

An aerial photograph of a white boat on a body of blue water. The boat is positioned in the center-left of the frame, with its mast and rigging visible. The water's surface is textured with small waves and reflections. A white rectangular frame is superimposed over the image, enclosing the text and logo.

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

NeuBoat

navigation & docking

NeuBoat

control



Detection



Recognition



Decision



Control

Level.1

Level.2

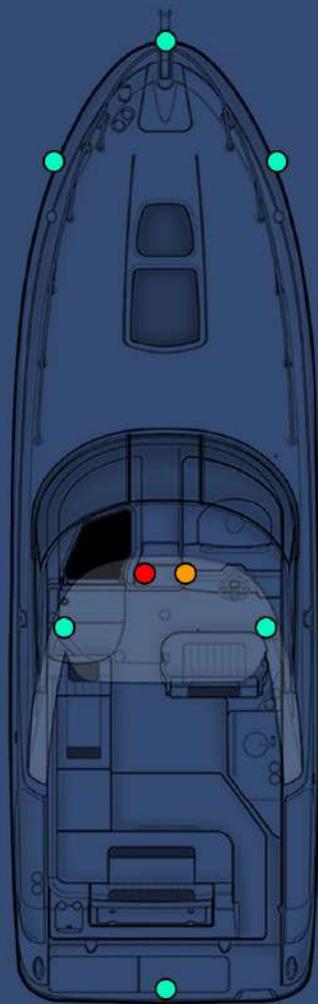
- Smart Object Detection and Classification based on Sensor Fusion (Camera, LiDAR, Radar)
- AR Visualization
- Route Planning based on electronic chart
- Path Recommendation for Avoiding Collisions

