



**Aikatietopalvelu siirtyy tekoälyaikaan
30.11.2021**

Karno Tenovuo, CEO

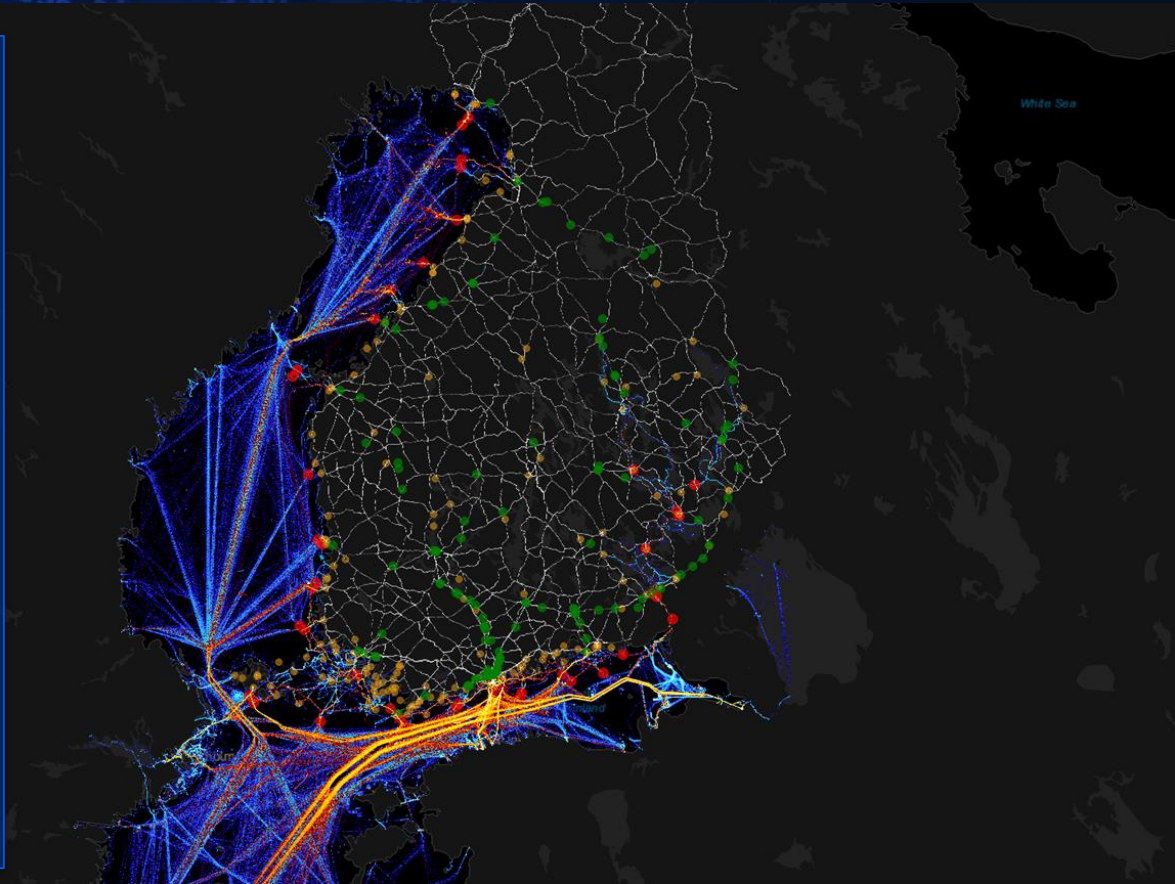
Fintraffic timestamp and ETA services

Awake.AI has developed vessel traffic prediction and monitoring services from 2019.

This has been supported financially by Business Finland Growth Engine funding, and technically by the open data provided by Digitraffic.

