



Germany and India



# Partners in Green Hydrogen<sup>+</sup>



[www.lilinavitas.com](http://www.lilinavitas.com)



**Lili Navitas**  
GREEN ENERGY

## Introductory Remarks



“

Born Indian, it is for me the biggest pleasure and honor to help bring India and Germany together in achieving climate targets and become self-sufficient in their energy needs.

**Kiran Bhojani - Founder and CEO**

## Our Vision

Germany and India work together in solving the climate problems while satisfying the energy needs for both countries in the long run.

## Our Mission

Bring German technology and extensive know-how in green hydrogen to India. This will enable Indian companies to enter the green hydrogen market on a larger scale including export opportunities to Germany/Europe.





## Know How in Planning Green Hydrogen Plants

- Part of the team which built the first 100% renewable Hydrogen power plant in Europe
- Simulation systems for the whole Hydrogen value chain



## Export Green Ammonia from India to Europe

- Planned Project including the entire value chain from hydrogen to ammonia
- Off-Takers lined up for green ammonia from India



## Cooperations with major Utilities and Hydrogen Players in Germany

- Top management contacts to speed up all your requirements



## Eco system for the entire Hydrogen Mobility Sector

- Application integration for Hydrogen mobility – Heavy Duty
- Top technology partner willing to produce in India



**Kiran Bhojani**

Founder & CEO

- 
- 17 years Executive Vice President at E.ON
  - 10 years Investment Banking
  - 4 years Green Hydrogen



**Gerd J. Lamers**

Executive Director  
Green Hydrogen

- 
- 15 years in Renewables
  - 5 years in Green Hydrogen
  - Evaluated over 200 Green Hydrogen Projects - Worldwide

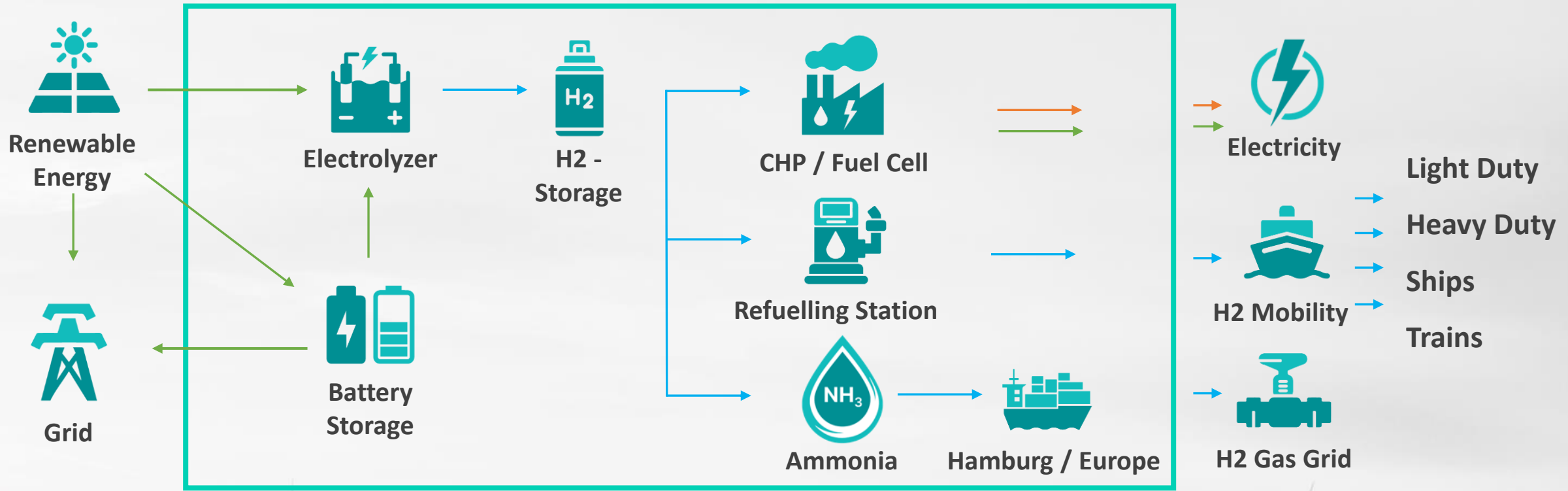


**Jan Andreas**

Anleg – Founder & CEO  
+25 Engineers

- 
- 30 years of Hydrogen experience
  - Green Technology Expert
  - Hydrogen Mobility Specialist

