

ANNE WORKS

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JAKUB CHOJNA

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EDUCATION

2011 - 2014

Warsaw University of Technology | Faculty of Architecture

Master's Degree

2006 - 2010

Warsaw University of Technology | Faculty of Architecture

Bachelor's Degree

PROFESSIONAL EXPERIENCE

01.2018 - 06.2018

SVET VMES | Ljubljana

architect | architectural rendering artist

prepared in team work preliminary project concepts, scheme design and construction drawings in AutoCad | provided 3d models of all the projects for the purpose of design process, final renderings and structural calculations | created graphic presentations and photorealistic visualizations in supporting design process and final presentations for clients

2017 - Present

Freelance Architect | remote

self employed

created series of furniture prototypes and has been developing refurbishment project of single-family house [in progress] in collaboration with architect Piotr Gniewek | created concept drawings, graphic presentation and visualizations for studio thörnblom

2008 - Present

Freelance Architectural Rendering Artist | remote

self employed

created photorealistic architectural visualizations of interiors and exteriors in 3ds Max, V-Ray and Photoshop | worked for clients such as: Echo Development, Real2B Development, MOFO Architekci, Konior Studio, Atelier 3 Girtler & Girtler, Aleksandra Wołczyk-Perlak

2015 - 2017

MOFO Architekci | Warsaw

architect | architectural rendering artist

prepared preliminary project concepts, schematic drawings, façade design proposals and virtual 3d models of the buildings for commercial use and professional presentations | created graphic presentation and photorealistic visualizations supporting design process and final presentations for clients

2011 - 2013

Activum Projektowanie | Warsaw

architect | Intern

participated in concept, schematic and design development phases of residential interiors, small multi-family house, retail building, renovations and expansions as well as furniture design and competitions | participated in interior finishing works of one of the designed apartments for 3 weeks | created graphic presentation and photorealistic visualizations in supporting design process and final presentations for clients

2010 - 2013

Euro Info Group | Warsaw

3d software tutor

carried out several courses on 3dsMax and V-ray at the basic level | the course program consisted of 3d modeling, texturing and mapping, lightning, rendering, post-production of architectural rendering and the very basis of animation and particle systems

WORKSHOPS**ARCHI Mebel | Workshop during 7th Weekend of Architecture in Gdynia**

architect | trainer

initial phase of designing an object in space serving as a form of promotion of the event's next edition
case study of author's project and prototypes of public space furnitures
design thinking workshops conducted in collaboration with architect Piotr Gniewek

HONOURS AND AWARDS**I prize**

The Open Anonymous Architectural Competition for 16-unit Kindergarten in Kočevje, Slovenia
visualizations
in collaboration with SVET VMES | Ljubljana

4th place

competition for urban concrete furniture due to 800th founding anniversary of Opole City
in collaboration with Piotr Gniewek | Opole

II prize

competition for the entrance zone in Copernicus Science Centre and Planetarium
in collaboration with NN Architekci | Warsaw

honorable mention

BARGEWORK office on the water competition

III prize

competition for refurbishment of a primary school building on Kilińskiego Street
| in collaboration with Archigraf | Grodzisk Mazowiecki

I prize

Dolina Kreatywna design category

honorable mention

student project of aviary for owls

SKILLS**2d / 3d**

3dsMax, V-Ray, Rhinoceros, Grasshopper, Revit, VisualARQ, Sketchup, AutoCad

adobe suite

Photoshop, Lightroom, Illustrator, InDesign, After Effects

LANGUAGES

English proficient | **German** elementary | **Polish** native

2017

2018

2017

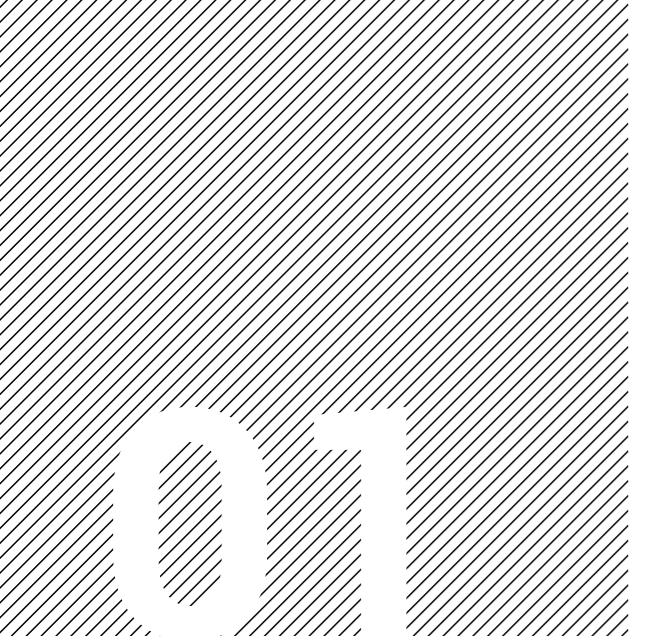
2015

2015

2012

2009

2007



H2OUSE | Living on the water

The Earth's climate changes become increasingly evident and emerge in many forms of natural disasters determining architecture to be adaptable to the new challenging circumstances.

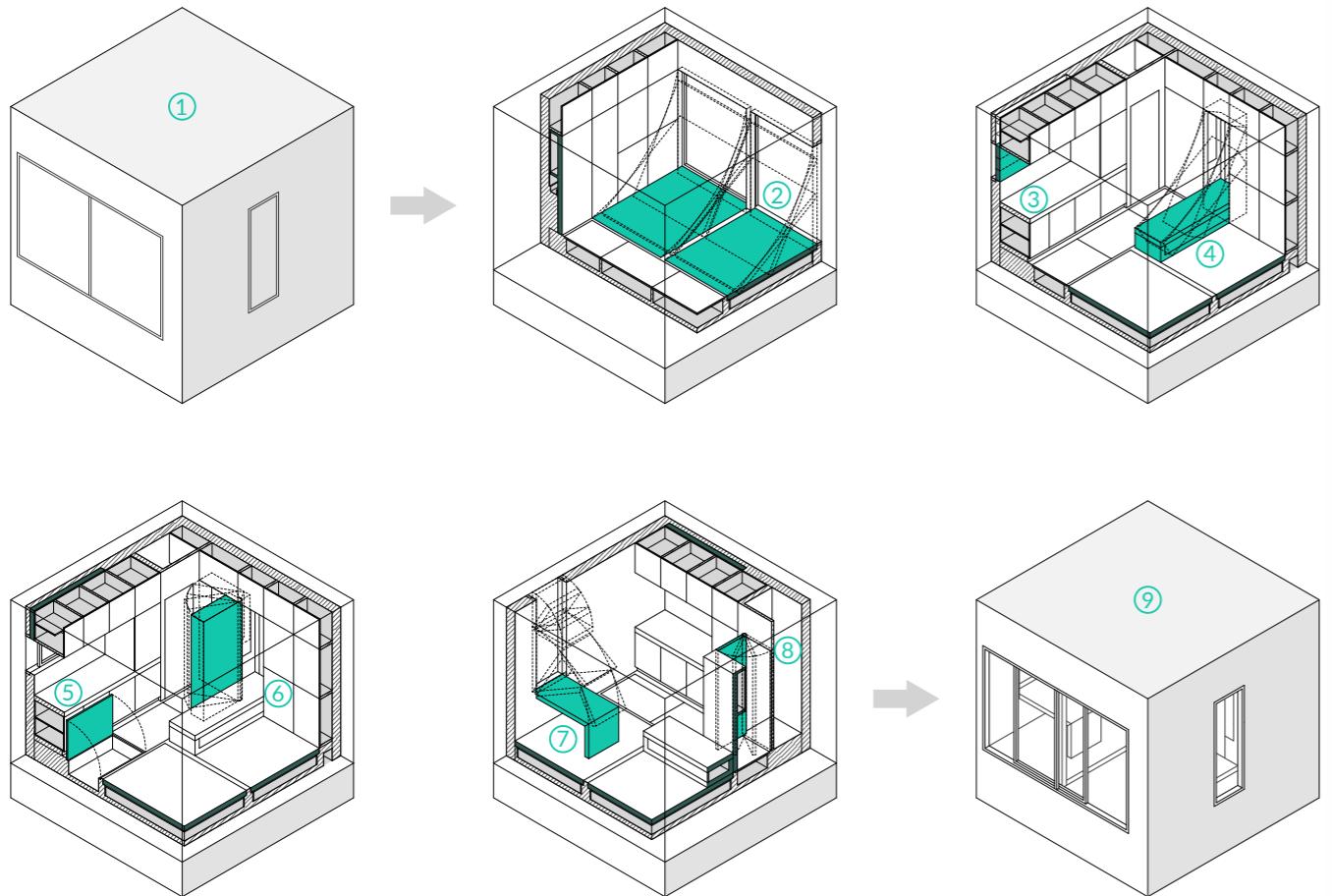
In case of flood or deluge houseboats seem to be a good solution to avoid huge material losses, health hazard or even deaths. Unfortunately, most people live in fixed properties exposed on destructive force of water. The primary purpose of h2ouse idea is to provide an inhabitable floating shelter for flood victims in case of emergency. This small 4m cube is intended to be settled by a single nuclear family 2+2. The size of the unit is associated with the transport restrictions. Modules can be relocated to the flood plain using either helicopters or motorboats as well as ground mounted cranes in combination with land-based means of transport like container lorry.

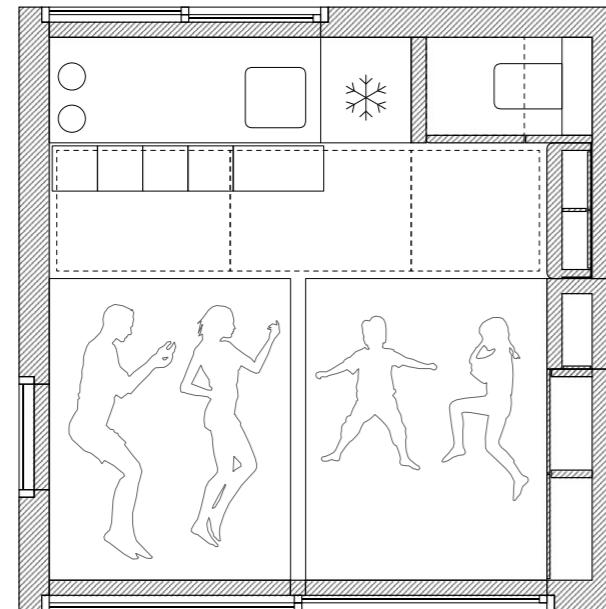
H2ouse concept includes ecological solutions referring to sustainable design. The recyclable materials and renewable energy source devices which has been applied make this project cost-effective and energetically self-sufficient. It includes the use of photovoltaics panels on the roof, water turbines attached to the bottom side of concrete floating platform and also aluminum cladding as well as steel construction.



TRANSFORMATION PHASES

- 1 | night mode - CLOSED
- 2 | wall > floor / pit bed cover
- 3 | solid window shutter > wall opening
- 4 | wall / bed sheet storage > sofa
- 5 | floor > food storage cover
- 6 | wall / closet > washbasin zone wall / sofa backrest
- 7 | wall > dining table / desk
- 8 | toilet door > washbasin zone door
- 9 | day mode - OPEN

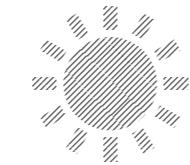
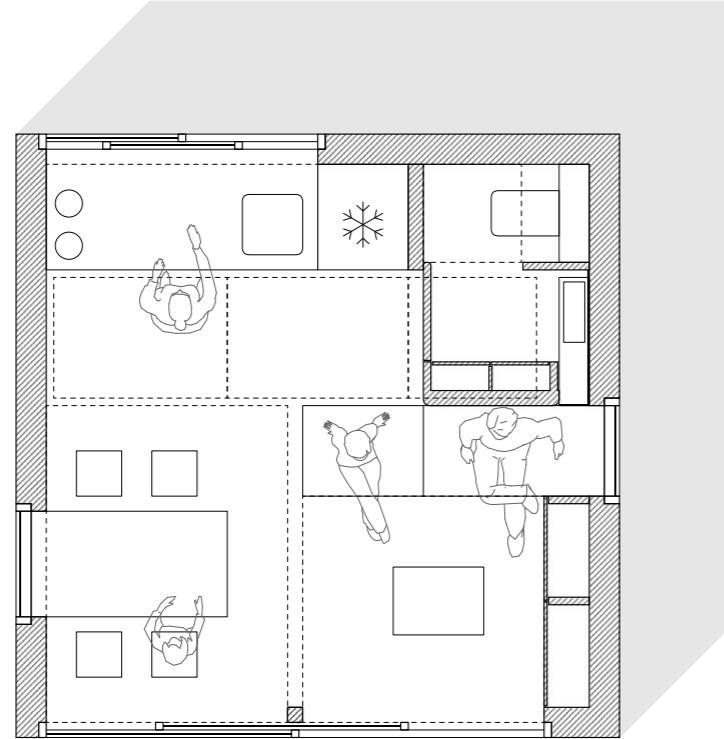




10 | Plan during the night | 1:50



NIGHT Both formal and functional aspect of h2ouse design strictly depend on time. During the night it's a closed box to reduce heat loss and make a comfortable sleep conditions. The cube is not a rigid, fixed form - it changes its shape reflecting the nature of constantly changing river flow.



