

architectural solutions and strategy for combating
homelessness in prague

homeLESS

MORE

master's diploma project

Naďa Mladenović

studio Achten–Pavlíček–Sýsová

FA ČVUT

2024 / 2025

Prague

*“Who are we as human beings
if we ignore the suffering of others?”*

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01

Introduction

Introduction

Homelessness

Homelessness is an issue that most countries are facing today. But why is it such a pressing issue nowadays? What is causing it? Some may say that the answer is quite self-explanatory. They might argue that the solution is right there - in the word itself. Homeless person is defined as a person who sleeps in the place that is not meant for human habitation; therefore, it means being without a home. It is easy to assume that the solution is simply providing housing. While solving this issue is undoubtedly tied to housing, it is not as straightforward as it seems. We are all aware that currently, more than 50% of the world's population lives in urbanized areas - cities.

Experts predict that by 2050, this number will rise to 70%. As cities become increasingly overpopulated, there is a growing lack of housing, particularly affordable housing, making it much harder for people to access adequate accommodation. It is evident that as more people become renters and fewer can afford to own property, our ability to access housing is fundamentally tied to our wealth.

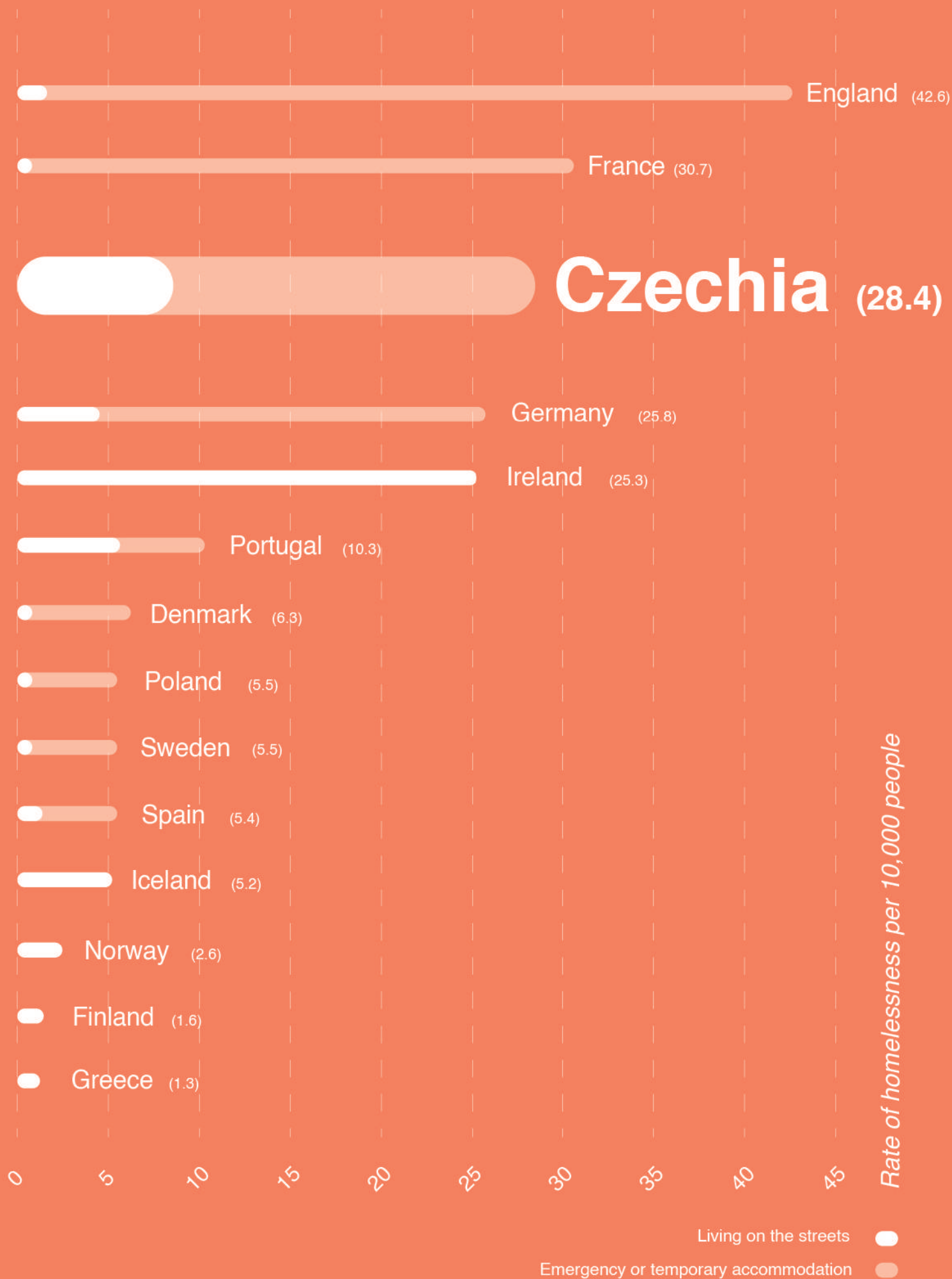
Homelessness in Europe

Over the past decade, homelessness has continued to rise across Europe, to the extent that it has even doubled in some of the countries. It is therefore becoming one of Europe's biggest issues.

Last year, FEANTSA published its '9th Overview of Housing Exclusion in Europe 2024', the latest edition of its annual report on homelessness in Europe. According to this report, an estimated 890 000 people sleep rough or in a homeless shelter on any given night across the countries of European Union.

Compared to the first ever report published in 2009, the amount of homeless has since doubled. This clearly highlights the failure of European countries to make housing the fundamental right.

Even though all EU member countries committed to making progress in addressing the homelessness by 2030, the situation has worsened in all countries except for Finland and Denmark. In Finland, for example, the number of long-term homeless people has decreased by more than 30%.



Introduction

Homelessness in Czechia

Given that the Czech Republic is one of the countries most affected by this issue, a crucial factor is that it has experienced one of the highest inflation rates in the European Union over the past two years. This has led to the Czech Republic becoming the country with the least affordable home ownership in Europe. Knowing this, it is no surprise that statistics show a significant increase in homelessness year after year.

Due to the fact that there is no internationally agreed definition of homelessness, and each country defines it in a different way, statistical definitions vary widely, making it very difficult and challenging to collect data and make international comparisons. As a result, reports on this topic often come out having significantly different results.

It is important to note that in Czech Republic there is no national or regional strategy for collecting data on homelessness, no legal obligation to do so, and no law governing data collection on this issue. Due to the absence of central register, it is impossible to accurately estimate the number of homeless individuals.

The 2011 Population Census provided the first official national data on the number of homeless people. According to this census, there were 11 496 homeless people in the Czech Republic in 2011. This only includes the homeless people using accommodation facilities or night shelters. People sleeping rough, those living outside standard forms of housing, and those in other ETHOS categories of homelessness were not included in this report.

Ten years later, 2021 Population Census showed a decrease in this number, as only 3 726 people were reported to be homeless. This number could be explained by the fact that the Population Census defines homeless individuals just as those without a roof over their heads, living on the streets or in public spaces, as well as by the fact that the census was conducted primarily online. Therefore, it is not reflecting the real situation and is inaccurate. However, expert groups assume that the actual number is at least three times higher.

In 2019, a Census of Homeless People in the Czech Republic, which provided more detailed data, was conducted by the Czech Statistical Office (Český statistický úřad) in collaboration with the Ministry of Labor and Social Affairs (MoLSA). Approximately 24 000 homeless adults and minors were counted across the country. Compared to the Population Census, this survey covered a broader spectrum of homelessness, including more categories of homelessness, but was still not comprehensive.

The first precise data on homelessness in the Czech Republic have only been available since 2018, in the Report on Housing Exclusion, conducted by FEANTSA. The report stated that 54 000 households, or 83 000 people, were in need of housing, nearly a quarter of whom were minors.

On the other hand, based on the report on the people experiencing homelessness who are either living rough (ETHOS 1) or staying in an emergency or temporary accommodation (ETHOS 2 and 3), conducted by the Organization for Economic Co-operation and Development (OECD), the situation appears somewhat different - numbers are substantially higher and distribution of homelessness varies considerably across countries. Out of all the countries included in this report, Czech Republic had the third highest rate of people experiencing homelessness per 10 000 inhabitants in 2022/2023. The country with the highest rate was the United Kingdom, with 42.6 homeless people per 10 000 residents, followed by the France with 30.7. According to this report, Czech Republic had 28.4 homeless people per 10 000 residents, making it the second highest among all European Union countries. When it comes to so-called 'visible' homelessness, Czech Republic had the highest rate of people living rough (ETHOS 1 category), with the rate of 8.6 'roofless' people per 10 000 residents.

In total, 104 818 people were estimated to be homeless in Czech Republic in 2022. This represents almost one percent of the entire population of Czech Republic (0.97%). Homeless people from categories 1, 2, 3, 5, and 6 of ETHOS classification were included in this report, and because of it, is considered the most comprehensive.

Homelessness in Prague

In Prague, according to the 2019 Homeless Census, around 2 500 homeless individuals were reported. However, due to the housing crisis and inflation, this number has significantly increased. Experts estimate that the current number of homeless people in Prague is between 5 000 and 6 000, making the Prague City region the area with the highest number of homeless individuals in the country. The majority of them sleep on the streets or in public spaces, and most are men.

According to the National Register of Social Services, as of 2018, there were 217 long-term homeless shelters in the Czech Republic with a total capacity of 7 265 beds, along with 78 short-term shelters. When comparing this number to the estimated total number of homeless individuals in the country, or even just in Prague, it becomes evident that the available accommodation capacity for this vulnerable group is far from sufficient.

For comparison, five years earlier, in 2013, there were 215 long-term shelters with a total capacity of 6 661 beds nationwide. Although there is no recent data on the number of shelters or their capacities, and we do not know whether and by how much the number of beds has increased, even assuming a growth rate similar to that of the 2013-2018 period, it is clear that the number of available accommodations remains insufficient. This indicates that homelessness is an issue that is not adequately addressed in the Czech Republic, leaving this group of people in a highly vulnerable position.

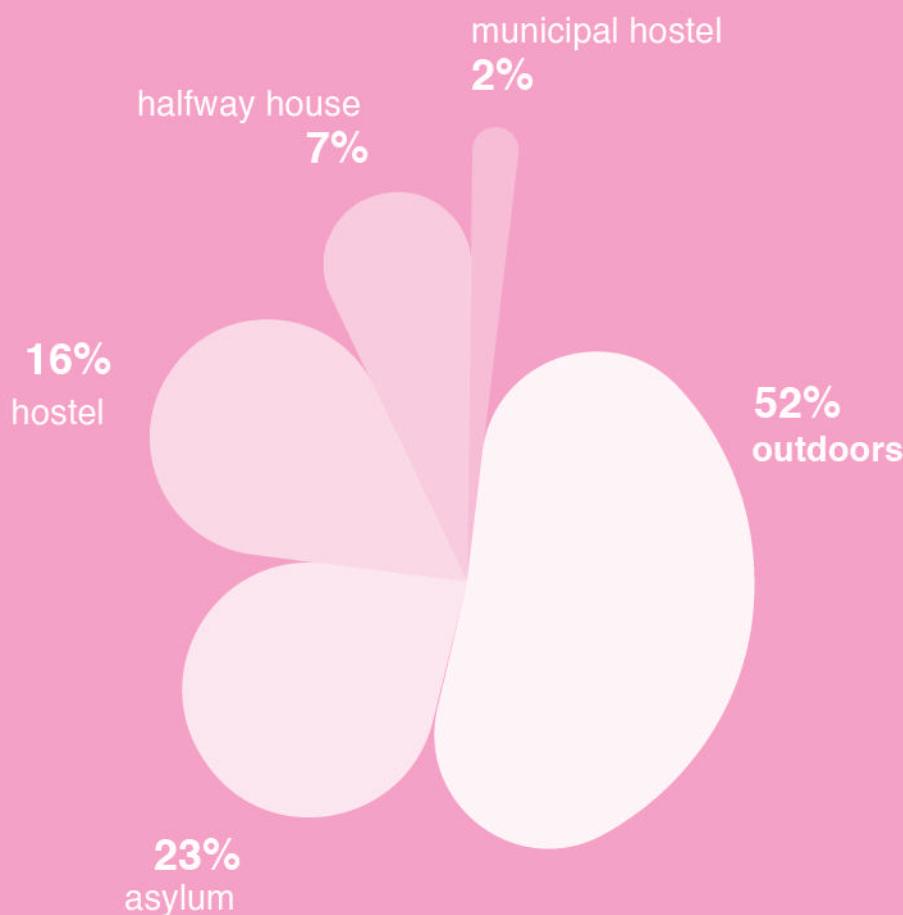
There are currently several organizations in Prague that focus on homelessness, such as Naděje, Charita, Armáda spásy, and the Social Service Center (CSSP). These organizations provide various forms of assistance to vulnerable individuals, including counseling, clothing and food donations, medical care, and shelter services.

Introduction

Statistical Overview (CZ)

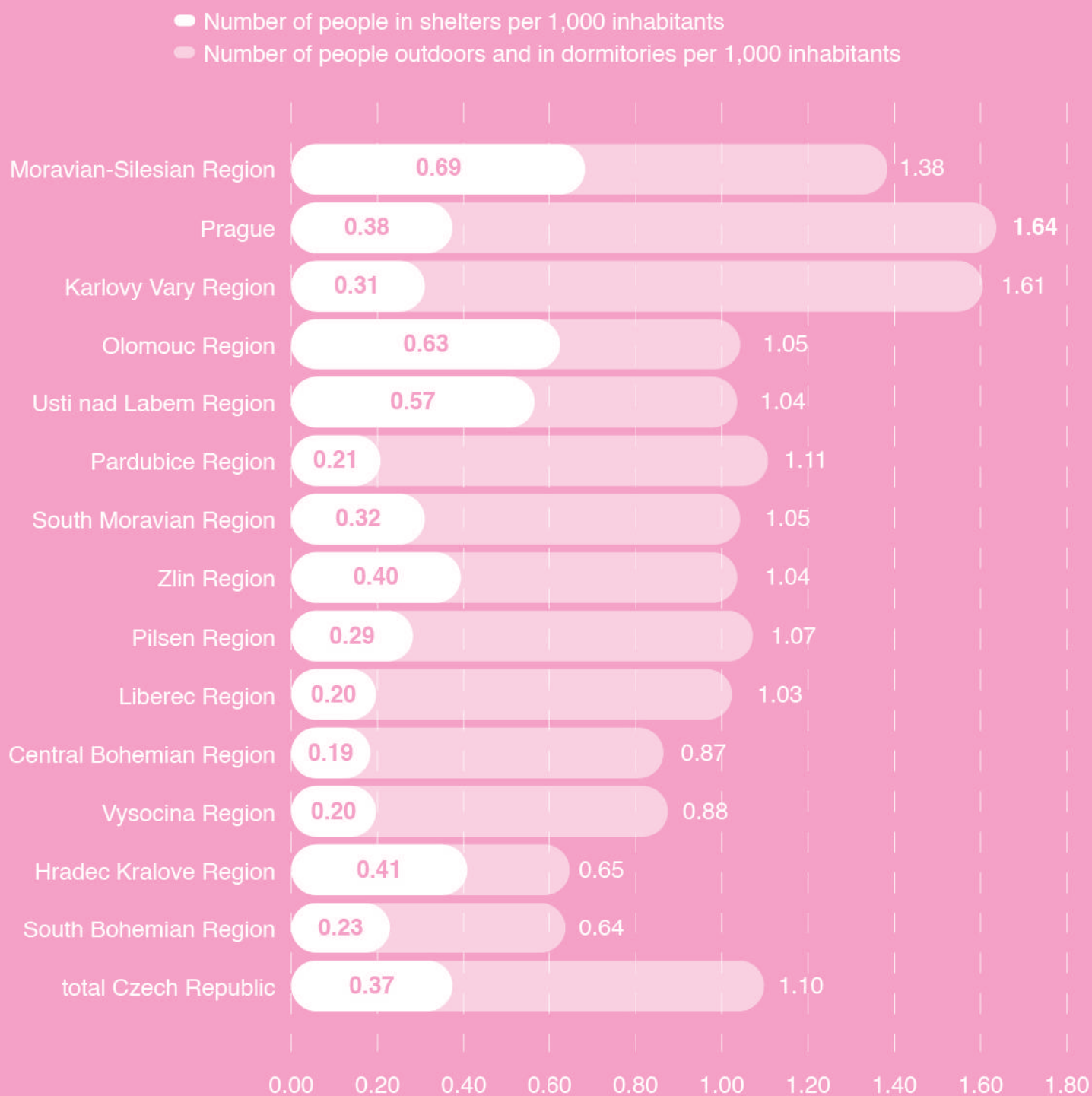
Based on the results of a quantitative survey of homeless people in the Czech Republic, conducted by the Research Institute for Labor and Social Affairs in 2019, certain criteria were considered, including the basic characteristics of homeless individuals, their fundamental needs, health and addiction issues, the use and demand for services, as well as the length and causes of homelessness, and other.

Here are some of the findings that can help provide a clearer picture of the real situation of homelessness in the Czech Republic. These insights can be useful in understanding the issue and exploring possible solutions that could have a positive impact. Additionally, they can serve as valuable guidelines in architectural and urban planning projects aimed at addressing homelessness.



The number of homeless people in the Czech Republic in the spring of 2019 was estimated at approximately 21 230 homeless adults and around 2 600 homeless children.

