

SMART CONSTRUCTION Fleet User Guide 【Mobile Application】

Komatsu Smart Construction
Promotion Division

KOMATSU

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Overview of
SMART CONSTRUCTION Fleet
System

01



1. SMART CONSTRUCTION Fleet System Overview

1-1 System overview

Dynamics Management System that Komatsu Rolls Out

“SMART CONSTRUCTION Fleet” is an application that can share and manage information on the positions of dump trucks, excavators, or bulldozers. By using the “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 (on a dashboard), a machine 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** Traveling route display function
You can find the current position of a machine.



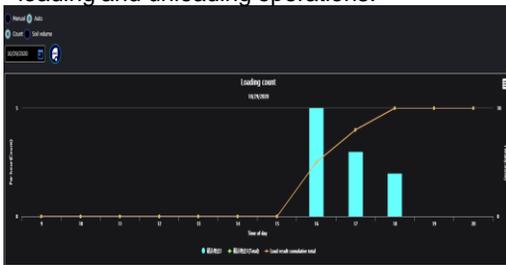
- 2** The voice alert notification function alerts you that a machine is approaching.



- 3** Display of work history
You can manage the loading work or traveling history of each machine on a daily basis.



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



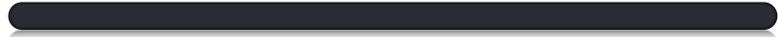
- 5** With the web application, you can check the loading history recorded using the Payload system.

The screenshot shows a dashboard with a table of machine data. The table has columns for 'Machine Name', 'Model', 'Type', 'Machine No.', 'ST', 'Start Date', and 'End Date'. The table contains three rows of data.

Machine Name	Model	Type	Machine No.	ST	Start Date	End Date
M001	PC200LC-8	Excavator	1011	1	2019/01/01	2019/01/31
M002	PC200LC-8	Excavator	1012	1	2019/01/01	2019/01/31
M003	PC200LC-8	Excavator	1013	1	2019/01/01	2019/01/31

Preparation for
SMART CONSTRUCTION Fleet

02



2. Preparation for SMART CONSTRUCTION Fleet

■ 2-1 What you need and recommended operating environment

What you need



A personal computer capable of running SMART CONSTRUCTION Fleet (Lite)



A smartphone on which the SMART CONSTRUCTION Fleet mobile application is installed.

Or



The SMART CONSTRUCTION Fleet device to be retrofitted to a construction machine or dump truck.

Recommended operating environment for the Web application

  are **not recommended** because the application **does not work properly** on these web browsers.

 ← Download Google Chrome to access the application.

Recommended operating environment for mobile application

[iPhone]

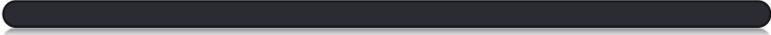
- iPhone 6s / iPhone SE (1st generation)
OS versions: iOS 13 or later

[Android]

- MONO (MO-01K)
OS versions: 7.1.2 / 8.0.0
- ZenFone Max (M2) (ZB633KL)
OS versions: 8.1 / 9.0

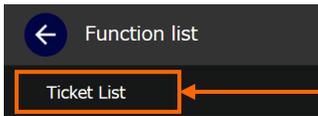
SMART CONSTRUCTION Fleet
Mobile Application

03



3. Mobile Application

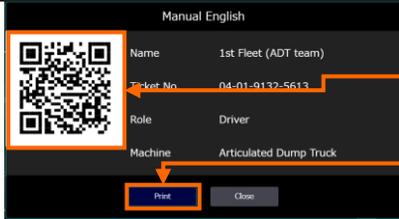
3-1 Login (1/2)



■ 1 Click "Ticket List".

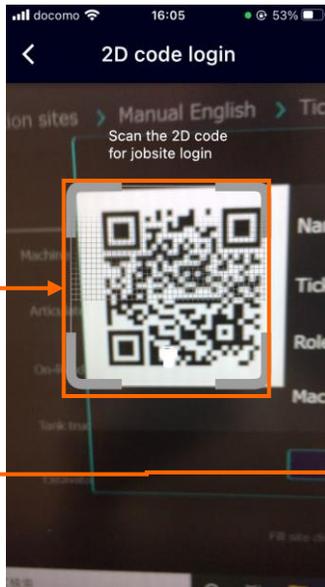
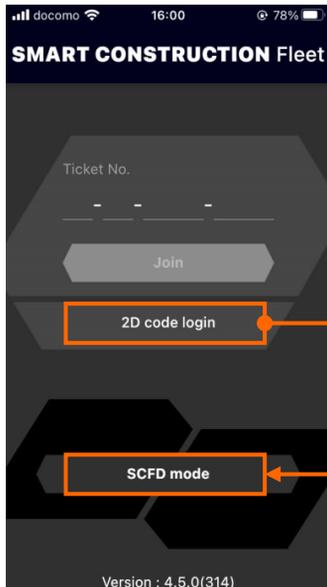


■ 2 Select "2D code".



■ 3 Display the 2D code.

It is recommended to print out the 2D code for reference in daily login.



The operations on the mobile application are as follows.

■ 4 Tap "2D code login".

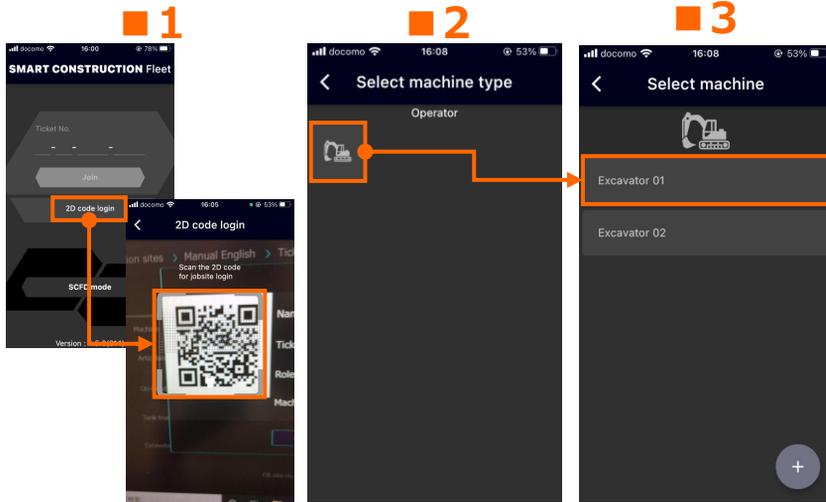
■ 5 Read the 2D code.

* See 6 "Dedicated device mode".