12 | Plan during the day | 1:50



DAY In the daytime this cube form uncloses letting the light to come in and allowing the user to watch the environment. Movable wall elements shifting into floor or furniture enable him to transform the interior appearance to either day or night zone character. Some static wall parts contain rainwater-tanks and closets or wardrobes as well.

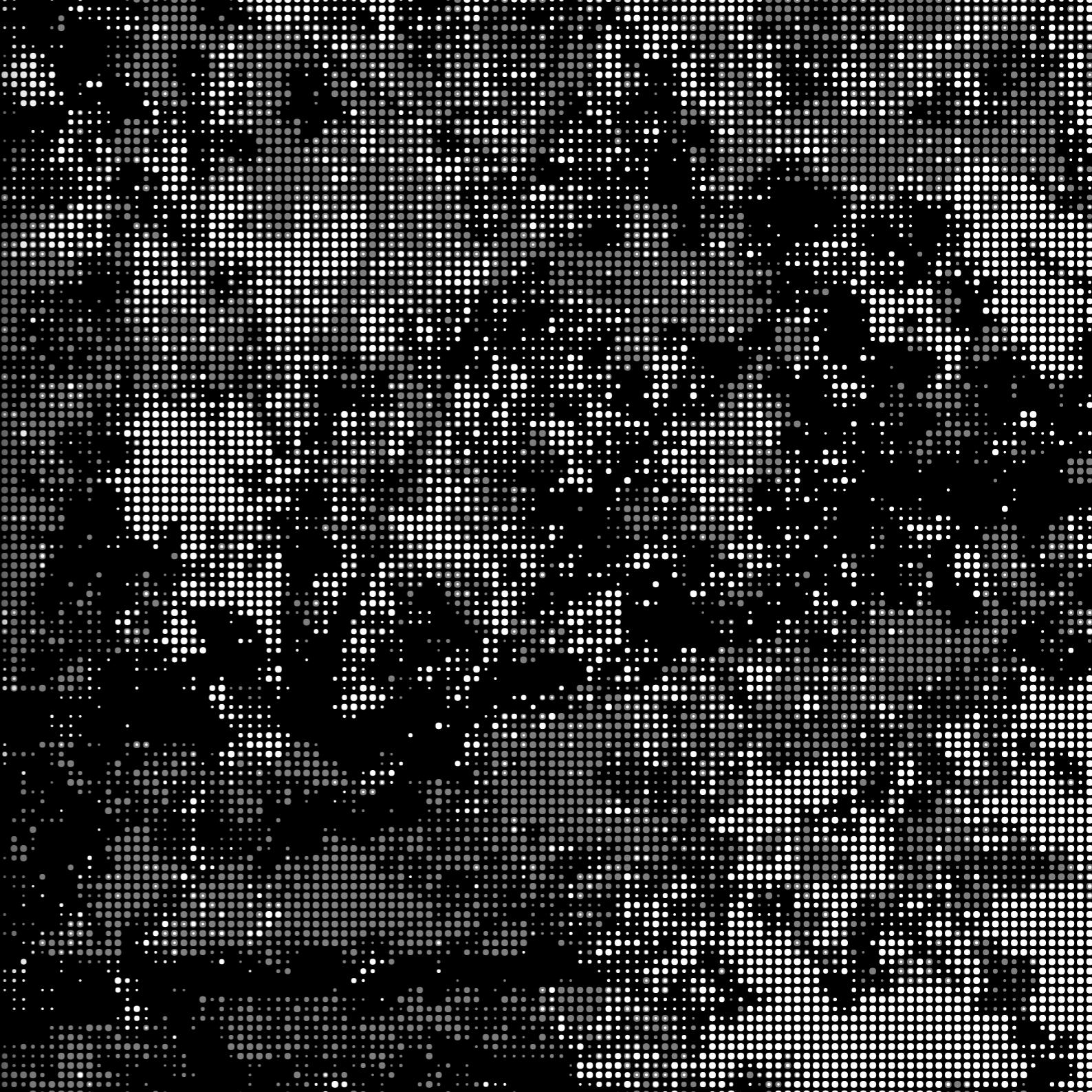


General Aviation Terminal

An increasing number of people take advantage of general aviation airplanes as a fast mean of transportation. This may turn out to be very helpful as a supporting communication infrastructure up against huge international events taking place in Poland, like EURO 2012 – European Football Championship.

The General Aviation temporary terminal integrated with two hangars comprises features of lightweight, portable and functionally flexible architecture. Mobility and fast-assembly solution play the major role in the project which is supposed to be completed before EURO 2012 coming up soon. This huge event could be supported by General Aviation Terminal in terms of improving overall transport infrastructure which has not been developed sufficiently.

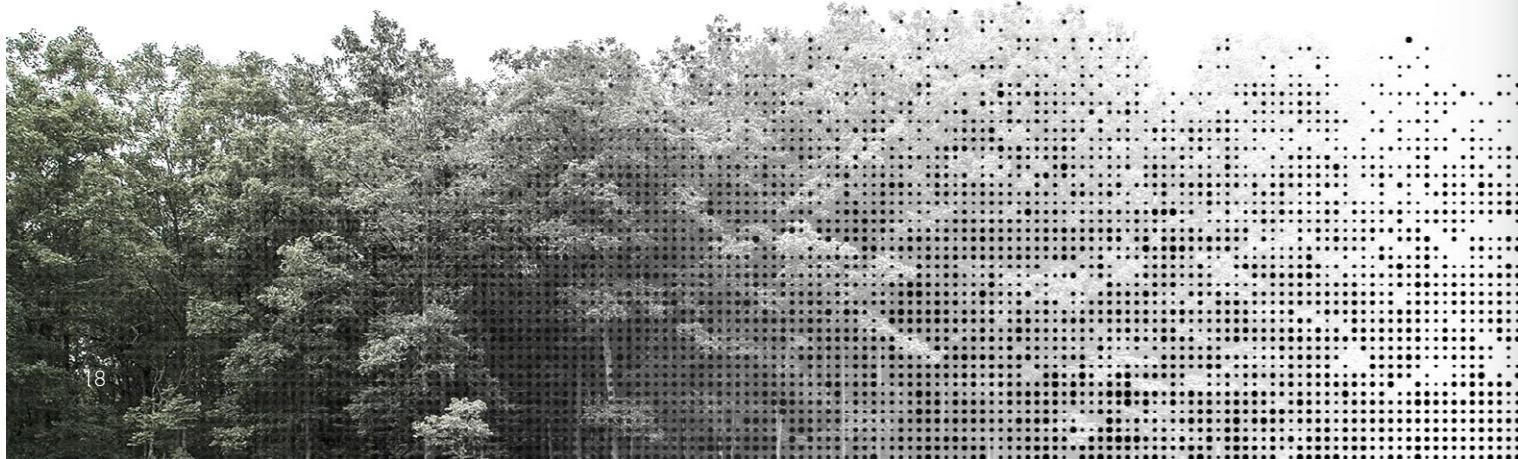
The building is designed to be quickly assembled or dismantled and serve as a terminal connected with hangars. However, the primal function can change over time, transforming into for example catering base which could be used as a part of event infrastructure during International Air Show taking place in Góraszka every year since 1996.



1:1200 SITE PLAN | IDEA The grass airstrip is located in Góraszka – a village in central Poland about 15km away from Warsaw. The plot is surrounded by areas with identified environmental and landscape values, such as many nature reserves and hiking trails. Furthermore, the spot is located on the verge of Masovian Landscape Park, appearing as remarkable tree line on the horizon alongside west border of the plot. Subsequently, this factor became the inspiration for the project's idea which can be described as an attempt to recreate the forest feeling in the building using light and technology.

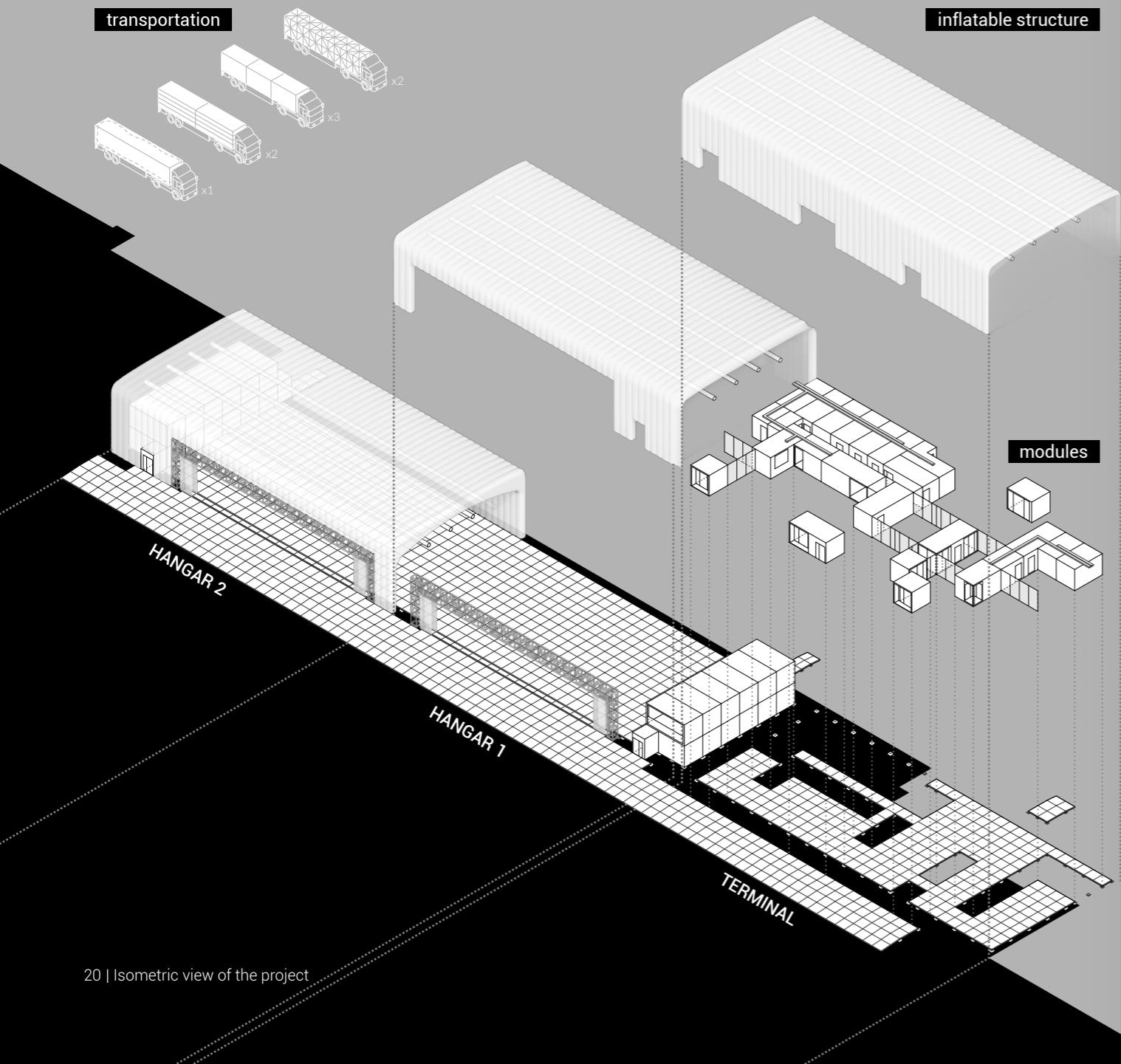


ELEVATION The idea can be observed on the elevation as a dotted pattern printed on the transparent foil. The pattern is the result of digitally post-processed image of the tree line existing near the project location. Two overlapping layer of opaque perforation control the amount of light coming through them, referring to the sun beams flickering through the leaves of the forest canopy. The intensity of light depends on the pattern's density what corresponds to the similar condition occurring in the forest during sunny day. Density of dots printed on the ETFE foil is also related to functional and spatial layout of the building – nearby office room the perforation is thinner causing the elevation to appear more transparent, thus letting more light to come in.

