



Ministry of Infrastructure  
and Water Management

**THERE IS NO  
INNOVATION  
WITHOUT  
EXPERIMENTATION**

## Regulating experiments with Smart Shipping in The Netherlands

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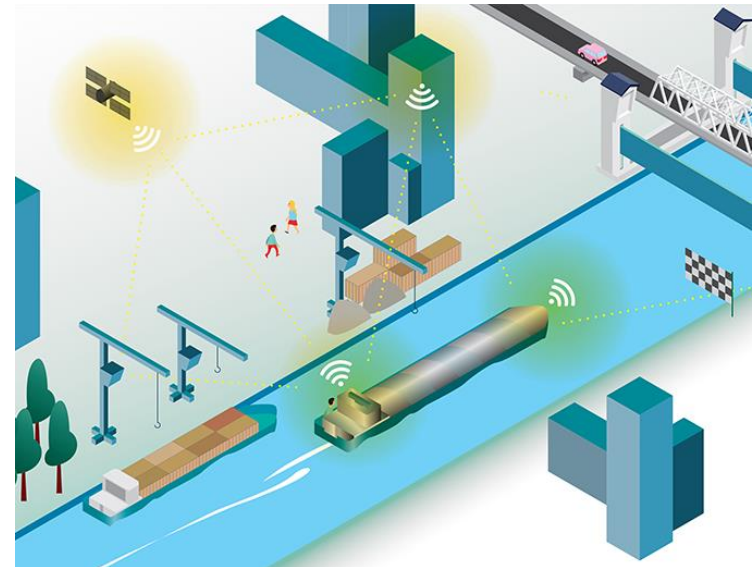
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## Smart Shipping

“Smart Shipping is (accommodating) **highly automated sailing** at sea and on inland waterways, which contributes to the **competitiveness, safety** and **sustainability** of the maritime sector.”





## Legitimacy & Ambition

30 november (minister Van Nieuwenhuizen):

*"The Netherlands is an **innovative** country. This is why I will widen the **legal scope** to allow for experimenting and testing on our **inland waterways** and the **12 mile zone** at sea. We will assess under what conditions experimenting can be done together with our executive agency and transport inspectorate. I will also put this on the agenda in our international bodies."*



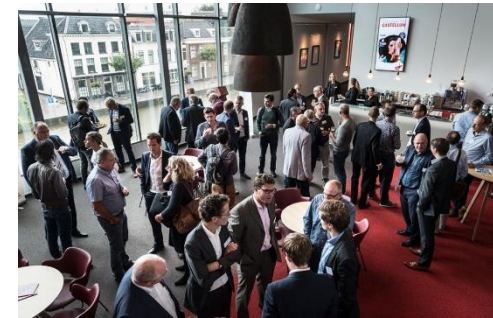
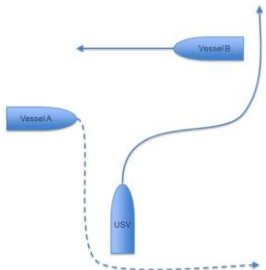
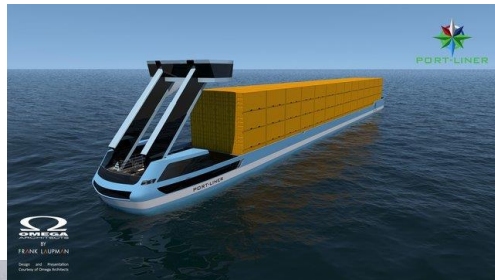
**increase competitiveness, safety and sustainability**

7.3% of GDP | 224,000 jobs | added value €21 billion

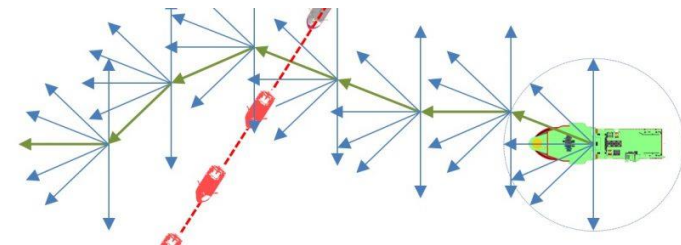
Port of Rotterdam | inland fleet biggest EU market share



