



Earth Observation for the Maritime Sector: Use Cases and Commercial Opportunities

ESA COMMERCIALISATION DAYS: TRANSPORTATION

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Our offering



Strategic Advice & Consultancy



Commercialisation Support Services



Communication, Outreach & User Uptake

An aerial photograph of a ship's wake in the ocean, overlaid with a complex network of white lines and dots, resembling a data visualization or a global communication network. The ship's wake is a prominent white line cutting through the dark blue water. The network overlay consists of numerous small white dots connected by thin white lines, forming a dense web across the entire image.

Importance of the Maritime sector

The sector in numbers

95%

Global trade by volume

50,000

Merchant vessels

**20
million+**

Jobs supported globally

Does the name “Ever Given” ring a bell?



\$9.6 billion of trade per day

**\$6.7 million of trade per
minute**

**Global panic over toilet
paper supply!**

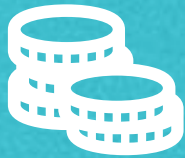
A large container ship is docked at a port, with its deck covered in stacks of colorful shipping containers in shades of blue, red, and yellow. Several yellow gantry cranes are positioned along the ship's length, extending over the water. The ship is moving through the water, leaving a wake. The sky is overcast and grey.

Analysing the market

**Security /
Emergency
Management**



**Finance &
Insurance**



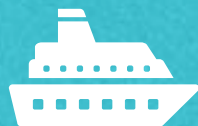
**Renewable
Energies**



Construction



Transportation



**Pollution
Monitoring**



**Fisheries &
Aquaculture**



Demand Side Analysis / User Trends

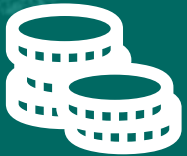
Security / Emergency Management



Maritime **safety incidents** are on the rise

Illegal maritime migration in Europe at its highest level since 2016

Finance & Insurance



Insurance customers are rejecting generic products

Favouring of **hyper-personalised offerings**

Construction



Greater focus on **total-cost-of-ownership (TCO)**

Demand Side Analysis / User Trends

Ships can spend **40% of their time in port**

Identifying demand before it emerges extremely profitable

Transportation

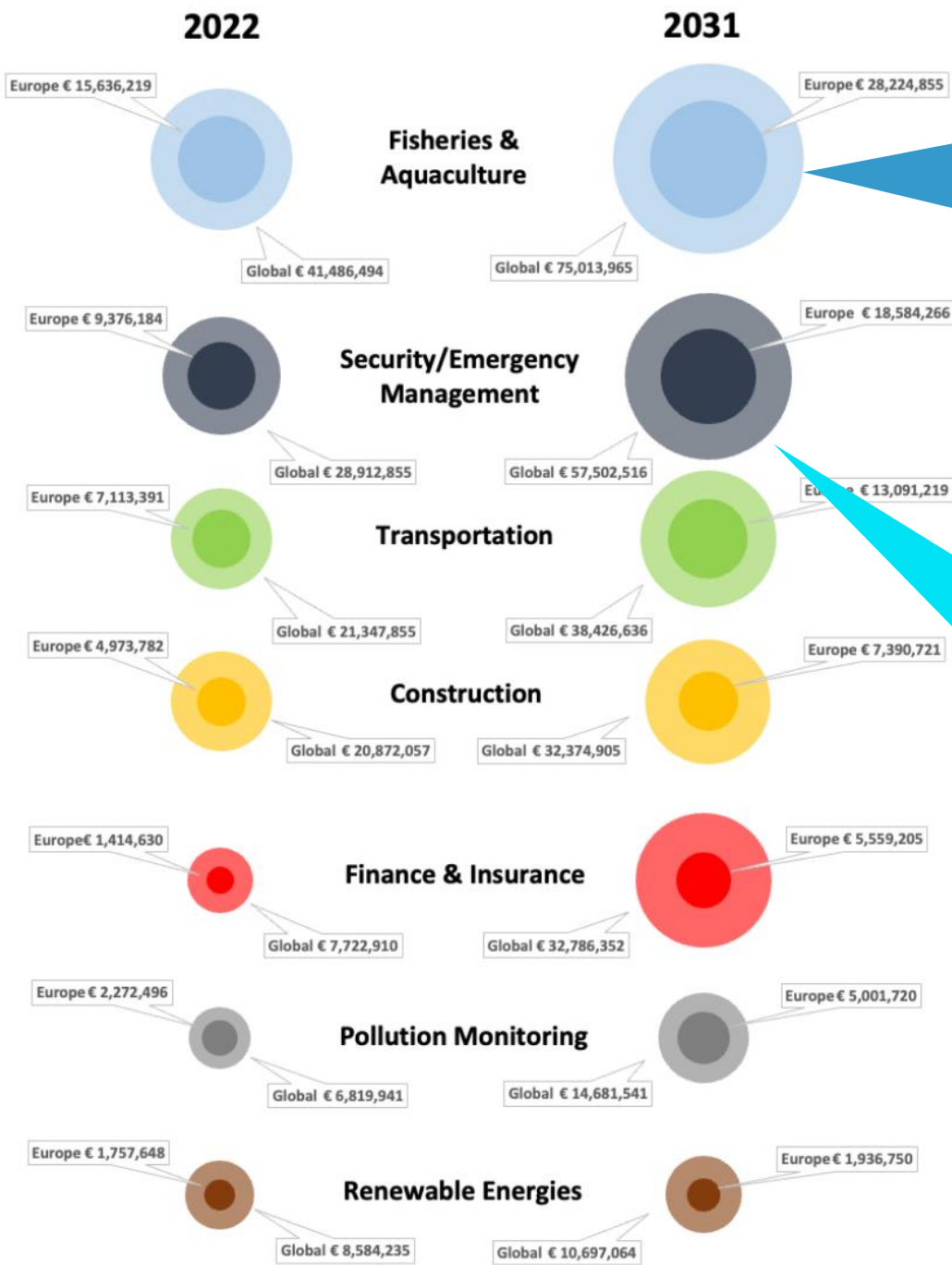


Autonomous shipping – a clear major trend

Pre-voyage forecasting / post-voyage analysis used to mediate disputes

EU Emissions Trading System – extended to shipping

How large are these markets?



