ELIA SERVICE CENTER 2023 - 2025

The ELIA Service Center in Kruisem consists of a passive office building (1.155 mÂ²), a low-energy warehouse and workshop (5.083 mÂ²), and a waste collection area with covered outdoor storage (4.001 mÂ²).

Site
Souverainestraat 33 9770 Kruisem

Client
Elia Asset

Structural engineer
Arcadis

Services engineer
Arcadis

Contractor
Strabag Belgium

Budget
11.500.000 EUR htva

Project Manager
Wema

Acoustic Engineer
De Fonseca

The Service Center Kruisem is designed as a multifunctional and operational building. As a regional hub for ELIA, it must not only serve functional purposes but also be recognizable and represent the company's identity. ELIA positions itself as a forward-looking, climate-conscious company, a stance reflected not only in its core business but also in the values it promotes to employees and society. This is translated into a building that incorporates a passive office section and a low-energy section with a warehouse and workshop, alongside a freestanding canopy for covered outdoor storage.
The project adopts a holistic approach to sustainability, recognizing that every aspect of the building process, from design to construction and eventual usage, must respond both to local and global challenges. The approach reflects the increasing awareness in society that local actions, especially in sectors like construction, have far-reaching global impacts. This awareness has fundamentally shaped the project, as it seeks to minimize its ecological footprint and contribute to a more sustainable future.
The site is designed to maximize water infiltration where technically possible. A small wadi will be installed near the buffer basins, and the outdoor parking spaces are made of water-permeable concrete tiles. Circulation areas are paved to withstand heavy traffic loads. At the southern entrance near the offices and cafeteria, four trees will provide natural shade during the summer.
The offices are designed as a modular, prefabricated structure, with vertical wooden cladding using the â€˜Shou Sugi Ban' technique, where the wood is charred to form a carbon layer. This process enhances fire resistance and provides protection against UV light, fungi, and bacteria, with the charred wood maintaining a black appearance over time. Gold tinted anodised aluminium is used for the window frames. The roof will feature a semi-intensive green roof, a lightweight roof garden with a substrate layer of approximately 24 cm.
The warehouse and workshop consist of prefabricated concrete elements (columns and beams), reinforced with steel bracing. The faÃ§ade and roof are clad in steel sandwich panels with rock wool insulation. Light metal frames with metal mesh will be attached to the front faÃ§ade to support a ground-bound green faÃ§ade. The roof will be an extensive green roof (substrate layer approximately 8 cm thick). The interior walls will be made of concrete blocks for their mechanical and acoustic properties.
The design proposal responds to ELIA's ambitions by developing a modular system that can be applied across all of ELIA's service buildings through an off-site prefabrication strategy, thus ensuring full quality control while minimizing on-site construction time.
The design of Elia Kruisem is strongly guided by principles of sustainability and circularity, particularly through the use of life cycle assessment (LCA) tools like TOTEM and NIBE. These tools help ensure that the environmental impact of the materials used in construction is minimized throughout their entire life cycle, from extraction to disposal or reuse.
We advocate for a long-term vision not only on this site but also for future and renovated ELIA sites. A standardized circular construction system ensures interchangeability and scalability between products and even entire building elements across various ELIA buildings. We refer to this as the ELIA Reversible Framework (ERF).