



# Nedstack

FUEL CELL TECHNOLOGY



**H<sub>2</sub>FC: Marinised multi-MW**  
required for trans-oceanic shipping

**ShipZERO30 @ LISW2025, LONDON**

Jogchum Bruinsma, Commercial Director – Nedstack Fuel Cell Technology

# Technology & Engineering Services Portfolio



PEM Fuel Cell Excellence from Powder-to-Power

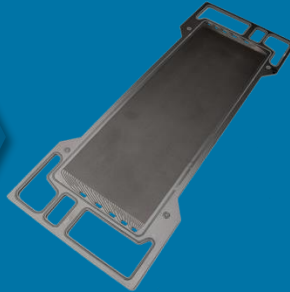
Fuel Cell Parts

Fuel Cell Solution

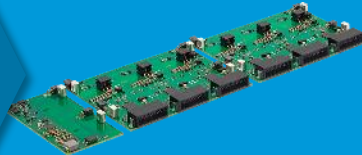
**BMC's**



**BBP**



**CVM**



**PEM Stacks**



**Power Plant**



**FC Control**



Application Engineering & Project Management Services

Field Engineering Services (Commissioning / Inspection)

Maintenance & Support Services

# Project References: Marine

20 years of experience in marine fuel cell applications



2007

2020



2023

2023



2023