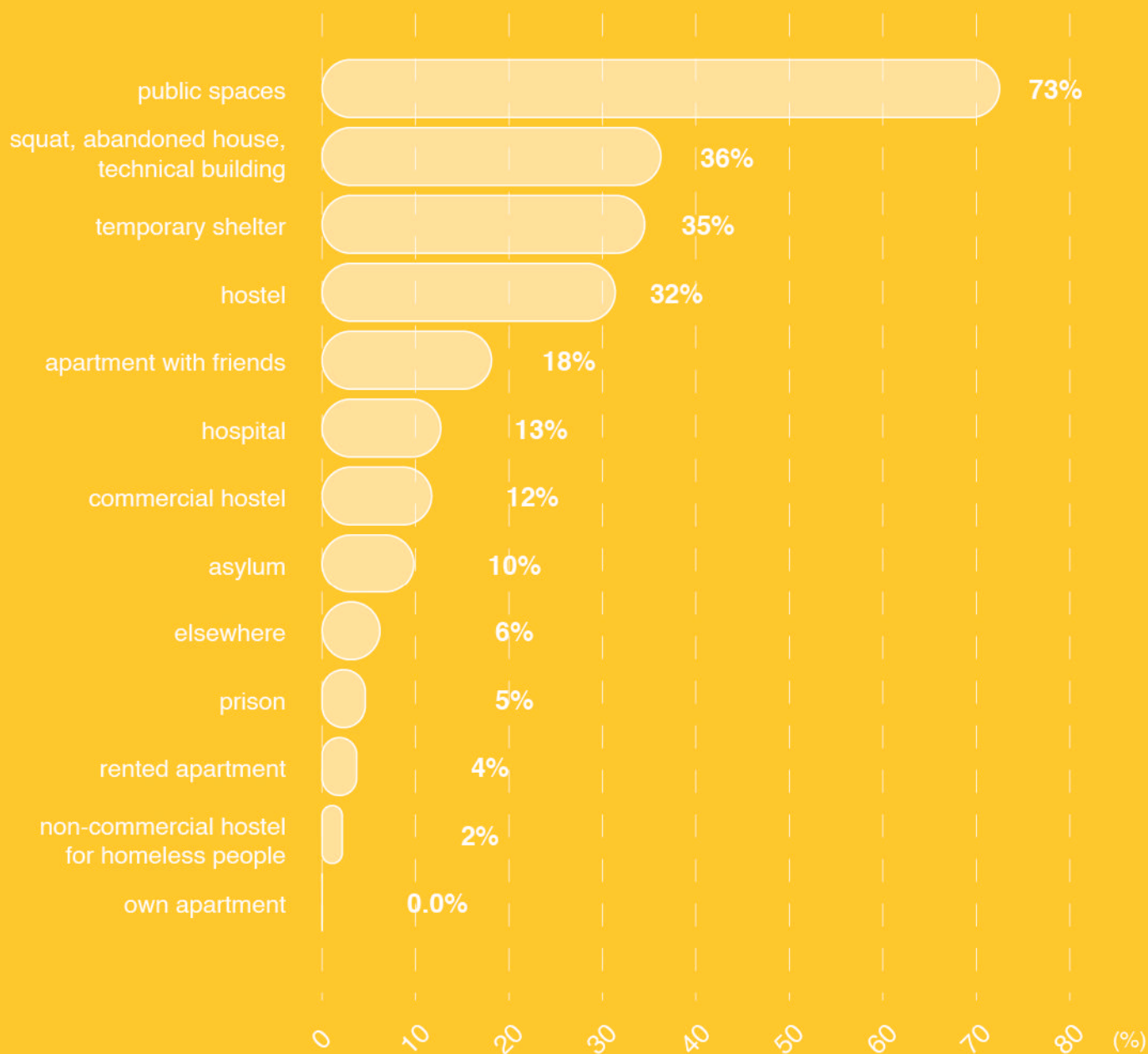
Out of the 21 230 homeless adults in the Czech Republic, roughly 52% slept outdoors (in parks, metro stations), around 23% stayed in asylums, while the rest slept in hostels, halfway houses, or municipal hostels.



In all regions, there was a significant difference between those who slept in shelters and those who stayed outdoors or in dormitories.

Introduction

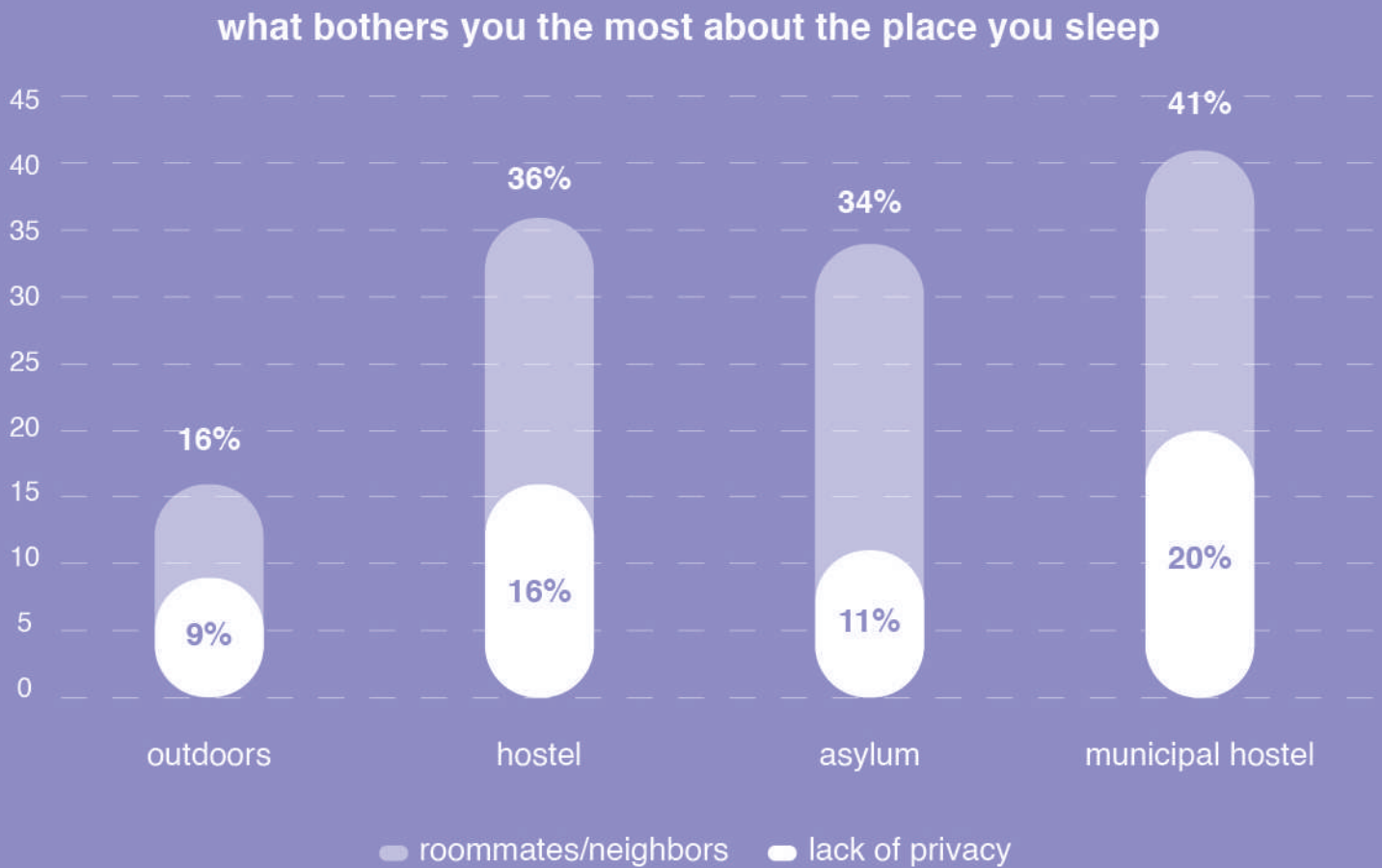
Statistical Overview (CZ)



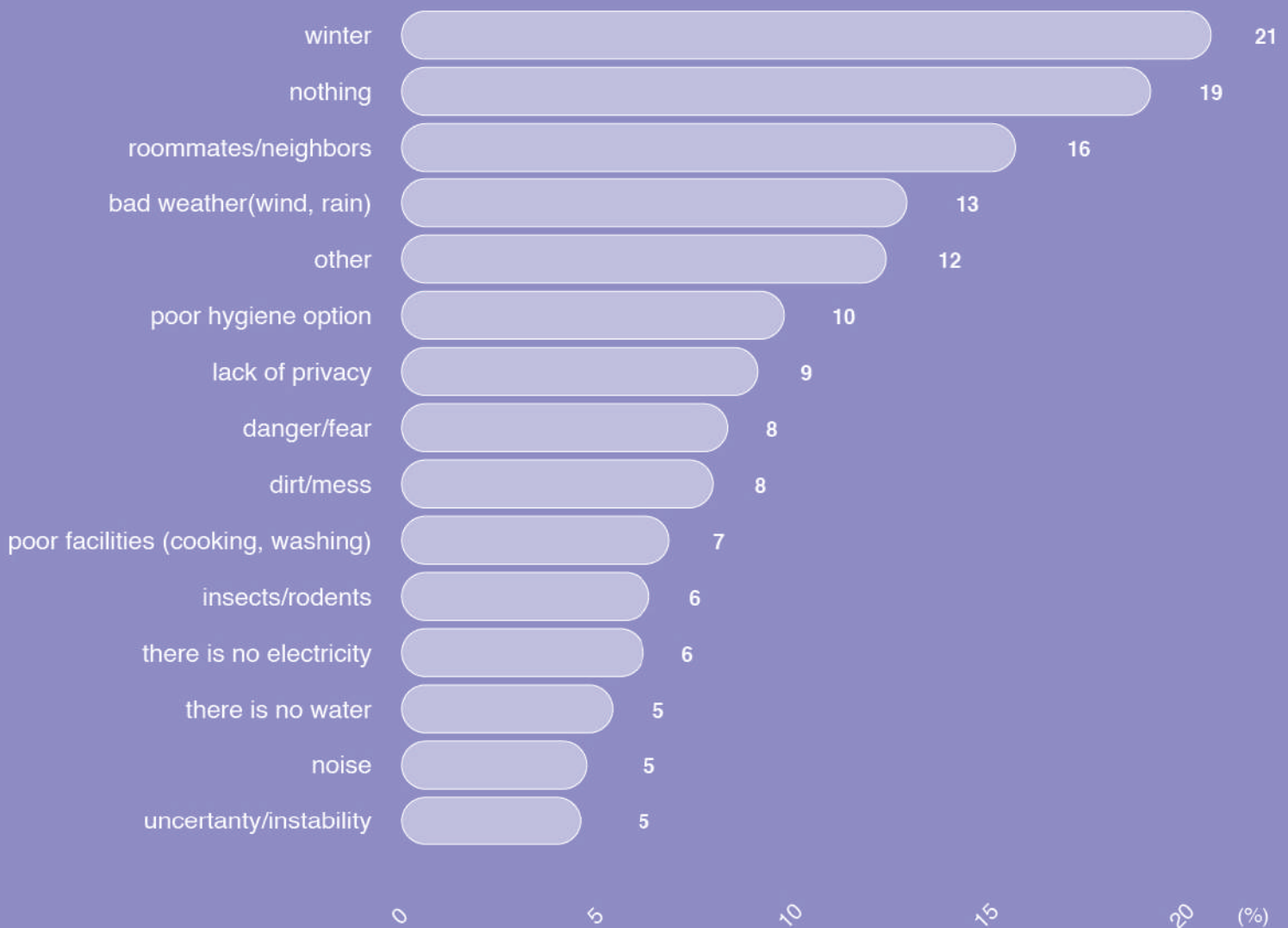
Most people who sleep outdoors stay in public spaces, abandoned or technical buildings, squats, basements, tents, other people's gardens, under bridges, or in underpasses.

Introduction

Statistical Overview (CZ)



The most common reason for dissatisfaction among homeless individuals using accommodation facilities was 'roommates/neighbors', followed by 'lack of privacy'.



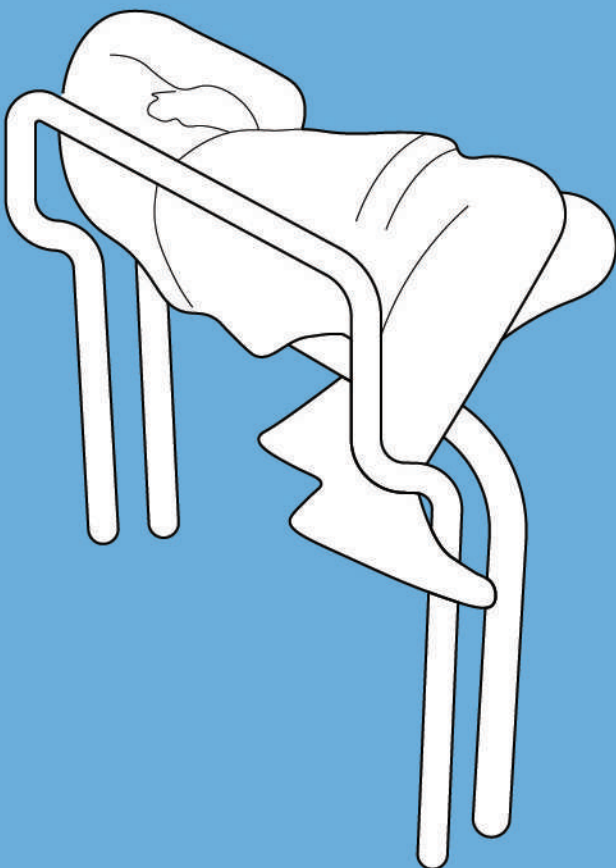
On the other hand, for those sleeping outdoors, the most frequently cited reason for dissatisfaction was ‘winter’, with 21% of survey participants agreeing. Interestingly, almost the same percentage of homeless individuals sleeping outdoors stated that there was ‘nothing’ to be dissatisfied with. Other reasons for dissatisfaction included roommates/neighbors, bad weather (rain and wind), poor hygiene options, lack of privacy, danger/fear, dirt/mess, poor facilities, insects, lack of electricity or water, and noise.

Introduction

Architectural Responses to Homelessness: The Rise of Hostile Architecture

Homelessness is not just a housing issue, it extends to a larger, urban scale. While various strategies have been implemented to address homelessness, some more successful than others, we must acknowledge a harsher reality. Negative attitudes and intentional efforts to exclude homeless individuals are far more common than genuine solutions. One of the examples of this is hostile architecture - a design approach that prioritizes exclusion over assistance.

Hostile architecture is a design strategy that uses elements of the built environment to purposefully guide the behavior. Most familiar are examples of anti-homeless devices which are designed to discourage the homeless to sleep, sit and beg in the public space. Hostile architecture occurs in many different forms – spikes, bollards, sharp edges, arm rests, curves – basically all the design elements making it difficult for people to stay at a place more than they should. All those elements are designed in a way that are unnoticeable to majority of people. They are designed in a way that we pass by and don't even think about how those are hostile to some because it most probably doesn't affect us. Even the nonexistence of certain elements in public spaces is considered to be hostile.



We live in a time where inclusivity and accessibility are increasingly pressing topics in architecture and design, and are considered to be the future of architecture.

The concepts such as 'accessible for all' and 'universal design' in architecture and design of public spaces are being applied more than ever. Yet, paradoxically, the use of hostile architecture is also on the rise.

Which leads us to a question – are public spaces truly accessible to everyone? And more fundamentally - are public spaces truly public?

Since there is still a very strong stigma that homeless are dangerous and unkempt, authorities tend to exclude them from the public spaces. The way they do it is – with the use of the elements of hostile architecture. It makes the public space seem to be 'safer', with no homeless around, as well as more aesthetically appealing, but it just goes against the 'accessible for all' design strategy. It is the tool to 'remove the unwanted' from the public space. And to answer the question – It is making the public space less inclusive and more anti-social.

While hostile architecture is increasing, it is directly displacing certain groups of people from the public space, cause not only that it targets the homeless, it also targets other sensitive groups such as disabled, elderly, kids, pregnant women, and other.

Hostile architecture is the way a lot of countries worldwide 'fight' homelessness. But in reality, this has nothing to do with solving the problems. It is just an easy way out – a way of moving the problem elsewhere and therefore making it less noticeable, postponing it or making it bigger. It encourages the 'out of sight, out of mind' mentality. Such design communicates 'don't make yourself at home at public space' and for homeless people it is like saying 'you are not wanted here'.

As mentioned above, the majority of homeless people sleeping rough choose public spaces as their place of sleep. Since homeless already have limited possibilities, hostile architecture is just causing more problems by reducing these options even further. In some cases, cities spend more money designing such elements, while the shelters are being closed due to the lack of funding.

Prague is one of the cities that has not escaped the trend. According to the architects, the number of such anti-homeless installations, is increasing in Czech Republic, specifically, in Prague. Fortunately, some of the such elements of hostile architecture that have appeared in Prague have been met with strong criticism. In some cases, Prague authorities have even ordered their removal.

Introduction

The 'Housing First' Model

Although there have been many attempts to end homelessness, none have proven as successful as the Housing First approach, developed by Dr. Sam Tsemberis in the 1990s. 'Housing First' is designed for people who need significant support to escape homelessness.

This approach is based on the belief that housing is not a privilege to be earned but a fundamental human right. As the name suggests, 'Housing First' provides homeless individuals with housing as quickly as possible, without any preconditions. 'Housing First' is based on eight core principles: Housing is a human right; Choice and control for service users; Separation of Housing and Treatment; Recovery Orientation; Harm Reduction; Active engagement without coercion; Person-centred planning; Flexible Support for as long as required.

It makes it possible to address homelessness quickly and efficiently. But beyond simply providing housing, what happens to the overall well-being of homeless individuals?

While the lack of stable housing is often their biggest challenge, it does not solve other underlying issues homeless face - issues that, if left unaddressed, could potentially lead them back into homelessness.

Homeless individuals who are part of these programs have a much greater chance of making overall progress. For instance, it is much easier to discuss solutions to their problems with someone who has stable housing than with someone living on the streets, where their primary concern will always be existential - finding shelter, food, and safety.

Most governments are reluctant to invest in such programs because they require significant initial funding, failing to consider their long-term cost-effectiveness. It is a paradox - 'Housing First' actually saves money. By providing housing to homeless individuals, governments reduce expenses on charities, law enforcement, hospitals, jails, and other costly emergency services.

Most countries still rely on the traditional 'Treatment First' approach. This means that before a homeless individual gains access to affordable housing, they must first undergo preparation to ensure they are capable of securing and maintaining housing. In other words, before a person becomes 'housing ready', issues such as substance abuse or mental health conditions must be resolved, demonstrating that they are able to live independently or with minimal support. While the 'Treatment First' approach may offer certain benefits in terms of individual well-being, it ultimately prolongs homelessness compared to 'Housing First'.

After the 'Housing First' model was tested in several countries, including Finland, Denmark, and the United States, and proved to be perhaps the most successful approach in the fight against homelessness so far, many other nations, especially in Europe, decided to follow their example. Today, 'Housing First' has been widely adopted as a national strategy for addressing homelessness in many countries. The pioneer and the country with the most successful results is Finland, which has reduced homelessness by 30% since the program began.

A study conducted by the University of Southern Indiana Center for Applied Research, which examined the impact of 'Housing First' projects from the perspective of homeless individuals, found the following results:

- 76% reported a decrease in domestic violence
- 69% reported increased school attendance for their children
- 63% reported better relationships with family members
- 53% reported an increase in community involvement
- 58% reported that the conditions of their neighborhood are better

The 'Housing First' Model in Czechia: A Sustainable Solution?

So far, there has been one attempt to introduce a Housing First project in the Czech Republic. The first such attempt at affordable housing took place in Brno in 2016, under the name 'Rapid Re-Housing'. This was only a pilot project, aimed at finding innovative ways to combat homelessness. The municipality of Brno provided 50 non-segregated apartments for selected families, along with substantial housing subsidies. It also coordinated the involvement of partners, including the Department of Social and Legal Protection of Children, the Labor Office, and the Department of Education.

Families were also provided with flexible support from social workers, helping them manage their finances and access necessary services. The families were selected randomly - out of 420 homeless families with children, 50 were chosen to receive housing. The only requirements they had to meet were that they were families with children living in Brno and were willing to cooperate with social workers. Additionally, they had the responsibility to maintain their apartments in good condition and pay rent.

If you're wondering how homeless families could afford rent - the Ministry of Labor and Social Affairs provided them with financial assistance, such as child and living allowances, or housing supplements and allowances. At the time, their rent was approximately 50 Czech crowns per square meter.

