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Digitalization, performance and efficiency improvement in the marine industry

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PORT&SHIPPINGTECH

This is Eniram

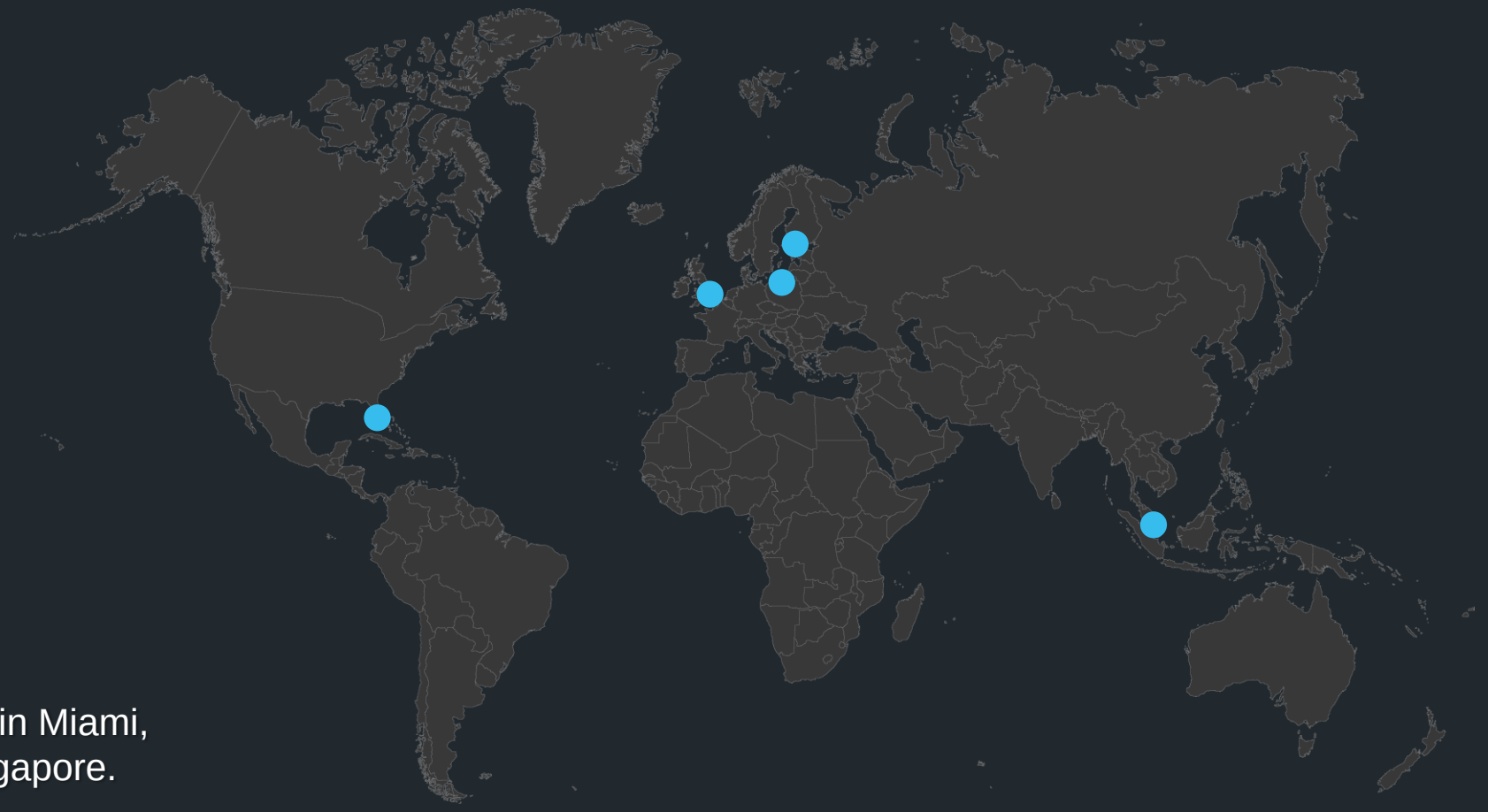
Eniram provides the marine industry with leading insights for asset, operations and commercial management

2005

130

285

3B / day



Head office in Finland, subsidiaries in Miami, Hamburg, London, Drunen and Singapore. Owned by Wärtsilä.

