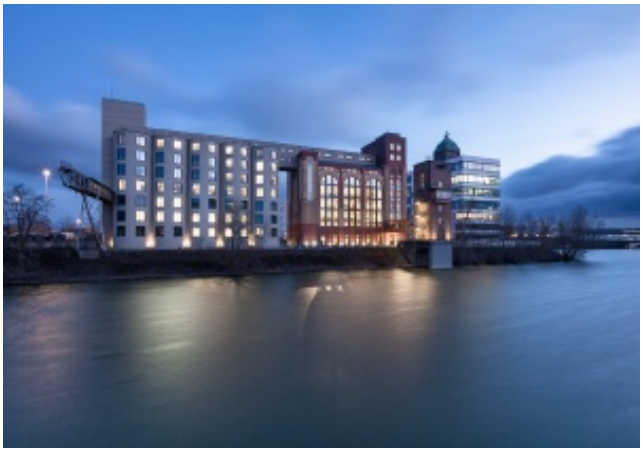
ingenhoven

Betonsilo



Location
Düsseldorf, Germnay

Built
Construction period: 2018–2022

GFA: 6.000 m2

The new Betonsilo – from historic granary to state-of-the-art medical and office location

With the Betonsilo, the refurbishment and ambitious conversion of the Plange Mühle historic building ensemble is now complete.

The Betonsilo is part of the Plange Mühle Campus – a lively, future-forward quarter at Düsseldorf's harbour, planned according to the highest ecological standards in line with the supergreen© principles of ingenhoven associates and with a special appreciation for the existing building fabric.

Built in 1929, the Betonsilo (concrete silo) comprises ten reinforced concrete cylinders standing nearly 30 metres high and arranged in pairs. It was constructed using free formwork, which was unusual for such construction heights at that time. Since April 2000, it has been a listed building. Today, the Betonsilo houses, among others, a radiology practice and an orthopaedic clinic with reception rooms, surgery, and bed floors; other medical uses will follow. In addition, it offers contemporary office space with magnificent views.

Adapting the Betonsilo for contemporary use was a

particularly challenging task given the type of building, and the work was conducted in close consultation with the monument preservation authorities. The cylinders were sliced open lengthwise, new floor slabs were inserted by partially demolishing the inner silo walls, and windows were integrated into nine of the cylinders. The cylinder immediately adjacent to the Holzsilo (wooden silo) on the campus side was preserved in its original, closed condition. Inside it are the main staircase, two passenger elevators, and a freight elevator. Daylight now enters all the other silo cylinders through two new aluminium windows on each of the seven floors.

An additional setback floor, the “Überflieger”, serves as a skywalk, connecting the Betonsilo with the neighbouring Holzsilo. Terraces and new floor-to-ceiling windows, the latter already part of the original plans according to building records from 1929, offer expansive views over Düsseldorf Harbour and the city centre. With its topmost accessible level approximately 28.9 metres above the ground level, the Betonsilo is considered a high-rise building. The historic stairwell tower, which adjoins the silo cylinders and opens onto the skywalk, was completely gutted. In its place, a new emergency stairwell was integrated that complies with current safety regulations.

Since large temporary openings in the facade were not permitted by the preservation authorities, the Betonsilo was revitalized “from the inside and above”: all building logistics were brought into the structure through an opening made in the roof. Instead of a conventional composite thermal insulation system, a 15 cm layer of plaster was applied to the facade during renovation, which also underscores the authentic expression of the entire ensemble.

The Betonsilo is part of the new Plange Mühle Campus – home to companies from the fashion, medical, architecture, and consulting industries, plus a variety of catering and event spaces. Traces of the site’s history remain legible: at the heart of the campus is the striking industrial architecture from 1906, the brick buildings of the former Georg Plange wheat mill. In the decades after it opened, the mill was continuously expanded. Since 2001, the entire site has been renovated and redeveloped in stages, in close cooperation with the preservation authorities – a transformation from an industrial to a commercial site.

Renovation of the main building, the Mühle, was completed in 2003. With its impressive, listed clock tower topped by a bronze eagle, it serves as the landmark of the old industrial port, visible from afar. This is flanked by the Speicher (granary) and Werkstatt (workshop), the Obermüllerhaus (head miller's house), which once housed a dwelling and stables, and the Holzsilo (wooden silo), which was also a former granary and was extensively refurbished until 2016. By 2025, the ensemble will be supplemented by two new buildings, the Kontor and the Garage. The Kontor, an eight-floor brick-clad building, evokes the site's industrial past with its discreet architecture, high ceilings and highly flexible floor plans. The Garage also focuses on the essentials: it holds a split-level parking garage with over 500 parking spaces, a mobility hub with a bicycle rental and repair station, a charging station for electric vehicles, end-of-trip facilities, and a helicopter and drone landing pad. The facades of the multi-storey car park will be entirely greened.

Together with new, generous public spaces, including a park and waterfront promenade, a lively campus on the waterfront is being created – a future-forward quarter at Düsseldorf Harbour. It is certified according to the highest green building standards, including DGNB Platinum and WiredScore Gold, and planned according to cradle-to-cradle (C2C) principles. ingenhoven associates are guided by their own supergreen® principles. This includes respectful treatment of the existing building fabric, even with challenging building typologies like the former grain silos. Replacement – giving back the biocapacity taken away through construction – is a central principle underpinning many building projects by ingenhoven associates. In this case, it means not only creating new green spaces on the campus but also supporting the biodiversity of aquatic life in the harbour. At the same time, the Plange Mühle Campus will be integrated into the MedienHafen (Media Harbour) district. The new mobility hub and Pier One, which will be built on the water by 2025 along with four new bridges, will create a new infrastructure of short distances – a new link between the port and the city.

Awards, Nominations

2025
iF Design Award 2025

Team

Client
harbour properties

Architect
ingenhoven associates, Düsseldorf

Team ingenhoven associates
Christoph Ingenhoven, Oliver Ingenhoven, Rudolf Jonas, Ursula Koeker, Catherine Brauckmann, Max Grams, Dariusz Szczygielski

Medical clinic planning
RISCHKO Praxisarchitektur

Structural design
Schüßler Plan GmbH

Building services engineering
Walter Maier Ingenieure GmbH

Building physics
WISSBAU Beratende Ingenieurgesellschaft mbH

Fire protection
BPK Fire Safety Consultans GmbH & Co. KG

Interior design
two space – Claudia de Bruyn