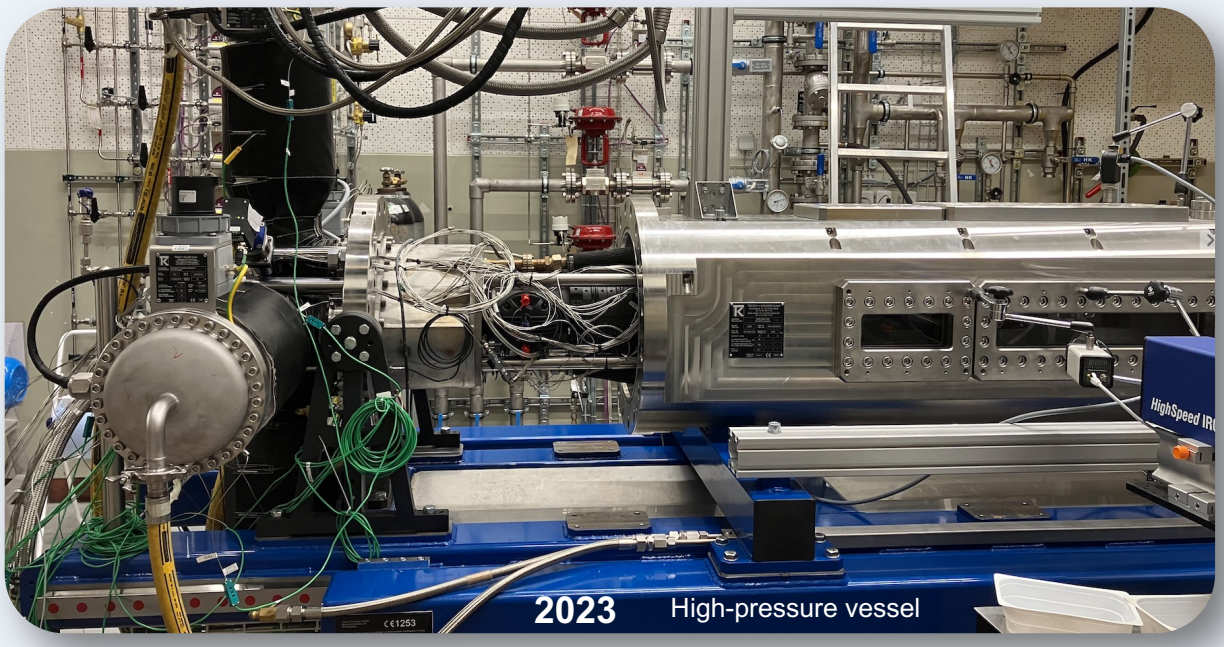
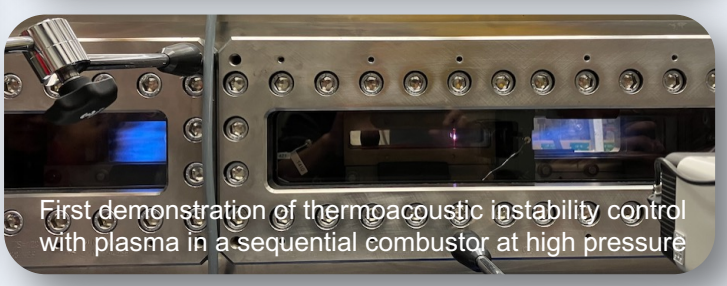
From the 1930's Engine Laboratory to today's High-Pressure Combustion Research Platform *Pele*




Control room

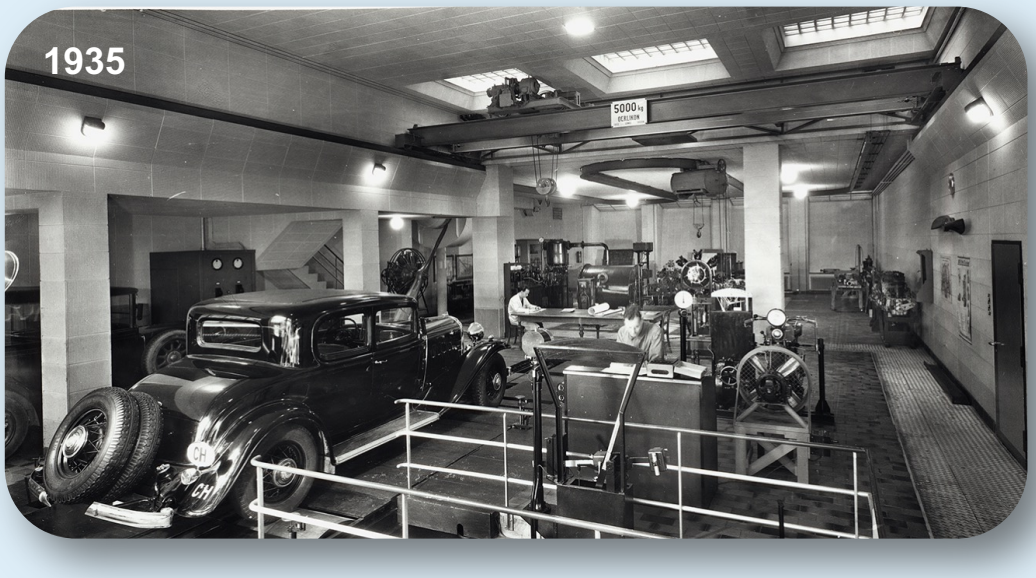

First demonstration of thermoacoustic instability control with plasma in a sequential combustor at high pressure

