



FLAGSHIPS

Is FCH becoming a must have maritime alternative?

Hamburg – 24/10/2019

Project overview

AMBITION: Illustrate the business viability and promote social acceptability of zero-emission shipping based on hydrogen and fuel cells

FEATURES

Total Budget: 6.8 MEUR
Duration: 4 years, 2019-2023



A total of 1 MW installed on-board fuel cell power



On-site hydrogen production with electrolysis powered by renewable electricity



Project objectives

- Raise the global readiness level of hydrogen-powered zero-emission waterborne transport
 - Develop and deploy H₂+FC vessels in two commercial applications
 - Reach runtime of at least 18 months in day-to-day operation
 - Drive the uptake of H₂ fueling infrastructure for hydrogen vessels
 - Develop and strengthen supply chains for the marine FC & H₂ technology
 - Clarify approval practices for hydrogen ships

Two hydrogen flagships

VESSEL 1:

LYON

GASEOUS HYDROGEN

A push-boat operating as a utility vessel on one of the most demanding rivers, the Rhône.



VESSEL 2:

STAVANGER

GASEOUS HYDROGEN

A passenger and car ferry operating as part of the local public transport network.



New builds to replace



Passenger & car ferry

- Stavanger area Norway
- 600 kW FC power



Pusher

- Lyon, France
- 400 kW FC power

Timeline

Specification

Design

Build

Test & approval

2019-2020

2021-2022

Operation in commercial service

Project consortium

Overarching

- VTT
- Ballard
- Persee
- NCE Maritime Cleantech

Team Stavanger

- Norled
- LMG Marin Norway

Joining soon...

