



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



PANEL DISCUSSION

**What does it take to
make BalticWeb a
stepping stone into
the digital future?**

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Marine Accident Investigator

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IALA's e-Navigation committee

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EFFICIENSEA

2.0 GETTING CONNECTED

Onboard solutions

WP2

09-11-2016

Speaker: Peter Andersen, Cobham SATCOM



What we aim at:

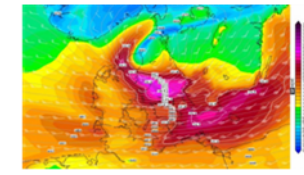
- Making an onboard structure that allows intelligent routing for external communication, and safe and efficient distribution of information onboard.
- Analyzing space weather's influence on communication to and from ships



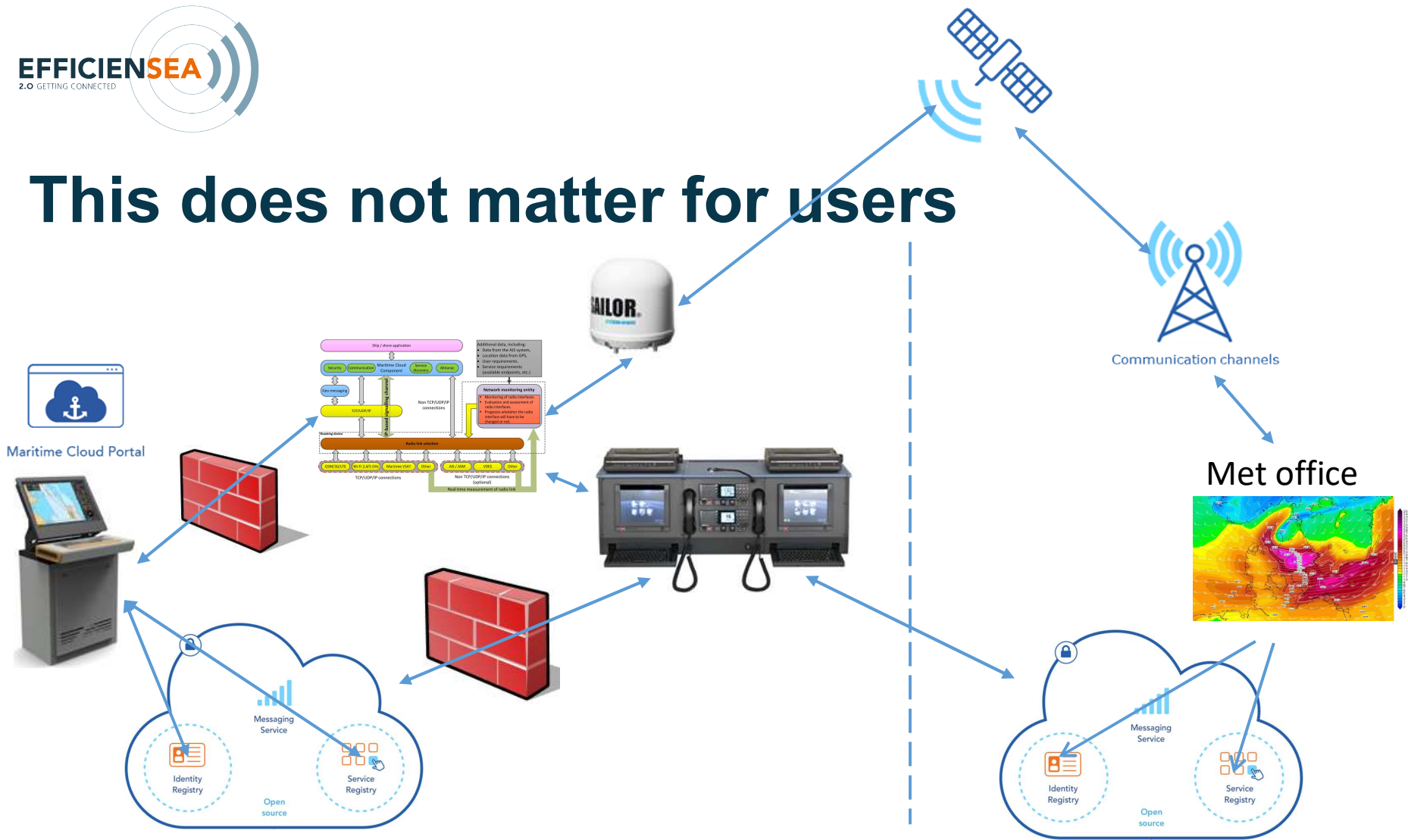
