Smart Construction

Smart Construction Fleet
Mobile Application User Guide

Before You Read This Manual:

▌ Before you start

- This manual describes the functions of Smart Construction Fleet.
- For units of measurement, the International System of Units (SI) is used.
  Explanation, numeral values, illustration, etc. are based on the information as of the time this manual was prepared.
- If you have any questions or opinions, please contact SMART CONSTRUCTION Support Center.
- Use the application after understanding the contract conditions, guarantees, and responsibilities stated in the application software terms of service.
- Screen and display of the application may change when updated.
  If there are any differences between what is written in this manual and the display on the application screen, operate according to the application display.

In general, company names, product names, etc. written here are business names, trademarks or registered trademarks of each company.

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System Overview

For starting use of Smart Construction Fleet

"Smart Construction Fleet" is an application that can share and manage information on the positions of dump trucks, excavators, or bulldozers.

By using "Smart Construction Fleet," you can easily check the current progress of the construction work on a map. For example, a construction machine operator can locate individual dump trucks; or a dump truck driver can determine the best unloading point by identifying the positions of individual construction machines in a jobsite.

The application provides various functions such as a real-time viewer, a vehicle approach notification function for construction machine operators, alert functions for dump truck drivers, a counting function at a loading/unloading point, a payload system loading result display function, a work history or traveling history display function, and links to iOS or Android applications.
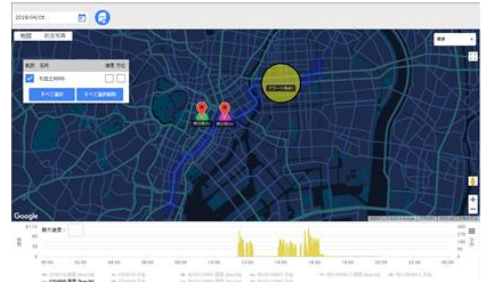
1 You can check the location information of construction machines, dump trucks, and guides in real time on your computer.
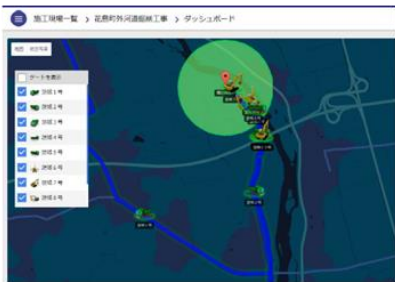
2 The approach notification function allows construction machine operators and guides to know that a dump truck is approaching.

3 Display of traveling history
You can manage the daily traveling distance of dump trucks.

4 Display of work history
You can manage the history of daily loading and unloading operations.

5 Registration of dump truck information → Linked with payload system
The loading history recorded using an external payload system can be left on the Web application.

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What You Need and Recommended Operating Environment

What you need

A smartphone with the Smart Construction Fleet mobile application

or

A personal computer capable of running Smart Construction Fleet

Smart Construction Fleet Device

Recommended operating environment for the Web application

← From Google, download Google Chrome to access the application.

Recommended operating environment for mobile application
(terminal whose operation has been confirmed)

[iOS]
OS16,1
- Smartphone
iPhone SE (3rd generation)
- Tablet
iPad: Not applicable
[Android]
OS12,13,14
- Smartphone
moto g64 5G
- Tablet
Lenovo Tab M10 Plus (3rd Gen) ZAAM0094JP

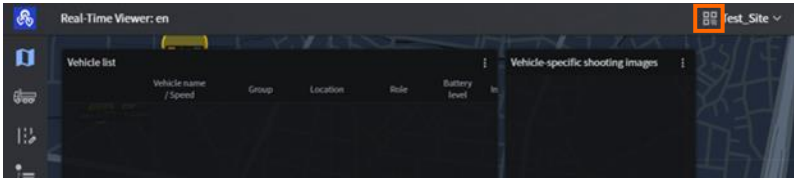| Note |
|:---:|
| **Please note that operation is not guaranteed on the devices that do not meet the above recommended operating environment.** |

Mobile Application Overview

Login

This section describes the procedures for logging in after creating a jobsite on the Web application.
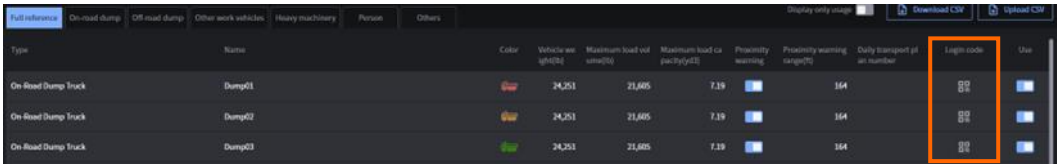
Operation on the Web application

■ Display the 2D code
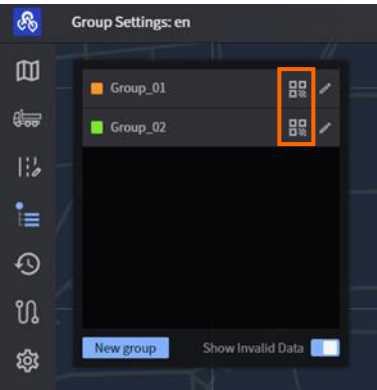
From the Web application tab


Click the login code button

From the vehicle setting screen

From the group setting screen

■ Depending on the 2D code displayed from each screen, the information linked to the application varies.
- Web application tab → Jobsite information
- Vehicle setting screen → Jobsite information, vehicle information
- Group settings screen → Jobsite information, group information

■ Login to the application can be performed by arranging the jobsite information, vehicle information, vehicle role information, and group information.
You can select the insufficient information when logging in the application.
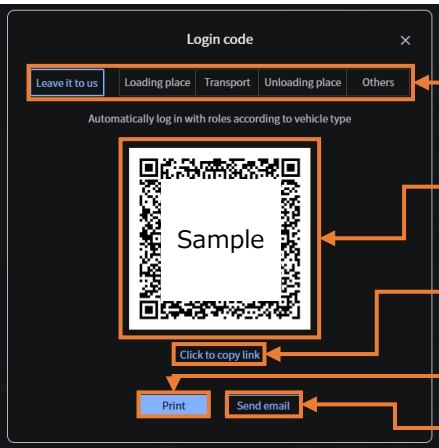
You can set the vehicle role information from the login code display screen.

2D code is displayed.

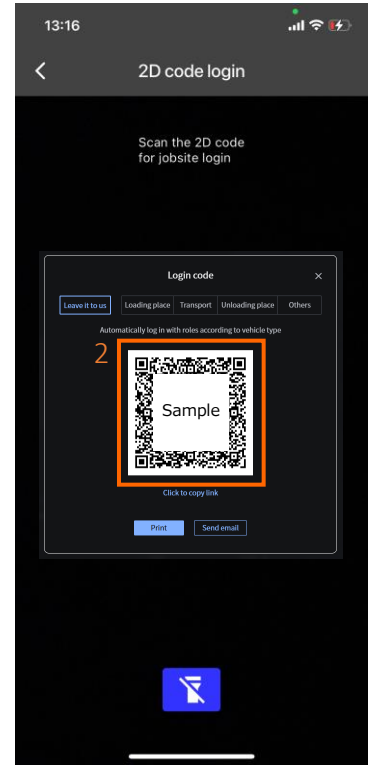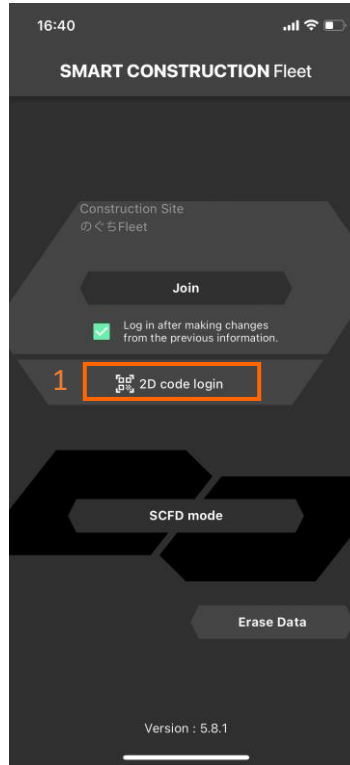Log in can also be performed by executing the URL link on the mobile device.

2D codes can be printed or exported as a PDF.

2D codes can be sent via email.

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Operations on mobile app

■ Read 2D code

1. Tap on "2D code login"
2. Read 2D Code
   If the QR code is successfully
   read, it will transition to the
   next screen

❗ To know detail about Role, please refer attach file "EN_SC Fleet_New ver_Role".
  To know detail about Group, please refer attach file "EN_SC Fleet_New ver_Group".

Login information				Transition destination
Jobsite	Vehicle	Vehicle role	Group	
✓				Switch to the vehicle type selection screen
✓	✓			Switch to the vehicle role selection screen
✓		✓		Switch to the vehicle type selection screen
✓			✓	Switch to the vehicle type selection screen
✓		✓	✓	Switch to the vehicle type selection screen
✓	✓	✓		Switch to the belonging group selection screen
✓	✓	✓	✓	Log in and switch to the running screen

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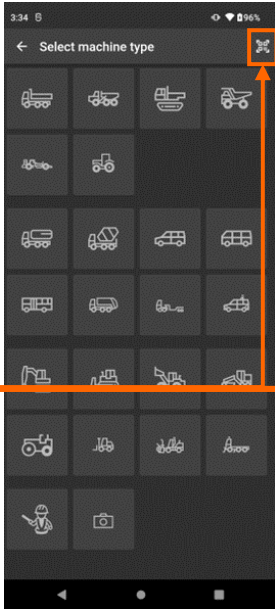
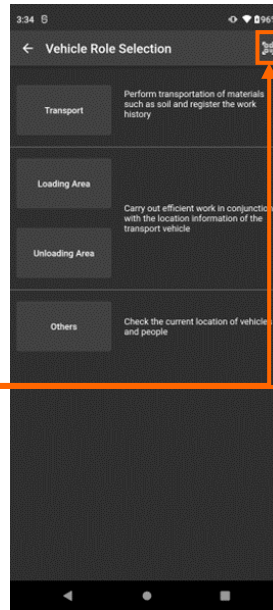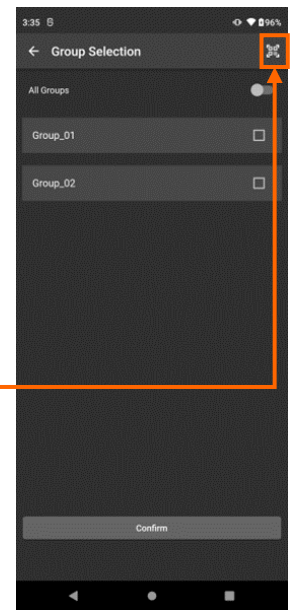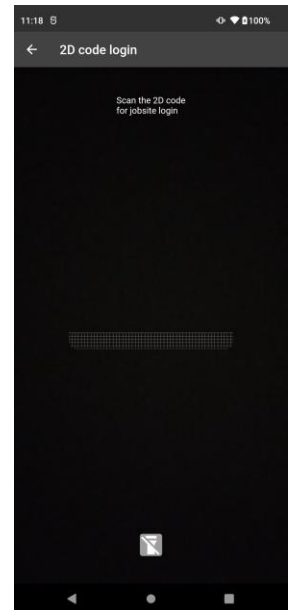| Vehicle type selection screen	Vehicle selection screen	Vehicle role selection screen	Belonging group selection screen
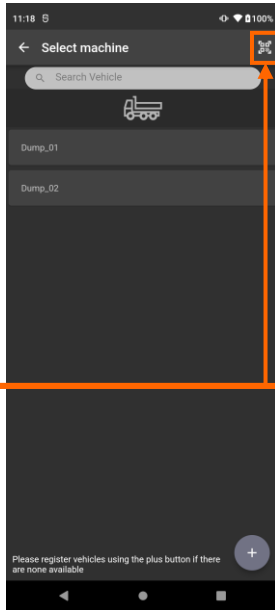
If the group information is not set on the web side, the group selection screen will be skipped.

Tapping the 🔲 on the upper right-hand side of each selection screen enables you to read the 2D code and acquire the information.
The 2D code that can be scanned on each selection screen is as follows.

Selection screen	2D code that can be scanned
Vehicle type selection screen	- Jobsite information + vehicle information - Jobsite information + vehicle information + vehicle role information
Vehicle selection screen	- Jobsite information + vehicle information - Jobsite information + vehicle information + vehicle role information
Vehicle role selection screen	- Jobsite information + vehicle role information - Jobsite information + belonging group information + vehicle role information - Jobsite information + vehicle information + vehicle role information
Belonging group selection screen	- Jobsite information + belonging group information - Jobsite information + belonging group information + vehicle role information

You cannot read the 2D code in the following cases.

- If you scan other than the 2D code that can be scanned on each selection screen
- If the scanned information has already been acquired and the scanned information and the contents of the acquired information do not match

Example:
If the 2D code (jobsite information + belonging group information + vehicle role information (B)) is scanned on the belonging group selection screen while the vehicle role information (A) has already been acquired
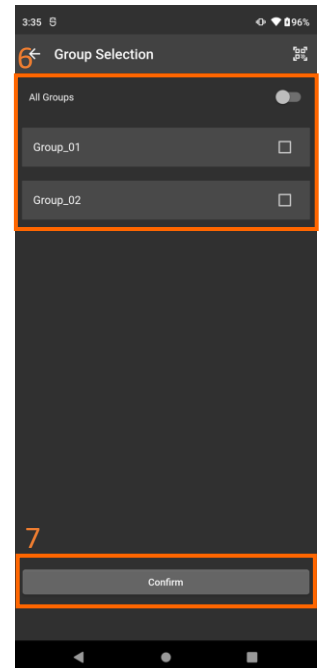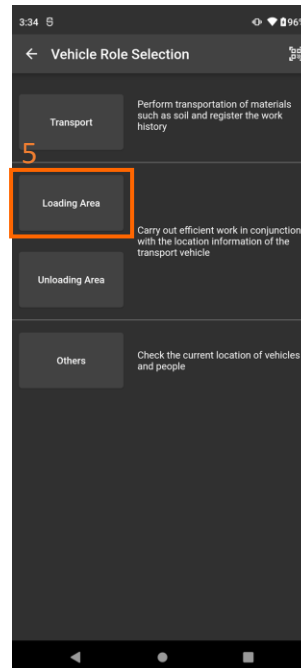
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6. Enter the information necessary for login along the screen, and when all the inputs are completed, the login is ready, and after that, the screen will switch to the running screen.

Login example (Vehicle: Excavator, Vehicle role: Loading area)

*Example using a QR code containing only construction site information

1. Tap on "2D code login"
2. Read 2D code
3. Tap on Excavator icon
4. Tap on Excavator to login
   You can search by inputting vehicle's name
5. Tap on "Loading area"
6. Select Group
   If the group information is not set on the web, the group selection screen will be skipped.
7. Tap on " Confirm"
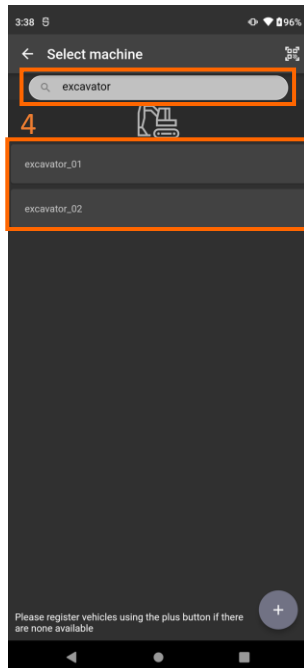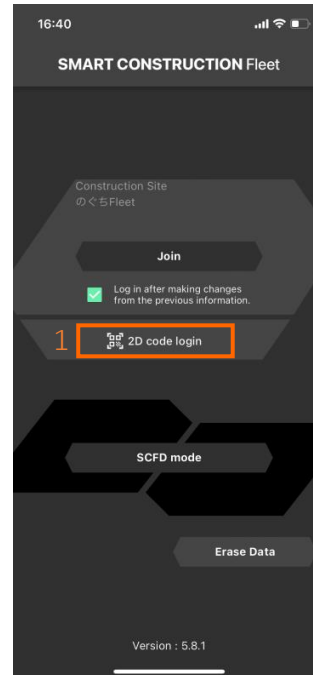
Login example (Vehicle: Dump truck, Vehicle role: Transport)

*Example using a QR code containing only construction site information

1. Tap on "2D code login"
2. Read 2D code
3. Tap on Dump icon
4. Tap on Dump to login
   You can search by inputting
   vehicle's name.
5. Tap on "Transport"
6. Select Group
   If the group information is not set on the
   web, the group selection screen will be
   skipped.
7. Tap on " Confirm"

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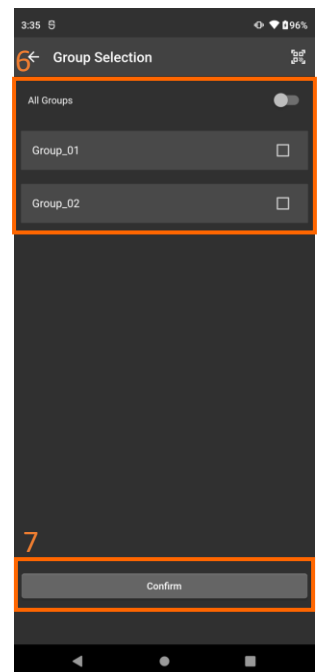
Generating 2D Codes from "Web Application Tab" or "Group Settings"
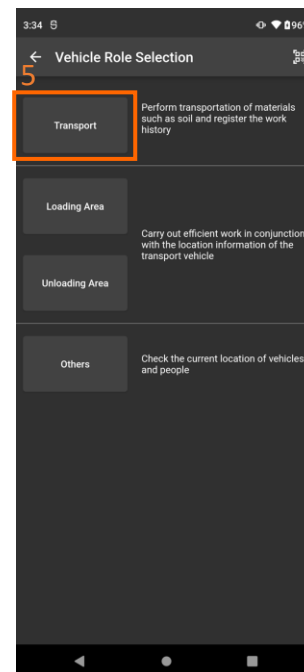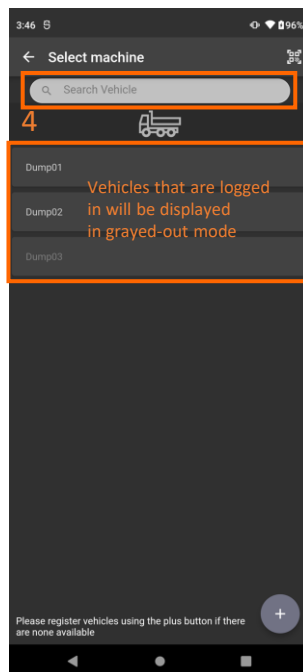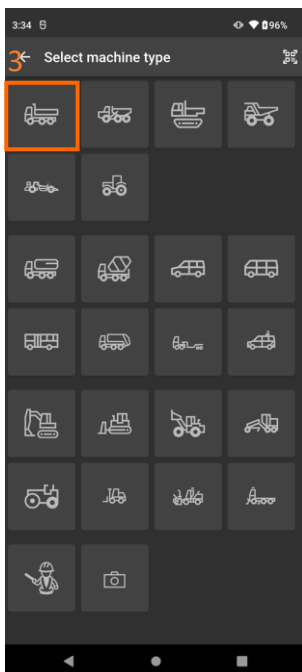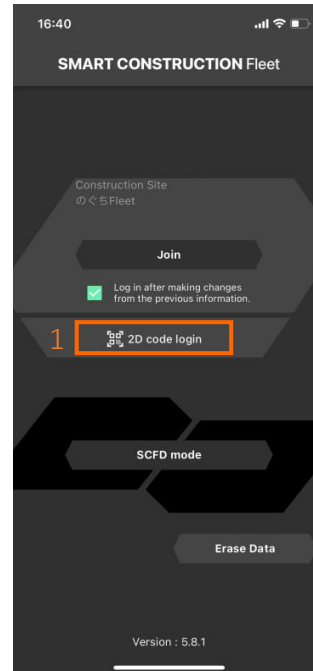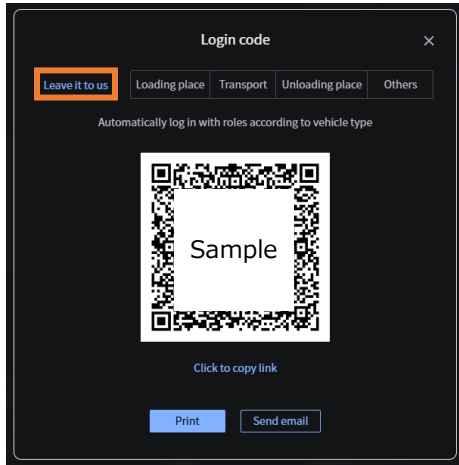
If "Leave it to us" is selected, the step of selecting a role in the mobile app can be skipped for certain vehicle types.

