

// aestech

Technology and aesthetics together



Over the past 15 years, we have developed technologies that allow you to implement the most daring glass-based architectural ideas.

Company's advantages Our team

- Patented and certified products
- Over 100 implemented projects
- More than 15 years of experience
- Well-established global logistics

- Engineering department
- Certification department
- R&D department
- Quality assurance department



The history of Aestech

2006-2010

A frameless glazing technology emerged based on insulated glass units with higher stiffness.



2011-2016

PIK Group, a precursor to Aestech, was founded by a group of enthusiastic engineers. In the beginning, the company primarily focused on developing technical solutions and providing technical support.



2018-2020

During this period, the market fully embraced the frameless glazing technology. Our exclusive solutions became part of the mainstream. We successfully executed a series of large-scale projects: office spaces, shopping malls, gas station chains, and residential villas.



2021-2023

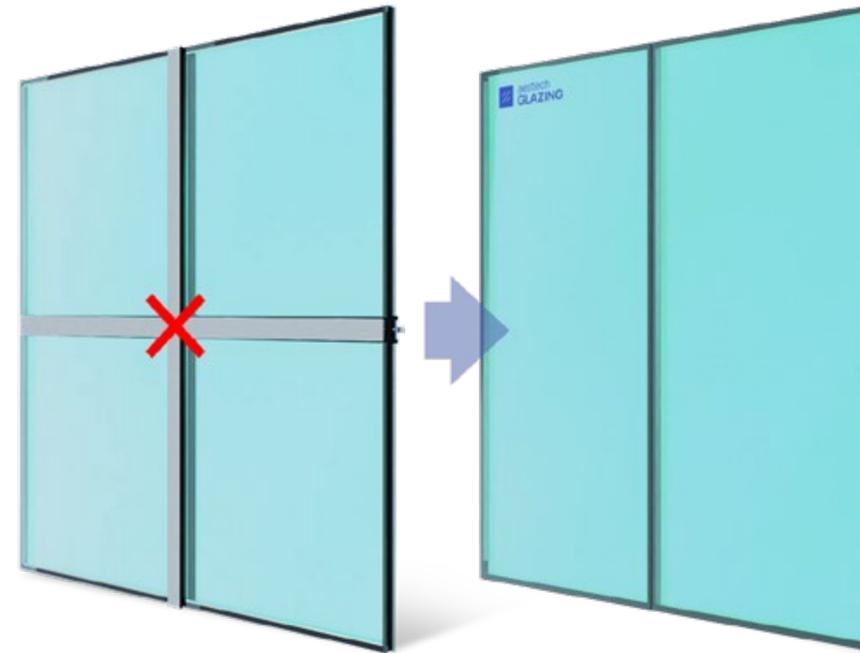
The insulated glass units with higher stiffness received a range of certifications from the independent ift Rosenheim laboratory.

Aestech introduced the lightweight Aestech Panels.

Our office in Lisbon opened its doors. We initiated active collaboration with the architectural community of Portugal.

aestech GLAZING

Patented Aestech Glazing technology (insulated glass units with higher stiffness) makes it possible to remove visible metal structures and minimize the use of fasteners outside and inside the building. And the possibility of connecting glass units to supporting structures at different angles makes it possible to find an individual solution for architectural projects of any complexity.



Quality confirmed by the most authoritative certification center of the European Union



ift Rosenheim

2023 / Classification Report 23-002572-PR01
2023 / Test Report 22-003184-PR01
2022 / Long term test report 22-002451-PR01

Advantages of our unique technology



Low level of optical distortions, up to their visual absence

Using frameless glass units from Aestech in facade glazing significantly reduces the level of optical distortions compared to conventional glass units.



The absence of visible elements of metal structures

You get additional square meters for sale or rent by freeing the space inside from deep aluminum profiles and spider brackets. Our system is flat inside and out.



Increased seismic resistance

The increased seismic resistance of the frameless facade glazing system using insulated glass units with higher stiffness is achieved due to the fixation of the glass units only on two sides.



Connecting glass unit to glass unit or to surface on any angle

You can attach connecting elements directly to the pultrusion profile integrated into the spacer frame of the insulated glass unit.



Increased level of heat and sound insulation

The level of sound and thermal insulation in the frameless facade glazing system using insulated glass units with higher stiffness is at least 20% higher than traditional constructions with conventional glass units due to the absence of continuous metal tube structures such as aluminum pillars.



Higher bearing capacity

The bearing capacity is much higher than that of conventional double-glazed windows.

No need for mullions and ridges

Aestech glass units are semi-bearing. Connecting elements are simply screwed into the composite frame. This is how glass units are interconnected and then attached to the loadbearing elements of the building.

Glass Reinforced Plastic (GRP)

Together with a special adhesive, they transform the glass unit into a flat tube in which all glass layers are engaged in bearing the load.

Sustainability

Our glazing technology overcomes the complete dependence on aluminum in construction. Help to improve the ecological situation since aluminum production is very energy-intensive and creates emissions of harmful gases and dust. Save on the purchase, processing, and installation of profiles. Save on utility bills as the facade without metal is much more energy efficient. Speed up the facade installation.