3. Mobile Application

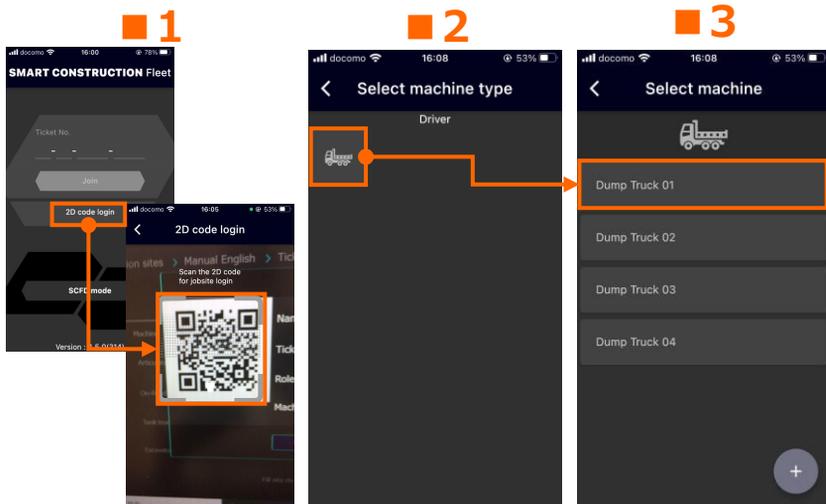
3-1 Login (2/2)

Login as an excavator operator (Example)



- 1 Login (described on the previous page).
- 2 Tap the excavator icon.
- 3 Select a construction machine.

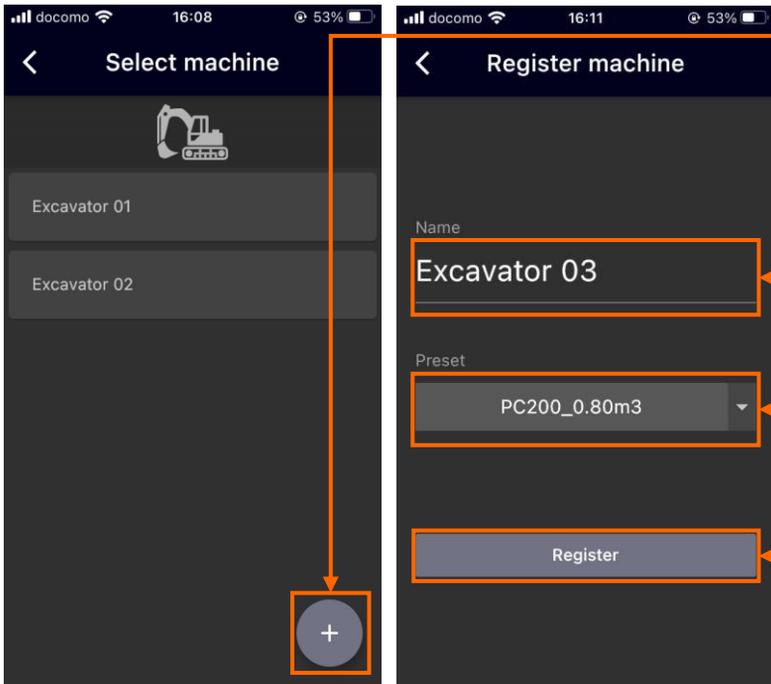
Login as a dump truck operator (Example)



- 1 Login (described on the previous page).
- 2 Tap the dump truck icon.
- 3 Select a machine.

3. Mobile Application

■ 3-2 Registering machine



■ 1 On the Select machine screen that appears at the time of logging in, click “+” in the lower right of the screen.

■ 2 Enter the name of the machine you want to register.

■ 3 Select the preset value.

■ 4 Tap Register.



■ 5 The registered machine appears on the Select machine screen.

3. Mobile Application

3-3 Map screen



Color of a dump truck

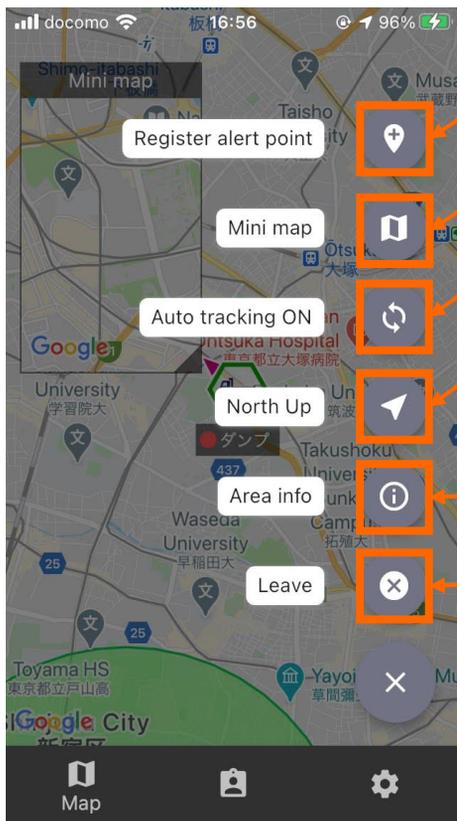
■ For a dump truck driver, the icon appears in the hexagonal frame of a specified color.

Color of a ticket

■ When you specify the color of a ticket, the color of the symbol ● at the left of the name under the icon turns the specified color.

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

3-4 Submenu



■ Registers an alert point.

■ Shows/hides the mini map.

■ Turns ON/OFF the Auto tracking function for your vehicle.

■ Toggles the map between north-up and heading-up.



In the heading-up display, the top of the map shows the traveling direction.

■ Displays area information.

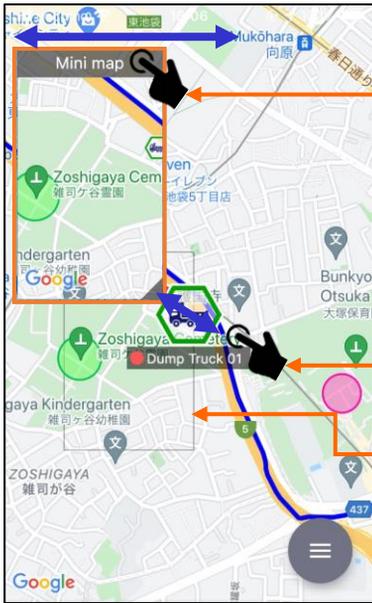
■ Logout



Be sure to "log out" of the application at the end of work. If you do not "log out", the application may fail to operate correctly after the next day.

3. Mobile Application

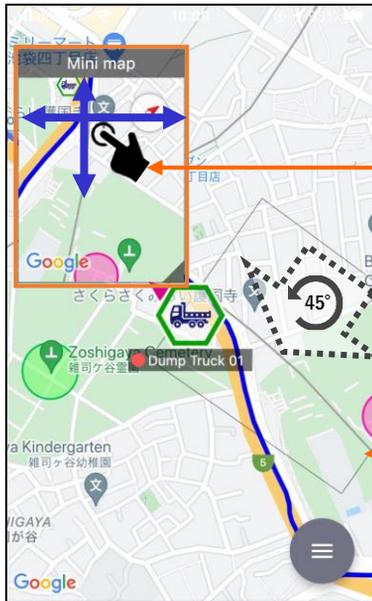
■ 3-5 Mini map



■ To change the position of the mini map, drag its gray part.

■ To resize the mini map, drag the triangle at the lower right of the mini map.

! The area in the black frame appears as the mini map.