# Lili Navitas / Argo-Anleg in the Green Hydrogen Value Chain



**Design** ➤ **Project Development** ➤ **Planning** ➤ **Purchasing** ➤ **Construction** ➤ **Commissioning** ➤ **Operation**





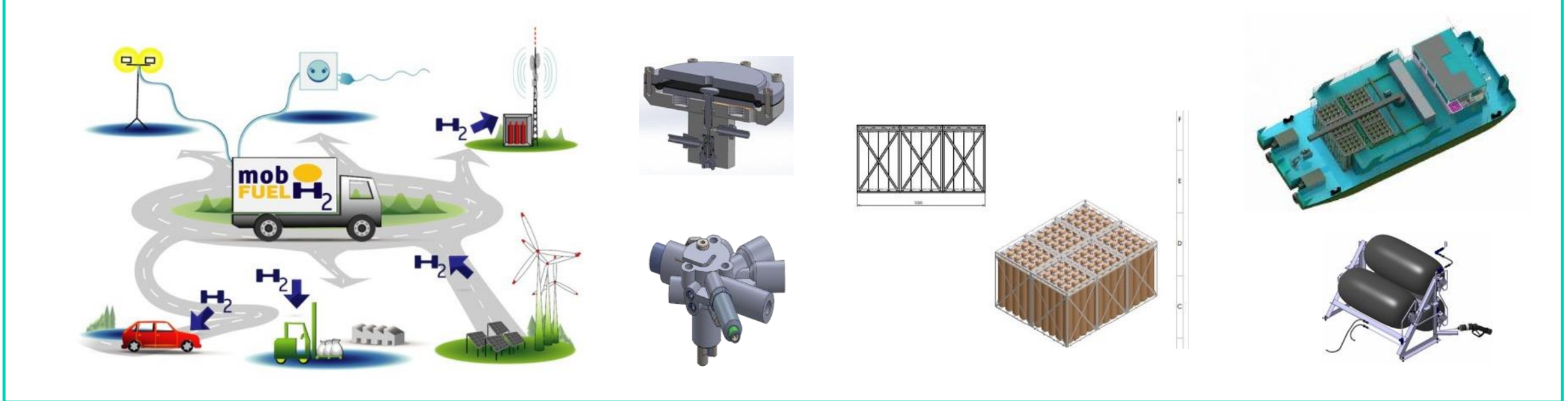
**Lili Navitas**  
GREEN ENERGY

**ARGO ANLEG**  
Advanced Hydrogen Technologies

## **Lili Navitas & Argo-Anleg in the Green Hydrogen Value Chain**

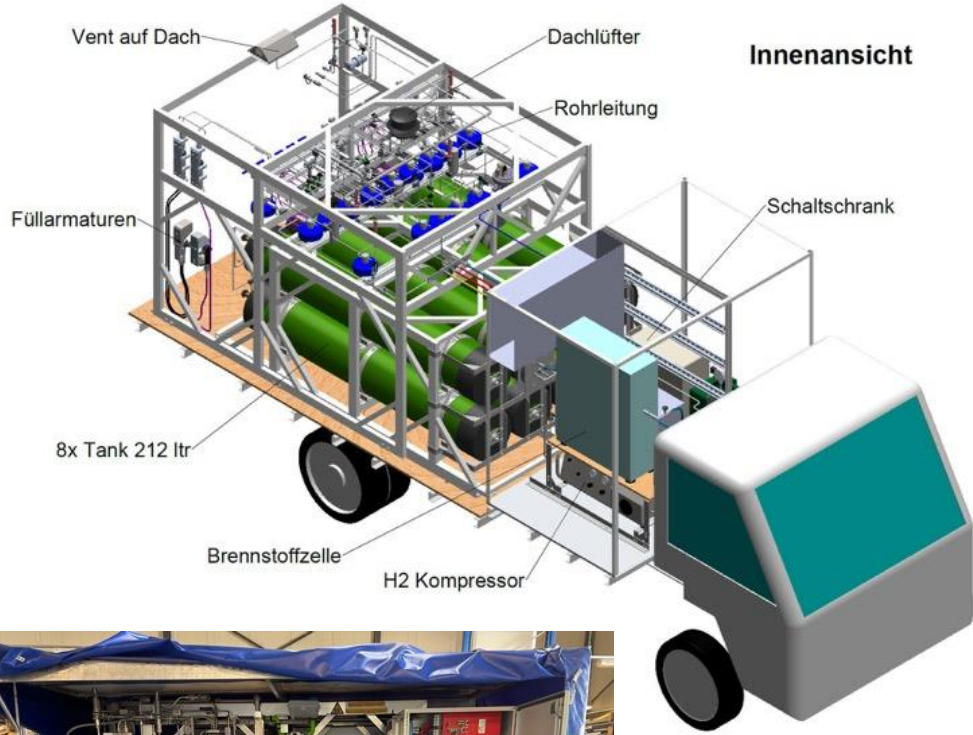


# Overview – Argo-Anleg





# Refuelling Stations Stationary & Mobile



## Enaq-Project

### Mobile H2-Refueling solution:

(350 bar 700 bar) with on bord  
Compressor (0,2kg/h) 4, 6 or  
8 x 214 Lx400 bar:= 26,8 kg of  
H2, 40,2 kg H2 or 53,6 kg of H2

### Mobile Energy supply

2 KW, 5 KW, 10 KW

H2 Rack can be separated from  
Trailer

## Funded project: ZBT & Anleg

50 kg of H2 at 500 bar 2 x refueling  
lines:

350 & 700 bar refueling line

Electrical Compressor

5 KW fuel cell system



# Integration of tank-systems into Platform vehicles 40to and busses



**MAN Truck Tank-System**  
development of Tank-System  
Gas Handling Unit

**Energy Management of  
3 x Fuel Cells, including the  
recharge strategy of the Batteries**

- On Tank Valve
- Fire Safety-Solutions
- Increase of security of the H<sub>2</sub>- supply
- New communication with the refueling station



# Argo-Anleg systems in the Volvo H2-Heavy Duty Ecosystem

## Neck mounted tank-system for Heavy duty vehicles

Complete integration of H2 Tanksystem into an existing vehicle, including Control System



