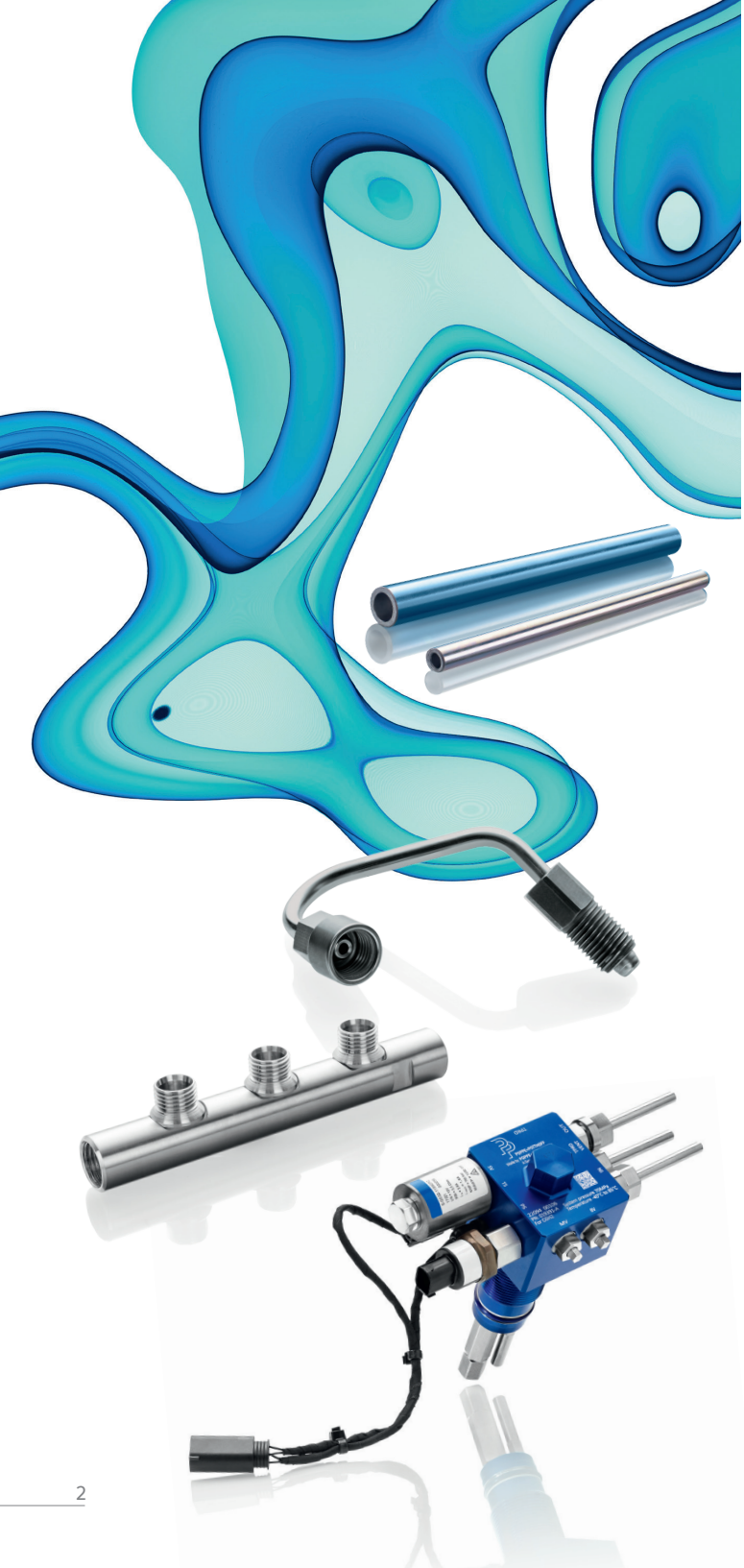


TEESING



YOUR PARTNER FOR HYDROGEN APPLICATIONS

**FROM DEVELOPMENT TO
SERIAL PRODUCTION**



SPECIALIST IN HYDROGEN SYSTEMS

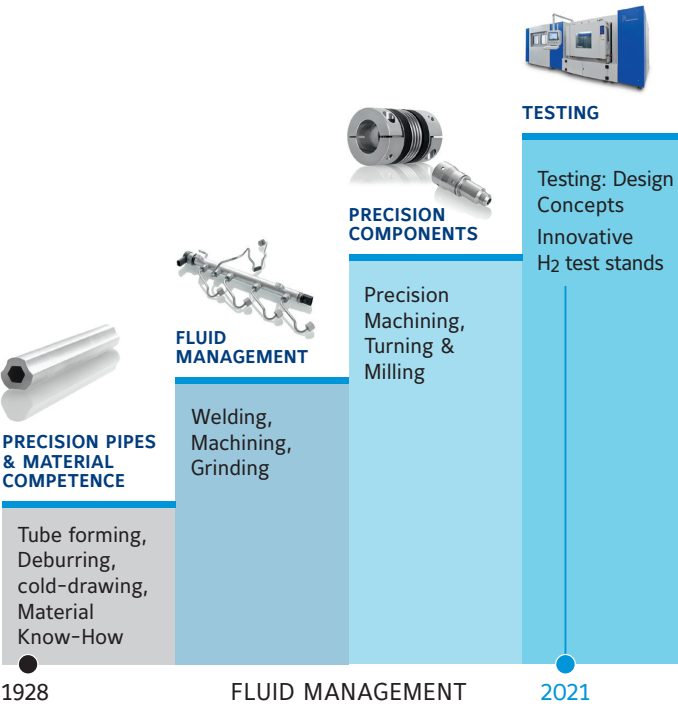
As a Tier-One supplier for the automotive industry Poppe + Potthoff designs and manufactures H₂ Supply Systems. Which means providing the components, that deliver the hydrogen from the tank to the fuel cells, H₂ combustion, or dual fuel engines.

With PPH₂, we have developed a material group especially for hydrogen applications. Using flexible and agile processes, we achieve solutions that enable hydrogen pressures up to 700 bar in both mobile and stationary applications.

P+P's portfolio is complemented with special pressure test stands for burst and function testing as well as checking the hydrostatic strength of media carrying components for H₂-applications.

Our test stands enable us to test our parts according to EU 406 / 2010 and ADR already in the development phase. Our developments are directly ready for use for applications under R134 and DIN EN 17339 under application of IATF 16949.

P+P'S EXPERTISE FROM FLUID MANAGEMENT TO ALTERNATIVE TECHNOLOGIES





ALTERNATIVE TECHNOLOGIES

Developing the interfaces H₂ supply system for a fuel cell driven commercial vehicle OEM; TÜV validation in 2013

Development of a subsystem for dual fuel injection for NA market

Start of H₂ architecture, valve development for H₂ systems

Introducing OTV and H₂ Supply System
Start of development of PPH₂ as alternative material for stainless steel

Successful **EC79 certification for P+P H₂ Supply System**
Standard-compliant development of subassemblies, **R134 certification** in process