Type of vehicle	Role(Auto Select)
Dump truck	Transport
Articulated dump truck	Transport
Crawler dump	Transport
Rigid dump truck	Transport
Motor scraper	Specified at login
Tractor	Specified at login
Tank truck	Specified at login
Mixer	Specified at login
Garbage truck	Specified at login
Low-floor trailer	Specified at login
Bus	Others
Van	Others
Commercial van	Others
Excavator	Specified at login
Bulldozer	Specified at login
Wheel loader	Specified at login
Motor grader	Others
Road roller	Others
Forklift truck	Others
Rotary vehicle	Specified at login
Snow removal truck	Transport
Road patrol vehicle	Others
Guide	Others
Camera	Others

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Generating 2D Codes from Vehicle Settings

For certain vehicle types, the role will be automatically selected.
By scanning a login code with a pre-selected role,
the step of selecting a role in the mobile app can be skipped.
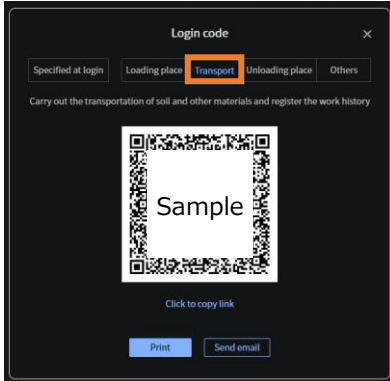
For Dump Trucks   **For Motor Graders**
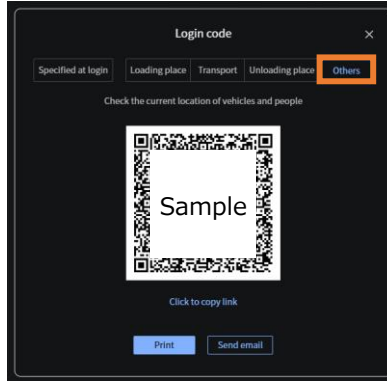

Type of vehicle	Role(Auto Select)
Dump truck	Transport
Articulated dump truck	Transport
Crawler dump	Transport
Rigid dump truck	Transport
Motor scraper	Specified at login
Tractor	Specified at login
Tank truck	Specified at login
Mixer	Specified at login
Garbage truck	Specified at login
Low-floor trailer	Specified at login
Bus	Others
Van	Others
Commercial van	Others
Excavator	Specified at login
Bulldozer	Specified at login
Wheel loader	Specified at login
Motor grader	Others
Road roller	Others
Forklift truck	Others
Rotary vehicle	Specified at login
Snow removal truck	Transport
Road patrol vehicle	Others
Guide	Others
Camera	Others

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Modifying Information from the Previous Login

The ON/OFF state of various checkboxes will be retained for the next login.

[If you only want to change vehicle information]

1. Check "Login with modified previous information"
   This checkbox is enabled by default.
2. Tap "Login"
3. Uncheck "Vehicle Role Information"
4. Uncheck "Affiliated Group Information"
5. Tap "Login with modified previous information"

   Continue to next page
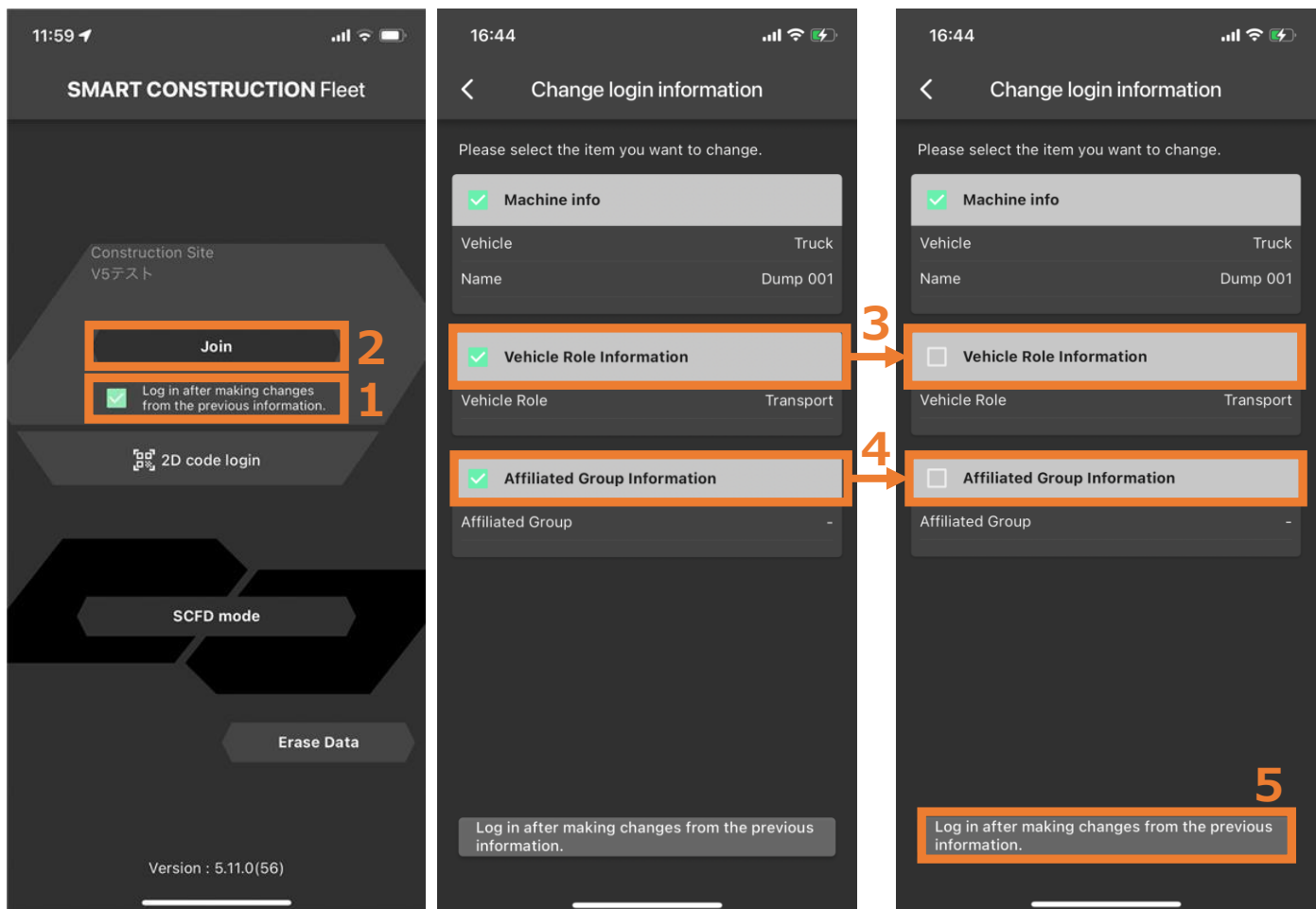
6. Tap the Dump Truck icon
7. Select "Dump 002"
   Login is complete.
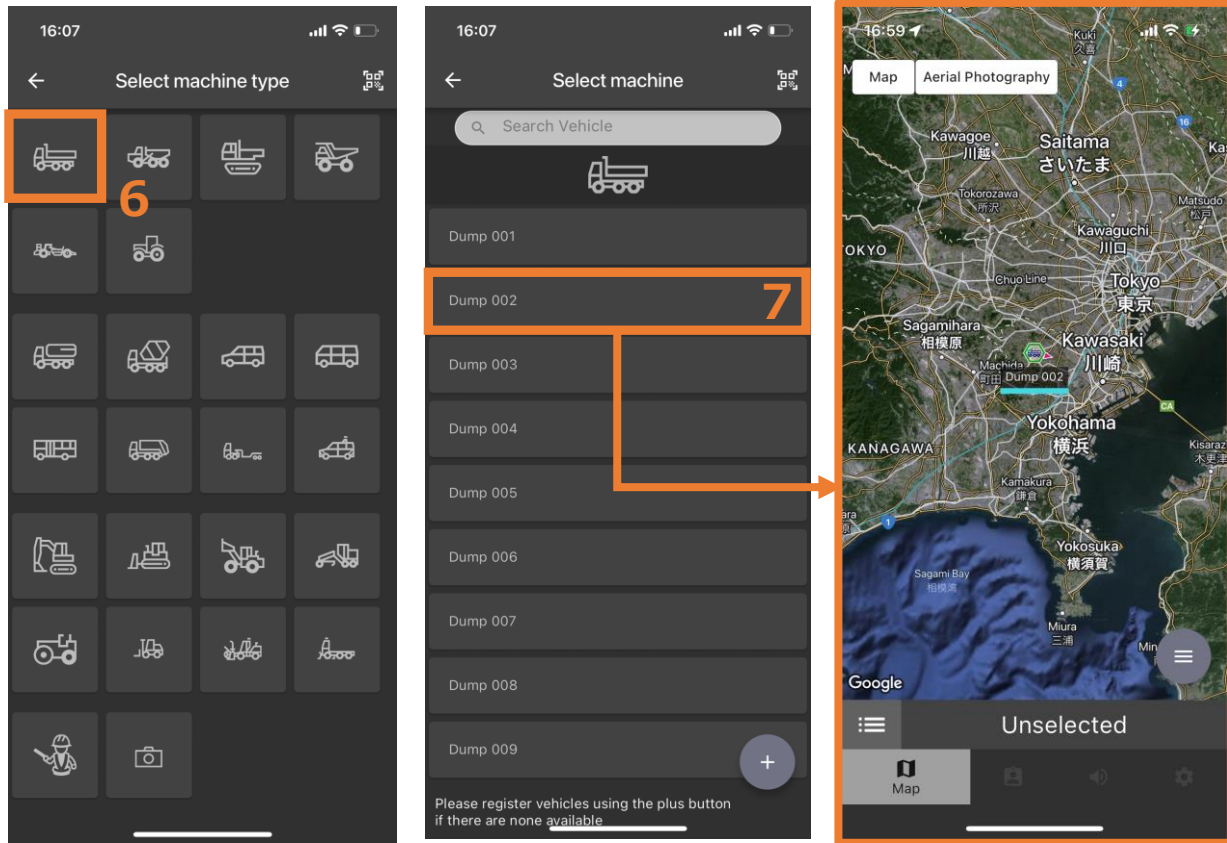
[Reference] Screen for the next login

The ON/OFF state of the checkboxes will be carried over.
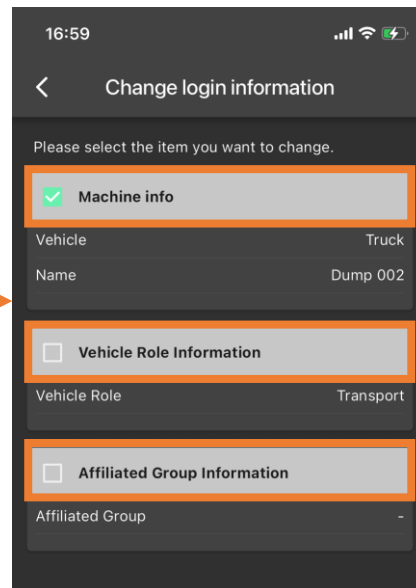
Vehicle Registration

1. On the vehicle selection screen when logging in,
   tap "+" that is displayed at the lower right of the screen.
2. Enter the name of the vehicle you want to register.
3. Select the preset value.
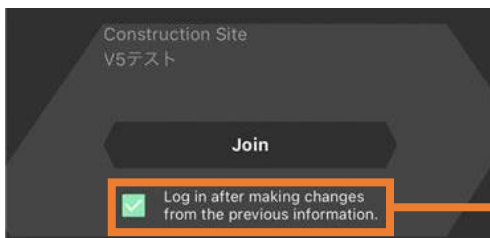4. Tap "Register".
   If you check "Log in with the registered vehicle" and tap, you will be logged in immediately.
5. The registered vehicle is displayed on the Select machine screen.
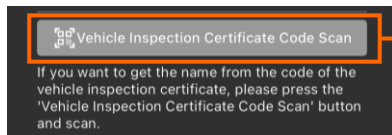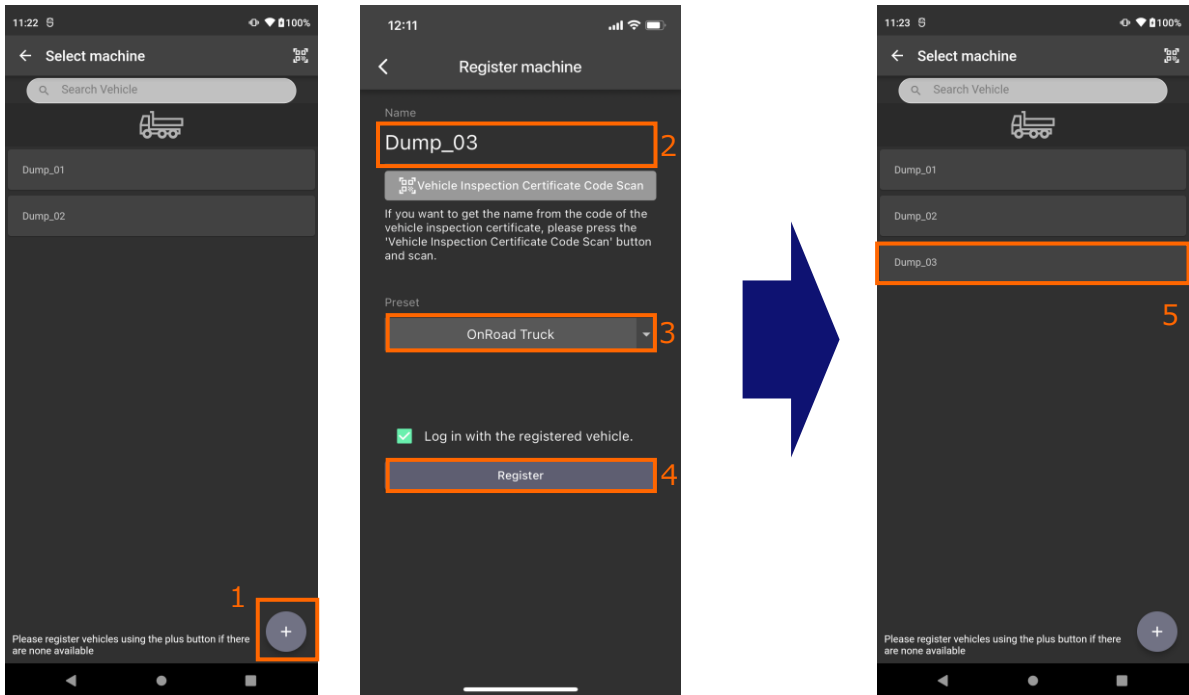
* Tap "Vehicle inspection certificate 2D code scan" to read the 2D code of the vehicle inspection certificate, then you can reflect the vehicle number in the name.

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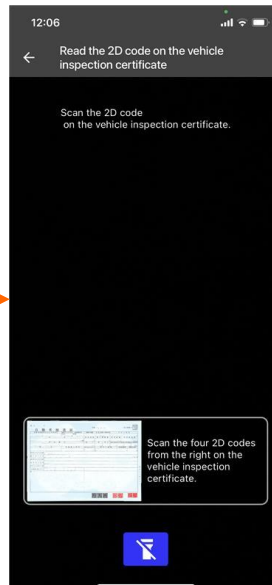
Mode Switching

Simplified mode with limited functions is available so that even first-time users can use the mobile application intuitively.
All functions are available in standard mode.

1. Switch between standard mode and simplified mode
   Normal mode is selected as the initial state.
   While logging in the same 2D code, the mode switching screen is not displayed.
   If you log in with the new 2D code, the mode switching screen is displayed.
2. Start using the selected mode
   In simplified mode, the function is limited compared to the standard mode.
   You can also switch the mode after logging in, so select the mode you prefer according to your usage conditions.
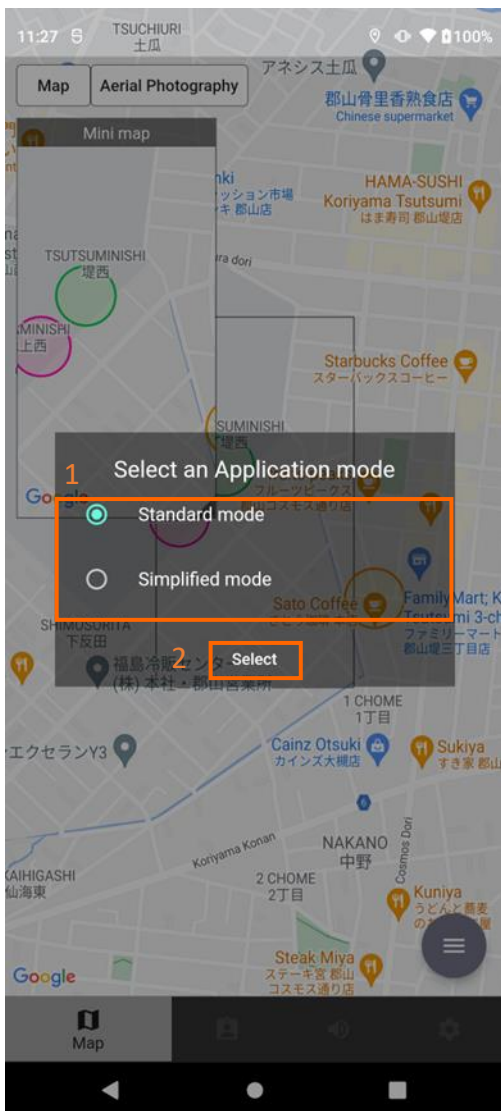
Standard mode

The following functions are only available in standard mode.

