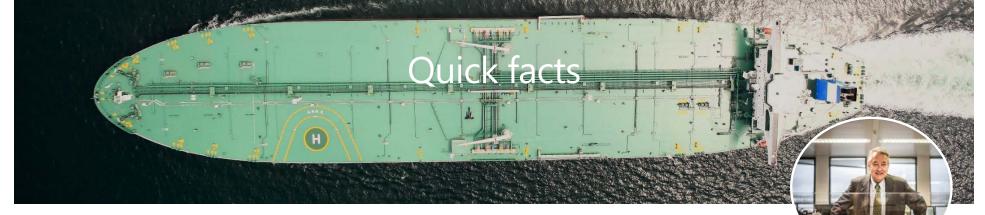


#### Rudi Vander Eyken, Head IT & Innovation





NYSE

# The world's largest, independent quoted crude tanker platform

# 71 VESSELS\*



**2 FSO** 3 million barrels



**2 V-Plus** 3 million barrels



**42 VLCC** 2 million barrels



\*Average age on 30 June 2019: 8.5 years

# International company Founded by the Saverys family Headquarters in Antwerp EVENENT EV

#### 2,900 EMPLOYEES

- Approx. 2,700 seafarers of many different nationalities
- Approx. 200 shore employees



### **"DIGITAL TRANSFORMATION" 2020**

Euronav has the ambition to invest in Digital Transformation :

- And become the leader (front runner) in adopting/embracing digitization within the "Maritime Industry"
- So "Digital Transformation" and "Innovation" becomes part of our DNA

Our future challenges & opportunities in the market

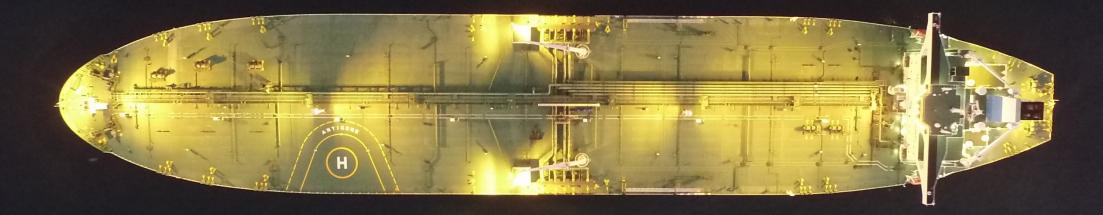
- IMO 2020 & Zero Emission targets by 2050
- Fuel prices (LFSO)
- Reduce Fleet OPEX
- Improve overall efficiency

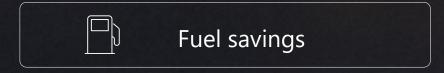


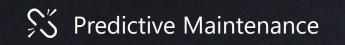


Euronav embarks for the future of data intelligence through optimized IoT connectivity ...

