

# ***THE TIME-LINE***

A multi-phase project in Friedrichshain, Berlin that responds to urban changes.

**STUDIO:** PUBLIC BUILDING  
**THEME:** PUBLIC CONDENSER

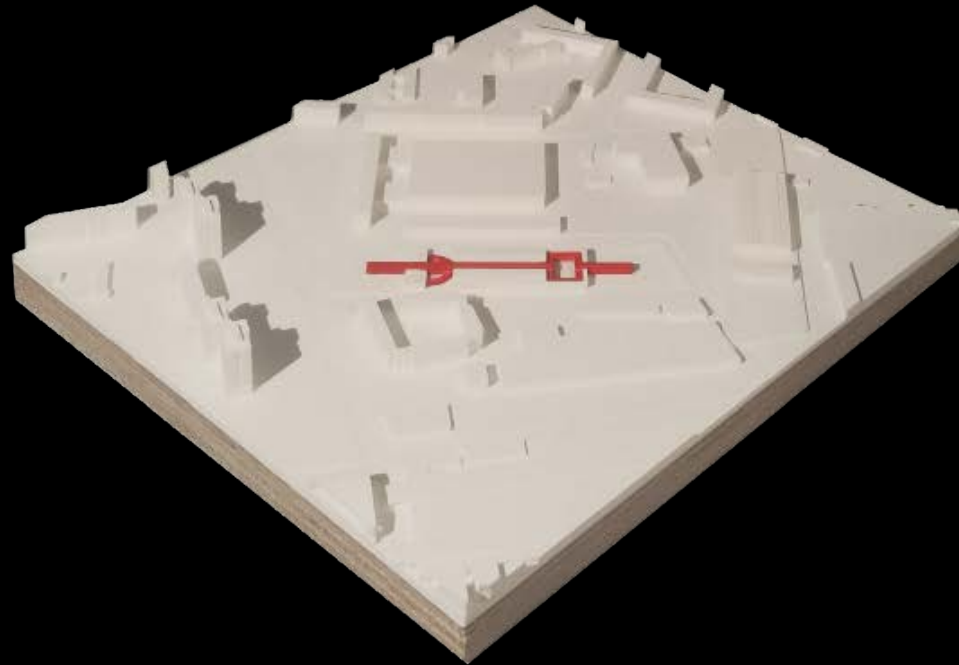
**MENTORS:**  
HENK BULTSTRA  
STEFANO CORBO  
FLORIAN ECKHARD  
NATHALIE DE VRIES

**EXAMINER:**  
RIENTS DIJKSTRA

**GRADUATION REPORT | MAX MEERE | 4587006**

29/6/2023

INTRODUCTION  
**TEXT**



The graduation project 'Time-Line' relates to the master track Architecture since it focuses on technical, spatial and social challenges within the built environment. The complexity of the project is in the re-use and adaptive re-use of the context, wherein a multi-phase system is designed to give answer to changing societal needs. This is in line with former studios complex projects and MEGA, where an integrated design has been made by incorporating all stake holders and disciplines. Also it relates to the Public Building studio topic commons. The project focusses on the commons of a big number of people separated in two main groups, original and new inhabitants. This division is relevant because of the gentrification process. Since this process is temporary, consisting of different phases, the project aims to create value and be functional in all phases by changing over time.

This metabolic approach gives answer to the four thematic pillars of the Public Building studio. It creates multiplicity, hybridity, resilience and sustainability as a foundation for a lasting, meaningful and valuable building.

The metabolic philosophy is a more often used concept, which has proved its relevance with different ideologies behind it. However, using it to respond to the fast-paced process of gentrification in Berlin to create a healthier and more liveable city for inhabitants, makes it into a new relevant concept worth exploring further in the larger social, professional and scientific field.

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**A**

GRADUATION PLAN

# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

## Personal information

Name : Max René Meere  
Student number: 4587006

## Studio

Name / Theme Public Building

Main mentor	Henk Bultstra	Architectural Design
Second mentor	Florian Eckardt	Technical Building Design
Third mentor	Stefano Corbo	Theory and Delineation

## Argumentation of choice of the studio

In an era where changes follow up on each other at a high pace and social separation is a main topic, public buildings can provide spatial solutions to create healthy and sustainable societies in ever-evolving cities. The Commons are a fundamental starting point to create spaces that can accommodate a dense diversity in people, processes and functions. The innovative and explorative character towards the Public realm is the reason why I have chosen the Public Building studio as my Graduation Studio.

## Graduation project

Title of the graduation project:

The Time-Line

A multi-phase project in Friedrichshain, Berlin that responds to urban changes.

## Goal

Location: Friedrichshain, Berlin, Germany

The posed problem:

Gentrification is happening throughout Berlin. As Jane Jacobs said: "As long as gentrification proceeds gently, with moderation, it tends to continue to be beneficial, and diversifying.". Gentrification in Berlin was promoted by the government after the city's unification of the west and the east. The, on social theories based, housing market was introduced to the capitalistic market. Especially districts in East Berlin saw rent prices rise.

From then a gentrification trend has gone in a clock-wise movement through the inner-city districts (Holm,2013). In these districts different stages of gentrification can be observed from 'early pioneer gentrification' to 'super gentrification'. The last stage, as Jane Jacobs states, has an undiversified area as consequence.

Friedrichshain has undergone the pioneer phase of gentrification. Changes in social composition are observed in terms of the rising share of residents with high educational status (Krätke,2013). Also rents have risen and commercial bars and clubs have taken over the traditional corner pubs (Holm,2011). Nevertheless Friedrichshain shows diverse demographics with a rising number of inhabitants with a migration background and an increase in young people.

Gentrification in the districts of Berlin tends to cause isolation, social compartmentalization and lack of sense of belonging – felt by new and original district inhabitants. An unbalanced quality of life distribution emerges, which leads to unsustainable models of city growth.

## **Research questions**

How can the architecture of a public condenser as a multi-phase system respond to social and economic issues like gentrification in an ever changing environment?

How can the public realm contribute to the well-being of citizens?

How can existing structures be adapted to sustain new uses?

## **Design assignment in which these result.**

The concept design for P1 is explored by different design tools to formulate architectural ambitions in a design manifesto regarding the public condenser. The schematic design is made within the design framework of P1, consisting of architectural diagrams, plans, sections and physical models.

The chosen site for the project is a central point in Friedrichshain. It is surrounded by gentrified neighborhoods and is on the border of residential and commercial areas. On site there are three existing buildings. Because of sustainability considerations all three buildings will be partly re-used or adapted. From two of the buildings the flexible organized structure will be re-used. From the last building only the plattenbau façade elements will be re-used as temporary design elements. The whole plot will work as an urban corridor to connect function zones of the urban fabric. This will be divided in three moments aligned to their context: attract, connect and direct. Each moment holds different program components, enhancing the experience. The main structure connects all three moments and its program. This structure works as an architectural carrier where functions can be attached and removed over time. The metabolic character of the project gives answer to its changing surrounding needs over time.

## **Process**

### **Method description**

The Architectural research is done by the intertwining of design, survey, deep analyses of references, scientific research and theoretical research. The concept design is based on survey and theoretical research and is further explored by design. The design tools used to answer the question 'What is a public condenser of the 21st century?' are:

- Collage & montage
- Superposition & Superimposition
- Sample, Archive & Index
- Psychogeography
- Assemblage & Tectonics
- Affectation
- Intermodality

The project's composition, circulation and spatial relations are examined by design and understanding of architectural research and references. Elaborated studies on materialization, sustainability and circularity of the project will be done by feasibility studies and understanding of scientific research to materials.

## **Architectural projects:**

Archigram Plug-in City, Peter Cook, 1964

FRAC Dunkerque , Lacaton & Vassal, 2013, Dunkirk, France

Fun Palace, Cedric Price, 1961

Gare Maritime, Neutelings & Riedijk, 2020, Brussels, Belgium

Hedmark museum, Sverre Fehn, 1980, Hamar, Norway

Kabeldistrict, MEI architecten, 2024, Delft, Netherlands

De Meerpaal, Van Klingeren, 1965, Dronten, Netherlands

Nagakin Towers, Kisho Kurokawa, 1970, Tokyo, Japan

'Open Bouwen', John Habraken, 1961

Parc de la Villette, Bernard Tschumi, 1987, Paris, France

Spatial City Project, Yona Friedman, 1958

Villa Verde in Constitución, Elemental, 2010, Constitución, Chile

Your Rainbow Panorama, Studio Olafur Eliasson, 2011, Aarhus, Denmark

YueCheng Courtyard Kindergarten, MAD Architects, 2020, Beijing, China

## **Literature:**

Beekmans, J. (2014) Pop-Up City: City-making In a Fluid World. Laurence King Publishing.

Brummet, Q., & Reed, D. (2019). The effects of gentrification on the well-being and opportunity of original resident adults and children.

Florida, R. (2005). Cities and the creative class. Routledge.

Habraken, N. J. (2021). Supports: an alternative to mass housing. Routledge.

Habraken, N. J. (2000). The structure of the ordinary: form and control in the built environment. MIT press.

Holm, A., and A. Kuhn, (2011). Squatting and urban renewal: The inter-action of squatter movements and strategies of urban restructuring in Berlin. International Journal of Urban and Regional Research 35(3): 644–658.

Holm, A. (2013). Berlin's gentrification mainstream. The Berlin reader. A compendium of urban change and activism, 171-188. Jenks, M., & Jones, C. (Eds.). (2009). Dimensions of the sustainable city.

Krätke, S. (2013). City of talents? Berlin's regional economy, socio-spatial fabric and 'worst practice' urban governance. In The Berlin reader: A compendium on urban change and activism, ed. M. Bernt, B. Grell, and A. Holm. Bielefeld, Germany: Transcript Verlag, 131–154.

Nyilas, A. (2018). Beyond utopia: Japanese metabolism architecture and the birth of mythopia. Routledge.

Pallasmaa, J. (2012). The eyes of the skin: Architecture and the senses. John Wiley & Sons.

Slater, T. (2006). The eviction of critical perspectives from gentrification research. *International Journal of Urban and Regional Research* 30 (4), pp. 737–57.

Smith, G. S., & Thorpe, R. J. (2020). Gentrification: A Priority for Environmental Justice and Health Equity Research. *Ethnicity & Disease*, 30(3), 509–512. <https://www.jstor.org/stable/48668064>

Spence, C. (2020). Senses of place: architectural design for the multisensory mind. *Cognitive Research: Principles and Implications*, 5(1), 1-26.

Uytengaak, R. (2008). *Cities full of space: qualities of density*. 010 Publishers.

Wong, L. (2016). *Adaptive Reuse*. In *Adaptive Reuse*.

Wong, Liliane. (2023) *Adaptive Reuse in Architecture: A Typological Index*. Basel: Birkhauser.

## Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?
2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

The graduation project 'Time-Line' relates to the master track Architecture since it focuses on technical, spatial and social challenges within the built environment. The complexity of the project is in the re-use and adaptive re-use of the context, wherein a multi-phase system is designed to give answer to changing societal needs. This is in line with former studios complex projects and MEGA, where an integrated design has been made by incorporating all stake holders and disciplines. Also it relates to the Public Building studio topic commons. The project focusses on the commons of a big number of people separated in two main groups, original and new inhabitants. This division is relevant because of the gentrification process. Since this process is temporary, consisting of different phases, the project aims to create value and be functional in all phases by changing over time.

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The theory and delineation consisted of a series of lectures and assignments about design tools. These tools have proved themselves as great explore methods for Research and Design.

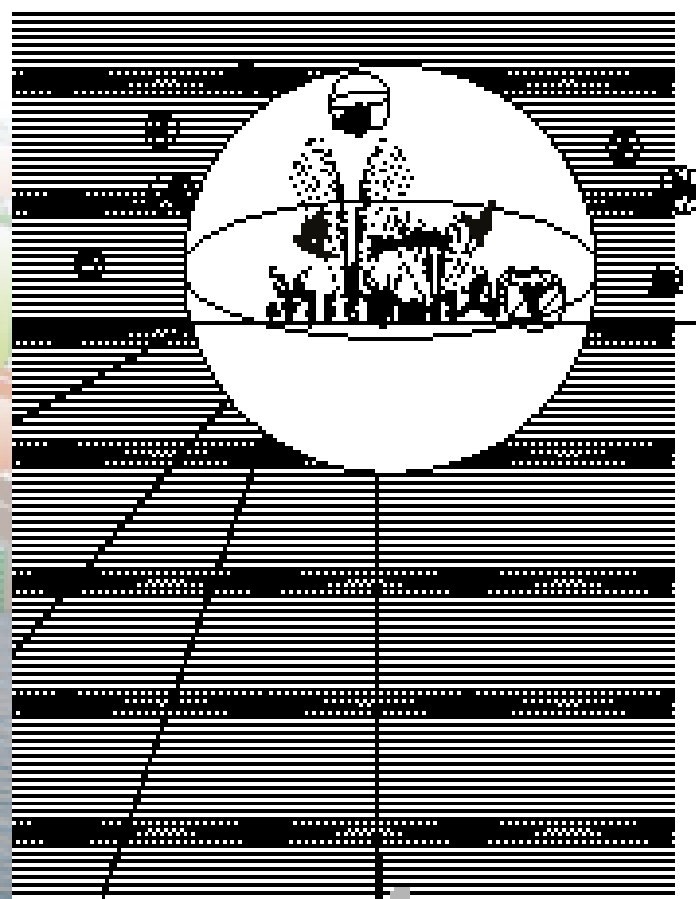
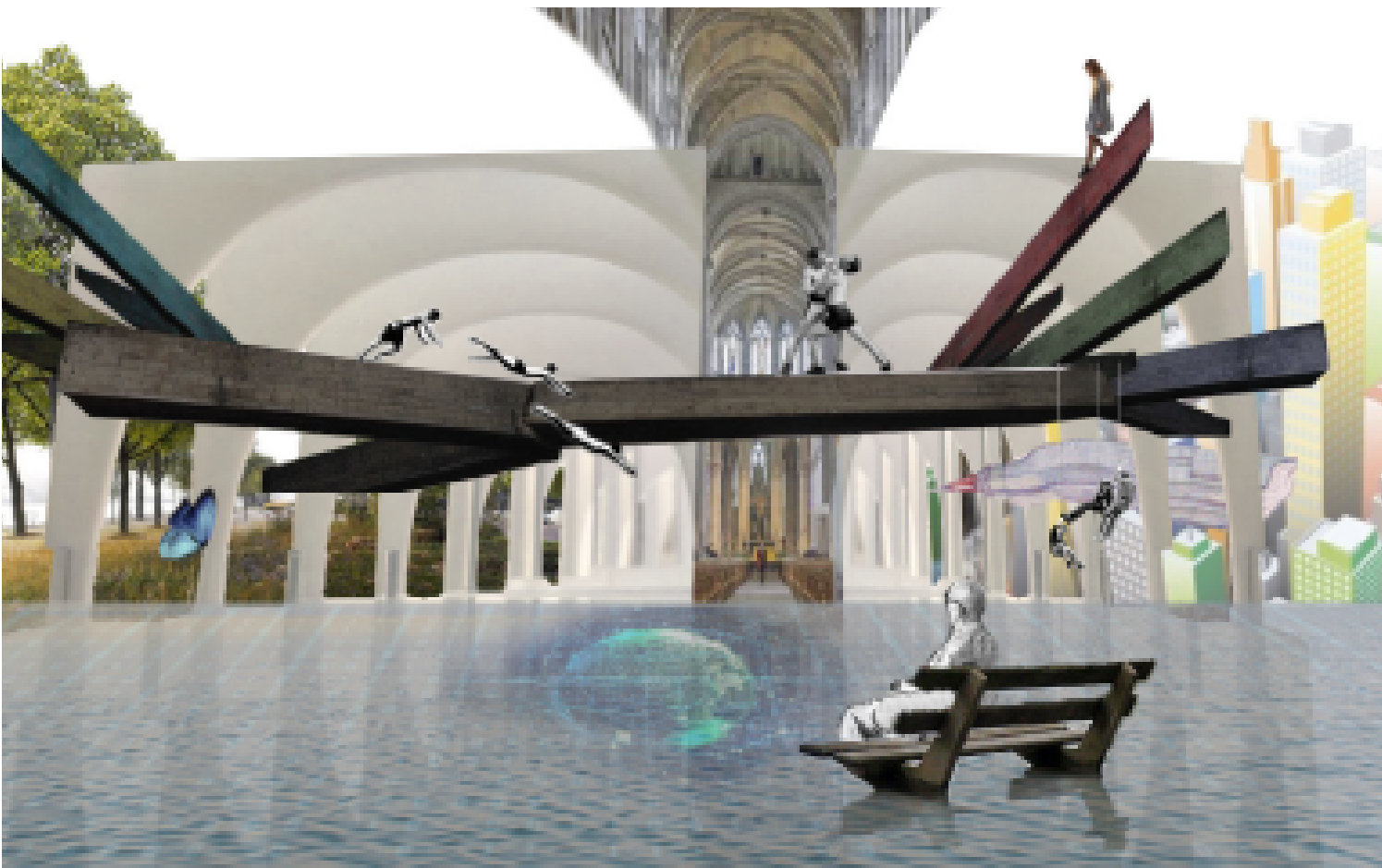
**B**

THEORY & DELINEATION



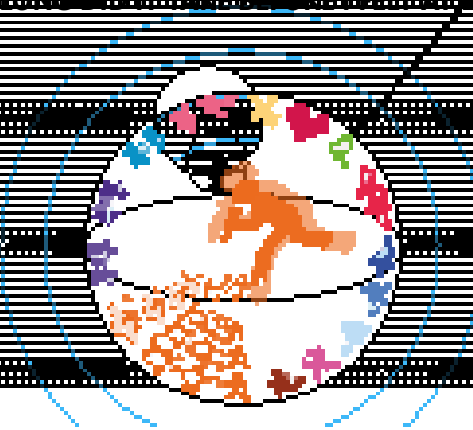
In the collage it becomes visible what my first thoughts about a public condenser of the future were. A building where different beliefs come together, have interaction and dive into the same problems aiming to understand each other.

A structure built in a way so that city and nature can spill over into it. The architect creates the framework, the rest will solidify over time.



SEA OF TIME

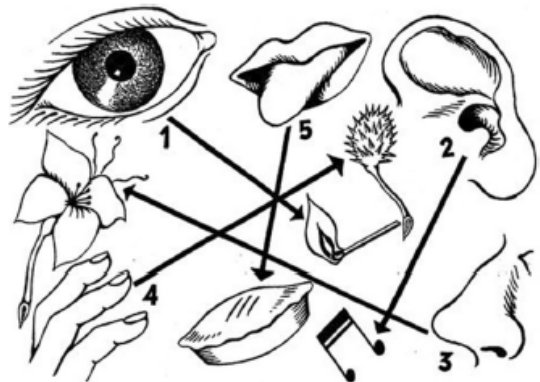
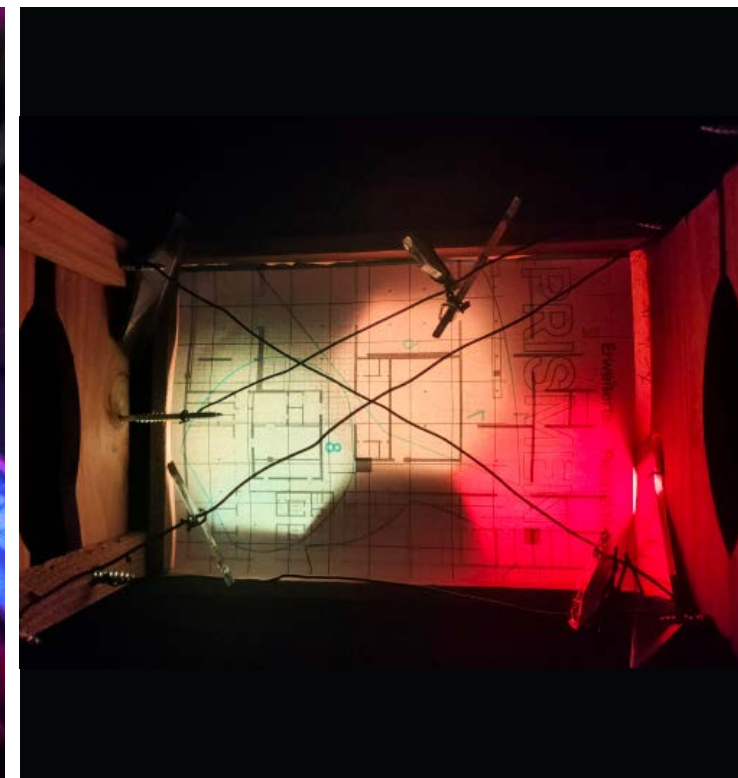
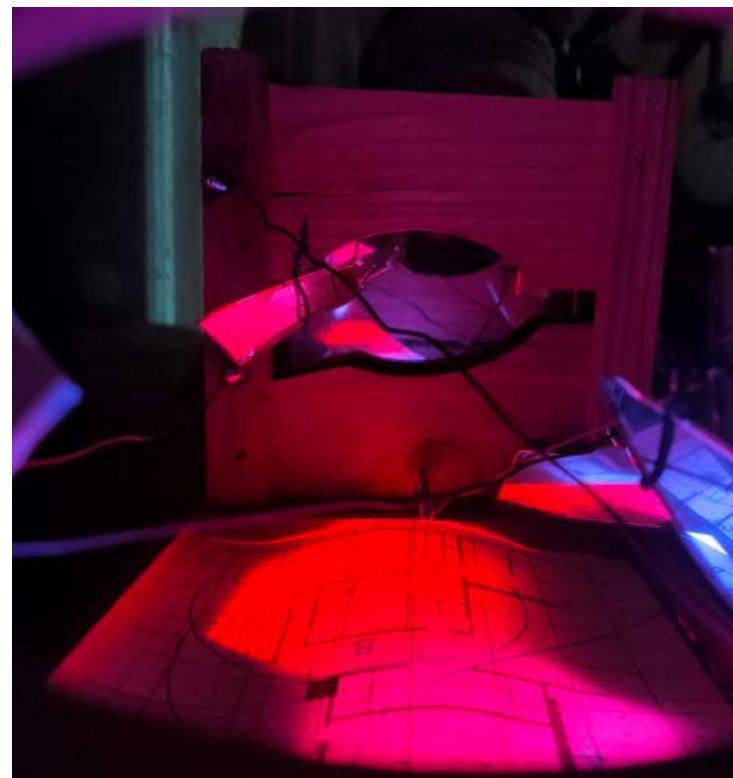
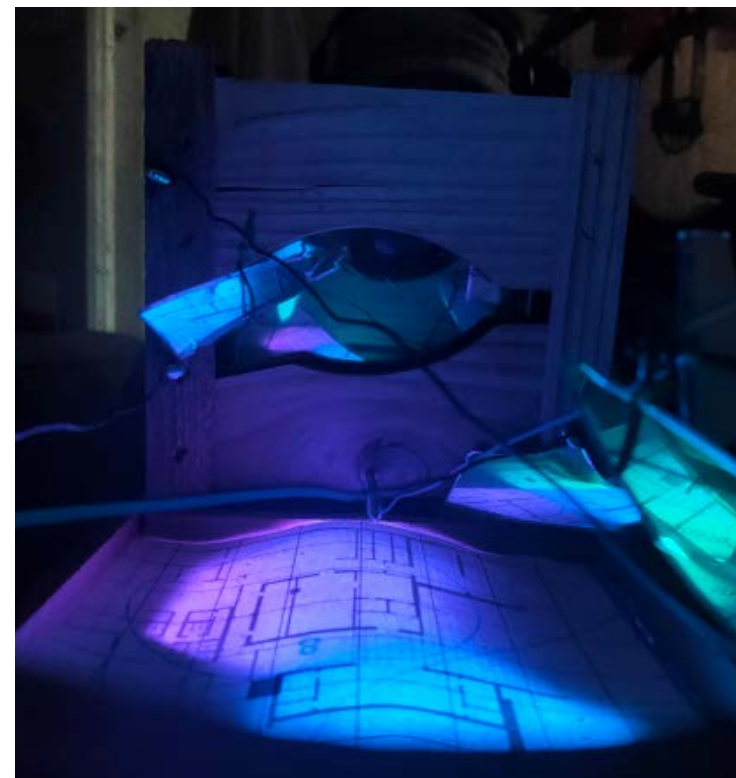
AND BELONGING HERE?



Extracting the people from the collage, a bubble of interaction is rising. In this bubble people of different smaller bubbles make fun together in the water.

During our trip in Berlin, I found different locations that i analyzed on the sense of belonging. In this sea of time i started to notice that I felt at home quickly at certain conditions. An important condition was the lack of intention, the spaces where random program popped-up.

Mauerpark for instance, where people on sundays started to play their own DJ tracks along the route, or where people started a karaoke and hundreds of people together defined the space.



**Fig. 1** Heilig (1992) ranked the order in which he believed our attention to be captured by the various senses. According to Heilig's rankings: vision, 70%; audition, 20%; olfaction, 5%; touch, 4%; and taste, 1%. Does the same hierarchy (and weighting) apply to our appreciation of architecture, one might wonder? And is attentional capture the most relevant metric anyway?

**T&D**

- rockit
- MAINTAINABLE, UNDEFINED SPACES. PEOPLE TOGETHER DEFINE THE SPACE.
- ROS HUMANISM.
- ATMOSPHERES, PETER ZUMTHOR.
- DIETLOF & SCOTIPIO
- MULTI SENSORY - IMMERSION
- OLAFUR ELIASSON (AARHUS)
- JANEY TURRELL
- ACTIVATE
- ARCHIGRAM, PLUG-IN CITY
- MAP + DIAGRAMS

• RE-USE  
• EXPERIENCE

**LITERATURE & PROJECTS**

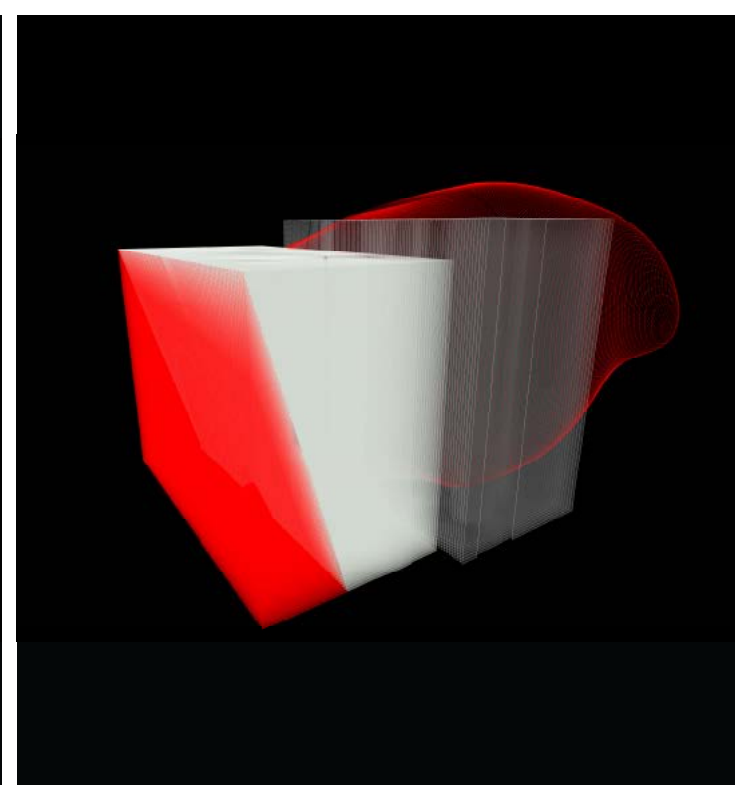
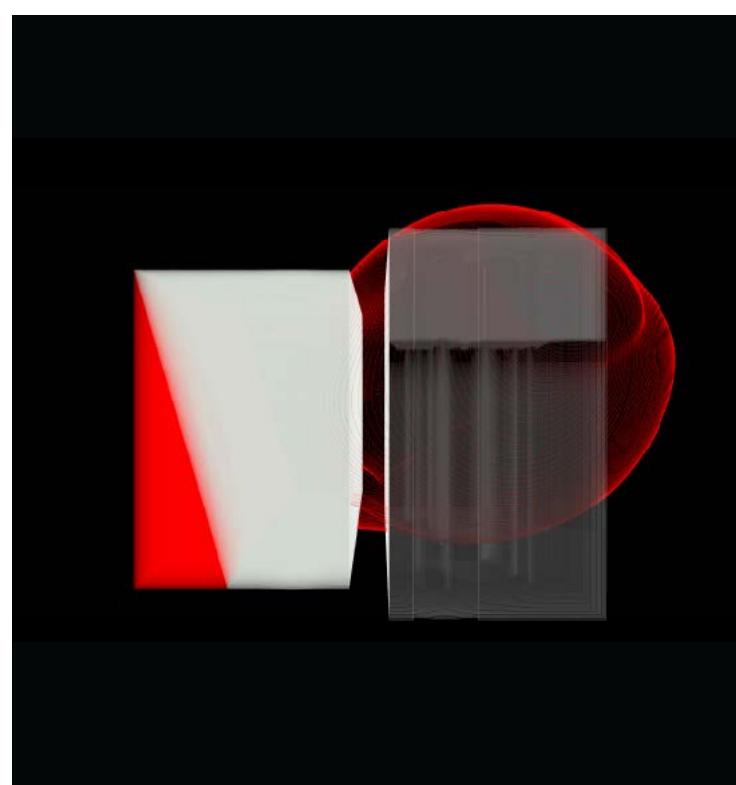
Archigram Plug-in City, Peter Cook, 1964

Your Rainbow Panorama, Studio Olafur Eliasson, 2011, Aarhus, Denmark

Pallasmaa, J. (2012). The eyes of the skin: Architecture and the senses. John Wiley & Sons.

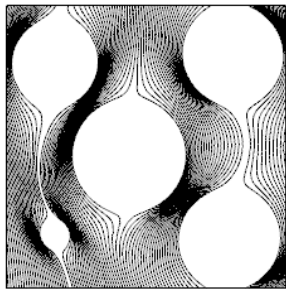
Spence, C. (2020). Senses of place: architectural design for the multisensory mind. Cognitive Research: Principles and Implications, 5(1), 1-26.

In my physical model I tried to catch this philosophy of the public condenser. When you enter the building and have a look around, you have your own interpretation. When you have a second look, different views become clear. Together an overview of the building becomes clear, where different programs and function change over time and make the floorplan clear. As you can see, the blank piece of paper shows the floorplan because of the light.