2013

2015

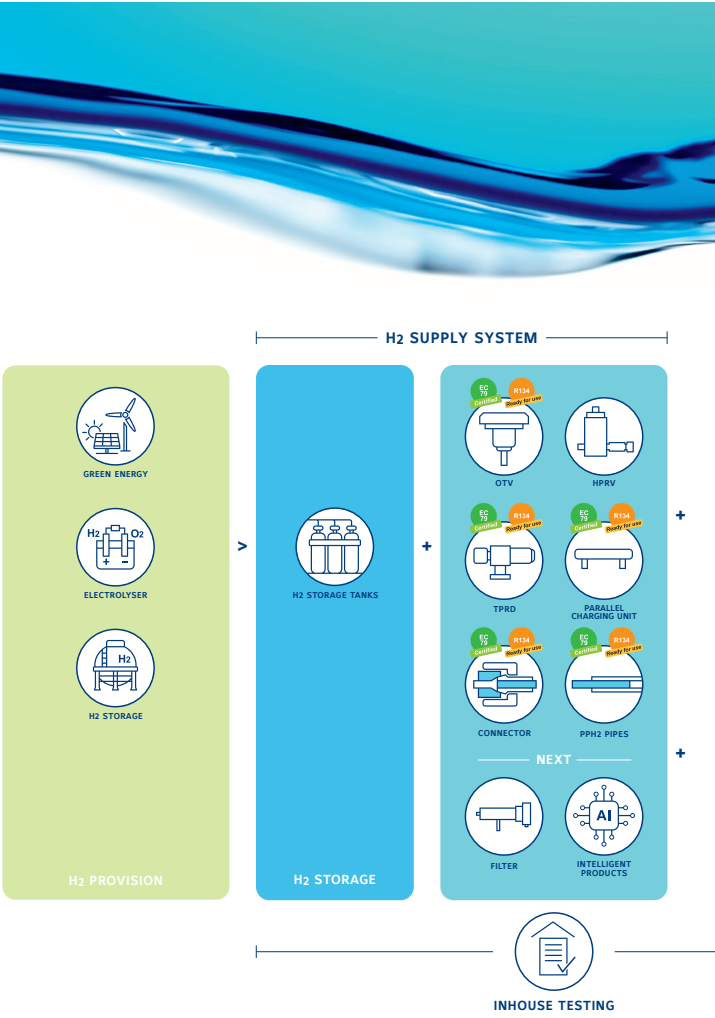
2020

2021

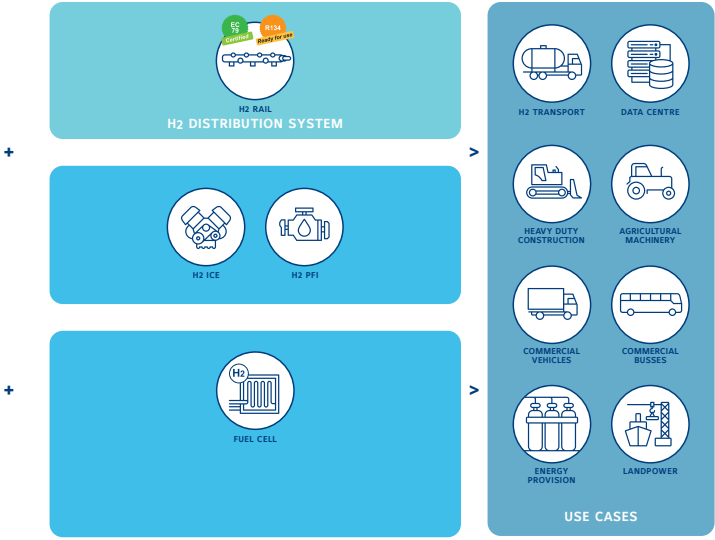
2022

TODAY

P+P'S H₂ PORTFOLIO FOR MOBILE AND STATIONARY APPLICATIONS

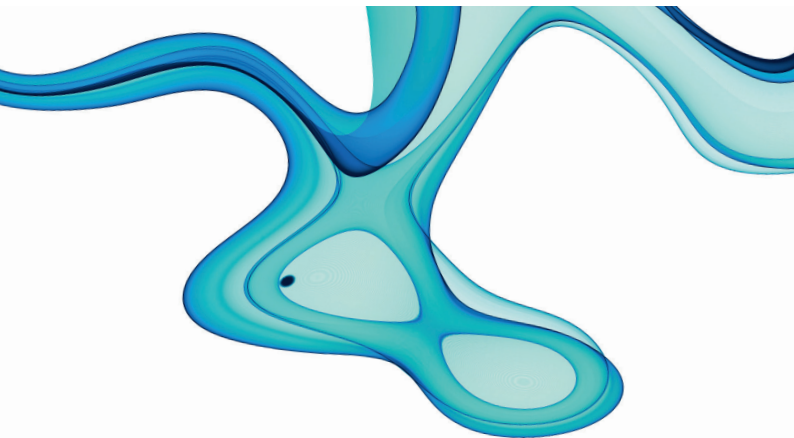


P+P's H₂ Supply System enables modular hydrogen provision and system integration for 700 bar



As an integrated development partner and supplier of hydrogen supply systems, we enable our customers to achieve their CO₂-goals. Our expertise in metal processing and fluid management coupled with our deeply ingrained technology openness, allow us to solve our client's challenges.

TEST STANDS FOR H₂ APPLICATIONS

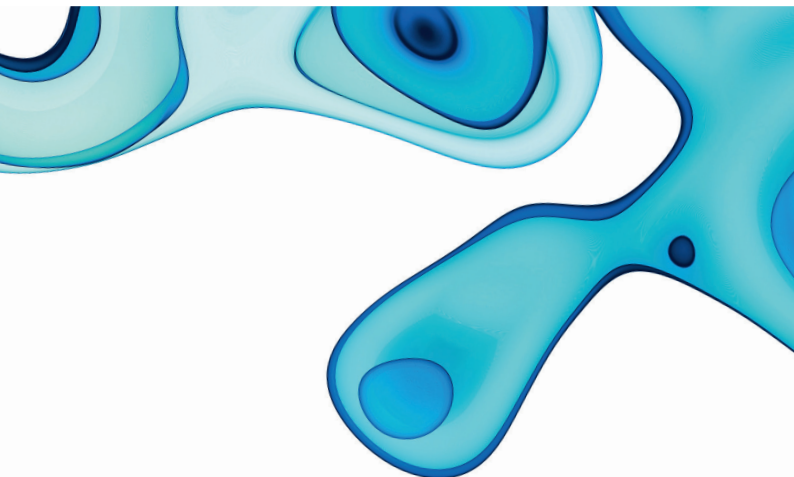


P+P test stands are used in research & development and to constantly benchmark manufacturing process & H₂ component quality.

