

architectural eco-Design OF SUBStation BUILDING "noroit" in sandouville (76) - France

INDUSTRIAL site, HQE® APPROACH : electrical SUBStation

Client	RTE
Location	Sandouville (76), France
Project	Architecture design of Noroit's electrical substation for the Energetic Transition Project for the Seine river
consultant	AR ARCHITECTES, TRACTEBEL
Mission	
electrical CAPACITY	225 kV and 400kV
SURFACE	Building : 6 814 m ²
BUDGET	9 986 000 euros
TIMELINE	2024 competition

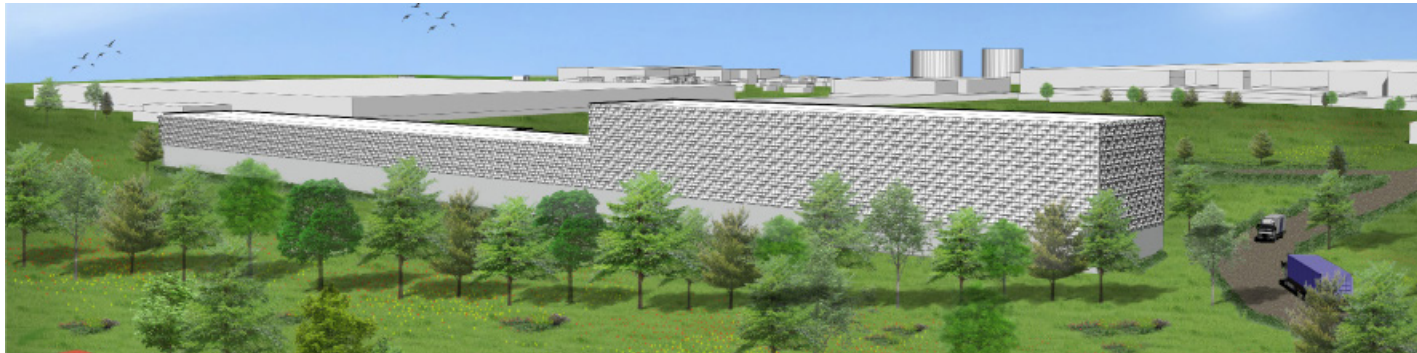


Map of composing site elements

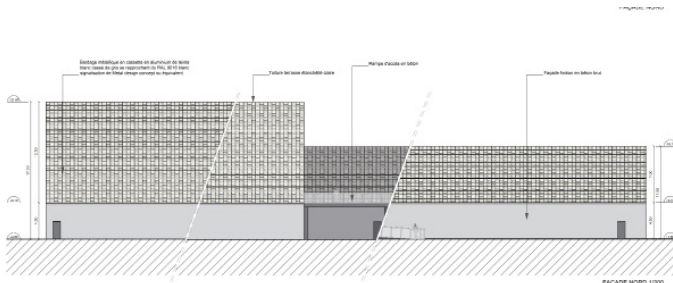


Perspective of the project integrated into its close environment

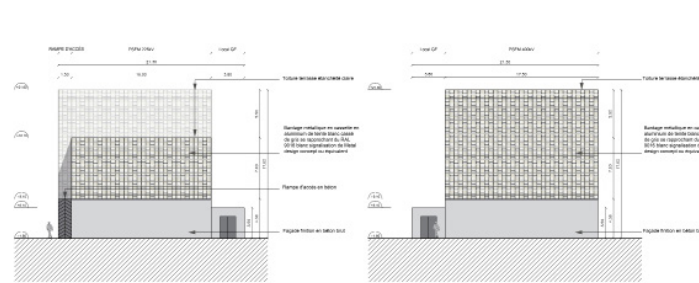
The future Noroit's electrical substation is located in the center of an industrial urban fabric and bordered by protected natural areas, in the city of Sandouville. It will be part of a complex and rich environment, with numerous environmental issues, including the protection of the biodiversity of the neighbouring natural areas. The result is **The Momentum© project: Noroit's Electrical substation buildings in Sandouville**. The buildings are **low-carbon and eco-designed**. The first floor is composed by a **concrete structure** and the upper part by a **metal-frame structure with a metal cladding**. **This strong, singular and light facade is in direct contact with its close and distant environments, and reminiscent the bird's flight.**



