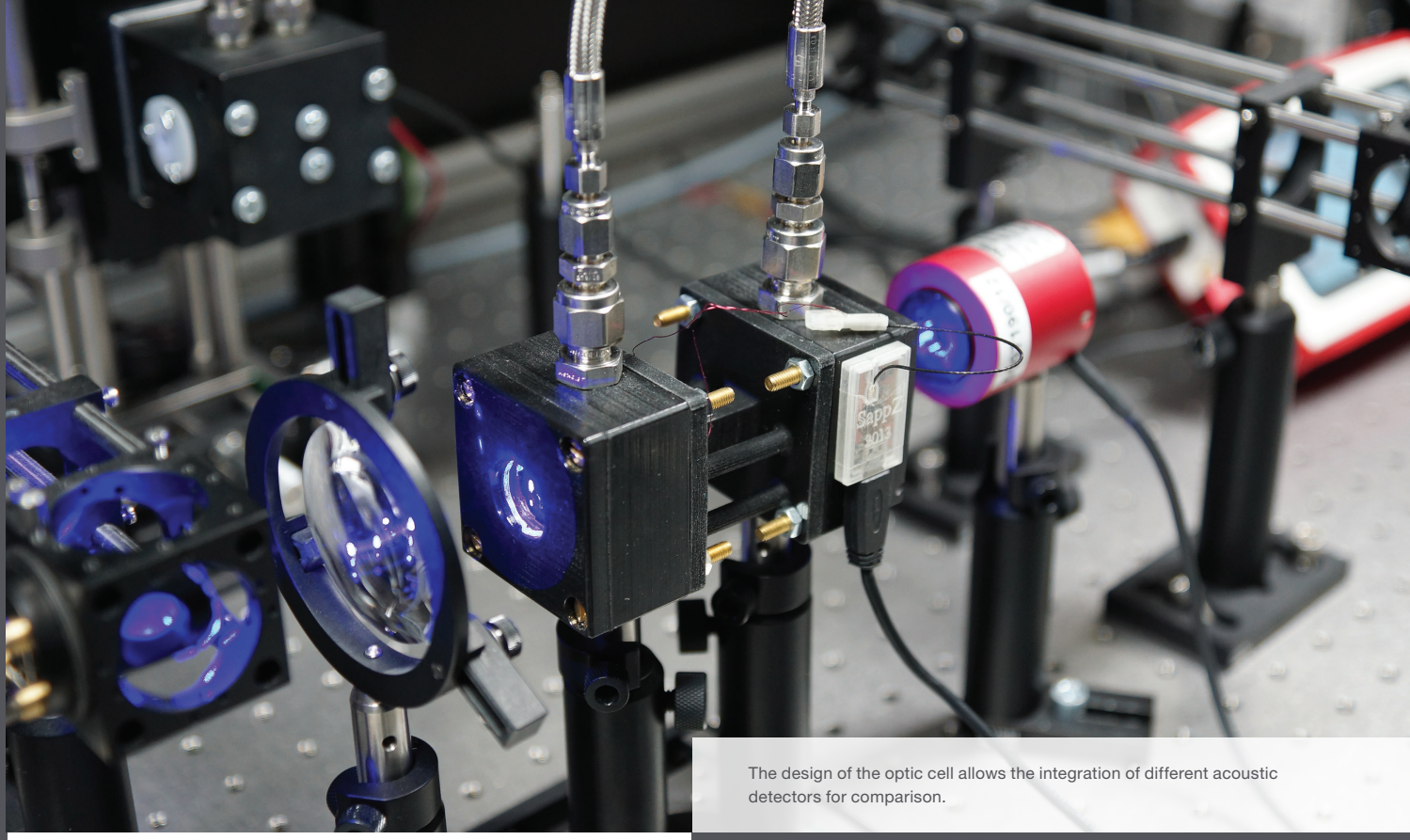


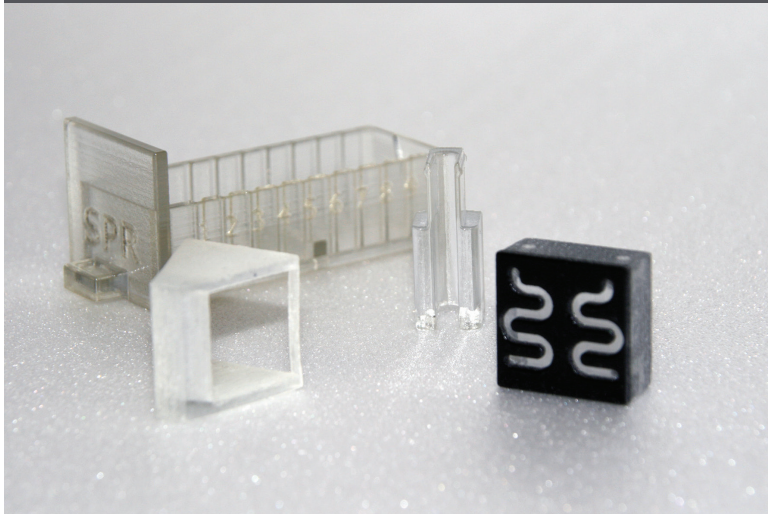
The design of the optic cell allows the integration of different acoustic detectors for comparison.