■ You can freely move the area to be displayed in the mini map.

■ To zoom in or out the mini map, pinch away or together two fingers on the mini map.

■ To change the mini map orientation, place two fingers on the mini map and rotate them.

! The area in the black frame appears as the mini map.

3. Mobile Application

3-6 Loading/unloading manual count (dump truck driver)

- 1 The dump truck enters the loading (or unloading) decision area.
- 2 The "PUSH" button appears.

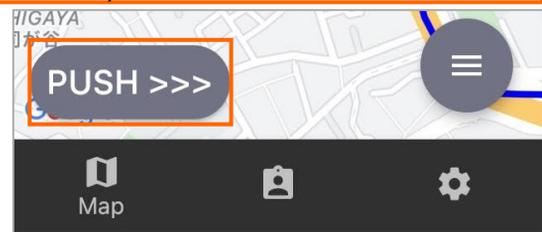
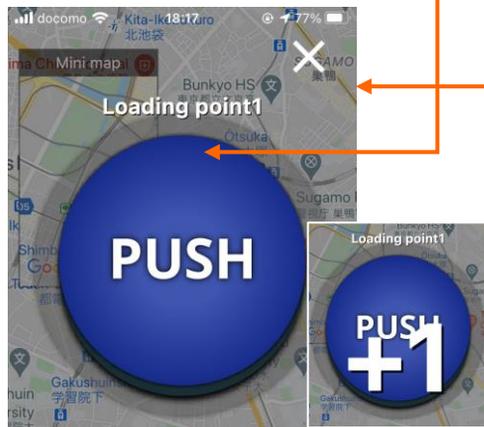


Tap "PUSH" (for manual counting).

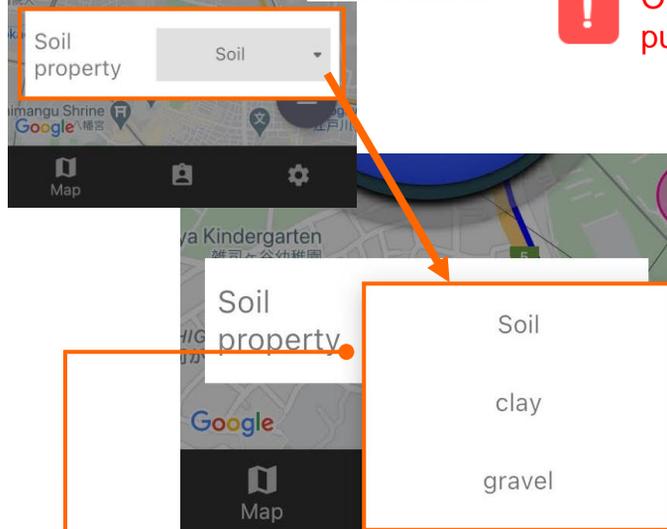
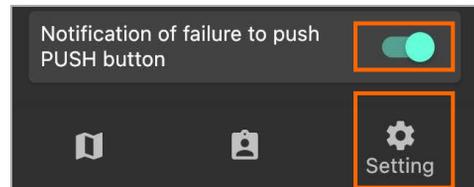
"+1" appears, and loading/unloading is counted manually.

or

Tap "X" to close
The button is minimized at the lower left, allowing other operations.
(Using the lower left button can redisplay the PUSH button.)



ON/OFF can be set in "Notification of failure to push PUSH button" on the Settings screen. 



The driver can change the soil property with the pull-down menu.



You can check work history on the "Work history" screen.

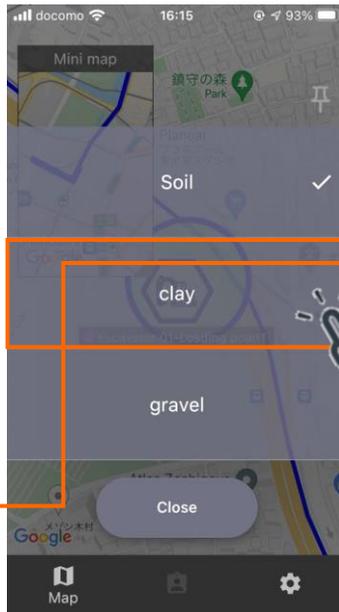


3. Mobile Application

■ 3-7 Changing the soil property (operator)



Loading judgment area



By tapping the Pin button, the list continuously remains displayed, preventing it from closing automatically.

■ 1 Tap “Change soil property”

■ 2 Select the soil property.

3. Mobile Application

3-8 Assign a construction machine to a point (operator) (1/2)

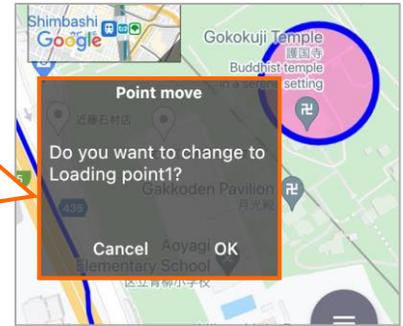


1 Tap the point to which you want to assign the machine.

2 Check the point to which you want to assign the machine. (To change the search radius, move the bar.)

3 Tap "OK".

If you move to another point, the dialog on the right is displayed. Taping "OK" changes the target of assignment to the destination point.

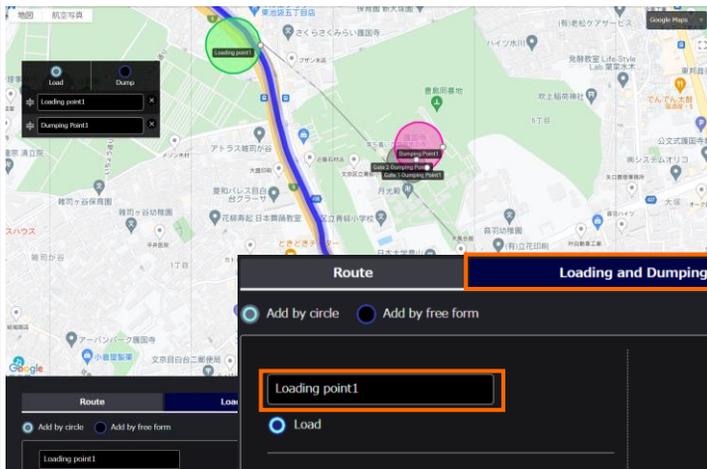


When you assign a construction machine to a point, the point assigned is enclosed in a blue frame.

