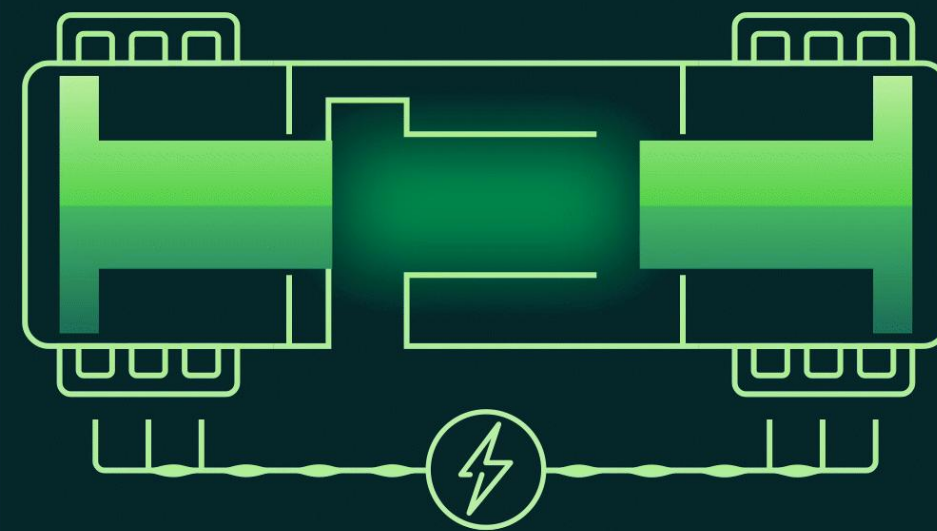


BEEETRON

WE ELECTRIFY YOU



Power generation technology
towards net-zero.

50%

very high efficiency



Low CAPEX and OPEX



Clean and sustainable

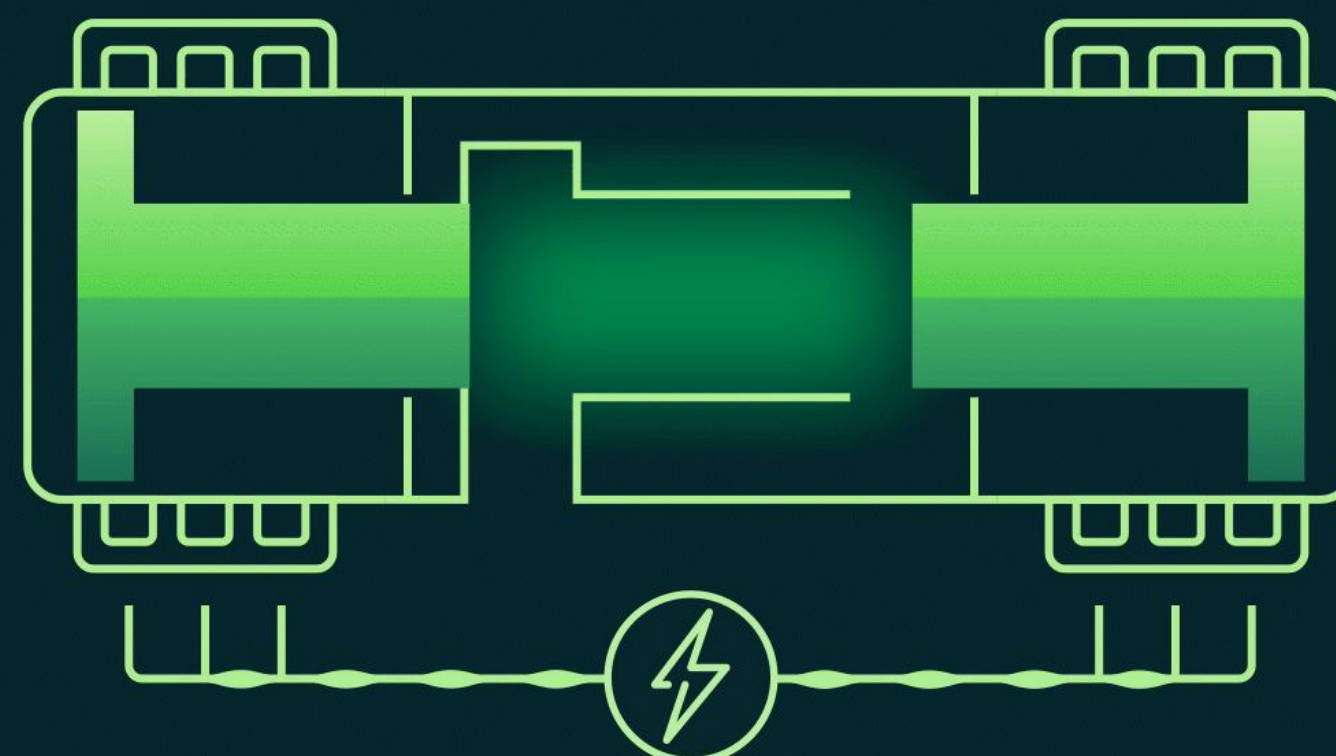


Short response time



Multifuel

H_2
Hydrogen



Ultra-low Emissions
and NVH



Robust
Low maintenance



Mobile and Stationary
Applications



EXPERIENCED TEAM WITH STRONG TRACK RECORD.



