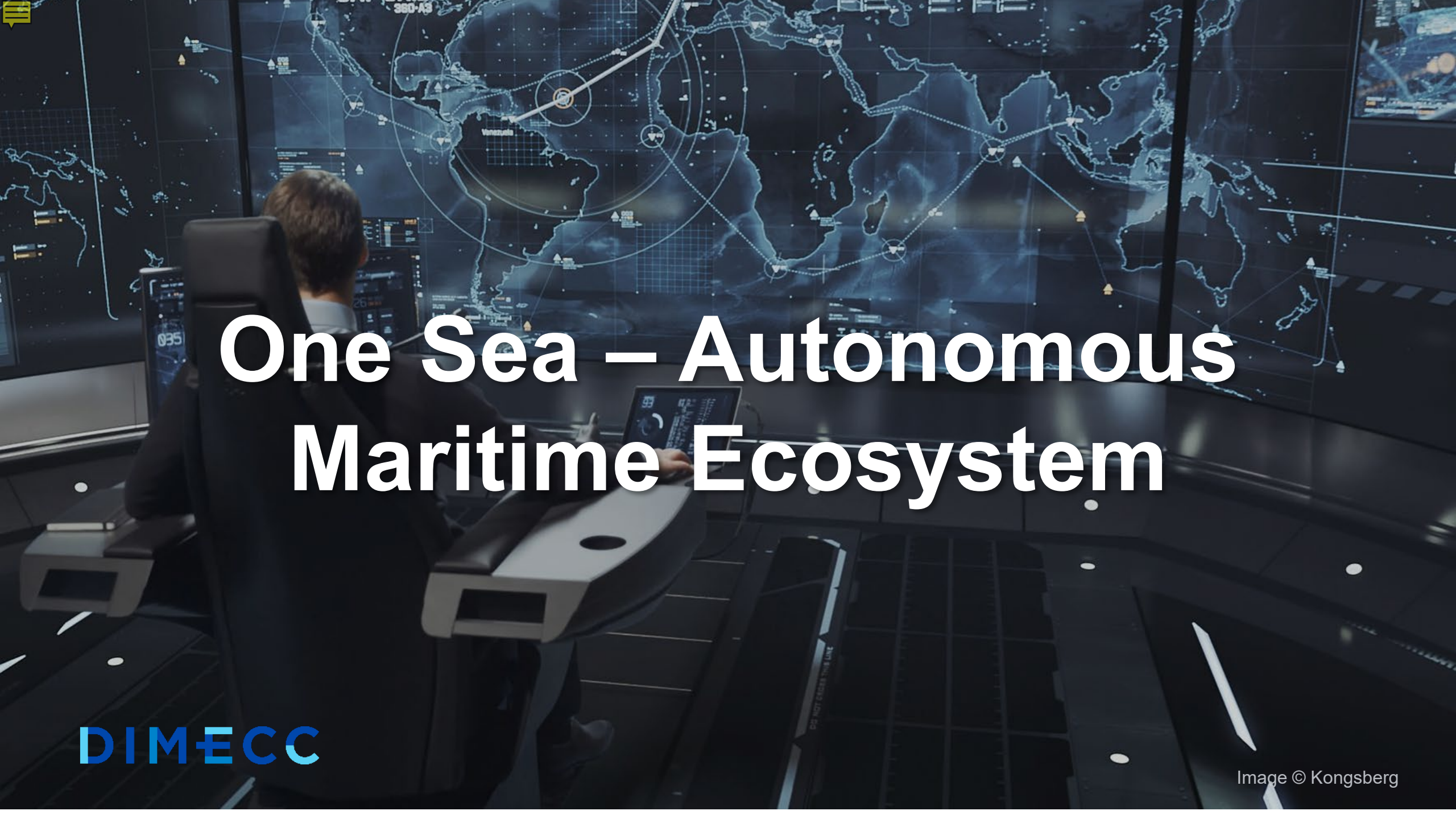


One Sea – Autonomous Maritime Ecosystem

DIMECC

Image © Kongsberg

One Sea Partners

ABB
Cargotec
Ericsson
Finnpilot Pilotage
Kongsberg
Tieto
Wärtsilä

ABB
KONGSBERG
CARGOTEC HIAB · KALMAR · MACGREGOR
tieto
ERICSSON
WÄRTSILÄ
FINNPILOT
Suomen Varustamot
Rederierna i Finland
Finnish Shipowners' Association
Meriteollisuus
Finnish Marine Industries
Suomen Satamaliitto
Finnish Port Association
SHIPBROKERS FINLAND
BUSINESS FINLAND