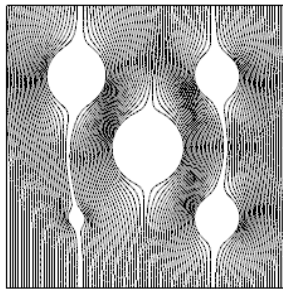


Abstract experiences

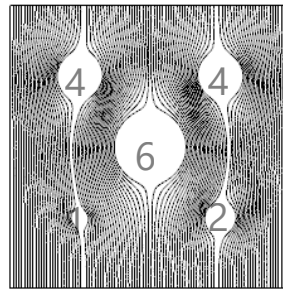
PARK



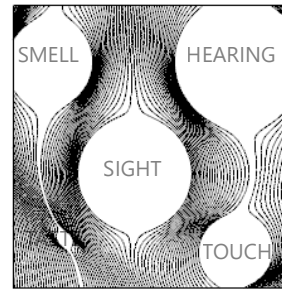
PLATTE BAU



OLD PAPER FACTORY



BERGHAIN



Experience extruded

Grasshopper script

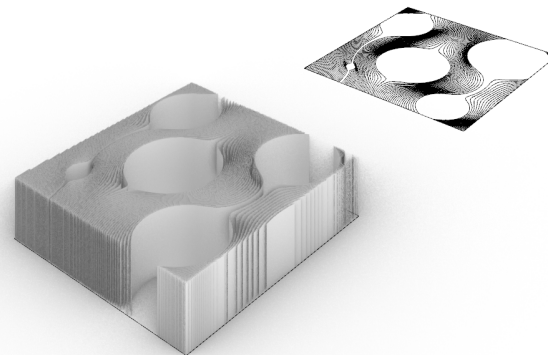
## The Narkomfin House

Architects: MOISEI GINZBURG and IGNATY MILINIS

Was constructed in 1930 for employees of the People's Commissariat of Finance. The house is a monument of Soviet constructivism.

The interior features two-level apartments, spacious entry halls and corridors, and a community terrace on the roof.

On the top story, the architect Nikolai Milutin built the first Soviet penthouse for his family, a total of 53 square meters.

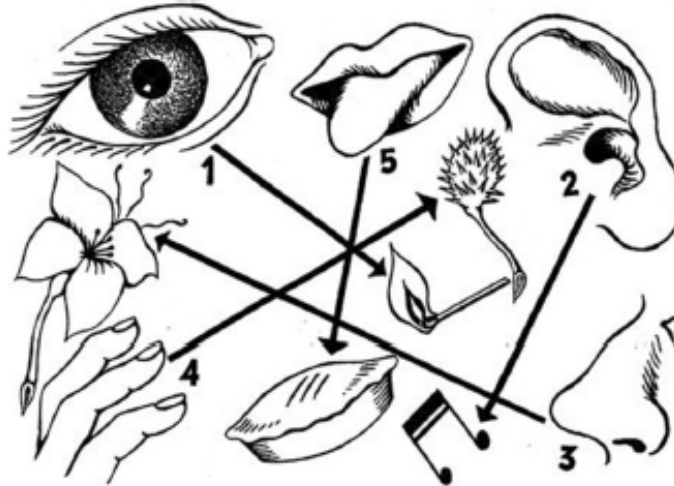


## LITERATURE & PROJECTS

Your Rainbow Panorama, Studio Olafur Eliasson, 2011, Aarhus, Denmark

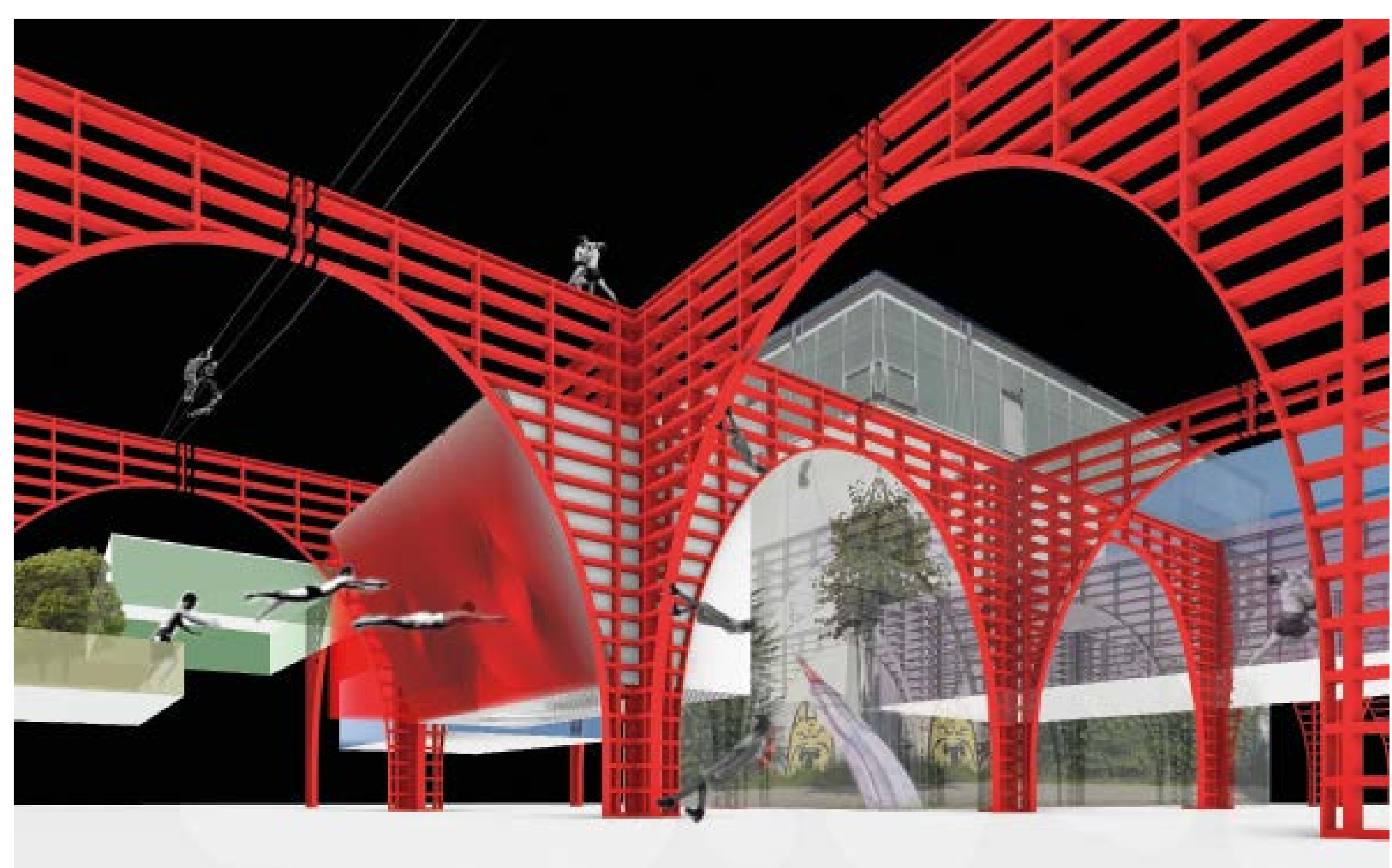
Pallasmaa, J. (2012). The eyes of the skin: Architecture and the senses. John Wiley & Sons.

Spence, C. (2020). Senses of place: architectural design for the multisensory mind. Cognitive Research: Principles and Implications, 5(1), 1-26.



The physical model developed into this 3d model. Not only sight is important to understand the conditions of a project but also the other senses. By the use of a grasshopper script, the influence of a sense on an experience is shown by the size of the gap.

The 3d model exists of 3 elements and two colors. the two greyish volumes/ experiences and the new installed red more fluid experience. The newly installed red volume connects the two rigid blocks, where the red shape starts to solidify in this block shape. With this the model reflects the concept of the public condenser on its location.

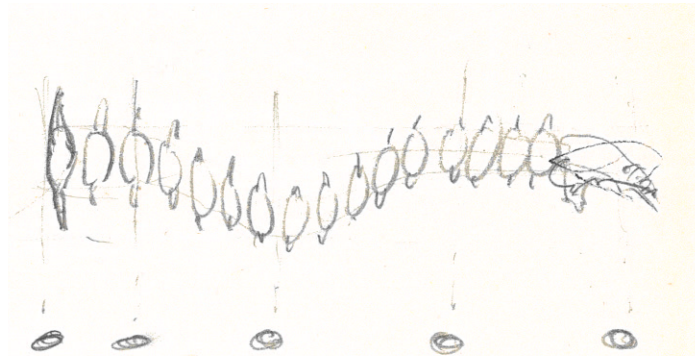


**LITERATURE & PROJECTS**

Archigram Plug-in City, Peter Cook, 1964

'Open Bouwen', John Habraken, 1961

Adding a structure that is facilitating space and opportunities for new experiences. The structure is weaving among the existing buildings and creates a connection, where it is also a program and experience on itself. The structure works as a backbone, making the coexisting and exchange of different programs possible.



PROJECT  
**DESIGN BRIEF**

**PUBLIC SERVICES** (100 SQM)

- Information counter
- Toilets
- Mechanical space

**SPORTS CENTER** (600 SQM)

- Entrance & Reception
- Changing rooms
- Squash courts
- Gym
- Yoga + meditation

**URBAN LIVING ROOM** (40 SQM)

- Kitchen
- Main space

**MAKERS STREET** (600-1000 SQM)

- Reception information
- 3 workshops
- Backoffices
- Storage

**EXHIBITION SPACE** (600 SQM)

- Open square

**LIBRARY + WORKSPACES** (2000 SQM)

- Reception information
- 8 Rentable offices
- Lecture Hall
- Library

**EVENT SPACES** (1000-2000 SQM)

- 1 indoor hall
- 1 outdoor area
- 2X storage

**REMOVEABLE**

**STABLE**

**FLEXIBLE**



# DESIGN BRIEF



**D**

PROCESS DOCUMENTATION

# BERLIN POP-UP PROGRAM



After reunification the former death strip of the Berlin Wall between the districts of Wedding and Prenzlauer Berg became a public park. A 300 metres long strip of the wall still stands upright at the eastern edge of Mauerpark - although the grey concrete walls are now covered with countless works of colourful street art. Today the park consists of a large grass field that was once part of a railway station, and a hilly slope towards the east where it meets the Friedrich-Ludwig-Jahn sports park.

“ **Mauerpark is a public park in the Prenzlauer Berg district. A former part of the Berlin Wall, the park is popular with people of all ages and turns into a flea market and karaoke stage on weekends.** ”

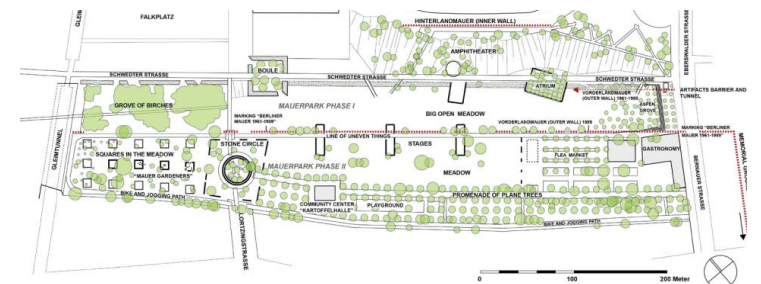
## CONCLUSION

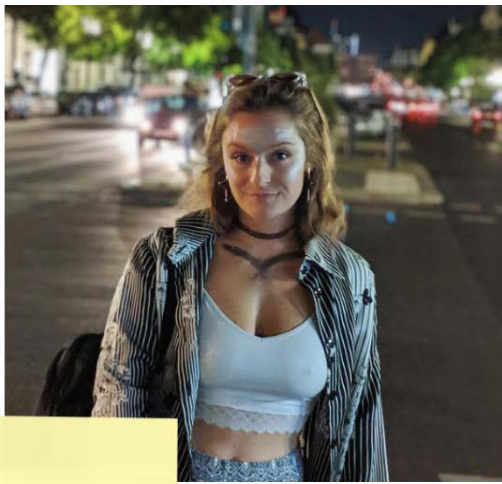
### INFLUENCE ON CONCEPT PUBLIC CONDENSER

- KIEZ CENTER FEELING
- VIBRANCY
- EXTENTION OF HOME

### INFLUENCE ON DESIGN PUBLIC CONDENSER

- POP-UP PROGRAM
- FLEXIBLE SPACES
- APPROACHABLE





**NAME:** LUNA  
**AGE:** 30  
**ADDRESS:** FRIEDRICHSCHEIN  
**WORK:** HOLZMARKT

Girl from California working at Holzmarkt. Quite against capitalism. Artsy, own art insta. All people welcome. Music studios. Club.

CAPITALISM PUSHES US AWAY!



**WORKSHOP Assignment:**

- **activities**  
A very funky place, where not only a big variety of materials and styles come together, but also a variety of people.
- **environment**  
Next to the spree, water briver front vibe, Biergarten but more individual, very artsy and open minded. people come here to chill, have a coffee or beer. While the regular users come specifically for art and music, and to meet people from their community.
- **interaction**  
People now each other from the community and would make art together, or chill together. Also people from outside of the community are welcome to understand what is happening here. A bar and restaurant and bakery provide space to connect.
- **objects**  
Lots of seating, small green hidden spots, different in publicness.
- **user**  
People from Community, tourists, party people, people who work there give the vibe micro maybe.



**NAME:** LUCA  
**AGE:** 22  
**ADDRESS:** FRIEDRICHSCHEIN

- CUSTOMER AT KEBAB SHOP:**
- I LOVE BOXHAGENER PLATZ, I COME HERE FOR FOOD AND TO WALK AROUND SOMETIMES.
  - ON SUNDAYS THERE'S NOT SO MUCH TO DO, THE MARKET IS FUN TO STROLL OVER THEN WHEN I AM HANGOVER HAHA.
  - I STUDY AND LIVE IN BERLIN, EVERY WEEKEND I PARTY.



**NAME:** ANNA  
**AGE:** 21  
**ADDRESS:** FRIEDRICHSCHEIN, BOXHAGENER PLATZ

- CUSTOMER AT KEBAB SHOP:**
- I LOVE BOXHAGENER PLATZ, I COME HERE FOR FOOD AND TO WALK AROUND SOMETIMES.
  - ON SUNDAYS THERE'S NOT SO MUCH TO DO, THE MARKET IS FUN TO STROLL OVER THEN WHEN I AM HANGOVER HAHA.
  - I STUDY AND LIVE IN BERLIN, EVERY WEEKEND I PARTY.

**CONCLUSION FROM INTERVIEWS**

Interviewing people from Berlin I mostly asked for their interpretation of kiez and kiezcenter. Most of them knew what or which location they would call kiezcenter in their own neighbourhood. It turned out that all of these places, like the mauerpark and boxhagener platz, are plaza like spaces. Spaces that are well known because of the activities that can pop-up overhere.

These kiezcenters are also perceived as the extension of people their homes. Especially people with small gardens often use these spaces during summer. They recognize people from their kiez, but wouldn't say that they meet these people here.

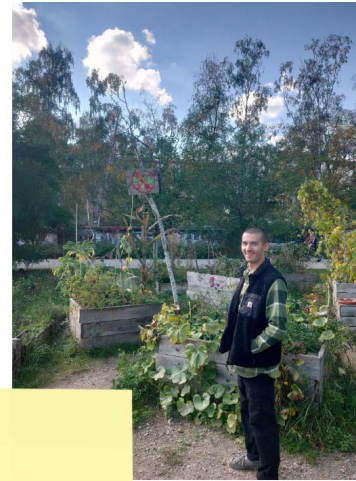


**NAME:** UNKNOWN  
**AGE:** 30-35  
**ADDRESS:** PRENZLAUERBERG



**USERS OF MAUERPARK:**

- WE LIVE CLOSE BY BUT WE DON'T HAVE A GARDEN, SO WE SEE THIS AS OUR GARDEN.
- ACTIVITIES: LUNCH, WALK, BREAK, SHOPPING SUNDAY.
- YES, WE WOULD SEE THIS AS OUR CENTRAL POINT OF OUR KIEZ. WE DO SEE PEOPLE FROM OUR KIEZ HERE, BUT RARELY THE SAME. A LOT OF PEOPLE COME HERE, WE DON'T REALY COME HERE TO MEET ACTUALLY.



**NAME:** TOM  
**AGE:** 28  
**ADDRESS:** PRENZ LAUER BERG



**USERS OF MAUERPARK:**

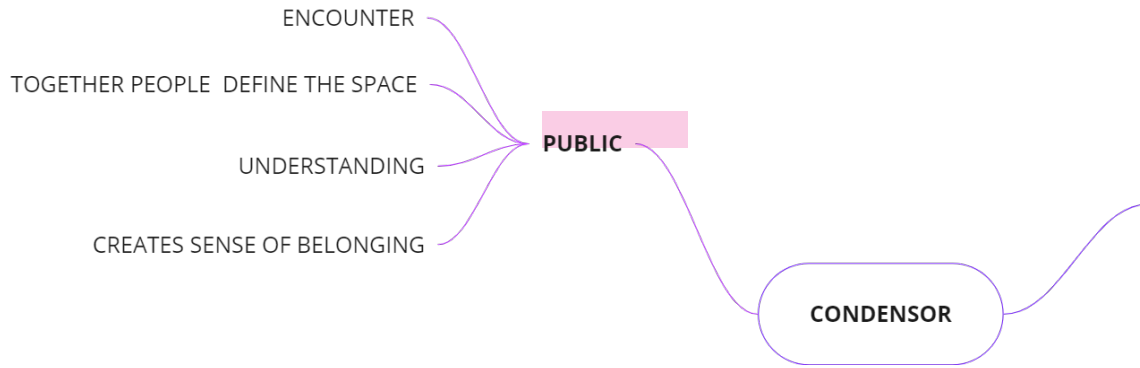
- I COME HERE FOR WALKS, WITH AND WITHOUT DOG.
- I LIKE THE RANDOM SUNDAYS, WITH KARAOKE IN THE AMPHITHEATRE. I SIT DOWN WITH A BEER AND WATCH. ALSO STROLL OVER THE MARKET, BUT NEVER BUY ANYTHING.
- IN SUMMER I BRING MY HAMMOCK TO READ A BOOK BETWEEN THE BIRCH TREES.
- I DONT MEET MANY PEOPLE HERE. MOST OF MY FRIENDS LIVE ELSEWHERE, OR MOVED OUT OF BERLIN AFTER STUDY.



To some berlinners, being in their kiezcenter does give them the feeling of belonging to the kiez. To others it is just a place to escape from the busy streets while others see it as the extension of their homes.



CONCEPT  
**ARCHITECTURAL TYPOLOGY**



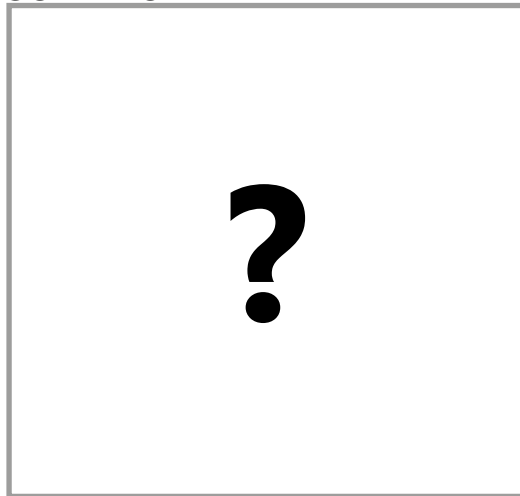
**SOCIAL:** Central to the **idea** of the social condenser is the premise that architecture has the ability to **INFLUENCE SOCIAL BEHAVIOUR**. The primary objective of the social condenser was to affect the design of public spaces, with a view to deconstructing perceived social hierarchies in an effort to create socially equitable spaces. Approaches to **creating the built form of a "social condenser"** include the *intentional overlapping and intersection of programs* within a space through circulation

miro

**“ Public Condensers which will be actively designed over time to activate gentrifying places in the city ”**

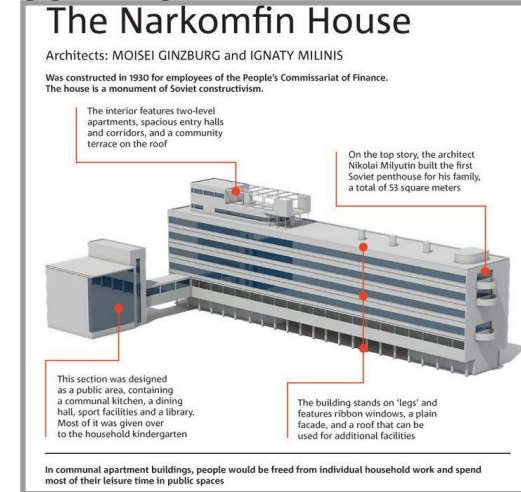
**“ Social Condensers which were actively designed to inspire collectivism. ”**

SOLID FORM

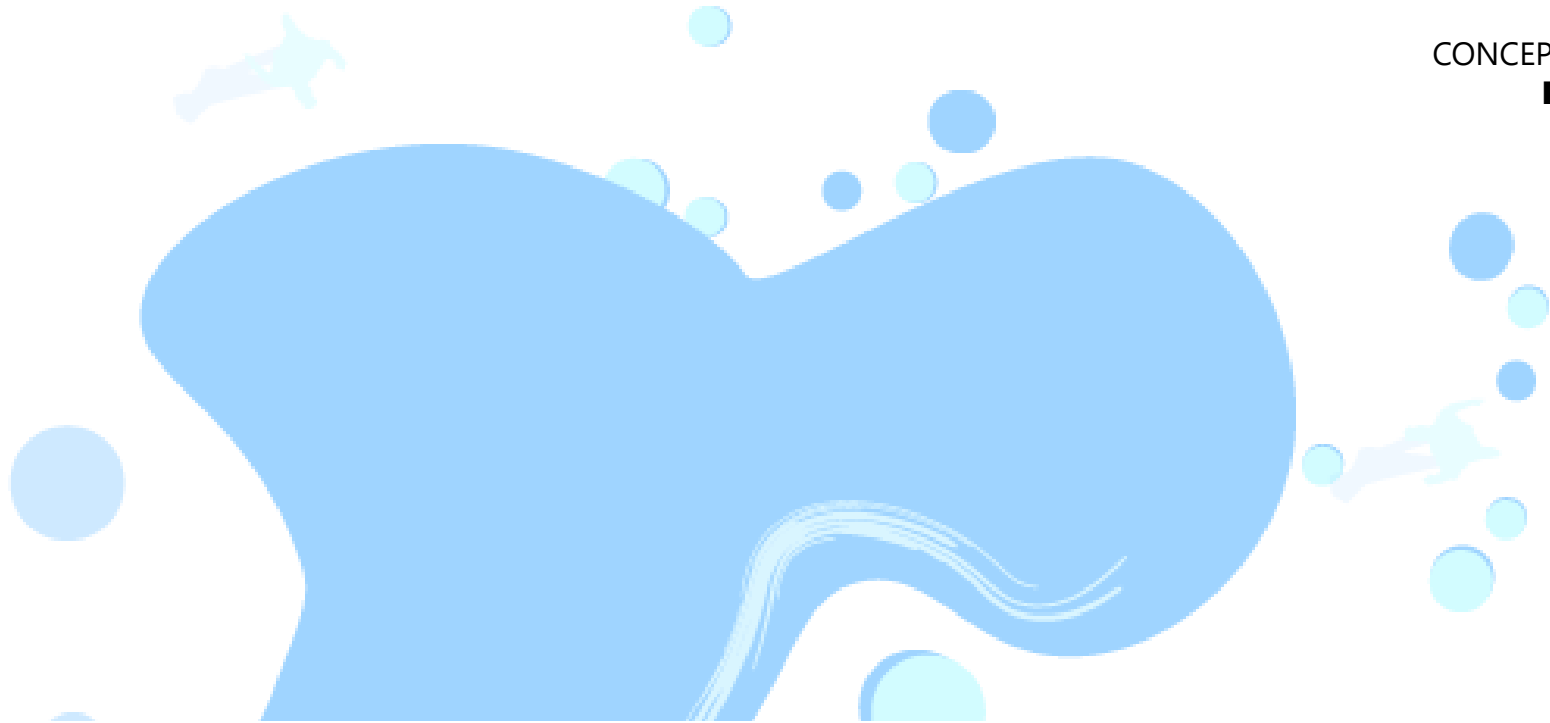


PROGRAM:  
 connecting the different cultures, ages and education that represent the public, by program rich in 'commons'.

SOLID FORM






PROGRAM:  
 communal canteen, gymnasium, crèche and library



After the visit and research in Berlin, the first concept of the Public Condenser came from the fascination for popping-up activities. This translated into two kinds of program, one framed program and one that can pop-up. This means program that can come and disappear.

The popping-up program is program that attracts all kind of people. It is mostly designed for short time visits, where people can pass by while walking from A to B and stay if they are interested, like a street performance. When people get interested they are invited to have a look around to get interested into the framed program. The framed program has a more solid character in the neighbourhood, aiming for a long term stay where people feel comfortable.

**PROGRAM POP-UP**

		<b>MARKET</b>
		<b>MARK</b>
		<b>SPORTS</b>
		<b>JUSTIFICATIONS</b>

**PROGRAM FRAMED**

		<b>COMMUNAL-CHARACTER</b>
		<b>HOLDINGS</b>
		<b>INTERSPACE</b>
		<b>PLAC INTERSPACE</b>

## DESIGN MULTI SENSES

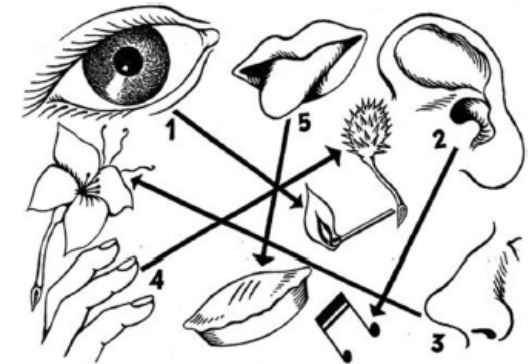
### PROGRAM CONDITIONS

Further research shows the conditions per program. This has been divided in **Physical conditions** and **Sensual conditions**. With this knowledge overlap of different coexisting program can be found in terms of conditions. If two kinds of program need the same conditions, further research has been done to the possibility to link the programs in spatial and programmatic way.

### MULTI SENSORIAL DESIGN

The describing of the sensual conditions comes from will to incorporate the growing understanding of human sense in design.

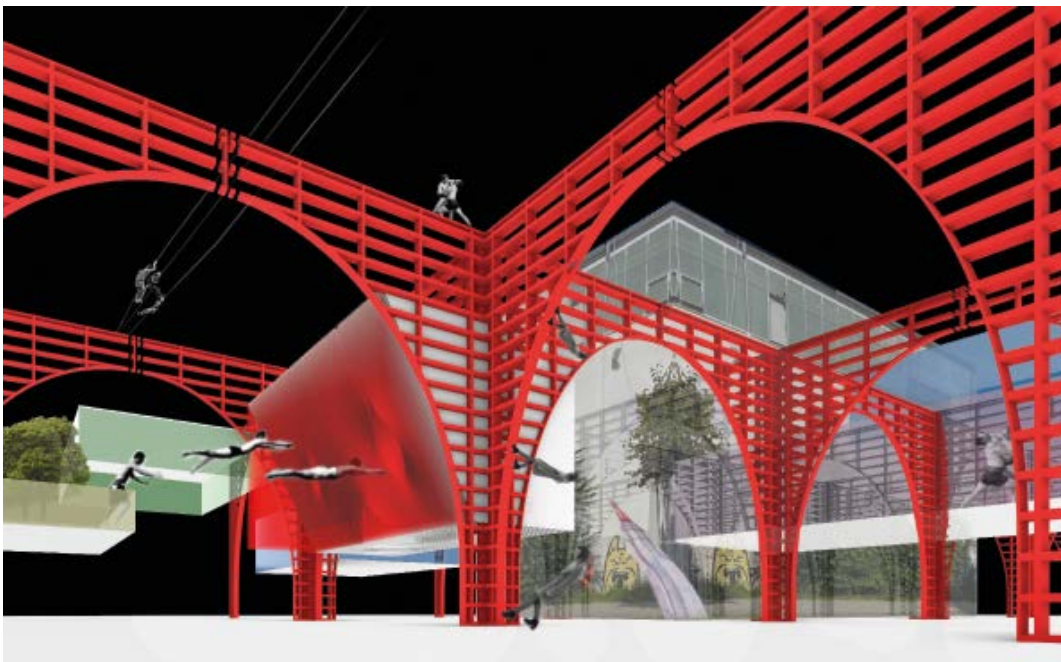
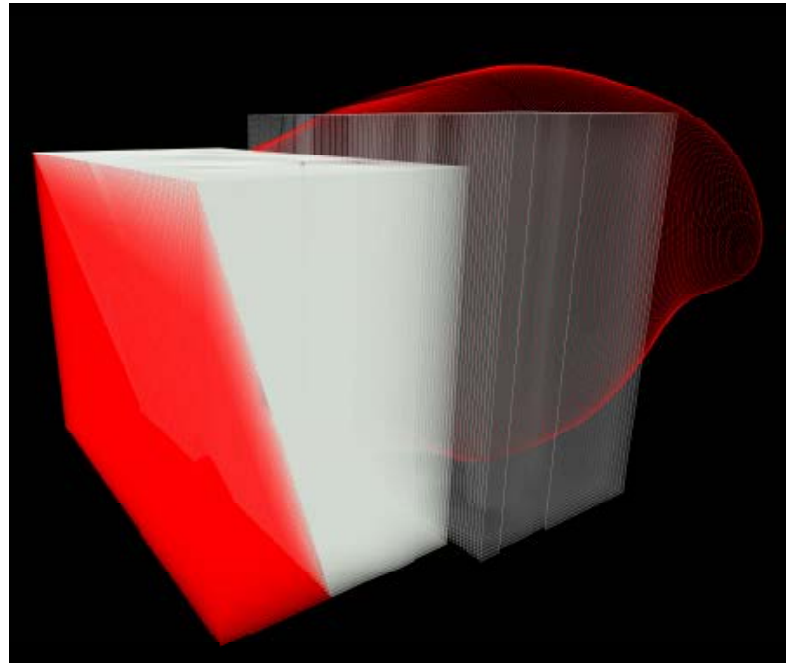
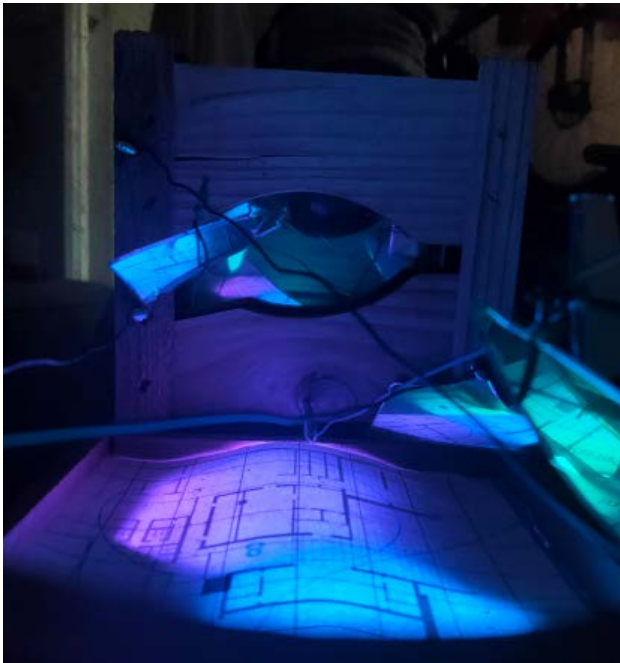
Such a multisensory approach will hopefully lead to the development of buildings and urban spaces that do a better job of promoting our social, cognitive, and emotional development, rather than hindering it, as has too often been the case previously.



