

# **Report of Autonomous Underwater Vehicle**

## First Software of AUV for Mission Editor :

### Overview



## Change the Setting

**General**

Theme

Language

**Mission Default Values**

WP Speed (m/s)	<input type="text" value="10"/>	<input type="button" value="Increase WP Speed"/>
WP Altitude (m)	<input type="text" value="20"/>	<input type="button" value="Increase WP Altitude"/>
Rails Speed (m/s)	<input type="text" value="10"/>	<input type="button" value="Increase Rails Speed"/>
Rails Altitude (m)	<input type="text" value="10"/>	<input type="button" value="Increase Rails Altitude"/>
Track Family Interval (m/s)	<input type="text" value="10"/>	<input type="button" value="Increase Track Family Interval"/>
Circle Speed (m/s)	<input type="text" value="10"/>	<input type="button" value="Increase Circle Speed"/>
Circle Altitude (m)	<input type="text" value="10"/>	<input type="button" value="Increase Circle Altitude"/>
Timeout (s)	<input type="text" value="10"/>	<input type="button" value="Increase Timeout"/>

**Units**

Distance (m)

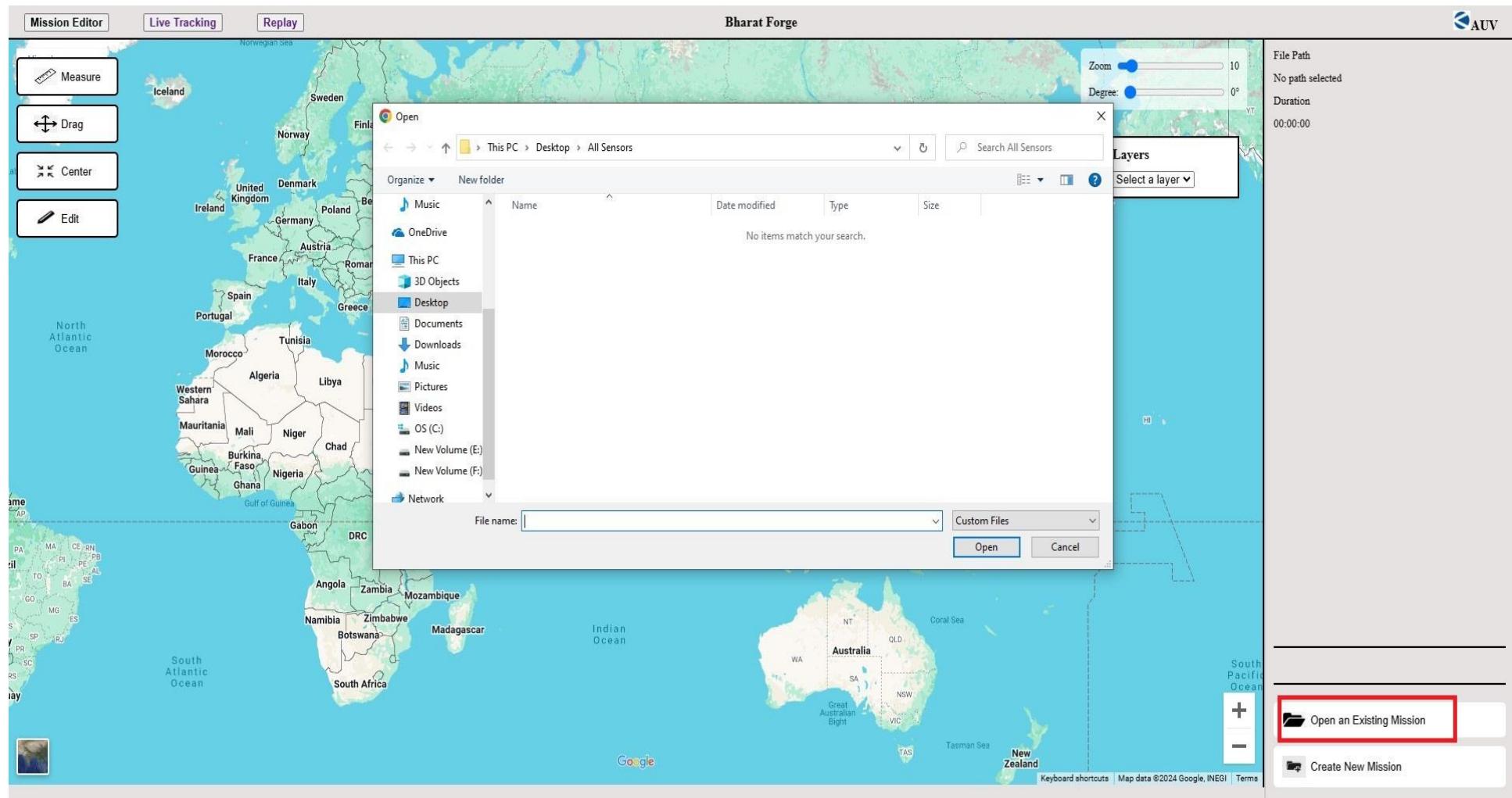
Coordinate

Speed (m/s)

**Area Default Values**

Exclusion	Border	<input type="radio"/> Fill	<input type="radio"/>
Containment	Border	<input type="radio"/> Fill	<input type="radio"/>
Min Depth	Border	<input type="radio"/> Fill	<input type="radio"/>
Max Depth	Border	<input type="radio"/> Fill	<input type="radio"/>
Contacts		<input type="radio"/>	

## Open an Existing Mission



## Change Map Layer

Mission Editor   Live Tracking   Replay   Bharat Forge   AUV

File Path  
No path selected  
Duration  
00:00:00

Layers

- GeoTIFF
- Select a layer
- S57
- S63
- GeoTIFF
- WMTS
- WMS**

Measure   Drag   Center   Edit

Zoom: 10   Degree: 0°

Keyboard shortcuts | Map data ©2024 Google, Mapa GIsrael | Terms

Open an Existing Mission   Create New Mission

