

PROFESSIONAL SHIP SIMULATOR



PROFESSIONAL SHIP SIMULATOR

Handbook

Exposee

This handbook is your central reference for all aspects of Professional Ship Simulator.

Whether you are taking your first steps on the bridge or mastering complex ship operations, you will find detailed explanations, tutorials, and reference material to support your journey.

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Professional Ship Simulator

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Welcome to Professional Ship Simulator

Professional Ship Simulator is a next-generation ship simulation focused on delivering a **highly realistic maritime experience**. Designed for enthusiasts, professionals, and curious explorers alike, it combines **authentic vessel behavior**, **detailed nautical environments**, and a powerful layer of **technical depth**.

Realism Meets Control

Every ship in Professional Ship Simulator is built with an emphasis on **real-world physics**, **accurate systems modeling**, and **immersive handling characteristics**. From large container vessels to agile patrol boats, each class offers a unique set of challenges and dynamics.

Whether you're navigating narrow harbor passages, responding to emergencies, or managing complex tug assist operations — **every detail matters**.

Built for Flexibility

We believe realism should never come at the cost of personal preference. Professional Ship Simulator features a highly customizable interface and gameplay framework. Set your own weather and time, choose your missions, fine-tune your HUD, and adjust controls and systems to match your needs — whether you're simulating for learning, training, or fun.

A Learning Experience

Professional Ship Simulator offers structured tutorials, guided missions, and scenario-based challenges that introduce both newcomers and experienced users to the art and precision of ship handling. Every task completed, every decision made, and every situation managed helps you grow as a virtual mariner.

Welcome Aboard

Step into the world of Professional Ship Simulator and experience the **depth, challenge, and satisfaction** of true-to-life maritime simulation — all at your fingertips.

Progression & XP System

In **Professional Ship Simulator**, experience points (**XP**) are the core of your personal progression. They reflect your skill, precision, and decision-making throughout every mission, tutorial, or scenario.



How to Earn XP

- Successfully completing **missions**, **tutorials**, and **scenarios** will reward you with XP.
 - The more challenging the task and the cleaner the execution, the higher the reward.
-



How You Lose XP

Realism comes with consequences.

- **Collisions**, **groundings**, **critical system failures**, or **sinking** your vessel will result in XP penalties.
 - Calling for support, such as **harbor tug assistance** or **maritime pilots**, will also reduce your XP — reflecting operational costs and reduced autonomy.
-



Online Rankings

Your performance data is automatically monitored via steam and contributes to a future planned leaderboard of **global online ranking**.

This includes: This includes:

- Mission completion rates
- XP totals
- Efficiency metrics
- Error statistics and more

Competing or comparing with captains around the world — every decision at sea matters.

Available ship classes

In Professional Ship Simulator the ship classes are used to assign the ships to specific missions and to access class specific features like cargo loading, material transport, fire fight...

Pilot boat

Small and agile vessels mainly used to deliver a ship pilot to a large vessel, supporting the navigation into a harbor

Fishing vessel

All types of available fishing missions can be executed with these vessels.

Harbor tug

Needed in every big harbor, to support big vessels on leaving or entering the harbor area. Also used to transport all kinds of material and to repair seamarks in the area.

Offshore vessel

Multipurpose vessels, equipped with a huge transport capacity, fire fight equipment and technical equipment for repair missions.

Rescue vessel

Small to medium sized ships, specialized on executing all kinds of rescue operations.

Container ship

Load and deliver huge amounts of standard containers from one port to another

Bulk carrier

Load and deliver all kinds of bulk materials across the scenery

LNG tanker

Load and deliver Liquified natural gas.

Car ferry

Small, medium or large sized ships, able to transport vehicles and people across the scenery.

Cruise ship

Medium to large sized vessels. Pick up the guests and show them the world of Professional Ship Simulator.

Motor vessel

Small to medium sized vessel, not categorized in another class, able to execute a variety of missions.

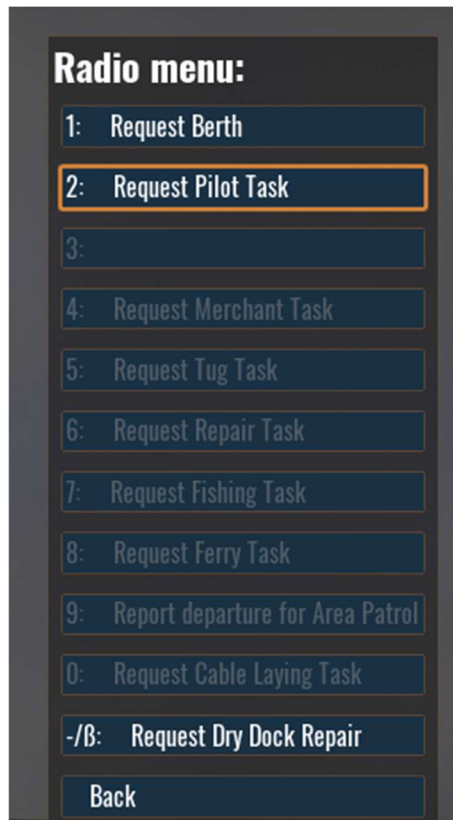
Sailboat

no sailboats are currently available at Professional Ship Simulator. This might change in the future

Mission System

Mission System introduction

Professional Ship Simulator allows the player to interact with the available harbors on the map and request missions via the radio menu. Every ship class has specific mission capabilities, meaning that e.g. you can only do a transport mission with ships able to execute this mission type.



Transport mission

pick up and deliver different items from a harbor material storage to a variety of destinations like:

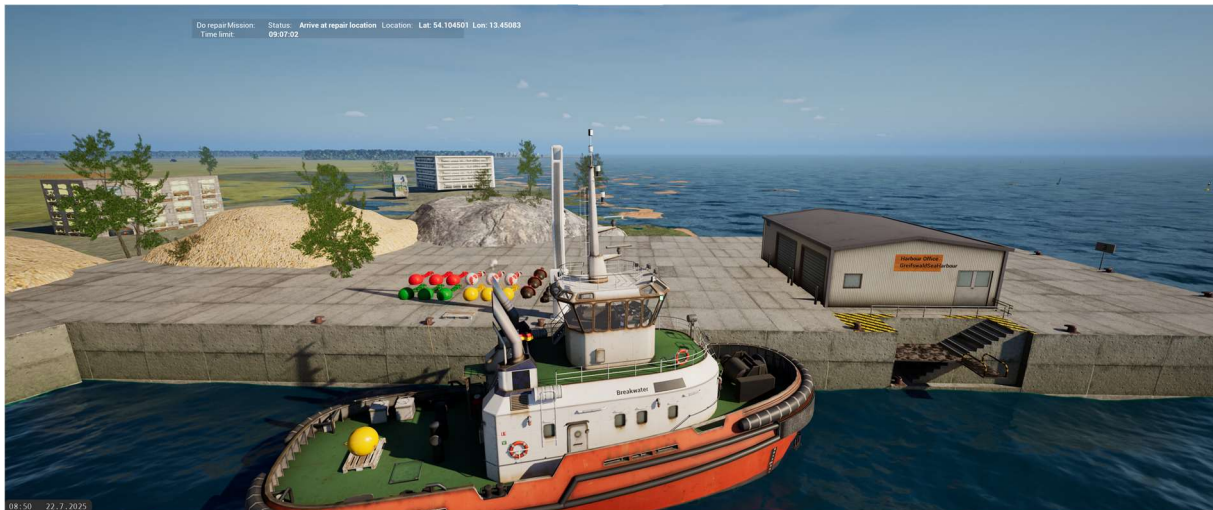
- Another harbor
- Windpark
- Small landing pier
- Offshore installation

Motor vessels, Tugboats and Offshore vessels can be assigned to this mission type

Repair mission

It happens from time to time that buoys are defect and have to be replaced. Pick up the replacement part at the buoy storage, locate the defect buoy, replace it and drop the defect buoy at the harbor.

Tugboats and Offshore vessels can execute this task



Pilot / Ship inspection mission

On larger harbors, pilot boats pick up maritime pilots at the harbor office and drop them to arriving ships. This kind of task requires a skilled captain, since the arriving vessel is in full motion when the pilot leaves the pilot boat to climb up the ladder on the inbound vessel.

Only pilot/coast guard boats can do this kind of mission

Pilot / Inspection Task Procedure

1. **Request a pilot or inspection task** at the local harbor via VHF radio.
2. **Pick up the pilot at the harbor office**
 - a. Align the **gangway** between your boat and the dock.
 - b. Throw out the **mooring lines** and secure them tightly.



- c. The pilot/inspector will begin boarding your vessel.
- d. Wait until the **boarding progress bar** shows completion.

3. Navigate to the assigned vessel to drop off the pilot

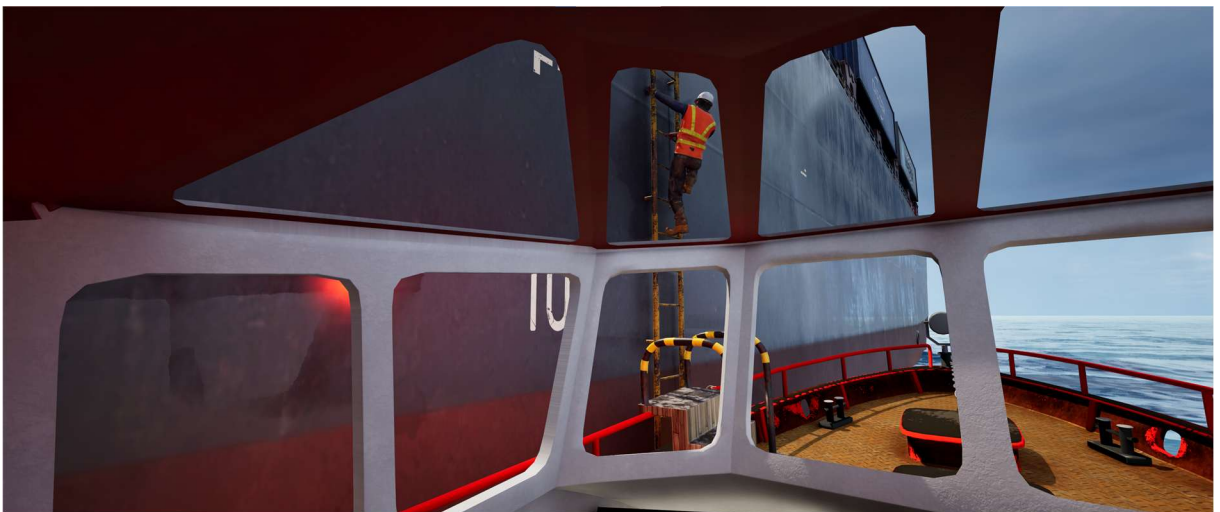
a. Approach the vessel from the **5 o'clock position** behind the ship.



b. Position your **fender** to prevent excessive contact damage.

c. Move closer to the **boarding ladder**, but avoid hugging the hull to prevent the **channel effect**.

d. Adjust your speed and align your **boarding stairs** with the ship's ladder.



e. Hold position until the pilot begins to climb.

f. Stay steady until the pilot has **safely reached the deck**.

