PORT TRACKER.CO

AIS TRACKING 2.0

- Ocean going Vessel
- Harbour Crafts
- Recreational Marine
- Rail
- Cargo Handling Equipment
- On Road Vehicles

- AIS Station / Network
- Port call Monitoring
- Timestamp Calculation
- Workboat Monitoring
- Emission Monitoring
- Port Exploration
- APIs / APPs

https://discover.porttracker.co/
https://app.porttracker.co/

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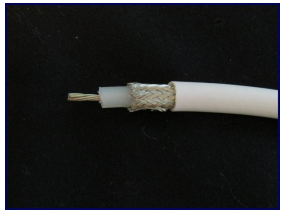
AIS IoT DEVICE

- Raspberry CM4 Board
- POE compatible
- AIS Receiver (SRT or Weatherdock)
- Battery Management
- LAN - WIFI & mobile Network possible
- WIFI Hotspot
- Remote and local Webconfiguration interface
- Local AIS Plattform (SignalK compatible)
- SSD Hard Disks

a per port on the landside is required for proper installation.
nstallations required!

simple Standard Marine VHF/AIS Antenna



RG-58U, RG-8X, or RG-213 Tradeoff - thickness vs length

Yagi Antenna for wider reception on coastline

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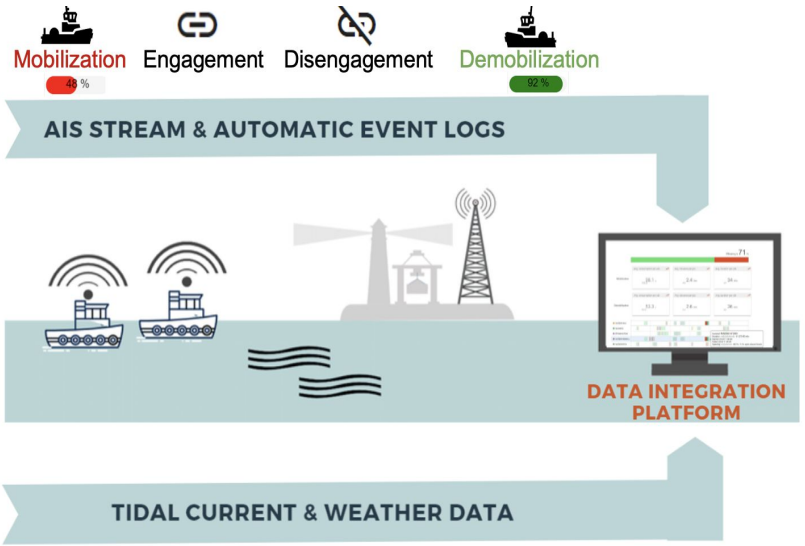
AIS STATION / NETWORK

- Set up your own AIS Station or AIS network
- Produce your own AIS Data
- Have control about data access and data sharing

We can help you to setup your own AIS Station or your own little AIS Network. With this you become independent from lager ais data providers that share your data with everyone, even with your competitors !



If you don’t want to setup your own AIS Antennas, you also can make use of data from aishub, fleetmon, marinetraffic or vesseltracker.com or import your existing AIS Data.

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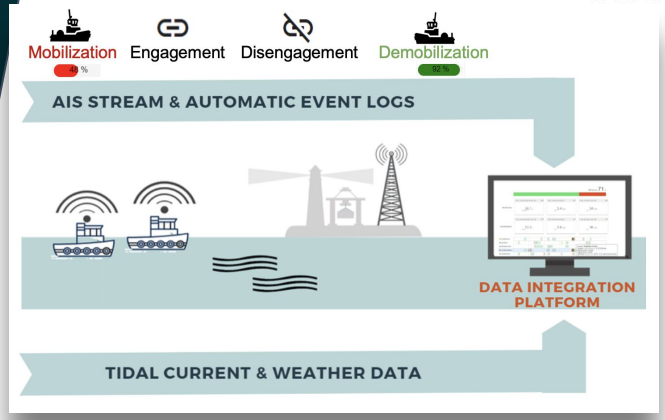
REAL TIME / RAW DATA EVENT PROCESSING ENGINE

The generated AIS Data is processed in realtime by our patented real time AIS processing engine.