There was a study on the success of this project, which produced highly positive results. Improvements in mental health, decreased use of emergency health services, better social integration, reduced sickness in children, and improved financial security are just some of the positive outcomes. For reference, the children from these families collectively avoided around 4 000 days in institutional and foster care, the number of hospitalizations significantly decreased, the rate of child injuries dropped from 12% to 2.5%, and antibiotics were used 63 times less often.

Introduction

All these benefits, along with the fact that families were kept out of homelessness, led to an estimated 1.5 million czech crowns of public money being saved. That being said, many supporters of the project considered it highly successful.

However, some politicians disputed the project's success. According to their claims, over the course of the one-year period, tenants accumulated more than half a million czech crowns in unpaid rent, 250 000 crowns in waste fees, and an additional 250 000 crowns in debt from three families who were later evicted for non-payment. They also pointed out that social workers personally contributed nearly 40 000 czech crowns from their own funds to help families in unforeseen situations and prevent them from losing their leases.

Rent debts became a key argument for the Brno Municipality in questioning the project's effectiveness. As a result, in August 2018, they decided to discontinue the project. To this day, a similar project has not been launched in the Czech Republic.

And what are the opinions of homeless individuals of Prague about such projects? Homeless people in Prague believe that 'Housing First' wasn't, isn't, and won't be possible in the Czech Republic. They think the country will never be as developed as, for example, the USA or Canada, and that no one is willing to invest in housing for homeless people. A project like Rapid Re-Housing clearly disproves this claim, but given that it was quickly discontinued, it is understandable and justified that they have lost hope.



02

Site Selection

Site Selection

When selecting locations for the implementation of this strategy, it is important to meet the needs of homeless individuals while also considering architectural conditions and the physical state of the existing site or structures.

HOMELESS

demographic density

site should be able to accomodate people in a way that they are divided into clusters of not more than 10 people per cluster and to provide them with all the facilities needed

well-developed area

allows them to feel worthy living in a nice neighbourhood and not feeling of being left alone cut off from the others

close proximity to the city center

allows them accessibility to wide variety of functions and easier transportation and accessibility

social context

possibility to get inspired by other people to make some positive changes in their life

multifunctional context

multifunctional context needed so they can get used to all aspects of normal everyday life

Requirements for Site Selection

condition of the building

building should be structurally stable and have an access to electricity, sewerage and water

availability and acessibility

building should be well connected to the public transportation and city center, and should be accessible for disabled with no barriers

spatial configuration

for the strategy to be implemented, place should be with less to none partition walls, e.g. open space

flexibility and adaptability

should be such that it is flexible to reorganize the existing spaces according to the needs of clients, with the possibility of expansion if there is lack of space

reconstruction status

there shouldn't be undergoing reconstruction of the place, nor planned reconstruction in the near future

This information tells us a lot about the direction we should take when choosing the best building for implementing the strategy.

Site Selection

When selecting locations for the implementation of this strategy, it is important to meet the needs of homeless individuals while also considering architectural conditions and the physical state of the existing site or structures.



Map of Prague

chosen prototype site
Hall 18, Pragovka



04

Program

Program

Needs of Homeless



Provide them with facilities to maintain basic hygiene.



It is essential to reintegrate them into society and create a safe community.



Provide them with social support through social workers, as many are unable to navigate the system on their own.



And if space is provided for pets, there must also be space allocated for veterinary care.



Provide spaces for washing and drying clothes.



The most basic need of a homeless person is a roof over their head and a safe place to sleep.



They need a place where they can reheat the food they have.



Provide them with work(shops) that help restore discipline and offer opportunities to earn an income.



Since many do not have health insurance, it is essential to provide them with access to a doctor.



For many, their pets are their closest companions—we must not forget them.

Program

01

Hygiene

02

Community

03

Social Support

04

Animal Care

05

Cleanliness

06

Sleeping Space

07

Warm Meal

08

Work(shops)

09

Healthcare

Toilet + Shower Unit

unit providing toilets and showers

Community Spaces

open space areas

Social Worker Unit

providing everything a social worker needs to be able to work with homeless

Vet Unit

providing vet examination room

Laundry Unit

providing washing machines and dryers

Sleeping Unit

provides private space for a person + optionally for a pet

Kitchenette Unit

shared kitchenette with all necessary appliances

Workshops

areas in an open space turned into workshops, as a way of income

Doctor's Unit

provides small examination room

Program

- **community spaces at the entrance**
meeting space for everyone
- **transitional zone - workshops**
for the ones staying in and for visitors
- **clusters on the peripheries**
providing more privacy
- **spaces between clusters are for laundry units**
laundry units shared between two clusters
- **opposite the main entrance is security unit**
for the best overview of the whole site and entrance
- **center of the space for supporting units**
social worker, doc, vet unit

- **no hierarchy**
all units are equally distanced from one another and from shared facilities
- **symmetry**
symmetry is used to avoid hierarchy
- **feeling of equality**
everyone is equal

04

Proposal

Strategy Proposal

The concept of the project was to develop a strategy aimed at reducing homelessness by designing a set of units that meet all the essential needs of homeless individuals. These units are conceived to be easily transportable and quick to assemble, responding to the urgency of the issue—people are already living on the streets, and immediate action is required.

The units are specifically tailored to the needs of homeless individuals, with the goal of making their temporary stay more dignified and comfortable. They are intended to serve as a transitional step toward permanent housing solutions, such as those offered by "Housing First" programs.

The strategy is designed to be site-adaptable, following clear criteria for location selection, and is particularly suited for use on brownfield sites—underutilized urban spaces with potential that is currently overlooked.

The prototype strategy was applied to the building of Hala 18 in Pragovka, a former car factory. The location is well-connected to the city center by public transport and is highly accessible. The building is currently unused, and no specific plans for its redevelopment are known at this time. It is situated in a multifunctional urban environment.

The open-space layout of the building makes it suitable for implementing the proposed strategy. The program is organized according to the following spatial principles:

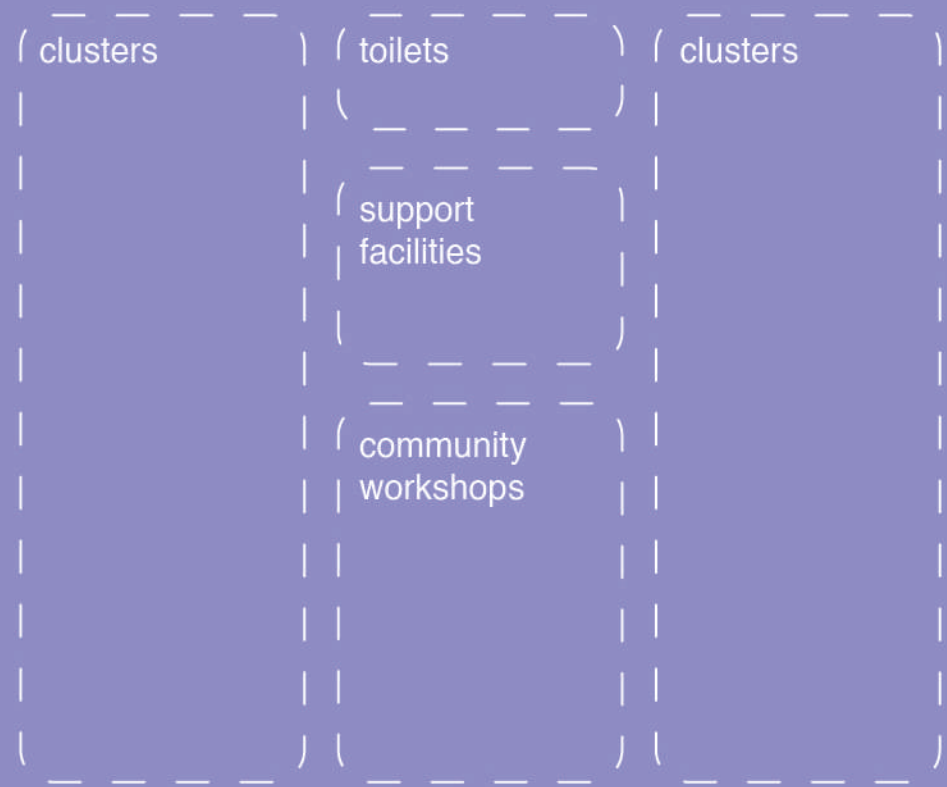
The central area near the main entrance is designated as a community space and workshop zone, where homeless individuals can engage in work and earn income.

Along the periphery of the open space, there are clusters, each consisting of seven sleeping units arranged around a kitchenette unit.

Opposite the main entrance, a toilet block is positioned.

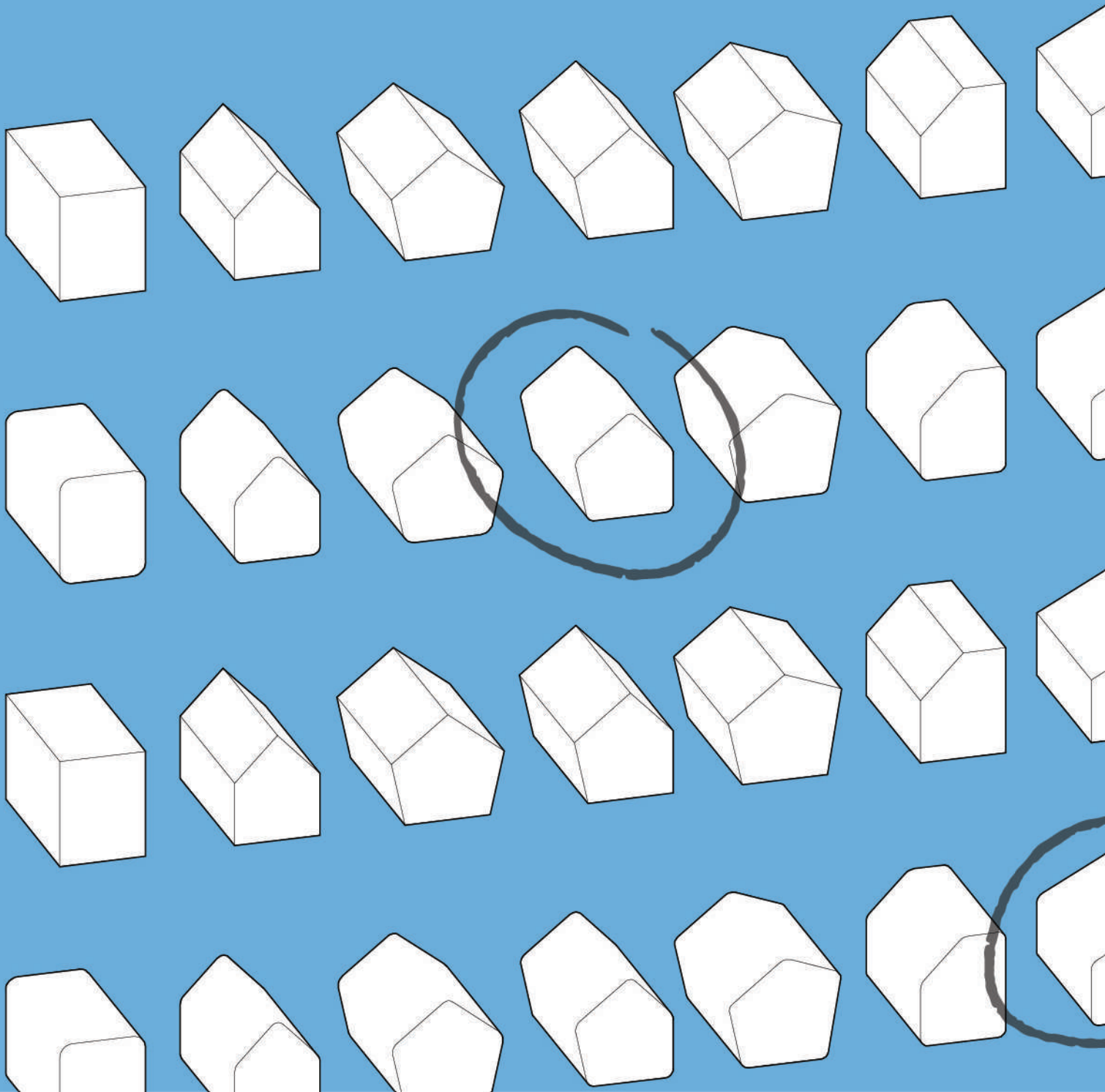
At the center of the building, essential support facilities are located, including an office unit, a veterinary unit, a medical unit, and a security unit, the latter placed to allow for maximum visual control of the space.

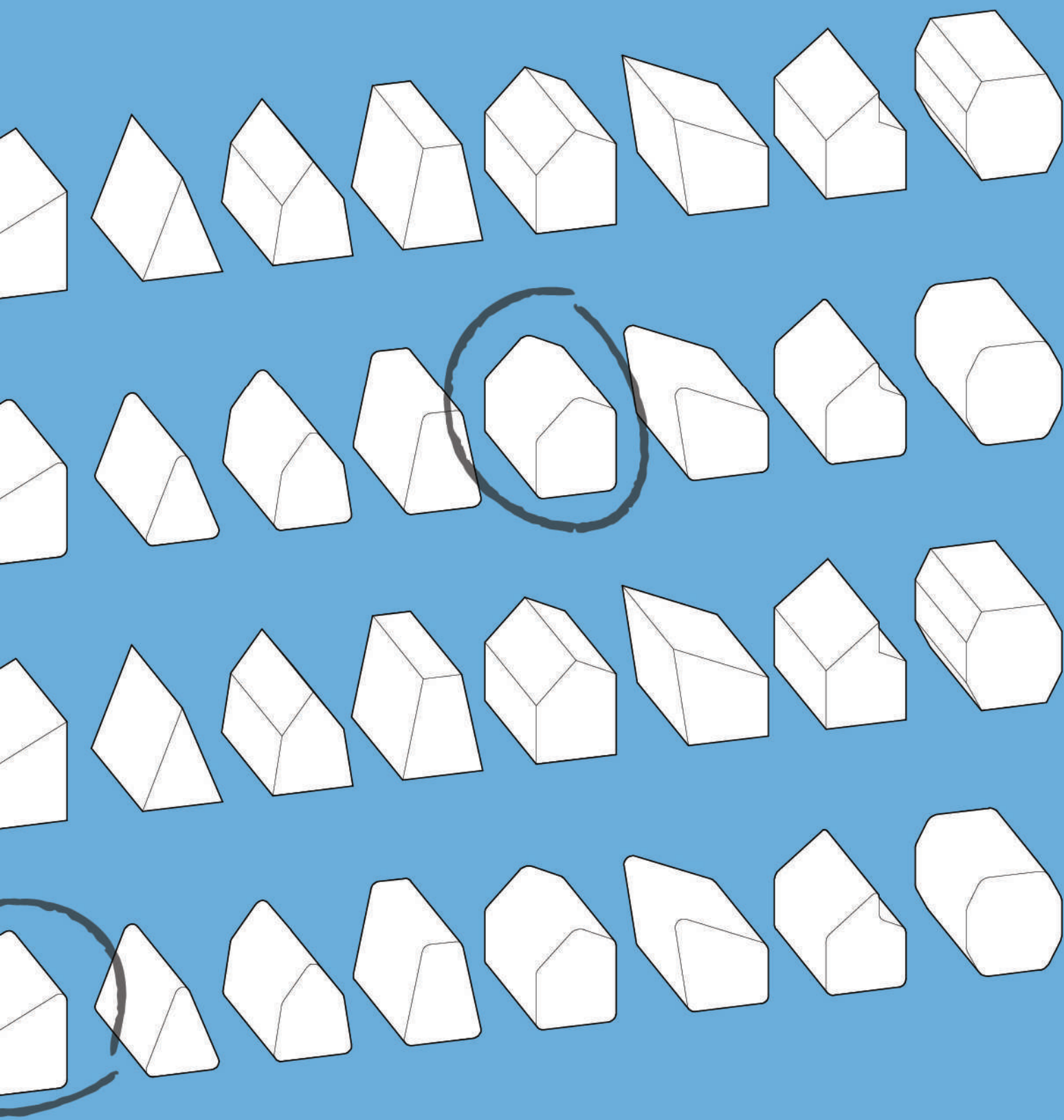
In the spaces between the clusters, laundry units are placed.



Form Development

One of the key aspects in choosing the form was that it should be injury-free, meaning the minimization of all potentially sharp edges that could harm the users of these shelters. Therefore, all design options were also developed with rounded edges.

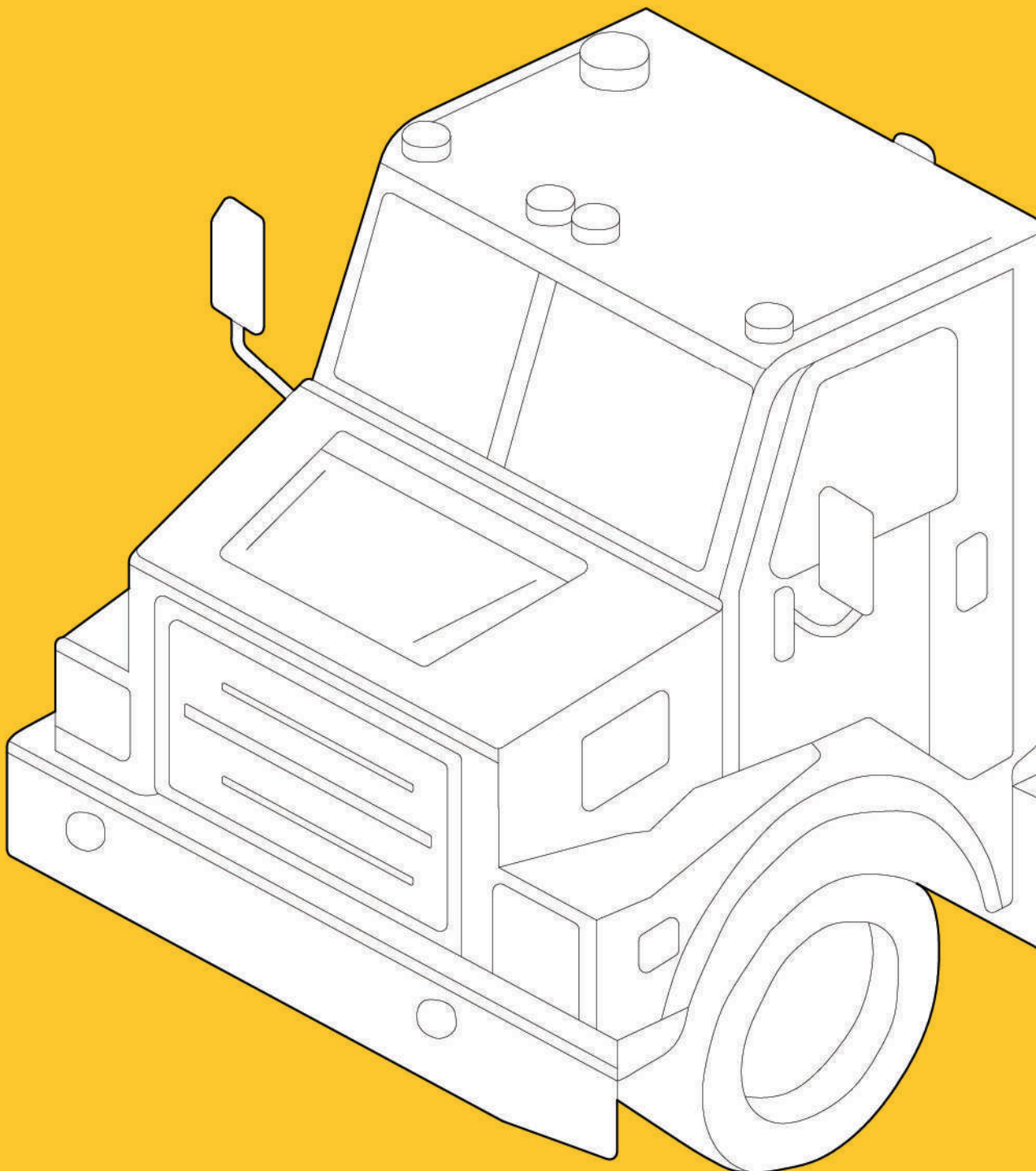




(Trans)Portable Units

One of the main criteria in designing the units, apart from the choice of materials, was the option of reusing the unit—either for the same or different purposes—as part of a sustainable cycle. For that reason, one of the limitations was that the units had to fit on a trailer.

