

Manual for using the Dual Inventive (DI) Application (APP)



ti DualInventive
Ubiquitous Rail

INDEX



1. Introduction	3
2. Terminology & technical specifications	3
a. Scope	3
b. Technical specifications	3
3. Conditions & instructions	4
a. Conditions for use	4
b. Instructions	4
4. User rights DI APP	4
5. Installing and starting the DI APP	4
a. Download	4
b. Log in	5
c. Authorisation	5
d. GPS location	6
e. DI APP symbols	6
6. INSTRUCTION function	6
a. Documentation tab	7
b. Upload tab	8
c. Subscription List tab	8
d. Feedback tab	9
7. Project documentation in MTinfo 3000	10
a. Add project-specific documentation	10
b. Select feedback template and logbook elements	10
c. Add users to authorisation levels	11
d. Add general documentation	11
e. View documentation	11
8. PROFILE function	12
9. SIGN IN function	13
10. REAL TIME function	14
a. Projects	14
b. Equipment	14
11. Switching via the RS 3000 tile	15
12. LOCATION Function	16
13. ADMINISTRATION function	16
14. Notifications	17
15. Maintenance & service	17
16. Afterword	17

1. INTRODUCTION

This manual describes how to use the Dual Inventive (DI) application (APP) on your smartphone/tablet. The DI APP provides access to all of Dual Inventive's applications (such as: instruction, real time, RS 3000, location, administration, sign in and profile) in one place and enable functionality such as remote switching of, for instance, ZKL 3000 RC(s), viewing and modifying the location of equipment, viewing real time status of equipment, registering to enter the track and viewing project documentation.

In order to prevent confusion these applications are referred to as 'tiles' in this manual.

2. TERMINOLOGY & TECHNICAL SPECIFICATIONS

a. Scope

Using the DI APP you are able to:

- view the projects for which you are authorised;
- view the corresponding documents and fill in forms;
- switch ZKL 3000 RC(s) on or off;
- view the real time status of equipment;
- set the location of equipment using your devices GPS;
- complete time sheets

b. Technical specifications

- The DI APP runs on iOS, Android and Windows smartphones/tablets.
- The DI APP needs a minimum storage capacity of 8 MB.
- An internet connection is required to use the APP
- It is recommended to use a tablet to view documents via DI APP. A smartphone with a minimum screen size of 3.5 inch is recommended.
- You may need to download and install other applications (such as Adobe Reader) to view documents within the APP

Note: the forms available in MTinfo 3000 and the DI APP are country-specific. The forms in this manual are specifically meant for the UK market.

3. CONDITIONS & INSTRUCTIONS

a. Conditions for use

You can only use the DI APP if:

- You have been authorised to do so and have received access and the appropriate rights.

b. Instructions

General instructions

- You will need a user name, company code and password for the web interface MTinfo 3000. Additionally, you should ensure your mobile phone number is correctly entered in the system, using the correct country code (e.g. +44 for UK), as this is used for authorisation during first-time login.

Instructions before first-time use

- Always take care of your own safety within the railway environment using the most current applicable legislation.

4. USER RIGHTS DI APP

User rights are configured for each company by the person responsible for managing rights. You should possess rights in order to use the various tiles within the DI APP. Please reach out to your internal contact person for this.

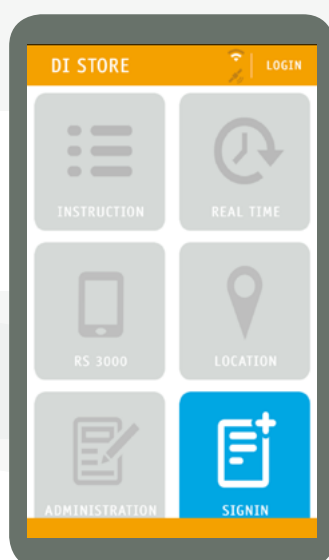
5. INSTALLING AND STARTING THE DI APP

a. Download

To download the DI APP, do the following:

- Go to the APP store on your smartphone or tablet and search for “Dual Inventive”.
- Download the free Dual Inventive APP (the APP requires a minimum storage capacity of 8 MB).

