



CELLCENTRIC

Synchronizing Fuel Cells, Industrialization, H2 Ecosystem & Infrastructure for best TCO in HD Transport Applications

ZBT HD Congress 2026

TO BRING HYDROGEN-POWERED CO₂ NEUTRAL HEAVY-DUTY VEHICLES ON THE ROAD

It's time to join forces



- Successful commercialization of **fuel cell technology** is a key area to achieve **CO₂-neutral transport**
- **50/50 joint venture between Volvo Group and Daimler Truck** for the development and large-scale production of fuel cells for applications in heavy-duty vehicles and other use cases



Our aim is, to be the first choice
for superior fuel cell solutions



We will become a supplier of fuel cells. Including mass production.



We share investments and create scale effects.



We accelerate market introduction.



We build trust in technology.

Extensive company and product history

COMMERCIAL VEHICLES



1994
NECAR 1



1997
Nebus



2001
Fuel Cell Sprinter



2009
Citaro FuelCELL-Hybrid



Since 2021
Fuel Cell Trucks

2003-2009
Fuel Cell Citaro |
Fuel Cell Sprinter

2009-2010
Fuel Cell Sprinter

Full focus on heavy-duty applications

1996-2001
Necar 3 | 4 | 5

2003-09
F600 | A-Class F-Cell Advanced

PASSENGER CARS



1996
NECAR 2



2003
A-Class F-Cell



2010
B-Class F-Cell



2018
GLC F-Cell

Firsthand customer and market experience



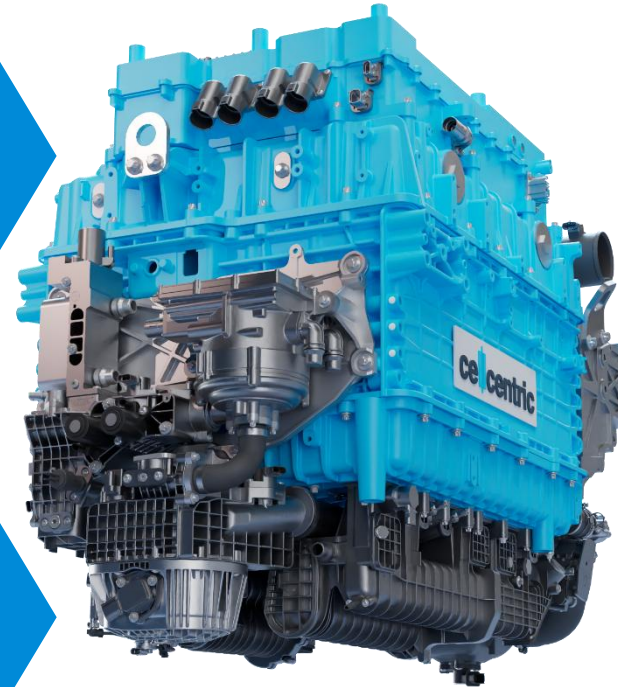
Mercedes-Benz Passenger Cars

15 million km in Europe and US
350.000 km driven in one single
vehicle



Mercedes-Benz Citaro FuelCELL Hybrid

More than 5 million km in Europe
More than 1 million km by a single
vehicle in customer service



Ongoing development

- Stack Development
- Operating Strategy & Software Dev.
- Stack & Fuel Cell System Engineering

cellcentric's research, development and production

>560 employees
support Fuel Cell
activities from our
main locations ...

Burnaby

- Advanced engineering for product and production process development primarily for the fuel cell stack.



Nabern

- Headquarter
- Fuel Cell system and stack development
- Testing facilities
- Public relations to the H2 world



Esslingen - Pliensauvorstadt

- Development and test of large-scale production processes
- Development and production of CCM (Catalyst Coated Membrane)
- First large-scale machinery and fuel cell system production



Stuttgart - Untertürkheim

- Series manufacturing processes development and testing strategy
- CCM (Catalyst Coated Membrane) coating development
- CCM production



Toyota Motor Corporation intends to join Daimler Truck and Volvo Group as equal shareholder in cellcentric



Targeted 3-party JV incl. Toyota:

- **cellcentric foreseen as joint center of competence** that develops, produces and commercializes fuel cell systems **for HD applications**
- Toyota and cellcentric intend to jointly develop and produce the cell (focus: CCM) incl. system architecture and operating strategy
- All partners aim to actively support the development of hydrogen supply and infrastructure in the current early stages

Impact:

- Technology & Scale & Production
- Significant investment

Weight - range & flexibility - refilling - emissions



Weight

The complete fuel cell system with its hydrogen tank and its smaller battery is rather light, allowing a high payload. This is a major criterium for customers in long-haul transport.



Range & Flexibility

The range of heavy-duty fuel cell hydrogen trucks is comparable to diesel trucks - depending on the capacity of the hydrogen tanks, the hydrogen used (>700 bar or LH2) and the efficiency of the fuel cell system.



Refilling

As with conventional diesel trucks, refilling at hydrogen refueling stations is at the same speed as refilling with diesel.



Emissions

Emitting only water vapor. When hydrogen is used to power a fuel cell, the only by products are water vapor and heat - no pollutants or greenhouse gases.

