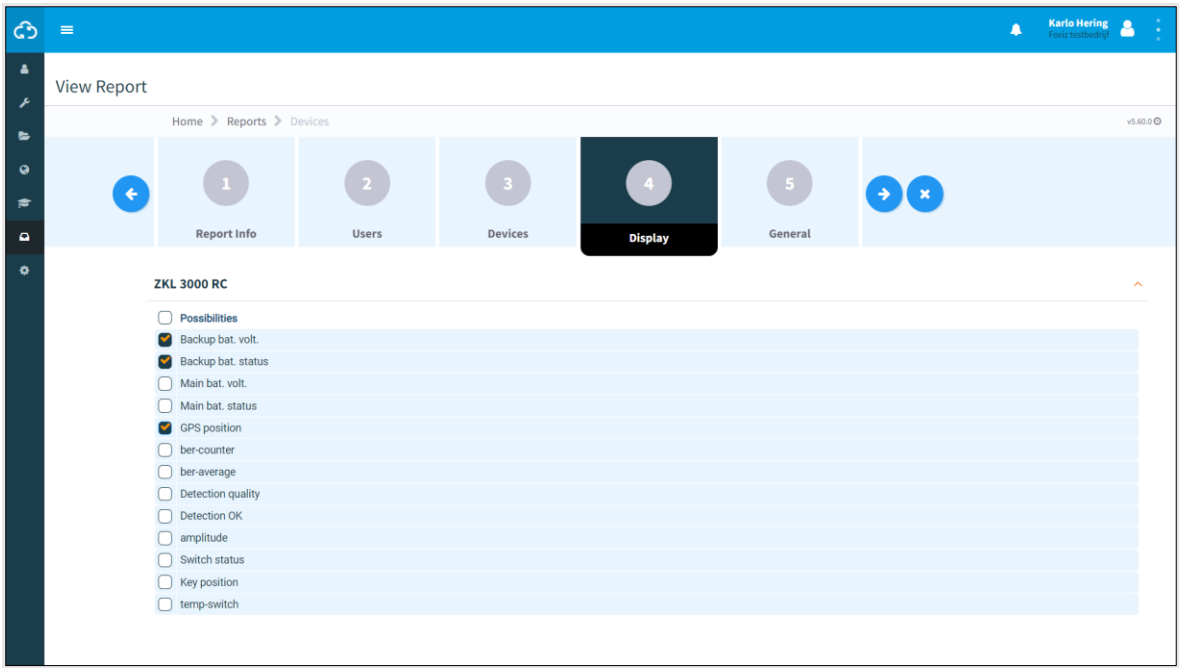


Figure 79 View report - Display

1. Select the needed data.
2. Go to step 5.

9.1.5 Step 5 - General

In step 5 of generating a report, select some general options and save the report.

Choose to generate one overview with only the latest status of all selected devices or the history. The device's history is shown until the last time the report was generated. The first report will be based on the specified interval. When you have set up a weekly report, the first report will display the data from the last week.

NOTE

A PDF report can only store a limited amount of data. Choose CSV file for reports with a lot of devices and/or history.

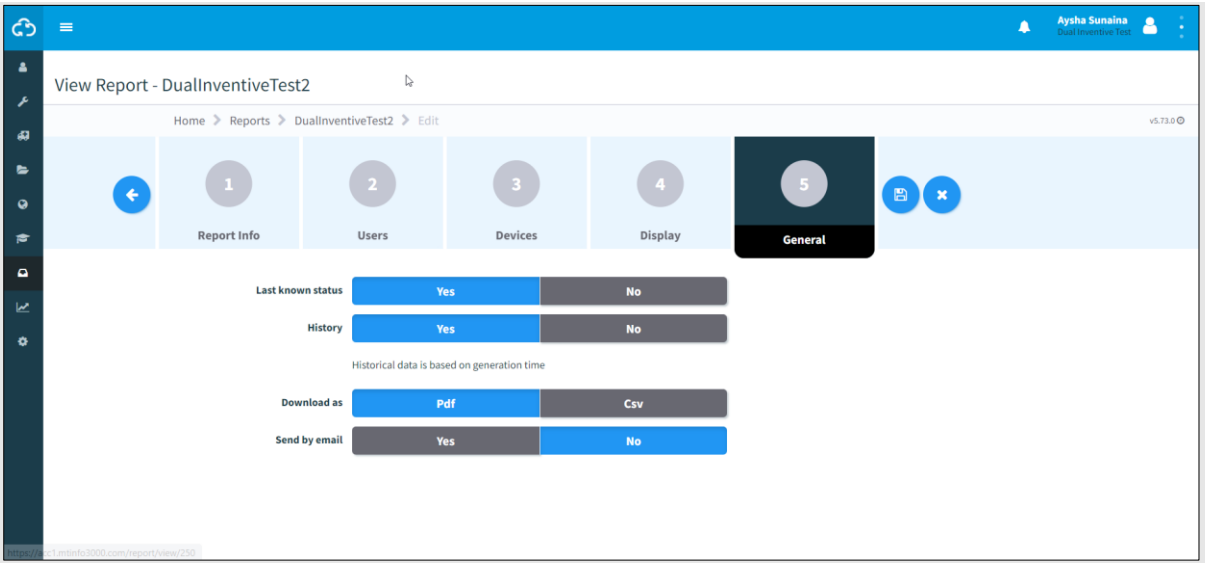


Figure 80 View report - General

1. Choose the last known status: Yes or No.
2. Choose the history: Yes or No.
3. Choose to download as: PDF or CSV.
4. Choose to send by email: Yes or No.
5. Save the report.

Now, the report will be generated as specified. If the report is ready to be downloaded, MTinfo 3000 will show this through a blue pop-up in the top right corner of the user's screen.

9.2 One-time Reports

This section explains how to generate a one-time report. The difference between a periodical report and a one-time report is that first two steps of a periodical report (Report info, Users) are not applicable for a one-time report.

As an example, a devices report is generated:

1. Go to the Dashboard and click Reports.

The page Reports appears:

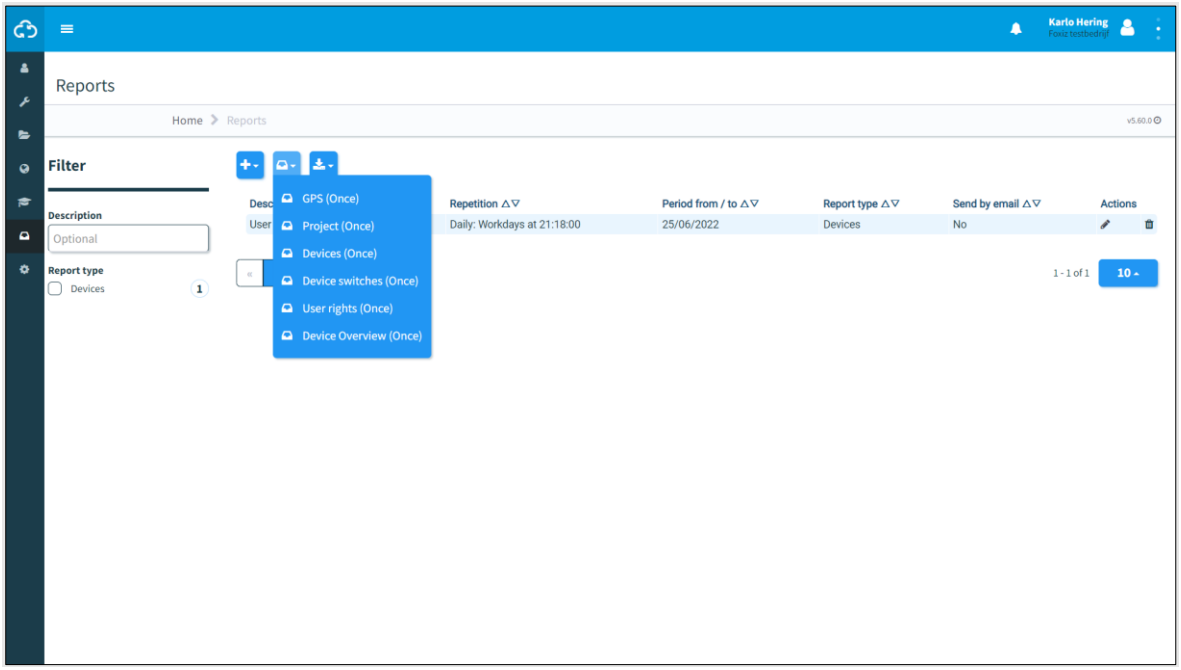


Figure 81 Reports - once

2. Click the icon

3. Select Devices (Once).

The page View Report appears:

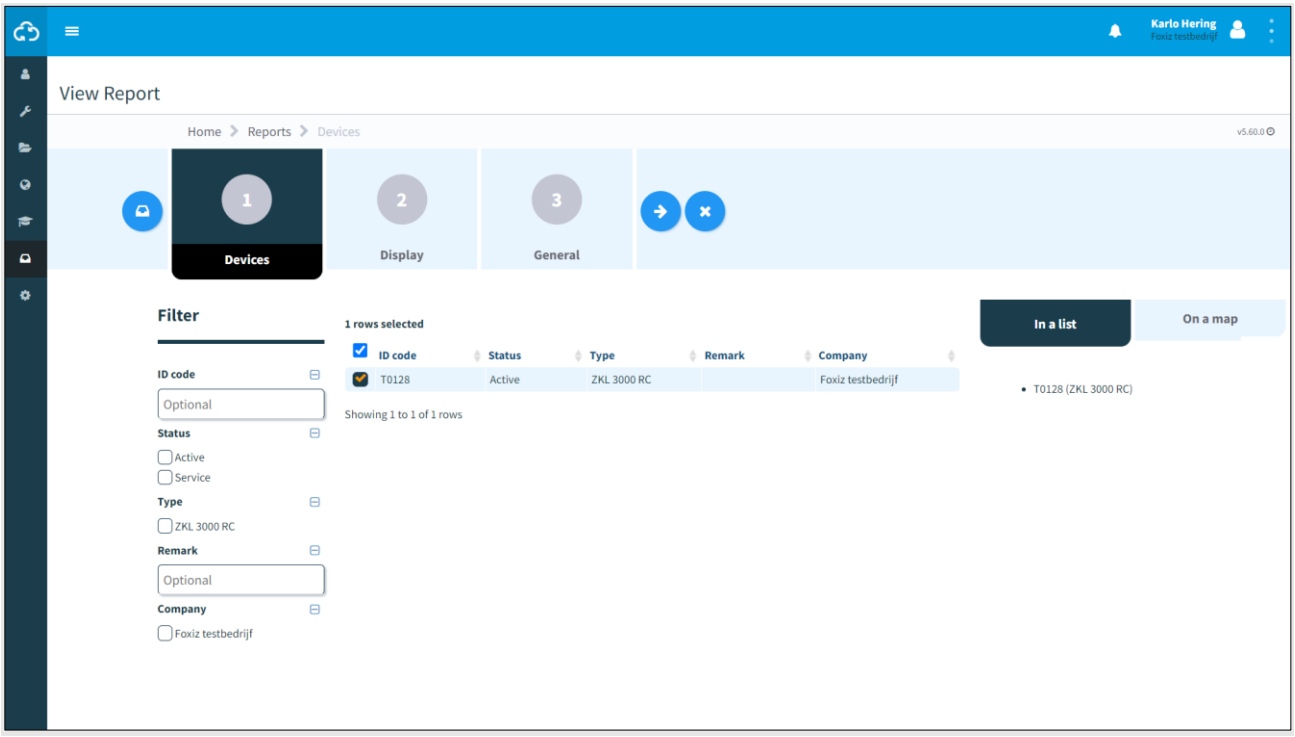


Figure 82 View report - one-time report

A one-time report is generated in three steps, which are similar to the steps for a periodical report:

a. Step 1 - Devices (Figure 87);

b. Step 2 - Display (Figure 88);

c. Step 3 - General (Figure 89).

