Smart Construction®

Smart Construction Fleet Lite Quick Guide

Before You Read This Manual:

■ Before you start

- This manual describes how to perform the initial setup and how to use Smart Construction Fleet Lite on a day-to-day basis.
- 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 screen.

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

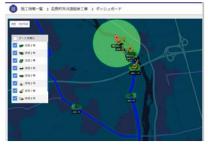
For starting use of Smart Construction Fleet

"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 site.

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 建機・ダンプ・誘導員の位置情報を パソコンでリアルタイムに確認できます。



2 接近通知機能によって、 建機オペレータや誘導員は ダンプが接近している事がわかります。



3 走行履歴の表示 日々のダンプの走行履歴を管理できます。



4 作業履歴の表示 日々の積込荷降作業の履歴を管理できます。



5 ダンプ情報登録 ⇒ペイロードシステム連携 外部のペイロードシステムを利用し記録した積込履歴を Web管理画面に残す事ができます。



Note

Presentation on Smart Construction Fleet Lite basic specifications

You can use "Smart Construction Fleet Lite" for the following purposes:

- Advance preparations for using "Smart Construction Fleet"
- Management of results of payload loading by excavators, etc.

However, the tasks below are not feasible:

- Logging in via smartphone or Smart Construction Fleet Device
- Verification of various Smart Construction Fleet usage histories (except results of payload loading)

What You Need and Recommended Operating Environment

What you need



A personal computer capable of running **Smart Construction Fleet**



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]

OS16.4,17.2

Smartphone

iPhone SThey are not compatible with Smart

- Tablet

iPad: Not applicable Onstruction Fleet Lite.

[Android]

OS12,13

Smartphone

moto g family (g32)

- Tablet

Lenovo Tab M10 Plus (3rd Gen) ZAAM0094JP

Note

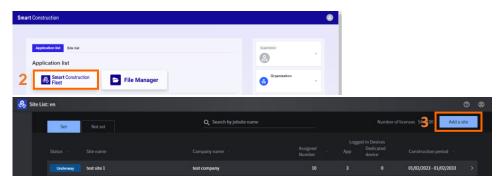
Please note that operation is not guaranteed on the devices that do not meet the above recommended operating environment.

Online Preparation

Site Registration

Set up a construction site to use Smart Construction Fleet.

- 1. Access https://portal.smartconstruction.com/.
- Start Smart Construction Fleet Lite.
- Click "Add a site".



- 4. Input the address of the site, and click "Search".
- 5. Display position: Move the center of the map to the position of the construction site you want to manage.
 - * The time zone in the center area of the map applies.
- 6. Input the name of the site.
- 7. Input the construction period and time.
 - * The application will not send location information outside the set hours.

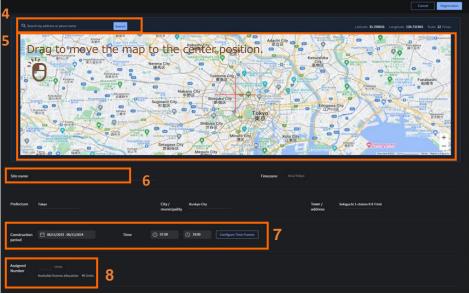
Setting 00:00 to 24:00 means a period for 24 hours.

The time frame is between 00:00 and 36:00, and you cannot set a time longer than 24 hours from the start time of use of the first time frame.

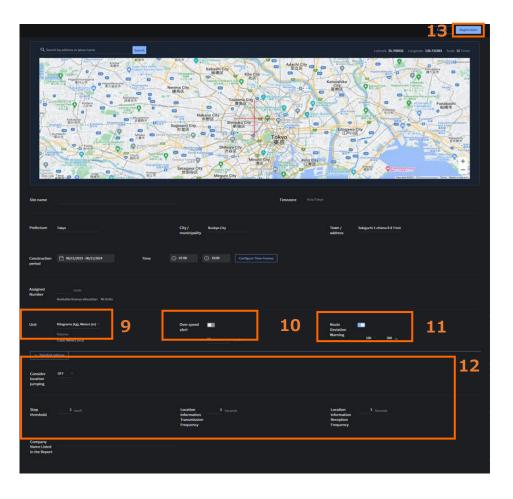
8. Enter the number of units that licenses are assigned.

This is a required setting to log in via smartphone or Smart Construction Fleet Device. However,

t Lite, please enter "0 units".



- 9. Select unit.
- 10. [Optional] Set the overspeed alert.
- 11. [Optional] Set the route deviation alert.
- 12. [Optional] Enter the detailed setting items.
- 13. Press "Register".



If the site has been prepared in advance on Customer Portal

1. Start Smart Construction Fleet Lite.



- 2. Select "Not set".
- 3. When Smart Construction Fleet Lite displays an uninitialized site as "Not set", click the site name.



4. Click "Set".



5. The set site is displayed in "Set" on the site list.



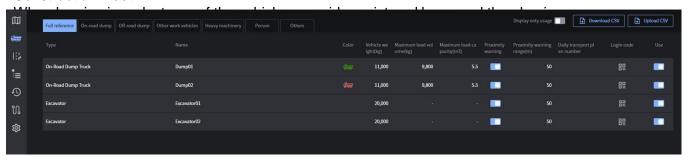
- The legends of the "Site list" screen are as follows.
 - Done → End of construction period

 Underway → During construction period

 Preparing → Before construction period

Vehicle Registration

Registers vehicles (construction machine, dump truck, etc.) and guide for logging into Smart Construction Fleet.