6 M





lorry truck

The units are designed to be easily transportable from one location to another, with lorry trucks identified as the most practical means of transportation.

The smallest standard lorry trailer measures 6 by 2.5 meters, which served as the approximate dimensional limit during the design process of each unit.

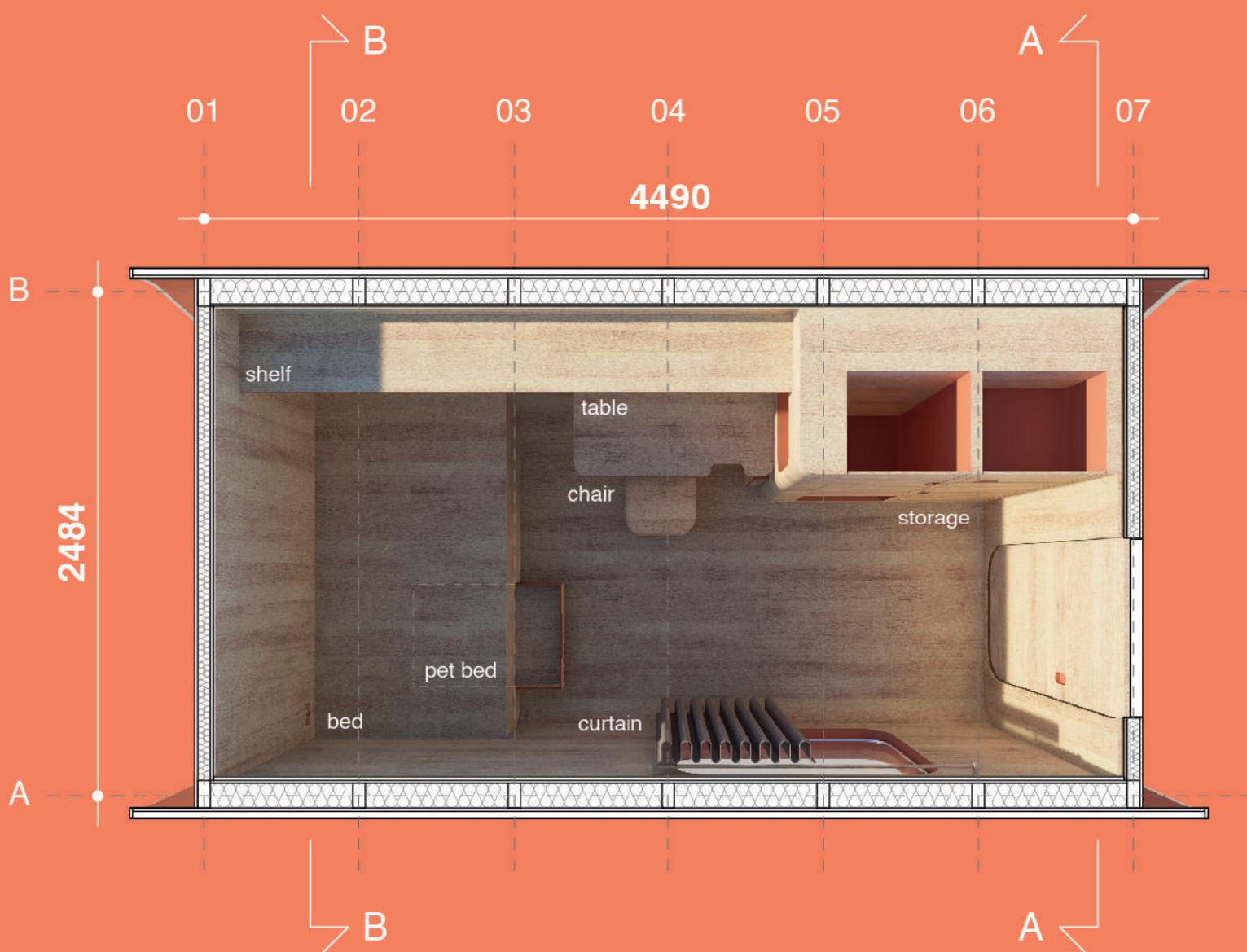
Sleeping Unit

The sleeping unit is designed primarily to provide a safe and dedicated sleeping space for a homeless individual, while also accommodating other potential needs. It offers the highest level of privacy, as it is intended for single-person use.

To ensure comfort and avoid a claustrophobic feeling, the unit has a minimum size of 8 square meters. The furniture inside is designed to be adaptable and multifunctional, with elements that can be folded away when not in use to maximize available space.

A particularly thoughtful feature is the inclusion of a pet bed, recognizing that many homeless individuals have pets. This consideration addresses a common barrier to shelter use, as pets are often not allowed in traditional shelters.

Other key elements include a foldable bed that can convert into a bench or be fully stowed away, a collapsible table, and ample storage space. To enhance the feeling of openness, the unit features a large window with a curtain, providing both natural light and privacy.



perspective floorplan

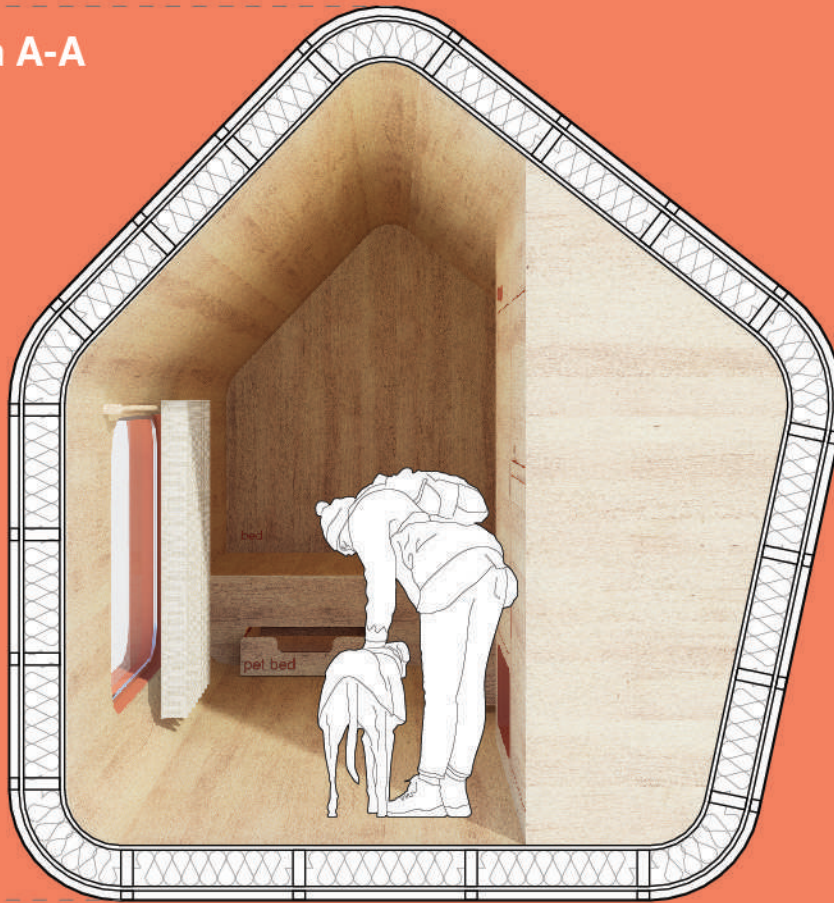
scale 1:30



section A-A

2966

total height of the unit



WALL LAYERS (from interior to exterior)

inner cladding
plywood 15 mm

vapor barrier
polyethylene foil

load-bearing
wooden structure 120x60 mm

thermal insulation (between studs)
mineral wool 120 mm

sheating board
OSB board 15 mm

wind barrier
breathable waterproof membrane

ventilation cavity
battens 30x40 mm

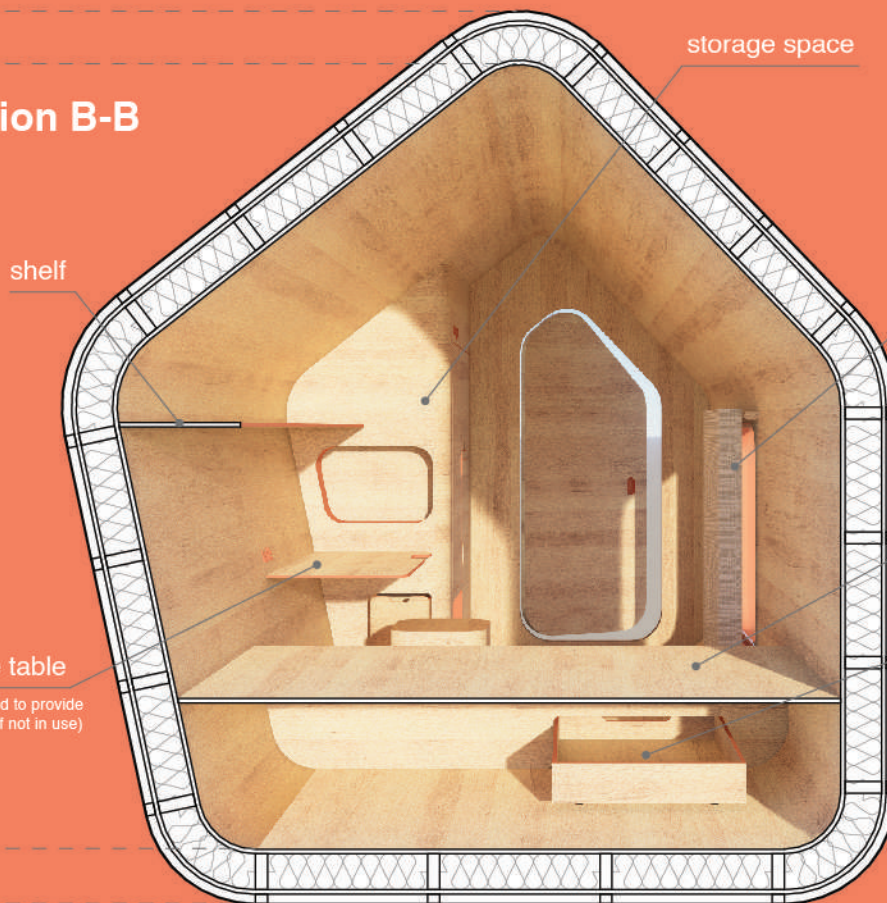
exterior cladding
aluminium sheets 3 mm

183

section B-B

2600

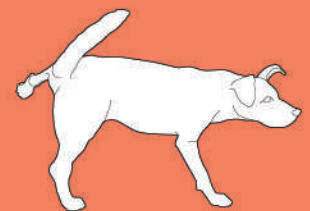
crown height of the unit



window + curtain
(big window makes the space seem bigger;
curtain provides privacy)

foldable bed
(can be transformed into bench when not
used; provides more space)

pet bed
(placed below the bed; on wheels)



183

perspective sections

scale 1:25

0 1 2 3m

Laundry Unit

The laundry unit is designed to foster a sense of community among users, as such spaces are often used as informal meeting places by people experiencing homelessness.

In addition to washing machines, dryers, drying racks, storage, and a foldable table for ironing and folding clothes, the unit also features a bench where users can rest while waiting for their laundry to be done.

A large window is included to enhance visibility and ensure safety, promoting transparency in how the space is used as a communal gathering point.

'meeting space'



WALL LAYERS (from interior to exterior)

inner cladding
plywood 15 mm

vapor barrier
polyethylene foil

load-bearing
wooden structure 120x60 mm

thermal insulation (between studs)
mineral wool 120 mm

sheating board
OSB board 15 mm

wind barrier
breathable waterproof membrane

ventilation cavity
battens 30x40 mm

exterior cladding
aluminium sheets 3 mm

section A-A



perspective section

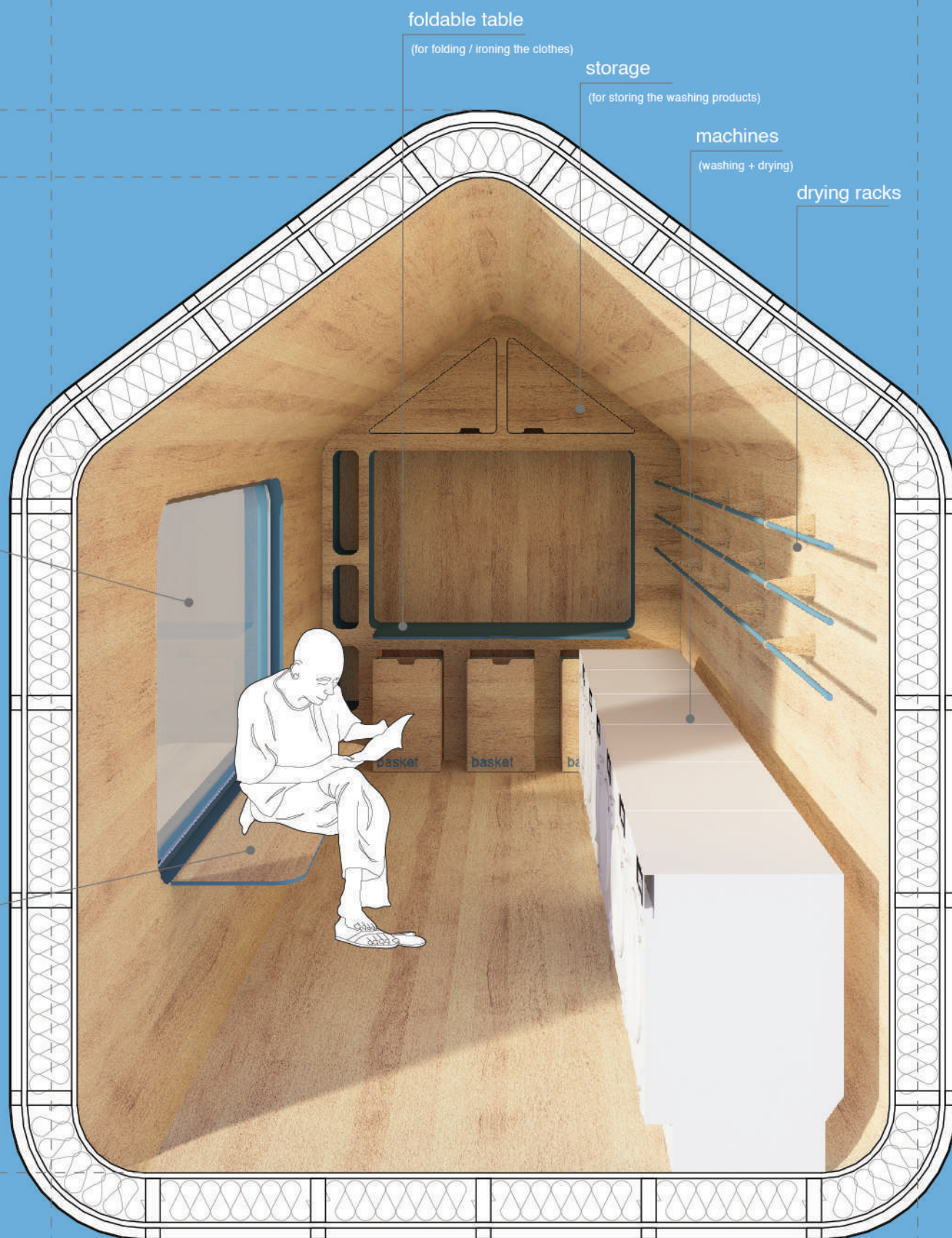
scale 1:15

A

B

2349

center to center distance



0

1

2m



perspective floorplan

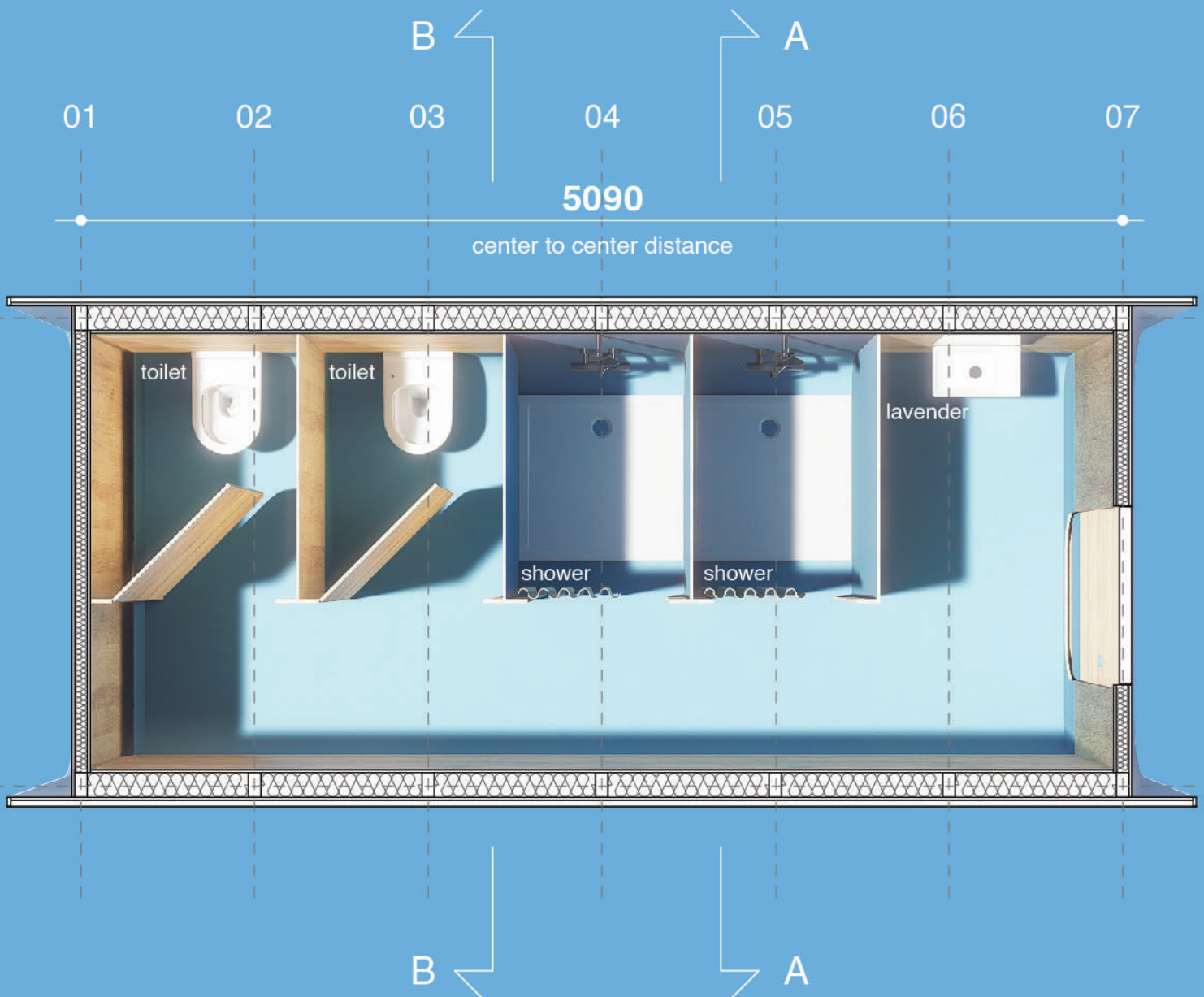
scale 1:25



Toilet Unit

Each toilet unit includes two shower cabins, two toilet bowls, and a single sink. Unlike the other units, due to water flow and moisture, the interior surfaces are coated with epoxy layers starting from a minimum of 40 cm above the floor and extending up to 110–220 cm on the walls—specifically where direct water contact occurs—to ensure waterproofing.

