

# Hydrogen technologies in transport

Hydrogen is an energy carrier like electricity. It is the simplest and lightest element on Earth and can serve as a universal energy carrier that is able to store energy and also serves as a fuel for transport and carries heat and electricity in fuel cells.

- More than 500 hydrogen vehicles are operated in Europe now (especially in Germany, Scandinavia, United Kingdom, the Netherlands and France).
- Hydrogen buses are involved in public transport in London, Hamburg, Milan, Oslo and other cities.
- 50 hydrogen filling stations are in operation in Germany now; by 2023 there will be more than 400 of them.
- It's not just hydrogen cars and buses, but also forklifts, airport baggage trucks, trains, trams and, not least, small boats and ferries.
- There are over 5,000 forklifts in operation in warehouses of a corporate such as La Poste in France, or Wal-Mart and Coca-Cola in the United States.



## Hydrogen in transport benefits:

- low-emission fuel -> air quality improvement in areas of operation
- reduction of noise and vibration -> higher user's comfort
- the hydrogen vehicles (in comparison with a car using batteries) reach 400 - 600 km (cars) or 200 km (buses) per refuel, time of refueling shorter than 10 minutes
- lower operating costs
- the possibility of fuel production in relation to renewable sources
- the possibility of co-financing the project from public sources

## ÚJV Řež Offers:

- Consultancy on hydrogen cars and buses inclusion in the fleet
- Support for the development of filling stations infrastructure in the Czech Republic
- In the field of hydrogen technologies in transportation we provide:
  - consultancy
  - appropriate system design
  - design activities
  - turnkey realization
  - drafting a project co-financed from grants

## ÚJV Řež References:

TriHyBus = Triple Hybrid (Hydrogen) Bus, Fuel cell – traction batteries – ultra capacitors

Hydrogen filling station in Neratovice destination.



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