The one-time report will use the time zone set by the user under his profile in MTinfo 3000 as the default setting.

9.3 Download Reports

Download the generated reports

1. Go to the Dashboard and click My MTinfo 3000
2. Go to My reports.
3. Click the icon.

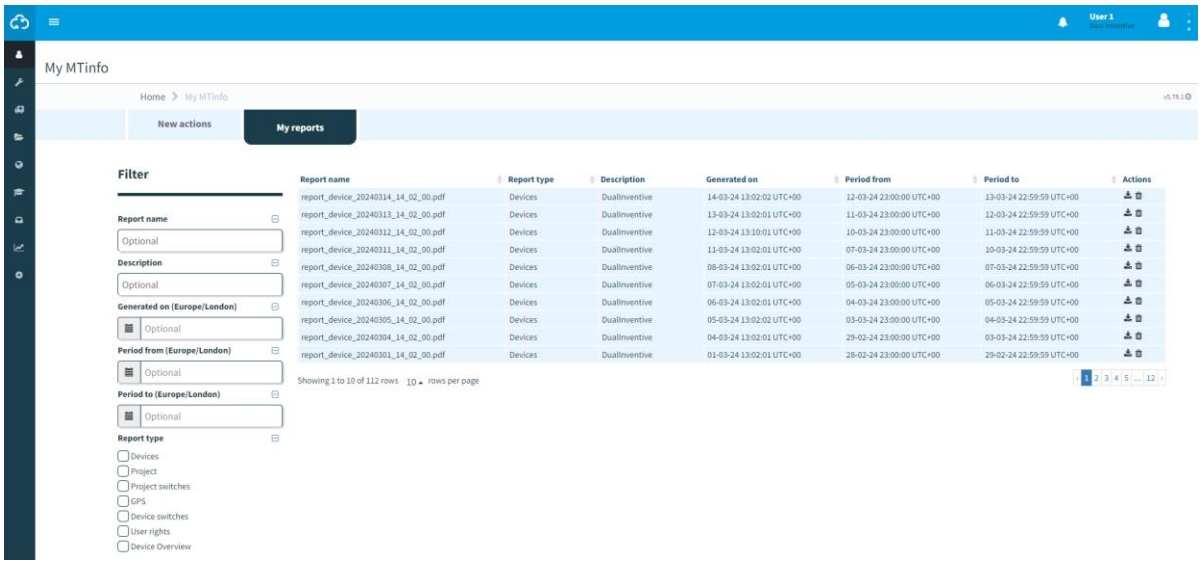


Figure 83 My reports

It also possible to download a pre-defined report:

4. Go to the Dashboard and click Reports.

The page Reports appears:

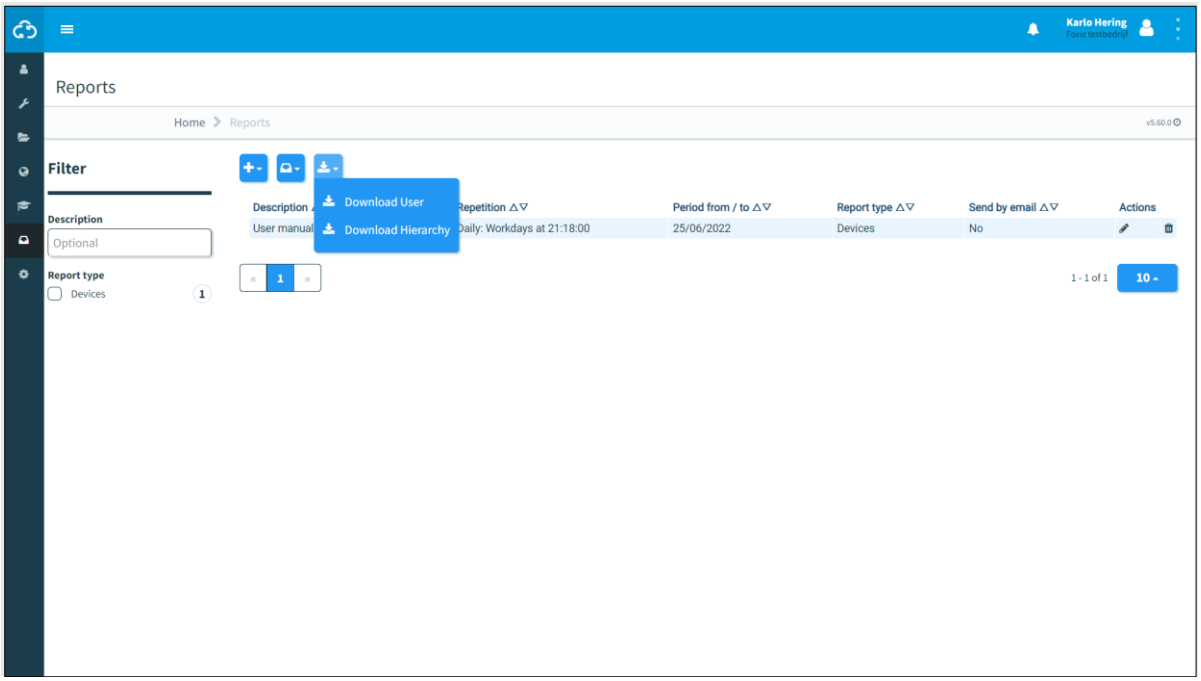


Figure 84 Reports - download

5. Click the icon.
6. Select Download User or Download Hierarchy.

By choosing Download User, first the company's user(s) must be selected:

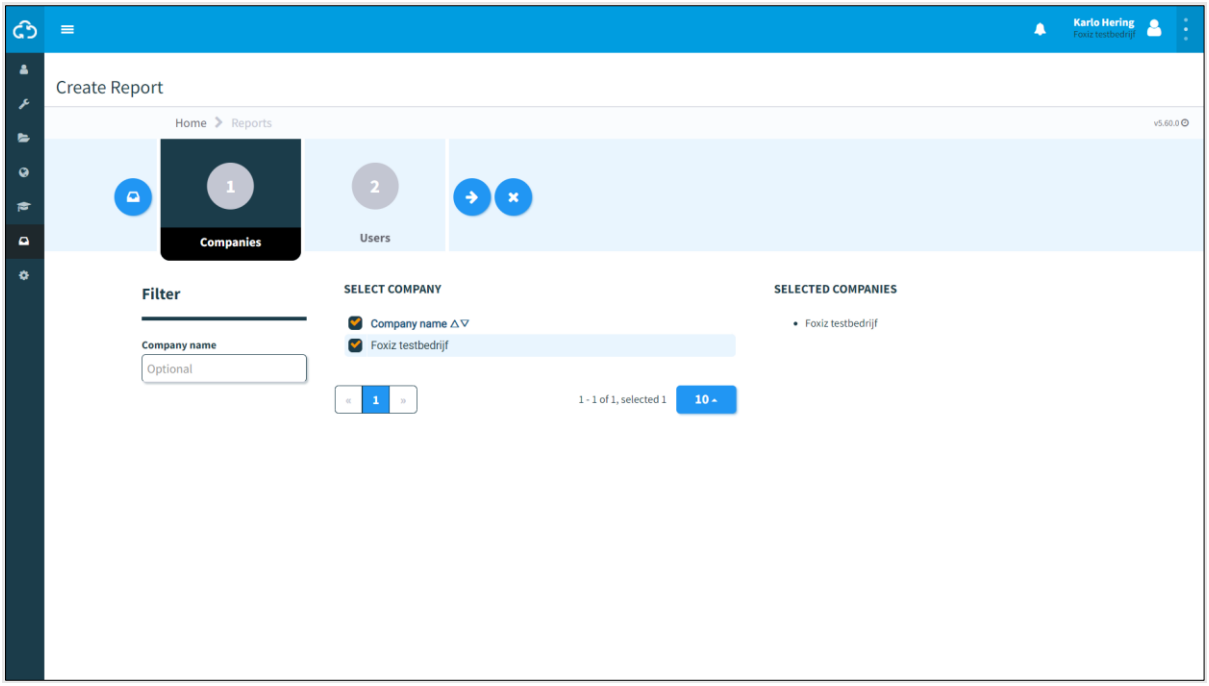


Figure 85 Download report - select users.

By choosing Download Hierarchy, the report is downloaded to the user's local download folder.

10 ADDITIONAL FUNCTIONS

MTinfo 3000 has several additional functions for monitoring and logging:

a. real-time status of devices;

b. adding data to devices;

c. creating and managing templates (forms);

d. project documentation;

e. project log.

10.1 Real-time status

Monitor the devices in real time through MTinfo 3000. It depends on the product which real-time information is presented, see the applicable appendix:

a. ZKL 3000 RC (see 12.1);

b. RDI 3000 (see 13.1).

There are different ways to view the real-time status:

a. from the Dashboard (Figure 11);

b. from the page View project (Figure 32);

c. from the page Switching protection zone(s) (Figure 57).

In general:

1. Click the icon to show a screen with the location of the device.
2. Use the filter (left top corner) and the search function (right top corner) to search for devices.
3. Customise the map with:
   a. map options (left top corner);
   b. zooming in/out (bottom right corner);
   c. dragging Pegman onto the map to open street view (bottom right corner).
4. Click the symbol of the device to show a screen with data of the device.

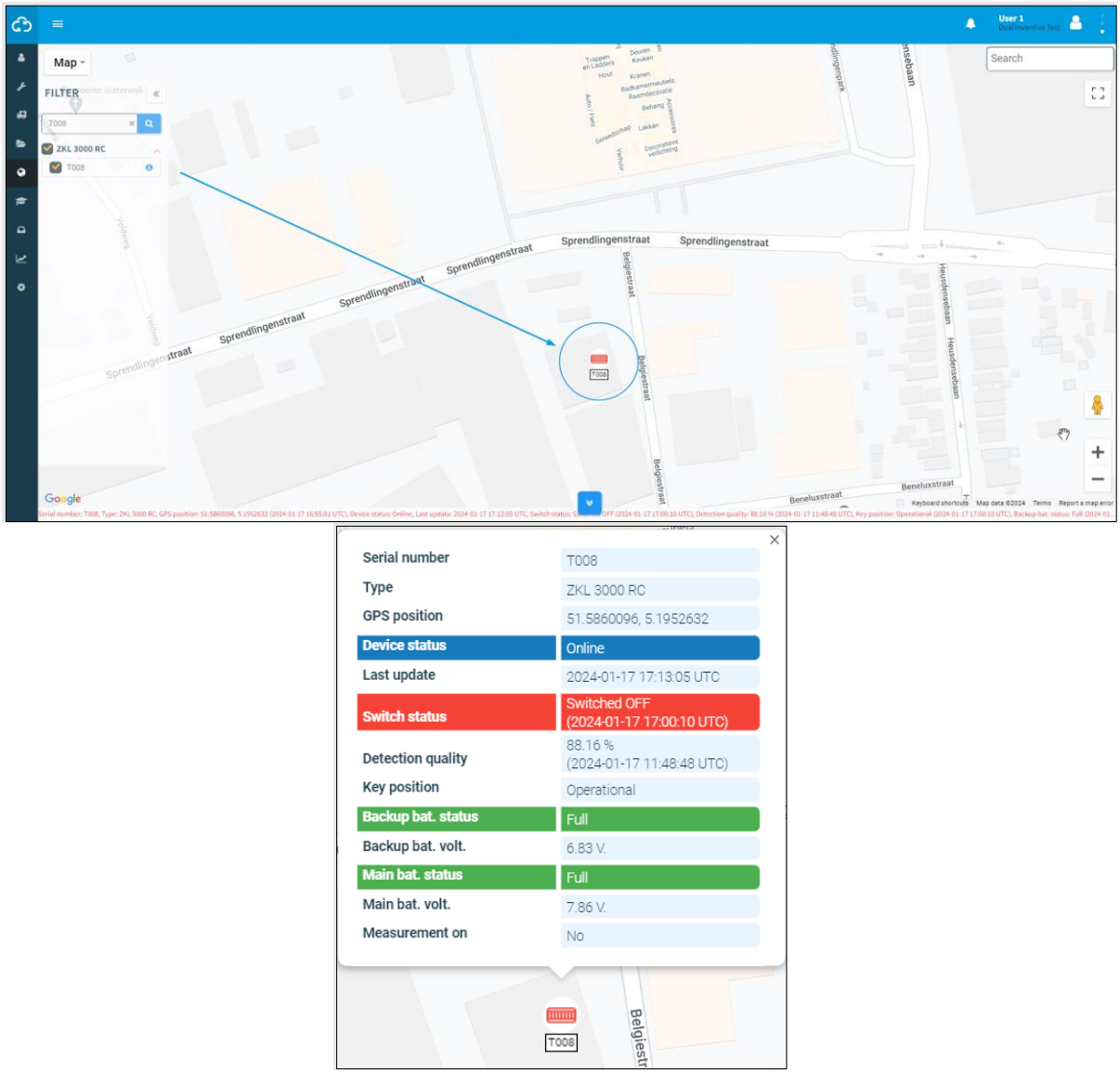


Figure 86 Real-time location and data

NOTE

If a rail device shows an error or warning, the RTS will show the icon ⚠ over it.