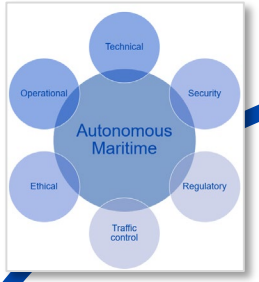
DIMECC One Sea

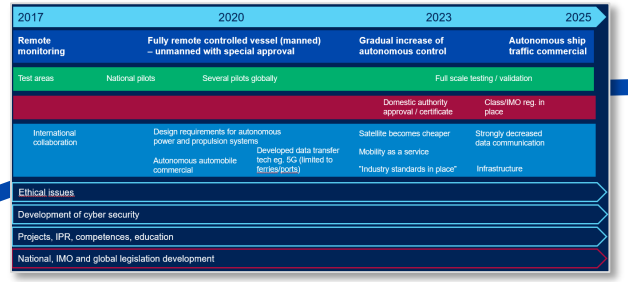
Ecosystem activities

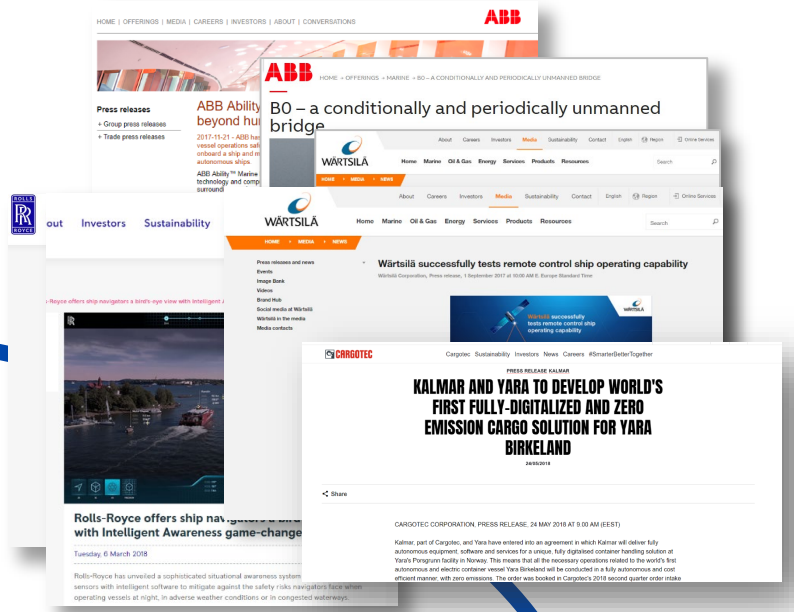
Ecosystem Core Activities	**Vision & Strategy**	**Roadmaps**
Ecosystem Program Activities ***Open to all parties***	Product & service creation	
	Startup ecosystem	
	Pilots, PoC's	
	R&D Programs	
	Rules & regulations	
	Test areas, Labs	

