



EfficienSea2 Conference:
**GETTING CONNECTED
TO THE FUTURE**

8-9 November 2016



This project has received funding from The European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no. 636329



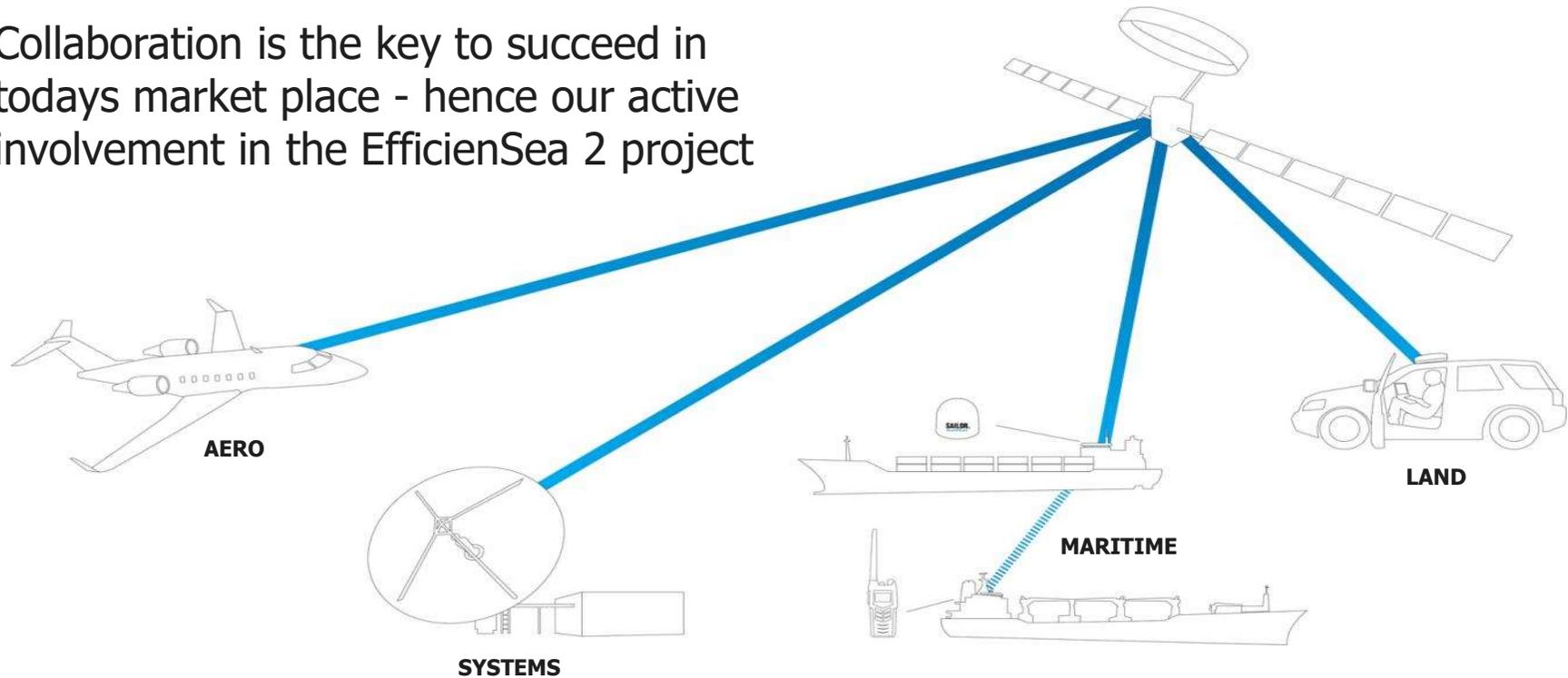
What will connectivity mean for shipping?