10.2 Adding data to devices

Attach labels and notes to devices to identify them easily.

1. Go the Dashboard and go to Asset management:

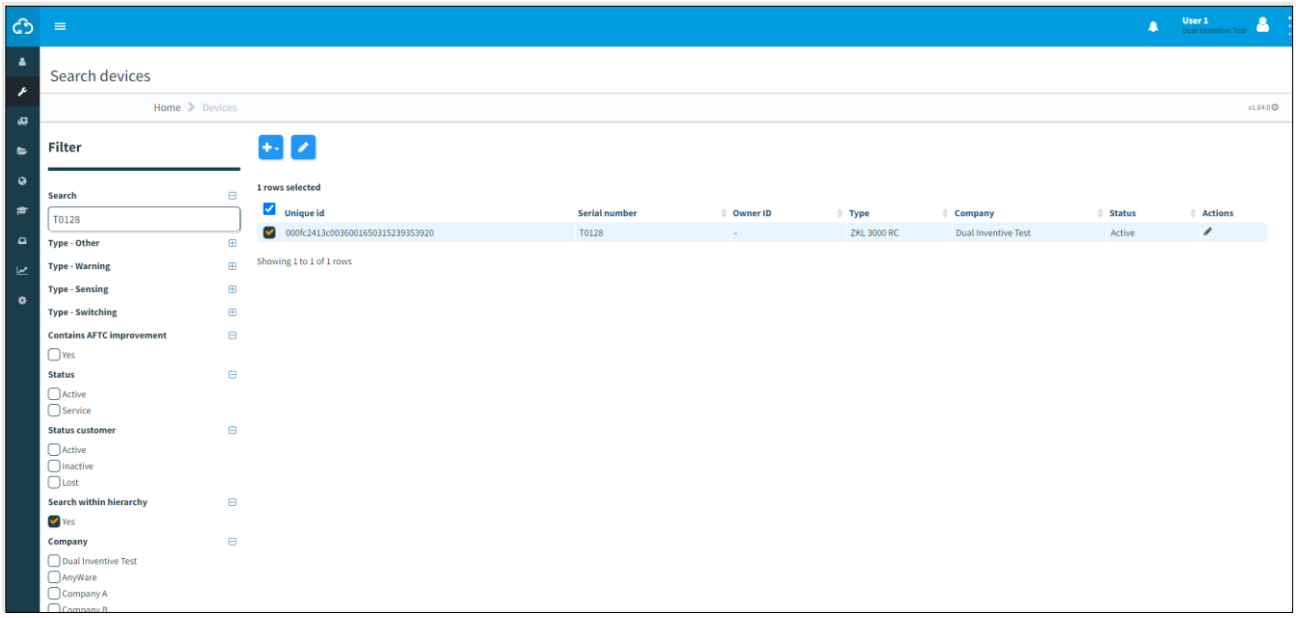


Figure 87 Dashboard - asset management

2. Select Devices in the left menu.
3. Select the devices you want to attach a label or comment to.
4. Click the icon.

The page Edit device appears:

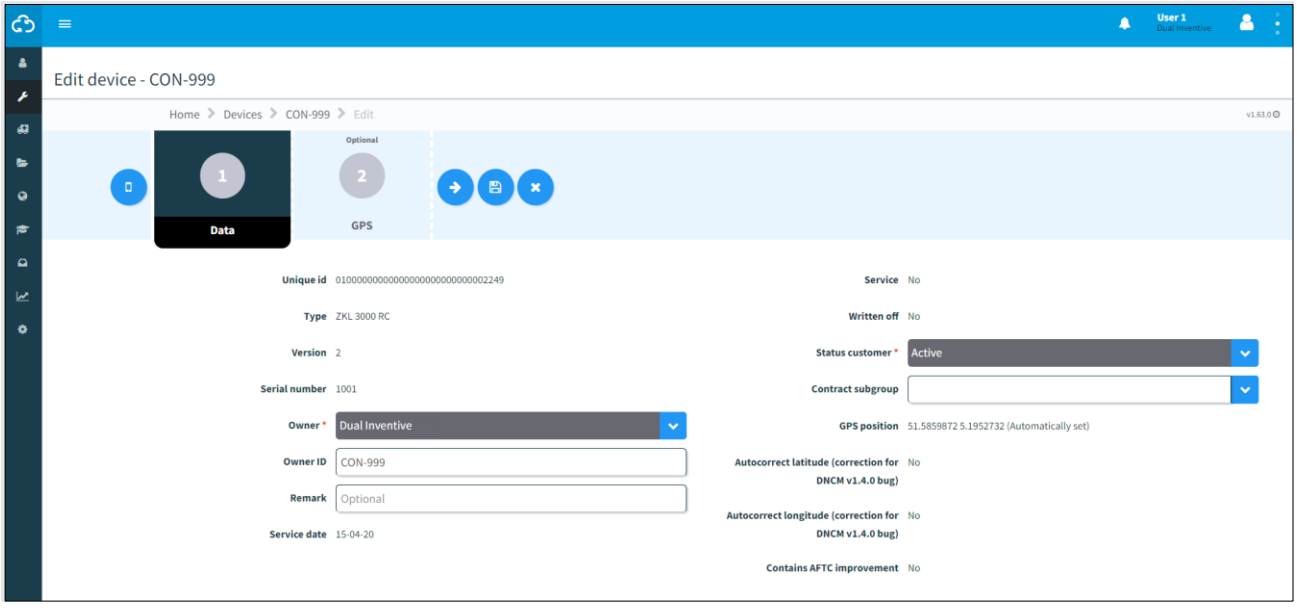


Figure 88 Edit device

5. Edit the device's data. Note:
   - This is also shown in the real-time status and can be used to give further information about a device to the switchers who consult the real-time status;

- grey fields cannot be changed because the device is linked to other (released) projects.

6. Optionally, locate the device under the GPS tab by checking ‘Manual location’.

7. Save

10.3 Templates

MTinfo 3000 offers the possibility to manage and create company-specific templates (forms).

1. Go to the Dashboard (left side, see Figure 11) and go to Work Management – Templates.

The page Search template appears:

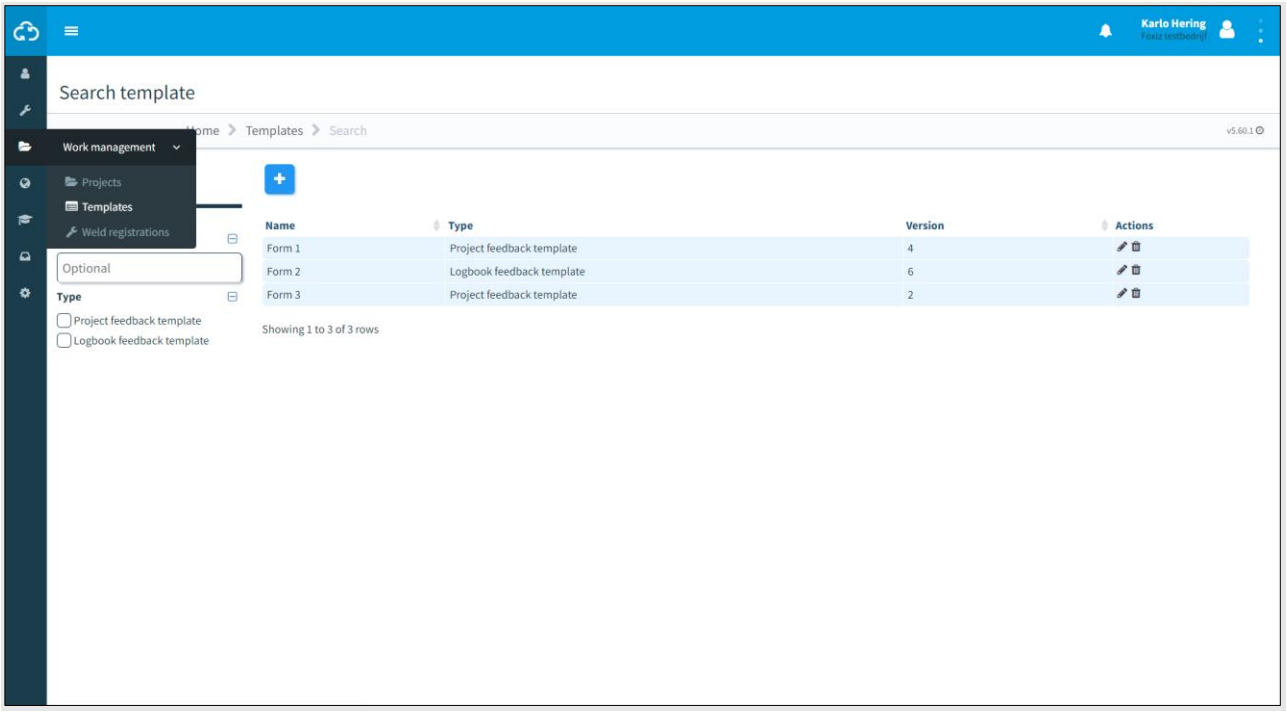


Figure 89 Search template

2. Click the icon to create a new template.

Follow steps 1 and 2 to create a new template.

10.3.1 Step 1 - General

In step 1 of creating templates, add the required template information.

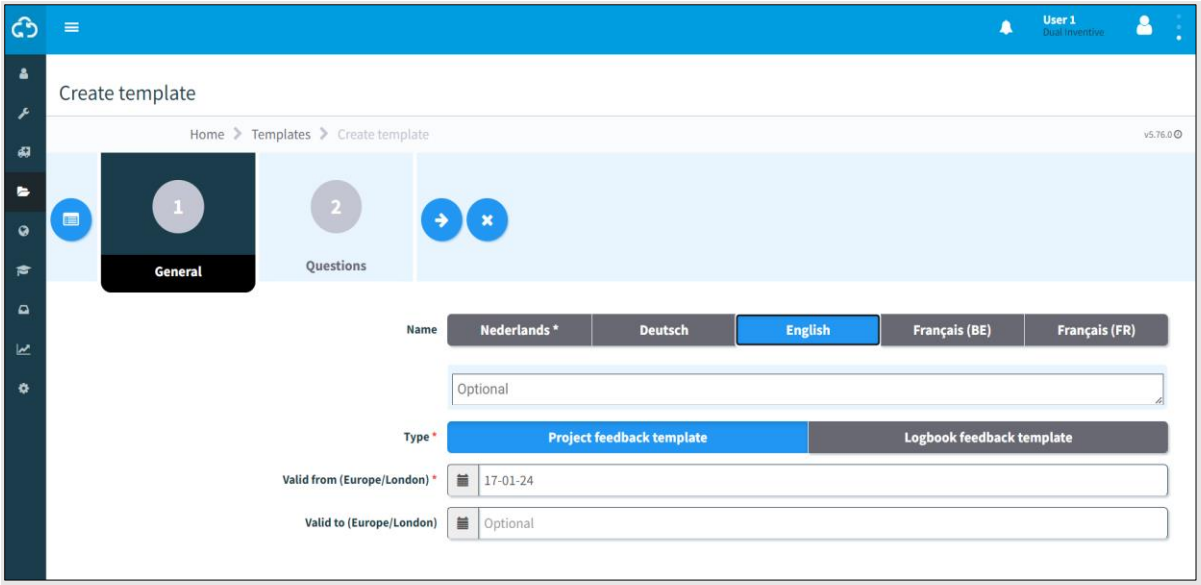


Figure 90 Creating templates - general

3. Select the language (name).
4. Select the type: Project feedback template or Logbook feedback template.
5. Fill in the valid from date and valid to date.
6. Go to step 2.

