

An aerial photograph of a ship on the ocean, viewed from above. The ship is white with a dark hull and is surrounded by blue water. The image is used as a background for the text.

# Avikus

MARITIME AUTONOMOUS PIONEER

Avikus specializes in developing maritime autonomous solutions and was founded in 2021 by Hyundai Heavy Industries Group, the No.1 shipbuilder.



# Contents

- Product line-up
- Auto Route Planning
- Navigation Assistant
- Docking Assistant
- Examples





# Product line-up

## Solutions

### NeuBoat

navigation



Detection



Recognition



Decision

### NeuBoat

navigation & docking

### NeuBoat

control



Control

Level.1

Level.2

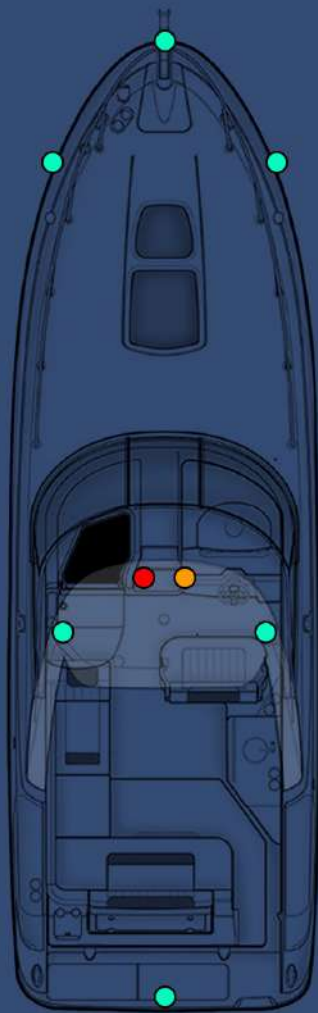
- Smart Object Detection and Classification based on Sensor Fusion (Camera, LiDAR, Radar)
- AR Visualization
- Route Planning based on electronic chart
- Path Recommendation for Avoiding Collisions

- AI navigation function
- 3D Surround View
- Collision Alarm (dock, slip or other objects)

- AI Navigation and Docking functions
- Path Following Control (Throttle / Steering)
- Collision Avoidance Maneuvering
- Auto Docking Control
- Docking area Recognition