Awake.AI is now providing two cloud-based services for Finnish ports:

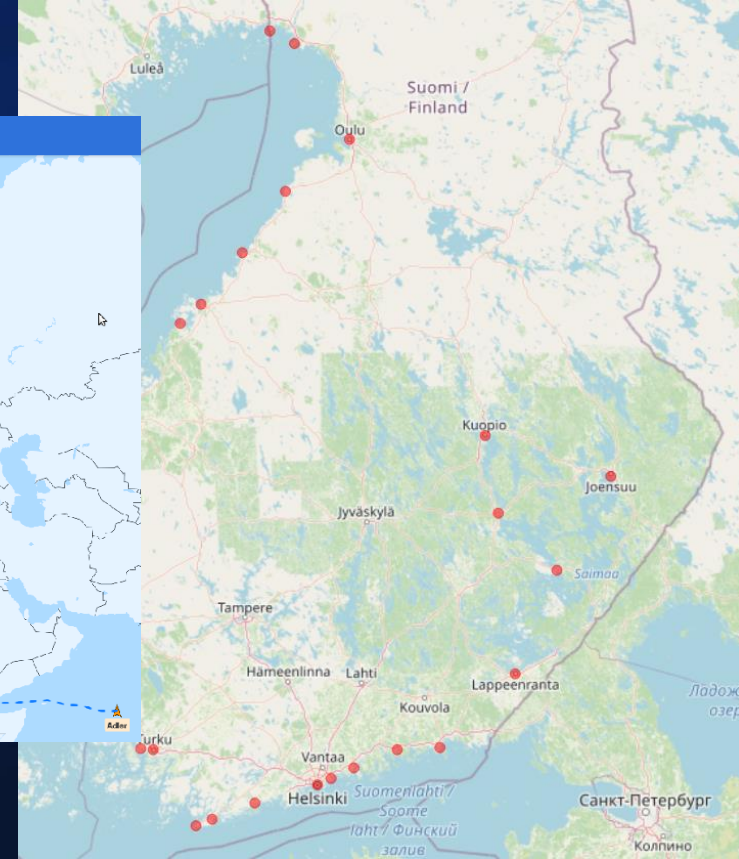
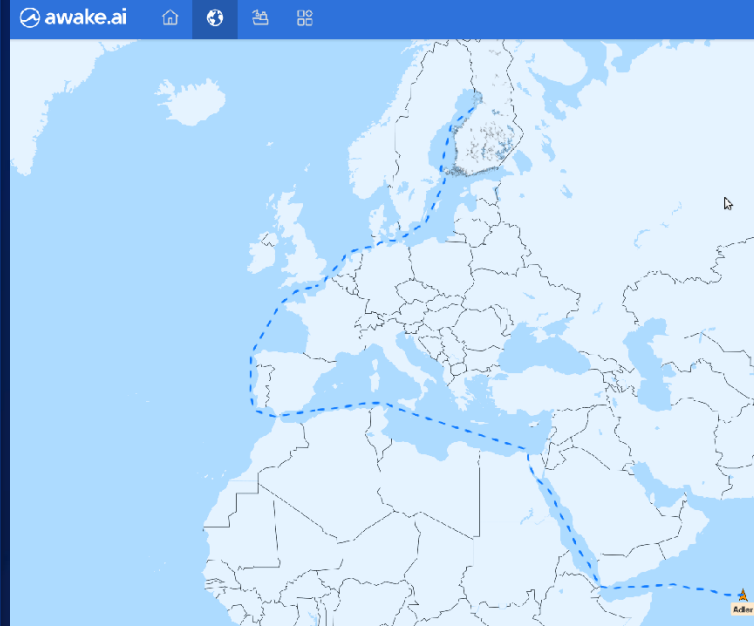
1. A timestamp API providing vessel arrival times to areas of interest (such as pilot boarding areas and berths)
2. A vessel ETA API providing machine learning -optimized predictions of vessel arrival times to Finnish ports.