To get it where you need it

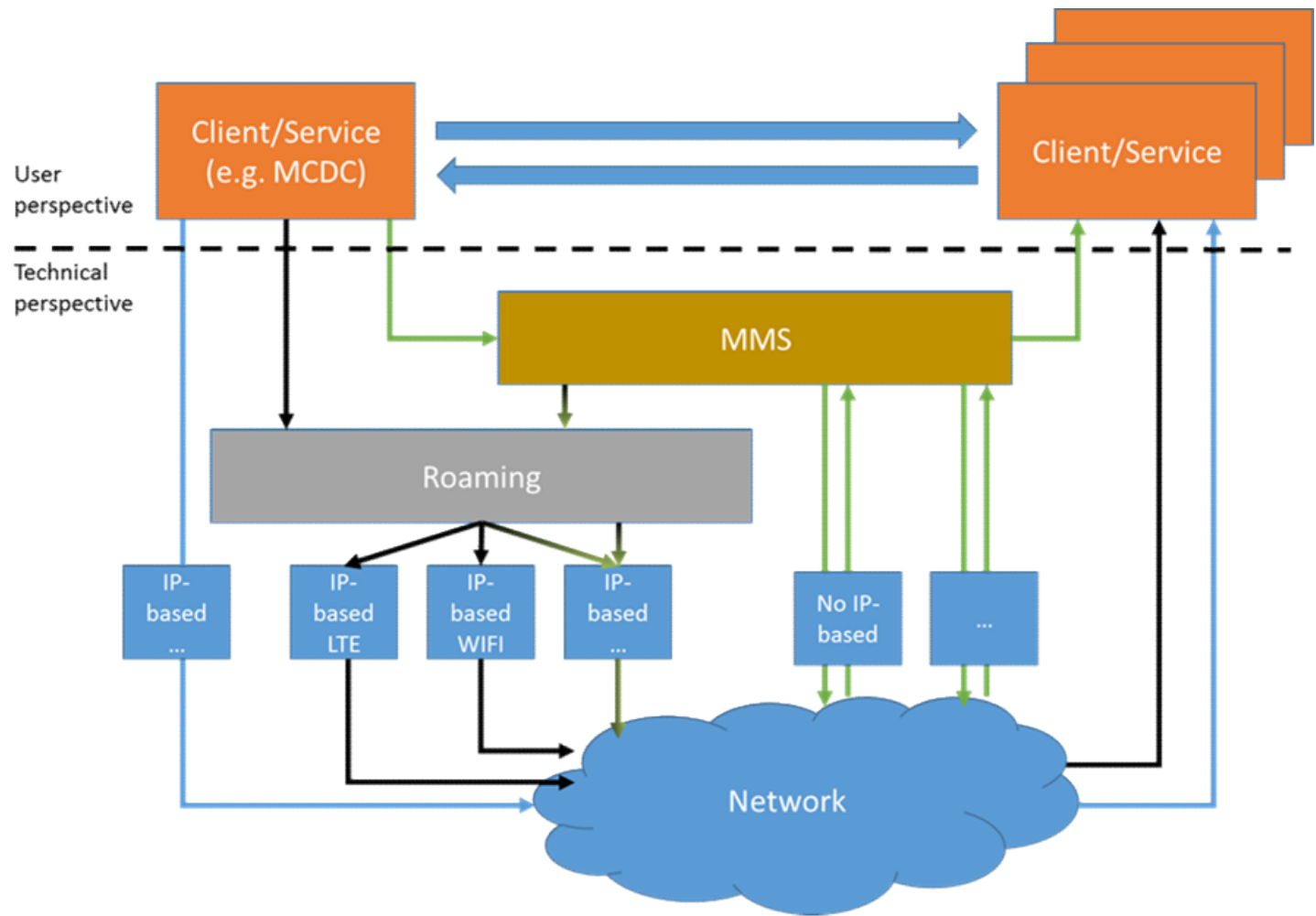


Met office



This does not matter for users







The onboard side





Today solutions are segmented



Today solutions are segmented





Today solutions are segmented





Today solutions are segmented





Today solutions are segmented





Today solutions are segmented





Today solutions are segmented





Today solutions are segmented