## Create New Mission

Mission Editor   Live Tracking   Replay   Bharat Forge   AUV

File Path  
No path selected  
Duration  
00:00:00

Measure   Drag   Center   Edit   Layers   Select a layer ▾

New Mission

Add New Payload

Enter Payload Name  
Select Payload Type ▾ Add Payload  
Save Payloads

Add New Device

Enter Device Name  
Select Device Type ▾ Enter Serial Number Add Device

Use Saved Payloads

Select a saved payload ▾ Add Selected Payload Save Mission

Open an Existing Mission

Create New Mission

Zoom: 10   Degree: 0°

North Atlantic Ocean   South Atlantic Ocean   North Pacific Ocean   South Pacific Ocean

Google   Keyboard shortcuts   Map data ©2024 Google, INEGI   Terms

## Select Payload Type

Mission Editor   Live Tracking   Replay   Bharat Forge   AUV

File Path  
No path selected  
Duration  
00:00:00

New Mission

Add New Payload

OAS  
Select Payload Type ▾ Add Payload  
Select Payload Type  
SSS-Klein  
OAS  
AML  
Magnetometer  
CTD   Add Device

Use Saved Payloads

Select a saved payload ▾  
Add Selected Payload  
Save Mission

Open an Existing Mission  
Create New Mission

Measure   Drag   Center   Edit

Zoom: 10   Degree: 0°

Layers  
GeoTIFF ▾  
GeoTIFF   Delete

## Select Device Type

Mission Editor   Live Tracking   Replay   Bharat Forge   AUV

File Path  
No path selected  
Duration  
00:00:00

New Mission

Add New Payload

Enter Payload Name  
Select Payload Type ▾ Add Payload  
**Payload: OAS (OAS)**  
Save Payloads

Add New Device

- AUV
- Select Device Type ▾
- Comet**
- Beacon
- Nemosens
- Surface
- Diver

Open an Existing Mission

Create New Mission

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## Add Selected Payloads

Mission Editor   Live Tracking   Replay   Bharat Forge   AUV

File Path  
No path selected  
Duration  
00:00:00

New Mission

Add New Payload

Enter Payload Name  
Select Payload Type ▾ Add Payload  
Payload: OAS (OAS)  
Save Payloads