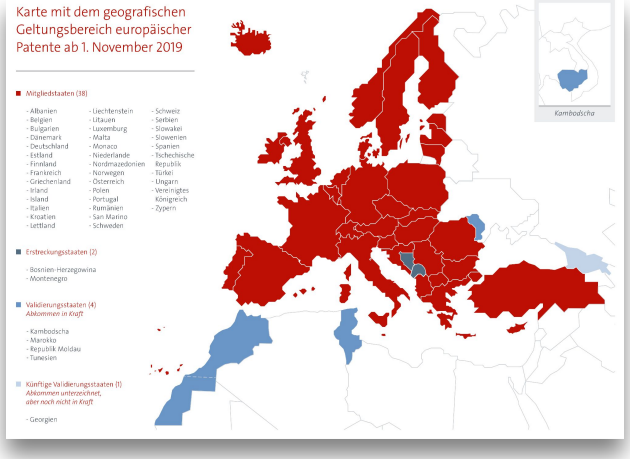
- Dock- & undocking TIMESTAMPS
- Tugboat Mob/Job/Demob TIMESTAMPS
- Pilot in / out Proximity
- Bunker start / stop TIMESTAMPS
- Vessel Interactions Transshipments Detection
- Draught Change
- Destination Change
- ETA & ETD CALCULATION



docker

kubernetes

aws



Applied for European Patent EP 20 21 6560

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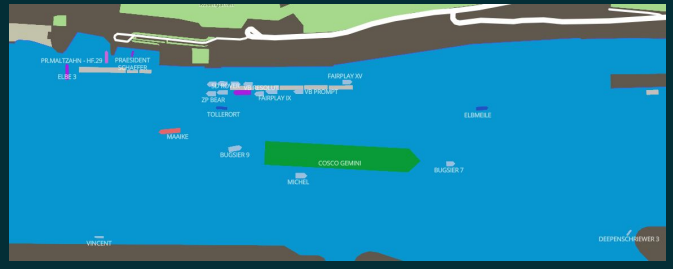
PORTCALL MONITORING

Realtime Display of vessel arrivals and depatures including tugboat maneuvers
all activities archived - replay of all movements available



Timestamp Calculation

Calculate all kind of events and Timestamps in Realtime

- Pilot on Board
- Tugboat assists
- Bunkering
- Manouvering, Mooring, in Transit

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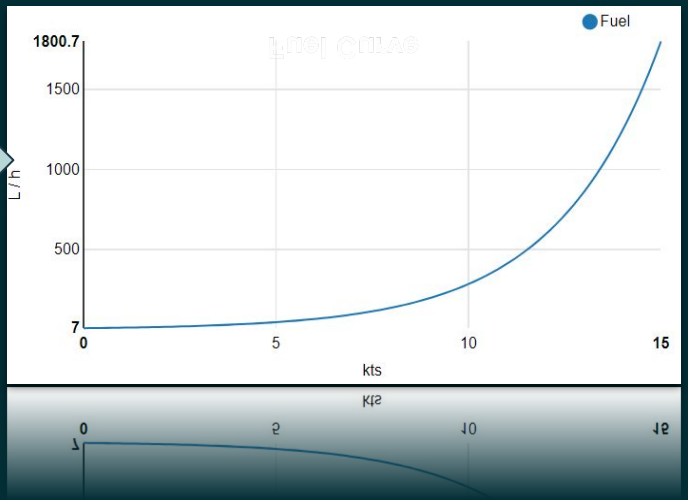
WORKBOAT MONITORING

Our patented AI algorithm can calculate the fuel consumption of your fleet and shows you optimisation potential by combining real-time positional, tidal, weather and engine data.