European Research Council
Established by the European Commission

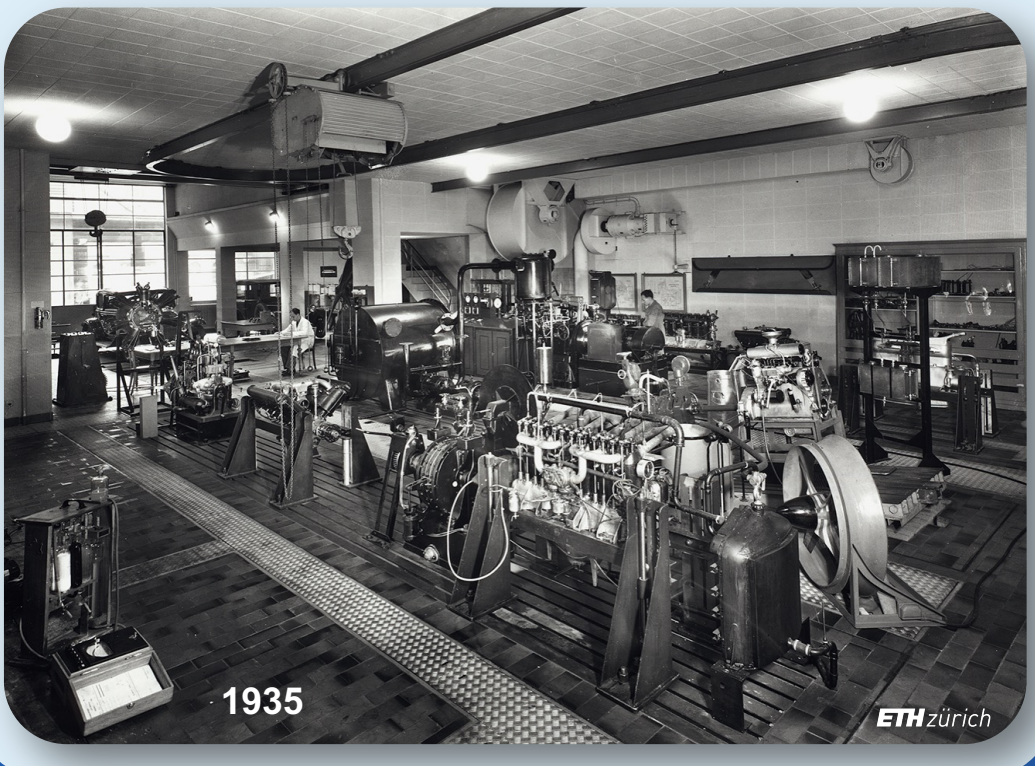
***Pele* was initially developed for the ERC Consolidator project TORCH (2019-2024, ID: 820091).** This unique infrastructure for applied and fundamental research on hydrogen combustion is key to develop future sustainable technologies for long-distance aviation and power generation.

Key features:
max. operating pressure: 8 bar
max. thermal power: 500 kW
max. inlet temperature: 400°C
Tunable acoustic boundaries
Pure Hydrogen operation at max power: > 30 min


Pele is a Goddess of Fire


1935

The Engine Laboratory was an annex of the Machine Laboratory which was established in 1900 by Prof. Aurel Stodola

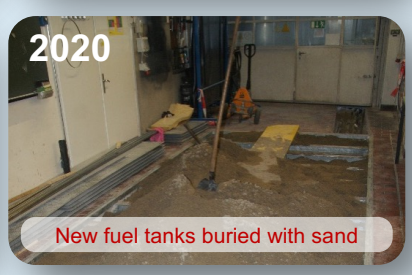

1935
ETH zürich

Upgrade of the fuel storage and distribution system


2022
Natural gas compressor: 600 kW_{Th} continuous operation at 20 bar

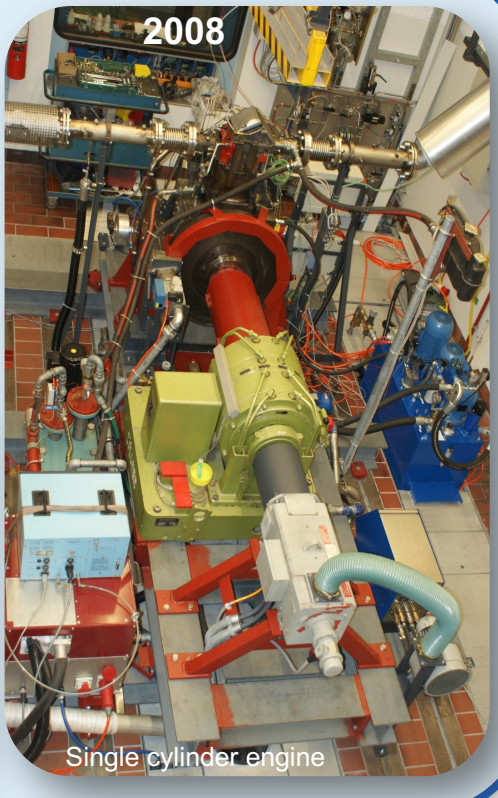

2023
New cabinets for the storage of Hydrogen bottles


Liquid fuel tanks with 2500 L Kerosene


2020
New fuel tanks buried with sand

Large single cylinder test platform. This research enabled the development of new technologies for synthetic fuels in internal combustion engines for transport and power generation.


Control room


2008
Single cylinder engine