Add New Device

AUV  
Comet ▾ 523542 Add Device

Use Saved Payloads

OAS (OAS) ▾  
Add Selected Payload  
OAS  Save Mission

Open an Existing Mission  
Create New Mission

Measure   Drag   Center   Edit

Zoom: 10   Degree: 0°

Layers  
GeoTIFF ▾  
GeoTIFF

## Save the Mission

This page says

Please enter the mission name:

**OK** **Cancel**

AUV

File Path  
No path selected  
Duration  
00:00:00

---

New Mission

Add New Payload

Enter Payload Name  
Select Payload Type **OAS (OAS)** Add Payload  
Payload: OAS (OAS)  
Save Payloads

Add New Device

AUV  
Comet **523542** Add Device

Use Saved Payloads

OAS (OAS) Add Selected Payload  
OAS **Save Mission**

---

**+** Open an Existing Mission  
**-** Create New Mission

## Click Waypoints

Mission Editor   Live Tracking   Replay   Bharat Forge   AUV

File Path: C:/Missions/Mission 1.json  
Duration: 00:00:00

New Mission: Mission 1 (AUV (Comet))

Add New Payload: Enter Payload Name, Select Payload Type, Add Payload  
Payload: OAS (OAS), Save Payloads

Add New Device: Enter Device Name, Select Device Type, 326548, Add Device

Use Saved Payloads: OAS (OAS), Add Selected Payload, OAS, Save Mission

Open Existing Mission, Create New Mission

Zoom: 10, Degree: 0°

Layers: Select a layer

WP (Waypoint) button highlighted with a red box

Measure   Drag   Center   Edit   WP   Track   Circle

Zoom: 10   Degree: 0°

Layers: Select a layer

WP

Measure   Drag   Center   Edit   WP   Track   Circle

File Path: C:/Missions/Mission 1.json  
Duration: 00:00:00

New Mission: Mission 1 (AUV (Comet))

Add New Payload: Enter Payload Name, Select Payload Type, Add Payload  
Payload: OAS (OAS), Save Payloads

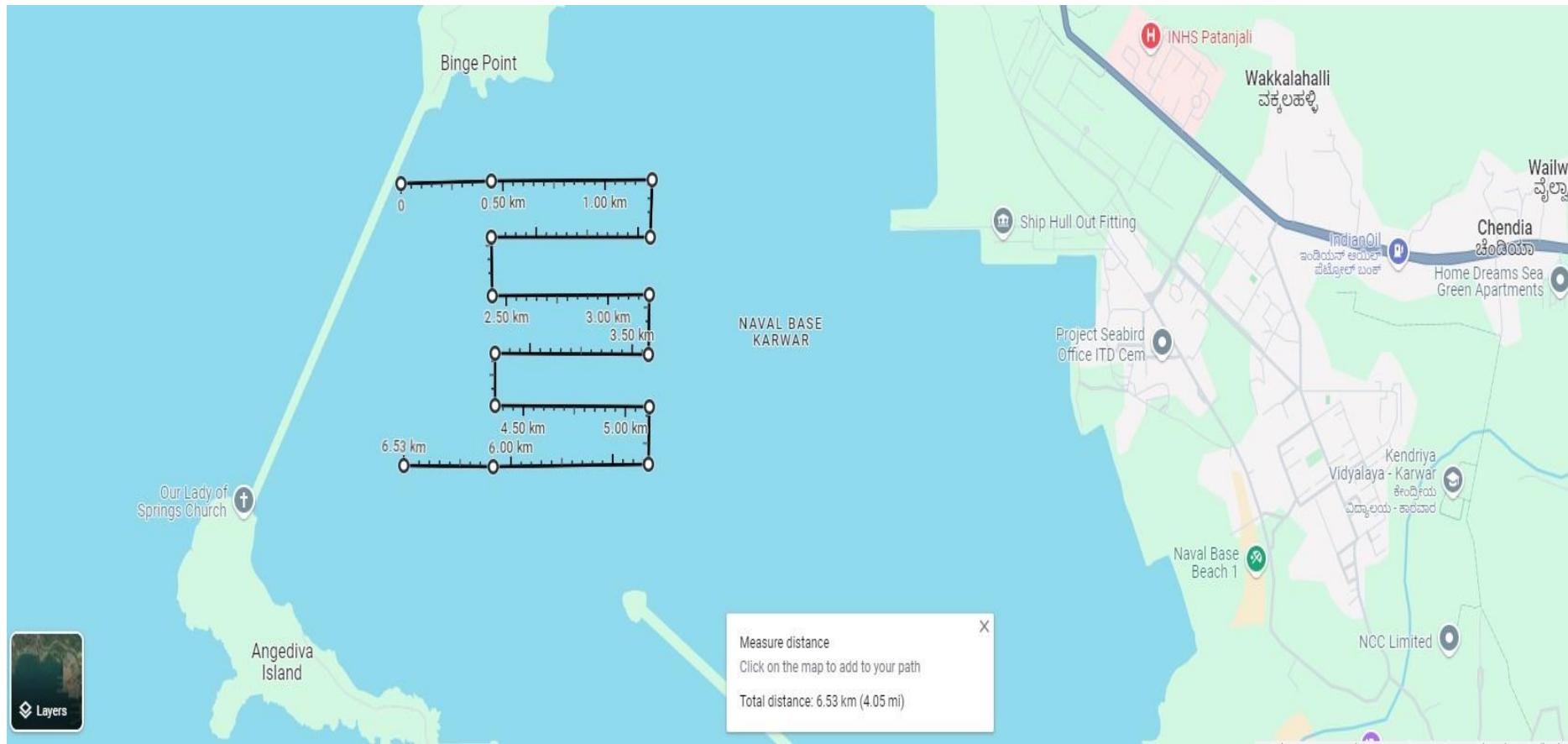
Add New Device: Enter Device Name, Select Device Type, 326548, Add Device

