

Dangerous goods on remote controlled barges seen from cargo owner perspective

Dodrecht, 1-October-2026

1. Crew shortage

Significant amount retire coming years

Influx of new people not sufficient

First stage barges to sail A1 or A2 mode

Later stages possible disruption due to not enough crew



2. Increased risk

Faster promotion + less time for proper training

Increases risks for incidents

Youngsters not enough time to quality in depth training

Public license to operate

3. Impact

Economical on EU level

Shortage = higher wages / less reliable supply chain

Further reverse modal shift due to availability

Rail and road not possible to absorb all

The bigger picture;
EU less attractive

4. Remote control

Potential crew optimization

New working modes possible

Safeguard of supply chain

Emissions

Cargo op's

Incident coordination

5. New risks

Cyber security / Cyber Safety / Operational

New types of incidents

Geopolitics

6. New measures

Adjustment of audits and inspection schemes

New legislation / new standards

Learning from incidents

Learning from past experiences with new technologies (TGAIN)

In depth Risk Assessments

Start high level – we can always lower the bar later

7. How can cargo owners support?

It takes two to tango

Policing
Standards
Insurance checks
Testing

Outlook

Coming decade

- Autonomous (China Reefer)
- Crew Reduction onboard
- Crew Assistants digitally
- Cargo after Navigation
- AI hype – the aftermath
- Authorities... catch up, fast.





We create chemistry