Once you have installed and started the DI APP, the following screen will appear:



5. CONTINUATION INSTALLING AND STARTING THE DI APP

b. Log in

- Click on "LOG IN" in the top right corner.
- Enter your MTinfo 3000 user name, company code and password.
- Read the terms and conditions and accept them.

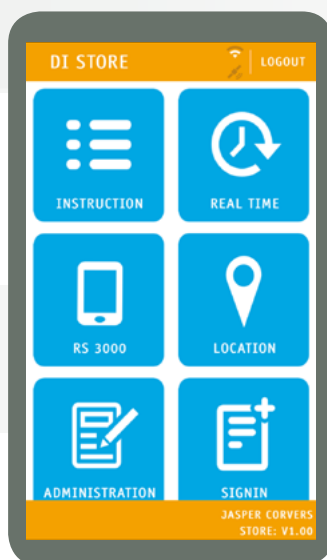
A grey tile indicates that you do not have the correct rights to access to this tile.

Attention: logging in is only possible when you possess the correct APP user rights.
Please contact your internal contact person for this.

c. Authorisation

- You will receive an authorisation code on the phone number that is linked to your MTinfo 3000 account. Enter the authorisation code and click "LOG IN" again.

You are now logged onto the DI APP and the following screen will appear:



If you are not able to access certain tiles, please consult your internal contact person.
The authorisation code will expire after one month. If you do not log onto the APP within a month, you will receive a new authorisation code when you next login.

5. CONTINUATION INSTALLING AND STARTING THE DI APP

d. GPS location

When opening the INSTRUCTION tile the following message may appear: "Dual Inventive requests permission to use your location". Please select Yes or No. You will see this message once and only when the GPS functionality on your smartphone/tablet is enabled. If you do not grant permission your location will not be linked to tiles within the APP.

e. DI APP symbols

The DI APP uses several symbols. The explanation of this symbols can be found below:



Go back to main screen



Go back to projects



Go back to previous screen



Refresh the screen



Delete this document from the project and from your smartphone/tablet

6. INSTRUCTION FUNCTION

Via the tile INSTRUCTION you can easily view the projects for which you are authorised. Additionally, you can view the corresponding documents and complete assigned forms. If you open the INSTRUCTION tile an overview of your projects will be displayed.

- Select a project for which you wish to view or add information.
- Select a tab. Your choices are:
 - o Documentation
 - o Upload
 - o Subscription list
 - o Feedback

If you see fewer options, it means that the project has not been set up for these functions.

6. CONTINUATION INSTRUCTION FUNCTION

a. Documentation tab

The **Documentation** tab displays the project's documentation. By clicking on the title of a document you can download and view this document.

Opening documents

You will need to install a separate app to open documents ('Adobe Reader' for instance.)

When you open a document, this app will open. To return, please re-open the DI APP.

You will remain logged in.

Using the search bar at the top you can find a specific document. If you enter (part of) the name of the document, all relevant results will appear

Blue letters

Documentation that is shown in **blue** letters, has been specifically uploaded for the project at hand. This documentation is added during the project planning step of MT info 3000. Only users who have received the appropriate rights will have access to this documentation.

Orange letters

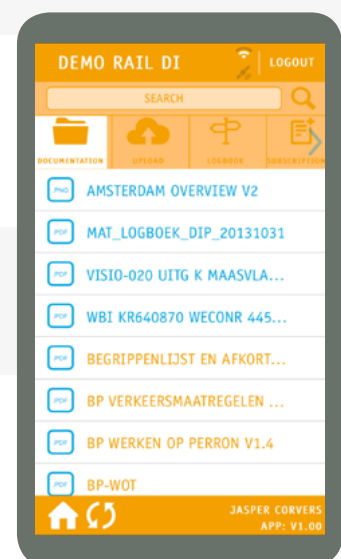
Documentation that is shown in **orange** letters is general documentation that applies to all projects.

Authorisation

Only users who have the specific rights to do so, can add general documentation in MTinfo 3000. This documentation can be added via the knowledge database. See [chapter 7.d. Add general documentation](#).

Only users with the proper rights have access to the knowledge database and can view the uploaded documents in the APP.

Dual Inventive recommends to grant all users of a project access to the knowledge database in order for them to view the relevant documentation. Please contact the internal contact person for this.