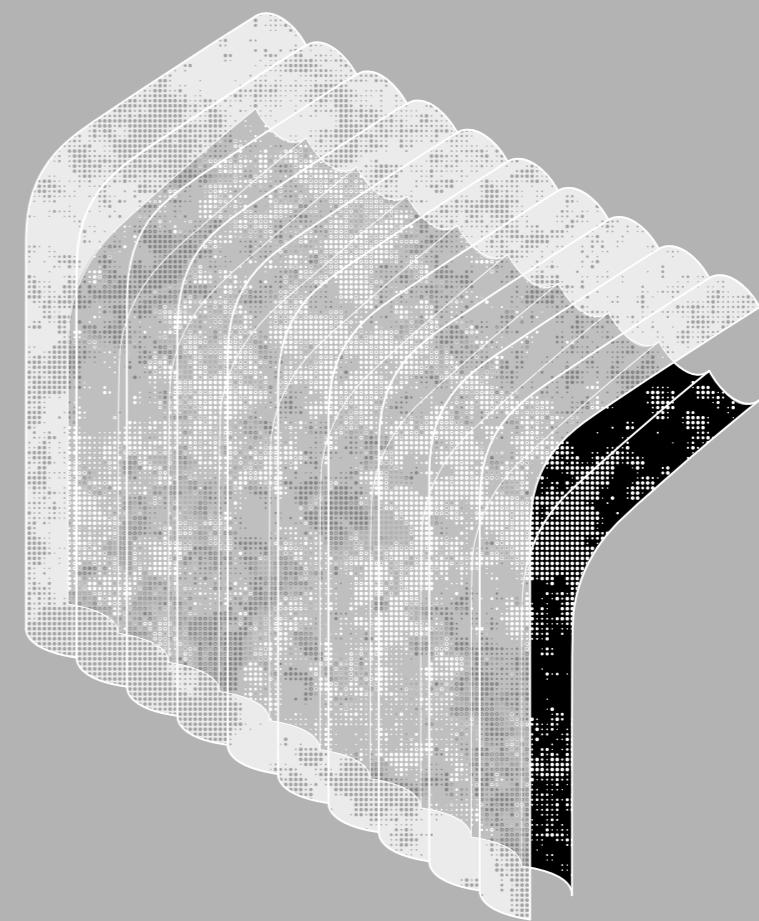


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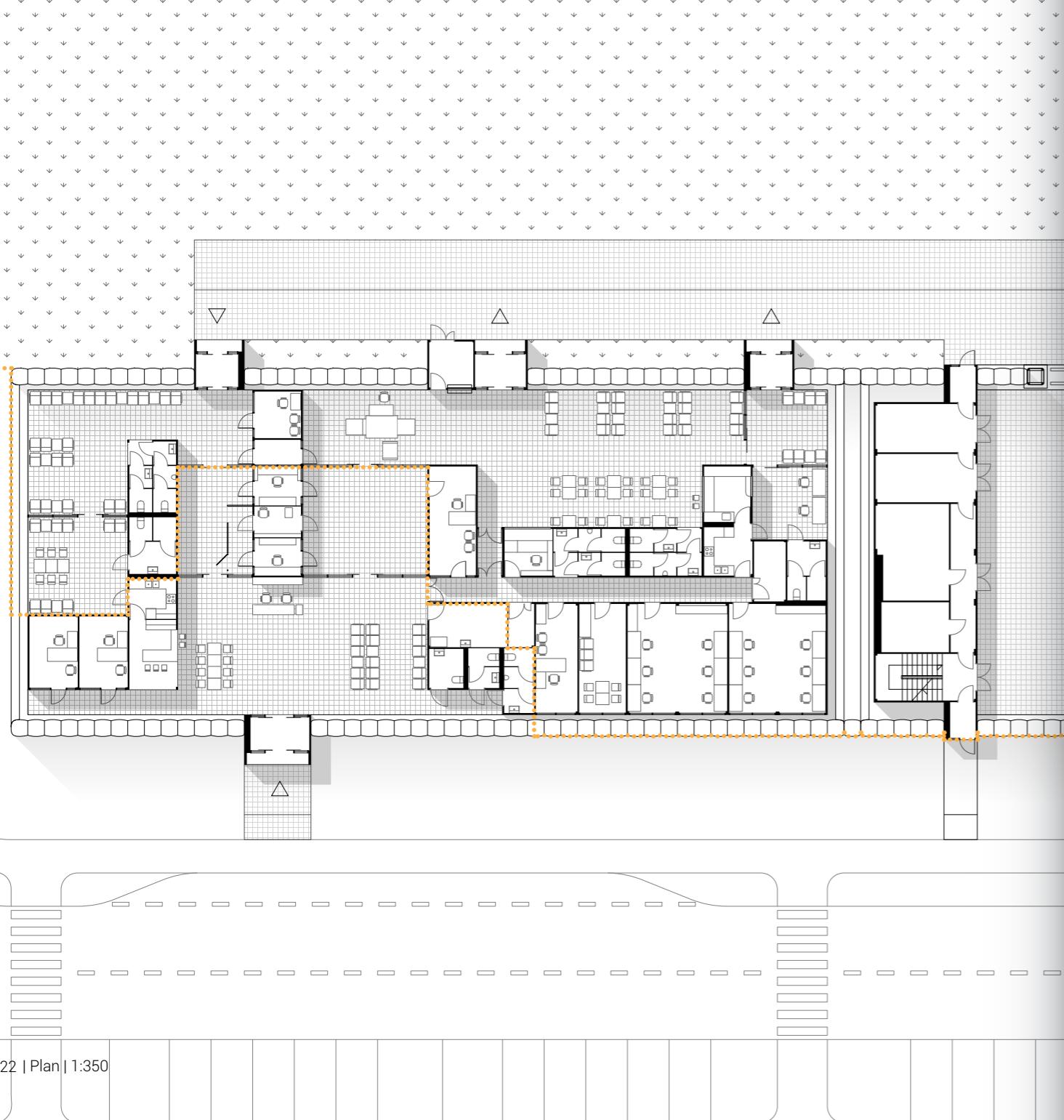




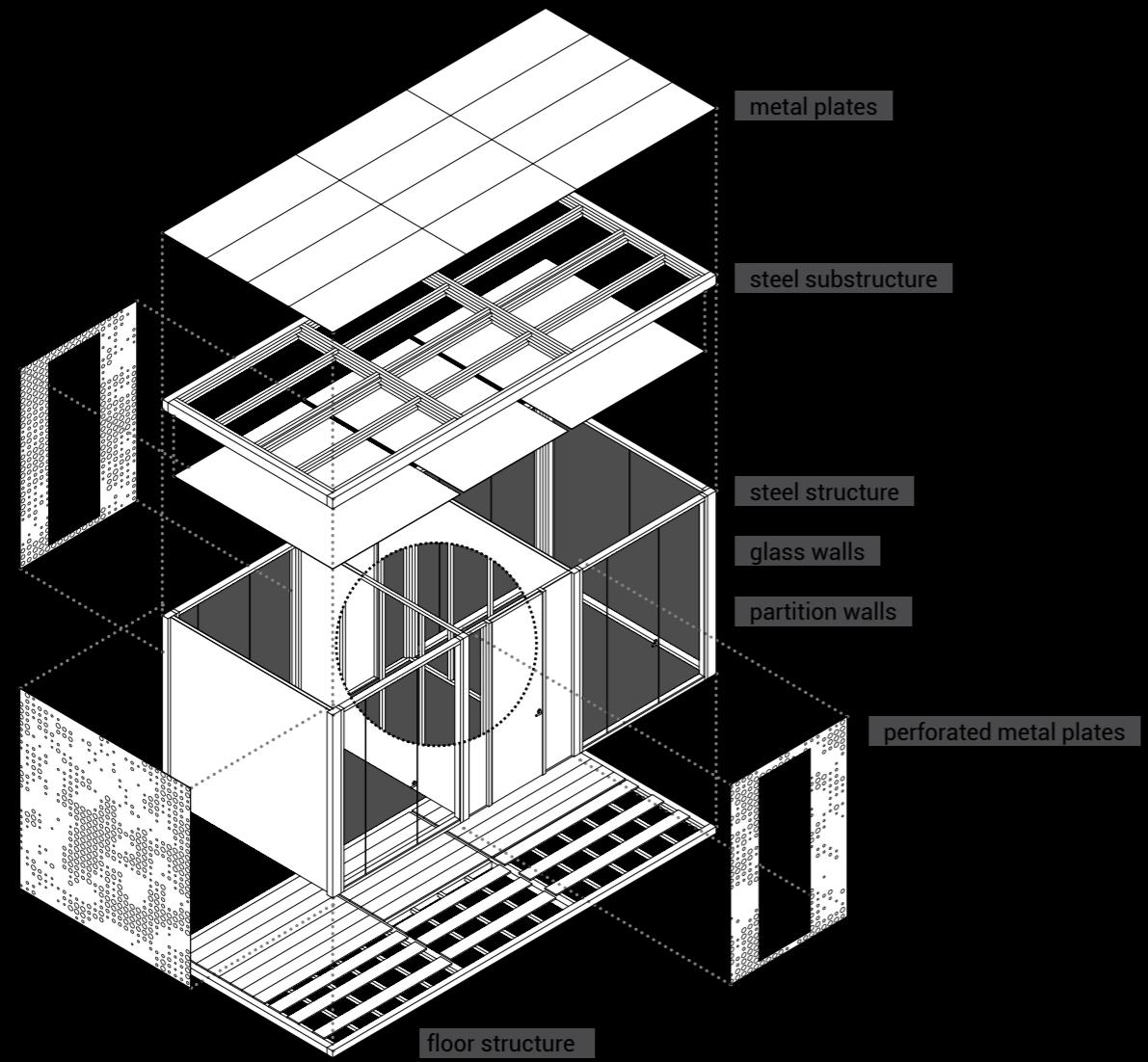
20 | Isometric view of the project



STRUCTURE The forest and the air are the keynotes of the project. The first one is determined by the location features, whereas the air has always been inherently connected with aviation. This is the reason why printed ETFE foil mentioned before is used as a skin of the unified pneumatic structure filled with compressed air. Shaped in inflated U-frame form functions both as the walls and the roof. Being the basic construction material of the form, the air is blown under adjustable pressure level of about 2500-3000 Pa during normal weather conditions. The pneumatic form is divided on separate sealed air segments acting as the system of structural frames 1 – 1.5 m thick.



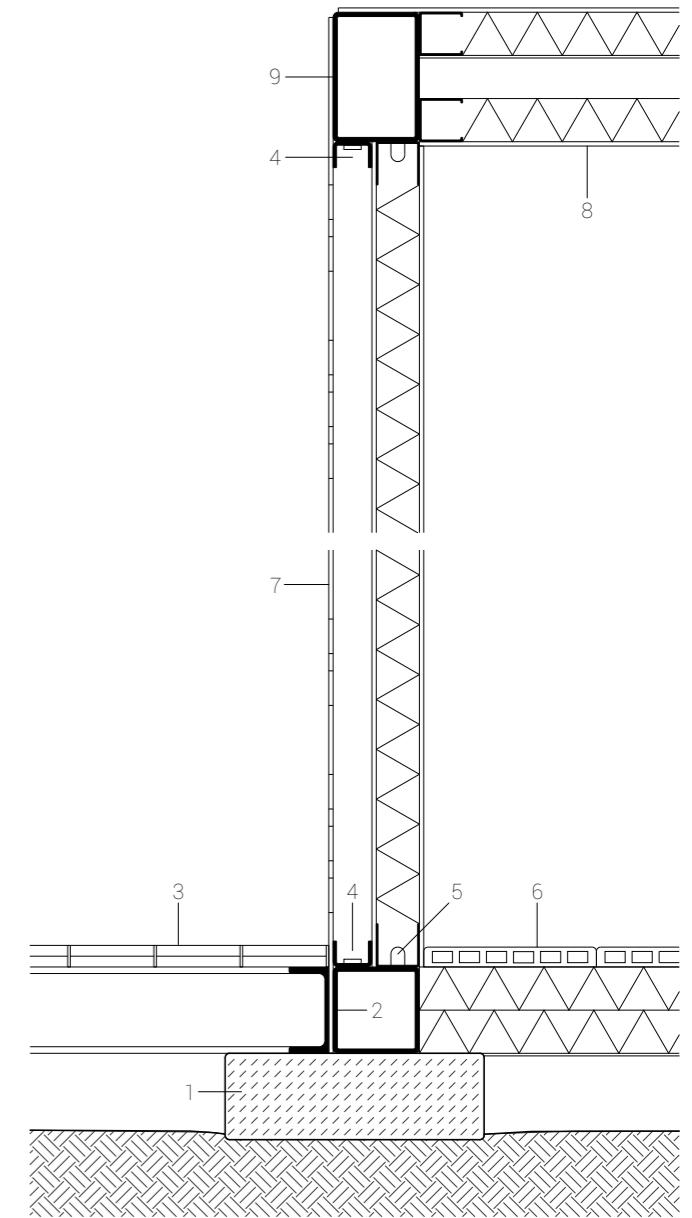
INTERIOR Apart from inflatable canopy, the project comprises another portable and quick-assembly elements – steel containers serving as office, technical, gastronomic or service space. The containers' dimensions are strictly related to truck transport restrictions imposing the maximum size of each one ($3 \times 3 \times 6,75\text{ m}$). To optimize the amount of trucks needed to transport the building most of the boxes are able to be quickly dismantled and assembled on the building site due to applied materials and construction. The containers and the floor are covered by perforated metal plates repeating the dotted pattern on elevation what emphasizes the visual aspect of project's idea.