BZA150 - a major milestone for heavy-duty fuel cell trucks

- ~145 kW net power (BOL)
- 25.000 h lifetime/10 years
- Compact packaging
- Robustness for demanding conditions
- High efficiency & range
→ >1,000 km range with one fill of 80 kg H₂ @ 40t

**Powering the Volvo and Mercedes FCEV
now on the road**



Reliability



2018 GLC F-CELL

- Power density +100 %
- Platinum content -90 %



2022 BZA100+

- Power output from 70 to 100+ kW
- New stack technology
- Production process for medium volumes



2024 BZA150

- Power output from 100+ to ~143 kW
- Production process for high volumes
- Expected lifetime target 25.000 hours¹⁾ / up to 10 years (long haul truck)

Launch of - BZA375 fuel cell system - the heavy-duty game changer



BZA375

DEFINING THE NEW FUEL CELL STANDARD IN HEAVY-DUTY

CELLCENTRIC BZA375 FUEL CELL SYSTEM

Heavy-duty long-haul game changer with TCO benchmark performance

Size

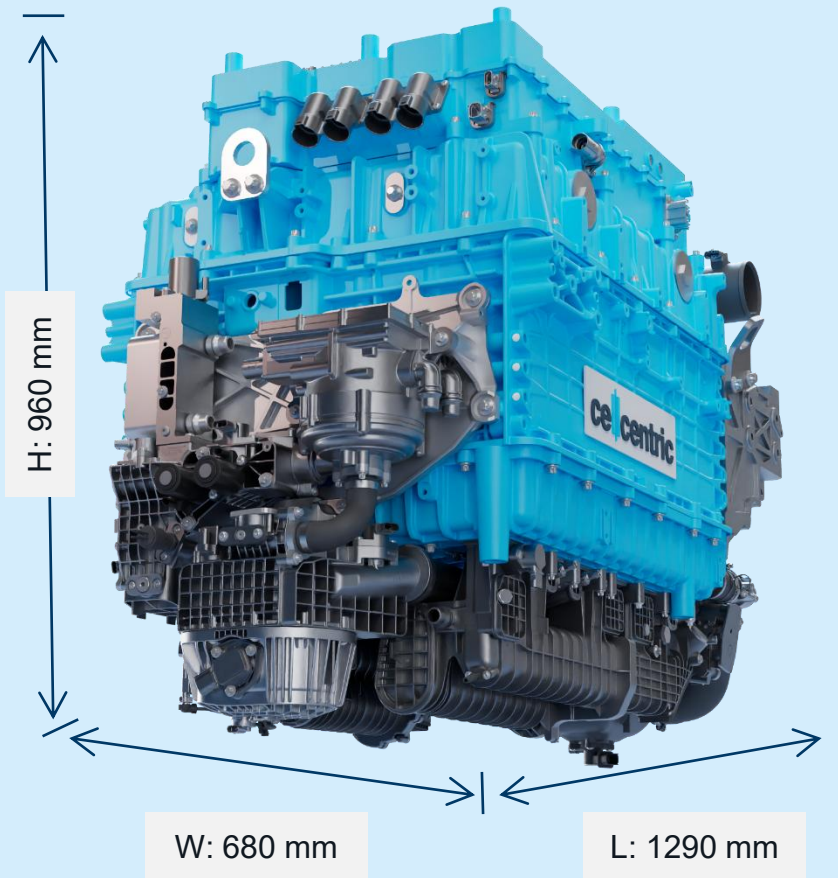
- Length: 1.290 mm
- Width: 680 mm
- Height: 960 mm
- Designed for conventional 13-liter diesel-engine compartments
- Package space: STasHH compatible $\longrightarrow$ HH_{BBB}

Weight

- Total weight of less than 500 kg

Lifetime

- About 25.000 hours / up to 10 years
- Fuel cell system for truck application equivalent to that of a conventional diesel engine



BZA375

cellcentric fuel cell BZA375 - heavy-duty long-haul game changer with TCO benchmark performance

Power & Performance

- Single System package
- Up to 375 kW (more than 500 horsepower) continuous net power

Performance

- 20% less fuel consumption*
- 40% reduction of waste heat at 300 kW net power*
- 40% more power density*
- 40% reduction of complexity*

Fuel Consumption (HD truck application)

- <6 kg H₂ per 100 km
- 16.4 km per kg H₂

* vs. benchmark Fuel Cell System BZA150



BZA375

Carbon bipolar plates to meet heavy-duty lifetime and power requirements



Carbon Bipolar Plates

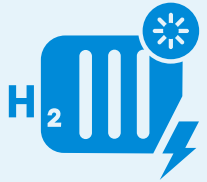
For Heavy Duty lifetime
(> 25.000 h operation)



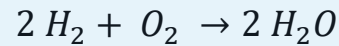
INCREASE OF MAXIMUM FUEL CELL POWER



BZA375 cell design with new anode and cathode catalysts



CATALYSTS FOR HIGHER EFFICIENCY



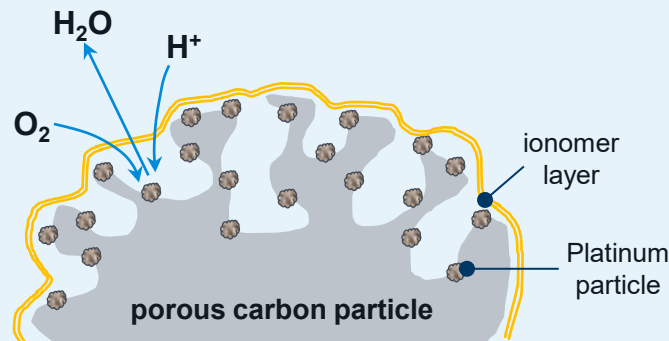
Electrochemical H₂O formation generates a **potential within the fuel cell**.

Catalysts containing precious metals are required for **reduction of activation energy**.



