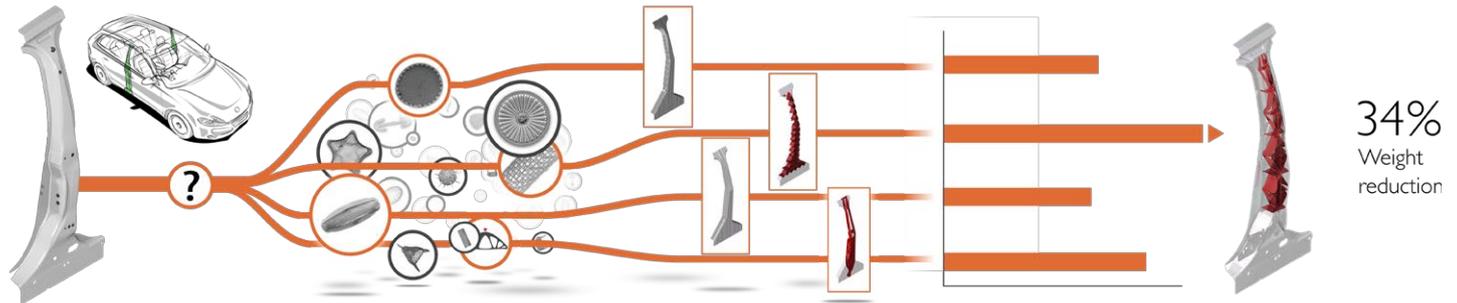




LEICHTBAU

Our Team is comprised of talented bionics experts and creative engineers, combines technical competence with efficient solutions created by nature and leads you to radically new products.

ELiSE is a systematic product development process for bionic lightweight designs and is applicable across all industries.



34%
Weight
reduction

I

Analysis

Definition of product specifications with simplified load cases

Implementation of topology-optimizations and interpretation of critical load paths

II

Screening

Database with more than 120.000 natural lightweight structures

Identification of mechanical lightweight principles and constructions methods of nature

III

Concepts

Transfer of biological structures to radically new concepts

Creative and interdisciplinary developments of multiple concepts in our innovation lab

IV

Optimization

Parametric optimization using evolutionary algorithms

Topology-, topography-, sizing-, shape and lattice-optimizations

V

Product

Production-oriented CAD constructions

Prototypes and demonstrators for a better technical understanding

The ELiSE-process uses successful structures from nature to improve your products: our archetypes are shells and armored protections of marine microorganisms. During evolution these planktonic organisms became highly efficient and multifunctional lightweight structures.



 **ELiSE**
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Asteromphalus spec.

For further information and references please visit our website: www.elise.de