

It is time for a new kind of chair –

CASE STUDY

Additive Manufactured Furniture
for unlimited design and functionality



PROJECT BREAKDOWN

Application

Furniture and product design

Why OECHSLER

We are a partner of innovation and additive manufactured solutions – from idea generation to global production.

Material used

TPU

The result

Production effective and design revolutionized seating

OECHSLER's innovative approach to manufacture seating furniture yields an unprecedented way of cushioning, the freedom of design, hybrid features in one print, and high sustainability due to easy recycling of the individual parts. Yet, these are just a few reasons why we are ready to take the next step. Our goal is to enter new markets by revolutionizing the common design and functionality standards.

Since the 16th century, chairs are known and used to increase comfort. Whereas a simple wooden structure would generally serve the purpose in the early years, it nowadays evolved into a vast product field for a variety of purposes including comfort, functionality, and design. Even though the perception of these three aspects has quite changed over time, the materials remained mostly the same: wood, metal, foam and fabric. Lately, there is a growing demand for new solution approaches. Thanks to our unique additive manufacturing process, we are able to use materials in just the right way to create the perfect balance between flexibility and comfort.

PAVING THE WAY

Let us start with a little story about how the project evolved. As you know from other product fields, OECHSLER loves to reinvent standard products to improve their functionality (see the Case Study about [Skiing Goggles](#)). Coming up with the idea to build a perfect seating the team realized that the furniture market stuck to similar materials for years. An additional analysis of usual production processes gave deep insight into how seating applications are constructed and manufactured. Having that knowledge, the team aimed to create a product that is not a futuristic single copy but a real alternative to previous seating. As a partner with expertise, the design part was given to 'Steinbauer Design' - a great product designer coming from the Ansbach area. The main goal was to use as few materials as possible and achieve the highest flexibility in design and functionality. The design approach

aimed at the maximum part reduction of usual lounge chairs by combining soft and hard parts into one component. Using the lattice technology OECHSLER enabled these special properties and additionally printed the connection elements between the seat and chair feet.



A new way of cushioning by 3D printed lattice structures

The comfort of every seating furniture depends on two main factors: the design and the cushioning. Endless combinations of different lattice sizes, thicknesses, and forms allow any degree of cushioning. At the same time, each zone of the chair can be designed individually. It can be shaped in nearly any way imaginable.



Design possibilities

There is virtually no limit when it comes down to the design. This revolutionizes the opportunities for cost-effective productions. On our website, you can find some of the innovative ideas we came up with – but we are sure there is a whole lot more OECHSLER can manufacture for you.

Hybrid Functions in one Print

With the help of additive manufacturing, fabrics, springs, and foam layers can be eliminated without losing comfort. To stabilize parts of the seating, rigid prints serve as a substitution for racks. The additive manufactured product can also act as a base for further processing. By, for example, adding other printed components, racks, or textiles, its appearance can easily be changed, offering a whole new variety of design perspectives.



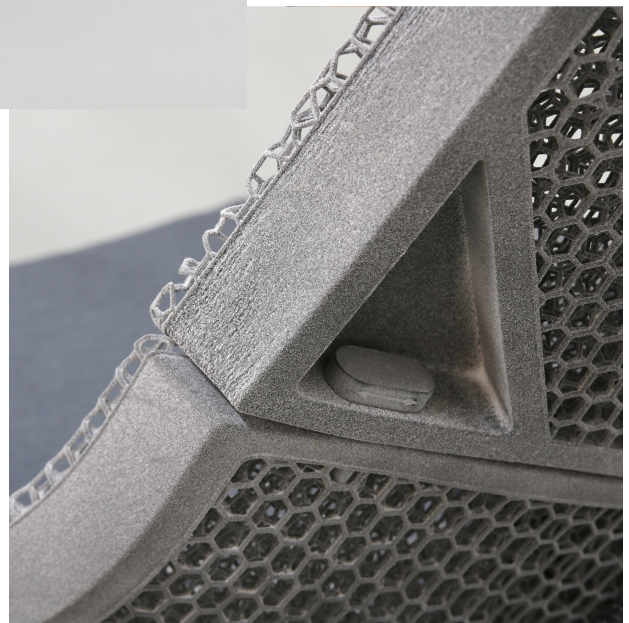
Modell SLOPE

- metal rack
- printed seat pads
- printed lattice pillows
- multi-layer cushioning
- easily exchangeable textile covers
- printed connectors



There are practically no limits when it comes to design.

Additive manufacturing opens the door to a new level of product creation in the furniture industry.



OUTCOME

Additive manufacturing opens the door to a new level of product creation in the furniture industry: It's designable, sustainable, smart, robust, comfortable, lightweight, and versatile. While keeping track of all the ideas was not easy for us, we eventually decided to start with a lounge chair. Its main characteristics are:

- ergonomic & comfortable cushioning
- hammock effect
- base and pillow seat pads
- printed rack parts
- pillowcase textile
- plug-in attachment
- metal rack

The technological features are overwhelming. By printing rigid and soft parts as one structure, we created a lightweight chair with ergonomic and comfortable cushioning. An optional textile cover can simply be plugged on top. In terms of sustainability, all components can be dismantled and separately disposed of to be recycled. Moreover, the chair is very easy to disassemble and transport, due to its lightweight.

All in all, the main benefits of the new additive manufactured seating experience OECHSLER invented are:

- a new way of cushioning
- freedom of design
- hybrid features in one print
- sustainability



HAVE WE SPARKED YOUR INTEREST?

Let's talk about your ideas – we're ready to support your project.

► [GET IN TOUCH!](#)