6. CONTINUATION INSTRUCTION FUNCTION

b. Upload tab

The **Upload** tab enables a user to add files to the project.

- Select a photo or document on your smartphone or tablet via Browse, or take a photo with your smartphone/tablet. Use the Camera functionality for this.
- Click on the date to open previously uploaded documents.
- Click on the plus icon on the right side to view any comments.
- If you click on the globe symbol, the location where the photo was taken will appear.

If the globe is not shown, the person doing the upload did not provide permission to share their location, or the GPS signal is disabled.

c. Subscription List tab

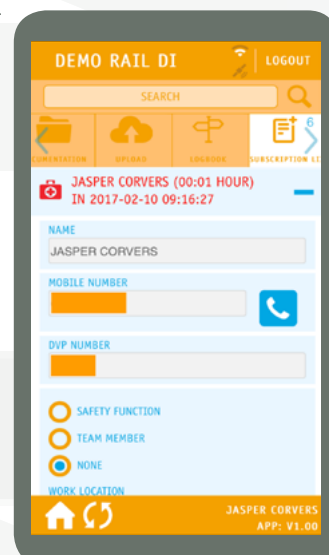
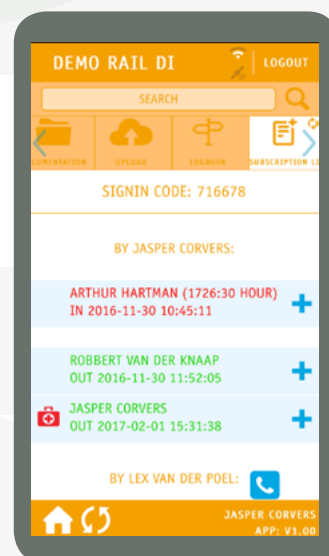
The **Subscription List** tab enables you to see who is signed in on site with you. When you open the Subscription List tab as a lead user on the project you will immediately see your unique sign in code at the top. Underneath your name you find a list of all users who are signed in to you, including the sign in time. You will also see the other lead users on the project and the people signed in with them.

Authorisation levels

Only users with authorisation level 1 or 2 will have a sign in code. See [chapter 7.b. Select feedback template and logbook elements](#) for more information on authorisation levels. Lead users with level 2 will only see other lead users with level 2. Lead users with authorisation level 1 will see all of the project's lead users who have a sign in code.

Personal information

By clicking on the plus sign next to a name you can view a person's information. You can also call the person by clicking on the phone symbol. If you see a user in red, this indicates that the user has been signed in, but not yet checked out (the user is 'present on the project'). When you see a user in green, this indicates that the user has been signed in to you and has also signed out ('checked out of the project'). You can also sign a person out by clicking on "sign out" below the user name. The user will be notified via a text message.



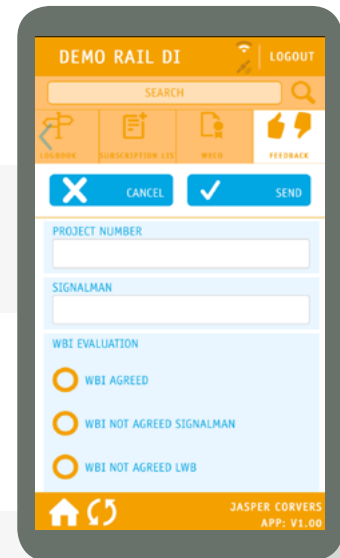
6. CONTINUATION INSTRUCTION FUNCTION

d. Feedback tab

With the **Feedback** tab you can easily complete the project's feedback forms. If you click on a form it will automatically open and you can fill it in. When you click send, the form will be sent.

Attention: the DI APP will automatically save your completed feedback information. Submitting a feedback form is a definitive action. However, you can always submit a new feedback form within the project in case a previous form was incorrect or incomplete. (**note:** the old feedback form will not be replaced).

See [chapter 7.b. Select feedback template and logbook elements](#) to configure the feedback tab.