# Product line-up

Hardware Products



● Navigation Assistant Camera



● Docking Assistant Camera



● Lidar \*Optional



Object Recognition Unit



Auto Pilot Unit



Engine Interface Unit



Control

# Product line-up

## System Configuration



Route Planning

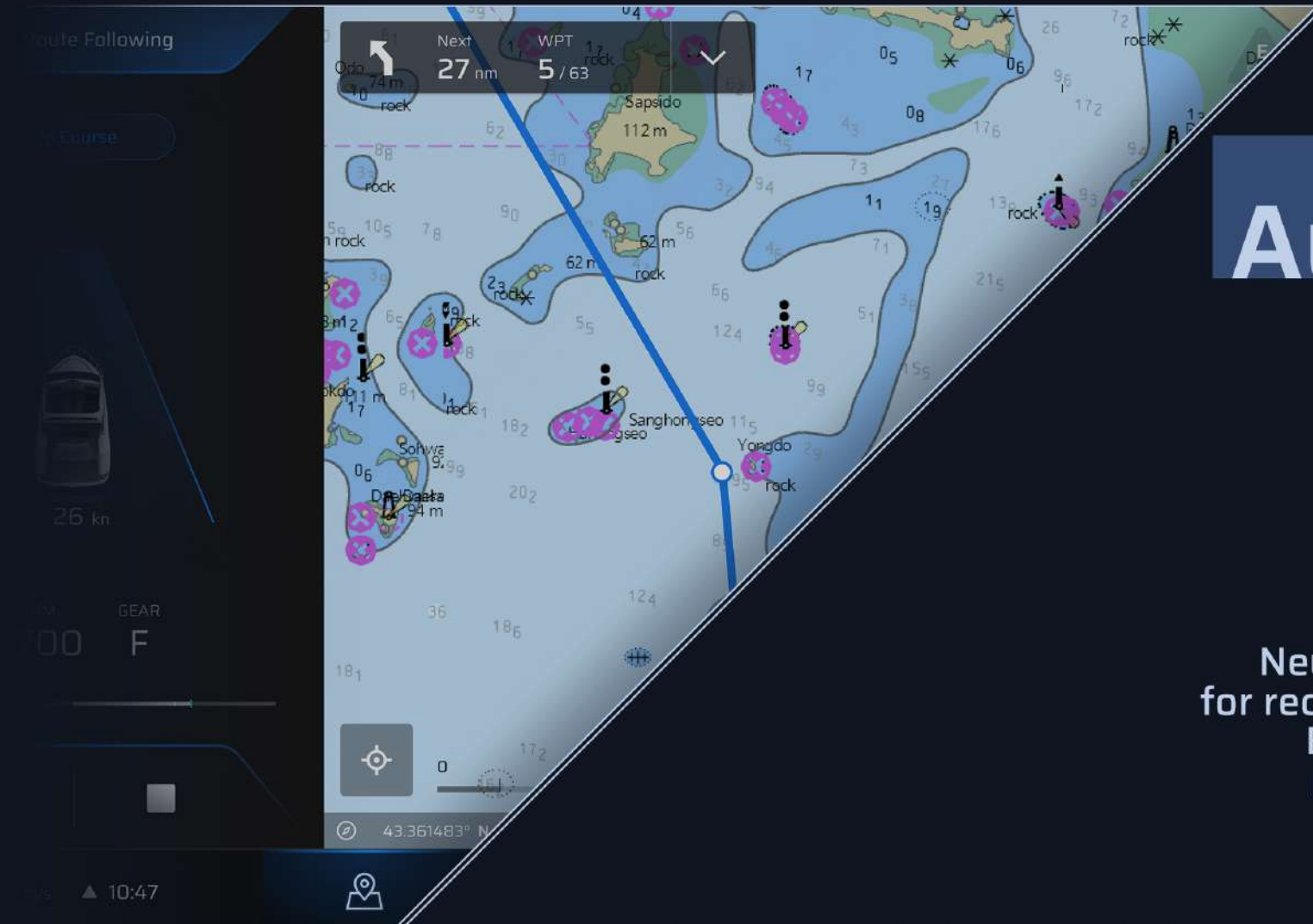
Navigation Assistant

Docking Assistant