To maintain user privacy without compromising natural light, the unit is equipped with two windows placed on a sloped roof. These provide both daylight and natural ventilation for a more comfortable and functional space.

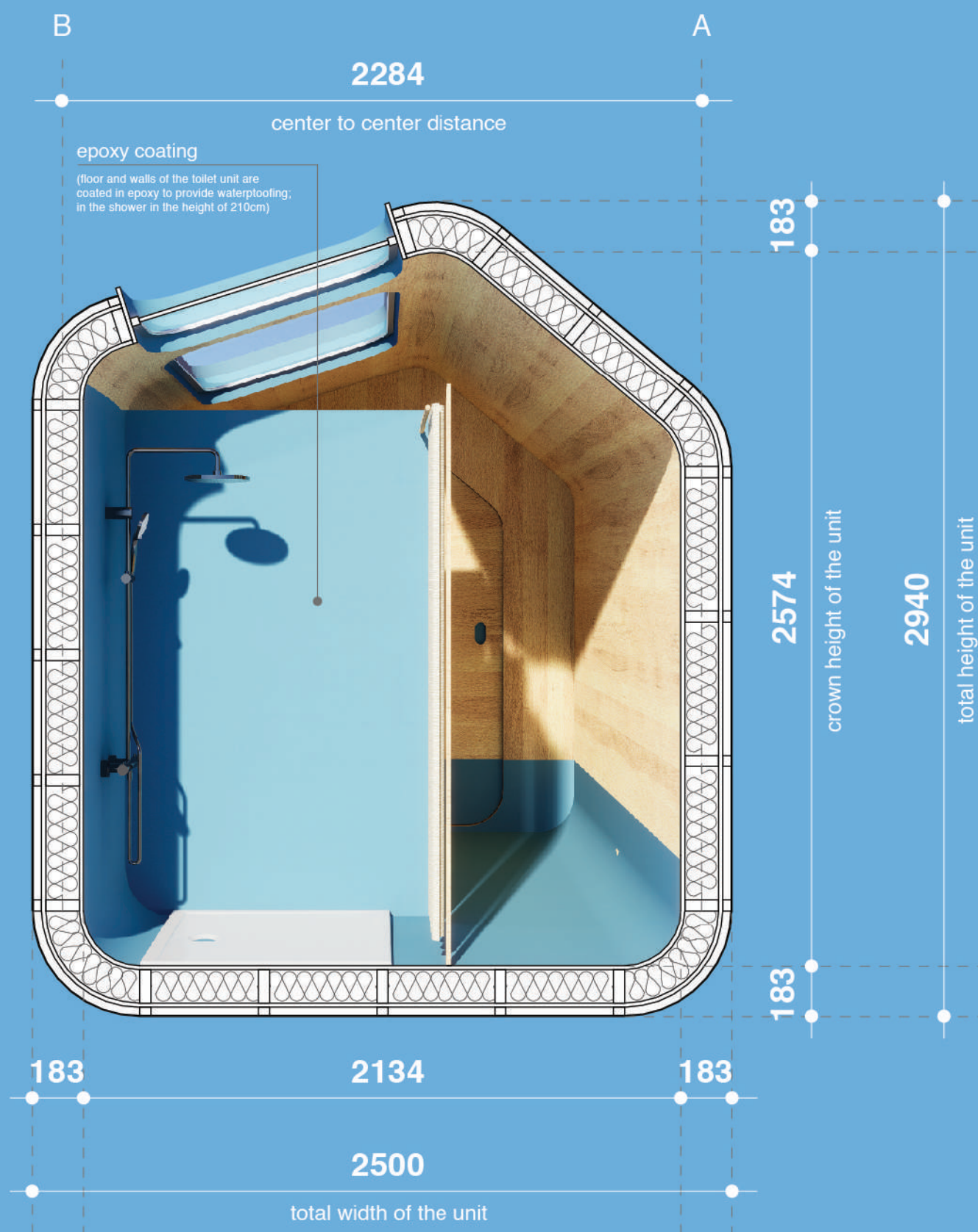


perspective floorplan

scale 1:30



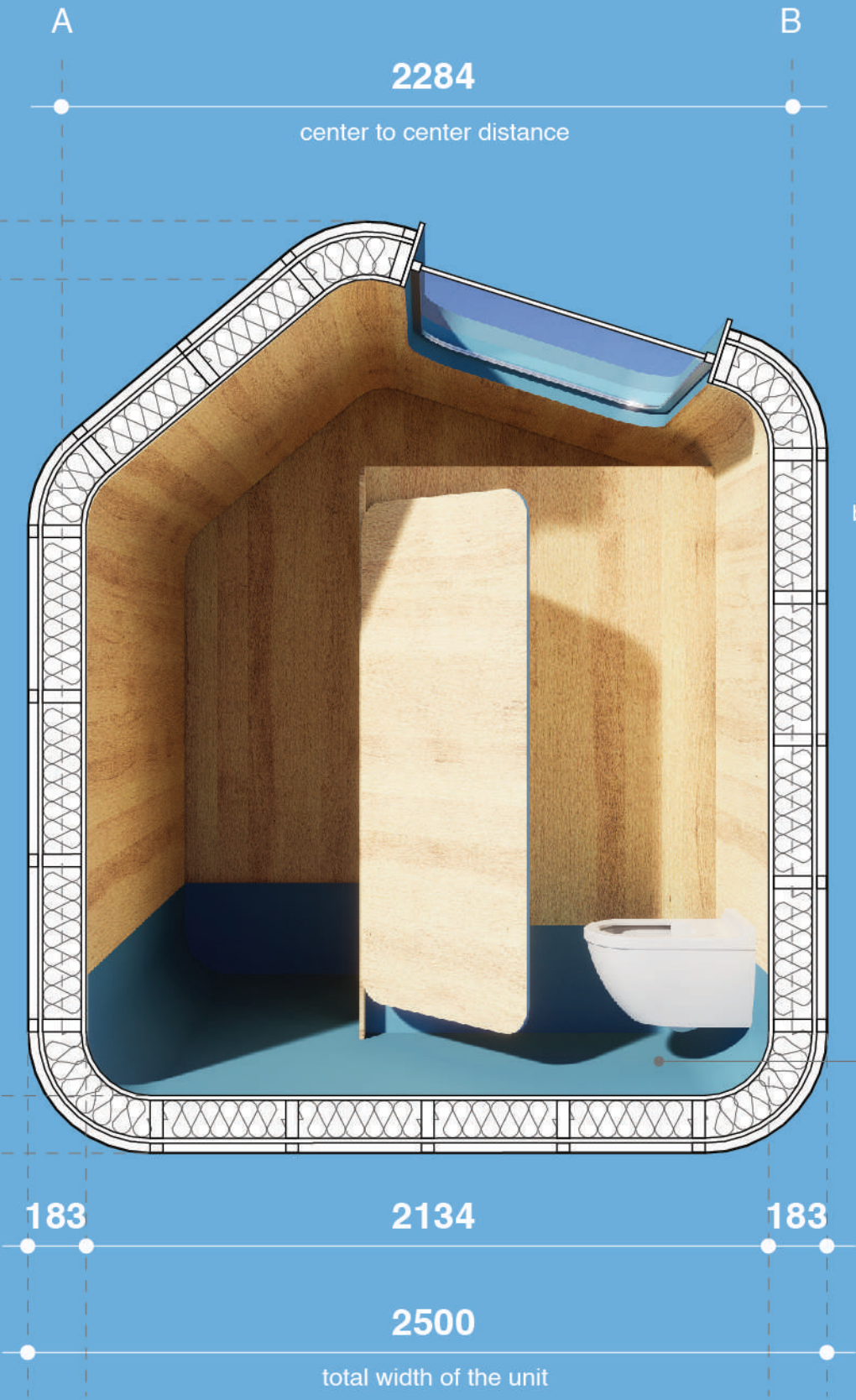
section A-A



perspective sections

scale 1:20

section B-B



- inner finishing
epoxy coating
- waterproofing membrane
liquid waterproofing membrane
- inner cladding
marine plywood 15 mm
- vapor barrier
polyethylene foil
- load-bearing
wooden structure 120x60 mm
- thermal insulation (between studs)
mineral wool 120 mm
- sheathing board
OSB board 15 mm
- wind barrier
breathable waterproof membrane
- ventilation cavity
battens 30x40 mm
- exterior cladding
aluminium sheets 3 mm

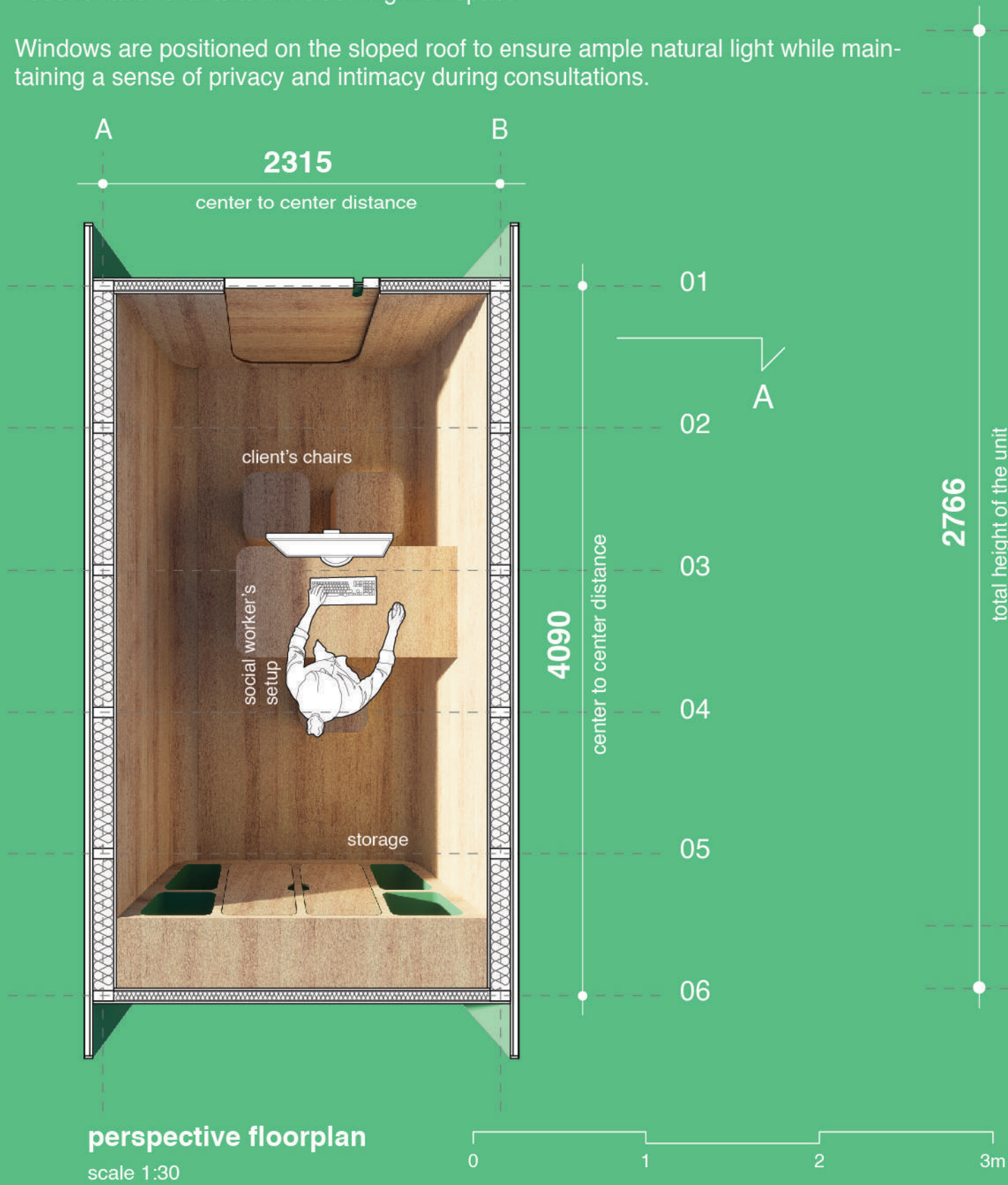
epoxy coating
(floor and walls of the toilet unit are coated in epoxy to provide waterproofing; minimum height of epoxy coating on walls 40cm)

Office Unit

The office unit is designed to accommodate social workers who visit the location as needed, providing them with the essential conditions for comfortable and effective work with clients.

The unit includes a desk, chairs, and shelving—everything a social worker might need for a functional and welcoming workspace.

Windows are positioned on the sloped roof to ensure ample natural light while maintaining a sense of privacy and intimacy during consultations.



perspective section A-A

scale 1:15

- exterior cladding
aluminium sheets 3 mm
- ventilation cavity
battens 30x40 mm
- wind barrier
breathable waterproof membrane
- sheating board
OSB board 15 mm
- thermal insulation (between studs)
mineral wool 120 mm
- load-bearing
wooden structure 120x60 mm
- vapor barrier
polyethylene foil
- inner cladding
plywood 15 mm