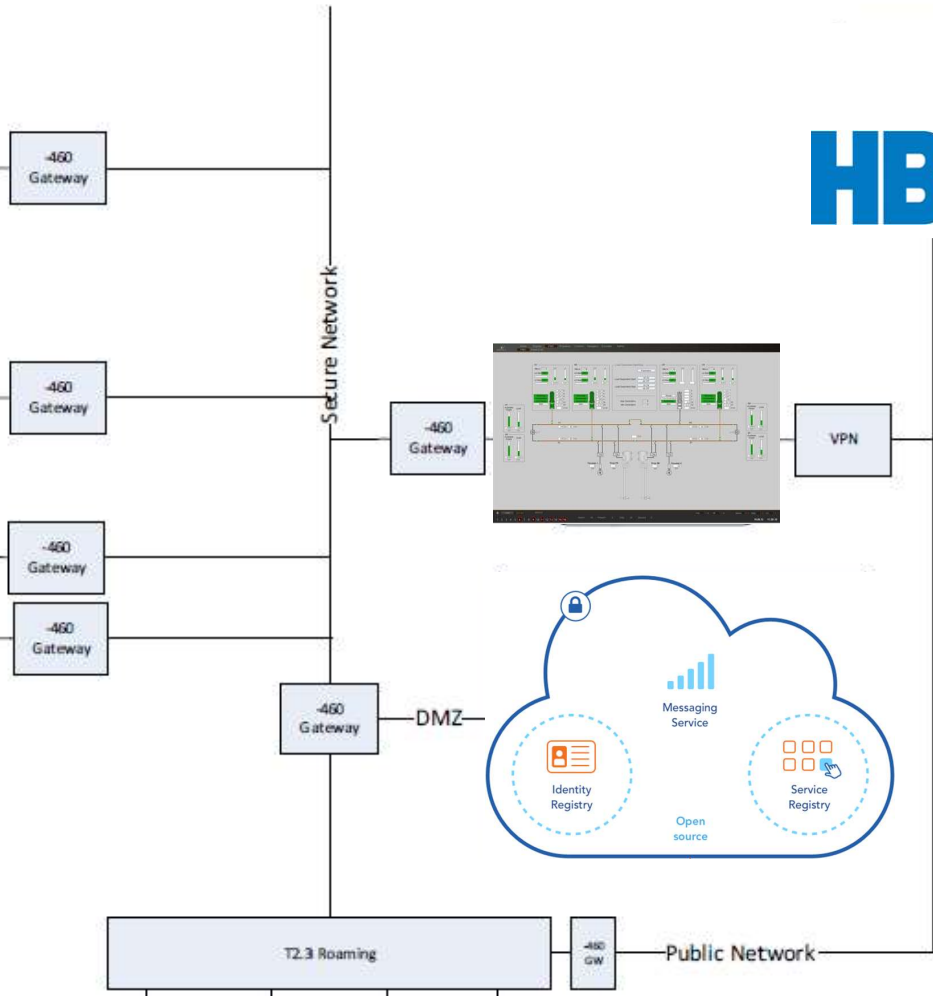


Today solutions are segmented





We aim at integration





Routing

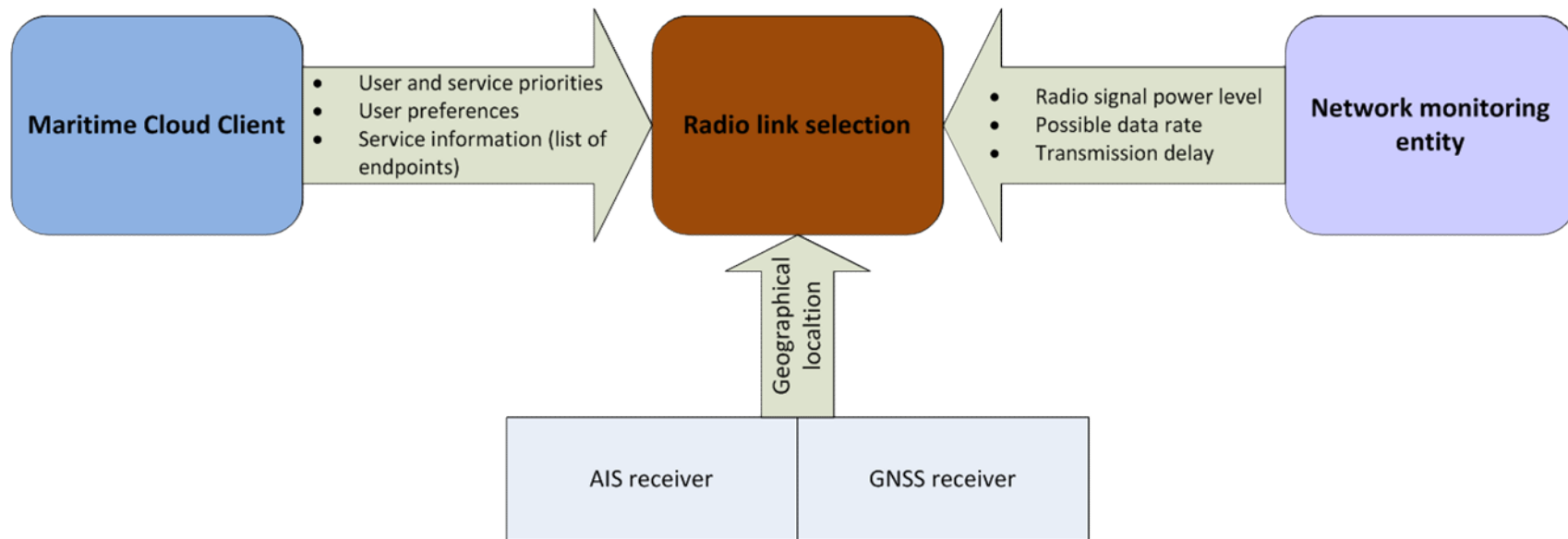


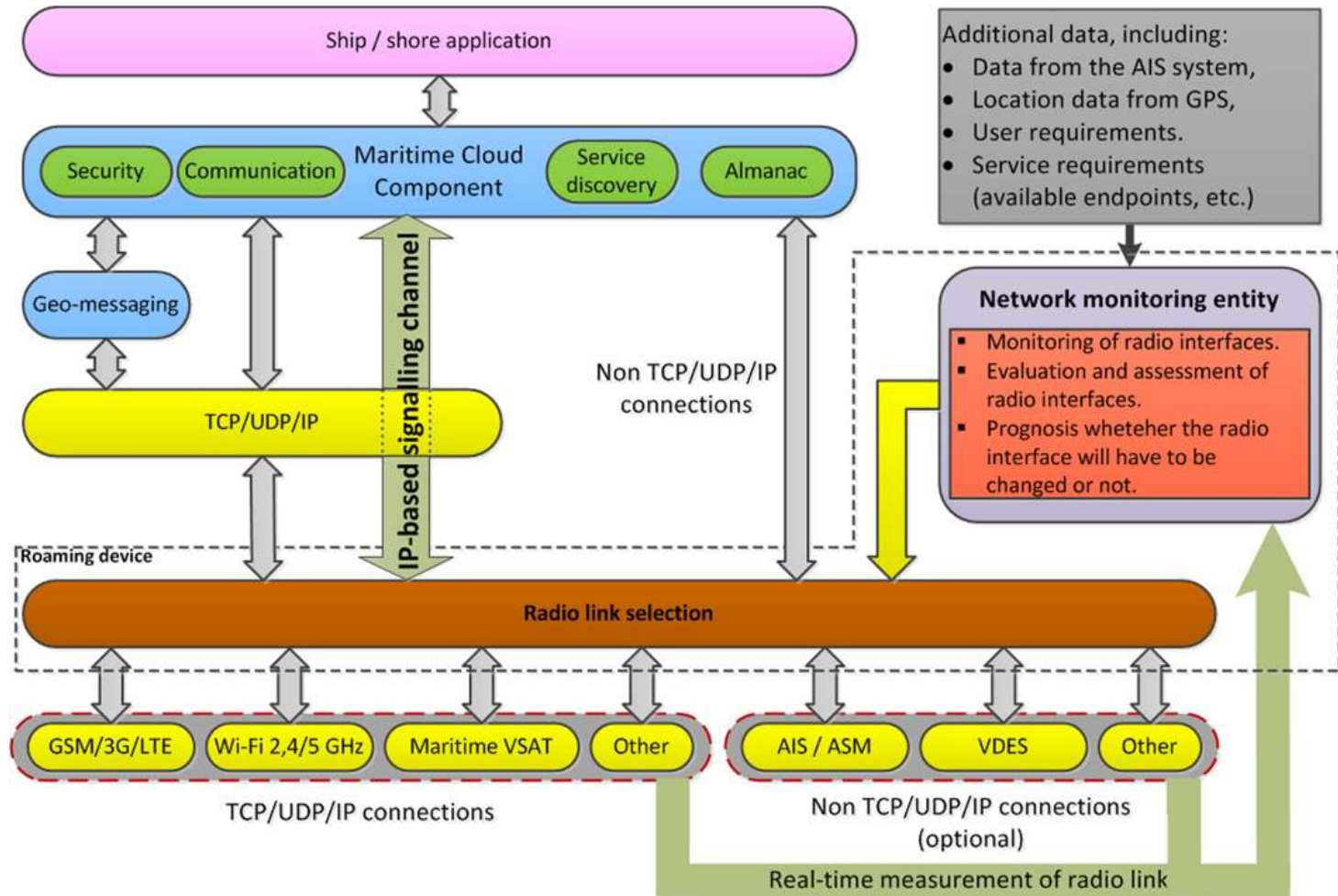


Routing

- A wide range of user defined parameters in the selection criteria
 - Price
 - Quality
 - Urgency
 - Availability
- Important is the option to set priorities between the selection criteria

