Lightweight Forging Initiative

Network

About this organisation

The weight of vehicles is one of the decisive challenges facing the automotive industry in the near future. This is because less weight means lower CO2 emissions as well as improved material and resource efficiency. Thanks to its lightweight design qualities, modern steels will retain a central role in these developments. The Lighweight Forging Initiative offers lightweighting innovations: www.lightweightforging.com

The goal is to achieve weight-savings in cars and light commercial vehicles using innovative components made of steel. During Phase I with 24 participating companies, a medium-sized passenger car was analyzed and the lightweight design potential of 42 kg was achieved in the powertrain and chassis regarding forging parts. In Phase II with 28 companies focused on a light commercial vehicle up to 3.5 t. Phase II identifed a feasible lightweight design potential of 99 kg in the powertrain and chassis. In Phase II with 28 companies focused on a light commercial vehicle up to 3.5 t. Phase II identifed a feasible lightweight design potential of 99 kg in the powertrain and chassis. In Phase III, finished in autumn 2018, 39 companies from the US, Japan and Western Europe had the focus on the lightweighting potential in the powertrain and chassis of a hybrid passenger car and analyzed 93 kg as well as in the transmission of a conventional truck 124 kg, www.lightweightforging.com

Goldene Pforte 1
58093 Hagen
North Rhine-Westphalia
Germany
www.massiverleichtbau.de

Organisation type
Cluster

Sectors

Employees
50 up to 249

Turnover
n/a

Funding
n/a

Lightweight Forging Initiative

Network

About this organisation

Main areas covered	Forging, Lightweight Forging
Infrastructure	Test laboratory, Benchmarking, Workshops
Certifications	
Keywords	Lightweight Forging, Automobile industry, Vehicles, Steel, Forging
Memberships	

Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Offer			
Products Parts and components, Materials	✓	✓	✓
Services & consulting Consulting, Engineering, Prototyping, Simulation, Technology transfer	✓	✓	✓

Lightweight Forging Initiative
Network

Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Field of technology			
Design & layout Lightweight manufacturing, Lightweight design, Lightweight construction concepts, Lightweight material construction	✓	✓	✓
Functional integration Material functionalisation	✓	✓	✓
Measuring and testing technology Component and part analysis, System analysis, Materials analysis	✓	✓	✓
Modelling and simulation Loads & stress, Life-cycle analysis, Optimisation, Processes, Materials	✓	✓	✓
Plant construction & automation			
Recycling technologies Recycling	✓	✓	✓
Manufacturing process			
Additive manufacturing 3D printing	✓	✓	✓
Coating (surface engineering)			
Fibre composite technology			
Forming Impact extrusion, Forging	✓	✓	✓
Joining			
Material property alteration			
Primary forming			
Processing and separating			
Textile technology			

Lightweight Forging Initiative
Network

Overview of lightweighting expertise

	Research	Development	Manufacturing & Supply
Material			
Biogenic materials			
Cellular materials (foam materials)			
Composites			
Fibres			
Functional materials			
Metals Aluminium, Magnesium, Steel, Titanium	✓	✓	✓
Plastics			
Structural ceramics			
(Technical) textiles			

Contacts

Ms Dorothea Bachmann Osenberg

Marketing Manager

info@massiverleichtbau.de