Kitchenette Unit

exterior cladding
aluminium sheets 3 mm

ventilation cavity
battens 30x40 mm

wind barrier
breathable waterproof membrane

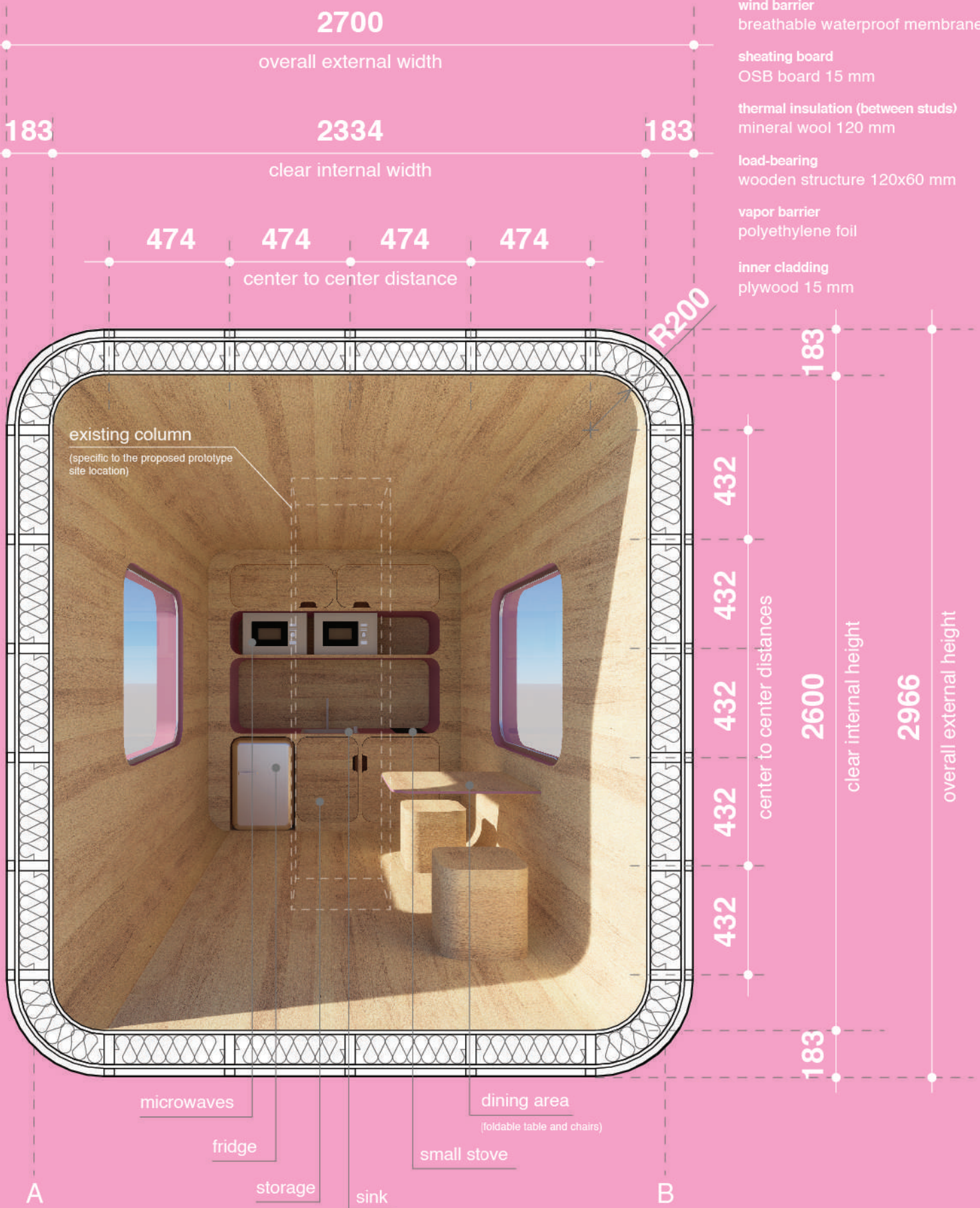
sheathing board
OSB board 15 mm

thermal insulation (between studs)
mineral wool 120 mm

load-bearing
wooden structure 120x60 mm

vapor barrier
polyethylene foil

inner cladding
plywood 15 mm



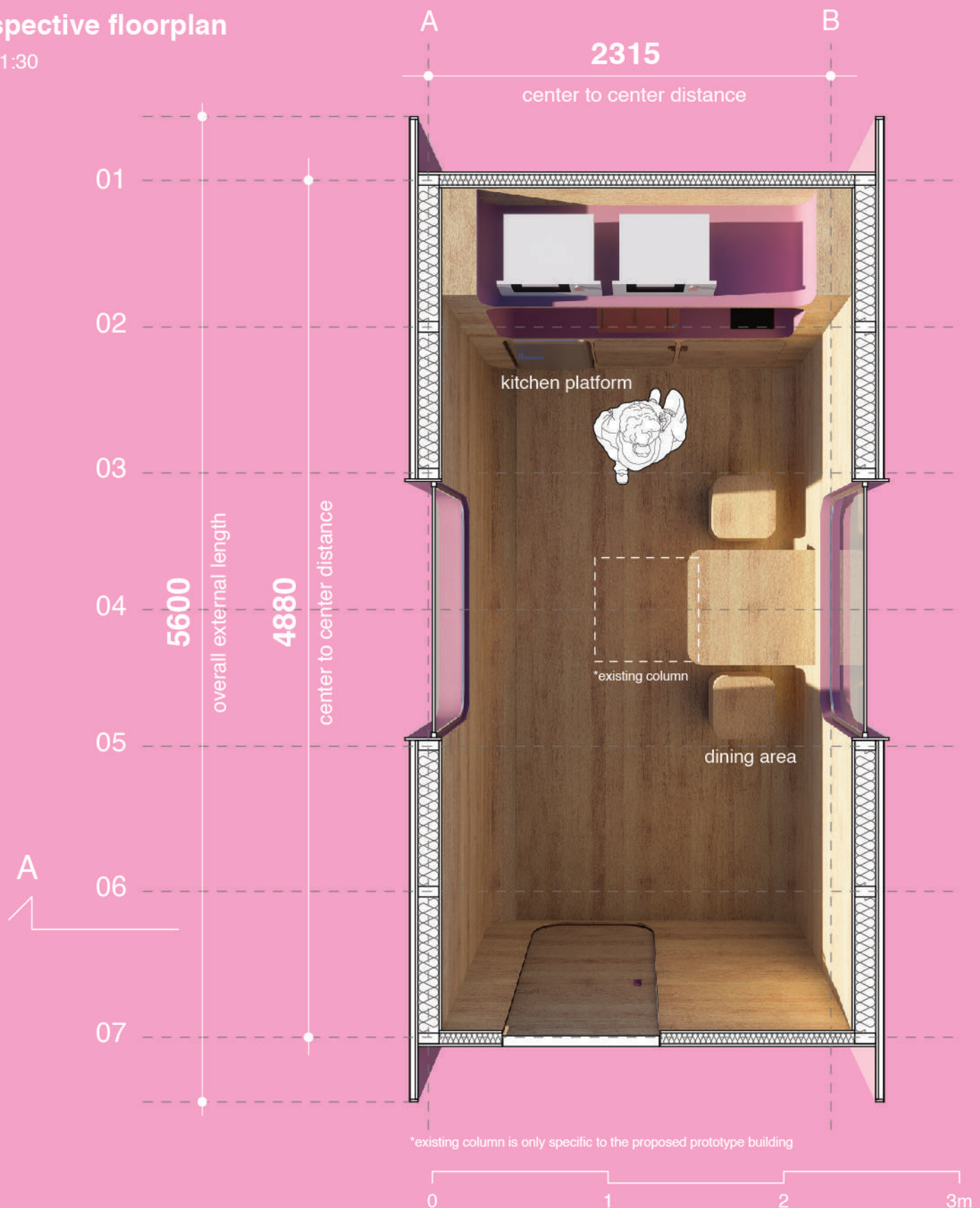
perspective section A-A

scale 1:20



perspective floorplan

scale 1:30



Since most people experiencing homelessness obtain food through donations, purchases, or food banks, a full kitchen is often unnecessary. For their needs, a small kitchenette is more than sufficient.

The kitchenette is equipped with a microwave, a hot plate, a sink, a small refrigerator, and storage space. In addition, there is a dining area with a foldable table and two chairs.

Two opposing windows provide effective cross-ventilation, ensuring the space remains well-aired and comfortable.

Doc / Vet Unit

The doctor and veterinarian units are intended for occasional use when medical professionals visit the site. Since people experiencing homelessness often lack access to healthcare due to not having insurance, it is essential to bring medical support directly to them. Similarly, many of them have pets, so providing access to veterinary care is equally important.

Both the doctor and veterinarian units share the same layout and are equipped with only the most essential elements for basic medical examinations. This includes a foldable examination bed, a sink, a desk with chairs, and shelving. The only difference is that in the veterinary unit, the bed is designed for animals instead of people.

To ensure privacy while maintaining natural light, a single window is placed on the sloped roof, allowing sunlight to enter without compromising discretion.

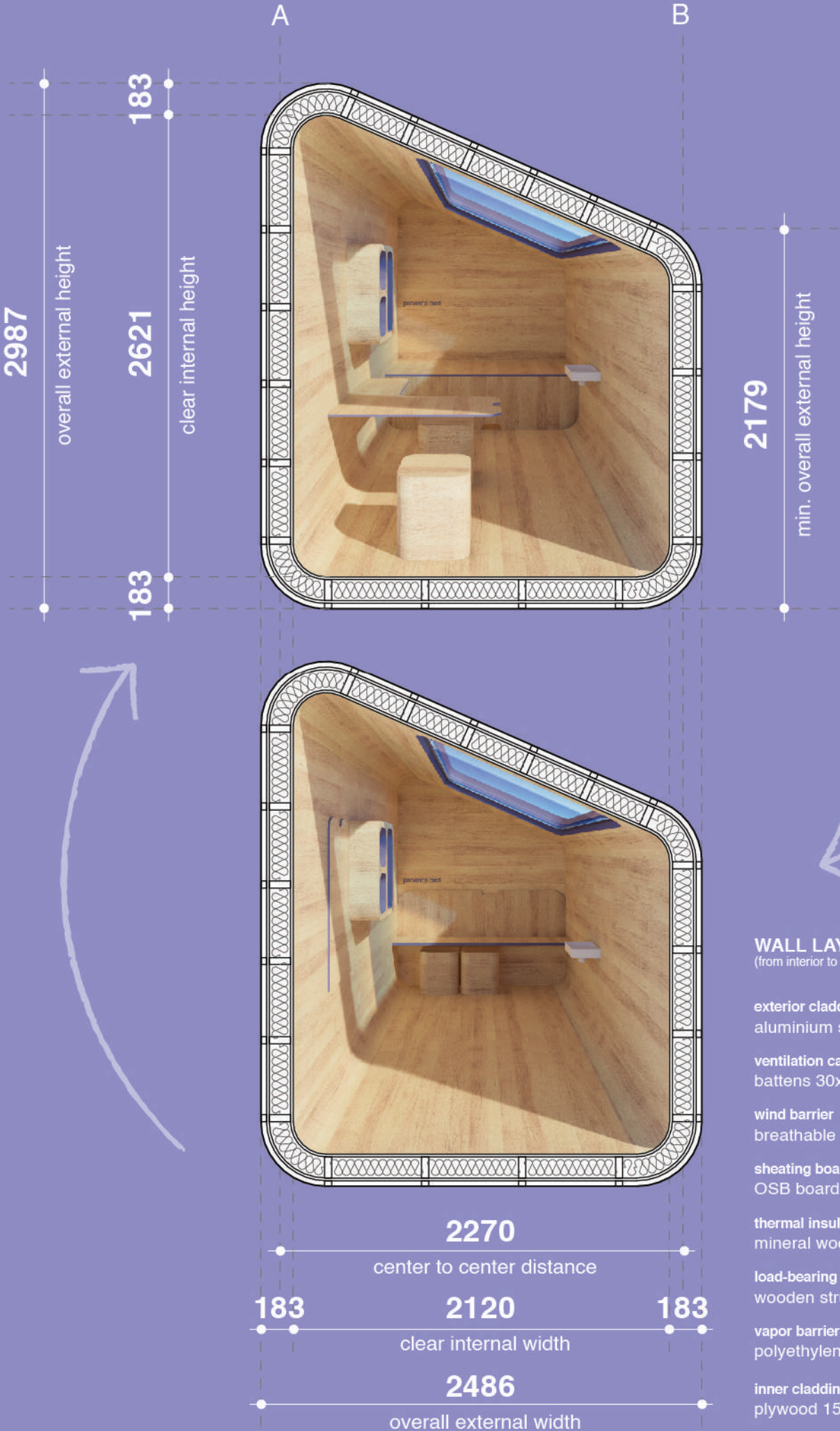


perspective floorplan

scale 1:30

perspective section A-A

scale 1:30



WALL LAYERS
(from interior to exterior)

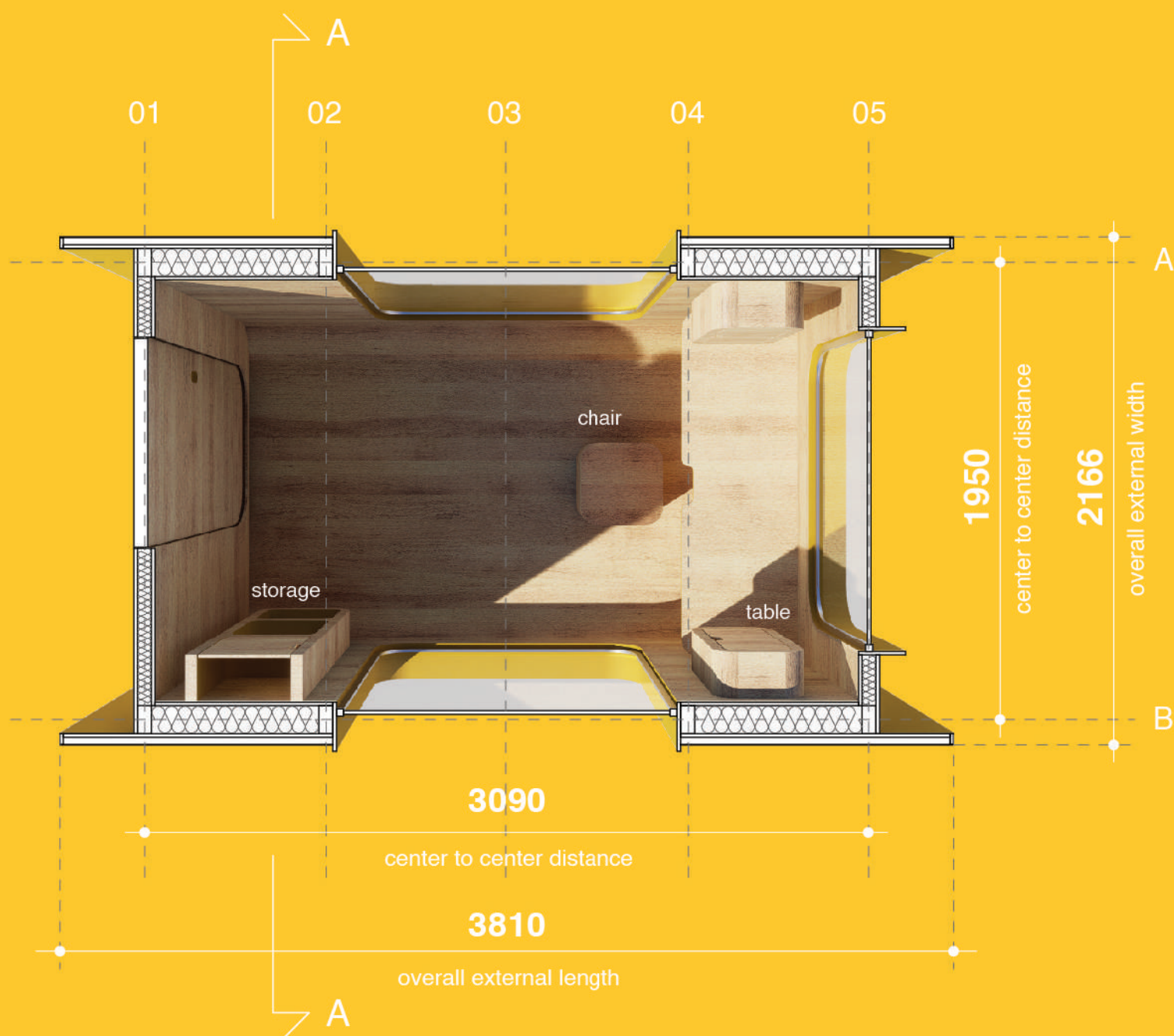
- exterior cladding
aluminium sheets 3 mm
- ventilation cavity
battens 30x40 mm
- wind barrier
breathable waterproof membrane
- sheathing board
OSB board 15 mm
- thermal insulation (between studs)
mineral wool 120 mm
- load-bearing
wooden structure 120x60 mm
- vapor barrier
polyethylene foil
- inner cladding
plywood 15 mm

Security Unit

The security unit is the smallest of all the units, as it is required to fulfill the fewest functions, making a large space unnecessary.

It is designed with large windows on three of its four walls, allowing maximum visibility of the surrounding area for the person on duty.

The interior is simply furnished with a desk, a chair, and shelving units.



perspective floorplan

scale 1:25



exterior cladding
aluminium sheets 3 mm

ventilation cavity
battens 30x40 mm

wind barrier
breathable waterproof membrane

sheating board
OSB board 15 mm

thermal insulation (between studs)
mineral wool 120 mm

load-bearing
wooden structure 120x60 mm

vapor barrier
polyethylene foil

inner cladding
plywood 15 mm

WALL LAYERS (from interior to exterior)