# Complete Tanksystem & FC-Integration for Mining Trucks



## Integration of a tank-system and Fuel cells into a Mining Truck

- 1,2 MW Fuel Cell
- 420 kg H<sub>2</sub> storage





# Complete Tanksystem & FC-Integration for snow groomer



**Integration of a tank-system and fuel cell  
and or combustion engine into a special  
heavy duty vehicle**

- 5 x 244 L 700 bar
- 1 x GHU
- 5 x orientable TPRD
- 1 x Controller



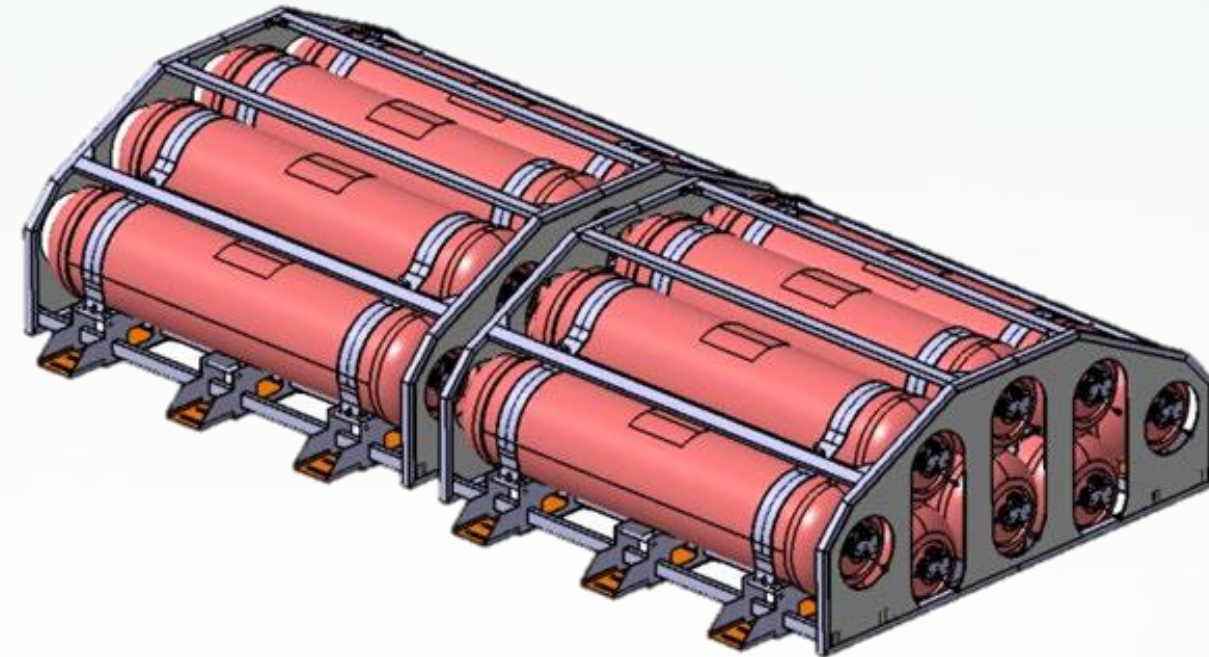


# Complete Tanksystem for Trains



## Integration of Tank-Systems in Trains

- Tank-Systems
- Gas Handling Unit
- On Tank valve, MOTV

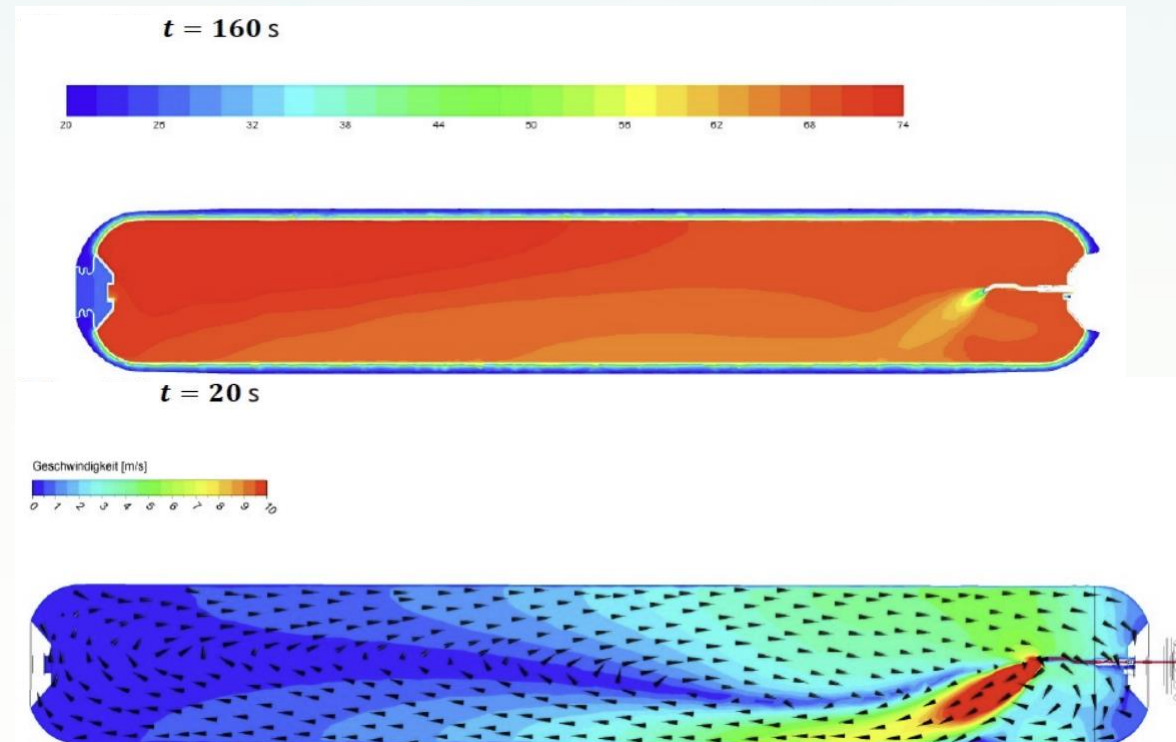






## In-House Developed Type IV-Tank

- Tank, Tank-Systems
- Analyse of Thermal effect while Loading/Unloading
- Optimising of Refuelling Time

