SITEM INSEL

NEW-BUILD SWISS INSTITUTE FOR TRANSLATIONAL AND ENTREPRENEURIAL MEDICINE BERNE – BE

N° 12101E

Principal
sitem-insel AG
Freiburgstrasse 3
3010 Berne

Total contractor
HRS Real Estate AG
Feldstrasse 30
3073 Gümligen

Architect
Büro B Architekten AG
Schwanengasse 10
3011 Berne

Civil engineers
SMT AG Ingenieure + Planer
Staufferstrasse 4
3006 Berne

Electrical engineers
R+B engineering ag
Bahnhofstrasse 11
5201 Brugg

HVAC engineers
Jobst + Willers Engineering AG
Schlösslistrasse 17
3008 Berne

Sanitary engineers
Probst + Wieland AG
Kirchbergstrasse 189
3400 Burgdorf

Controlling Building Technology
Amstein + Walthert Bern AG
Hodlerstrasse 5
3001 Berne

Safety and door engineers
Amstein + Walthert Sicherheit AG
Bresteneggstrasse 5
5033 Buchs

Landscape architect
David Bosshard
Landschaftsarchitekten AG
Haspelweg 42
3006 Berne

Surveyors
bbp geomatik ag
Worbstrasse 164
3073 Gümligen

Building location
Freiburgstrasse 3
3010 Berne

Implementation
January 2017 to May 2019

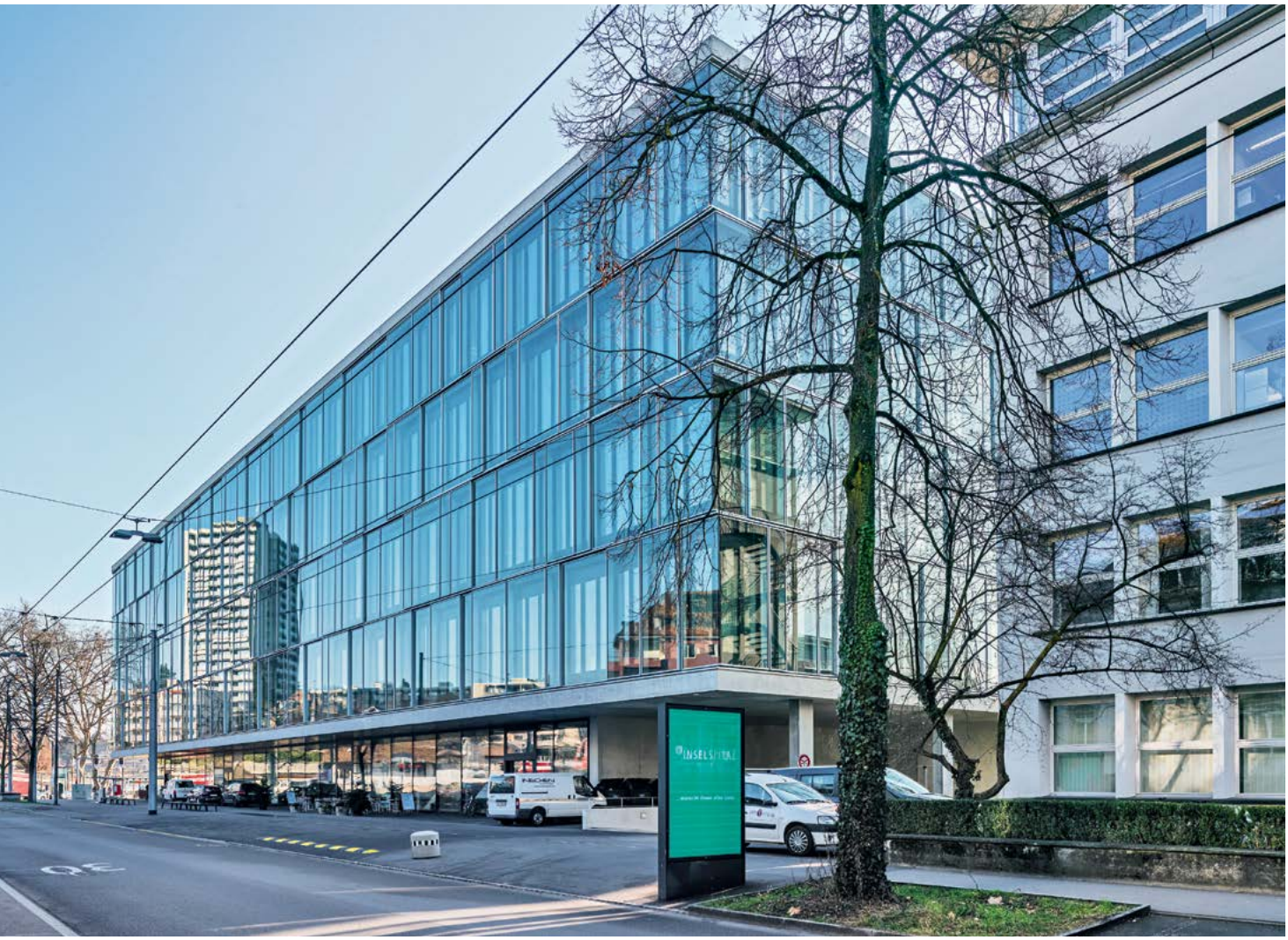
LOCATION / HISTORY

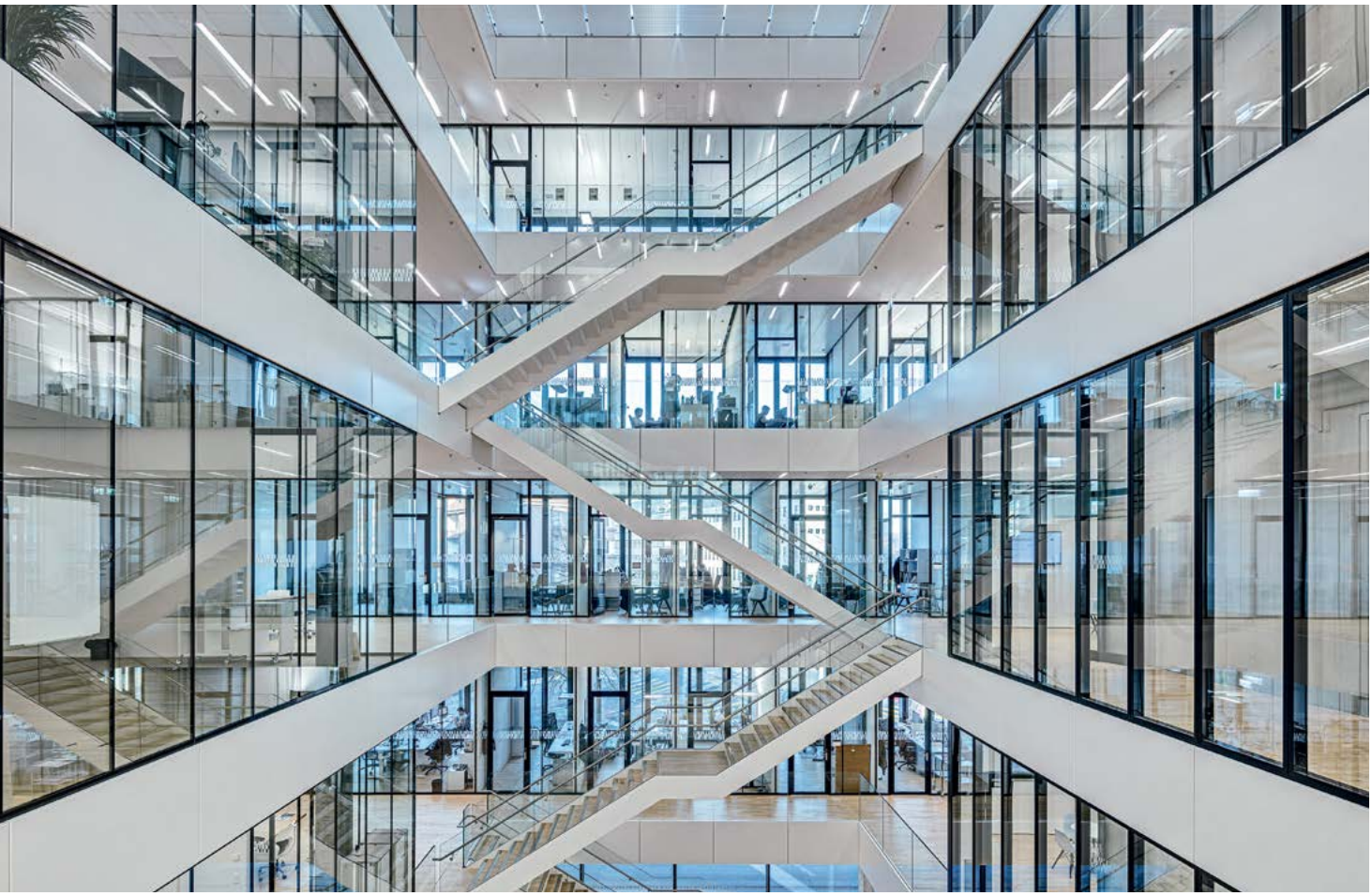
The new sitem-insel project on the Inselspital hospital site in Berne is unique worldwide. Thanks to an innovative alliance between public authorities, research and industry, the first national competence centre for translational and entrepreneurial medicine was built at Freiburgstrasse 33. sitem-insel positions the Berne region as an internationally important medical location with its strong med-tech industry and a steadily growing pharmaceuticals and biotech industry.