TUNABLE CATALYST PROPERTIES

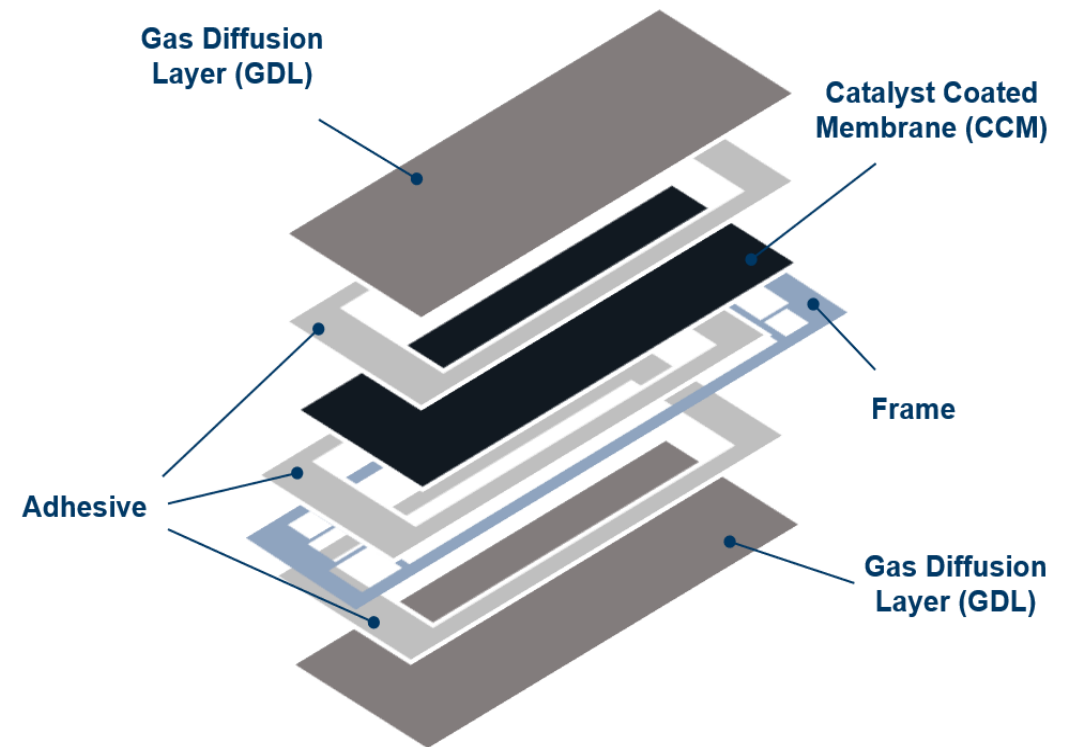
- Porosity & size of carbon particle, graphitization
- Platinum particle size
- Ionomer-to-carbon ratio
- Ionomer-particle adsorption