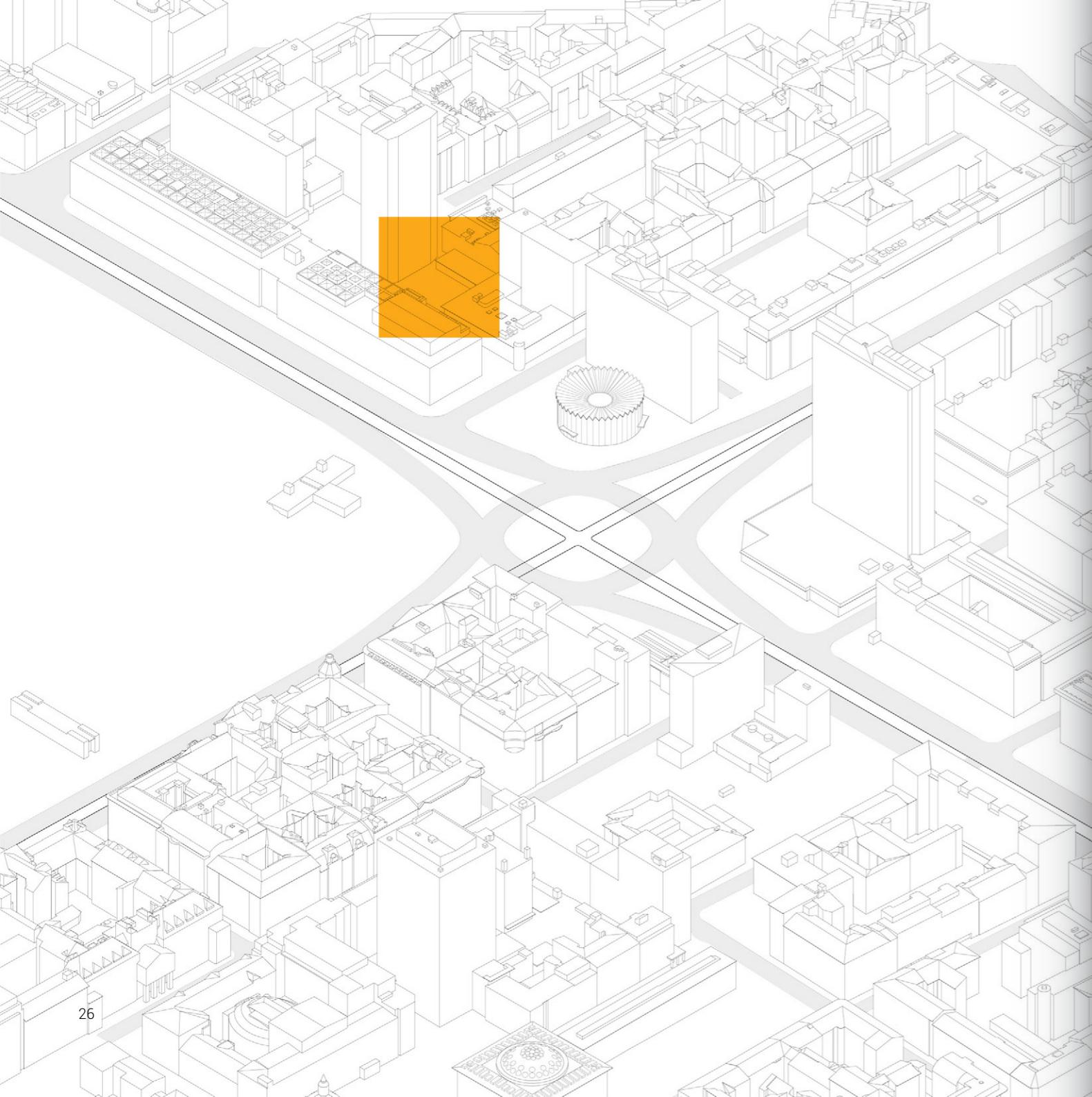
24 | Isometric view of one module

DETAIL 1:10

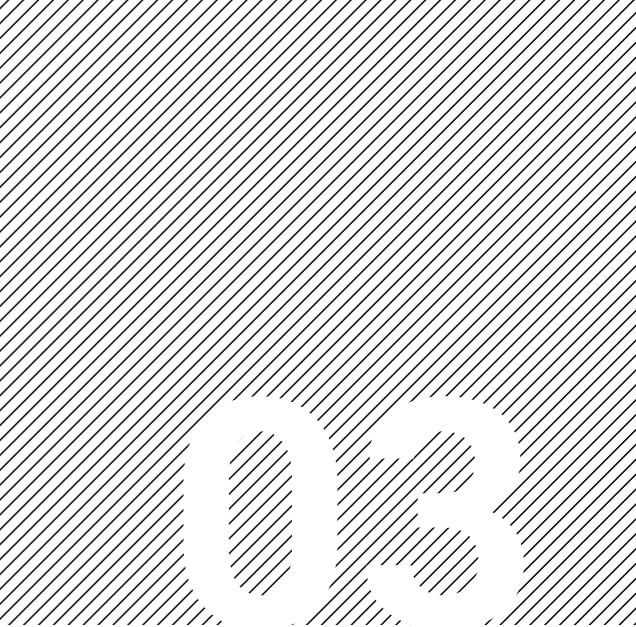
- 1 concrete footing
- 2 100x100 mm steel SHS
- 3 aluminum close mesh grating
100 mm steel channel structure
- 4 LED light bar
45 mm steel channel
- 5 pin welded to steel beam
- 6 25 mm hollow composite decking
2x50 mm thermal insulation
100 mm steel flooring system
- 7 perforated metal sheet
50 mm air cavity
aluminium sandwich panel
50 mm thermally insulated
uw50/cw50 wall system
aluminium sandwich panel
- 8 metal sheet
50 mm thermally insulated
uw50/cw50 wall system
50 mm air cavity
50 mm thermally insulated
uw50/cw50 wall system
aluminium sandwich panel
- 9 100x150 mm steel RHS



Detail | 1:10 | 25



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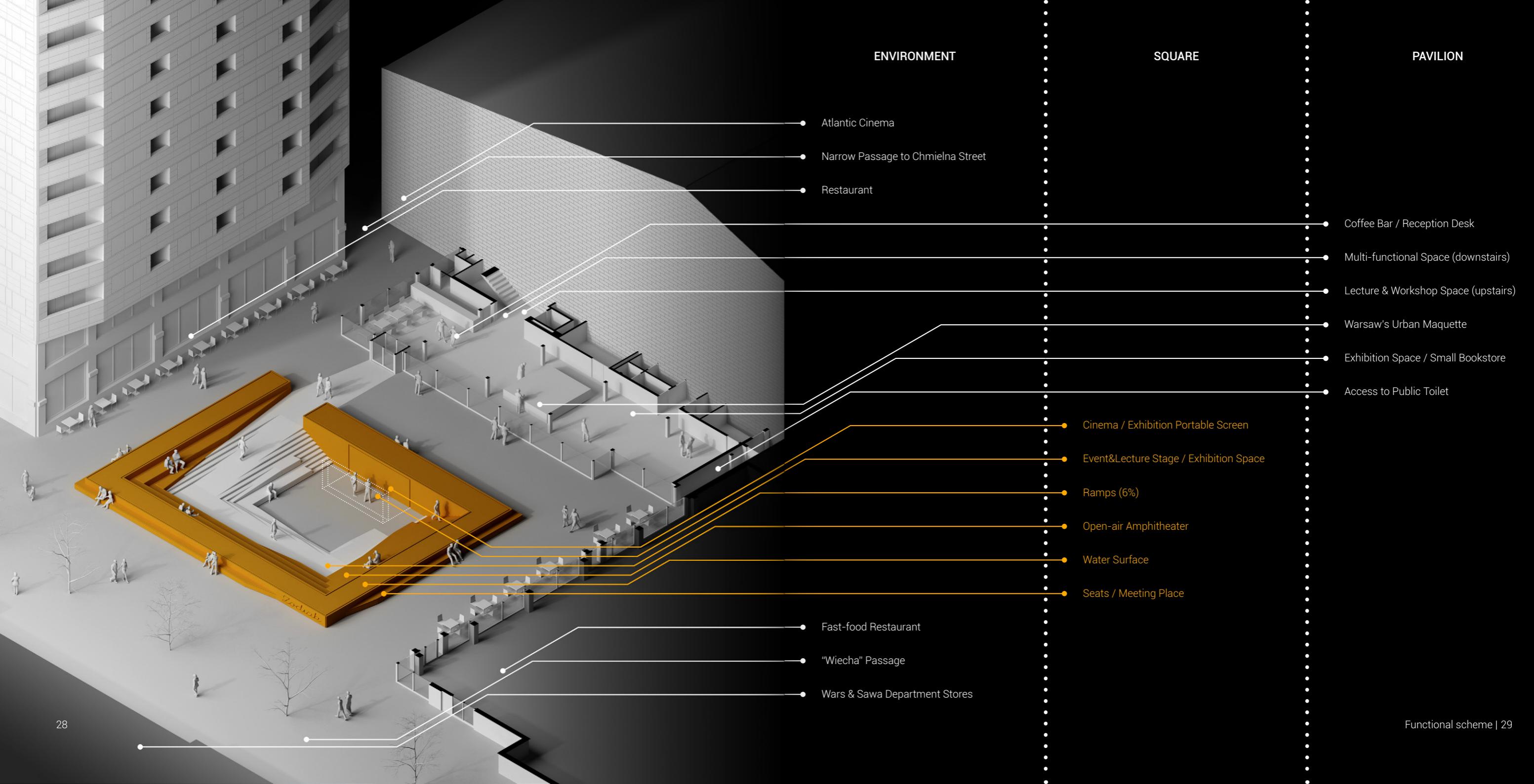


Zodiak Square

Back in the day, Warsaw Pavilion of Architecture known as Zodiak was a vigorous area and a significant element of the Eastern Wall – the most important modern urban layout in Warsaw. Today, it's a neglected building in the middle of the city. In spite of central location close to communication hub, famous PKO rotunda building and "Wiecha" Passage – it's a blind spot on the map of Polish Capital. According to studies carried out by SARP, the majority of city dwellers know neither location nor history of Zodiak Pavilion.

