

A new urban scale

It ranks among the first projects of this scale in Germany: the commercial tower at Tübingen's Westspitze, designed by a+r Architekten as a timber hybrid construction.



a+r Architekten have designed the “Westspitze” near Tübingen’s city centre, an office and commercial building in ecologically high-quality timber hybrid construction, which is one of the first projects of this scale in Germany. With its innovative and practically invisible solar façade, the building is sustainable in every respect and a compact “power plant”. In August 2020, the striking commercial tower was completed, marking the end point of a residential and commercial complex and at the same time forming the prestigious entrance to the new quarter at the goods station.

Completed in August 2020, the seven-storey commercial and office building at Tübingen's Westspitze has already been praised by the regional press as a “showpiece of climate-friendliness and sustainability”, and as an urban landmark that marks a new urban scale. In fact, the building, designed by a+r Architekten Stuttgart/Tübingen on behalf of Westspitze GmbH, is one of the first projects of this size in Germany to be constructed using the timber hybrid construction method.

The client wanted a building with high ecological standards

Westspitze Gewerbebau GmbH & Co. KG, in which UmweltProjekt GmbH (a subsidiary of Umweltbank AG Nuremberg) holds a 50 per cent stake, while around 10 private investors from Tübingen and the surrounding area hold the remaining 50 percent, wanted a building with high ecological standards and requested the use of wood for the supporting structure. In terms of energy efficiency, the KfW 55 standard was to be met, which according to Oliver Braun, Managing Director at a+r Architekten and responsible for the Westspitze project, “is a demanding objective for an office building”. Electricity was to be generated using photovoltaics, and the aim was to develop a durable and low-maintenance façade cladding.

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Challenges and innovative solutions

The architects of the “tower” shimmering in warm earth tones, which was ready for occupancy in September 2020, faced a whole series of challenges at the beginning of the design process, starting with the oblique-angled site. “For an efficient timber or timber-concrete structure, right-angled ground plans with moderately large spans are actually particularly favourable,” Braun explains. The architects solved this requirement by designing a concrete base with dark clinker facing and integrating a triangular core built of reinforced concrete in the centre, which accommodates the staircase and lifts. This “core” provides sufficient stiffening and makes it possible to connect rectangular timber floor slab elements. The façade design also required an innovative solution. The client wanted photovoltaic elements to be integrated into the façade, which had to have an aesthetically appealing design.

A functional, urban architecture – with emotion and technical finesse

a+r Architekten succeeded in creating an energy-generating façade without making it look “too technical, which would certainly have been the case if classic PV modules had been integrated,” explains Oliver Braun. The architects chose colour-coated PV elements that were integrated into a curtain-wall façade made of powder-coated aluminium sheets, oscillating in different colours depending on the incidence of light. These innovative thin-film solar panels convey a certain emotionality with their bronze-coloured shimmer. The entire façade geometry had to be very precisely matched to the requirements of the timber supporting structure. A total of approx. 1,100 cubic metres of solid spruce from the northern Black Forest and Upper Swabia was used for the exterior walls and floor slabs – according to the architectural office, this is “more than 1,000 tonnes of permanently bound CO₂* – plus the CO₂ savings compared to building with reinforced concrete”. Steel and concrete were only used where necessary: the floor slabs, for example, consist of a timber-laminated composite with a seven-metre span (20 cm thick) and a top concrete layer of only 10 centimetres.

Timber hybrid construction as ecological alternative

“A seven-storey office and commercial building that was constructed from the first floor upwards as a timber hybrid structure can certainly be described as innovative,” is Oliver Braun’s assessment – even though timber hybrid construction is now being given greater focus as an ecological alternative to conventional building materials. a+r Architekten admit that the innovative and sustainable construction method for this building resulted in a good 20 percent extra costs than would have been the case with a conventional building. Planning was much more complex and it was rarely possible to use standard solutions. However, these additional costs were borne by all those involved – and the client, in particular, has considered the high ecological quality to be essential in order to market and rent the building accordingly. The commercial tower tower has been fully occupied since October 2020. Tenants include the renowned World Ethics Institute, consulting companies, medical practices and a provider of co-working spaces.

