

## The station of Oostende

A station by the sea

It is more than a hundred years since King Leopold II had the current Ostend station built. A bourgeois building with a magnificent architecture, worthy of the "queen of seaside towns". Just like the city, the station has also expanded. It has become a popular transport hub, where thousands of passengers find their way every day to take a train, tram or bus, or a ferry or cruise ship.

For these many travelers, an increasingly complex infrastructure has developed over the years to provide a confusing mix of buildings and parking lots. This limitation makes it impossible to pursue development as more and more people use public transport. Therefore, the project partners are investing in the renovation of this station, with its unique location right by the sea. They are making this seaside station a leading transport hub.

A large-scale project called "station aan zee" started in 2012 to renovate and revitalize the station and its district.

It provides for:

- the reconstruction of the car parks and tram station
- the renovation of the station, without violating the building's classification
- the construction of new platforms
- the construction of a large canopy covering the platforms, tram and bus station and bicycle parking
- the demolition of part of the waterfront buildings, which have become too large, in order to create pedestrian access
- the destruction of the tram depot and its relocation to a former port area
- the beautification of the station square

As the remaining walls of the exit room were classified, it was decided to demolish the roof and other walls and to keep the only classified wall, without a roof. The new canopy partly spans this old wall. The old tram station was demolished in 2019.

The bicycle parking is now underground with a series of round atriums overlooking the space between the platforms and the station building; the tram station is closer to the train station and a multi storey car park has been built along the train platforms.

## The new station of Oostende - A dialogue enriching the urban composition

The Albert I promenade, the port atmosphere and the large cargo ships, the large Maria Hendrika park are all elements that give the City of Oostende a special atmosphere and image, spaces of great scope.

The landscape impact of the new project - a tense "canvas" linking different uses - is strong and consistent within this context. By its size and unity, it enriches the whole. It is an extension whose scale corresponds to the urban scale.

The appearance of the existing building corresponds to the station's status, its institutional aspect gives it a major presence:

It is a dialogue between two entities that has been established, between the imposing architecture of the existing building, facing the port and the Town Hall, and the generosity of the large roof.

The station square opens towards the city. It is a large space on the harbor. It integrates bus stations, tramways, bicycle parking and becomes a true multimodal platform for users.

### **A light and transparent canopy**

With the new impetus it brings to the district, to the city, by its generous extent, the new roof is in its expression refined and transparent. Its vocation is to cover, to connect and to unite, with lightness.

Under the roof all functions are naturally integrated. Stairs, elevators and the footbridge are suspended from it.

Taking advantage of this shelter, the intermediate accesses remain light and airy, to provide pleasant visibility from both sides under the roof, from the hall and the platforms.

The station installations are suspended, such as signage, billboards, electrical installations. They free the floor space in the hall and on the platforms.

The continuity of the travelers' journey is enriched by this visual clearance, this unique space.

In conjunction with the station square to the west, the bicycle parking lot is installed under the roof. It is located on level R-1 and is largely open with a series of round atriiums providing natural lighting and ventilation.

### **Colorful scales**

The roof consists of polycarbonate panels placed on a steel structure. The impact of the structure on the platforms and the hall is minimized.

The translucent panels offer a bright and welcoming atmosphere. Arranged in scales, they allow in the interstice an effective natural ventilation. This composition in sheds gives a movement to the roof and makes it airier.

There are many variations of light under the roof, depending on the exterior brightness and the color scheme. This specificity contributes to the identity of the place. The coloring of the polycarbonate also provides sun protection and avoids direct glare.

The roof extends to the existing station. Adjacent to the new hall, this space on the ground floor is equipped with kiosks.

The public toilets are installed in the basement and accessible from the platform level by a staircase and a lift located to the east of the existing building.

Thus, the space offers transparency from the station square to the platforms in the foreground and then to the port and ferries.

## **A bright atmosphere during the day and night**

As during the day, it is through the roof that the space is lit at night. The lighting of the car parks is located inside the building, at night the volume becomes a luminescent landmark in the city.

## **Future densification**

The project is developing horizontally, supporting this canopy idea. An unobstructed view of the marina and seaport is available to users. The 32m deep office floor includes interior patios and accessible terraces. All spaces are naturally lit.

## **A continuous structure**

The metal structure of the roof consists of slender piles, four tubes that meet on the base (welded junction). They are embedded into the roof structure and form a beam. The base of the slender piles is articulated. The structure is blocked at the linking bridge leading from the parking to the platforms. This allows temperature expansions in the longitudinal direction; embedding moments are avoided accordingly.

The structure is made up of main beams and transverse-beams with an interaxial distance of 15m, formed by double I-shaped profiles. These reconstituted profiles allow the integration of channels and electrical networks.

The roof structure forms a rigid plate. By the slenderness of the piles and their flexibility, thermal expansion is absorbed. The roof forms a diaphragm, an expansion joint along the car park allows differential deformations due to temperature.

Cross beams spaced 5 m cross this structure to support the joists supporting the polycarbonate sheds.

## **The integrated parking**

Installed along the platforms to the west, is a structure including the parking lot that ends the station. It includes the tramway platforms. In this part of the building, two levels overlap in proximity to the existing building: a parking level and a level of offices allocated to SNCB's administrative services. The offices are organized around interior patios.

A two-storey building is located south of the tramway platforms housing services from De Lijn and SNCB. Changing rooms are installed in the basement of the building. A largely glazed facade opens onto the city. The building is strategically located in relation to the platforms. It is in immediate proximity to the link gateway to access the parking.

The southern part of the parking building has 4 levels of parking. Vehicle access is to the south. A circular ramp connects the floors. Pedestrians access from the square, the platforms are directly accessible from a connecting bridge. The south part of the roof is completely covered with photovoltaic panels.

The car park has 670 parking spaces. It consists of a metal structure in continuity with the canopy structure grid. Vertical connections - open stairs - punctuate the building.

This long building forms a facade towards the city. It is an open-air car park and open onto the tracks. The metal mesh provides natural ventilation for the car park and serves as a filter towards the city. Because of its continuity it provides sun protection.

Horizontal openings allow framed views. In the office area, a curtain wall façade closes off the spaces. The continuity of the mesh on the façade constitutes also the sun protection. The patios and east facade are equipped with removable blinds.

At street level, vertical metal rods close the building to the public space. The rods extend around the stairs and form the lower closure and partial guardrail of the stairs.

The supporting structure of the building is made of steel. Collaborative slabs composed of a steel tank with a concrete slab - form the floors. The posts are circular. The embedding of the central posts serves as a bracing.

In the office area the structure is protected by an intumescent paint.

The composition of the access ramp is identical to the floor slabs. A lattice structure at the top supports the suspension rods of the lower part of the ramp.