

Paul Éluard High School

Large-scale energy renovation of a school facility
in Saint-Denis.

CLIENT

Île-de-France Region / Île-de-France Construction
Durable (Project Owner)

TEAM

Patriarche (Architecture, Interior Architecture, MEP
& General Engineering, Environmental Quality, Cost
Consultancy, BIM, Urban Planning, Landscape,
Signage)

Autumn | Patriarche (General Contractor)

Partners:

Delhom Acoustique, Omega Alliance, Loxam, SAS
Climater Maintenance

Credits:

3D visualizations: © Patriarche

KEYPOINTS

Energy renovation.

Large-scale educational facility.

Opened in 1965, Paul Éluard High School is a large educational institution located at the heart of a 66,700 m² wooded site. It currently accommodates 1,670 students across nine buildings resulting from several construction phases, reflecting the architectural and construction approaches of the 1960s through the 1990s.

While the original modernist architecture—characterized by pure horizontal lines and a strong structural grid—gives the site a distinct identity, successive additions and piecemeal interventions have gradually led to architectural and technical heterogeneity, along with declining energy performance.

Commissioned to carry out the energy renovation of the entire school, the project aims to sustainably improve environmental performance and user comfort, while using this intervention as an opportunity for architectural recomposition, restoring overall coherence and legibility, in keeping with the modernist spirit initiated by Mardko Solotareff.



Typology
Education

GFA
24 830 m²

Construction cost
34 M€

Location
Saint-Denis, France

Status
In process

Type of contract
MGP

Energy renovation as a driver for architectural recomposition

By transforming the building envelope, the project goes beyond energy performance alone to establish a new architectural coherence that is both durable and legible at the scale of the site.

The energy renovation of Paul Éluard High School is conceived as a genuine tool for architectural recomposition. External façade insulation necessarily entails an evolution of the original architectural language, but above all offers the opportunity to unify the successive additions carried out over time. This intervention thus projects the school into a new era—both in terms of environmental performance and user comfort, as well as its architectural identity—while respecting the initial modernist spirit.

A durable base

Common to the eight buildings concerned, this base unfolds from one volume to another like a ribbon, following the existing geometries and wrapping around the administrative building as well as the entrance building housing the caretaker's lodge. It forms a foundation for the teaching and residential volumes, characterized by their horizontal lines and large window assemblies. Made of elongated bonded brick, it echoes the existing stone cladding of the forecourt and harmonizes with the surrounding vegetation. In contrast, it highlights the lightness of the external circulation galleries and the covered playground.

Unification through color

This approach contributes to clarifying the overall reading of the site. A white tone is applied across the main façade bodies, whether rendered, clad, composed of sandwich panels for the teaching buildings, or translucent polycarbonate for the gymnasiums. A light grey tone defines the metal elements in steel or pre-lacquered aluminum—window frames, guardrails—as well as canopies, roof overhangs, and the concrete slabs of the external galleries. This chromatic continuity simplifies the perception of volumes and reinforces the overall image of the school.

Harmonization of window assemblies

The consistent treatment of window assemblies strongly contributes to the emergence of a shared architectural grammar. The original long glazed strips are recomposed on certain buildings through the introduction of solid rendered spandrels, while the initially isolated frames of Building T are visually grouped into coherent compositions. Combined with a restrained and legible intervention at the school entrance—remaining within the existing perimeter—this ensemble creates a new unified image that is both durable and legible at the scale of the site.



User comfort and functionality

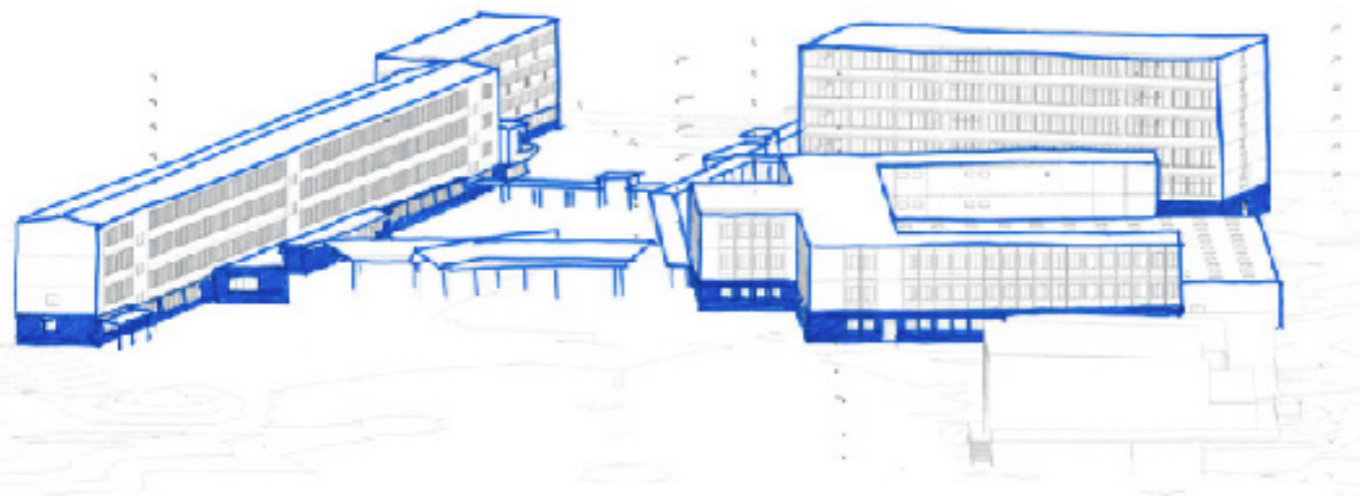
The energy renovation project places particular emphasis on user comfort, preserving the spatial and daylight qualities of the existing buildings while improving their functionality.

In the original A, G, and S buildings, the continuous ribbon windows and “cinema” effect are maintained in classrooms and façade-facing spaces. Adjustable external louvers, discreetly integrated within the thickness of the façade, provide solar protection while preserving views and natural light. To enhance summer comfort, the height of the glazed bands is adjusted and occasionally complemented by reflective opaque panels, limiting excessive solar gains.

Accessible façades are treated in a consistent manner, with openings designed to ensure clear passage in compliance with accessibility and safety requirements. Opening restrictors can be overridden from the outside by emergency services, and solar protection devices can be neutralized to facilitate interventions. In Building G, the courtyard stairwells benefit from a renewed treatment: the existing light-weight façade is replaced with glazed curtain walls incorporating fixed sunshades, promoting natural light, views of the site, and visual interaction with the courtyard.

Internal and external circulation routes are maintained in their original organization. The external galleries and covered playground are refurbished to a high standard, with repainting of the structures and replacement of partitions with light, translucent elements. The management of flows and access is preserved in principle, with fencing, the caretaker's security vestibule, and open pathways retained, while building entrance doors are replaced and connected to the lodge's control system.

Finally, interior atmospheres are preserved as much as possible: existing flooring is retained, suspended ceilings are adapted only where necessary, and finishes are limited to technical areas related to the installation of new equipment. Window frames and light fixtures are replaced to improve comfort and performance, following a measured approach that remains attentive to the existing fabric and focused on long-term usability.





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