ETTLINGEN QUERBEET

Europan 16: Living Cities

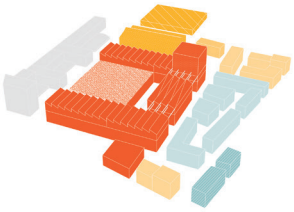
The Concept

Sustainability and climate protection are the key themes of our time, on which the concept for the new ELBA site is based.
A quarter will be developed, which brings together different people and aspects of the great topic of human and earth health and lives on synergies between them according to the motto “Querbeet. ”
Overriding themes are living and working, but the heart of the district is the research campus, which deals with the production of food, energy, but also with the production and transmission of knowledge.
In addition to the university, biotechnology companies also benefit from the various facilities dedicated to research.
Building plots and open spaces are in a balanced relationship. The strong sealing of the area is counteracted by the open space design. Green areas on public squares, green development axes, as well as facade and roof greenery ensure a good microclimate, despite a high density of buildings.
In addition to the AVG (grey), the design area combines three main uses, all of which are under the theme of “health. ” The heart of the district is the research centre (orange), which houses the university, laboratories and research fields, as well as greenhouses on the research roof.

The sequence of urban squares

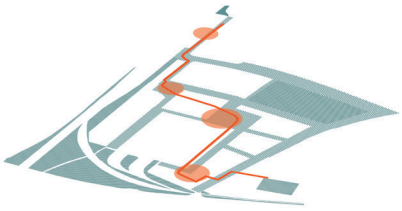
A central motif of the design is a sequence of squares assigned to different themes of the overarching theme“Healthy City. ” Both the station square in the north and the“Arena” in the south form district entrances that ensure an arrival in the district. Those who enter the quarter from the station are welcomed by the old ELBA hall as the entrance gate, and reach the “Forum” via the“Passage. ” Here, next to a spacious park-like green area, there is a neighbourhood can teen. In addition, the forum forms the intersection of all uses occurring in the neighbourhood.
The “Arena” in the south is dedicated to the theme of “activity”, where skateboarders, basketball players or just friends can hang out together, the athletic student can work out in a gym, or the climber can test his/her limits in a bolder hall. On this square, the most diverse user groups meet.

circularity

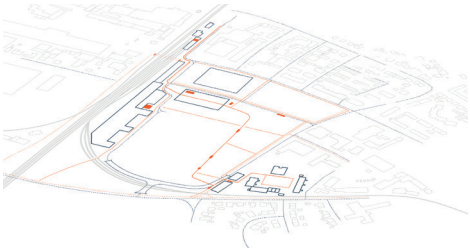


quarter

Functions



route guidance



entrances | access

The Functions

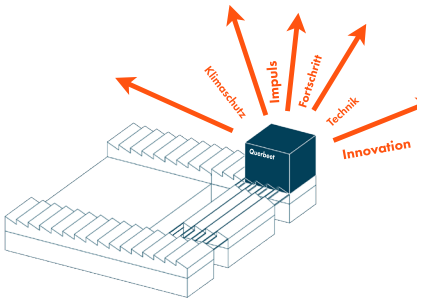
In addition to residential use, the central research centre is also home to various types of businesses related to research and health. While in the southern part of the district individual buildings surrounding the arena offer the use of a bolder hall or a fitness studio as well as the possibility of temporary accommodation, in the northern entrance of the district biotech companies and startups, including a “Startup Hub”, find space for their development. There is also a generous area for co-working in the ground level.

In order to keep the old inventory hall of the former ELBA site sustainable, the concept of another special commercial use is being developed here: the “Passage. ”
The scaffolding of the old ELBA hall functions as a gateway to the quarter. Small commercials are placed in set boxes under the roof of the inventory hall. The intermediate space serves as an exhibition, event and recreation room.
The park to the south connects the AVG use to the new quarter.
In a small “library of things” adjacent to the Forum, visitors can borrow things other than books, but also give things to lend themselves.

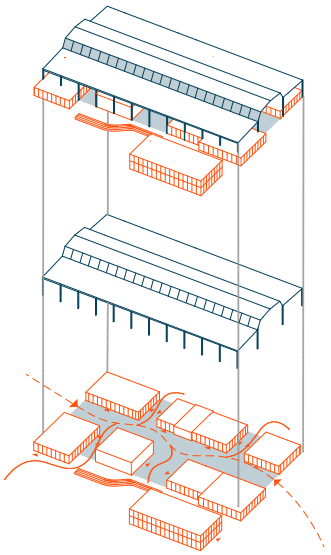
Materials

The materials that run through the entire district are based on a sustainable and natural selection of raw materials, as well as other low-carbon chemical building materials.