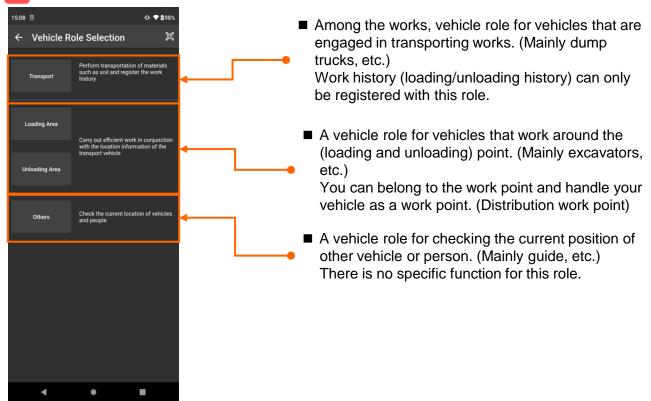


Note

When registering vehicles, do not use environment-dependent characters for names (e.g.: ①, i, ❶).
The characters may not be displayed correctly.

When logging into Smart Construction Fleet, you can select a role (vehicle role) to perform tasks by assigning the role to a vehicle as you wish.

- * There are four types of vehicle roles: "Transportation", "Loading area", "Unloading area", and "Others", each of which has different functions.
- For details on the vehicle roles, refer to the separate "SCFleet_New Ver_Vehicle role.xlsx".



List	List of vehicle types that can be registered							
On-lo	On-load dump truck Off-road dump truck		road dump truck	Other work vehicles				
	Type of vehicle		Type of vehicle		Type of vehicle			
∰	Dump truck	%	Articulated dump truck	and the second	Tank truck			
		(III	Crawler dump		Mixer			
		6	Rigid dump truck		Garbage truck			
		\$5∞.	Motor scraper	ger=	Low-floor trailer			
		₽	Tractor	#	Commercial van			
				#	Van			
					Bus			
				#	Road patrol vehicle			
Heavy machinery		Human		Other				
	Type of vehicle		Type of vehicle		Type of vehicle			
	Excavator		Guide	o	Camera			
4	Bulldozer							
\$	Wheel loader							
₽	Motor grader							
⊉	Road roller							
₩	Forklift truck							
99g	Rotary vehicle							
A	Snow removal truck							

In case of on-load dump truck (example)

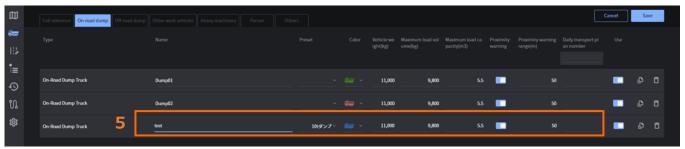
- In case of on-load dump truck
 - 1. Select "Set vehicle".
 - 2. Select "On-load dump truck".
 - 3. Click "Add and edit".



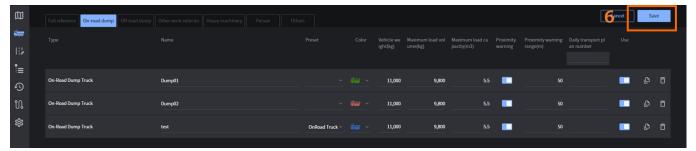
- 4. Click the icon of the vehicle to add from the lower part of the screen.
- "On-load dump truck"



- You can choose the color of the icon only when the vehicle type is "On-road dump truck".
- 5. Enter the name. Information such as vehicle weight is automatically input. Change it if necessary.



- A maximum soil volume load input here is converted to a soil volume per loading/unloading.
- 6. Click "Save".

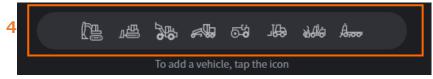


In case of heavy machinery (example)

- In case of heavy machinery
 - 1. Select "Set vehicle".
- 2. Select "Heavy machinery".
- 3. Click "Add and edit".



4. Click the icon of the vehicle to add from the lower part of the screen.



- Select preset values as a reference and enter vehicle information in the fields.If you select preset values, information such as vehicle weight is automatically input. Change the setting if necessary.
- 6. Click "Save".



How to edit information after registering the vehicle

- Editing of vehicle information
 - 1. Select "Set vehicle".
 - 2. Click "Add and edit".



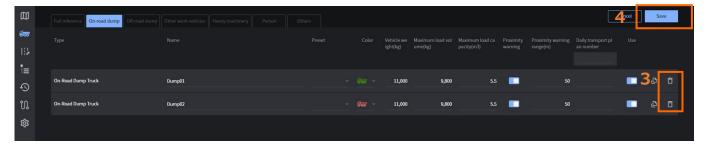
- 3. Edit the setting information from the items of each vehicle in the list.
- 4. Click "Save".



- Deletion of vehicle
 - 1. Select "Set vehicle".
 - 2. Click "Add and edit".



- 3. Delete from the "Delete" icon of each vehicle in the list.
- 4. Click "Save".



[Optional] Settings for Construction Machine with a Payload Meter

When you register a construction machine with a payload meter, the loading result of the registered machine is displayed in "Payload results".

Please also check the manual of your payload system.

External link: How to set the payload in "Smart Construction 3D Machine Guidance"

1. Log in with the user ID of the company that owns the construction machine, and click "Payload Collaboration".

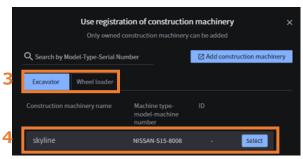


2. Click "Register usage" on the payload linkage screen.



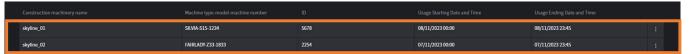
- 3. Select the type of construction machine.
- 4. Select the construction machine you want to add.

