

Hydrogen Refueling Optimization (HERO)

It is aimed at developing a cost-efficient, optimized and safe hydrogen refueling station. The new design of dispenser systems and the optimization of refueling strategies contribute to the reduction of the costs and the increase of the efficiency while the high safety standards are maintained. Furthermore, new cooling concepts provide a reliable operation scheme for different pressures.

- An optimized cooling system for hydrogen precooling is built up adopting the idea of model predictive control.
- For different refueling pressures, a dispenser system is developed and the refueling operation is optimized.
- The challenge is to implement the respective optimization problem, into which the validated system model is incorporated, such that it can be solved sufficiently fast.

