

# MAHLE Powertrain Beyond Automotive

- > Adapable skillsets
- Extensive experience
- Flexible approach



## Beyond Automotive

MAHLE Powertrain has been active in the automotive sector for over 60 years.

During that time, our talented engineers have developed their skills in a broad spectrum of disciplines ranging from fundamental research, concept design, modelling, analysis and simulation through to prototyping, testing, calibration, software development and systems engineering. These skillsets, coupled with in-house developed tools and techniques, have also been successfully applied across multiple non-automotive sectors to provide technical solutions for an ever-increasing range of customer projects.

The diversification from our core automotive powertrain activities is delivering vital solutions in many different areas including renewable energy, marine, medical, off-highway, defence, e-mobility, consumer products and non-automotive software. This wide variety of successful projects clearly demonstrates the flexibility of our business and the adaptability of our technical experts in applying their transferable skills to an extensive range of engineering challenges.



>> MAHLE Bike



>> Renewable energy technologies

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## Capabilities

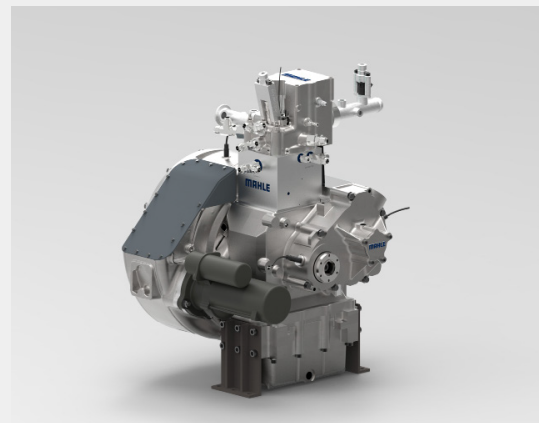
- Modelling (1D and 3D)
- Simulation
- Topological optimisation
- System sizing & optimisation
- Rapid prototyping / additive manufacture
- Smart validation
- Software development
- Control systems
- 3D laser scanning



>> Stirling engine for renewable solar energy

## Recent Non-automotive Projects

- Stirling engine design, development & testing
- Small genset for domestic power supply
- eBike motor drive systems
- Modelling of the human lung for medical ventilator
- Large single cylinder marine diesel research engine
- Low NVH transmissions for wind turbines
- Free-piston engine for power generation



>> Genset for domestic power supply



>> Modelling for medical ventilator

## Invention & Innovation

The exacting demands of automotive powertrain design and development processes and timescales have driven our engineers and technical experts to invent, evolve and innovate.

Our extensive range of skills, toolsets and techniques can be successfully applied with lateral thinking to an almost limitless range of engineering challenges to deliver ingenious solutions across multiple sectors.

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