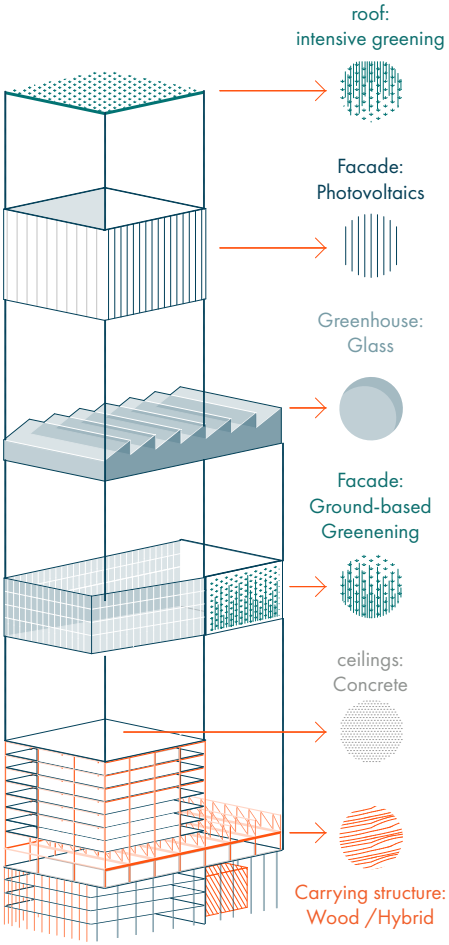
A supporting structure with a hybrid construction of concrete and wood is planned for the different types of use in the district. In addition, accents are set by wood elements made from the raw materials of the region.
The load-bearing ceilings are predominantly made of concrete, but wood-concrete-composite ceilings are also conceivable to keep the amount of natural building materials large and at the same time to improve the indoor climate.
Greening is used for the closed facade parts in the neighbourhood – also to the advantage of the microclimate in the neighbourhood.
In addition to the closed facades, there are always generously opened facades made of sustainable glass with wooden window frames, such as the “greenhouses” in the research campus.
In order to produce as much own electricity as possible, large facades consist partly of facade-integrated PV systems.
Intensive roof greening is planned for the rooftops of the quarters. In addition, the spacious roof areas offer possibilities for installing PV and solar thermal systems.



research as the starting point



Entrance portal: Market passage



Materials used

Living

Living in the Querbeet-Quarter is characterized by two different types of living, which allow the intermingling of different groups of residents by creating meeting spaces and communal areas.

The arcade hall offers in the upper floors 1-4ZW with custom-made loggias as a private outdoor space. The communicative cooking and dining area is oriented towards the arcade, while the bedrooms and living rooms are located in the more protected part of the apartments.
In addition to the communal washing and bicycle rooms and multifunctional rooms, on the ground floor there are studio apartments, which extend over two floors and can also be accessed via the arcade on the 1st floor.

The more private living and sleeping rooms can be found in the studio on the gallery floor, as the more public workrooms on the ground floor are oriented towards the street. The adjacent terraces offer space for exhibitions. In addition to its development function, the wide arcades offer generous living areas where residents can meet and exchange views.

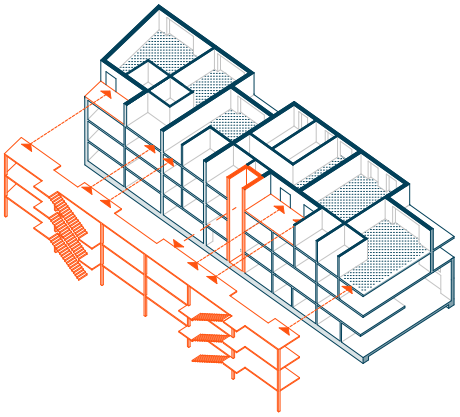
The deep house offers space for experimental living with a focus on community. Two residential units are spread over two floors and with their cluster floor plans allow for shared flats with up to 10separate rooms with private bathrooms. The area between the living cubes is shared and serves for e.g. as a kitchen, dining and living room.

Mobility

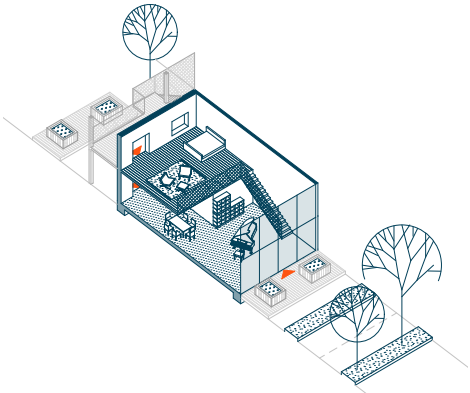
Even though individual vehicles have become significantly cleaner and quieter, motorized transport still has many negative environmental impacts due to emissions of greenhouse gases, air pollutants and noise, as well as land use and resource consumption. Therefore, the Querbeet-Quarter is based on a predominantly car-free development.

In order to ensure the necessary access by motor vehicles or lorries, an underpass is planned in the southern part of the design area.