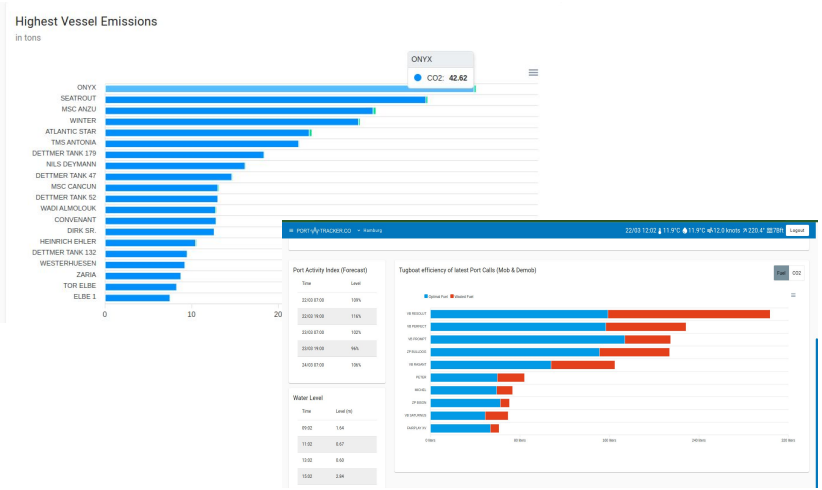
Here imminent savings in fuel cost can be realized

Fuel Curve



FUEL & Emission Dashboards

Get an direct overview of the fuel consumption and emissions of your workboat fleet. porttracker.co shows you optimization potentials for fuel and emission savings



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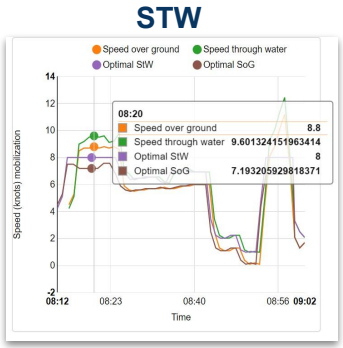
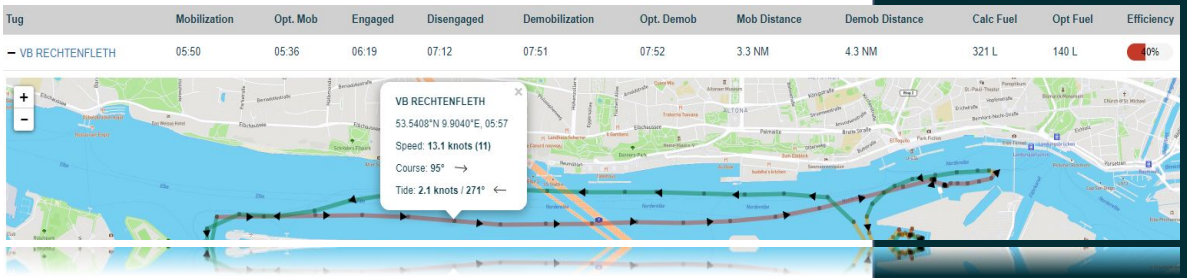
Maneuver Assessment

Archive the Tracking Data for all activities within the cloud and use them for various purpose, such as training sessions, maneuver assessments and also accident investigations.

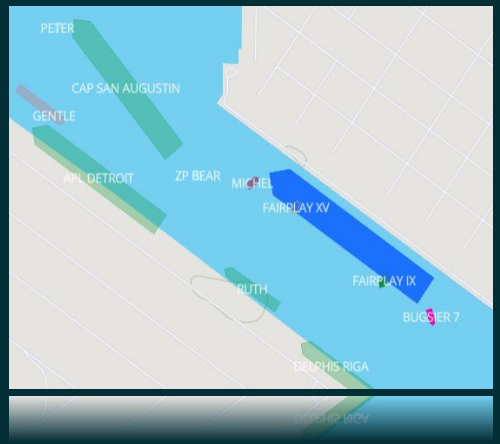




Reports & Data Management

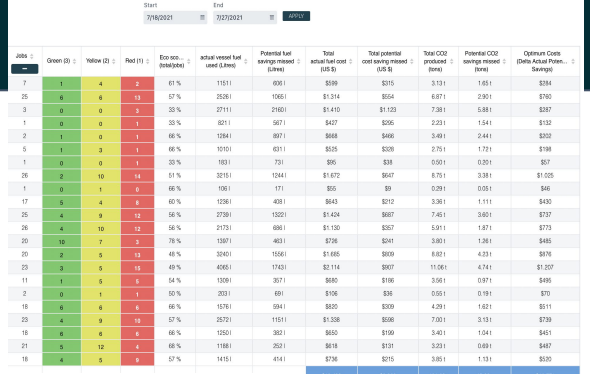
In many cases your data is distributed into many files that are owned by many people.

Our solution is the starting point for setting up a centralized knowledge base for your operational data.



