

Competition BTZ HWK, Trier (GER)

project **New construction of the Vocational Training and Technology Centre of the Chamber of Crafts** awarding authority **Chamber of Crafts, Trier (GER)** team **WW+, Esch-sur-Alzette/Trier (LUX/GER), Hertl.Architekten ZT GmbH, Steyr (AUT), Winter Beratende Ingenieure für Gebäudetechnik, Düsseldorf (GER)** gfa **13.867 m²** ufa **10.102 m²** gv **73.400 m³** total area **1,6 ha** net construction costs **23.750.000 €** competition phase **11/2014 - 02/2015** restricted competition with negotiated procedure **3rd price**

"The ultimate aim of all artistic activity is building!

Architects, sculptors, painters, we must all get back to craft."

Walter Gropius from the Bauhaus Manifesto

Genius Loci

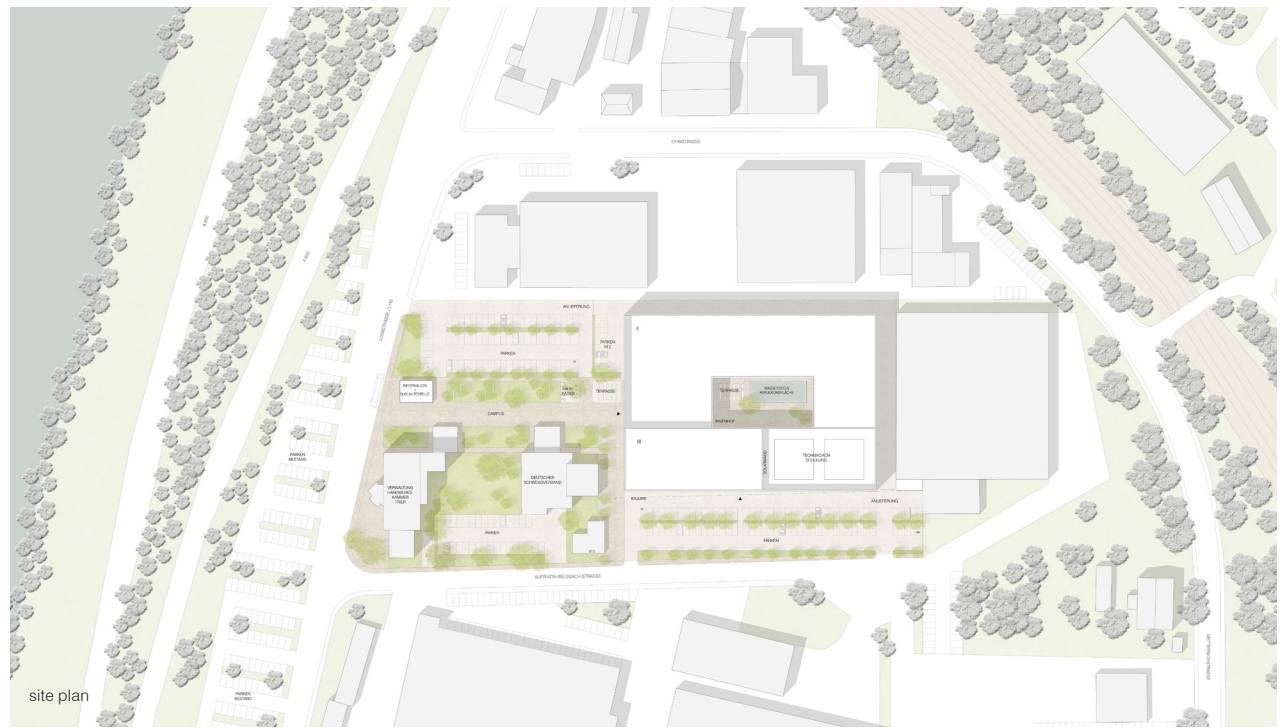
The particularity of the site in the midst of the Trier-Nord industrial area and the adjacent Moselle bank with the adjoining A602 motorway provides only tangential specifications for urban planning references. The architectonic concept foresees a compact building form in a bid to reduce built-up surfaces and places particular importance on a harmonious integration into the surrounding urban environment. Within the mostly two-storey structure, the individual functional areas are gathered around a central inner courtyard. In addition to the workshops and technical rooms used for vehicle and metalwork engineering purposes, the ground floor houses the shared-use and public facilities such as the refectory, canteen and reception area. The first floor is where the other specialist departments are located, as well as training and seminar rooms that are available for external use. The administrative wing is situated on the second floor of the training centre; annexed to it is the accessible roof. The landscaped inner courtyard as well as the newly created outdoor area and the transparent façade structure create a flowing connection between the building concept and the existing open space. A design has been created that provides its users with a sense of direction and comfort thanks to its circular arrangement and clear structure. At the same time, openness and transparency are achieved through the targeted use of material, light and openings. The educational concept of the vocational training centre – that of providing students with solid specialist knowledge (structure and direction) on the one hand, and that of preparing them for work life (openness and vision) on the other hand – is thus reflected in the architecture of the building.