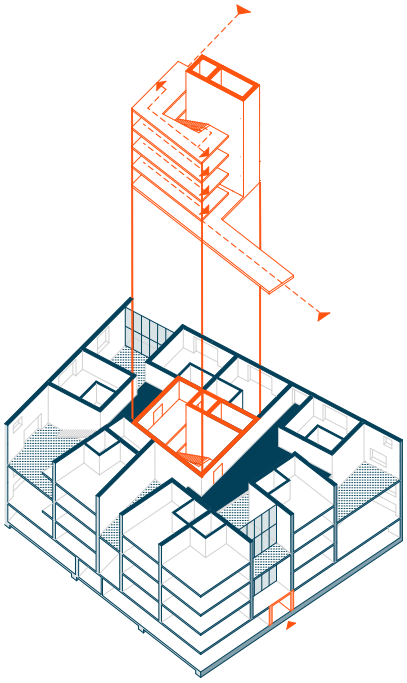
In addition, the AVG and the accessibility of buses to the Northern Quarter from the direction of the station is via an area with a slow speed limit.
The preference for pedestrian paths while maintaining short distances and good accessibility allows for a pleasant and communal feeling within the neighbourhood, which promotes the exchange of the neighbourhood community. Cycling is also supported by generous bike paths and numerous mobility stations scattered throughout the neighbourhood.



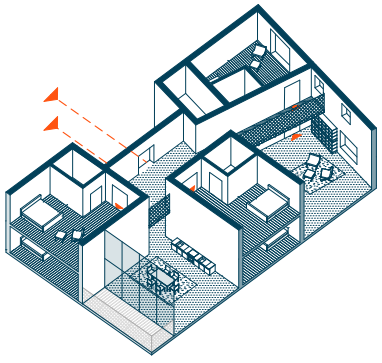
acarde house



studio apartement



the deep house



6er residiential community

Climate concept

Basically, the aim is to develop a climate-neutral neighbourhood by mainly supplying it with renewable energies. With regard to the heart of the design, the research centre, for example, electricity is to be operated by PV systems.

The reuse of rainwater can also be useful for the irrigation of the various plants. In addition, it can also be used for toilets in the apartment blocks.

Repeated openings of the building structure also ensure adequate ventilation.

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In order to create a pleasant microclimate, the facades are to be greenery and, in general, a neighbourhood planting is to extend over the entire area. Finally, in spite of the new industry, we should not create areas that heat up excessively and do not benefit people.

. . . generate 5000 sqm of photovoltaic area per year approx. 2 million kilowatt-hours of electricity, which is enough to supply approx. 200 households with electricity.

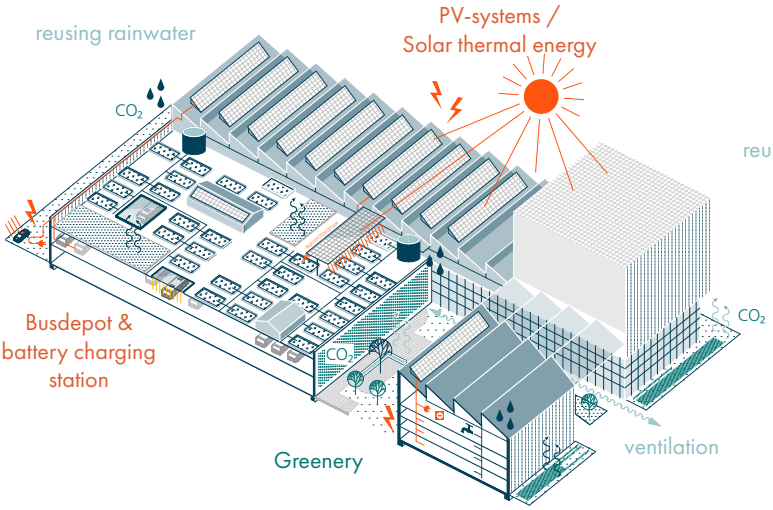
(Source: own account)

. . . In Central Europe, sealed floors heat up to around 60 to 65 degrees Celsius in summer, and the energy could be used to supply a swimming pool.

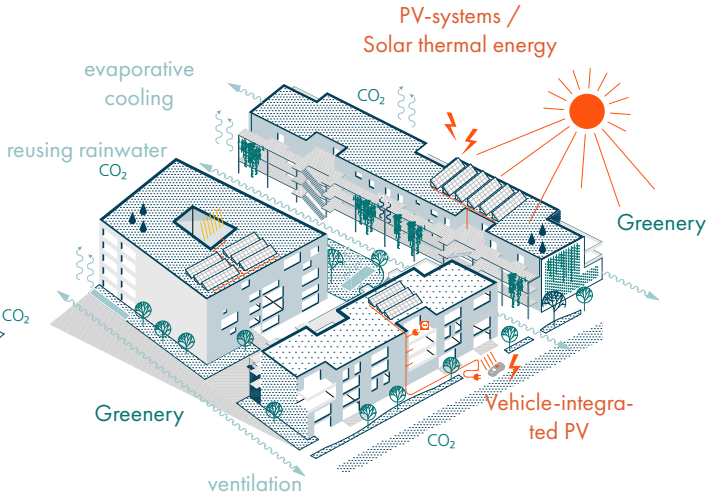
(source: Colas)

. . . 1030 m pedestrian path with solar panels can provide complete street lighting for a town with 3000 inhabitants.

(source: Colas)



climate concept research centre



climate concept living