SFI · AUTOSHIP

Autonomous ships

Kunnskap for en bedre verden

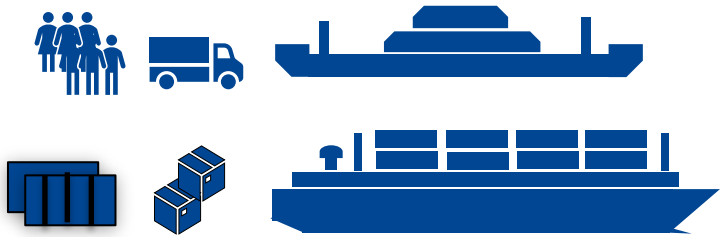
A **new 8-year research-based innovation Centre** within Autonomous Ships for Safe and Sustainable Operations

Presenter: Director & Professor Mary Ann Lundteigen

Centre objective and scope

"develop and manage technologies, systems and operations for safe, sustainable, secure and cost-effective autonomous sea transport operations"

- Part of research-based innovation centre scheme ("SFI"):
  - Strengthen cooperation companies & research groups
  - Enhance internationalization
  - Encourage and strengthen researcher training & knowledge transfer
- Long-term (8 years) research in selected areas aligned with selected use cases
- Budget: 24M Euro



- No crew
- Reduced crew
- Remote monitoring
- Remote control

Centre objective and scope

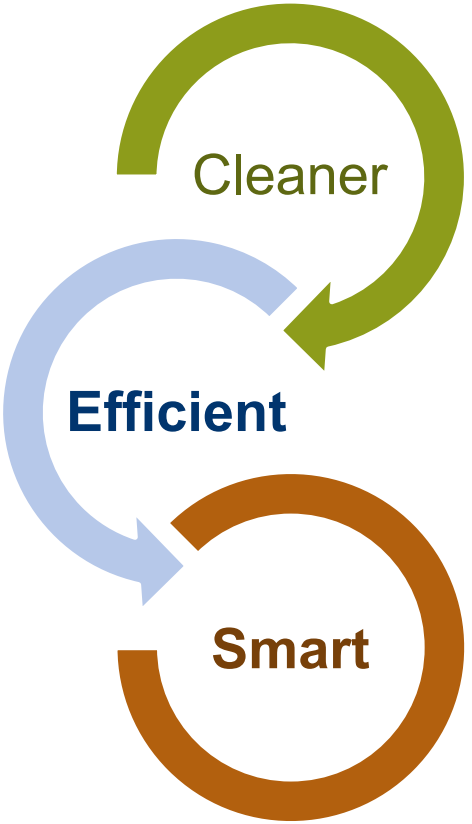
"develop and manage technologies, systems and operations for safe, sustainable, secure and cost-effective autonomous sea transport operations"

- 23 partners covering several sectors
- Multi-disciplinary
- Researcher training:
  - 20 PhDs & 5 Post Docs
- Knowledge transfer:
  - Active collaboration with partners
  - > 100 master students

Why SFI AutoShip?

- **Industry perspective:**
  Support the ongoing transformations:
  - General trends in shipping
  - Strategic priorities in EU

- **Research perspective:**
  Gaps to close that need long-term focus:
  - Beyond the horizon of commercial projects
  - With multidisciplinary effort
  - Including education of people



Five research areas & four use cases

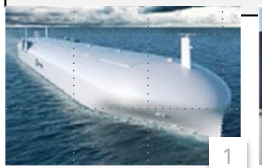
Developing autonomy that manage complex environments

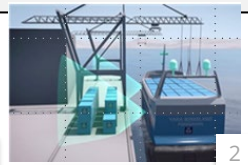
Optimizing communication capacity for robustness and security

Monitoring from shore – Design and operation with people in new roles

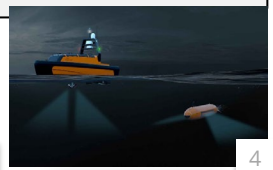
Ensuring sustainability of total transport solution

Use cases


1 G2Ocean


2 NCL


3 Torghatten


4 Equinor

Incorporating risk and safety management in design and operation

Illustration/photos: 1,2,4: Kongsberg, 3: Torghatten

Thanks for your attention

Questions?

www.ntnu.edu/sfi-autoship

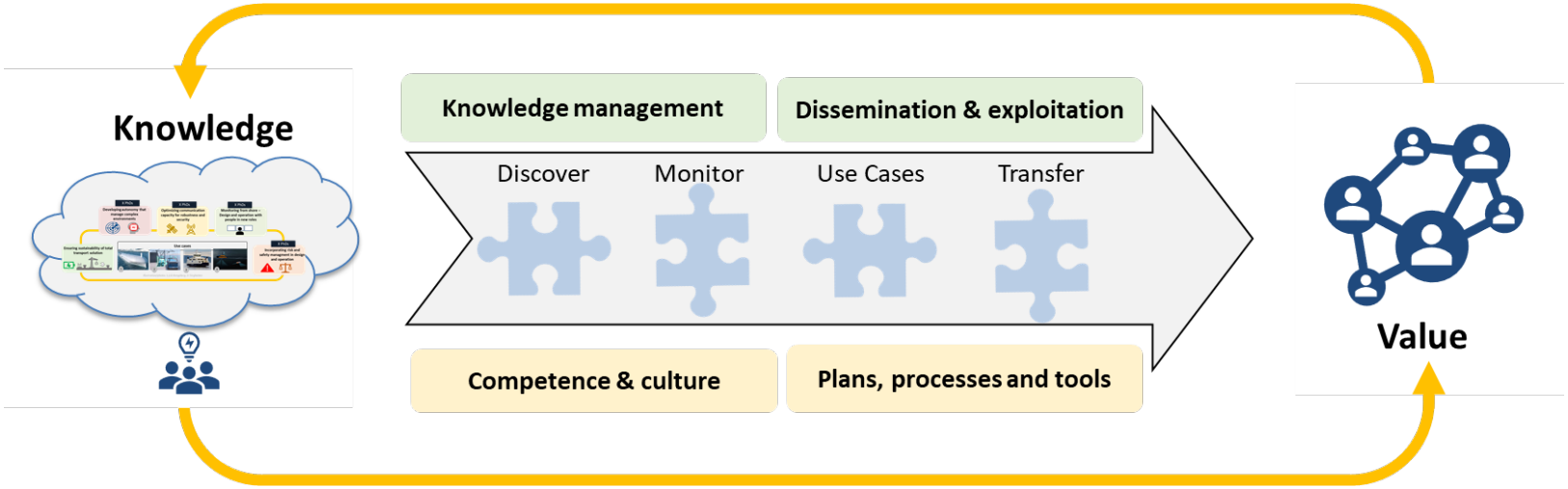
SFI· AUTOSHIP
Autonomous ships

Look inside

Innovation and technology transfer

Research partners

Use partners (industry, public)



Research disciplines to collaborate

NTNU
Norwegian University of Science and Technology

- Ocean Operations and Civil Engineering
- Engineering Cybernetics (host)
- ICT & Natural Sciences
- Electronic systems
- (Interaction) design
- Marine technology

- Maritime law

SINTEF

- Mathematics and cybernetics
- Energy and transport

IFE

- Risk, safety and security
- Control room and interaction design

All active in research related to maritime and autonomy