



# **RELEASE NOTES**

## **NAVISUITE PERIO 4.6**

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# 1 NaviSuite Perio 4.6

**NaviSuite Perio 4.6** offers a unique approach to navigational aiding by enabling you to accurately deploy a varying number of virtual buoys that appear correctly on AIS displays on nearby vessels.

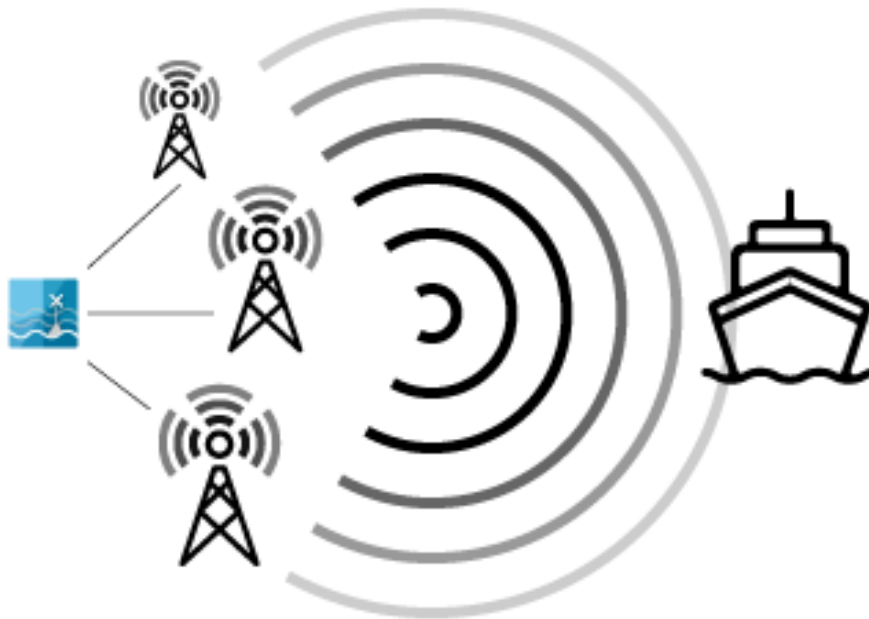


Figure 1 The data flow of NaviSuite Perio – the software connects to AIS devices which then send signals to vessels and other AIS devices

## 2 Features

**NaviSuite Perio** comes with many features that are simple and intuitive to use.

### 2.1 Groups

Groups are an important part of **NaviSuite Perio**, and at least one group is required for **NaviSuite Perio** to function. A group should be understood as a physical collection of AIS devices, ie AIS devices which are physically close should be part of the same group. This means a group will function as a container for AIS devices, as well as buoys which are on those AIS devices.

### 2.1.1 Creating groups

Up to 200 groups are supported, however, for typical setups, one will generally suffice. More groups should only be created if the setup has AIS devices in different locations, eg to aid navigation over longer distances.

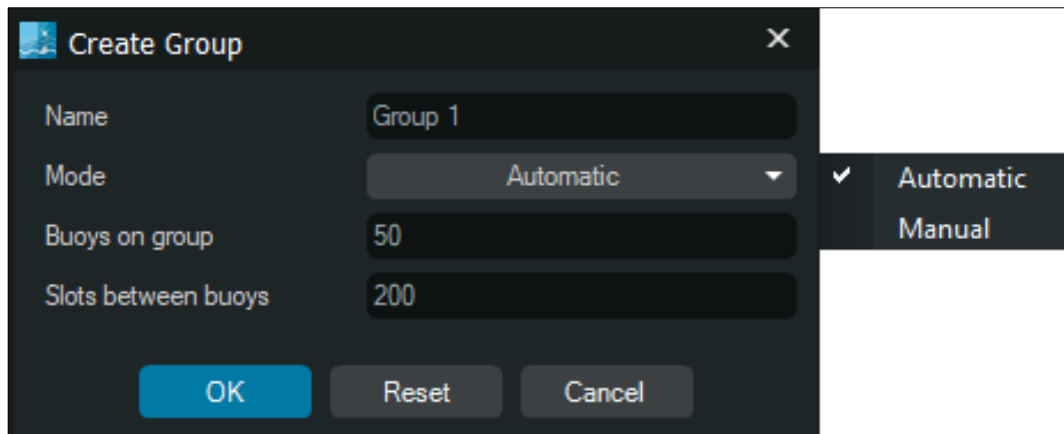


Figure 2 Create Group window

### 2.1.2 Deleting groups

Groups can be deleted at will. When a group is deleted, AIS devices and buoys in it will also be deleted, this includes from **NaviSuite Perio** and from physical device. **NaviSuite Perio** will not allow you to delete a group if only one remains, as **NaviSuite Perio** must always have at least one group.