The screenshot shows the 'DEMO RAIL DI' app interface. At the top, there's a header with 'DEMO RAIL DI' and a 'LOGOUT' button. Below the header is a search bar. A navigation bar contains icons for 'LOGBOOK', 'SUBSCRIPTION LIST', 'WBI', and 'FEEDBACK'. The 'FEEDBACK' tab is active. Below the navigation bar are 'CANCEL' and 'SEND' buttons. The form fields include 'PROJECT NUMBER', 'SIGNALMAN', and 'WBI EVALUATION'. Under 'WBI EVALUATION', there are three radio button options: 'WBI AGREED', 'WBI NOT AGREED SIGNALMAN', and 'WBI NOT AGREED LWB'. At the bottom, there's a home icon, a refresh icon, and the text 'JASPER CORVERS APP: V3.00'.

7. PROJECT DOCUMENTATION IN MTINFO 3000

Via the web interface MTinfo 3000 you can design projects and monitor the equipment from these projects in real time. This is done via <https://mtinfo.dualinventive.com/>. During the creation of a project in MTinfo 3000 you can indicate which documentation is to be included in the project. These forms can then be completed in the DI APP. Additionally, you are able to indicate which users have access to certain documents. Finally, you can use MTinfo 3000 to view the documents that were uploaded for each project.

a. Add project-specific documentation

You can add project documentation via the Upload button. After adding the documents, you can indicate which authorisation level a user needs to be able to view the document. More information about these levels can be found in [chapter 7.b. Select feedback template and logbook elements](#).

The 'Plan project' form contains the following fields:

- Project name: Test JCO 2111
- WBI: (empty)
- Type project: Regular
- Project status: Not released
- Project description: (empty)
- Project log: (empty)

At the bottom, there is a blue 'Upload...' button and a label 'Project Documentation'.

b. Select feedback template and logbook elements

After uploading the project documentation, you can set which feedback templates and logbook elements you wish to add to the project. This is done by ticking the box next to the relevant documents.

When selecting logbook elements, the numbers 1, 2 and 3 will appear next to each ticked element. These numbers indicate the required authorisation level. The authorisation level implies that users may only view the document for which they have the (minimal) required level. This is because some elements are not relevant to all users. You can indicate the minimal required level for each document to gain access to the logbook element. This is done by clicking on the level.

1 2 3 If only the 1 is displayed in orange, this documentation is only accessible to level 1 users.

1 2 3 If all three numbers are displayed in orange, all users with level 1, 2 or 3 have access to the documentation.

The 'Project Documentation' section has a blue 'Upload...' button.

The 'Knowledge Base' section lists the following documents:

- Begrippenlijst en afkortingen v1.1
- BP Verkeersmaatregelen op ovw
- BP Werken op Perron v1.4
- BP-WOT
- BR-activiteiten PW-GRW v1.0
- BR-Eenduidige-WTI v1.0

The 'Feedback Templates' section has the following checked items:

- ☒ Example
- ☒ Accept documentation

The 'Feedback Templates' section has the following checked items:

- ☒ Voorbeeld
- ☒ Strukton Rail(LWB)
- ☒ BAM Infra Rail(LWB)
- ☒ Accepteer documentatie

The 'Logboek Onderdelen' section has the following checked items:

- ☒ Voorblad LWB
- ☒ Sleutelijst
- ☒ Overdracht seint. maatr.
- ☒ Meelift voorblad
- ☒ Weco

Each item in the 'Logboek Onderdelen' section has an orange box with the numbers 1, 2, and 3 next to it, indicating the required authorisation level.

7. CONTINUATION PROJECT DOCUMENTATION IN MTINFO 3000

c. Add users to authorisation levels

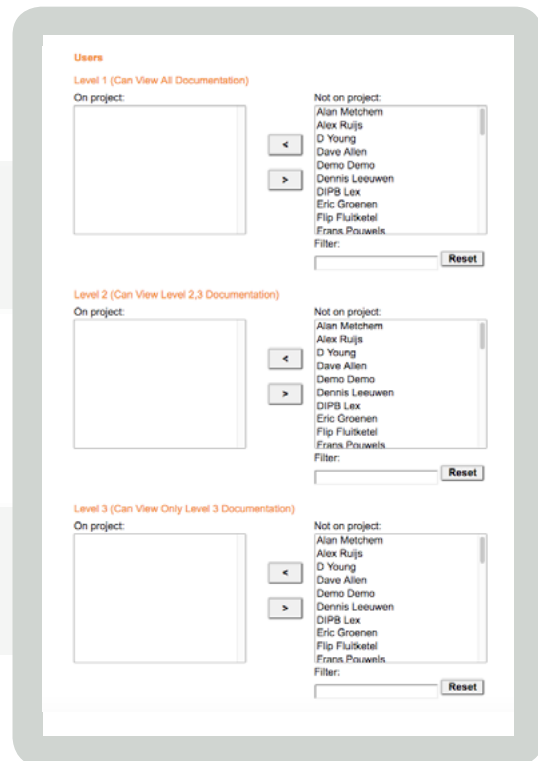
After the authorisation levels have been set for the documents, you can add the documents for the users.