2166

overall external width

183

1800

183

clear internal width

453

453

453

center to center distance

R200

183

432

432

432

432

432

clear internal height

center to center distance

183

2966

overall external height

2600

A

B

perspective section A-A

scale 1:20

0

1

2m

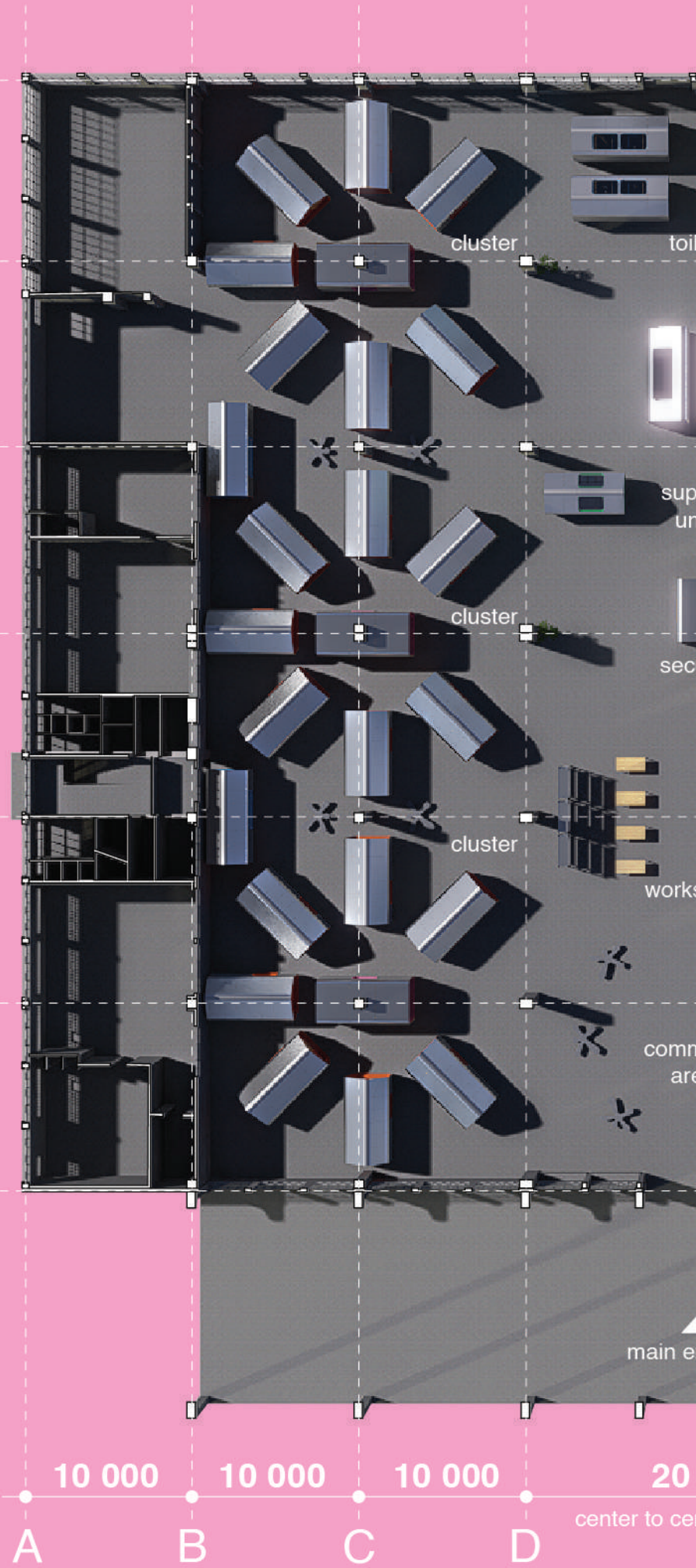
05

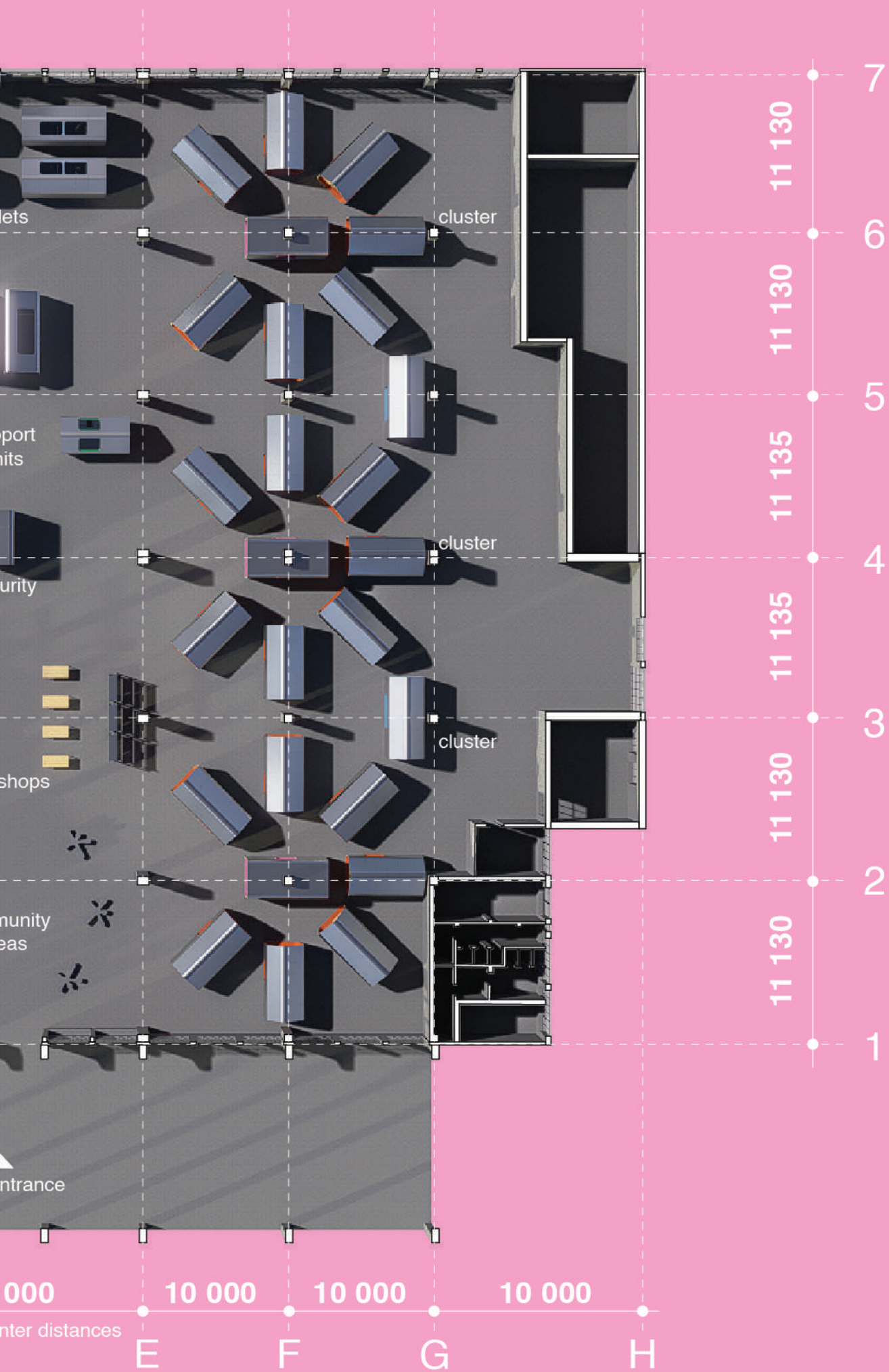
Strategy Prototype

Strategy Prototype

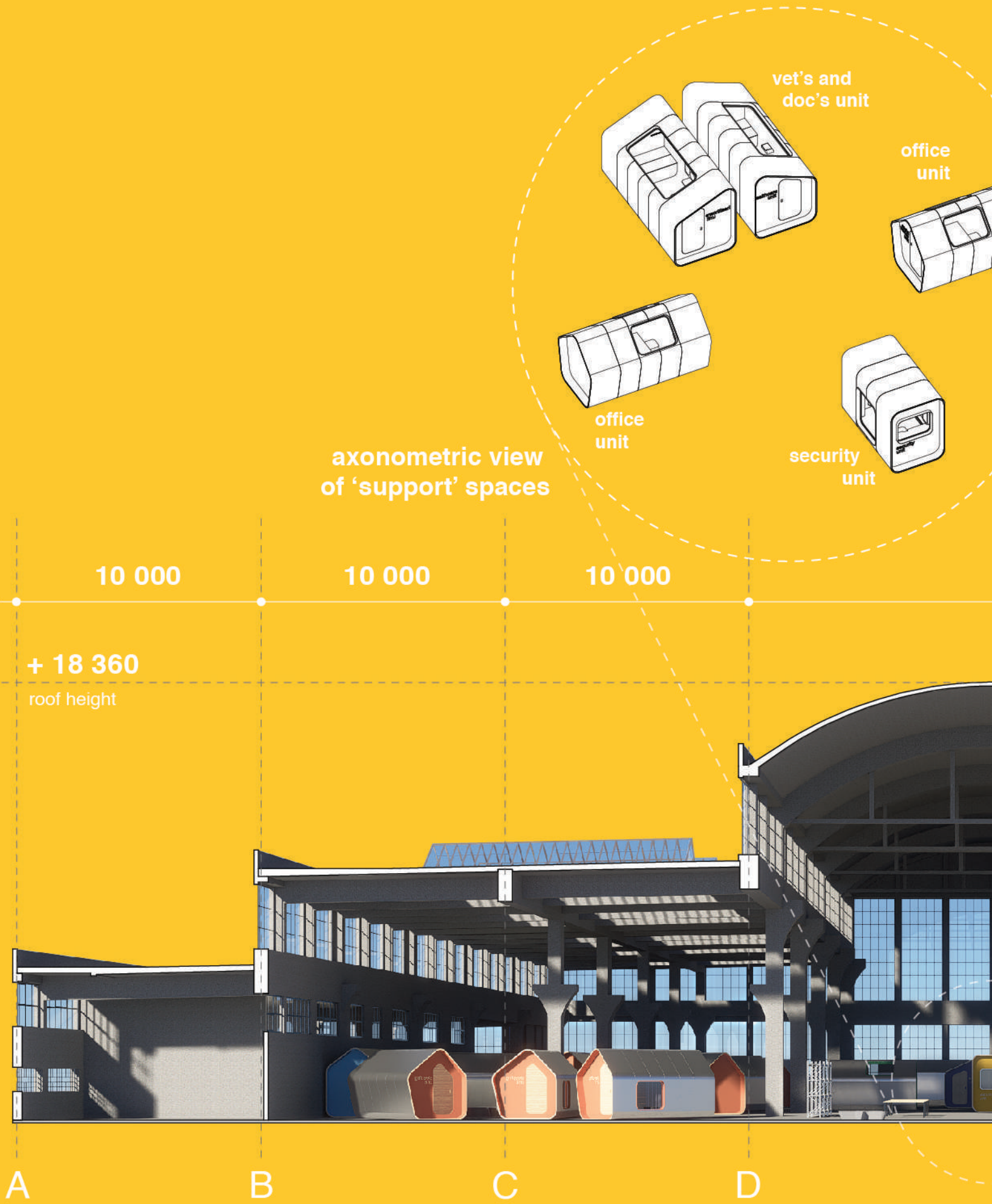
perspective floorplan

scale 1:350

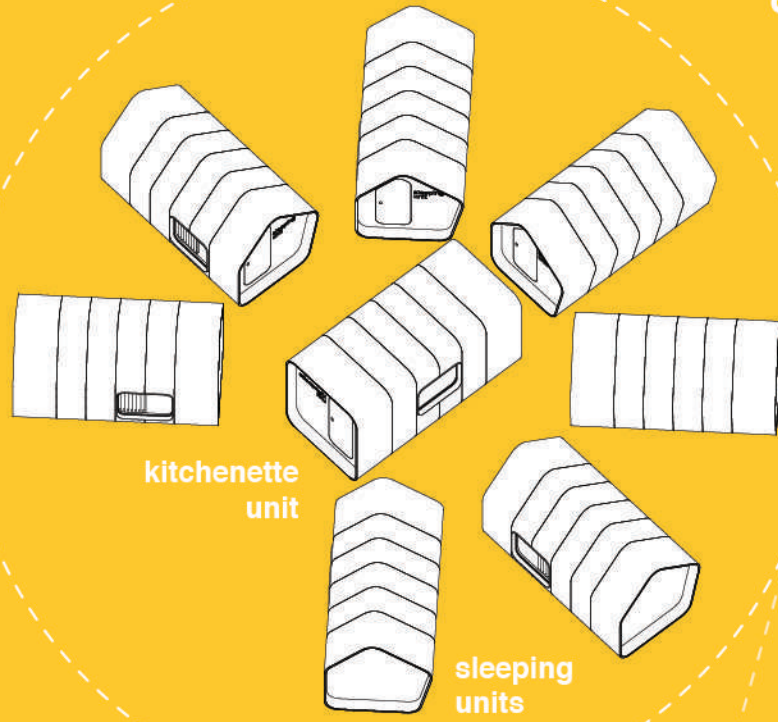




Strategy Prototype



axonometric view
of a cluster



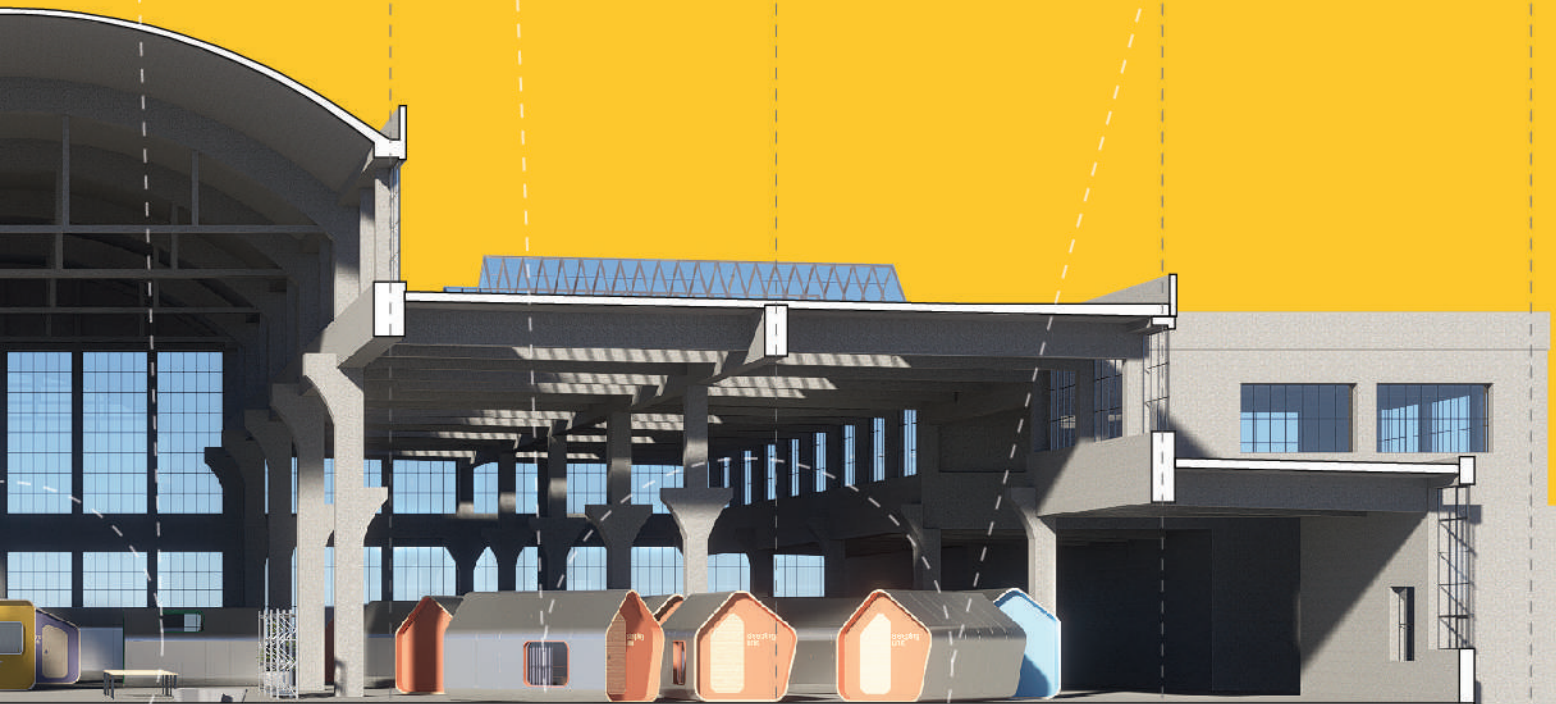
20 000

10 000

10 000

10 000

center to center distances



E

F

G

H

0

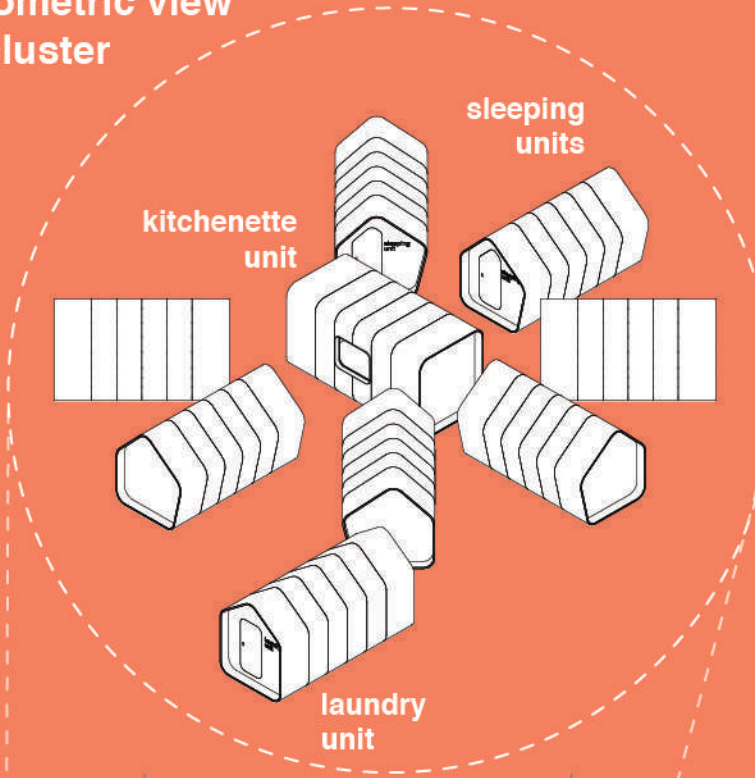
10

20

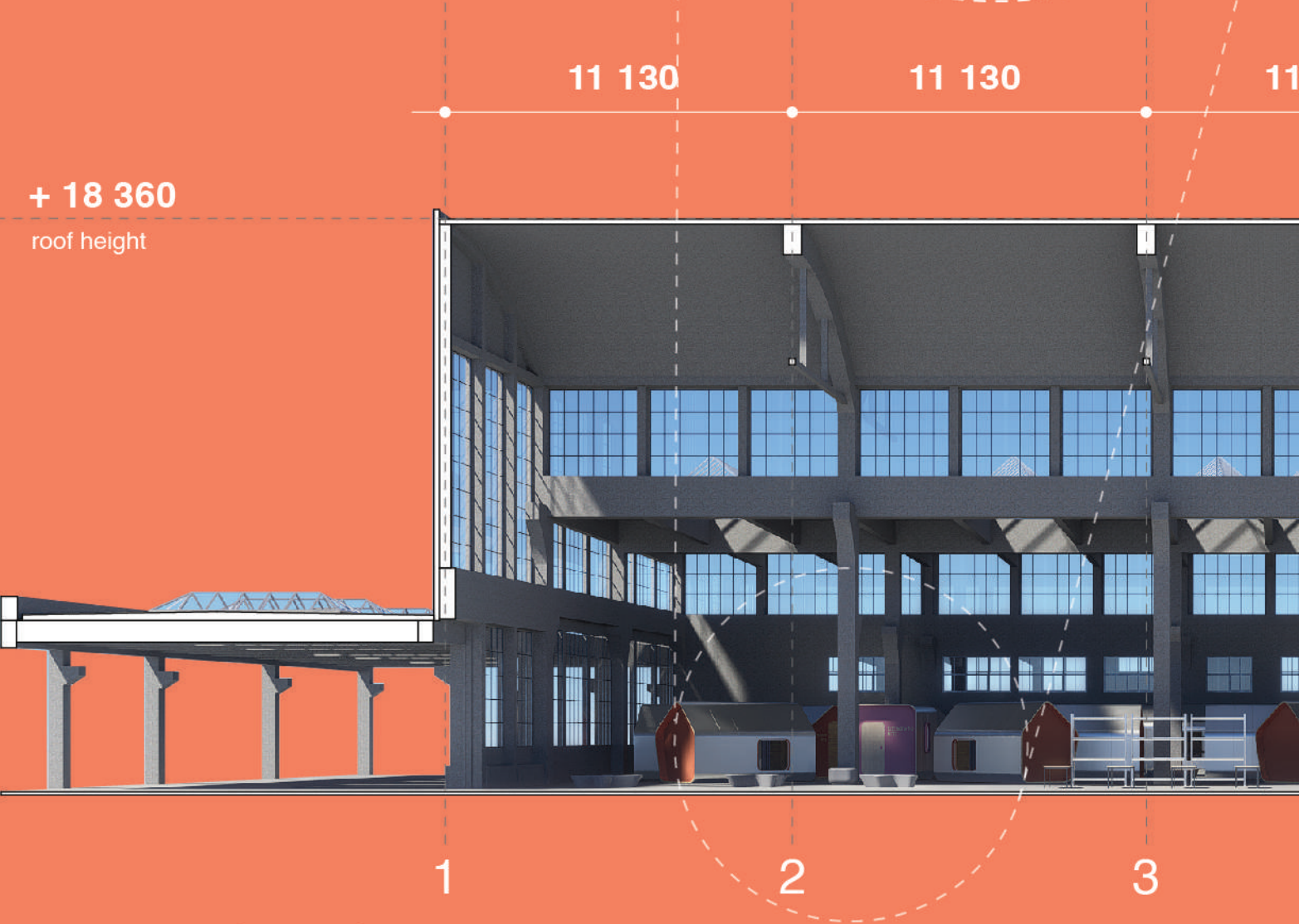
30m

Strategy Prototype

axonometric view
of a cluster



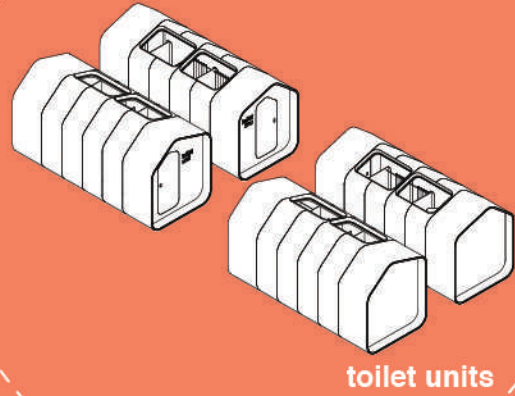
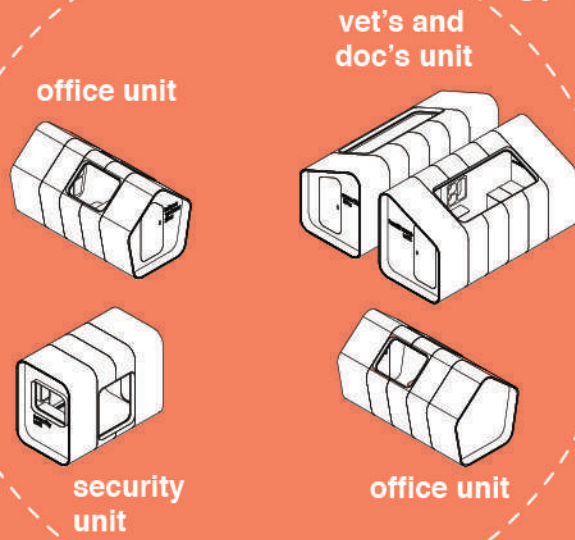
+ 18 360
roof height