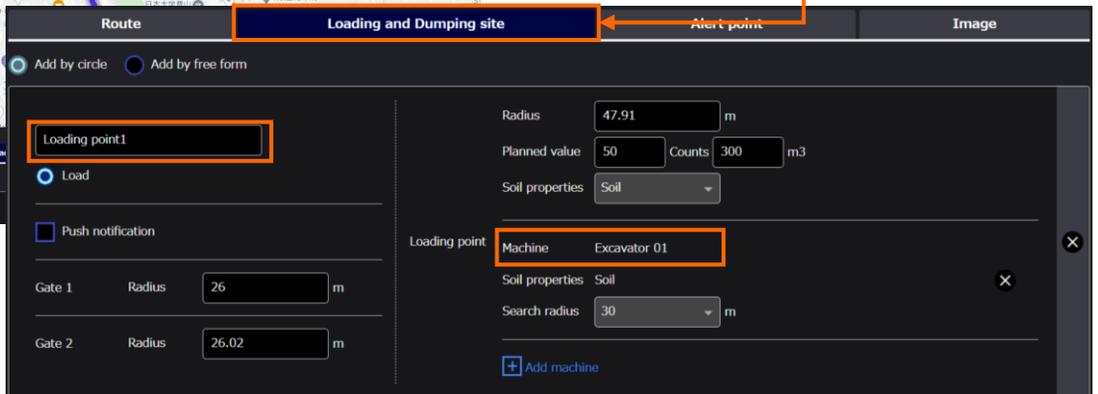


For machines assigned to a point, the ticket name is followed by the name of the assigned point.

Management screen



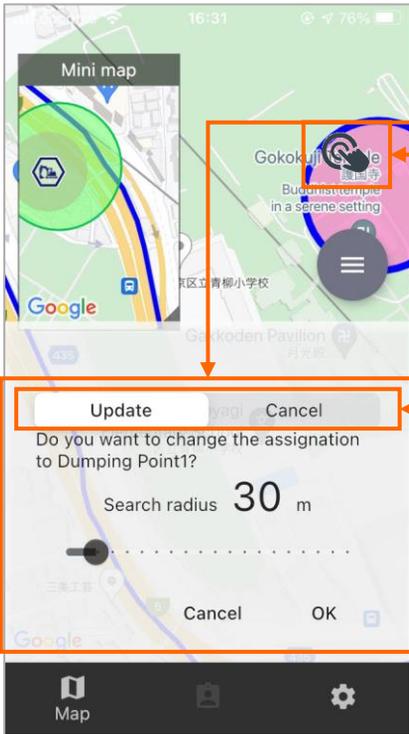
By clicking the "Loading and Dumping site" tab on the "Traveling route" screen, the machine information about the machines assigned to there is displayed.



3. Mobile Application

■ 3-8 Assign a construction machine to a point (operator) (2/2)

[Changing or canceling the settings]

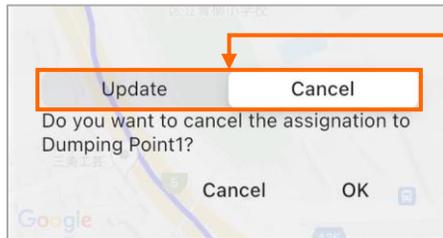


■ 1 Tap the point where the machine is currently assigned.

■ 2 The Settings screen appears below.
You can use the [Update] or [Cancel] switch to make the setting.

[Update]
The search radius is adjustable.

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



3. Mobile Application

■ 3-9 Creating an alert point



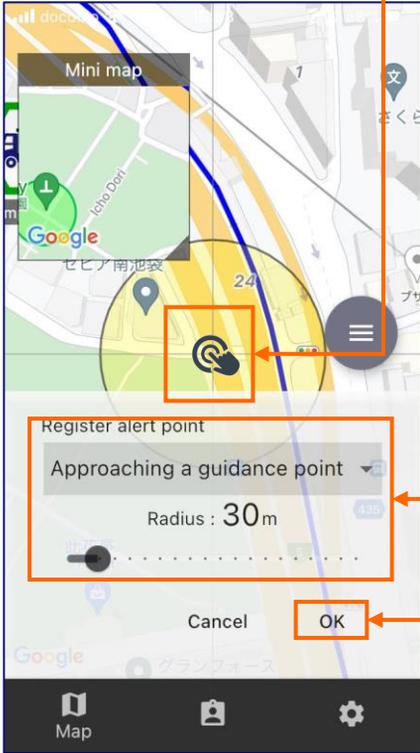
■ 1 Open the submenu and tap “Register alert point”.

■ 2 Move the map to determine the center coordinates of the alert point.

■ 3 Select the alert content. (To change the search radius, move the bar.)

■ 4 Tap “OK”.

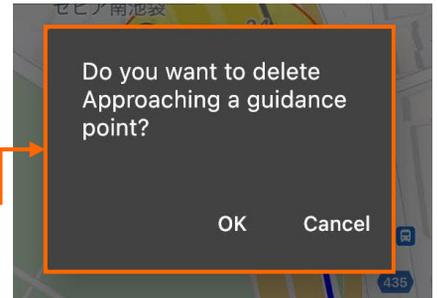
Alert points created by yourself are displayed in a red frame.



Alert point created by your vehicle

Alert point created by another vehicle

! Alert points created by yourself can be deleted by tapping it.



Management screen

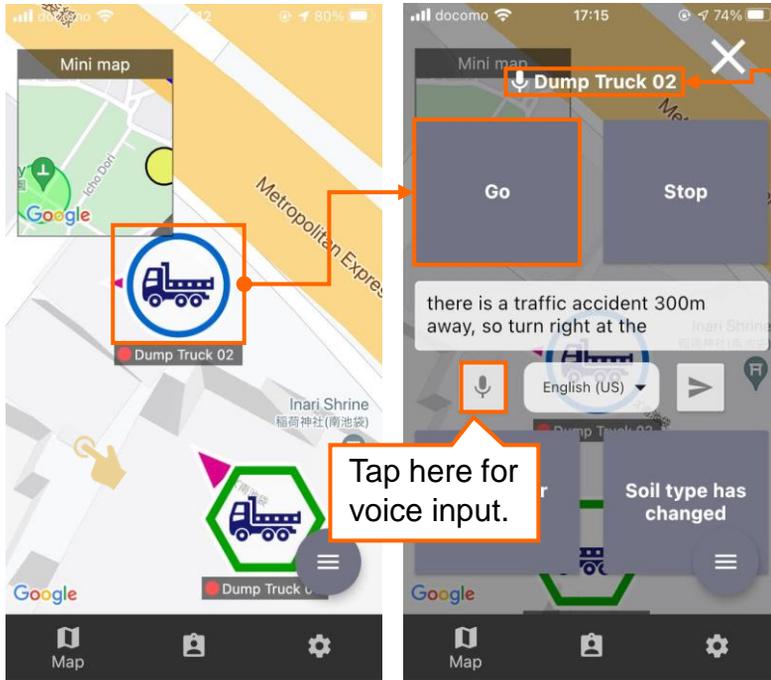
By clicking the “Alert point” tab on the “Traveling route” screen, the alert points registered from the application are displayed.



3. Mobile Application

■ 3-10 Sending messages (between mobile applications)

Device A (Sender : DT01)



Shows the receiver's name.

■ 1 Tap the icon to which you want to send a message.

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

■ 2 After messages appear, tap the one you want to send. Alternatively, enter the message text manually or by voice and tap > .