- Scroll down. The next screen appears. Here you can link the levels to the users.
- Add to level: click on the user and the arrow to the left. This adds a user to the relevant level.
- Remove from level: click on the user and the arrow to the right. This deletes a user from that level.

d. Add general documentation

You can add documentation via MTinfo 3000 that will be visible via the APP on each project (if the required rights are in place). This is done as follows:



- Go to the main menu of MTinfo 3000
- Select “Knowledge base”
- You can now find, enter, change or delete documents.




Attention: as indicated earlier, this documentation is only visible for users who have access to the knowledge database. Therefore, Dual Inventive recommends granting access to all users on a project who will need this general documentation.

e. View documentation

Via MTinfo 3000 you can easily view photos and completed forms that have been uploaded by you and other users on a project. This is done in the following manner:

- Go to the main menu of MTinfo 3000.
- Go to “Project maintenance”.
- Go to “Search project”
- Select the project for which you wish to view the documentation
- By clicking on the PDF-symbol  at the top of the page you can view all project information.
- By clicking on the archive symbol  the entire project archive will be downloaded.

Attention: it may take some time to download this archive.

Under logbook elements, halfway through the page, you can view the imported logbook elements via the PDF symbol . This is only possible if you are a project lead, planner, designer or user of the relevant project.

At the bottom of the page you can view each of the project uploads, project feedback forms and project work tickets individually.

8. PROFILE FUNCTION

Attention, in order to create a profile you do not need to log onto the DI APP.

If you wish to start your work and sign in on site, you will require a profile. A profile is created via the PROFILE tile. Your profile will be linked to your phone and your Digital Safety Passport (DVP card). For signing in, see [chapter 9. SIGN IN function](#).

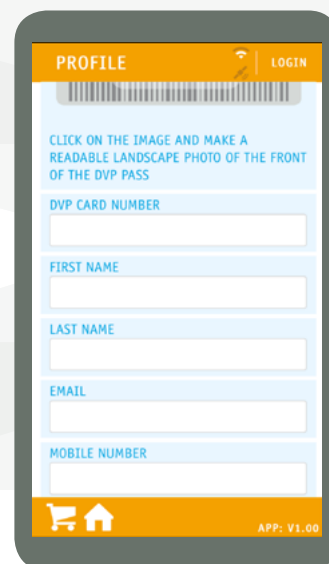
Create profile:

- Have your Digital Safety Passport (DVP card) at hand.
- Click on “Add profile”.
- Now take a clear photo of your Digital Safety Passport (DVP card) (in landscape position).
- Fill in your information.
- Click on “Save”.
- You will receive an authorisation code via text message.
- Enter this code and the creation of your profile will be finalized.

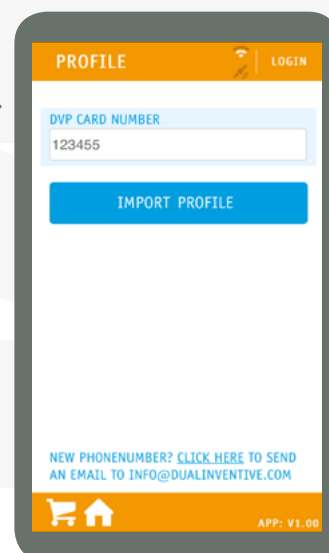
Attention: enter your information carefully.

