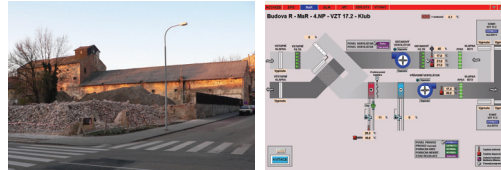


Social and Culture Centre “Brewery”

The “Brewery” is an old industrial-type building in a historical area of the city of Brno that has been reconstructed for the use of the Faculty of Information Technologies of the Brno University of Technology.

The retrofit of the “Brewery” involved a complete change of the user profile. The building that originally was a brewery and served as a warehouse in recent past has been transformed into a modern social and culture center for students and academics.



Building Construction

The oldest part of the “Brewery” was built in the second half of the 18th century. A stone bearing date of 1769 was discovered during the retrofit in one of the columns supporting the vaulted ceilings. The “Brewery” has been rebuilt many times during more than 200 years of its history. One of the goals in the current retrofit was to preserve the “spirit” of the building.

Retrofit Concept

Both passive and active measures have been employed in the energy saving concept. The passive measures like additional insulation or replacement of windows represent more or less “traditional” approach to energy retrofits in the Czech Republic. The active measures like application of Building Energy Management System, demand controlled ventilation or photovoltaic modules are innovative and have not yet been used in a mass scale.

HVAC systems

A low-temperature hydronic heating system is installed in the building. Floor convectors are used in some rooms in order not to disturb the historical appearance of the building. Mechanical ventilation with heat recovery is used in cafeterias, kitchens, clubs and multipurpose rooms where high air change rates are required. A hybrid ventilation system with air quality sensors is installed in the guest rooms where the ventilation demand varies from room to room and over the time. Air handling units of the mechanical ventilation systems are fitted with heating and cooling coils and they can be used for heating and cooling. A Variable Refrigerant Volume (VRV) air conditioning system is installed in the guest rooms. The VRV system can also be used for both cooling and heating.

Building Energy Management System

The Building Energy Management System (BEMS) is integrated into the Building Management System (BMS) of the University campus. This approach allows to use information that is not directly linked to energy management for energy management purposes (e.g. information about occupancy from the access system can be used for the control of heating and cooling). Since the BMS also incorporates security system, CCTV, fire alarm and other services it is necessary to limit access of different users to certain information.

Photovoltaic system

A grid connected PV system with the peak output of 13 kW is installed on the roof. The system consists of 132 monocrystalline modules. The main objective of incorporating the PV system into the energy retrofit measures was to reduce the load to the power grid in summer months when mechanical cooling is needed. Photovoltaic systems produce most of electricity on sunny summer days when the cooling demand is high.

Germany: Stuttgart



Nursing Home Filderhof

Great Britain: Plymouth



City College Plymouth

Norway: Asker



Borgen Community Centre

Norway: Hagafoss



Church Hol Commune

Denmark: Copenhagen



Cultural Centre Proev-hallen

Greece: Athens



Evonymos Ecological Library

Czech Republic: Brno



Social Centre "Brewery"

Lithuania: Vilnius



Main Building Vilnius Gediminas University