■ Common for all vehicle roles

1. Dashcam
2. Display transporting soil icon
3. Sending voice messages
4. Register alert point
5. Mini map
6. Gate display ON/OFF
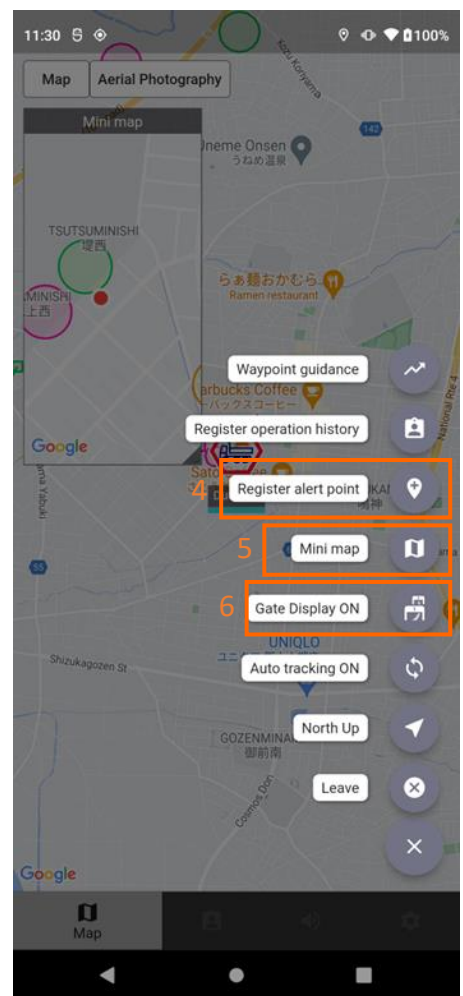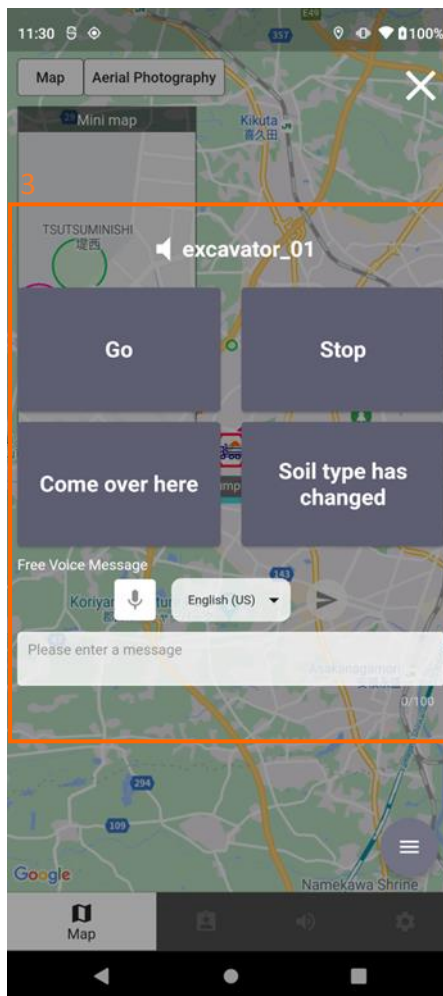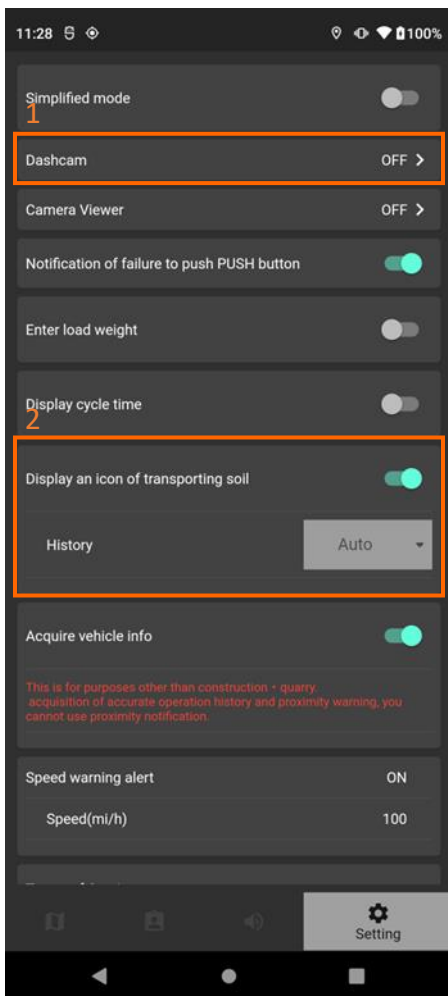
The following functions are only available in standard mode.

■ Vehicle role: Transport

    1. Notification that you forget to press the PUSH button
    2. Input of load weight
    3. Cycle time notification
    4. Confirming work history
    5. Work history registration
This function enables you to register the manual work history at an arbitrary location.
If you enter the loading/unloading point, you can register the work history even in the simplified mode.
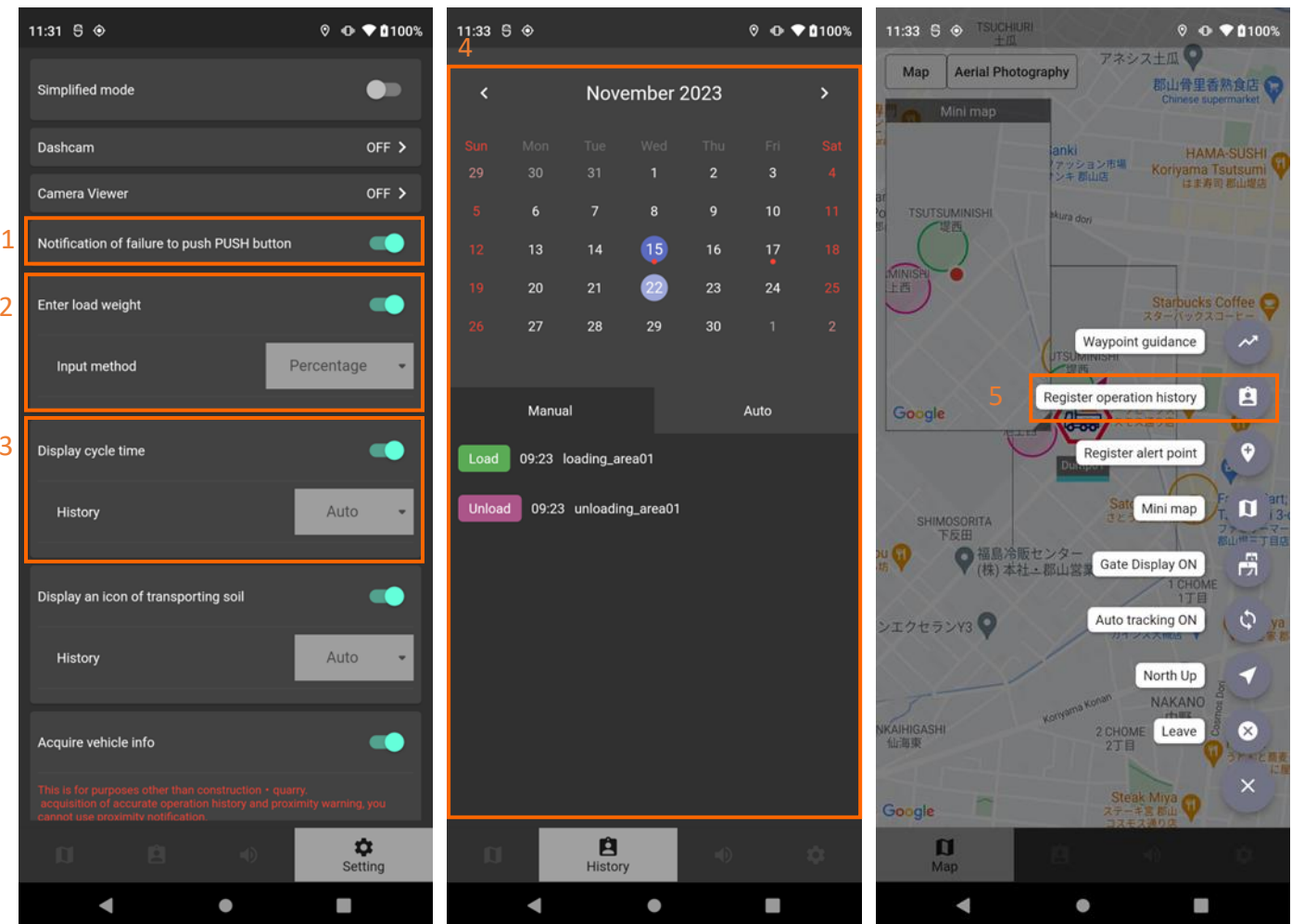
The following functions are only available in standard mode.

■ Vehicle role: Loading/Unloading area

    1. Approach notifications
    2. Changing belonging point
       By belonging to the loading/unloading point, you can handle your own vehicle as a work point.
    3. Change soil property (vehicle role "Loading area" only)
       You can change to the soil property registered in advance on the "Soil property" menu of the Web
       application.
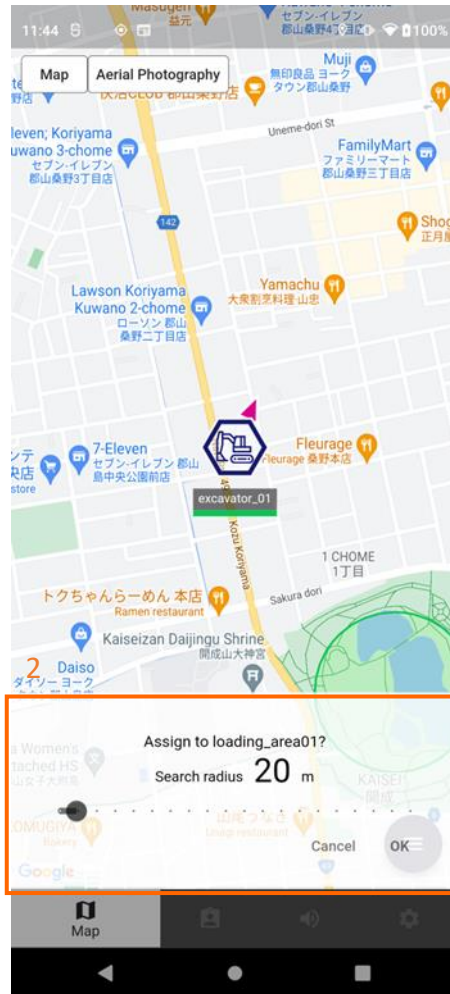
Simplified mode

The following functions are available in simplified mode.
(Example of screen logged in with the vehicle role Transport)

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Functions that are disabled in simplified mode

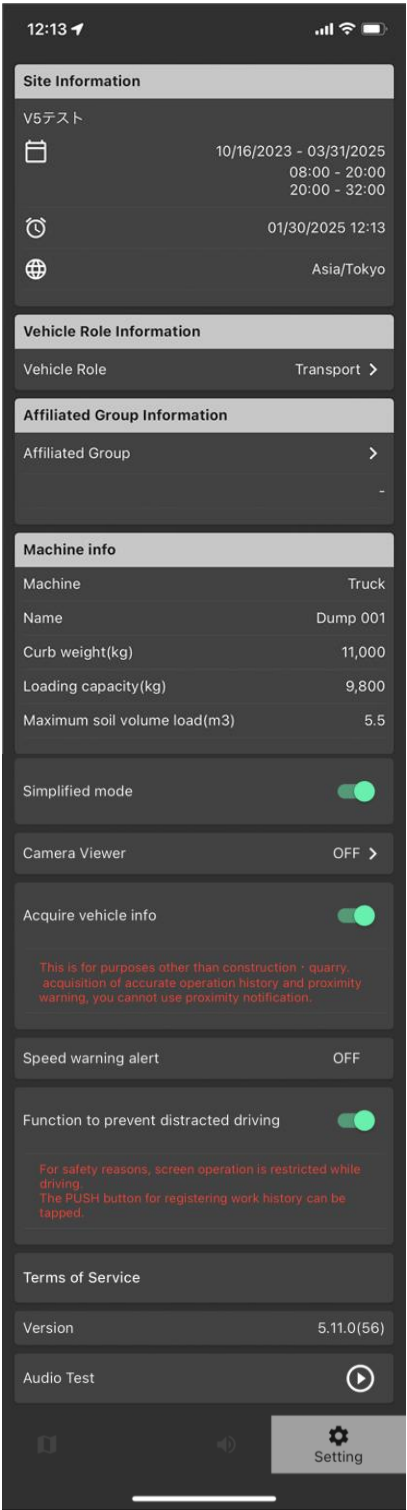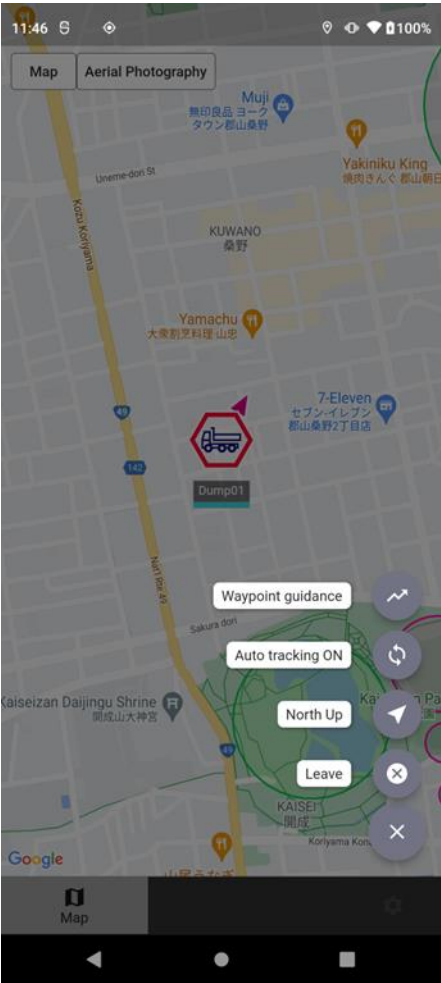| Specification in simplified mode	
All vehicle roles	
Dashcam	Hide settings on the setting screen
Display transporting soil icon	Hide icons, and hide settings on the setting screen
Sending voice messages	No response when tapping the other vehicle icon
Register alert point	Hide the button on the map screen submenu
Mini map	Hide the button on the map screen submenu
Gate display ON/OFF	Hide the button on the map screen submenu
Vehicle role: Transport	
Notification that you forget to press the PUSH button	Hide settings on the setting screen
Input of load weight	Hide settings on the setting screen
Cycle time notification	Hide settings on the setting screen
Confirming work history	Hide the work history icon on the running screen tab
Work history registration	Hide the button on the map screen submenu * You can register the work history when entering the work point (soil property is not displayed)
Vehicle role: Loading/unloading area	
Approach notifications	Hide approach notification
Changing belonging point	No response when tapping the point
Change soil property (vehicle role "Loading area" only)	Hide Change soil property button

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Map Screen

You can check the position information of the vehicle/person in real time while you are logging in on the mobile application or Smart Construction Fleet Device.

Your vehicle is displayed as a hexagonal icon, and other vehicles are displayed as round icons. If you have logged in as an on-road dump truck, the color of the vehicle frame will be the color specified when registering the vehicle on the Web application.
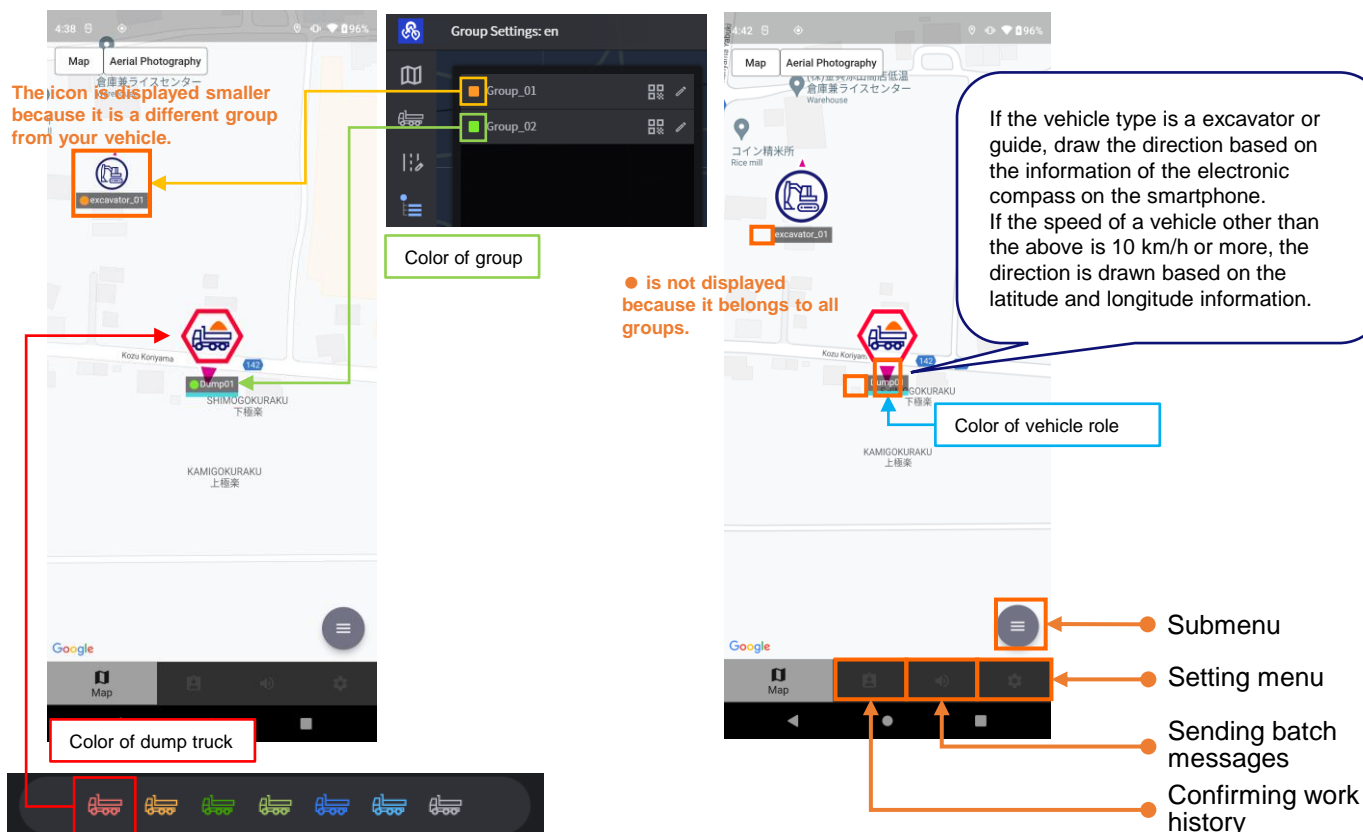
You can check the vehicle role of your vehicle in the color under the vehicle name.
Transport: **Light blue**, Loading area: **Green**, Unloading area: **Pink**, Others: **Gray**

If you belong to a specific group, the color of the group set on the Web application is reflected in
● at the top of the vehicle name under the icon.
● is not displayed if you belong to all groups.

For other vehicles belonging to a different group from your vehicle,
they are displayed with smaller icon.

❗ For details of the vehicle role, refer to the separate sheet "SCFleet_New Ver_vehicle role.xlsx".
For details of the group, refer to the separate sheet "SCFleet_New Ver_ grouping.xlsx".

The icon is displayed smaller because it is a different group from your vehicle.

Color of group

● is not displayed because it belongs to all groups.

If the vehicle type is a excavator or guide, draw the direction based on the information of the electronic compass on the smartphone.
If the speed of a vehicle other than the above is 10 km/h or more, the direction is drawn based on the latitude and longitude information.

Color of vehicle role

Color of dump truck

Submenu

Setting menu

Sending batch messages

Confirming work history

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Job Classification

This is a feature in the mobile app that allows operators to record their work status on their own.
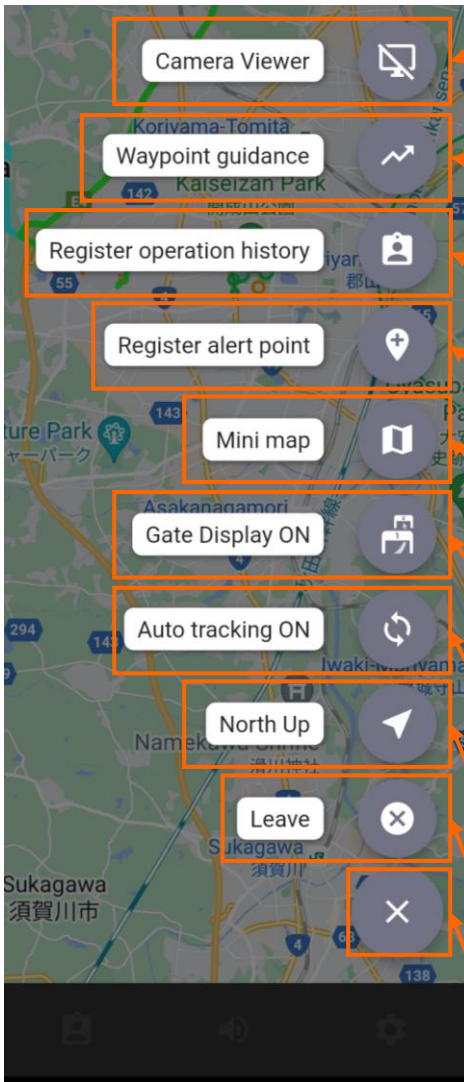It can be used regardless of the vehicle role.
The feature must be enabled in advance through the web app.