From data collection to predictive analytics

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2009-

REAL-TIME ONBOARD

Eniram Vessel platforms installed on first fleets. Trim advice onboard.

2012-

REACTIVE ANALYTICS

Initial reactive analytics in place with operational pdf reports and web tools

2013-

PREDICTIVE ONBOARD

Eniram vessel platforms enabled with first predictive capabilities

2015-

REAL-TIME TRANSPARENCY

Dashboards showing current performance and fleet status. First generation of mobile operations, industry benchmarking and predictive analytics.

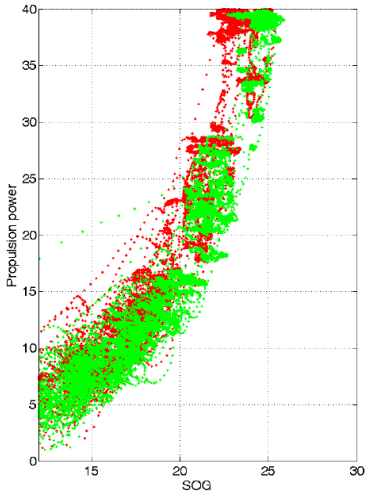
2017-

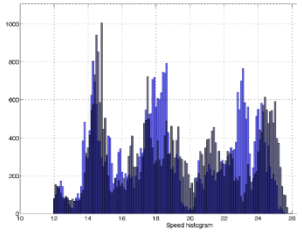
PREDICTIVE ANALYTICS

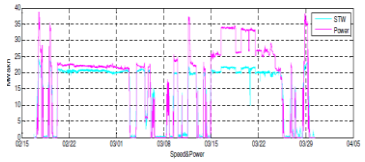
Expand to new features and areas such as safety, security, emissions, and maintenance.

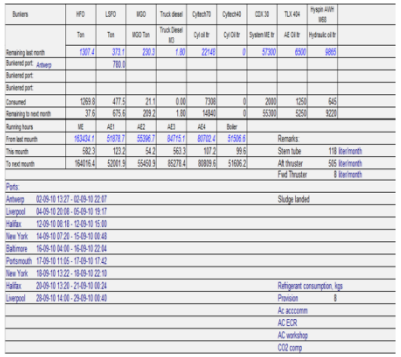
Digitalisation today

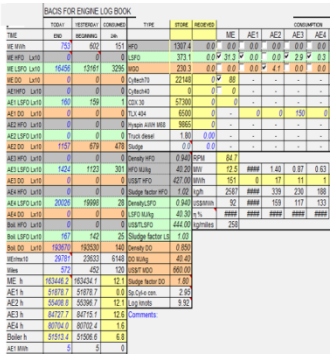
It can make running your business easier and more cost effective











Eniram Insight Factory

The Eniram Insight Factory gives decision making support for its partners based on real time data collection, statistical modeling and predictive simulations

DATA

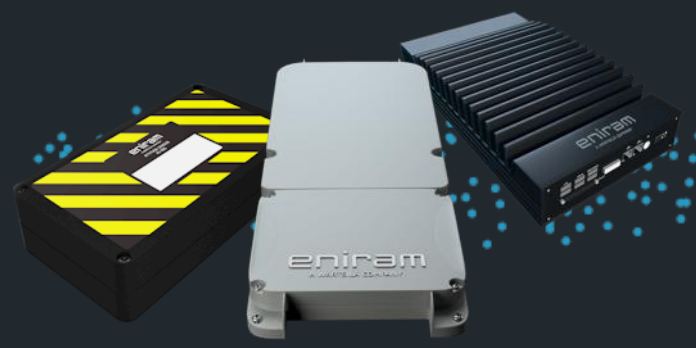
Data is continuously collected from vessels and external data sources

INSIGHT

Data is automatically analyzed and enriched

ACTIONS

Insight is transformed to actions by easy-to-use user interfaces



ONBOARD:
- Existing systems
- Eniram sensors

ONSHORE:
- Forecasts
- Knowledge bases

- Statistical modelling
- Machine learning
- Simulation
- Prediction
- Optimization
- Data enrichment