**Fig. 1** Heilig (1992) ranked the order in which he believed our attention to be captured by the various senses. According to Heilig's rankings: vision, 70%; audition, 20%; olfaction, 5%; touch, 4%; and taste, 1%. Does the same hierarchy (and weighting) apply to our appreciation of architecture, one might wonder? And is attentional capture the most relevant metric anyway?

source: Spence, C. (2020). Senses of place: architectural design for the multisensory mind. *Cognitive Research: Principles and Implications*, 5(1), 1-26.





### **MULTI SENSORIAL DESIGN**

As Pallasmaa said 70% of a space is perceived by vision. The other senses also have an important role in understanding architecture. Especially unconscious feelings will help people to feel at ease, and create the sense of belonging. On the left page the conditions for different program are set up. In this way overlap between program can be found, and taken into account while designing the composition and floorplan of the project.

## RESEARCH PROTOTYPICAL CHARACTER

### GENTRIFICATION IN BERLIN

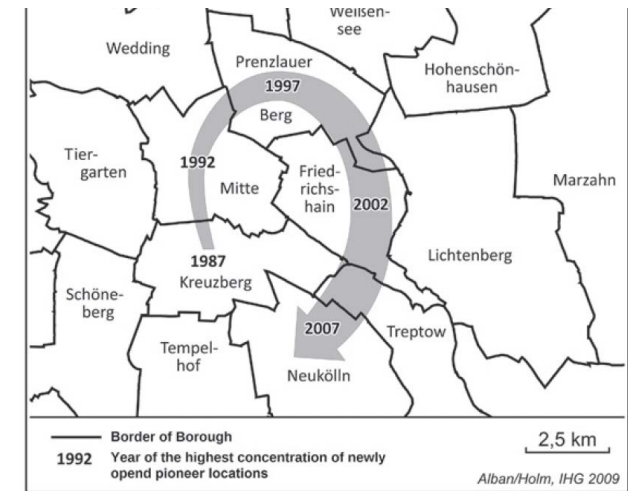
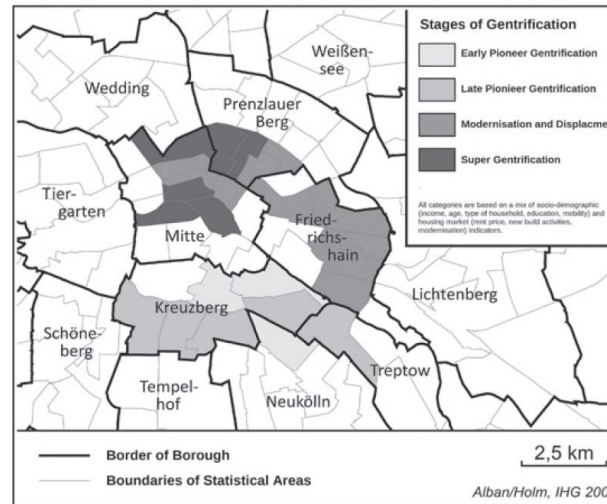
Gentrification has become the dominant trend for the development of most inner city neighborhoods in Berlin. This "mainstreaming" of gentrification has led to a situation in which the process cannot be meaningfully described on the neighborhood scale anymore.

**Various forms and phases of gentrification** are happening in the city both at different times and in different places as well. While new building projects in the already upgraded neighborhoods in **Mitte** and **Prenzlauer Berg** indicate an intensified phase of gentrification, gentrification in **Friedrichshain** is still a matter of housing renovations. At the same time, **Kreuzberg** and northern **Neukölln** exhibit classical forms of symbolic gentrification and are currently experiencing a "pioneer phase" in which an immigration of "creatives" and rising rent prices can be studied.

With this background, Berlin's inner city restructuring is shaped by a spatial expansion of gentrification, but also by a side presence of different phases of gentrification and by a circulation of the current epicenters of gentrification. For example, the concentration of pioneer locations (such as clubs, galleries, subcultural bookstores) has shifted from Mitte to Prenzlauer Berg to Friedrichshain in a **clockwise movement** through the city, reaching Kreuzberg and even parts of Neukölln within the last few years.

The spatial dynamics of Berlin's inner city upgrading thus indicate a stepwise process that is characterized by diverse waves of upgrading taking place simultaneously, yet with a striking spatial and temporal

Figure 1: Spatial Differentiation of Gentrification in Inner City Neighborhoods in Berlin (2009)



individuality. The classical sequence in which a **pioneer** phase is followed by investments into the housing stock, resulting in both economic and exclusionary **displacement** of low-income households and eventually followed by a phase of "**super-gentrification**" in which luxury housing becomes prevalent, can in Berlin above all be observed in the districts Mitte and Prenzlauer Berg. The district Kreuzberg on the contrary hand is characterized by different conditions: here reinvestment came in the 1980s already and is only now followed by an intensive influx of pioneers and gentrifiers and a second wave of upgrading. In Neukölln, again, gentrification was unheard of until very recently and is now proceeding at an astonishing speed, driven by an enormous internationalization of in-movers.

//

A second characteristic of gentrification processes in Berlin is the step-bystep spatial expansion of gentrification. Particularly for the pioneer phase, an out-and-out migration to the next district every five years or so can be traced

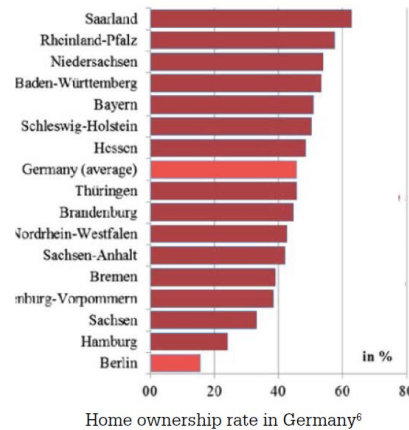
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This text is an important conclusion for the concept forming of the Public Condenser. All text from source:

Holm, A. (2013). Berlin's gentrification mainstream. The Berlin reader. A compendium of urban change and activism, 171-188.

After the city's unification, the newly elected local government tried to introduce the capitalistic market in the former East Berlin by opening the social housing sector and promoting gentrification projects for urban regeneration.

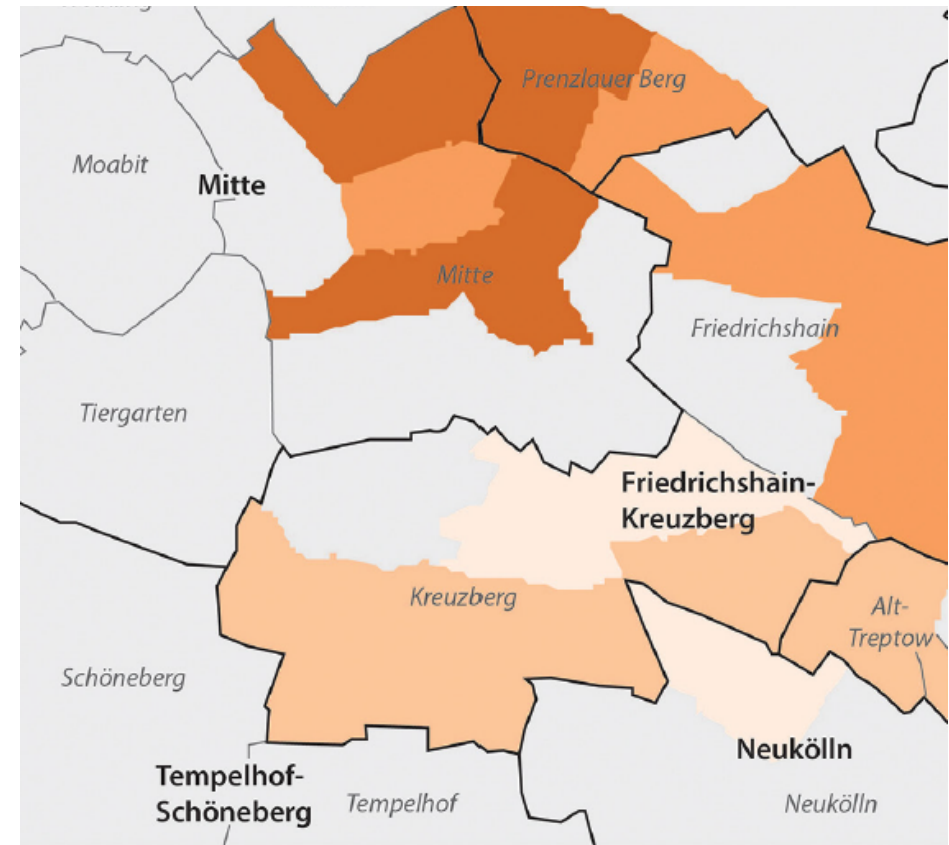
Low home ownership is a wide-country situation, the capital city has the **lowest house ownership percentage in Germany, at about 15.6%**. The phenomenon is even more widespread in the Friedrichshain-Kreuzberg district, where the rate of people **owning their house is as low as 5.4%**.



Changes to the social composition in Friedrichshain were most pronounced at first in terms of the rising share of residents with high educational status (Krätke2013). Modernization activities, on the other hand, were delayed. Nevertheless, comprehensive modernization has taken place, resulting in significant **increases in rents** (Holm 2011). Moreover, countless **bars and clubs shaped the image of Friedrichshain**, and their increasing commercialization leaves little room for the traditional corner pubs that once occupied the area (Holm 2011). Friedrichshain has thus undergone its pioneer phase, **evidence of displacement has surfaced**, and, as in Mitte and Prenzlauer Berg, this will likely continue unevenly according to the geography of private investment in the subdistrict.

**DEMOGRAPHIC RESEARCH**

The concept that arose focussed with its pop-up architecture on so called 'A to B' users. From that point, further location and demographic research has shown the possible users in the area. Striking numbers reveal a high number of young people, increasing number of people with a migration background and an overall increase of inhabitants. Especially Wriezen Bahnhof stands out with extremes of an average age of 28,9 and a population growth of 61% in 2013-2018. Also the number of people with a migration background here is 68%.

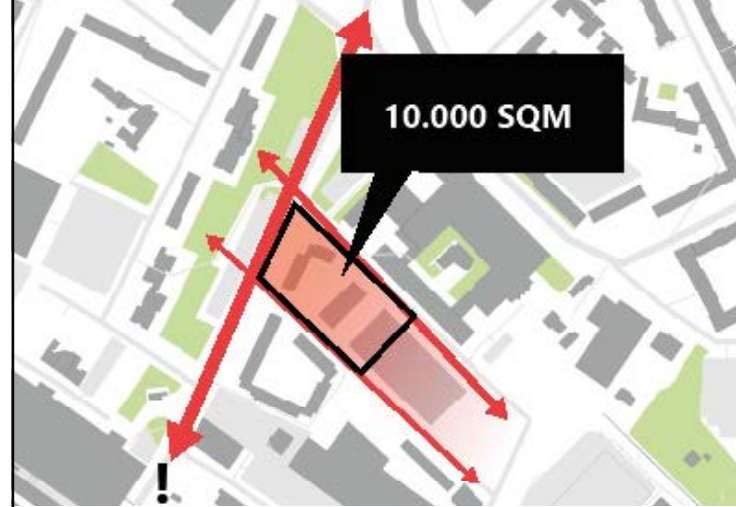


All categories are based on a mix of socio-demographic (income, age, type of household, education, mobility) and housing market (rent price, new build activities, modernization) indicators.



CONCEPT  
SITE

8.000 SQM



10.000 SQM

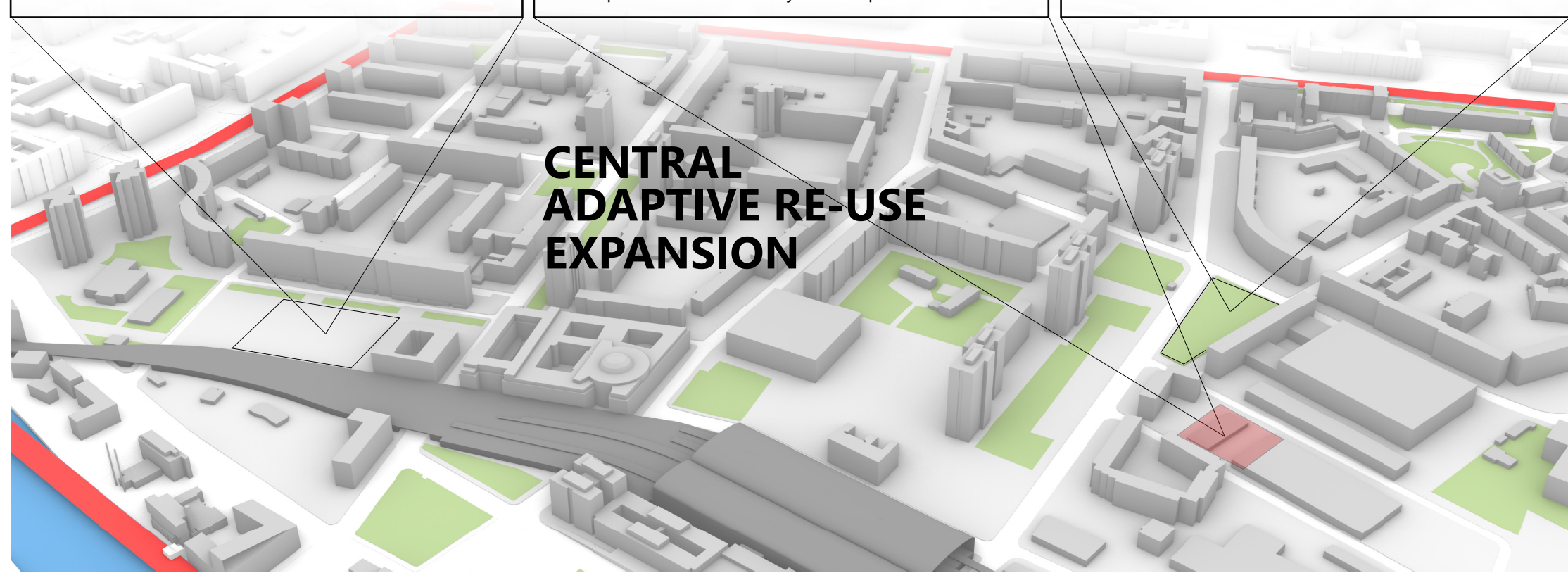
**WRIEZENER KARREE**

The site along the wriezener karree has the conditions where the concept of the public condenser could land and expand. The central situation, usable buildings and expansion possibilities are hereby most important

6.000 SQM



**CENTRAL  
ADAPTIVE RE-USE  
EXPANSION**

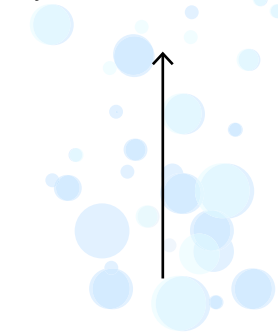


## LANDING THE PUBLIC CONDENSER

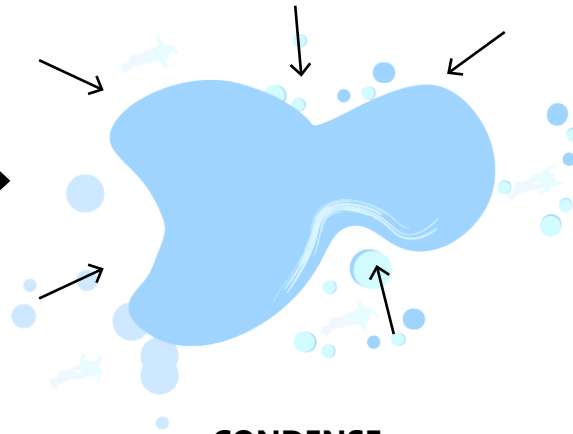
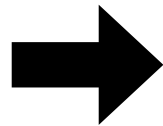
As shown in the research paper of Holm, Berlin is gentrifying in a clock-wise movement. The process consists of 4 phases:

- early Pioneer gentrification
- late Pioneer gentrification
- Modernisation and Displacement
- Super Gentrification

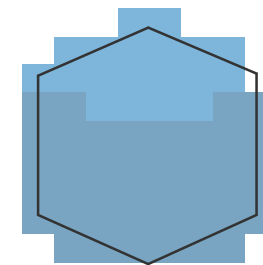
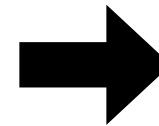
As the diagram shows, the public condenser will solidify during these phases. This means that the building will land in an early phase of gentrification. As it land the building contains of different program, namely commons rich program, that can disappear over the years. These structures will then move on to the next early gentrification stage location. This all creates a building incorporating multiplicity, sustainability, hybridity and resilience during a multi phase process.



**RISING TOO FAST**

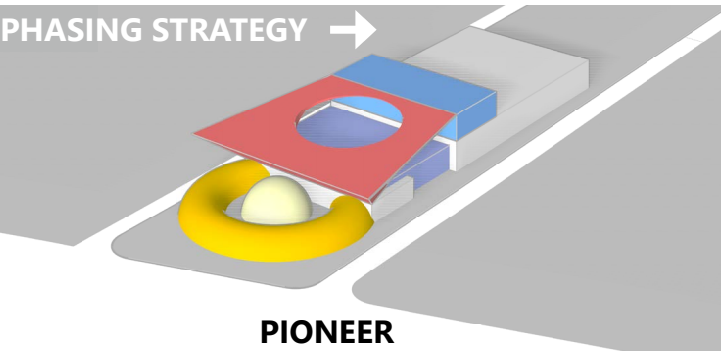


**CONDENSE**

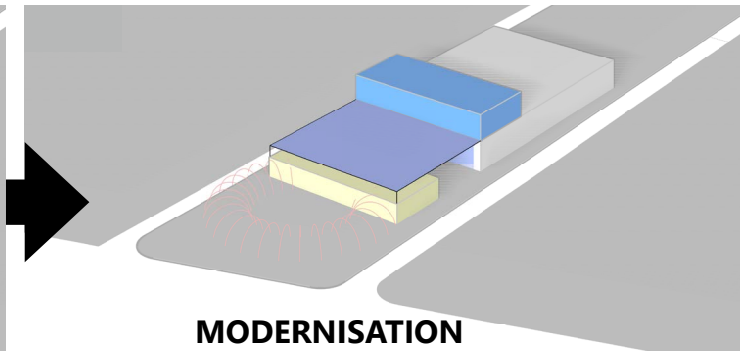


**SOLIDIFY**

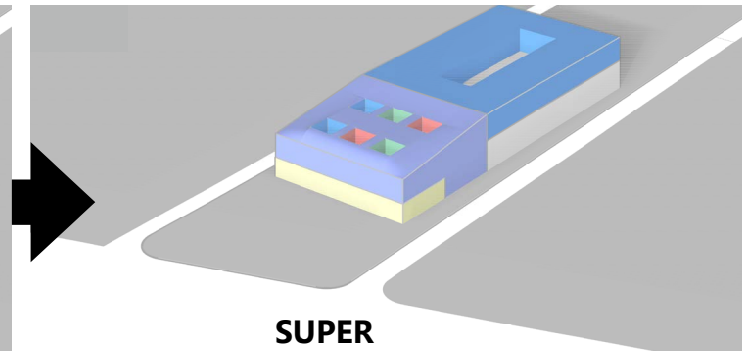
PHASING STRATEGY →



**PIONEER**



**MODERNISATION**



**SUPER**

CONCEPT

**MULTIPHASE SYSTEM**

Figure 1: Spatial Differentiation of Gentrification in Inner City Neighborhoods in Berlin (2009)

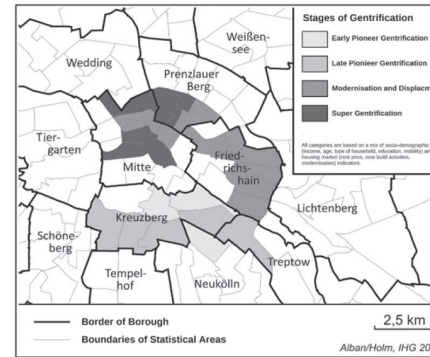
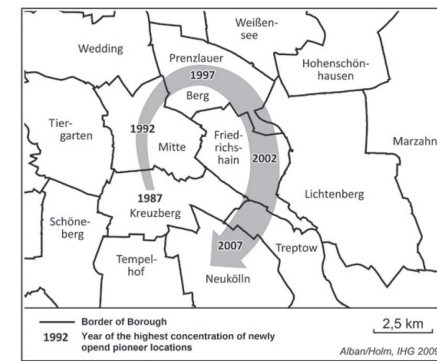


Figure 2: Spatial Dynamic of Pioneer Locations in Inner City Neighborhoods in Berlin (1987-2009)

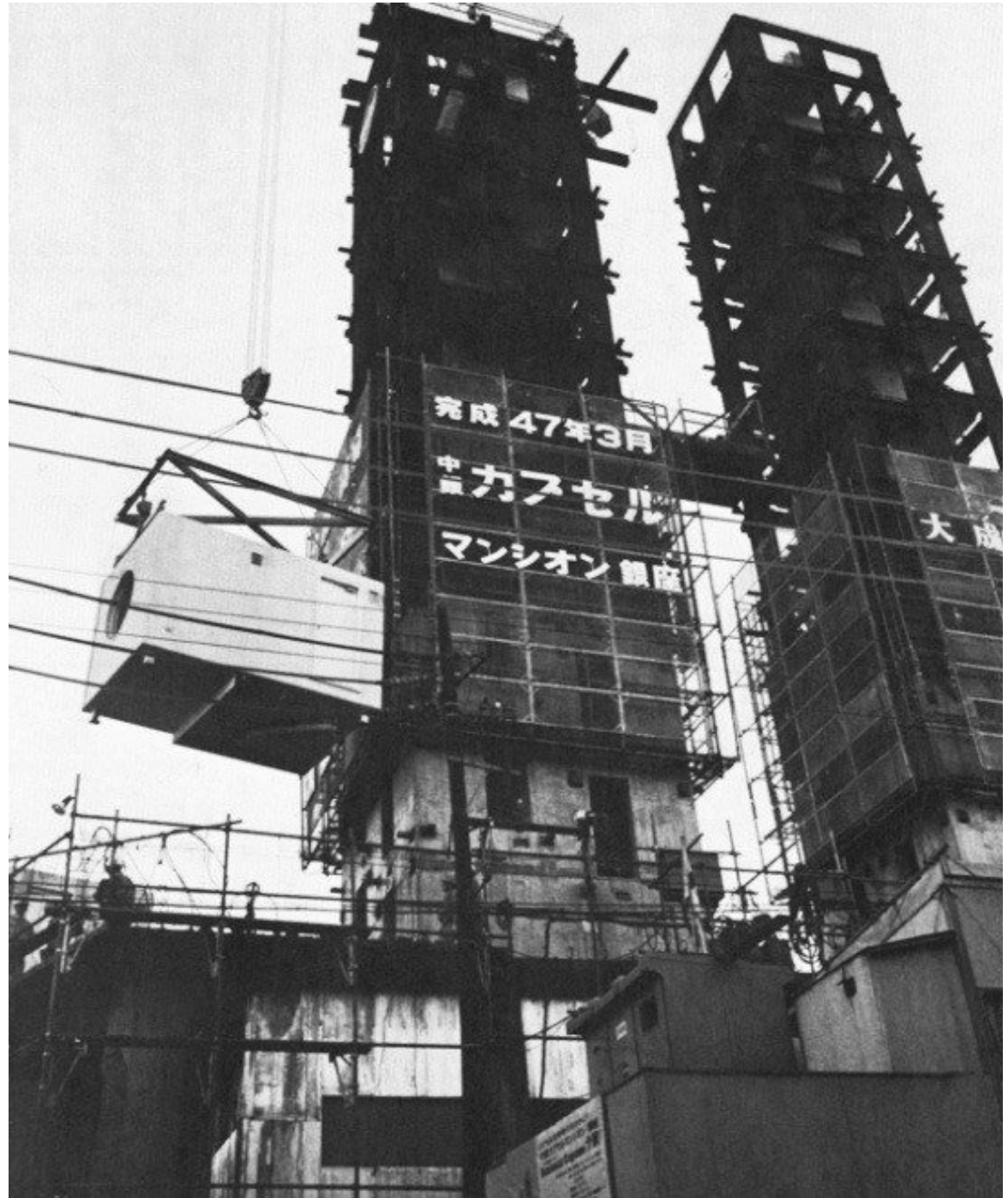
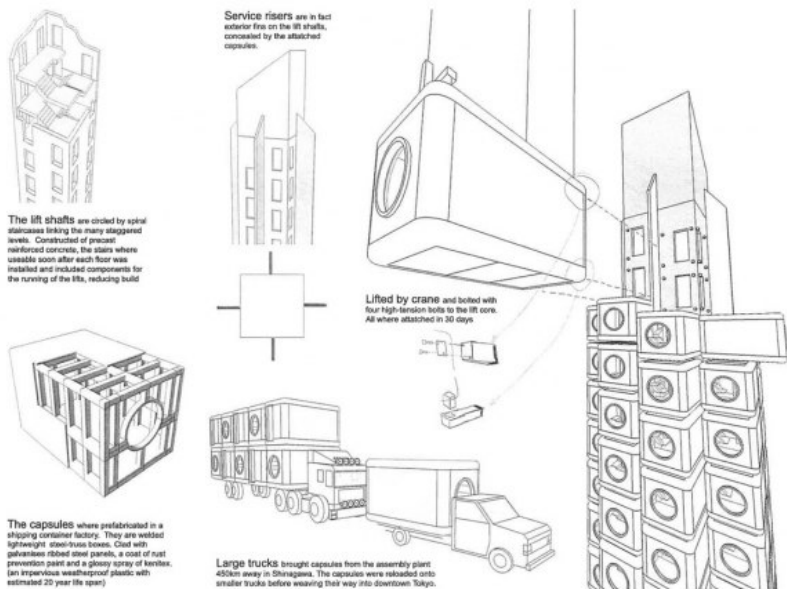


CONCEPT  
**METABOLIST ARCHITECTURE**

One of the constraints which Metabolists had to face was physics. The group already knew the impossibility of fully mobile cities. Buildings weights and stability is needed to stay them upright, which means a firm structure (the opposite of movement). The decision they took marked a logic behind their design aspirations: separate what you can move from what cannot.

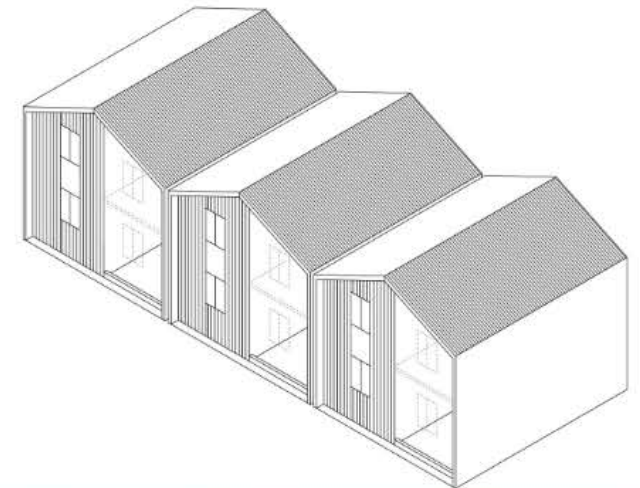
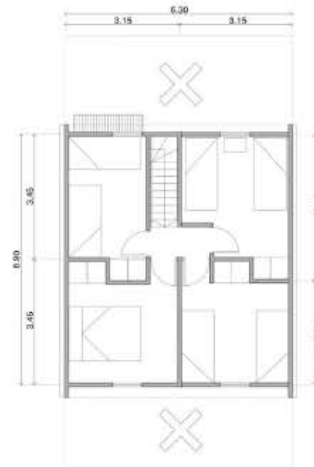
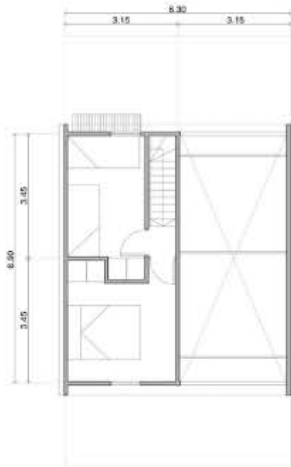
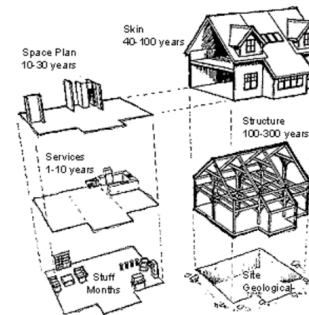
When you look up projects from this collective, you can notice some patterns. **Their design style resembles the idea of a tree**, at least in the relationship between trunk and leaves: a long-lasting structure of wood holds smaller and perishable units called leaves. This logic is present in most of their buildings.

