

eniram

A WÄRTSILÄ COMPANY

SEPTEMBER 27, BALTIC EXCHANGE, LONDON

SKYLIGHT

RETHINK PERFORMANCE MANAGEMENT



ENIRAM TODAY

We help our customers to maximize the fuel efficiency

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2005



90



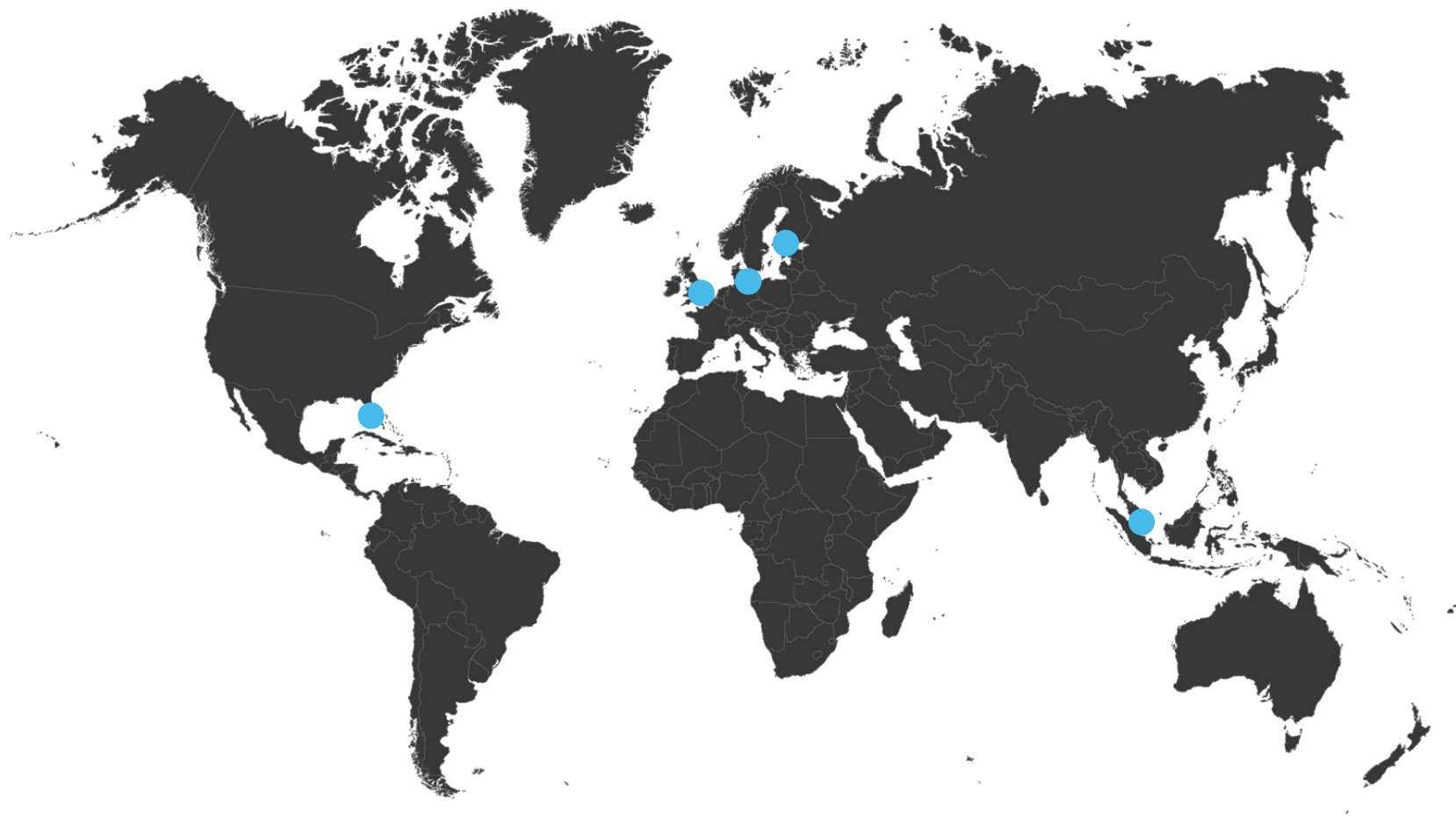
285



3TB / day

Acquired and fully owned
by Wärtsilä 2016

Head office in Finland,
subsidiaries in Ft Lauderdale,
Hamburg, London and
Singapore



Deloitte.
Technology Fast500
EMEA 2011

**#1 in Greentech
category**
(May 2011)

AVIUS

30 SMARTEST COMPANIES IN FINLAND

Eniram #9
(October 2014)



(October 2014)

