INTERNATIONAL AIRPORT EXPANSION CLUJ-NAPOCA

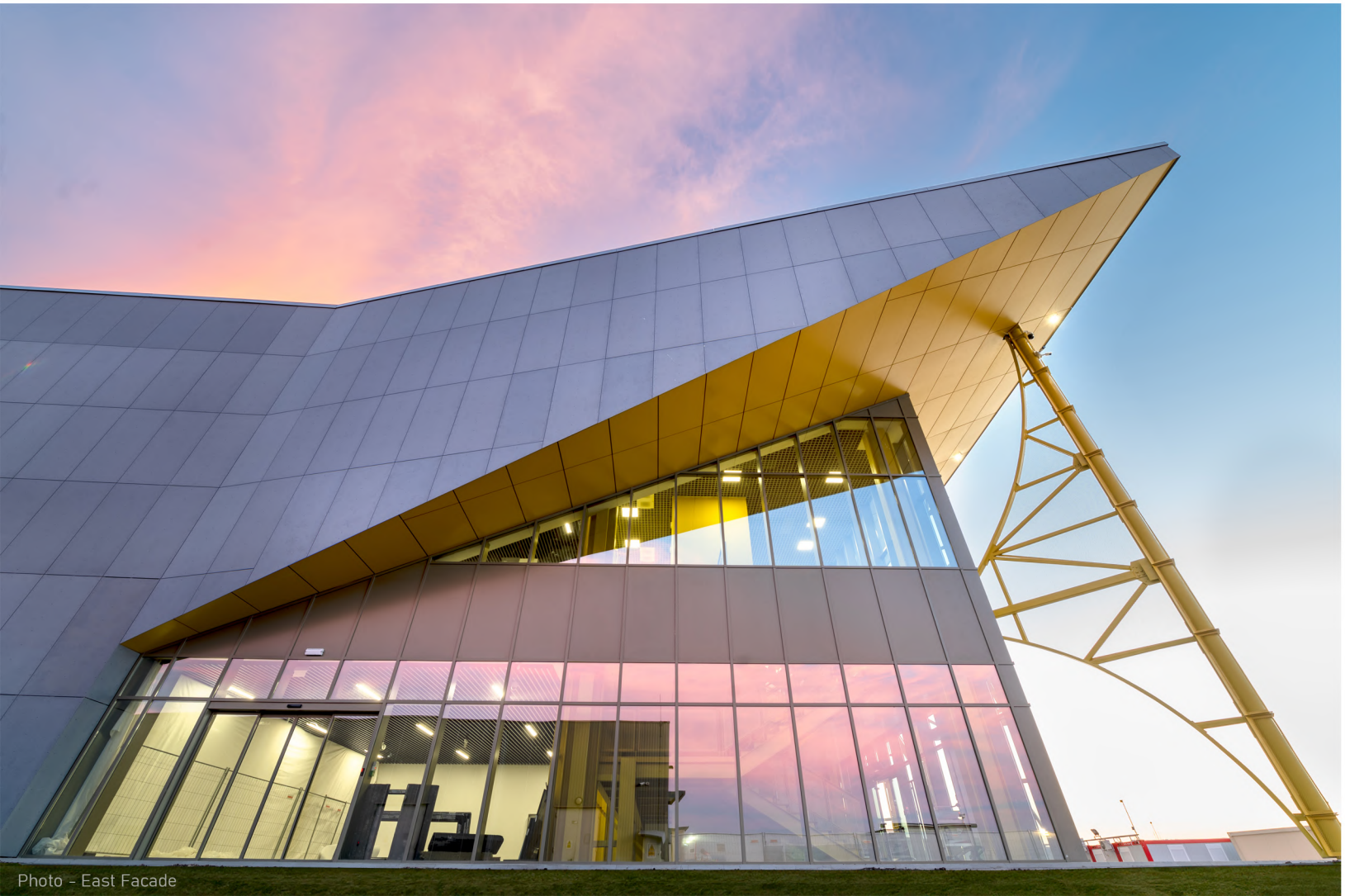
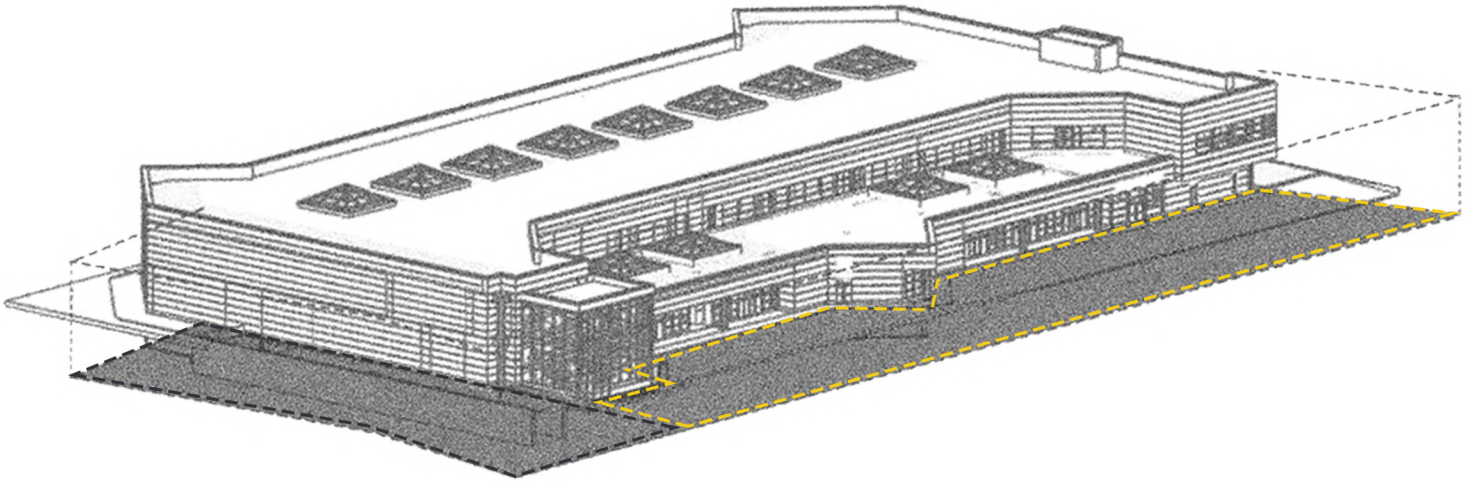