The uniqueness and authorship of the technology are proven and protected by patents



Germany

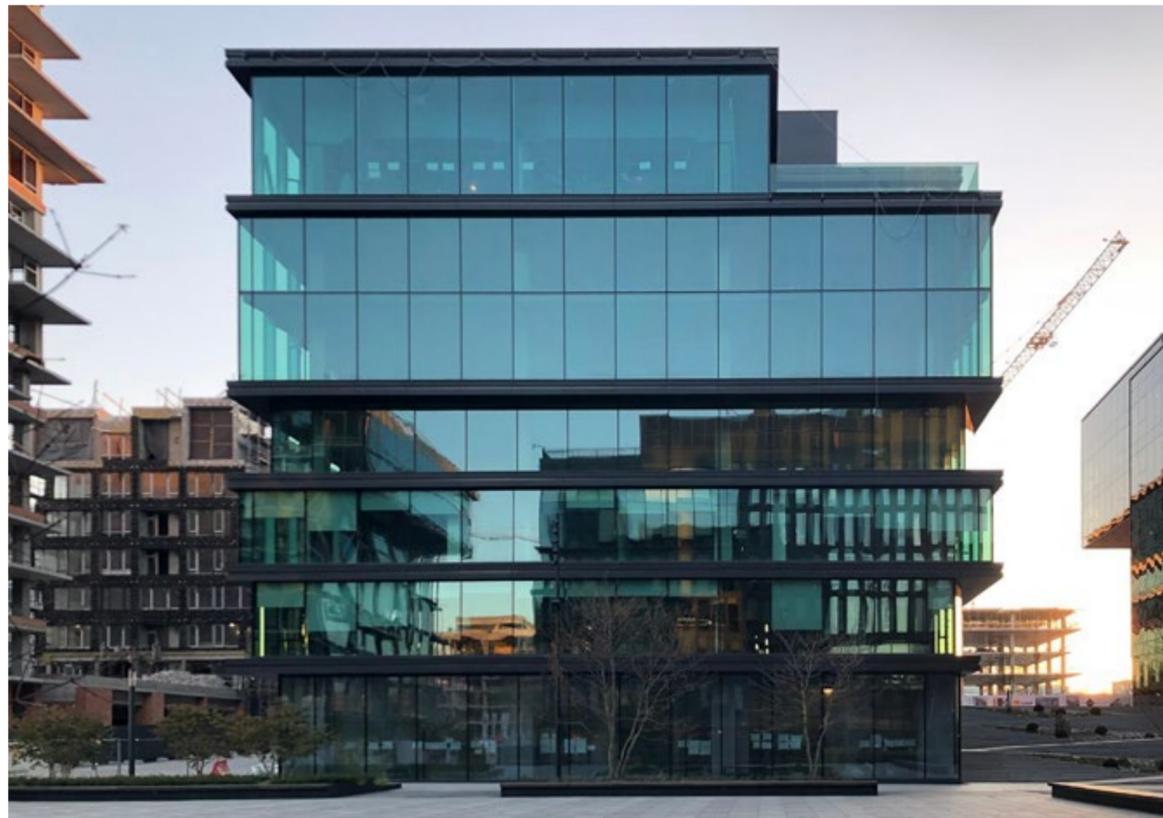
Ukraine

EU



Solutions based on Aestech Glazing technology

The benefits of Aestech's patented technology for producing insulated glass units with higher stiffness are revealed in their interaction with other elements of systems.



We offer design, production, and installation of a wide range of glazing solutions.

Therefore, to convey all the advantages of the technology more effectively, a comprehensive solution is proposed, which includes the following list of services.