**European Cleantech
Company of the Decade**
(May 2014)



**Energy Efficiency
Solution of the Year**
(October 2014)



**Intelligence
Big Data award**
(October 2015)

MARKET LEADER

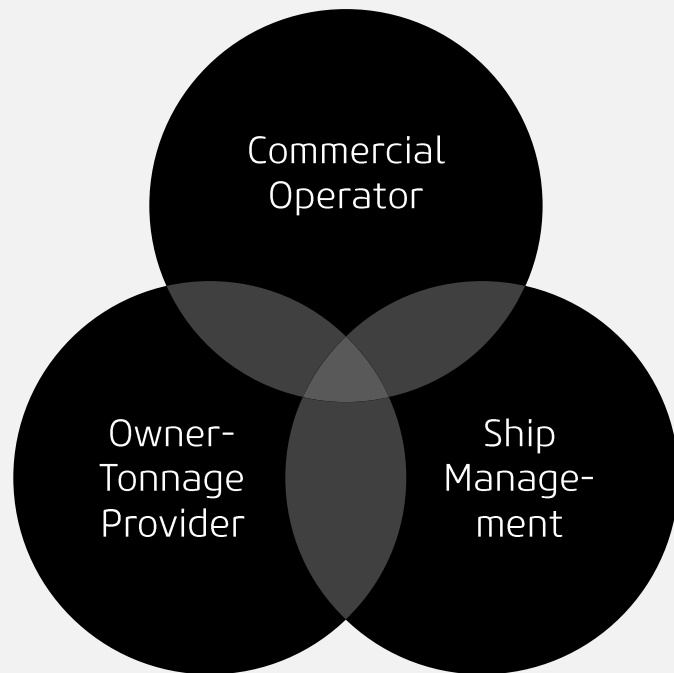
With 500+ products installed on 285 vessels

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PRODUCT GAP IN THE MARKET

How to deliver reliable performance monitoring without complex installations?