- 5. Enter "Usage start date and hour" and "Usage end date and hour".
- 6. Ensure that the information to be registered is correct, and click "Register".





7. The construction machine with a payload meter you have registered is displayed.

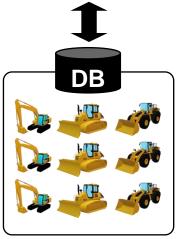


If there is no registration of the owned construction machine

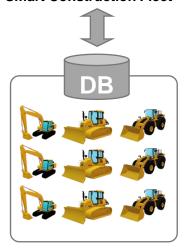
Note

- You cannot retrieve the information of the construction machine you have selected in the search if you have not registered it yet.
 - Login with the ID of the user who owns the construction machine, and follow the steps below to register the construction machine.
- Since the construction machine database used by Smart Construction Fleet is separate from that
 used by Smart Construction Pilot (Web application), new registration may be required even if the
 owned construction machines are registered in that another application.
- The construction machine you register here will be registered to the construction machine database shared with Smart Construction Dashboard.

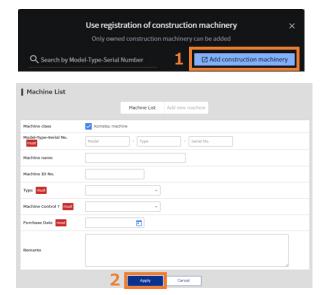




Smart Construction Dashboard Smart Construction Fleet



- 1. Click "Add a construction machine".
- 2. Ensure that the information to be registered is correct, and click "Register".



Editing of information on construction machine with a payload meter

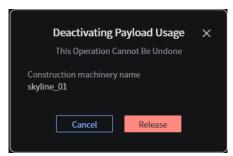
1. Click ": ".



• "Edit" allows you to edit the start and end dates and hours.



- "Copy to clipboard" copies the information on construction machine with a payload meter.
- "Delete" deletes a registered construction machine with a payload meter.



Note

- Note that you cannot perform payload linkage if there is no registration for the construction machine with a payload meter, or if it is outside the service period.
- When you have finished using the payload, it is recommended that you cancel the registration of the construction machine for the next site you use.

[Optional] Traveling Route Settings

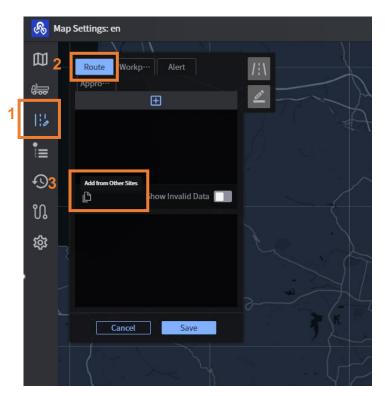
Set it if you want to show the traveling route on the map screen such as the real-time viewer or the mobile application.

For the site administrator, you can check in real time whether the driver is operating the correct route, and for the driver, whether the route to drive on a daily basis is correct.

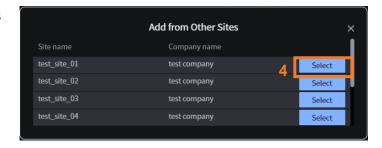
When copying the route from another site

You can copy the route if you have already used Smart Construction Fleet and there is a site where the route has been set.

- 1. Display the map setting screen.
- 2. Click "Route".
- 3. Click "Add from another site".

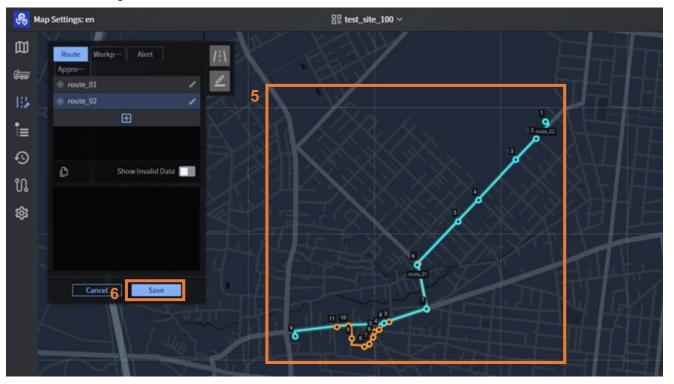


 Select the site to be copied.
 Sites for which your account is registered as "Site supervisor" are displayed in a list.



- 5. The route of the selected site is copied.

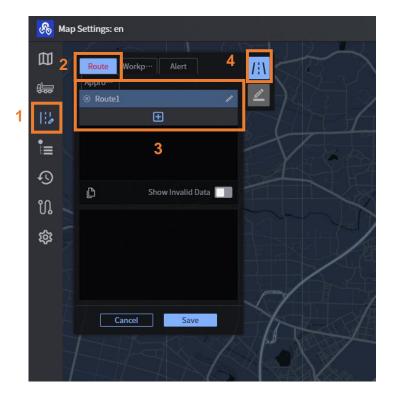
 The route initially created is not be overwritten.
- 6. After checking the route, click "Save".



When not copying the route from another site

When creating a route along the road

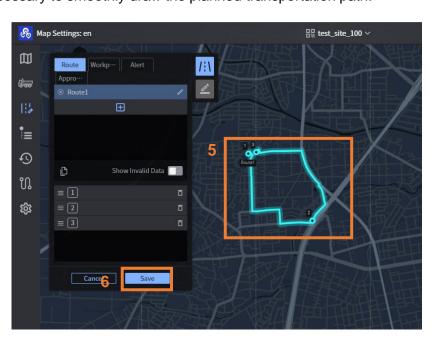
- 1. Display the map setting screen.
- 2. Click "Route".
- 3. Click "+" to add the new route.
- 4. Set "Route along road" to ON.