01 Development and design of the structure

02 Production of insulated glass units with higher stiffness

03 Logistics services

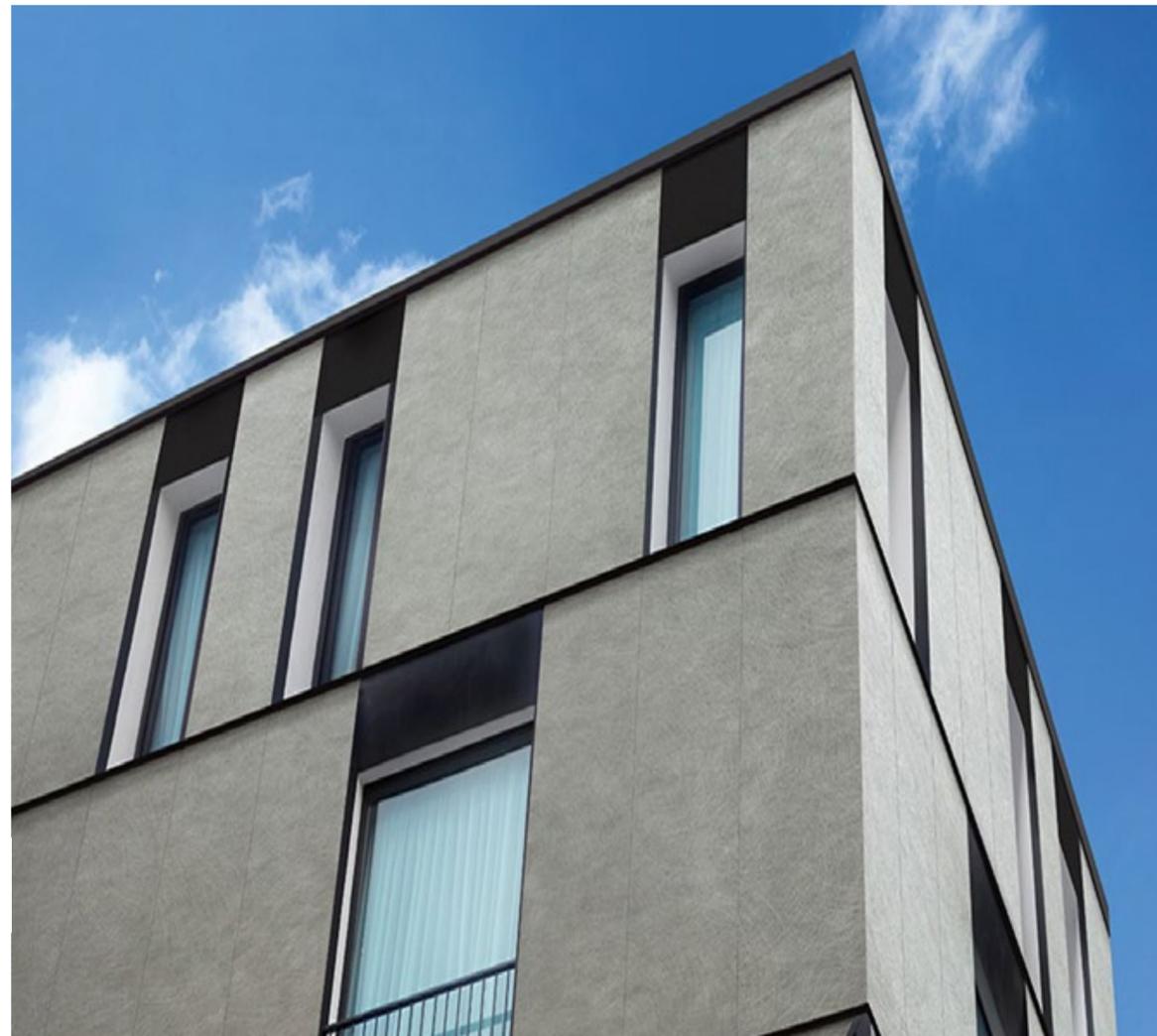
04 Technical supervision

05 Maintenance service

aestech PANELS

Aestech's technologies open up new possibilities for design and architecture by using lightweight, self-supporting panels as an enclosing structure.

The wall panel is a final product with a specific color solution and texture, which allows for any architectural design to be implemented quickly. The panel's lightweight allows for construction under non-standard building conditions. This is an excellent opportunity to quickly create a home with a ready-made designer solution.



Advantages of Aestech Wall Panels

No wet works

The finished product comes with a predetermined texture and color

Eco-friendliness

Non-toxic to the environment

UV resistance

The surface does not change color or texture

Increased useful area

Reducing wall thickness increases the interior area

Resistance to sudden temperature changes

Suitable for various climatic conditions

Moisture and frost resistance

Water absorption of the panel is less than 0.1%, improved frost-resistant characteristics

Bending resistance

The panel has high strength against bending

Installation

Fast installation, work can be done at any time

Resistance to mold and fungi

Not prone to the formation of microorganism colonies

Wide range of colors

A variety of colors and textures

The solution using lightweight Aestech-LP wall panels is 17.2% more cost-effective compared to the solution based on aerated block technologies. This cost advantage is achieved through reduced expenses on construction materials and installation services, as well as by gaining additional usable space through the decreased thickness of enclosing structures.

When using technologies that involve Aestech-LP panels and Aestech HSG insulated glass units with higher stiffness, the difference in additional floor area compared to standard solutions (aerated blocks and transom glazing) will be 7.4% (equivalent to +12.9 sqm on one floor).

Additional services



A comprehensive approach to completing work: designing, manufacturing, and installing structures



Stiffness calculations



Aerodynamic calculations



Calculation: energy efficiency and sound insulation



3D modeling and prototyping



Kinematic calculations

Production capacity

Today we use the production capacity of the partners, where we can produce 50 thousand square meters per year. Our leading partner is Paritet; we can produce up to 30 thousand square meters per year on its facilities.

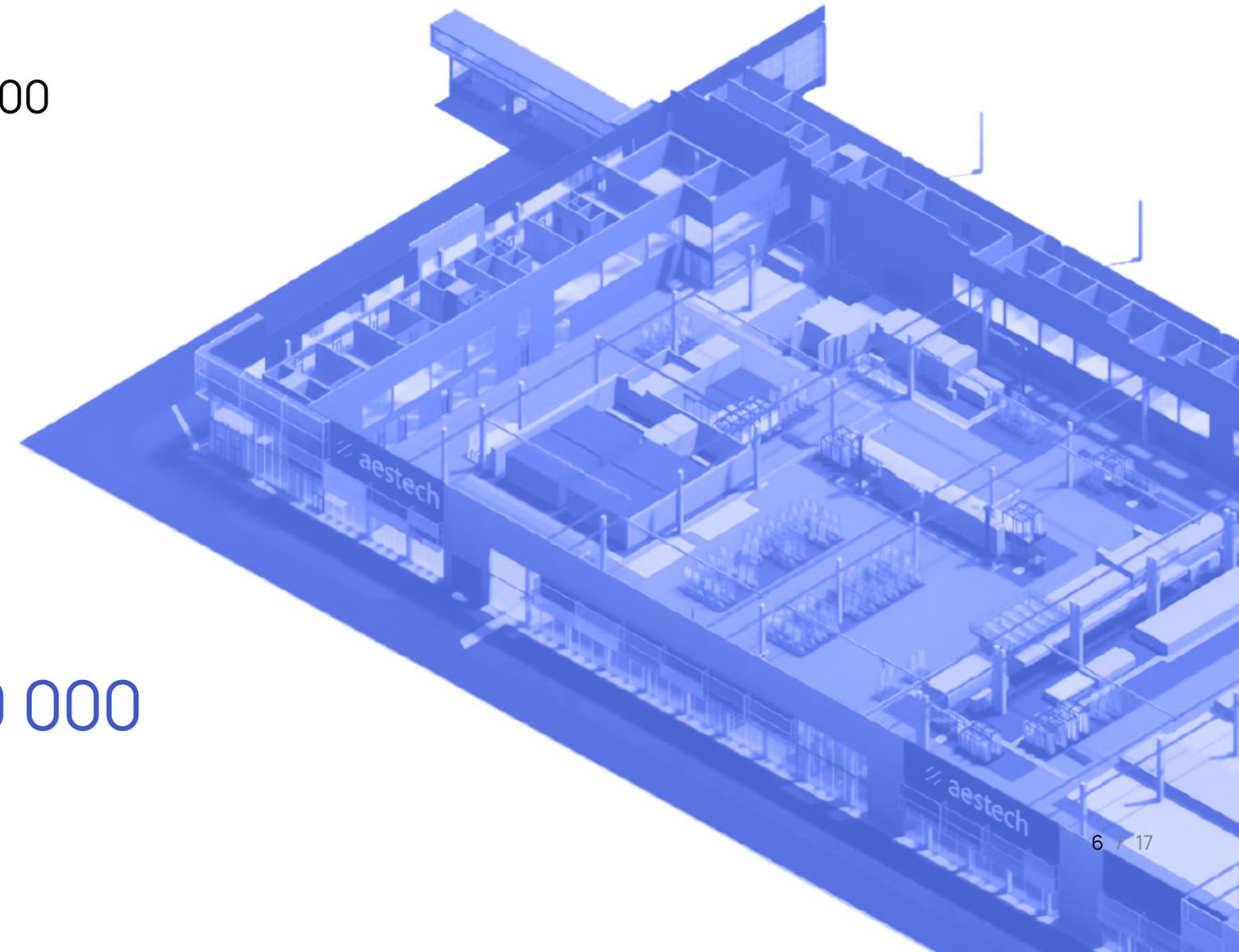
Currently we have purchased equipment for our own production that will allow us to produce 120 thousand square meters per year.