Tourist charter

Like a pilot mission you can request with a motor vessel a tourist charter mission. After you have selected one possible destination, pick up the tourist at the harbor office and navigate to the destination.

Merchant mission

Leaving a harbor with a merchant ship is quite a challenge, depending on the harbor/ ship conditions. Finalize your cargo operations and navigate to the assigned harbor exit point. Once a valid route is entered into the navigation system, your mission target is updated to the final route destination

Tugboat mission

As the harbor tug captain, your task is to support incoming and outgoing vessels in the port area.

Maneuver large merchant ships safely through tight waterways, assist with berthing and unberthing, and respond to requests from harbor control and pilots.

Precision, timing, and communication are key — especially in challenging weather conditions or heavy traffic.

Use the push and pull modes of your tug efficiently, avoid shallow water, and ensure safe docking procedures without causing hull damage.

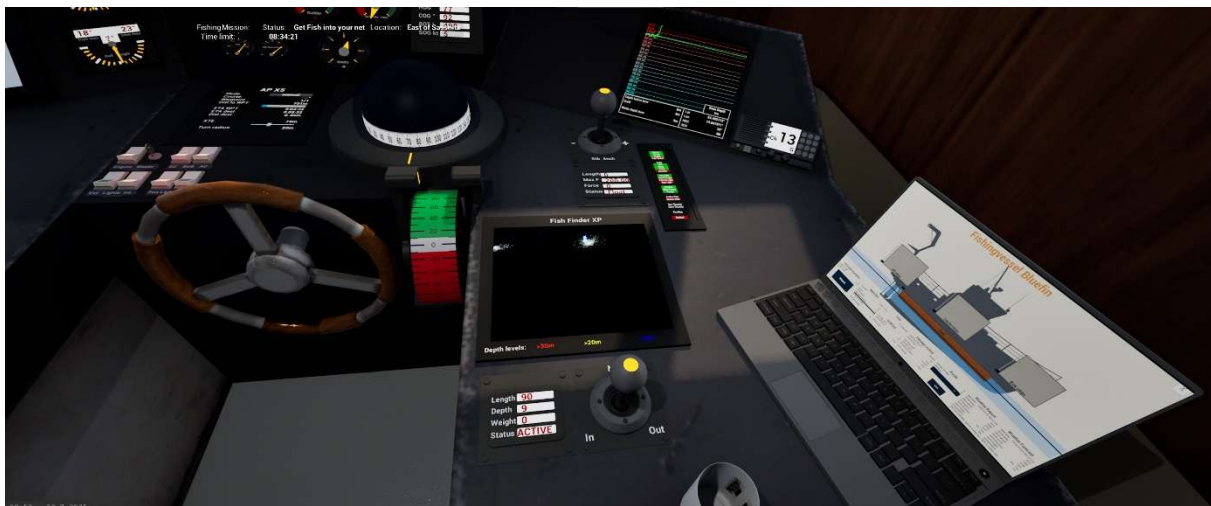
Your tug is small but powerful — the safety of ships ten times your size depends on your skills.

Fishing mission

As captain of a trawler, your mission is to set out from the harbor and conduct a successful fishing run using a stern trawl net.

Harbor Control reports favorable activity of other vessels which have been already departed. Follow their lead or chart your own course.

Deploy your gear at appropriate depths, monitor net tension, and maintain steady speed and heading during trawling. Be mindful of underwater obstacles and avoid overfishing zones.



Fish Finder

Fishing vessels are equipped with a 3D fish finder sonar system. Potential fish swarms are detected and displayed at distances of several hundred meters. A color-coded marker indicates the depth of the swarm:

- **Red** = deep
- **Yellow** = medium depth
- **Blue** = shallow water

As you approach the swarm, more detailed information becomes visible.

Fishing net controls

Make sure to start early enough when preparing to deploy your fishing net.

Ensure the **AC bus** is active to operate the net system.

Use the **control stick** to adjust the length of the net. Next to the stick, a **display panel** shows key information, including:

- **Net length**
- **Deployment depth**
- **Current weight**
- **Net status**

The **status** changes between:

- **Off** – The net is stowed and inactive
- **Active** – The net is deployed and ready to catch fish

Bring your catch back to port safely. A good haul means XP — but careless navigation can damage your gear or result in losing XP.

Ferry duty

You are assigned to operate a ferry vessel, providing vehicle transport across different harbors.

Before departure, contact **Harbor Control** via radio to request your route assignment. They will provide a designated ferry line, including departure and arrival piers.

Once underway, perform as many round trips as possible within the allotted mission time. Efficient maneuvering, punctual docking, and safe loading are key to maximizing service runs.

Weather, wake interference, and other harbor traffic may affect your schedule — adapt quickly and maintain smooth operation.

Maritime rescue area patrol

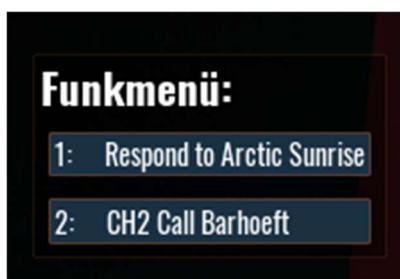


You are tasked with patrolling a designated maritime sector to ensure safety and readiness for emergency response.

Be prepared to respond to distress calls at any moment — emergencies are dynamically generated and can range from man-overboard situations to run a ground vessels in need of assistance.

Fast, accurate response and safe rescue execution are key. Monitor radio frequencies and visual signals closely.

You can respond to an emergency call via the radio channel:



Offshore vessel area patrol

Stationed at any bigger harbor, your vessel provides standby emergency support.

During your shift, remain alert for sudden incident reports. Harbor Control or nearby vessels may request immediate assistance — this includes onboard fires.

Upon call, proceed to the target location, assess the situation, and perform fire suppression or assist in coordination with other responders.

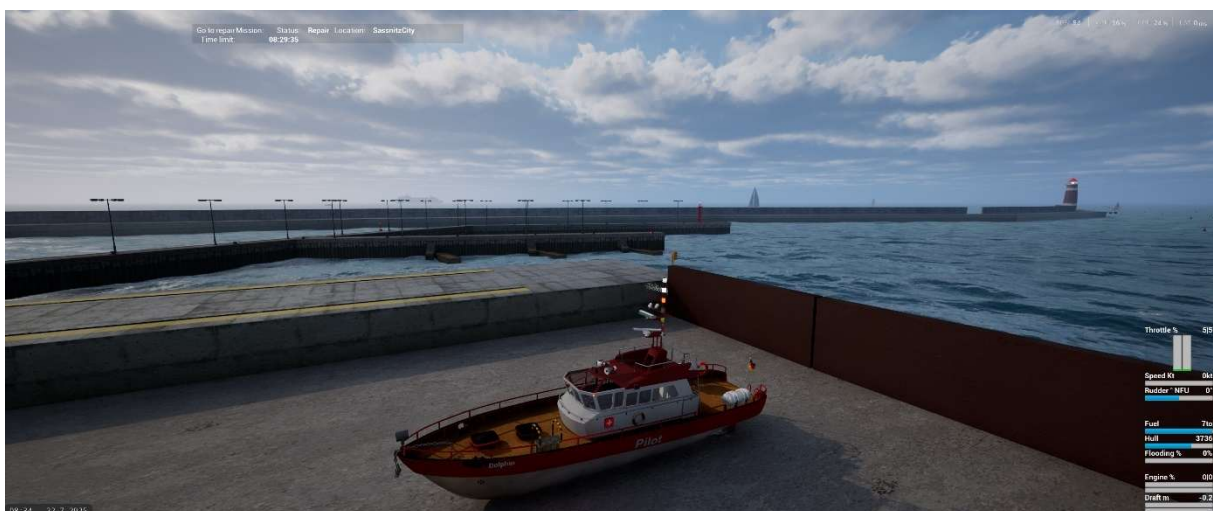
Ship repair

Along the coast, primarily at larger harbors, you will find dry docks where small to medium-sized vessels can be repaired.

To request a dry dock repair, contact the dock via VHF radio and proceed to the designated entry position.

Maintain a safe distance from the dock gates. Once your boat is in position, the gates will open automatically, allowing you to enter the dry dock.

To initiate the repair process, you must shut down the main engines.



Game modes

Tutorials

The **Game Mode Tutorial** introduces new players to the core mechanics and systems of the ship simulation through short, guided in-game missions. These tutorials are designed to ease players into realistic vessel control and operational procedures in a structured and accessible way.

The tutorial is divided into four progressive sections:

◆ Basic

Learn the fundamental controls of the simulation, including throttle, steering, camera usage, and user interface interaction. Ideal for first-time captains.

◆ Navigation

Understand essential navigation principles such as using the compass, radar, waypoint setting, and handling different vessel speeds under various sea conditions.

◆ Missions

Step into operational scenarios like tug assistance, fishing, ferry routes, and emergency response. Each mission includes simplified objectives and hints to familiarize the player with real-world ship roles.

◆ Advanced

Explore more complex systems such as docking procedures, shallow water handling, multi-engine control, sonar usage, and environmental awareness (e.g. wave height, wind, and visibility).

These tutorials are optional but highly recommended for players seeking to immerse themselves in a detailed and realistic maritime experience.

Scenarios

The **Scenarios** section offers self-contained missions in which players must achieve specific objectives under predefined conditions. These scenarios are designed to test both basic seamanship and advanced situational response.

Each Scenario includes:

Objectives

Clear mission goals such as reaching a destination, assisting another vessel, recovering objects, or surviving a storm. Success is rewarded with **Experience Points (XP)** that track player progression.

Fixed Environment

Each scenario has a **preset weather, time of day, and visibility**, offering a controlled yet immersive setting. Conditions can range from calm daylight transits to stormy night-time emergencies.

Difficulty

Scenarios are labeled by difficulty, from beginner-friendly to expert challenges. Some scenarios may include **limited control assistance, realistic maneuvering constraints, or tight time limits**.

System Failures

To simulate real-life complexity, scenarios may optionally include **random or scripted system failures**. These can affect propulsion, navigation, communication, or onboard equipment — requiring quick thinking and proper response.

Whether training for a career at sea or just seeking a challenge, **Scenarios** offer engaging and rewarding experiences in the most realistic conditions the simulation can offer.

Career

Start your nautical career as a landlubber in a small harbor and work your way up to becoming a professional captain. Complete training lessons to learn the fundamentals, then prove your skills by passing your first license check.

Each successfully completed license check unlocks new vessels that become available for purchase at the dry dock. With your own ships, you can take on a variety of missions to earn credits and expand your maritime career.

At the start of Early Access, you will always begin at Ralswiek Harbor. Explore the world to discover new harbors. Purchase a residence at another harbor to unlock it as a fast-travel destination. You can then travel there using the Travel menu on the laptop inside your home.

