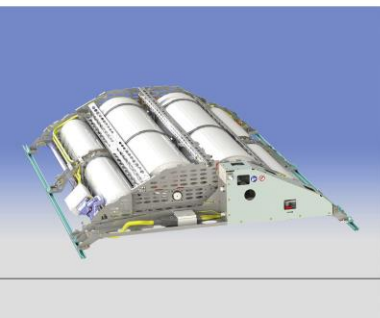


Storage solutions for hydrogen:  
stationary / mobile  
WyRefueler: mobile hydrogen gas station

Wolfgang Wolter  
CEO / Wystrach GmbH



## Hydrogen in energy storage

### Challenges:

- different certification and approval procedures
- no international harmonization of standards
- lack of infrastructure for common use
- need of production facilities for Green Hydrogen

### Possibilities:

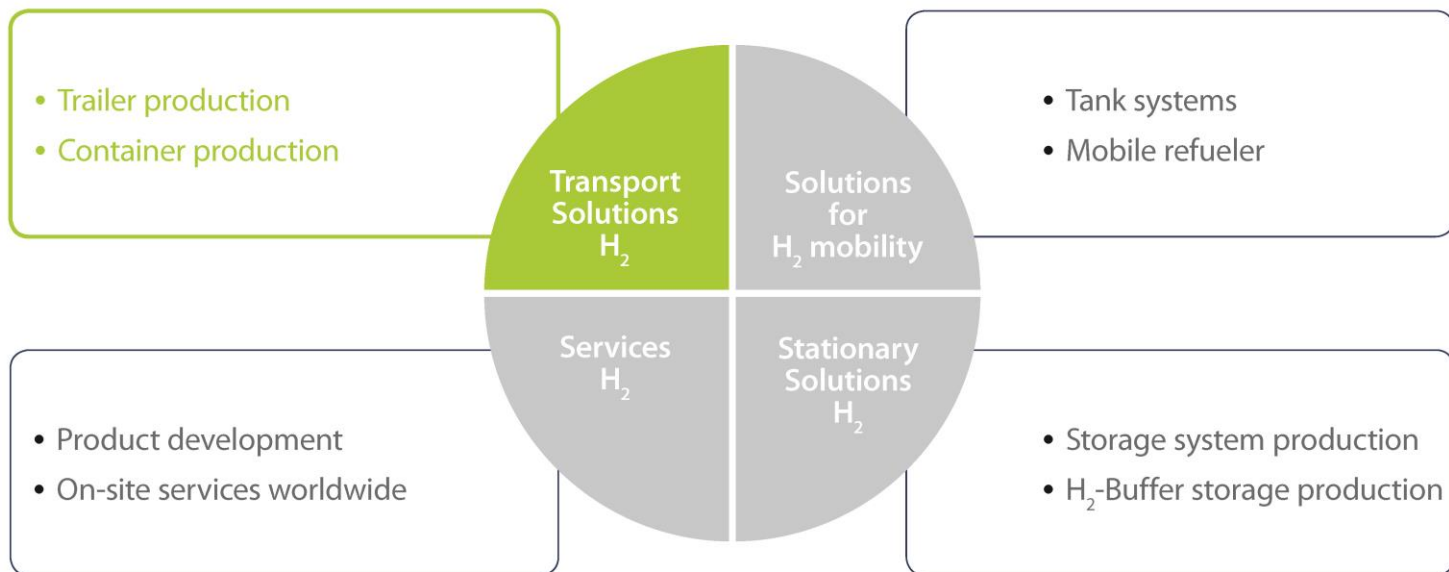
- key technology for energy transition
- chance for sectoral coupling (power, heat, mobility)
- buffer technology for intelligent use of volatile renewable energy sources
- large scale decarbonization

# Wystrach GmbH

Wystrach  
*Worldwide art of precision*



- located in Weeze, Duesseldorf region
- more than 200 employees
- more than 30 years of experience in high pressure systems
- 350 Container CNG / H2 worldwide
- more than 110.000 high pressure bundles in the market worldwide