ETA service development for Fintraffic

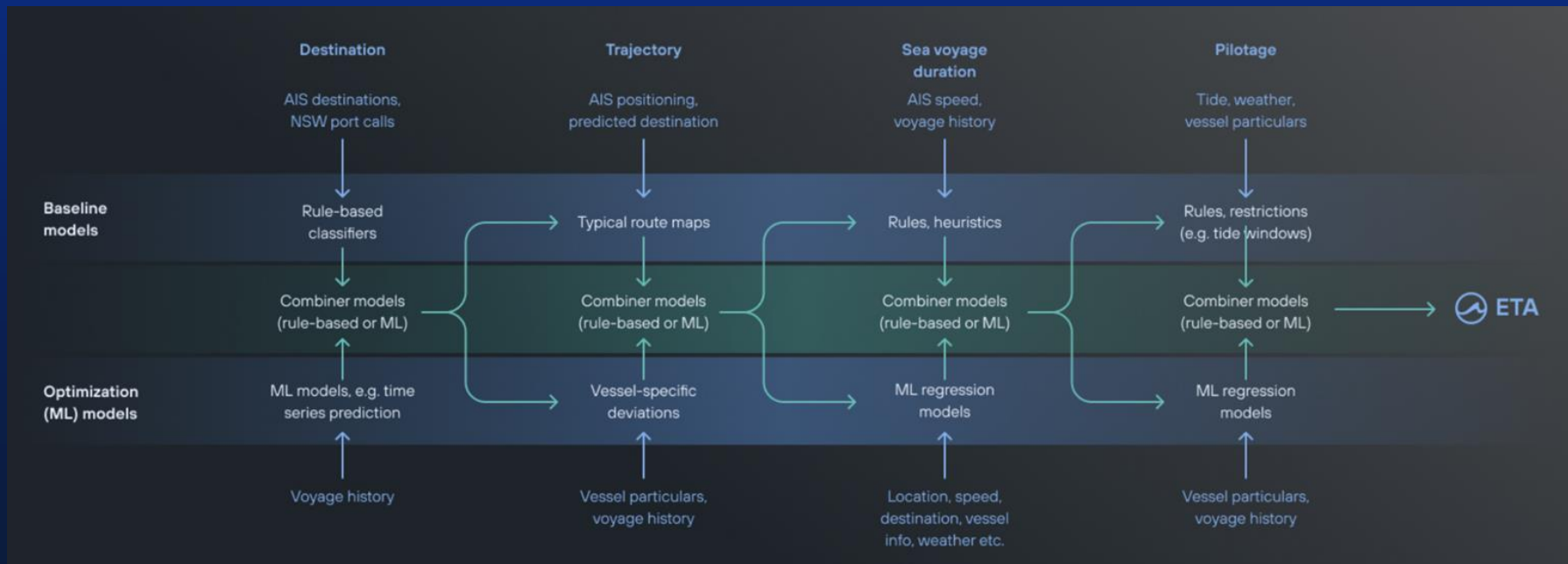
We are currently producing ETA predictions for 27 Finnish ports, with machine learning -based optimizations applied for 16 destinations.

Each ML model is custom trained for a selected destination, and corrects for prediction errors caused e.g. by typical location-specific variations in vessel behavior.