Jan Kragh Michelsen
VP Maritime, Cobham SATCOM and
Executive Board member EfficienSea2



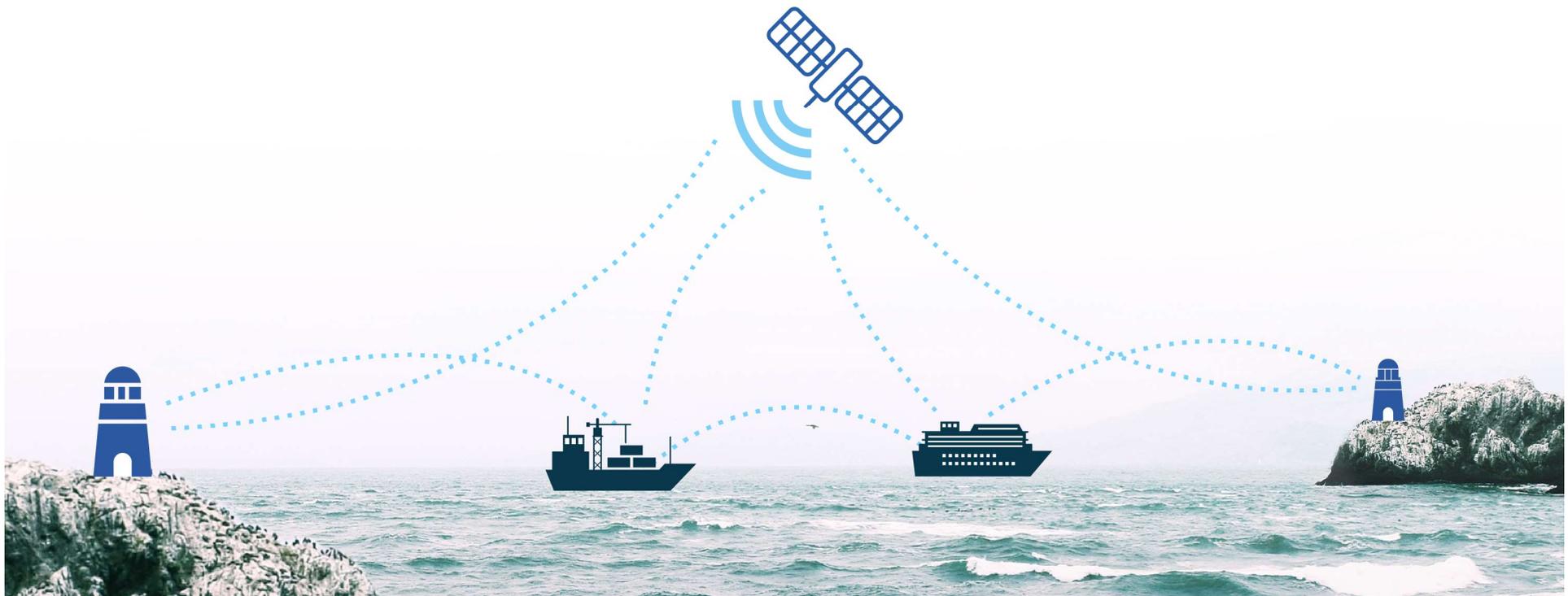
Cobham SATCOM Markets Aeronautical, Land, Maritime and Systems

Collaboration is the key to succeed in todays market place - hence our active involvement in the EfficienSea 2 project