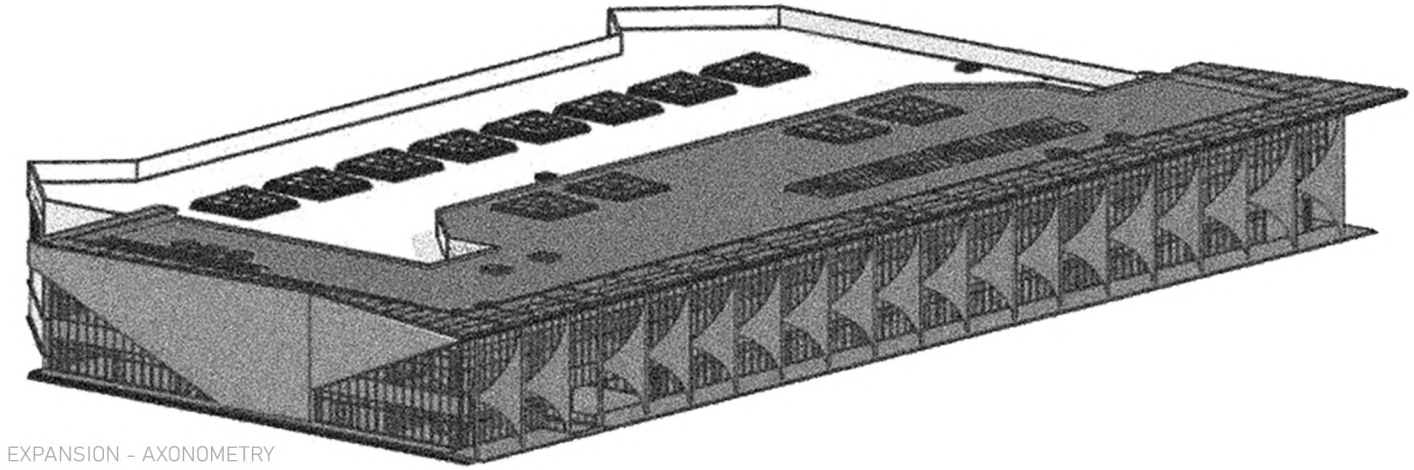
Photo - East Facade

CHALLENGE

The expansion of Cluj-Napoca International Airport had to respond to the growing demand for passenger capacity while reinforcing the airport's role as the city's principal gateway. Beyond increasing operational performance, the project was conceived as an opportunity to redefine the airport's architectural identity, creating a contemporary landmark that reflects Cluj-Napoca's dynamic character and growing international presence.