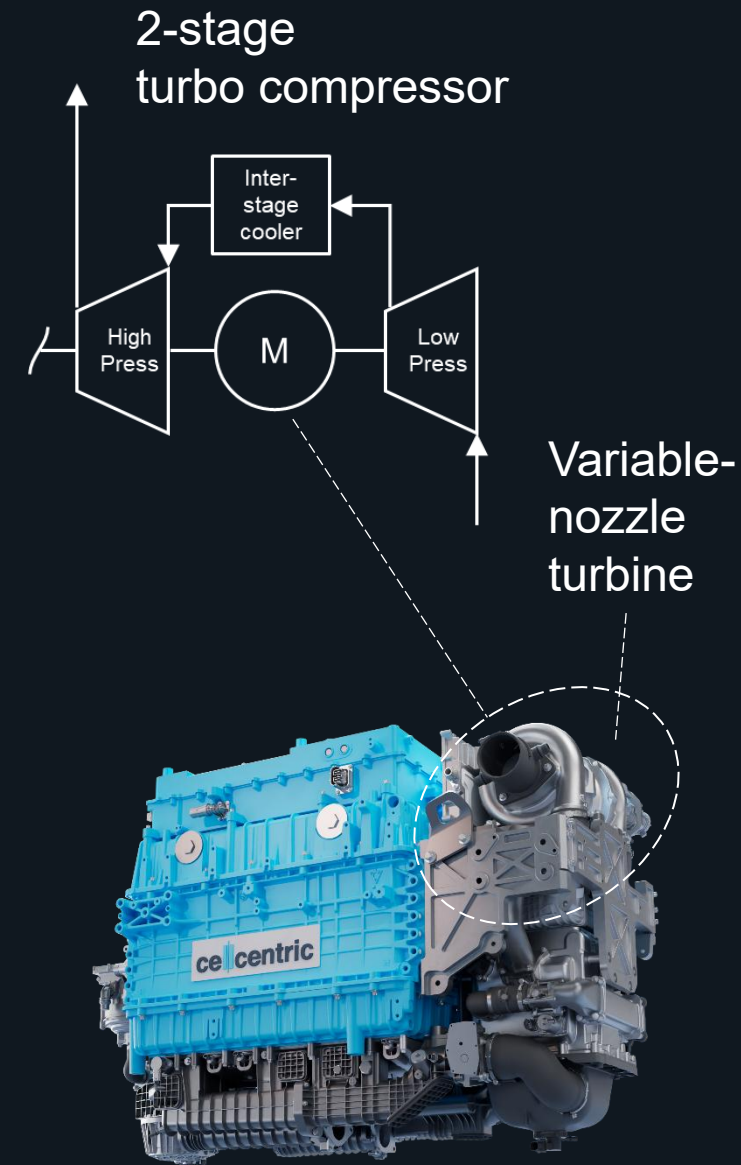
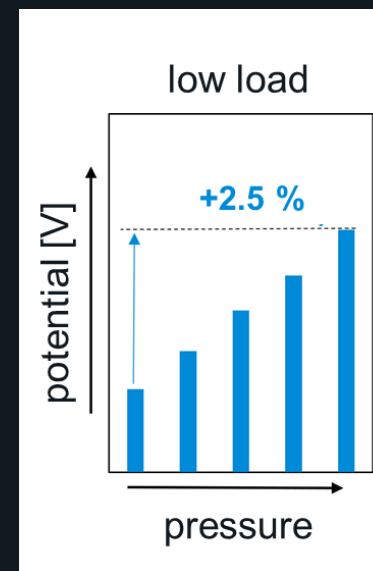
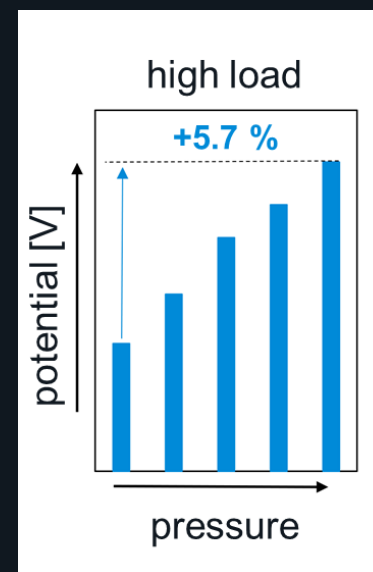
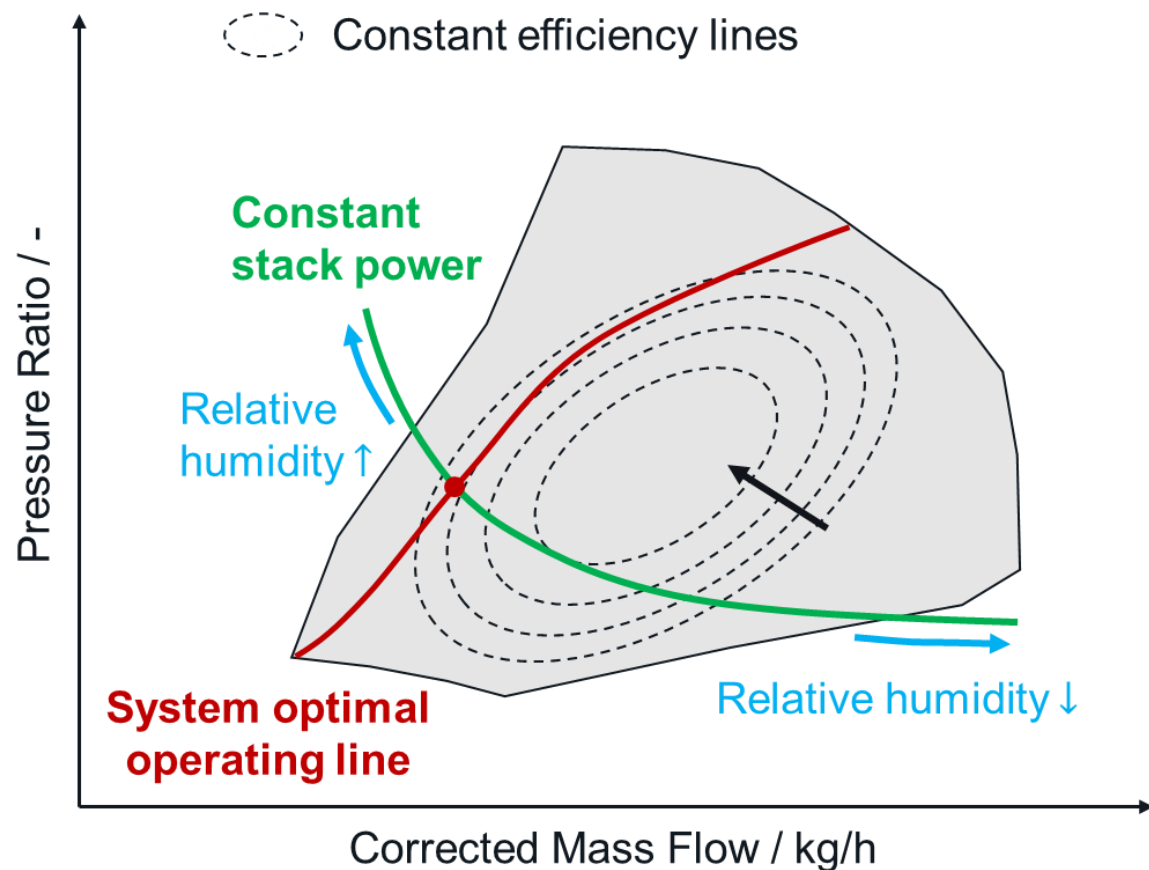
Dedicated Heavy Duty Cell Design

SMEFA* concept derived from BZA 150

With new catalyst technology for Anode & Cathode



Custom air supply & operating conditions maximize stack potential



Fuel cell technology and integration into the electric truck powertrain

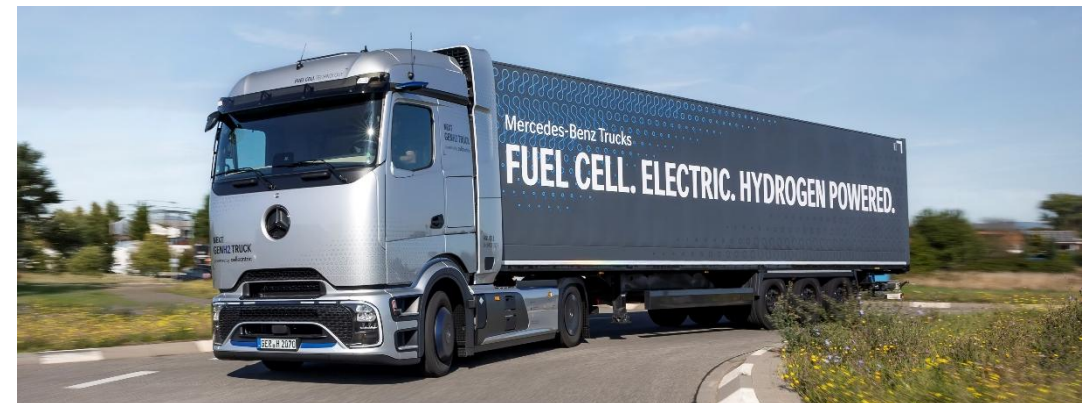


Fuel Cell Electric Vehicle (FCEV) = electric powertrain (battery) + Fuel Cell System + H2 Fuel Tank System