Once your profile has been created with the correct Digital Safety Passport (DVP card) number, you are only able to change the information for First Aid, company and function. This is because your Digital Safety Passport (DVP card) will have been linked to the information you entered and can no longer be changed. Therefore, verify whether this information is correct before creating your profile. In case you would like to change your information in the DI APP, please reach out to your local Dual Inventive contact person.

If you already have a profile, you can use the “Import profile” functionality. In that case, just enter your Digital Safety Passport (DVP card) number. You will receive an authorisation code via text message on the phone number that is linked to your MTinfo 3000 account. Enter this authorisation code and click on “LOG IN”. If you already have a valid profile and have created this on the APP, you can change some elements of your profile from this tab, or delete them completely. You can link only one profile to your smartphone/tablet in the DI APP.



The screenshot shows the 'PROFILE' screen in the DI APP. At the top, there is a 'PROFILE' header and a 'LOGIN' button. Below the header is a barcode. The main content area contains a blue box with the instruction: 'CLICK ON THE IMAGE AND MAKE A READABLE LANDSCAPE PHOTO OF THE FRONT OF THE DVP PASS'. Below this are input fields for 'DVP CARD NUMBER', 'FIRST NAME', 'LAST NAME', 'EMAIL', and 'MOBILE NUMBER'. At the bottom, there is a navigation bar with a shopping cart icon, a home icon, and the text 'APP: V1.00'.



The screenshot shows the 'PROFILE' screen in the DI APP. At the top, there is a 'PROFILE' header and a 'LOGIN' button. Below the header is a blue box with the instruction: 'CLICK ON THE IMAGE AND MAKE A READABLE LANDSCAPE PHOTO OF THE FRONT OF THE DVP PASS'. Below this is an input field for 'DVP CARD NUMBER' with the value '123455'. Below the input field is a blue button labeled 'IMPORT PROFILE'. At the bottom, there is a navigation bar with a shopping cart icon, a home icon, and the text 'APP: V1.00'. At the very bottom, there is a link: 'NEW PHONENUMBER? CLICK HERE TO SEND AN EMAIL TO INFO@DUALINVENTIVE.COM'.

9. SIGN IN FUNCTION

Signing in and out with a manager. In this case, you do not need to log onto the DI APP.

In order to sign in, you will need a profile. See [chapter 8 PROFILE function](#). By signing in, the project's lead user can immediately see that you are present on the relevant project. Signing in via the APP is easy and does not require any authentication via MTinfo 3000. A unique code is used to sign in. This is linked to the manager of the relevant project for which you can sign in.

Sign in:

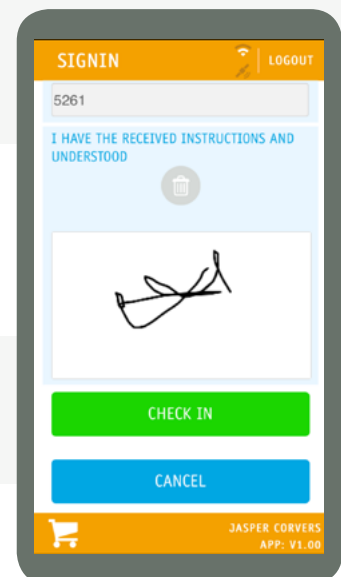
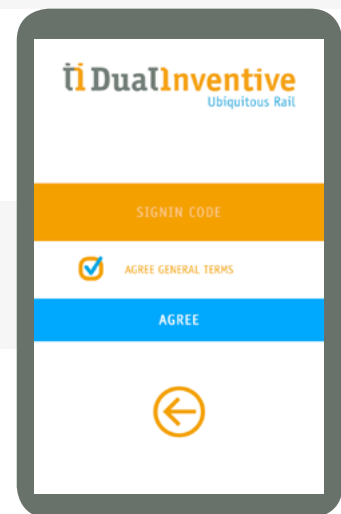
- Enter the unique sign in code that you have received from the lead user.
- Enter your signature in the grey box once you have received and understood the instruction of your manager.
(to delete your signature, click on the recycle bin icon)
- Click on "Sign in"
- You will receive a text message to confirm a successful registration.

Sign out (check out):

- Go to "Sign in"
- Enter your signature in the grey box.
- Click on "Sign out"

You will receive a text message to indicate you have successfully checked out.

You can only be signed in for one project simultaneously.



