

# BREEAM building for an ecological showcase city district in Luxembourg

On the southern rim of Luxembourg a mammoth project is underway to create a new city district. In autumn 2015, the first building was completed in the emerging Ban de Gasperich quarter. The open construction of the "Crystal Park" is an inspiration to the 2,600 or so PricewaterhouseCoopers (PwC) employees working there. Its extremely efficient energy recovery system is also a huge success.

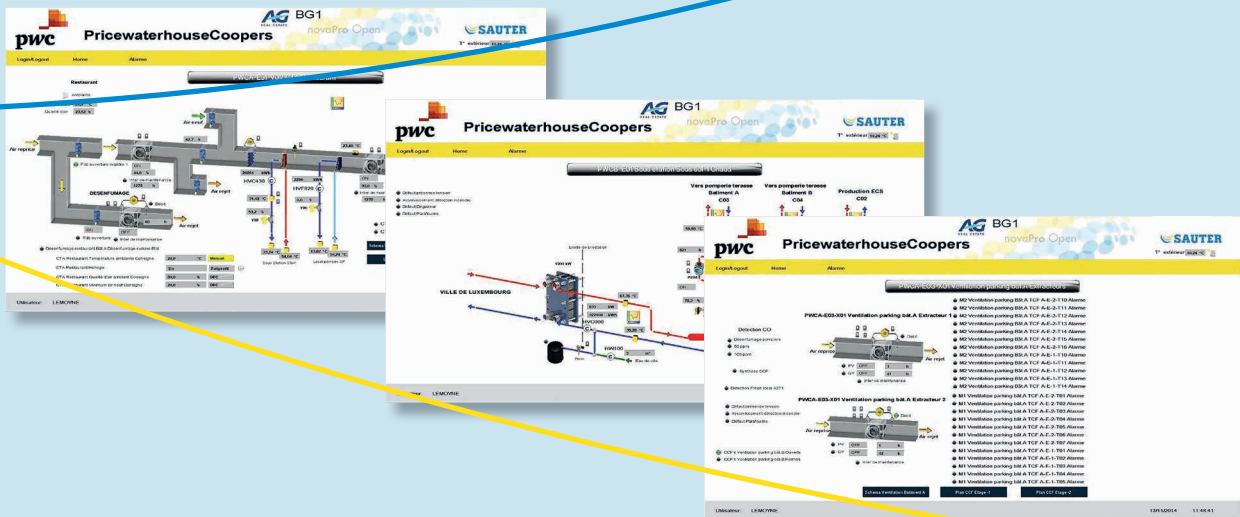


Inaugurated in autumn 2015, the Crystal Park has a modern, friendly aesthetic. Visually impressive, in a combination of wood and glass, its six storeys bring together a variety of uses – office space, meeting places, a restaurant, an auditorium for 200 people, a sports hall and a bar. Designed as a green building, it is the first construction in the planned Ban de Gasperich district.

As a recognised expert in planning and carrying out energy-efficient building automation solutions, SAUTER contributed its extensive know-how and tried-and-tested systems. Offering excellent value for money and working hand in hand with the engineering office and installation partner, SAUTER certainly has not disappointed the client.

## Intelligent energy recovery

To maintain the tenants' resource consumption at a minimum, the planners of the Crystal Park were particularly keen to utilise an energy recovery process. The user-friendly SAUTER EMS energy management solution monitors energy and water consumption in the new building. Modbus and M-Bus protocols seamlessly integrate more than 200 energy meters in the management system. Consumption is displayed transparently and enables data for the green building to be consolidated and benchmarked. The sustainability manager can therefore correct where necessary and optimise where possible.



Using BACnet, the other equipment facilities are dovetailed with the controls (SAUTER EY-modulo 5 automation stations) and guarantee maximum reliability through the alarm function. Cold generators are integrated in the system with Modbus and ensure a comfortably cool climate inside, even if it's exceptionally warm outside. The Crystal Park uses the waste heat produced by the computer centre for the heating of the building. This alone allows the new building to meet a third of its heat requirement. PricewaterhouseCoopers has therefore been able to halve its energy demand per square metre compared to its previous location.

### Natural light and heat used to the fore

Enveloped in glass and wood, the Crystal Park utilises the thermal benefits of the innovative double façade and efficiently optimises the cold and heat insulation. SAUTER room automation controllers (ecos 2) provide a cosy room climate and also operate the lighting and sun-shade facilities.

The building management system – SAUTER novaPro Open – ensures building operators can monitor and control the building automation systems from wherever they are.

Occupancy sensors are fitted which allow room conditions to be regulated as required. This means that artificial lighting, temperature and air control are only activated when rooms are occupied. SAUTER room operating units (EYB 252) are also installed so that staff can make further climate adjustments in their offices.

### Award for environmental commitment

As the first building in the new showcase eco-district of Luxembourg, the Crystal Park has set a clear standard. The building was awarded the BREEAM "excellent" seal of quality. Highlights contributing to this award included the intelligent solution for energy recovery and efficient use of natural resources. This green building therefore demonstrates impressively that comfort and sustainability are the hallmarks of a modern working environment and, with innovative technologies in place, economic benefits are also possible.



### Extremely prestigious city project

On an area covering around 80 hectares, Luxembourg is developing a new eco-district at the south of the city. Ban de Gasperich is a modern fusion of work, leisure and residential spaces. By 2025, the green quarter is to provide offices for around 20,000 people, 100,000 m<sup>2</sup> of residential area, schools, shopping centres and an emergency service centre. The German Sustainable Building Council (DGNB) has pre-certified Ban de Gasperich with its highest "Gold" award for sustainable spatial planning.