In biomedicine, translation refers to the transfer of findings from research and industrial development to clinical application. With the Swiss School (educational infrastructure), Enabling Facilities (laboratories), Promoting

Published in Switzerland

CENTRE D'INFORMATION
ARCHITECTURE ET CONSTRUCTION





Services (offices, professorships) as well as Centralised Administrative Services (catering, logistics) sectors, sitem-insel pursues the goal of transferring research results more quickly into clinical practice and industrial production while maintaining national and international exchanges.

sitem-insel is organised as a non-profit, public-law partnership; its partners include the Inselspital Foundation, the Diabetes Center Berne Foundation and well-known companies such as CSL Behring AG, Straumann Group and Siemens Healthineers.

For the new building, the Canton of Berne provided sitem-insel AG with a plot of land under a superficies agreement. At the beginning of 2016, the Bernese firm B Architekten AG emerged as the winner of an architectural competition; the centre was opened at the end of August 2019. HRS Real Estate AG was responsible for the overall project management as the total contractor.

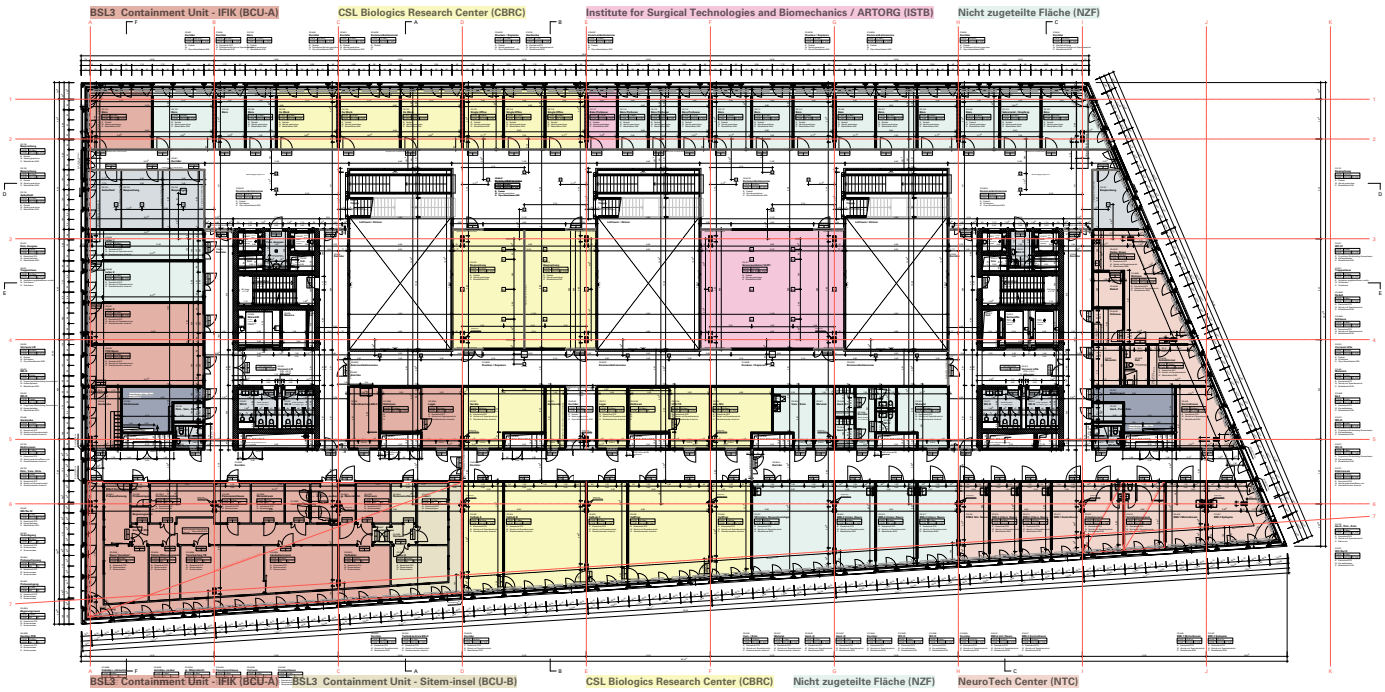
CONCEPT / ARCHITECTURE

The new building is 100 metres long, 45 metres wide and 35 metres high and is composed of two underground levels, a ground level and four storeys. In the heterogeneous subsoil with gravel, sediments and moraine, the high building load had to be transferred using in-situ concrete piles into deeper, load-bearing soil layers. The flat slab-column structure was reinforced against the horizontal effects with two staircase cores.

With its strong volumetric presence, the new glass building marks the entrance to the Insel Campus. The façade alignments follow the building lines and thus interact with the urban setting. Along Freiburgstrasse, the building opens up with a long cantilever and a covered outdoor area. The uniformly circumferential, transparent façade in which the surroundings are reflected presents a self-confident sign of innovative strength and transparency.

The central idea of the inner structure is dedicated to communication. Above the ground floor, there is a uniform structure on the four upper floors, which divides the research centre into a public area and an area accessible only to the respective users. Between these two areas, a network of access and communication zones spans all floors and is divided by the atriums, enabling a lively exchange between users and visitors.

About 600 people go in and out of the new sitem-insel building each day. Over an area of 4,000 m^2 there are laboratory, workshop and examination rooms for various institutions from diabetes research to cardiology, dental medicine and other medical fields. There are also 5,000 m^2 of office space, a restaurant and a car park. The simple structure with generous grids and uniform floor heights offers users a long-term flexible building which can also react to future developments and innovations.