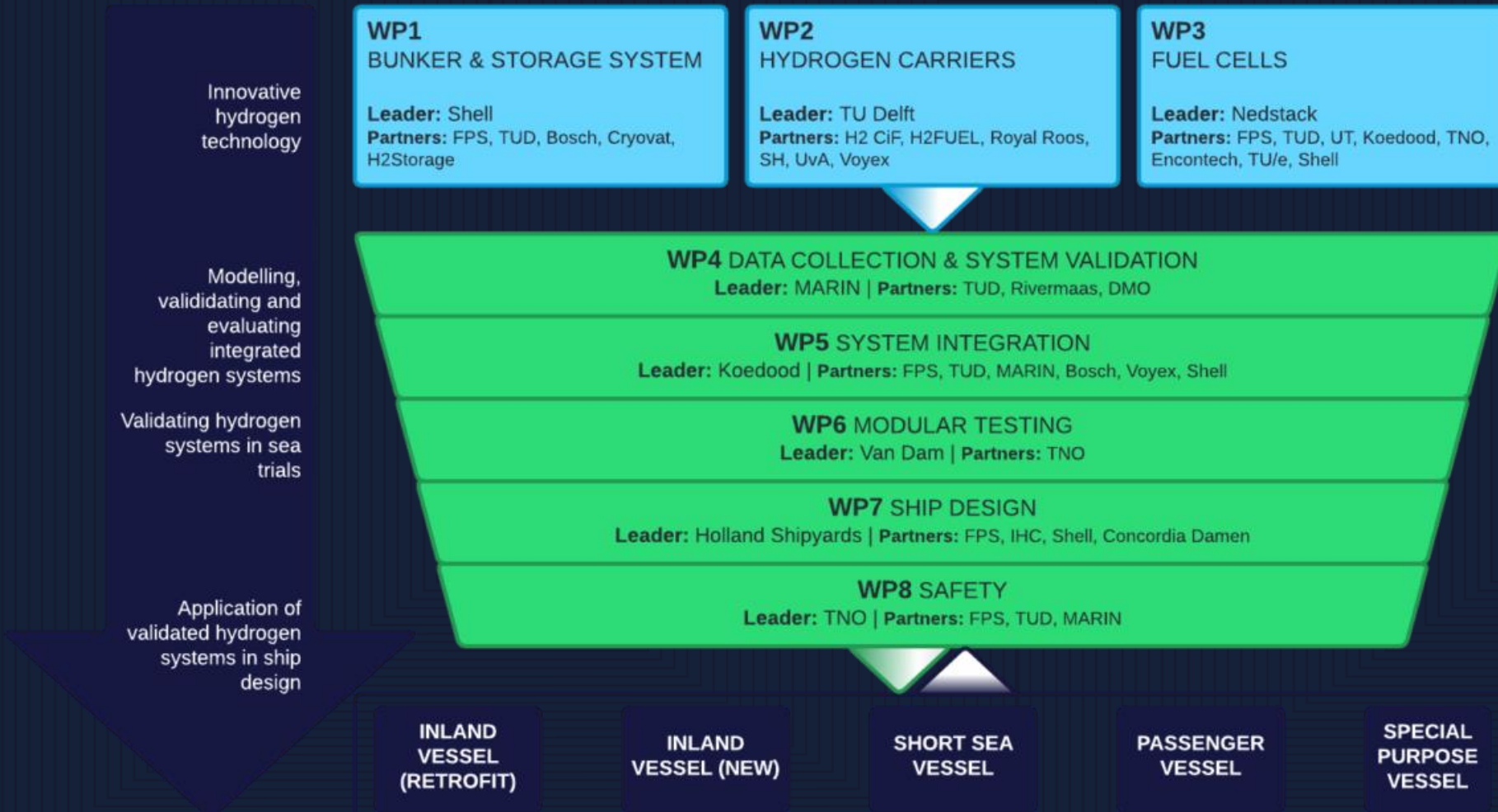


# Research & Development: SH<sub>2</sub>IPDRIVE

Developing a next generation of maritime fuel cells



**SH<sub>2</sub>IPDRIVE**  
HYDROGEN FOR MARITIME



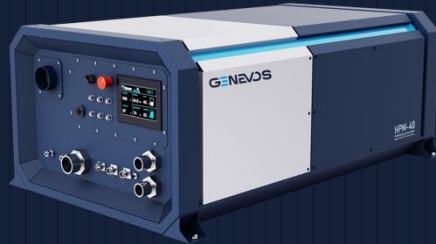
**MARITIEM  
MASTERPLAN**  
NET ZERO 2030



Rijksdienst voor Ondernemend  
Nederland

# Marine Fuel Cells – proven track records & close-2-market developments

Fuel cells for auxiliary and leisure evolved into mature building blocks and now towards MW scale

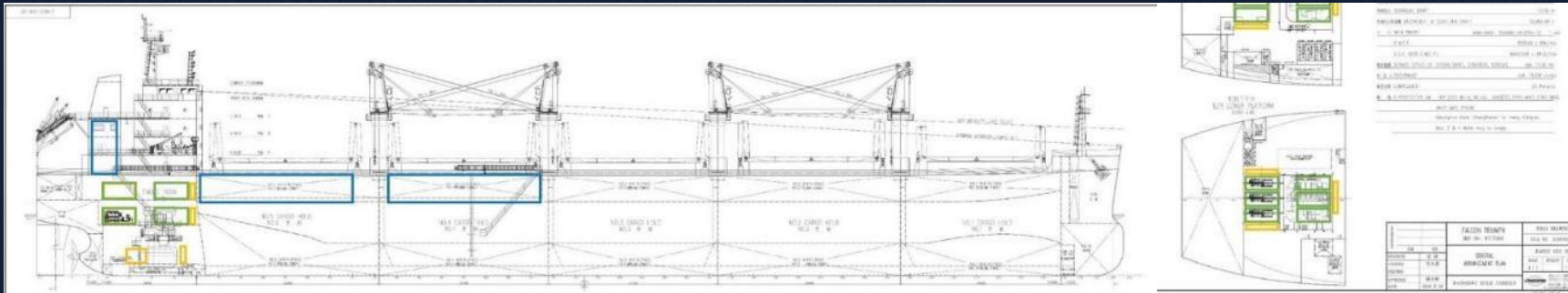


- ◇ Maximum continuous power: 900 kW @ 50% net
- ◇ Nominal continuous power: 700 kW @ 52% net
- ◇ Integrated DC/DC converter: 800 VDC output
- ◇ Footprint: 4 [m<sup>2</sup>]
- ◇ Height: 2,1 [m]
- ◇ Weight: 4300 [kg]
- ◇ Hydrogen inlet pressure: > 2 bar
- ◇ Market introduction: Q2 – 2025