100 further cellcentric-powered trucks going to customers starting this year



- Late 2024 Federal Ministry for Digital and Transport and the federal states of Baden-Württemberg and Rhineland-Palatinate approved funding totaling € 226 million for Daimler Truck
- Funding covers development, small-series production and customer deployment of 100 fuel cell trucks
- The fuel cell trucks are to be built at the Mercedes-Benz plant in Wörth (GER)
- Trucks expected to go into operation at various customers from the end of 2026 onwards
- More details: [Pressrelease](#) | [Daimler Truck](#)



Volvo Trucks planning to bring 50 trucks on the road as part H2Accelerate

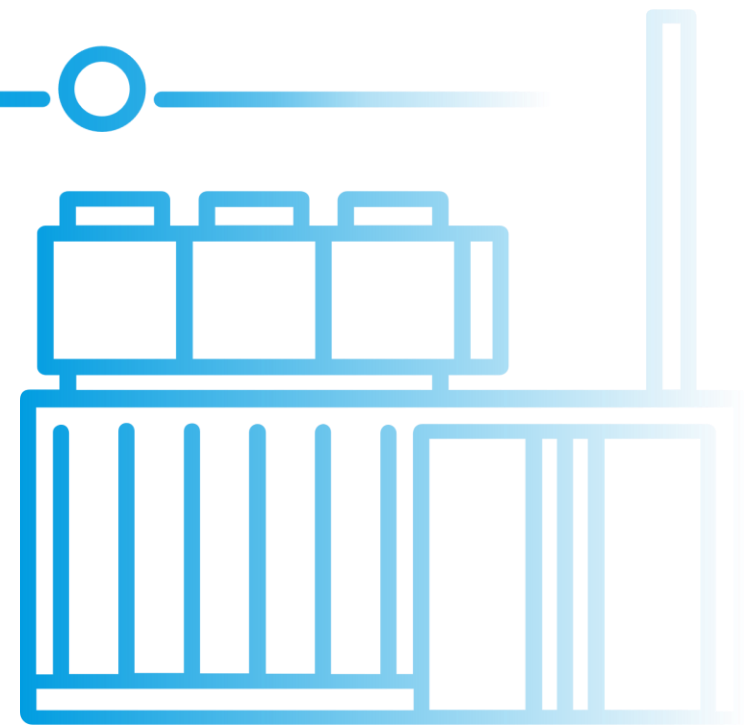
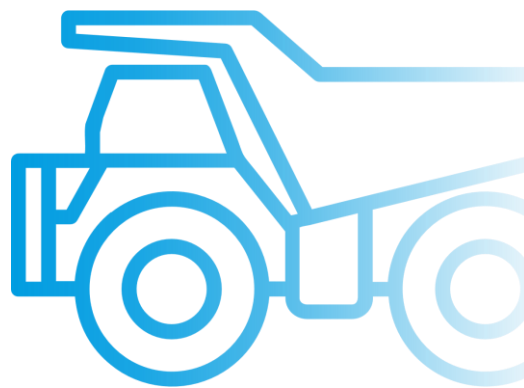
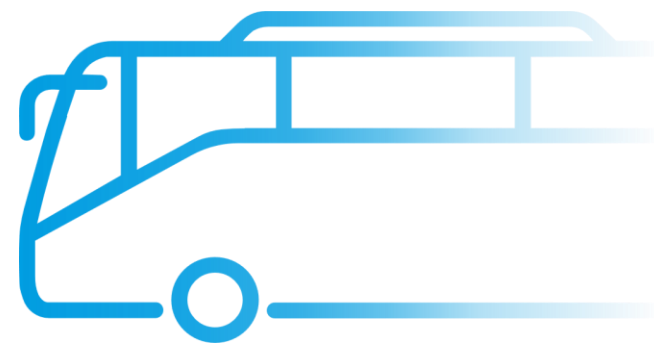


- Volvo showcased a fuel cell HD truck at TRA 2026 in Budapest
- With 700 bar tanks the range will be 600 km
- The deployment is part of the H2Accelerate initiative from 2026