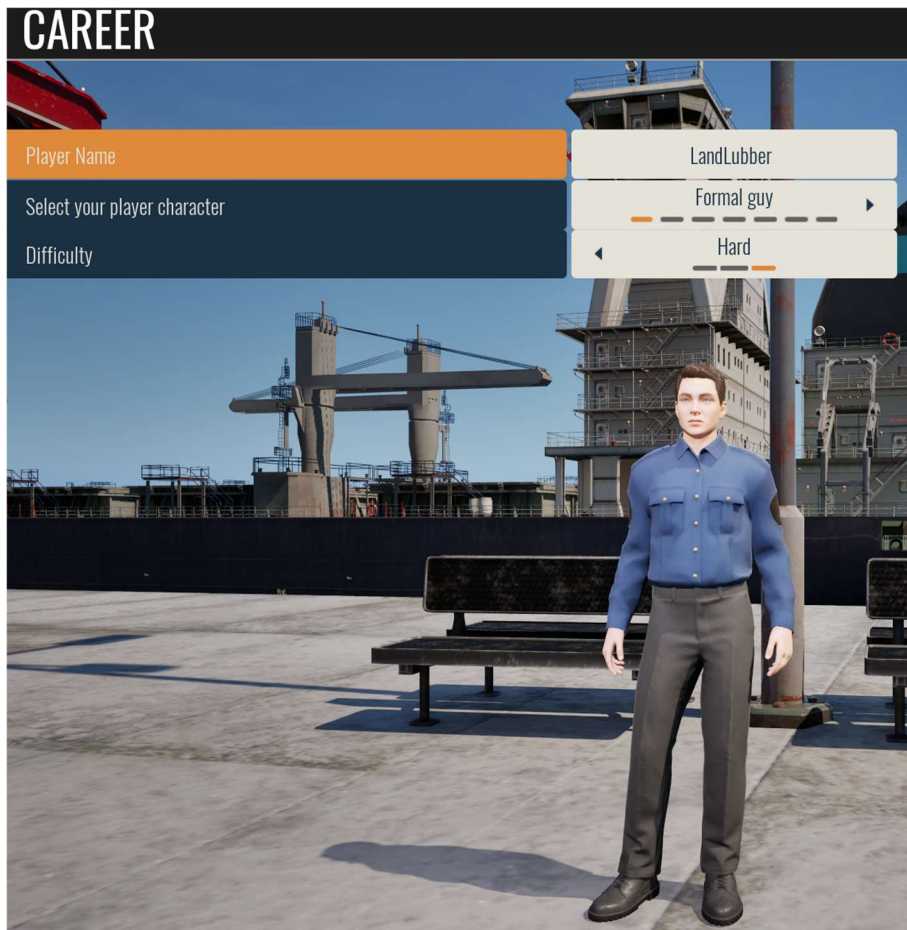
Enter your home and head to the bedroom. There, you can sleep to advance the time.

Not all vessels are available for purchase at every harbor. To buy a tugboat, you need to visit a harbor that offers tugboat services. You can check which harbors offer them on the Open World selection screen.

Credits can be used to:

- **Purchase additional vessels.**
- **Unlock further training lessons and license checks.**
- **Buy residential buildings in other harbors.**
- **Pay for ship repairs and other operating expenses.**

At the beginning of your journey, you can choose from different playable characters and select your preferred difficulty level. The selected difficulty determines how challenging the in-game economy will be throughout your career.



The base difficulty can also be adjusted at any time in the gameplay settings. These settings affect both Career Mode and Open World Mode.

With the Early Access release, the first two Career levels are available as a beta feature, with additional progression planned during Early Access.

Open World

In **Open World Mode**, players have unrestricted access to **all ships, harbors, and regions** available in the simulation. This mode is ideal for free exploration, training, or custom scenarios.

Customizable Conditions

Players can freely set the **time of day, weather, and visibility** to simulate specific situations or practice under preferred conditions.

Full Fleet Access

Every ship class — from small patrol boats to massive merchant vessels — is available. Players can switch vessels and explore their unique handling, equipment, and capabilities.

Mission Access

Depending on the selected vessel, **all mission types** (Tug Assist, Ferry Runs, Fishing, Patrol, etc.) are available through the **radio communication menu**. Players can choose when and how to respond to dynamic tasks.

XP-Progression

By completing missions in Open World Mode, players earn **Experience Points (XP)**, just as in structured scenarios. XP contributes to overall progress and unlocks new challenges or features in the future.

Open World Mode combines freedom with purpose — explore, learn, and rise through the ranks of maritime operations on your own terms.

AI Traffic

All stock sceneries contain AI traffic at sea and inside the harbors.

Our AI captains are trained at a quite low level. Don't expect complex collision avoidance performance. You can use the radar system together with the CPA warning feature to be aware of danger close traffic in an early phase. In case the AI traffic is getting close you should use the horn of the ship to make the AI captain aware of your presence. The AI traffic will hold the position for a certain amount of time, allowing you to finish your maneuver. To interact with AI Traffic via Radio check out the chapter "Ship to ship communication"

Stranded vehicles

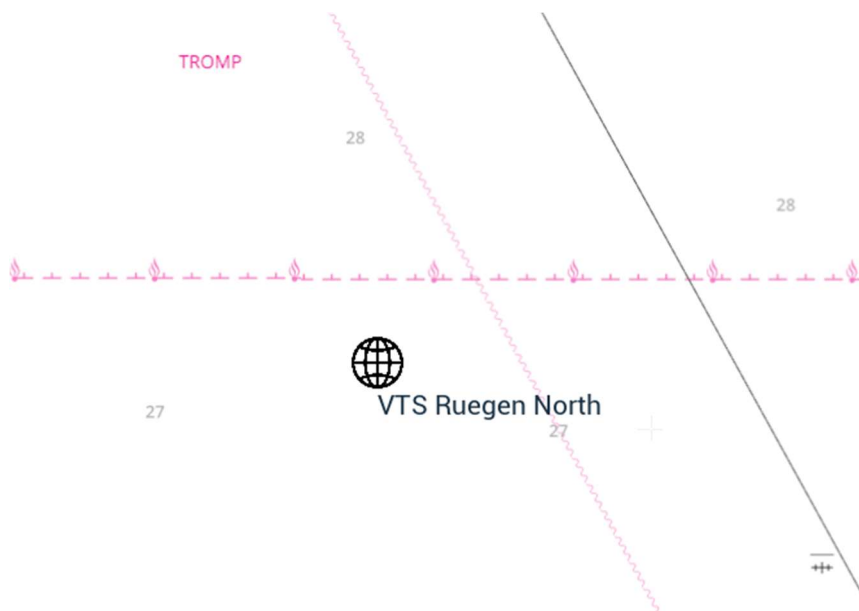
It might happen that an AI captain loses control over his vessel and gets stuck close to the coastline. If this happens, it might be necessary to support the AI ship with a tug mission.

Request to support with a tug mission on the next harbor, once you are close to the stranded vessel with an appropriate tugboat.



Fast Travel

Every map contains VTS “vessel traffic service” Spots, where a travel to another VTS area on a second map can be requested.



You need to be close to the specific VTS to reach out the service via the respective radio channel.



This allows the player to plan journeys all around the globe. Be aware that your vessel needs to fulfill the fuel requirements and should be capable of sailing on the open sea.

During your travel it might happen that you find yourself in a condition where you have to face heavy weather or you are requested to respond to an emergency.

Ship Handling Basics

Note: the actions are described by using the default key assignments. On most actions there can also be a controller button/axis assigned, or you can click the respective button/monitor/control unit directly

Viewmodes

Your ship has 4 default viewpoints:

- External view
- Stern view (back of the ship)
- Bow view (front of the ship)
- Bridge view

You can cycle through the available viewpoints, by pressing V, shift + V.

All viewpoints are also accessible via the F1-F4 keys

By pressing and holding the right mouse key you can move the viewport in any direction.

With ctrl + V you fix the view to the heading of the ship

View presets

All four main viewpoints have eight view presets. A preset view can be stored with ctrl + F1-F8. To activate a preset view press shift + F1-F8.

Be aware that on some PC configurations the F keys may be blocked by other features and are not available for PSS.

Binocular view

In every viewpoint except the external view, you can zoom in/out with the mouse wheel. On maximum zoom level you enter automatically the binocular mode where bearing and distance to the found object at the binocular crosshair is displayed.



Once you target another vessel with the haircross, it will be marked as unknown contact within the radio menu. See VHF radio chapter for more details.

On every viewport you can move around by using the arrow keys. The movement is limited to the ship dimensions.

Once you leave a viewpoint the position and view direction is stored. The position is also stored when closing the game until you enter the selected ship the next time.

Clickable cockpit

Most actions can be also done by clicking the respective button inside the bridge view:



All steering devices (wheel, azipod control, lever) can be used by left mouse hold and move either to the left or the right of the device center.

The same applies for the different sticks like Anchors, Thruster, Ramps, Towlines and the Throttles (Main throttle, port-, stbd throttle)

Controller support

On the main menu / options / input you can create a controller setup, by entering a unique name and then pressing the mapping button. You now can assign up to 70 buttons and a dozen axis, specifically for the available controllers.

After the mapping is stored by pressing the “Apply” button at the bottom of the mapping page, you can link the created mapping to the available ship classes “assign to ship”.



Startup procedure

You always start with an “dark cockpit”.

Switch on the Battery/ DC bus by shift + B.

Once this is done, all NavCom / Lights and the AC Generator can be activated

NavCom devices

GPS / AIS (ENIS) shift + G

Radar shift + R (not all ships are equipped with a Radar system)

Sonar U

VHF Radio shift + C

Adjust monitor

brightness alt + B

Lights

Running lights	L
Internal lights	shift + L
External lights	ctrl + L
Spot light	alt + L

Main systems

AC Generator/bus ctrl + B

not available on smaller ships/boats, needed on bigger ships to startup engine / supply rudder system

Engines shift + E

to activate the Engine, the AC generator might be needed on bigger ships

HUD Display

Professional Ship Simulator focuses on a realistic ship environment. Therefore the HUD display is kept very simple in order to have the user to operate more with the 3d bridge.