The Logbook feedback template is used in the MTinfo 3000 mobile app and can be filled out multiple times by one user. This is not possible for the Project feedback.

How to make a Project feedback template is explained in this section.

10.3.2 Step 2 - Questions

In step 2 of creating templates, drag and drop predefined questions to create a new template.

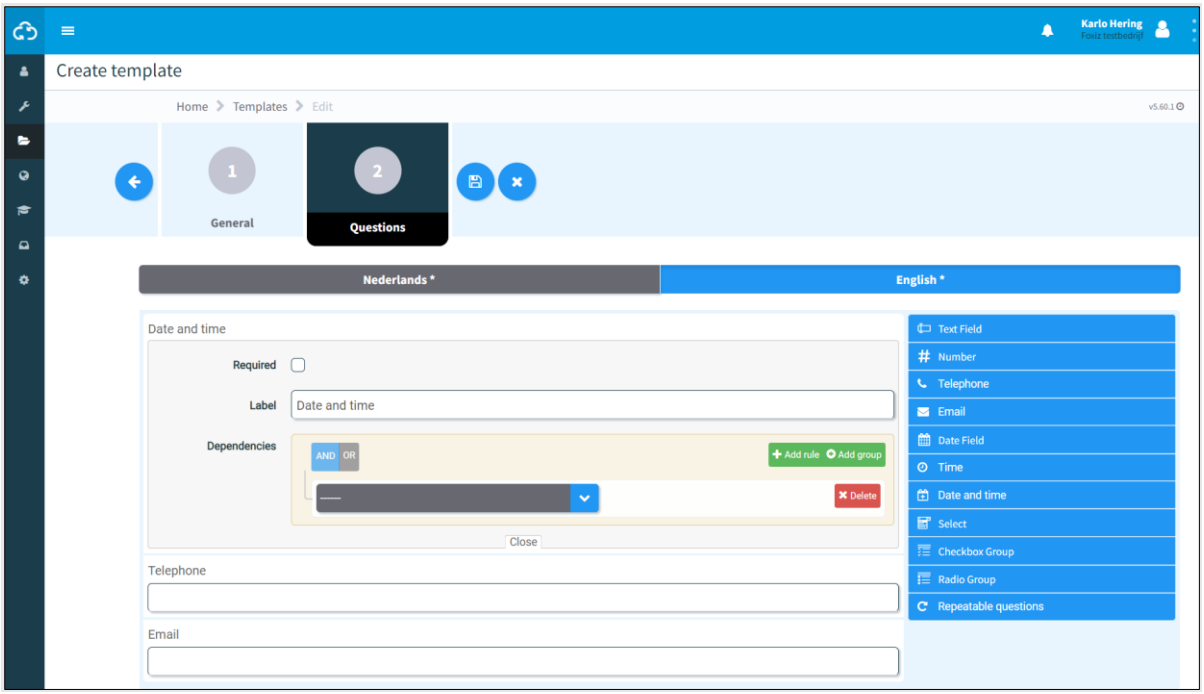


Figure 91 Creating templates - questions

1. Drag and drop the predefined questions. Change the order of questions by moving them up or down.

2. Click this icon to edit a predefined question:
   - required, the user of the template must answer the question: yes/no;
   - label, change the name of the question;
   - dependencies, the question only appears on the template when meeting the conditions:
     - and/or;
     - by adding a new rule;
     - By adding a new group.
   - If needed, delete a dependency.

3. Save the template.

Table 9-1 explains the types of predefined question:

Question	Explanation
Text Field	An open-ended question that allows users to formulate their own answer. It is possible to select default values that will be filled in automatically when these values are entered in MTinfo 3000 projects.
Number	A question that requires entering a number. It is possible to indicate what the minimum and default value of this number must be and which increment is needed (for example, 'per 10').
Telephone	A field that requires entering a telephone number. The option to add the country code appears in the form automatically.
Email	A field for entering an email address.
Date Field	A field for entering a date.
Time	A field for entering a time.
Date and time	A field for entering simultaneously a date and time.
Select	A drop-down menu for choosing one answer.
Checkbox Group	A list of options for ticking one or more answers. The creator of the template can set a minimum and maximum number of options to tick.
Radio Group	A list of options from which just one answer can be selected.
Repeatable questions	A bundle of questions which can be created and completed multiple times.

Table 7: Question types

After saving the template, it can be used in MTinfo 3000 projects. It is always possible the edit or delete templates (see Figure 87).

NOTE

Editing or deleting templates does not affect released projects. Only after a project is returned and released again are template modifications realized.

10.4 Project documentation

In step 4 of the project planning, documents have been added optionally. Use the Documents menu to view added or filled-out documents that are used during a project.

Whenever a user adds or fills out forms via the app, it will be shown on the page 'View project' (Figure 32), tab labelled Documents.

10.4.1 General

You can choose to download:

a. Project data;

b. Project data + feedback/logbook;

c. Archive (ZIP);

d. Document acceptance;

e. Project log (CSV).

NOTE

Downloading the Archive (ZIP) may take a while.

1. Go to the page View project (Figure 32) and click the tab Setup.

The screen View project appears:

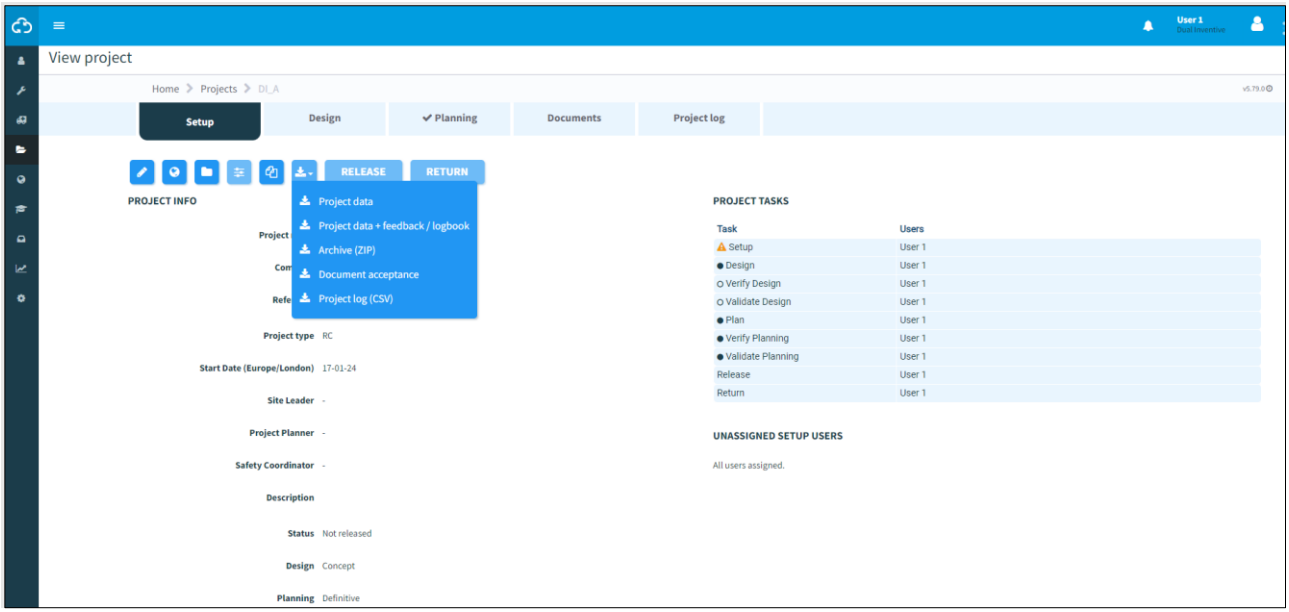


Figure 92 Project documentation - general

2. Click the icon.

3. Choose an option.

The project documentation will be downloaded to the user's local download folder.

10.4.2 Documents through the app

When a user uploads or fills in a document through the app, it will be shown here.

1. Go to the page View project (Figure 32) and click the tab Documents.

The page View project appears:

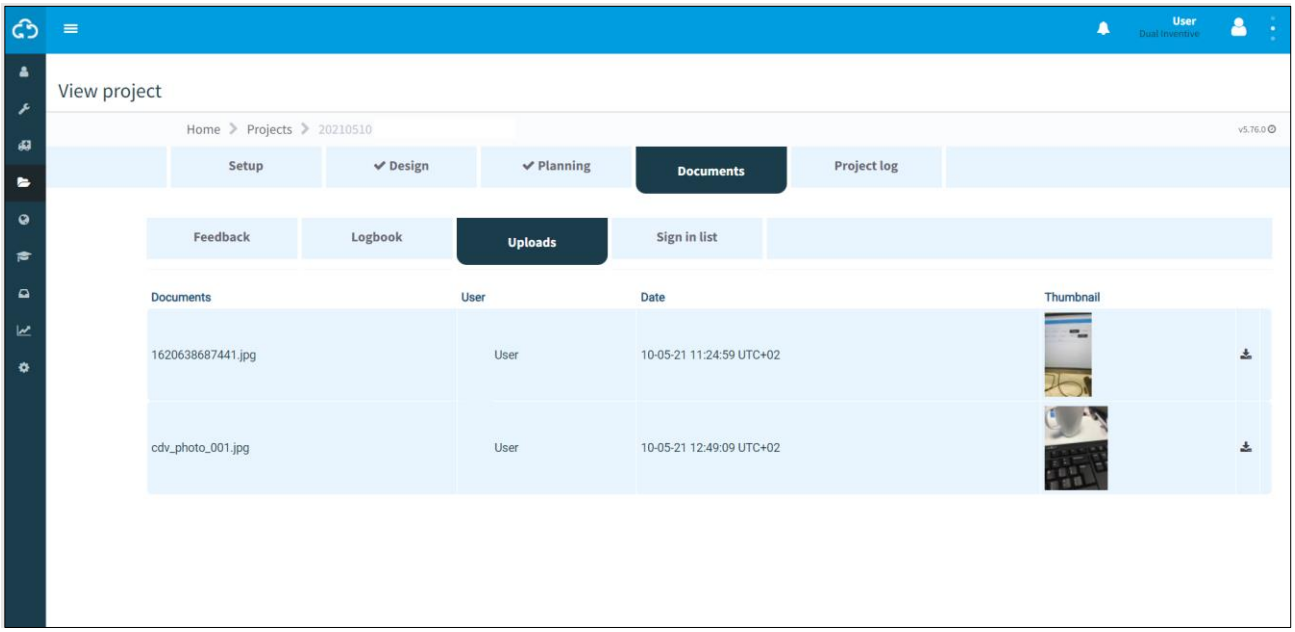


Figure 93 Project documentation - through the app

2. Select a tab: Feedback, Logbook, Uploads, Sign in list.
3. Select documents.
4. Click the icon to download documents.
5. Click the icon to add comments to a document.

The project documents will be downloaded to the user's local download folder.