- 5. Click the starting point and the ending point of the route.

 Each time you click the map, the route between the pins is automatically searched.

 Click at an intersection, etc. as necessary to smoothly draw the planned transportation path.
- 6. After inputting the route, click "Save".

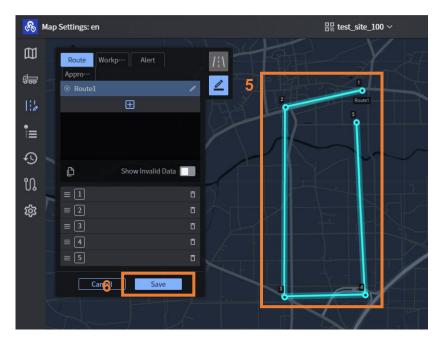


When creating a handwritten route

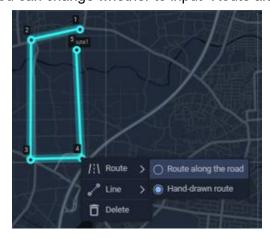
- 1. Display the map setting screen.
- 2. Click "Route".
- 3. Click "+" to add the new route.
- 4. Set "Handwritten route" to ON.



- Click the route in order from the starting point.
 The pins are connected by a straight line.
 Click at an intersection, etc. as necessary to smoothly draw the planned transportation path.
- 6. After inputting the route, click "Save".



* You can change whether to input "Route along road" or "Handwritten route" by clicking the pin.



[Optional] Creating a Work Point

For the vehicle that has been logged in as the role of the dump truck (vehicle role: transport), you can register the work history (loading and unloading history).

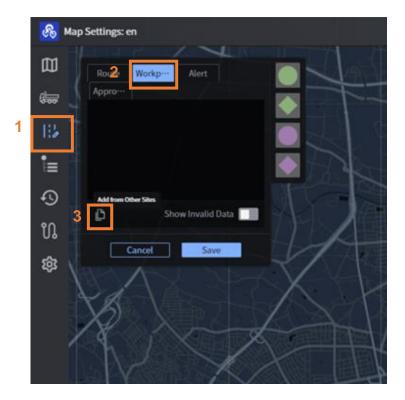
1

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

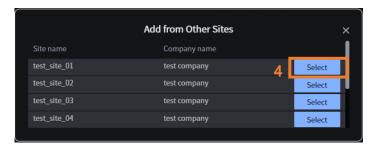
When copying the work point from another site

If you have already used Smart Construction Fleet and you have a site that has been set as a work point, you can copy the work point.

- 1. Display the map setting screen.
- 2. Click "Work point".
- 3. Click "Add from another site".

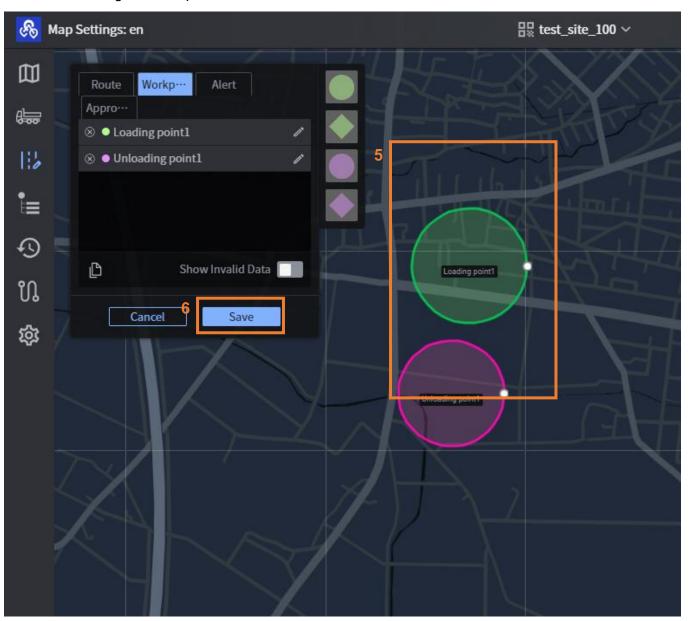


 Select the site to be copied.
 Sites for which your account is registered as "Site supervisor" are displayed in a list.



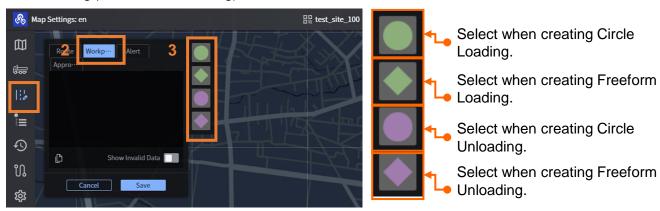
- 5. The work point of the selected site is copied.

 The work point initially created will not be overwritten.
- 6. After checking the work point, click "Save".

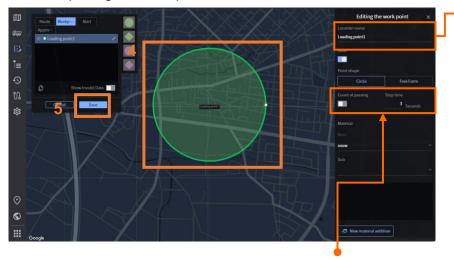


When not copying the work point from another site

- 1. Display the map setting screen.
- 2. Click "Work point".
- 3. Select the type of work point you want to create (Circle Loading | Freeform Loading | Circle Unloading | Freeform Unloading).