## Wystrach H<sub>2</sub> MEGCs

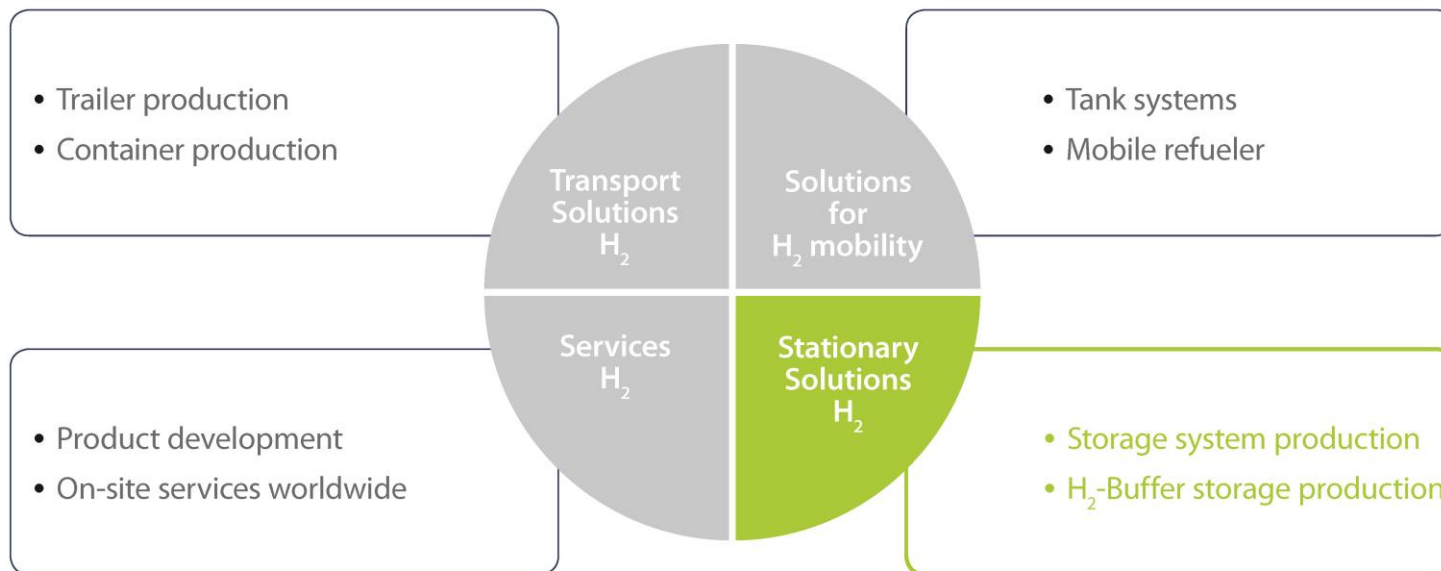


- maximum stability – low weight
- transportation with 2-axle-chassis possible
- galvanized frame  
(protection against corrosion)
- composite type IV cylinder
- container as flexible solution  
(usable also without chassis)
- range of possible pressure: 250 bar, 300 bar, 500 bar

## Wystrach H<sub>2</sub> MEGCs: Customer project HyStock



- the first power-to-gas facility in the Netherlands
- 8400 solar panels producing renewable power in Zuidwending
- some of that energy is converted to H<sub>2</sub>
- 40 ft container with 114 cylinders
- Storage pressure up to 300 bar



## Wystrach stationary storage solutions for H<sub>2</sub>



- individual projects according to customer needs
- scalable sizes
- modular design for more flexibility, easy retesting
- different pressure levels
- delivery ready-to-use to interface on site
- support by Wystrach service during whole life-cycle (on site or at production facility)