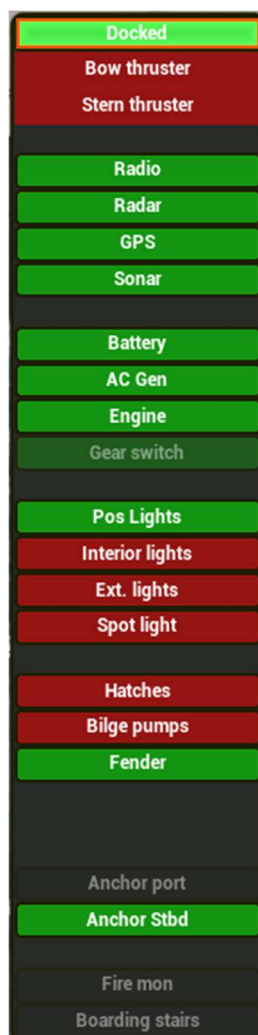


The HUD main sections:

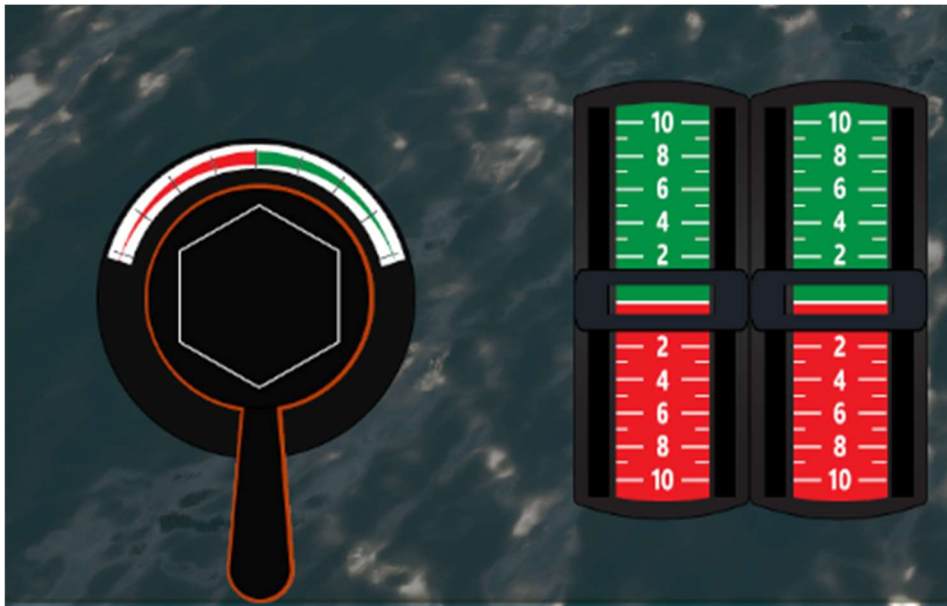
Main Systems

- Target throttle [%]
- Ship speed [knots]
- Rudder angle in [°]
- Available fuel [tons]
- Hull integrity
- Flooding level
see ****Damage system / control for details**** [LINK](#)
- Engine RPM [%]
- Draft [m]

System status



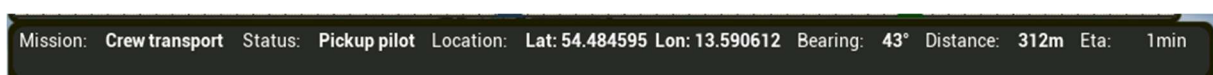
Ship Controls



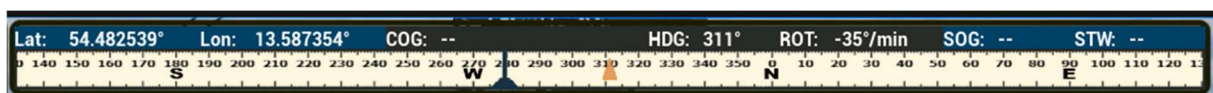
Wind / Drift Panel



Mission Status



Navigation Status



- Ship coordinates [lat] [lon]
- Course over ground COG [°]
- Heading HDG [°]
- Rotation over time ROT [°/min]
- Speed over ground SOG [knots]

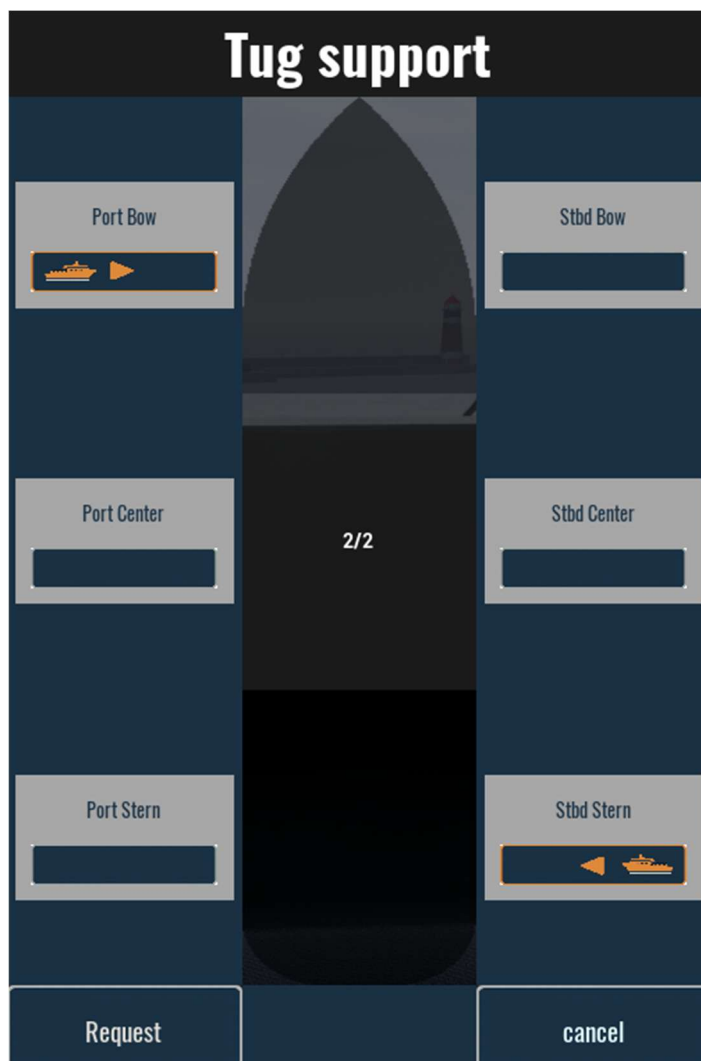
The compass shows ownship heading in yellow, mission target in green and active waypoint in blue color.

Tug support

Large ships have very low turn rates. Maneuvering inside of a harbor area or on tight water streets is a real challenge. Like in real, you can request tugboat support via the radio menu.



Select the closest harbor with tug boats available and choose how the tugboats should push or pull your vessel:



You can assign Tug boats on the following positions:

- Bow port/starboard
- Center port/ starboard
- Stern port/starboard

On each position you can select if the tug pulls or pushes, by clicking on the blue position button.

Plan the setup carefully. In some configurations, the forces might eliminate each other, resulting in a nonmoving ship.

Tugboats can only be placed around the ship, where is sufficient room to maneuver and once the ownship speed is close to zero. So, if your vessel is docked on port side, it is impossible for a tug to be placed there.

Once you clicked the “Request” button and harbor control confirmed that the tugboats are available, it takes some time until the boats arrive on scene, depending on the distance to the harbor.

When reaching the final position, you must stop the tug operation via the radio menu.

Pilot support

When operating large ships on tight waterways or close to shore, with only an echo sounder, it might be advisable to request a maritime pilot, who knows the area very well.

Request the pilot via the radio menu:



He will support navigation of the ship, by informing you about shallow waters ahead of the ship.

You can change the distance ahead of the ship, where the pilot makes his announcement for with the “Sonar warn distance” key.

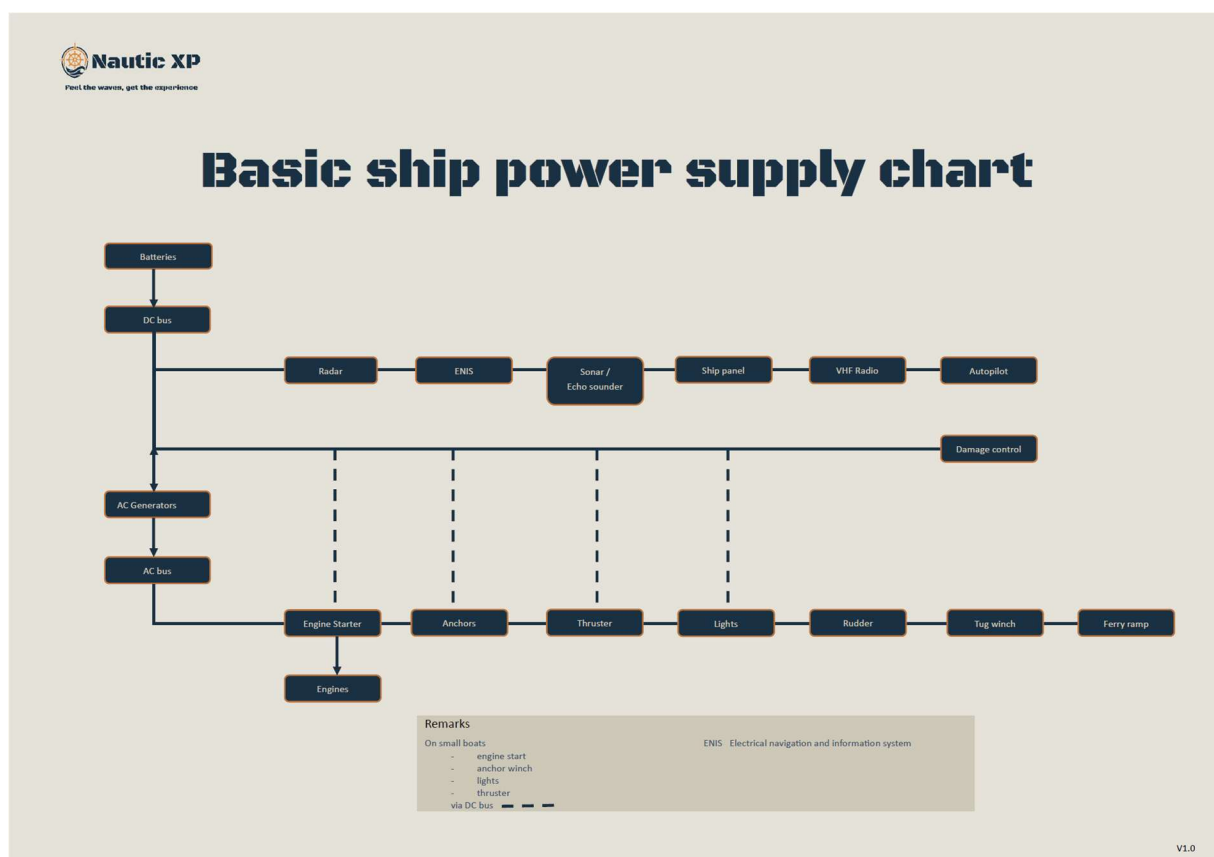
Ship systems explained

Power supply system

Every ship has a battery arrangement for basic power supply. All navigation and communication systems (NavCom) can be supplied by the batteries (DC bus) in case of a loss of the main power system.

However, most systems on board of medium to large ships need an operational AC Bus. The AC generators are started with help of the DC bus. Once the generators are running the AC Bus supplies systems like rudder, engine starter, winch systems with power.

