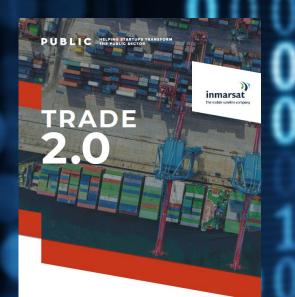


Enabling digitalisation at sea – an ECDIS updates case study Digital Ship – Athens, November 2019

Alberto Perez, Director, Business Development, Inmarsat Maritime

Digitalisation will disrupt martime trade Shiptech market to triple by 2030



HOW STARTUPS ARE DRIVING THE NEXT GENERATION OF MARITIME TRADE

Nick Chubb, Leonardo Zangrando

Inmarsat Research Programme

- We are at the beginning of a **new era of global maritime trade**.
- Current pilots and trials will become fleet wide roll outs of digital technologies.
- IoT is a key enabling technology for digitalisation in the short term. By bridging the gap between the physical and digital assets it makes cloud platforms, big data, blockchain, and artificial intelligence possible.
- The most fundamental shift maritime will see in the next few decades is how it manages energy in a world without fossil fuels.
- The opportunity is huge. The global ShipTech market is already worth more than \$100bn a year and, enabled by connectivity, is set to grow to \$278billion by 2030.

Source: Trade 2.0

7,500 Fleet Xpress vessels and growing! Enabling the Connected Vessel

>50% Increase in data consumption

176 Gb

Average volume of data downloaded per vessel in January 2018

270 Gb

Average volume of data downloaded per vessel in January 2019

Enabling digitalisation at sea Network designed for a world which does not stop moving GX10B GX3 Scheduled launches of GX fleet 2022 2015 GX10A GX9 GX7 2023 2022 2023 GX6A 2020 GX1 GX2 2013 2015 GX4 GX6B 2017 inmarsa GX8 2021 GX5 2023 Please note that these 2019 The mobile satellite company are indicitive positions

Maritime digitalisation trends

Inmarsat findings

\$2.5m

Average shipowner investment in IoT solutions over the next three years

100%

of owners surveyed will be using IoT for fuel consumption monitoring by 2023 to meet emissions regulations

14%

Average cost savings predicted though IoT based solutions use within five years

51%

Industrial IoT

on land and at sea

Say getting data off the ship in real-time is biggest obstacle to IoT adoption

Source: Industrial IoT: Land and Sea

Inmarsat Maritime Digital Ecosystem Solving problems together



The challenges of paperless navigation SRH and Inmarsat solving a problem together

- The Challenge : ECDIS updates are still commonly distributed using cumbersome methods such as USB sticks and CDs, which is not ideal given the unpredictability of schedules in maritime industry.
- Two main reasons : fear to hidden cost and constraints on bandwidth
- By providing separate connectivity to SRH to deploy their service Inmarsat removes the hurdles towards safer, seamless and cost efficient electronic navigation.



- An unique solution that combines a dedicated bandwidth , powered by Inmarsat's FBB and SRHs Pilot & Plug.
- Provides the most cost efficient and paperless e-Navigation by distributing automatically all charts & updates.

SRH Aelta Fleet case study Features

SRH MARINE SAIT

Direct connection to ECDIS. Fully compatible with any existing ECDIS. Secure and automatic data transfer. Ites Refe Rule Port IIte Ans AS Toking Watter Dere

Automatic digital navigation updates. Automatic Route Generation.

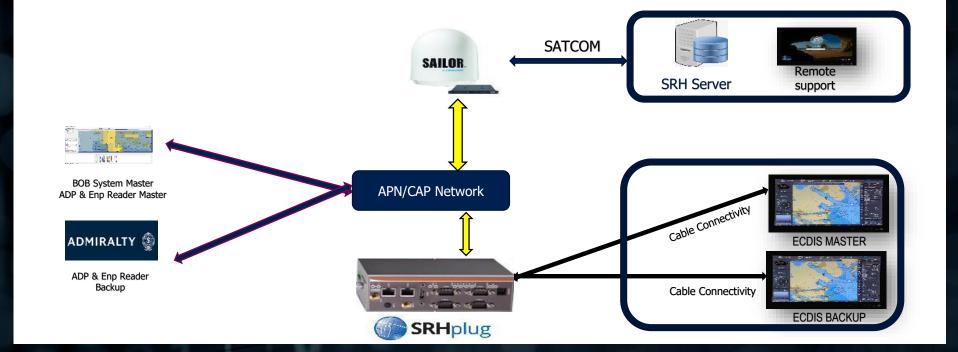
AVCS, ADP, ENP, IMO, NAVAREAS, eNTM

Updates and maintains all ENCs automatically.

• Online Orders

Anytime Worldwide.

SRH Δelta Fleet case study Architecture and data flow





SRH Aelta Fleet Case Study References

"Delta Fleet automates Charts and Publications updating of Route Planning through dedicated high speed connectivity offered by Inmarsat. Seamless e-navigation data exchange can now allow crew to devote more time to navigational safety."

Andreas Vamvakaris Owner VAMVASHIP MARITIME SA

"In order for us to balance our crew's additional workload, new technologies brought on the bridge and offer Officer on watch some peace of mind we decided to sign up with Delta Fleet and make sure that an e-navigation data 'pipeline' is always available to the Navigation Officer without connectivity restrictions. ECDIS will always be connected securely on official source of Navigational data and Delta Fleet gives the opportunity to our crew to have real-time and automated updates removing a lot of burden from the responsible Officers."

> Lydia Doussopoulos General Manager, Seamar Management S.A.

Takeaways

World economy is changing, so is shipping IoT adoption is growing New innovative IoT ventures are getting more traction Third party solutions providers require their own connectivity and fleet scalable IoT platforms with single window approach

Thank you

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