- 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



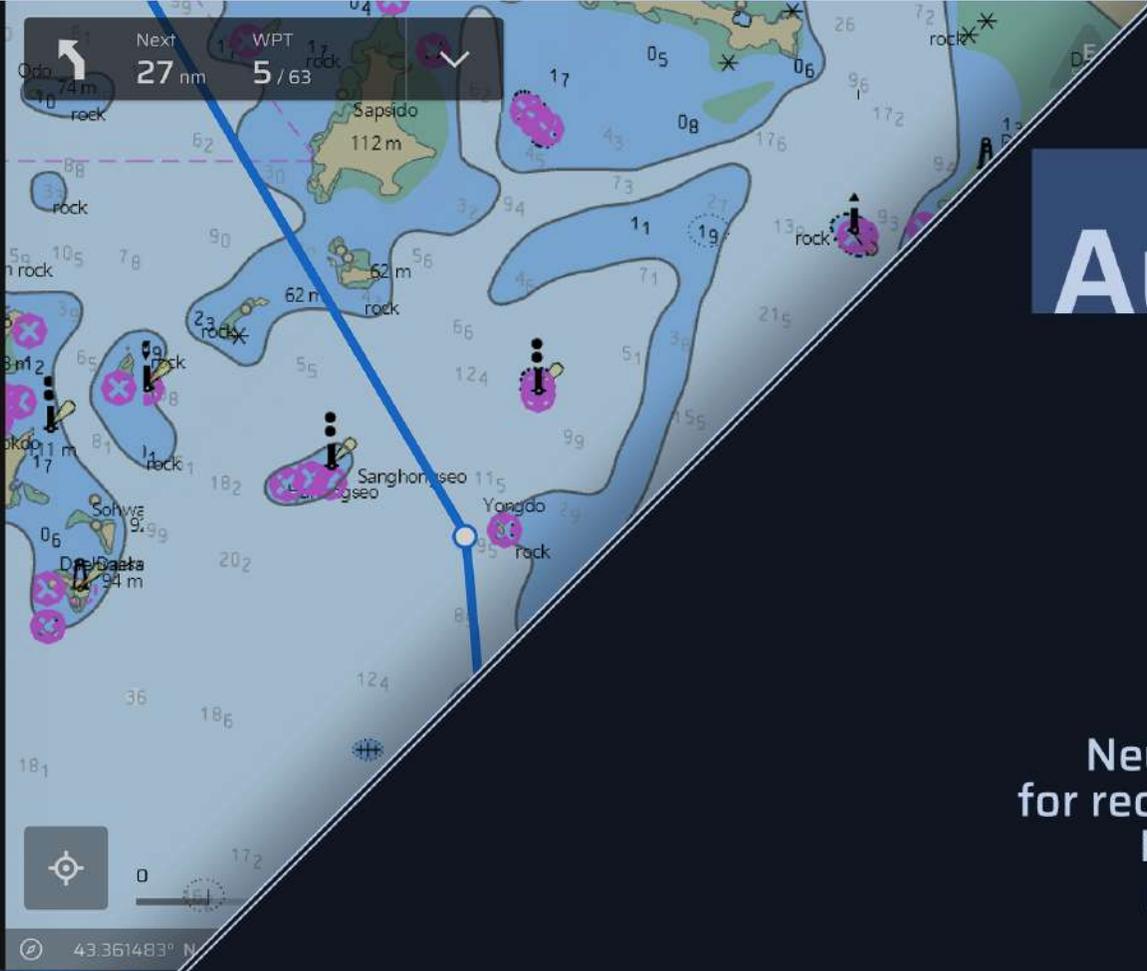
Route Planning

Navigation Assistant

Docking Assistant