2023 —

50 000
sqm/year

2024 —

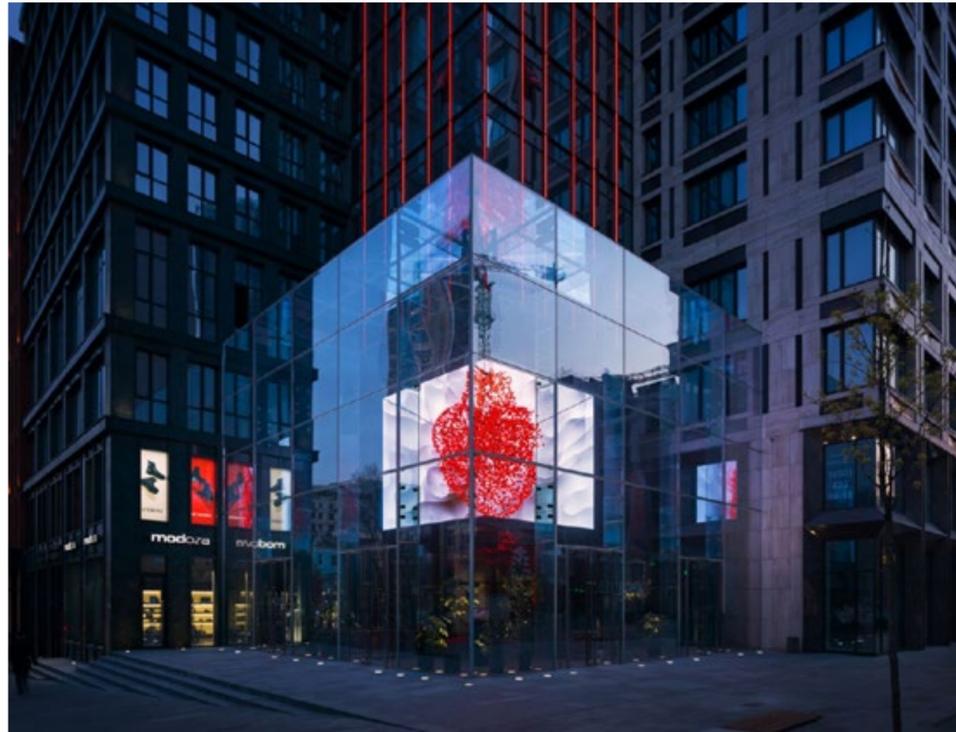
120 000
sqm/year



Chicago Cube, entrance group of the
«Chicago» residential complex

Kyiv, Ukraine





The massive glass entrance structure has become the hallmark of the capital. The world's largest glass cube, towering 12 meters high, is made of glass units. We hope that in the future, the "Chicago Cube" will be included in the Guinness Book of Records.

Glass size: max 5.3 x 2.8 meters.

Integrated glass roof anti-icing system.

Self-bearing all glass structure.

