


Getting started




Hefring Engineering, headquartered in Boston, MA, is a U.S.-owned and operated business focused on developing technologies for ocean observation. We offer a glider platform named Oceanscout, designed for easy deployment and cloud-native mission control to collect and access ocean information. This technology is used for various purposes including storm forecasting, climate modeling, ecological sustainability, and naval operations. Our approach integrates modern electronics, machine learning algorithms, artificial intelligence, and edge processing to enhance oceanic data availability and operational oceanography.

Welcome

Welcome to the Hefring community! This user guide serves as your comprehensive guide to navigating the Hefring Oceanscout platform, a pioneering tool in ocean observation technology. Ideal for researchers, corporations and enthusiasts, the Oceanscout platform, developed by Hefring Engineering, integrates advanced cloud-native control systems with AI and machine learning.


Guide Contents

This guide has been crafted to assist you in utilizing the Hefring system for managing your fleet, plotting courses, deploying your gliders, issuing commands, and interpreting data outputs. Whether you are a seasoned researcher or a newcomer to Hefring, this guide is your resource for getting started and getting the most out of your experience.



How to use this guide:
Navigate through the sections chronologically or jump to specific topics using the table of contents. Each section provides step-by-step instructions accompanied by clear visuals, ensuring that you can follow along effortlessly.

Search: This manual is searchable, search keywords to quickly find relevant sections.



A note on feedback: Please do not hesitate to contact Hefring with any bug reports, feedback, or suggestions on how we can make the Oceanscout system (and manual) work better for you.

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[Registration](#)

Learn how to log in to the Hefring website and gain access to the Oceanscout Platform.

[Account setup](#)

Understand the process of setting up your account, customizing preferences, and ensuring your profile aligns with your research needs.

[Fleet and Vehicle Configuration](#)

Set up your fleets and vehicles, and organize your gliders efficiently. From naming vehicles and fleets to associating nose cones, this section guides you through the whole process.

[Billing](#)

Understand how to read your invoice.

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Find additional information, guides and links.

Registration

1. After finishing up with your Hefring sales representative, you will receive an email notification from "no-reply@verificationemail.com" containing your account ID and your temporary password. Your company or institution will be given a unique domain, e.g. "company.hefring.cloud".

We recommend that you use your registered email address as your username to log in.

2. When logged in, you'll be prompted to accept browser notifications and location sharing. These are for glider events and for easy map navigation.
3. That's it! Continue to learn how to set up your account.

Account setup

Initial account setup:


1. Navigate to "**Account**" > "**Profile**" from the sidebar menu
2. Click "**Edit**" to customize or upload an avatar
3. Navigate to "**Account**" > "**Units**" from the sidebar menu
4. Toggle display units as desired (metric/imperial/maritime)
5. Navigate to "**Management**" > "**Meta**" from the sidebar menu
6. Upload your logo (optional)




If information is missing or incorrect, please contact support@hefring.com

Add users to your organization:

1. Navigate to "**Management**" > "**Users**" from the sidebar menu
2. Click "**New user**"
3. Enter name, email and phone number. The user can set up their avatar later
4. Check "**Organization administrator**" if applicable
5. Click "**Create**" to save
6. User will receive an email invitation

 Email invite **must be accepted within 48 hours by receiver**.
Otherwise, archive the expired user and create a new one.


 There are two access levels; organization administrator and organization user.
See table below for details.

Access level	Actions available
Organization administrator	<ul style="list-style-type: none">• Set up projects to contain your fleets and vehicles• Manage users, access levels and send new passwords• Assign users to fleets• Manage projects and billing• Create routes, manage templates and deploy vehicles• Upload your logo• Customize avatar• Select display units
Organization user	<ul style="list-style-type: none">• Create routes, manage templates and deploy vehicles within your assigned projects• Customize avatar, view contact information• Select display units

Edit user profiles and/or send new passwords to existing users:


1. Navigate to "**Management**" > "**Users**" from the sidebar menu
2. Click the user you want to edit and/or send a new password to
3. Click "**New pass**" to send new password, and/or edit the desired fields

4. It saves your changes automatically, so you can simply close the dialogue when finished

 Non admin users must be assigned to one or more fleets to be able to see their gliders.


