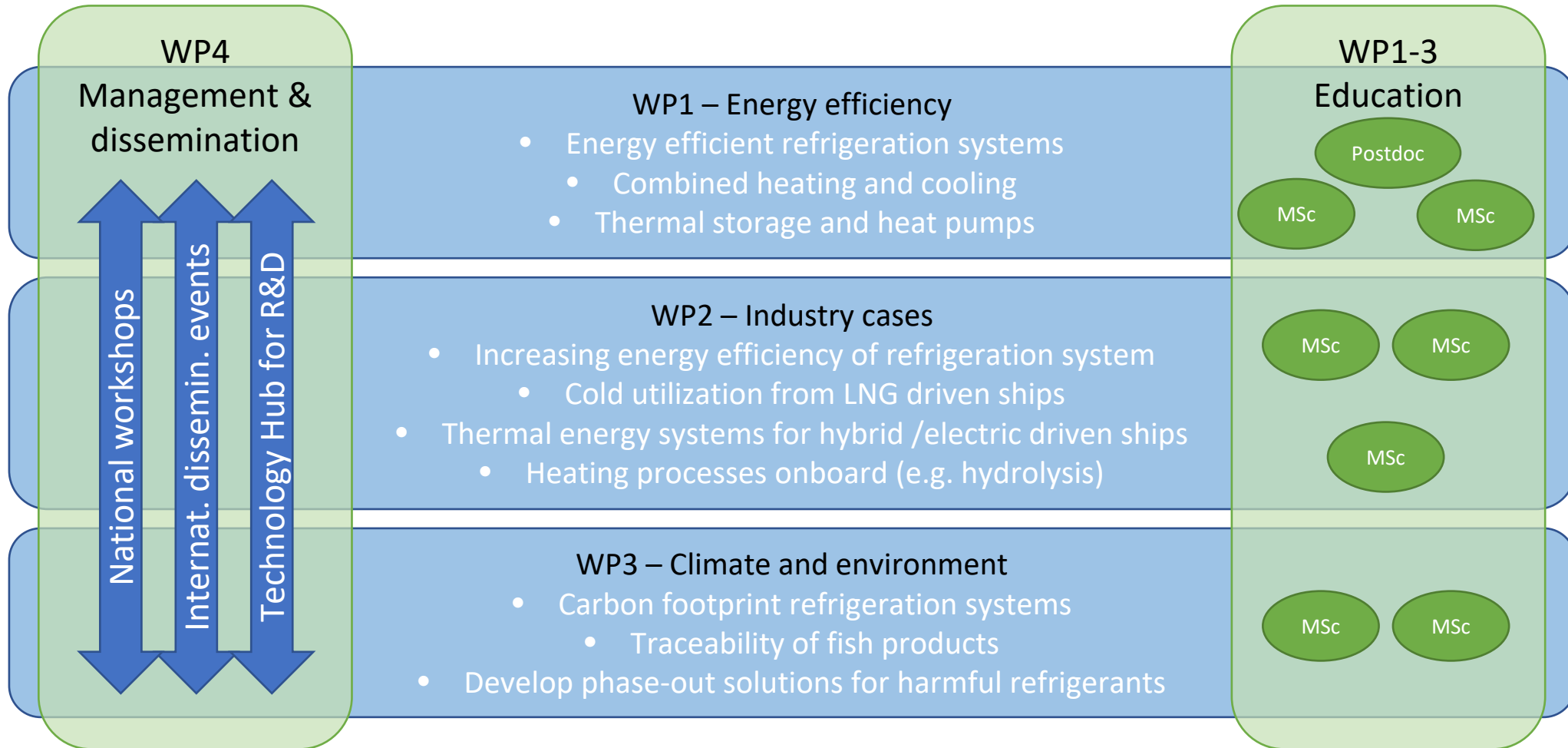




CoolFish

Energy efficient and climate friendly cooling,
freezing and heating onboard fishing vessels



project period: 2019 - 2023

Participants and funding

- Management group
 - SINTEF Ocean
 - NTNU
 - SINTEF Energy Research
- Industrial reference group
 - MMC First Process
 - Ulmatec Pyro
 - Selvåg Senior/Sørheim Holding
 - Gasnor
 - Øyangen
 - Perfect temperature group
 - Danfoss
 - Isotherm Inc. (USA)
- Scientific reference group
 - International Institute of Refrigeration
 - London South Bank University
 - Johnson Controls Denmark
- Project funding
 - The research council of Norway (ENERGIX)
 - Industry contributing with 20 %

Ongoing activities

- Modelling, simulation in Modelica
- Measurements at fishing vessel (ammonia system)
- Laboratory work (CO₂ system)
- Dissemination, workshops and meetings

- Questions?

- Increase energy efficiency
- High product quality
- Low carbon emission
 - LNG -> other alternatives
 - natural refrigerants
- Integrating systems
 - heating and cooling

Presentations

- Energy efficiency in fish processing (Tom Ståle Nordtvedt, SINTEF Ocean)
- Natural refrigerants (Trygve Eikevik, NTNU)
- Utilization of cold from LNG (Muhammad Zahid Saeed, NTNU)
- Cold Chain Technology Brief on fishing vessel application (Didier Coulomb, IIR)
- Further work and other projects (Kristina N. Widell, SINTEF Ocean and Alex C. Pachai, Johnson Controls)

Other related projects

- Optikjøl (closed) – Improving chilling systems onboard
- CruiZe (started this year) – Develop innovative and energy efficient solutions for hotel power demand of cruise ships
- Electrification of fishing vessel (started this year) – develop system solution for a costal fishing vessel
- INDEE+ (application) – part of it will include fishing vessels in India

Other projects and activities

Alexander C. Pachai (Johnson Controls)

Further work in CoolFish

- Measurements and testing
- Modelling and simulation
- Close collaboration with industry
- Workshops during IIR conferences
- Industry workshops
- Open for more partners from industry
- Maritime refrigeration technology hub



Contact

Kristina N. Widell: kristina.widell@sintef.no

Thank you for your attention!