# FAST (Fleet Automatic Statistics & Tracking) Why?









Claims Management



#### FAST Platform

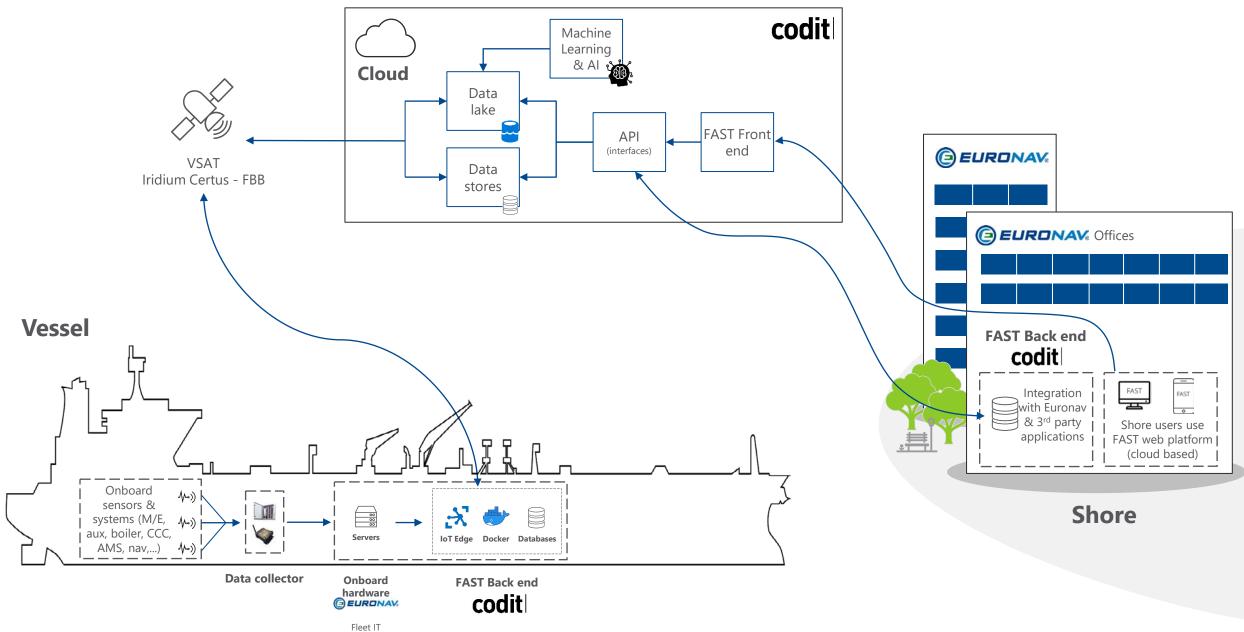


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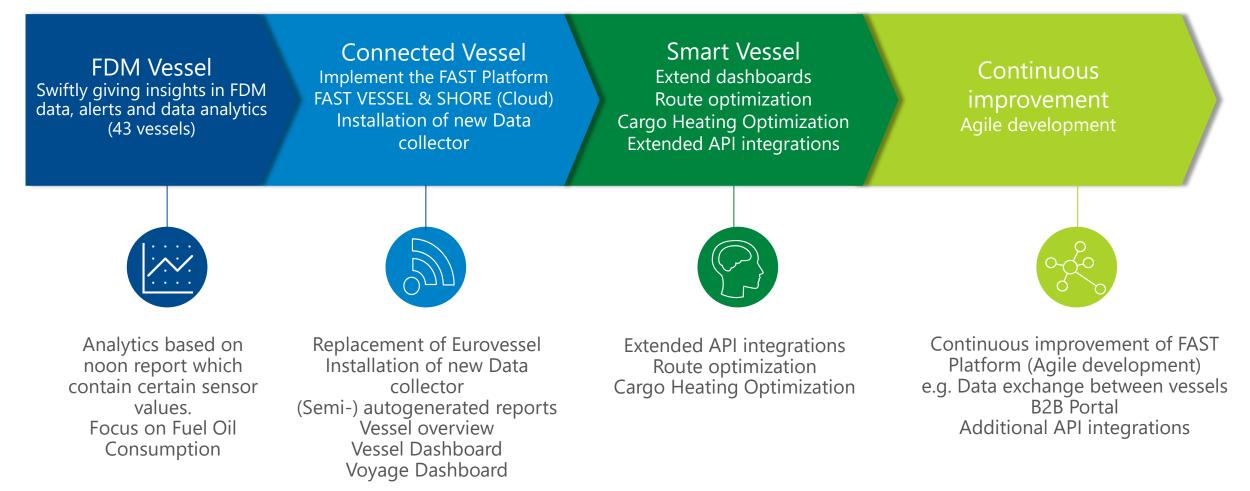






## Phased strategy

#### with full focus on generating insights on Fuel Oil Consumption



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#### Technological Risks & Resilience Cybersecurity OT/IT Network

- Network Segmentation
- Firewalling

Onboard

sensors &

systems (M/E,

aux, boiler,

CCC, AMS,

nav,...)

-**∕**~)

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Data collector

- Secured Access Control
- Improve overall efficiency



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Servers

Onboard

hardware

IoT Edge Docker Databases

**FAST Back** 

codit

## Technological Risks Limited Internet Capabilities



- VSAT Internet capacity is very expensive
- All vessel applications and innovation runs over 1 pipeline
- 1GB office line vs 2Mbps/500kbps internet is a big difference



- Backup systems (Iridium/FBB) have less capacity i.e. 128 Kbps
- On backup only e-mail / voice active



#### Euronav's Resilience Projects that enable innovation

- Cybersecurity is top priority !!
- Data / File Compression techniques
- Quality of Service on the internet line
- Optimized Secure remote connectivity for Support
- Segmentation IT/OT network environment
- A professional D/R process needs to be in place ... as last solution !!
- Close collaboration with our peers to find appropriate solutions





