

# Factory 8's extension

Extension of a furniture factory.

## CLIENT

Fournier

## TEAM

Patriarche (Architecture, EBQ, BIM, Urban planning, Landscape)

Autumn | Patriarche (Main contractor)

Partners:

Plantier, Arbonis

## KEYPOINTS

Low-carbon building.

Timber frame.

Project in seismic zone.

The project is part of a site expansion program for the Fournier brand, which wanted to increase its production output. The factory, now expanded by over 20,000 m<sup>2</sup>, includes a large production hall and rack storage spaces up to 12m high. It enables the production of decorative panels, made-to-measure storage units, facades, etc.

As the factory had to comply with strict building standards, our Autumn design-and-build teams were faced with a major technical challenge, particularly in terms of fire stability.

These technical constraints, combined with our commitment to buildings with a low carbon footprint (as recommended by our Environmental Building Quality department), led us to opt for a timber frame. This choice is also consistent with the project, wood being one of Fournier's most frequently used raw materials.



Typology  
**Industry**

GFA  
**20 000 m<sup>2</sup>**

Construction cost  
**60 M€**

Location  
**Alex, France**

Status  
**Delivery 2023**

Project delivery  
**Design and production**

## A challenge for the timber structure

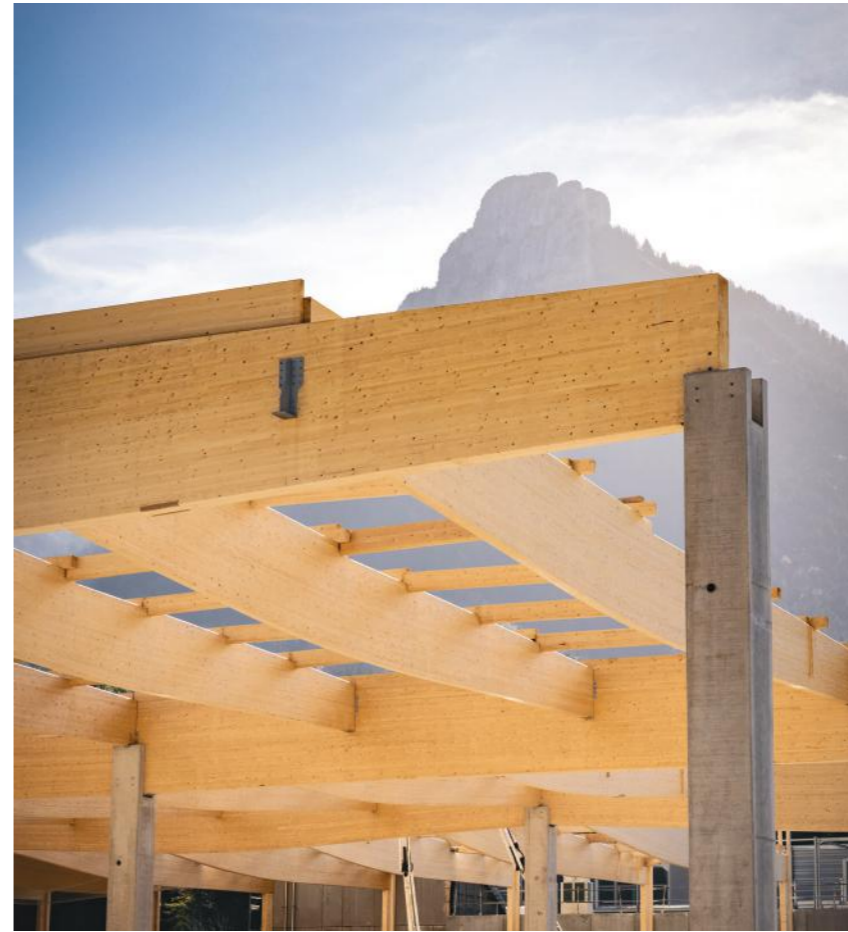
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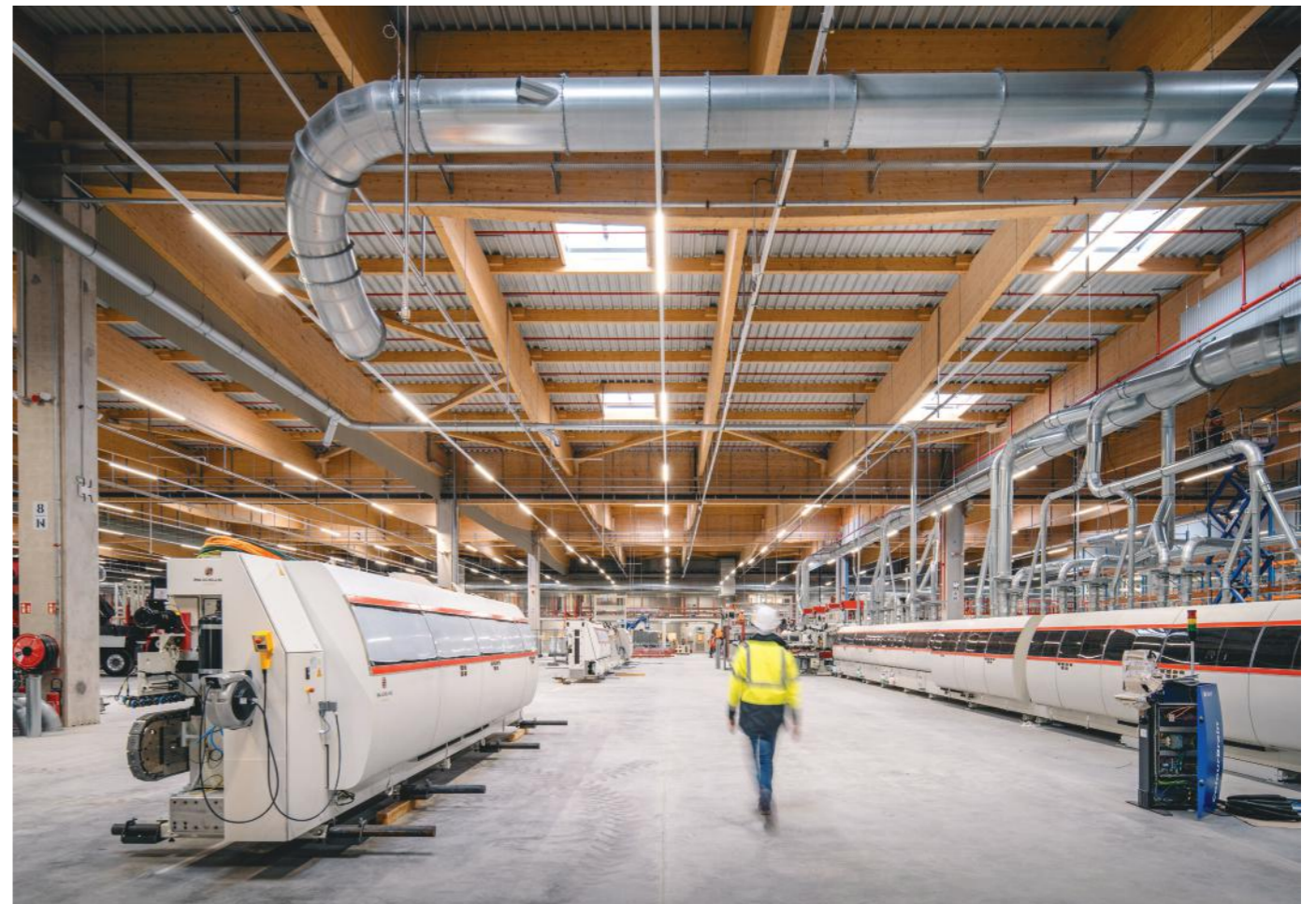
Situated in one of France's snowiest and most seismic zones, the building's structure had to be carefully thought out to ensure both stability and resistance to seismic shocks.

The overall structure was therefore built using pendular portal frames: concrete columns, hinged at the head and foot, support glued laminated timber crossbeams with variable inertia.

The workshop, adjoining the warehouse, consists of concrete posts embedded in the foot of a glued laminated timber frame. The frame is designed with long (24m) crossbeams. Timber frames of this length are extremely rare. At the periphery, wooden posts support the structure, and wooden bracing beams contribute to stability.



To ensure the structure's stability, we chose to use wooden diagonals to form wind beams and stability beams. The longest of these beams is 60m long.





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