Franco Merli
CEO

Specialist in engine and
precision technology.



Sandra Lehmann
CFO & Innovation

Environmental scientist.



Gilles Hardy
Combustion Expert

M.Sc. Electro-Mechanical
Engineering/ combustion engines.



Silas Wüthrich
Combustion Expert

PhD Candidate, Mechanical
Engineering/combustion engines.



Prof. Dr.
Tommaso Lucchini

Associate Professor
Politecnico di Milano



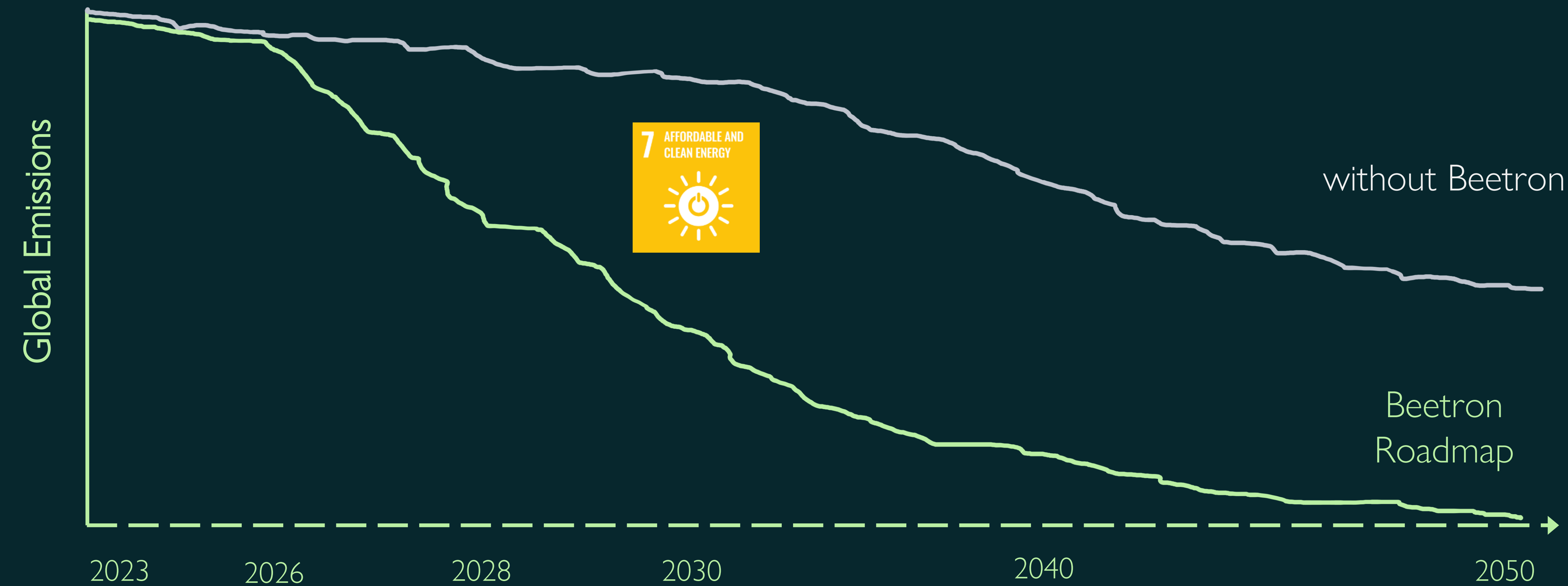
Mario Illien
Founder & CEO

Independent designer of the most
successful racing engines



Unique expertise in design, manufacturing, project management & business development.

BEETRON'S ROADMAP TO NET ZERO.



