

# University of Stuttgart

Institute for Acoustics and Building Physics IABP, Holistic Balancing GaBi

## About this organisation

### Machine translation

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

The department's research area encompasses ecological, socio-economic and technical analysis and optimisation from process to product. The sustainability studies build a bridge between the built and natural environment: from the provision of energy, the production of materials, the recovery and recycling of high-quality material flows to the mobility, construction and living of today and tomorrow.

The department combines many years of technical and engineering experience with a strong scientific background. It offers a wealth of experience of over 30 years in the development of life cycle assessment methodology, software and databases, especially in the field of lightweight construction and lightweight materials. Members of the department play an active role in international working groups and are represented in the UNEP-SETAC Life Cycle Initiative, which promotes the global use of robust life cycle knowledge by private and public decision makers. Together with association partners, employees of the department have shared their sustainability knowledge with the professional community in well over 1000 publications and conference papers. Our clients include most major global chemical, plastics and metals companies, the majority of European OEMs and companies from the electronics and construction industries.

Wankelstraße 5  
70563 Stuttgart  
Baden-Württemberg  
Germany

[www.iabp.uni-stuttgart.de/gabi/](http://www.iabp.uni-stuttgart.de/gabi/)



### Organisation type

University or higher education institution

### Sectors



### Employees

10 up to 49

### Turnover

Up to €2m

### Funding

<b>About this organisation</b>	
<b>Main areas covered</b>	Sustainability assessment, Life cycle analyses, Life cycle assessment (LCA), Life cycle cost calculation (LCC), Social aspects of sustainability
<b>Infrastructure</b>	
<b>Certifications</b>	
<b>Keywords</b>	Sustainability, Life cycle assessment, LCA, Design for Environment, Process optimisation
<b>Memberships</b>	

<b>Overview of lightweighting expertise</b>			
<b>Machine translation</b>			
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	<b>Research</b>	<b>Development</b>	<b>Manufacturing &amp; Supply</b>
<b>Offer</b>			
<b>Products</b> Others (Customised solutions for sustainability assessment (including databases for common LCA software, dashboards, BI tools, interfaces to existing data structures, ...))	✓	✓	✓
<b>Services &amp; consulting</b> Training, Consulting, Technology transfer	✓	✓	✓

**Overview of lightweighting expertise**

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	Research	Development	Manufacturing & Supply
<b>Field of technology</b>			
<b>Design &amp; layout</b> Others (Design for Environment)	✓	✓	
<i>Functional integration</i>			
<b>Measuring and testing technology</b> Component and part analysis, Materials analysis, Others (Product life cycle assessment)	✓	✓	
<b>Modelling and simulation</b> Life-cycle analysis, Optimisation, Processes, Materials	✓	✓	
<i>Plant construction &amp; automation</i>			
<b>Recycling technologies</b> Recycling, Upcycling, Others (End-of-life (EoL) analyses)	✓	✓	

## Overview of lightweighting expertise

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	Research	Development	Manufacturing & Supply
<b>Manufacturing process</b>			
<b>Additive manufacturing</b> 3D printing, Selective laser sintering (SLS)	✓	✓	
<b>Coating (surface engineering)</b> Galvanising, Painting, Sputtering	✓	✓	
<b>Fibre composite technology</b> Filament winding, Resin infusion process, Resin transfer moulding, Pre-preg processing	✓	✓	
<b>Forming</b> Compression moulding, Thermal converting, Deep-drawing	✓	✓	
<i>Joining</i>			
<b>Material property alteration</b> Mechanical treatment, Thermochemical treatment, Thermomechanical treatment, Heat treatment	✓	✓	
<b>Primary forming</b> Extrusion, Casting, Pultrusion, Sintering, Injection moulding	✓	✓	
<i>Processing and separating</i>			
<b>Textile technology</b> Fibre manufacturing, Braiding, Yarn & roving production, Preforming, Knitting, Textile surface treatment and finishing, Nonwoven & mats production, Weaving, Knitting, laid web production	✓	✓	

**Overview of lightweighting expertise**

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	Research	Development	Manufacturing & Supply
<b>Material</b>			
<b>Biogenic materials</b> Bioplastics, Biocomposites	✓	✓	
<b>Cellular materials (foam materials)</b> Closed-pore, Open-pore	✓	✓	
<b>Composites</b> Aramid fibre composites, Glass-fiber reinforced plastics (GFRP), Ceramic matrix composite (CMC), Carbon-fiber reinforced plastics (CFRP)	✓	✓	
<b>Fibres</b> Aramid fibres, Glass fibres, Ceramic fibres, Carbon fibres, Natural fibres	✓	✓	
<b>Functional materials</b> Others (functional nanomaterials (e.g. for conductive elements in fibre composites))	✓	✓	
<b>Metals</b> Aluminium, Steel	✓	✓	
<b>Plastics</b> Thermoset plastics, Elastomers, Thermoplastics	✓	✓	
<b>Structural ceramics</b> Non-oxidic ceramics, Oxidic ceramics	✓	✓	
<b>(Technical) textiles</b> Yarns, rovings, Meshes, Laid webs, Crocheted fabrics, Woven fabrics, Knitted fabrics, Nonwovens, mats	✓	✓	

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## Contacts

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

Mr Tobias Prenzel, M.Sc.

*Project manager*

[gabi@iabp.uni-stuttgart.de](mailto:gabi@iabp.uni-stuttgart.de)