[Reference: Procedure for Selecting Work Category in the Mobile App]
You can switch work categories at any time → The result of the switch will be reflected in the "Operational Vehicle Daily Report", which can be output from the "Performance" menu.
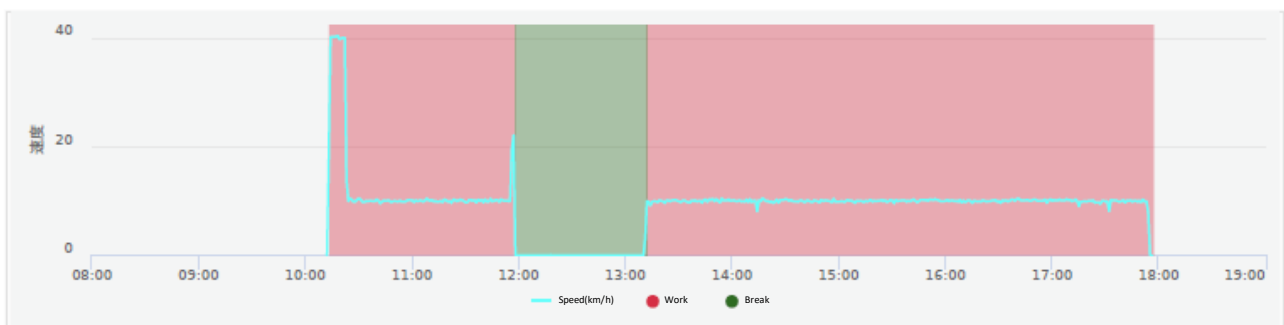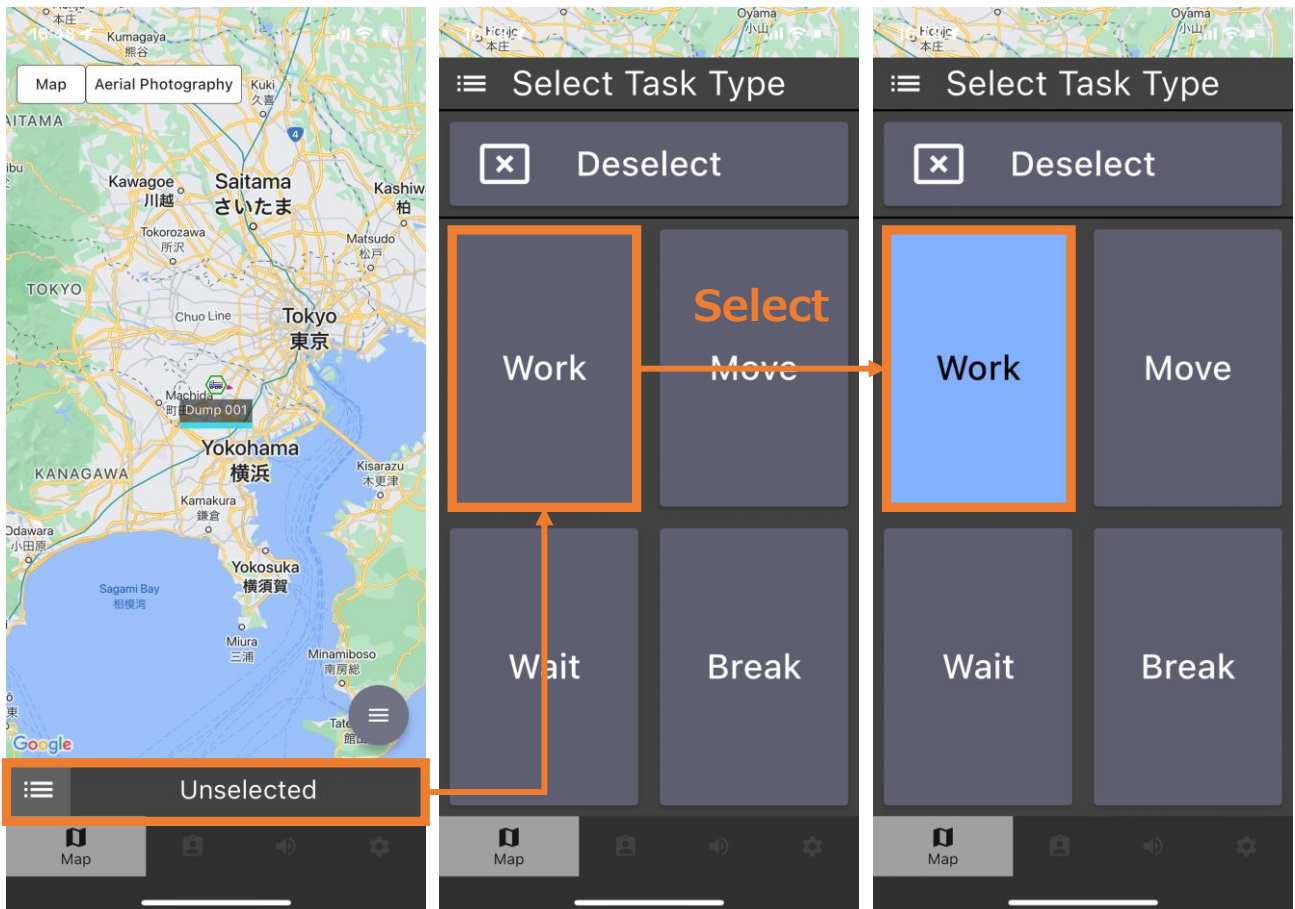
Submenu

Camera viewer visibility
* Only when camera viewer setting in the setting screen is ON
  Switch camera viewer between displaying and hiding.
* For details, refer to "Camera Viewer".

Waypoint guidance
Register and complete the taxiway.
* For details, refer to "Waypoint Guidance".

Register work history *vehicle role "Transport" only
You can register the work history at an arbitrary point.
* For details, refer to "Register Work History at Arbitrary Point".

Register alert point
You can register the alert point.
* For details, refer to "Register Alert Point".

Mini-map visibility
Switch mini map between displaying and hiding.
* For details, refer to "Mini Map".

Gate visibility
Switch the alert point of main map and mini map (gate system), and approach notification point (gate system) between displaying and hiding.

Turn ON/OFF the auto tracking function for your vehicle
If it is ON, the own vehicle is always displayed at the center of the map.

Switch the map between north-up and heading-up
Switch between North Up (display with north up) and Heading Up (display with traveling direction up).

Logout
You can log out.

Switch visibility
Switch submenu between displaying and hiding.

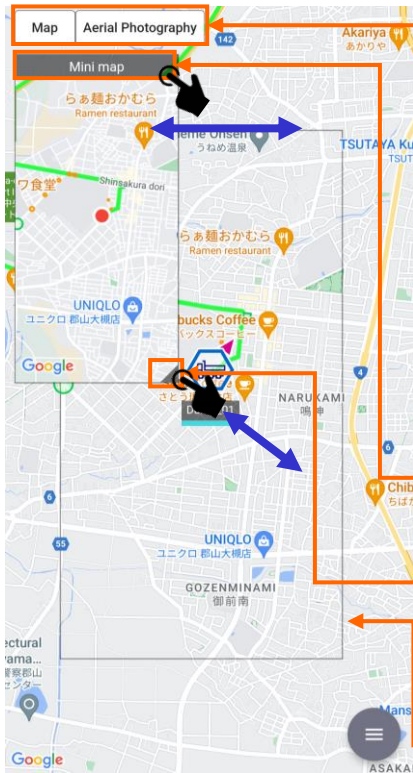The following setting information is retained when logging in/out of the application.
"Retain setting information"
- Mini map
- Gate display ON/OFF
- Camera viewer display ON/OFF

"Disable to retain setting information"
- Auto tracking ON/OFF
- North Up & Heading Up

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Mini Map

You can switch between the standard mini map and the aerial photography map together with the main map.

Tap and move the gray part of the mini map to change the placement of the mini map.

Tap the ◢ on the lower right side of the mini map and move it to adjust the size of the mini map.

! The mini map display range is within the black frame displayed on the main map.
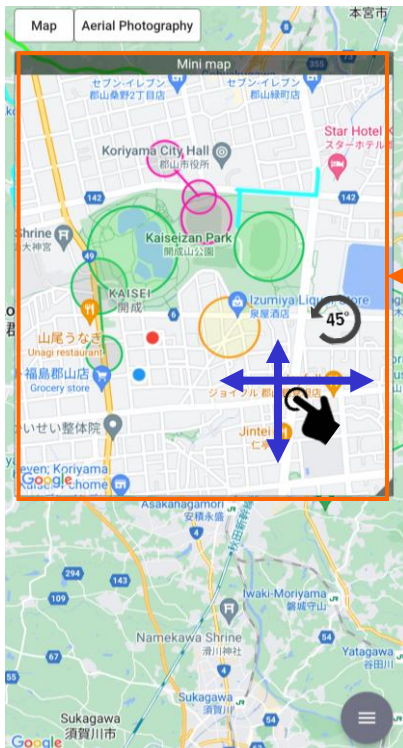
You can freely move the area to be displayed in the mini-map.

Operate the mini map with two fingers (pinch in/pinch-out) to enlarge or contract the size in the mini map.
You can also rotate the inside of the mini map by rotating it with two fingers.

The mini map displays the following:
- Own vehicle marker
- Other vehicle marker
- Traveling route
- Loading/unloading work point
- Loading/unloading approach notification point
  (independent, gate system)
- Alert point (independent, gate system)

Smart Construction

Manual Count for Loading and Unloading

Record the work history (loading/unloading history).
Work history registration is only possible when logged in with the vehicle role Transport.
After logging in on the mobile application, it enters the loading/unloading work determination area, and records the work history by pressing the PUSH button.

1. Enter the loading (unloading) area.
2. Since the PUSH button is displayed, tap it.
      (1) To prevent forgetting to press the button, an voice message will say, "Press button".
         ON/OFF can be set in "Notification of failure to press PUSH button" on the Settings screen.
      (2) If necessary, you can change the loading soil property from the pull-down.
3. "+1" is displayed and it is manually counted.
      (1) If you want to see the map with the button displayed, tap "x" to contract the PUSH button.
      (2) You can display the PUSH button again by pressing the button on the lower left.
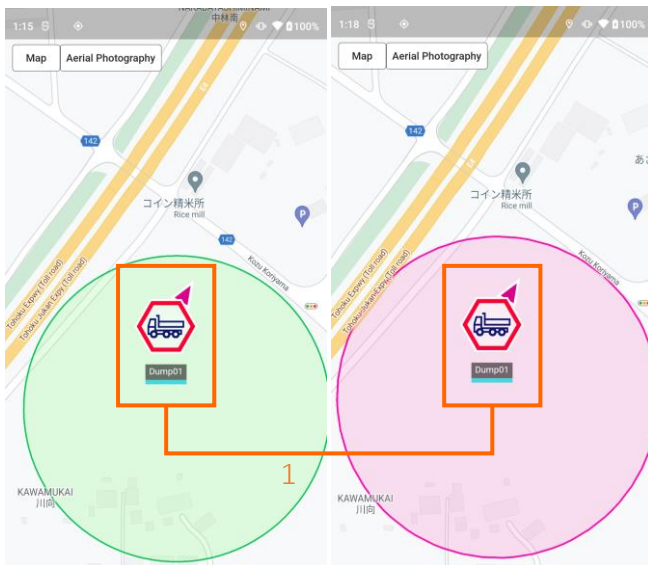
作業履歴は、
「作業履歴」画面で確認ができます。
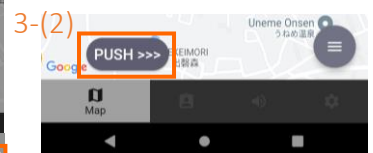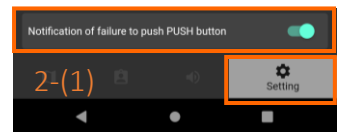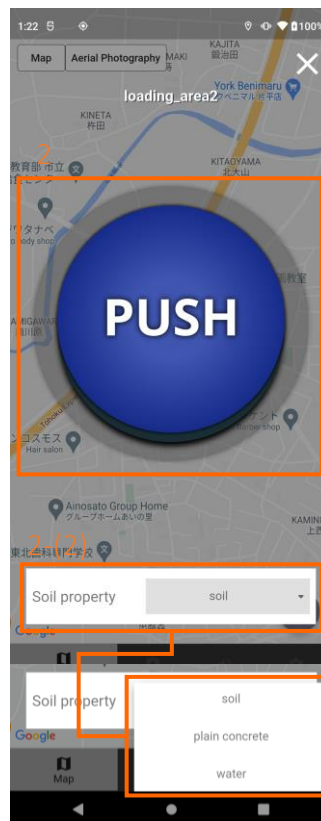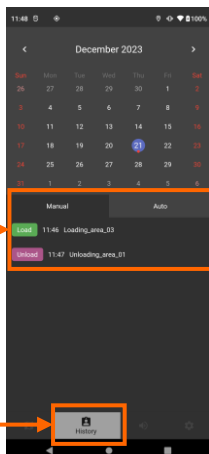
> **Supplemental information**

Work point can belong to the group.
The work point is displayed on the mobile application and the work history can only be registered if it belongs to all groups, or the same group as the login vehicle of the mobile application.

❗ For details on the vehicle role, refer to the separate sheet "SCFleet_New Ver_vehicle role.xlsx".
For details on the grouping, refer to the separate sheet "SCFleet_New Ver_ grouping.xlsx".

Setting of loading weight input

❗ The percentage/total weight/net load weight can be entered only for manual work history registration.
Load weight percentage/total weight/net load weight are saved only to the CSV file of the Web application (work history).
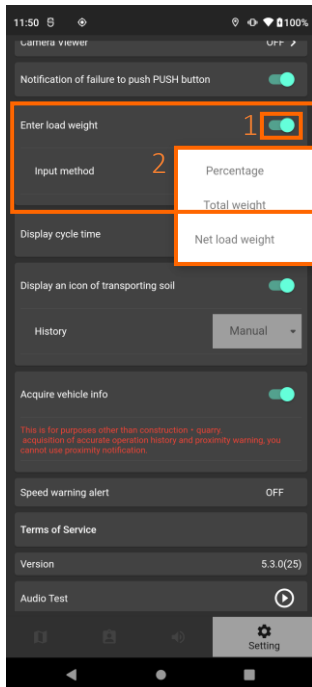

Input of loaded weight can be set on the setting screen.

1. Set this function ON/OFF.
2. You can set an input value of the load weight (ratio/total weight/net load weight).

    (1) Enter the percentage (%) of load weight.
        Enter the load weight in increments of 10
        (Option: 10, 20, 30 ... 100).
    (2) Enter the total weight with the keyboard.
        Enter the weight including the vehicle weight.
    (3) Enter the net load weight with the keyboard.
        Enter only the load weight, not including the vehicle weight.
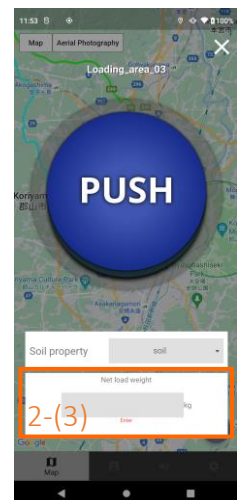
Input method:
Ratio
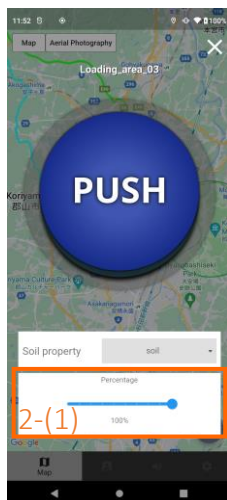
Input method:
Total weight
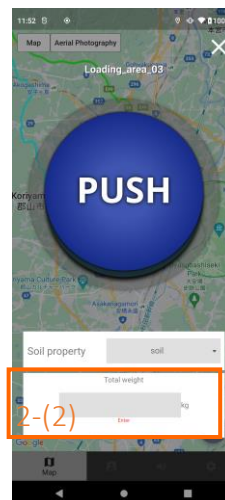
Input method:
Net load weight

Smart Construction

Register Work History at the Arbitrary Point

You can manually register the work history without entering the loading/unloading work determination area.
You can only use when logging in the vehicle role "Transport".

1. Tap "Register work history" from the submenu.
2. Tap the work point you want to register the work history from the work point list.
   You can switch the list of loading/unloading work point on the tab.
3. Since the PUSH button is displayed, tap it.
   If necessary, you can change the loading soil property from the pull-down.
   Tap "x" to close the PUSH button screen.
4. "+1" is displayed and it is manually counted.
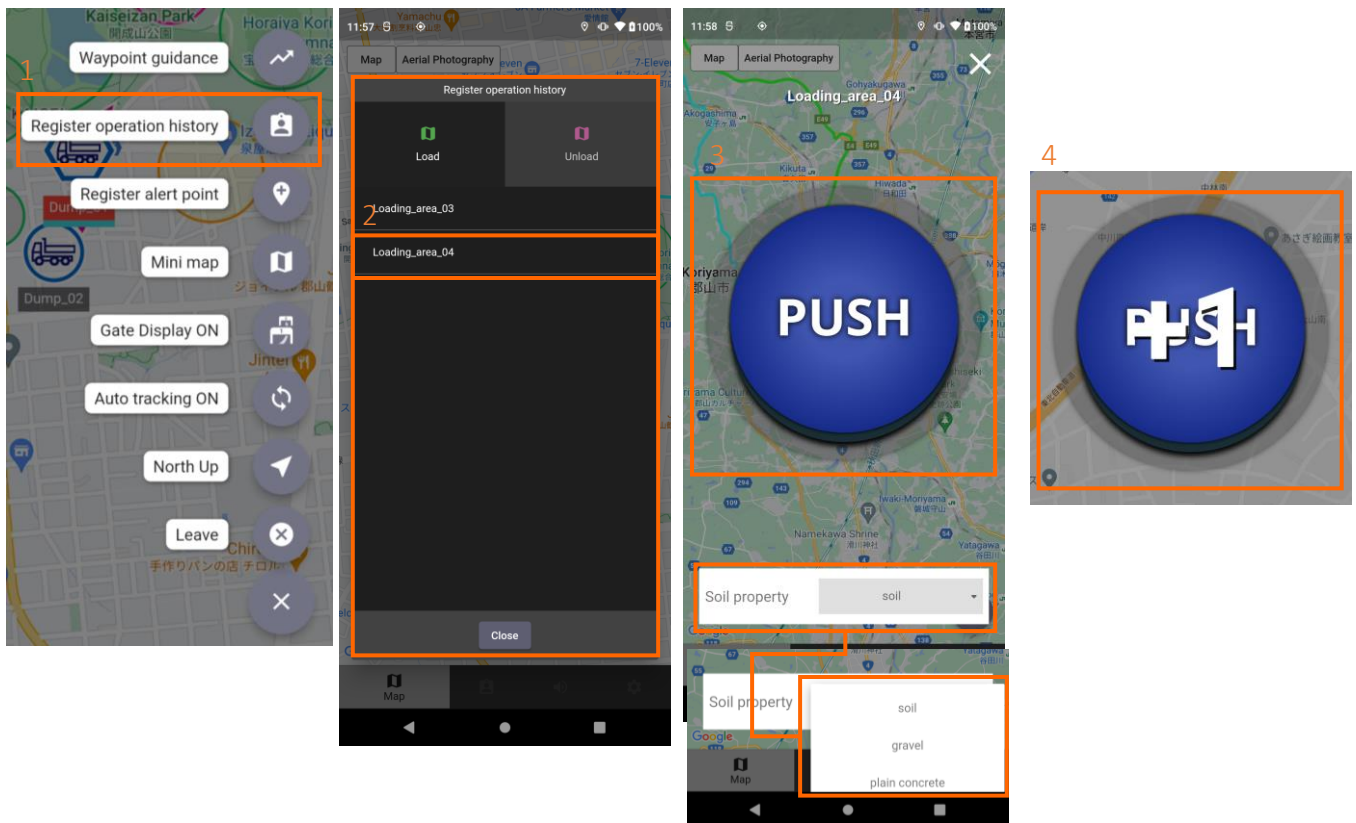

Supplemental information

Work point can belong to the group.
The work point is displayed on the mobile application and the work history is registered only if it belongs to all groups or to the same group as the log-in vehicle of the mobile application.

