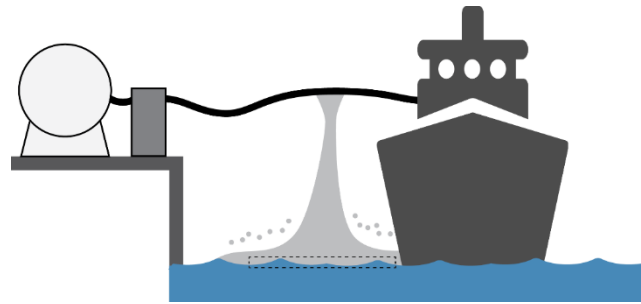




Safe handling of gaseous and liquid hydrogen

Final project workshop - May 3rd & 4th 2022





Safe handling of gaseous and liquid hydrogen

Program - Final project workshop - May 3rd & 4th

Day 1 May 3rd, session 1

09:00 **Welcome, introduction of the SH₂IFT project** (SINTEF)

09:15 **Liquid hydrogen BLEVE experiments**
(K.v. Wingerden/Gexcon)

09:45 **Liquid hydrogen RPT experiments**
(K.v. Wingerden/Gexcon)

10:15 Break

10:30 **Liquid hydrogen RPT modelling** (L. Odsæter, SINTEF)

11:00 **Liquid hydrogen BLEVE modelling** (F. Ustolin, NTNU)

11:30 Lunch

Day 1 May 3rd, session 2

12:30 **NORLED LH2 ferry** (Ø. Knudsen, Gexcon)

13:00 **PRESLHY project** (M. Kuznetsov, KIT)

13:30 **DNV LH2 experiments for Norwegian ferry project**
(D. Allason, DNV)

14:00 Break

14:15 **Panel discussion LH2 safety** (R&D, industry, authorities...)

15:15 **Hydrogen safety from liquid to gaseous**
(O. Hansen, HYEX Safety)

15:30 **Summary of the first day**

15:45 **End of day 1**



Safe handling of gaseous and liquid hydrogen

Program - Final project workshop - May 3rd & 4th

Day 2 May 4th, session 3

- 09:00 **Welcome to day 2** (SINTEF)
- 09:10 **Public acceptance of hydrogen** (C. George, TØI)
- 09:40 **Gaseous hydrogen jet-fire experiments**
(C. Meraner, RISE)
- 10:10 **Gaseous hydrogen jet-fire modelling**
(D. Muthusamy, Gexcon)
- 10:40 Break

Day 2 May 4th, session 4

- 11:00 **HyTunnel** (A. Gaathaug, USN)
- 11:30 **Panel discussion GH₂ safety** (R&D, industry, authorities...)
- 12:30 **Project summary** (SINTEF)
- 12:45 **SH₂IFT 2** (T. Aarhaug, SINTEF)
Safe Energy Carriers - Safen JIP (L. Fløttum, Safetec)
- 13:00 **End of workshop**

SH₂IFT - Safe Hydrogen Fuel Handling and Use for Efficient Implementation



- Increase competence within safety of hydrogen technology, gaseous and liquid
- Focus on handling and use of large volumes and within closed and semi-closed environments and in maritime transport
- Identify obstacles and bottlenecks for early implementation of H₂ as fuel.

=> Recommendations and guidelines for technical safety and public information



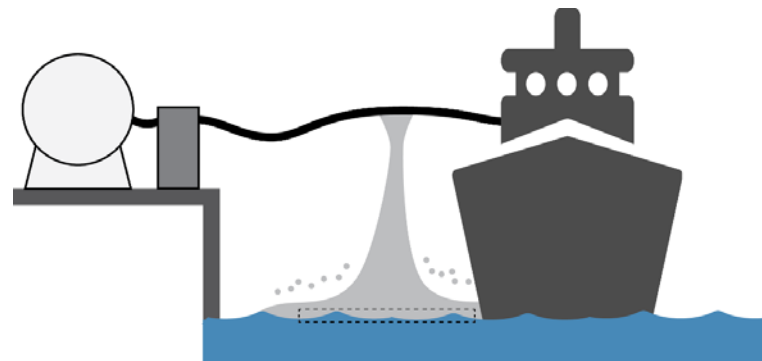
Research activity

- Study concerns and potential barriers regarding introduction of hydrogen technology.
- Experimental work on jet fires, RPT and BLEVE, as input to modeling activities and guidelines.

Jet Fire



Rapid Phase Transition (RPT)



Boiling Liquid Expanding
Vapour Explosion (BLEVE)

cmr
Christian Michelsen Research

GEXCON

NORCE

toi RI
SE

NTNU

SINTEF

Dissemination and publications

Project website: www.sh2ift.com

Webinars: www.greenH2webinars.eu



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