- Efficient crew operations
- Optimized asset lifecycle
- Minimized fuel use
- Reduced emissions
- Best commercial efficiency
- Proactively ensured safety

Insight Building Blocks

ENVIRONMENTAL FORECASTS AND DATABASES
Forecasts for wind, waves, current, temperatures… Eniram depth database

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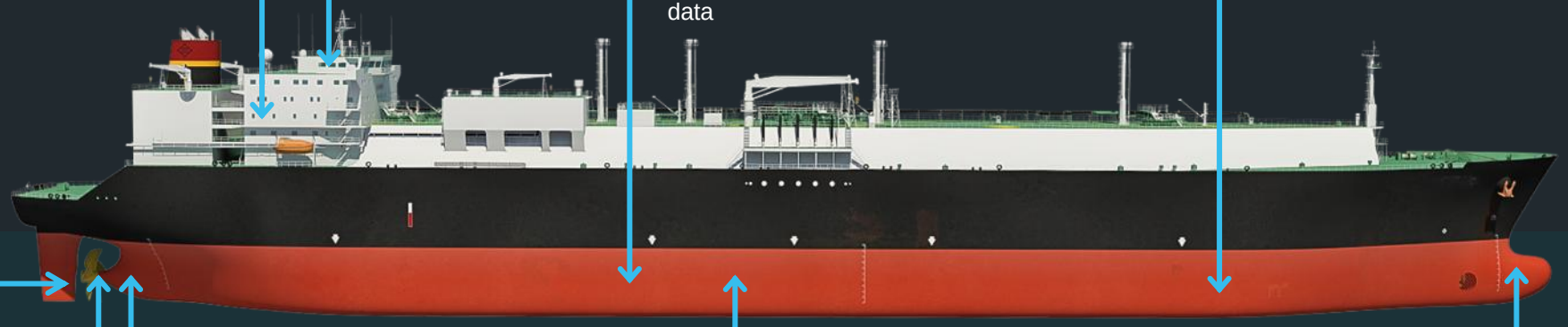
SERVICE ENERGY MODEL
Non-propulsion related energy consumption (Currently for cruise ships only)

ROUTE BENCHMARKING
Analyzes the route performance

VOYAGE SIMULATOR / OPTIMIZER
Simulates/optimizes: engines configurations, RPM profile, service & propulsion load
Uses: route, weather & current forecast,depth database, measured sensor data

ENGINE MODEL
SFOC curve (fuel-power curve) for different engines & fuels

RUDDER TOE ANGLE MODEL
Efficiency of rudders/podded thrusters



VIRTUAL STW SENSING
Accurate STW estimate based on sensor fusion and hydrodynamic modelling

PROPULSION POWER DECOMPOSITION
Breakdown of propulsion consumers: Hydrodynamics (speed, trim, draft, waves, sea depth) Aerodynamics (wind)

HULL AND PROPELLER PERFORMANCE
Impact of fouling, dry-docks, vessel modifications

OPTIMUM TRIM MODEL
For trim optimization

Eniram Portfolio

Leading insights for asset, operations and commercial management

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ASSET

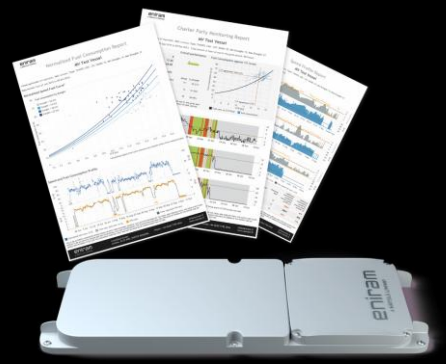
- Maintenance cost reduction
- Maximized asset reliability and uptime
- Improved asset efficiency

OPERATIONS

- Energy efficiency in operations
- Improved safety
- Transparency in operations

COMMERCIAL

- Performance transparency
- Charter party compliance monitoring
- Improved commercial efficiency



Digitalisation in shipping

We are following a familiar path from “supplier” led products to “customer” led products

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