

## Press Release from Biberach University of Applied Sciences

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Sustainable housing development

### **Idea competition for energy-efficient buildings: Biberach University of Applied Sciences is taking part in Solar Decathlon Europe 21**

A total of 18 international teams were selected by a world-class panel of experts to participate in Solar Decathlon Europe 21 (sde21), which will take place in Wuppertal, Germany in 2021. Alongside teams from Asia and many other areas of Europe, six German teams, including Biberach University of Applied Sciences (HBC), were also able to convince the panel of experts with innovative concepts. The panel's decision has now been announced.

The competition focuses on cutting-edge ideas for sustainable, energy-efficient and socially responsible buildings in urban areas. The goal is to push forward with the energy transition in urban housing to help fight climate change, creating cities that are well-equipped for the future and offer a sense of community along with a high standard of living, according to the organizers of the competition, for which the University of Wuppertal (BUW) is cooperating with various partners, including the Wuppertal Institute for Climate, Environment and Energy. This is the first time the competition is being held in Germany. "I'm certain the teams will present ideas that will serve as shining examples of solutions for other cities and states. They are translating the energy transition into real-world applications," say the organizers, quoting Federal Minister for Economic Affairs and Energy Peter Altmaier. The teams participating in the competition will draft a detailed design concept and build a real demonstration unit.

An interdisciplinary team comprising energy and civil engineers, project managers and architects at Biberach University of Applied Sciences entered the competition together. 40 students and professors led by the Energy Engineering Degree Program collaborated on a draft for the sustainable extension of urban housing titled "Extension for Sustainability" (X4S). "Our concept clearly focuses on sustainability at every level. That includes architecture, urban integration and intelligent, regenerative energy production," explains Professor Andreas Gerber from the Energy Engineering and Building and Energy Systems faculties.

The demonstration unit required as part of the competition was planned and built in collaboration with the Carpentry Center of Biberach, says Gerber, who was the responsible project manager for HBC's competition entry along with Master's student Lena Frühschütz (Energy and Building Systems Degree Program).

Students and professors from all of the construction related departments are not the only ones working on the ambitious, interdisciplinary project; academicians from the Research Institutes for Building and Energy Systems and Timber Construction are also contributing their expertise. Now that HBC's admission to Solar Decathlon Europe has been announced, students and professors are proud of this initial success – and excited to continue their work on the concept. “sde21 offers the university an opportunity to demonstrate its expertise as it competes with 18 other colleges and universities, including the renowned Karlsruhe Institute of Technology along with universities from Denmark and Sweden,” said Andreas Gerber. Master's student Lena Frühschütz is thrilled to be able to compete in the international student event: “It gives us students the chance to gather specialized expertise in the field of energy-efficient construction and hone both our practical and social skills.”

The selected international teams now have a year and a half to design and plan their buildings. In August 2021 representative units of the whole building will be built and operated on a 1:1 scale at the *Utopiastadt* (Utopia City) Campus. The Biberach building will also be erected in Wuppertal. The agenda for the next few months will include further developing the basis for the application, integrating it in the curriculum and acquiring funds and resources. The Biberach team will receive around €100,000 in initial funding from the award authority.

The following universities were chosen to participate alongside HBC.

- Aachen: Aachen University of Applied Sciences (Team socialENERGY), Germany
- Bangkok: University of Bangkok (Team SAB adaptive living quarter), Thailand
- Bangkok: King Mongkut's University of Technology Thonburi (Team UR-BAAN), Thailand
- Biberach: Biberach University of Applied Sciences (Team X4S), Germany
- Bucharest: University for Architecture and Urban Planning “Ion Mincu” (Team EFdeN), Romania
- Delft: Delft Technical University (Team SUM), Netherlands
- Düsseldorf: University of Applied Sciences Düsseldorf (Team HSD - MI-MO), Germany
- Eindhoven: Eindhoven Technical University (Team VIRTUe), Netherlands
- Gothenburg: Chalmers University of Applied Sciences (Team C-Hive), Sweden
- Grenoble: Grenoble School of Architecture (Team Aura), France
- Karlsruhe: Karlsruhe Institute of Technology (Team RoofKIT), Germany
- Copenhagen: Technical University of Denmark (Team Denmark), Denmark
- Pécs: University of Pécs (Team Lungs of the City), Hungary
- Prague: Czech Technical University (Team FIRSTlife), Czech Republic
- Rosenheim: Rosenheim University of Applied Sciences (Team Level Up), Germany
- Stuttgart: University of Stuttgart (Team col.lab), Germany
- Taipei: Chiao-Tung National University (Team House for All), Taiwan
- Valencia: Polytechnic University of Valencia (Team Azalea), Spain

### **Further information:**

The Solar Decathlon 21 competition is sponsored by the Federal Ministry for Economic Affairs and Energy (BMWi). The project team at the University of Wuppertal (BUW) includes the City of Wuppertal, the Wuppertal Institute for Climate, Environment and Energy, the Utopiastadt Initiative, the Wuppertal Municipal Utilities and Neue Effizienz GmbH.

*Caption: An interdisciplinary team of energy and civil engineers, project managers and architects from Biberach University of Applied Sciences has collaborated on their submission to the international call for teams to compete in Solar Decathlon Europe 21. The Energy Engineering Degree Program spearheaded the project: Professor Andreas Gerber (right) and master's student Lena Frühschütz (center)/photo: HBC*