Auto Route Planning

NeuBoat

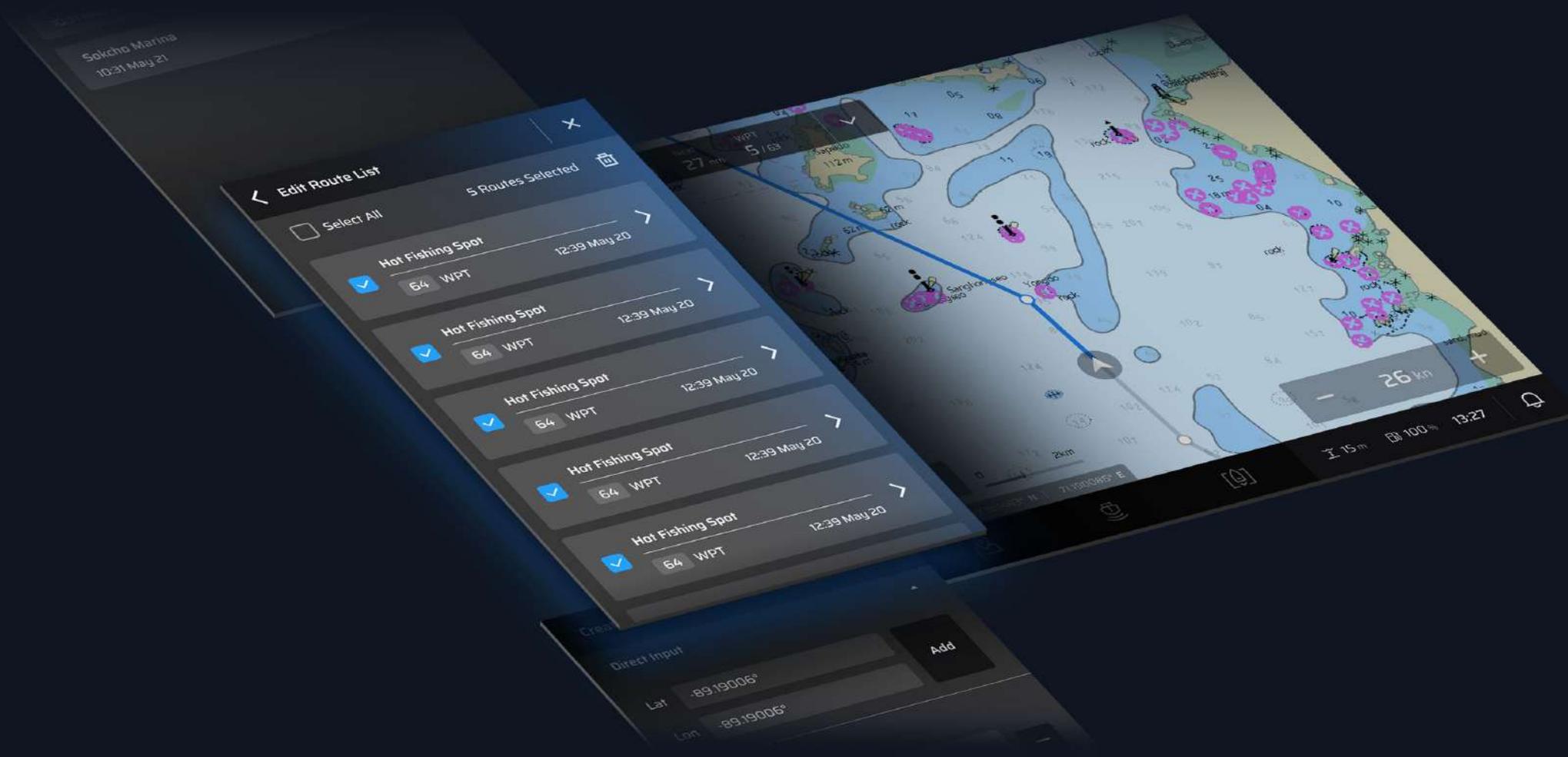


Automatically Plan Your Journey

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.