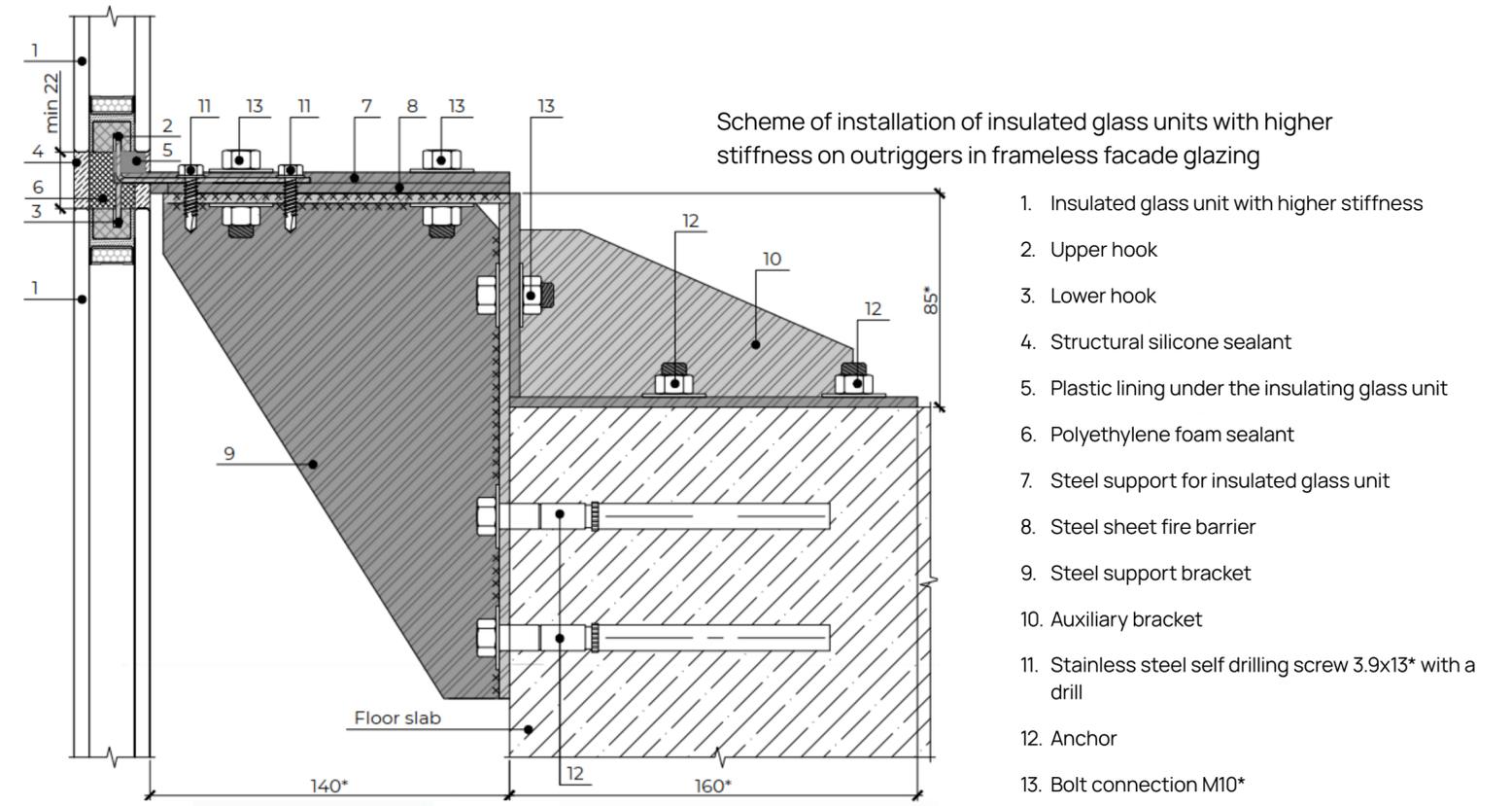
Perfect look outside and inside.



The entrance group of the residential complex is designed to impress guests and passers-by. The large-scale glass structure, close to the shape of a cube, is designed in such a way that even with its proportions, it excludes the use of aluminum support systems. This makes the entrance group light and aesthetically pleasing.

UNIT.City, business center

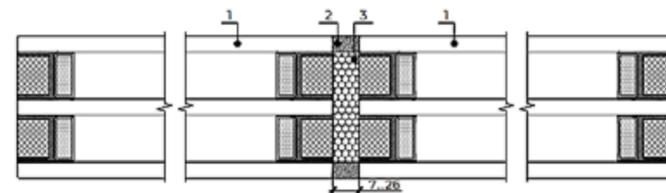
Kyiv, Ukraine



The use of frameless glazing technology in the construction of a business center has allowed for an increase in useful space and improved the energy efficiency of the building. The modern design of the building, provided by this technology, adds to the overall aesthetic appeal.

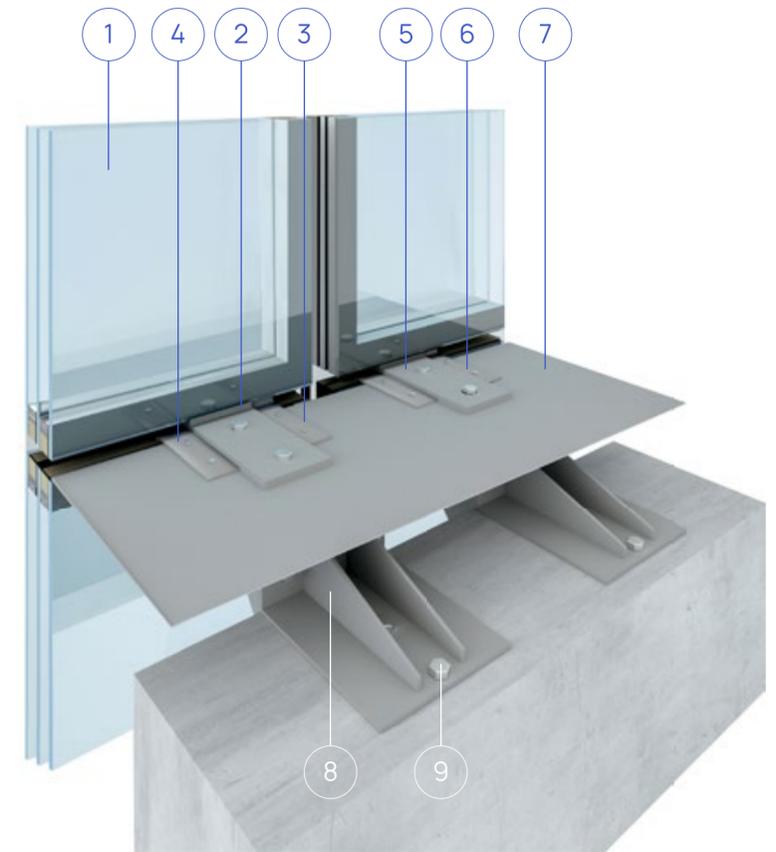
The facade is a combination of an all-glass wall formed by glass units on one side and an angled connection without the use of metal profiles on the other.

