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A Thai sustainable shophouse is making its way to stay in Wuppertal as a Living Lab.

The project “UR-BAAN” from KMU team, Thailand has been selected to participate in the Living Lab with the opportunity to leave the demonstration unit in Germany for at least 3 years.

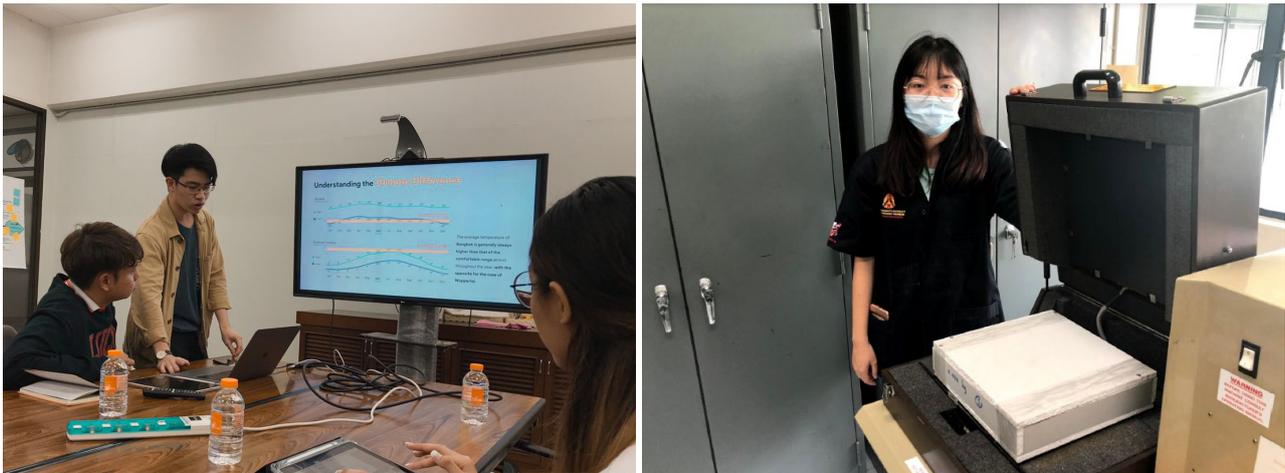


In the upcoming summer, King Mongkut’s University of Technology Thonburi (KMU) will be working on the construction test of the House Demonstration Unit for an international competition “Solar Decathlon Europe”. The house will be competing with the other 17 teams across the globe in Wuppertal under 10 contests, all of which aims towards a sustainable living environment. Alongside with other 7 teams, the house will remain at the Solar Village beyond the competition where research and real-life applications will take place.

As the main objective of KMU team is to revitalize the existing underused shophouses in Thailand, the ground and second floor of the real site are taken to reflect the physical condition of the existing building, along with the retrofitting of the newly integrated parts in the design. One of the distinctive features of the house are the selected local materials. The house will mainly be constructed out of rubber wood, which is a product of plantations rather than deforestation in Thailand, making it an environmentally friendly material. Rubber-wood will be used for prefabricated hollow core modules that act as the main structure of the house, insulated with Kapok, a cotton-like locally grown material in South East Asia region.

“The adaptation of passive strategies designed for a Thai context to a different climate in Europe is one of the most challenging tasks in this competition”

- Chavis Krittanai, leader of KMU’s mechanical and energy team



Photos of UR-BAAN’s mechanical and energy team brainstorming on the climate differences (left) and testing the thermal properties of Kapok (right)

There has to be a challenge in every competition, especially for KMU team. The thermal issues in Thai shophouses mainly associate with a high cooling demand in a hot and humid climate, whereas the challenge in Wuppertal is to keep a house warm, especially when the house is going to be left as a Living Lab and need to go through hard winters.

“This will be an amazing opportunity for KMU team to perform a real-life experiment and see the capability of local materials and strategies being applied in a whole different context.”

- Waraluk Pansuwan, Faculty Advisor of KMU Team

The team is currently working hard on preparing construction drawings for the construction test and make the house becomes a reality in a few months. To keep track of the project’s progress, UR-BAAN has a social platform on Instagram ([@sde.kmutt](https://www.instagram.com/sde.kmutt)), Facebook ([SDE KMUTT](https://www.facebook.com/SDE.KMUTT)) and the website: <https://urbaansde21.com>

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