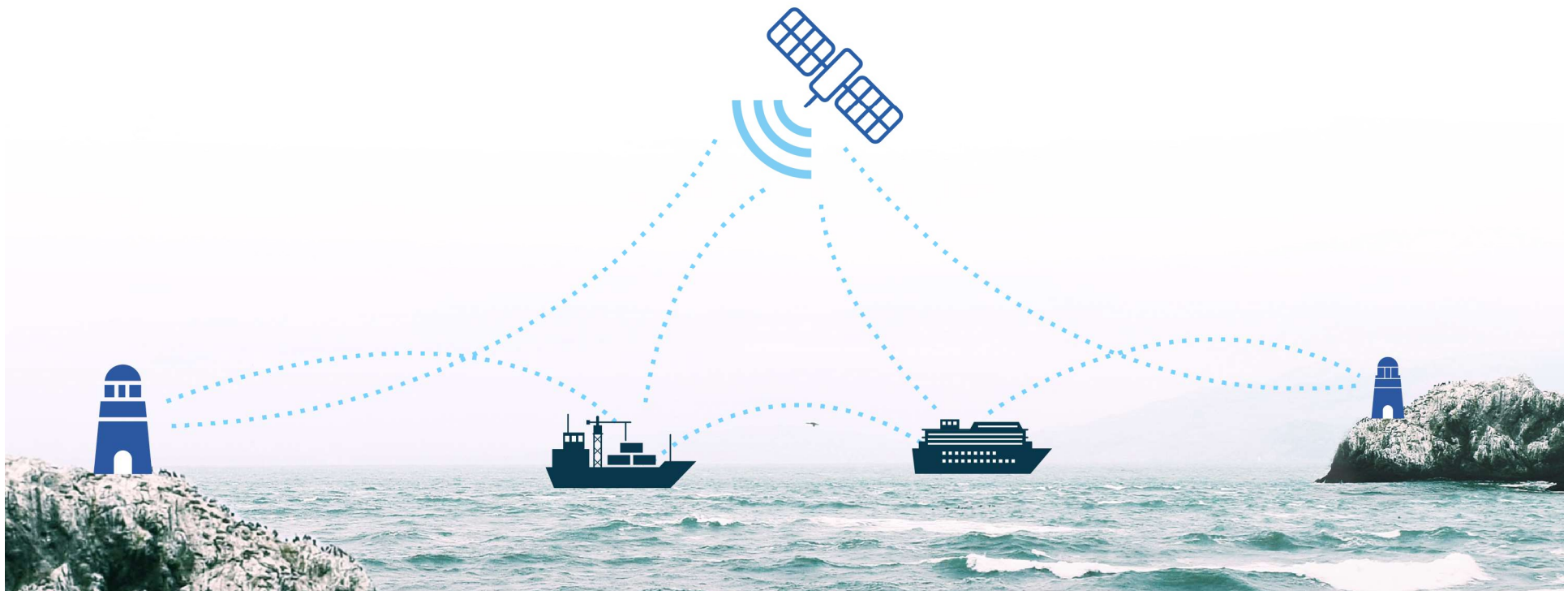
Radio link selection criteria







Communication Channels





Communication to and from ships involves many options with unique characteristics

In port:



Communication to and from ships involves many options with unique characteristics

In port:





Communication to and from ships involves many options with unique characteristics

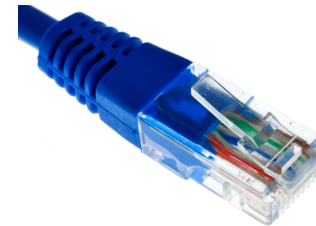
In port:





Communication to and from ships involves many options with unique characteristics

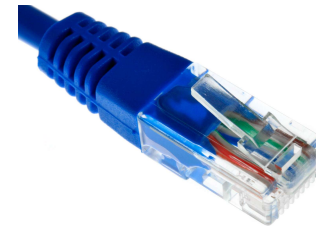
In port:





Communication to and from ships involves many options with unique characteristics

In port:





Communication to and from ships involves many options with unique characteristics

Coastal:



Communication to and from ships involves many options with unique characteristics

Coastal:





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Communication to and from ships involves many options with unique characteristics

Coastal:



A coming technology is VHF Data Exchange System (VDES)



Communication to and from ships involves many options with unique characteristics

Other areas:



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Communication to and from ships involves many options with unique characteristics

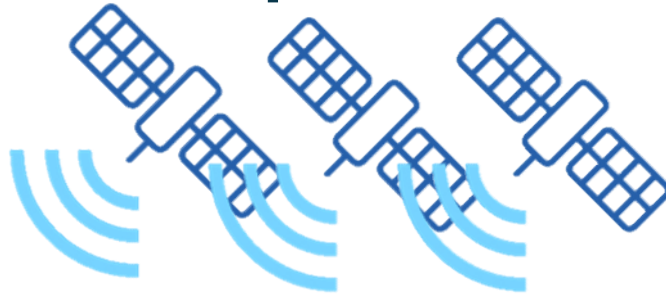
Other areas:





Communication to and from ships involves many options with unique characteristics

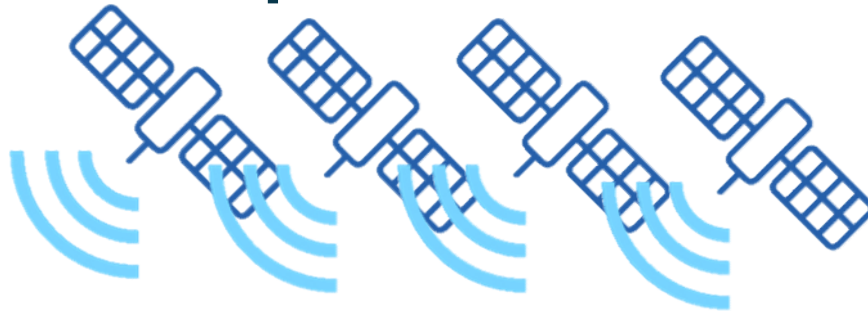
Other areas:





Communication to and from ships involves many options with unique characteristics

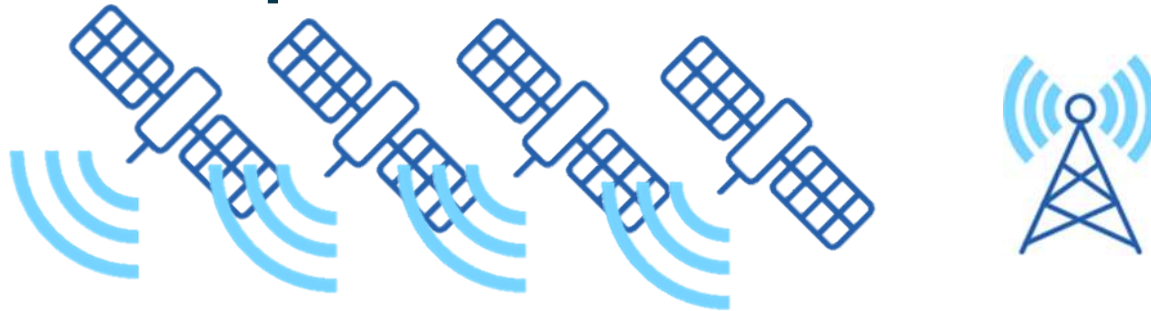
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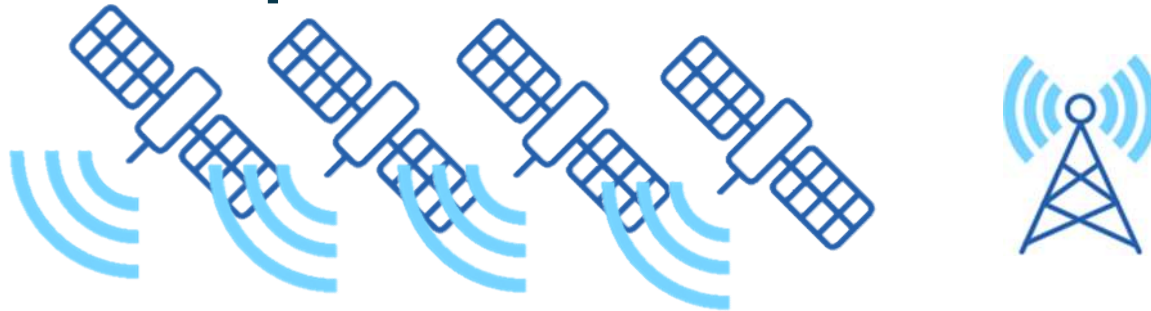
Other areas:





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A coming technology is VHF Data Exchange System (VDES)