10.5 Project log

The project log shows the history of the actions performed within a project.

1. Go to the page **'View project'** (Figure 32), tab 'Project log. '

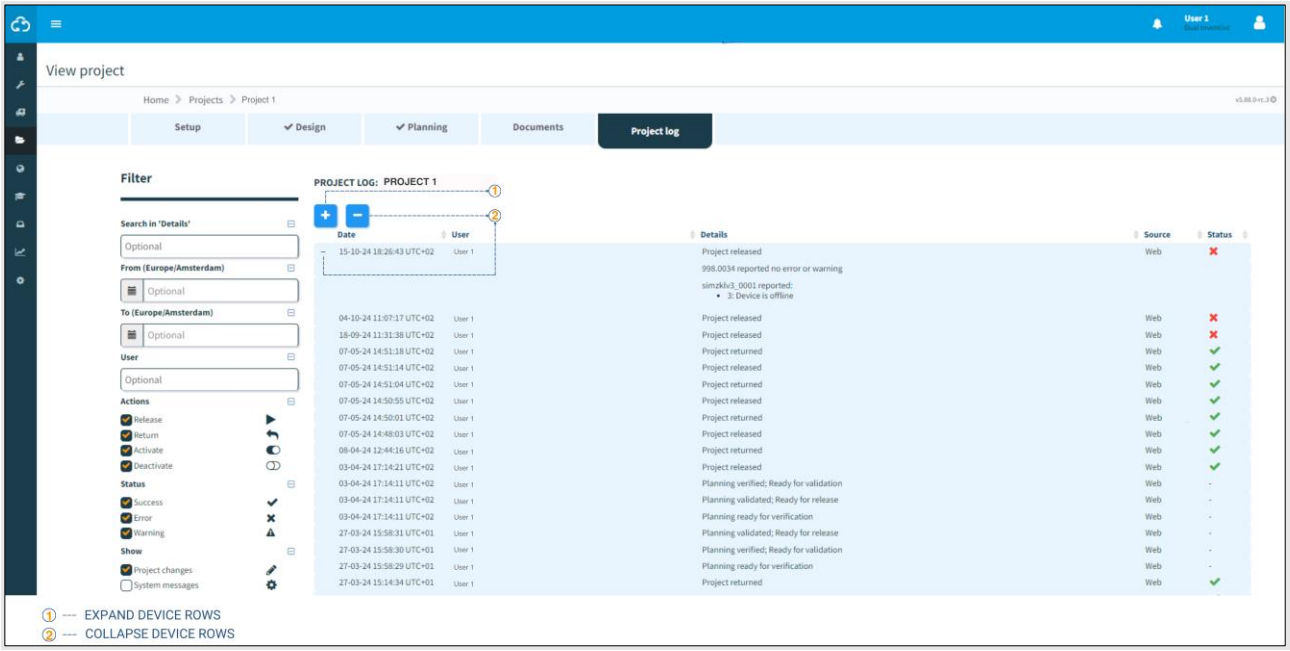


Figure 94 Project log

a. Filter the Project log based on:
b. Search in 'Details'
   Filters the rows for Project Details and Device.
c. Period ('From'/'To')
d. User
e. Actions
   Filters projects by **'Release,' 'Return,' 'Activate'** and **'Deactivate.'**
f. Status
   Filters project status options:
   - Success (✓)
   - Error (X)
   - Warning (!)

g. Show
   Filters Details:
   - **'Project changes'** shows data on validation/verification/release/return of project planning and design.
   - **'System messages'** details data about user actions.

h. The **'Source'** column shows which part of MTinfo 3000 created the entry.

10.6 Knowledgebase

This section shows how to add documents to the Knowledgebase in MTinfo3000. By adding a document to the knowledgebase in MTinfo 3000, it will be visible in the MTinfo 3000 mobile app for all logged in users. This makes it easy to share important documents with users that they should always have at hand, such as safety *instructions* and manuals. In order to add documents to the knowledgebase, follow these steps:

a. From the MTinfo 3000 dashboard, select “Knowledgebase”

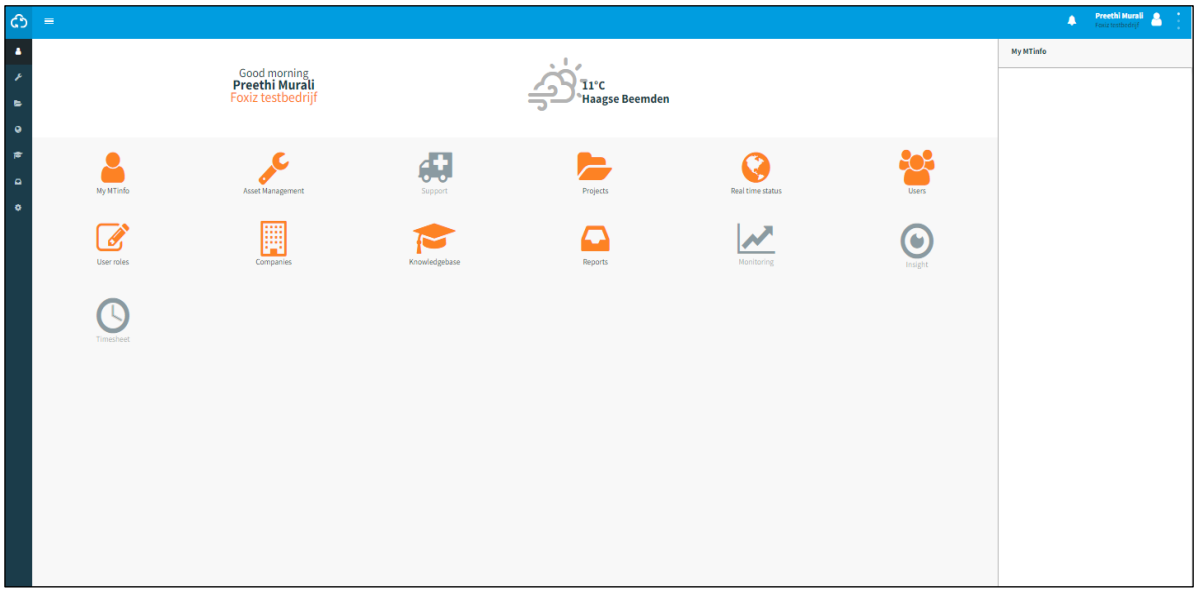


Figure 95 Dashboard page

b. The knowledge base space will show all documents that have been uploaded already:

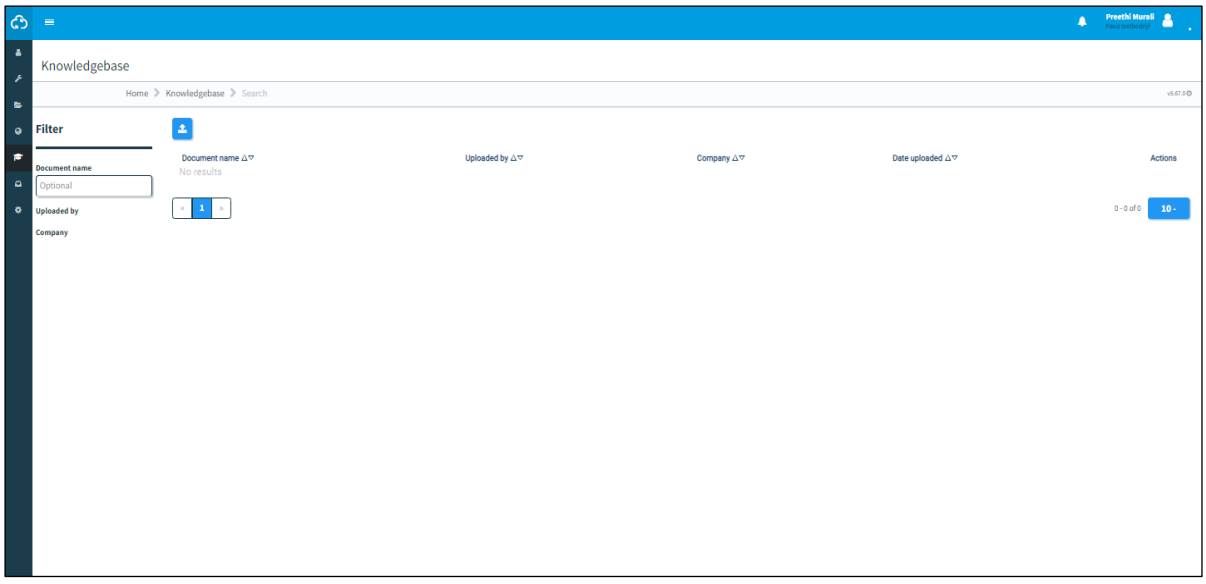


Figure 96 Knowledgebase space

c. Press the 'Upload Documents' icon.

d. From the below screen, you can search for or drag and drop the file.

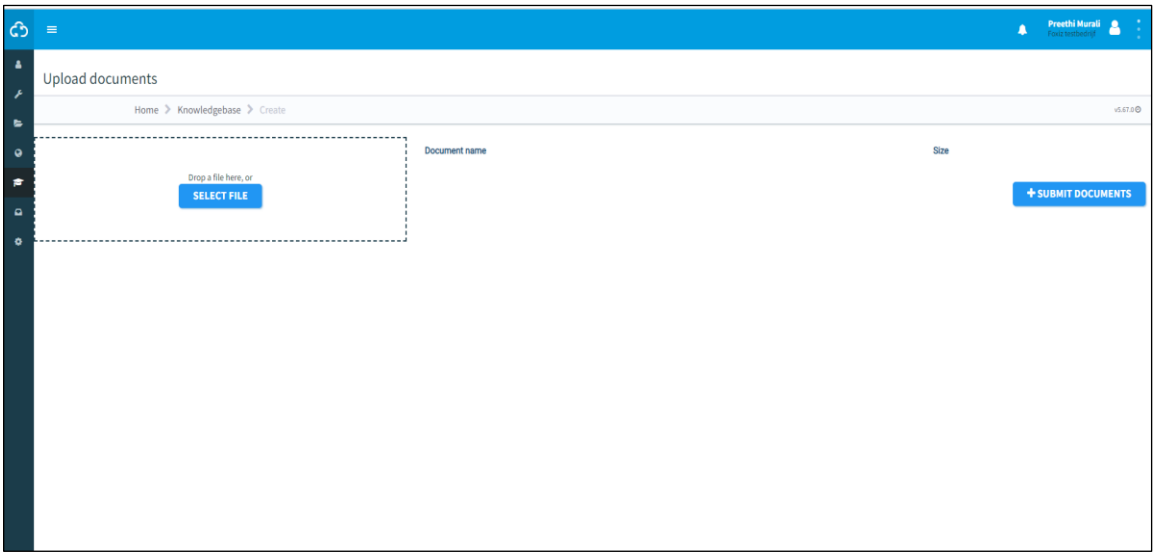


Figure 97 Upload documents page

e. Click 'Select File' and select the file you wish to upload, or click and hold the file, then drag it to the box as shown below.