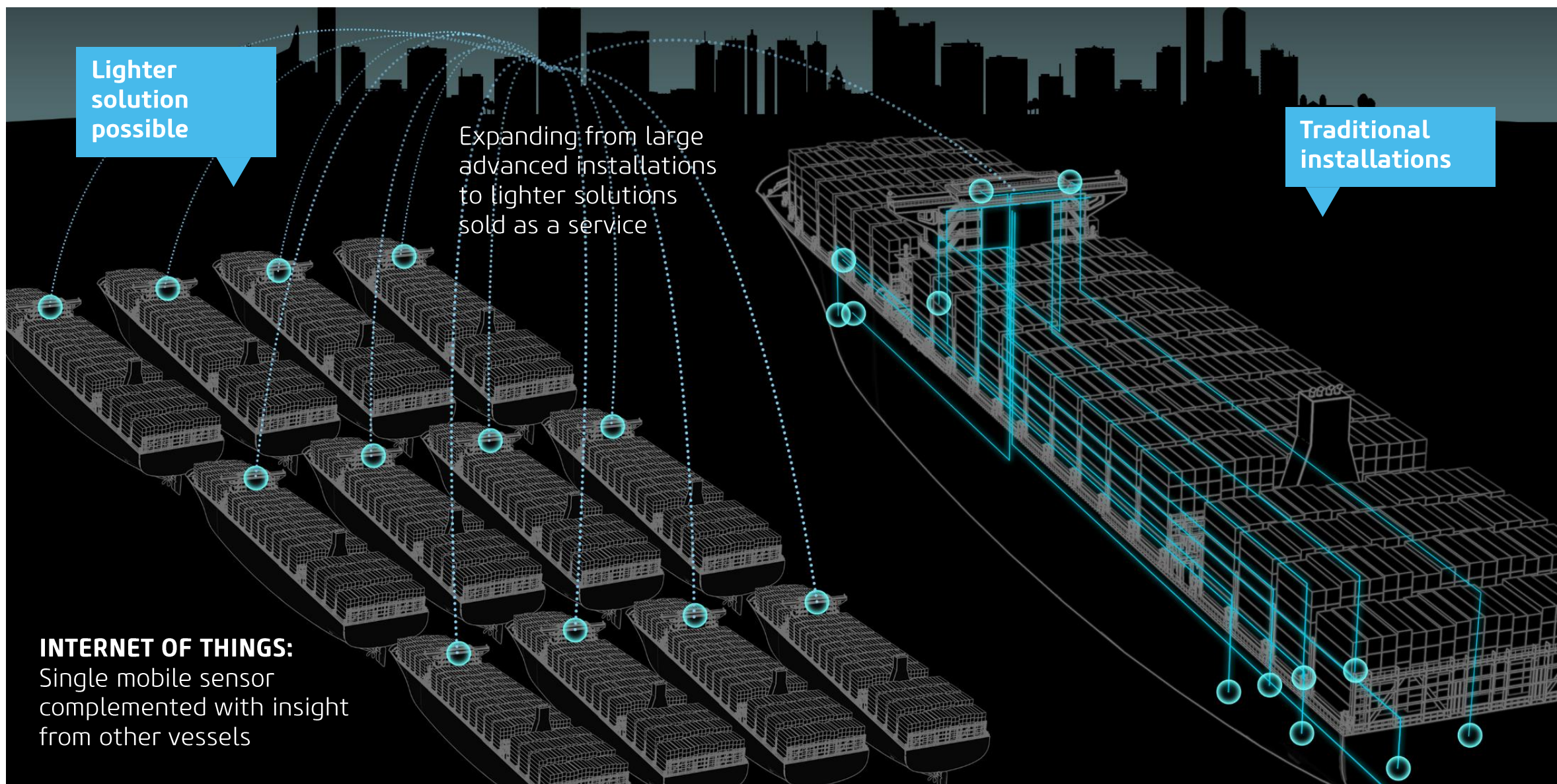


Facts:

- All parties need access to fuel and speed performance data in order to effectively manage their business. With different drivers and short business cycles, investing in expensive installations becomes prohibitive.
- Fully manual reporting solutions will not create the data accuracy required going forward. The small data volume limits accuracy and use.
- We need a solution sold as a service, but how can we improve data frequency and data accuracy without installation and integration costs?

Solution:

We use portable hardware and enrich onshore



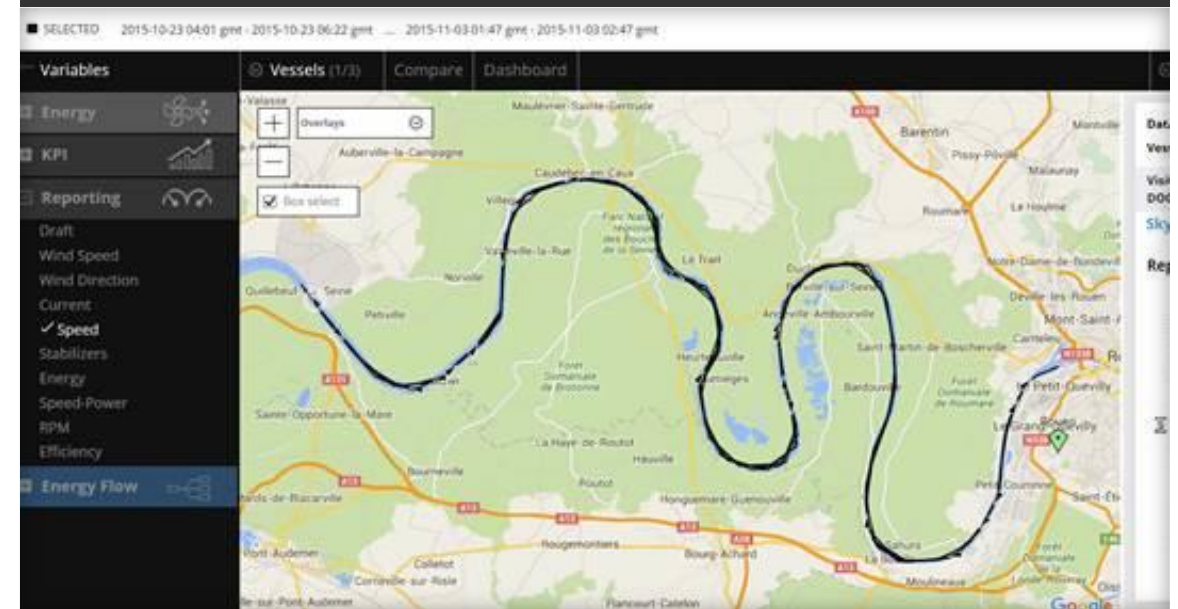
SKYLIGHT PROOF-OF-CONCEPT

started in August 2015

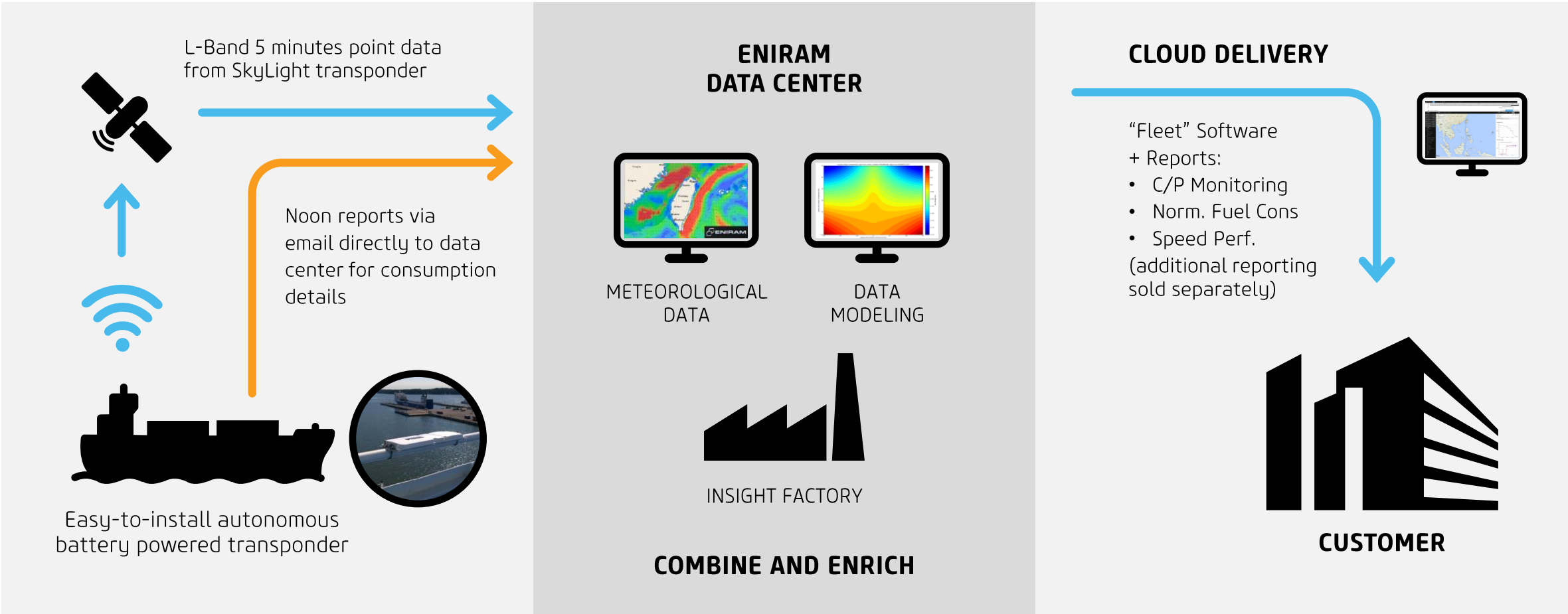
SkyLight is the first of Eniram's next generation portable performance monitoring tools sold as a service.



Using cost-effective easy-to-install portable hardware, combined with data modelling and enrichment at our data center, performance monitoring can now be delivered as a subscription service.



SKYLIGHT 1.0



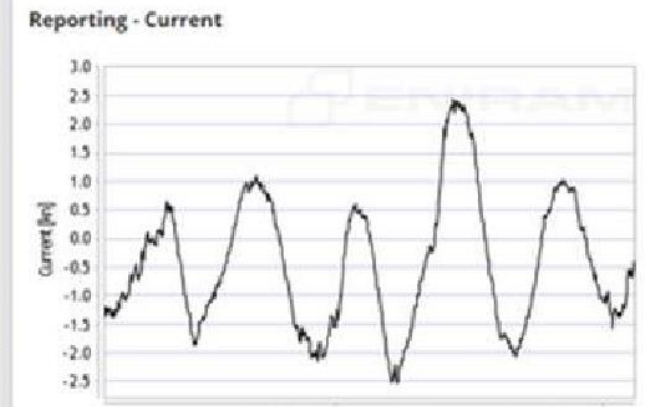
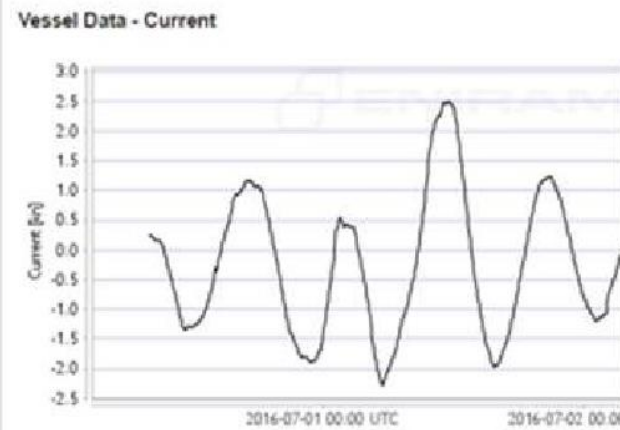
ARTIFICIAL SENSING

Speed through water is modeled to similar quality as measured and calibrated installation.