To guarantee safety of media carrying components during their entire service life, components must undergo endurance tests under extreme load and temperature changes. P+P offers and uses flexible solutions while simulating diverse conditions and environments. Our technical solutions are specially developed for 700 bar hydrogen systems while the final project planning of each system is done in collaboration with you.



Pressure cycle, flow and function test bench
(with temperature systems for ambient and liquid)



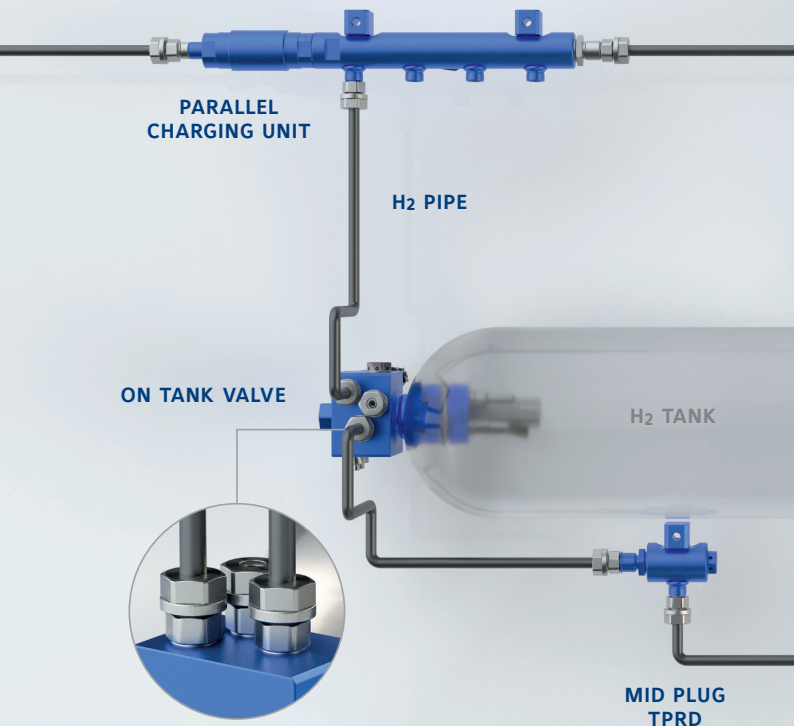
Dual chamber burst test stand

Hydrostatic pressure fatigue- and burst test

In a typical test, the component is inserted into the test chamber of the burst test bench. This can be an auxiliary heater for an hydrogen car or valves, hoses and other pressure vessels that need to withstand more than 100,000 pressure load changes over the lifetime of the vehicle (up to 15 years). The test benches of Poppe + Potthoff Maschinenbau allow for testing of the hydrostatic strength of components with pressures up to 3,000 bar or more.

APPLICATIONS OF OUR COMPONENTS

TRUCKS AND HEAVY-DUTY



Our solutions enable fuel cell and hydrogen engine applications with pressures up to 700 bar, such as in commercial vehicles (on-road and off-road).

THE POPPE + POTTHOFF H₂ SUPPLY SYSTEM



FACTS



Founded: 1928, family-owned for 90 years

Employees: 1,600

Locations: 18 in 9 countries



VARIED COMPETENCIES

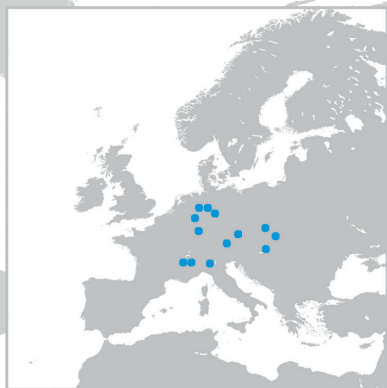
THE POPPE + POTTHOFF GROUP

Our group functions as a network, allowing us to combine our remarkable people and production facilities, to come up with the best possible solution for our customers' needs.

Our in-house capabilities range from engineering and validation, through production and finishing to quality assurance and packaging.

SALES AND PRODUCTION LOCATIONS

18 LOCATIONS IN 9 COUNTRIES



Founded in 1928 in Werther, Germany, we have grown into an international group with over 1,600 employees at 18 locations.

CONTACT US



The headquarters of the Poppe + Potthoff Group in Werther

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TEESING

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