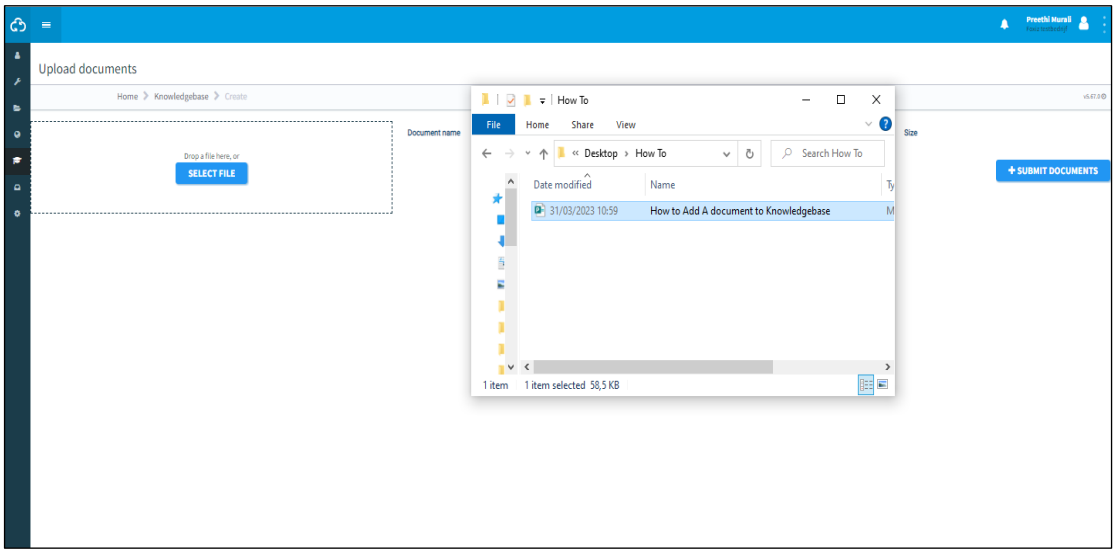


Figure 98 Uploading documents

f. Select '+ Submit documents' to add the documents to the knowledge base. Additionally, the uploaded documents can be renamed on this screen as well.

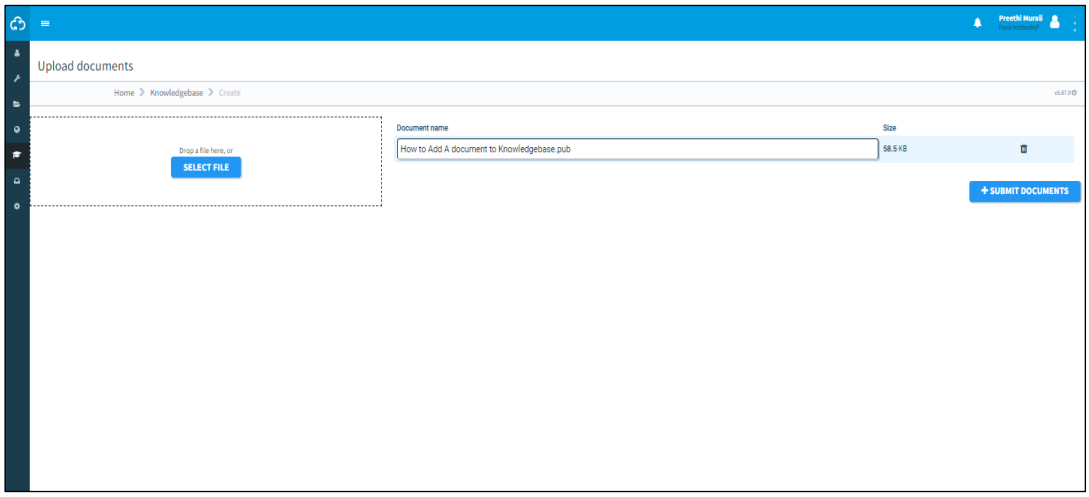


Figure 99 Uploaded documents

g. The uploaded document is visible to all users in your company

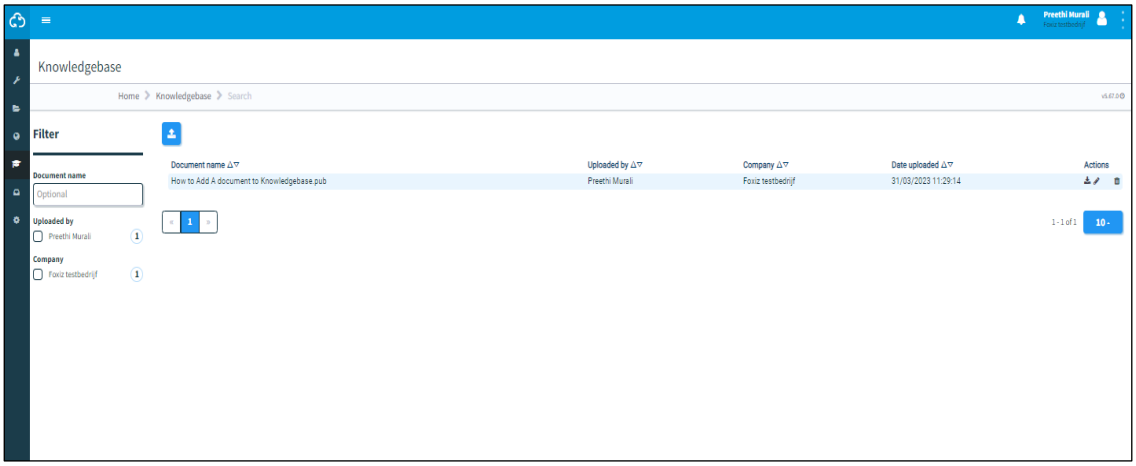


Figure 100 Knowledgebase space

11 STATUS PAGE

Use the internet status page to remain informed about system maintenance and health. This page provides **real-time information about the system's health.**

The status page shows **current incidents, scheduled maintenance, and the history of past incidents.**

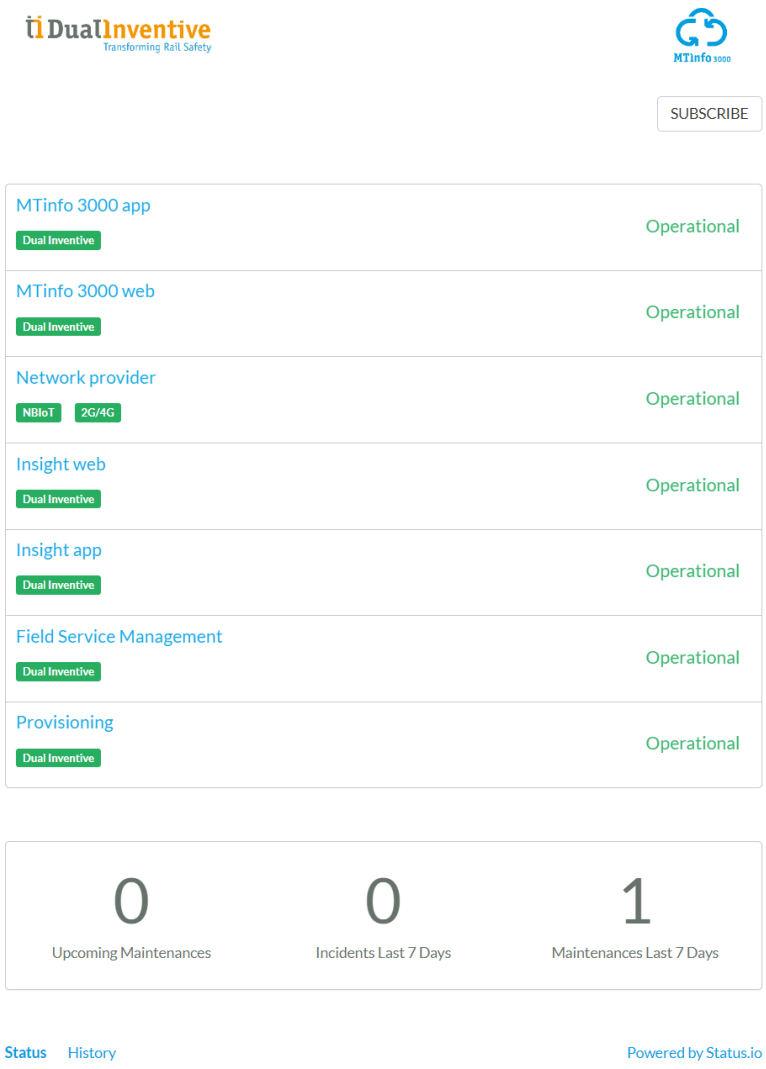


Figure 101 Status page

11.1 Access status page

1. Go to the Dashboard.
2. Select the **Status Page icon** Status page.
3. Or use this direct link: https://mtinfo3000.status.io/.

11.2 Subscribe to the status page

To receive email notifications about system updates, open the status page, click the SUBSCRIBE button, and follow the instructions to complete your subscription.

By using the status page and subscribing to updates, you will:

1. Receive *timely notifications* about system changes.
2. Be aware of *ongoing incidents or maintenance.*
3. *Plan your activities* based on the system's health.

12 APPENDIX ZKL 3000 RC

12.1 Explanation real-time status ZKL 3000 RC

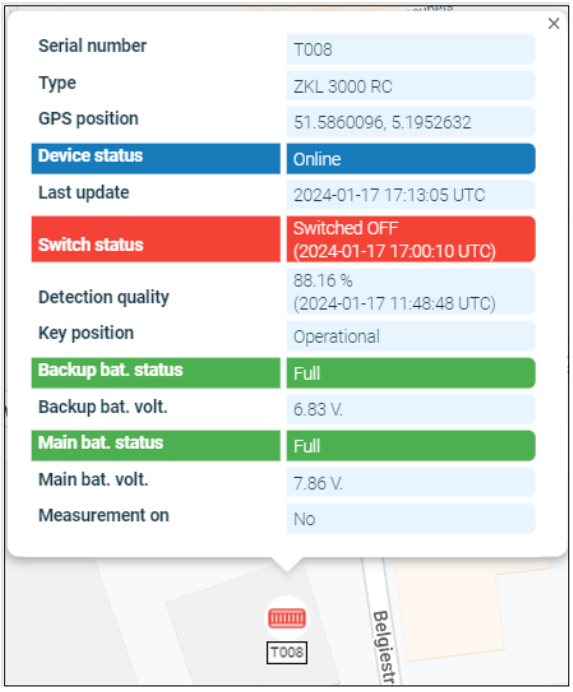


Figure 102 Real-time status ZKL 3000 RC

ITEM	EXPLANATION
Serial number	Serial number of the selected device.
Type	The type of the device that is being displayed, in this case a ZKL 3000 RC.
GPS position	GPS position of the selected device.
Device status	Status of the device. When it is offline, it is not connected with MTinfo 3000 or both batteries are empty.
Last update	Last received message from the device.
Switch status	The device is switched ON or OFF.
Detection OK	The detection is OK or not OK.
Detection quality	Detection quality (%) between the ZKL 3000 RC and the track. Anything > 0% is considered OK. The detection quality only becomes not OK when the value is exactly 0%.
Key position	OPERATIONAL: The device can be switched remotely. a. ON: manual switched is shorted, cannot be switched remotely.

ITEM	EXPLANATION
	b. OFF: manual switched is not-shorted.
Battery status (backup, main)	c. Full: sufficient power (66-100%). d. Half: adequate power (33-66%). e. Low: low in power (15-33%). f. Critical: almost empty (3-15%). g. Depleted: completely empty (0-3%). h. Removed: completely empty (0%).
Battery voltage (backup, main)	Shows the voltage of the batteries of the ZKL 3000 RC.

NOTE

For a more in-depth explanation, see the User Manual ZKL 3000 RC, section Troubleshooting. When an error appears in the real-time status, it is very important to consult the manual.