The glass units on the top floor are 5.8 meters high and fixed only at the top and bottom sides.



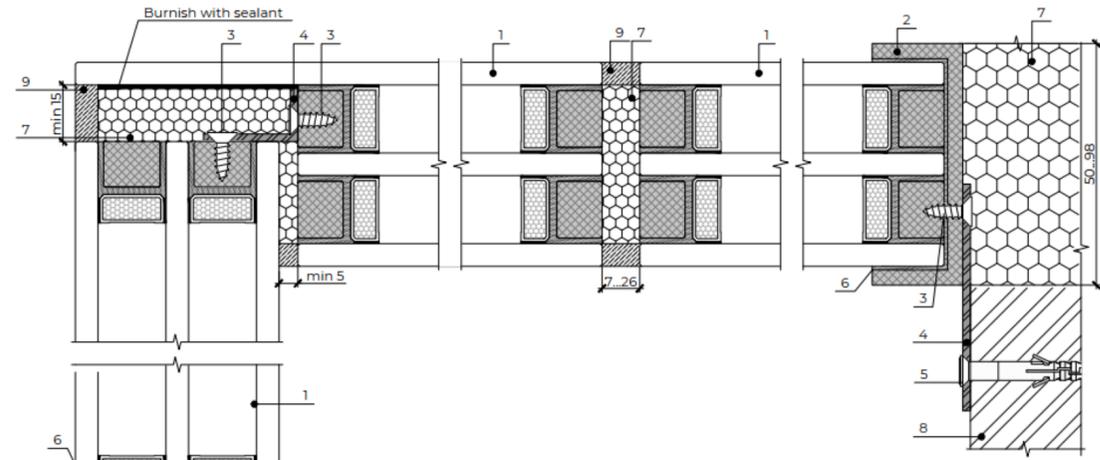
Scheme of the facade system on extended brackets

1. Insulated glass unit with higher stiffness
2. Plastic shims
3. Upper L-bracket
4. Lower L-bracket
5. Steel support
6. Self-drilling screw
7. Steel sheet – fire protection
8. Auxiliary bracket
9. Wedge anchor





Riviera Village, Private house / Kyiv Region, Ukraine



- 1. Glass unit with higher stiffness
- 2. GRP U profile
- 3. Stainless steel countersunk self tapping screw 4.8x13*
- 4. Anchor plate (60x50x2 mm)*, the plate installation pitch depends on the wind and weight loading on the facade glazing
- 5. The spacer anchor or dowel
- 6. High adhesion adhesive
- 7. Polyurethane mounting foam
- 8. Structural support (wall, column, etc.)
- 9. Structural silicone sealant

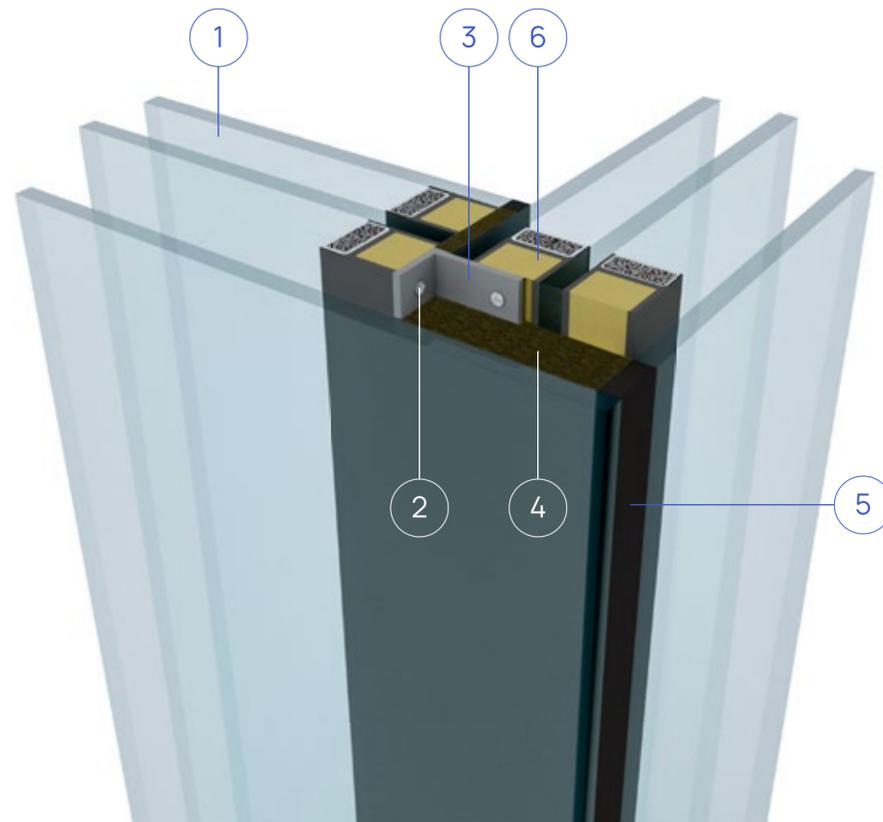
Aestech's panoramic facade systems can improve the appearance of a country house and its energy efficiency in winter and hot summer months.

Mirror effect from the outside.