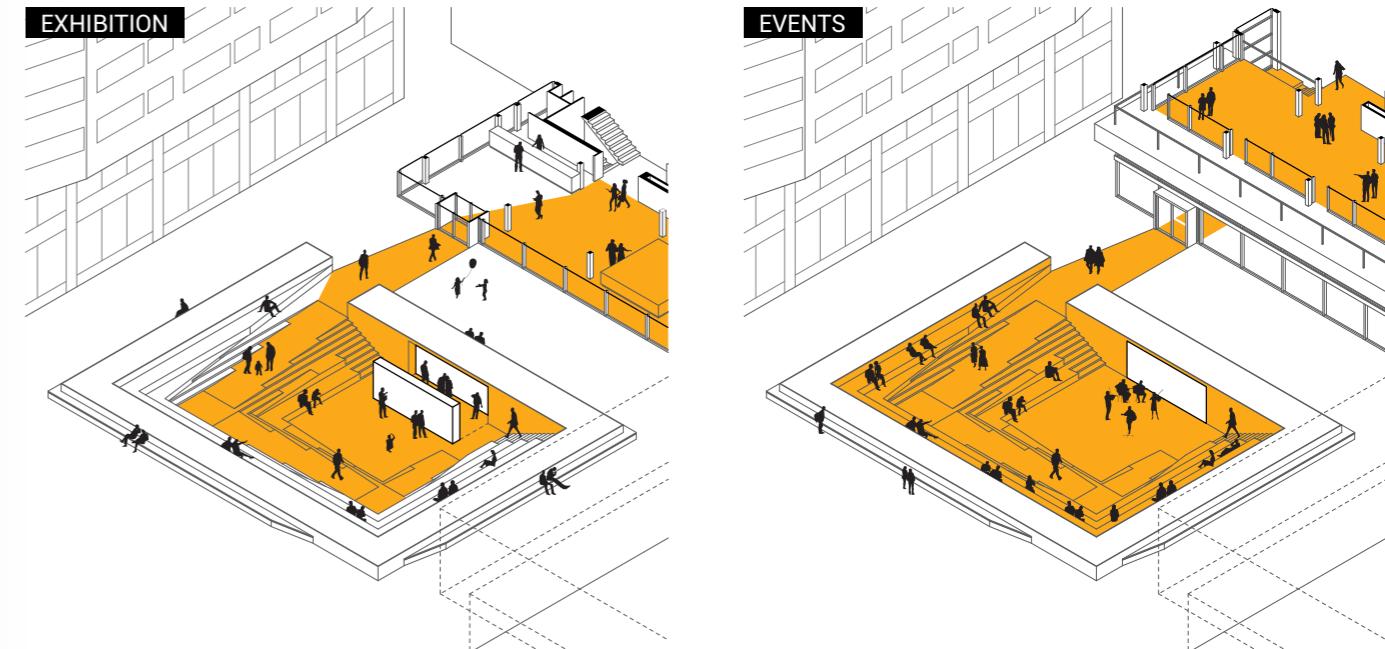
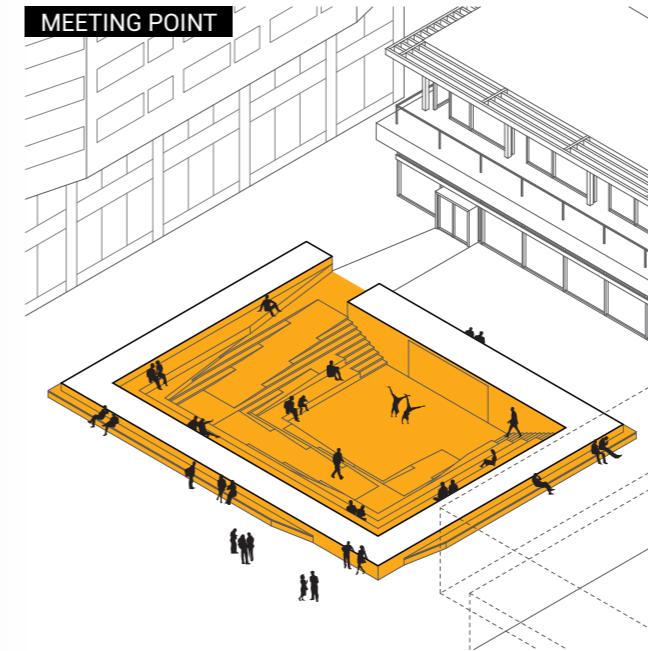
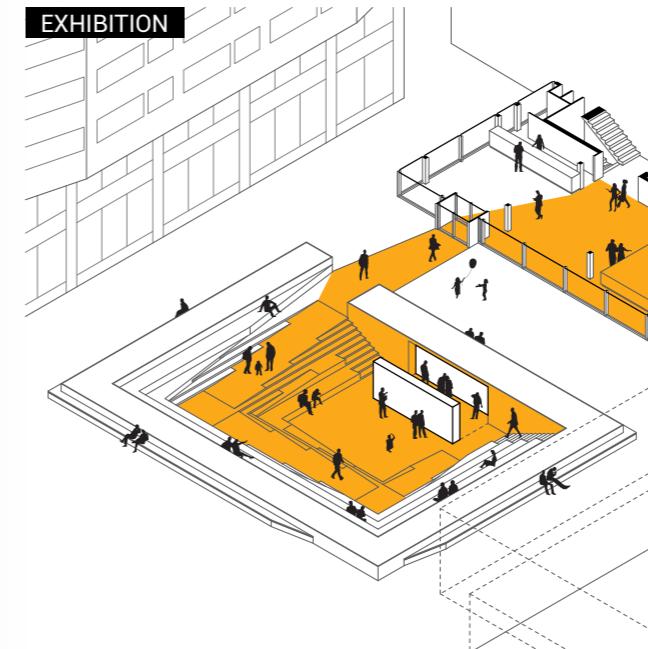
The project of refurbishment both Zodiak Pavilion and surrounding square is a competition entry which main goal is to reinvigorate this area and make it more representative. Renovated building is designed to play its role mainly as an information, documentation and exhibition center related to architecture and urban planning of Warsaw. This basic function is expanded with educational, cultural and recreational aspects taking place mostly on the square in front of the building. The aim is to draw more passersby in, not only to make this area more lively place, but also to stimulate and improve social awareness regarding the direction of changes in urban planning and architecture of Warsaw. Therefore, Zodiak Pavilion and Square can work simultaneously as an interactive platform to exchange ideas between urban planner, architects and city dwellers.

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EXHIBITION The square is an extension of exhibition and information space located on the first floor. Portable interactive screen can be moved out of the wall in the pit creating exhibition zone. In this mode the square cooperate with the pavilion presenting information related to the current exposition inside the building

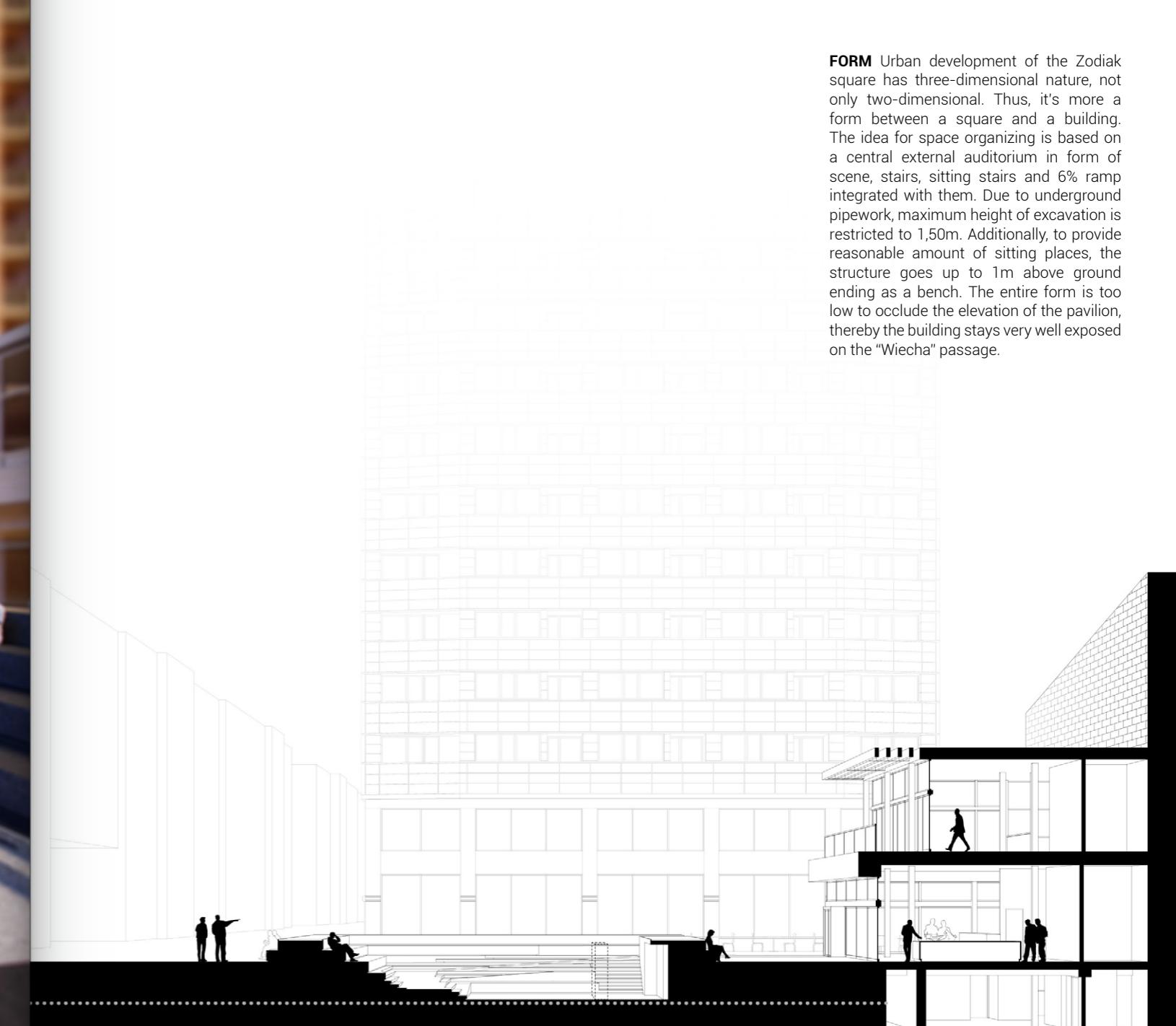
EVENTS Educational curriculum in the form of lectures, movies, broadcasting or workshops can take place on the external auditorium on the square drawing attention of people passing by. At that time, pavilion and square function as a combined organism. Otherwise, many other events not directly related to Zodiak, like open-air cinema or street theatre, can take place outdoors

MEETING POINT Due to the central location in Midtown, Zodiak square can effectively function as an independent meeting point, similarly to nearby rotunda building. City dwellers can meet each other either on the auditorium or most likely on the benches stretched out almost all around the structure which divides the space between auditorium area and the rest of the square.

31

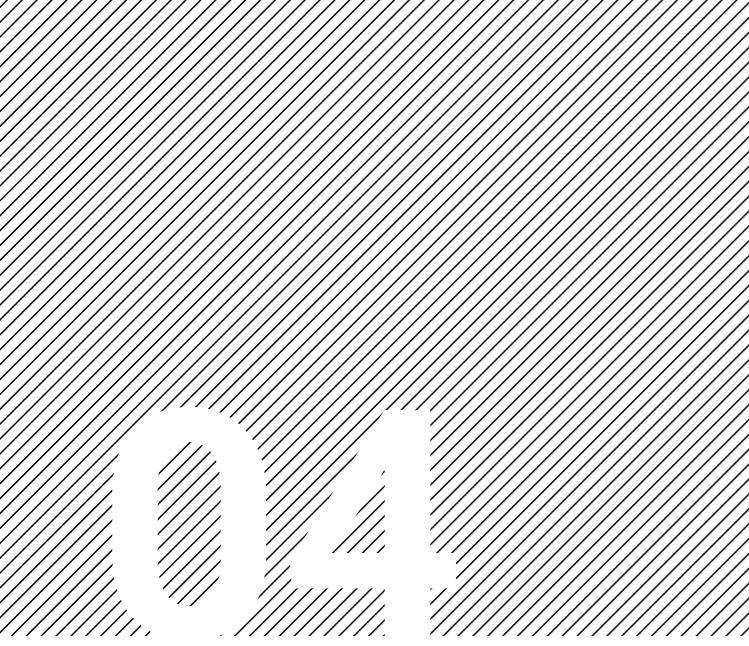


32



Section | 1:200 | 33

FORM Urban development of the Zodiak square has three-dimensional nature, not only two-dimensional. Thus, it's more a form between a square and a building. The idea for space organizing is based on a central external auditorium in form of scene, stairs, sitting stairs and 6% ramp integrated with them. Due to underground pipework, maximum height of excavation is restricted to 1,50m. Additionally, to provide reasonable amount of sitting places, the structure goes up to 1m above ground ending as a bench. The entire form is too low to occlude the elevation of the pavilion, thereby the building stays very well exposed on the "Wiecha" passage.



Parametric Canopy

Entering the forest area is a form of crossing a border between two different spaces. This transition is usually quick and deprived of any visual forms inviting us and giving identity to the space around.