SITEPLAN

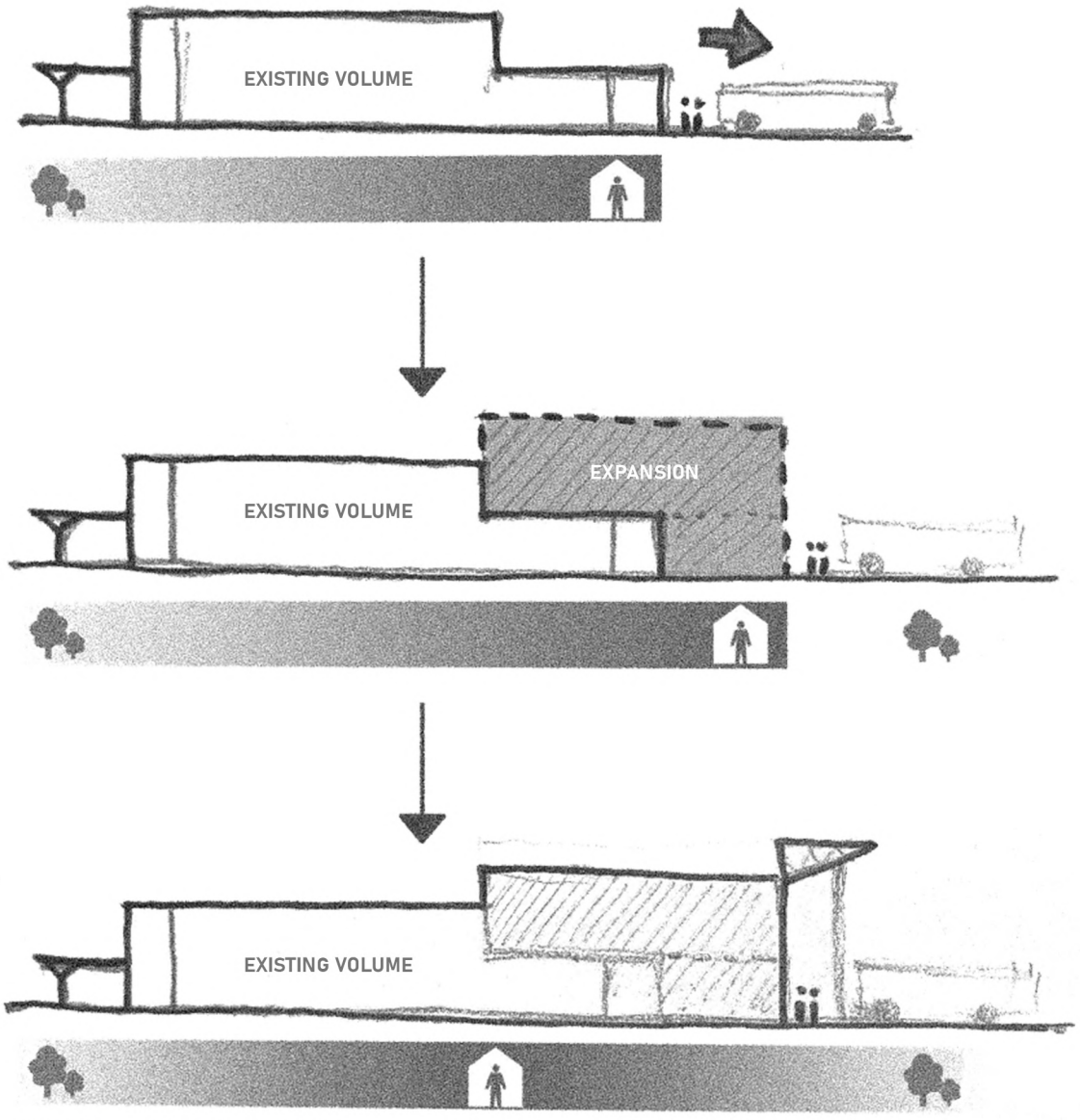




EXPANSION - AXONOMETRY

GENERAL DESCRIPTION

The extension enlarges the existing terminal by approximately 2,575 m² in footprint, and 7,202 m² in additional floor area, North and West from the existing volume. The primary expansion projects approximately 18 metres toward the runway on the northern side, creating new passenger regrouping areas to accommodate the growing number of boarding gates. A complementary extension on the eastern façade, extending approximately 17 metres, completes the intervention, improving passenger circulation. The added volumes are unified by a liniar curtain wall and a series of semi-transparent metal arches that rhythmically articulate the main façade.



EXPANSION - CONCEPTUAL SCHEME

INITIAL SITUATION

The initial airport terminal established a strong linear relationship between the passenger entrance - to the south, and the operational airside - to the north. While functionally efficient, the building