Use Saved Payloads: OAS (OAS), Add Selected Payload, OAS, Save Mission

Open Existing Mission, Create New Mission

Keyboard shortcuts: Map data ©2024 Google, INEGI, Terms

## Create the Mission



**Second Software of AUV for Live Tracking :**

## Live Tracking Software Overview

**Live Tracking**

**Overview**

**AUV**

**Mission**  
File: Select a Mission Open Delete

**UI Device**  
Device: Select a Device

**Acoustic**  
Acoustic: Select Acoustic Dev

**Manual**  
Go To: Set Position: Latitude: Enter Latitude Longitude: Enter Longitude Immersion: 0 meters Speed (m/s): 0 m/s Payload:

**Layers**  
Select a layer

**Bh**  
Zoom: 10 Degree: 0°

Battery : 85%

Mode : Autonomous

Host : 192.168.0.1

GPS : 14.764561, 74.14730

Keyboard shortcuts Map data ©2024 Terms Report a map error

## Select the Mission

Live Tracking      Overview      AUV

**Mission**  
File: Select a Mission Open Delete

**UI Device**  
Device: Select a Device

**Acoustic**  
Acoustic: Select Acoustic Dev

**Manual**  
Go To: Set Position:  
Latitude: Enter Latitude  
Longitude: Enter Longitude  
Immersion: 0 meters  
Speed (m/s): 0 m/s  
Payload:

Battery : 85%      Mode : Autonomous      Host : 192.168.0.1      GPS : 14.764561, 74.14730

## Selected Mission Overview

**Live Tracking**

**Overview**

**AUV**

**Mission**

File: Select a Mission Open Delete

UI Device: AUV

Acoustic: Sonar

Manual

Go To: Set Position:

Latitude: 192.23.23

Longitude: 193.23.23

Immersion:  125 meters

Speed (m/s):  3.1 m/s

Payload:

**Layers**

Select a layer

The map displays a coastal town with various landmarks. Key locations include Naval Beach Karwar, IOCL Karwar Bunkering Terminal, Grasim Industries, IndianOil, Shri Surya Temple, Wakkalhalli, Nagaramadi Waterfalls, Konkan Railway Tunnel, Todur, Kantriwada, Chendiya, Todur Ayurvedic Trauma Treatment, Idoor, Churchwada, Kadamba beach, Mountain Beach, Lord Mahaveera Beach, and Angediva Island. Roads are marked with route numbers 66 and 17. The map also shows the NAVAL BASE KARWAR and NCC Limited. The AUV's path is indicated by a green line starting from the coast and moving inland towards the center of the town.

