VOLTA - New NSI headquarters in Droixhe

Rue de Droixhe, Liège (BE)

Complete stability mission, building engineering services, EPB responsible, energy design and BREEAM certification

Owner
NOSHAQ IMMO S.A.

Architect
Atelier d'Architecture du Sart Tilman

Cost of the works
€ 29 M excl. vat of which
€ 5,3 M for the structure and
€ 8,1 M for building engineering services

Studies
2024

Execution
2025 - 2027

ST | TS | EN

The VOLTA project, covering a total area of 19,500 m², has been designed for NSI, a company operating in the IT sector. The programme includes the construction of a 4-storey office building (7,600 m²), a 3-storey above-ground car park (7,100 m²) and the development of outdoor areas covering a surface area of 4,800 m². This project is located in Droixhe (Liège), along Avenue Georges Truffaut and the new urban boulevard connecting the A25/E25 motorway.

The office building comprises various functional spaces, including a reception area, a conference centre with an auditorium, a cafeteria, offices, meeting rooms and technical facilities. Its facades are equipped with large bay windows enabling full use of natural light. The spaces on the north facade enjoy a direct view of the Meuse river. To prevent overheating, the south facade is equipped with photovoltaic canopies, while additional panels are installed on the roof of the building and car park to maximise energy efficiency.

The floors of the building are made from cast-in-place slabs or precast slabs in the central area, with a sufficient height of 42 cm to incorporate supports for pre-stressed slabs at the facades. This technical approach eliminates the need for beams inside the building, thereby simplifying the installation of ducts and cabling for technical systems. The structure rests on columns spaced 2.7 metres apart at the front and 5.4 metres apart in the centre of the spans, thus meeting architectural requirements while limiting structural heights. The stairwells and lift shafts, located at the heart of the building, are constructed from reinforced concrete walls, providing an effective bracing system.

As for the car park, the floors are made of long-span slabs (16 m), except for the ramp, which is cast on site. These slabs allow for greater fluidity by eliminating columns in parking areas. Due to the poor quality of the soil on the site, all structures are built on deep pile foundations.

With carbon neutrality being a clear objective for NSI, this project was developed with particular attention paid to advanced energy, technical and environmental design. This enables the building to meet NZEB (Nearly Zero Energy Building) standards in accordance with the requirements of the «BREEAM EXCELLENT» label.

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The VOLTA project, covering a total area of 19,500 m², has been designed for NSI, a company operating in the IT sector. This programme includes the construction of a five-storey office building (ground floor + four upper floors) with a surface area of 7,600 m², a four-storey above-ground car park (ground floor + three upper floors) with a surface area of 7,100 m² and the development of outdoor spaces totalling 4,800 m². It is located in Droixhe, in the city of Liège, along Avenue Georges Truffaut and near the new urban boulevard (A25/E25).

The office building houses various spaces such as a reception area, a conference centre with an auditorium, a cafeteria, offices, meeting rooms, technical rooms, and a room dedicated to IT equipment. Its northern façades feature large bay windows offering abundant natural light and a clear view of the Meuse river. To limit the risk of overheating, the south facade is equipped with photovoltaic canopies, in addition to solar panels installed on the roof, generating a total power output of 232 kWp.

The thermal production system is based on two reversible air-to-water heat pumps and a four-pipe water-to-water heat pump, enabling simultaneous heating and cooling of spaces. These installations are fitted in reversible ceilings, which ensure thermal comfort in all seasons. The heavily occupied areas on the south side also benefit from floor-mounted fan coil units for increased comfort. The main computer room has a redundant system thanks to two refrigerated cabinets, each capable of meeting 100% of the cooling requirements.

Ventilation and air treatment are handled by two dual-flow units equipped with energy recovery systems, operating exclusively with fresh air. These devices include frequency converters that automatically adjust flow rates according to the level of CO detected in heavily occupied spaces. In addition, a built-in humidifier maintains relative humidity level between 40 and 60% RH.

An automatic inert gas extinguishing system protects the main IT room and the UPS room. The various infrastructures are controlled via a Centralised Technical Management (CTM) system.

In addition, each building – office and car park – is equipped with an 800 kVA transformer. This configuration allows for the initial installation of 64 charging stations for electric vehicles, with the possibility of quickly adding 40 additional stations. If energy demand increases, facilities are already in place to accommodate a third transformer in the car park.

Functional, decorative and safety lighting is based entirely on LED technology. In workspaces, a dimming system equipped with photoelectric sensors automatically adjusts the lighting level according to natural light.

Furthermore, structured cabling meets advanced standards with a type 6A F/UTP. The building is also secured by high-performance systems including comprehensive fire detection, access control, intrusion detection, video surveillance and video intercom.

In line with NSI's strong environmental commitment to carbon neutrality and the innovative energy approach adopted for this project, the complex meets NZEB (Nearly Zero Energy Building) standards and is aiming for «BREEAM EXCELLENT» certification.