Recently, the concept of Mega Structures has become helpful for explaining what they were thinking. If lots of tiny rigid structures were a dilemma, why don't we construct one gigantic framework for a whole city? This operation achieved to bypass the main issue and, most importantly, gave the group all the flexibility they wanted. With a long-lasting structure already built, the focus becomes the things you can attach and detach to it.



CONCEPT  
**SOLIDIFYING ARCHITECTURE**  
**'HABRAKEN PHILOSOPHY'**

With open Buildings, we focus on the issue of life-cycle sustainability of buildings. By separating the shell and the built-in systems, **the life span of the shell is extended by hundreds of years.** The built-ins can be easily replaced and adapted to new uses. To new life phases of occupants, new living requirements and different lifestyles. Buildings that can move with the times, be flexible: that is actually "hardcore Habraken."



## REFERENCE TYPOLOGY

### DE MEERPAAL, DRONTEN - VAN KLINGEREN & VAN BEEK 1967

The community center has known various forms and names since the first Community center was opened in Amsterdam at the end of the 19th century. The ideal of its founder, Vereniging Ons Huis, was to emancipate the emerging working class. With lectures, classes, clubs and also a reading room, it functioned as a place of relaxation and education. Soon similar houses sprang up in other neighborhoods and cities. The State Archives for Dutch Architecture and Urban Planning contains countless examples, both from those early years and from later periods. The designs show how architects were looking for specific spatial solutions in order to be able to combine a variety of social functions. In addition, over time, buildings had to respond to new forms of communal use and other social priorities. Thus,

the community houses of architect Frank van Klingeren reflect the **ideal of collectivity that typified the spirit of the times of the 1970s**. The community center has continued to adapt and is no less important now than it was in its early years. In addition to the recreational and educational programmes, it is also regularly a **center for neighborhood protests and social action**. Or a place where migrants and local residents meet. And where – while society further individualises – practical work is being done on forming a community. The physical public space of the community center is a stage for meeting and exchange. Although their funding has been cut considerably in recent decades, community centers continue to play their role as a catalyst for social change.

source: <https://www.flevolandergoed.nl/home/bouwkunst/oostelijk-flevoland-3/dronten-3/de-meerpaal.html>

## CONCLUSION

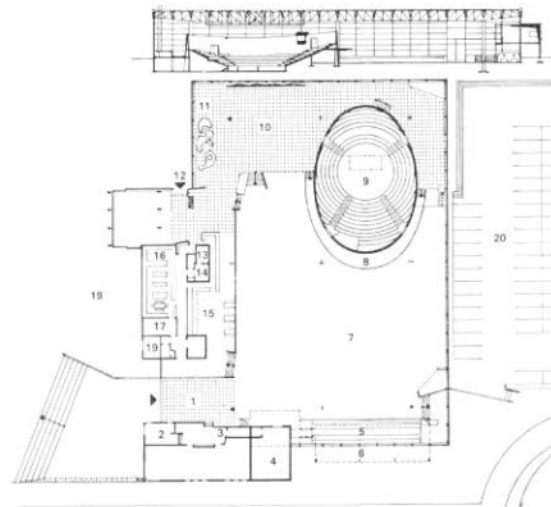
### INFLUENCE ON CONCEPT PUBLIC CONDENSER

- Reflection of 'zeitgeist'
- Changing through the years
- Multiplicity in social programs

### INFLUENCE ON DESIGN PUBLIC CONDENSER

- Flexible spaces
- Flexible program
- Open floorplan

Source: Madge, J. (2005). The Agora at Dronten. Architectural Design, 75(2), 28-33.



#### Key to ground-floor plan

1 Entrance	5 Bowling alley	9 Theatre	13 Still room	17 Larder
2 Box-office	6 Cleopatra room	10 Foyer	14 Bar service	18 Staff canteen
3 Cloakroom	7 Main hall	11 Sculpture	15 Bar	19 Terrace
4 Store	8 Ambulatory	12 Café entrance	16 Kitchen	20 Parking



## FUN PALACE - CEDRIC PRICE 1959–1961

Fun Palace for Joan Littlewood was conceived for the East End of London as a “laboratory of fun” and “a university of the streets.” Although it was never realized, unlike other visionary projects of the 1960s it was fully intended to be built. Designed as a **flexible framework** into which program-mable spaces can be plugged, the structure has as its ultimate goal the possibility of change at the behest of its users. Price belonged to a generation of British architects and educators who used architecture both to address the future and as the ultimate social art. Price’s personal vision of the city was inventive and playful and expressed his

sense of architecture’s moral obligations toward its users. Price was fascinated by new technology and believed that it should both serve the public and further human freedom. He was determined that his work would not impose physical or psychological constraints upon its occupants nor reduce them to a standard form—unlike typical modern architecture.

## REFERENCE COMPOSITION

### CONCLUSION

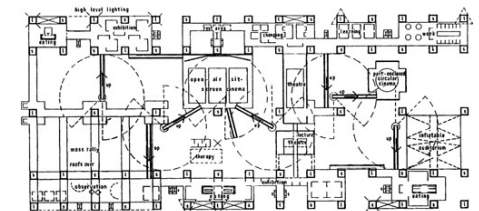
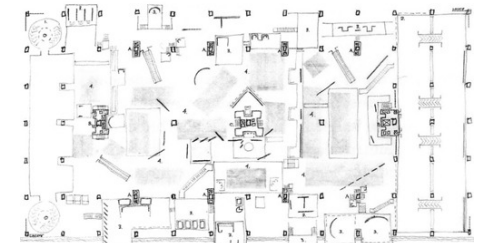
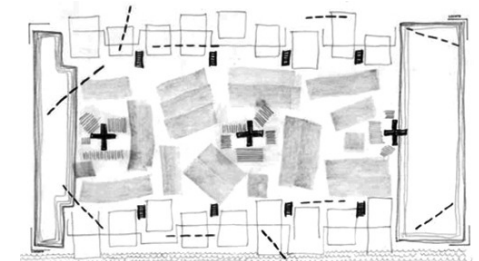
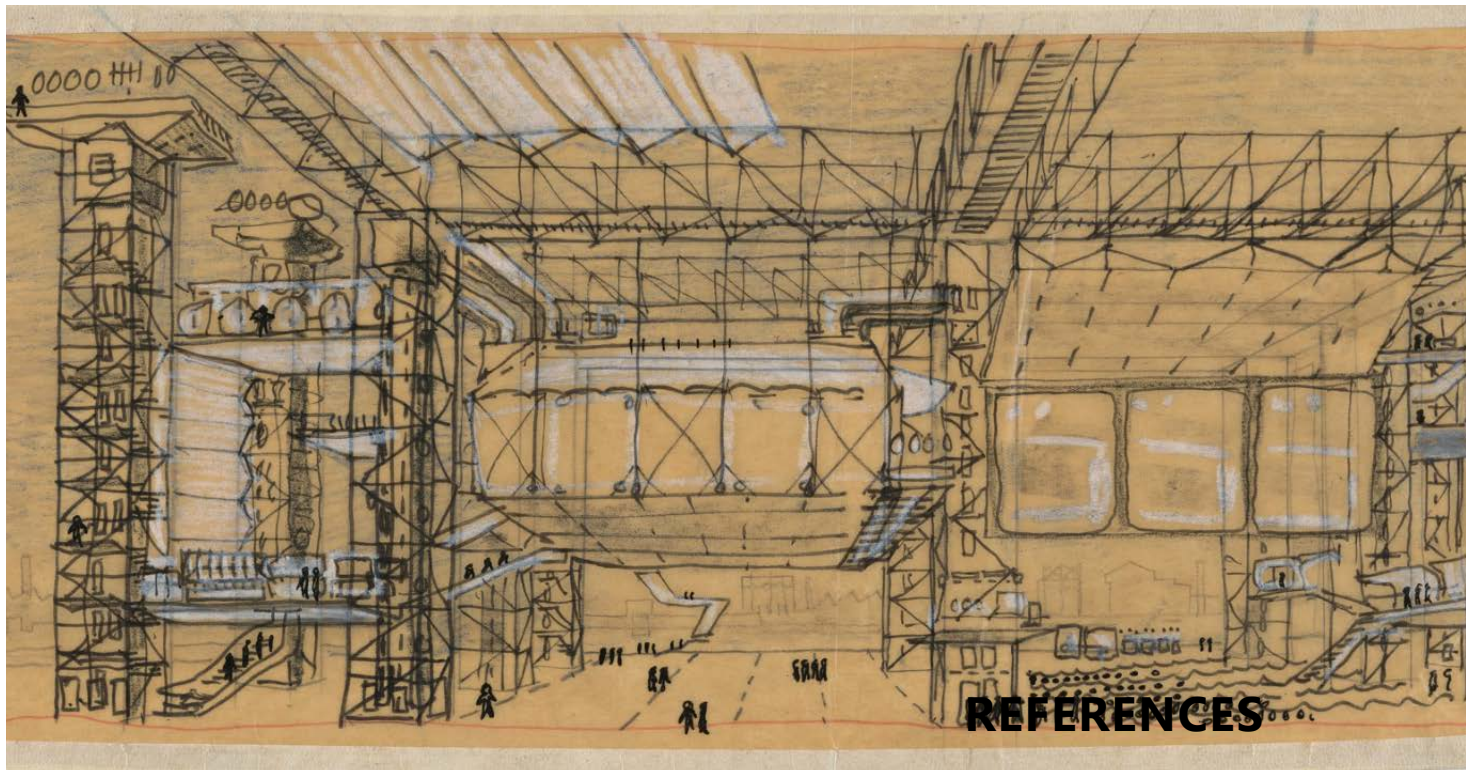
#### INFLUENCE ON CONCEPT PUBLIC CONDENSER

- Technology for public freedom
- Changing at behest of users
- Playful

#### INFLUENCE ON DESIGN PUBLIC CONDENSER

- Flexible framework
- Plugging program
- Responsive architecture

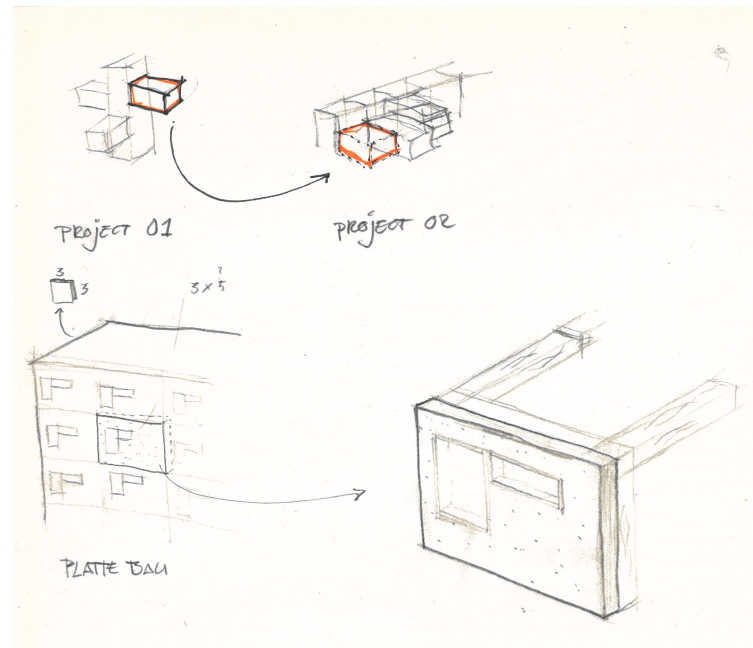
Source: Littlewood, J. (2013). A laboratory of fun. In Popular Theatre (pp. 212-214). Routledge.



CONCEPT  
TIME

**USING EXISTING CONTEXT**

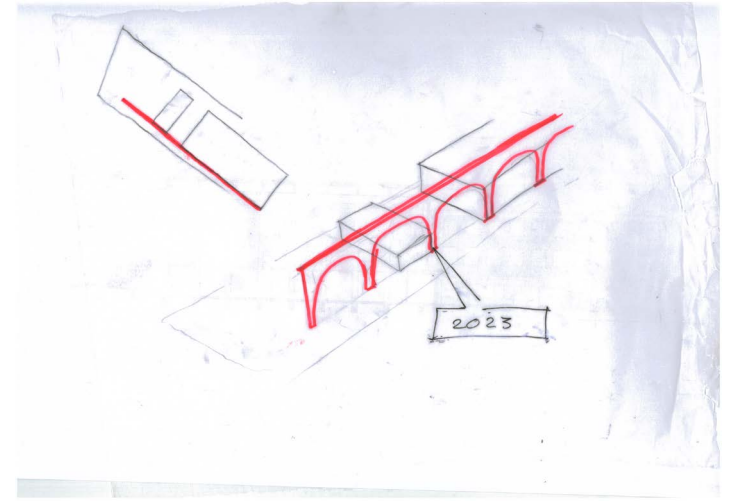
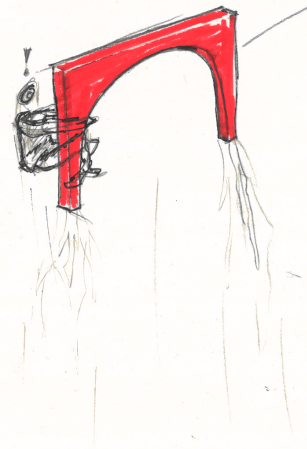
- ENHANCES THE SENSE OF BELONGING
- UNDERSTANDING OF DURABILITY AND SUSTAINABILITY



**CONCEPT  
STRUCTURE**

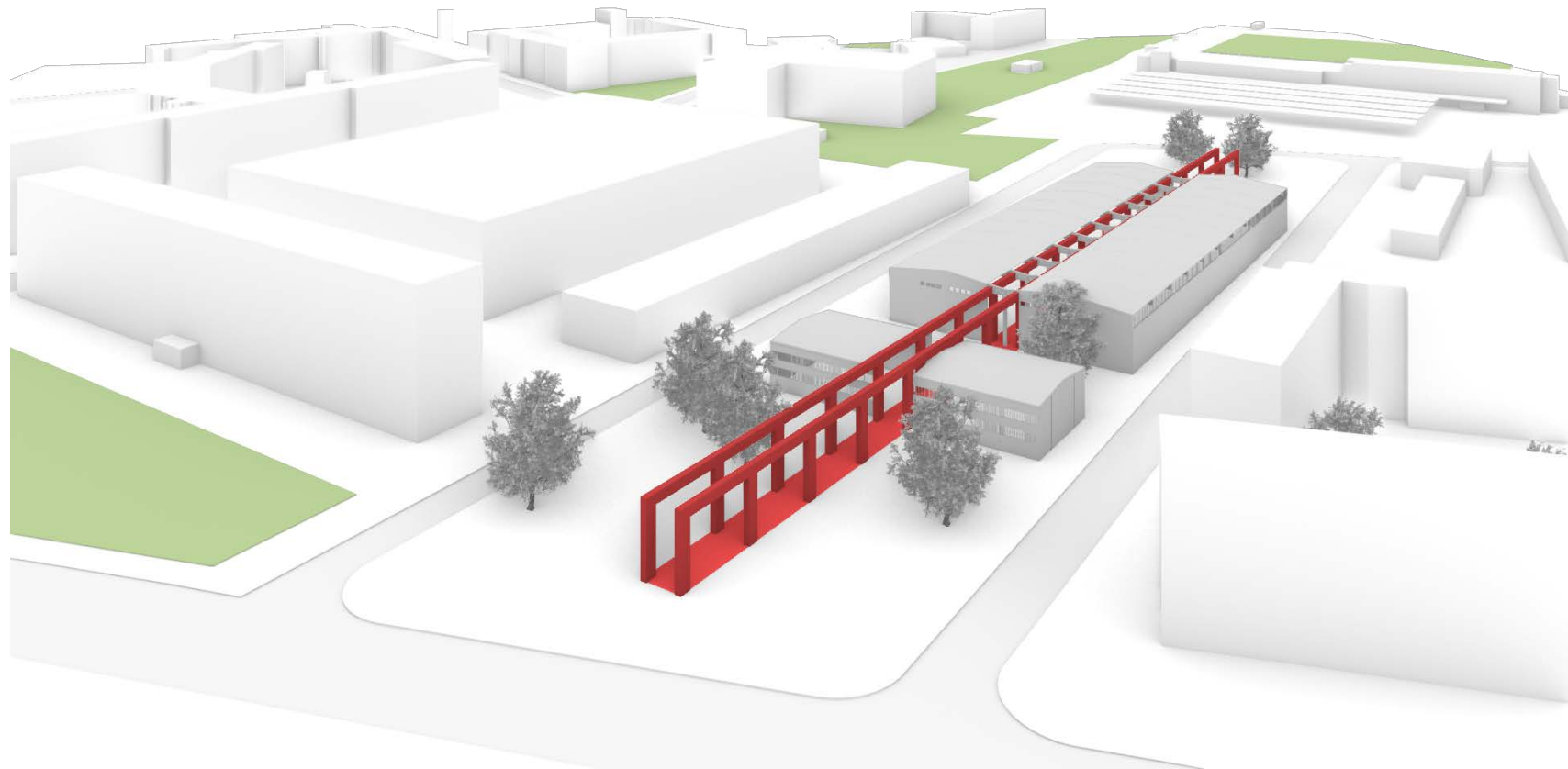
STRUCTURE AS SOMETHING TO LOVE AND FEEL  
ATTACHED TO.

WHAT IS IN THIS  
VIEW?  
THE COMMON

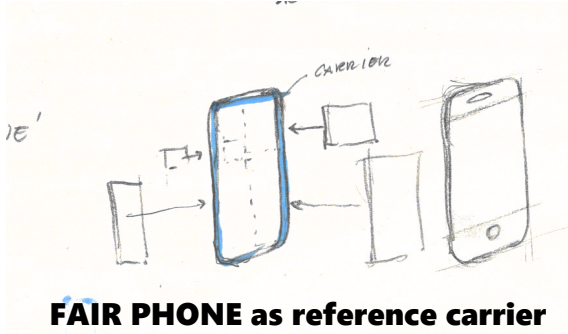


**STRUCTURE AS LANDMARK**

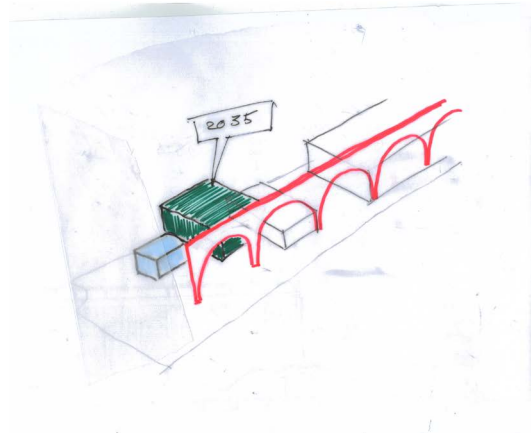
- ENHANCES THE SENSE OF BELONGING
- GIVES DIRECTION



CONCEPT  
PROGRAM 2035

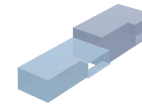


**FAIR PHONE as reference carrier and interchangeable elements**



PROGRAM

SPORTS



1500 M2  
(600+900)

MUSIC



300 M2

URBAN  
LIVINGROOM



300 M2  
(150+150)

FOOD



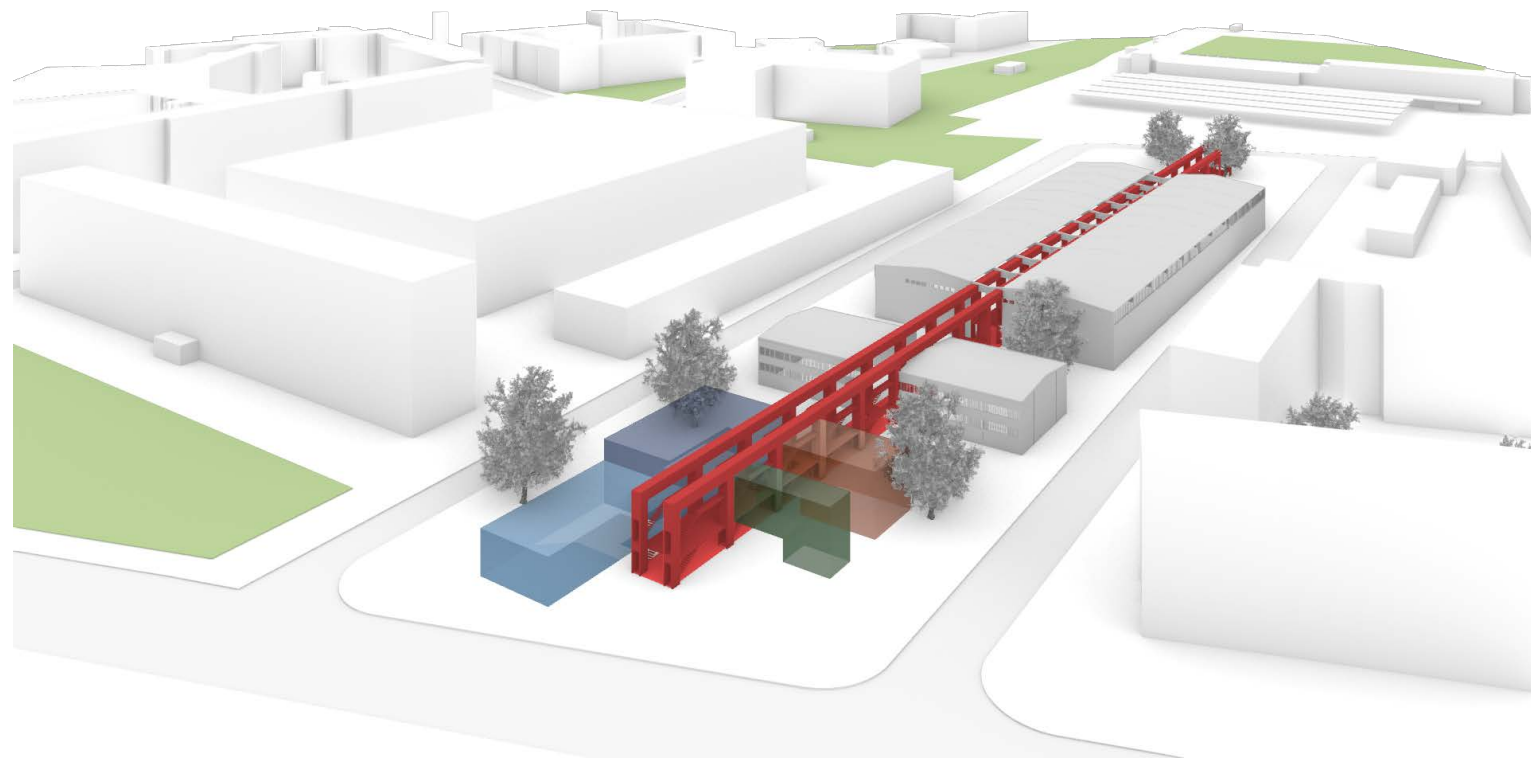
600 M2

RESIDENCES

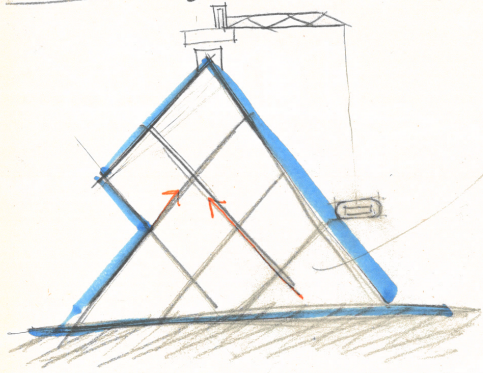


10.000 M2

micro



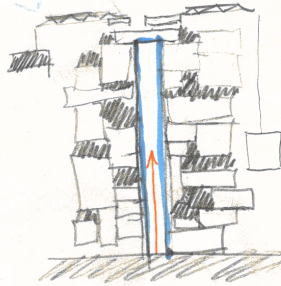
plug-in city



MEGA STRUCTURE

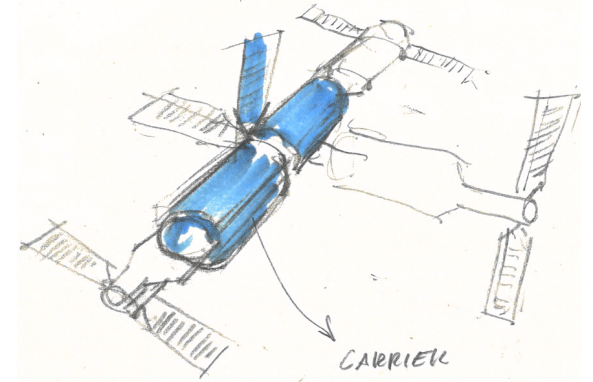
- ACCESS SYSTEM → DIAGONAL CABLES
- SERVICING ELEMENTS → CRANES

ENCLOSED SPACE THAT BECOMES PUBLIC AREA



Peter Cooks' plug-in city as reference and inspiration

CONCEPT PROGRAM 2050



space station as reference

PROGRAM

SPORTS



1500 M2 (600+900)

MUSIC



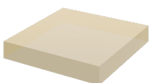
300 M2

URBAN LIVINGROOM



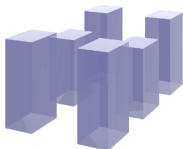
300 M2 (150+150)

FOOD



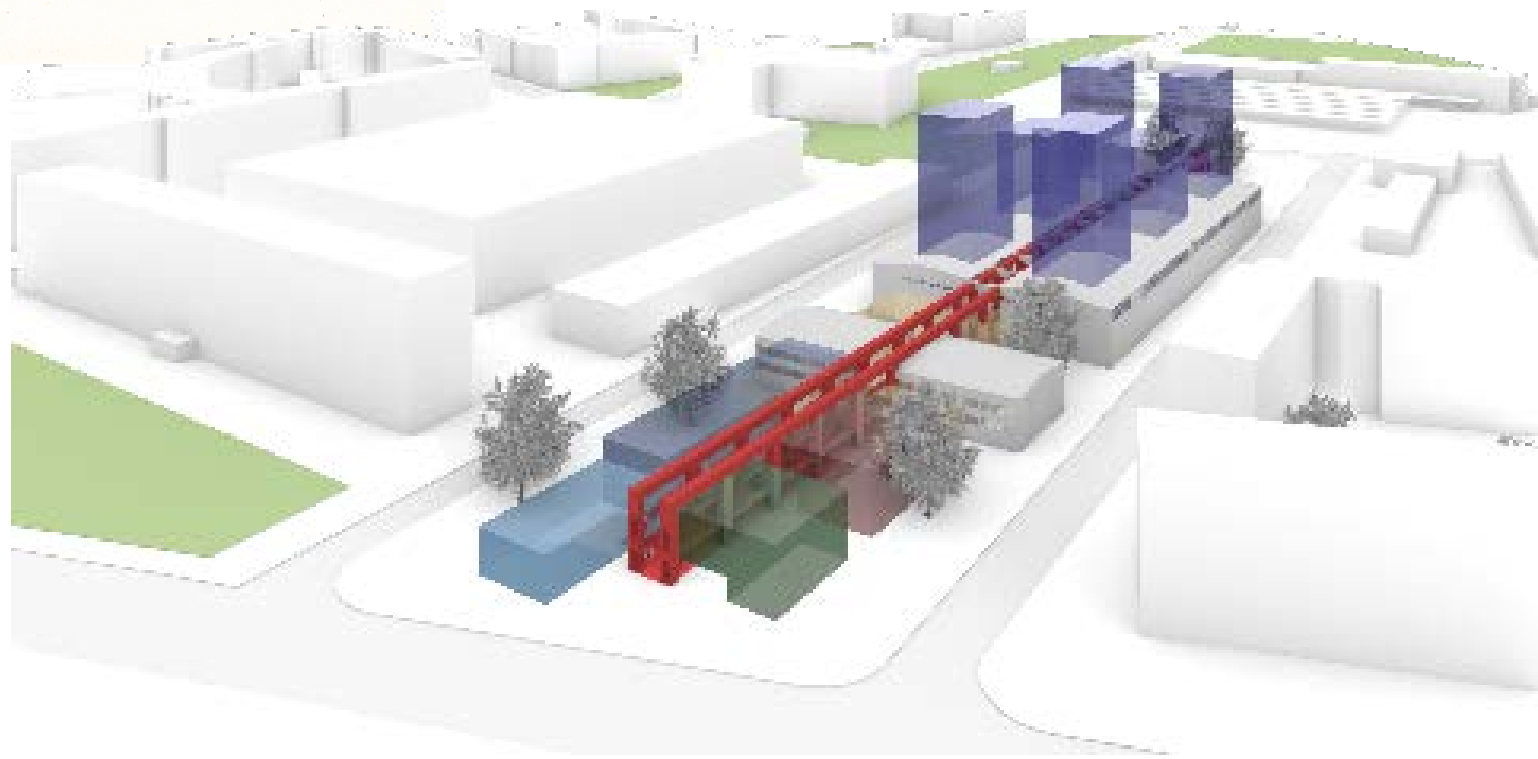
600 M2

RESIDENCES



10.000 M2

micro

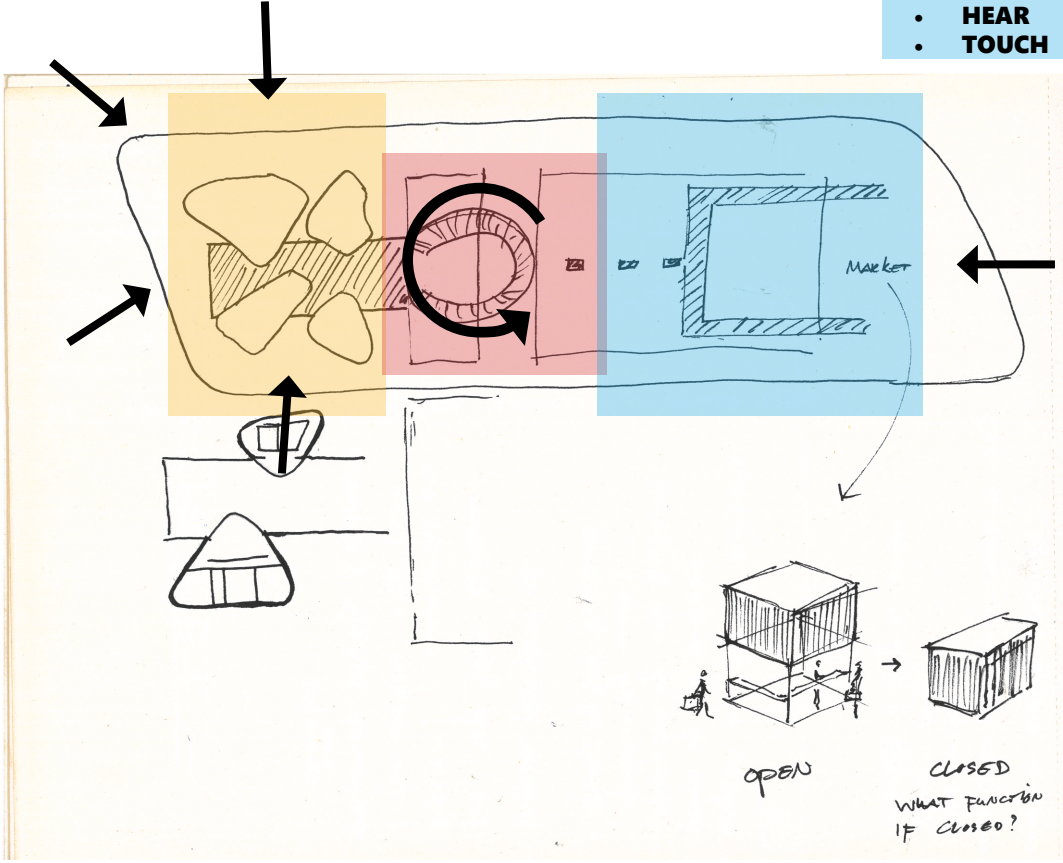


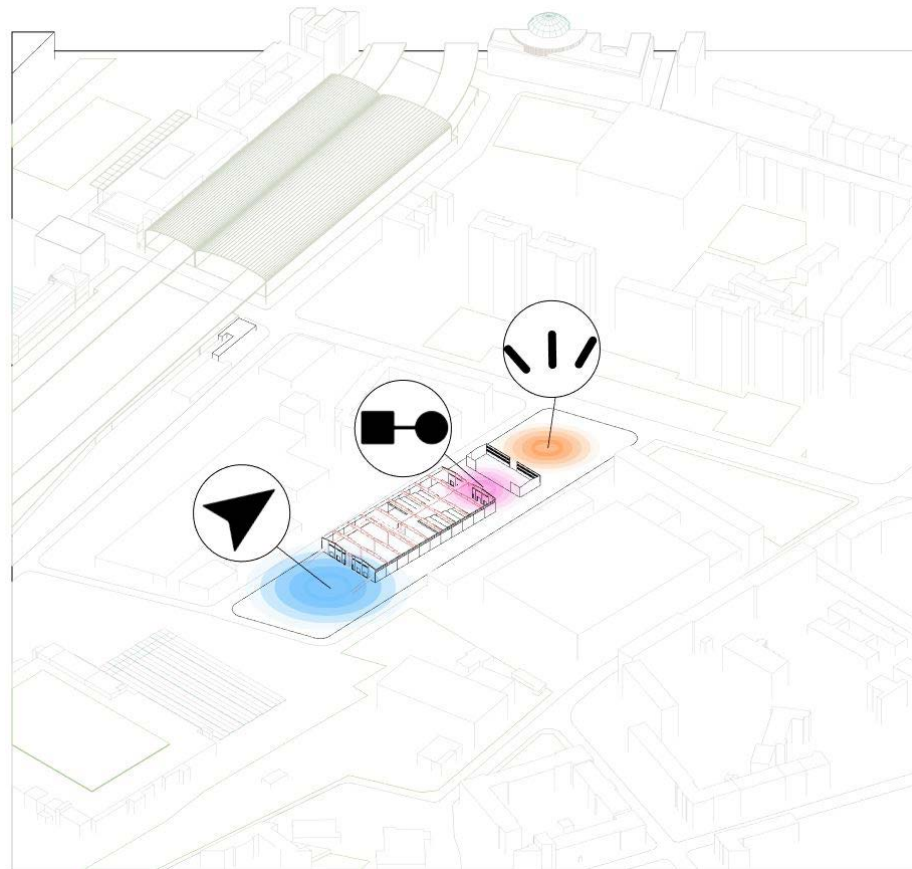
PROGRAM  
FUNCTION IN SURROUNDINGS

INVITE PEOPLE FROM STREET. MAKE THEM WALK AT LOW SPEED TO WANDER AROUND AND SEE WHAT'S HAPPENING  
**SENSE FOCUS:**  
• VISUAL  
• HEAR