offers limited spatial and visual engagement with the runway, leaving the terminal disconnected from the dynamic environment that defines airport architecture.

EXPANSION PROPOSAL

The proposed intervention extends the terminal to the north, toward the runway, increasing passenger capacity. . The new volume responds to the airport's future growth by accommodating additional boarding areas and strengthening the building's overall composition.

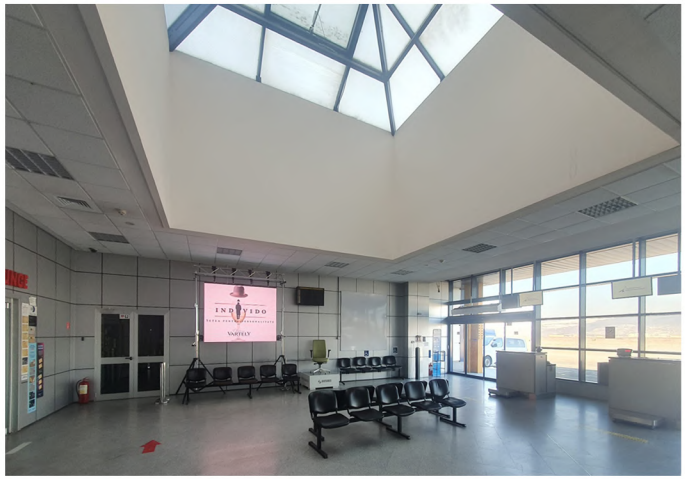
EXPANSION CONCEPT

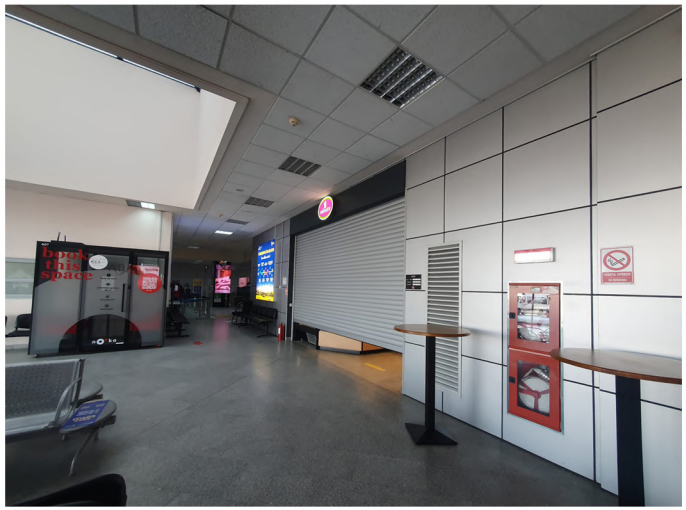
The northern expansion transforms the relationship between passengers and the airfield. By opening the waiting areas toward the runway, the design frames the constantly changing choreography of arriving and departing aircraft as part of the passenger experience. A sequence of semi-transparent façade arches filters these views, balancing openness with rhythm and creating a gradual transition between the interior spaces and the operational landscape beyond.

