ELiSE

CONCEPT

Sooner or later continuously improved components can reach the limit of their potential for optimization. We offer the development of radically new concepts by finding inspiration in nature´s lightweight structures, setting new standards in terms of technology and aesthetics. We seek the challenge of creating new ideas and enhancing your product.

Analysis

The development of radically new concepts starts with the proper formulation of specifications and loading conditions. We benefit from up-to-date topology optimization methods to reveal and understand the basic mechanical principles of your product.

- Definition of equivalent static load cases and target requirements
- Implementation of topology optimization to reveal load paths
- Interpretation of load paths and transfer in mechanical principles

Screening

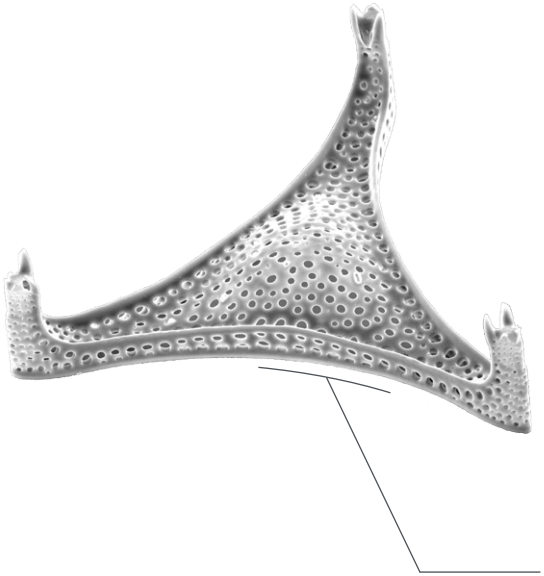
During the screening process of suitable natural archetypes and structure principles for your product we are proud of the fact that a database of 120.000 plankton organisms and examined mechanical principles forms our source of inspiration.

- Screening of more than 120.000 biological structures
- Strong cooperation with Friedrich-Hustedt-Center
- Mechanical principles and lightweight constructions of nature

Concept development

Nature's mechanical principles and construction methods are combined to consistent overall concepts. FEA-simulations of these concepts enable proper dimensioning and assessment of applied lightweight structures and corresponding mechanical principles in your product.

- Innovations lab
- Transfer of nature-inspired structure concepts
- AM demonstrators made from composite materials and ABS



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