Initial project setup:

1. Navigate to "**Management**" > "**Projects**" from the sidebar menu
2. Create a project
3. Assign your fleet(s) to the project
4. Navigate to "**Management**" > "Fleets" from the sidebar menu
5. Click "**New fleet**" and add an image (optional), a name and a description. Click "**Create**"
6. Assign user(s), vehicle(s) and a project to your fleet

 "**Projects**" are for billing and mission filter. This way, you can easily see which fleets are more expensive on your [invoice](#).


Mobile App (iOS & Android)



Download the Hefring mobile app, available in the Apple or Google app stores for easy mission monitoring and control from your phone.


 Don't forget to download the mobile app for easy Hefring Cloud access on your phone or tablet!

Fleet and vehicle configuration

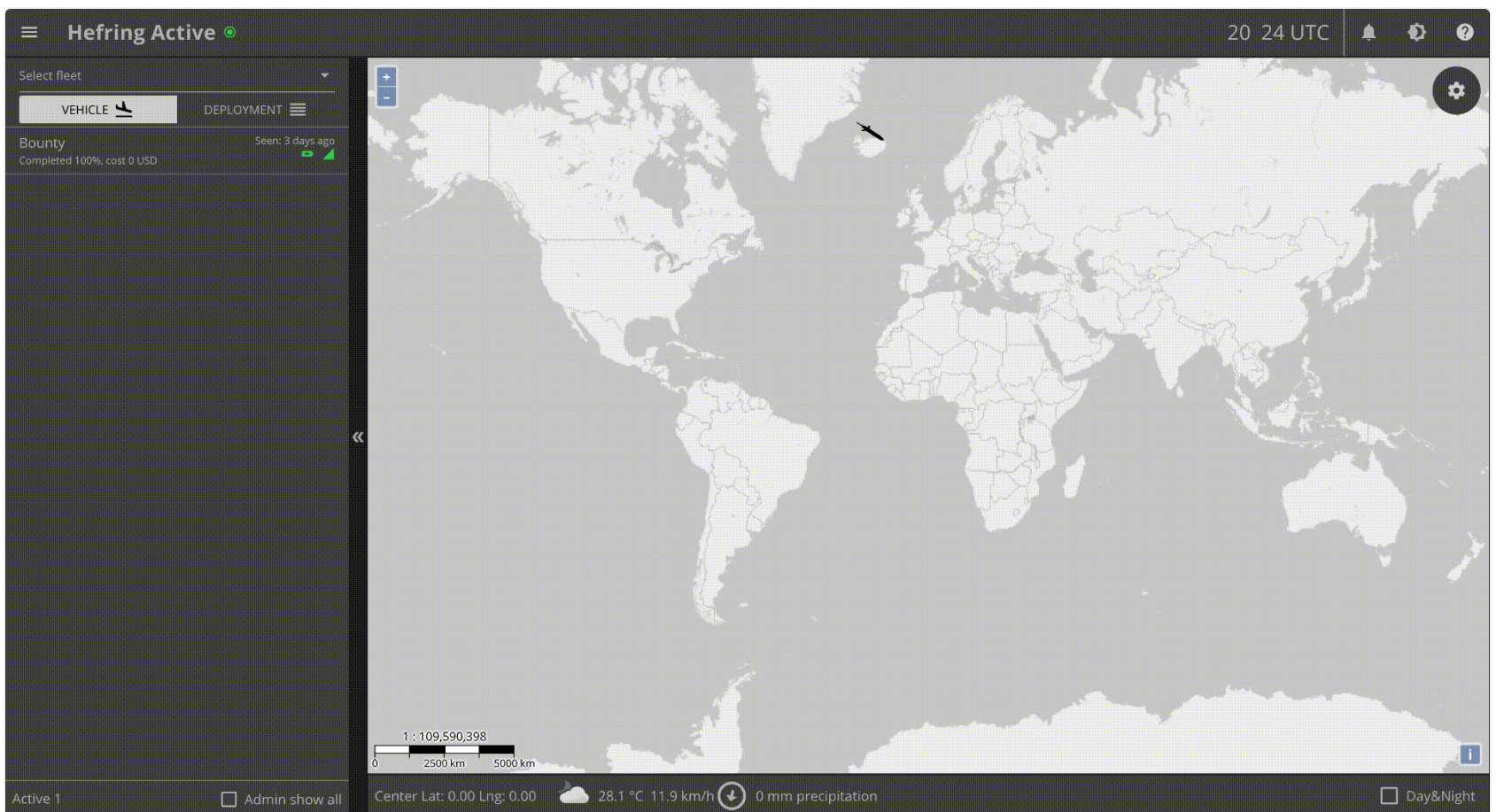
Setting up your fleets:

1. Navigate to "**Management**" > "**Fleets**"
2. If the list is empty, click "**New fleet**"
 - a. Add a fleet name
 - b. Add a description
 - c. Add an image or logo (optional)
 - d. Click "**Create**"
3. Select your fleet
4. Assign users by clicking the  button
 - a. Select users from the list

- b. Click "**Close**"
5. Assign vehicles by clicking the  button
 - a. Select vehicles from the list
 - b. Click "**Close**"
6. Assign a project by clicking the  button
 - a. Select a project from the list
 - b. Click "**Close**"

 You should see two (or more) gliders - one real and one virtual. You can use your virtual glider(s) to simulate deployments and test things without deploying in real life.

Contact support@hefring.com to acquire more.



Setting up your vehicle(s):

1. Navigate to "**Management**" > "**Vehicles**"
2. Select your vehicle from the list
3. Change the vehicle name
4. View or reassign the vehicle's fleet

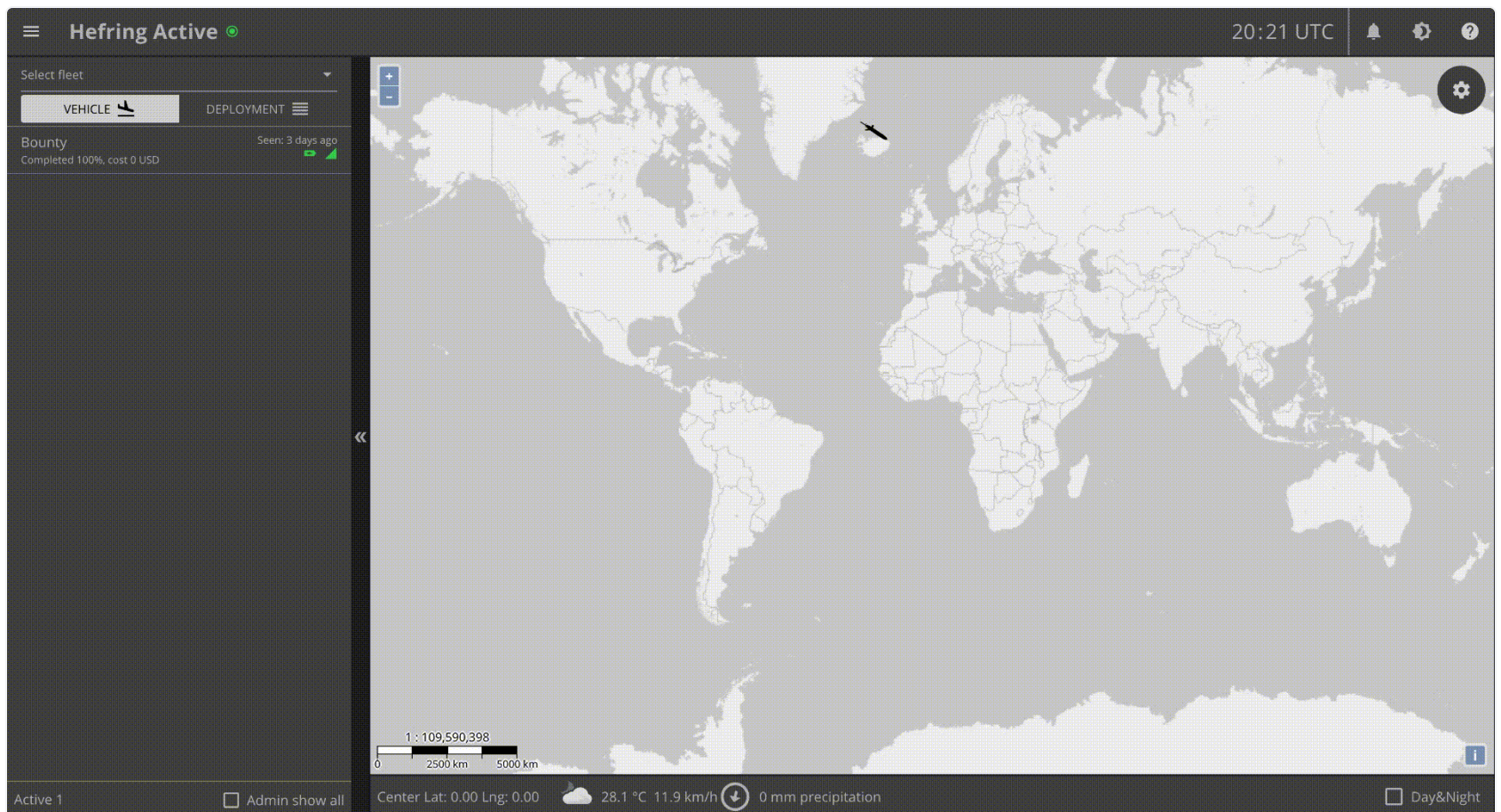
5. View or reassign the vehicle's nose cone