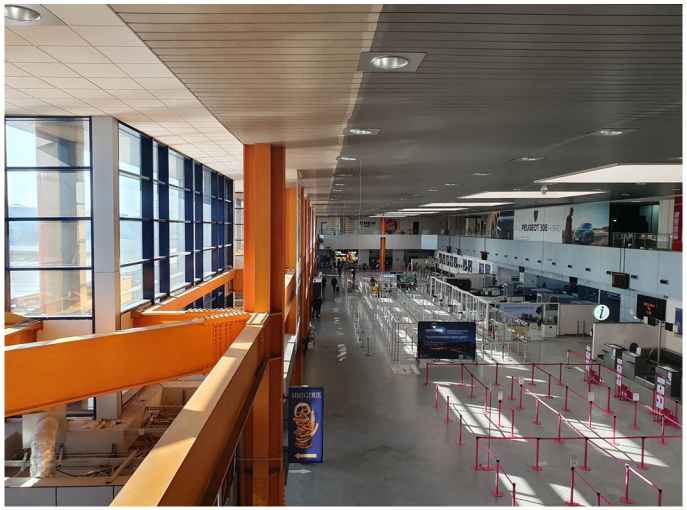
CONSTRAINTS

One of the project's defining challenges was the requirement to maintain uninterrupted airport operations throughout construction. All critical systems - HVAC, heating, security, passenger services, etc. - had to remain fully operational while the existing terminal was extended. The intervention therefore demanded careful phasing and close coordination between architectural, structural, and building services design, ensuring that construction activities could proceed without disrupting the airport's daily operations.

A further challenge was the project's strict budgetary framework. Rather than relying on costly formal expression, the design adopts an architecture of precision, where every intervention is carefully considered to maximise both spatial quality and long-term value. This disciplined approach demonstrates that a strong architectural identity can emerge from measured, economical decisions instead of excessive formal complexity.





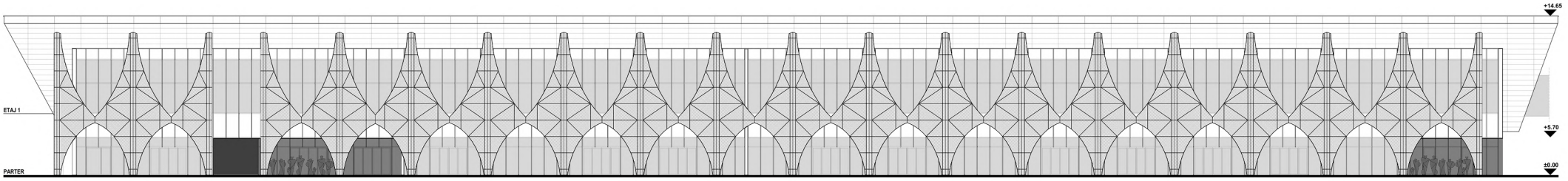


INTERIOR IMAGES - BEFORE AIRPORT EXPANSION

Photo - North Facade

FAÇADE PHILOSOPHY

The design establishes a unified architectural language that seamlessly integrates the existing terminal and the proposed extensions into a coherent whole. A defining feature of the project is the sequence of semi-transparent metal arches that rhythmically articulate the main façade. Their repeated vertical geometry creates a distinctive visual identity, that balances the strong horizontality of the terminal, while giving the building a memorable presence at both urban and human scales.