Device B (Receiver : DT02)



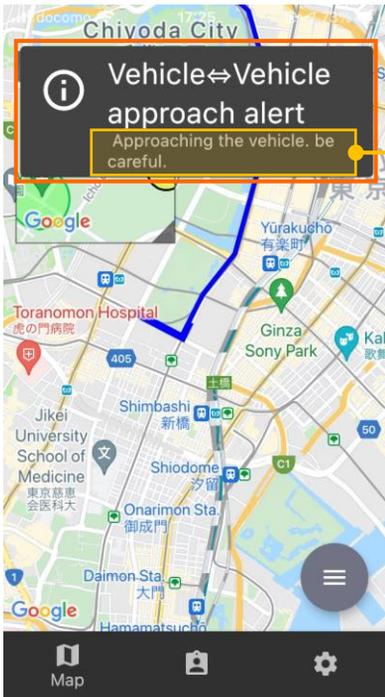
■ 3 The message appears on the device of the receiver, accompanying the voice message.

The name of the sender appears.

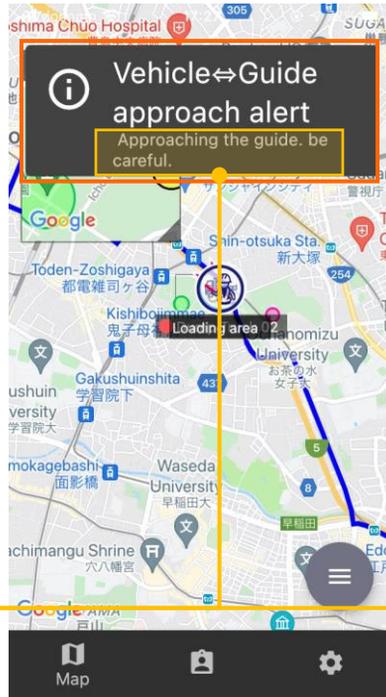
3. Mobile Application

3-11 Approach alert

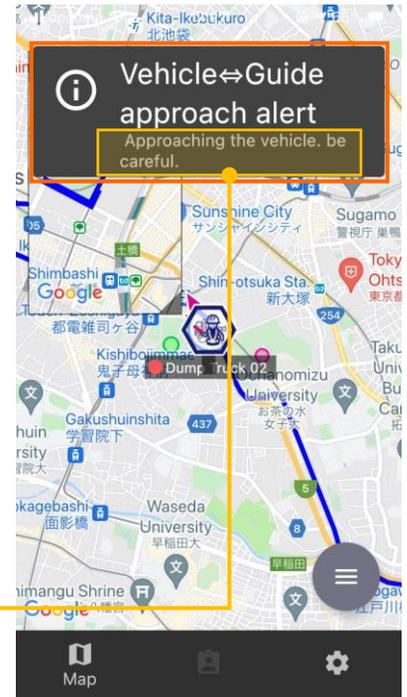
A caution message with the specified content appears in the following situations:



A. Two vehicles approach each other.



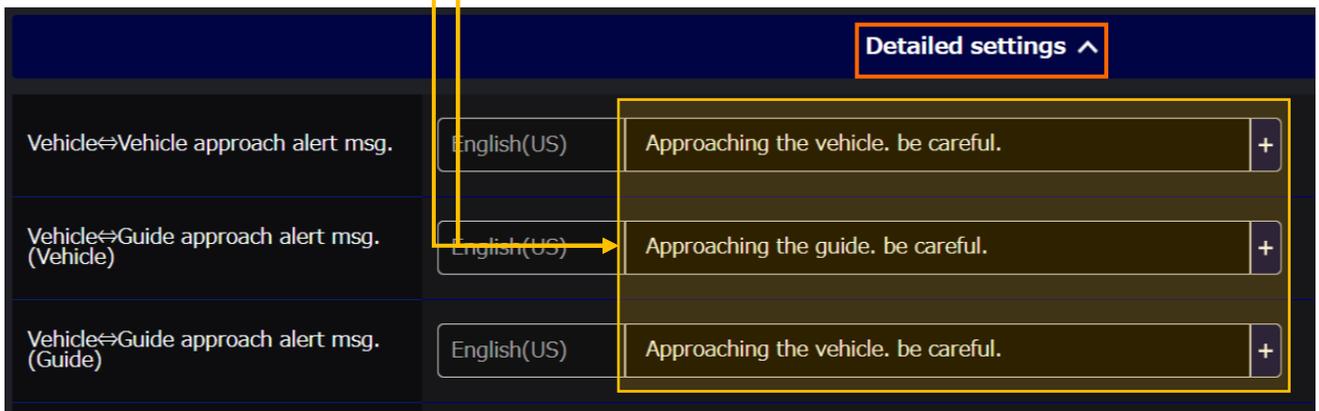
B. A vehicle and a guide approach each other.
(Vehicle)



C. A vehicle and the a approach each other.
(Guide)

Management screen

After opening “Detailed settings” on the “Edit job site info” screen, you can specify the warning content to be displayed on the mobile terminal.



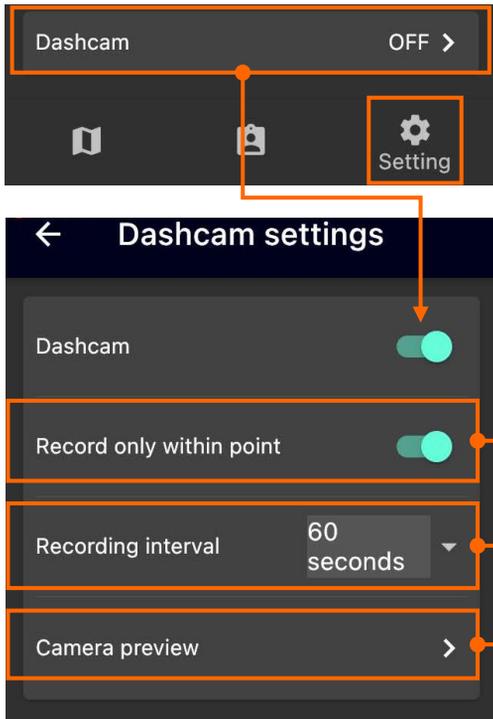
From the “Vehicle List” screen, open “Edit” → “Change machine information” for each dump truck or operator. Then, you can control the alert display by of “Approach alert”.