# Approach



*From 0 to 750+ members within 6 months*



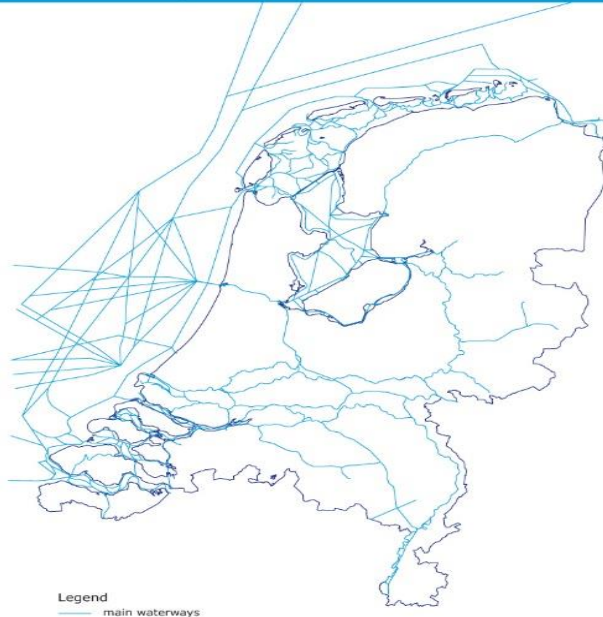


## Smart shipping is not unique ...

- Other transport modalities have similar questions:
  - Drones
  - Selfdriving cars
  - Automated trains
- These questions are diverse:
  - Safety and certification
  - Technique and regulation
  - Liability and responsibility
  - Privacy
  - (Cyber)security
  - Social security
  - Experimenting and test areas

# Experiments: legal framework

## Main waterway network



- 2,137 km of canals and rivers
- 5,472 km of waterways in open water
- 84 locks
- 278 bridges

- Every inland waterway
- Application at single contact point ([loket.smartshipping@rws.nl](mailto:loket.smartshipping@rws.nl))
- Project plan and risk assessment
- Tailor-made permission of minister for events that may endanger safety
  - Assessment by interdisciplinary team
  - If necessary: extra conditions from waterway manager
- Request for evaluation of experiment

