ingenhoven

Freiburg Town Hall

Location
Fehrenbachallee 12, Freiburg im Breisgau, Germany

Built
Completion 2014-2017GFA town hall 24.215 m²GFA day nursery 1.900 m²

World’s first public net-surplus-energy building

The new town hall in Freiburg im Breisgau, with administration center and day nursery, was opened in November 2017. It is the world’s first public building to net-surplus-energy standard. The town hall provides workplaces for the 840 employees of the City Administration who had previously been working at various different locations in Freiburg. This means that the first building phase is complete. In a second building phase scheduled for completion in 2024, additional oval buildings have been planned for administrative functions of the City.

The new administration center, which is part of the town hall extension, is designed to provide a stimulus for upgrading the urban design of the Stühlinger area of Freiburg. The town hall scheme by ingenhoven architects was the winning entry of a 2013 international architectural competition, and is characterized by openness and transparency. A key element is the "green campus", which combines three building tracts and a day nursery. The building ensemble of the new town hall reinforces internal networking with views and public pedestrian routes. The main entrance to the new building is situated opposite the existing building. The new ensemble is integrated in the green space between Eschholz Park and the University Hospital. In addition, the opening up of the public square at Fehrenbachallee creates an attractive public space.

The heart of the new six-story building, which replaces a town hall pavilion from the 1960s, is the citizens' service center on the first floor with conference rooms and staff restaurant. The floors above include single and double offices, as well as large team offices with open-plan desk arrangements for the respective departments of the City Administration. Thanks to a variable glazed partition wall system, the plan layout of the offices is flexible and reversible. In addition, several interaction zones promote communication throughout the building. The routes through the town hall are designed in a transparent way, and facilitate easy orientation.

Visually, the two buildings impress with their timber facades of locally sourced larch wood. The facade of the town hall has been constructed using staggered, vertically projecting modules with photovoltaic cells and high-quality thermal insulation. Story-high glazed facade elements are used to optimize the intake of daylight. The facade of the circular day nursery building features narrow strips of vertical timber cladding and large openings with balcony doors, as well as an access balcony at second floor level. The openings have been placed to provide daylight and vistas to the outside while also offering direct access to the building.

Energy concept

The new Freiburg Town Hall is the first net-surplus-energy building of this category worldwide.

During the course of the year, the building generates more energy than it consumes. The excess energy is fed into the city grid.

In accordance with the strict criteria of the PassivHaus standard, the primary energy demand of the town hall for heating, cooling, ventilation, and hot water supply is as low as 55 kilowatt hours per square meter per year—which is only 40 percent of the primary energy demand of comparable modern office buildings.

A special effort has been made to apply the principle of sustainability to the building as well as to the energy concept. The design relies on straightforward technical solutions that are economical to operate. The energy required for the building is generated via suction and injection wells, and thermal solar panels in combination with heat pumps. In

addition, electric energy is generated by photovoltaic panels on the roof and in the facade. The energy for cooling and heating is obtained from a geothermal installation. Thermal mass activation is used for heating, which can be individually controlled in each office. The mechanical ventilation has been enhanced by highly efficient heat recovery.

The room climate concept of the offices involves thermal mass activation, heating/cooling sails, external solar screening, triple glazing, and mechanical background ventilation with heat recovery, which are all part of the energy-saving concept. In addition, users have the benefit of openable ventilation panels which they can use to manually control the room climate by letting in fresh air. In the public areas of the citizen's service center, restaurant, and conference area, the more complex air-conditioning requirements are met with heating and cooling ceiling systems and a partial air-conditioning system with highly efficient heat recovery.

New ways of working in the citizens' service center

The citizens' service center with its approx. 100 employees offers citizens general and advisory services. All offices and workplaces have been designed for functionality, openness, and working in a flat hierarchy, whilst providing privacy and security. The overall space has a generous and flowing flair thanks to its curved design. Large rooflights provide adequate daylight and offer good vistas to the outside. The downlights in the white perforated ceiling panels have been arranged in seemingly random fashion to create the impression of a "star-studded night sky". The advisory points are subdivided into four large rotundas, each of their centers being formed by a circular retreat room. The layout of the segmental arch-shaped desks follows a concentric pattern, with vertical acoustic panels used as dividers. To create privacy between adjoining advisory points, 160 centimeter high visual screens are installed that replicate the round design pattern of the rotundas. A piece of wall art by the Berlin artist Schirin Kretschmann in the midst of the spatial arrangement forms an omnipresent element and the "spine" of the space.

Bright materials and surfaces underscore the impression of transparency and clarity; occasional color accents appear within the orange/red spectrum, particularly in the furniture design.

Awards, Nominations

2020
German Solar Price 2020, winner of the category solar architecture and city development
Hugo Häring Auszeichnung, BDA 2020 – category "Office and administration building Breisgau"
RIBA Award 2021, Recognition Area Freiburg

2019
DGNB Climate Positive Award 2019
German Sustainability Award 2019
DAM Preis 2019, nominated

2018
Balthasar Neumann Preis 2018, Commendation
ArchitizerA+Awards 2018, Finalist
WAF Awards 2018, Finalist

Team

Client
City of Freiburg im Breisgau, represented by Freiburg Property Management Department

User
Freiburg City Administration

Architect
ingenhoven architects, Düsseldorf

Team ingenhoven architects
Christoph Ingenhoven, Hinrich Schumacher, Barbara Bruder, Rudolf Jonas, Ursula Koeker, Bibiana Zapf

Site supervision
ingenhoven architects, Düsseldorf / Ernst² Architects

Project management
Thost Projektmanagement

Structural design
Mohnke Höss structural engineers

Facade design
DS-Plan

Fire protection
BPK Brandschutz Planung Klingsch

Energy concept, photovoltaics, and building services
DS-Plan

Landscape design
ingenhoven architects, Düsseldorf / BBS Landscape Engineering

Lighting design
Tropp Lighting Design

Interior design of special areas
ingenhoven architects, Düsseldorf

Building physics

DS-Plan