Approach alert

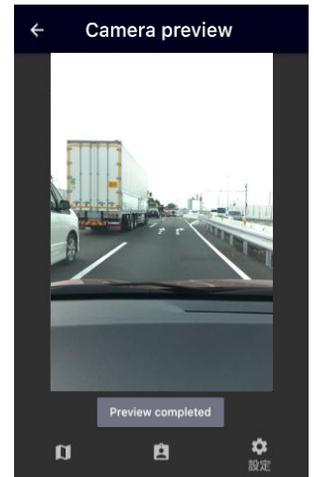
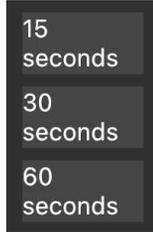


3. Mobile Application

3-12 Dashcam



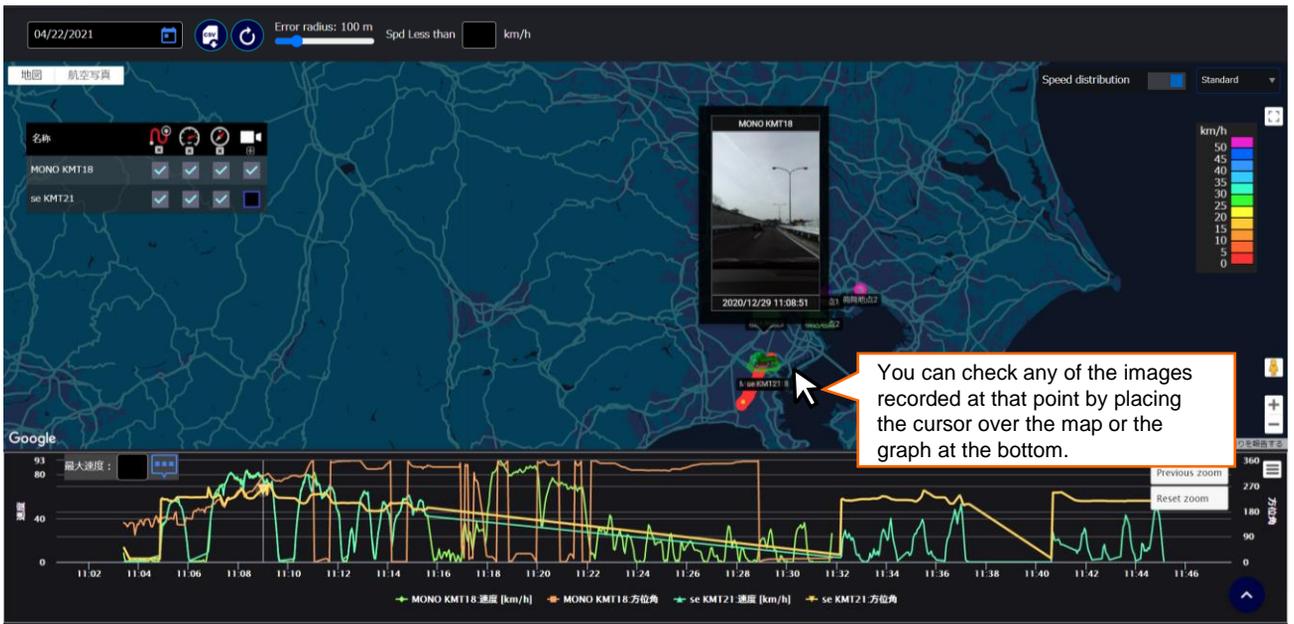
- In “Setting”, turn ON “Dashcam”.
- By turning it ON, recording takes place only while the vehicle is inside the loading or unloading point.
- The recording interval can be changed in three steps.
- You can check the camera status in a preview.



! Shortening the recording interval increases both data traffic and battery consumption.

Management screen

Images recorded by the application are displayed on the traveling history screen.



You can check any of the images recorded at that point by placing the cursor over the map or the graph at the bottom.

3. Mobile Application

3-13 Confirming work history

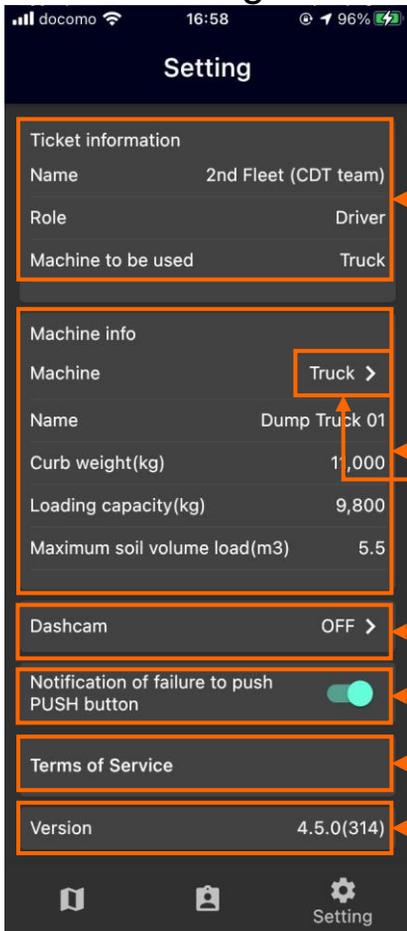


1 Tap the History icon.

2 Tap the date marked with ●.

3 Displays the work history according to the manual/auto count at a point (the indication can be switched using the tabs on the upper side).

3-14 Settings



You can confirm ticket information.

You can confirm machine information.

You can change machines.

 You can change the current machine to the one available with the ticket you used for login.

You can set "Dashcam" to ON/OFF.

You can enable/disable the push notifications.

You can view Usage Policy.

You can check the version of the application.

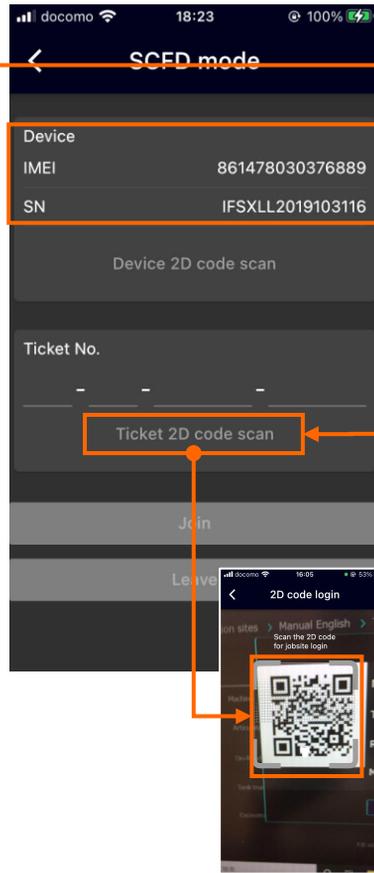
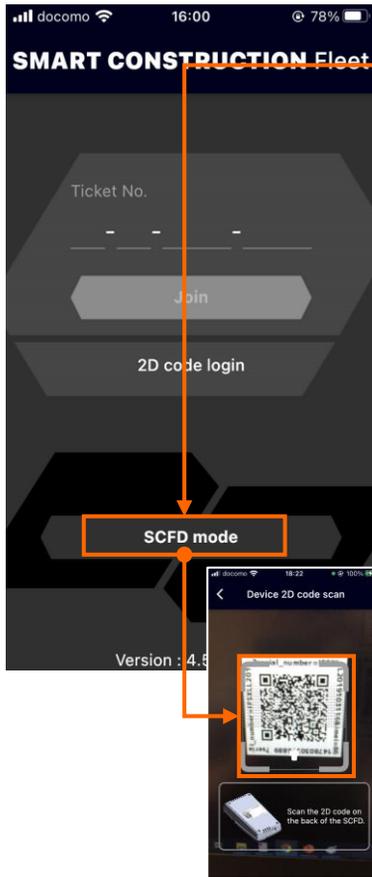
SMART CONSTRUCTION Fleet
SMART CONSTRUCTION Fleet Device Mode