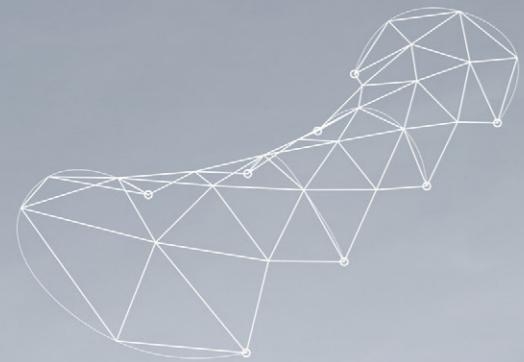
This multi-cone tensile fabric structure is an in-between object connecting two different areas and introducing to the forest scenery. The form is composed of timber-steel construction and semi-transparent membrane referring respectively to trunks/branches and canopy leaves. The game of light coming through many skylights refers to real-world observation - while walking through the forest we can usually see the flashing parts of the sky only when looking upwards. It's all the matter of perspective and point of view. The semi-transparent membrane is shaped to cover the sky partially in a similar way as the natural tree canopies do. Towards the forest - the skylights' diameters are gradually getting smaller so there is even less direct light and visible sky than before. This object not only introduces visitors to another environment but also can be used as an exhibition space or information point concerning plant and animal species living in the nearest area.

The timber and fabric gridshell is fully parametric and designed as a portable structure – it can be easily dismantled and re-erected elsewhere. The irregular nature of the geometrical structure affects every timber component to be a different length thus involving CNC machines during manufacturing process. Due to the complexity of the structure it was necessary to use live physics engine for interactive simulation to generate the tensile fabric form.

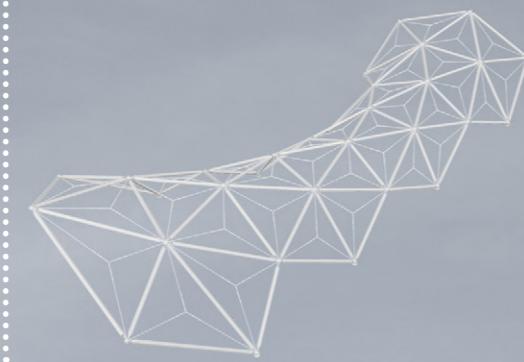


01 grid

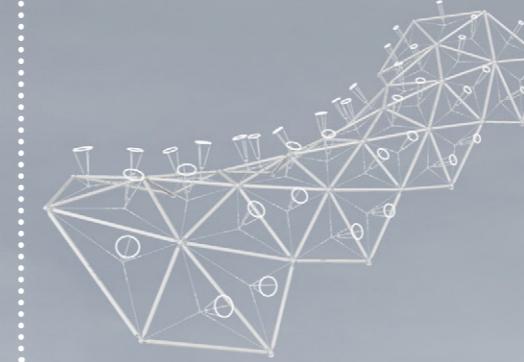
The triangular grid is adjusted to the base surface lofted between selected curves which are the only input geometry of the structure

**02 bracing**

Spherical steel nodes connect timber struts and steel cable bracing giving rigidity to the structure and supporting the telescopic masts

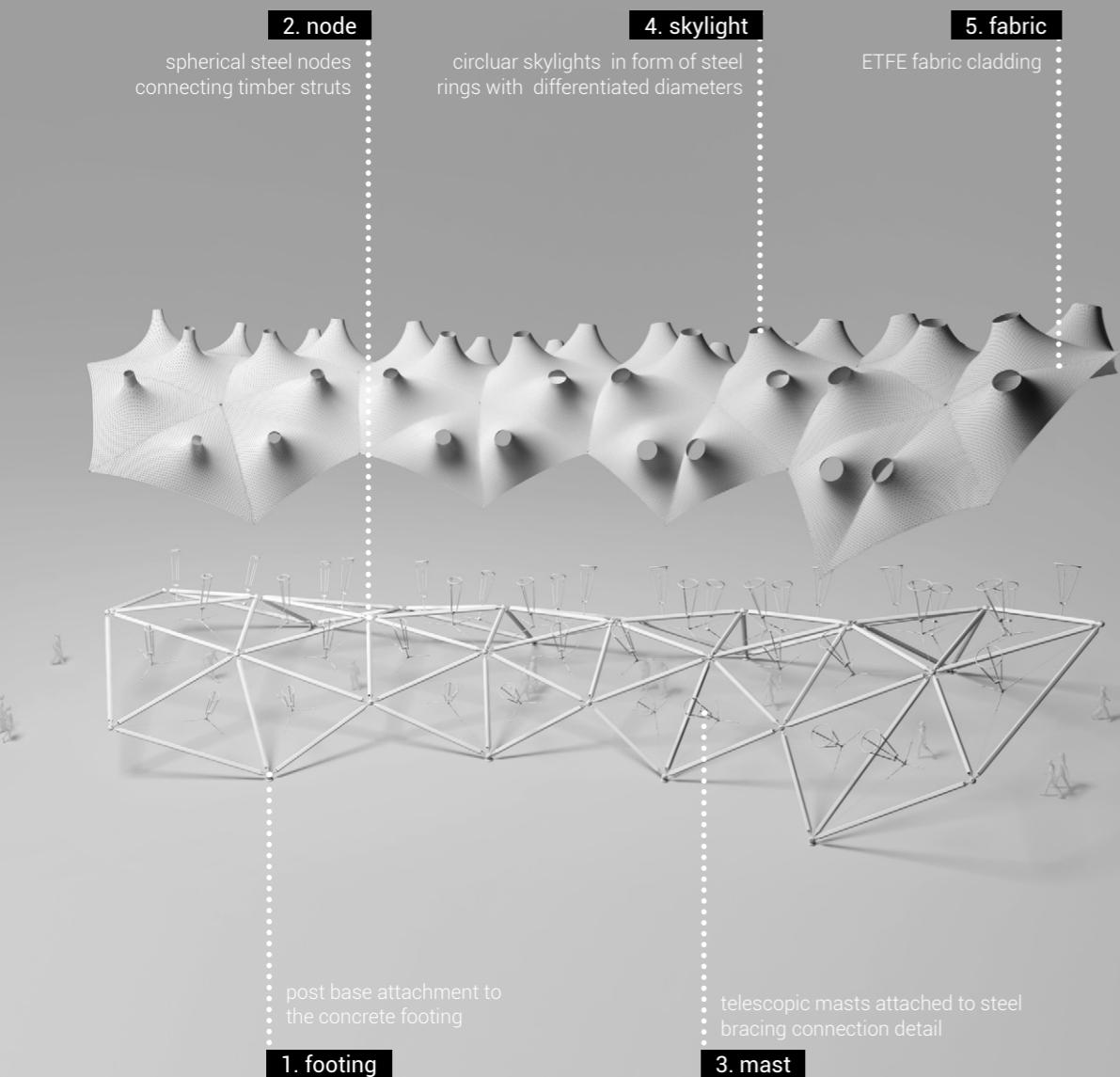
**03 skylights**

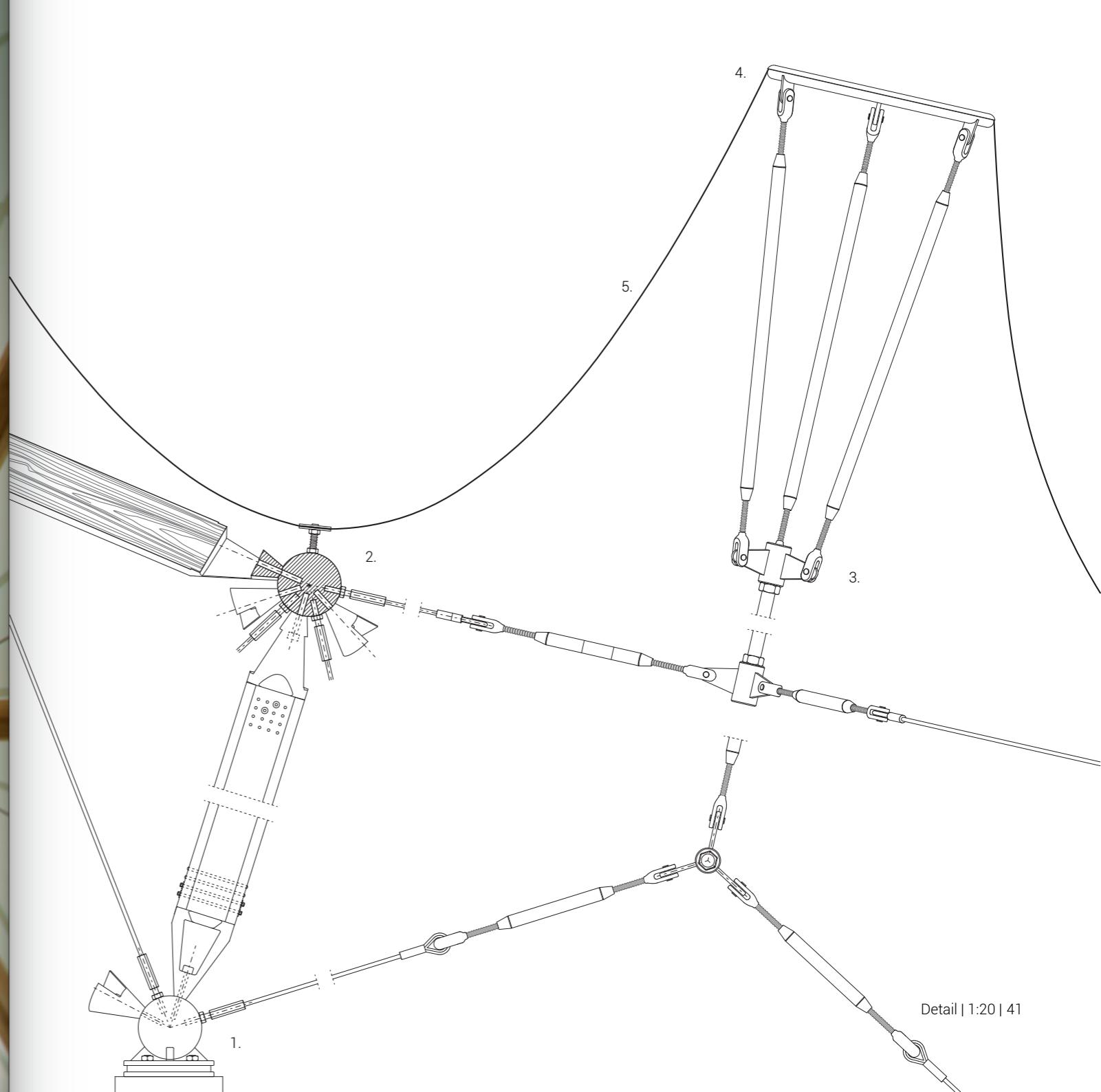
Formed by steel rings with parametrically differentiated diameters allowing sun to penetrate the roofed space. The elements are attached to the tripod masts

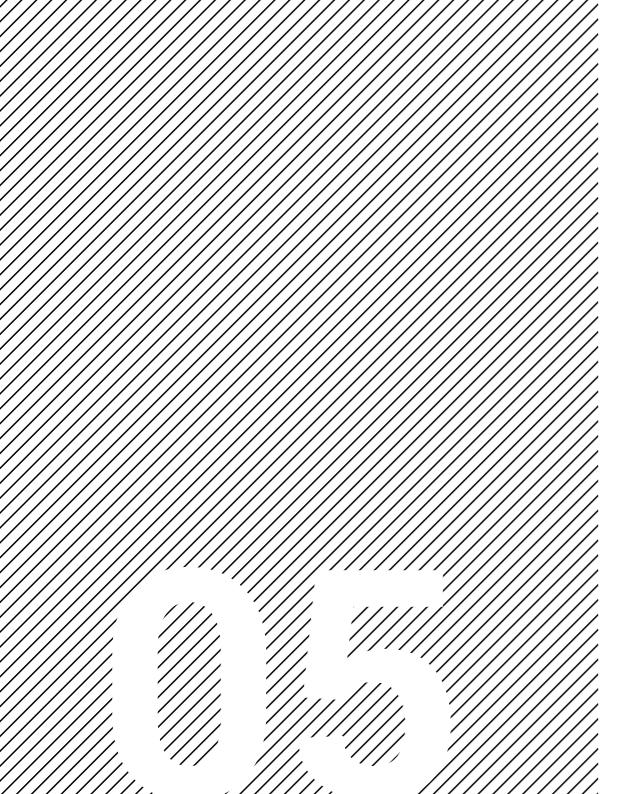
**04 fabric**

Digitally tailored tensile fabric is used as a cladding and attached to spherical steel nodes and skylight rings. Almost whole surface is made of 75% opaque PVC except from the skylight's claddings which are transparent.