DIMECC One Sea

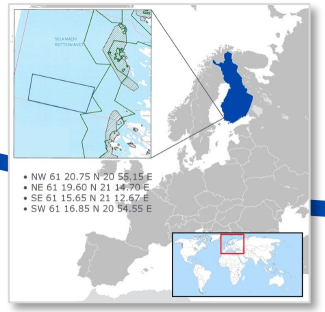
Ecosystem Outcomes 2016-2018

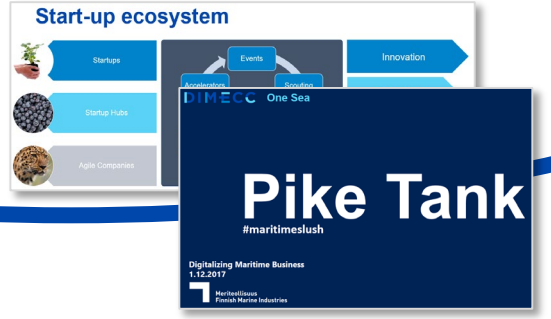


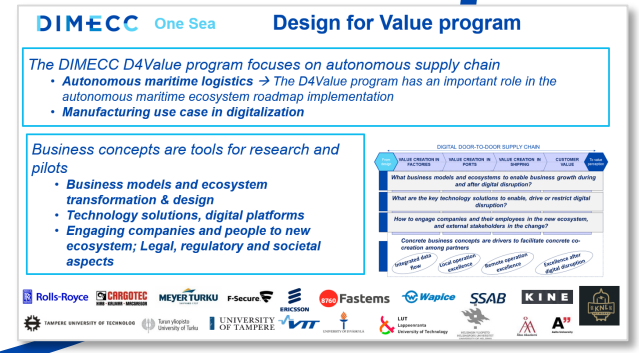




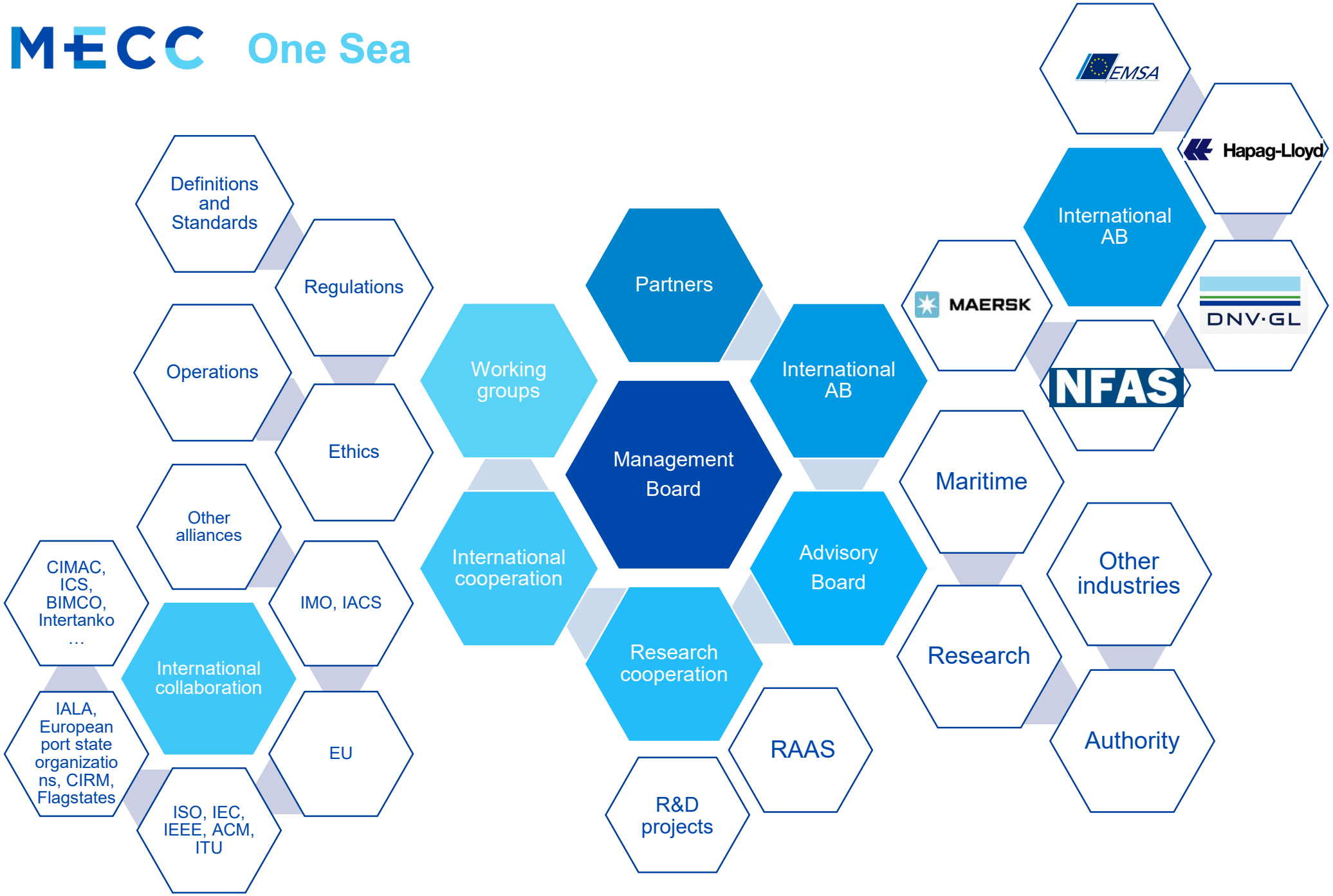
Ecosystem Core Activities	Vision & Strategy	Roadmaps
Ecosystem Program Activities *Open to all parties*	Product & service creation	
	Startup ecosystem	
	Pilots, PoC's	
	R&D Programs	
	Rules & regulations	
	Test areas, Labs	