Battery : 85%

Mode : Autonomous

Host : 192.168.0.1

Keyboard shortcuts Map data ©2024 Terms Report a map error

GPS : 14.764561, 74.14730

## Setting Panel

**Settings**

- Overview
- Maintenance
- Calibration
- Fault
- Autotest
- Batteries
- Upload
- File Transfer
- Payloads
- Settings

**Overview**

**AUV**

**Mission**

File: Select a Mission Open Delete

**UI Device**

Device: Select a Device

**Acoustic**

Acoustic: Select Acoustic Dev

**Manual**

Go To: Set Position:

Latitude: Enter Latitude

Longitude: Enter Longitude

Immersion: 0 meters

Speed (m/s): 0 m/s

Payload:

**Layers**

Select a layer

Mode : Autonomous

Host : 192.168.0.1

GPS : 14.764561, 74.14730

## Maintenance

Maintenance				
<b>General</b>			<b>Environment (Temperature)</b>	
Mission	--	Battery - COMET ONLY		
E. Consumption	--	INS		
Serial Number	--	SDA14		
<b>Navigation</b>			<b>Position</b>	
INS	--	Latitude		
Pressure Sensor	--	Longitude		
Internal Pressure	--	Profondeur		
<b>GPS</b>			<b>Attitude</b>	
Fix	--	Pitch		
Sync	--	Roll		
Time	--	Heading		
Data Output	--	<b>AUV-SCM</b>		
<b>RACAM</b>			WIFI	
Emission	--	Engine Controller - Nemo Only		
Sync	--	DVL		
Audio Record	--	<b>Sensors</b>		
<b>Hardware</b>				
Batter	--			
Storage	--			

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Calibration

### Calibration

---

#### Magnetic Calibration

Start ---

#### Post Processing

Download Files ---

Result ---

---

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Fault

Fault	
Status	--
Nb Fault Raised	0
Nb Fault Active	0
Nb Fault Inhibited	0

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Autotests

Autotests

---

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Batteries

### Batteries

Current Battery Bloc Status - COMET ONLY

ID    Voltage    Temperature

Battery Balancing - NEMOSENS ONLY

Start

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Upload

### Upload

#### Setting

Mission file ---

#### Pre upload checks

Mission file is valid ---

Mission contains connected device SN ---

#### Upload

Auto ---

Upload mission ---

Reboot software ---

[SDA:]Coproc: ---

#### Post upload checks

Auto ---

Mission ---

[SDA:]Coproc: ---

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## File Transfer

### File Transfer

Local

Remote

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Payloads

Payloads

---

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Settings

**General**

Theme

Language

Sound: Off

**Units**

Distance (m)

Coordinate

Speed (m/s)

Pressure

Temperature

**Connection**

State                      Opened - No Data

Name                      COMET-300

IP@                      192.168.30.57

Selectionner

Connect

Auto Connect

Edit

**Host list**

---

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

---

**Third Software of AUV for Replay:**

## Overview of Replay

**Replay**

**Navigation**

Latitude:

Longitude:

Pitch:

Roll:

Pressure Sensor:

Internal Pressure:

**GPS**

Fix:

Sync:

