

Carbon-Drive GmbH

Lighten Up Machining

About this organisation

Machine translation

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

Carbon-Drive manufactures electric drives made of carbon fibre (CFRP) which, thanks to their dynamic performance and power density, are used wherever traditional steel drive systems reach their physical limits and become uneconomical.

Designing carbon-components is completely different to metallic components. With carbon fibre we can adjust the material behaviour (stiffness, strength etc.) to the application. The material properties are part of the design variables. The solution and therefore optimization possibilities become infinite. We have built up the know-how and software tools to design ideal carbon-components considering all the different problems regarding electro-magnetic powertrains (for example electro-magnetism, heat transfer or the bearing arrangement). We are able to tailor the material properties to the needs of our customers. That's the key to build superior electric drives. No other company on the market is anywhere near this advanced. To obtain this advantage, we registered a patent for CFRP shaft in electric drives.

Egerlaender Str. 6
64331 Weiterstadt
Hesse
Germany
www.carbon-drive.de



Carbon-Drive

Organisation type

Small or medium-sized enterprise

Sectors



Employees

Up to 9

Turnover

Up to €2m

Funding

Carbon-Drive GmbH

Lighten Up Machining

About this organisation

Main areas covered

Motor spindles, Machine tools, Drive shafts, Rotor bandages

Infrastructure

Filament winding machine, FEM, Simulation of bearings and motors, Testing up to 200 kN, Precision machining of fibre composite components

Certifications

Keywords

Memberships

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Offer			
<i>Products</i>			
Services & consulting Consulting, Testing and trials, Engineering, Prototyping, Validation, Simulation		✓	✓

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Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Lightweight construction concepts	✓	✓	✓
Functional integration Actuator technology, Sensor technology	✓	✓	✓
Measuring and testing technology Component and part analysis, Visual analysis (e.g. microscopy, metallography), Materials analysis, Destructive analysis, Non-destructive analysis	✓	✓	✓
Modelling and simulation Crash behaviour, Loads & stress, Life-cycle analysis, Optimisation, Structural mechanics, Materials, Reliability validation	✓	✓	✓
<i>Plant construction & automation</i>			
<i>Recycling technologies</i>			

Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
Manufacturing process			
<i>Additive manufacturing</i>			
<i>Coating (surface engineering)</i>			
Fibre composite technology Filament winding, Pre-preg processing	✓	✓	
<i>Forming</i>			
Joining Hybrid joining, Adhesive bonding, Screwing	✓	✓	✓
<i>Material property alteration</i>			
<i>Primary forming</i>			
Processing and separating Drilling, Turning, Milling, Sawing, Grinding, Cutting	✓	✓	✓
<i>Textile technology</i>			

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Overview of lightweighting expertise

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Research Development **Manufacturing & Supply**

Material

Biogenic materials

Cellular materials (foam materials)

Composites

Fibres

Functional materials

Metals

Plastics

Structural ceramics

(Technical) textiles

Contacts

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