# Auto Route Planning

## NeuBoat

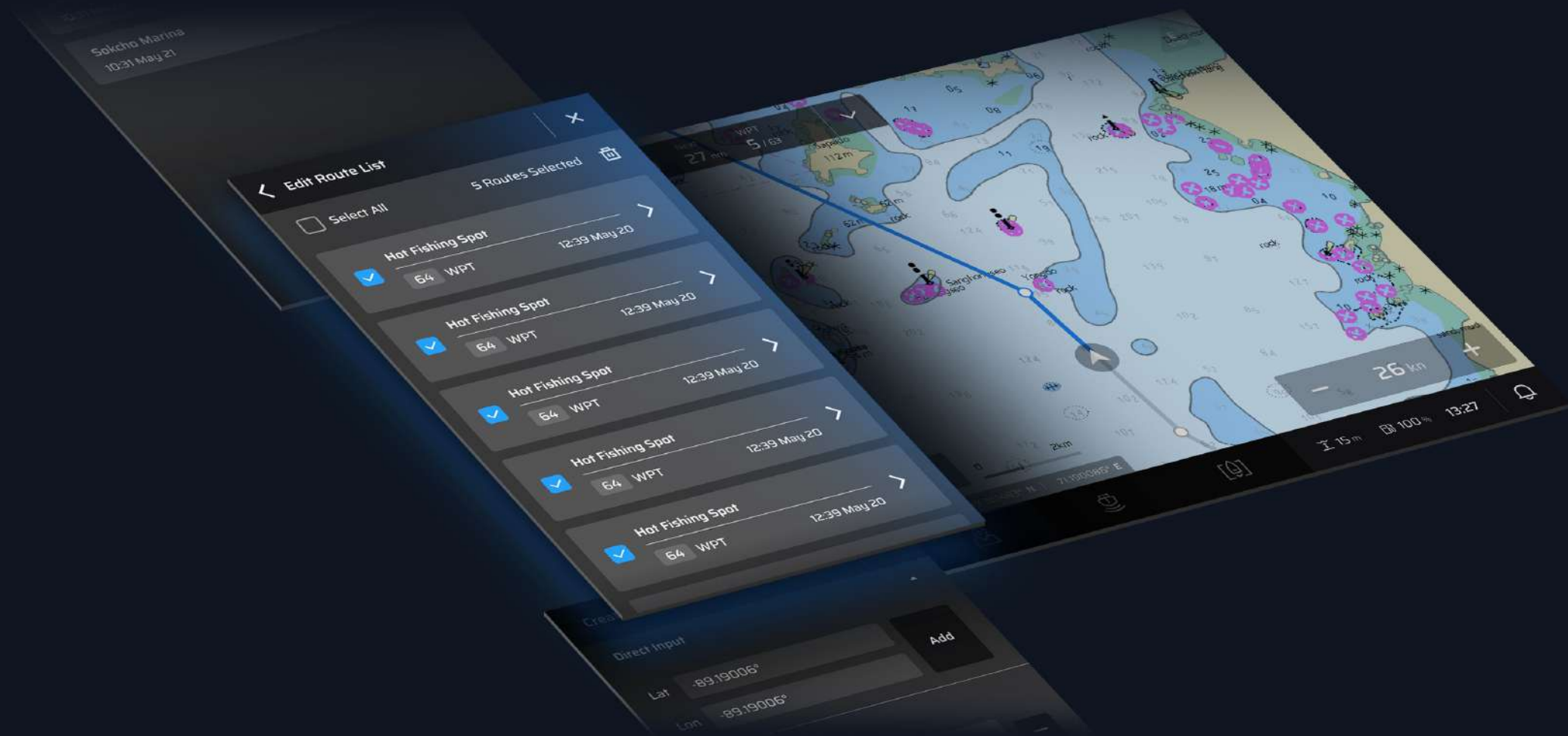


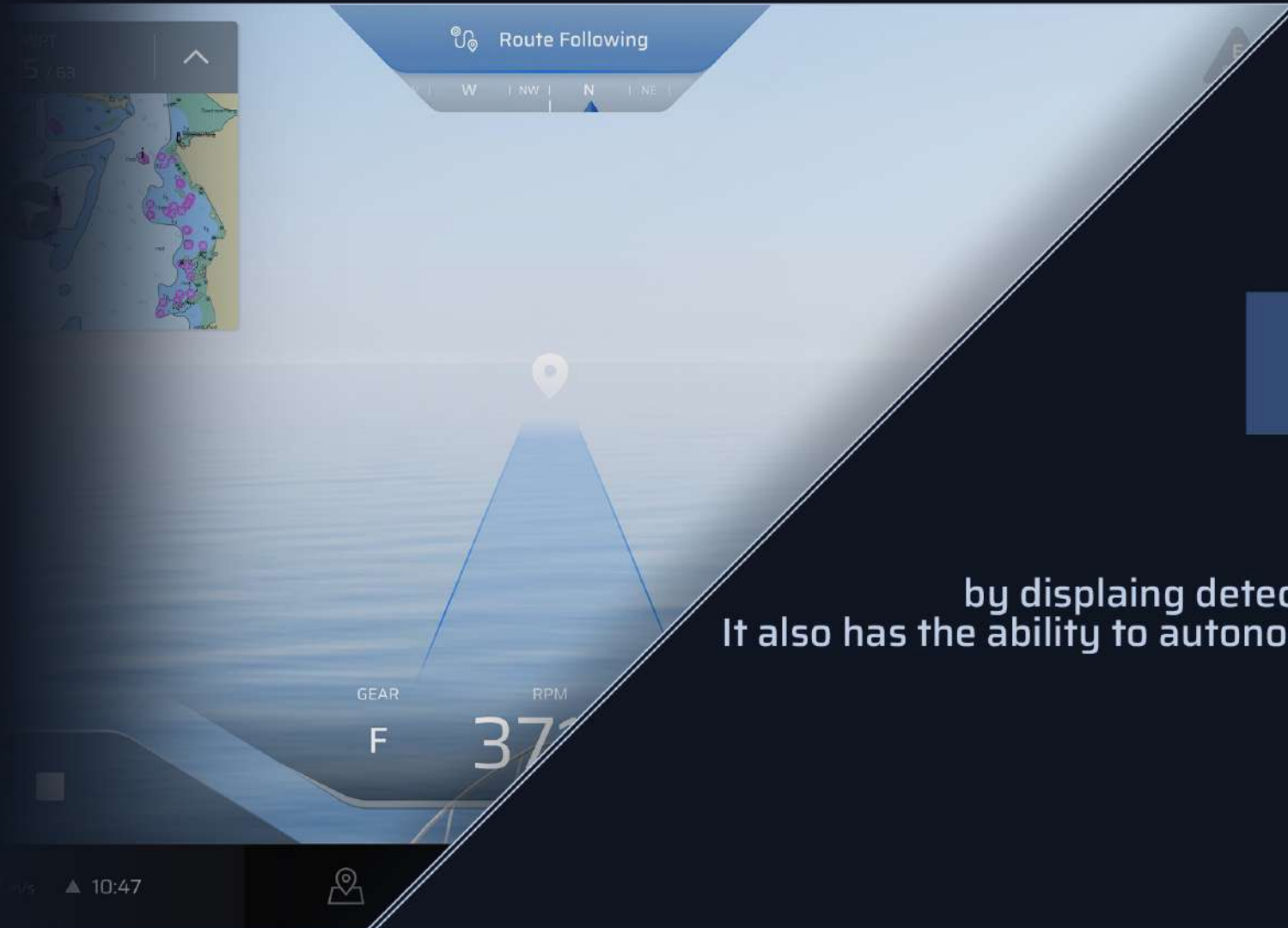
# Automatically Plan Your Journey

NeuBoat is the world's first autonomous solution for recreational boats that supports safe navigation. By using our NeuBoat Solution, you can enjoy more enjoyable leisure activities on the water.

# Auto Route Planning

NeuBoat





## AI Guidance for Your Journey

NeuBoat assists navigation by displaying detected obstacles to avoid and the optimal routes. It also has the ability to autonomously navigate until your destination safely.

- AI-based Object Recognition
- Path Recommendation for Avoiding Collisions and AI Control
- Route Guidance and Autopilot