Same vessel and voyage

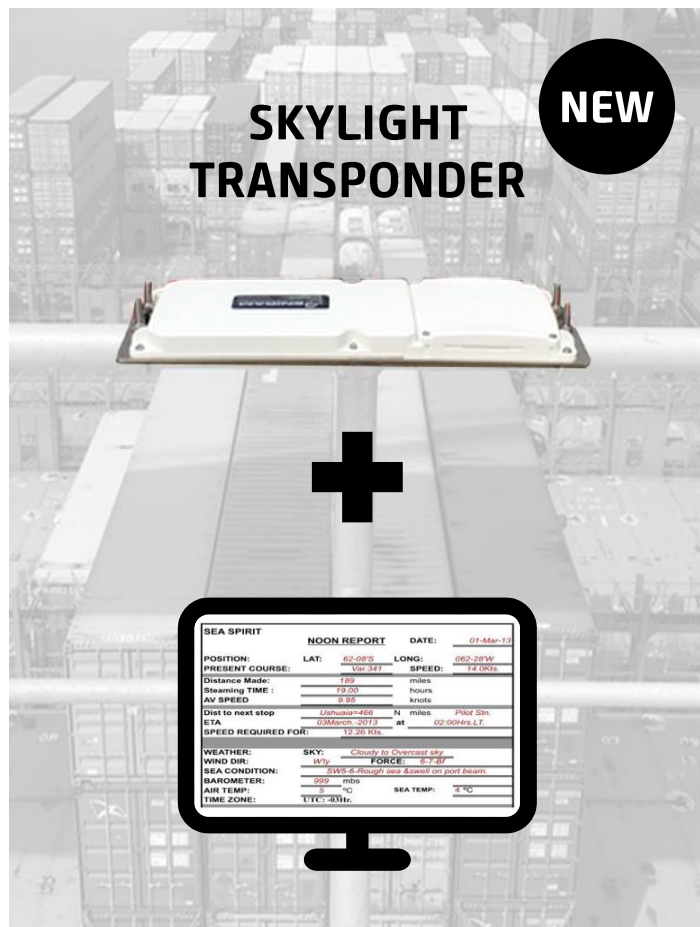
Speeds modelled by SkyLight

Speeds by full installation

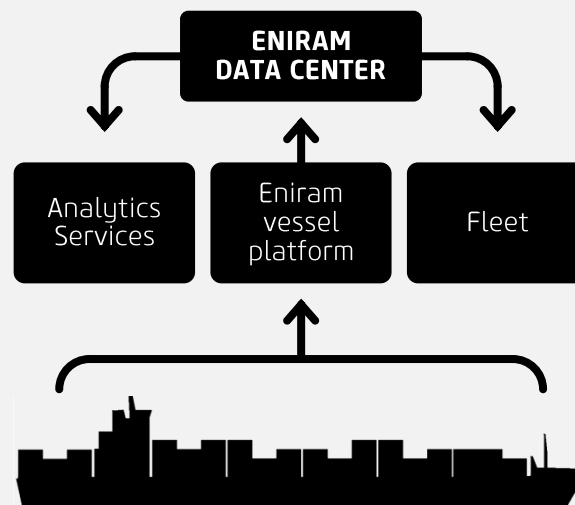


LIMITED DATA + BIG DATA = BIG INSIGHT

SKYLIGHT TRANSPONDER



In combination with various meteorological forecasts and Eniram's energy performance database the data will be processed, analysed and enriched in Eniram Data Center