👉 To edit vehicle properties, the vehicle must be in "**Maintenance mode**". **Click on the vehicle and change mode button.**

⚠️ **IMPORTANT:** Do not change the nose cone unless you know what you are doing. To learn how to remove a nose cone, [click here](#).

Setting up your nose cone(s):

1. Navigate to "**Management**" > "**Nose cones**"
2. Select your nose cone from the list
3. If there is an IMEI visible, your selection is a real nose cone
4. If IMEI says N/A, it's a virtual nose cone
5. Rename if desired. Consider renaming for consistency. It's advisable to name the nose cone in alignment with its corresponding glider, appending the suffix "cone" for clear identification.



Billing

To find your invoices:

1. Navigate to "**Management**" > "**Billing**"
2. Use tabs to browse viewing options:

Monthly

"**Monthly**" gives you a quick overview of the current month, and of previous invoices. You can preview a preliminary invoice by clicking "**Preliminary invoice**". A .pdf file will open in a new tab in your browser.

Projects

This view shows concurrent expenses for specific "[project\(s\)](#)".

Deployments

This view shows concurrent expenses for specific "[deployments](#)".

Fleets

This view shows concurrent expenses for specific "[fleets](#)".

Viewing and Processing Data from your Oceanscout

Vehicle logs and CTD sensor data files are downloaded from the glider via the webpage (see Firmware section). PAM files are stored on SD cards located in the glider nose, behind the nose cable connector. Hefring offers the following tools for handling glider data:

Hefring Data Tool

Hefring Data tool manual including download links in Section 4: <https://doc.clickup.com/24539728/d/h/qcwjg-7151/547e695156a9cb6>

Hefring PAM tool

Hefring PAM tool manual including download links in Section 4: <https://doc.clickup.com/24539728/d/h/qcwjg-6031/3a378aa79f496b0>

OceanContour can also process, preview, and convert Hefring data files. It is available from OceanIllumination here: <https://www.oceanillumination.com/downloads.html>


Live Export - Hefring Cloud can also be configured to export live data to external servers (eg. IOOS GDAC). For setup instructions please refer to Live Export in the Cloud section.

Key Terms

- **Yo:** Gliders travel through the ocean by adjusting weight and buoyancy and as such run in a very specific pattern underwater known as a 'yo.' One 'yo' is one down and up of the vehicle.
- **Dive:** A series of yos between surfacings.
- **VBE:** Variable Buoyancy Engine, the motor and piston that changes vehicle buoyancy.
- **PAM:** Passive Acoustic Monitor, the hydrophone and associated system for recording sound.
- **CT / CTD:** Conductivity Temperature Depth sensor or data

Additional Resources:

HOME - Hefring Engineering

 <https://www.hefring.com/>