

Westport H2-ICE solutions

High Performance Hydrogen Engine Applications



UTRECHT H2-CONGRESS 04-12-2024

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Hydrogen
Station



Changing the way w



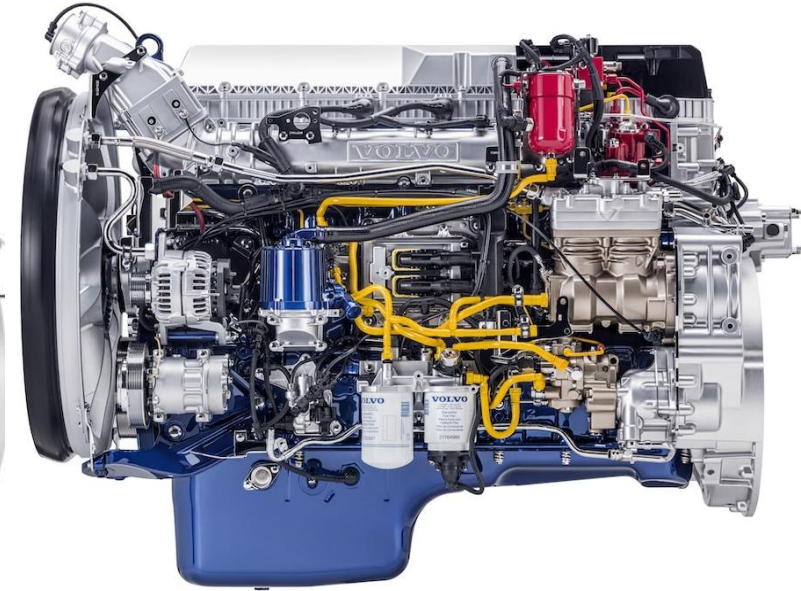
H2-ICE Engine concepts



H2-SI-PFI/DI



H2-DF



H2-HPDI

Comparisson H2-ice concepts

Baseline diesel 13 liter engine 450-500HP/2300-2800Nm/Euro VI

	Euro VI Euro VII	Zero- emissions 3gr/tkm	Power & torque	efficiency	Truck capex 1000 km driving range
SI-PFI/DI spark ignited	✓	✓	↓	↓	+50%
CI-PFI compression ignition <i>H₂DF</i>	✓	X > ?	=	=	+25-35%
CI-HPDI compression ignition <i>HPDi</i>	✓	✓	↑	↑	+40%

Source:
TNO/WFS

HPDI Joint Venture with Volvo Group

Accelerating the commercialization of Westport's HPDI fuel system technology; reducing CO₂ emissions from long-haul and off-road applications

- JV "Cespira" is operational since second quarter of 2024
- Focus on further development of HPDI fuel systems for the next generation of highly efficient compression ignition internal combustion engines
- Attract new customers globally, primarily in long-haul and off-road applications



HPDI-H2 - How it works







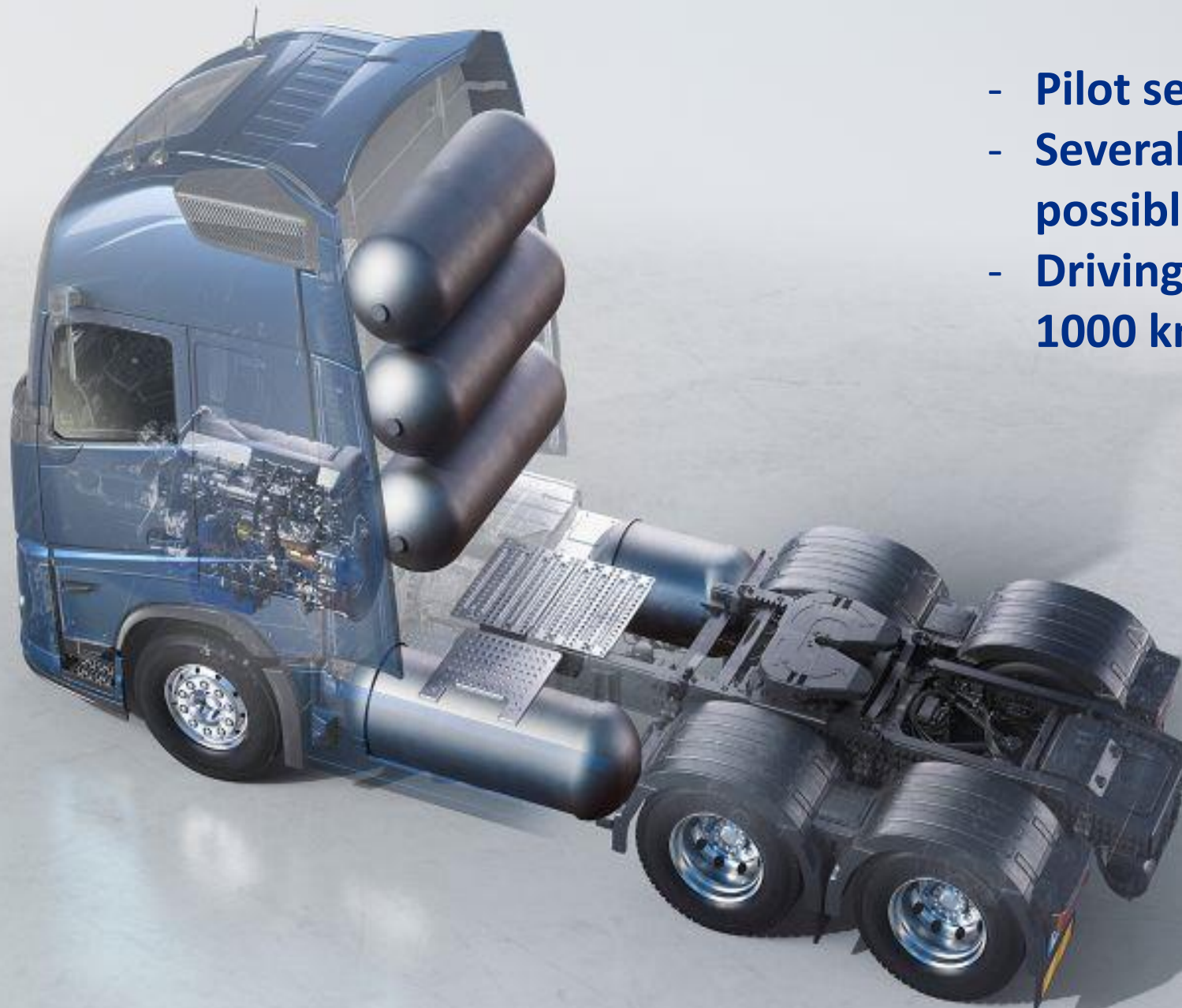
Westport
Fuel Systems

H₂DF

Prins
ALTERNATIVE
FUEL SYSTEMS

PRINS

HPDI-H2 Volvo truck concept



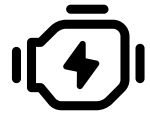
- Pilot serie in NL
- Several versions SOP possible
- Driving range around 1000 km

H₂DF possible for all common trucks



Value Proposition

H₂ HPDI fuel system technology is a cost-effective, high-performance solution to support climate neutrality in the heavy-duty mobility sector



Match the power of a diesel engine



Match the high torque of the diesel engine



Match efficiency of the diesel engine and equivalent to fuel cell efficiency



Minimal changes to engine architecture



Preserves ICE infrastructure and supply chain investments



Near zero CO₂ emissions; lower cost CO₂ abatement than fuel cell



Thank you !