### 2.1.3 Group modes

When a group is created, it will be in one of two selectable modes: **Manual** or **Automatic**. An automatic group will handle slot settings for created groups automatically. It will compute the slot settings based on two parameters which are given when an automatic group is created: expected number of buoys on the group and slots between buoys on the group. For manual groups, the slot settings will have to be entered manually.

## 2.2 AIS redundancy

**NaviSuite Perio** ensures that buoys will always be on an operational AIS device, given one is available, in its group. This means, should one of the AIS devices in the group fail, if it has any buoys on it, **NaviSuite Perio** will assign them to another operational AIS device in the group, if one exists.

A minimum of two operational AIS devices are required to have redundancy.

## 2.3 AIS devices

**AIS Devices** represent the connection between **NaviSuite Perio** and the physical device which will be broadcasting the AIS signals. The state of the AIS device is displayed in colour in the project tree: red, yellow, green.

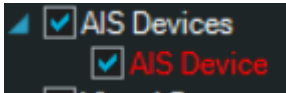


Figure 3 AIS Device, displayed as red, in the project tree

- **Red**  
The AIS device is not connected. Will often be accompanied by an alarm indicating that **NaviSuite Perio** is attempting to reconnect to the device.
- **Yellow**  
The AIS device is connected but has not received GPS fix yet. If the device has just been turned on, it can take some minutes before GPS fix is received. Even if GPS fix has been received on the physical device, it can take up to a minute before this is forwarded to **NaviSuite Perio**.
- **Green**  
The AIS device is connected and has received GPS fix. This is considered an operational AIS device by **NaviSuite Perio**.

Buoys will only ever be assigned to AIS devices considered operational.

### 2.3.1 Creating AIS devices

NaviSuite Perio supports any number of AIS devices for transmitting and receiving AIS signals.

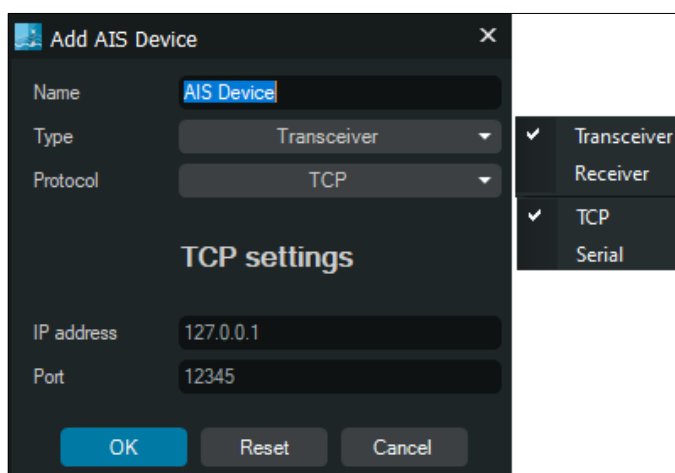


Figure 4 Adding an AIS Device (default settings)

When an AIS device is created, it will immediately attempt to connect to the specified address. If it is unable to connect, it will automatically keep retrying until the AIS device is removed or until a connection is established.

Should the connection drop at any point, it will also begin reconnecting.

### 2.3.2 Deleting AIS devices

AIS devices can be removed at will. When an AIS device is removed, all the buoys will be removed from the physical device but will be kept in **NaviSuite Perio** and assigned to another operational AIS device, if one exists.

### 2.3.3 AIS device types

When an AIS device is created, it will have one of two selectable types: **Transceiver** or **Receiver**. **Transceiver** should be selected for devices that can both transmit and receive AIS signals. **Receiver** should be selected for devices that can only receive AIS signals.