BIO AND E FUELS:



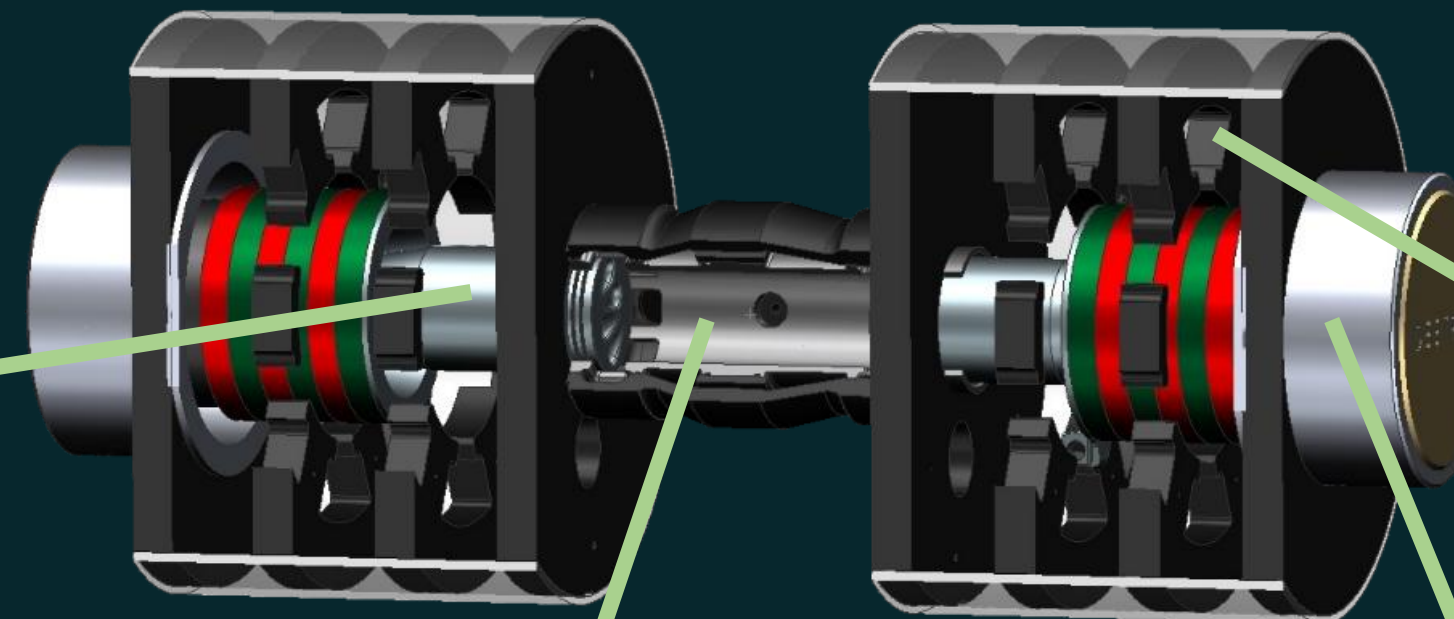
THE TECHNOLOGY.

Liquid and gaseous fuels (H₂, methanol, diesel, etc.)



Power: 100kW,
AC: 230/400 V
DC: 24 V
Watervapor and heat
(with H₂ use)

2 free pistons with permanent magnets
linear movement
no lateral forces, less friction
Very high piston acceleration
oscillate vibration-free at natural frequency