See the power supply chart



Radar

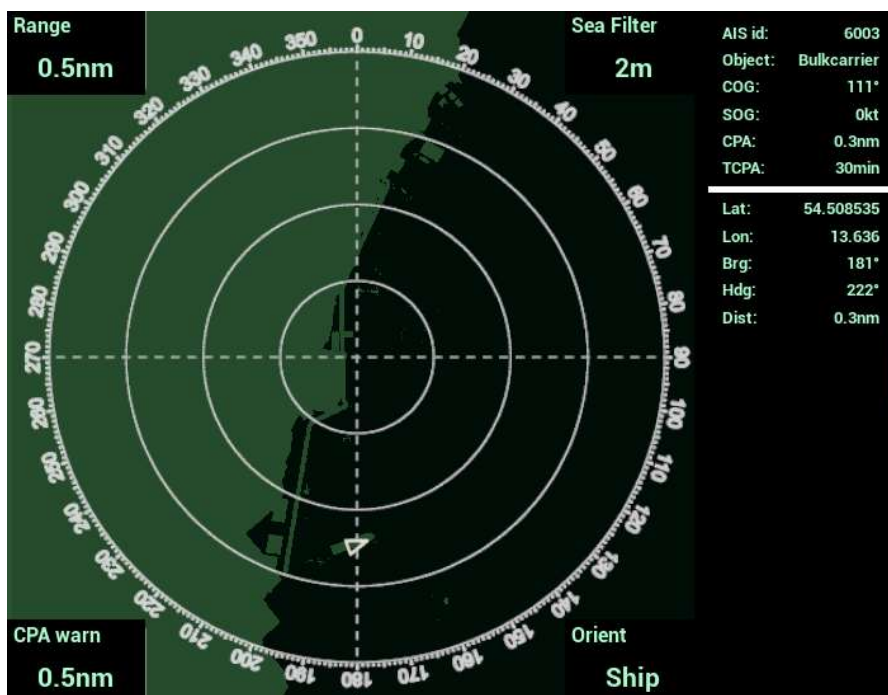
Most ships are equipped with a basic radar system. The range can be adjusted in a range from 0.25 to 4nm, by the respective keys or by a left click on the HUD radar screen.

Sea filter

On rough sea or strong roll / pitch angles of the ship the radar system is no longer able to provide a clear picture. Use the sea filter function to remove clutter in this case. Be aware that the use of the sea filter also removes small return signals!

Screen orientation

The orientation of the radar can be set to either North up or heading up.



AIS

The build in Radar can display AIS target. By using the scroll wheel over the HUD Radar screen, you can cycle through the AIS targets in range. The selected target will be shown on the screen as well on the radar info panel on the right side.

CPA / TCPA

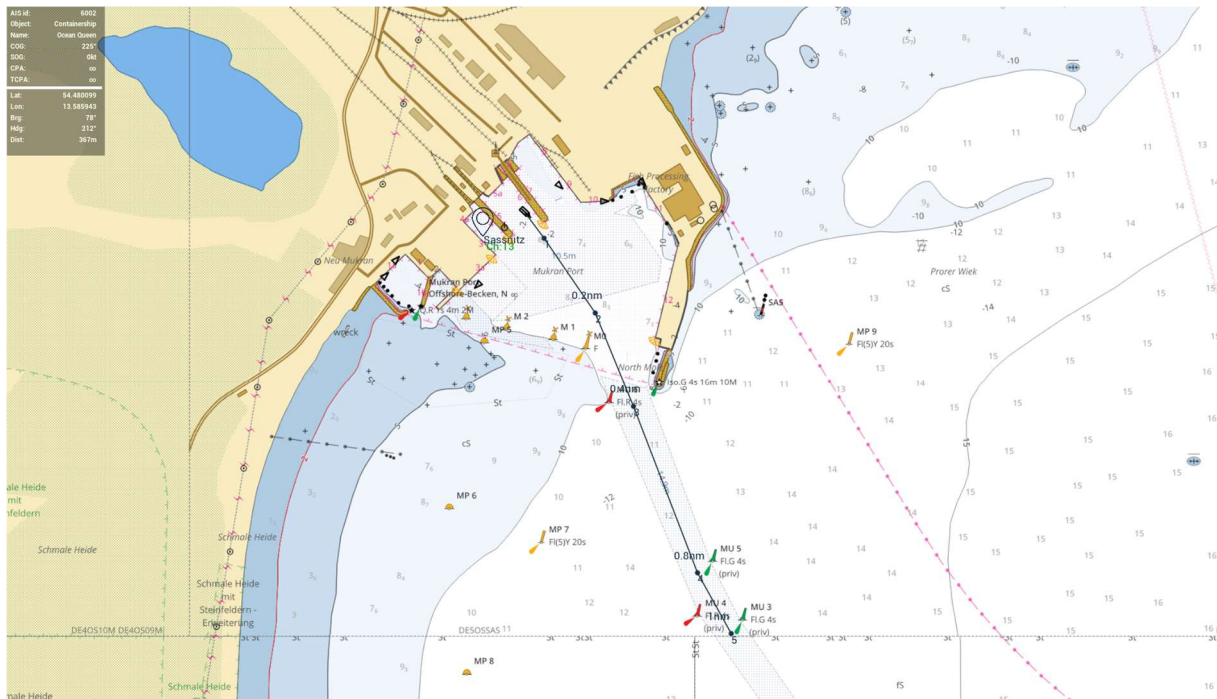
Closest point of approach is shown for the selected AIS target on the info panel, together with the Time to point of closest approach (TCPA).

Closest point of approach warning feature

The system is equipped with a CPA warn function. Once activated by a right click on the radar HUD, the system will warn the crew once an AIS target is reaching a predefined calculated CPA and TCPA. Default values is CPA of less than 0,5nm in combination with a TCPA of less than 20minutes.

ENIS (Electrical Navigation and Information System)

ENIS provides a digital map of the area, with seamarks, obstacles, landmarks and depth markings.



ENIS AIS

The AIS provides position, type, speed and heading of other vessels in the surroundings of own ship. Ships in range of the AIS system are shown on the bridge monitor as well on the callable map. The callable map has an additional information line on the upper left to show:

- Position
- Shiptype
- Heading
- Speed over ground

AIS id:	6005
Object:	Motorvessel
Name:	White Horizon
COG:	45°
SOG:	0kt
CPA:	∞
TCPA:	∞
Lat:	54.481132
Lon:	13.580495
Brg:	116°
Hdg:	251°
Dist:	581m

ENIS Nav

Inside of the callable map, you find on the upper right an information panel where various information's of the current mouse cursor position and ownship is displayed:

- Cursor position
- Cursor bearing from ownship
- Cursor distance to ownship

This data allows you to mark positions you got from binocular readings or from radio calls. The way around it allows you to e.g read a bearing to a landmark and locate it with the binoculars.

EBL / COG Vector

You can activate an electronic bearing line to the current mouse cursor position as well as a course over ground vector line with eta values between 1 and 30 minutes.

Create/modify a Route

Waypoints can be placed with a left mouse clicking onto the map. Deleting the last waypoint is possible with "del" key. Deletion of the complete route with shift + "del".

Already placed waypoints can be moved with drag and drop.

With a left mouse click on a waypoint, you assign this waypoint as next active waypoint for the autopilot.

Once a waypoint is entered/changed/deleted, the autopilot system will automatically be updated.

NMEA support

Professional Ship Simulator support use of an external map plotter software like OpenCPN or qtVLM. Just activate the option, inside of the gameplay settings menu.

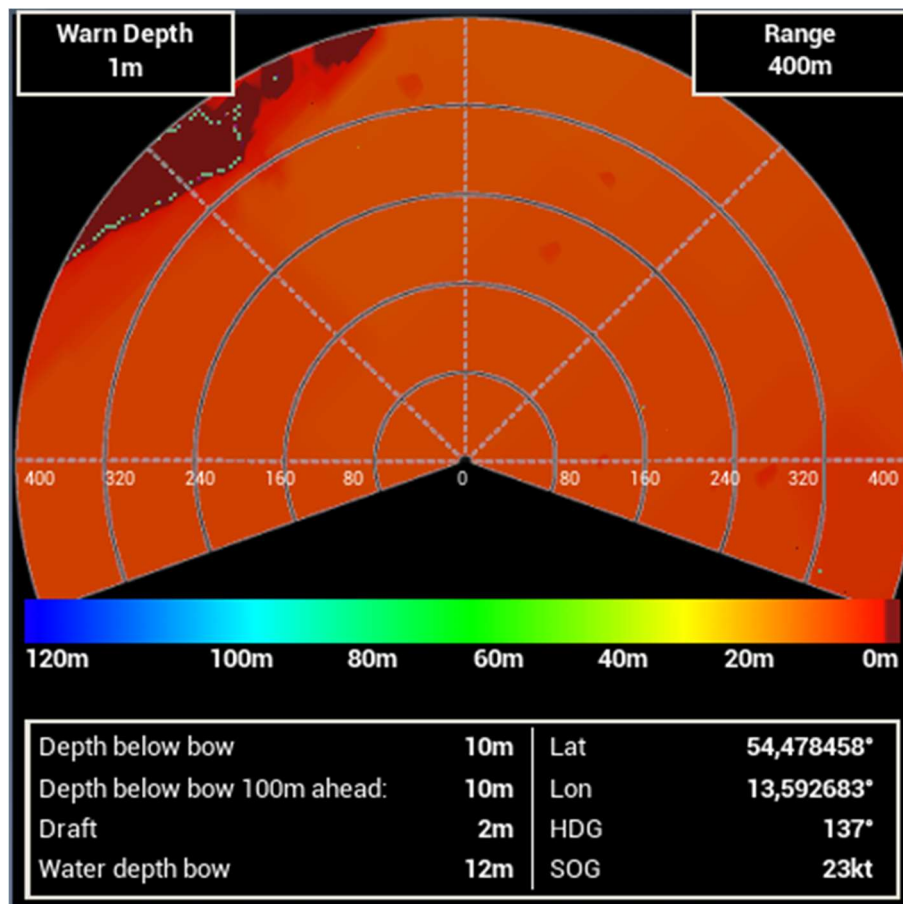
See Route Management

See Autopilot

Sonar / Echo sounder

Depending on the chosen difficulty level you have either a sonar system or just an echo sounder system available.

Sonar



The 3d sonar shows the depth below keel ahead of the bow. The range can be adjusted to up to 400m. Current depth below keel and at an adjustable distance in front of the ship are display as numbers. The warn depth can be adjusted within a specific range. Once this depth is reached the numbers will start to flash.

Echo sounder



Compared to Sonar, the Echo sounder only shows the current depth below keel. A histogram shows the found depth for a few minutes. Check the latest readings and the histogram and compare the depth values with the chart values to decide if the movement path is safe.

However, the warn depth (below keel) can be also adjusted.

VHF Radio



Once switched on, you can change the radio channel by the increase/ decrease channel keys, via assigned controller buttons or by using the mouse wheel over the vhf radio in the cockpit.