Fisheries & Aquaculture



Common Fisheries Policy

Fisheries willing to pay for EO services – strong benefits

Aquaculture – fastest growing food industry in the world

Security / Emergency Management



Continuing geopolitical drivers

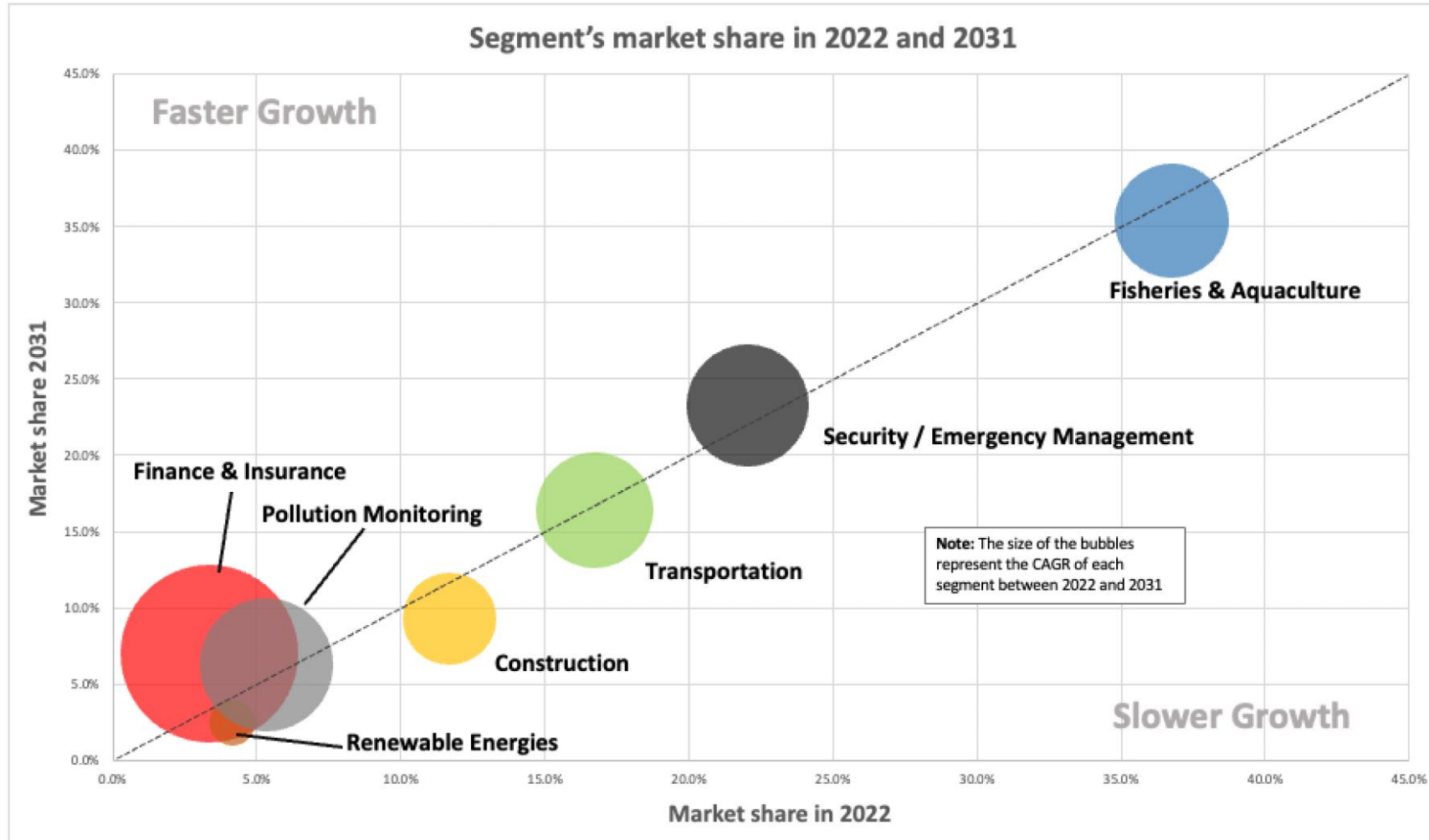
Increasing regulatory pressures

Utility of EO in fighting crime

Total size Europe 2022 – **€43 m**

Total size Europe 2031– **€80 m**

Growth rates and market share



EO-enabled parametric insurance products

Increasingly favoured by customers over traditional indemnity policies

- Objectivity
- Swift claims resolution
- Ability to insure previously uninsurable risks



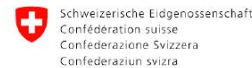
Mapping **the stakeholders**

Stakeholder Mapping

Authorities / Public Agencies



FRONTEx



Advise/dictate regulation and policy
IMO, DG MARE, EEA

Institutional bodies who are responsible in monitoring/enforcing regulation at sea
EMSA, EFCA