Access

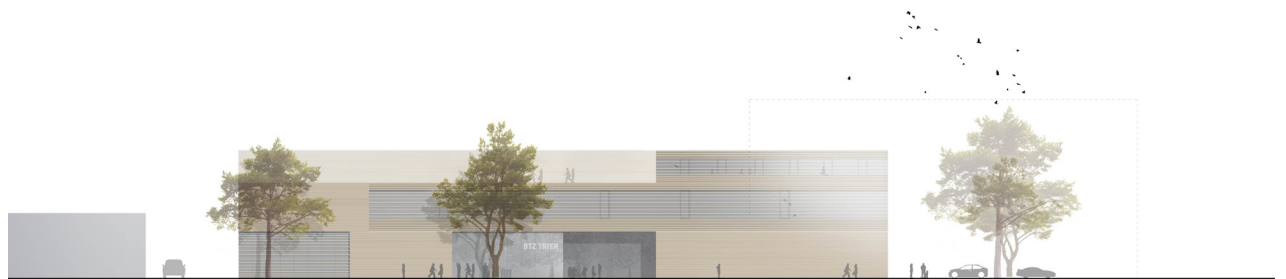
The parking area on the centre's grounds in the immediate vicinity of the main entrance means users need to cover only a short distance to the building. The main entrance is defined by a generous forecourt to the north side of the building. From here, ground-level and barrier-free access is provided to the open reception area and its secretariat, the distinctive and inviting character of which makes it the technology centre's central meeting point. Shared-use facilities such as the refectory, canteen and study areas directly adjoin the foyer. The upper floors are reached both via a generous open staircase, which continuing from the central foyer is located in the main area of the ground floor, and via further stairwells within the individual specialist departments so as to ensure short distances within the building.

Functional solution

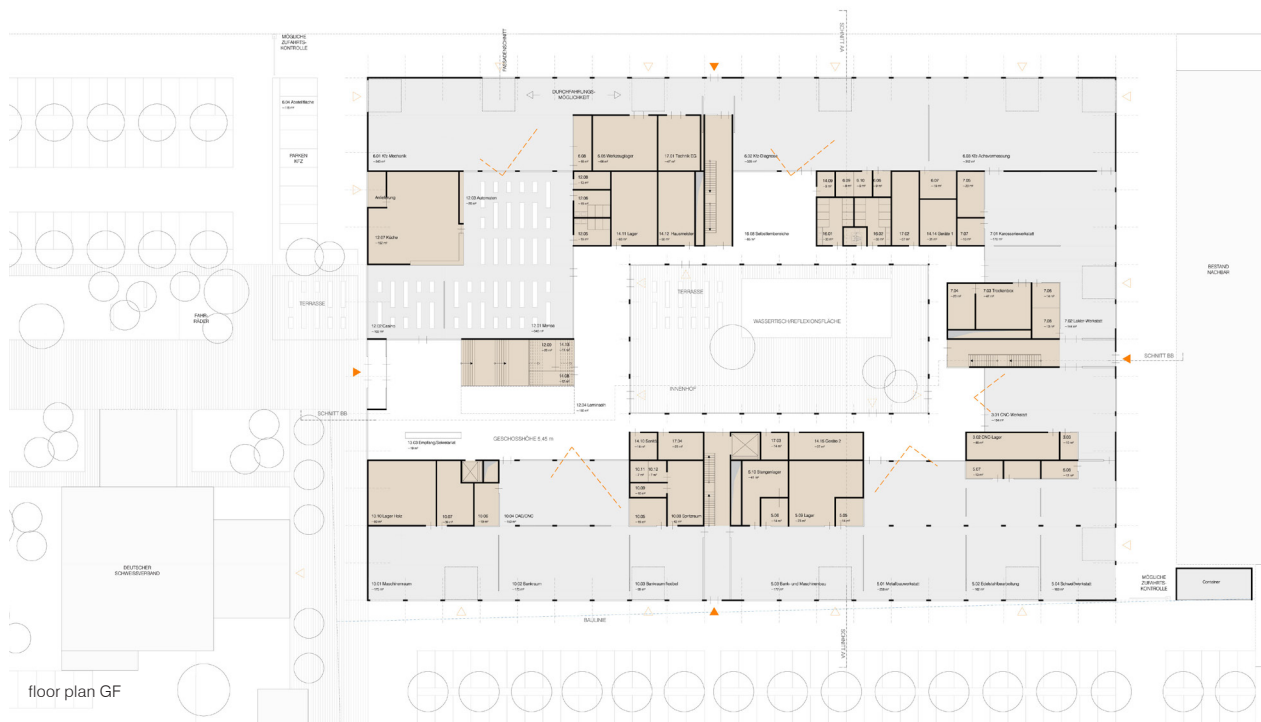
Continuing on from the shared-use structures at the core of the training centre, the zone reserved for educational purposes with its individual specialist departments is organised in a circular manner towards the outer façade, while the public communication area looks towards the inner courtyard. The additional training and seminar rooms on the first floor are also available for external use outside operating hours. The result is a functional network between the training centre and the neighbouring quarters. The administration wing and the accessible roof are housed on the second floor. All the specialist departments and the workshops enjoy an outdoor view thanks to generous windows and benefit from natural daylight throughout the whole day, the result a light and friendly atmosphere in all the rooms. The circulation areas of the campus building can be used for individualised study purposes.