13 APPENDIX RDI 3000

13.1 Explanation Real-time status RDI 3000

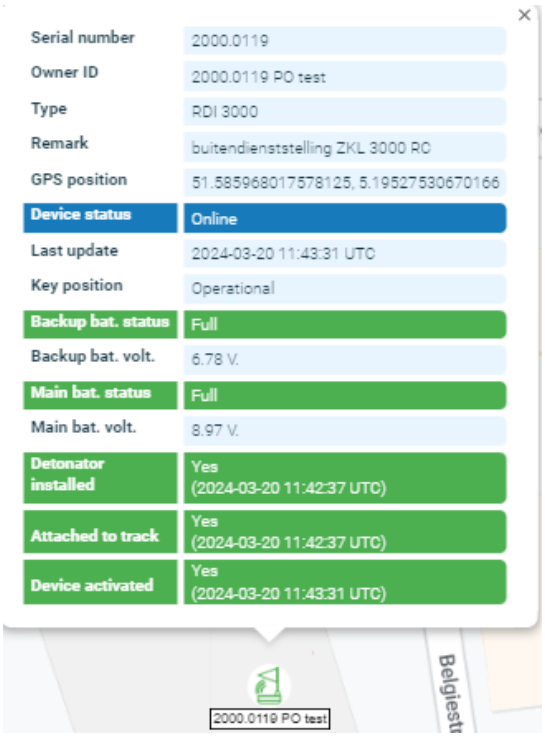


Figure 103 Real-time status RDI 3000

ITEM	EXPLANATION
Serial number	Serial number of the selected device.
Type	Type of the device that is being displayed, in this case a RDI 3000.
GPS position	GPS position of the selected device.
Device status	Status of the device. When it is offline, it will not connect with MTinfo 3000 or both batteries are empty.
Last update	Last received message from the device.
Key position	a. OPERATIONAL: device can be switched remotely. b. ON: manual switched is shorted, cannot be switched remotely. c. OFF: manual switched is not-shorted.
Battery status (backup, main)	d. Full: sufficient power (66-100%). e. Half: adequate power (33-66%).

ITEM	EXPLANATION
	f. Low: low in power (15-33%). g. Critical: almost empty (3-15%). h. Depleted: completely empty (0-3%). i. Removed: completely empty (0%).
Battery voltage (back-up, main)	Shows the voltage of the batteries of the RDI 3000.
Detonator installed	j. Yes: detonator is on the rail. k. No: detonator is not on the track, lies next to the rail.
Attached to track	l. Yes: the RDI 3000 is attached to the rail. m. No: the RDI 3000 is not attached to the rail.
Device state	n. Yes: The RDI 3000 is activated. o. No: The RDI 3000 is not activated.

NOTE

For a more in-depth explanation, see the RDI 3000 User Manual, section Troubleshooting. When an error appears in the real-time status, it is very important to consult the manual.

14 APPENDIX NOTIFICATION MESSAGES

14.1 General

NOTE

A notification is a message or a reminder of a message sent by MTinfo 3000 to a users' mobile device (tablet, phone).

A reminder for a safety related notification is an extra service to help the user. It is not explicitly considered as mitigation of an identified risk.

WARNING

SMS will not be delivered to the user if a wrong telephone number is deviceed or when the user blocks the sender's phone number in the MTinfo 3000.

Verify if you have entered your correct telephone number and do not block the sender.

WARNING

In order to receive the non-safety related push notifications, the following prerequisites should be met:

- Latest MTinfo 3000 mobile app installed on the users' mobile device.
- Push notifications should be allowed in phone settings.
- User must be logged into the MTinfo 3000 mobile app.

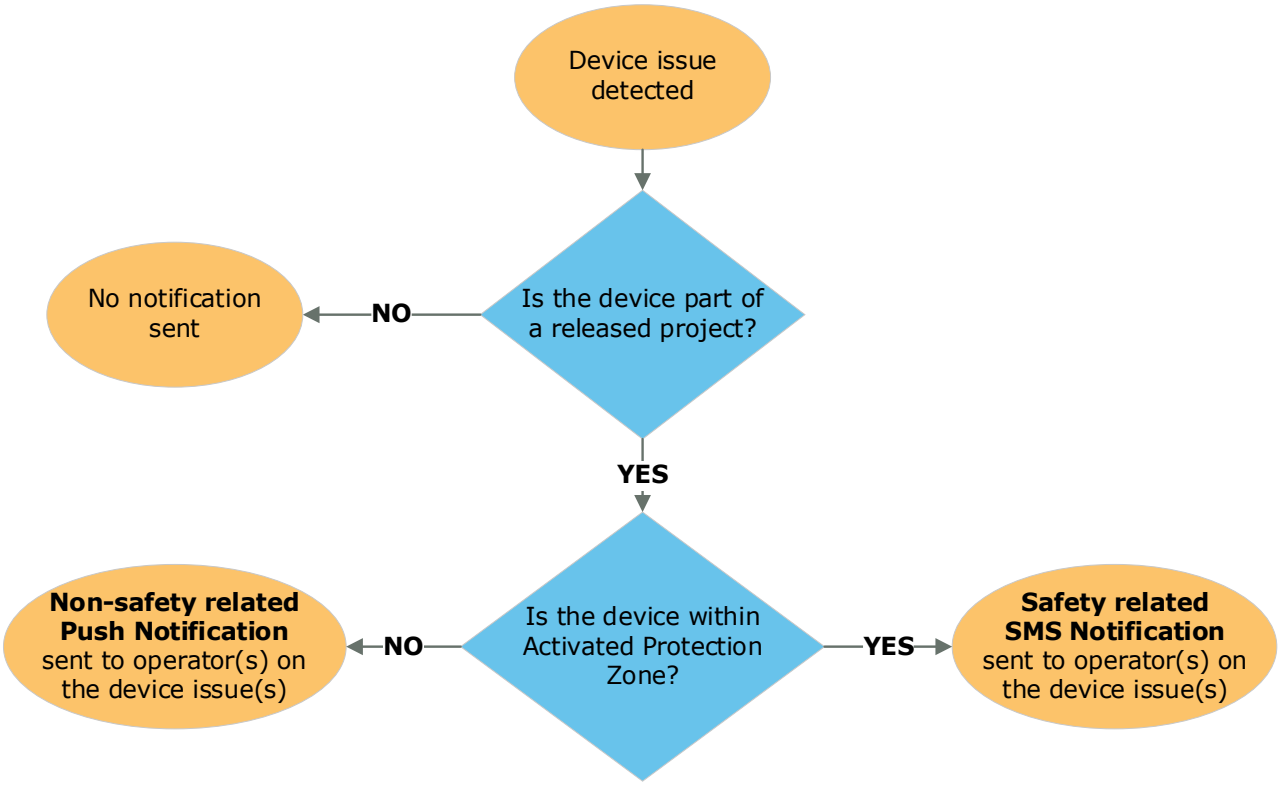


Figure 104 Notification logic diagram

14.2 Notifications ZKL 3000 RC

14.2.1 Errors and Notifications

Users with switching rights on a released project will automatically receive push notifications. Note the prerequisites to receive push notifications are stated in the section 13.1 .

Alerts from devices in activated protection zones will be sent via **text messages (SMS).** Users' mobile phone number is entered as alarm number within the user profile to enable this.

Use a mobile phone or tablet with push message functionality. Use the same phone number linked to the assigned user (for example, by using the same SIM card).

The notification service starts as soon as the ZKL 3000 RC has been assigned to a project and the project is released. It is the responsibility of the recipient to act upon these notifications (more information is available in the ZKL 3000 RC Installation Manual, reference [2]).

The notifications that require action are:

S/N	NOTIFICATIONS	EXPLANATION
1.	ZKL 3000 RC "Serial Number" * Detection NOT ok. Please check manual for more information.	ZKL 3000 RC with ID "Serial Number" is no longer creating a proper short circuit in the track. The detection is not OK.
2.	ZKL 3000 RC "Serial Number" * is offline. Please check manual for more information.	ZKL 3000 RC with ID "Serial Number" is offline. The ZKL3000 RC cannot make a connection to MTinfo 3000.
3.	ZKL 3000 RC "Serial Number" * The backup battery is CRITICAL, the main battery is CRITICAL.	Both batteries of ZKL 3000 RC with ID "Serial Number" arecritical. The system will send a new notification as soon as one ofthe batteries

S/N	NOTIFICATIONS	EXPLANATION
	Please check manual for more information.	is getting depleted.
4.	ZKL 3000 RC “Serial Number“ * The backup battery has sufficient power, the main battery is CRITICAL. Please check manual formore information.	The main battery of the ZKL 3000 RC with ID “Serial Number” is critical and the backup battery is ok (either fullor half full). The system will send a new message as soon as one of the batteries will reach the next depletion level.
5.	ZKL 3000 RC “Serial Number“ * The backup battery is CRITICAL, the main battery has sufficient power. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” is critical and the main battery is ok (either full or half full). The system will send a new message as soon as one of the batteries will reach the next depletion level.
6.	ZKL 3000 RC “Serial Number“ * The backup battery has sufficient power, the main battery is DEPLETED. Please check manual for more information.	The main battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the backup battery is ok (eitherfull or half full). The system will send a new message as soon as the ok battery reaches the next depletion level.
7.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery has sufficient power. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the main battery is ok (either full or half full). The system will send a new message as soon as the ok battery reaches the next depletion level.
8.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery is CRITICAL. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the main battery is critical. The system will send a new Notification as soon as the main battery is depleted.
9.	ZKL 3000 RC “Serial Number“ * The backup battery is CRITICAL, the main battery is DEPLETED. Please check manual for more information.	The main battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the backup battery is critical. The system will send a new Notification as soon as the backup battery is depleted.
10.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery is DEPLETED. Please check manual for more information.	Both batteries of ZKL 3000 RC with ID “Serial Number” are depleted.
11.	ZKL 3000 RC “Serial Number“ * The backup battery is CRITICAL, the main battery has been REMOVED. Please check manual formore information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” is critical and the main battery has been removed, The system will send a new notification as soon as thebackup battery is depleted.
12.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery has been REMOVED. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “SerialNumber” is depleted and the main battery has been removed.

S/N	NOTIFICATIONS	EXPLANATION
13.	ZKL 3000 RC “Serial Number“ * The backup battery has been REMOVED, the main battery is CRITICAL. Please check manual formore information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” has been removed and the main battery is critical, The system will send a new notification as soon as themain battery is depleted.
14.	ZKL 3000 RC “Serial Number“ * The backup battery has been REMOVED, the main battery is DEPLETED. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “SerialNumber” has been removed and the main battery is depleted.
15.	ZKL 3000 RC “Serial Number“ * Detection NOT ok. Please check manual for more information.	ZKL 3000 RC with ID “Serial Number” is no longer creating a proper short circuit in the track. The detection is not OK.
16.	ZKL 3000 RC “Serial Number“ * is offline. Please check manual for more information.	ZKL 3000 RC with ID “Serial Number” is offline. The ZKL3000 RC cannot make a connection to MTinfo 3000.
17.	ZKL 3000 RC “Serial Number“ * The backup battery is CRITICAL, the main battery is CRITICAL. Please check manual for more information.	Both batteries of ZKL 3000 RC with ID “Serial Number” arecritical. The system will send a new notification as soon as one ofthe batteries is getting depleted.
18.	ZKL 3000 RC “Serial Number“ * The backup battery has sufficient power, the main battery is CRITICAL. Please check manual formore information.	The main battery of the ZKL 3000 RC with ID “Serial Number” is critical and the backup battery is ok (either fullor half full). The system will send a new message as soon as one of the batteries will reach the next depletion level.
19.	ZKL 3000 RC “Serial Number“ * The backup battery is CRITICAL, the main battery has sufficient power. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” is critical and the main battery is ok (either full orhalf full). The system will send a new message as soon as one of the batteries will reach the next depletion level.
20.	ZKL 3000 RC “Serial Number“ * The backup battery has sufficient power, the main battery is DEPLETED. Please check manual for more information.	The main battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the backup battery is ok (eitherfull or half full). The system will send a new message as soon as the ok battery reaches the next depletion level.
21.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery has sufficient power. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the main battery is ok (either fullor half full). The system will send a new message as soon as the ok battery reaches the next depletion level.
22.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery is CRITICAL. Please check manual for more	The backup battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the main battery is critical. The system will send a new notification as soon as the main battery is

S/N	NOTIFICATIONS	EXPLANATION
	information.	depleted.
23.	ZKL 3000 RC “Serial Number“ * The backup battery is CRITICAL, the main battery is DEPLETED. Please check manual for more information.	The main battery of the ZKL 3000 RC with ID “Serial Number” is depleted and the backup battery is critical. The system will send a new notification as soon as the backup battery is depleted.
24.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery is DEPLETED. Please check manual for more information.	Both batteries of ZKL 3000 RC with ID “Serial Number” are depleted.
25.	ZKL 3000 RC “Serial Number“ * The backup battery is CRITICAL, the main battery has been REMOVED. Please check manual formore information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” is critical and the main battery has been removed, The system will send a new notification as soon as thebackup battery is depleted.
26.	ZKL 3000 RC “Serial Number“ * The backup battery is DEPLETED, the main battery has been REMOVED. Please check manual formore information.	The backup battery of the ZKL 3000 RC with ID “SerialNumber” is depleted and the main battery has been removed.
27.	ZKL 3000 RC “Serial Number“ * The backup battery has been REMOVED, the main battery is CRITICAL. Please check manual formore information.	The backup battery of the ZKL 3000 RC with ID “Serial Number” has been removed and the main battery is critical, The system will send a new notification as soon as themain battery is depleted.
28.	ZKL 3000 RC “Serial Number“ * The backup battery has been REMOVED, the main battery is DEPLETED. Please check manual for more information.	The backup battery of the ZKL 3000 RC with ID “SerialNumber” has been removed and the main battery is depleted.
29.	ZKL 3000 RC “Serial Number“ is switched off with a key. Please check the Real-Time Status in MTinfo 3000. Refer to the User Manual for details.	The key position of the ZKL 30000 RC with ID “Serial Number” in an activated protection zone has been turned to the ‘OFF’ (overruled) position.