Improved visual appeal: unobstructed views, modern design.

Enhanced energy efficiency: reduced heat loss/gain, lower costs.

All-season performance: suitable for any weather condition.



Frameless corner window solution

- 1. Insulated glass unit with higher stiffness
- 2. Self-tapping screw
- 3. Anchor plate
- 4. Foamed polyethylene sealing insulation
- 5. Structural silicone sealant
- 6. GRP profile



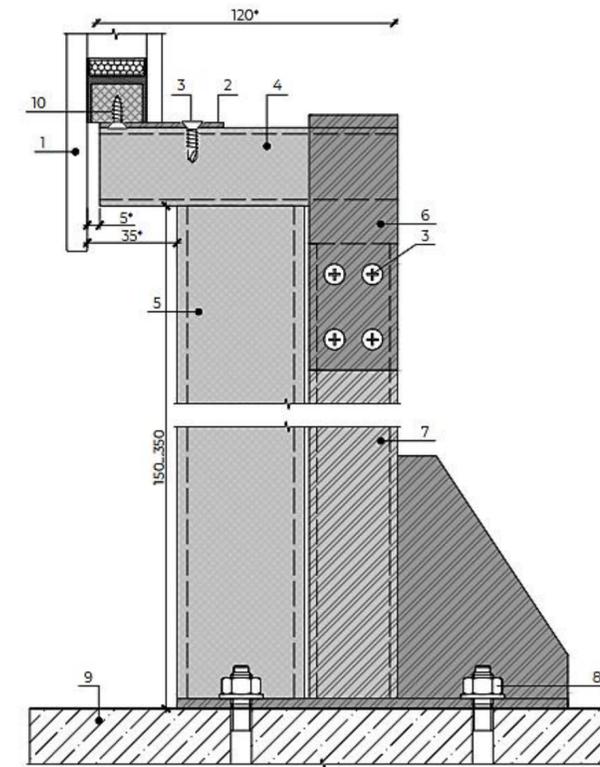


Chain of gas stations / Kyiv Region, Ukraine

The modern look of the gas station attracts car owners. We implemented a project of large-format glazing that fits perfectly into the architectural solution and improved the energy efficiency of the complex.

Large-format storefronts with dimensions of 1.6 x 4.2 meters high.

Without visible vertical load-bearing elements.



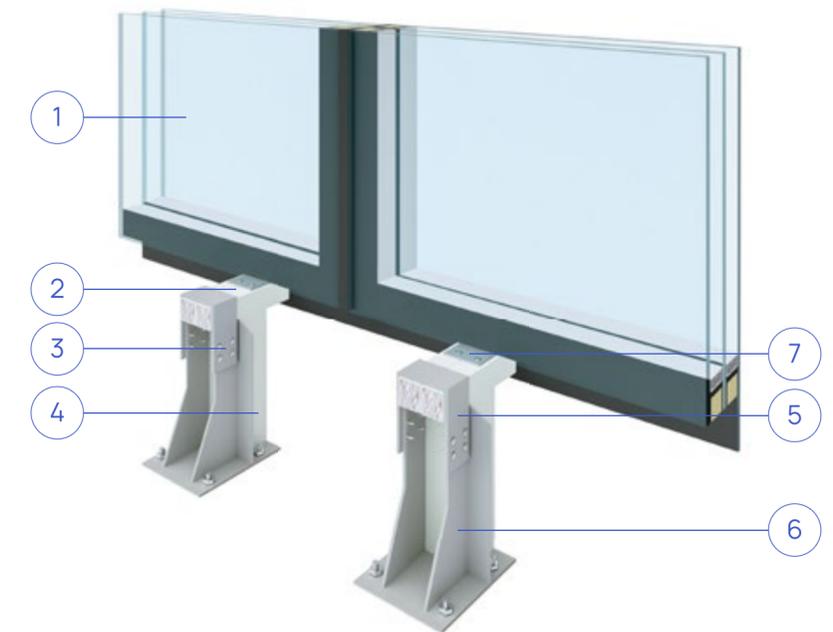
Each glass unit connects independently to the building. In case of an earthquake, our glass units have the flexibility to move and without making pressure on the neighboring glass units.

Also, Aestech glass units have much higher strength and damage resistance.

1. Insulated glass unit with higher stiffness
2. Anchor plate t=2 mm
3. Stainless steel self drilling screw 3,9x13* with a drill
4. GRP tube (30x30x4 mm)*, filled with polyurethane foam
5. GRP tube (50x50x4 mm)*, filled with polyurethane foam
6. Steel fixing clamp
7. Supporting steel bracket
8. Steel anchor or dowel
9. Supporting structure (plate)
10. Stainless steel countersunk self tapping screw 4,8x13*

Scheme of the lower unit of the facade system on support brackets

1. Insulated glass unit with higher stiffness
2. GRP tube filled with polyurethane foam
3. Self-drilling screw
4. GRP tube filled with polyurethane foam
5. C-bracket
6. Support bracket
7. Stainless steel connector plate





Aestech stand at the World Architecture Festival 2022 / Lisbon, Portugal



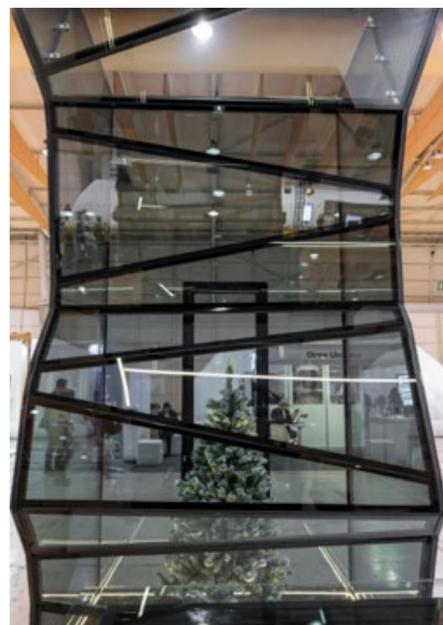
The key element of the Aestech's booth was a 4-meter high 3D arch made of solid glass. The structure consisted of 23 insulated glass units with higher stiffness of various shapes and sizes from Aestech. As a result, it had many facets arranged at different angles, which gave it a distinctive look from every angle.