10. REAL TIME FUNCTION

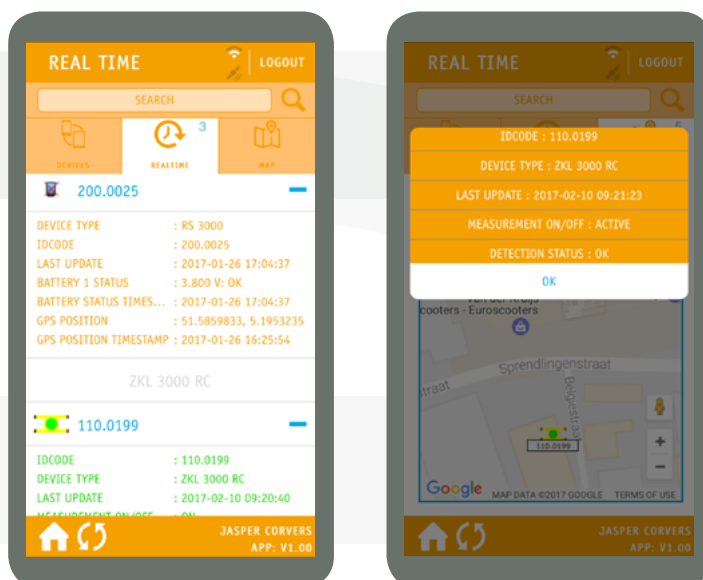
The real time status tile is used to view the status of equipment and equipment on projects you are authorised to view. You can select these from a list, and the app will then display information such as battery level and GPS location, in real time. Via projects, you can immediately view all equipment that has been added to a particular project. Via equipment you can view multiple and individual products (for instance, 10 ZKL 3000 RCs). You can view the real time status as follows:

a. Projects

- Select project type.
- Select the relevant project.
- Go to the 'Real time' tab to view information about the equipment on the project.
- Click on the plus icon. This information is refreshed every 10 seconds.
- Go to the "Map" to view the position of the equipment of the project.

b. Equipment

- Select the equipment type.
- Select the relevant equipment
- Go to the "Real time" tab to view information about the equipment.
- Click on the plus icon. This information is refreshed every 10 seconds.
- Go to the "Map" to view the position of the equipment. By clicking on the equipment, the information of the selected equipment will be displayed.



11. SWITCHING VIA THE RS 3000 TILE

You can switch ZKL 3000 RCs via the RC 3000 tile, providing the project has been released and you are a user on the project.

Attention: you must have a PIN setup for this, as it is not possible to use text message verification for this action. The project lead / internal contact person can set this up via MTinfo 3000 during user maintenance.

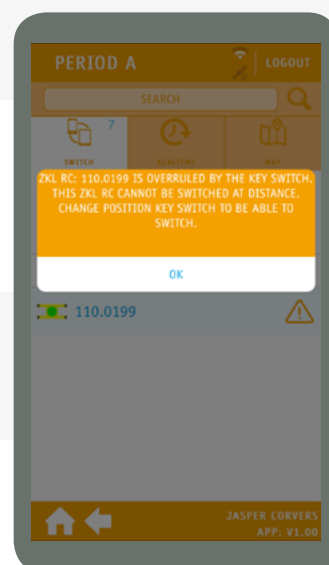
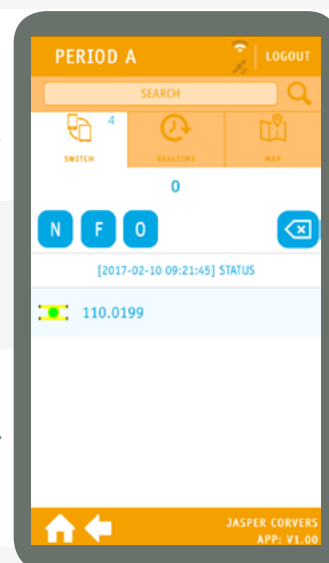
Switching ZKL 3000 RCs on a project:

- Go to the RS3000 tile.
- Select the project to be switched.
- Select the period.
- Go to the tab “Switch”.
- Switch the relevant ZKL 3000 RCs on the period by selecting On or Off.
- Now enter the correct letters (ON or OFF) to switch the device.
- **Attention:** the letters are not always in the same location.
- Confirm your switching action with your PIN code.