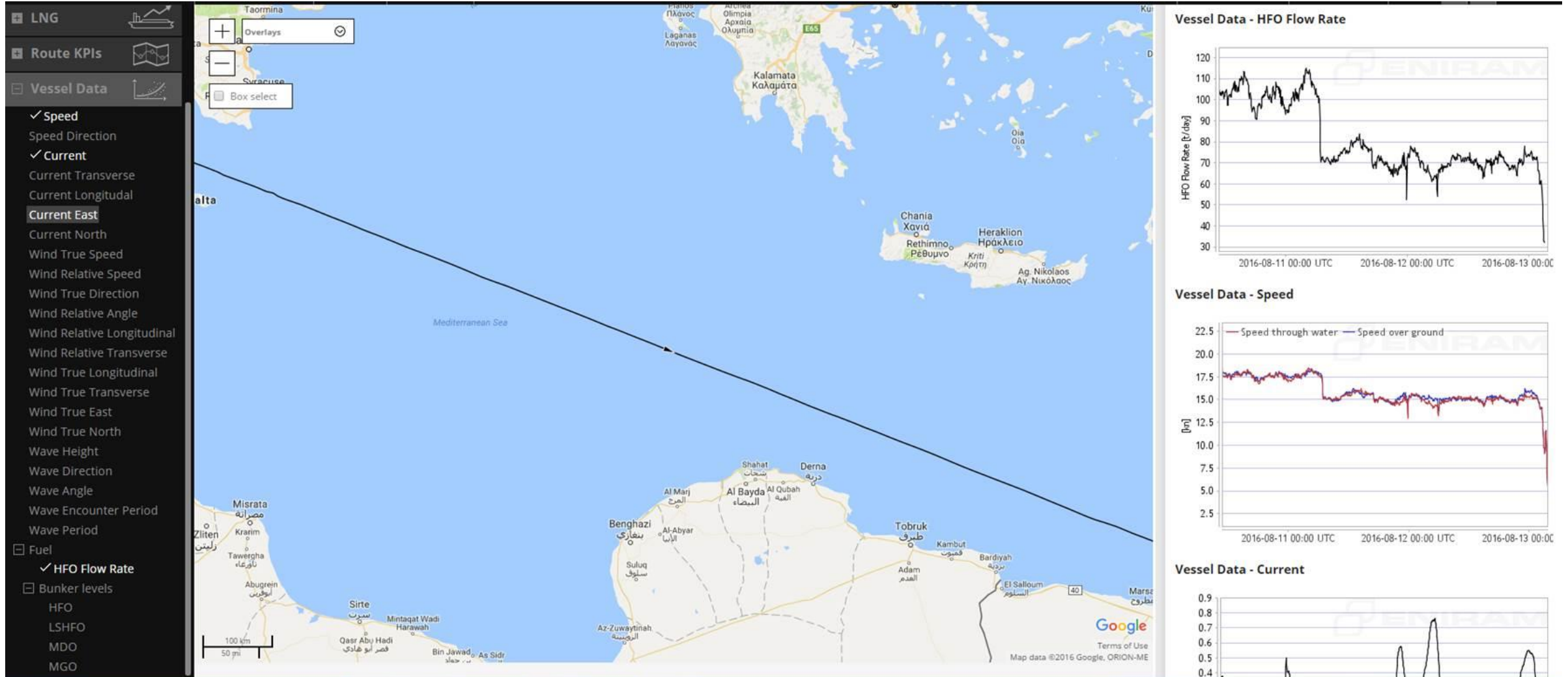
The Customer will access the performance data through the cloud based interface Eniram Fleet and through weekly static reports:

- C/P Monitoring
- Fuel Performance
- Speed Performance

ENIRAM FLEET CLOUD SOFTWARE

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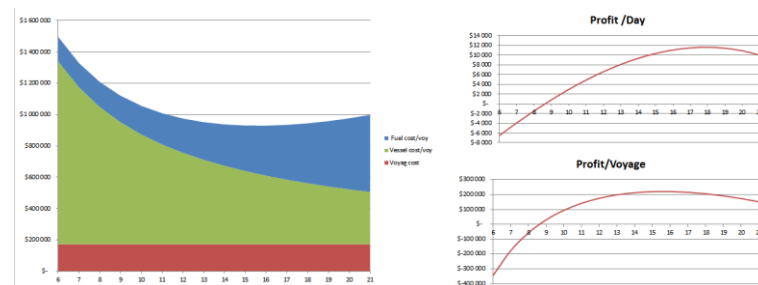
Access to your fleet's performance data in close to real-time via our web-based cloud interface



DIFFERENT NEEDS- SAME DATA- ONE SOLUTION

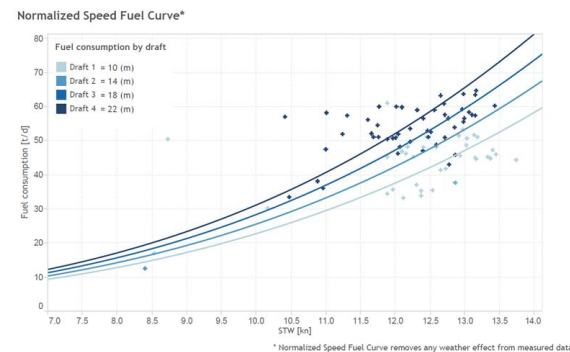
COMMERCIAL OPERATORS NEED A GOOD FUEL CURVE

in seaborne transportation of bulk cargoes (wet or dry), where fuel cost is the hardest factor to estimate. Fuel consumption being exponential, it also drives optimization the most.



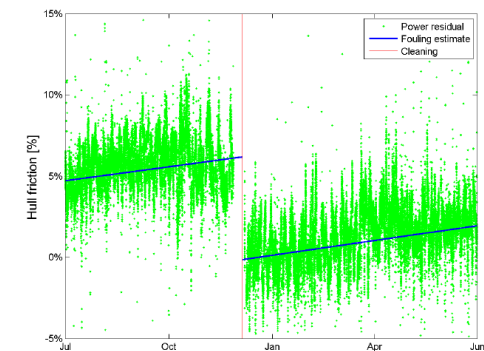
VESSEL OWNERS NEED A GOOD FUEL CURVE

in order to maximize charter yield, any slack in charter party commitments is money on the table.



