

Zug Canton: Highest Wood Skyscraper in Switzerland Is Being Built

1,500 residents, 2,000 students and more than 2,500 jobs: the Suurstoffi area in Risch Rotkreuz, Swiss Canton of Zug, is developing into a place of learning and work, residential area and recreation zone. The highest wood skyscraper in Switzerland with a total height of 60 meters is being built on the total area of some 10 hectares with a zero-zero sustainability goal. It is considered particularly innovative and together another building forms part of the new campus of the Lucerne University of Applied Sciences and Arts (HSLU). Drees & Sommer is supporting the construction of the educational buildings on construction site 1 of Suurstoffi West with Lean Construction Management (LCM).

The principal of the integrated sustainable district, which creates a link between living, working and recreation, is Zug Estates AG. The first two construction phases in the scope of which some 19,000 square meters of commercial area have been developed and 384 apartments handed over to users, have already been completed. The university campus set to emerge by fall 2019. It is part of a project which will form an important anchor point for the district with two wood skyscrapers and a concrete structure between them designed by the joint venture Büro Konstrukt & Manetsch Meyer Dipl. Architekten ETH of Lucerne. With 14 floors and 60 meters high one of the innovative wood skyscrapers will be the highest of its kind in Switzerland. The new building with some 42,000 square meter gross floor area will host lecture rooms of the Lucerne School of Business and the Lucerne School of Information Technology (both part of HSLU), offices and retail space. The foundation stone of the project was laid on February 22, 2018.

Innovative linking of different methods

Drees & Sommer ensures a smooth construction process thanks to Lean Construction Management (LCM), borrowed from the lean principle which originated in the automotive industry, integrated construction logistics and the integrated digital planning method Building Information Modeling (BIM). BIM ensures the meaningful integration and utilization of all necessary data through the various project phases. For the new construction of the university campus an innovative software is used which enables the integrated use of construction logistics, BIM and LCM.

'Lean methodology lends itself in particular to large, demanding projects involving many parties as in the case of the HSLU university campus project, as the focus here is on optimizing the entire process,

which is elaborated by all stakeholders involved together. So potential risks become apparent much quicker, scheduling, cost and quality targets can be met', explained Paul Schneider, senior project partner at Drees & Sommer SE.

District sets zero/zero goal

The Suurstoffi area has taken the lead in Switzerland. Goal of the energy concept is the *zero/zero* principle: a completely CO₂-free district. 'The wood construction of the new university buildings fits in perfectly with the sustainability concept of the area, as wood is considered particularly exemplary in CO₂-neutral construction compared with other materials. In addition, the prefabricated elements have other advantages such as high building speed', said Peter Diggelmann, chief planning officer of the general contractor Suurstoffi Baufeld 1 GmbH. Wood is a positive role model in manufacture, transportation and assembly as well as dismantling, as the low carbon dioxide emission has a positive effect on ecological balance. The sound and thermal insulation properties also speak for its use. Apart from the wood skyscrapers, the garden skyscraper Aglaya with the plants integrated in its façade will ensure a positive ecological balance in the district. The area will also utilize solar energy, several dynamic geothermal storage units and an energy grid.



Caption: With a total height of 60 meters, one of the buildings on the campus of the Lucerne University of Applied Sciences and Arts becomes the highest wood skyscraper in Switzerland.

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Drees & Sommer and EPEA Internationale Umweltforschung (Environmental Research) in Hamburg, Germany, are jointly committed to the Cradle to Cradle® principle in the building industry, bringing principals, investors, architects and manufacturers together to promote the approach.

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