The “G” on the lower left of the display shows, that your guard channel is active, so you listen independent of the chosen channel always on ch16, where all ship-to-ship calls and emergencies are handled.

Harbor communication

To find out what harbor is in range and what channels are assigned to what harbor you can check the ENIS or you open the radio menu.



Be aware that the radio channels can only be changed when outside of the radio menu.

The chosen channels are shown in bright white color. By pressing the number in front of the harbor name you enter the harbor menu:



Depending on the ship class, the harbor and possible preconditions, the menu might look different.

Again, click on the line number to execute the radio call.

More details about the different missions can be found in the mission category

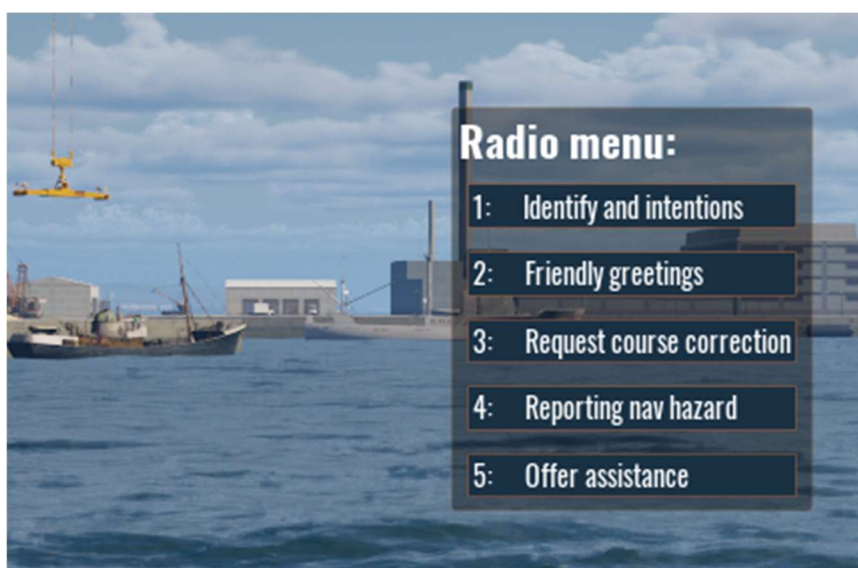
Ship to Ship communication

Once you spotted another ship with a binocular. It will be available inside of the radio menu.



Without established communication, you only have the bearing and distance from your ship.

The following radio calls are available:



Identify and intentions

The vessel will answer with its shipname and the current activity

Friendly greetings

You get a friendly response. The contact will be removed from the radio menu.

Request course correction

The ship will take action to avoid a collision. Be aware that some response time is needed.

Reporting navigational hazard

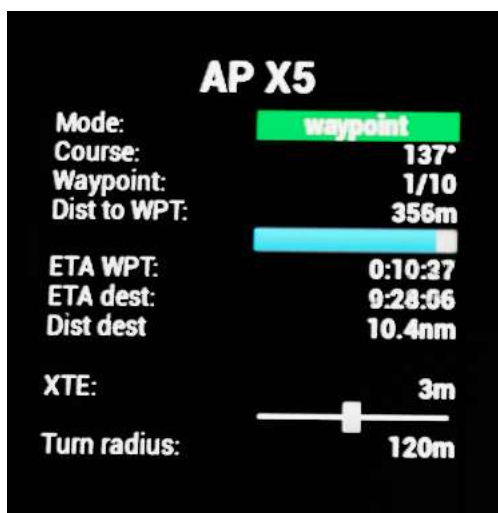
You inform the ship about a potential hazard in the area. The AI vessel will navigate more carefully.

Offer assistance

Most likely the vessel does not need any assistance, but in case of an emergency (run aground, flooding, engine failure) you will be asked to support.

As soon as you get a response from the vessel, the shipname is shown on the radio menu as well (Except after the greetings call, which is used to remove the contact from the radio menu)

X5 Autopilot



The default autopilot has the following modes:

Manuel

AP is off

Override

AP is overridden by the steering input system. Once the controller input is set to zero again, the AP returns to the selected mode automatically.

Heading

AP keeps the heading, present at the point in time where the mode was activated

Waypoint

AP follows the available waypoints. When this mode is activated, the closest waypoint will be selected as active. The active waypoint changes, based on the distance to the active waypoint (see turn radius), or by a click on a waypoint at the callable ENIS map.

X5 Display

Course:	course to next waypoint or fixed heading
Waypoint	next waypoint and overall number of waypoints
Dist to WPT:	Distance to next waypoint in meter or nautical miles
	The bar graph shows the percentage of distance to the next waypoint from the previous waypoint
ETA WPT:	Estimated arrival time with current speed at next waypoint
ETA dest:	Estimated arrival time with current speed at last waypoint
Dist dest:	Distance to last waypoint
XTE:	Cross track error, orthogonal distance to route track The bar graph shows the deviation left/right max distance 400m
Turn radius:	Distance in meter to the current waypoint, where the next waypoint will be activated an the turn is initiated

Note:

Depending on the rudder characteristics and ship speed, situations may occur, where the autopilot is no more able to keep a defined course in a stable way

Ship panel



The panel provides access to the following functions:

Cargo load/unload

Cargo vessels have three cargo load zones. Left to every load zone is a slider where you can set the target load of the respective zone. In the lower left section of the panel, you see the overall planned cargo mass.

Once the planned load levels are set, you can in addition adjust the fuel level and click on the start button, inside the cargo load section (bottom left of the screen).



Note:

In order to start an unload or load process the ship has to be at a dock and fixed with enough mooring lines. To allow the needed movement of the ship during load/unload operations the mooring lines must not be tightened. If this is ignored it might happen that mooring lines snap and the load process will be stopped.

Ship mass overview

Mass [to]	
max DWT:	13,978
cargo:	6,989
fuel & fluids:	1,747
crew & provisions	27
total current DWT	8,764
load percentage	50

When doing cargo operations, you need to keep always an eye on the max allowed DWT (deadweight tonnage). The closer you will be on the max allowed mass; there more difficult it will be to control the ship. Also, the max speed will decrease.

Trim status

Based on the mass split of the three different cargo zones, the ships bow/aft trim will change. This might lead to unwanted effects, especially when sailing in heavy sea. Also ship speed and turn capabilities will be impacted.

Trim	
trim	-0° balanced
Draft [m]	
trim diff. stern	0
trim diff. bow	0
center draft	6.37

Draft status

The ship draft is also impacted by the cargo loaded. Check your planned route carefully to avoid running aground because of too much draft, caused by an overloaded ship. In areas with tidal conditions or changing depth situations, an additional safety margin should be considered. In some cases, a specific harbor can only be approached in a specific tidal condition.

Route management

Load of external routes

Professional Ship Simulator supports route files in the .gpx format. These kinds of files can be created with external route software like opensea maps, open cpn and many more.

External .gpx file have to be placed into the following folder:

[DiskLetter]:\Users\[YourUsername]\AppData\Local\NauticXP\Saved\ShipRoutes\

Once you open the ship panel, you can find the loaded routes on the Route management section



Save routes

Every route created inside the simulation can be saved, by opening the ship panel, select add new route on the route management drop down field and hit the save button below.

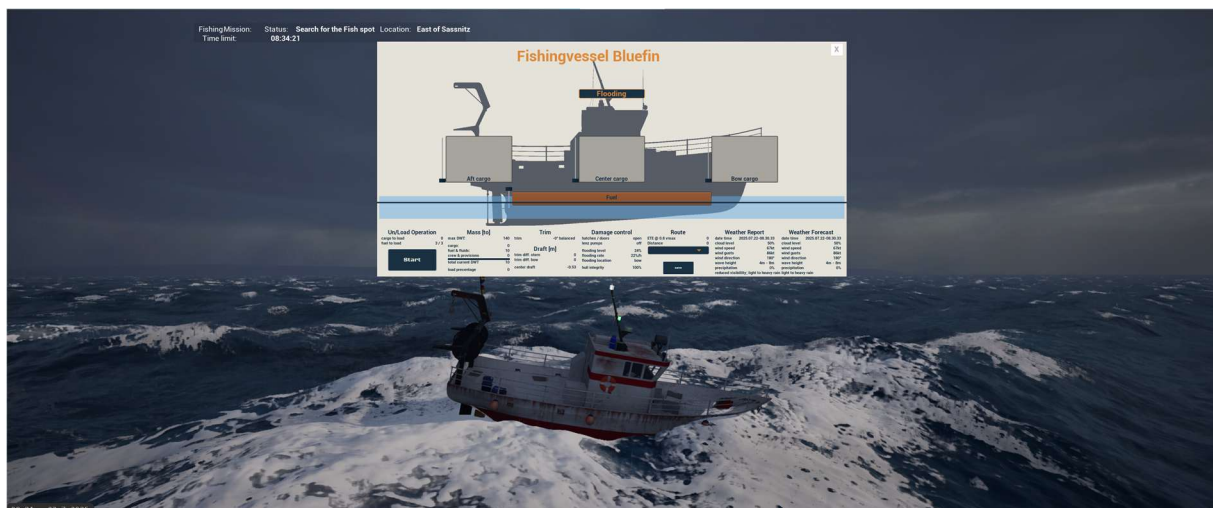
The saved route will be automatically named with the current date. You can rename the route by navigating to the above-mentioned folder and changing the file name to your choice.

Damage control

Shows the flooding and hull status of the ship, as well as the operational status of the damage control systems. Flooding area, flooding percentage, flooding rate and details about the bilge pump performance are displayed as well.

Damage control	
hatches / doors	open
lenz pumps	off
flooding level	24%
flooding rate	22%/h
flooding location	bow
hull integrity	100%

The flooding rate is calculated under steady-state conditions. However, when taking direct hits from large waves, water levels can rise instantaneously, which is not reflected in the estimated rate.



A trawler taking on water in heavy seas, beginning to ride bow heavy. Properly secured hatches and doors might have prevented this situation.