# Navigation Assistant

NeuBoat

## Screen Design



Detecting Obstacles



Following Planned Route



Path Guidance



Collision Avoidance

## Detect and Define Obstacles



Motor Boat



Vessel



Sailing Yacht



Rowing Boat



Channel Marker



Buoy



Structure



Others

# Navigation Assistant

## NeuBoat

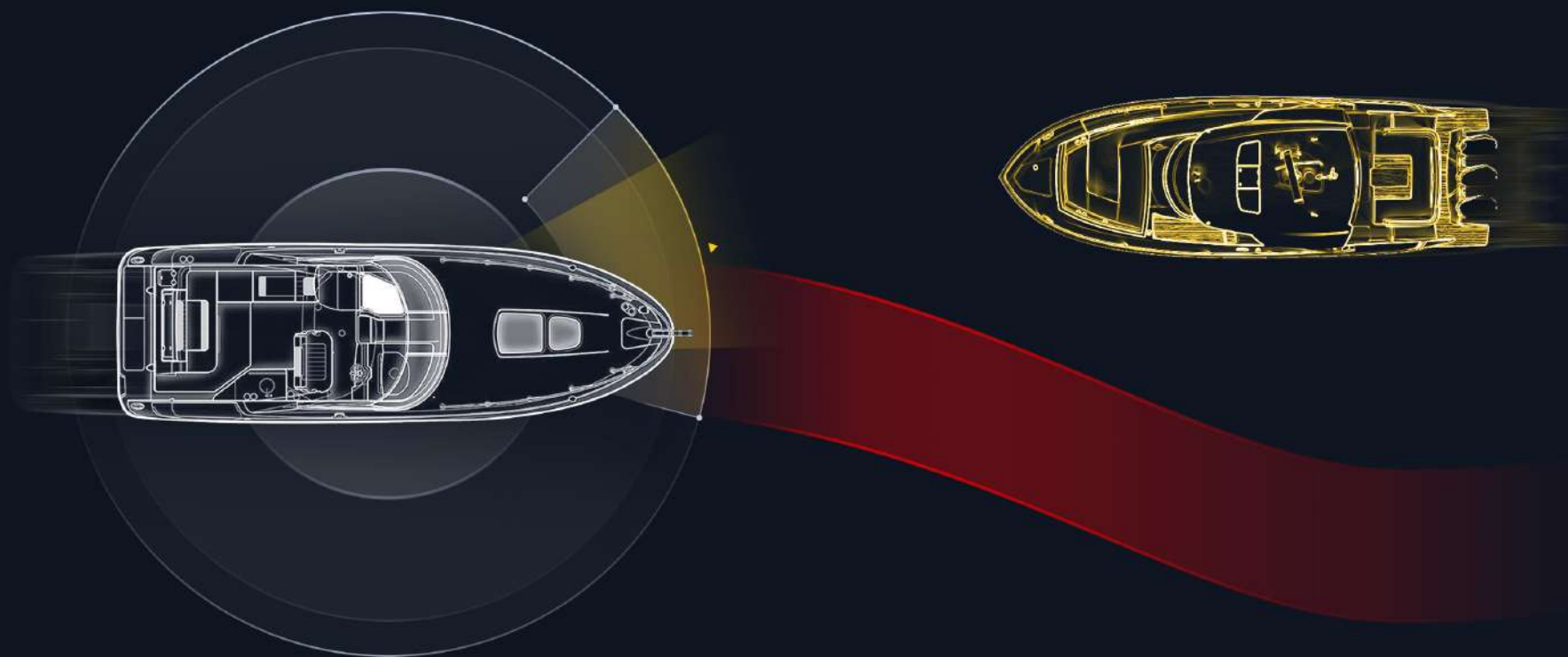