perspective section

axonometric view
of 'support' spaces

axonometric view
of hygiene spaces



135

11 135

11 130

11 130

center to center distances



4

5

6

7

0

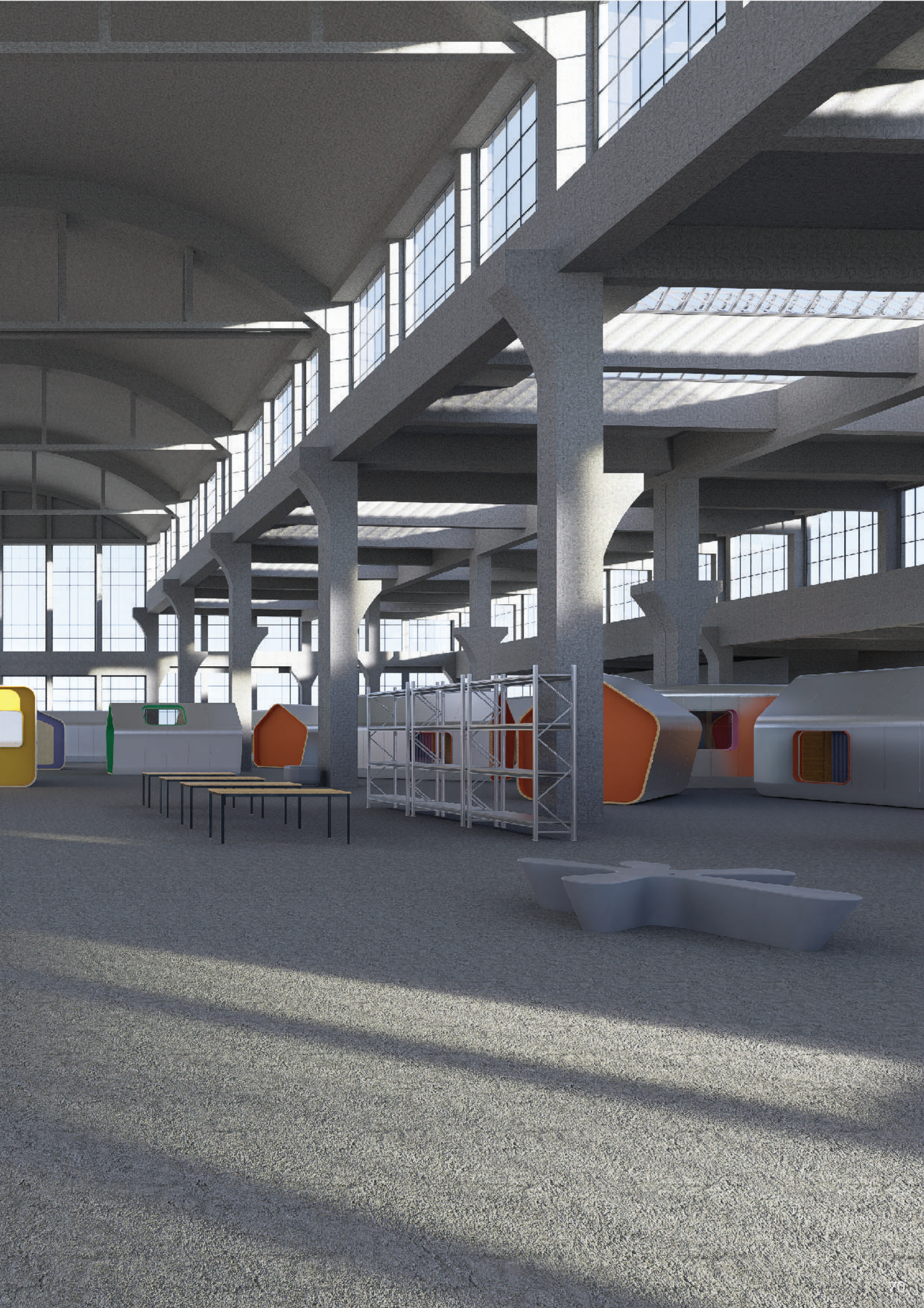
10

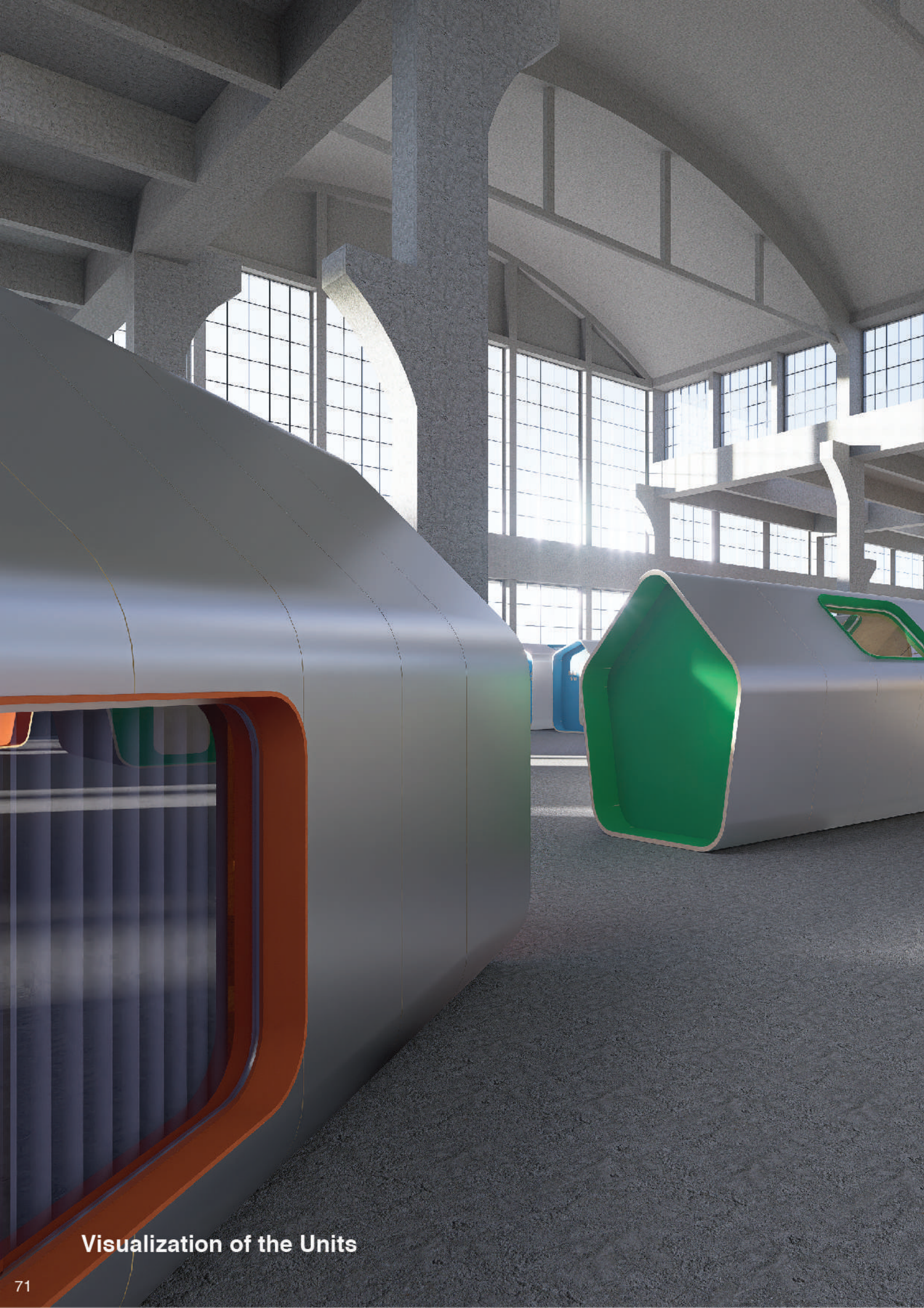
20

30m

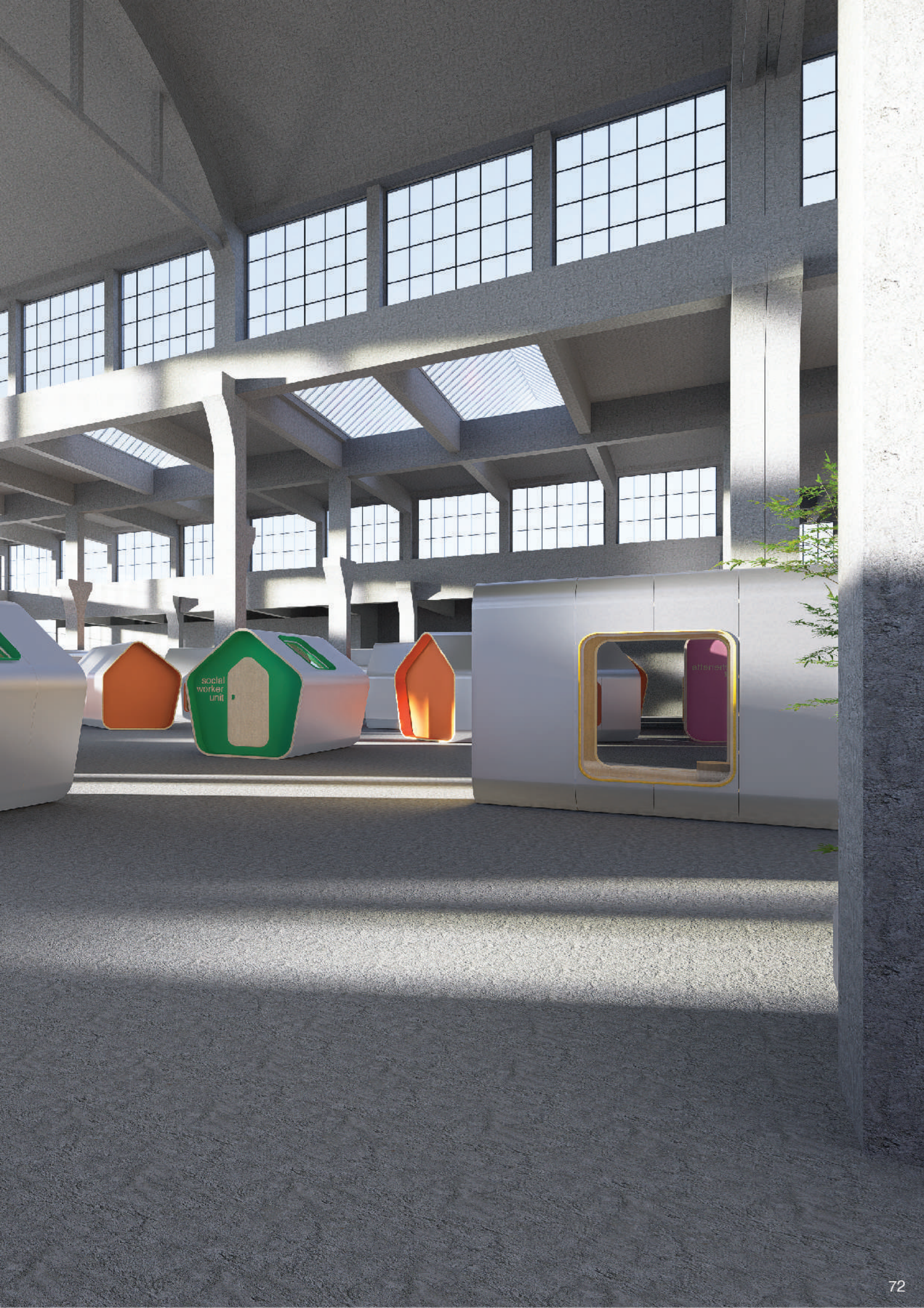


Visualization of the Central Area



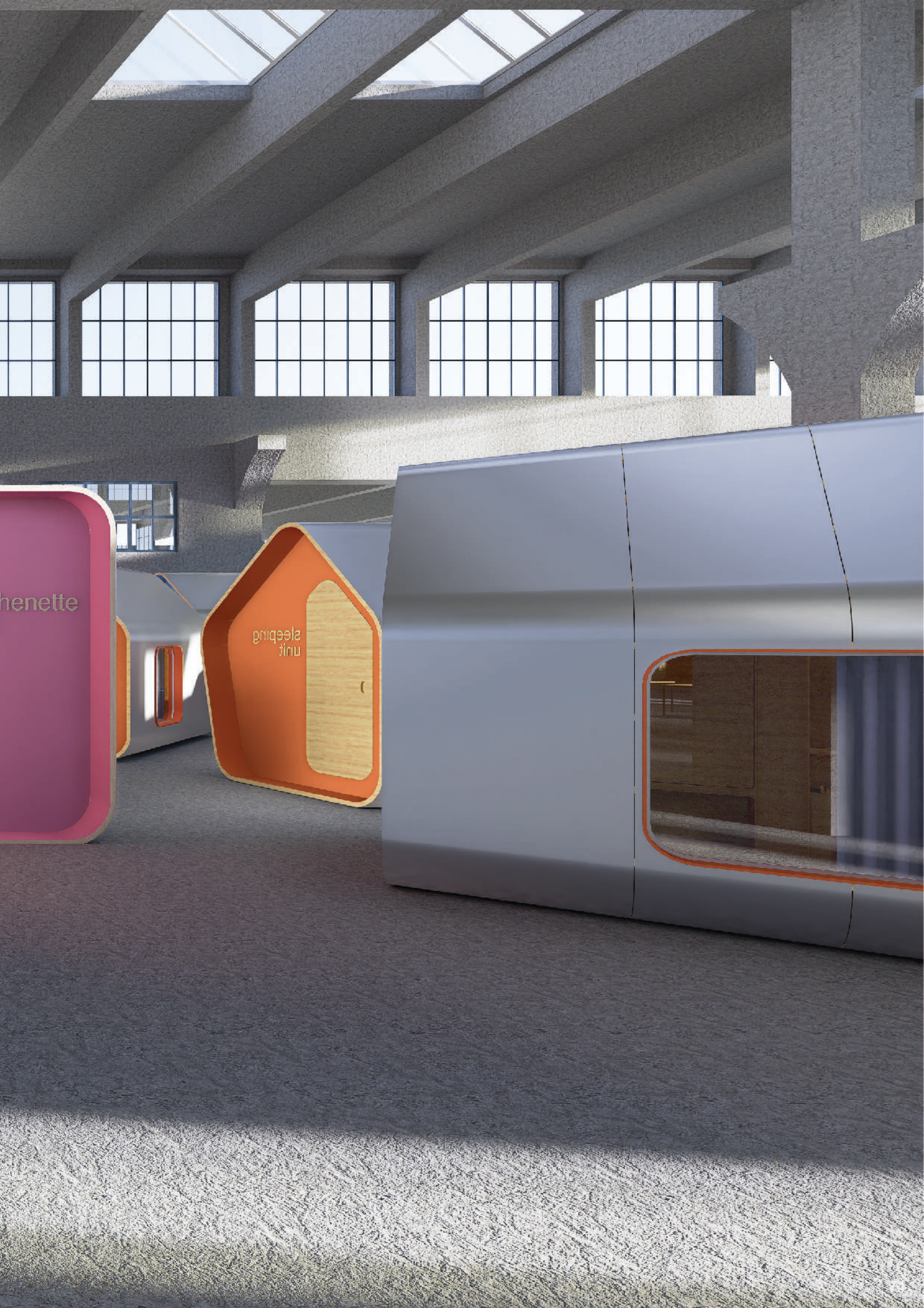


Visualization of the Units





Visualization of the Cluster



henette

sleeping
unit



Czech Technical University in Prague, Faculty of Architecture

DIPLOMA PROJECT APPLICATION FORM

Name and Surname: Nadja Mladenovic

Date of Birth: 09.10.1999

Academic Year / Semester: 2024/25 Summer Semester

Department Number / Name: 15166 - Department of Architectural Modelling

Diploma Work / Diploma Project Supervisor: prof. Dr. Henri Hubertus Achten

Diploma Work / Diploma Project Theme – title in English language:

Architectural Intervention to combat Homelessness in Prague

Signature of the Diploma Work / Diploma Project Supervisor:

The Student's Declaration:

I declare that I have fulfilled all the diploma work / diploma project initiation requirements stipulated by the "Study Plan" and "Study Rules" at the Faculty of Architecture, CTU in Prague.

In Prague on 12.02.2025.

Signature of the Student



Czech Technical University in Prague, Faculty of Architecture

ASSIGNMENT of the Diploma project

Master degree

Date of Birth: 09.10.1999.

Academic Year / Semester: 2024/25 Summer Semester

Department Number / Name: 15166 - Department of Architectural Modelling

Diploma Project Tutor: prof. Dr. Henri Hubertus Achten

Diploma Project Theme:

See the Application Form for DP

Assignment of the Diploma Project:

1/description of the project assignment and the expected solution objective

2/description of the final result, outputs and elaboration scales

3/list of further agreed-upon parts of the project (model)

To this list further attachments can be added according if necessary.

1/ Design of temporary shelters, hygiene facilities and other supporting structures needed to combat homelessness.

2/ Plans, sections and details of modular temporary shelters and hygiene facilities (scale 1:50-1:200).
Deployment strategy of the design elements (diagrams and plan of Prague).

3/ Physical model of modular temporary shelters and hygiene facilities (scale to be determined with Diploma Project Supervisor).

Date and Signature of the Student: 12.02.2025. *Hut...*

Date and Signature of the Diploma Project Tutor: *Henri Hubertus Achten* 17.2.2025

Date and Signature of the Dean of FA CTU: *J. Hlavinka*



CZECH TECHNICAL UNIVERSITY IN PRAGUE FACULTY OF ARCHITECTURE

AUTOR, DIPLOMANT: **NADA MLADENOVIC**
AUTHOR OF THE DIPLOMA WORK / DIPLOMA PROJECT
Academic Year **2024/25**, **LS** Semester

TITLE OF THE DIPLOMA WORK / DIPLOMA PROJECT **HOMELESS MORE**
(IN CZECH LANGUAGE) **ARCHITEKTONICKÁ ŘEŠENÍ A STRATEGIE PRO BOJ S BEZDOMOVCESTVÍM V PRAZE**
TITLE OF THE DIPLOMA WORK / DIPLOMA PROJECT **HOMELESS MORE**
(IN ENGLISH LANGUAGE) **ARCHITECTURAL SOLUTIONS AND STRATEGY FOR COMBATING HOMELESSNESS IN PRAGUE**
LANGUAGE OF THE DIPLOMA WORK / DIPLOMA PROJECT: **ENGLISH**

Diploma Work
/ Diploma
Project
Supervisor

Ústav: Department **15116**
PROF. DR. HENRI HUBERTUS ACHTEN

Diploma Work
/ Diploma
Project
Opponent

ROZÁLIE KAŠPAROVÁ

Key Words
(Czech)

BEZDOMOVCESTVÍ, STRATEGIE

Annotation
(Czech)

**PŘEDMĚTÉM PROJEKTU BYLO NAURČENO
STRATEGII, KTERÁ OBSAHUJE NOVOVÁ
ARCHITEKTONICKÁ ŘEŠENÍ PRO BOJ S
BEZDOMOVCESTVÍM SE ZAMĚŘENÍM NA
VYUŽITÍ BROWNFIELDŮ V PRAZE**

Annotation
(English)

**SCOPE OF THE PROJECT WAS DESIGNING A
STRATEGY WHICH CONTAINS OF EMERGENCY
ARCHITECTURAL SOLUTIONS FOR COMBATING
HOMELESSNESS FOCUSING ON THE UTILIZATION
OF BROWNFIELDS IN PRAGUE**

The Author's Declaration

I declare that I have elaborated the submitted diploma work / diploma project independently and that I have stated all the used information sources in coherence with the "Methodological Instruction for Ethical Preparation of University Final Works".

(The complete text of the methodological instruction is available for download on <http://www.fa.cvut.cz/En>)

In Prague on **25.05.2025.**  Signature of the Diploma Project Author

This document is an essential and obligatory part of the diploma project / portfolio / CD.