04



4. SMART CONSTRUCTION Fleet Device Mode

4-1 Login (1/2)



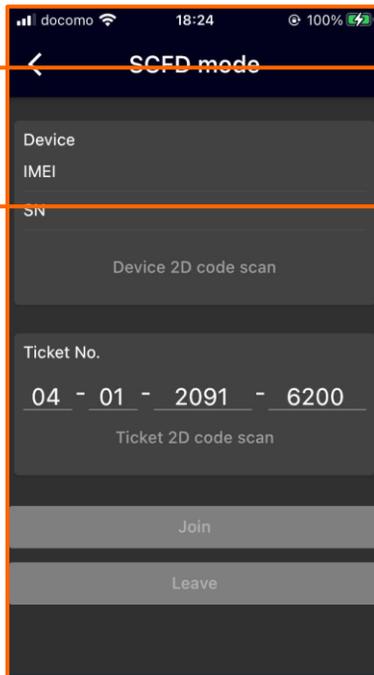
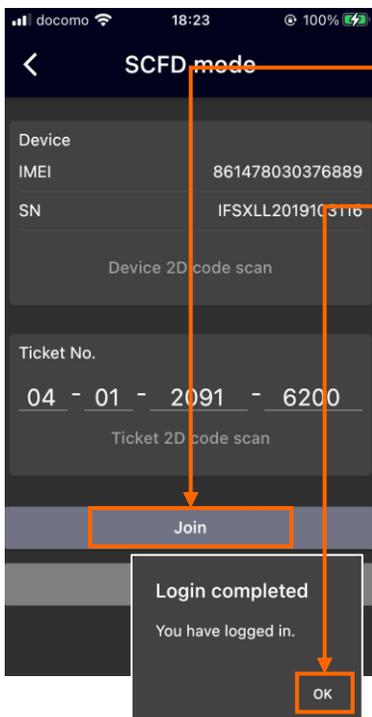
■ 1 Tap “SCFD mode” to read a 2D code.



When the 2D code has been read, the device information appears.

■ 2 Tap “Ticket 2D code scan” to read a 2D code.

■ 3 Select a machine type and a machine.
(For details, see 5-1 “Login”.)



■ 4 Tap “Join”.

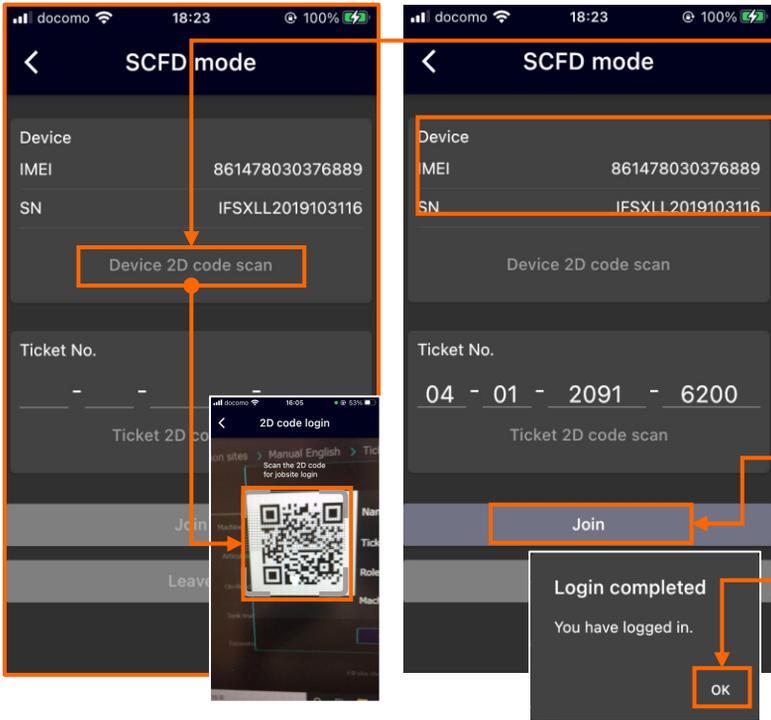
■ 5 When the message “Login completed” appears, tap “OK”.

■ 6 The screen that appears when you log in to the application in the SCFD mode.

4. SMART CONSTRUCTION Fleet Device Mode

4-1 Login (2/2)

When you log in to two or more devices using one ticket



1 Log in by following the steps given on the previous page, and tap “Device 2D code scan” to read a 2D code.

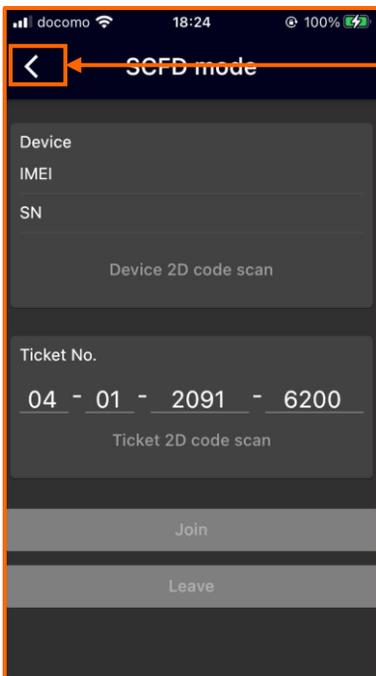
 When the device 2D code has been read, the device information appears.

2 Select a machine type and a machine.
(For details, see 5-1 “Login”.)

3 Tap “Join”.

4 When the message “Login completed” appears, tap “OK”.

When you log in to a dedicated device using a different ticket



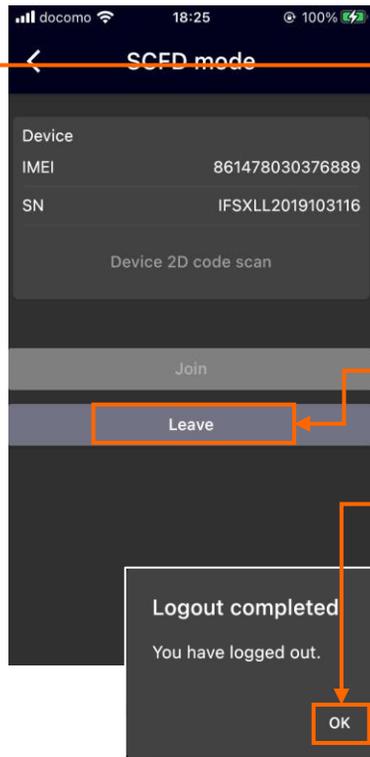
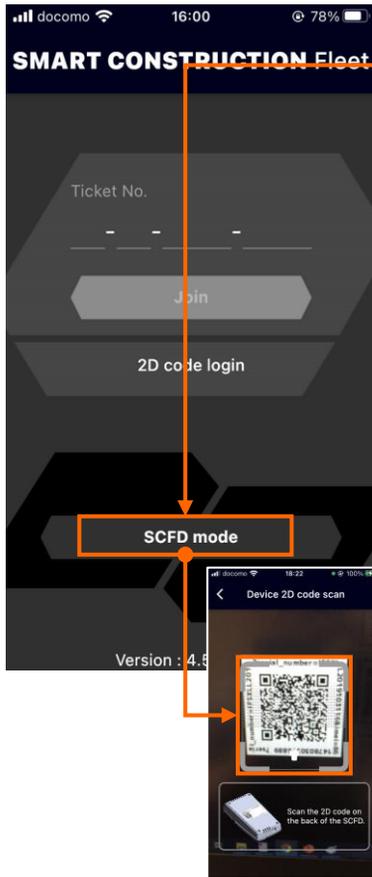
1 Tap “<” to return to the previous screen.