MAKE PEOPLE STAND STILL AND CONNECT TO THE SPACE AND OTHERS. WALKING UP THE SPIRAL GIVES A DIFFERENT PERSPECTIVE.  
**SENSE FOCUS:**  
• TOUCH  
• SMELL  
• VISUAL  
• HEAR

DIRECT PEOPLE TOWARDS THEIR DESTINATION. GIVES AN OPPORTUNITY TO GET DISTRACTED FROM IT  
**SENSE FOCUS:**  
• VISUAL  
• HEAR  
• TOUCH





ATTRACT | CONNECT | DIRECT

ALL MOMENTS HAVE THEIR OWN ARCHITECTURE. TIME IS PLAYING  
AN IMPORTANT BUT UNCONCIOUS ROLE IN PASSING BY THE  
DIFFERENT AREAS

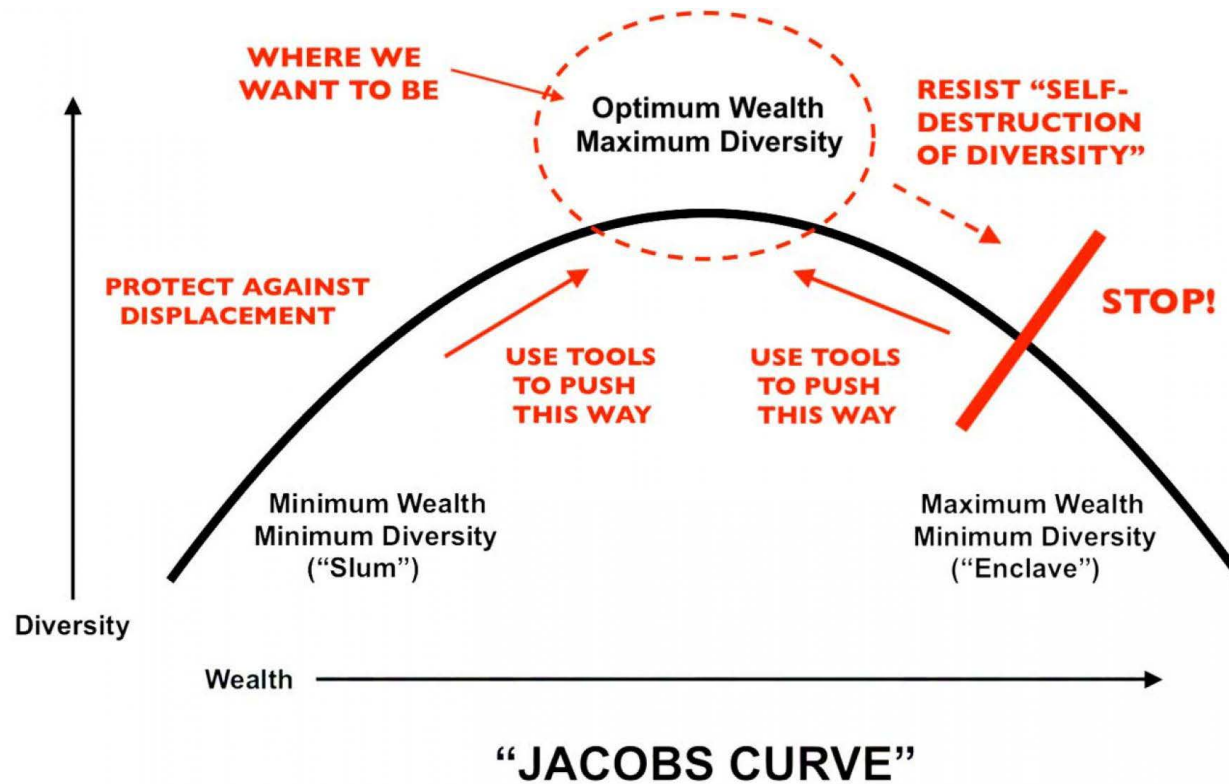
- 01| GENTRIFICATION
- 02| VISION
- 03| SITE & CONTEXT
- 04| PROGRAM
- 05| CONCEPT DIAGRAM
- 06| PLANS
- 07| SECTIONS
- 08| VISUALISATIONS

**E**

SCHEMATIC DESIGN

GENTRIFICATION  
GENERAL IDEA





Jane Jacobs: “As long as gentrification proceeds gently, with moderation, it tends to continue to be beneficial, and diversifying.”

**Effects (-)**

- Makes people move, mostly lower-educated/ lower incomes.
  - Increasing rents.
  - Decreasing sense belonging.

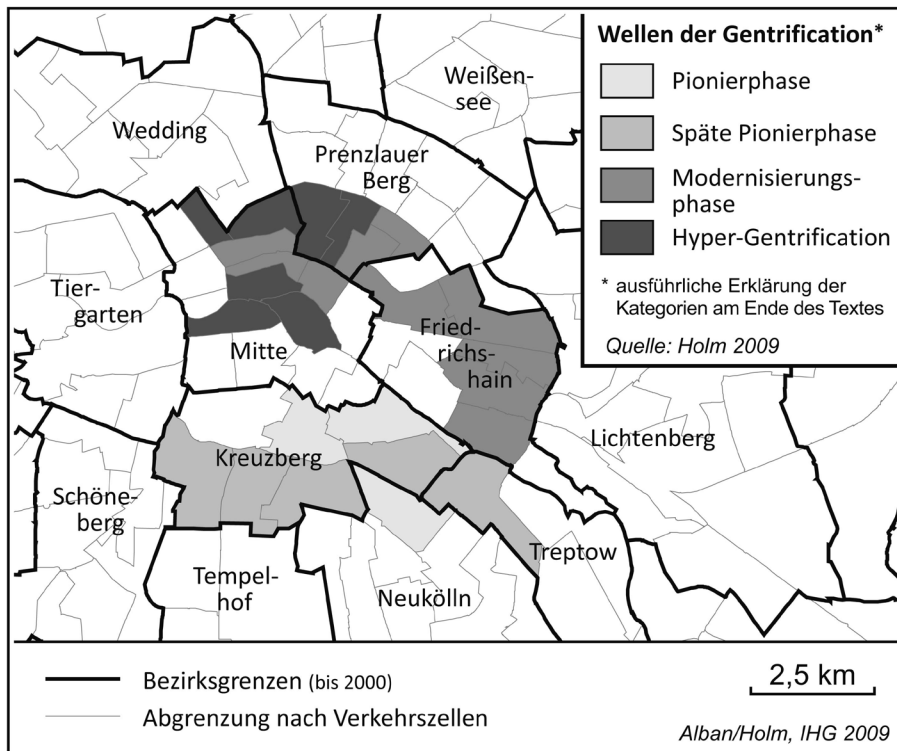
**Effects (+)**

- More diversity
- Children higher chance of finishing education

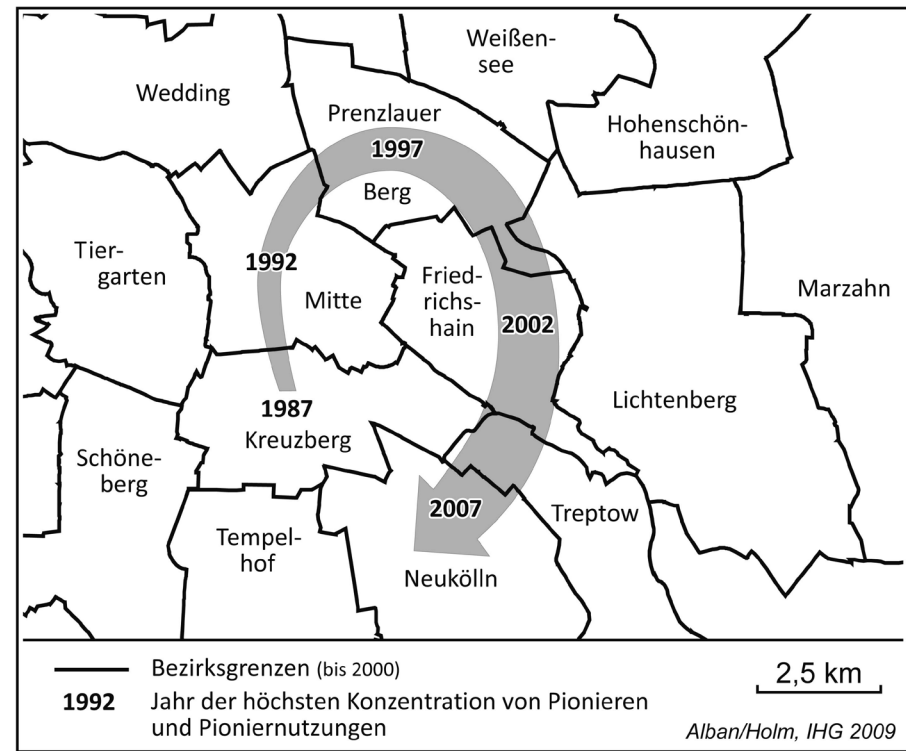
Brummet, Q., & Reed, D. (2019). The effects of gentrification on the well-being and opportunity of original resident adults and children.

Slater, T. (2006). The eviction of critical perspectives from gentrification research. *International Journal of Urban and Regional Research* 30 (4), pp. 737–57

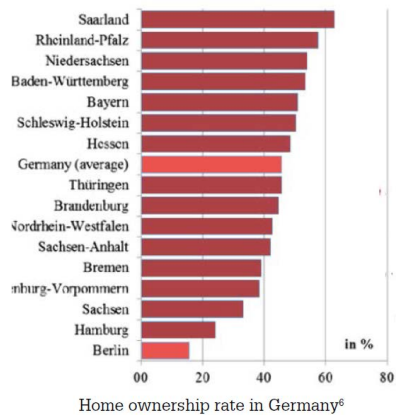
# GENTRIFICATION BERLIN



Räumliche Verlagerung von Pionierphasen der Gentrifikation in Berlin (1987-2007)



## Unification of East and west



After the city's unification, the newly elected local government tried to introduce the capitalistic market in the former East Berlin by opening the social housing sector and promoting gentrification projects for urban regeneration.

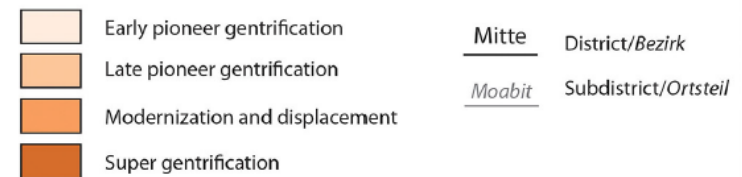
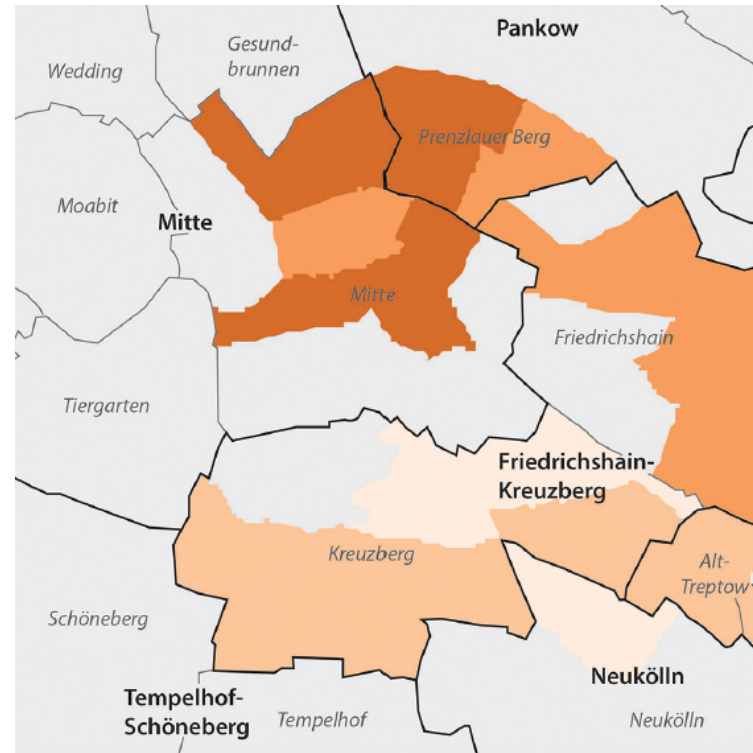
Low home ownership is a wide-country situation, the capital city has the **lowest house ownership percentage in Germany, at about 15.6%**. The phenomenon is even more widespread in the Friedrichshain-Kreuzberg district, where the rate of people **owning their house is as low as 5.4%**.

Changes to the social composition in Friedrichshain were most pronounced at first in terms of the rising share of residents with high educational status (Krätke2013). Modernization activities, on the other hand, were delayed. Nevertheless, comprehensive modernization has taken place, resulting in significant **increases in rents** (Holm 2011). Moreover, countless **bars and clubs shaped the image of Friedrichshain**, and their increasing commercialization leaves little room for the traditional corner pubs that once occupied the area (Holm 2011). Friedrichshain has thus undergone its pioneer phase, **evidence of displacement has surfaced**, and, as in Mitte and Prenzlauer Berg, this will likely continue unevenly according to the geography of private investment in the subdistrict.

# GENTRIFICATION FRIEDRICHSHAIN



Signs of gentrification Friedrichshain, Berlin



All categories are based on a mix of socio-demographic (income, age, type of household, education, mobility) and housing market (rent price, new build activities, modernization) indicators.

1 km

Cartography: Julia Siemer, University of Regina  
Source: BKG 2017, Berlin Open Data 2017, Holm 2013

## DEMOGRAPHIC RESEARCH

The concept that arose focussed with its pop-up architecture on so called 'A to B' users. From that point, further location and demographic research has shown the possible users in the area. Striking numbers reveal a high number of young people, increasing number of people with a migration background and an overall increase of inhabitants. Especially Wriezen Bahnhof stands out with extremes of an average age of 28,9 and a population growth of 61% in 2013-2018. Also the number of people with a migration background here is 68%.

## the social composition:

rising share of residents with high educational status

## Modernization activities:

Increased rents and commercialization leaves little space for corner pubs. Sense of belonging decreases by inhabitants.

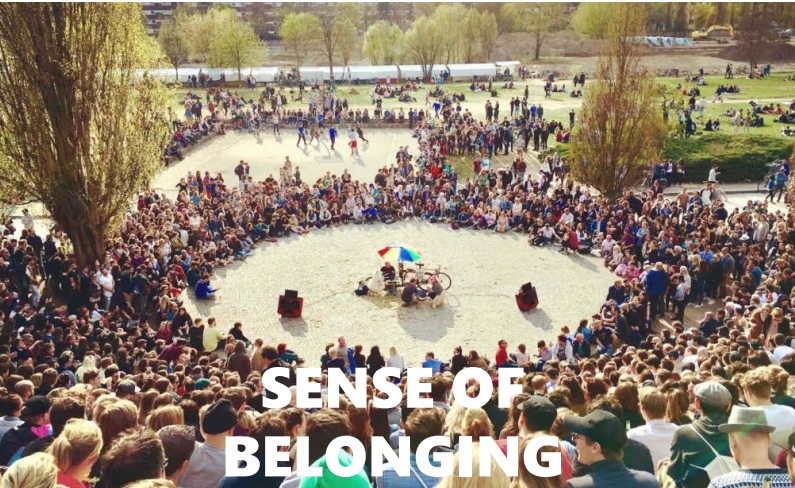
Friedrichshain has thus undergone its pioneer phase, **evidence of displacement has surfaced**

## **QUESTION**

PUBLIC CONDENSER

### **21ST CENTURY PUBLIC CONDENSER**

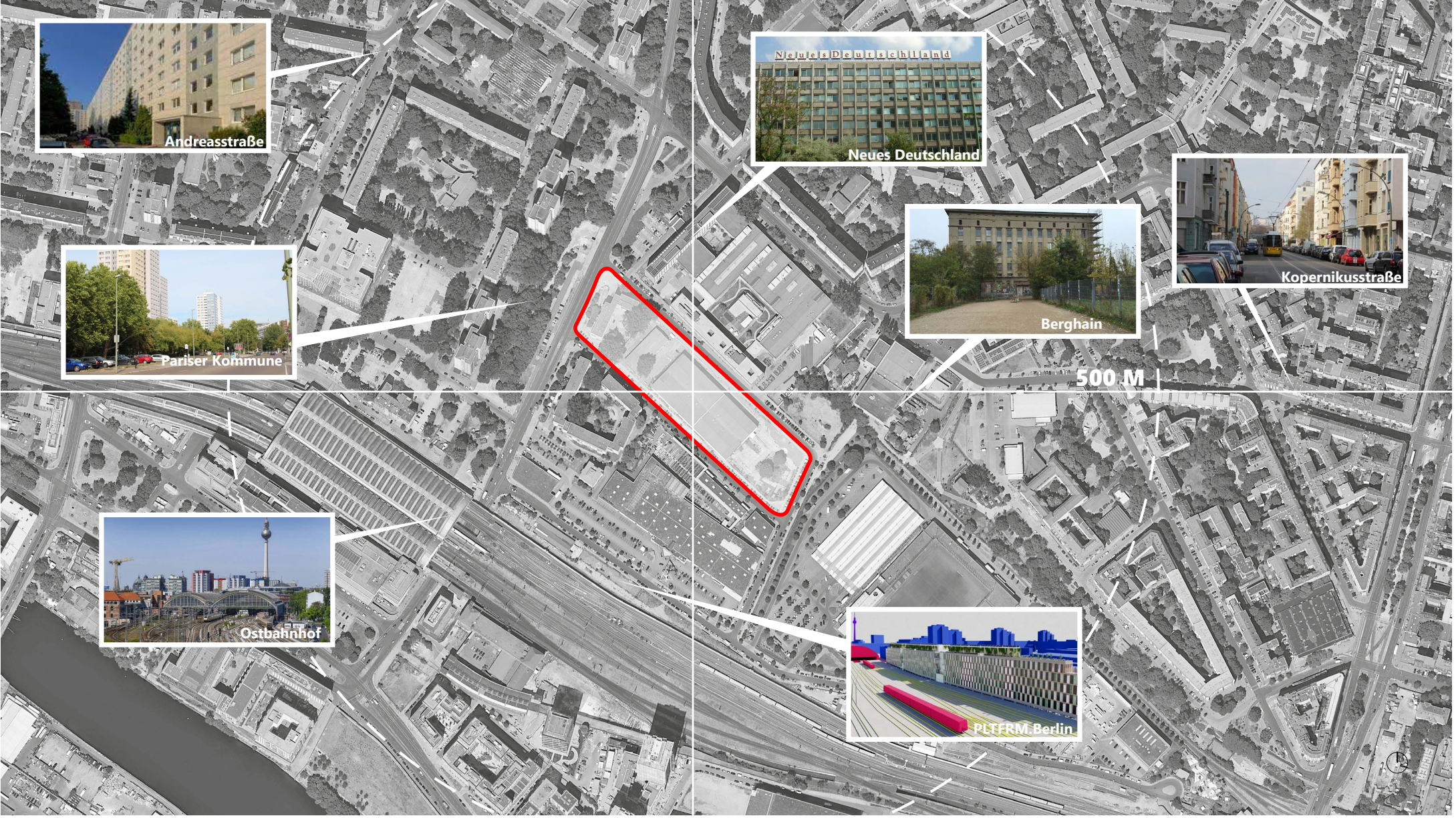
How can the architecture of a public condenser as a multi-phase system respond to social and economic issues like gentrification in an ever changing environment?

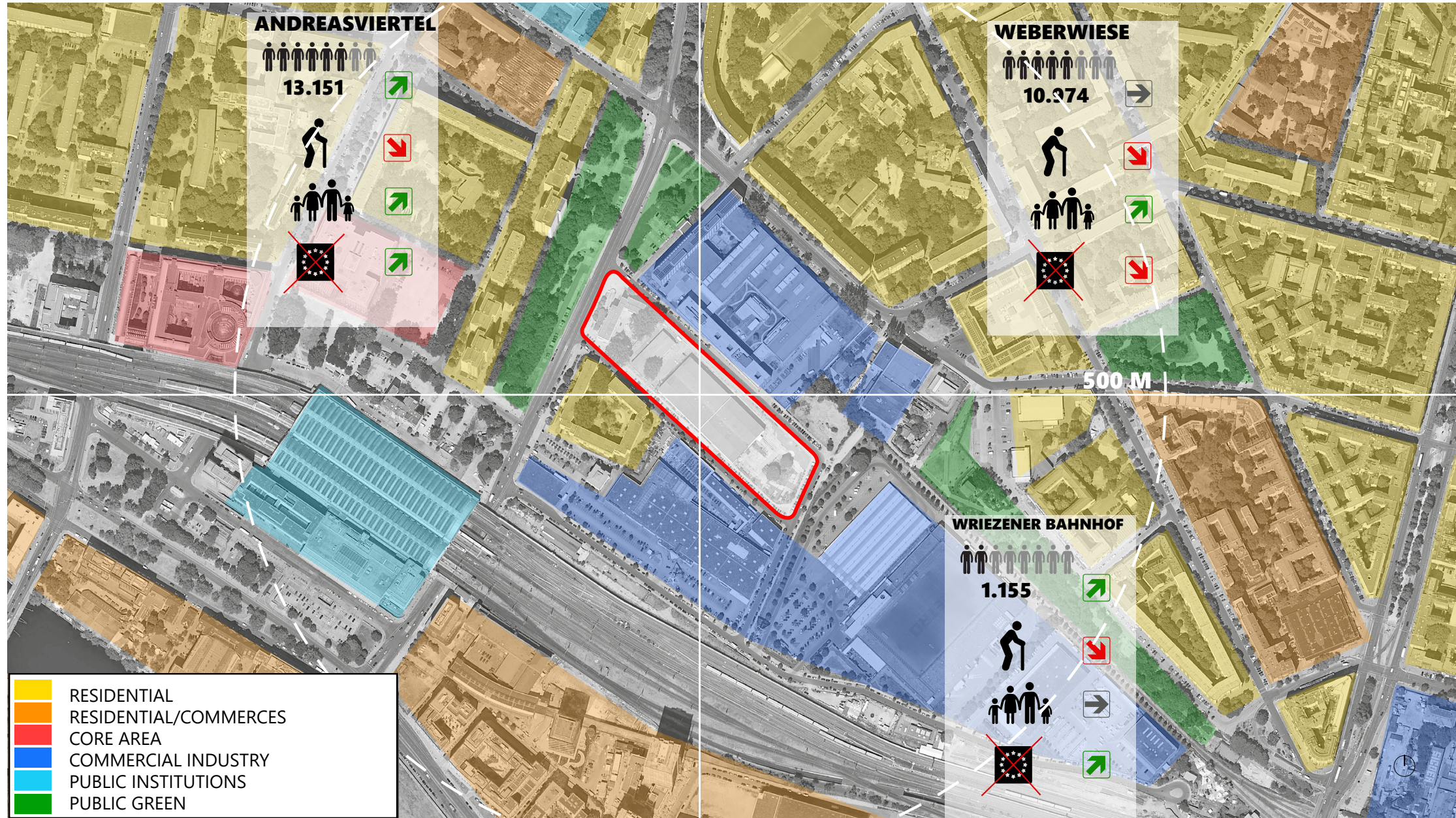


### **21ST CENTURY PUBLIC CONDENSER**

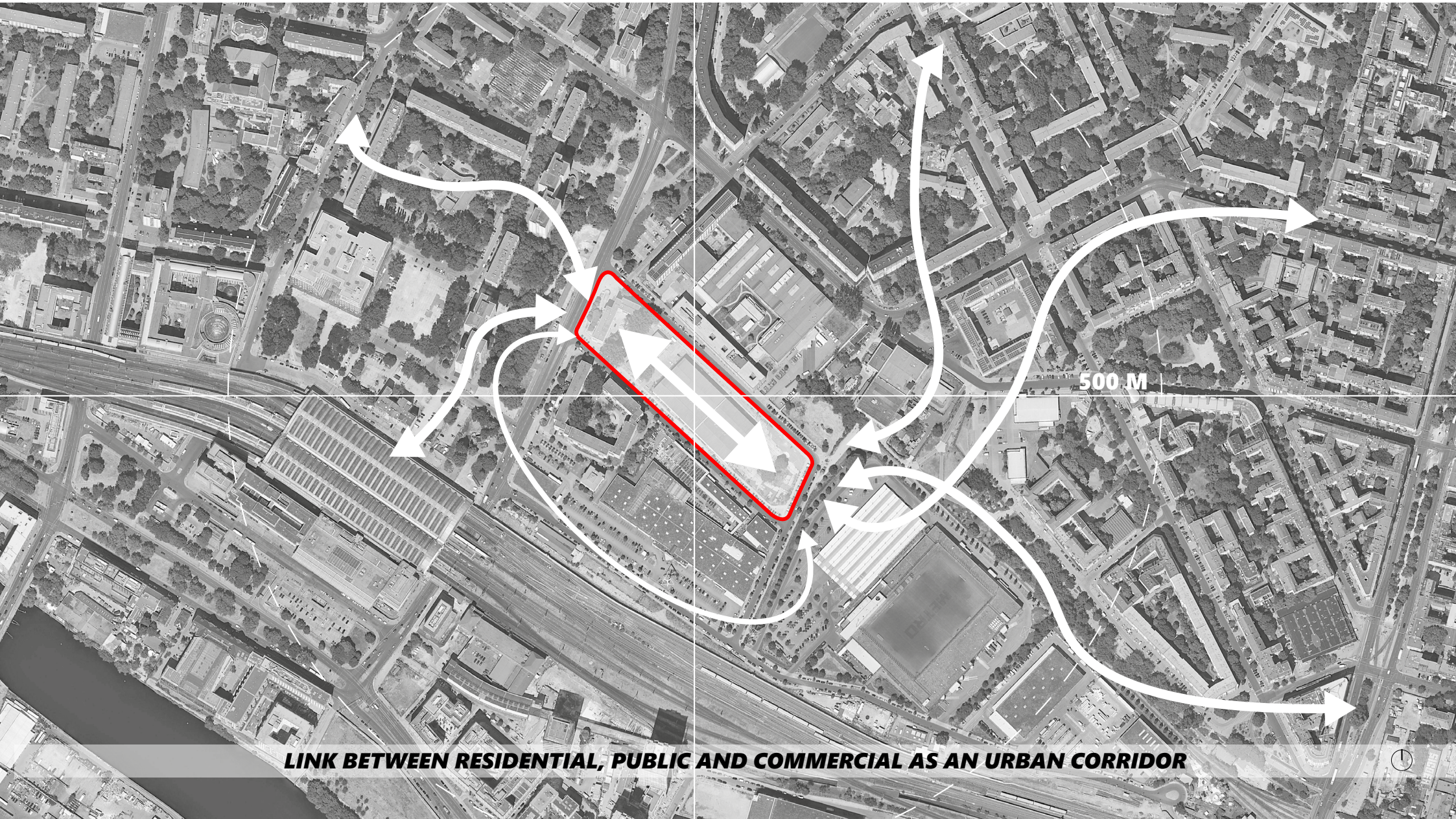
The 21st century public condenser focusses on the programmatic commons, creating a sense of belonging to both, new and original inhabitants. It also intertwines with the context, re-using and adapting what is there already. To respond to urban needs the public condenser is based on a removeable and programmable character.