TECHNICAL MANAGEMENT NEED A GOOD FUEL CURVE

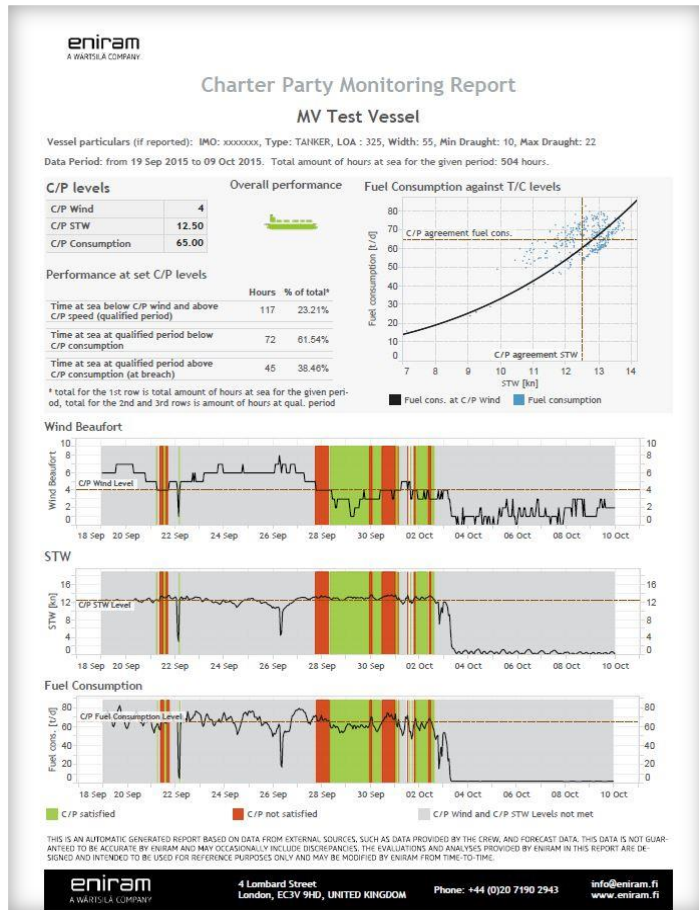
in order to monitor hull and propeller performance. Monitoring by traditional noon reporting show changes too slow.



Creates full transparency on how the Charter Party speed and fuel criteria are met

CHARTER PARTY MONITORING REPORT

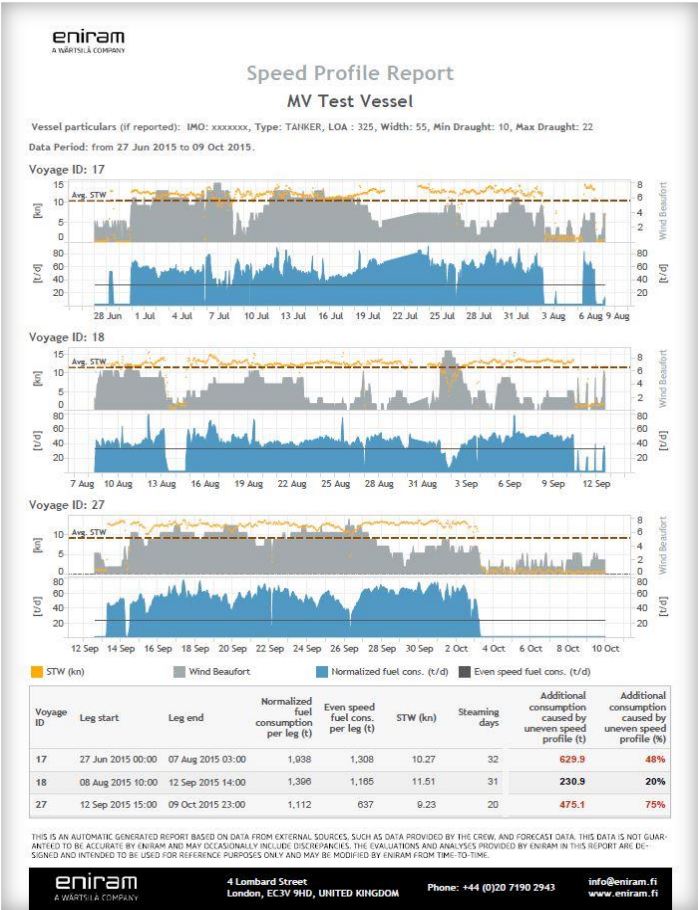
- Visualises weather conditions in relation to Charter Party agreement throughout the voyage
- Automatically qualifies the periods relevant for measuring, and grey out the rest.
- Illustrates vessel's speed and fuel consumption in relation to Charter Party agreement and highlights periods of compliance and non-compliance using red or green.
- Provides a red-yellow-green overview with vessel icon if C/P consumption is met or not.