- 4. Click on the map.
- 5. After inputting the work point, click "Save".



Enter "Point name" and it will be displayed on the work point of the map screen.



The value becomes the set value of the work history registration automatic count.

- * For the work history registration automatic count, the work history is recorded when entering and exiting a point.
- When "Count by passage" is ON * Input of the stop time is impossible.

The work history is recorded when entering and exiting a point, even if the vehicle does not stop.

• If "Count by passage" is OFF and stop time is set: Enter the point -> Stop, and, after the set stop time has elapsed, exit the point to record the work history.



Illustration of circle

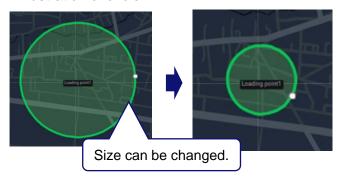
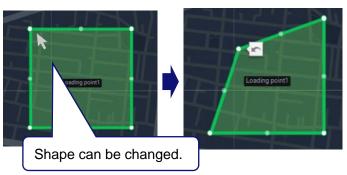


Illustration of freeform



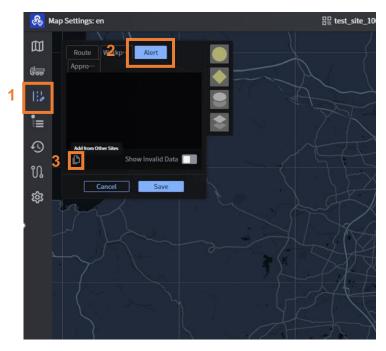
[Optional] Creating an Alert Point

An alert message is issued when a worker who has logged in on the mobile application passes a specific point.

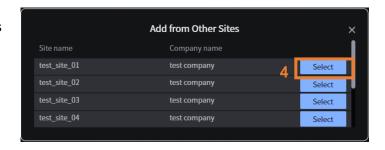
When copying the alert point from another site

If you have already used Smart Construction Fleet and you have already set an alert point, you can copy the alert point.

- 1. Display the map setting screen.
- 2. Click "Alert".
- 3. Click "Add from another site".

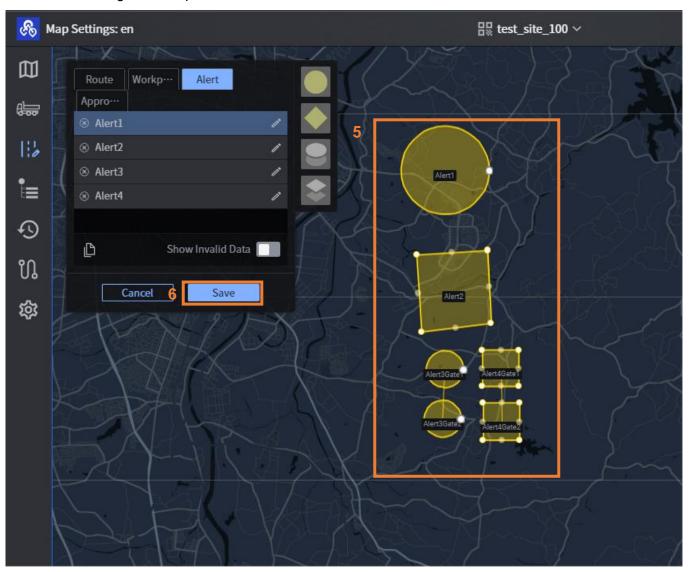


 Select the site to be copied.
 Sites for which your account is registered as "Site supervisor" are displayed in a list.



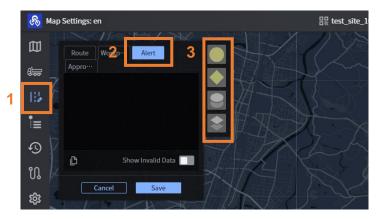
- 5. The alert point of the selected site is copied.

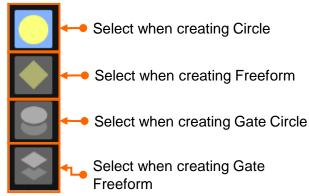
 The alert point initially created is not overwritten.
- 6. After checking the alert point, click "Save".



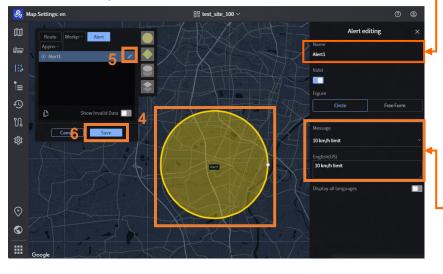
When not copying the alert point from another site

- 1. Display the map setting screen.
- 2. Click "Alert".
- 3. Select the type of alert point you want to create (Circle | Freeform | Gate Circle | Gate Freeform).

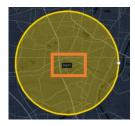




- 4. Click on the map.
- 5. Click the " mark.
- After inputting the alert point, click "Save".



Enter "Name" and it will be displayed at the alert point on the map screen.



When a message is selected from the list of fixed sentences, the read words are automatically input in the column of the language used. Read words can be edited freely.