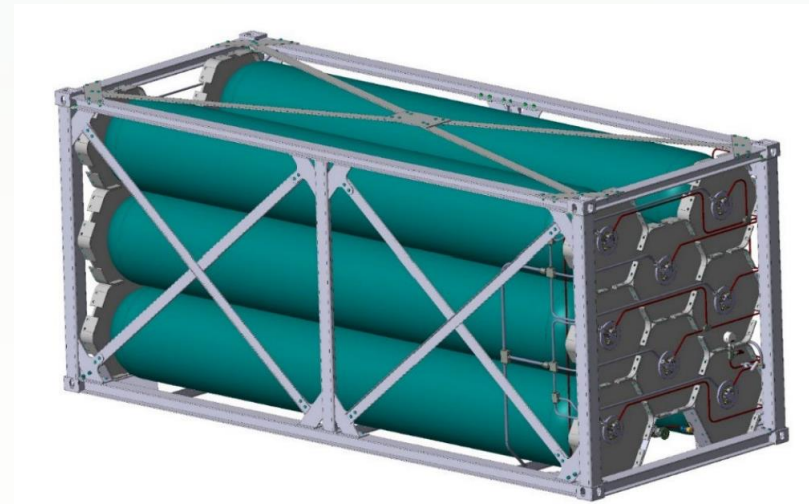


# Maritime H2 Tank-tainer & H2 Supply Solutions



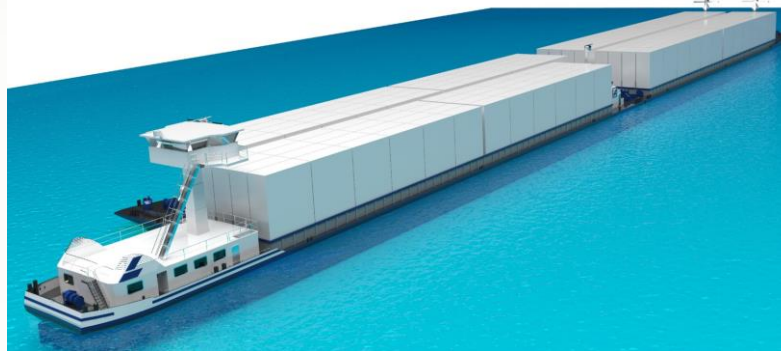
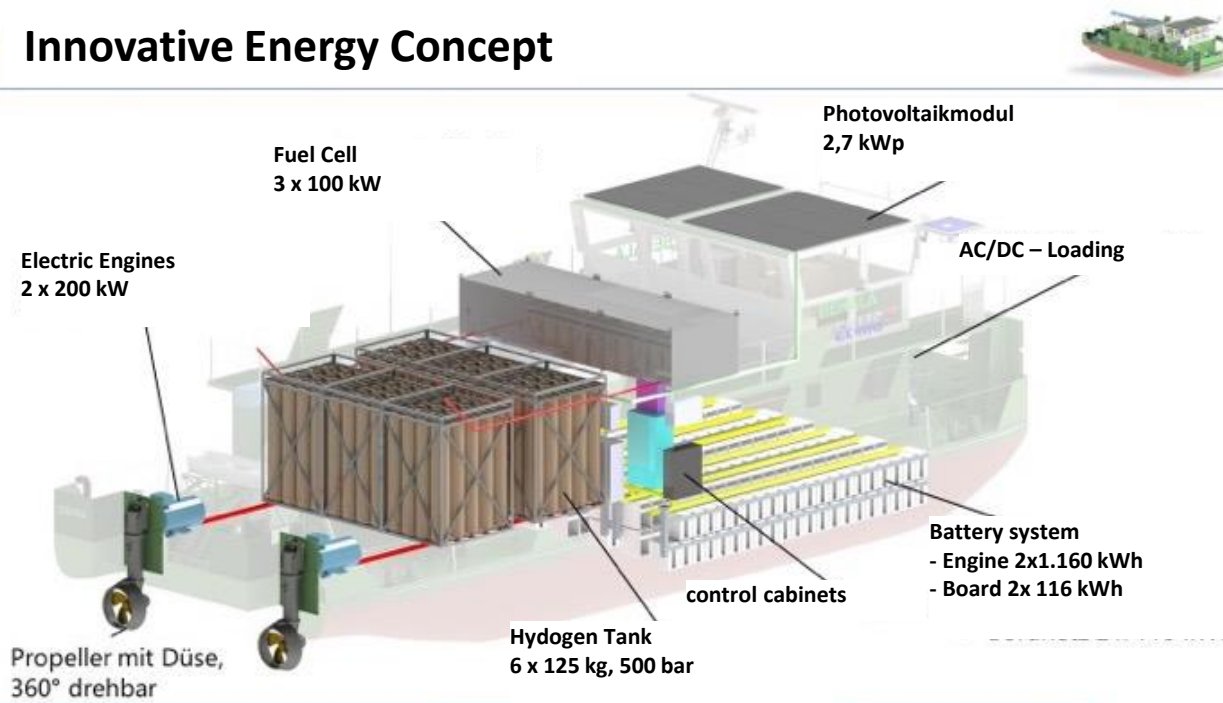
## Hydrogen supply solutions for maritime, heavy duty & H<sub>2</sub> infrastructure