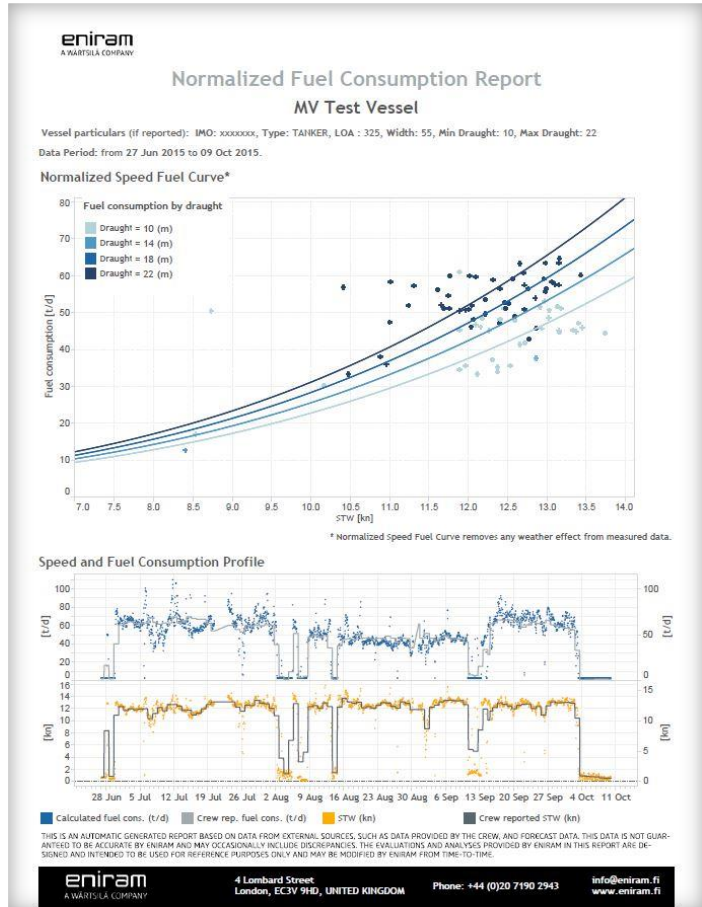
Monitors speed profile and implications of uneven speed profile on fuel consumption

SPEED PROFILE
REPORT

- Records the vessel’s STW variation during each voyage and compares it to a more optimal even average speed
- Calculates the optimization potential of fuel consumption by comparing sailed profile against a theoretical even speed profile
- The report creates an easy KPI to track non-optimal speed profiles over time



Visualizes the latest updated speed-fuel curve isolated from weather effects



NORMALISED FUEL CONSUMPTION REPORT

- Shows a highly accurate fuel consumption curve isolated from weather effects and draft variations
- Shows the vessel's fuel consumption curve in different drafts for optimal future planning

API – OPEN PLATFORM FOR EXTENSION

Don't get locked in – all data is available for integration



SERVICES FOR COMMERCIAL OPERATORS

Once we have data, you can access additional services

PRODUCT	DESCRIPTION	PRICE / VESSEL / MONTH
SKYLIGHT SERVICE	Subscription based service per vessel	EUR 460 / Month
SKYLIGHT TRANSPONDER	Portable battery operated vessel tracking transponder owned by Eniram	Included in SkyLight
ENIRAM FLEET	Cloud software for monitoring	Included in SkyLight
SPEED PROFILE REPORT	Operational speed performance reporting, benchmarking non-optimal speed patterns.	Included in SkyLight
NORMALIZED FUEL CONSUMPTION REPORT	Speed and consumption curves, normalised for wind sea state and currents.	Included in SkyLight
CHARTER PARTY MONITORING REPORT	Report showing vessel performance against C/P speed and consumption.	Included in SkyLight
API ACCESS	Application Programming Interface	Included in SkyLight

ADDITIONAL REPORTING

ADDITIONS TO THE SKYLIGHT SERVICE CAN INCLUDE

With the SkyLight service comes the option of acquiring additional reports and services that are sold separately (ready 2017)

FOULING REPORT

- Analyses how much power is lost due to increased fouling on the hull
- Can be used to plan dry dock visits more efficiently

ROUTE BENCHMARKING

- Analyses and compares the vessels past voyage with voyages made by similar vessel's on similar routes
- Can be used to reduce fuel costs and emissions by optimizing voyage planning



ARE YOU ON WATCH?

CONNECTIVITY TO THE SKYLIGHT SERVICE IS COMING SOON

Apps for Apple Watch, iPad and iPhone:

- Automatic notifications on reduced speed and ETA variance
- Notifications on weather conditions

Thank you.

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