## Wystrach stationary storage solutions for H<sub>2</sub> Customer project: PICEA (HPS)



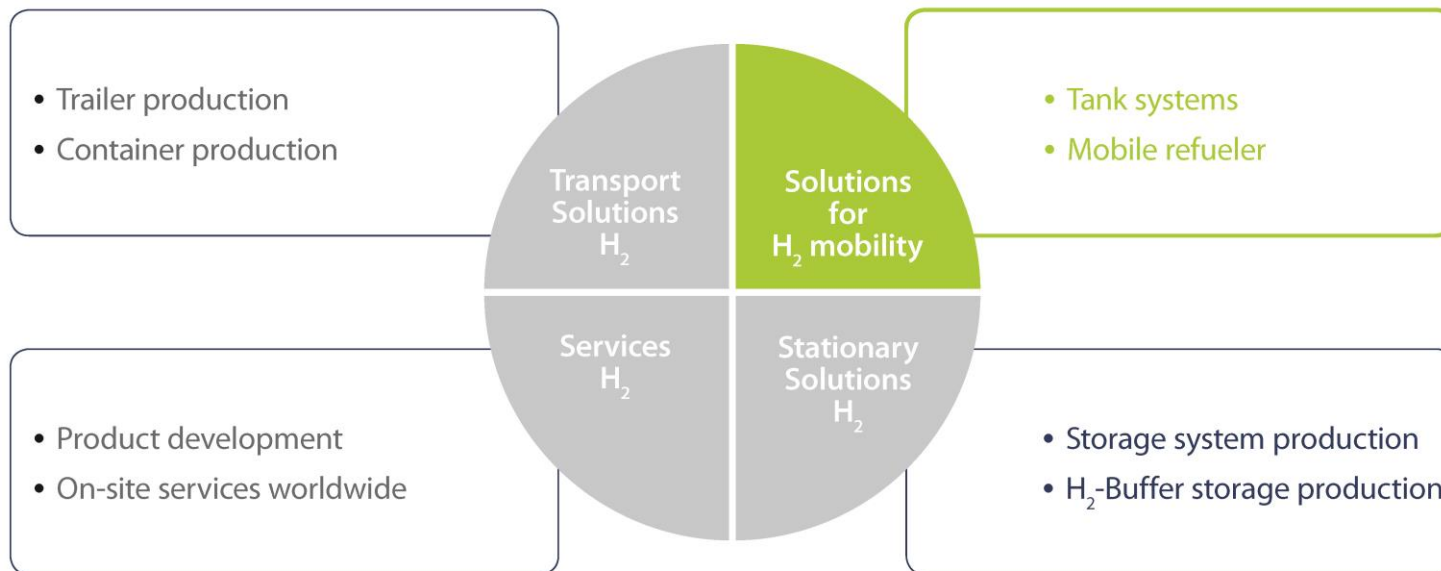
- PICEA gives homeowners independence from external supply
- converting solar power to Green Hydrogen
- Wystrach supplies stationary bundles of 12 or 16 cylinders
- H<sub>2</sub> is stored at up to 300 bar
- PICEA doesn't require modifications to the house

# Wystrach stationary storage solutions for H<sub>2</sub>

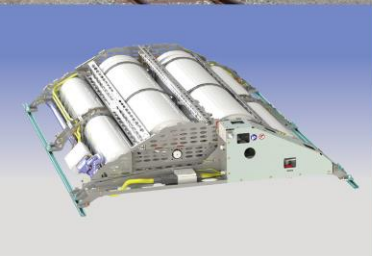
## Customer project: Energiedienst



- power-to-gas facility in Wyhlen, on the banks of the Rhine
- providing balancing power o demand
- three banks, each with 20 bundles of 18 cylinders
- capacity: 1200 kg H<sub>2</sub>
- storage pressure up to 300 bar
- using renewable power from a hydroelectric power station



## Wystrach tank systems



- tank systems for buses, trucks or trains
- Individual design following customers' needs
- Solutions ready to integrate
- 350 bar pressure
- EC-R 134 approved
- pressure reducing unit included
- various safety devices included
- Scalable sizes
- Efficient lightweight design