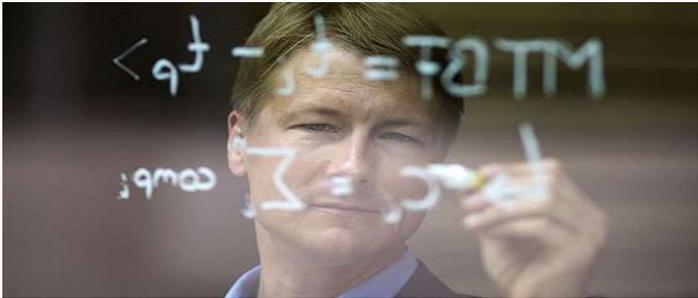




Industry Drivers

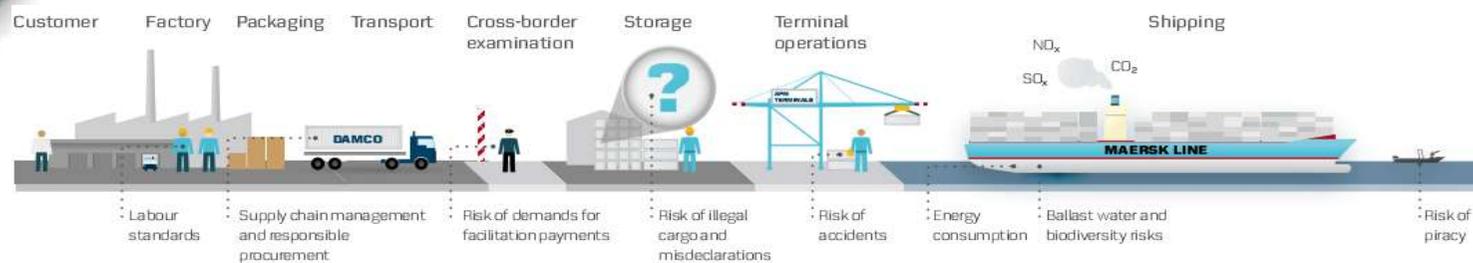


The data drive in Shipping - The next big revolution



Developments in Information and Communication Technology (ICT) will according to DNV GL have a:

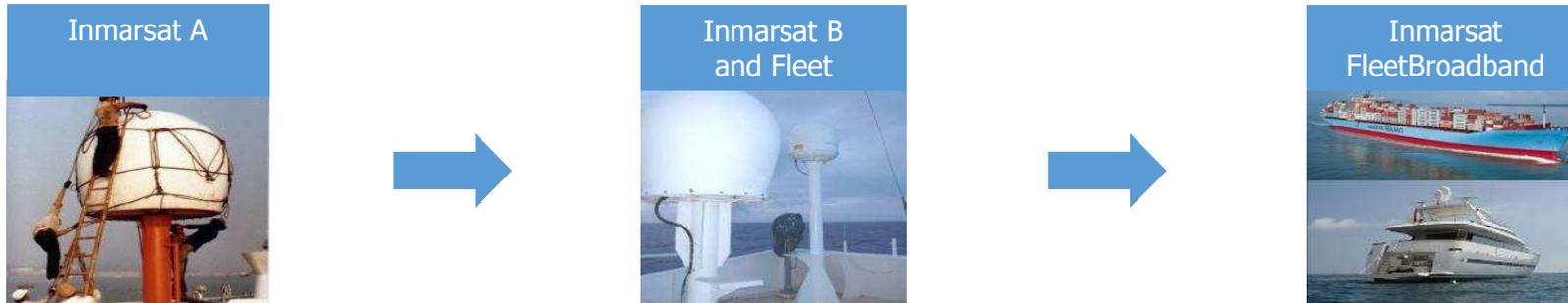
- Dramatic effect on the shipping industry
- Worldwide high speed satellite communication network
- Real-time condition monitoring
- Internet of all things
- Software solutions to handle "Big Data"
- Faster and more informed decisions



Source: Maersk Group and DNV GL

SATCOM Development

High Throughput Satellites (HTS) provides the link to drive ICT opportunities in shipping



Demand driven by smaller hardware, need for IP data connectivity and standardised solutions

Traditional VSAT

- C- and Ku-band**
- C-band very reliable, weather resistant
 - C-/Ku-band highly configurable, customised
 - Heavy antennas