Illustration of circle

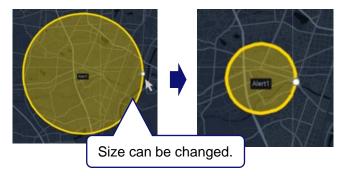


Illustration of freeform

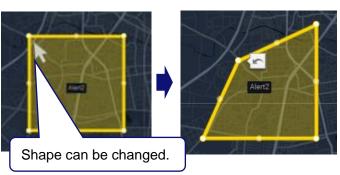
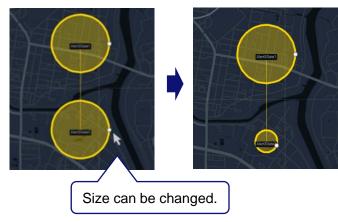
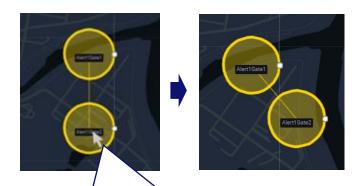


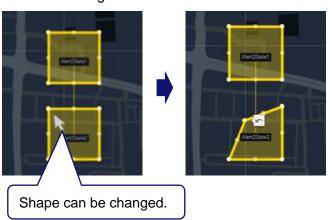
Illustration of gate circle

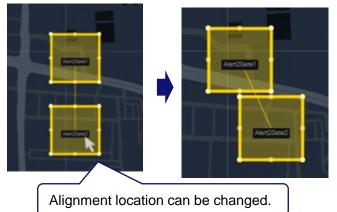




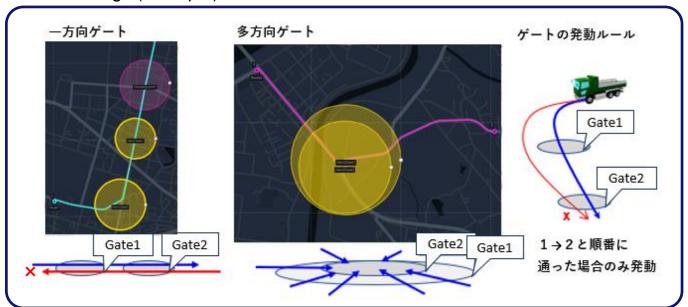
Alignment location can be changed.

Illustration of gate freeform





Gate settings (example)



[Optional] Approach Notification Settings

When a vehicle which is logged in and whose role is "Transport" approaches a loading point, the message set on the management screen is given by a screen display and a audio reading, to a vehicle to which a role of "Loading/Unloading area" is assigned.

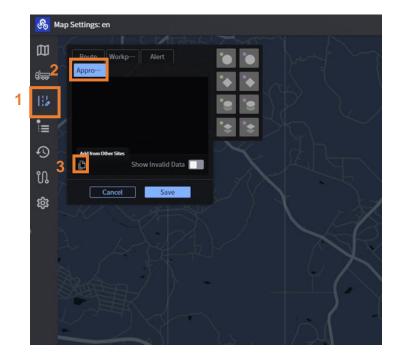
Note

- For the loading approach notification point, the vehicle that is logged in with the vehicle role "Loading area" will be notified.
- For the unloading approach notification point, the vehicle that is logged in with the vehicle role "Unloading area" will be notified.
- For details on the vehicle role, refer to the separate sheet "SCFleet_New Ver_vehicle role.xlsx".

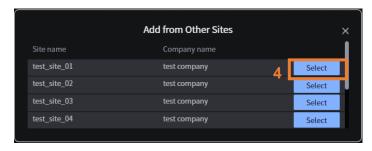
When copying the approach notification point from another site

If you have already used Smart Construction Fleet and you have a site that has been set as an approach notification point, you can copy the approach notification point.

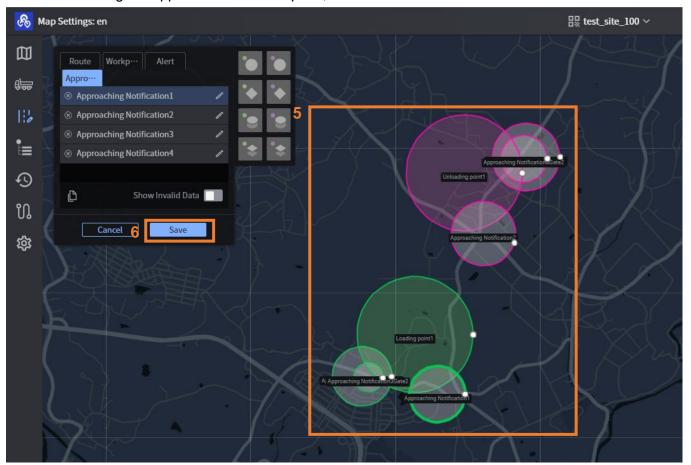
- 1. Display the map setting screen.
- 2. Click "Approach notification".
- 3. Click "Add from another site".



 Select the site to be copied.
 Sites for which your account is registered as "Site supervisor" are displayed in a list.

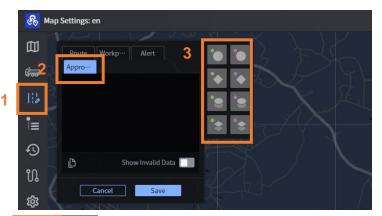


- 5. The approach notification point of the selected site is copied. The approach notification point initially created is not overwritten.
- 6. After checking the approach notification point, click "Save".



When not copying the approach notification point from another site

- 1. Display the map setting screen.
- 2. Click "Approach notification".
- 3. Select the type of approach notification point you want to create (Circle Loading | Circle Unloading | Freeform Loading | Freeform Unloading | Gate Circle Loading | Gate Circle Unloading | Gate Freeform Loading | Gate Freeform Loading)



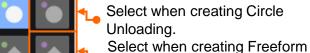


Select when creating Circle Loading.