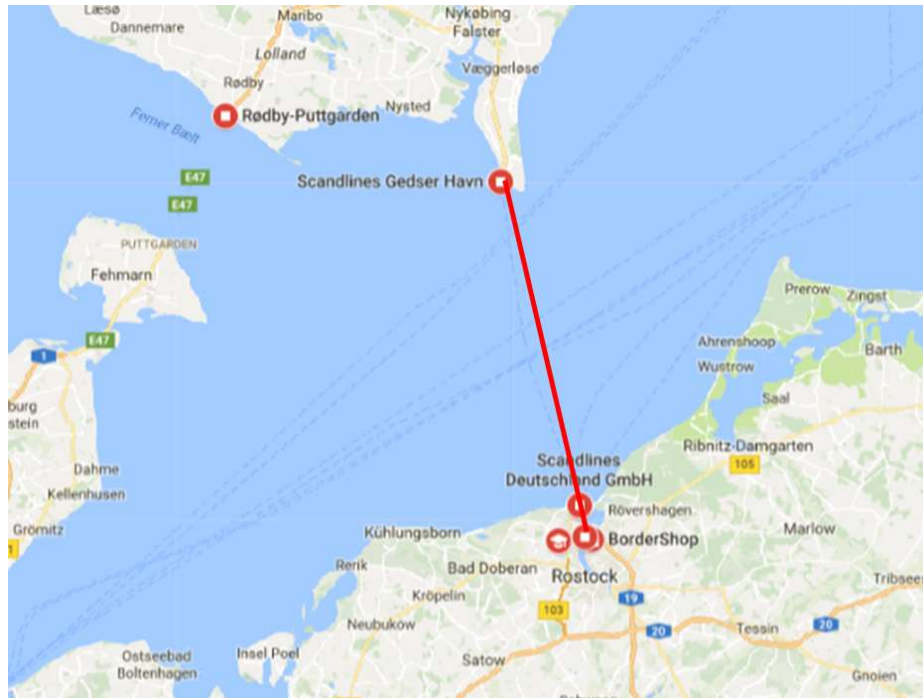


VDES

- New data transceiver on the VHF band
 - Works terrestrial and over satellite
 - Works with Data speed up to 300 kbps
 - Works point to point
 - Works multicast
 - Works broadcast
- Specification is under development, E2 WP 2 is heavily involved