Port Exploration

- Understand the market share and trends and get more insights about competitor assessments.
- Generate new business opportunities in ports you already serve or find new territories with the help of better data about port traffic and revenue expectations.



COMPLIANCE & Risk Assessment

- Get a better understanding about the ships that are coming and with what operators, managers and owners you are dealing.
- Put a red flag on unwanted vessels or clients.

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REALTIME EMISSION ESTIMATION

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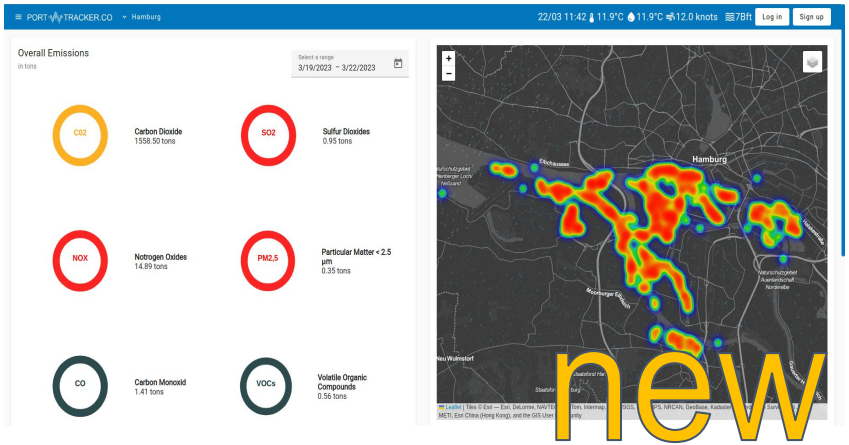
To estimate emissions from ships, porttracker uses the International Maritime Organization's (IMO) Guidelines for Exhaust Gas Cleaning Systems, which provide emission factors based on the type of fuel used and the engine technology. We also considers the age and size of the vessel, the speed and load factor, and the duration of the ship's stay in port.

- Ocean going Vessels
- Harbour Crafts
- Recreational Marine
- Rail
- Cargo Handling Equipment
- On Road Vehicles

Calculate this emissions hassle free in real time on a daily basis - get rid of external consultants and let porttracker.co do the work.



EPA

GREEN VOYAGE 2050

IMO INTERNATIONAL MARITIME ORGANIZATION

The EPA has developed several methodologies for estimating emissions from different types of mobile sources, including trucks, ships, trains, and cargo handling equipment. These methodologies take into account a variety of factors that can affect emissions, such as the type of fuel used, the age and condition of the vehicle or equipment, and the driving or operating conditions.

Source: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1014J1S.pdf
https://greenvoyage2050.imo.org/wp-content/uploads/2021/01/PORT-EMISSIONS-TOOLKIT-GUIDE-NO.1-ASSESSMENT-OF-PORT-EMISSIONS.pdf
https://glomeep.imo.org/

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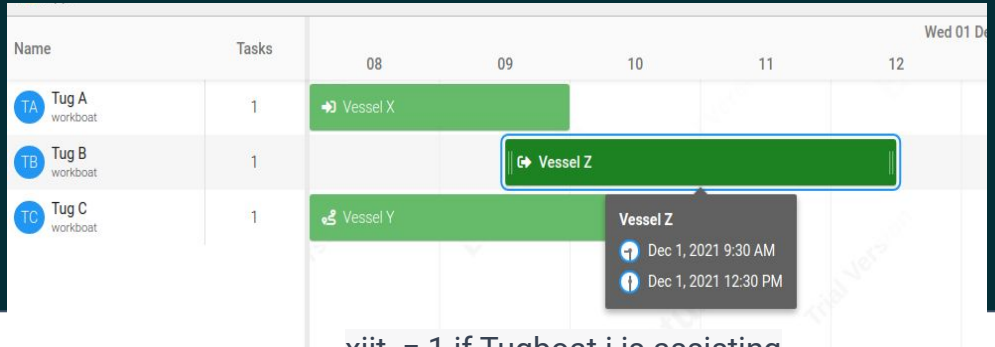
Dispatching & Utilization Optimization

Make use of the OR and ML powerd dispatching solution to optimize the utilization of your fleet based on actual ETA, ETB and ETD Data.