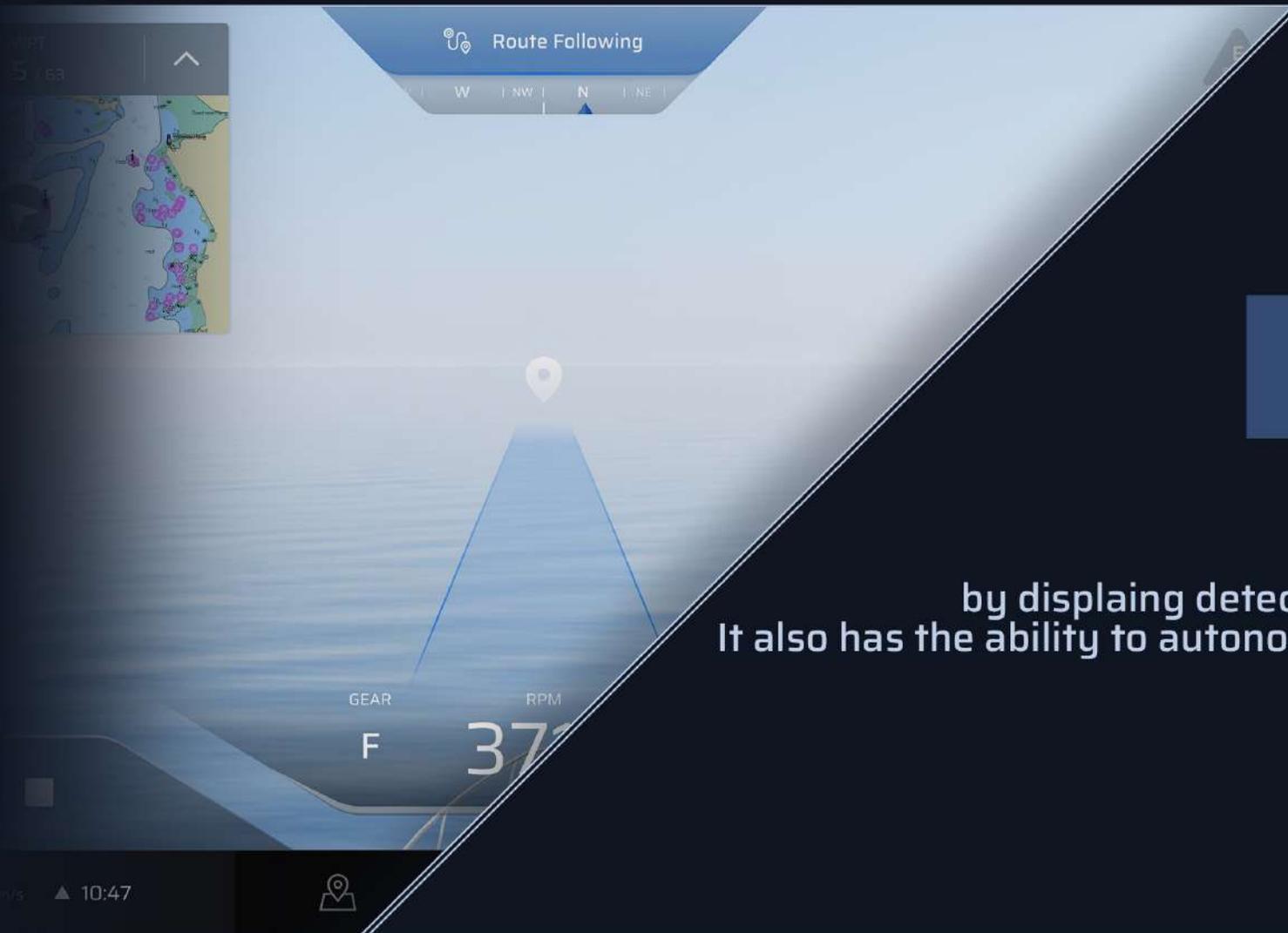
Auto Route Planning

NeuBoat



Navigation Assistant

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



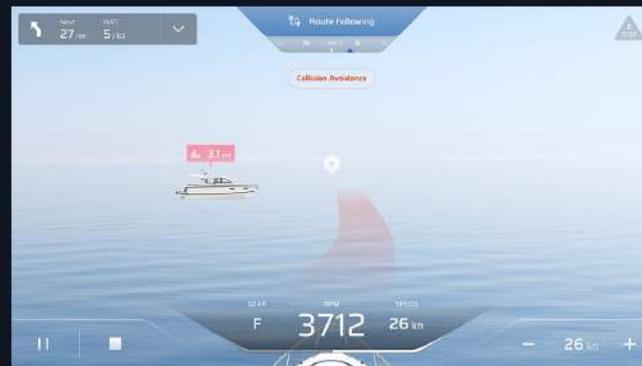
Detecting Obstacles



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

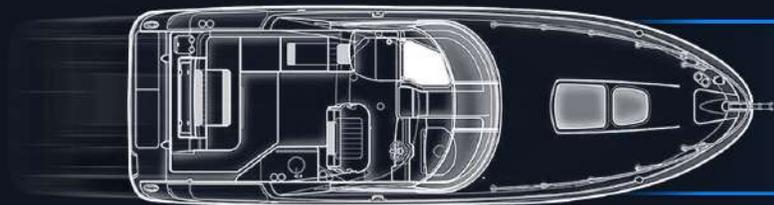
Path Guidance

Start Autonomous Mode



26 kn

GEAR RPM | RPM GEAR
F 3700 | 3700 F



Way Point