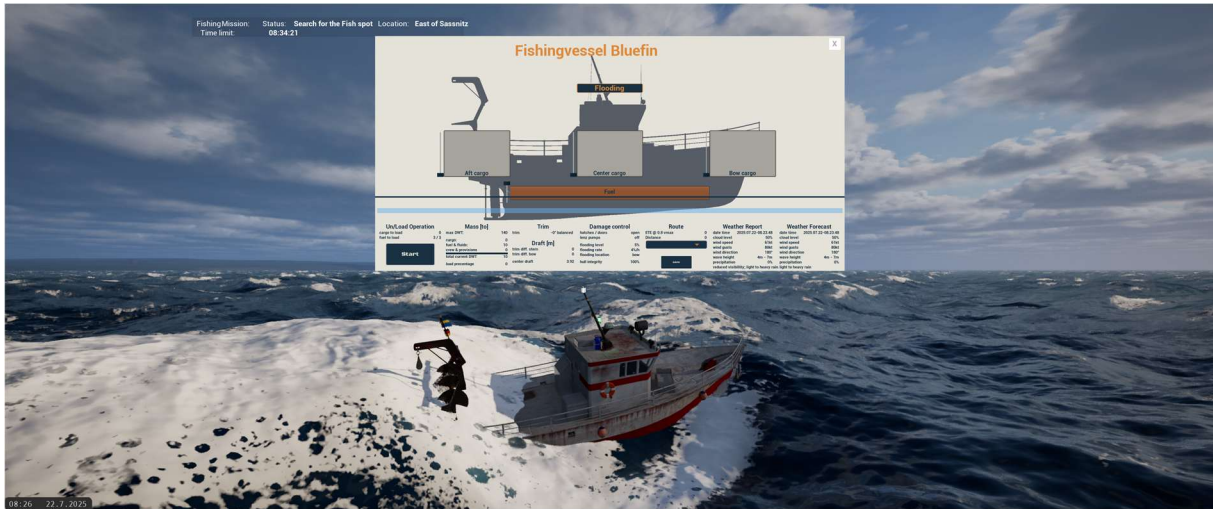
Weather status

The latest weather report received is shown in this section. When using dynamic weather, also the forecasted weather is displayed. In case of an arriving weather front, significant weather like reduced visibility, heavy rain is noted.

Weather Report		Weather Forecast	
date time	2024.01.01-13.39.37	date time	2024.01.01-13.39.37
cloud level	40%	cloud level	40%
wind speed	13kt	wind speed	13kt
wind gusts	18kt	wind gusts	18kt
wind direction	163°	wind direction	163°
wave height	0m - 1m	wave height	0m - 1m
precipitation	0%	precipitation	0%
		reduced visibility, heavy rain	

Damage System / Control

The open sea is a dangerous place. If not careful, you risk to run around and damage the hull of your ship. Also, heavy sea can cause flooding if your boat is not prepared.



Watertight hatches/doors

- Used to avoid water entering the ship during heavy weather situations
- Might stop or slow down flooding

Bilge pump system

- Might stop or slow down flooding
- More effectively, when used together with closed watertight doors/hatches
- Keep in mind that the power system needs to be available to operate the bilge pumps

Depending on the ship size, AC power is needed to operate the bilge pumps

Hull damage

Each ship has a unique hull type — some are more resistant than others. Hull damage can occur when you touch the sea bottom, collide with other vessels, hit a pier, and so on. The location of the impact can influence whether flooding occurs. The severity of the impact also matters — you might be lucky when hitting a small object at low speed. However, if you run aground in heavy seas, each wave may slam your vessel against the bottom, causing severe hull damage and potentially leading to flooding.

Fender

When starting in a harbor, vessels are equipped with deployed fenders to protect the hull during harbor operations. Once you have left the harbor area, you may retract the fenders to avoid unnecessary drag or obstruction. However, always ensure they are deployed again before approaching a dock, another vessel, or during any situation where hull contact is likely — such as in rescue operations.

Anchor System

Based on the ship type, there can be up to two anchors installed. The anchors can be operated by either DC power on small ships or with the AC power bus on bigger ships. Each anchor is controlled by an anchor panel on the bridge console. There the anchor can be lowered or raised.

Anchor procedures

Be aware of the current water depth of the anchor point and slow down the vessel to a speed of <8kt. Lower the anchor chain around 1,5-2 boat length ahead of the planned anchor point.

Once the anchor touches the ground, the anchor panel will display “ground” on the display. Starting from this point the anchor needs to dig into the sea floor. This is only possible when the ship has a low speed. Also, different sea floor conditions can lead to a different anchor set performance.

You will recognize the anchor drag increasingly, the more the anchor is digging into the ground and there more chain length you give.

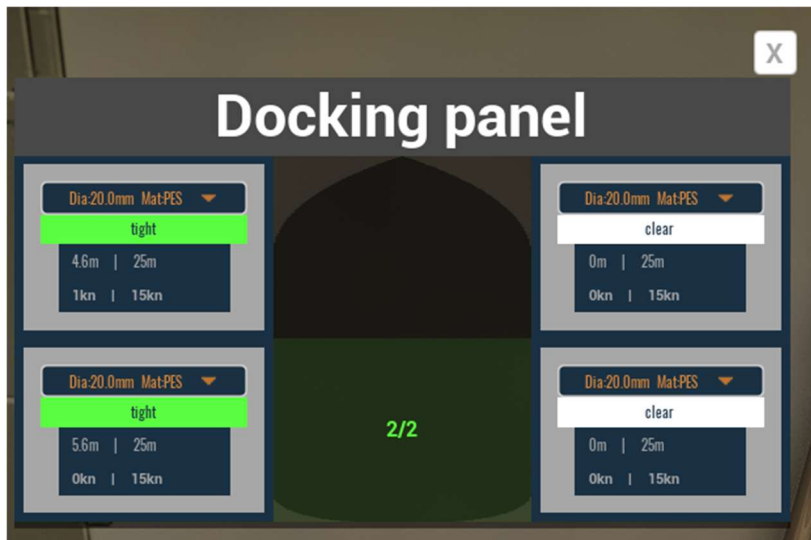
As soon as the anchor can keep the ship in position the anchor displays shows “set”.

Keep in mind that a too strong force on the anchor chain can lead to a loose/broken anchor chain. An anchor chain force display gives you an indication about the present force at the anchor chain.

To raise the anchor slowly raise the chain. You need to be close to the anchor set point, to remove the anchor from the ground. Once the anchor is loose, the anchor panel display will show “float”.



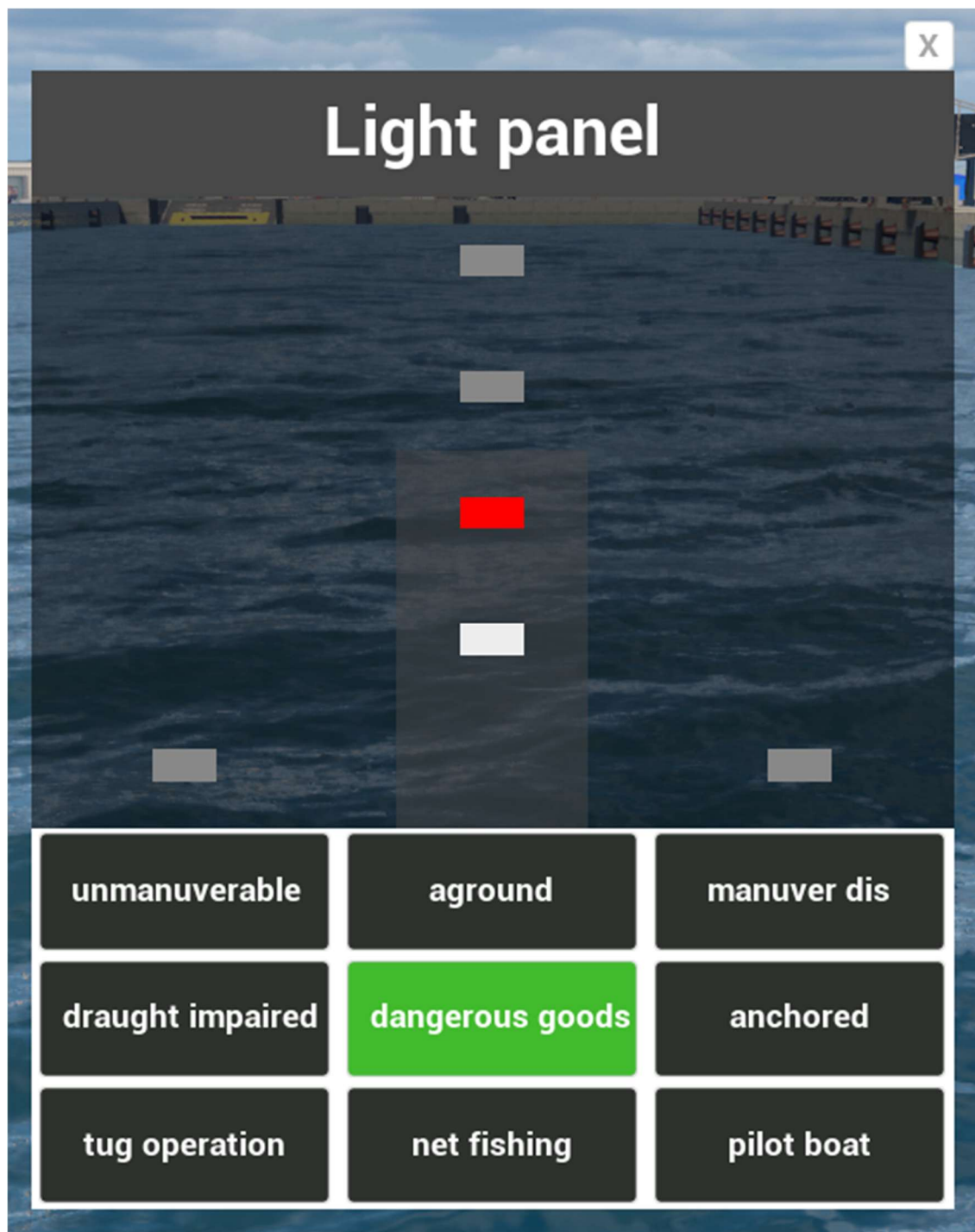
Docking Panel



The docking panel allows you to control every mooring point in detail. A simple click on a mooring point drops a line from this point to the closest mooring point at land. By using the mouse wheel, you can adjust the line length until the status shows “tight”. You can select from different line types by opening the drop-down field. Diameter, Material and maximum line length change depending on the selected type. This results also in a different maximum line strength.