❗ For details on the vehicle role, refer to the separate sheet "SCFleet_New Ver_vehicle role.xlsx".
For details on the grouping, refer to the separate sheet "SCFleet_New Ver_ grouping.xlsx".

Changing Soil Property

If the vehicle role belongs to the point with the vehicle at "Loading area",
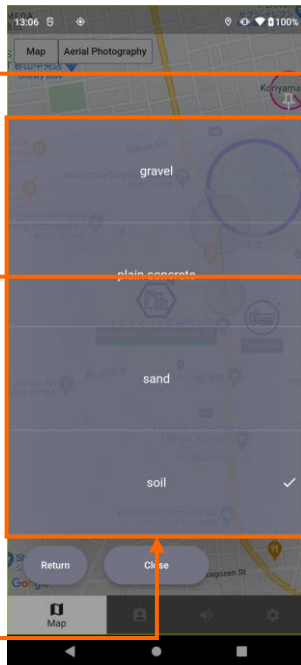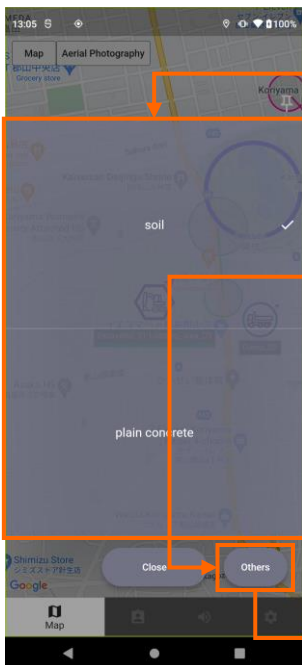you can change the soil property.
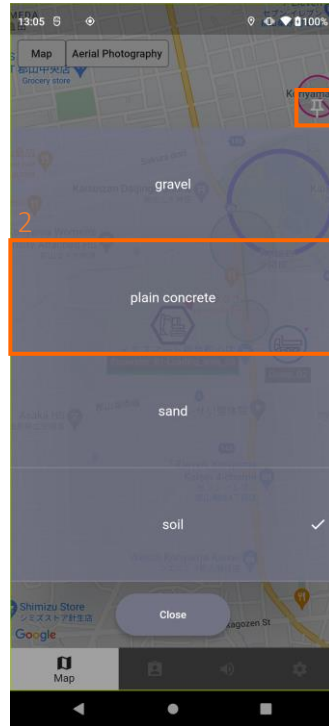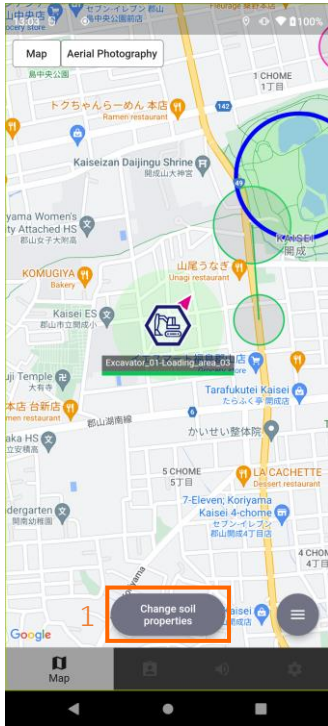
If you tap the 📌 Pin button, the list remains open after changing the soil property.
Tap again to release it.

1. Tap "Change soil property".

2. Select the soil property.

If a subsoil property is set at the work point

If the subsoil property is set at the work point, only the main soil property and the subsoil property are displayed in the soil property list.

If you want to display all the soil property set on the jobsite, tap "Others" to display all the soil property in the soil list.

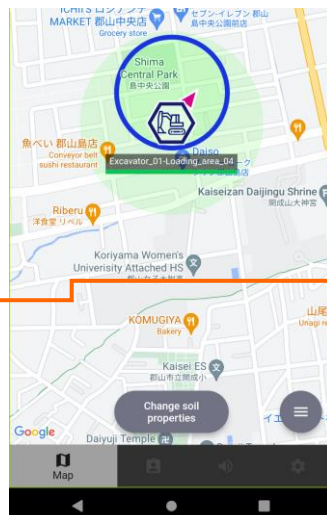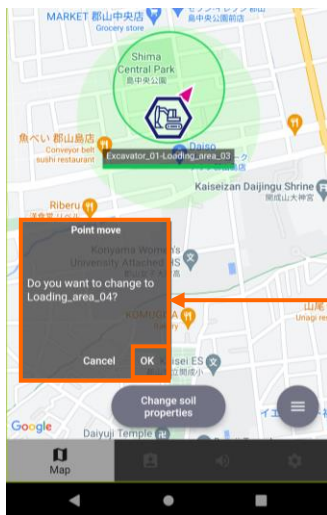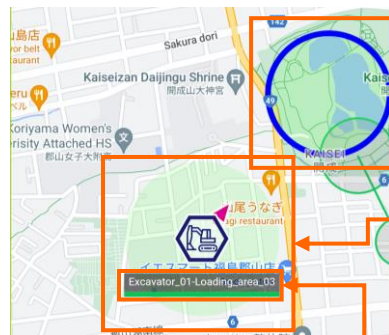❗ You can set the subsoil property from the Web application.
If the soil property that may be loaded at the work point is set to subsoil property, it will be preferentially displayed in the list when selecting the soil property.

Smart Construction

Assign the Construction Machine to the Workplace

A vehicle whose vehicle role is "Loading area" or "Unloading area" can belong to the workplace.

❗ You can belong to the loading workplace if your vehicle is the vehicle role "Loading area", or to the unloading work point if your vehicle is the vehicle role "Unloading area".

1. Tap the point to which you want to assign the machine.

2. Check the point to which you want to assign the machine.
   If you want to change the search radius, you can change it by using the slider.

3. Tap "OK".

When you assign a vehicle to a point, the point assigned is enclosed in a blue frame.

For the vehicle belonging to the point, the work point is displayed with the search radius set centered on the own vehicle.
Within this range, you can register the work history.

The name of the point you belong to is displayed behind the name of your vehicle.

If you move to another point, the Move point dialog will be displayed. Tapping "OK" changes the target of assignment to the destination point.

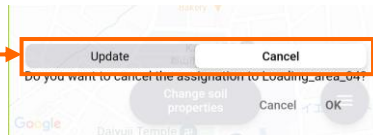**Smart** Construction

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Changing/canceling the settings

1. Tap the point where the machine is currently assigned.

2. Select Update or Cancel.

3. Tap "OK".

[Update]
The search radius is adjustable.

[Cancel]
The assignment to the point can be canceled.

❗ In the mobile app, the affiliated workplace information from the previous login will be retained for the next login.

Register Alert Point

You can create alert points from the mobile application.
The alert points registered from the mobile application will be also registered to the Web application.

1. Tap "Register alert point" from the submenu.
2. Move the map to determine the center coordinates of the alert point.
3. Select the fixed form sentence form the pull-down menu.
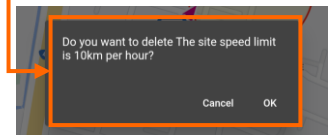4. Change the radius of the alert point if necessary, and tap "OK".
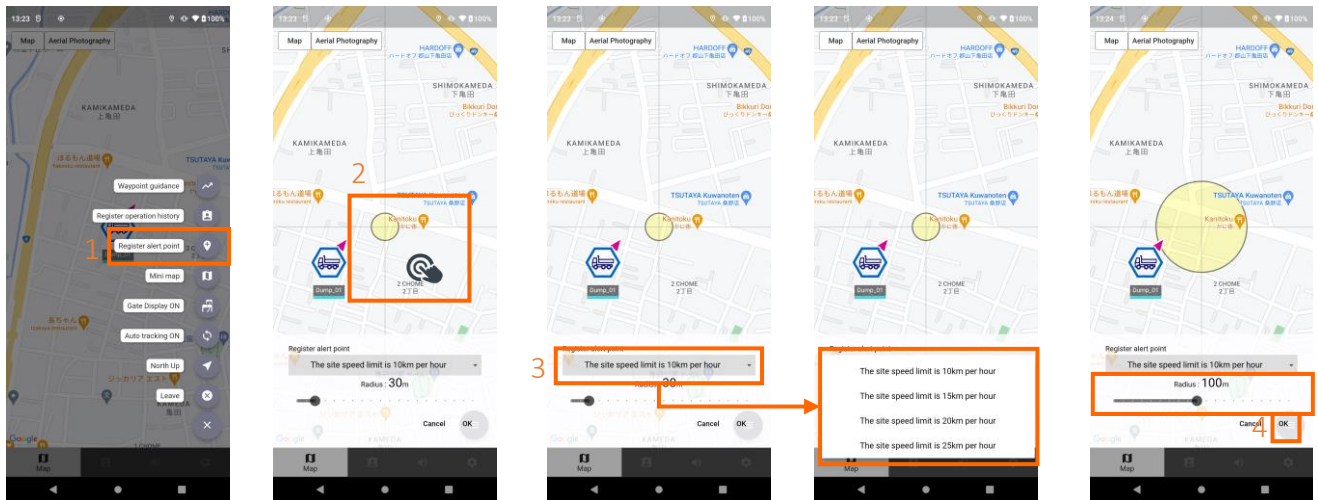
Alert points created by yourself are displayed in a red frame.

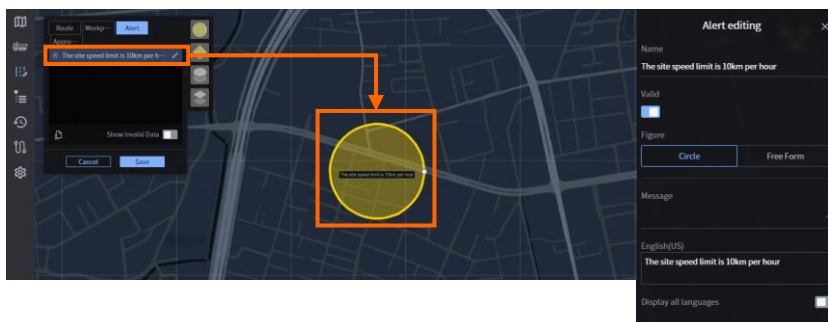
● Alert point created by your vehicle

● Alert points created from other vehicles, and Web application
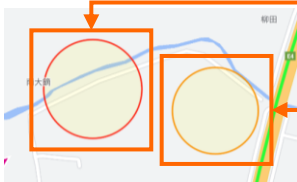
! Alert points created by yourself can be deleted by tapping it.

Do you want to delete The site speed limit is 10km per hour?

Cancel   OK

Web application

You can check the alert points registered on the mobile application from the alert point tab on the "Map settings" screen.
You can also change messages and delete alert points.

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Alert Display

When entering an alert point, the function is that a message registered at the point is displayed and played back with voice.

⚠️ Alert points can belong to groups.
Only if the vehicle belongs to all groups, or the same group as the login vehicle of the mobile application, an alert point is displayed on the mobile application.

⚠️ For details on the grouping, refer to the separate sheet "SCFleet_New Ver_ grouping.xlsx".
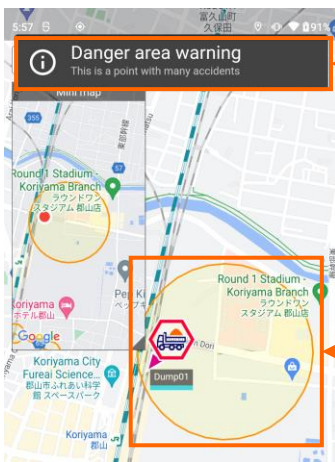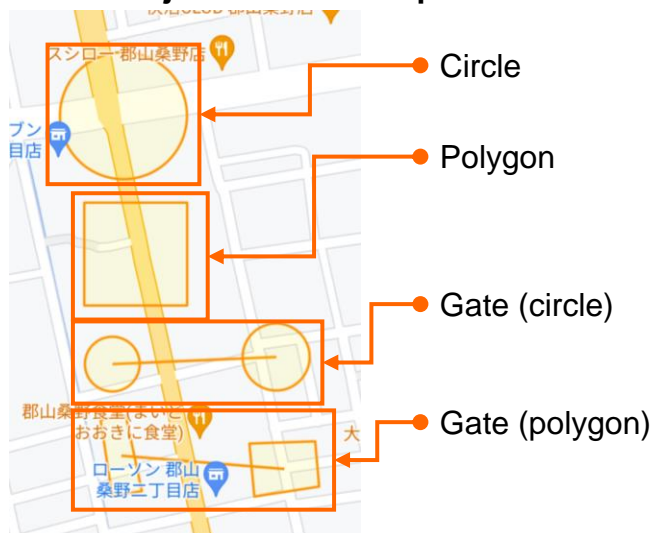
When entering an alert point, the message registered to the alert point will be displayed and played back with voice.

If the alert point and the group to which your vehicle belongs are different, the alert point will not be displayed, and attention will not be given to the entry.
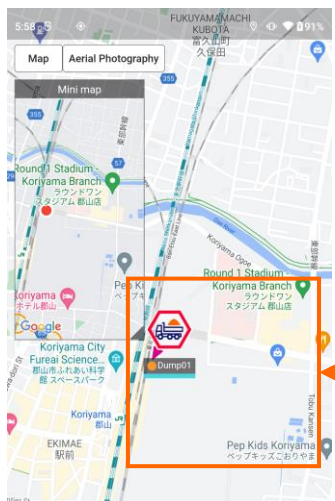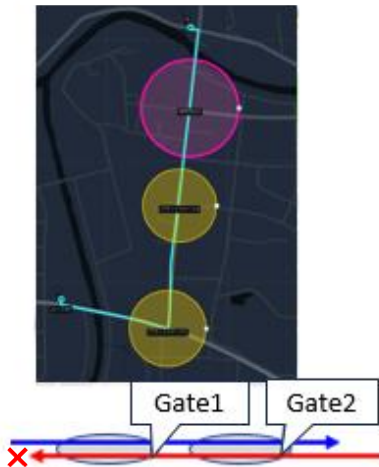
List of objects at the alert points

- Circle
- Polygon
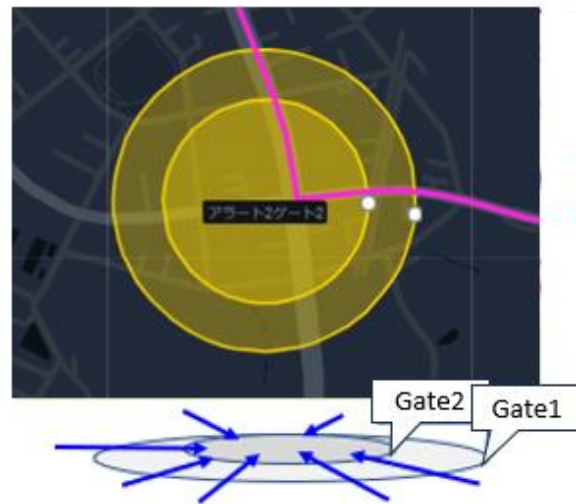- Gate (circle)
- Gate (polygon)

For the gate system, an alert is issued when you approach in the order of gate 1 → gate 2.
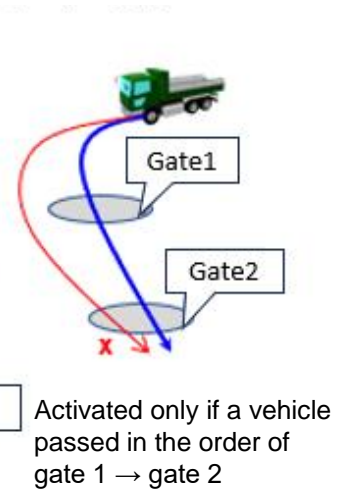You can check gate 1 and gate 2 from the Web application.
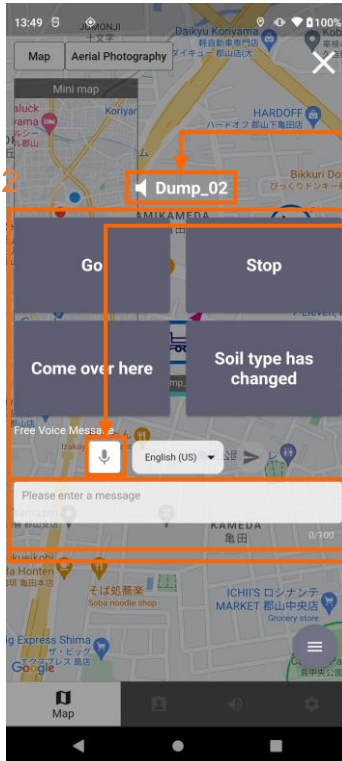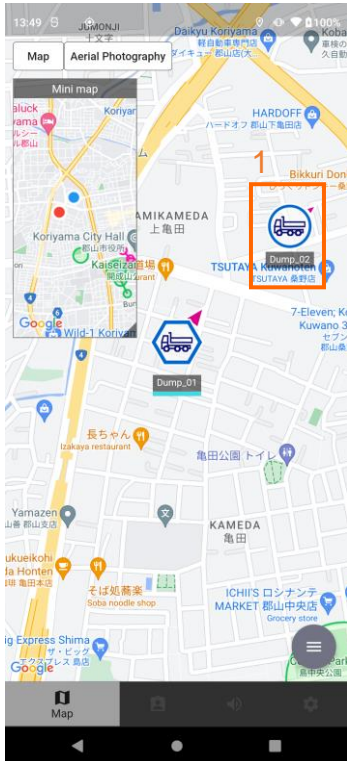
Unidirectional gate

Multi-directional gate

Gate activation rule

Gate1

Gate2

Activated only if a vehicle passed in the order of gate 1 → gate 2

Gate1   Gate2

Gate2   Gate1

Sending Messages (between Mobile Applications)

Messages can be sent to the workers who has logged in with the mobile application.

Terminal A (Sender: Dump truck 01)
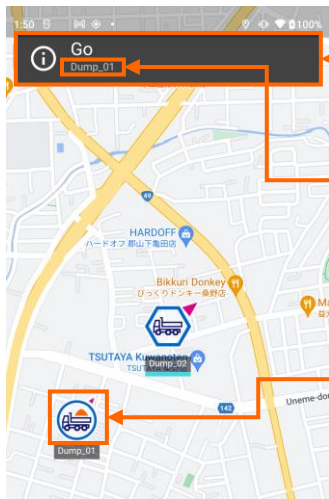

The vehicle name on the receiving side is displayed.

For voice input, tap the icon.

Up to 100 characters can be entered for your message.

1. Tap the icon to which you want to send a message.
2. When the message sending screen is displayed, tap the message you want to send, or enter the message by type or voice, and tap the ▷ .

If two or more vehicle icons overlap, zoom in the map before you tap the icon.

Terminal B (Receiver: Dump truck 02)

On the receiving side, the message will be displayed and read out by voice.

