

Lightweight Motor- Arterial Cooling



Motivation and Relevance

- Reduction of engine weight from 30 % to 40 % with improved operating efficiency, operating behaviour, thermal management and reduced noise development
- Hybridisation of vehicle powertrains will continue to grow in the future, which will also increase the weight of the drive units.

Approach

- Free from manufacturing restrictions such as casting cores, demoulding,
- Use of laser powder bed fusion (LPBF) and heavy-duty plastic components made of fibre composite material (FRC)

Results

- reducing the weight of the cylinder head and crankcase by 20-30%.
- Improved operating efficiency, operating behaviour, noise development
- Integrated thermal management.

Energy Saving



Integrated Structure



Reduction Lead Time



Research Area

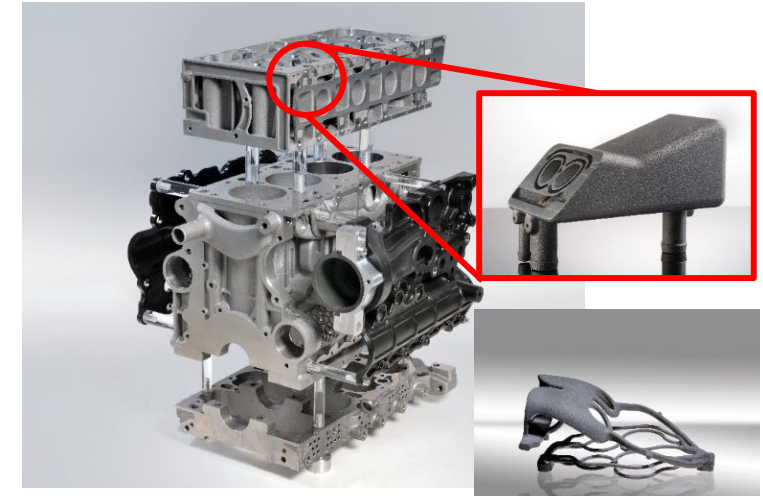
- Development, Production

Partners



INPECA

Picture



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