The interior: an atmosphere reminiscent of a greenhouse

The interior design with 4,500 square metres of commercial areas is also an expression of the climate-friendly construction method. Vertical gardens welcome visitors on every level with staghorn ferns, orchids and other rainforest plants that evoke immediate well-being and radiate a pleasant greenhouse atmosphere. The partially visible wood composite construction on the underside of ceilings and the supports along the façade, where wood was left visible, are equally appealing to the senses. Floor-to-ceiling glazing allows plenty of daylight to enter the interiors and creates a feeling of spaciousness. A large hall on the ground floor offers a variety of options for congresses, events and all kinds of cultural activities, while on the 7th floor a large common room with terrace is available to all tenants of the Westspitze, who can enjoy a spectacular panoramic view from here.

At the back of Westspitze, further construction work was carried out. According to a design by a+r Architekten, a residential quarter with a total of 106 1- to 5-room flats along with a supermarket and a commercial unit was built in the area of Reutlinger Strasse, Josef-Wochenmark-Weg and Hanna-Bernheim-Strasse, and completed in November 2020.

Source: https://www.holzbau-deutschland.de/mit_holz_bauen/holzbau_und_klimaschutz/co2_verbrauch_in_zahlen/

Data + Facts

Planning and construction period: 2018 - 2020

Planning office: a+r Architekten GmbH

Client: Westspitze Gewerbebau GmbH & Co. KG

Project address: Tübingen

MEDIA INFORMATION

1 a+r Architekten have designed the “Westspitze” near Tübingen’s town centre, an office and commercial building in ecologically high-quality timber hybrid construction.

This photo is only available on request.

Contact: a+r Architekten, Julia Raff

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2 With its innovative and practically invisible solar façade, the office and commercial building is sustainable in every respect and a compact “power plant”.

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3 A special feature of the “Westspitze” commercial building in timber hybrid construction is its core: it provides sufficient stiffening and makes it possible to connect rectangular timber floor slab elements. The lifts and staircase are also integrated into this core. Isometric illustration: a+r Architekten

4 The entire façade geometry of the “Westspitze” commercial building by a+r Architekten had to be precisely matched to the requirements of the timber supporting structure.

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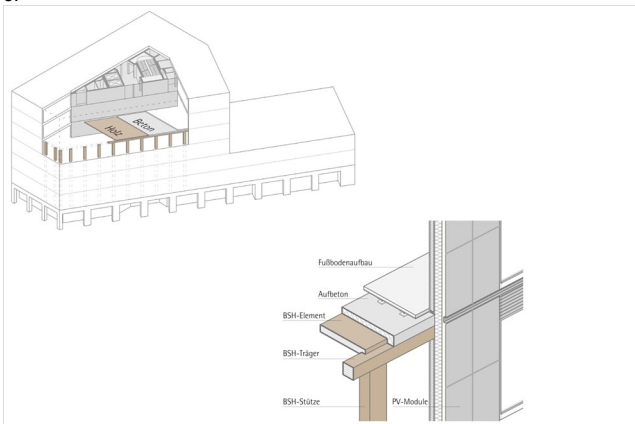
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9 The striking commercial tower “Westspitze” marks the end point of a residential and commercial complex and at the same time the prestigious entrance to the new quarter at the goods station.

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About a+r Architekten

a+r Architekten stand for solid, environmentally compatible and future-oriented architecture with impressive expertise in the field of sustainable building — also in existing building contexts. Founded in 1985 by Professor Gerd Ackermann and Professor Hellmut Raff, the office with branches in Stuttgart and Tübingen has around 100 employees and is today headed by Professor Hellmut Raff, Oliver Braun, Florian Gruner, Alexander Lange and Walter Fritz. a+r Architekten mainly build for public clients, industry and commerce, municipal housing companies and social institutions. The office focuses on appropriate, ecological, functional and the resulting innovative construction methods and has been awarded prestigious prizes for this approach: most recently, DAM Prize 2020, Exemplary Construction Award 2020 by the Baden-Württemberg Chamber of Architects, “best architects 2020” and first place in the Competitionline Ranking 2019/20 as the most successful competition office in German-speaking countries.

www.ackermann-raff.de

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