- Electra modular: 10 ft = 125 kg H<sub>2</sub> x 6 = 700 kg H<sub>2</sub> onboard
- Rhenus Mannheim: 20 ft = 500 kg H<sub>2</sub> x 4 = 2.000 kg H<sub>2</sub> onboard
- H<sub>2</sub> supply for stationary and mobile refuelling stations



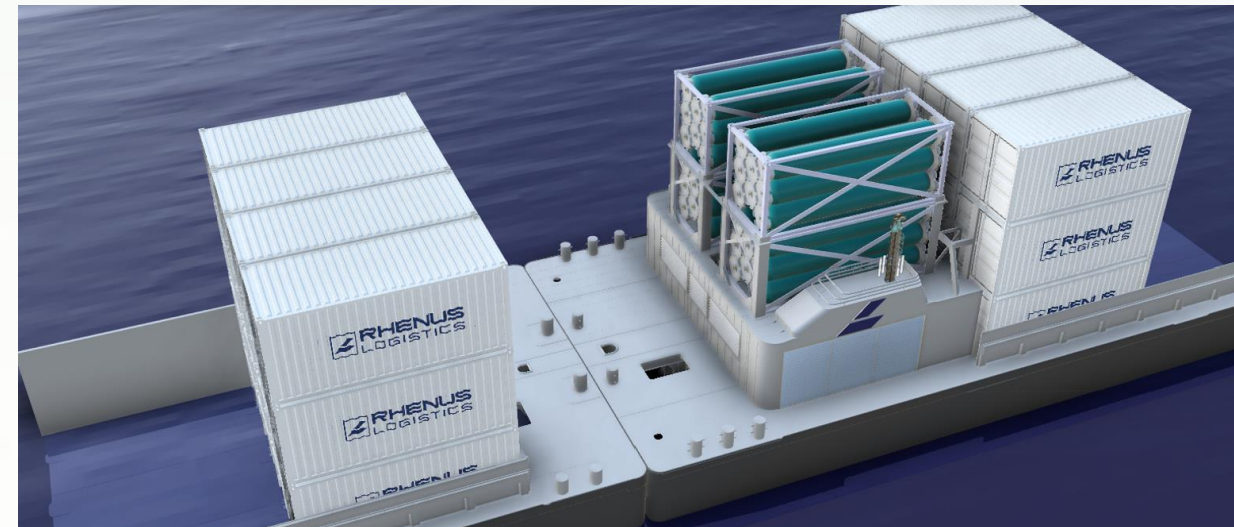


## Innovative Energy Concept

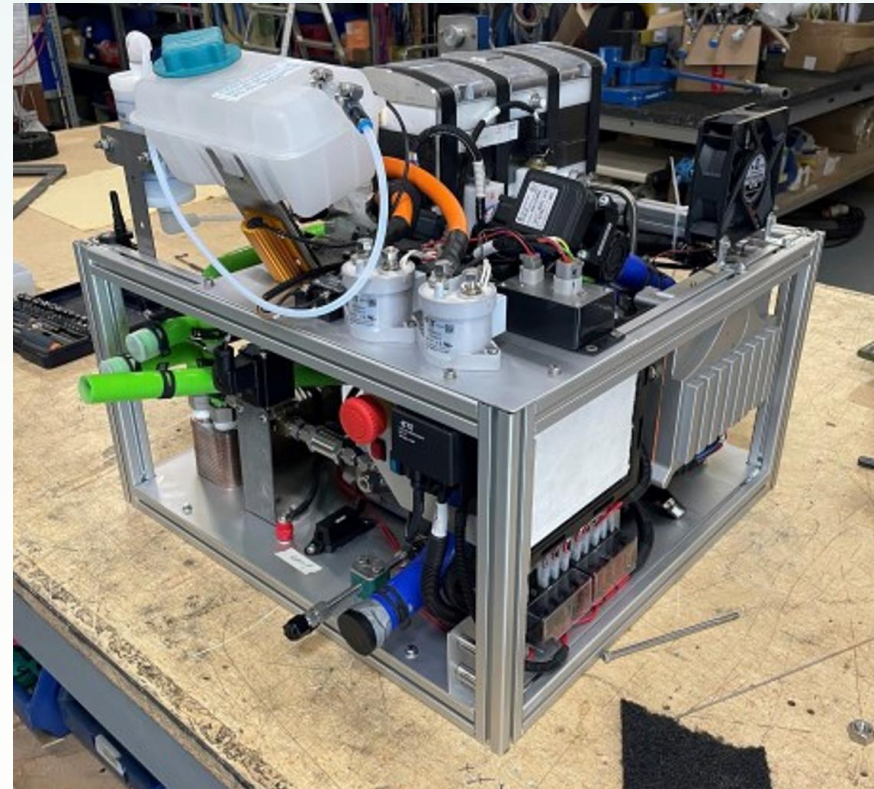
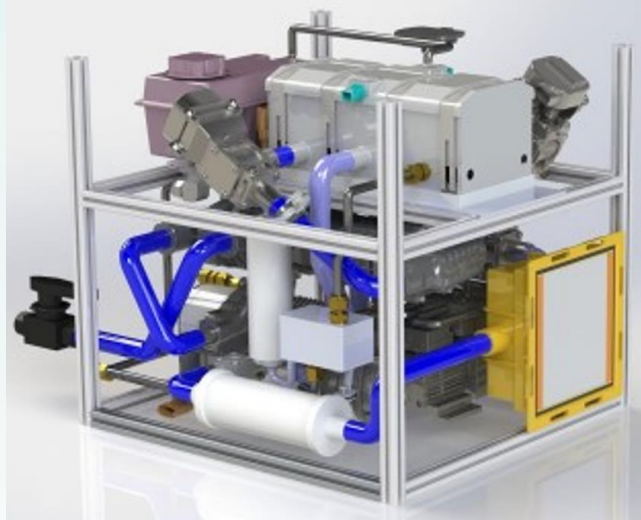


## Elektra MEGC H2 Tank System

- Modular: 700 kg on bord (6 x 125 kg)
- Module: 125 kg H2 PN 500 Modules cratable and changeable
- One refuelling station can supply different harbors



# Fuel Cell Systems – Mobile, Gen-Sets, Maritime



## Fuel-Cell systems

- From 5 kW<sub>el</sub> Up to 1,2 MW<sub>el</sub>
- Back-Up systems
- Engine replacement for ICU
- Range extender for BEV



# References

Delivered solutions for our customers

## Project List of the last years:

- **MAN Truck, Ursus-Bus, Daimler Truck, Volvo Truck**
- **GM** On Tank valve and Gas Handling Unit
- **Magna Steyr:** Tanksystem B-Class
- HDW: H2 Submarine, ATI-Küste: Deep Sea - submarine
- Mobile Filling Station 350 / 700 bar
- Filling Station for hydride storage tanks
- BZ-NRW: 700 bar J99
- Proton Motor: Tanksystem for H2 Bus, H2 supply for **Linde** Fork Lifter
- Hydrogenics: Fuel Cell Bus Components
- DLR: Test Rigg components for Ariane Espace engine test rig

## ZBT Testbenches for H2 projects:

- ZSW-Ulm:, Special differential pressure regualtor for H2 of APU

## Air Liquide, Air Products, Linde:

- **OPEL** solutions for fuel cell driven cars: GHU / OTV
- **AUDI, VW, Volvo Car**, Symbio Fcell, Green GT
- **Siemens** Train: H2 tank-system
- FutureE
- Amsterdam Ship
- Military Projects
- MUV-Range Extender



**DAIMLER  
TRUCK**

**SIEMENS**



Volkswagen

**ZODIAC  
AEROSPACE**