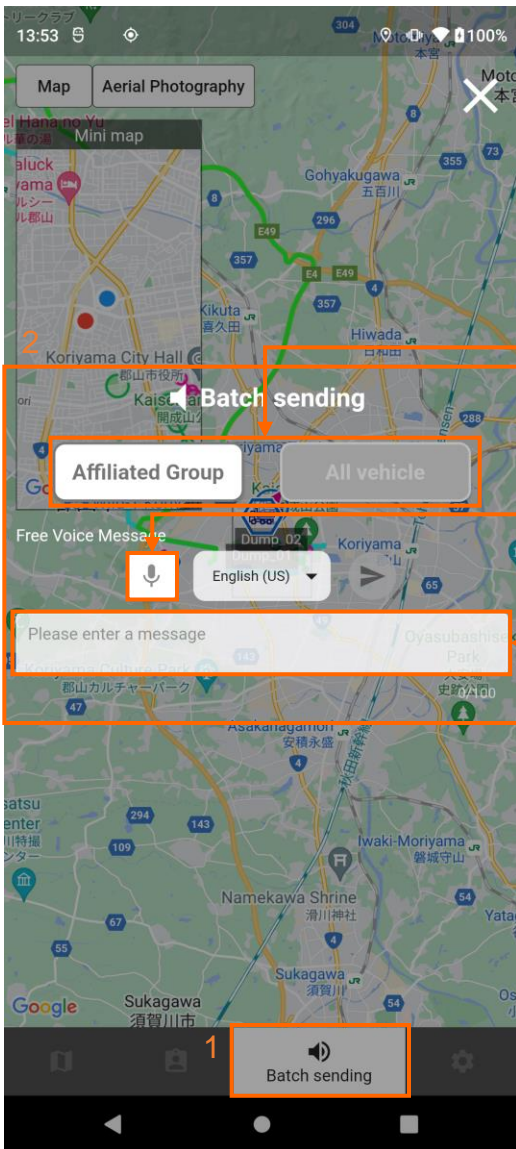The vehicle name on the sending side will be displayed.

The outer frame of the vehicle icon on the sending side flashes for 10 seconds.

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Sending Batch Messages

Messages can be collectively sent to all vehicles logged in the same jobsite.

- "Belonging group" button
  Only vehicles belonging to the same group as your vehicle will be sent.
- "All vehicles" button
 Send to all logged in vehicles.

For voice input, tap the icon.

Up to 100 characters can be entered for your message.

1. Tap the "Batch sending" tab.
2. When the message sending screen will be displayed, enter the message and the voice, and tap the ⊳ .
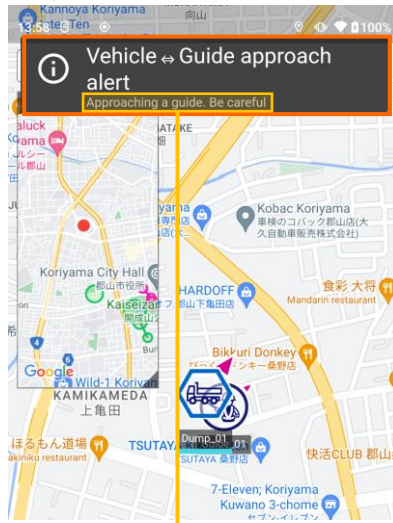
Approach Alert

An alert message with the specified content is displayed in the following situations:

A. When a vehicle and another vehicle approach each other
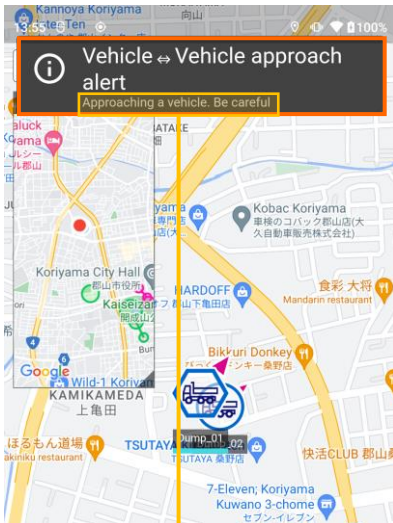
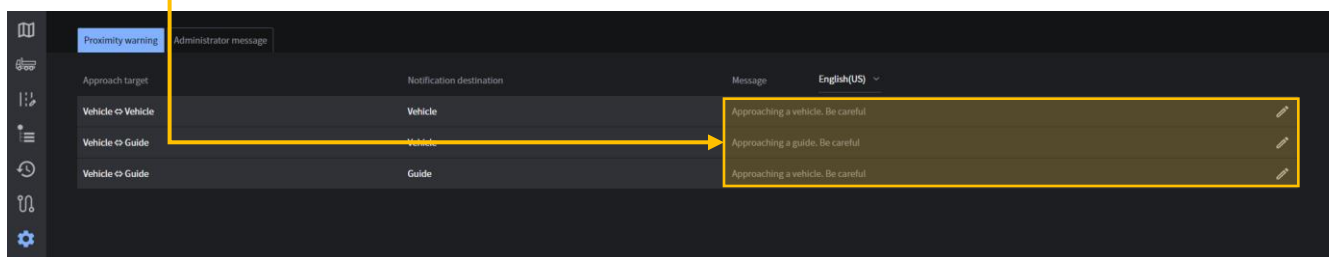B. When the vehicle and the guide approach each other (Vehicle side)

C. When the vehicle and the guide approach each other (Guide side)
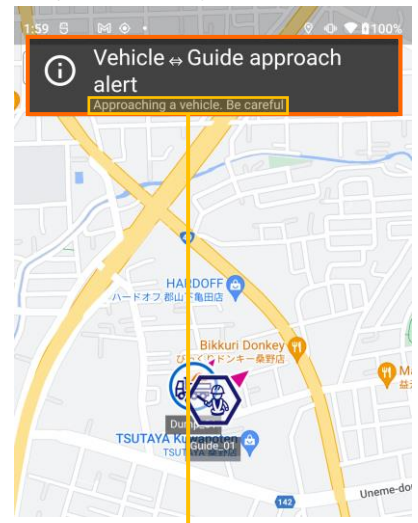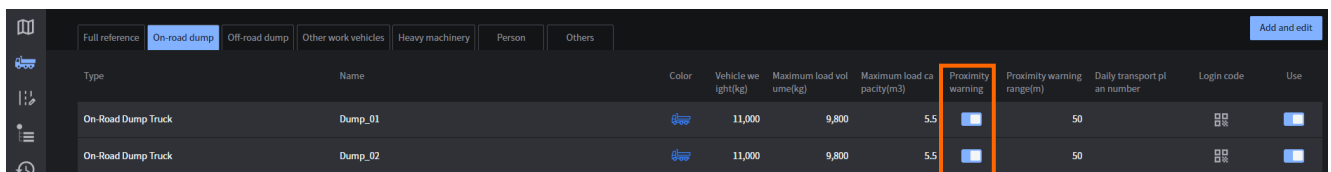

Web application — You can specify the content of the warning displayed on the mobile application from "Message" on the "Project settings" screen.

You can set ON/OFF of the approach warning for each vehicle from the "Vehicle Setting Screen".
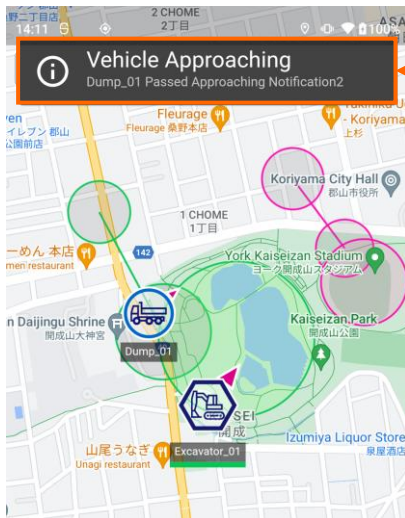
Approach Notifications

This function notifies the mobile application of your own vehicle when another vehicle has entered the approach notification point.

! - This function is available when the vehicle role of your own vehicle is "Loading area" or "Unloading area".
- You will be notified only if your vehicle, approach notification point, and another vehicle belong to the same group.

! For details on the grouping, refer to the separate sheet "SCFleet_New Ver_ grouping.xlsx".

Condition under which the approach notification is issued

When the vehicle role of your vehicle is "Loading area"
→ The other vehicle with the vehicle role "Transport" enters the loading approach notification point.

When the vehicle role of your vehicle is "Unloading area"
→ The other vehicle with the vehicle role "Transport" enters the unloading approach notification point.

List of objects for approach notification (loading: green, unloading: pink)
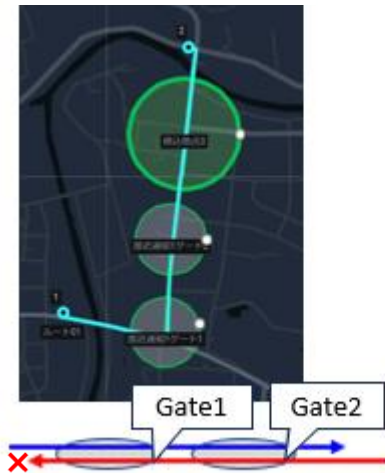

- Circle
- Polygon
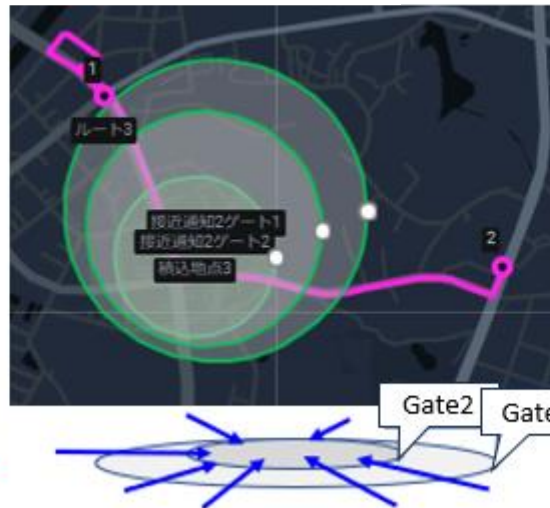- Gate (circle)
- Gate (polygon)

For the gate system, an alert is issued when you approach in the order of gate 1 → gate 2.
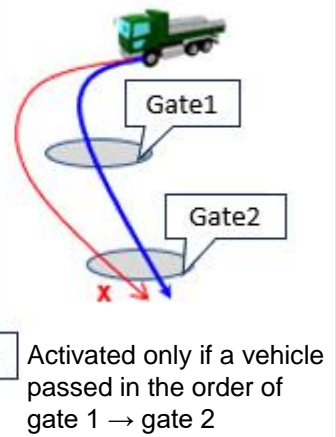You can check gate 1 and gate 2 from the Web application.

Unidirectional gate

Multi-directional gate

Gate activation rule

Gate1   Gate2

Gate2   Gate1

Gate1

Gate2

Activated only if a vehicle passed in the order of gate 1 → gate 2

Dashcam

The dashcam function allows images to be send from the mobile application and viewed on the Web application.

Tap "Dashcam" from the "Settings" screen, and turn it ON.

❗ It is turned OFF by default.

"●REC" is displayed on the screen when the dashcam is ON.

If "Record only within point" is set to ON, images are recorded only in the loading or unloading point.

You can select from 15 seconds, 30 seconds, and 60 seconds as the capturing interval.

You can select image quality from "Standard" or "High quality".

You can preview and check the status of the camera.

❗ Shortening the recording interval increases both data traffic and battery consumption.
Setting the image quality to "High quality" will increase the amount of data communication.
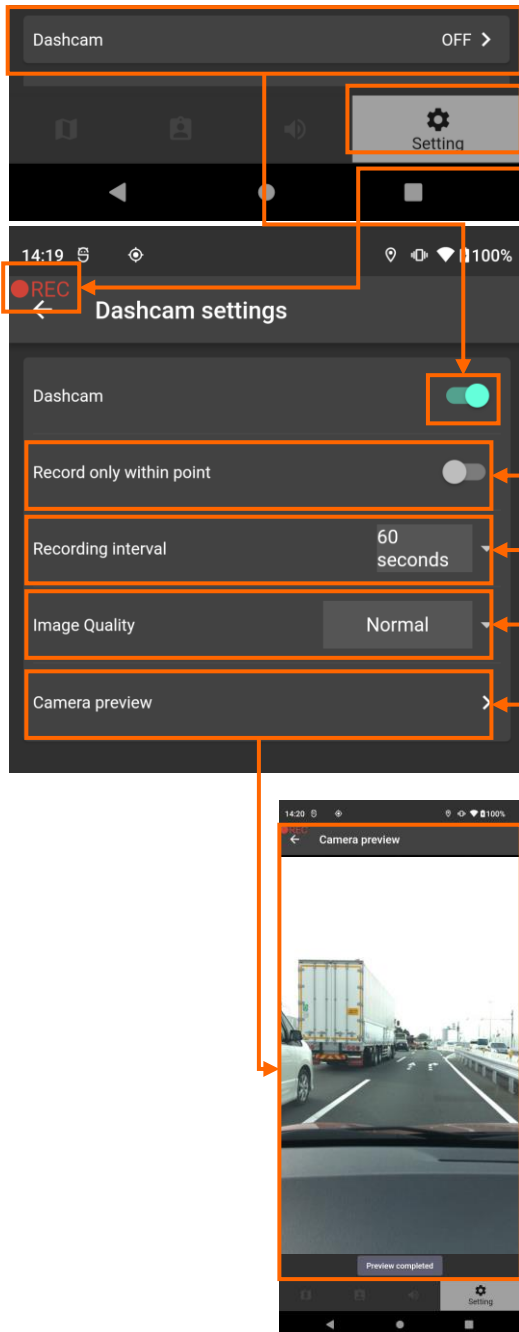
Web application
You can check the image captured by the mobile application from "Real-time Viewer" or "Traveling history screen".

Real-time Viewer
Clicking the 📷 on the vehicle list displays the image captured by the mobile application logged in that vehicle on the image captured by each vehicle.
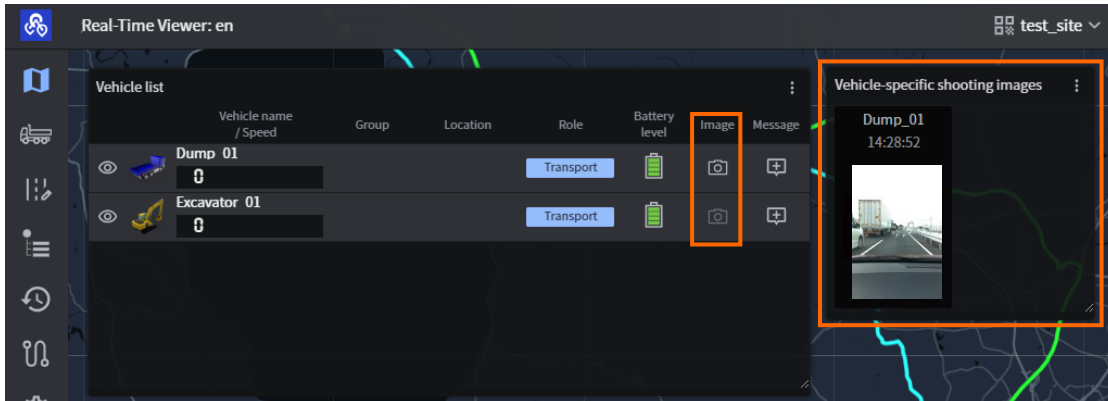
Traveling history screen
Turn on the capturing image display, and you can check the image recorded at that time by hovering the cursor over the map or graph.

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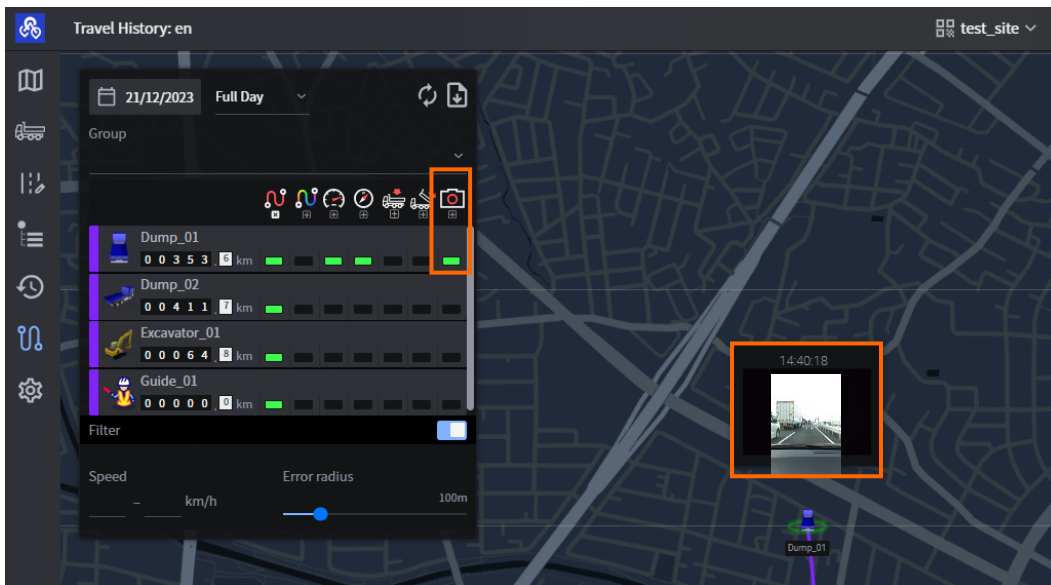
Confirming Work History

Select the date from the calendar, and you can check the work history registered by your own vehicle.
It is displayed only when the vehicle role is "Transport".
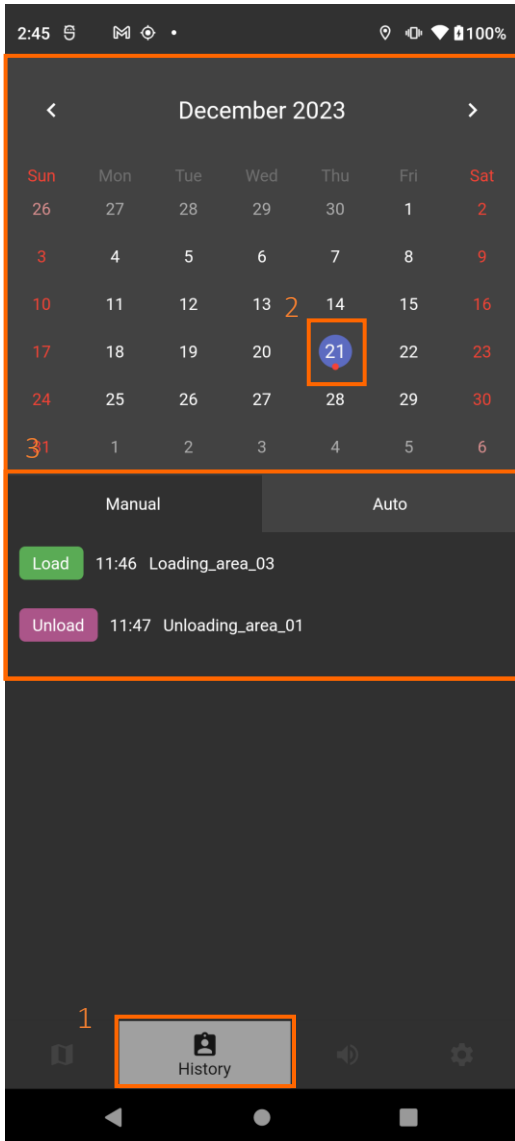
1. Tap the History icon.

2. Tap the date marked with ●.

3. The work history according to the manual/auto count at a point is displayed.
   (You can switch from the tabs above.)

Display Cycle Time

Display cycle time is a function that notifies the elapsed time from the loading point → unloading point → loading point.
It can only be used when the vehicle role is "Transport".