NORTH FACADE

CONCEPTUAL RENDERING

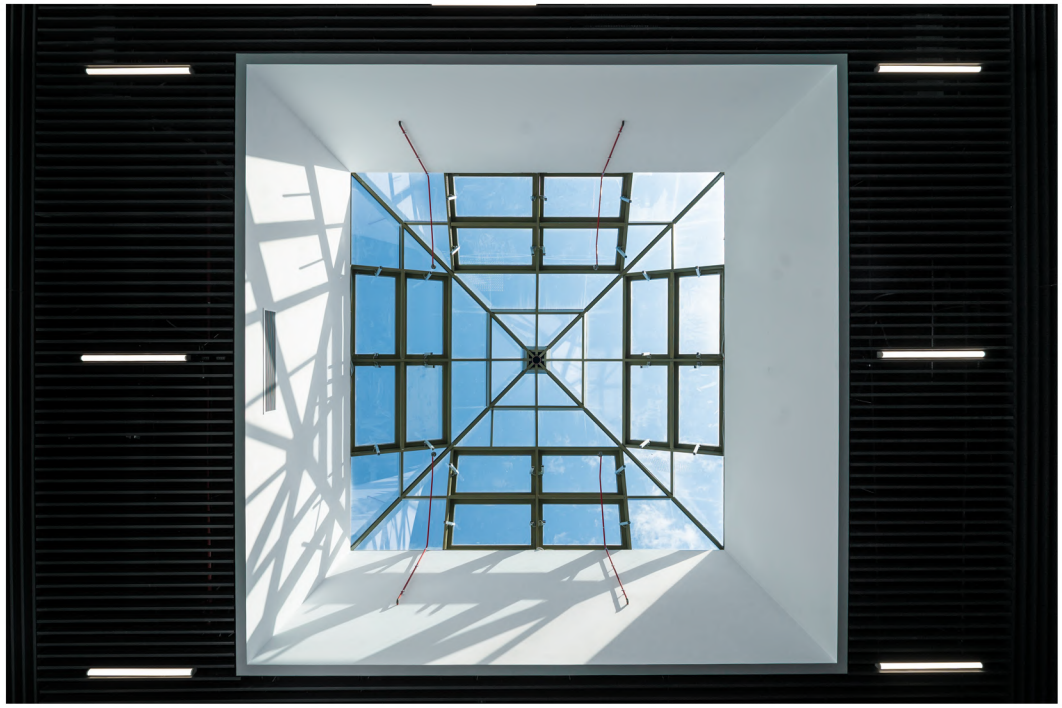
FAÇADE PHILOSOPHY

Beyond their expressive role, the arches frame views and establish a visual dialogue between the terminal and the surrounding airfield, transforming the airport into a recognizable civic landmark and a contemporary gateway to Cluj-Napoca. As the first and last architectural experience of the city for millions of travellers, the terminal is conceived not merely as transport infrastructure, but as an ambassador of the city's identity.

Photo - Interior staircase

INTERIOR PHILOSOPHY

Working within a constrained budget, the interior design deliberately limits its material repertoire to durable and honest finishes: glass curtain walls, painted metal ceilings, and natural stone flooring. Rather than relying on an abundance of materials, spatial quality is achieved through carefully orchestrated proportions, natural light, and a restrained palette of olive grey, desaturated ochre, light and dark greys, and off-white. This measured approach creates calm, timeless interiors that simplify construction and maintenance while offering passengers a reassuring and legible environment, helping to reduce the visual stress often associated with contemporary airports.