At any point when **NaviSuite Perio** needs to automatically assign buoys to AIS devices, it will only consider devices with type **Transceiver**.

## 2.4 Buoys

Buoys represents the aid to navigation (AtoN) that will be broadcasted by the **NaviSuite Perio system**. Like the AIS devices, the state of a buoy is also represented by colours: White, Red, Green, Grey. The white, red, and green colour represents the consistency state of the buoy. The consistency state is used for quality control.

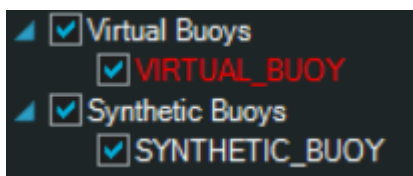


Figure 5 Buoys, displayed in red and white, in the project tree

- **White**  
The consistency of this buoy has not been checked yet.
- **Red**  
The buoy is inconsistent. This means that the buoy exists in the **NaviSuite Perio** system, but no AIS signal has been received from it. If the **NaviSuite Perio** setup consists of only one operational AIS device, all buoys will end up being red, as **NaviSuite Perio** has no way to determine whether the buoy truly exists or not.
- **Green**  
The buoy is consistent. This means the buoy exists in the **NaviSuite Perio** system

and an AIS. Green is an indication that vessels within the range of your antenna can receive the AIS signal of the buoy.

- **Grey**  
The buoy is inactive.

#### **2.4.1 Creating buoys**

Two different types of buoys can be created: virtual and synthetic. They help you organise your buoys by serving two different roles: virtual buoys are for general navigation aid and synthetic buoys are for marking locations that have physical objects on them.

Depending on the mode of the group the buoy is created in, the creating process may differ a little. To create a buoy in a manual group, the slot settings will have to be entered manually during the creation process.

#### **2.4.2 Deleting buoys**

Buoys can be deleted at will. When a buoy is deleted, it is removed from **NaviSuite Perio** and from the physical device.

#### **2.4.3 Activating and deactivating buoys**

When a buoy is created, it will be active by default. This means, given there were no problems with the creation of the buoy, it will be broadcasted. When a buoy is deactivated, it will be removed from the AIS device, but still exist in **NaviSuite Perio** waiting to be activated.

A buoy can be activated and deactivated in numerous ways. One can deactivate just a single buoy at a time, or multiple buoys depending on the desired outcome.

#### **2.4.4 Always on**

Buoys can be told to be always on. This means when a command to deactivate multiple buoys, eg by deactivating all buoys in a group, the buoys that are always on will ignore this request. If you are deactivating just the specific buoy that is always on, the always on tag will be ignored and the buoy will be deactivated regardless.

## **2.5 Automatic saving**

Every time an action is made, eg creating a buoy or an AIS device, **NaviSuite Perio** will save the project. It is never required to save.

## 2.6 Import buoys

Buoys can be imported from a .csv file. The position can be given in three different formats.

- Degrees, minutes and seconds
- Degrees and decimal minutes
- Decimal degrees

If the mode of the group you are importing to is manual, you will need to include the slot settings in the .csv file. If the mode is automatic, you can omit the slot settings.

## 2.7 Buoy clicker tool

Buoys can be created using a clicking tool. The buoys will be created at the clicked location. This is a fast and easy way to create buoys.

## 2.8 Alarms

When something critical goes wrong, such as an AIS device failing, **NaviSuite Perio** will show an alarm with a description of the problem, along with suggestions to a fix if anything can be potentially be done.

The alarm window will also show other useful information that is not necessarily errors or critical problems.

## 2.9 AIS on the 3D map

All AIS received by **NaviSuite Perio** will be shown on the 3D map view. This includes buoys created in **NaviSuite Perio**, which will also be coloured based on their consistency states.

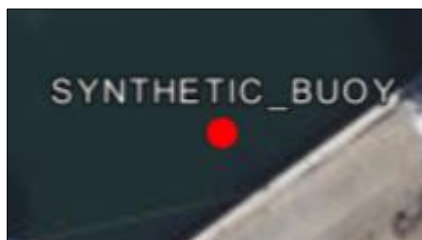


Figure 6 A buoy created in **NaviSuite Perio**, which is coloured red