



# Disruptive Changes in Mobility

## Case Autonomous Shipping

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Business Finland Smart Mobility Event

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# Rolls-Royce and Finferries demonstrate world's first Fully Autonomous Ferry



## 2018 – The year when autonomous ships became reality

Rolls-Royce and Finnish state-owned ferry operator Finferries have today successfully demonstrated the world's first fully autonomous ferry in the archipelago south of the city of Turku, Finland.

The car ferry *Falco* used a combination of Rolls-Royce Ship Intelligence technologies to successfully navigate autonomously during its voyage between Parainen and Nauvo. The return journey was conducted under remote control.

During the demonstration, the *Falco*, with 80 invited VIP guests aboard, conducted the voyage under fully autonomous control. The vessel detected objects utilising sensor fusion and artificial intelligence and conducted collision avoidance. It also demonstrated automatic berthing with a recently developed autonomous navigation system. All this was achieved without any human intervention from the crew.



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## Disruption in marine market

## 2018 – The year when autonomous ships became reality

- Maritime digitalisation advances in e.g. blockchain services
- IMO in the process of amending international regulations
- First autonomous cargo ship newbuilding ordered
- First autonomous ship operator established
- Finland changed its legislation for testing autonomy
- One Sea Autonomous Maritime Ecosystem started phase 2
- Several companies in Finland lead in autonomy development
- First products: Autocrossing, Autodocking, Intelligent awareness
- First remoteley operated and autonomous ferry voyage
- Autonomous ships impact defence solutions: swarms



## SVAN - A historical milestone in digitalisation for the marine industry

SVAN is a demonstration of the world's first fully autonomous ferry with a focus on improving the safety and efficiency of vessel operations and supporting the crew.





## A strong partnership with a common purpose to push the boundaries of technology

SVAN marks a long collaboration and the implementation of findings from the earlier Advanced Waterborne Applications (AWA) research project, funded by Business Finland.



**2015**

Advanced Autonomous Waterborne Applications (AWA)



**2017**

AAWA completion



**May 2018**

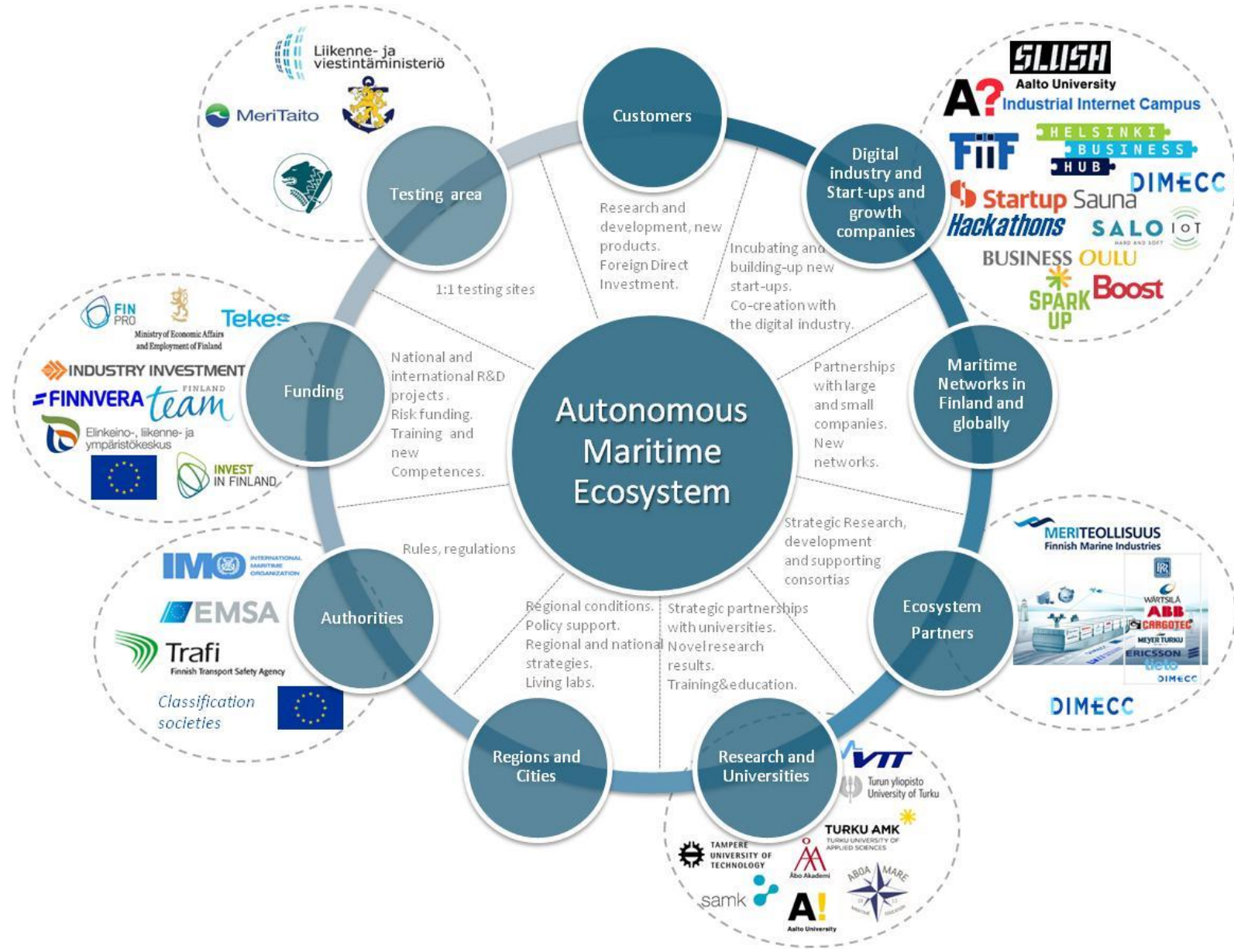
SVAN initiation agreement



**Dec 2018**

SVAN Demonstration

## ONE SEA Autonomous maritime ecosystem



<https://www.oneseaecosystem.net/>



## Disruption in marine market

## 2019 and beyond – Autonomous systems technologies and opportunity for Europe

- Seek industrial collaboration for global impact
- Be a frontrunner market in demos and holistic adaptation
- Use autonomous solutions to boost up marine tech development
- Consolidate public and private funding for impact
- Thematic programmes valuable to solve large questions
- Establish first commercial operations
- Utilise strengths – ICT, maritime domain, 5G, aerospace,...
- Use technology for global opportunities
- Communicate appropriately (autonomy happens stepwise)



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