Navigation Assistant

NeuBoat

Collision Avoidance

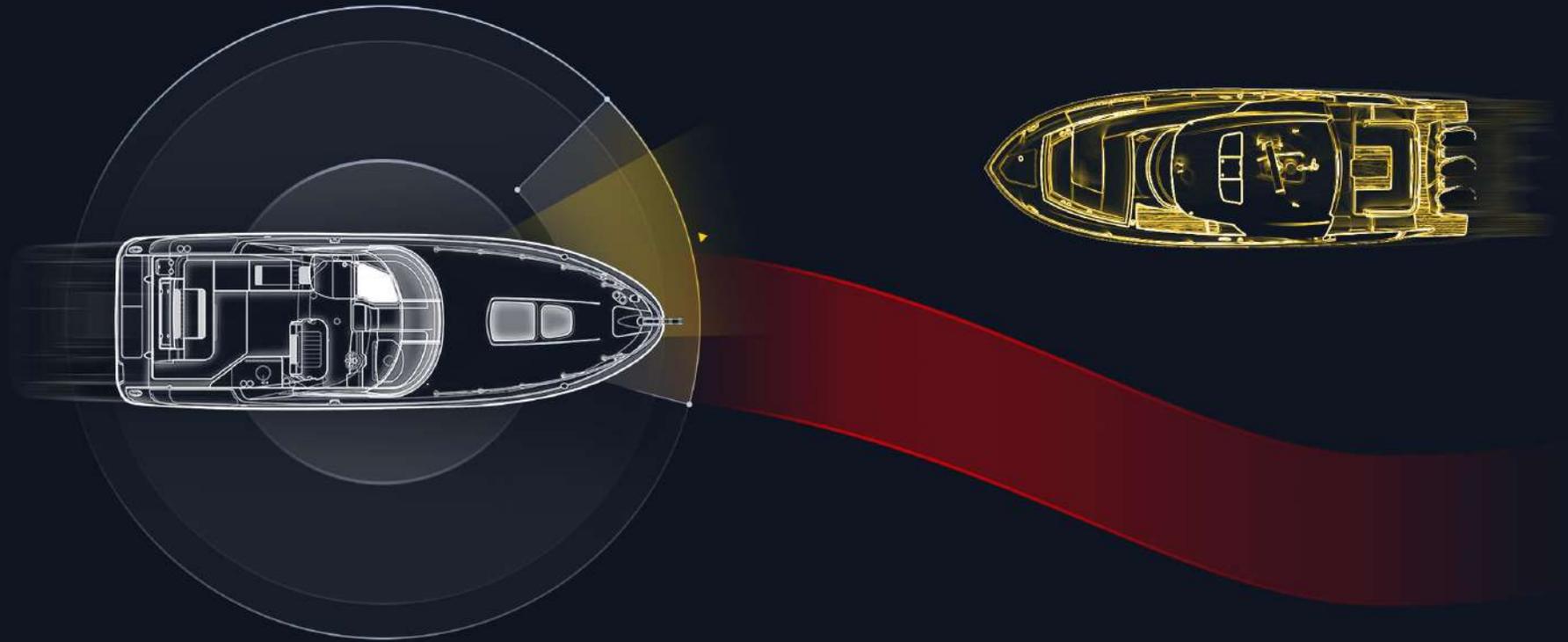
Start Autonomous Mode



26 kn

GEAR RPM | RPM GEAR
F 3700 | 3700 F

A small inset dashboard showing a top-down view of a boat with a speedometer reading 26 kn. Below the speedometer are two RPM gauges, both showing 3700 RPM, and two gear indicators, both showing 'F'. A progress bar is visible at the bottom of the inset.