xijt = 1 if Tugboat i is assisting vessel j at time t

z = Σi Σj Σt dij * xijt

The objective function is to minimize the total time it takes to complete all tugboat operations:

$$\min \sum_{i \in I} \sum_{j \in J} \sum_{t \in T} d_{ij} x_{ijt}$$

Constraints:

- Each vessel can only be assisted by one tugboat at a time:

$$\sum_{i \in I} x_{ijt} \leq 1, \quad \forall j \in J, t \in T$$

- Each tugboat can only assist one vessel at a time:

$$\sum_{j \in J} x_{ijt} \leq 1, \quad \forall i \in I, t \in T$$

- The tugboats must be available and have enough fuel to complete the operations:

$$\sum_{j \in J} \sum_{t \in T} d_{ij} x_{ijt} \leq f_i, \quad \forall i \in I$$

- The tugboats must be able to maneuver safely in the port:

$$\sum_{j \in J} \sum_{t \in T} w_{jt} x_{ijt} \leq m_i, \quad \forall i \in I$$

- The vessels must be assisted within a certain time frame:

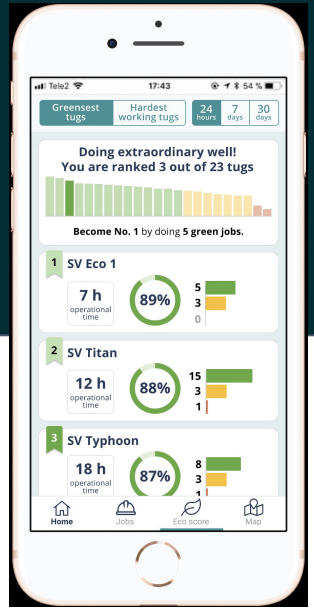
$$\sum_{i \in I} \sum_{t \in T} x_{ijt} \leq t_j, \quad \forall j \in J$$

- x_{ijt} must be binary:

We support: GLPK, CPC or SBIC - for larger problems commercial solvers like CPLEX are the better choice

BEHAVIOUR CHANGE/ Nudging

Send performance Reports to your captains and masters. They immediately get response and feedback for their sailing behaviour.

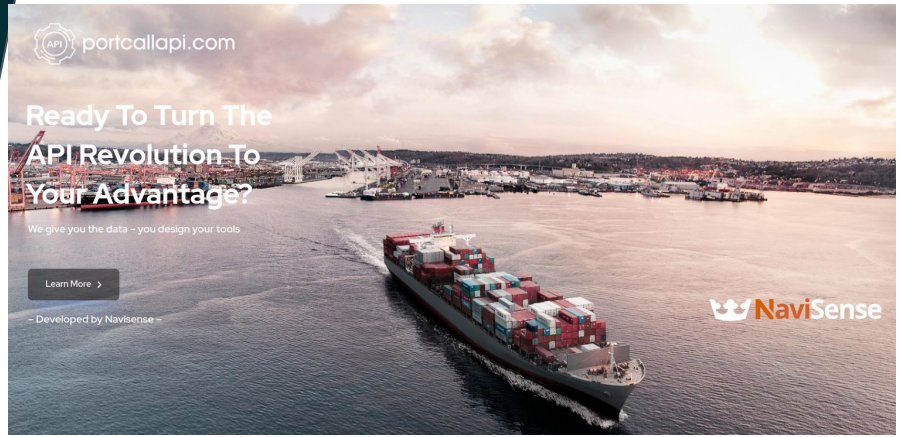


API based Design

Our APIs feed your Apps with data and functionality. You also can easily integrate the data into your Excel spreadsheet or powerpoint presentation.

Endpoint that are available:

- Fuel consumption & Fuel optimisation
- Timestamps for all activities
- Emission Dashboards and Co2 Reporting
- Tugboat Timestamps
- Pilot Timestamps
- Tides & Water levels
- ETA / ETD
- and more



www.portcallapi.com

NaviSense

Clients

porttracker.co is already used by a number of users from big names from the industry

Hamburg Port Authority

أدنوك
ADNOC

SVITZER

NaviSense

YOUR CONTACTS

CARSTEN BULLEMER
OWNER & CEO

carsten@navisense.de

+49 162 946 02 80

VISIT:

https://discover.porttracker.co/

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