After the switching action, you will see whether the ZKL 3000 RCs have been successfully switched. If this is not the case, you can also click on the ZKL 3000 RC that was unsuccessfully switched (which is indicated by the red cross symbol or orange triangle). You will receive additional information. In case the switching action was not successful, we recommend repeating the command.

Next to the switching action, you can also view the real time status of the ZKL 3000 RC(s) via the “Real time” tab. It is also possible to see the location of the ZKL 3000 RC(s) via the “Map” tab.

You may encounter situations that prevent you from switching the ZKL 3000 system. For more information about these notifications, see Installation manual ZKL 3000 RC, chapter 8 “Troubleshooting”



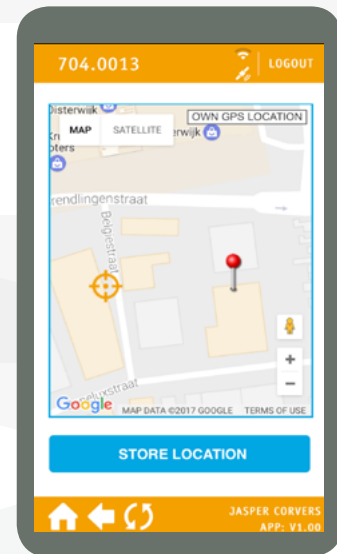
12. LOCATION FUNCTION

The location tile enables you to determine and set the location of equipment without a GPS module. Users can view in the MTinfo 3000 / DI APP where the equipment is located.

- First select the equipment type.
- Next the ID number of the equipment.

Your location is displayed with the orange circle. Attention, GPS should be enabled on your smartphone/tablet and you must have given Dual Inventive permission after getting the notification to use the location. The current location of the equipment will be displayed with a red circle.

- If you click on one of the icons, the GPS coordinates of this location will be displayed.
- Click on “save location” to set the new location of the equipment.



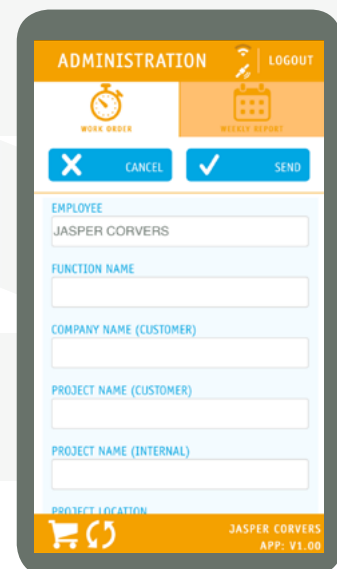
13. ADMINISTRATION FUNCTION

Via the work order tile you can easily record your hours via your smartphone.

- Enter the information (function name, project name (internal), name of undersigned and signature are mandatory).
- Click on “Submit”.

This does not require you to log onto the DI APP.

Attention, the DI APP automatically saves the work order information you completed. If you click “Send”, the information you entered will be stored. This is irreversible.



14. NOTIFICATIONS

During the use of the DI APP you may see certain notifications on the screen. These are discussed below and a brief explanation is given.

Notification	Explanation/Action
No internet connection	The APP is not able to connect to the internet. Create a connection via a WiFi or 3G/4G network, restart the APP and try again.
Poor connection, try again.	The APP has a poor internet connection. Move to a new location, restart the APP and try again.
Enable GPS and restart the APP	The APP cannot determine your GPS location. This may be because this function is not enabled on your smartphone, or because you did not provide the DI APP permission to use your GPS location. Enable the GPS function, or grant permission to the DI APP, restart the APP and try again.

If you are interested in Dual Inventive's news and social media, you can also find this via the APP via the other tiles

15. MAINTENANCE & SERVICE

For maintenance and service please contact your local Dual Inventive contact person.

16. AFTERWORD

If you encounter irregularities or anything that is unclear during the use of the DI APP, please report these to us via phone or by email at info@dualinventive.com. Ultimately, the product should add value and we work hard to realise this. Your feedback therefore contributes to improving safety of the railway. On behalf of the Dual Inventive team we wish you a good luck working with the DI APP.



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