Docking Assistant

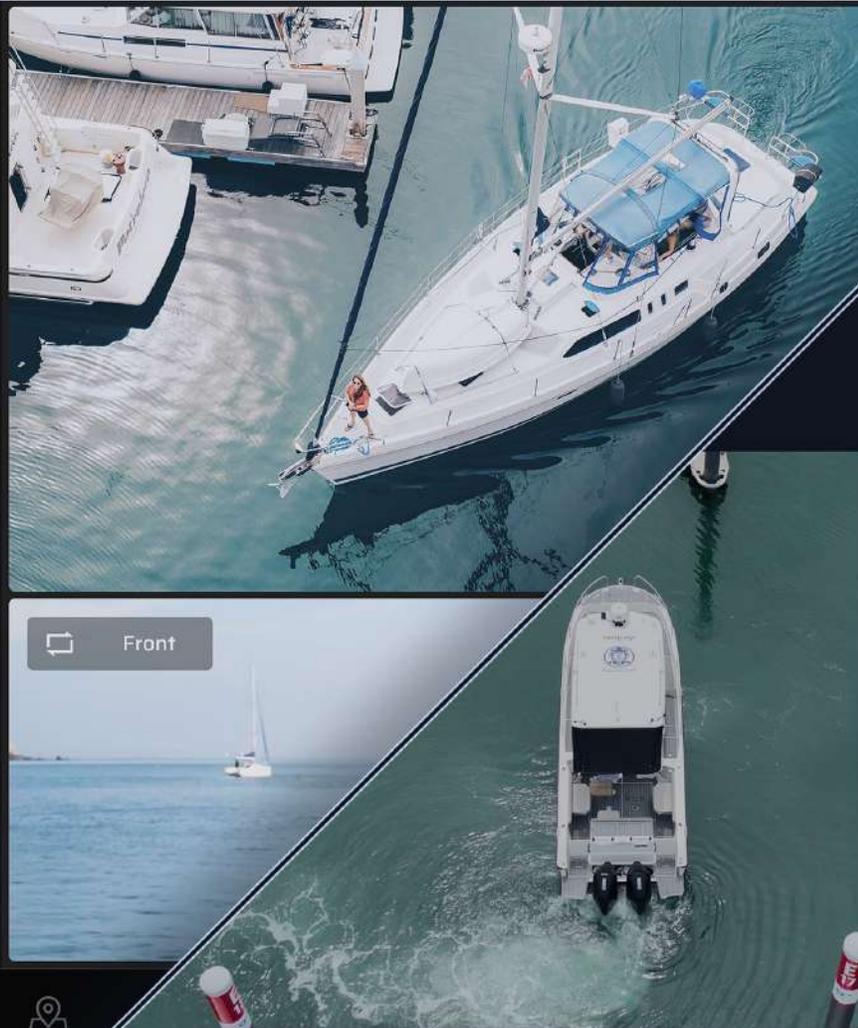
NeuBoat

Auto Docking



RPM 3700 GEAR F

10:47



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

Docking Assistant

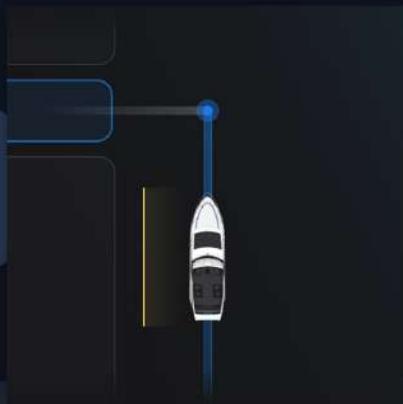
NeuBoat

1



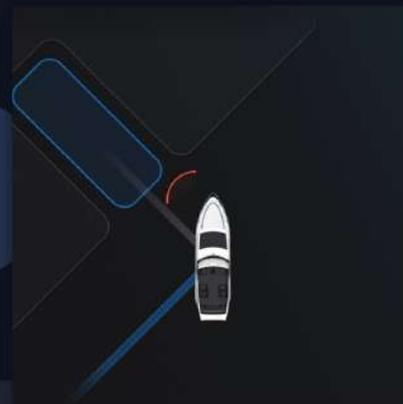
Choose Berth

2



Move to Rotation Point

3



Rotation

4



Approaching

5



Pushing

6

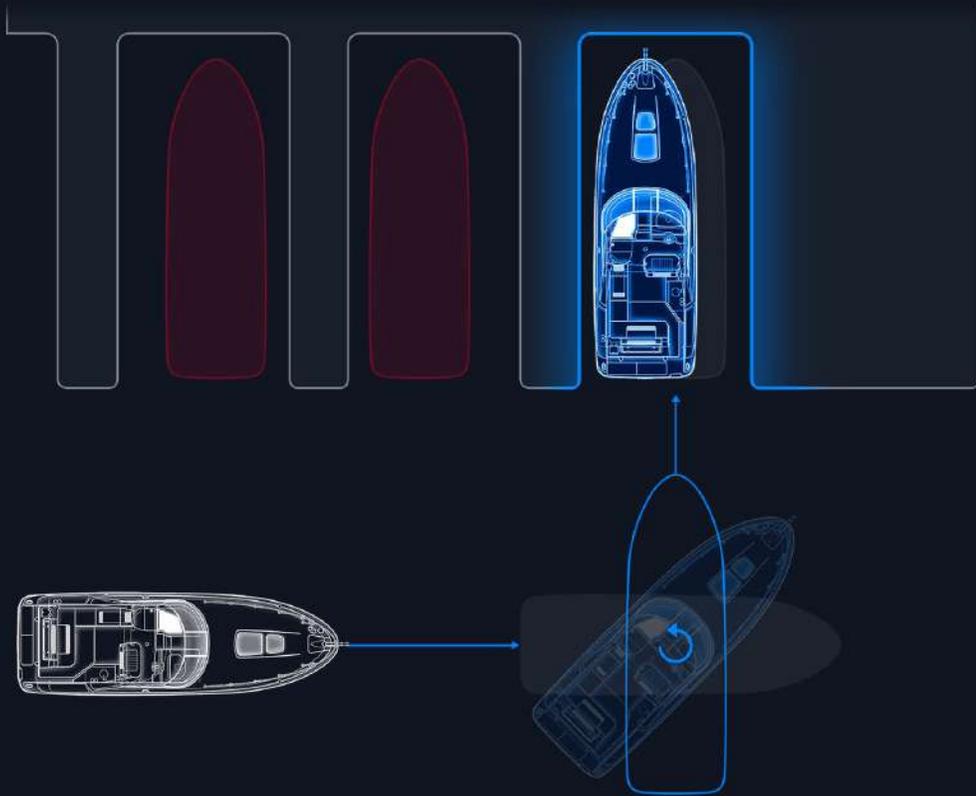


Complete

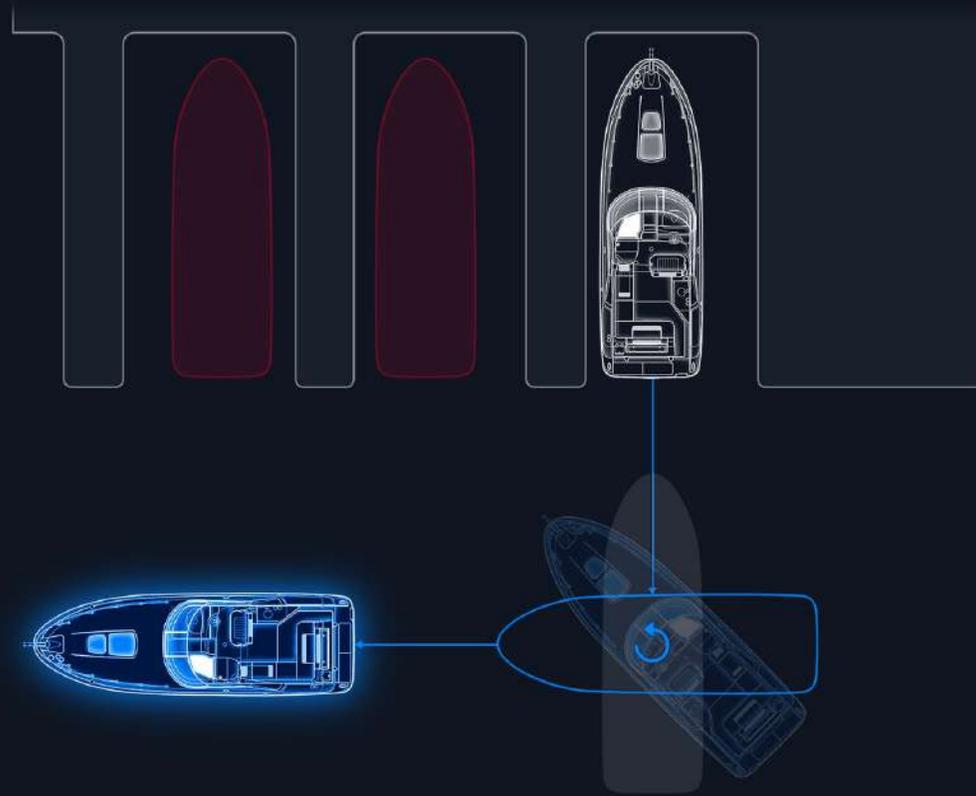
Docking Assistant

NeuBoat

Auto Docking



Auto Undocking





Mini Map

Start Autonomous Mode

GEAR F RPM 3712 SPEED 26 kn

15 m 100 N 13:27



Fishing Store

6 Waypoint

Bearing	Distance
129°	27.9 nm

- 1st 89.36143° N | 139.19006° E
- 2st 89.36143° N | 139.19006° E
- 3st 89.36143° N | 139.19006° E
- 4st 89.36143° N | 139.19006° E
- 5st 89.36143° N | 139.19006° E
- 6st 89.36143° N | 139.19006° E
- 7st

Load

26 kn

1.27 m/s 10:47

15 m 100 N 13:27



Route Following

Next 27 km WPT 5 / 63

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



Auto Docking

E
5120

GEAR RPM RPM GEAR
F 3700 3700 F

Front

F-STBD

17 m/s ▲ 10:47

15 m 100% 13:27

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