2 linear generators,
Copper windings,
stator laminations

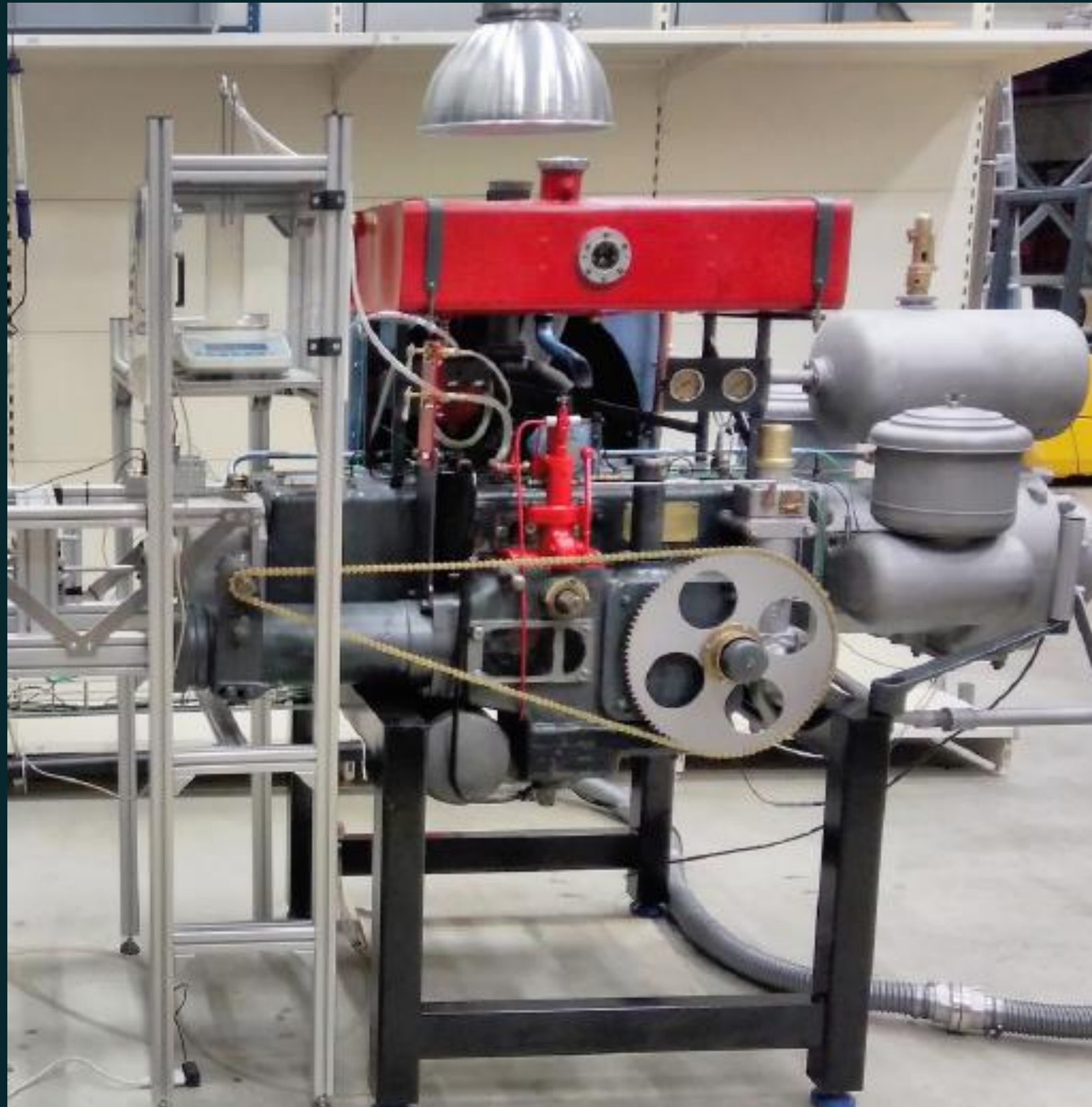
Central combustion chamber
High compression ratio 33:1
HCCI compression ignition
> 50 % thermal efficiency
less wall heat loss
less cooling

Air spring,
Resetting the pistons

TRL 5-6



STATE OF DEVELOPMENT.



University of Applied Sciences and Arts
Northwestern Switzerland

Institute for Thermo- und
Fluid-Engineering FHNW



SELECTION OF OTHER APPLICATIONS.



Decentralized clean energy in microgrids



Off-grid charging stations

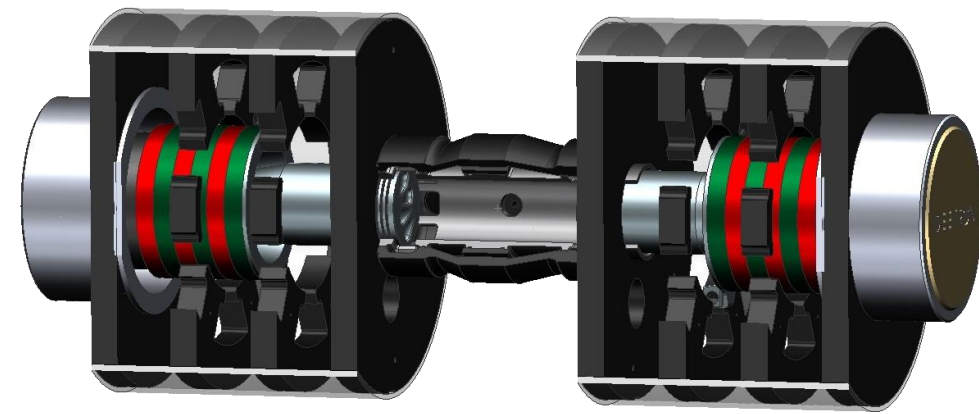


Hybrid / APU for ships



Range Extender E-VTOL

STRATEGIC ROADMAP.



2025

- Finalization of design and generator configuration.
- Kick-off with strategic implementation consortium.

2026/ 2027

- Availability of prototypes.
- Industrialization and certification in target markets.

2028/ 2029

- Delivery of pre-series.
- Start of serial production.

SUMMARY.

- **Highly efficient:**
The BEETRON free-piston technology converts gaseous and liquid fuels with an efficiency of $> 50\%$ into electricity.
- **Compact and lightweight:**
for mobile and stationary applications in the power range of 10 - 300 kW
- **Autonomous and safe:**
Robust, reliable, and flexible free-piston power generator.
- **Sustainable:**
Ready for Diesel and future CO₂ neutral fuels (even hydrogen).





www.beetron.ch