elevation



elevation



Spatially and visually, the high degree of transparency leads to an intertwining of various room zones. This has a positive influence on the internal communication as well as the interaction between the centre and its neighbouring quarters. As a result of their transparency, the glass inner courtyard, the communication area as well as the dispersed common structures on the ground floor reveal visual connections between the individual rooms. A 'place of communication' is created, which reflects the guiding principles of the educational concept behind the vocational training centre.

Construction and materials

The load-bearing components of the building are made of solid wood. The high-performance and economical hybrid construction, a solid wood cubature with mineral wool thermal insulation, is clad with a natural finished native wood species in the form of a curtain-wall and rear-ventilated wooden strip facing, which also provides ground shading in summer. The façades feature a combination of closed timber surfaces and an opaque, dispersed wooden strip structure, with underlying opening casements for natural ventilation and cleaning. The building's users can independently open and close the ground-level windows and thus individually influence the climate of a room. The centre's interior is characterised by a scaling down to just a few materials. The specialist departments and workshops are dominated by the use of the raw materials of glass and wood. The common rooms feature finer interior design surfaces, creating a friendly and warm atmosphere that encourages people to linger or relax during breaks. The stairwell cores are efficiently made of reinforced concrete for bracing and fire protection purposes.

Economic efficiency and sustainability

The starting point of the energy concept is an optimised architectural concept, which is tailored to the use of existing and natural resources as well as to optimised operational and maintenance costs. The combination of sustainable construction methods (excellent façade surface to building volume ratio (A/V ratio), balanced façade ratio of transparent and non-transparent surfaces, etc.) and efficient energy use achieves a comprehensive concept for the new vocational training and technology centre. Systematic space organisation, a high degree of structural compactness and optimised thermal insulation provide the perfect platform for this. Achieving the best natural lighting and ventilation possible furthermore reduces energy consumption. In conjunction with efficient building services and renewable energy sources together with the recovery of existing energies, a building is created that guarantees a high level of user comfort and will continue to meet the current energy saving regulations in the long term.

Heating, cooling, ventilation

Underfloor heating is foreseen to supply heat to the training rooms as well as the workshops. During the summer, the underfloor heating system will be used for cooling via the ground water. Natural ventilation is provided via windows that can be opened. In addition, the building has mechanically controlled ventilation and aeration. An optional window control system is provided for nocturnal cooling in summer. Thermal insulation glazing ensures the thermal quality of the building shell is improved. The solid building components with thermal activation lead to options for indoor climate conditioning via a "slim" energy efficient systems technology with low running costs and high indoor climate comfort. A central cooling system is not foreseen, only server rooms and rooms with increased internal loads will feature a split air-conditioning system.