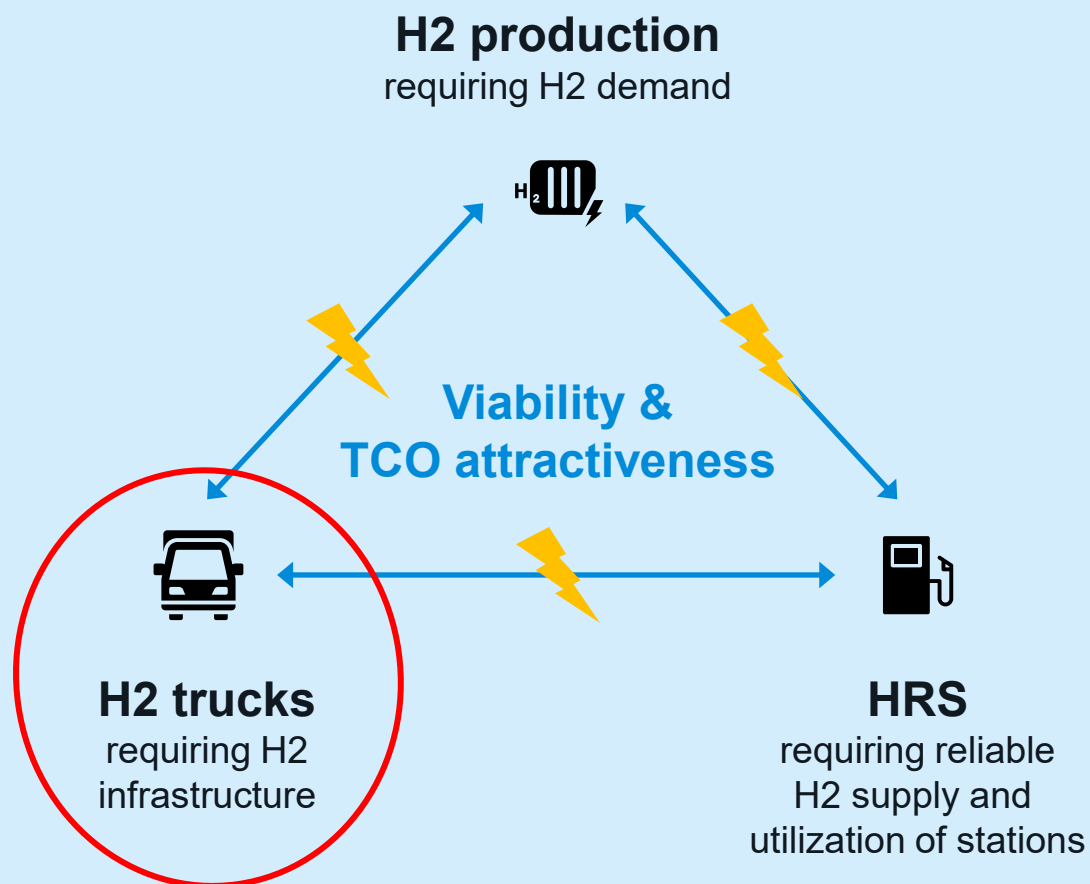


→ H2Accelerate Trucks: European initiative to scale up H2 trucking across Europe by developing the supporting infrastructure.
→ Across 6 EU countries by 2030, in sync with hydrogen refuelling infrastructure deployed along key TEN-T corridors.

Defined addressable market segments out of BZA375 product strategy



The H2 HDT Ecosystem Triangle



Three key H2 ecosystem parameters

H2 Trucks



Key requirement end-customer & OEM success

- H2 price at pump
- H2-Truck fuel consumption
- HRS network availability

**Synchronized scale-up and volume generation
are key to unlock competitive business case**

Industry and policymakers now build the hydrogen ecosystem together: linking availability of H2 trucks, refueling stations with competitive H2 price



VEHICLES

Hydrogen trucks brought to market by the participating manufacturers, cellcentric supplying the fuel cell system



REFUELLING INFRASTRUCTURE

Stations along strategic European corridors, sized for heavy-duty demand



H2 SUPPLY AND PRICE

Reliable volumes at a competitive price at the pump, so operators reach competitive TCO



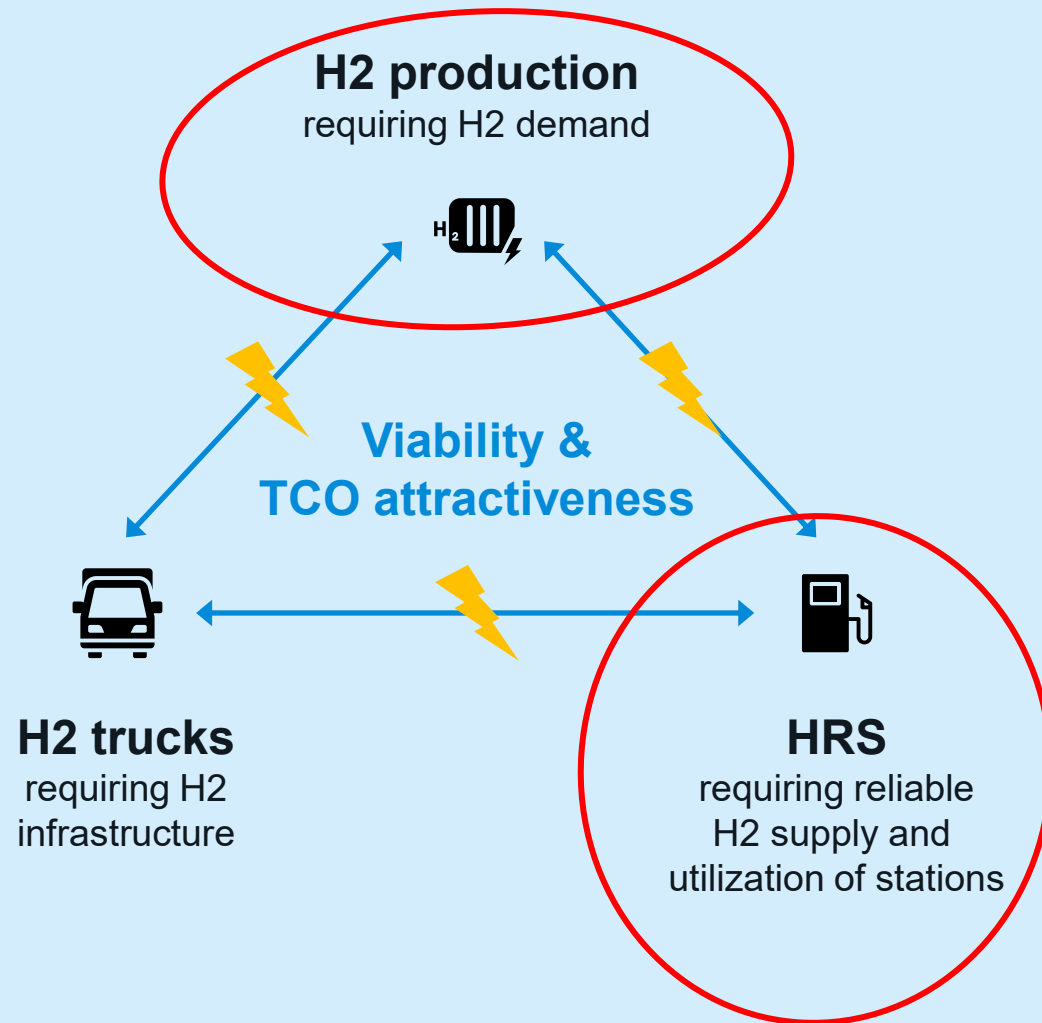
= H2 HDT Ecosystem Scaling

Announced at IAA Transportation, 15 September 2026:

- A **CEO-led alliance** of truck manufacturers, energy companies, suppliers and German policymakers
- Germany as the starting point, extending along **key European transport corridors**
- Refuelling stations deployed in step with hydrogen truck fleets, not ahead of them

→The Ecosystem Triangle Dependency is now being addressed!