800 reasons to get some rest

Vast areas of yellow-green meadow waving in the wind – such a common view in polish countryside. Unfortunately, it's so hard to come across as an element of space in most of city centers where the concrete is so commonly used.

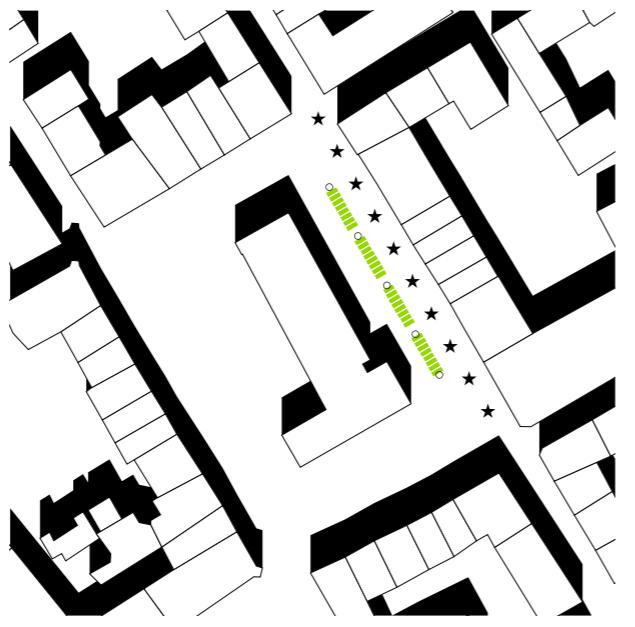
This project is a competition entry associated with 800th founding anniversary of Opole City – located in South-West Poland. The aim was to design small architecture forms made of concrete and serving as seats or lounge chairs considering maximum number of four different modules reiterated in some configuration. The basic seating function of designed form is expanded with a natural component enabling to conceive a narrow strip of meadow in the city center. Passersby can use this area for many kinds of social or recreational activities positively affecting the space between The Town Hall of Opole and historic tenement houses.

Project designed in collaboration with Piotr Gniewek





1:5000 The site plan is a narrow plot located between the town hall and tenement houses on the east side of the main square alongside Walk of Fame of the Polish Song in Opole. It's one of the most relevant public spaces in the city.



1:2000 The shape of designed concrete modules allows to align them together alongside the frontage of surrounding buildings in a way to create light, undulant form, divided on segments corresponding to the row of tenement houses.



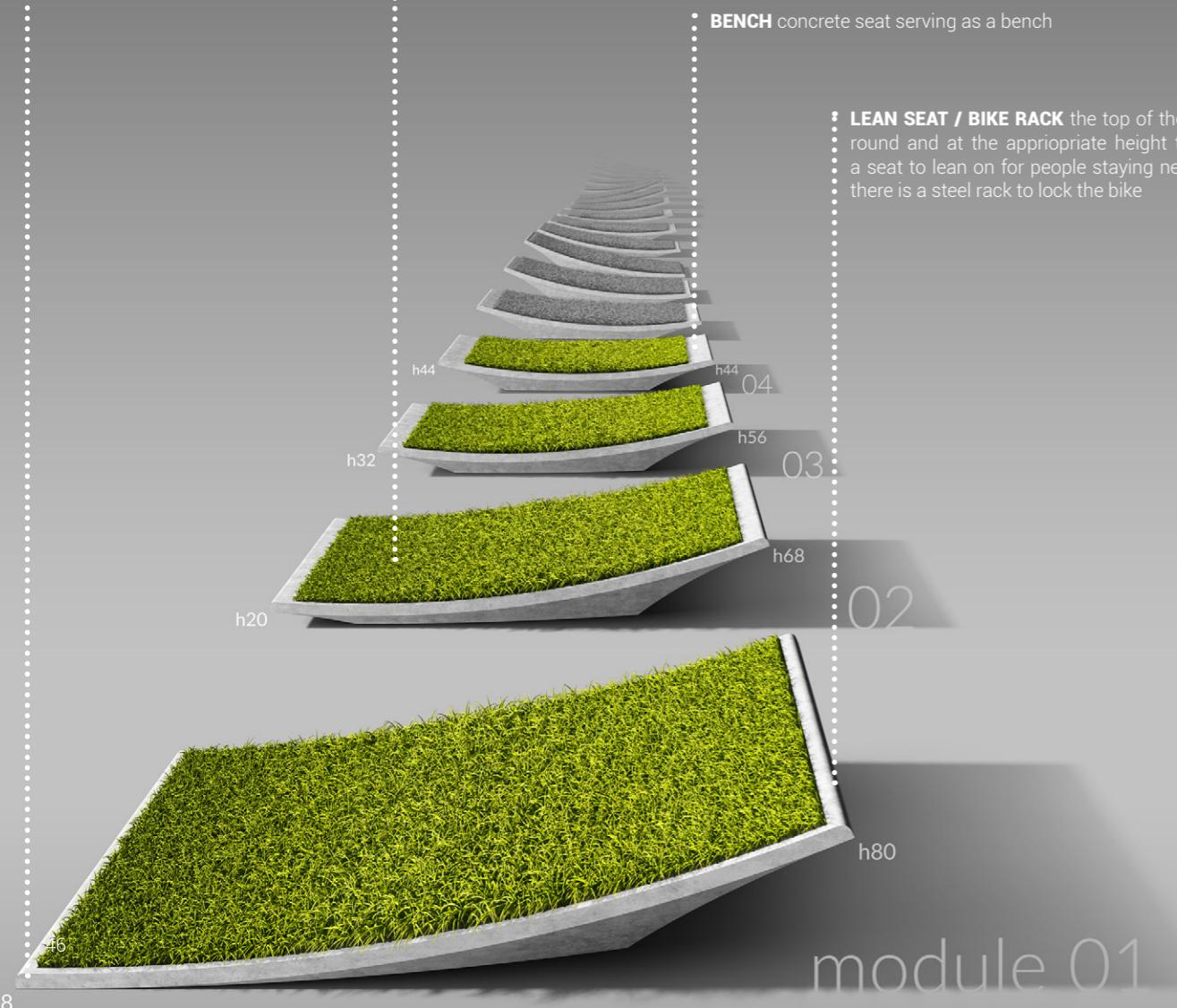
44 | Idea



45

CONCRETE SHELL reinforced concrete shell made using pro-ecological self-cleaning technology TioCem. Depending on the altitude and slope angle those modules can be used as bench, lean seat, lounger or small step to get on the green carpet easily

- **GREEN CARPET** vegetation layer is used to fill up the concrete shells and create natural green carpet serving as a small recreational area for many kinds of activities like picnic, meeting place, practising yoga or meditation

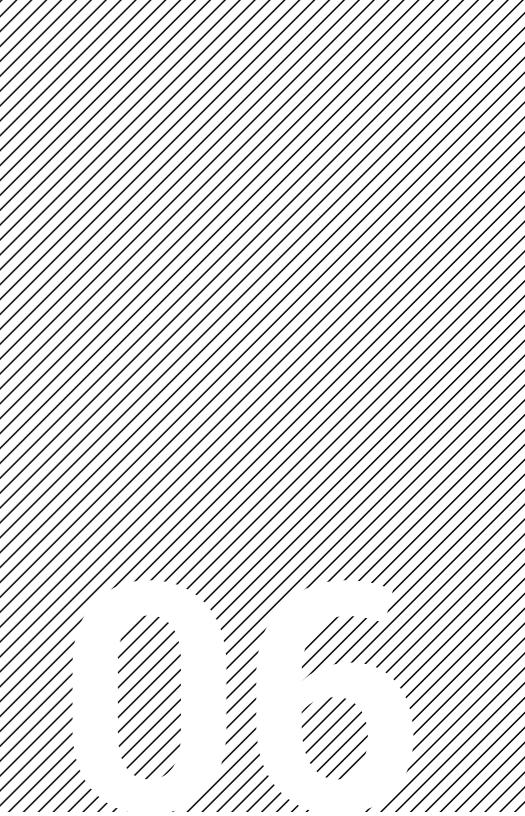


FORM The project is based on four iterative concrete modules with dimensions of 340 x 150 x 44-80 cm. They differ from each other in the height of endings enabling diverse ways of using those forms and affecting the wavy shape of entire composition





48

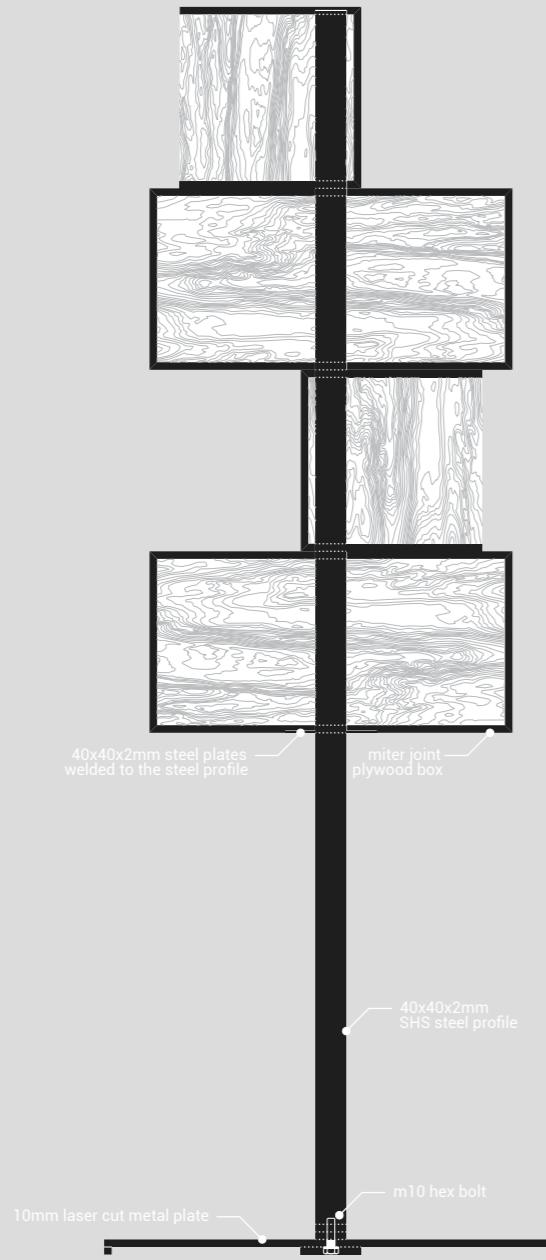


Elementary Shapes

Disorientation, accessibility limitations – these are few of many problems while using public spaces. "Elementary shapes" is a furniture series designed in collaboration with Piotr Gniewek, as a response to those issues. All three furniture prototypes has been presented at 7th edition of Weekend of Architecture in Gdynia in 2017 during design workshop conducted by Jakub Chojna & Piotr Gniewek.

Shelf Stand's idea is to mitigate disorientation problem, quite common in large, congested public spaces, by functioning as a guide post. Aside from navigating aspect, this furniture is designed both to relay the information directly to passer-byes and to share the information between them. That processes can occur as distributing some leaflets, maps or sharing used books.

49

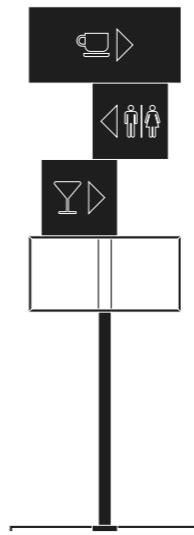


SHELF STAND Referring to public space accessibility constraints, shelf stand is reachable from all sides by undefined user who can be represented either by an adult, children or disabled person. The design of this furniture is simple and minimalist what requires paying more attention to the details.



