



? What is?

This aluminum-based façade system combines an insulated inner layer with an interchangeable outer layer featuring solar energy technologies. Built as a modular, factory-assembled solution, it integrates thermal insulation, active windows, and energy networks into a flexible, high-performance unit for building renovations.

🎯 Challenge

Integrating renewable energy into building façades often lacks efficient, scalable solutions, leading to slow installation and high on-site complexity.

💡 Solution

The Modular Envelope Mesh offers a pre-assembled, adaptable façade system that streamlines installation and boosts energy efficiency with advanced solar technologies.

➡ Target Users

- ✓ Construction firms
- ✓ Façade system manufacturers
- ✓ Building retrofit specialists, including ESCOS
- ✓ Housing developers

➡ Key Benefits



Speeds up

Speeds up installation with factory precision



Reduces risks

Reduces on-site risks and waste



Adaptability

Adapts to diverse energy and design needs



Facilitates energy

Enhances thermal performance and facilitates energy harvesting



Financial certainty

Thanks to industrialized manufacturing



Traceability

Component traceability thanks to process digitalization



Solution

Comprehensive solution, including active windows and automated darkening systems

➡ Next Steps

- ✓ Further research to advance the development of the technology towards commercialization.
- ✓ Performance testing in several pilot buildings is already underway.
- ✓ Next, the certification process designed for innovative products (as indicated in the new European Construction Products Regulation (CPR 2024/3110)) will be explored to achieve CE marking.



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