VDES propagation sea trial





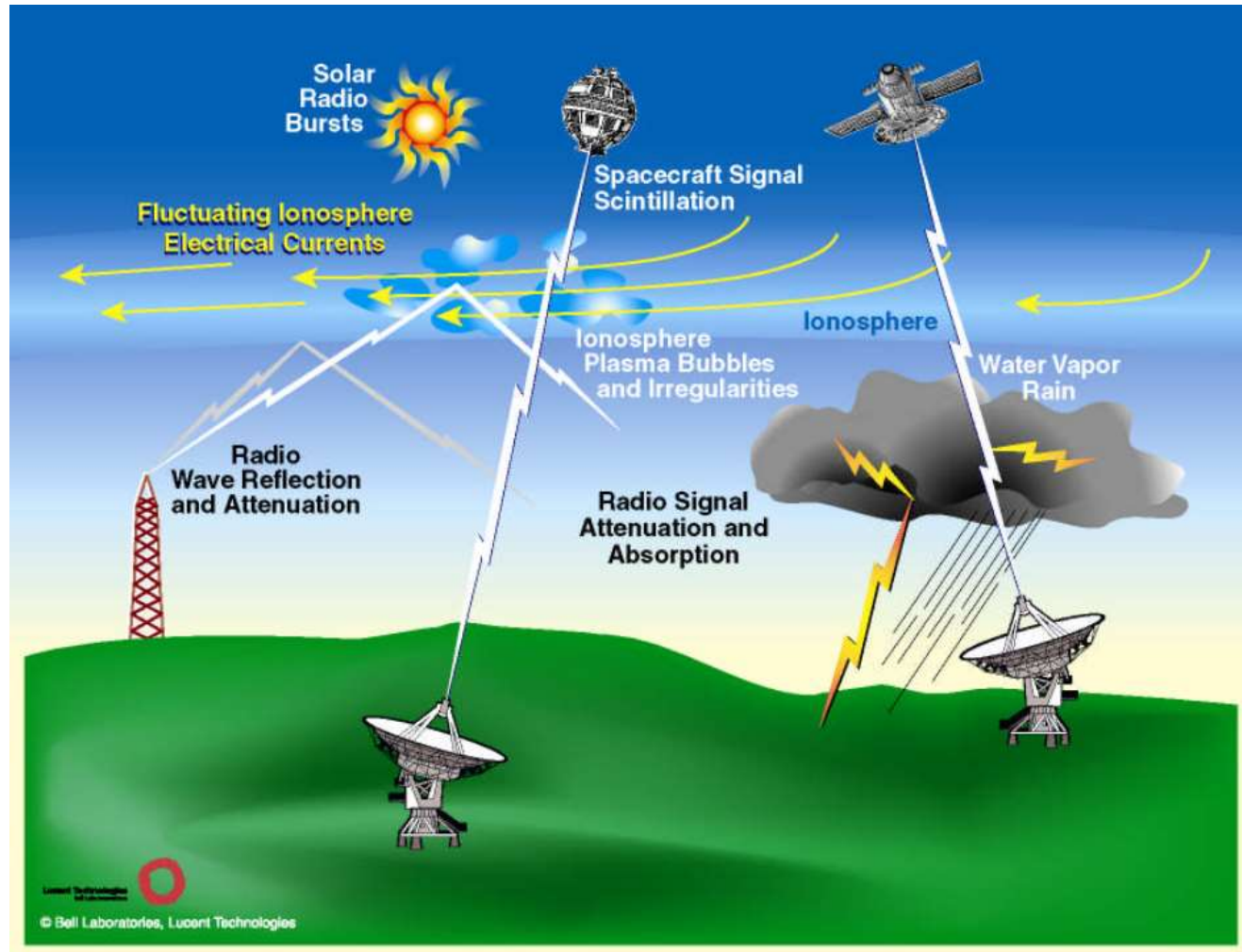
Space weather influencing communication



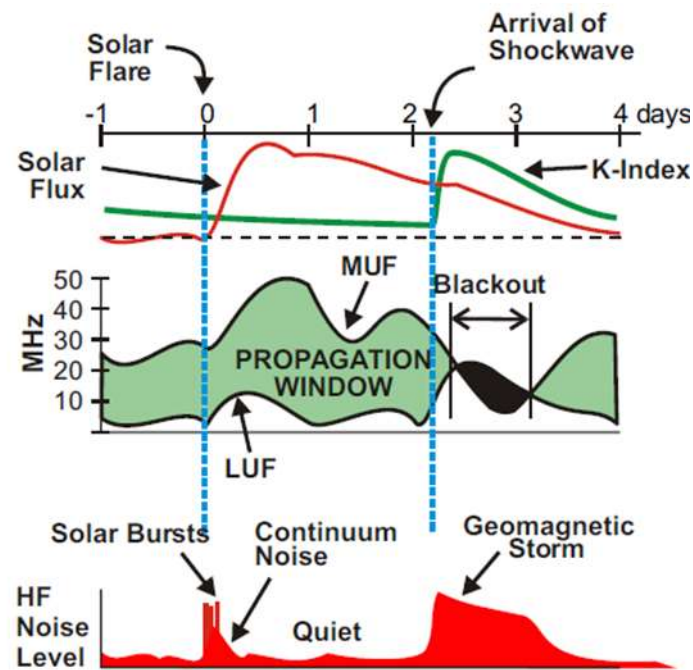


Space weather

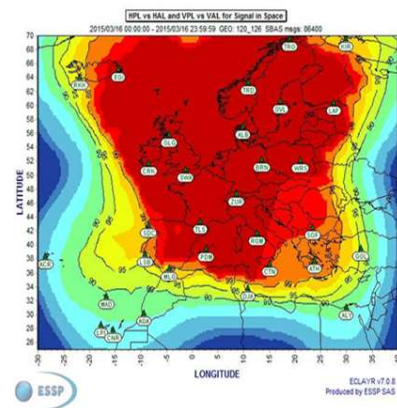
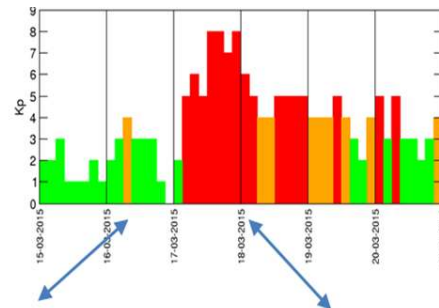
- Is activities on the sun and their consequences on earth.
- Influencing radio communication
 - Can totally block MF/HF
 - Can reduce service ability on satellite systems
 - Disturb navigation signals



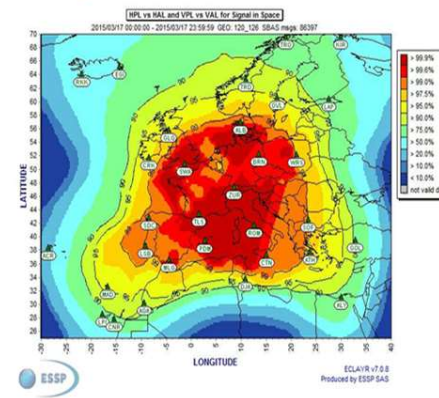
Effects on HF communication



Effects on satellite L-Band



Nominal service



Degraded service



Headlines





- We aim at hiding the technology to make it simple for the user
- We aim at defining an intelligent and safe network architecture
- We aim at optimal utilization of the different communication channels
- We aim at increasing the knowledge about parameters influencing communication quality



SOLVING THE PROBLEM OF WEAK CONNECTIVITY AND HIGH-COST COMMUNICATION

Cost-effective and seamless roaming – how novel communication channels solve the problem of weak connectivity and high-cost communication



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BREAK

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EFFICIENSEA
2.0 GETTING CONNECTED

The central graphic is a rectangular panel with a dark blue background showing a calm sea under a clear sky. The text "EfficienSea2 Conference: GETTING CONNECTED TO THE FUTURE" is in the top right. The word "BREAK" is centered in large white letters. In the bottom left, there is a small European Union flag logo followed by the text "This project has received funding from The European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement no. 636329". In the bottom right, there is a smaller version of the EFFICIENSEA 2.0 GETTING CONNECTED logo.