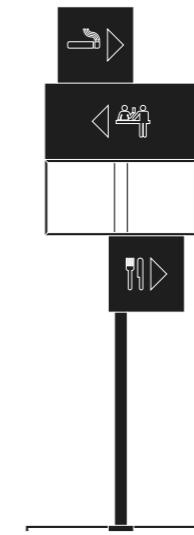


52 | Shelf Stand | Cloud graphics



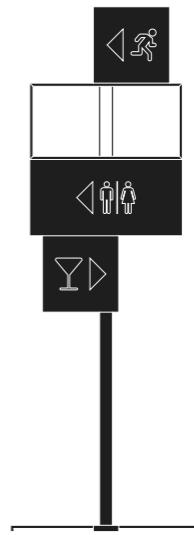
Furniture dimensions:

H: 165cm / 65"
W: 60cm / 23,6"
D: 60cm / 23,6"



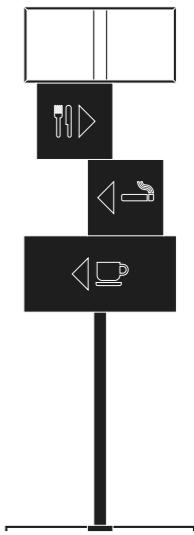
Module dimensions:

H: 24cm / 9,5"
W: 48cm / 18,9"
D: 24cm / 9,5"



Materials:

powder-coated steel,
raw birch plywood



Standard colours:



Shelf Stand | Elevations | 1:25 | 53



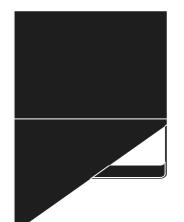
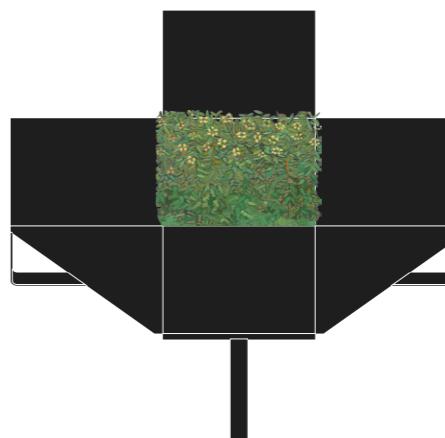
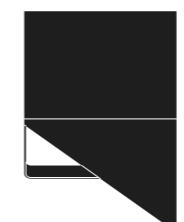
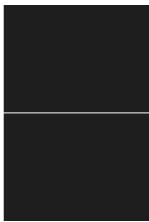
54 | Seats | graphics

Set dimensions:

H: 45cm / 17,7"
W: 90cm / 35,4"
D: 90cm / 35,4"

Module dimensions:

H: 45cm / 17,7"
W: 45cm / 17,7"
D: 45cm / 17,7"



Materials:

powder-coated steel,
oak wood

Standard colours:



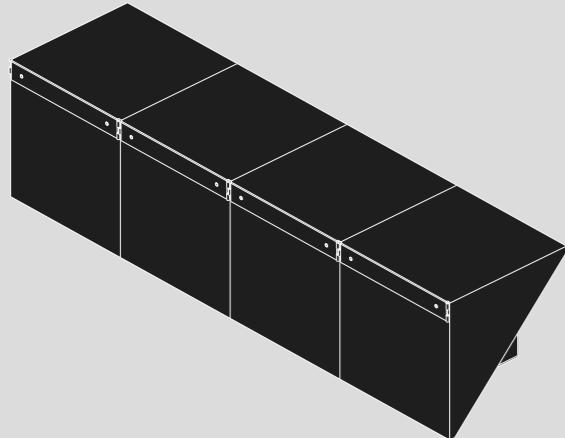
matt black



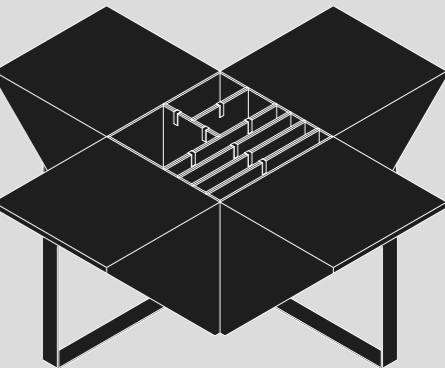
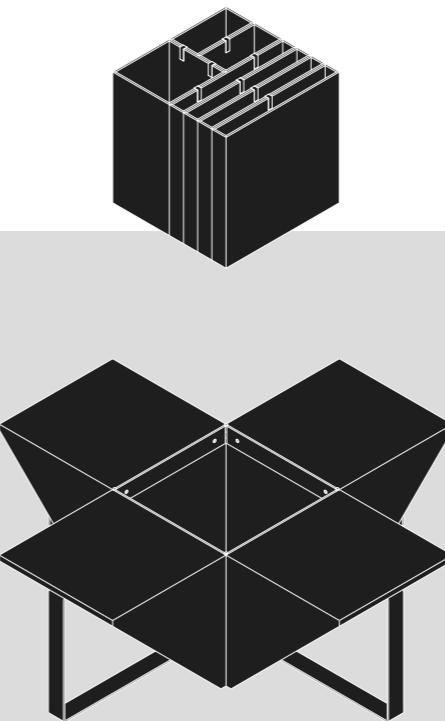
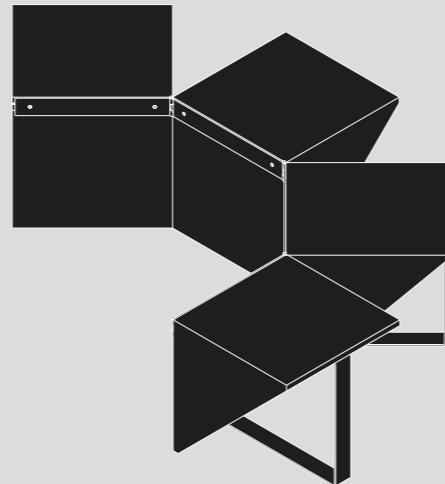
oak



Seats | Isometric view | 1:10 | 55



56 | Seats | linear variations



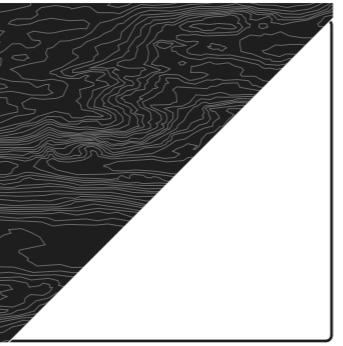
Seats | radial variations | 57

SEATS A set of four seats can be shaped as either linear flexible arrangement or a radial one, which has ability to create some meeting place within anonymous public space. Depending on the needs, that layout can foster either interaction between users or partial isolation. In the middle of the radial set of four seats there is a space for a cubic flower-pot or ... one module of another piece of "elementary shapes" furniture series.

Top view



Side view

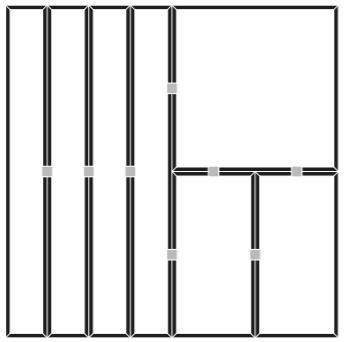


Back view

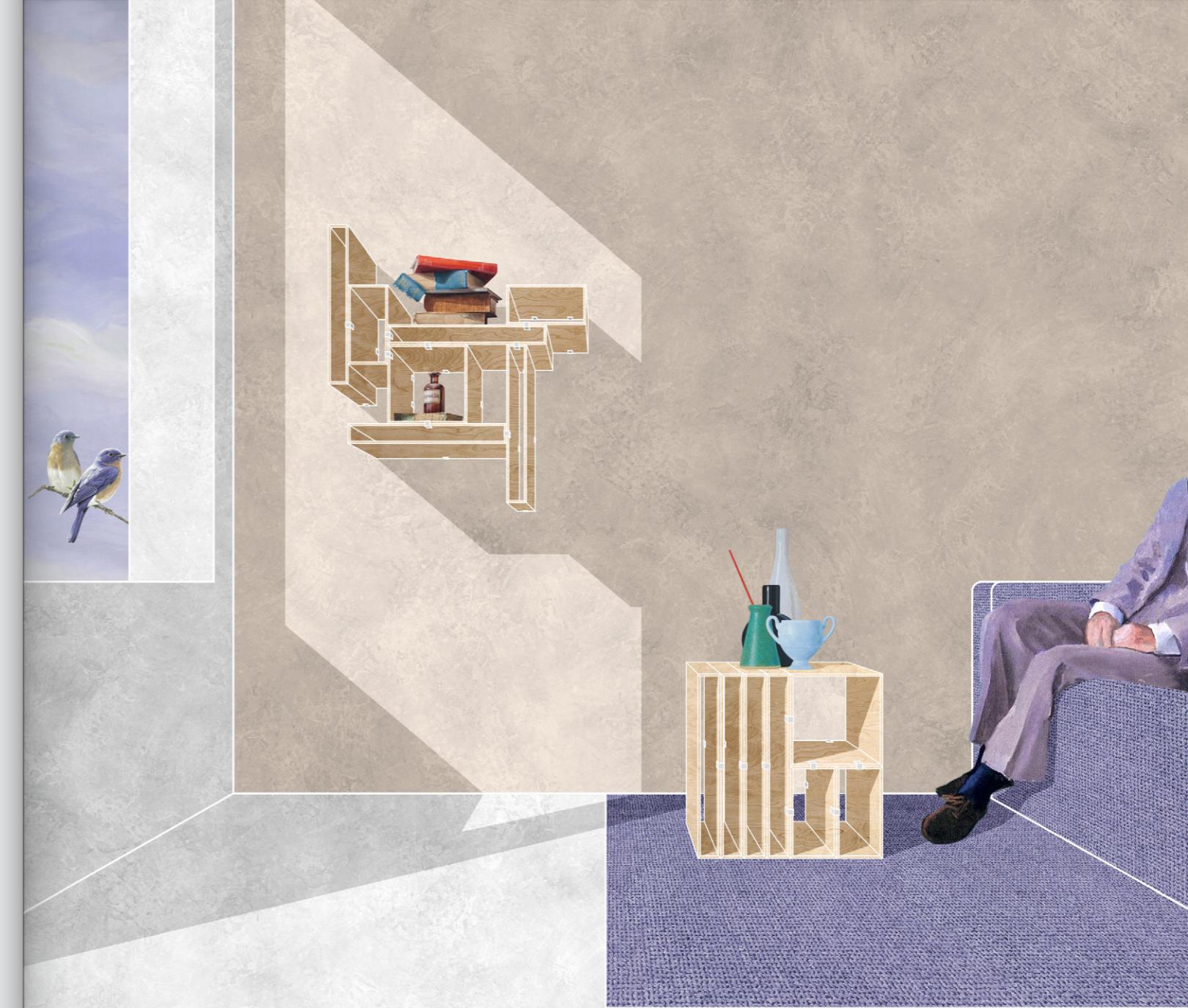


Front view



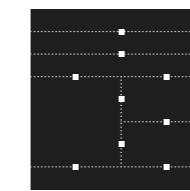
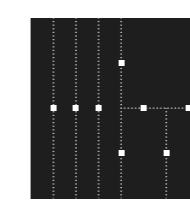


FRAMES is a reconfigurable set of 7 elements clipped together with U-shaped pieces of spring steel, manufactured for the purpose of this particular project. The furniture can be formed as a perfect cube or more dynamic structure, acting as either a coffee table, newspaper rack or simple visual attractor in space. In design phase, frames were intended to be used also as wall shelves mounted by properly designed metal clips.





62 | Frames | Wall-hung version

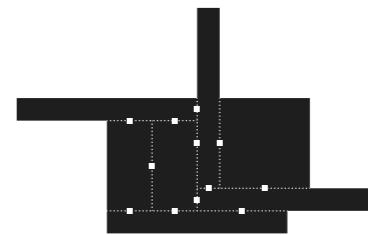
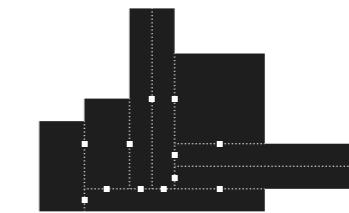


Furniture dimensions:

H: 44cm / 17,3"
W: 44cm / 17,3"
D: 44cm / 17,3"

1st module dimensions:

H: 22cm / 8,7"
W: 22cm / 8,7"
D: 44cm / 17,3"

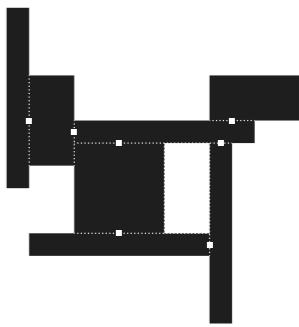
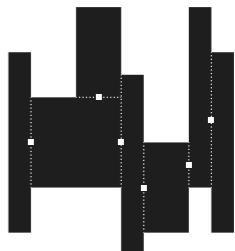


2nd module dimensions:

H: 22cm / 8,7"
W: 11cm / 4,3"
D: 44cm / 17,3"

3rd module dimensions:

H: 44cm / 17,3"
W: 5,5cm / 2,2"
D: 44cm / 17,3"



Materials:

raw birch plywood,
polished spring steel

Standard colours:



chrome raw birch

Frames | Variations | 63

THANK YOU !

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