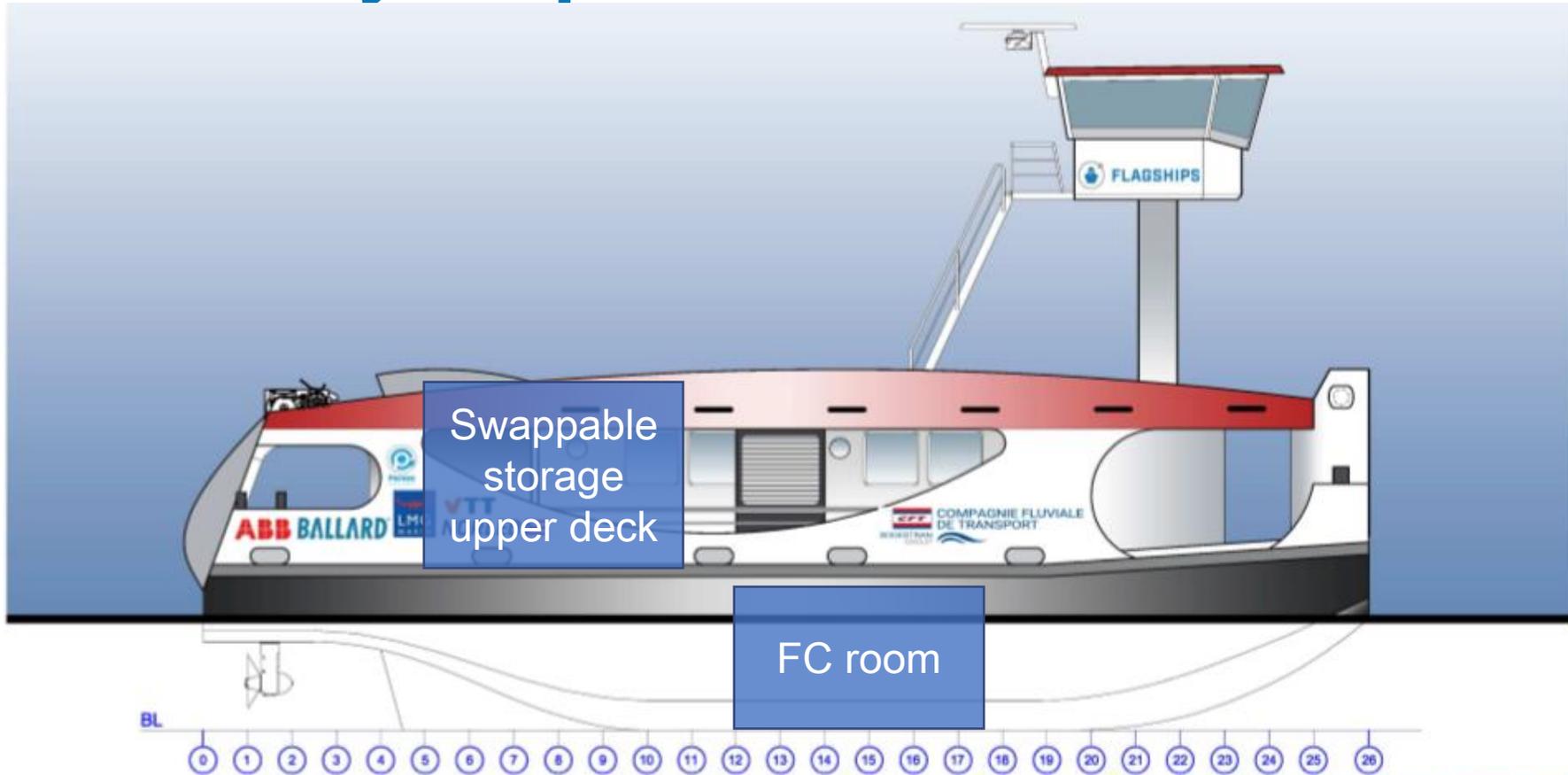
- Westcon P&A

Team Lyon

- CFT
- ABB
- LMG Marin France



Focus on Lyon pusher



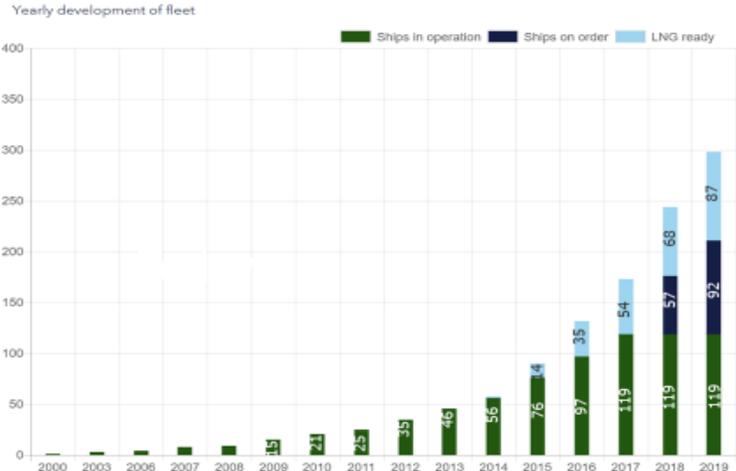
Techni Carène

NAVAL ARCHITECTURE
& ENGINEERING

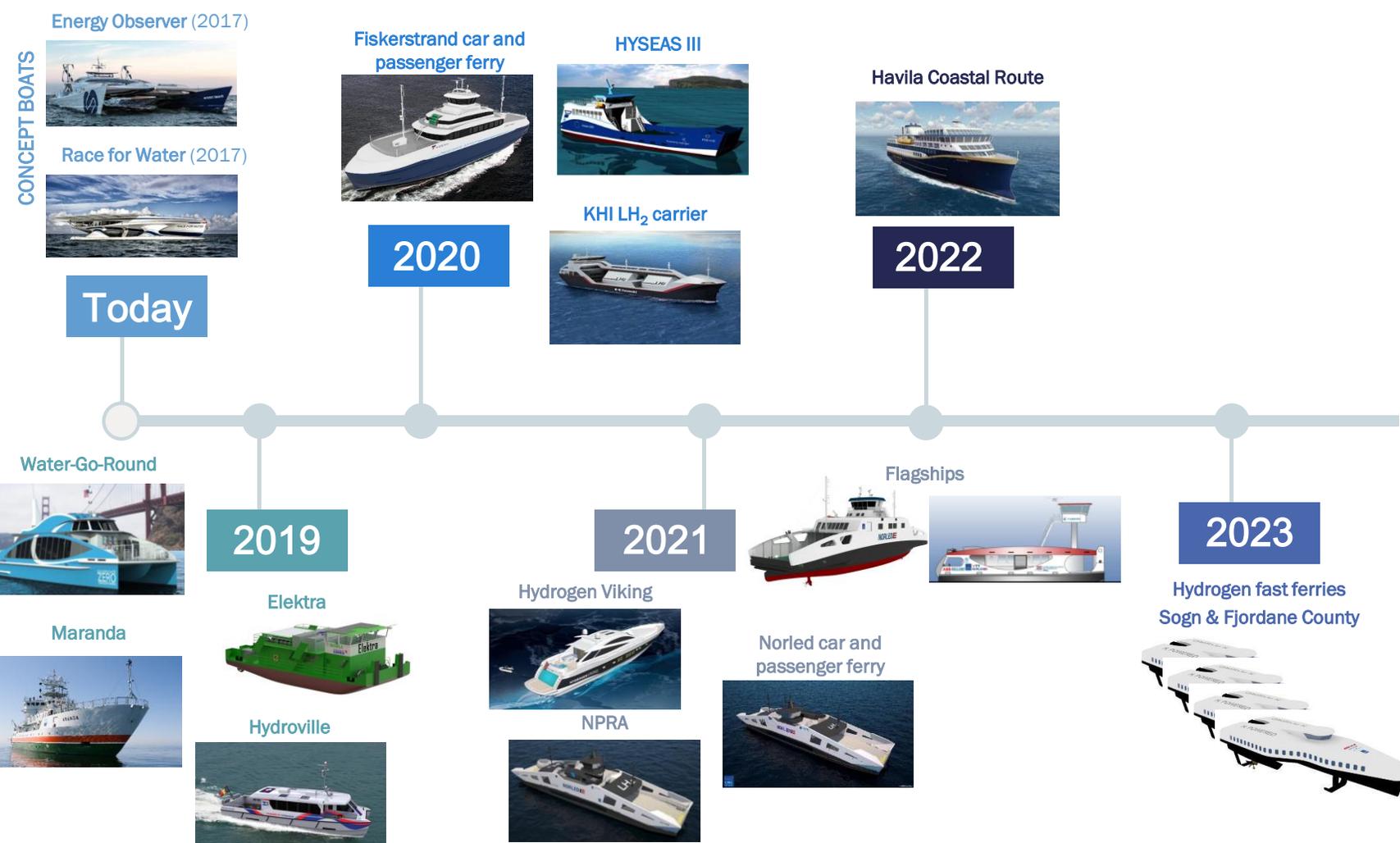
FLAGSHIPS H2-PUSHER

CFT COMPAGNIE FLUVIALE
DE TRANSPORT
SOGESTRAN
GROUP

FCH vessels are accelerating



with respect to LNG development



Contact points

- Coordinator: VTT Technical Research Centre of Finland Ltd.
 - Antti Pohjoranta, antti.pohjoranta@vtt.fi, tel. +358-40-5709825
- HFC supervision: Persee
 - Laurence GRAND-CLEMENT, lgc@pers-ee.com



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www.flagships.eu

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