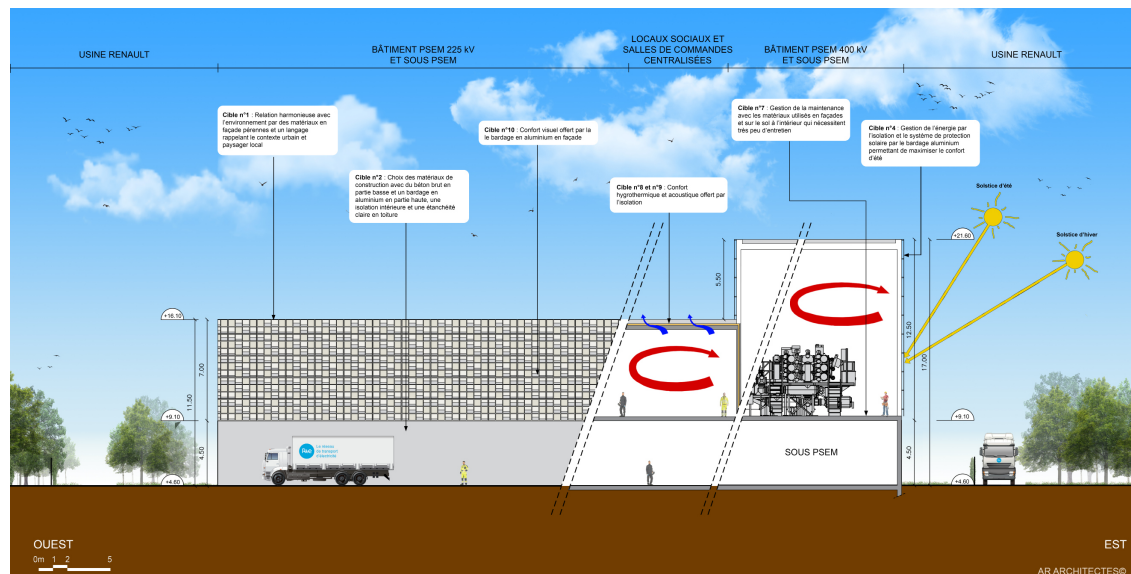
Perspective of the project integrated into its distant environment



South section



West and East section



High Environmental Quality® section

HQE® targets :

target 1 : Harmonious relationship Between the Building and its environment

- Facade treatment using biodegradable, sustainable materials such as **aluminium**.
- Architectural integration of the building with its immediate surroundings : **the industrial urban fabric and the protected natural areas**.

target 2 : Choice of integrated Products and Building materials

- **Metal frame structure**.
- Insulated concrete.
- **Aluminium metal cladding**.
- **White roof for cooling**.

target 4 : energy management

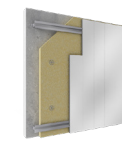
- Bioclimatic Architecture : **Aluminium cladding and double glazing windows** are used to reduce the energy consumptions.
- Bioclimatic architecture : **White roofs** to maximise summer and winter comfort.

target 7 : maintenance and upkeep management

- Construction materials for buildings as well as infrastructure are **low maintenance**.

target 10 : visual comfort

- **Aluminium cladding** improve visual comfort for the users and local residents.



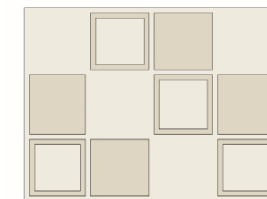
Insulated concrete



Metal frame structure



Aluminium metal cladding



The metal cladding expression