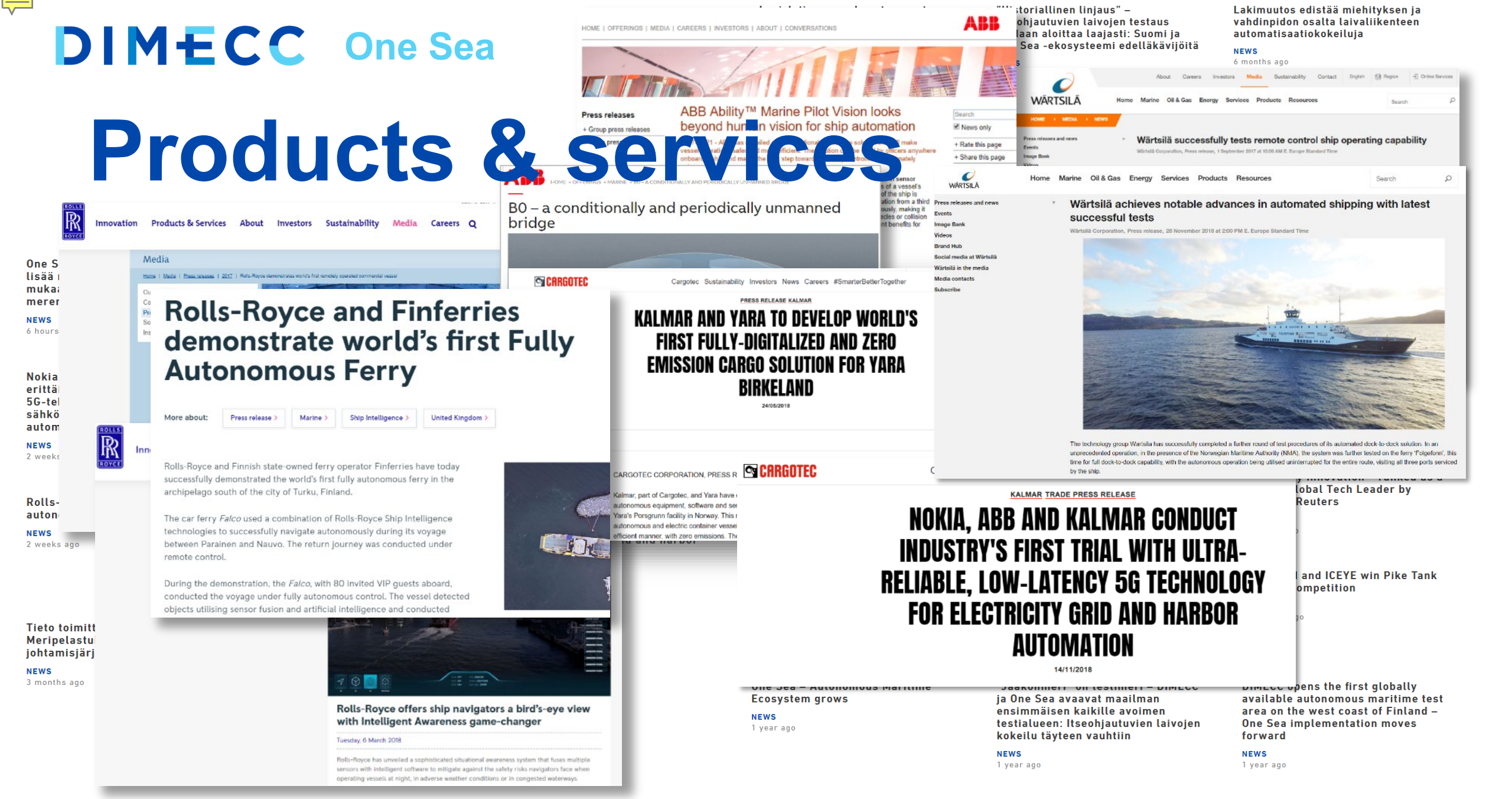


DIMECC One Sea



DIMECC One Sea

Products & services



DIMECC One Sea

Master of Engineering in Autonomous Maritime Operations

https://www.novia.fi/degree-students/master-degree-programmes/master-of-engineering-autonomous-maritime-operations/