No supporting frame.

Every corner has butt glazed connection.

A sash without the use of visible profiles.

Fast assembling.





Bay windows in the building on Mykhailivska Street / Kyiv, Ukraine



Glazing of an office building for a network of gas stations / Odesa, Ukraine



Toyota showroom Autosummit / Kyiv, Ukraine



Glass canopies



Aestech stand at the World Architecture Festival 2022 / Lisbon, Portugal



Dome system covering a restaurant hall / Kyiv, Ukraine



Printing plant "Ukraine" / Kyiv, Ukraine



Noble hotel curved facade / Lutsk, Ukraine



Private house / Odesa, Ukraine



Gas station chain / Kyiv, Ukraine



Stairs, floors, doors and windows



3D glass facade / Dnipro, Ukraine



Dome covering of Smart Plaza Polytech shopping center / Kyiv, Ukraine



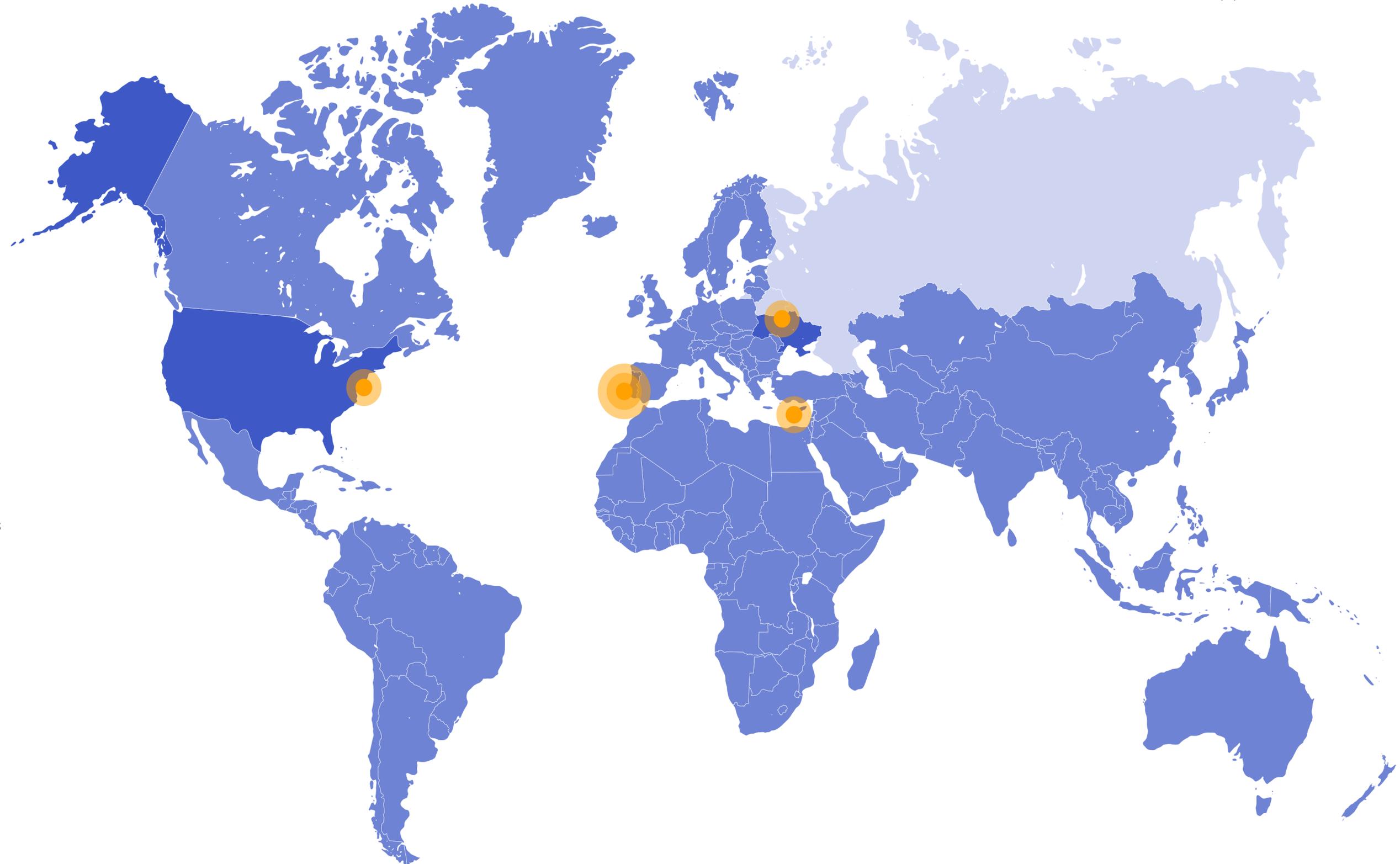
Glass Terrace of a Restaurant / Kyiv, Ukraine



Penthouse / Kyiv, Ukraine



Showcases of the shopping center Ocean Plaza / Kyiv, Ukraine



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Representation

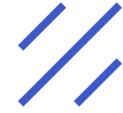
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