Select when creating Freeform Loading.

Select when creating Gate Circle Loading.

Select when creating Gate Freeform Loading.



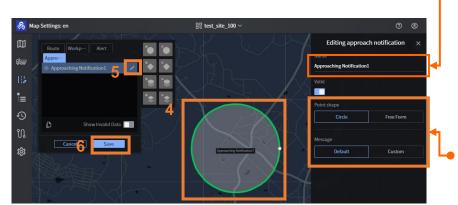
Select when creating Freeform Unloading.

Select when creating Gate Circle Unloading.

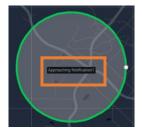
Select when creating Gate Freeform Unloading.

- 4. Click on the map.
- 5. Click the "

 " mark.
- 6. After inputting approach notification point, click "Save".

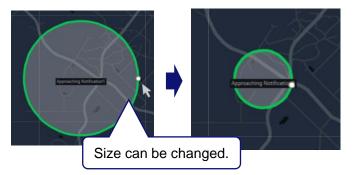


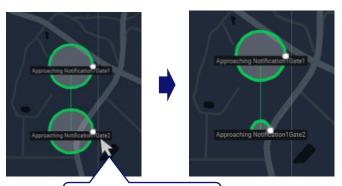
Enter "Name" and it will be displayed at the approach notification point on the map screen.



Select "Custom" to arbitrarily set the words for approach notification.

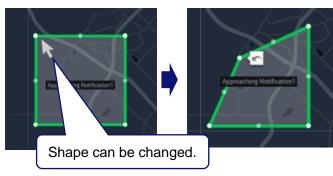
Illustration of circle

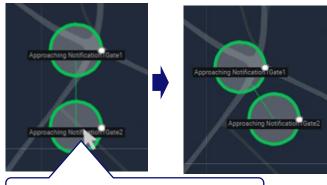




Size can be changed.

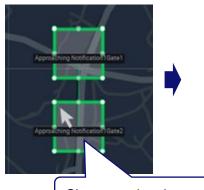
Illustration of freeform



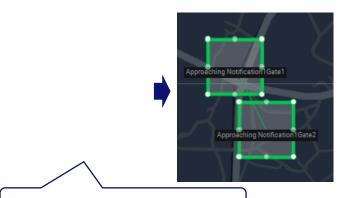


Alignment location can be changed.

Illustration of gate freeform

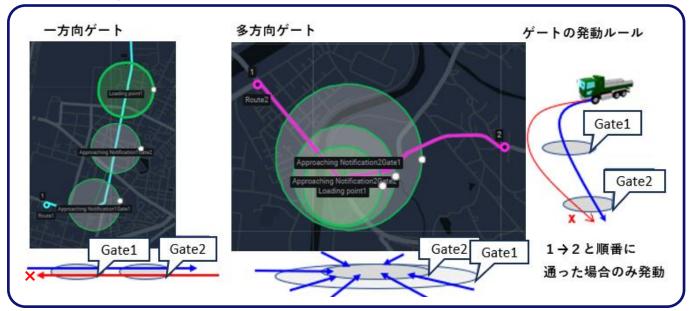


Shape can be changed.



Alignment location can be changed.

Gate settings (example)



[Optional] Group Settings

You can set groups of map objects (route, work point, alert point, and approach notification point). For the vehicle that has logged in the mobile application, only the map objects of the specified group are shown.

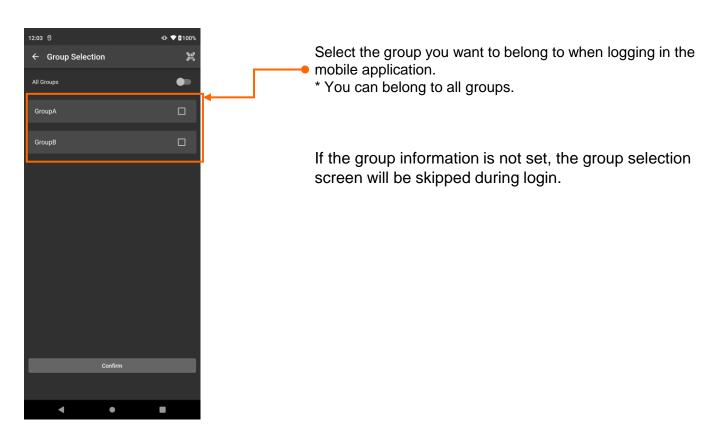
This will never register or notify the work history of groups your vehicle does not belong to. On the web screen, you can narrow down the work results by group and display them.

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

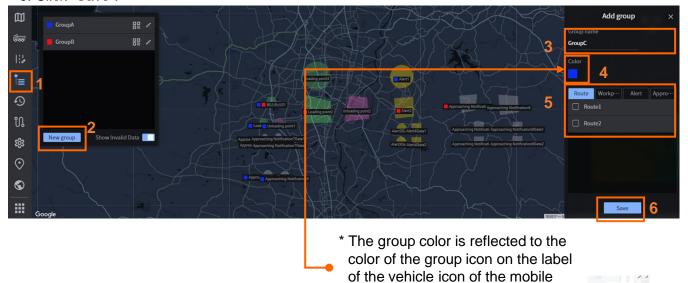
List of Work History Screen



Belonging group selection screen

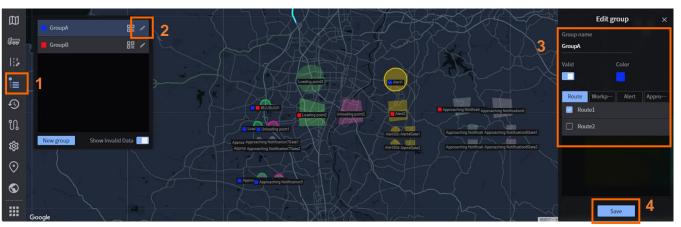


- Creating a new group
- 1. Display the group setting screen.
- 2. Click "New group".
- 3. Enter the group name.
- 4. Set the group color.
- 5. Set each map objects (route, work point, alert point, and approach notification point) as a group.
- 6. Click "Save".



application.

