

Intelligent port operations.

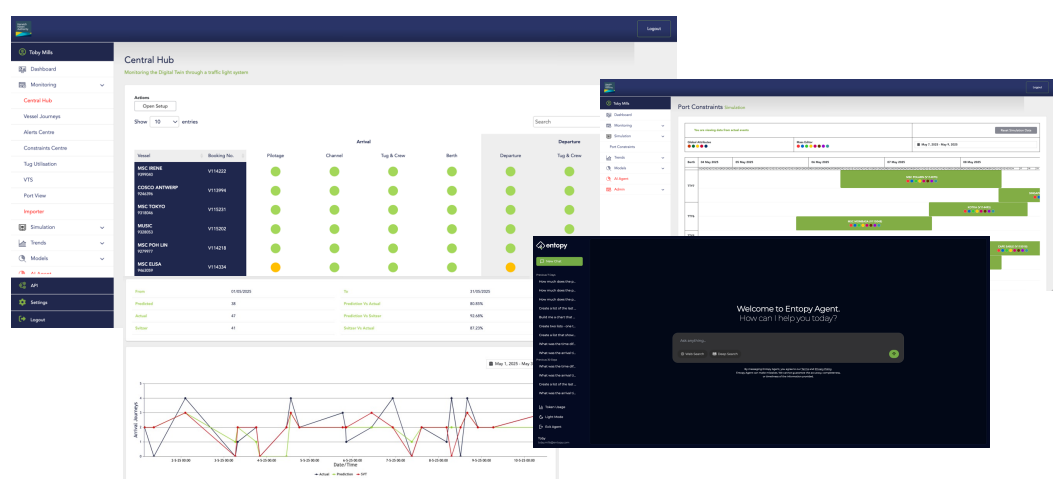
Maritime port operations are dynamic, complex and involve many stakeholders. Uncertain vessel arrival times combined with fluctuating port resources, weather conditions and tides can lead to port congestion, skipped port calls and suboptimal vessel steaming speeds.

The economic impact of such challenges ranges with port congestion estimated to cost the maritime sector \$10-20 billion annually. Maritime shipping is also a major contributor to global emissions estimated to account for 3% of global emissions. Vessel steaming speeds have a major impact on emissions and fuel use, with a 5-knot reduction in speed from 18 to 13 knots delivering \$60,000 to \$90,000 fuel savings per day.

Entopy's AI-enabled Digital Twin platform supports intelligence port operations. By deploying a holistic Digital Twin, data sources across the various stakeholders can be integrated, delivering shared intelligence through data and AI.

Entopy features.

- **Unified ecosystem data:** Entopy's ontology enables data from various stakeholders and systems to be orchestrated into singular workflows delivering shared intelligence.
- **AI micromodels:** Entopy deploys many smaller and more focused AI micromodels to learn and predict specific aspects of the port operation, delivering highly accurate and explainable predictive intelligence.
- **Intuitive dashboards:** Entopy's intuitive dashboards enabled seamless integration with the derived intelligence, displaying heads-up display through a traffic light system and the ability to dig deeper into specific vessel journeys, resource utilisation and AI micromodel performance.
- **Simulation:** Ability to simulate future berth and resource plans using the predictions derived from AI micromodel to ensure accuracy and relevance.
- **AI Agent:** Ask questions of the Digital Twin through Entopy's AI Agent, building analysis, charts/graphs, testing future scenarios and monitoring specific operational aspects.



Entopy benefits.

- Optimised port resources
- Reduced port congestion
- Reduced skipped port calls, increasing port revenues
- Optimised vessel steaming speeds, reducing fuel costs
- Reduced emissions