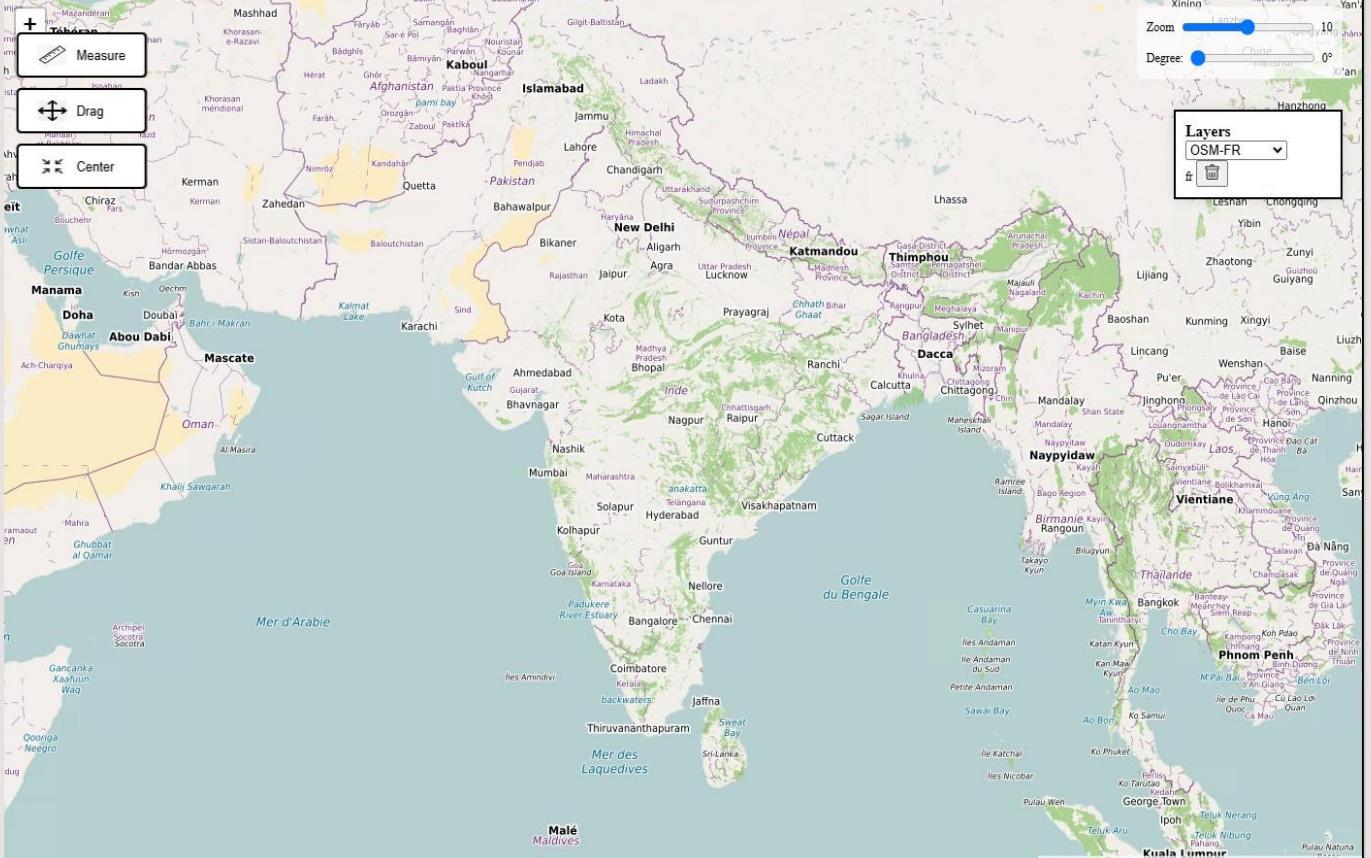
**Hardware**

Battery:

Storage:

**Payload:**

Replay



The map displays a comprehensive view of the Indian subcontinent and surrounding regions. Key features include the喜马拉雅山 (Himalayas) in the north, the Ganges River system, the Indus River system, and the Brahmaputra River. Major cities like New Delhi, Mumbai, and Bangalore are visible. The map also covers parts of Southeast Asia, including Thailand, Laos, Vietnam, and the Philippines. The Persian Gulf and the Arabian Sea are shown to the west, while the Bay of Bengal is to the east.

AUV

Zoom  100%Degree:  0°

**UI Device**

?

Map

Waves

Clock

Location

**Acoustic**

Select Acoustic Dev

?