## Path Guidance



# Navigation Assistant

## NeuBoat

## Collision Avoidance

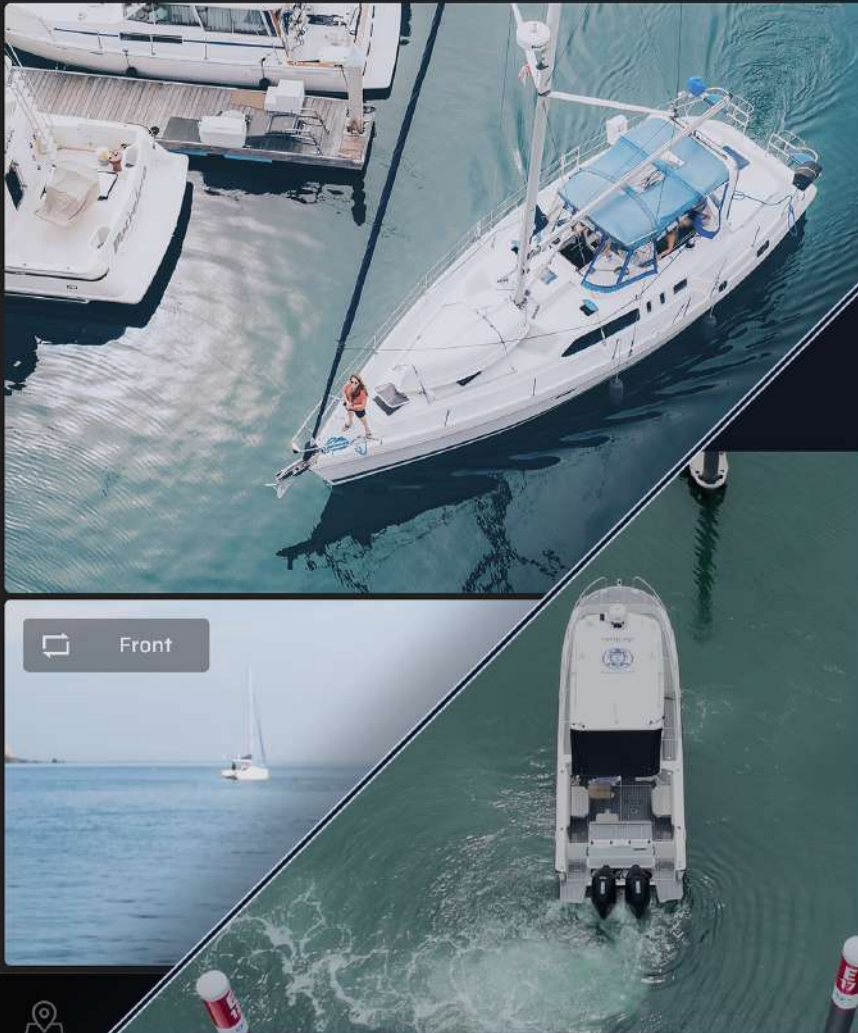




# Docking Assistant

NeuBoat

Auto Docking



## Always With You Dock to Dock

'3D surround view' and 'Digital Cluster' on screen  
will help you to dock the boat safely.  
NeuBoat also provides convenient autonomous docking.

- Collision Alarm
- 3D Surround View
- Auto Docking and Undocking Control

(Real image)

