

About this organisation

Machine translation

This organisation has been machine-translated based on data provided in German.

The CAE service company MORPHOTEC was founded in 1995 as a spin-off of the Institute for Mathematical Models in Materials Science at RWTH Aachen University by Dr Stefan Henschen. The institute is headed by Prof. Dr.-Ing. Betten. Stefan Henschen completed his doctorate on the subject of "Topology optimisation using cellular automata" in 2001 under the supervision of Prof. Dr.-Ing. Betten and Prof. Dr.-Ing.

Optimisation of a component/assembly can be carried out in the area of structure/surface and topography/topology. The topography optimisation essentially introduces stiffening elements (e.g. beads) and the topology optimisation finds the optimum material distribution in the installation space. Example projects carried out by MORPHOTEC to optimise the structure/surface and topography/topology include - Topography optimisation of PET bottles, taking into account the different load conditions (top-loading / side-loading). - Topology optimisation of various components in combustion engines (main bearing caps, connecting rods, crankcases, etc.), taking into account corresponding uniformity and/or non-uniformity restrictions (upper stress limit, usable relative material content and limits for deformations).

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Germany

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Organisation type

Small or medium-sized enterprise

Sectors

No specific sector

Employees

Up to 9

Turnover

n/a

Funding

About this organisation

Main areas covered

CAE simulation, FEM, CFD, Shape optimisation, Topology optimisation

Infrastructure

Certifications

Keywords

Memberships

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
<i>Products</i>			
Services & consulting Prototyping, Simulation		✓	
Field of technology			
<i>Design & layout</i>			
<i>Functional integration</i>			
<i>Measuring and testing technology</i>			
<i>Modelling and simulation</i>			
<i>Plant construction & automation</i>			
<i>Recycling technologies</i>			

Overview of lightweighting expertise

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Research Development **Manufacturing
& Supply**

Manufacturing process

Additive manufacturing

Coating (surface engineering)

Fibre composite technology

Forming

Joining

Material property alteration

Primary forming

Processing and separating

Textile technology

Material

Biogenic materials

Cellular materials (foam materials)

Composites

Fibres

Functional materials

Metals

Plastics

Structural ceramics

(Technical) textiles

Contacts

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Mr Dr. Stefan Henschen

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