The H2 HDT Ecosystem Triangle



Three key H2 ecosystem parameters

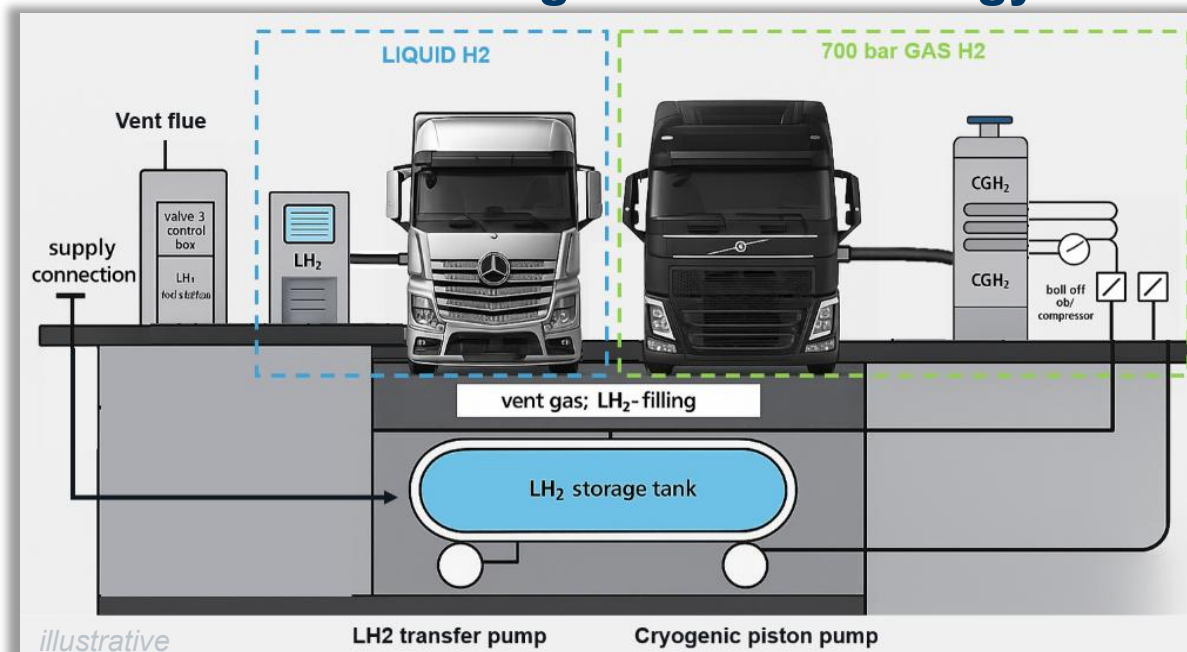
H2 Infrastructure

- **Synchronization** of the value chain is key for scale-up and **commercial success**
- Competitive H2 price at pump of **≤6 €/kg¹**
- Biggest lever for H2 price: H2 production at **scale via linked demand**
- **Right technical solution:** HD HRS design scalable for **4t H2/day** with **high** utilization¹

Synchronized scale-up and volume generation are key to unlock competitive business case

Technological Solutions commercially available: Future-proof, scalable, cost-efficient supply with both LH2 and CGH2.

Combined Large HRS Technology



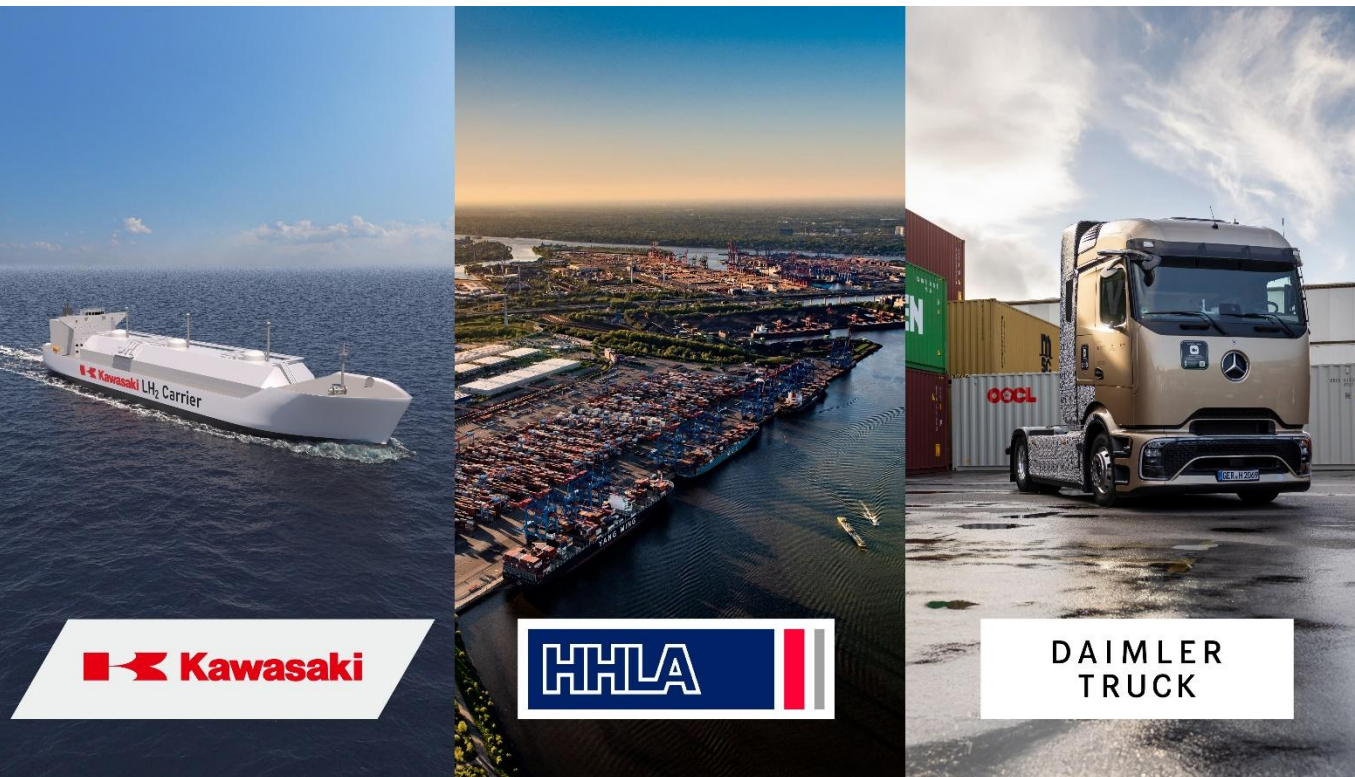
Key Characteristics:

- ✓ Capacity of ≥ 4 t H₂ / day
- ✓ Liquid H₂ storage and supply
- ✓ Serving liquid and gaseous H₂
- ✓ Lower investment than CGH₂ HRS
- ✓ LH₂ storage allows for compact footprint

Exemplary benefits for HDT H2 mobility chain

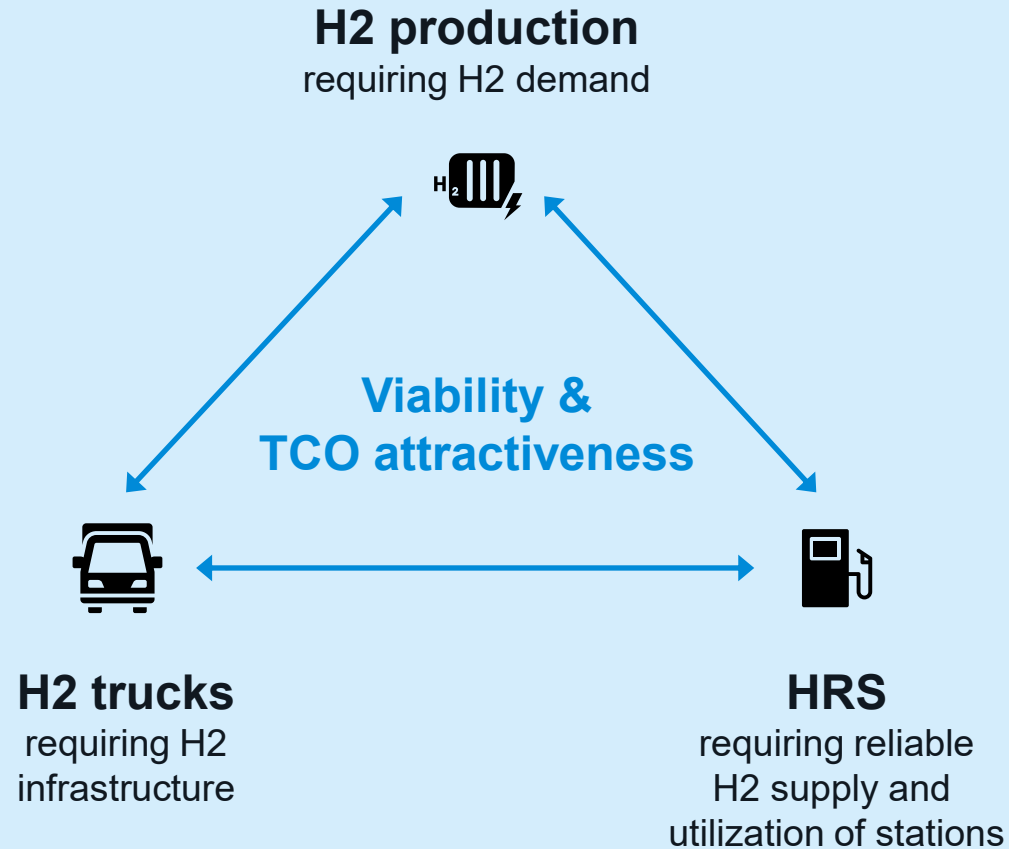
- Enables refueling of **trucks and passenger cars**.
- Sized to cater for **many, large consumers** (HDT).
- Scale enables for **efficient** energy use and low costs.
- LH₂ supply allows for **little traffic** for inbound H₂ delivery.

Japan and Germany join forces on Hydrogen Corridor Linking Ports, Trucks, and Power Plants



- New international hydrogen corridor taking shape following a memorandum of understanding signed on September 15, 2025, in Osaka
- Agreement brings together Japanese heavyweights Kawasaki Heavy Industries, Toyota, and Kansai Electric Power with German players Daimler Truck and the Port of Hamburg
- Goal: create a cost-effective, cross-border hydrogen supply network linking production, transport, and end-use in mobility and industry
- Ambition: integrate liquefied hydrogen transport infrastructure (led by Kawasaki), hydrogen-powered vehicle fleets (via Toyota and Daimler), and port and logistics hubs in Hamburg and Osaka
- More: [Pressrelease](#) | [Daimler Truck](#)

The H2 HDT Ecosystem Triangle



Three key H2 ecosystem parameters will unlock viability of H2 HDTs

Key figures for commercial success of
trucking companies
vehicle manufacturers
infrastructure providers

- H2 price at pump of **≤6 €/kg¹**
- >10.000 new trucks p.a. priced **≤260.000€²**
- Fuel consumption **≤6kg/100km**
- HRS design for **4t H2/day** with **~60%** utilization

Biggest lever for H2 price: H2 production at **scale**

**Synchronized scale-up and volume generation
are key to unlock competitive business case**

We power sustainable life



Get in touch

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