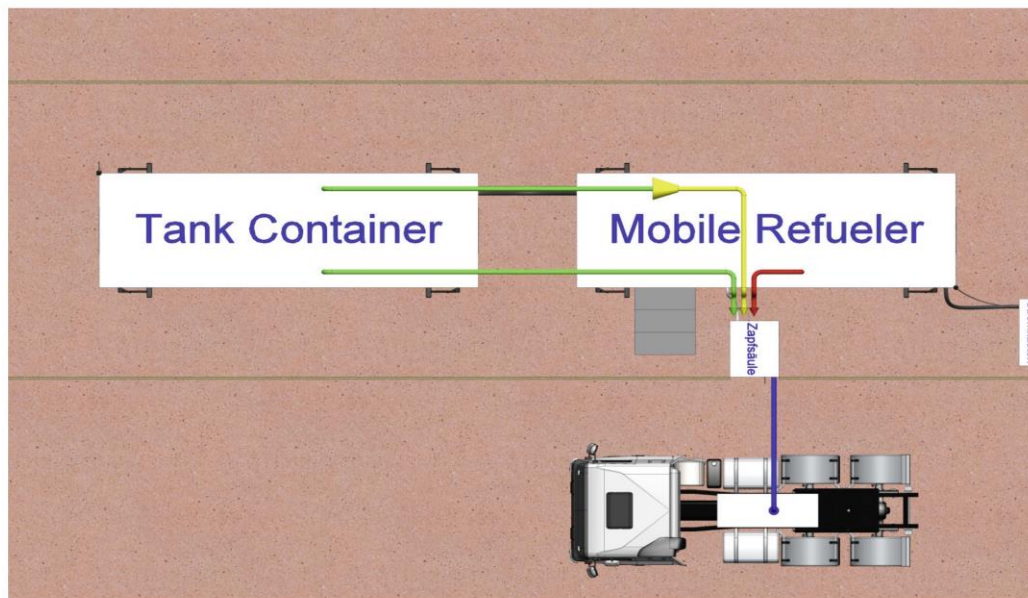
## WyRefueler 350/120 – the mobile hydrogen refueling system



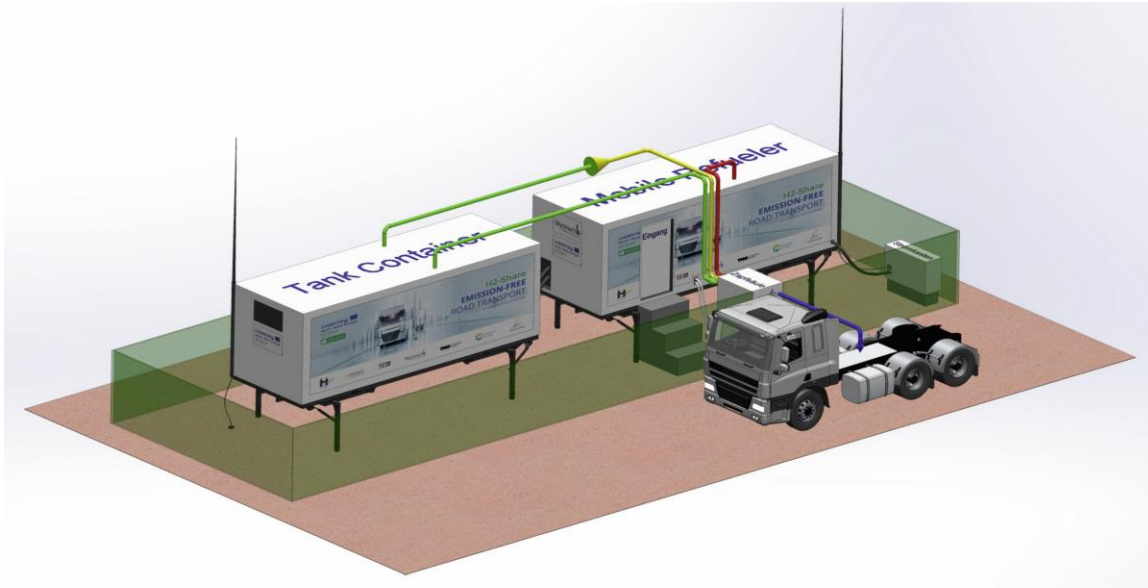
- standalone tank system for 350 bar refueling
- discharging capacity: 120 kg/day
- available 24/7
- with smart control
- mobile as BDF swap body (ADR)
- ADR and PED approved