Research In Hand

OTH Regensburg Students Bring Concepts to Life With 3D Printing

OTH Regensburg (OTH) is one of the largest technical universities in southern Germany and offers more than 45 degree programs in engineering, business studies, social services and design to 11,000 students.

> “It’s all about changing the mind-set of students. How they go about constructing things shifts dramatically once they’ve used a 3D printer...It really is construction without limitation.”
>
> Florian Olbrich`
> **OTH Regensburg**



stratasys

Case Study

Research In Hand

OTH is also home to the Sensorik-Applikationszentrum (SappZ), a center where students use applied research and engineering together with 3D printing to develop sensor applications for the automotive, medical, industrial, electronic and mechanical industries. 3D printing has a significant impact on the center because of its speed, accuracy and multi-material capabilities.

“As a facility that acts as an interface between the research activities of the university and the world of business and industry, we have the enabling technologies to make concepts become realities,” said Florian Olbrich, researcher for the department of applied sensor technology at OTH. “Our 3D printer really has transformed the way we work.”

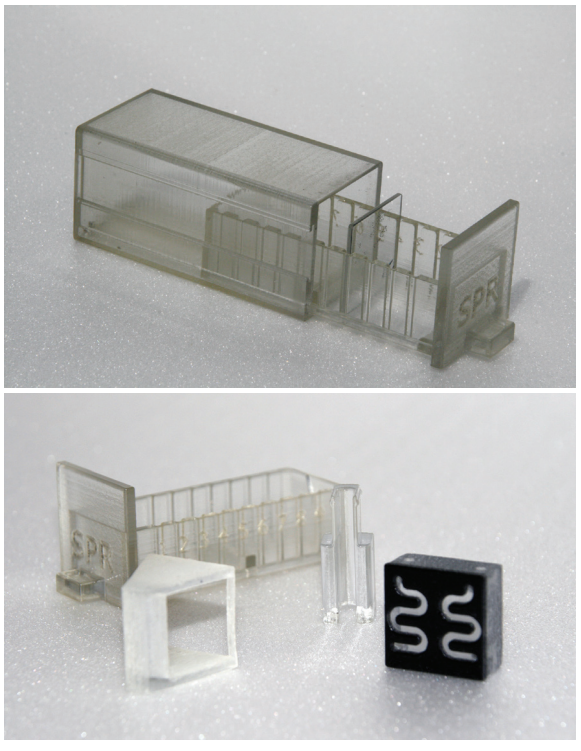
A 3D printed case for an ultrasonic transducer where precision is key to ensuring the microchip perfectly fits the case.

Unlimited Applications

The students and researchers at SappZ use PolyJet technology to develop projects with accuracy and function. PolyJet offers the widest variety of materials, which has opened up a diverse range of applications for students.

“We print large and small parts with very complex geometries that we put to use immediately,” said Olbrich. “We 3D print micro cases and chip packages, and the chips need to fit the cases exactly. The models we create are very precise and have the required surface qualities, which is very important.”

SappZ 3D prints functional sensor housings and mechanical prototypes, as well as parts for their own lab equipment and experimental set-ups. SappZ also works on projects with other departments including chemical experiments using printed microfluidic measurement cells, test runs in the university’s wind tunnel and a microtomography project with the university’s biomedical engineering center.



3D printed scratch-resistant sample storage case

Research In Hand

A New Way of Thinking

The capabilities of PolyJet along with the Stratasys discounts for educational institutions have made hands-on 3D printing experiences available to all students. The increased access to 3D printing has not only increased the quality of student projects, but it is changing something else even more important.

“It’s all about changing the mind-set of students,” said Olbrich. “Previously, engineers would think, ‘Can I do this with milling?’ or ‘Can I reach it with a drill?’, but with 3D printing, you don’t really have limitations. How they go about constructing things shifts dramatically once they’ve used a 3D printer a few times. You lose the barriers in your head and know pretty much anything will work, no matter how complex. It really is construction without limitation.”

By enabling more students to use the multi-material 3D printer, Olbrich feels the quality of education has improved as it allows students to develop new ways of thinking about design and production.

“We are even 3D printing projects for first-year students,” Olbrich said. “It’s a great feeling being able to bring 3D printing to a broader student population and I’m confident that the long-term benefits will be profound.”

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