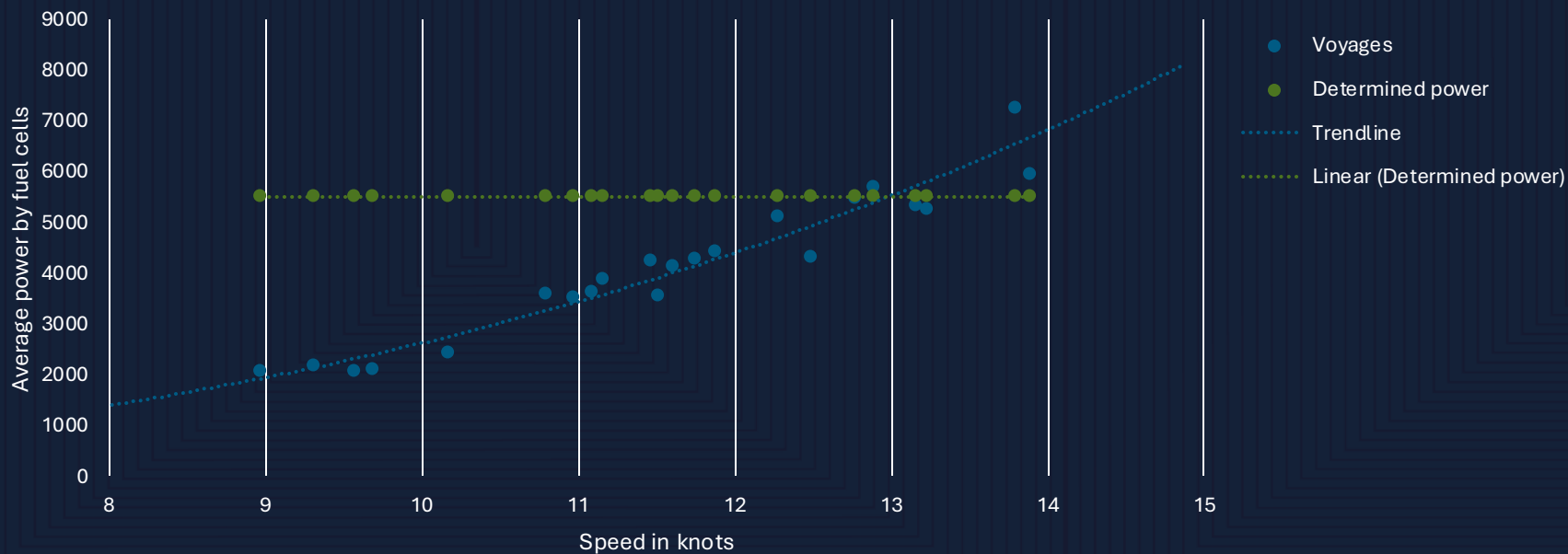
# Handymax bulk carrier - General arrangement

Only existing spaces repurposed, without vessel optimisation, 90% of voyages without emissions



## CHARACTERISTICS

- ◇ Length: 199 [m]
- ◇ Breadth: 32 [m]
- ◇ Depth: 18,5 [m]
- ◇ Draught: 11 [m]
- ◇ Main engine: 2 stroke
- ◇ Engine power: 8050 [kW]
- ◇ Service speed: 14 [kn]



## CONSTRAINTS

- ◇ FC power: 5800 [kW]
- ◇ Maximum speed: 13 [kn]
- ◇ Range limitation : 4300 [nM]

## ShipZERO30 Key take-aways

Zero-emission shipping is within reach, not a far-fetched dream



- ◇ PEM fuel cell technology is mature, emission-free and commercially available
- ◇ Marine application of hydrogen fuel cells is proven & true 0
- ◇ Multi-MW fuel cell systems are technically feasible for large ocean-going vessels
- ◇ Adapting operational habits will bring zero-emission shipping in reach
- ◇ We need guts and creative minds to combine and adapt existing business

**Feel free to contact me**

**Contact Info**

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