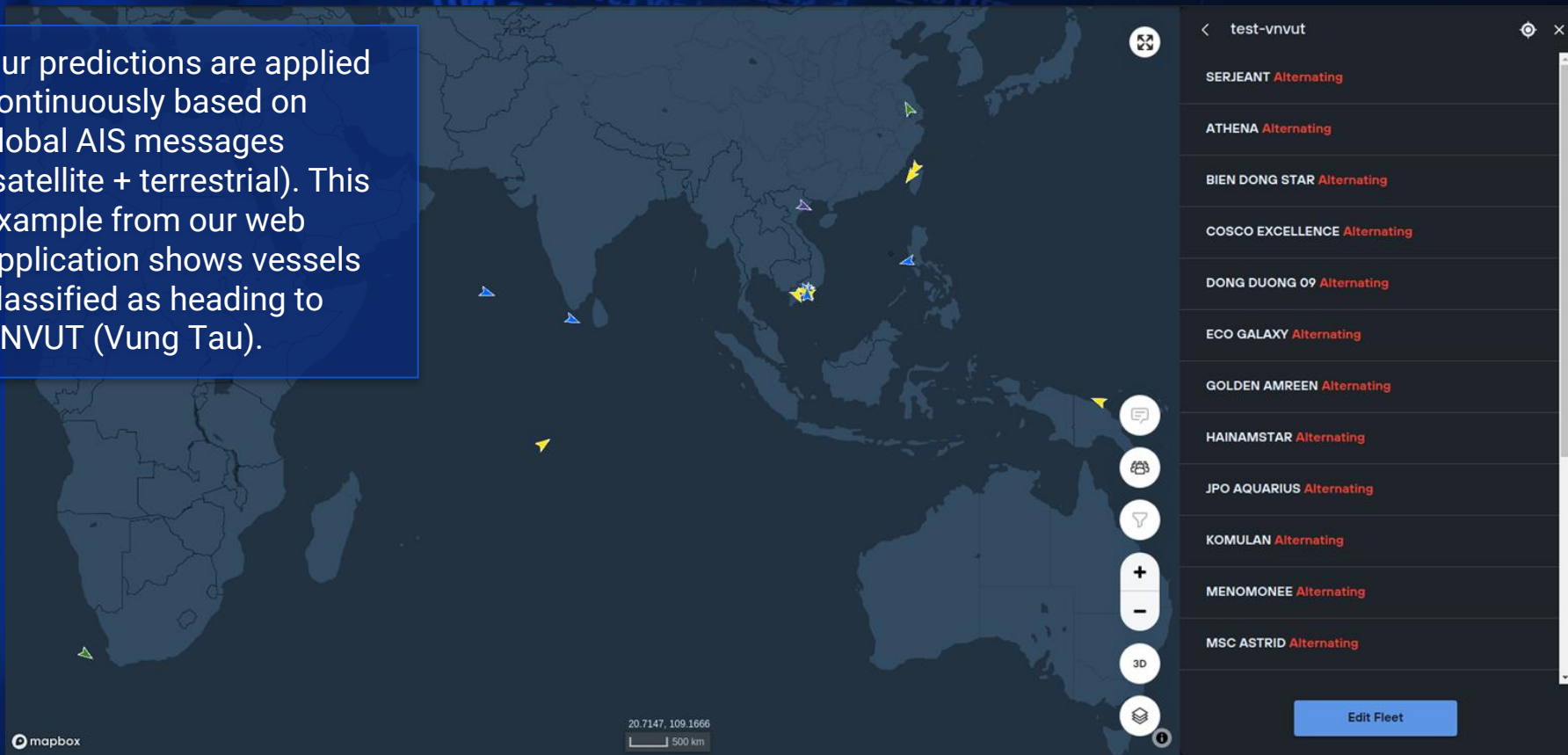
ETA prediction architecture outline

- Modularity allows combining and customizing features as needed
- Ensemble approach allows combining benefits from rule-based baseline and machine learning (ML) optimization models:
 - Baseline models provide explainability, verifiability, and scalability
 - ML models allow optimization for outliers and customer-specific variations