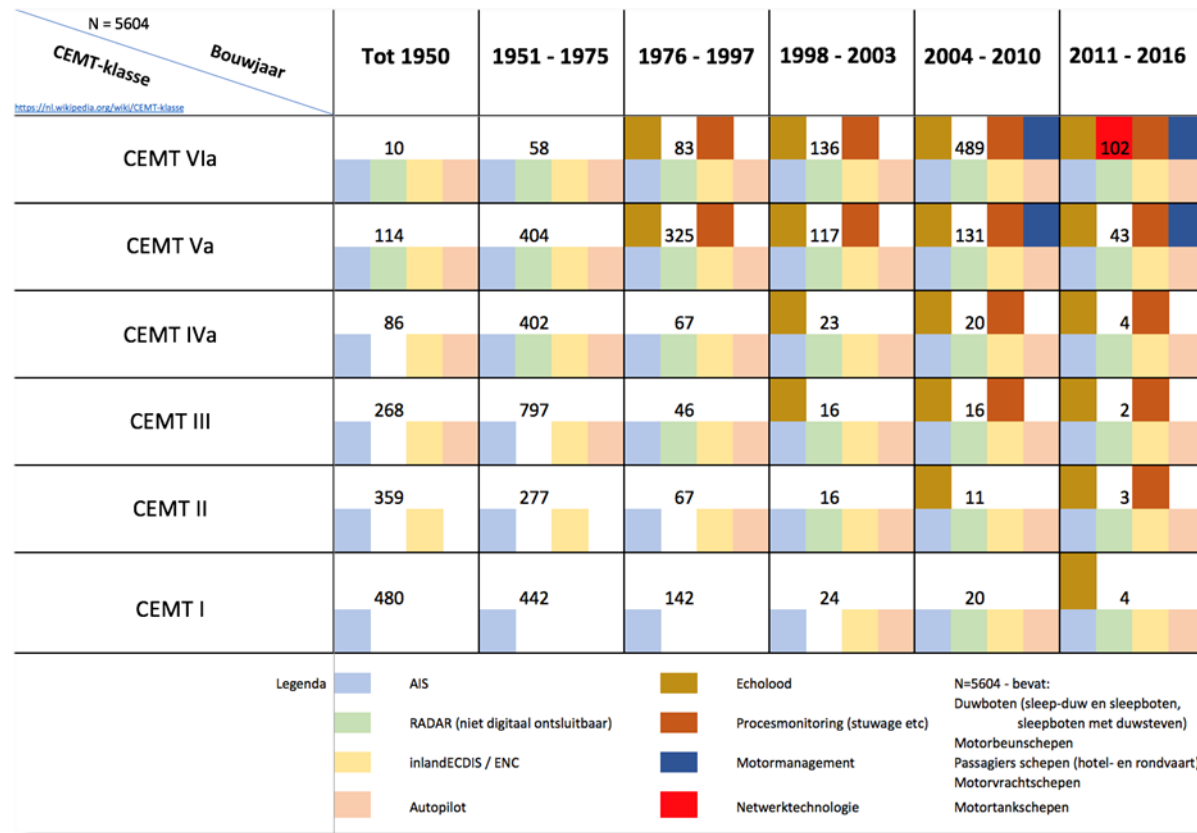


## ... but different in some ways

- Different vessels: inland and sea, passengers, cargo, pleasure
- Different purposes: safety, transport, traffic, security, fishing
- Difference between flag state, port state and coastal state
- Different international conventions, EU-rules and national rules
- Legislation is detailed on many different matters and contains diverse obligations
- Life span of a ship is long



# Levels of Autonomy: from support to taking over





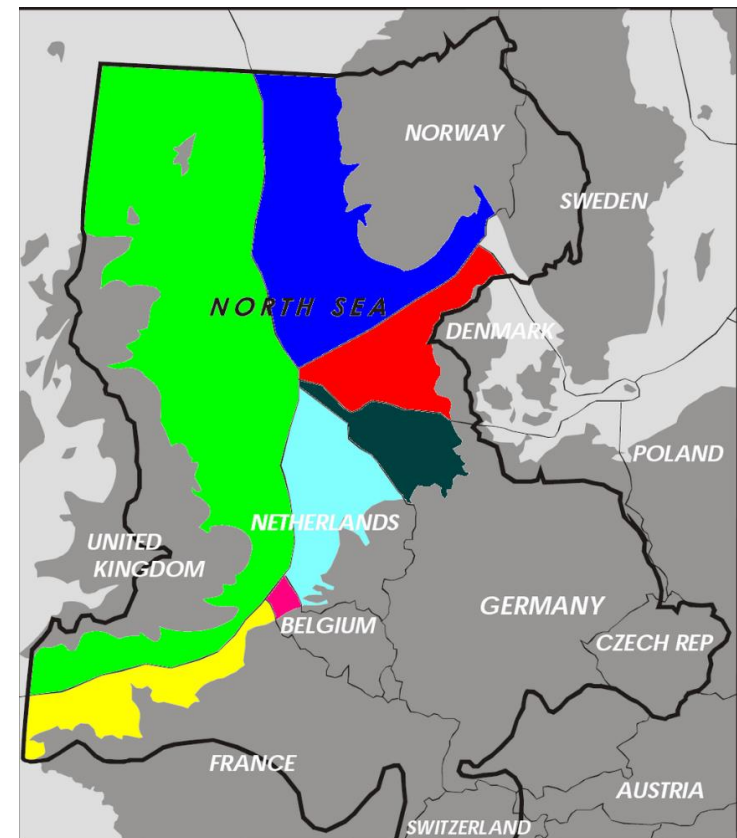


# Challenges

- What can we offer a private sector which is ready for more than experimenting?
  - ‘Proven technology’
  - High risk investment with uncertainty regarding future policy and legislation
- How can we safeguard public values by regulating Smart Shipping innovations?
  - Reliable traffic management and smooth sailing
  - Public safety
  - Sustainability
- How should we deal with national laws drafted without eye for ‘sci-fi’ future?
  - Autonomous
  - Unmanned
  - Drone ships
- How should we deal with traditional international law in relation to national law?
  - Inland navigation (EU/CCR competence)
  - Seagoing (IMO)

## International cooperation: Smart North Sea

- Confirmed members: **UK** and **NL**  
Looking for: BE, DE, DK, NO  
(operational and legal representatives)
- Ambition:
  - **Facilitate** smart shipping (on sea)
  - **Learn** from tests and commercial Smart Shipping
- Operational goals:
  - **Enable tests** with ships with different levels of autonomy on the North Sea (including unmanned and autonomous)
  - Allow for **commercial smart shipping**
  - **Set up a framework** for tests and commercial smart shipping





# International cooperation: PIANC Working Group

World Association for Waterborne  
Transport Infrastructure

Working group (BE/NL proposal)

- Establish a common understanding of Smart Shipping
- Collect, analyse and consolidate current research
- Identify possible future scenarios
- Identify knowledge gaps



Interested?

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