§ Amendments to Pilotage Act to allow ePilotage trials

https://www.lvm.fi/en/-/legislative-amendments-to-allow-remote-pilotage-946792

Research alliance for Autonomous Systems

https://www.vttresearch.com/media/news/raas-research-alliance-to-drive-innovation-in-the-automation-of-transport-and-logistics

§ Regulatory changes in manning and watch keeping

https://www.lvm.fi/en/-/legislative-amendment-promotes-automatisation-tests-in-maritime-transport-with-regard-to-manning-and-watchkeeping-976729

Autonomous vessel model tests

https://akerarctic.fi/en/news/press-release-aker-arctic-demonstrates-autonomous-vessel-model-tests

Renewed road ferry strategy

https://www.businessfinland.fi/ajankohtaista/uutiset/2018/uudet-maantielauttaliikenteen-kilpailutukset-kannustavat-ymparistoinvestointeihin/?ref=rns_li

Research projects on autonomous vessels & UAV's

http://techfinland100.fi/category/autonomous-and-collaborative-offshore-robotics-acolor/

Autonomous maritime test areas in number of countries

https://www.oneseaecosystem.net/test-area/

§ IMO Scoping Exercise for MASS

http://www.imo.org/en/MediaCentre/MeetingSummaries/MSC/Pages/MSC-98th-session.aspx

Autonomous Urban Ferry projects

Belgium, Finland, Netherlands, Norway, …

Correspondence group on MASS prior to MSC100

DIMECC One Sea

STRIA Thematic areas and R&I initiatives

1 In-Vessel enablers

- 1.1 Develop & Demonstrate modular Technologies for Smart Connected and Automated Ships aiming at new, safe, reliable and efficient business models

2 Condition and Operational Monitoring

- 2.1. Valorising and optimizing condition data for failure prediction and optimal operations
- 2.2 . Valorising and optimizing cargo and crew data for optimal & safe operations

3 Validation & Large-scale demonstration

- 3.1. Enable first deployment of smart, connected autonomous waterborne infrastructure and vessel solutions
- 3.2. Enable first deployment of piloting at a distance and remote-control harbour services

4 Information Exchange and Certificates

- 4.1 Support Regulatory development/adaption to autonomous shipping
- 4.2 Develop and validate/demonstrate standards for cross platform info sharing
- 4.3 Develop and demonstrate shore-based fleet operation centres and/or IoT adaptation of ship's systems & components to exploit increasing connectivity

5 Socio-economic impacts

- 5.1. Assessment of the socio-economic impact of connected and automated/autonomous shipping (CAT)
- 5.2 Assessment of risk, public and stakeholder acceptance

6 Human Factors

- 6.1. Future expert
- 6.2. Joint activity in distributed teams
- 6.3. Teaming with increasing automation (human-machine interaction) / Human-centred design of maritime automation

7 Physical and Digital Infrastructure

- 7.1 Robust traffic management and Port interaction
- 7.2 Complimenting the physical with the digital

8 Big Data AI and their Applications

- 8.1. AI for improved situation awareness
- 8.2 AI to mine value from big data

9 Secure Connectivity

- 9.1 Ensuring the security and safety of automated and connected shipping and maritime logistics

Main recommendations and research needs

- Integration between traffic forms needed to get the benefits of the new technologies
- Develop and demonstrate modular technologies
- Ensuring the security and safety of the solutions
- Enabling first deployment of infrastructure & vessel solutions
- Support the regulatory development

DIMECC One Sea

DIMECC's co-creation ecosystem One Sea seeks global partners to join the leading co-creation ecosystem.

Join us!

www.oneseaecosystem.net

Päivi Haikkola
Ecosystem Lead
paivi.haikkola@dimecc.com

Jukka Merenluoto
Ecosystem Lead
Jukka.merenluoto@dimecc.com

www.dimecc.com

ABB
KONGSBERG
CARGOTEC HIAB · KALMAR · MACGREGOR
tieto
ERICSSON
WÄRTSILÄ
FINNPILOT
Suomen Varustamot
Rederierna i Finland
Finnish Shipowners' Association
Meriteollisuus
Finnish Marine Industries
Suomen Satamaliitto
Finnish Port Association
SHIPBROKERS FINLAND
BUSINESS FINLAND