**SITE**  
SURROUNDINGS

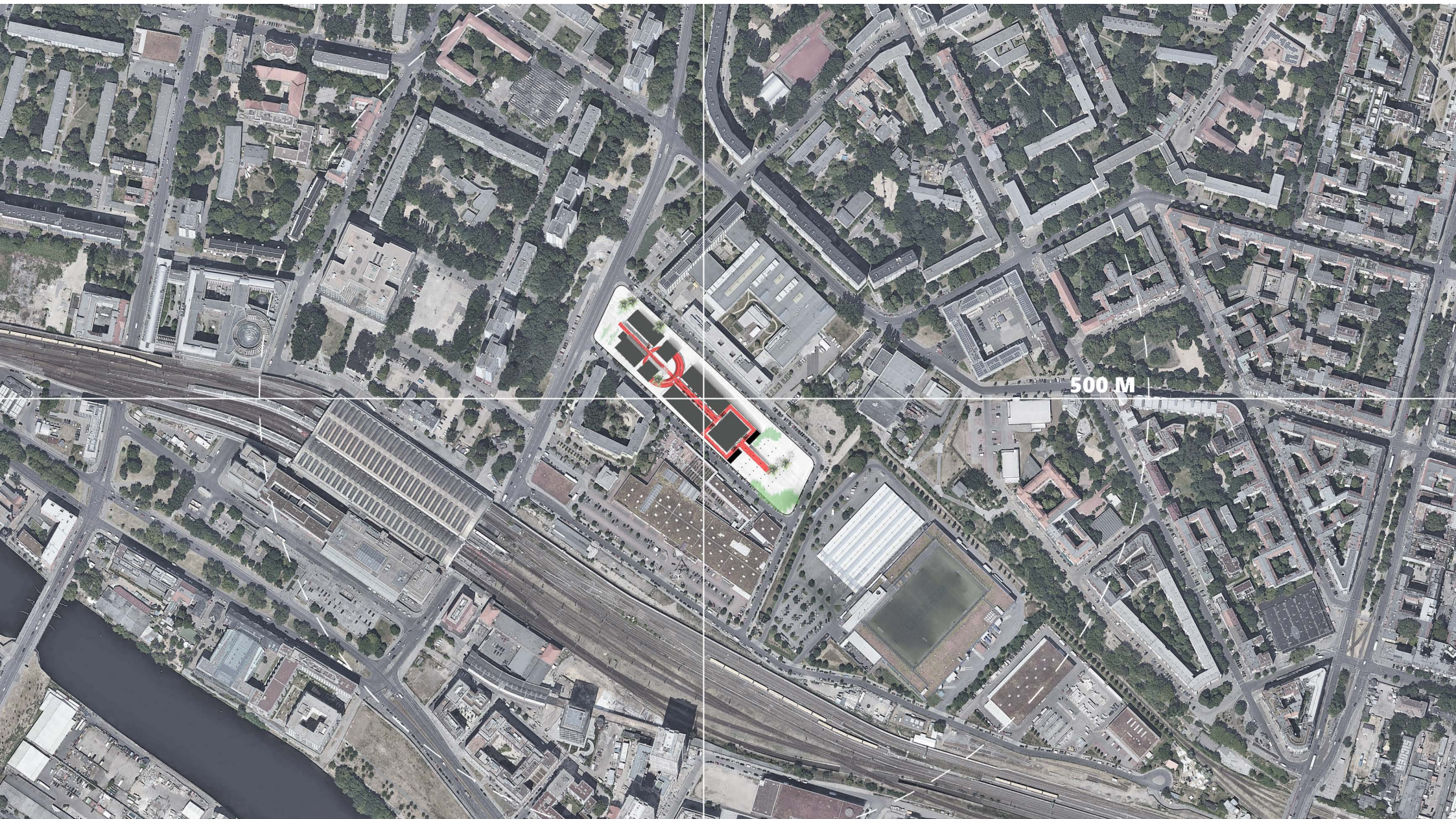




**SITE**  
LINK IN ITS SURROUNDINGS

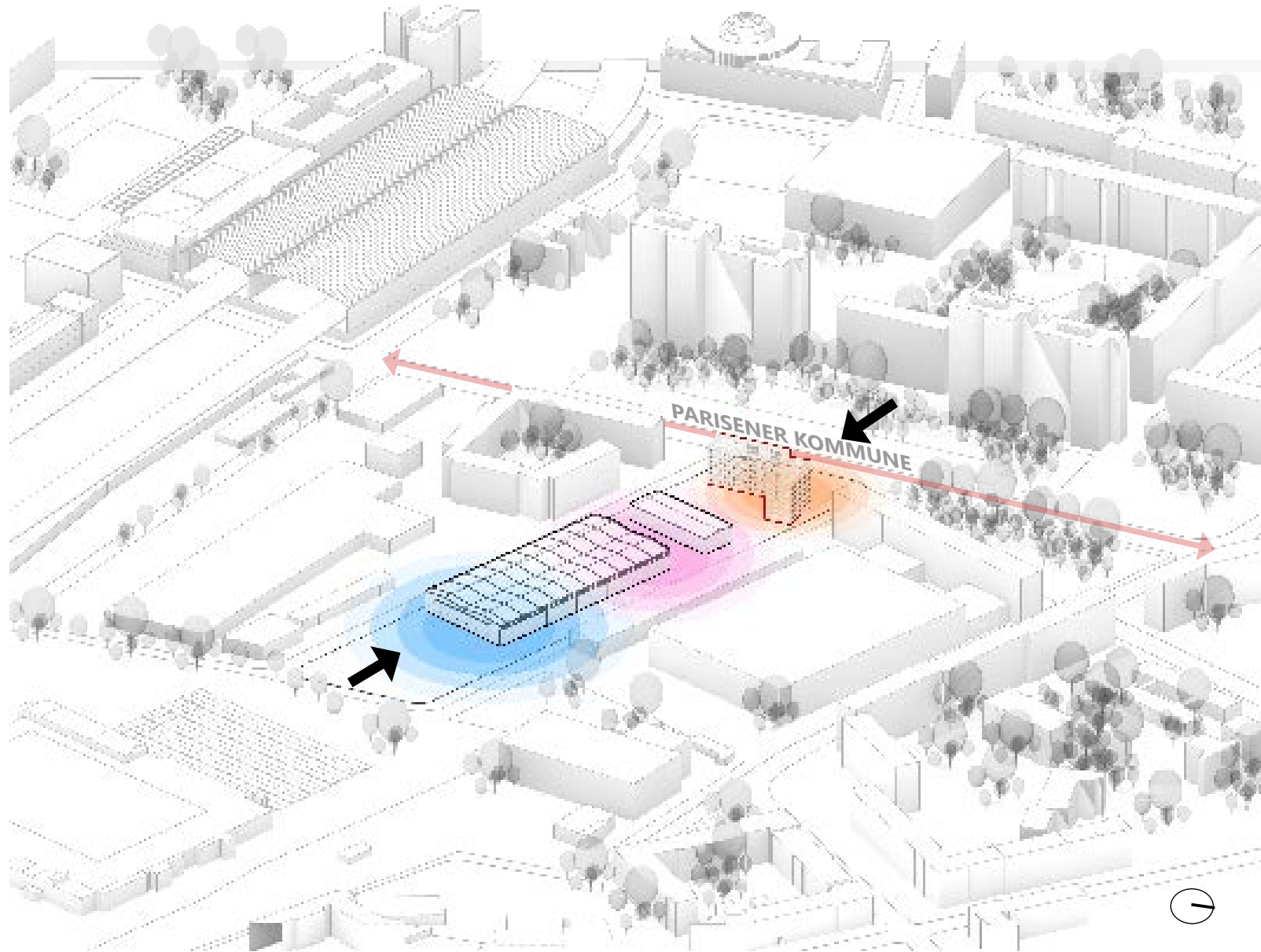
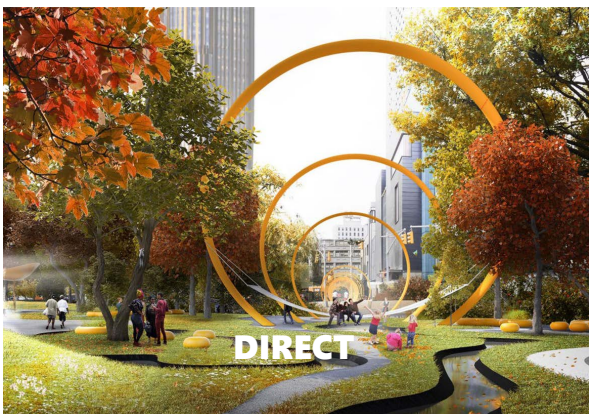


**LINK BETWEEN RESIDENTIAL, PUBLIC AND COMMERCIAL AS AN URBAN CORRIDOR**

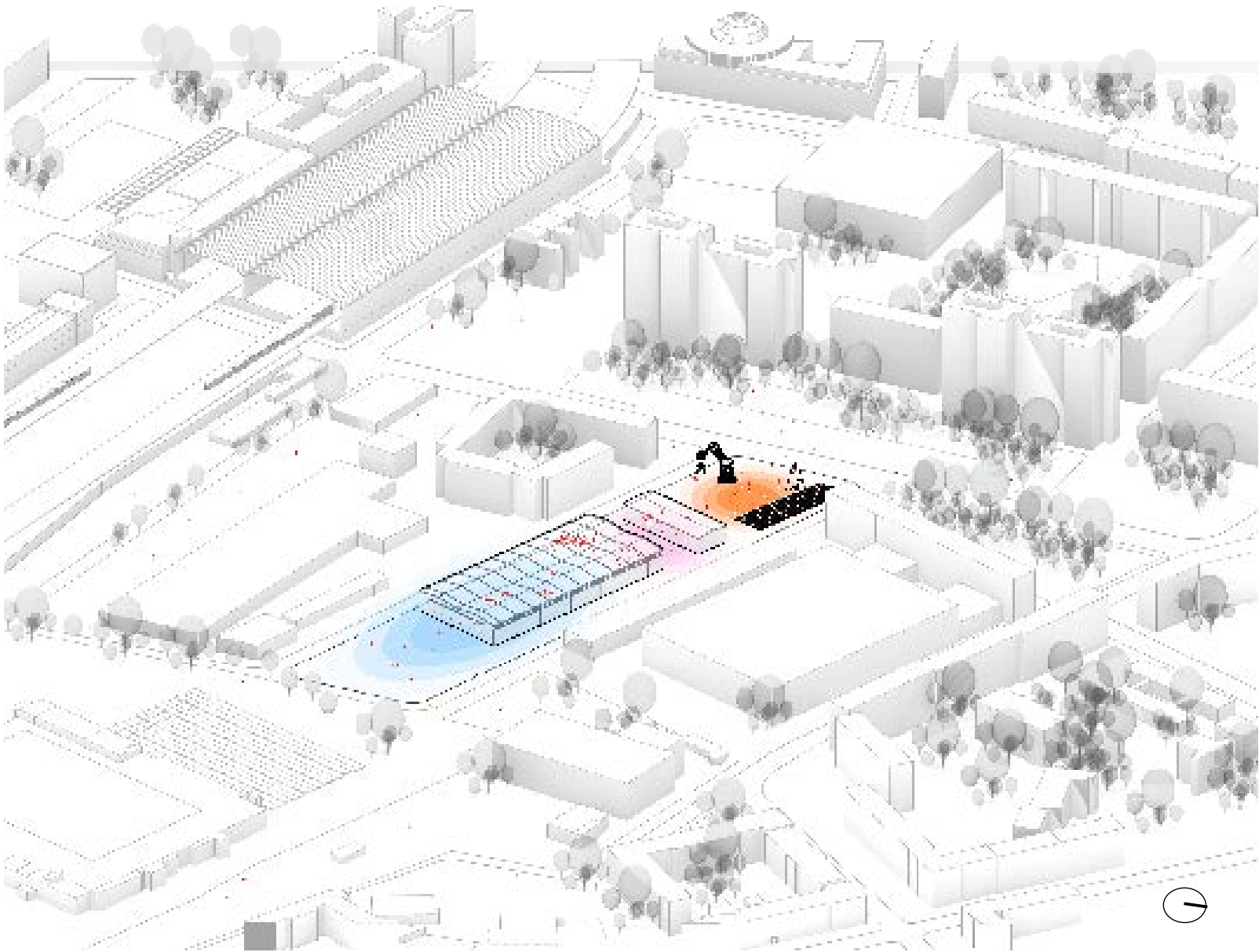


# PROGRAM ZONING

3 MOMENTS



**PROGRAM**  
ATTRACT



**PROGRAM:**  
URBAN LIVINGROOM  
SPORTS AND PLAYGROUND  
MAKERS STREET

**SOCIAL RETURNS**



CONNECTED TO  
URBAN FABRIC



SOCIAL INTER-  
ACTION



NEW MOTOR FOR  
CITY LIFE



MIXED USE

**PROGRAM**  
CONNECT



**PROGRAM:**  
EXHIBITION SPACE  
FOOD  
LIBRARY

**SOCIAL RETURNS**



UNIQUE EXPERIENCE



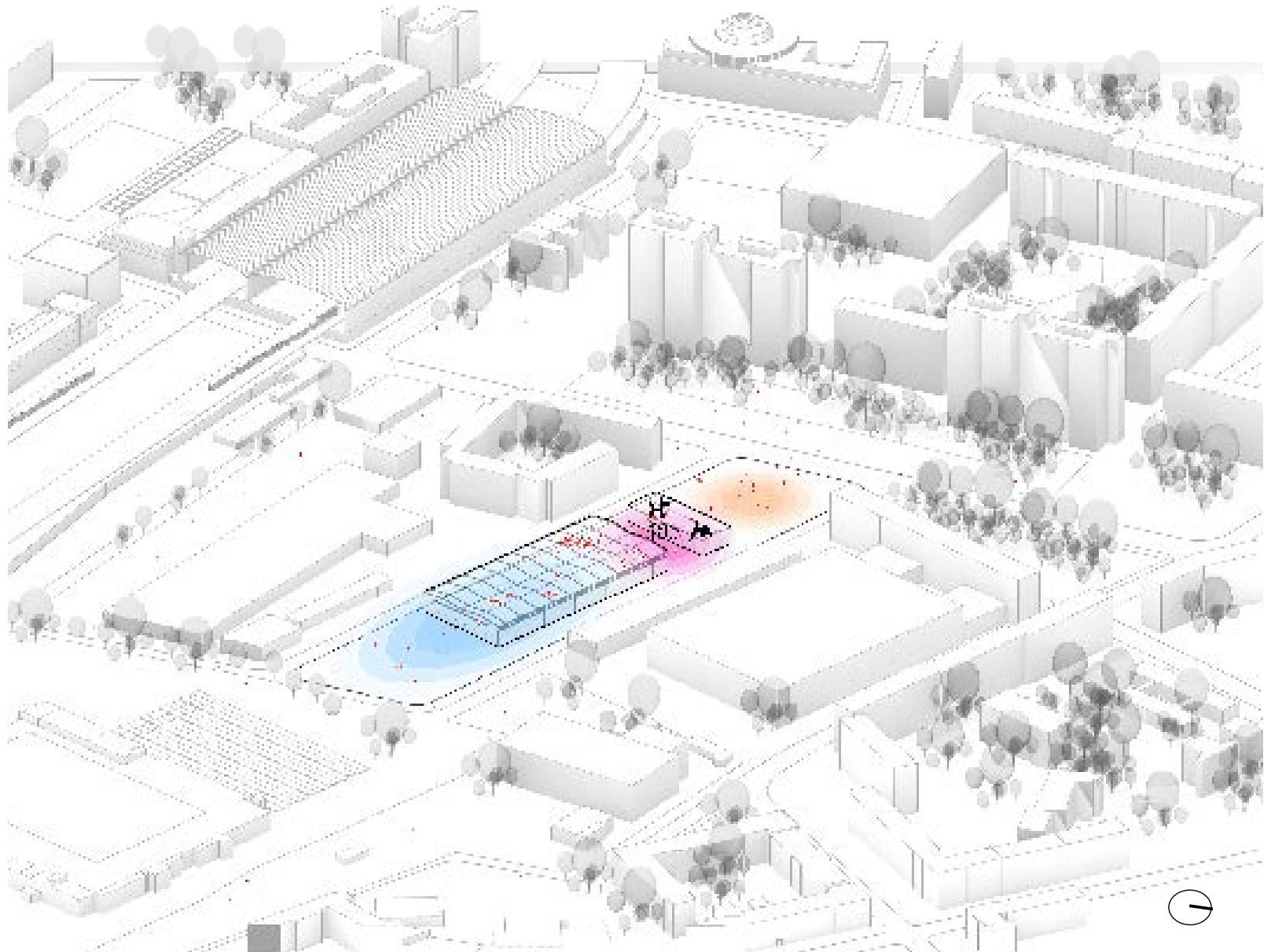
SOCIAL INTER-ACTION



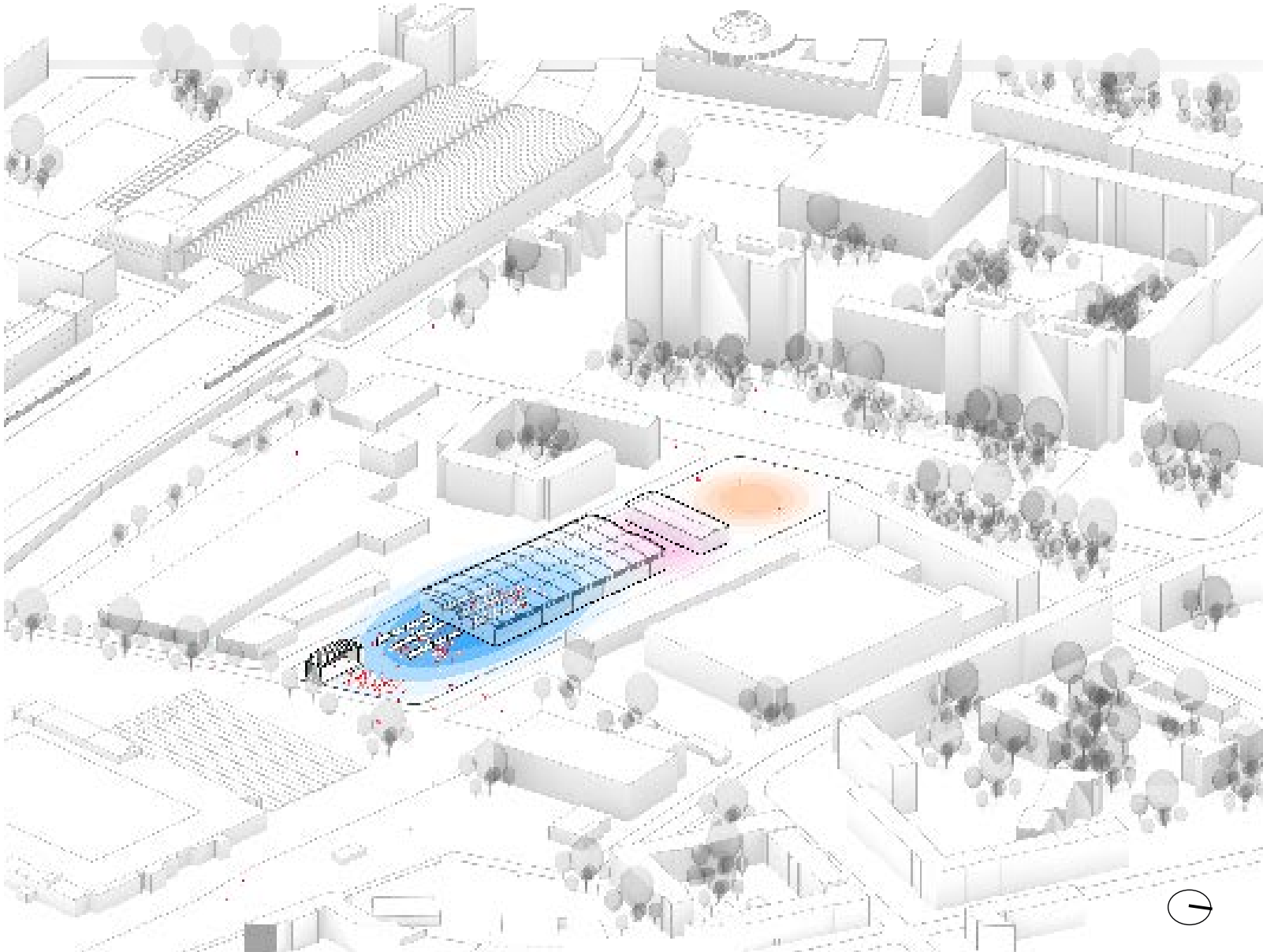
CULTURAL VENUE



POSSIBILITY TO LINGER



**PROGRAM**  
DIRECT



**PROGRAM(MABLE):**

- EVENTS HALL
- MARKET (VINTAGE TO GROCERY)
- CONCERT

**SOCIAL RETURNS**



CONNECTED TO  
URBAN FABRIC



SOCIAL INTER-  
ACTION



NEW MOTOR FOR  
CITYLIFE



CULTURAL VENUE

**PROGRAM**  
STRUCTURE



**PROGRAM:**  
ROUTING  
AMENITIES

**SOCIAL RETURNS**



CONNECTED TO  
URBAN FABRIC



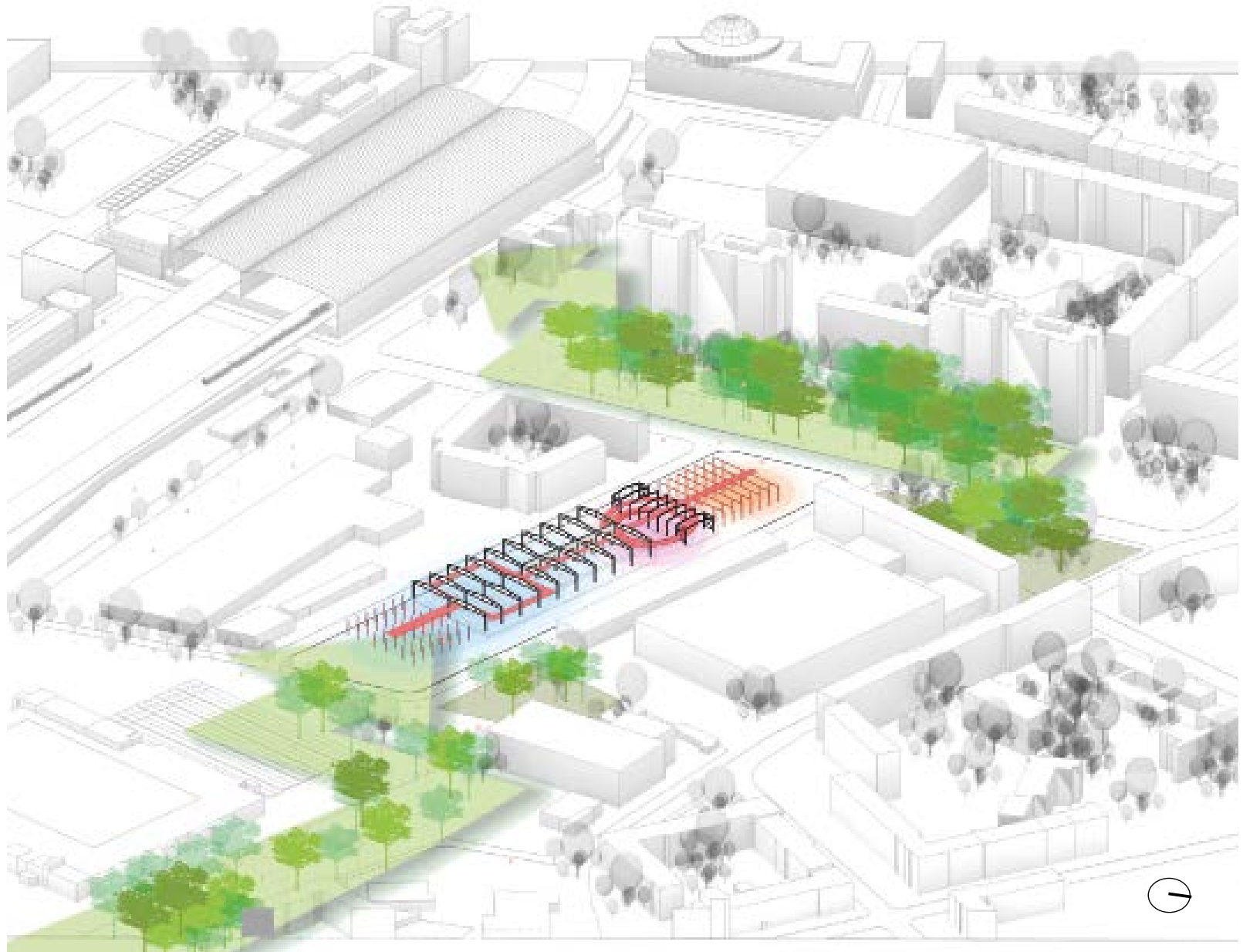
SUSTAINABLE



NEW MOTOR FOR  
CITY LIFE



FACILITATES  
OVER TIME



**PUBLIC SERVICES** (100 SQM)

- Information counter
- Toilets
- Mechanical space

**DAYCARE/SCHOOL**

- Entrance & Reception
- Changing rooms
- Squash courts
- Gym
- Yoga + meditation

**SPORTS CENTER** (600 SQM)

- Entrance & Reception
- Changing rooms
- Gym
- Yoga + meditation

**URBAN LIVING ROOM** (40 SQM)

- Kitchen
- Main space
- speakers corner

**MAKERS STREET** (600-1000 SQM)

- Reception information
- Ateliers
- Backoffices
- Storage

**EXHIBITION SPACE** (600 SQM)

- Open square

**LIBRARY + WORKSPACES** (2000 SQM)

- Reception information
- 8 Rentable offices
- Lecture Hall
- Library
- Food corner(s)

**EVENT SPACES** (1000-2000 SQM)

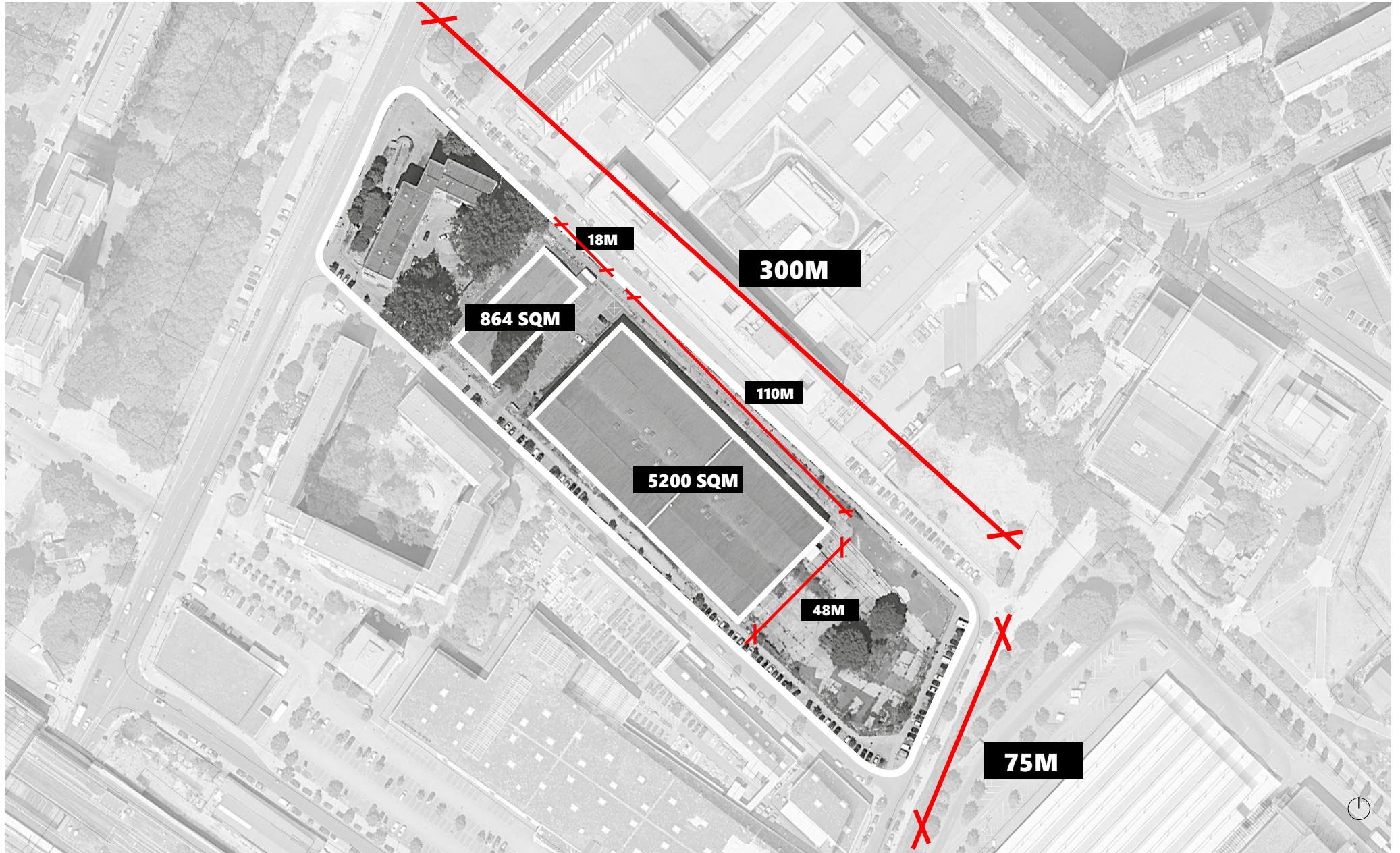
- 1 indoor hall
- 1 outdoor area

REMOVEABLE

STABLE

FLEXIBLE

**PLOT**  
DIMENSIONS

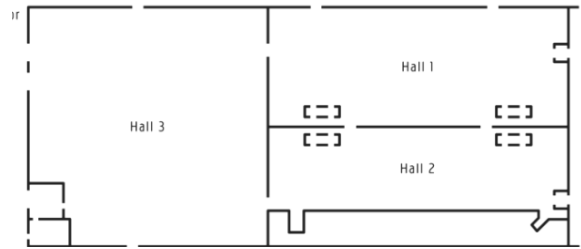
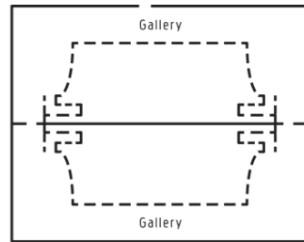