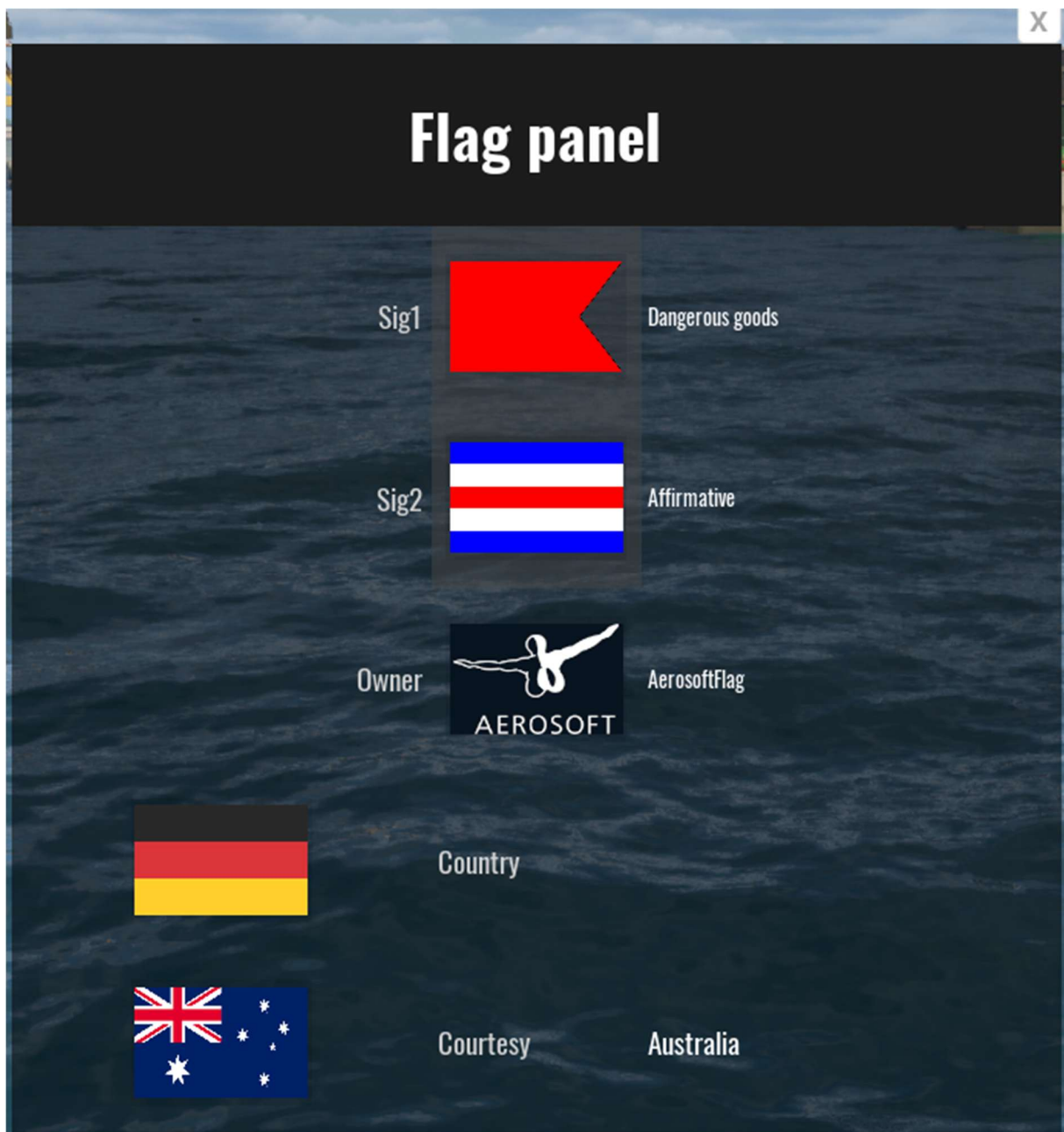
During heavy weather conditions, when applying engine power or during loading operations, the line might break. So keep an eye on the applied force versus the maximum force allowed.

Light Panel



The light panel shows the status of the running lights, as well of the three special lights. The lower section of the panel, shows the selected special light configuration. A mouse click changes the special light configuration

Flag Panel



Every ship is equipped with

- 2 slots for signal flags
- Owner flag
- Country flag
- Courtesy flag

Hover over the slot and use the mouse wheel to change the flag. The flag name is shown to the right of each slot.

By clicking on a slot, the flag is being removed/raised

Auxillary Boat operations

Some vessels have the capability to release a auxillary boat. Open the aux boat hatch to start the automatic release process. The boat will be automatically possessed by the player once the release process is complete.

To winch up the boat again you need to have gained a safe distance to the main vessel first. As second step approaches the boarding zone, where the boat was released earlier in a slow and aligned way. Once you keep the boat in a steady position and very close to the main vessel the boarding process will start automatically.



Weather System

To allow the user full control, several weather modes are implemented to choose from, during the game setup. Wave height is always linked to a specific wind strength, with some variation.

Weather modes

Weather scene

Let you choose a specific scene, like partial cloudy, cloudy, overcast

Wind data (speed, direction, variation) will be selected in a random range. On stormy conditions, this range will be adapted accordingly.

Real weather

weather data from an available internet source will be used to update the weather every 5 minutes. The option *calculates fog based on temperature*, adds fog in relation to the difference between temperature and dew point (a difference of zero means 100% fog)

Custom

Let you adjust all available values via a slider. With the randomize button you can quickly set up some base values

Dynamic

selects a random starting weather condition based on the time of. The weather changes based on the value set on the slider earliest weather change. The set value “t” is the minimum time where the current weather condition will stay active until a new one will be activated. This time is randomly chosen between t and t*2.

Weather broadcast system

On radio channel 20 you can listen to the current weather report of the area. The weather conditions are also displayed at the ship panel weather section.

When the dynamic wx mode is active, a forecast is available (WIP).

Once in game, you can change the weather condition to a custom weather within the pause menu. The previously set weather mode will be then deactivated.

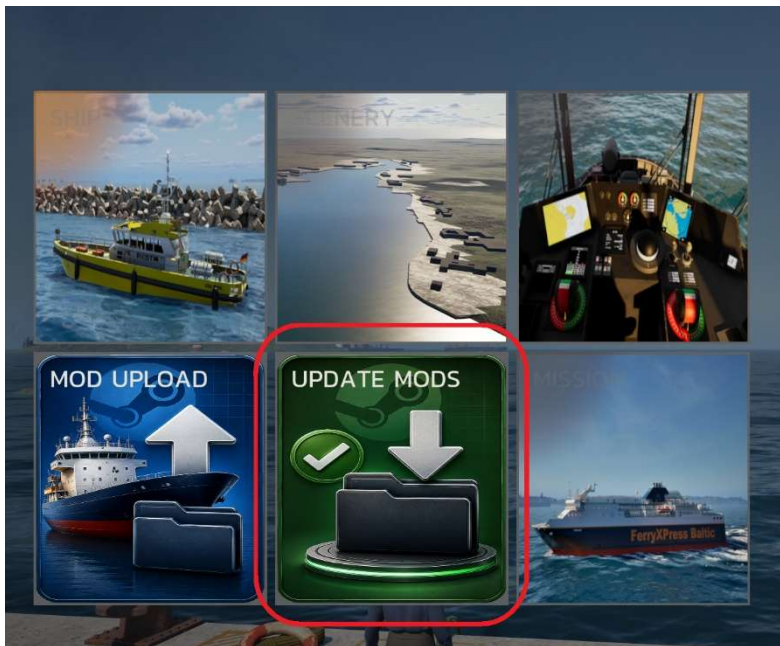
Be aware that on some scenarios and within the campaign mode, changing the weather will not be possible (WIP)

Modding support

On start of early access mod support is still a beta feature. Please help us to improve this feature and report bugs at our discord or via the build in bug reporter.

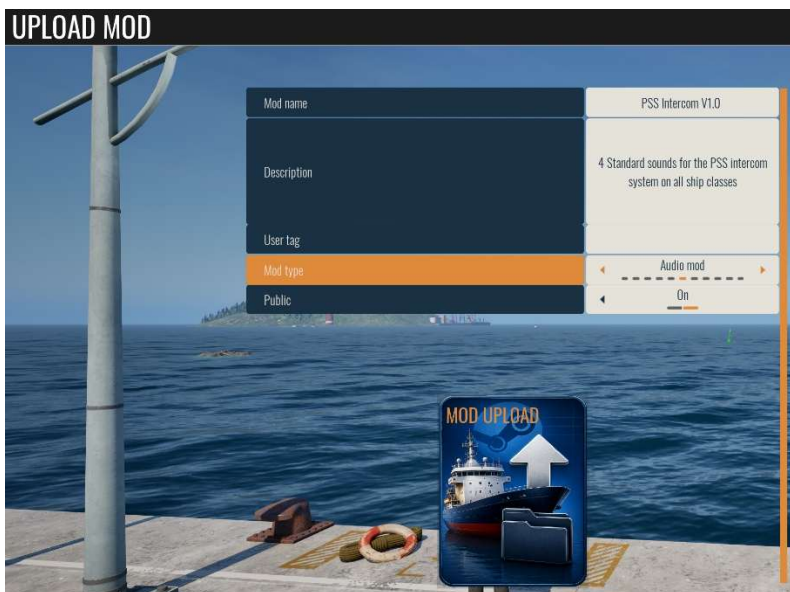
Get Mods from Steam workshop

1. Visit the PSS steam workshop and subscribe a mod you would like to install
2. Open PSS go to the Editor section, and press update mods. This installs all valid mods according to your subscriptions.



Upload your own mods

For details on how to create you own mods, check out the examples, we placed on the steam workshop.



1. Go to the mod upload page.
2. Enter a mod name, which matches the folder name where your mod data is placed.
3. Choose the right mod type (not all mod types are supported right now).
4. Click “mod upload”.
5. Choose the folder with the exact same name as your previous entered mod name.
6. The Application will verify the data and upload the mod to steam.

Ship mods

We currently develop a unreal sdk to support ship mods. A first early example can be found on the steam workshop. Ship mods are Work in Progress.

Options menu

Graphics Settings

The Graphics menu lets you balance visual quality and performance. Higher settings improve image quality but require more GPU and CPU performance.

Quality Preset – Changes all major quality settings at once.

Global Illumination – Controls the quality of indirect lighting. Higher settings improve realistic light distribution.

Shadows – Controls shadow quality, detail and rendering distance.

Anti Aliasing Quality – Reduces jagged edges and visual flickering.

View Distance – Controls how far detailed objects are rendered.

Textures – Controls texture resolution. Higher settings require more VRAM.

Effects – Controls the quality of particles and visual effects.

Reflections – Controls reflection quality.

Foliage – Controls vegetation quality and rendering distance.

Shading Quality – Controls material and surface shading quality.

Post Processing – Controls additional image effects and processing.

Advanced

Global Illumination Method – Selects the lighting technology. Lumen provides high-quality dynamic indirect lighting but requires more GPU performance.

Reflection Method – None disables real-time reflections, Screen Space offers a good performance/quality balance, and Lumen provides higher-quality dynamic reflections.

Motion Blur – Adds blur during movement.

Lens Flares – Enables lens effects around bright light sources.

Bloom – Adds glow around bright lights.

Ambient Occlusion – Adds contact shadows and depth around nearby surfaces.

Resolution

Resolution Scale – Controls the internal rendering resolution. Lower values significantly improve performance at the cost of sharpness.

Anti Aliasing Method – Selects the anti-aliasing technology. TSR provides high-quality temporal anti-aliasing and upscaling.

TAA Upsampling – Enables temporal upsampling when supported by the selected anti-aliasing method.

Upscale Quality – Controls the quality of image upscaling.

NVIDIA DLSS – AI-based upscaling for supported NVIDIA RTX GPUs to improve performance.

NVIDIA Frame Generation – Generates additional frames on supported NVIDIA GPUs for higher displayed frame rates. You should set the frame rate target to unlimited for best performance.

NVIDIA Reflex – Reduces input and rendering latency on supported NVIDIA GPUs.

FidelityFX Super Resolution 3 – AMD's cross-vendor upscaling technology for improving performance.

Tip: For more FPS, first try DLSS/FSR or Resolution Scale, followed by reducing Global Illumination, Reflections and Shadows.