Third floor

SPECIAL FEATURES

Two magnetic resonance tomographs (MRI) form the heart of scientific research at sitem-insel. The largest weighs 20 tonnes and with a magnetic field of 7 Tesla is the strongest currently available with clinical approval. The second unit has a capacity of 3 Tesla and weighs 13 tons. The two MRIs were lowered 10 metres into the 2nd basement level through a floor opening measuring just 3 by 3 metres, which was only possible under the strictest safety precautions. Walls made of two tonnes of steel shield the devices from the outside.

The installation of the special double skin façade required very good planning and coordination. The inner skin consists of aluminium insulating glass, whereas glass cladding was attached to the outside. Installation was carried out in two stages: while the interior façade was installed from the inside, the 3.6 by 4 metre exterior windows had to be installed from top to bottom with a crane.

Through this prestigious project, HRS Real Estate AG has demonstrated its high degree of reliability and flexibility but also its pronounced ability to pursue new and contemporary solutions. In the case of some rooms, it only became clear during the construction process how they would be used. Despite the short construction period of almost two and a half years, this flagship project was handed over with the usual cost, schedule and quality guarantee.

ENERGY CONCEPT / SUSTAINABILITY

The energy supply is at least 75 percent CO_2-neutral, which is remarkable considering the high number of consumers. The exemplary solution was implemented by Energie Wasser Bern (ewb) as part of an energy contracting project. Heating is mainly provided by waste heat from laboratory processes, the cooling of the two magnetic resonance tomographs and cold production. The remaining heat comes from the Forsthaus energy centre in the form of district heating.

The contracting solution includes, among other things, control of the ventilation systems, optimisation of operations based on room occupancy and operation of the photovoltaic system on the extensive green planted flat roof. sitem-insel AG uses solar energy for its own use. If there is not enough solar power available, the energy provider ewb covers the demand from the distribution network. A special transformer station was installed in the building for this purpose.

PROJECT DATA

Total cost (CHF):	**98 million**
Land area:	**7,125 m²**
Gross floor area:	**19,047 m²**
SIA volume:	**112,894 m³**
Floors:	**2 basement floors, ground floor, 4 upper floors**
Parking spaces	
Underground parking:	**1st floor underground**
Private cars:	**85**
Bicycles:	**392**

Architekturbau CRP Sàrl 1020 Renens – © P. Guillemin March 2020
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