**PLOT**  
BUILDINGS FRAMEWORK

**FLOOR SPACE**

1.320 m<sup>2</sup> hall 1 + 770 m<sup>2</sup> gallery  
 1.030 m<sup>2</sup> hall 2 + 770 m<sup>2</sup> gallery  
 2.100 m<sup>2</sup> hall 3  
 4.200 m<sup>2</sup> outside area  
 11,20 m ceiling height

1 floor



PLATTENBAU ON PLOT NOT RENOVATED



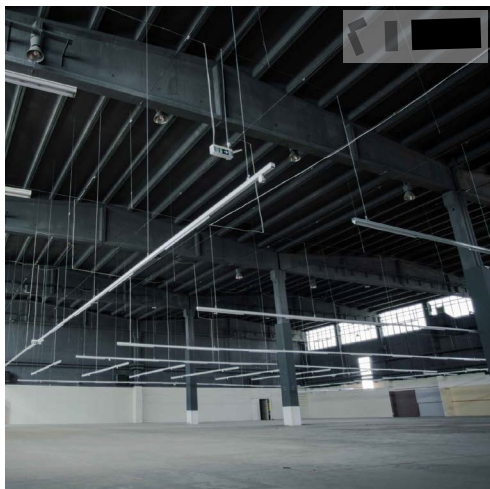
LIFTED GROUND FLOOR +1,20m



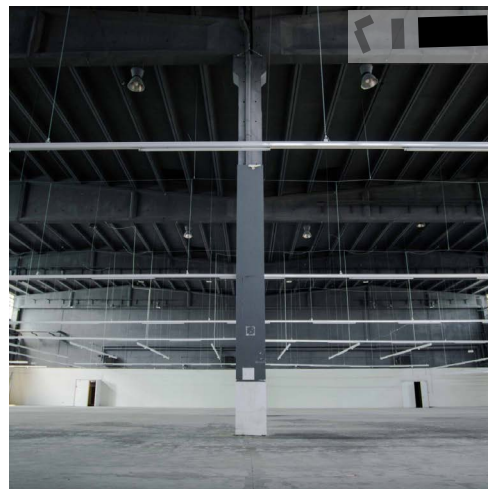
BADLY AGED FACADES



UNFRIENDLY IN BETWEEN SPACES



CONCRETE STRUCTURE REMAINED INTACT



NATURAL LIGHT



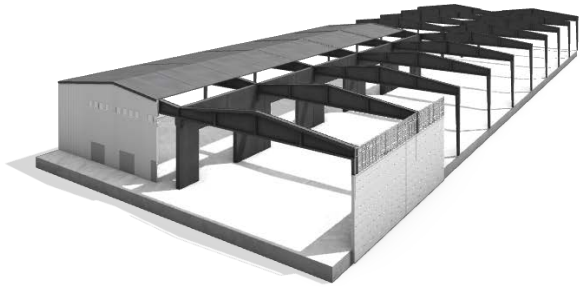
FLEXIBLE EVENT SPACES



SPACIOUS INTERIORS

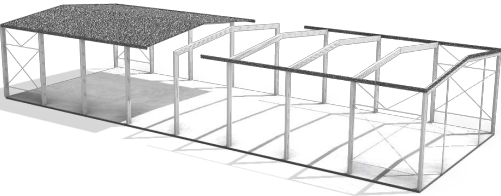
### RE-USE OLD PAPER FACTORY (EVENT HALL)

- CONCRETE STRUCTURE 100%
- FACADES 90%
- FLOOR 100%
- ROOF 60%



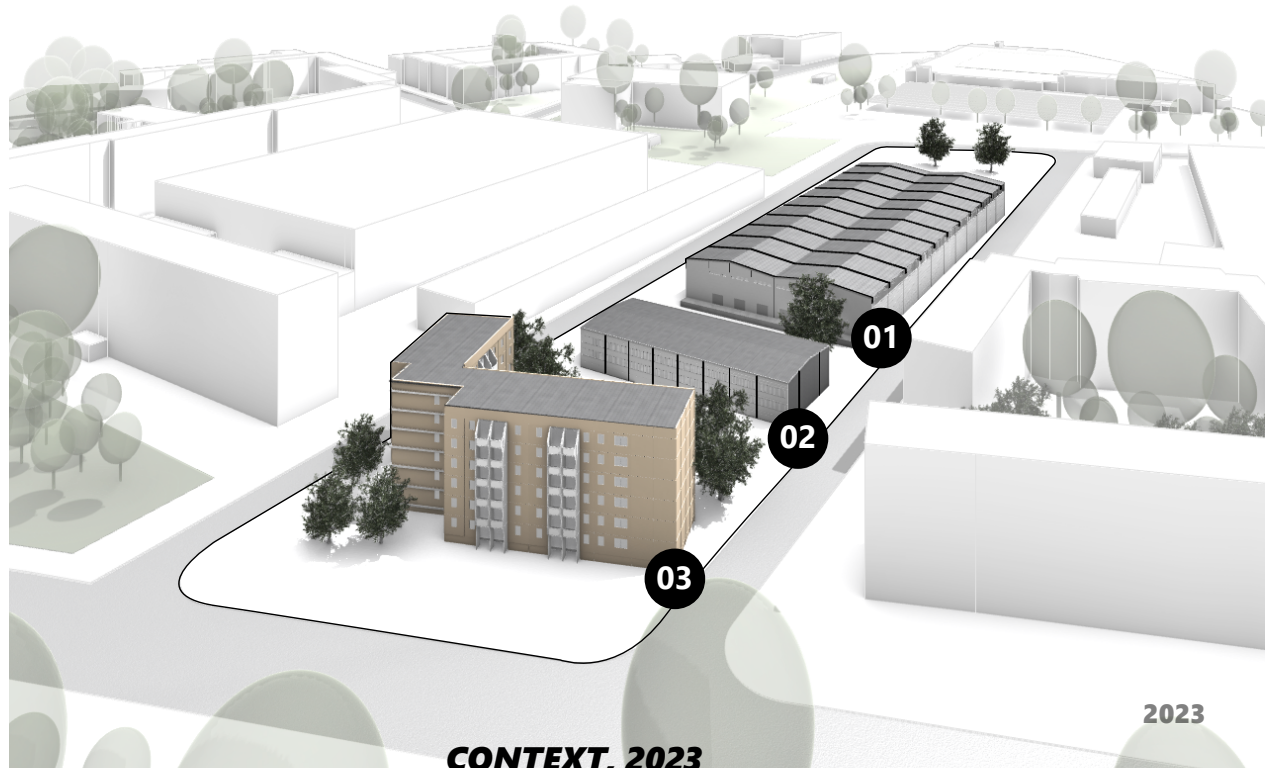
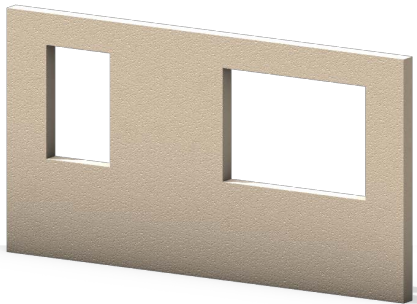
### RE-USE UTILITY BUILDING (EMPTY)

- STEEL STRUCTURE 100%
- FACADES 10%
- FLOOR 100%
- ROOF 90%

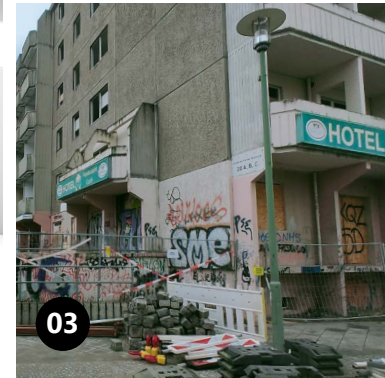


### RE-USE PLATTENBAU HOTEL (EMPTY)

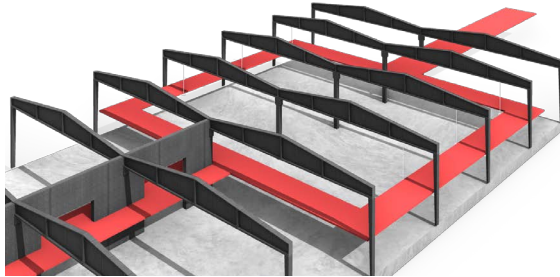
- FACADE ELEMENTS (PLATTEN) 20%



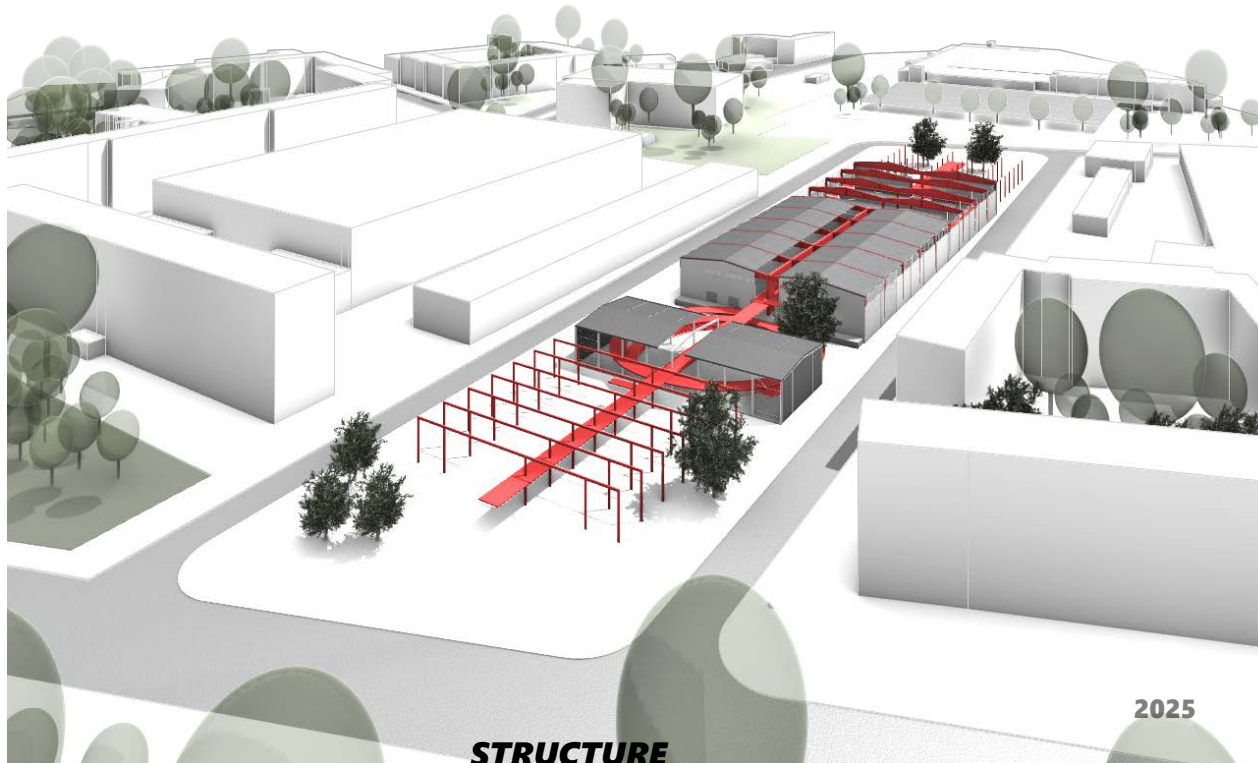
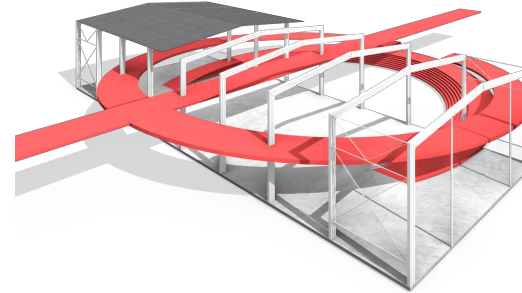
RE-USE OF VOLUMES AND MATERIALS



**PAPER FACTORY**  
NEW STRUCTURE IS HUNG UP ON  
AND SUPPORTED BY EXISTING STRUCTURE



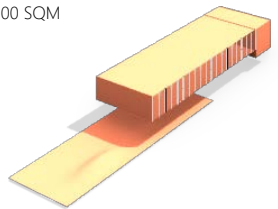
**UTILITY BUILDING**  
NEW STRUCTURE IS INTERTWINED WITH  
EXISTING STRUCTURE



**STRUCTURE**  
CARRIER OF THE PROJECT

2025

**SPORTS**  
500 SQM



- 4 SQUASH COURTS
- GYM
- COVERED PLAYGROUND

**URBAN LIVINGROOM**  
40 SQM



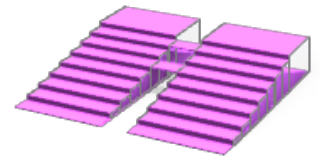
- KITCHEN
- MAIN SPACE

**MAKERS ATELIERS**  
600-1000 SQM



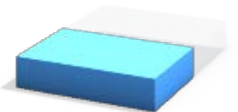
- 4 WORKSHOPS
- SHARED CORRIDOR

**LIBRARY + WORKSPACES**  
2000 SQM



- 8 RENTABLE OFFICES
- LIBRARY
- LECTURE HALL

**EVENT SPACES**  
1000-2000 SQM



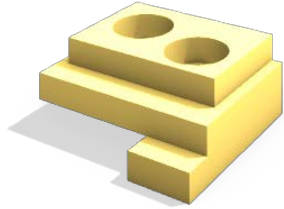
- 1 INDOOR EVENT SPACE
- 1 OUTDOOR EVENT SPACE



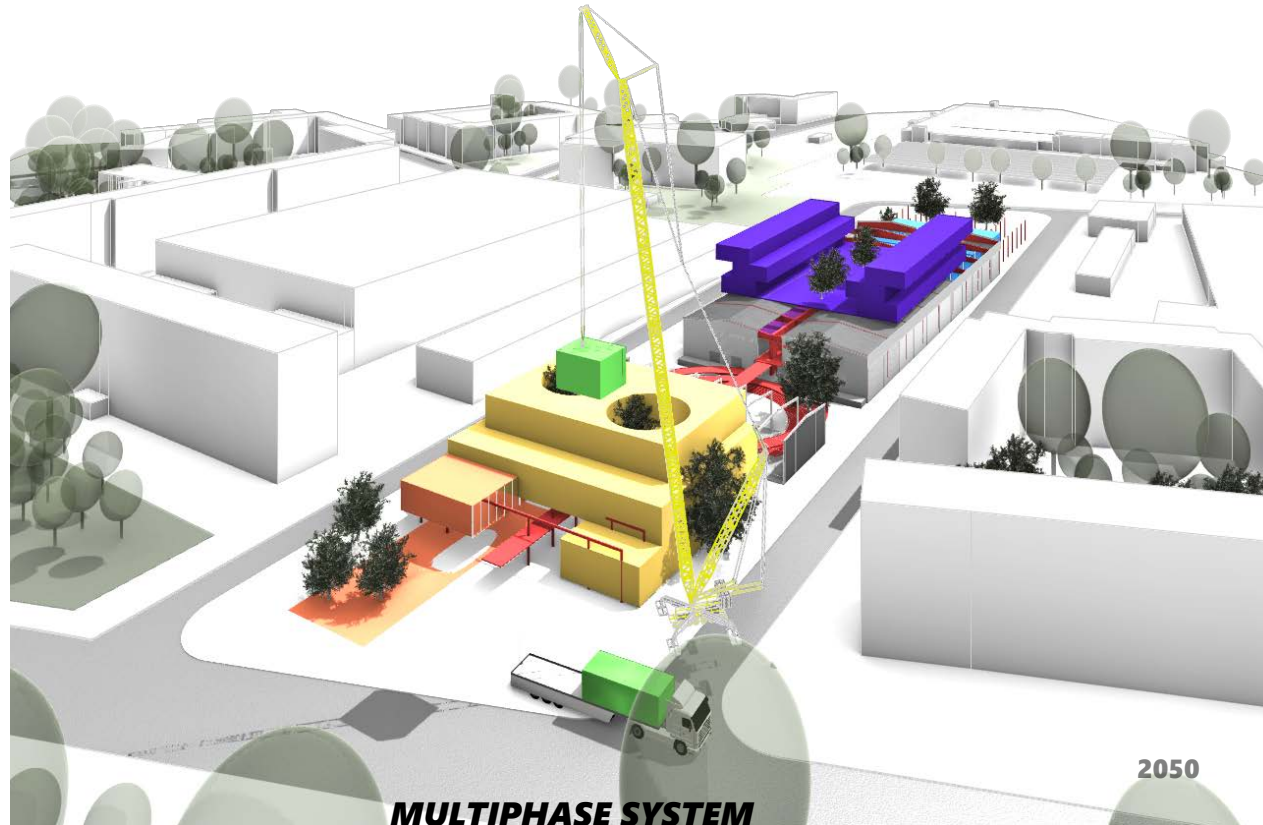
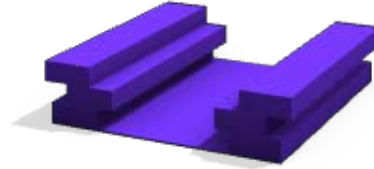
**PROGRAM**

2035

**MAKERS ATELIERS**  
10.000 SQM



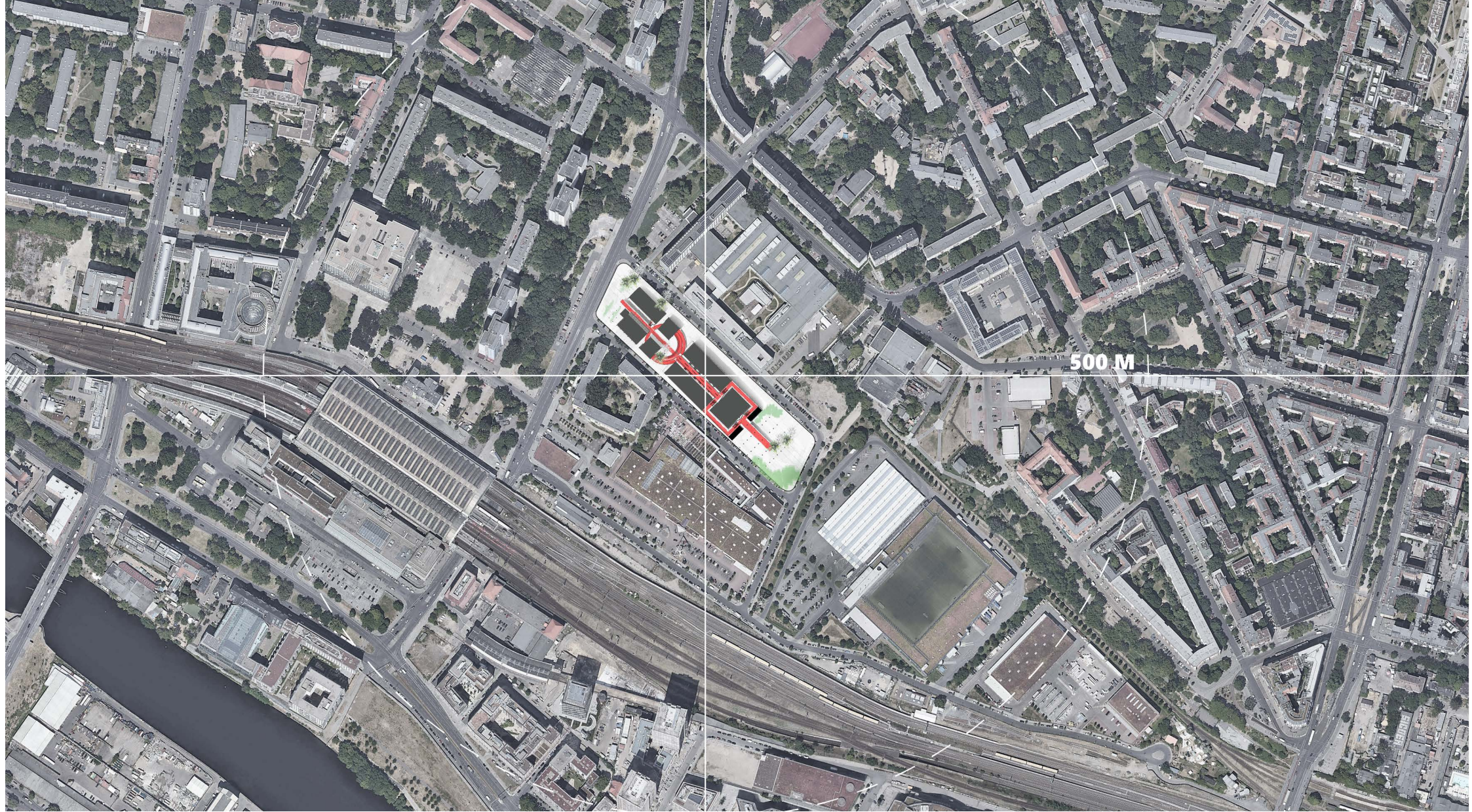
**HOUSING**  
5000 SQM



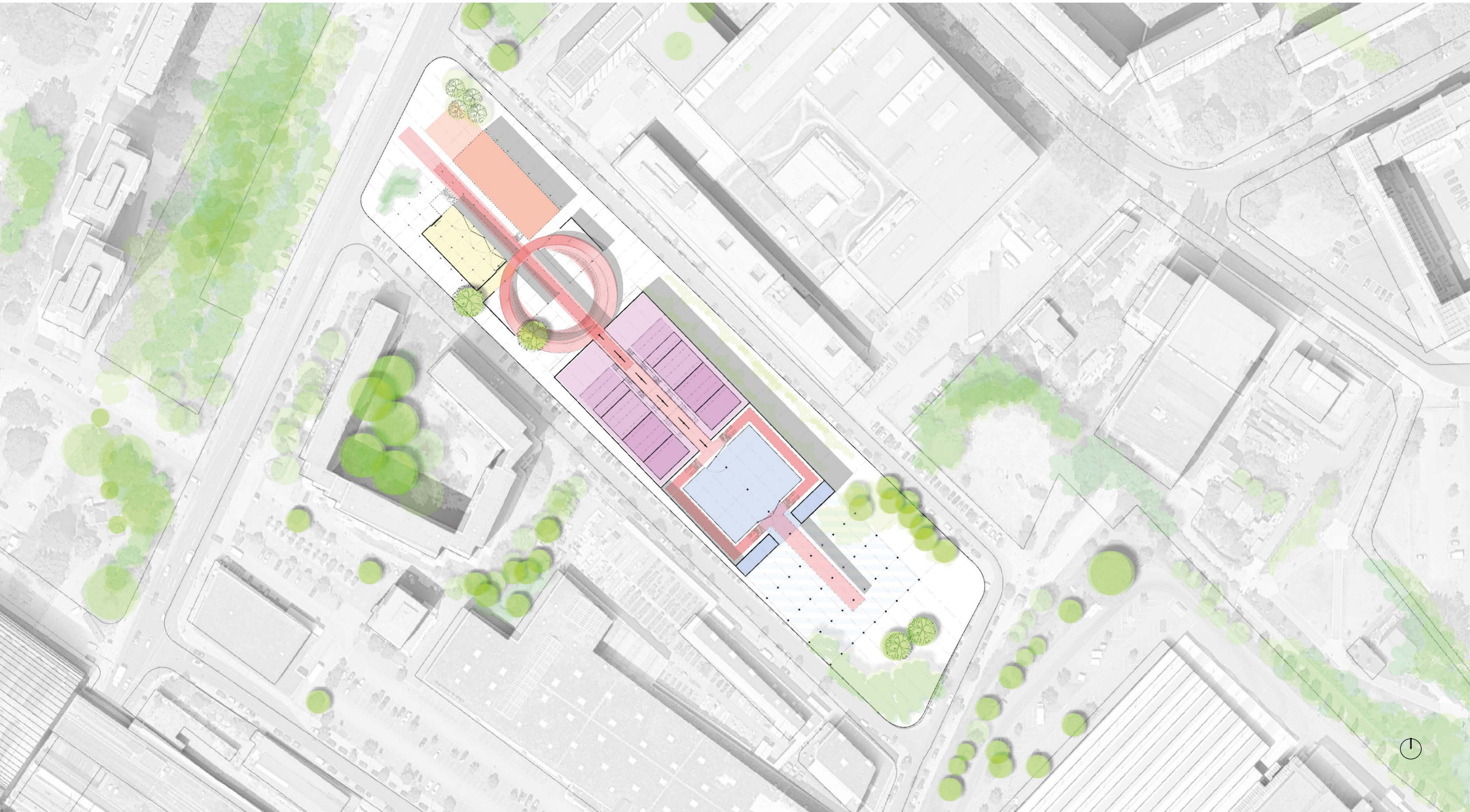
2050

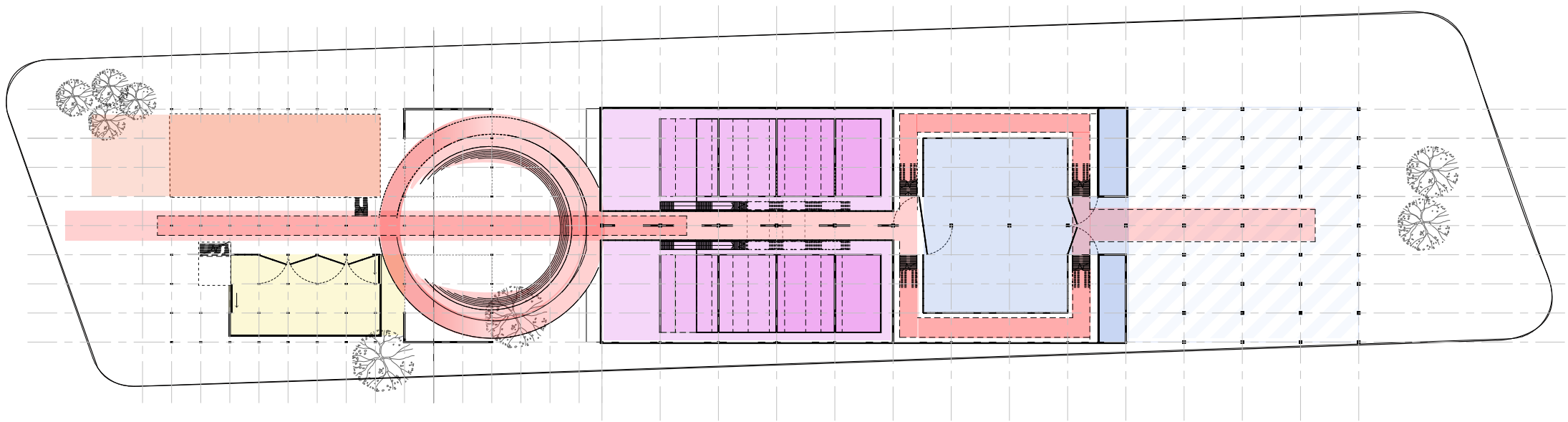
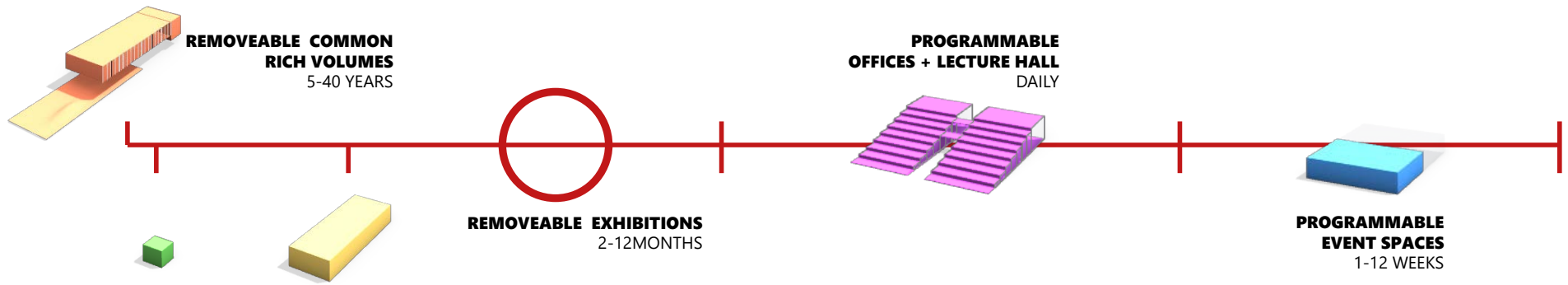
**MULTIPHASE SYSTEM**