Map

Waves

Clock

Location

Latitude: Longitude:

BackwardPlayForward

00:00:0000:10:00

Open

## Map Layers

Replay

**Navigation**

Latitude:

Longitude:

Pitch:

Roll:

Pressure Sensor:

Internal Pressure:

**GPS**

Fix:

Sync:

**Hardware**

Battery:

Storage:

**Payload:**

Replay

AUV

UI Device

Acoustic

Layers

Select Acoustic Dev

Latitude:

Longitude:

Open

Replay

AUV

UI Device

Acoustic

Layers

Select Acoustic Dev

Latitude:

Longitude:

Open

Backward

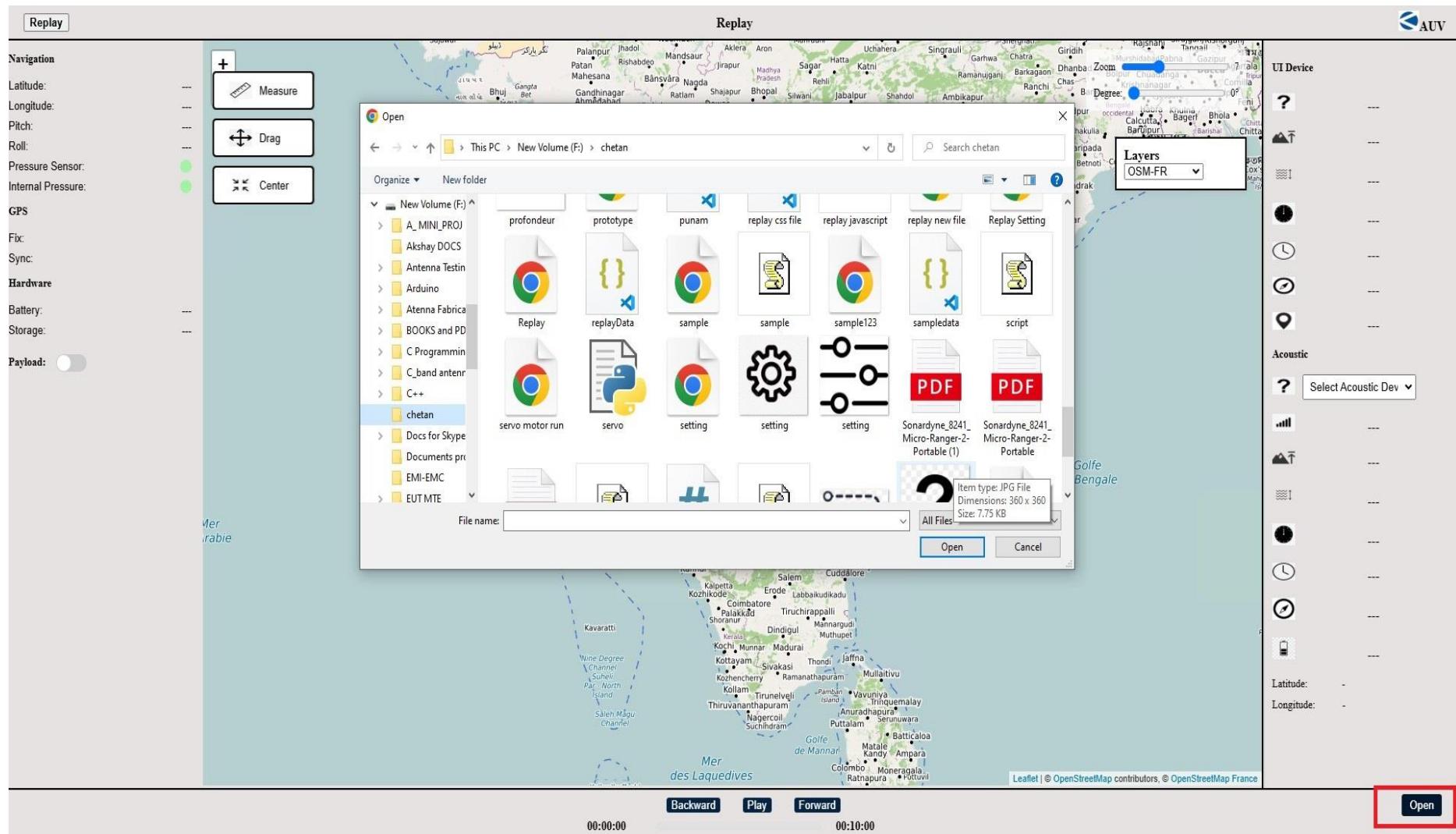
Play

Forward

00:00:00

00:10:00

## Open the Replay Mission File



## Start the Replay Mission

**Replay**

**Navigation**

Latitude: 28.7060°   Longitude: 77.1050°   Pitch: 6.0°   Roll: 3.8°

Pressure Sensor: 990 mBar   Internal Pressure: 760 mBar

**GPS**

Fix:   Sync:

**Hardware**

Battery: 81%   Storage: 124GB

**Payload:**

**Replay**

**Layers**: OSM-FR

**UI Device**

Zoom: 7   Degree: 0°

**Acoustic**

Select Acoustic Dev

Latitude: -   Longitude: -

Leaflet | © OpenStreetMap contributors, © OpenStreetMap France

Backward   Pause   Forward

00:00:00   00:10:00

Open

## Setting Panel

**Settings**

- Replay
- Extraction
- Settings

**Replay**

**UI Device**

- ?
- Map
- Waves
- Clock
- Location

**Acoustic**

- Select Acoustic Dev
- Speaker
- Map
- Waves
- Clock
- Location

Latitude: -

Longitude: -

Open

## Extraction the Data

### Extraction

---

**Generate Report**

[PDF Report](#) [Create Report](#)

**CSV extraction**

Navigation

Magnetometer  APS 1540 ▾

CTD

Fault

RACAM

Cyclops

[Save Data](#) [Open File](#)

---

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Save Extraction Data in Excel File

This page says  
Selected toggle data saved as Excel file.

OK

magometer  192.168.0.1

CTD

Fault

RACAM

Cyclops

 extraction\_data (16).xlsx  
16.0 KB • Done

**Generate Report**

PDF Report

Battery: 85% Mode: Autonomous Host: 192.168.0.1 GPS: 14.764561, 74.147303

## Extraction Data in Excel

**Extraction**

The screenshot shows a Microsoft Excel window titled "extraction\_data (16) [Protected View] - Excel". The window has a yellow header bar with the text "PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View." and a "Enable Editing" button. The main area displays a table with 7 rows and 2 columns. The first column is labeled "Parameter" and the second column is labeled "Value". The data is as follows:

Parameter	Value
1	Navigation Enabled
2	Magnetom Enabled
3	CTD Enabled
4	Fault Enabled
5	RACAM Enabled
6	Cyclops Enabled

The Excel window also shows a ribbon with tabs like FILE, HOME, INSERT, PAGE LAYOUT, FORMULAS, DATA, REVIEW, and VIEW. The status bar at the bottom shows "Extraction Data" and "READY".

---

Battery: 85%      Mode: Autonomous      Host: 192.168.0.1      GPS: 14.764561, 74.147303

## Generate the Report

**Extraction**

**Generate Report**

[PDF Report](#) [Create Report](#) [Open File](#)

---

**CSV extraction**

Navigation

Magnetometer  APS 1540 ▾

CTD

Fault

RACAM

Cyclops

[Save Data](#) [Open File](#)

generated\_report (8).pdf  
5.2 KB • Done

extraction\_data (16).xlsx  
16.0 KB • 1 minute ago

---

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303

## Generated Report

generated\_report (8).pdf 1 / 1 | - 100% + |

 1

Report

Navigation:

Latitude: 28.7050°  
Longitude: 77.1040°  
Pitch: 5.7°  
Roll: 3.3°  
Pressure Sensor: 975 mBar  
Internal Pressure: 740 mBar

GPS:

Fix: Yes  
Sync: Yes

Hardware:

Battery: 83%  
Storage: 126GB

Parameters:

Navigation: Enabled  
Magnetometer: Enabled  
CTD: Enabled  
Fault: Enabled  
RACAM: Enabled  
Cyclops: Enabled

Settings

**General**

Theme

Language

Sound: Off

**Units**

Distance (m)

Coordinate

Speed (m/s)

Pressure

Temperature

Battery: 85%

Mode: Autonomous

Host: 192.168.0.1

GPS: 14.764561, 74.147303