Relevant Copernicus entrusted entities
Frontex, Mercator Ocean, ECMWF, SatCen

Stakeholder Mapping

Industry Associations / Organizations



Represent the voice of the industry

Promote and advance interests and standards

Powerful market influence

Stakeholder Mapping

Research & Innovation Ecosystem

Research / Academia



Clusters / Networks



Accelerators / Incubators



Institutional Funding Bodies



BlueTech Accelerator

Currently focussing on Augmented Reality and areas inaccessible to GNSS

CASSINI

Maritime Prize recently won by 3 innovations in plastic pollution detection

Stakeholder Mapping

Technology Ecosystem

Data & Platform Providers



EO Service & Information Providers

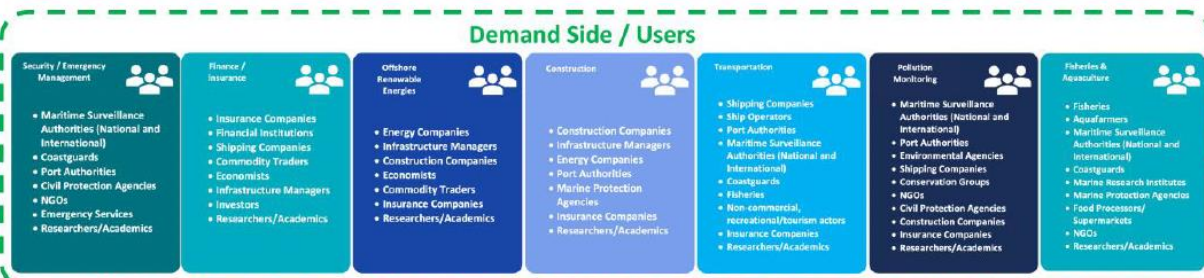
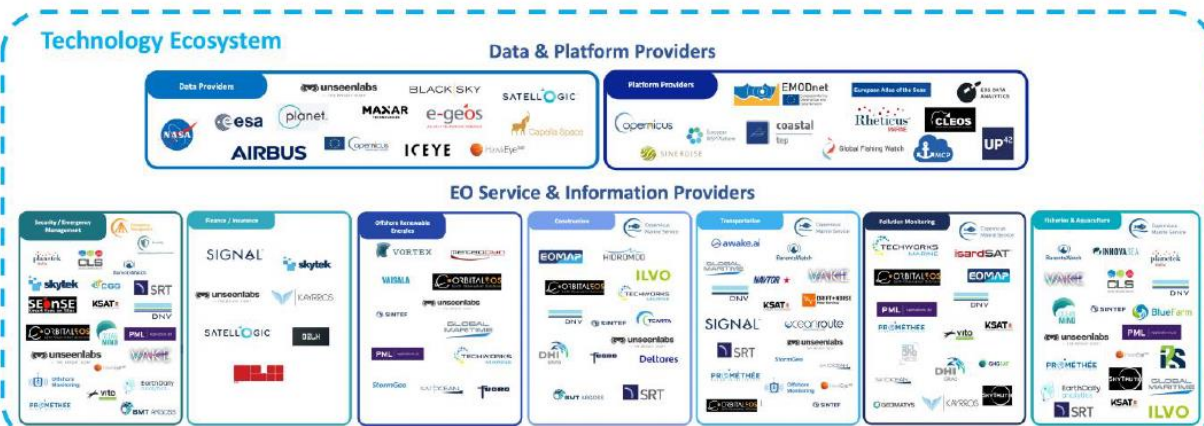


Demand Side / Users





European Maritime Earth Observation Stakeholder Landscape



But what are the stakeholders saying?

Stakeholder Insights

32 interviews

Various qualitative insights gathered into needs of the subsectors and wants of users.

*"In Artic/frozen areas **false positives of vessels due to floating ice** is a problem, work needed to better combat this"*

*"**Low/very low latency services** are what is really needed in the sector – particularly in the fields of security/emergency/law enforcement"*

*"Research needed into how the **mechanical action of icebreakers** ends up producing more unpredictable ice formations"*

*"Localised weather services for **small fishermen in poorer countries** are needed"*

A satellite map of the North Atlantic Ocean. The landmasses of North America, Europe, and Africa are visible in the upper right. The ocean is depicted with various shades of blue and green, indicating different sea surface temperatures or ocean currents. A prominent warm water feature, likely the Gulf Stream, is visible as a bright green/yellowish area extending from the Gulf of Mexico towards Europe. The text "Identifying the potential" is overlaid on the map in a bold, sans-serif font. The word "Identifying" is white, and "the potential" is blue.

Identifying the potential

Where are the next opportunities?

46 use cases identified

Gap analysis performed per use case / **6 criteria**

Market Drivers

External Catalysts

Market Size

Market Growth

Policy Priorities

Geopolitical /
Socioeconomic /
Technology trends

Can current
constellations /
instrumentation satisfy
the needs? Will future
missions satisfy needs?

Could advanced R&D
(processing/algorithms)
effectively address the
use case gaps and
deliver value to the
market?

The background is an aerial photograph of a coastal region, showing a mix of land and water. The land is divided into various colored patches, likely representing different land uses or vegetation. The water is a darker, more uniform color. A semi-transparent teal overlay covers the entire image, creating a monochromatic effect.

For any further questions, please reach
out



Thank you

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