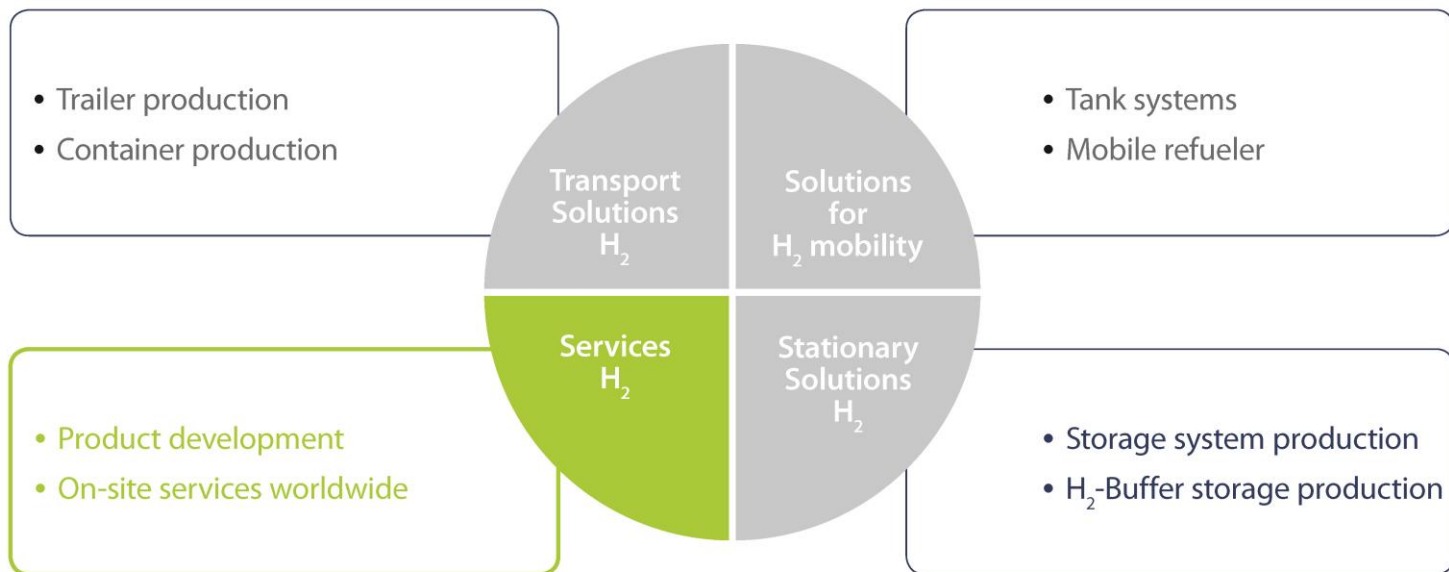
## WyRefueler 350/120 – the mobile hydrogen refueling system

- Overflow 300 bar
- Compressed overflow 500 bar
- Buffer overflow 500 bar



# WyRefueler 350/120 – the mobile hydrogen refueling system







## Wystrach services for H<sub>2</sub>-systems

### Product development

- from first idea to final approval
- fitting individual needs
- project management

### On-site services worldwide, e.g.

- installation
- commissioning
- maintenance
- 24/7 services on demand
- fully equipped Wystrach van for services across Europe



Thank you for your attention.

Wystrachl.  
*Worldwide art of precision*