 - The latest cycle time of the vehicle itself is displayed and
   read aloud when registering the work history.
 - The latest cycle time of the vehicle itself of the day is displayed and read aloud,
   but the first loading of the day will not be displayed or read aloud.

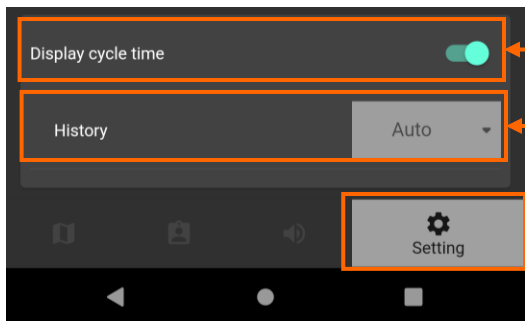Cycle time is only notified if the loading points match.
Example:
Loading point A → Unloading point B → Loading point A

The cycle time is not notified in the following cases.
Example:
Loading point A → Unloading point B → Loading point B

Turn ON "Display cycle time" from the setting screen.

! It is turned OFF by default.

You can set the target (manual/automatic) for calculating the work history.

Auto

Manual
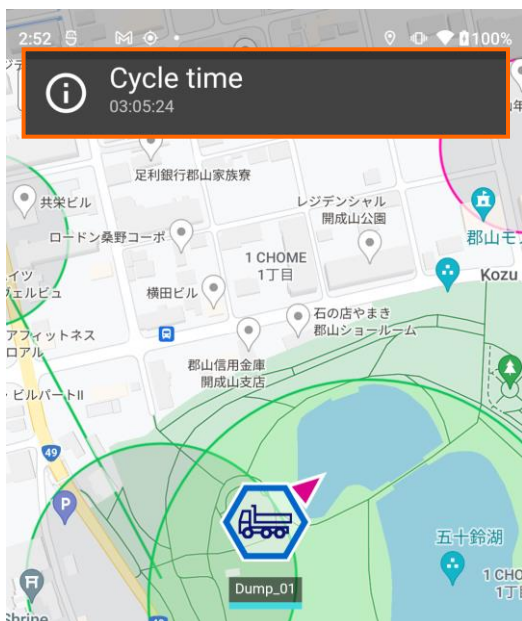
Display Transporting Soil Icon

The soil movement icon can be displayed in conjunction with the work history registration.
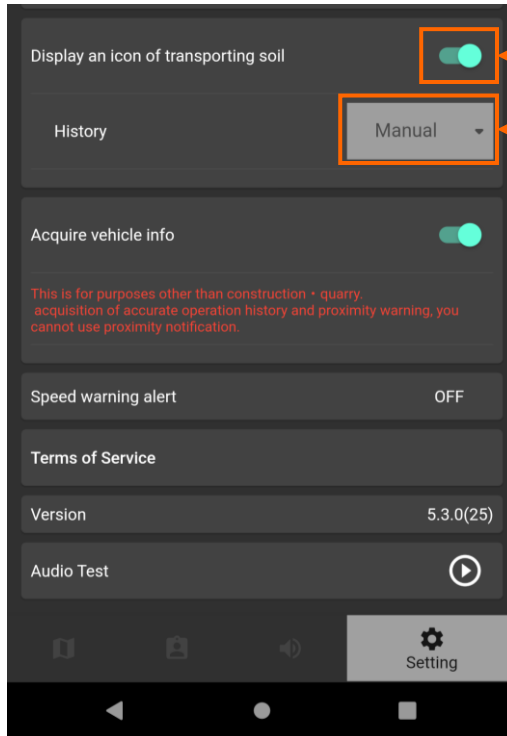
Set ON/OFF for Display transporting soil icon.

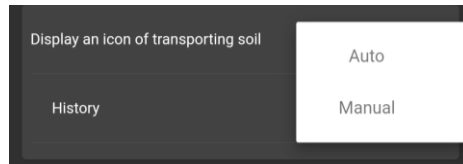You can set the target (manual/automatic) for calculating the work history.

Vehicle icon (transporting soil)
Displayed when the vehicle is transporting soil.

Vehicle icon (empty)
Displayed when the vehicle is empty.
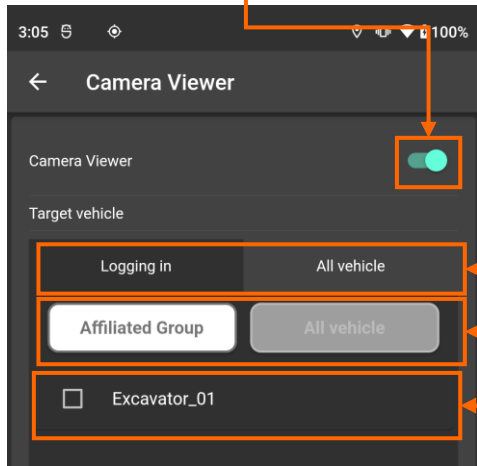

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Camera Viewer

You can check the latest image captured by the dashcam function of another vehicle from your own vehicle.

Tap "Camera Viewer" from the "Settings" screen, and turn it ON.

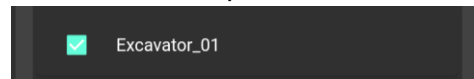❗ It is turned off by default.

"Login" tab
Displays only the vehicle that is logging in.
"All vehicles" tab
Displays all the vehicles registered at the jobsite.

Only the "Login" tab has a button to narrow down the vehicle in the same group as the own vehicle.

Tap the vehicle you want to check, and put a check mark. You can select up to 10 vehicles.

❗ For the mobile application of the vehicle you want to check, you must turn ON the "Dashcam" function.
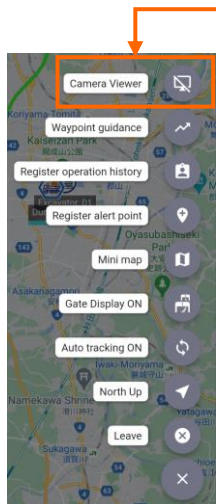
Open the submenu, and tap "Camera Viewer".

❗ It is displayed only when the camera viewer is ON.
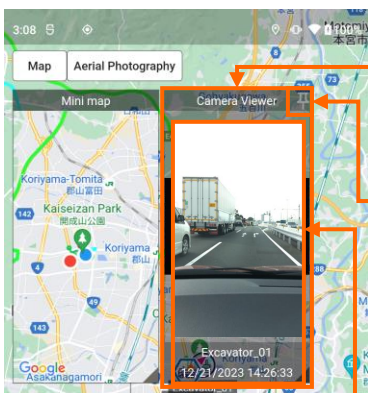
The camera viewer is displayed.
As with the mini map, you can adjust the placement and size.

Tap ✚ Pin to display only the image of the vehicle that is displayed at that time.
Tap again to release it.

The image of the checked vehicle, the vehicle name, and the date and time which was captured will be displayed.
If multiple check boxes are made, the vehicle and image will be switched every 5 seconds.

Smart Construction

Waypoint Guidance

You can display, create, and complete (delete) a waypoint taxiway from the mobile application.

Creation of taxiway
1. Tap "Guide waypoint" from the submenu.
2. On the waypoint guidance screen, tap the "Add own vehicle position" button.
3. Tap on the map to create a taxiway.
   When you tap the beginning and end point of the waypoint taxiway, a straight line will connect the marker to the marker.
   If necessary, you can smoothly draw the waypoint taxiway by tapping at an intersection, etc.
   You can delete the marker by tapping, and move it by long tapping.
4. When you have completed entering the route, tap "Register".
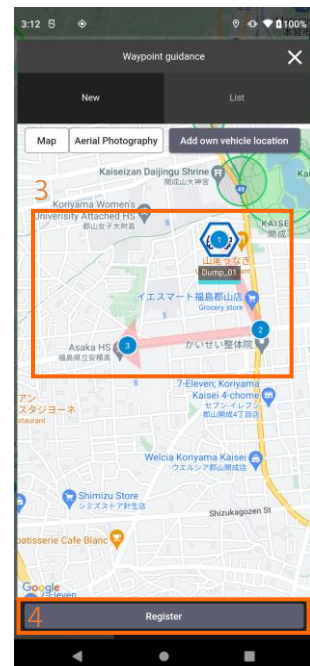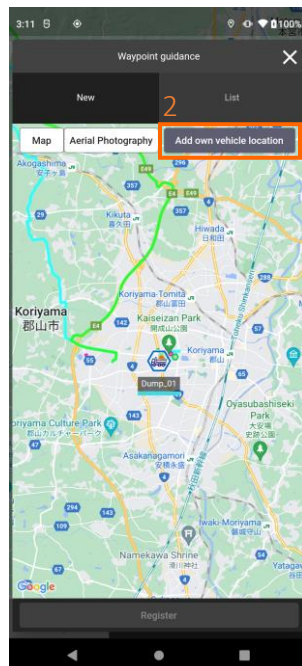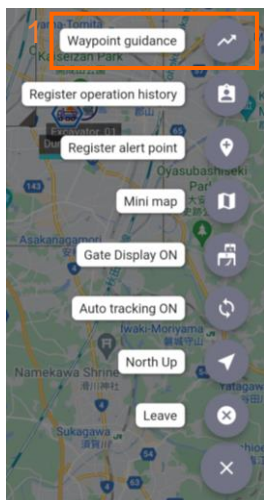
Complete (Delete)
1. Tap "Guide waypoint" from the submenu.
2. On the waypoint guidance screen, tap the "List" tab.
3. Select the date and time of the waypoint you want to complete, and tap "Complete".
4. The waypoint taxiway is deleted from the map.
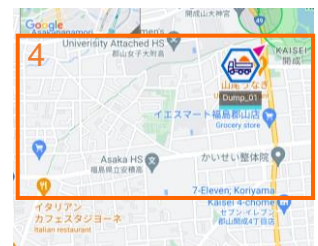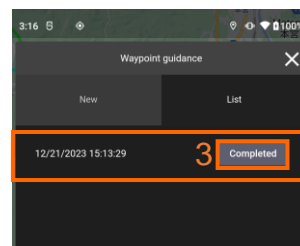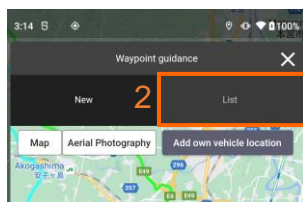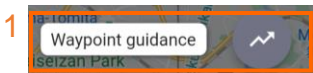
The taxiway of the own vehicle is displayed in red,
and the taxiway of the other vehicle is displayed in blue.
In addition, taxiways are displayed for vehicles belonging to the same group or all groups.
In addition, taxiways are only displayed for vehicles belonging to the same group or all groups.
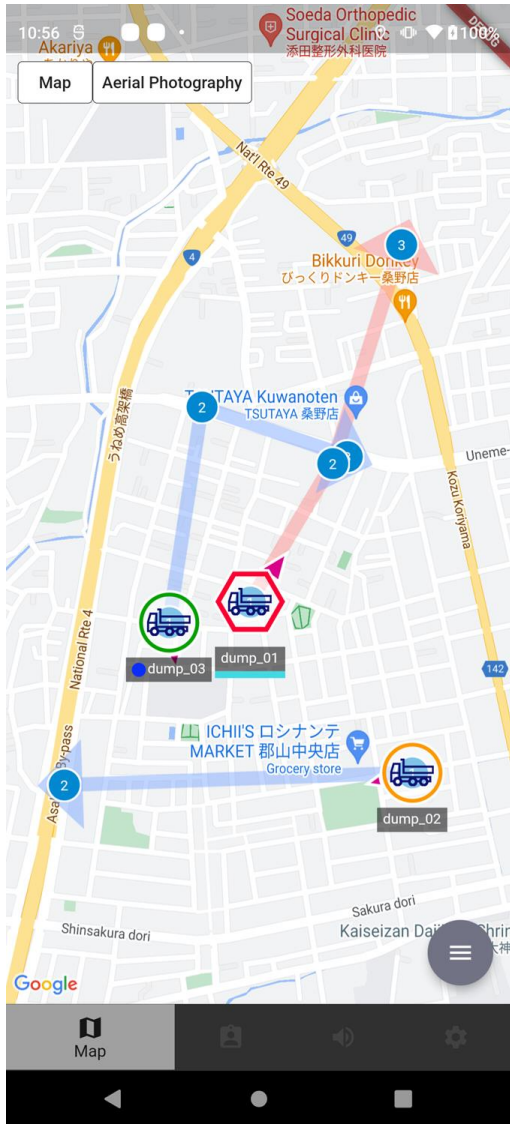
Route Deviation Warning

This function detects a route when the vehicle enters the vicinity of a route belonging to the same group, and issues a notification and an warning with voice when it deviates from the route.

! You can only use the function on the mobile application that has been logged in on the vehicle role "Transport".

If your vehicle enters within 10 m of the route, it is subject to detection of the route deviation.
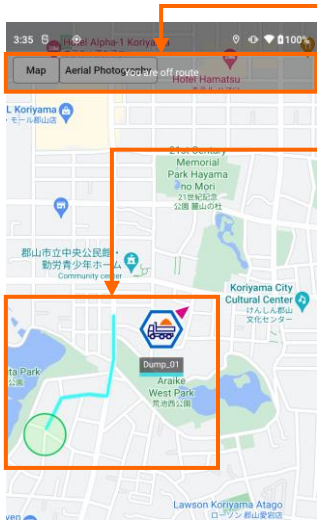
When entering the warning range that can be set on the Web application, the route to be warned flashes for 10 seconds to notify the notification sound and the fixed display.

! You can turn this function ON/OFF and set the warning range on the Web application.
In the case of the settings below, a route deviation warning is issued while your vehicle is 100 to 300 m away from the route.
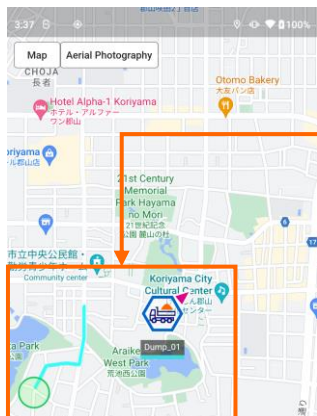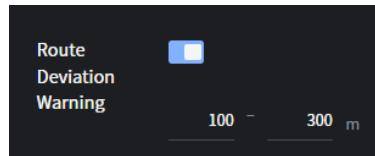
When your vehicle leaves the warning range that can be set on the Web application, or enters the work point, the detection of the route deviation warning will be disabled.

Position Skipping Notification

If the distance between the previously acquired position information and the currently acquired position information exceeds the threshold, the system notifies that a position skipping has occurred. Only those when logging in on the "Transport" role are subject to the notification.

During the position skipping, the fixed display of the vehicle icon and the label of your vehicle name are displayed in red.

! On the Web application, you can turn this function ON/OFF and set the threshold.

Threshold (per second):
Strong   : 60 m
Medium : 90 m
Weak   : 120 m
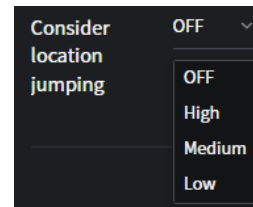
Supplemental information

- If the previous position and the current position have exceeded the threshold value (1 second threshold value × setting seconds) at the timing of acquiring the position information (every few seconds of the position information sending frequency set on the Web application), it is considered that the position skipping has occurred. (Threshold can be set for each site from the Web application.)

- During the position skipping, position information is acquired at 1 second intervals, and the nearest position is acquired two times in a row.
  When (within the threshold value of the setting value on the Web application) has been acquired, it is treated as the correct position information.
  The vehicle icon moves to the correct position, and the label of your vehicle name displayed in red is restored.

Settings
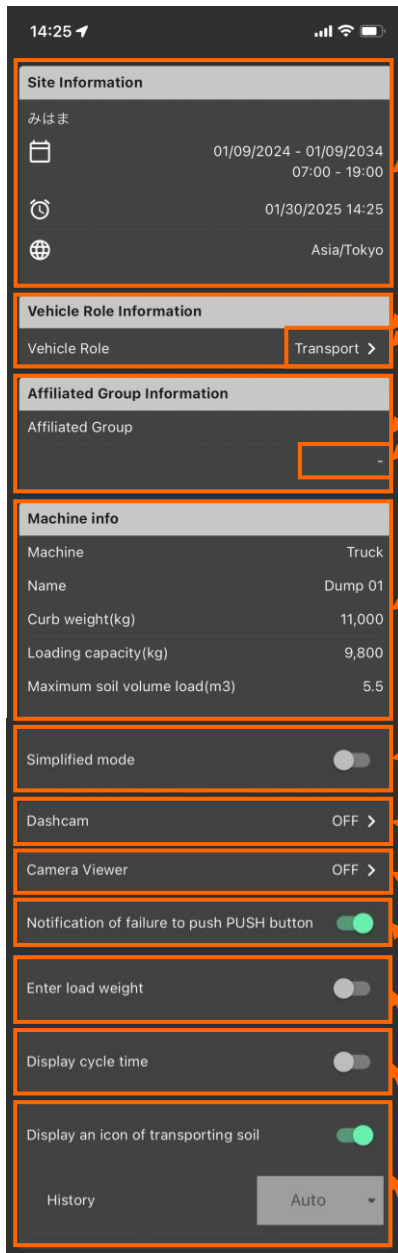
Confirmation of site information
The site name, construction period, current time, and timezone are displayed.

Confirmation of vehicle role information

Tap to change the vehicle role.

Confirmation of belonging group information

Tap to change the belonging group.

Confirmation of vehicle information
Vehicle type, vehicle name, vehicle weight, maximum loading capacity, and maximum soil loading capacity are displayed.

* In the case of the vehicle role "Loading area" and "Unloading area", the vehicle type, the vehicle name, and the vehicle weight, for the vehicle role "Others", only the vehicle type and the vehicle name are displayed.

Switching simplified mode ON/OFF
When turned ON, some functions will be limited.
* For details, refer to "Mode Switching".

Switching Dashcam ON/OFF
* For details, refer to "Dashcam".

Switching Camera viewer ON/OFF
* For details, refer to "Camera Viewer".

Setting of notification that you have forgotten to press the PUSH button * vehicle role "Transport" only
This is a notification setting to prevent from forgetting to press the button during manual counting.

Switching loading weight input ON/OFF * vehicle role "Transport" only
* For details, refer to "Setting of loading weight input" in "Manual Count for Loading and Unloading".

Switching cycle time display ON/OFF * vehicle role "Transport" only
* For details, refer to "Display Cycle Time".

Switching transporting soil icon display ON/OFF
* For details, refer to "Display Transporting Soil Icon".

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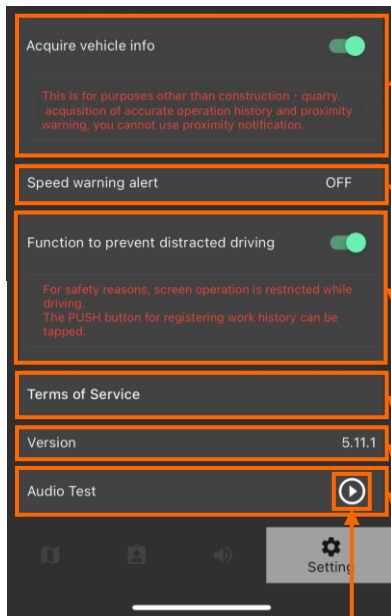
Switching ON/OFF for the
other vehicle information acquisition

⚠ If it is set to OFF, other vehicle information cannot
be acquired, and approach warning and approach
notification are not available.

Confirmation of over speed alert
ON/OFF and set speeds set on the
Web application are displayed.
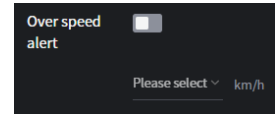
Toggle for the "Prevent Distracted Driving" feature
The feature is enabled by default.
To ensure safety, if a speed of 10 km/h or higher is
detected, screen taps will be disabled.

Confirmation of terms of service
Tap to display the terms of service.