# Docking Assistant

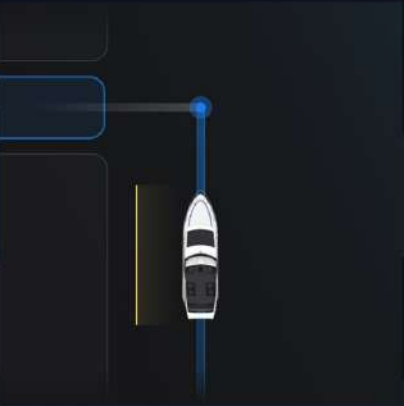
NeuBoat

1



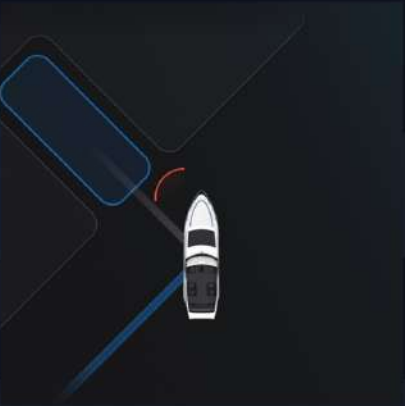
Choose Berth

2



Move to Rotation Point

3



Rotation

4



Approaching

5



Pushing

6

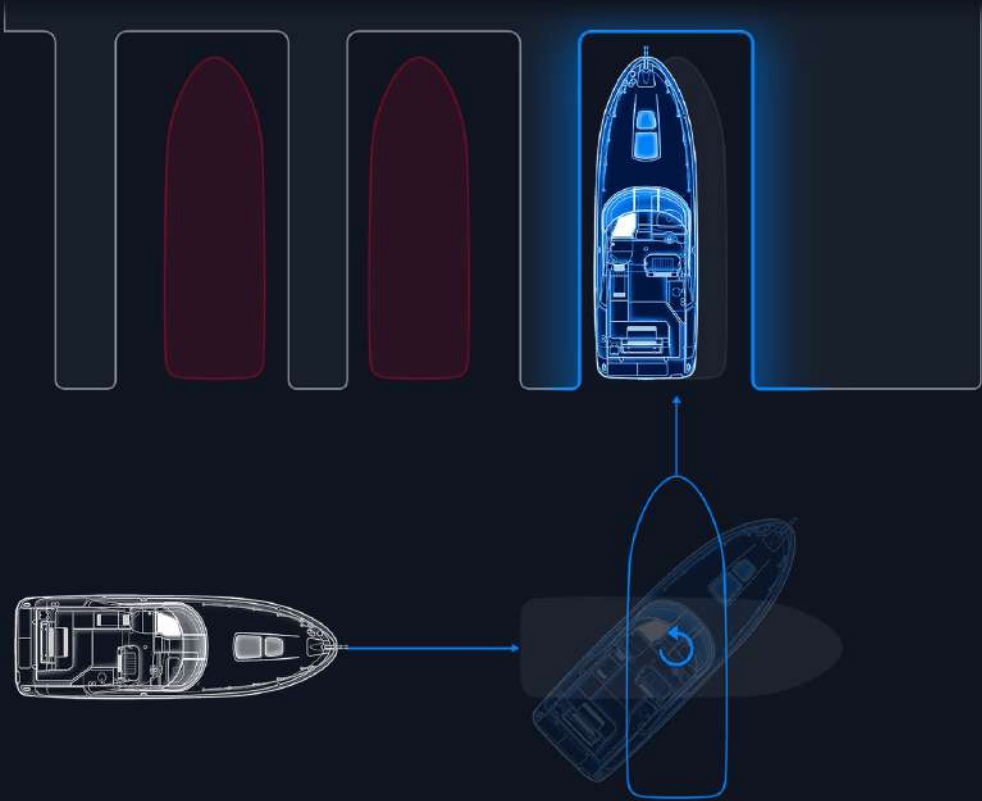


Complete

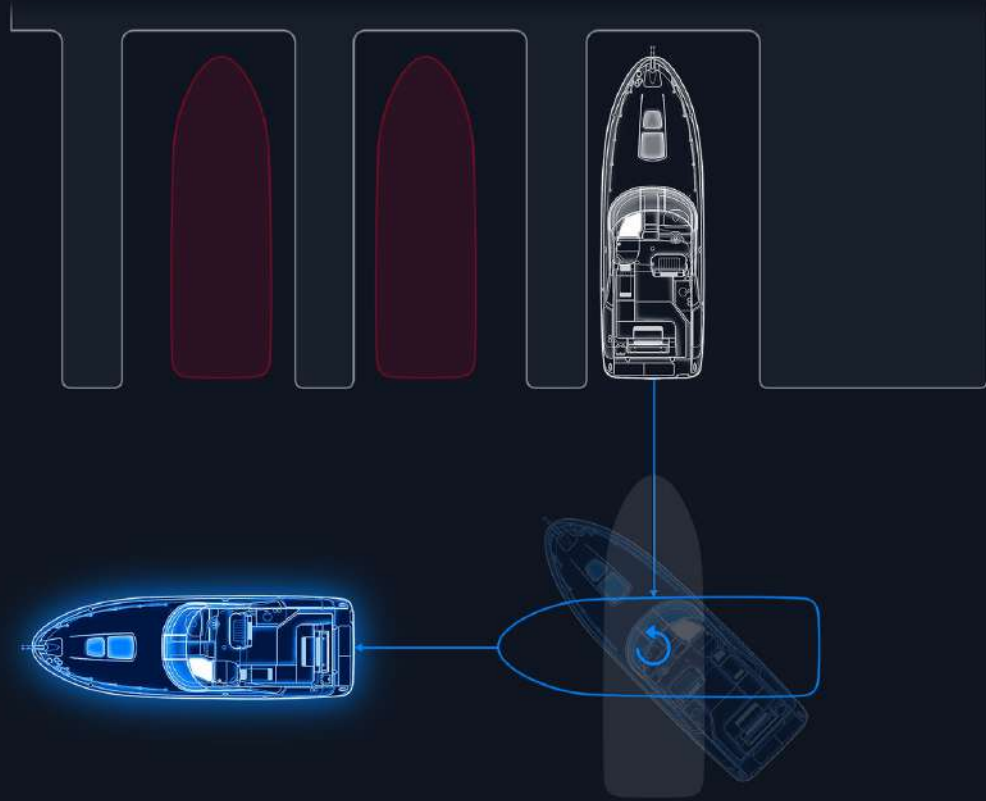
# Docking Assistant

NeuBoat

Auto Docking



Auto Undocking









Next 27 km WPT 5 / 63

Route Following

GEAR F RPM 3712 SPEED 26 kn

1.27 m/s 10:47

Route Following

On Course

26 kn

RPM 3700 GEAR F

26 kn

1.27 m/s 10:47







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