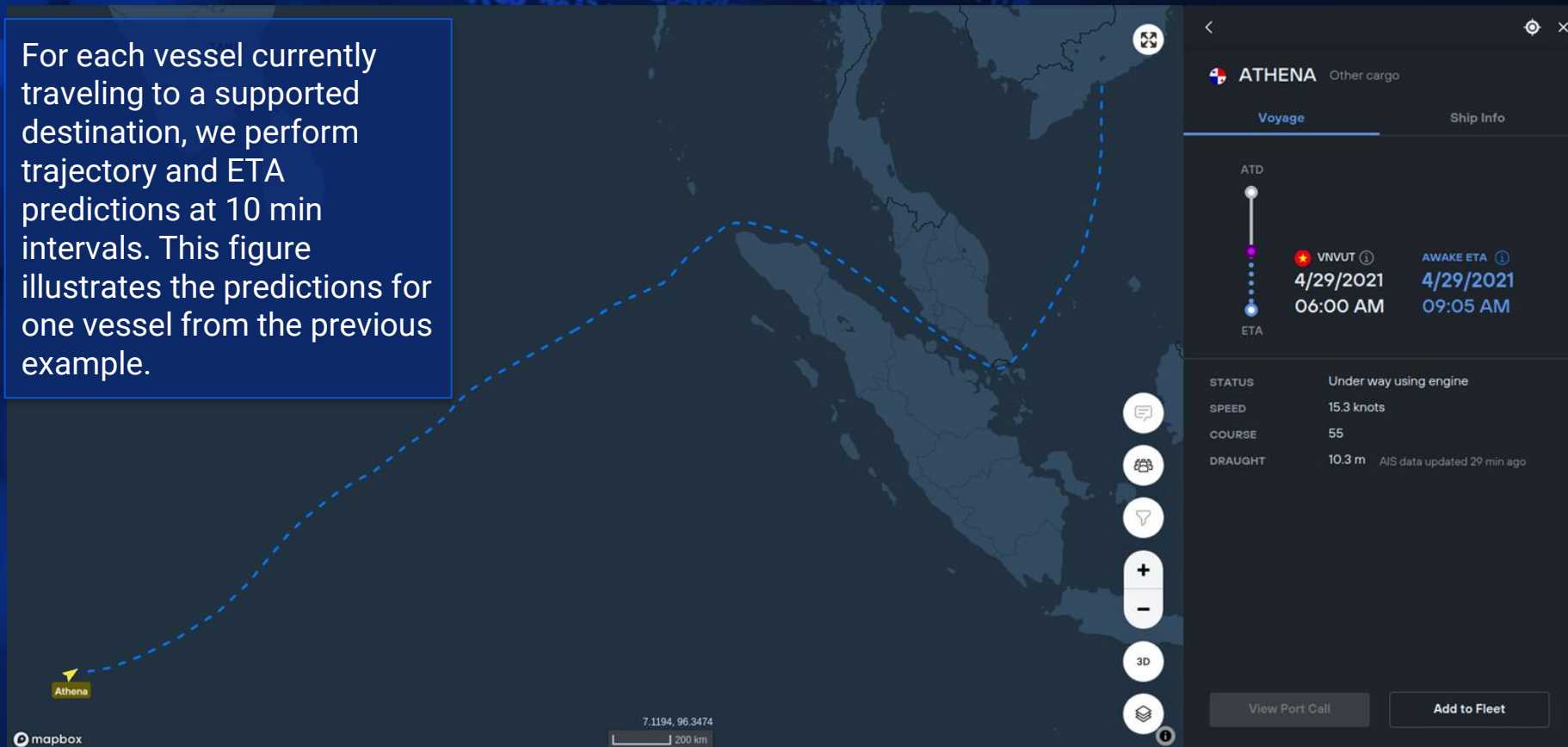
Continuous Prediction of Global Ship Schedules

Our predictions are applied continuously based on global AIS messages (satellite + terrestrial). This example from our web application shows vessels classified as heading to VNVUT (Vung Tau).



Continuous Prediction of Global Ship Schedules

For each vessel currently traveling to a supported destination, we perform trajectory and ETA predictions at 10 min intervals. This figure illustrates the predictions for one vessel from the previous example.

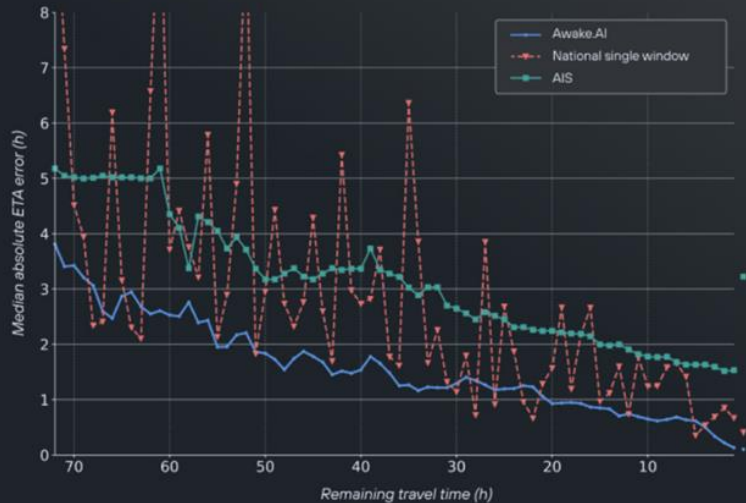


ETA Predictions

Test results for Finnish ETA predictions:
Blue - Awake.AI ML-optimized ETAs
Red - National Single Window (Portnet)
Green - ETAs reported by vessels over AIS

Comprehensive and accurate predictions API

ETA statistics for 862 vessel voyages over the Baltic Sea during H1 2021



Vessel locations for the ETA predictions