Confirmation of version

Voice Test

Tap to play back the test voice.

	Display of Information	Screen Transitions	Operations After Screen Transition	Button Toggle
Site Information	○	–	–	–
Vehicle Role Information	○	○	×	–
Affiliated Group Information	○	×	×	–
Machine info	○	–	–	–
Simplified mode	–	–	–	○
Dashcam	–	○	○	–
Camera Viewer	–	×	×	–
Notification of failure to push "PUSH" button	–	–	–	○
Enter load weight	–	–	–	○
Display cycle time	–	–	–	○
Display an icon of transporting soil	–	–	–	○
Acquire vehicle info	–	–	–	○
Speed warning alert	○	–	–	–
Function to prevent distracted driving	–	–	–	○
Terms of Service	–	○	○	–
Version	○	–	–	–
Audio Test	○	–	–	–

Smart Construction

Smart Construction Fleet Device Mode
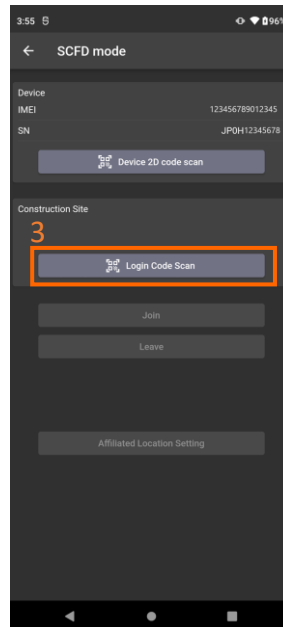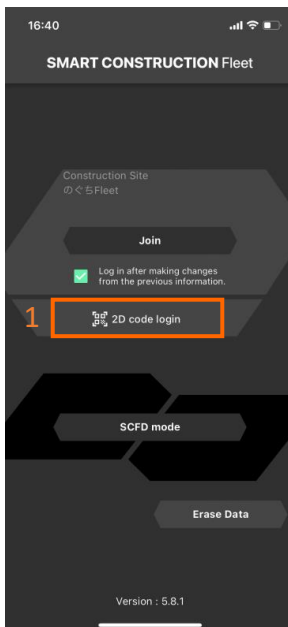
Login

1. Tap on "SCFD mode"
2. Read 2D code on the back of device
3. Tap on "Login code scan"
4. Read 2D code using for login

Continue to next page
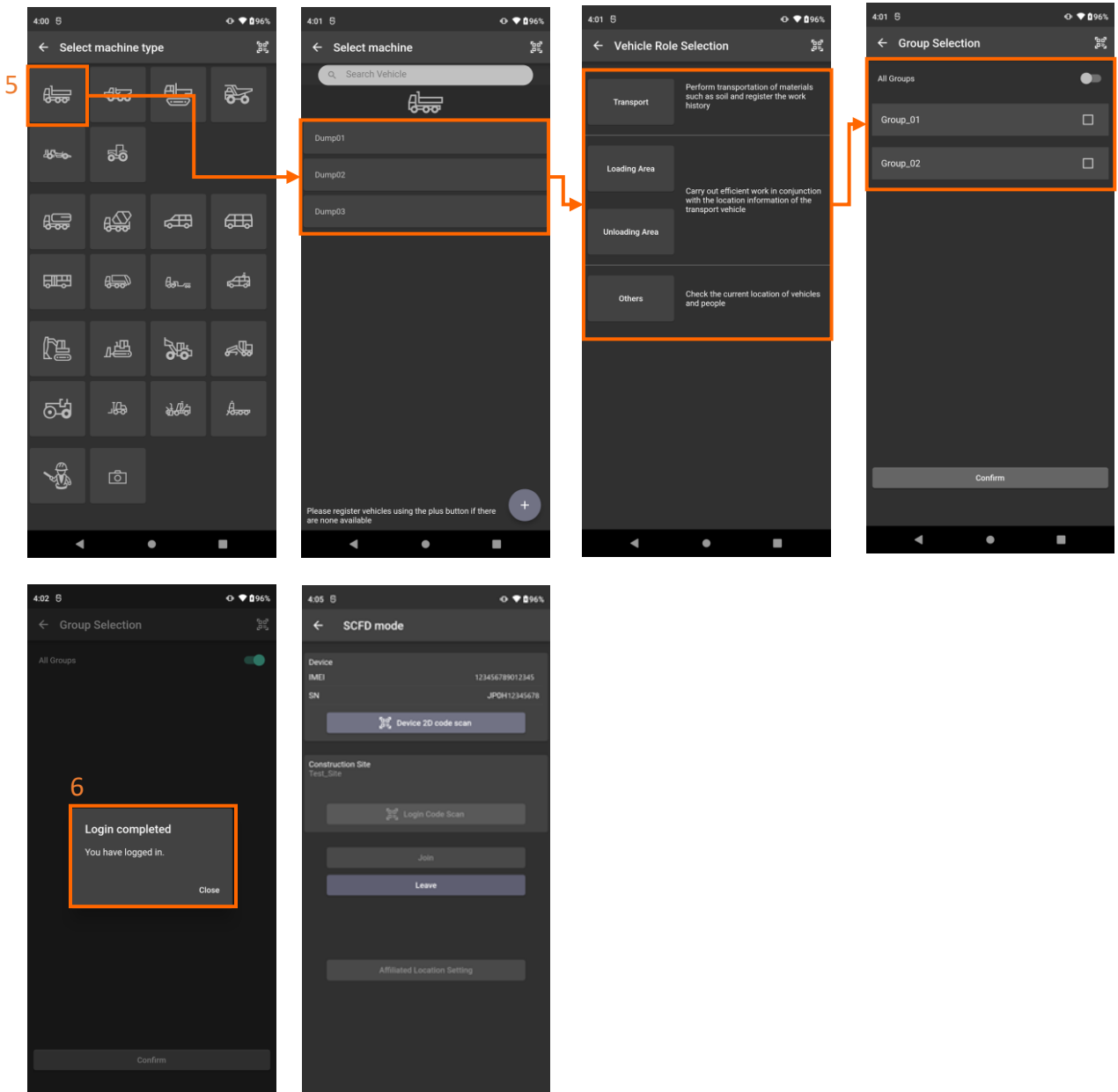
Note
• If user login once, the next time they don't need login again.
Please logout if you finish all work at working site
• Setting workplace only use when login Vehicle role is "Loading area" or "Unloading area"

5. Select the vehicle type, vehicle, vehicle role, and group.
   (refer to the example of mobile application login).
6. When the message "Login completed" is displayed, tap "Close".
7. The screen that is displayed when you login to the application in the dedicated device mode

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Note

- If the group information is not set on the web side, the group selection screen will be skipped.
- "Login code scan" , Forwarding destination will be different depend on the
  information is save by 2D code.
 Detail is showed at "Mobile Application Overview".

Logging in to multiple dedicated devices with the same code

1. After logging in using the dedicated device login procedure, tap "Device 2D code scan".
2. Read the 2D code on the back of the device.
3. Tap "Login".
4. Select the vehicle type, vehicle, vehicle role, and group
   (the same as when logging in the mobile application).
5. When the message "Login completed" is displayed, tap "Close".
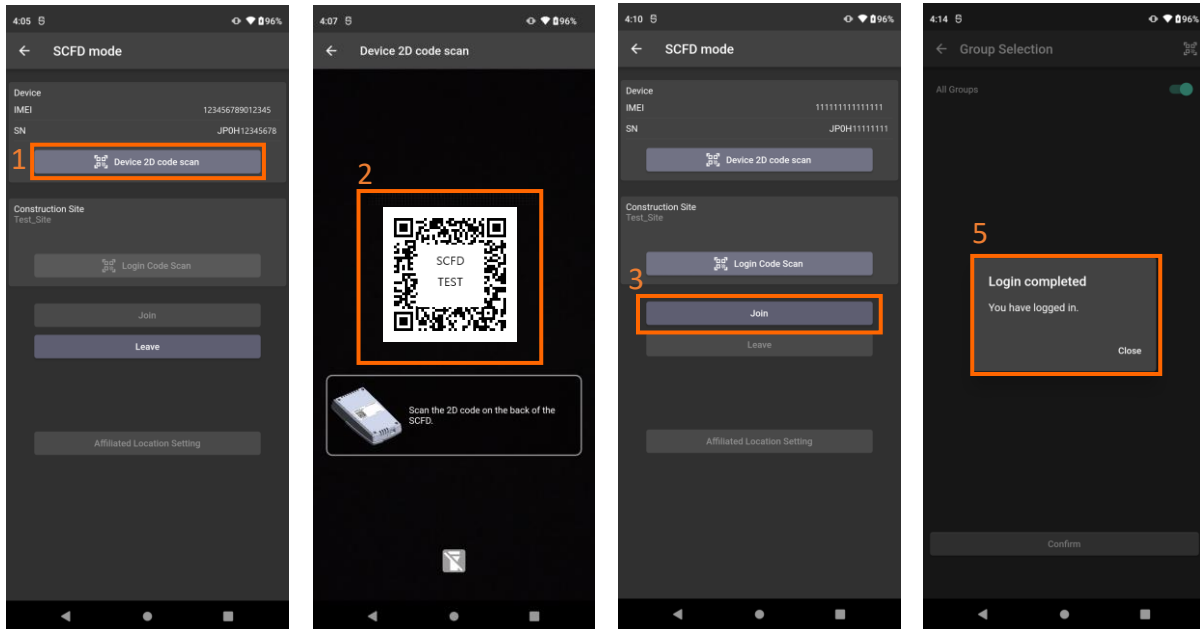
## Logging in to the dedicated device with a different code

1. Tap "←" to return to the previous screen.
2. Log in using with the dedicated device login procedure.
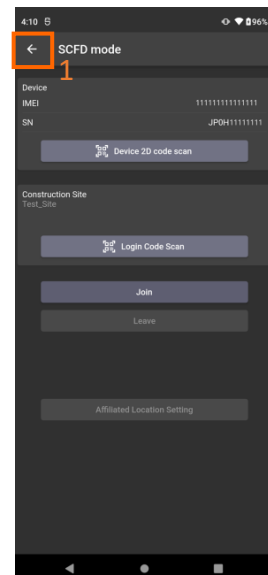
Setting Belonging Point (Dedicated Device)

When logging in using the dedicated device mode, you can set the belonging point by logging in on the vehicle role "Loading area" or "Unloading area", so that you can handle your own vehicle as a work point.

❗ You can belong to the loading work point if your vehicle is the vehicle role "Loading area", or to the unloading work point if your vehicle is the vehicle role "Unloading area".
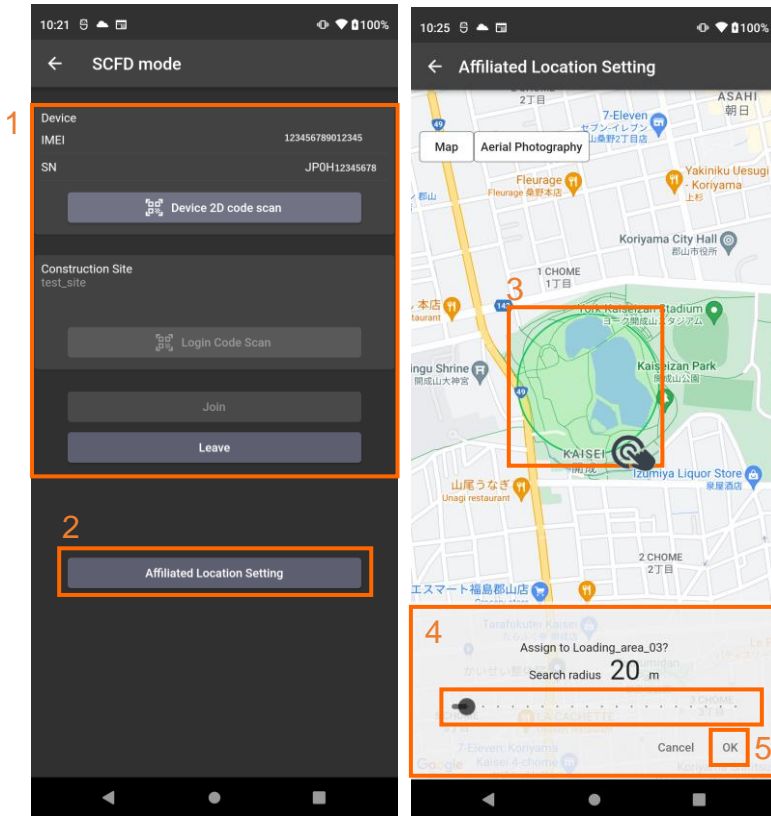
1. Log in using the dedicated device mode
   * For details, refer to "Smart Construction Fleet Device mode".

2. Tap "Set belonging point".

3. Tap the point to which you want to assign the machine.

4. Check the point to which you want to assign the machine.
   If you want to change the search radius, you can change it by using the slider.

5. Tap "OK".
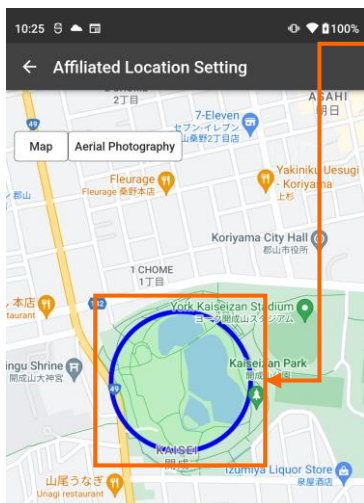
When you assign a dedicated device to a point, the point assigned is enclosed in a blue frame.

Status viewed from another vehicle (mobile application)

For the vehicle assigned to the point, the work point is displayed with the search radius set centering on the vehicle.
Within this range, you can register the work history.

The name of the point you belong to is displayed behind the vehicle name.

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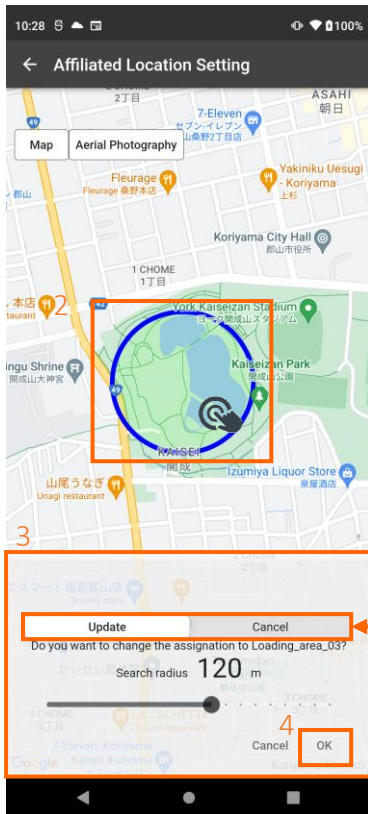
Changing/canceling the settings
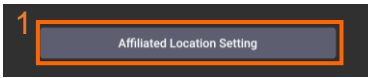
1. Tap "Set belonging point" logged in with the vehicle which has set the belonging point.

2. Tap the point where the machine is currently assigned.

3. Select Update or Cancel.

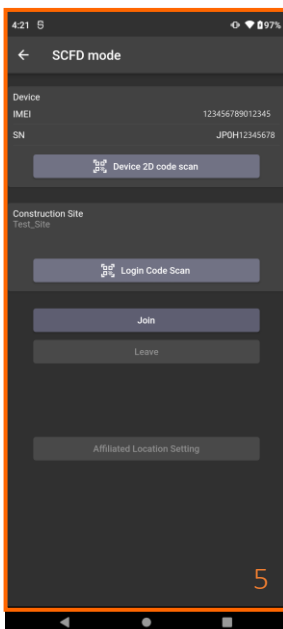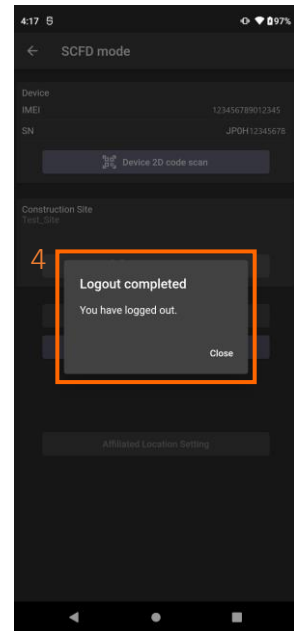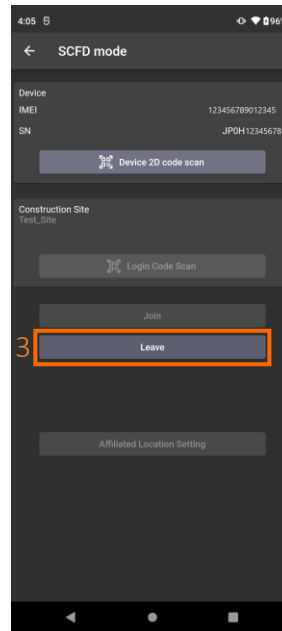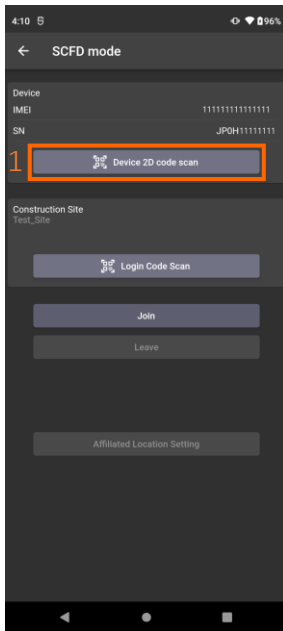4. Tap "OK".

[Update]
The search radius is adjustable.

[Cancel]
The assignment to the point can be canceled.
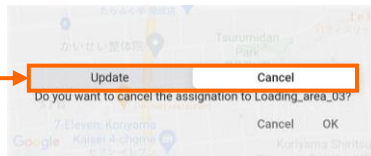
Logout

1. Tap "Device 2D code scan".
2. Read the 2D code of the device read when logging in.
3. Tap "Logout".
4. When the message "Logout completed" is displayed, tap "Close".
5. The screen that is displayed after logout

⚠️ When you log out, your workplace affiliation will be reset.

Difference between the SMART CONSTRUCTION Fleet Device (SCFD) Mode and the Mobile Application

Item	Device	Mobile application
Operation on the Web application		
Sending messages	x	✓
Device or mobile application		
Confirming locations of your machines	x	✓
Confirming locations of other machines	x	✓
Sending and receiving messages	x	✓
Sending batch voice messages	x	✓
Changing soil property	x	✓
Assign construction machine to loading/unloading point	✓	✓
Auto count for loading and unloading	✓	✓
Manual count for loading and unloading	x	✓
Register work history at the arbitrary point	x	✓
Viewing work history	x	✓
Approach notification detection target	✓	✓
Approach notification issuance	x	✓
Alert issuance	x	✓
Register alert point	x	✓
Deleting alert points	x	✓
Approach alert detection target	✓	✓
Approach alert issuance	x	✓
Display cycle time	x	✓
Display transporting soil icon	x	✓
Overspeed alert	x	✓
Battery level alert	x	✓
Dashcam function	x	✓
Camera viewer function	x	✓
Position skipping notification function	x	✓
Route deviation warning function	x	✓
Waypoint guidance function	x	✓

Smart Construction

Contact

- **For inquiry on products/ Contact at the time of malfunction**
  EARTHBRAIN Ltd.
  The URL below brings you to the inquiry site.
  https://www.earthbrain.com/contact/form/

Revision History

Created/revised date	Description
2024/01/16	Initial version (Ver5.0)
2024/03/07	Addition of supplemental explanation and modification of sentence
2024/07/09	Function to modify information from the previous login
2024/08/08	Simplification of the login process
2024/10/01	Change to automatically select roles based on vehicle type
2025/01/07	Prevention of distracted driving feature Addition of an option to log in immediately after vehicle registration Specification changes for the settings screen in offline mode