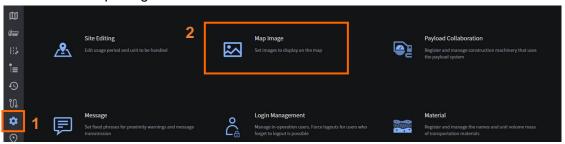
- Group editing
- 1. Display the group setting screen.
- 2. Click the editing icon of the group you want to edit.
- 3. Edit the setting information from the items in each group.
- 4. Click "Save".



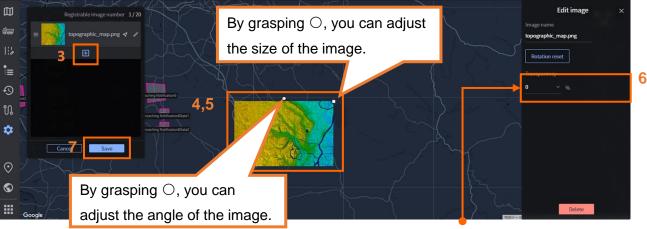
[Optional] Attaching Image to Map

You can affix on the map an ortho image, design drawing, etc. taken during the construction. The registered images are reflected on the map screen of "Real-time viewer", "Map settings", and "Group settings".

- 1. Display the project setting screen.
- 2. Click the map image.



- 3. Click "+".
- * Upload the image you want to attach as the image upload window (Explorer) is displayed.
- 4. Uploaded image is added to the map.
- 5. You can move this to the desired position.
- * With each handle, you can also resize the image and adjust its angle.
- 6. Select opacity level of the image.
- 7. Click "Save".



* Opacity is selected from the pull-down menu.

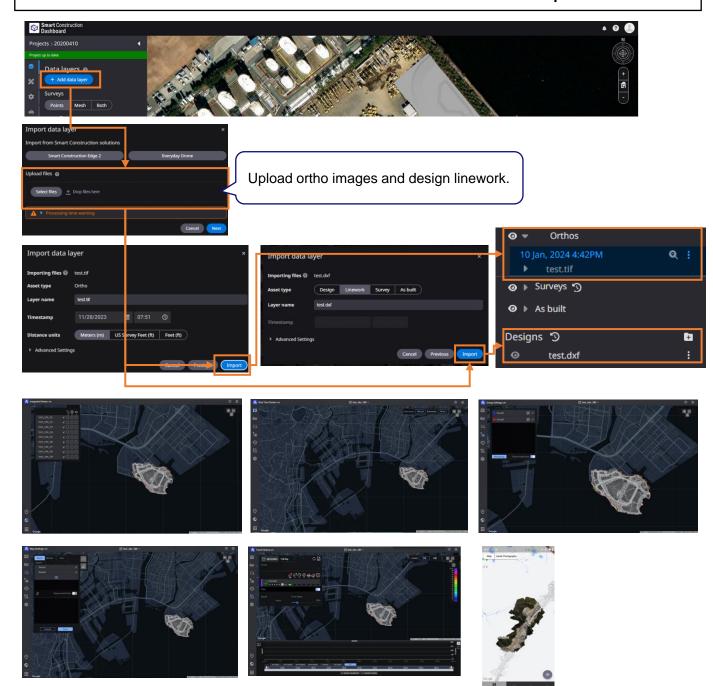


[Optional] Linking Ortho Images and Design Linework from Smart Construction Dashboard

- 1. Upload ortho images and design linework at Smart Construction Dashboard.
- 2. It is reflected on various map screens of Smart Construction Fleet.

Note

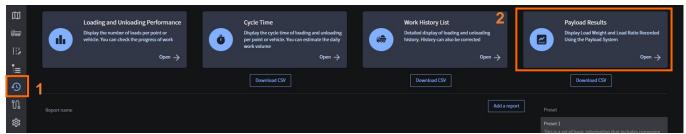
Note that it is not reflected if the site is not the same one created on the portal site.



Daily Use

Confirm the result of payload loading

- Show the result of payload loading
- 1. Display the result screen.
- 2. Click the payload result.



3. Select "Date".

You can also narrow down the display results by selecting "Time", "Vehicle", and "Model-Model type-Serial number".

The loading results you have selected are displayed.



- Save the result of payload loading
- 5. To save CSV, click "CSV download".



- Display CSV download modal.
- Select output period.Daily: With date input

All: No date input

8. Click "Download".



The loading date, loading time, loading time (millisecond), time zone, Model-Model Type- Serial No., vehicle name, vehicle weight (kg), maximum loading capacity (kg), load weight (kg), and load ratio (%) are output to the CSV file.

Export file name in case of daily: "payload-{Construction site ID}-date.csv" Export file name in all cases: "payload-{Construction site ID}.csv"



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
2023/05/28	Initial version (Ver5.0)
2024/07/30	Include a link to the article explaining how to set the payload in "Smart Construction 3D Machine Guidance"