2 Log in by following the steps given on the previous page.

 Alternatively, you can log in using the 2D code of the same ticket or another ticket on the previous screen after you have logged-in in the SCFD mode.

4. SMART CONSTRUCTION Fleet Device Mode

4-2 Logout



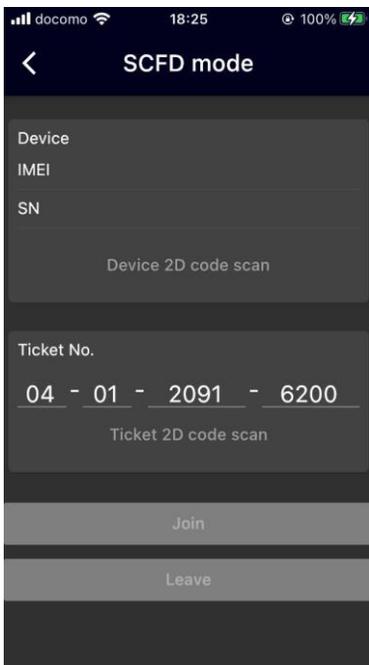
■ 1 Tap “Device 2D code scan” to read a 2D code.



Read again the 2D code that you read at the time of login.

■ 2 Tap “Leave”.

■ 3 When the message “Logout completed” appears, tap “OK”.



■ 4 The screen that appears after logout

4. SMART CONSTRUCTION Fleet Device Mode

■ 4-3 Difference between the SMART CONSTRUCTION Fleet Device (SCFD) mode and the mobile application (1/2)

■ Web application



The following shows the comparison table of functions available in SMART CONSTRUCTION Fleet (Full license).

Item	SCFD mode	Mobile app
Sending messages	X	✓

■ Mobile application

Item	SCFD mode	Mobile app
Confirming locations of own machine	X	✓
Confirming locations of other machines	X	✓
Registering vehicles from mobile application	X	✓
Mini map	X	✓
Auto tracking ON/OFF	X	✓
North Up/Heading Up	X	✓
Sending and receiving messages	X	✓
Changing soil properties	X	✓
Assigning construction machines to points	X	✓
Auto count for loading and unloading	✓	✓
Manual count for loading and unloading	X	✓
Viewing work history	X	✓
Approach notification detection target	✓	✓
Approach notifications	X	✓
Alert notifications	X	✓
Switching logged in vehicles	X	✓
Approach alert detection target	✓	✓
Issuing an approach alert	X	✓

4. SMART CONSTRUCTION Fleet Device Mode

■ 4-3 Difference between the SMART CONSTRUCTION Fleet Device (SCFD) mode and the mobile application (2/2)

■ Web application



The following shows the comparison table of functions available in SMART CONSTRUCTION Fleet Lite.

Item	SCFD mode	Mobile app
Sending messages	X	✓

■ Mobile application

Item	SCFD mode	Mobile app
Confirming locations of own machine	X	✓
Confirming locations of other machines	X	✓
Registering vehicles from mobile application	X	✓
Mini map	X	✓
Auto tracking ON/OFF	X	✓
North Up/Heading Up	X	✓
Sending and receiving messages	X	✓
Changing soil properties	X	X
Assigning construction machines to points	X	X
Auto count for loading and unloading	X	X
Manual count for loading and unloading	X	X
Viewing work history	X	X
Approach notifications	X	X
Alert notifications	X	X
Switching logged in vehicles	X	✓
Approach alert detection target	✓	✓
Issuing an approach alert	X	✓

Frequently Asked Questions

05

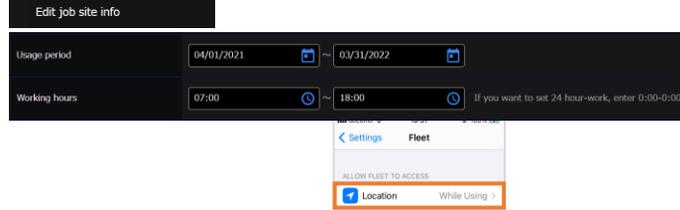


5. Frequently Asked Questions

Q. A message “The ticket is invalid.” appears and you cannot log in.

- A. Reinstall the application.
* Record the model, OS, and the screenshot for investigation.

Q. No vehicle icons appear after login.



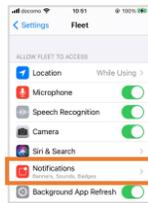
- A-1. On the “Edit job site info” screen, check the settings for “Usage period” and “Working hours”.
A-2. Check if “Location Services” of the terminal settings is set to the “ON” position.

Q. The sound cannot be heard.

- A. Check to see if the terminal is not in the silent mode.

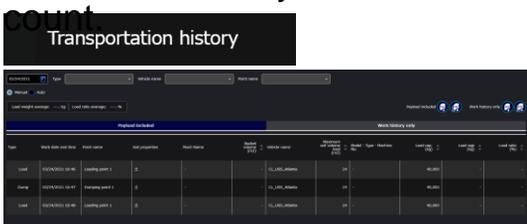
Q. Failure to receive notifications.

- A. Check if “Notifications” of the terminal settings is set to “Allow Notifications”.

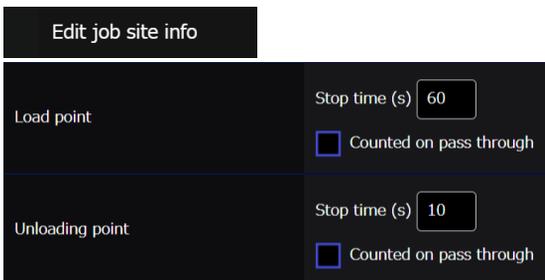


Q. The auto count for loading and unloading does not correctly reflect an actual

! The accuracy of the auto count result cannot be guaranteed due to an error in the smartphone location information. If you want an accurate count result, select manual count.



- A-1. On the “Transportation history” screen, check to see when a skip or duplicates occurred during the auto count.



- A-2. On the “Edit job site info” screen, check the settings for the auto count.



- A-3. On the “Travelling history” screen, check if the corresponding vehicle has accurately entered and left the area (including a stop time if it has been set).