Growth drivers

- Effective hardware
- Standardised packages



Maritime SATCOM is key in the ICT deployment

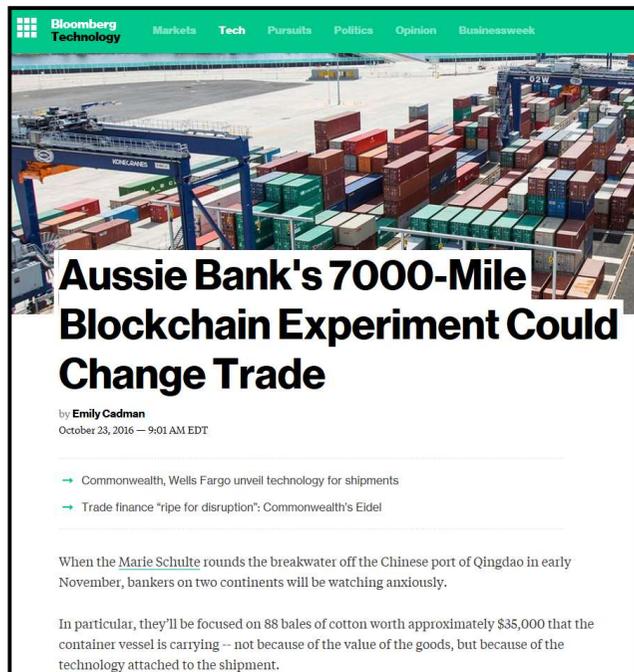
Developments in Radiocom

Developments in traditional radio communications



Adjacent technologies, product integration and focus on total cost of ownership drives value

Data Disruption in Shipping - Blockchain



Source: Bloomberg Technology

When the Marie Schulte called the port of Qingdao this morning, bankers on two continents were watching anxiously.

Focus was on 88 bales of cotton worth approximately \$35,000 the container vessel was carrying - not because of the value of the goods, but because of the technology attached to the shipment.

Unloading the goods at the end of their 7,000-mile journey from Houston will mark the final stage of an experiment by Commonwealth Bank of Australia, Wells Fargo & Co. and the trading firm Brighann Cotton to prove for the first time that the combination of much-hyped technologies - blockchain and smart contracts - can deliver real-world benefits



Data Disruption in Shipping - Blockchain

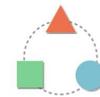
The Problem:

The standard method of shipping is made difficult due to the challenges of sharing information between systems, unsynchronized payments and deliveries, and auditing.

The Solution:

By implementing blockchain notarization, shipping partners can increase both the interoperability between all parties as well as the security of the data, leading to reductions in cost and improved traceability and compliance.

Source: Stratumn SAS



Tracking Goods Between Different Delivery Partners

Several delivery partners may be involved during the process of moving and storing goods. Each partner may have their own siloed digital or paper information system.



Unsynchronized Payments and Deliveries

Synchronizing payment and delivery is difficult as payment is either pre or post trade, leading to increased friction during the customer journey.



Standardized Tracking

A real-time audit trail can be generated during the shipping and storage of goods with timestamps and digital signatures for each step with every partner.



Payment and Delivery Synchronization

Payment can be automatically released once a customer digitally signs a receipt of delivery and the transaction has been notarized on the blockchain.



Compliance & Data Integrity

Documents and receipts of the process are automatically tied to a cryptographic audit trail which can be used to prove the validity and integrity of the data. Any stakeholder or regulator can validate this data through its unique identifier in the blockchain.



Summary

- The advancement in ICT offers real tangible opportunities for the shipping industry and the transformation has only just started
- The drive for data has the potential to change business models and is for sure a catalyst for reducing the underlying cost base
- Shipping should learn from other industries
- The introduction of HTS systems provides a level of connectivity to the vessels that was beyond economic reach just 5 years ago
- The shipping industry is being disrupted - the world around us is going asset lite and scaling up on data - look what airbnb and UBER have done to established industries... Will Amazon take on the maritime shipping industry?

EfficienSea 2 is leading the way in the area of Smart Shipping





Thank you