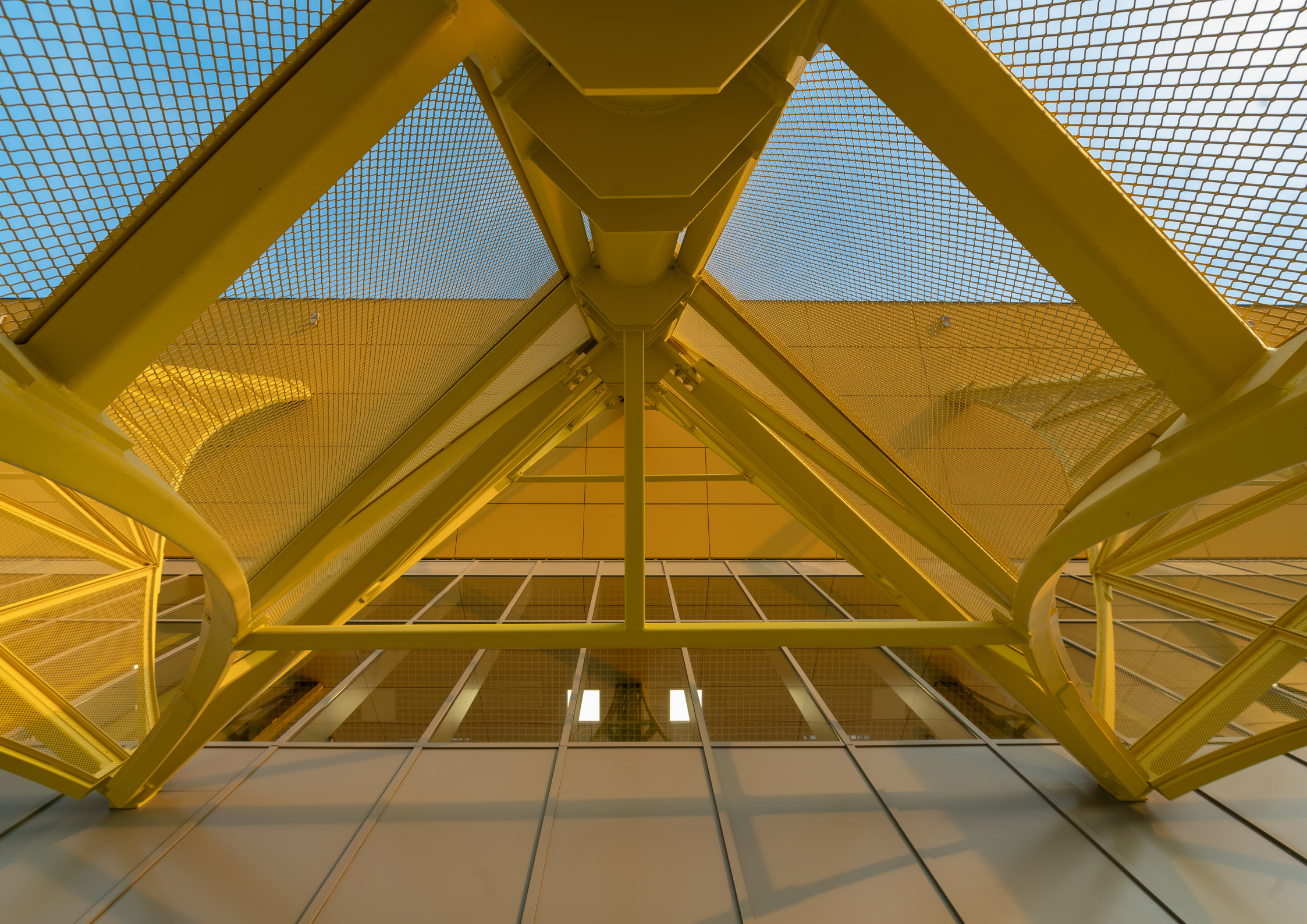


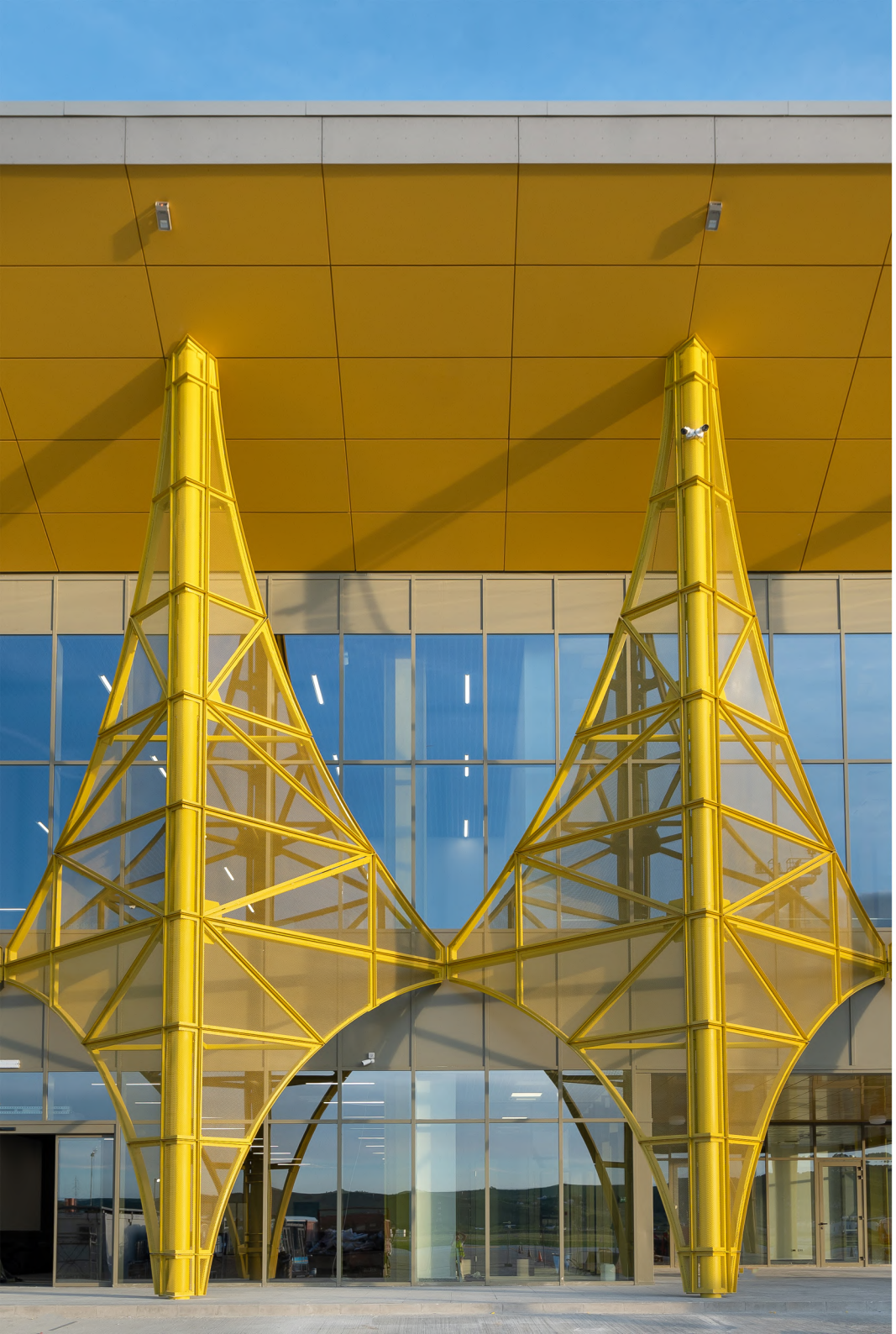
INTERIOR IMAGES - AFTER AIRPORT EXPANSION

GATE
B1-B4
Plecări Non-Schengen
Non-Schengen Departures
Toaleta
Toilets
Salon Business
Business Lounge
Poarta B3,B4
Poarta B1,B2
Salon Business

INTERIOR PHILOSOPHY

Daylight became a fundamental design generator. Large curtain walls facing the runway and strategically positioned skylights flood the waiting areas with natural light, creating bright and comfortable spaces throughout the day. These generous openings also establish a continuous visual relationship between passengers and the movement of arriving and departing aircraft. Rather than isolating travellers from the operational life of the airport, the architecture celebrates it, transforming waiting time into an engaging experience, while reinforcing a sense of place and anticipation. The constantly changing activity on the airfield becomes part of the architectural experience itself, strengthening the connection between the interior spaces and the airport's primary function.





CONCLUSION

More than an infrastructure upgrade, the project demonstrates how operational efficiency, budgetary discipline, and architectural ambition can coexist within a single intervention.

Photography: Marius Șumlea