14.2.2 Text Notifications - Reminders

For the offline and the detection safety related events a reminder system is introduced. The reminders are helping the user to remind that there is an unresolved issue with a specific ZKL 3000 RC.

Battery notifications already have an implicit reminder system as the user is notified when the main or backup battery reaches critical or depleted levels.

NOTE

Reminders do not relieve the user of his responsibility to go immediately to the device to inspect it!

Please, always consult the Real Time Status for the up-to-date situation.

A reminder is sent after a 15-minute interval. A maximum of 3 reminders are sent for one continuous 'detection NOT ok' or 'offline' situation. Reminders are only sent when the device is in an active state (i.e. in an activated protection zone).

The reminder text messages are:

NOTIFICATIONS	EXPLANATION
Reminder: ZKL 3000 RC "Serial Number" * Detection NOT ok. Please check manual for more information.	Reminder message when the detection is not ok and the device is in an activated protection zone.
Reminder: ZKL 3000 RC "Serial Number" * is offline. Please check manual for more information.	Reminder message when the device is offline and the device is in an activated protection zone.

14.3 Notifications RDI 3000

14.3.1 Errors and Notifications

Users with switching rights on a released project will automatically receive notifications via push notifications. Note the prerequisites to receive push notifications stated in chapter 13.1 .

Alerts from devices in activated protection zones will be sent via text messages (SMS). The user's mobile phone number is entered as an alarm number within the user profile to enable this.

The notification service starts as soon as the RDI 3000 has been assigned to a project and the project is released. It is the responsibility of the recipient to act upon these notifications.

The notification notifications that require action are:

S/N	NOTIFICATIONS	EXPLANATION
1.	RDI 3000 "Serial Number" * is offline. Please check manual for more information	RDI 3000 with ID "Serial Number" is offline. The RDI 3000 cannot make a connection to MTinfo 3000.
2.	RDI 3000 "Serial Number" is NOT against the track. Pleasecheck the manual for more information	RDI 3000 with ID "Serial Number" * is NOT against the track. The RDI 3000 might have been removed from track.
3.	RDI 3000 "Serial Number" has a broken led group. Please check the manual for more information.	RDI 3000 with ID "Serial Number" * has a broken led group. One or more red LED light elements are faulty. Red LED brightness no longer meets specifications.
4.	RDI 3000 "Serial Number" * detonator state is NOT ok. Please check manual for moreinformation.	RDI 3000 with ID "Serial Number" * detonator state is NOT ok. The RDI 3000 cannot guarantee the detonator is placed correctly on the track.

S/N	NOTIFICATIONS	EXPLANATION
5.	RDI 3000 “Serial Number” * The backup battery is CRITICAL, the main battery is CRITICAL. Please check manual for more information	Both batteries of RDI 3000 with ID “Serial Number” are critical. The system will send a new notification as soon as one of the batteries approaches depletion.
6.	RDI 3000 “Serial Number” *The backup battery has sufficient power, the main battery is CRITICAL. Please check manual for more information	The main battery of the RDI 3000 with ID “Serial Number” is critical and the backup battery is ok (either full or half full). The system will send a new message as soon as one of the batteries approaches the next depletion level.
7.	RDI 3000 “Serial Number” * The backup battery is CRITICAL, the main battery has sufficient power. Please check manual for more information	The backup battery of the RDI 3000 with ID “Serial Number” is critical and the main battery is ok (either full or half full). The system will send a new message as soon as one of the batteries approaches the next depletionlevel.
8.	RDI 3000 “Serial Number” *The backup battery has sufficient power, the main battery is DEPLETED. Please check manual for more information	The main battery of the RDI 3000 with ID “Serial Number” is depleted and the backup battery is ok (either full or half full). The system will send a new message as soon as the ok battery reaches the next depletion level.
9.	RDI 3000 “Serial Number” *The backup battery is DEPLETED, the main battery has sufficient power. Please check manual for more information	The backup battery of the RDI 3000 with ID “Serial Number” is depleted and the main battery is ok (either fullor half full). The system will send a new message as soon as the ok battery reaches the next depletion level.
10.	RDI 3000 “Serial Number” * The backup battery is DEPLETED, the main battery is CRITICAL. Please check manual for more information	The backup battery of the RDI 3000 with ID “Serial Number” is depleted and the main battery is critical. The system will send a new notification as soon as the main battery is depleted.
11.	RDI 3000 “Serial Number” * The backup battery is CRITICAL, the main battery is DEPLETED. Please check manual for more information	The main battery of the RDI 3000 with ID “Serial Number” is depleted and the backup battery is critical. The system will send a new notification as soon as the backup battery is depleted.
12.	RDI 3000 “Serial Number” * The backup battery is DEPLETED, the main battery is DEPLETED. Please check manual for more information	Both batteries of RDI 3000 with ID “Serial Number” are depleted.

S/N	NOTIFICATIONS	EXPLANATION
13.	RDI 3000 “Serial Number” * The backup battery is CRITICAL, the main battery has been REMOVED. Please check manual for more information.	The backup battery of the RDI 3000 with ID “Serial Number” is critical and the main battery has been removed. The system will send a new notification as soon as the backup battery is depleted.
14.	RDI 3000 “Serial Number” * The backup battery is DEPLETED, the main battery has been REMOVED. Please check manual for more information.	The backup battery of the RDI 3000 with ID “Serial Number” is depleted and the main battery has been removed. The system will send a new notification as soon as the backup battery is removed.
15.	RDI 3000 “Serial Number“ is switched off with a key. Please check the Real-Time Status in MTinfo 3000. Refer to the User Manual for details.	The key position of the RDI 3000 with ID “Serial Number” in an activated protection zone has been turned to the ‘OFF’ (overruled) position.

14.3.2 Errors and Notifications - Reminders

For the offline and safety related events a reminder system is introduced. The reminders are helpingthe user by reminding that there is an unresolved issue with a specific RDI 3000.

Battery notifications already have an implicit reminder system as the user is notified when the main or backup battery reaches critical and depleted levels.

NOTE

Reminders do not relieve the user of his responsibility to go immediately to the device to inspect it!

Please always consult the Real Time Status for the up-to-date situation.

A reminder is sent after a 15-minute interval. A maximum of 3 reminders are sent for one continuously 'not ok'-situation. Reminders are only sent when the device is in active state (i.e.in an activated protection zone).

The reminder text messages are:

NOTIFICATIONS	EXPLANATION
Reminder: RDI 3000 "Serial Number" * is offline. Please check manual for more information	Reminder message when the deviceis offline and the device is in an activated protection zone.
Reminder: RDI 3000 "Serial Number" is NOT against the track. Please check the manual for more information	Reminder message when the device might have been removed from trackor moved to a different place or is not correctly installed.
Reminder: RDI 3000 "Serial Number" has a broken led group. Please check the manual for moreinformation.	Reminder message when the devicelight indication is not sufficient any longer.
Reminder: RDI 3000 "Serial Number" * Detonator state is NOT ok. Please check manual formore information.	Reminder message when the device cannot guarantee the detonator is ontrack.

14.4 Notifications RSS 3000

14.4.1 Errors and Notifications

Users with switching rights on a released project will automatically receive notifications via push notifications. Note the prerequisites to receive push notifications stated in the chapter 13.1 .

Alerts from devices in activated protection zones will be sent via text messages (SMS). Users' mobile phone number is entered as alarm number within the user profile to enable this.

The notification service starts as soon as the RSS 3000 has been assigned to a project and the project is released. It is the responsibility of the recipient to act upon these notifications.

The notification notifications that require action are:

S/N	NOTIFICATIONS	EXPLANATION	ACTION
1.	RSS 3000 "Serial Number" * Detection NOT ok. Please check manual for more information.	RSS 3000 with ID "Serial Number" is no longer creating a proper short circuit for the relay. The detection is not OK.	Check the device connector and cable to the Relay and replace if damaged. If this doesn't solve the issue replace the device with another device and return for service.
2.	RSS 3000 "Serial Number" is offline. Please check manual for more information.	RSS 3000 with ID "Serial Number" is offline. The RSS 3000 cannot make a connection to MTinfo 3000.	Check the power source of the RSS 3000 or check the Status page for network outage. If this doesn't solve the issue contact Dual inventive.

S/N	NOTIFICATIONS	EXPLANATION	ACTION
3.	RSS 3000 “Serial Number“ is switched off with a key. Please check the Real-Time Status in MTinfo 3000. Refer to the User Manual for details.	The key position of the RSS 3000 with ID “Serial Number” in an activated protection zone has been turned to the ‘OFF’ (overruled) position.	Check the Real-Time Status of the device. Refer to Section 12.1 for more information.

14.4.2 Errors and Notifications - Reminders

For the offline and the detection safety related events a reminder system is introduced. The reminders are helping the user to remind that there is an unresolved issue with a specific RSS 3000.

NOTE

Reminders do not relieve the user of his responsibility to go immediately to the device to inspect it when receiving the first notification massage!

Please always consult the Real Time Status for the up-to-date situation.

A reminder is sent after a 15-minute interval. A maximum of 3 reminders are sent for one continuously ‘not ok ’ situation. Reminders are only sent when the device is in an active state (i.e. in an activated protection zone).

The reminder text messages are:

NOTIFICATIONS	EXPLANATION	ACTION
Reminder: RSS 3000 “Serial Number“ * Detection NOT ok. Please check manual for more information	Reminder message when the detection is not ok and the device is in an activated protection zone.	Check the device connector and cable to the Relay and replace if damaged. If this doesn’t solve the issue replace the device with another device and return for service.
Reminder: RSS 3000 “Serial Number“ is offline. Please check manual for more information	Reminder message when the device is offline and the device is in an activated protection zone.	Check the power source of the RSS 3000 or check the Status page for network outage. If this doesn’t solve the issue contact Dual inventive.

15 SUPPORT

15.1 DI Technical Support

You can contact Dual Inventive Technical support through the email address support@dualinventive.co.uk or call 03300 169033.

Alternatively, please refer to the 'Contact Us' section within the MTinfo 3000 for customer support details specific to your project.

15.2 DI Security Contact

The MTinfo 3000 is developed with a security-by-design method. Dual Inventive uses different layers of protection, including encryption, private networks, and a cloud system that is physically separate from other internet cloud systems. Dual Inventive monitors the system daily for security. Users are responsible for ensuring the security of their mobile devices.

If you identify any security concerns, please report them to security@dualinventive.com.