**PLAN**  
CONTEXT 1/10.00

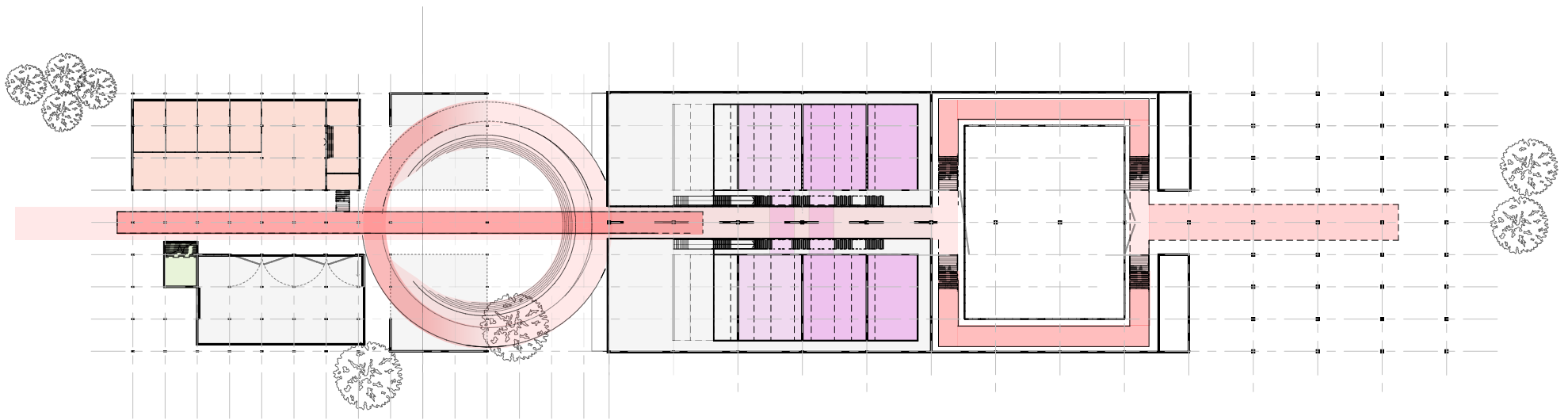


**PLAN**  
CONTEXT 1:2000





**GROUND FLOOR TIMESPAN**  
SCALE 1/500



**FIRST FLOOR +4M**  
SCALE 1/500



WOOD  
CONSTRUCTION



ADJUSTABLE OVER  
TIME



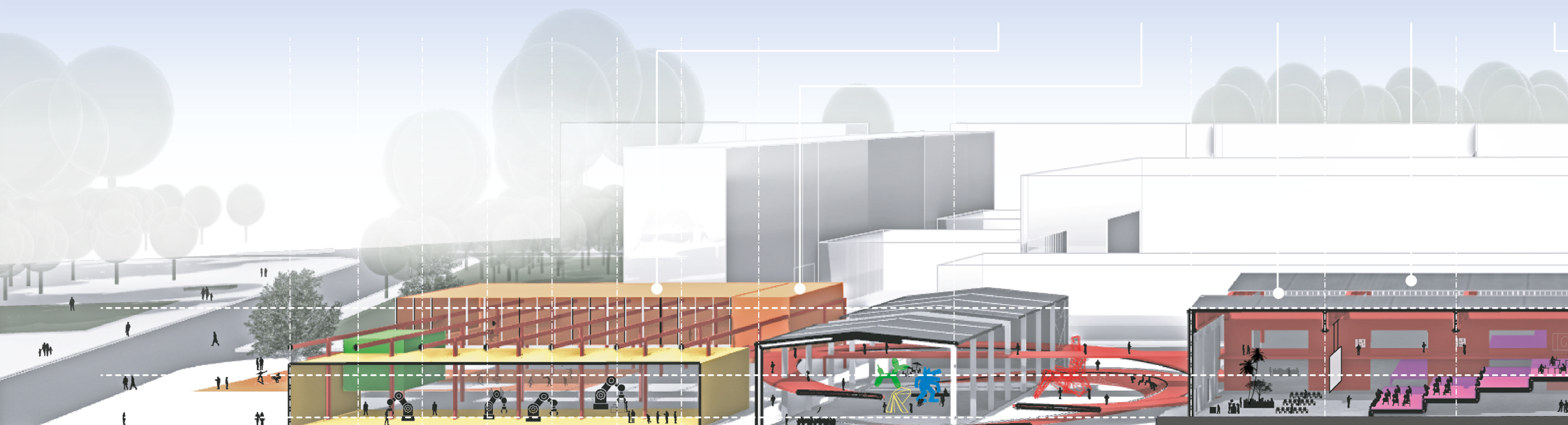
DIFFUSED  
ILLUMINATION  
BY LIGHT SHAFT



RE-USE  
MATERIALS

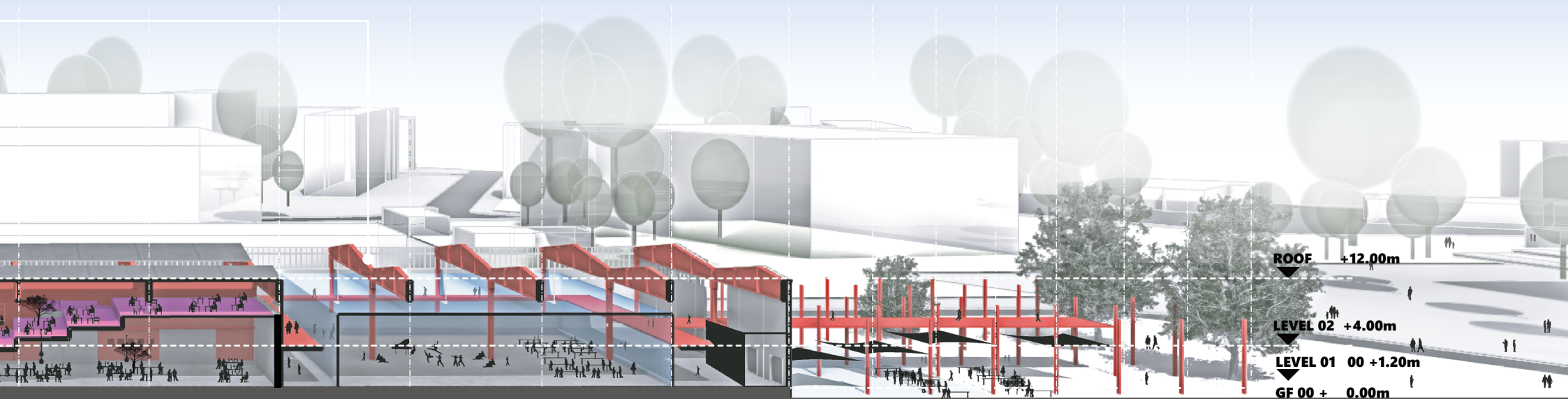


EXISTING  
STRUCTURE



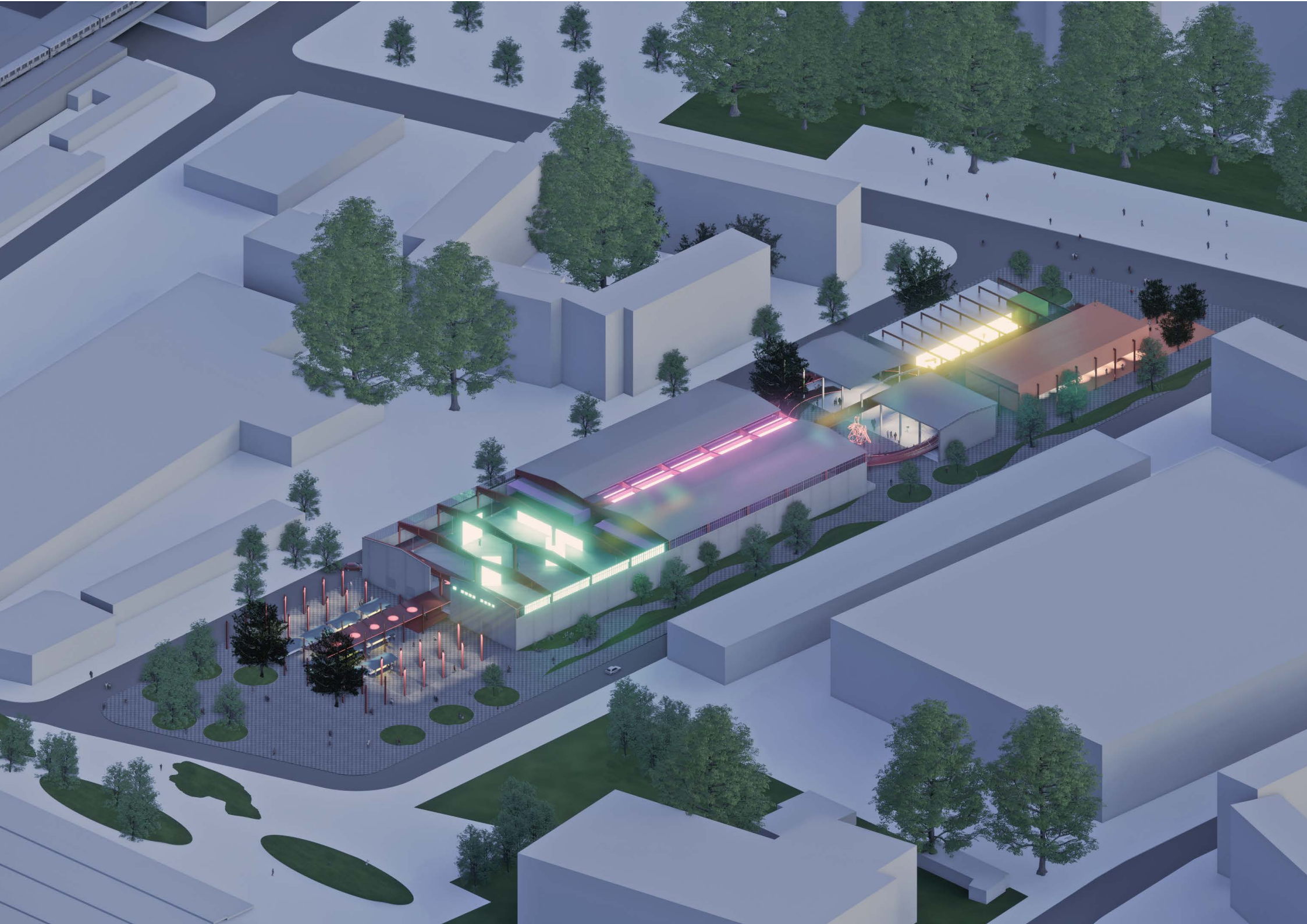


NG  
CTURE









**Thanks to inspiring PD and T&D mentors Henk and Stefano**

### **01| RESEARCH BY DESIGN**

A selection of design studies and comprehensive research complementing one another.

### **02| FINAL DESIGN**

The project is comprehensively presented through plans, sections, details, 3D models, and perspectives at various scales.

### **03| FINAL REFLECTION**

Reflection on the research by design process of the multi-phase project in Friedrichshain, Berlin.

**P3-P5**  
DESIGN

A selection of design studies and comprehensive research complementing one another. A vision on all project scales is the outcome of the studies.

**F**

RESEARCH BY DESIGN JOURNAL



# ***THE TIME-LINE***

A multi-phase project in Friedrichshain, Berlin that responds to urban changes.

**STUDIO:** PUBLIC BUILDING  
**THEME:** PUBLIC CONDENSER

**MENTORS:**  
HENK BULTSTRA  
STEFANO CORBO  
FLORIAN ECKHARD

NATHALIE DE VRIES

**EXAMINER:**  
RIENTS DIJKSTRA

***P5 GRADUATION | MAX MEERE***

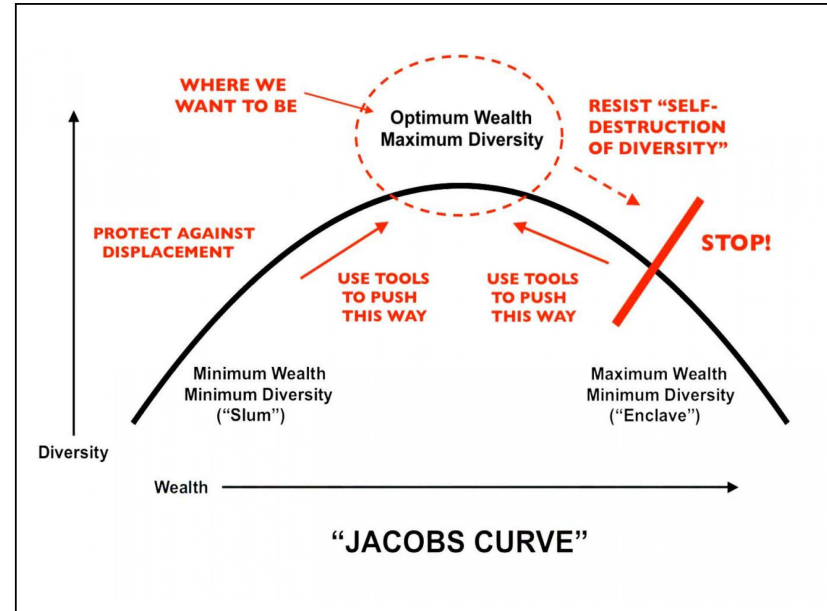
RESEARCH  
**GENTRIFICATION**





**Jane Jacobs:** "As long as gentrification proceeds gently, with moderation, it tends to continue to be beneficial, and diversifying."

- It is a process that happens in all cities with rapid economic development such as Paris, London, Barcelona and Berlin, the last of which is known as a young, creative and emergent metropolis.
- UN: By 2050, 70% of all worlds inhabitants will live in cities



**Effects (-)**

- Makes people move, mostly lower-educated/ lower incomes.
  - Increasing rents.
  - Decreasing sense belonging.

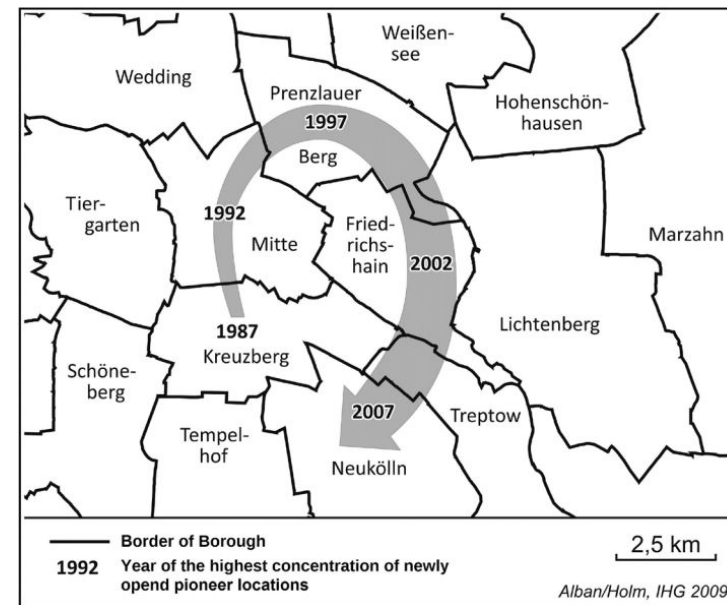
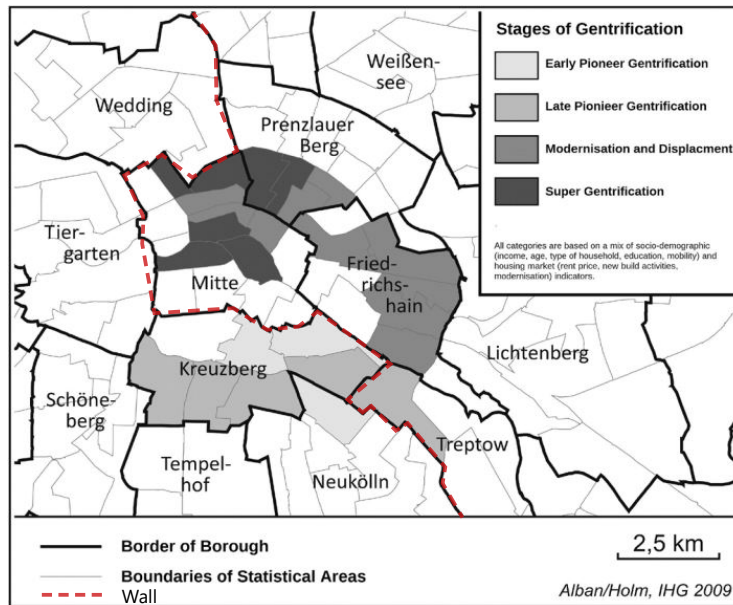
**Effects (+)**

- More diversity
- Children higher chance of finishing education

**SUSTAINABLE DEVELOPMENT GOALS**



RESEARCH  
**GENTRIFICATION IN BERLIN**



Gentrification in Berlin, like in many other cities, has unfolded through several stages and has had a significant impact on various neighborhoods. One interesting pattern that has emerged in Berlin's gentrification process is the circular movement through the city's center neighborhoods. Let's explore these concepts further:

#### Stage 1: Pioneering and Artistic Influence

Gentrification in Berlin often begins with the emergence of artists, bohemians, and creative individuals seeking affordable spaces for living and work. These pioneers are drawn to neglected neighborhoods with lower rents, such as Kreuzberg and Friedrichshain in the 1990s and early 2000s. Their presence contributes to the transformation of these areas into vibrant cultural hubs, with art galleries, alternative venues, and a lively nightlife.

#### Stage 2: Rising Popularity and Shift in Demographics

As the initial wave of pioneers settles in, these neighborhoods gain popularity for their unique atmosphere and creative energy. Gradually, more people, including students and young professionals, are attracted to the area. This influx of new residents leads to an increase in demand for housing, resulting in rising rents and property prices. The neighborhood's demographic makeup starts to change as the original working-class population and lower-income residents are often priced out or face displacement.

#### Stage 3: Upscale Development and Gentrification Spread

With the increasing demand and rising property values, developers and investors recognize the economic potential of the gentrifying neighborhoods. This stage often involves

large-scale construction projects, the transformation of old industrial buildings into modern apartments, and the development of commercial spaces. Upscale establishments, such as trendy restaurants, boutiques, and high-end condominiums, begin to appear. At this point, the process of gentrification extends to adjacent neighborhoods as residents and businesses seek more affordable options.

#### Stage 4: Periphery Gentrification and Outer Neighborhoods

As the center neighborhoods become more expensive and mainstream, the process of gentrification starts to expand outward to peripheral areas. Neighborhoods that were once considered less desirable or overlooked begin to attract attention. These outer neighborhoods often offer more affordable housing options and larger spaces for creative industries, thus attracting artists, young professionals, and individuals seeking an alternative to the increasingly gentrified center. Examples of such areas in Berlin include Neukölln and Wedding.

#### Circular Movement through the Center Neighborhoods:

One interesting aspect of gentrification in Berlin is the circular movement through the city's center neighborhoods. As neighborhoods become more gentrified and expensive, residents and businesses seek out more affordable options in adjacent areas. This creates a cycle of displacement and transformation, as the process of gentrification gradually spreads from one neighborhood to another.

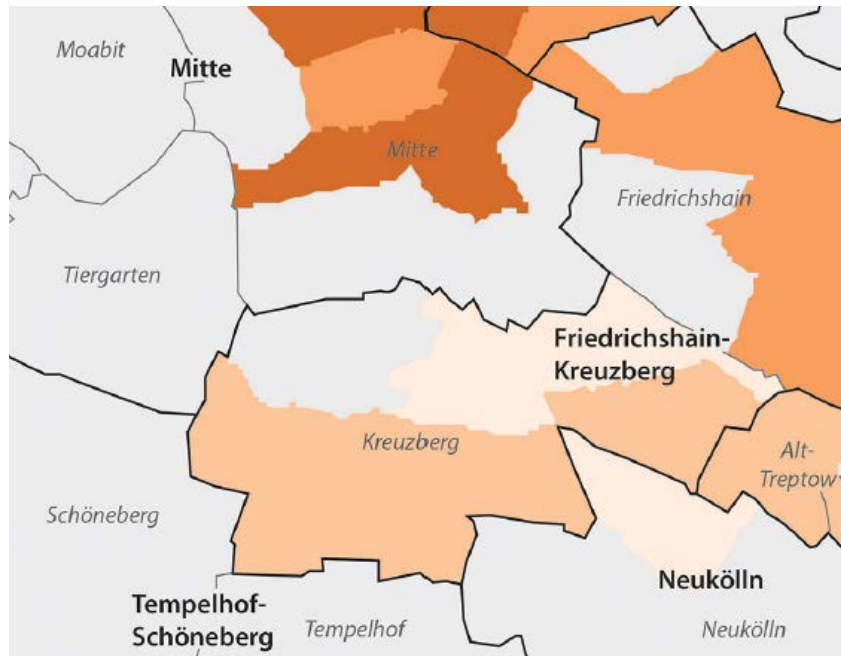
For instance, Friedrichshain and Kreuzberg experienced significant gentrification in the 1990s and 2000s, prompting some residents and businesses to move further east to areas like Neukölln. However, as Neukölln also went through its own gentrification process, some individuals and businesses continued the cycle by moving to neighborhoods such as Wedding or Moabit, seeking more affordable and less gentrified spaces.

This circular movement through Berlin's center neighborhoods reflects the dynamic nature of gentrification and the constant search for affordable and culturally vibrant areas within the city.

In summary, Berlin has witnessed gentrification in various stages, from the arrival of pioneering artists to the development of upscale establishments. The process has led to changes in the demographic makeup of neighborhoods and a circular movement through the city's center districts as residents seek more affordable alternatives. Managing the impacts of gentrification while preserving the unique character of neighborhoods remains an ongoing challenge for policymakers and communities in Berlin.

## RESEARCH

### GENTRIFICATION IN FRIEDRICHSHAIN



All categories are based on a mix of socio-demographic (income, age, type of household, education, mobility) and housing market (rent price, new build activities, modernization) indicators.

1 km

Cartography: Julia Siemer, University of Regina  
Source: BKG 2017, Berlin Open Data 2017, Holm 2013



#### **Social composition:**

rising share of residents with high educational status

#### **Modernization activities:**

Increased rents and commercialization.

Friedrichshain has thus undergone its pioneer phase, **evidence of displacement has surfaced**. Still diverse populated.

Friedrichshain, located in Berlin, Germany, has undergone significant transformations over the years, with one of the most notable changes being the process of gentrification. Gentrification refers to the urban renewal and revitalization of a neighborhood, often accompanied by an influx of wealthier residents, rising property prices, and changes in the local culture and character.

In the case of Friedrichshain, it has experienced various stages of gentrification since the fall of the Berlin Wall in 1989. After the reunification of East and West Berlin, Friedrichshain, located in the former East Berlin, became an attractive area for artists, students, and young people due to its affordable housing and vibrant cultural scene.

The initial stages of gentrification in Friedrichshain were characterized by the establishment of alternative venues, art galleries, and clubs, which attracted a creative and bohemian crowd. The district became known for its lively nightlife, street art, and alternative lifestyle, creating a unique and edgy atmosphere.

However, as Friedrichshain gained popularity, demand for housing increased, leading to rising rents and property prices. This made it more difficult for lower-income residents and artists to afford living in the area, leading to the displacement of some long-time inhabitants. Local businesses, including traditional shops and cafes, also faced challenges as they struggled to compete with new establishments catering to the changing demographic.

Over time, Friedrichshain underwent further transformations as investors and developers recognized its potential. Large-scale construction projects began, leading to the construction of modern apartments, office spaces, and

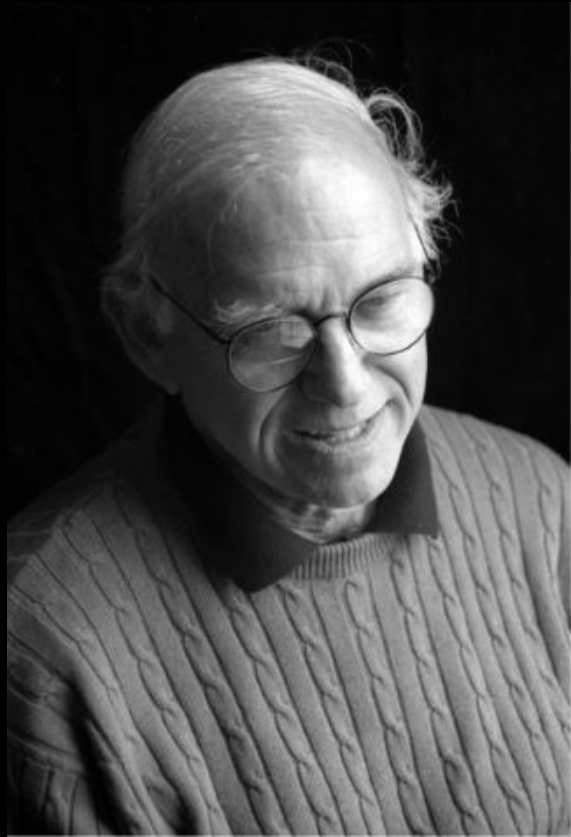
commercial buildings. This phase of gentrification brought in a more affluent population, including young professionals and families, further altering the neighborhood's social fabric.

While the process of gentrification has brought certain benefits, such as improved infrastructure and increased economic activity, it has also sparked debates and concerns about the loss of Friedrichshain's unique character and the displacement of long-term residents. Gentrification often leads to the homogenization of neighborhoods, as the influx of wealthier residents can result in the disappearance of local businesses and the erosion of the distinct cultural identity that once defined the area.

Efforts to counteract the negative effects of gentrification have emerged in Friedrichshain. Community organizations and activists have advocated for affordable housing initiatives, the preservation of cultural spaces, and the support of local businesses. These initiatives aim to maintain the diverse and inclusive nature of the neighborhood while ensuring that long-standing residents can continue to call Friedrichshain home.

As with any neighborhood undergoing gentrification, Friedrichshain's transformation is an ongoing process, shaped by the interactions between residents, businesses, developers, and policymakers. Balancing the desire for urban renewal and economic growth with the preservation of the area's unique character and inclusivity remains a challenge as Friedrichshain continues to evolve.

- **GENTRIFICATION IS A PROCESS THAT CHANGES OVER TIME, LIKE OTHER SOCIAL AND ECONOMIC ISSUES.**
- **PEOPLE FEEL DISPLACED BY THE DECREASING SENSE OF BELONGING**



“ The true importance of architecture lies in its ability to **solve human problems, not stylistic ones.** A building is too permanent and too influential on public life and private comfort to be created primarily as ‘public art.’ ”

—James Stewart Polshek

**VISION**  
ARCHITECTURE



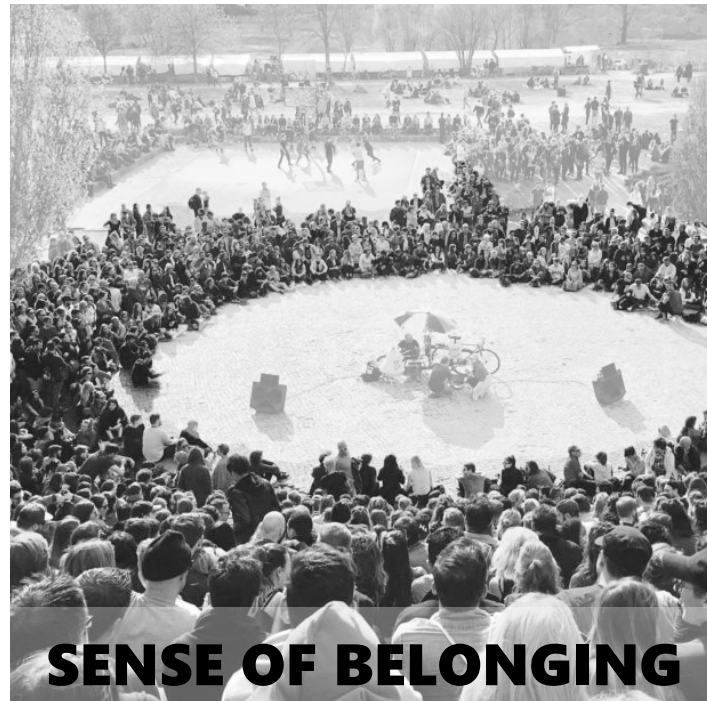
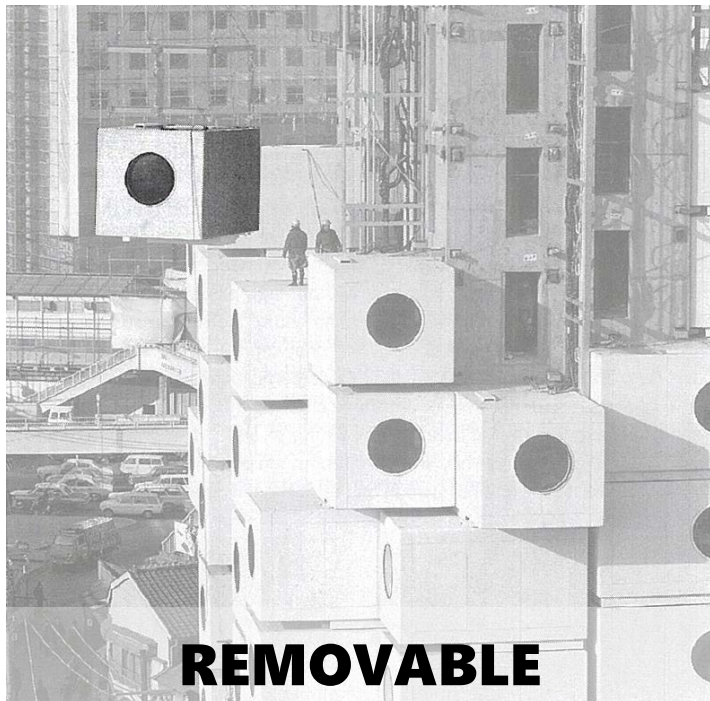
**MINIMAL EFFORT**

**HIGH IMPACT**

**VISION**  
PUBLIC REALM

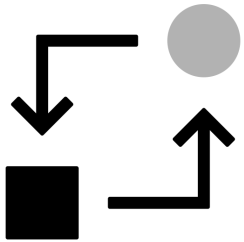
## 21<sup>ST</sup> CENTURY PUBLIC CONDENSER

Modest ARCHITECTURE, minimal interventions, serves as a response to social and economic issues, such as gentrification, in an ever-changing environment. It aims to address these challenges by adopting a restrained and humble approach, taking into account the specific needs and dynamics of the community it serves.



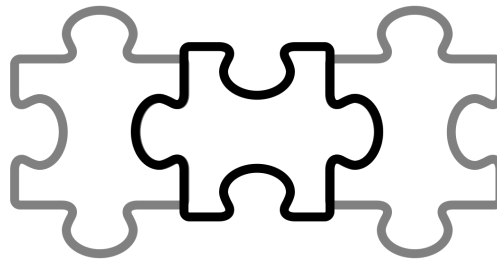
**VISION**  
PUBLIC CONDENSER

## CITY



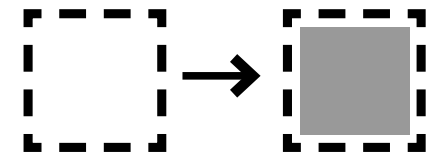
INTERCHANGEABLE  
NETWORKSYSTEM

## NEIGHBOURHOOD



CONNECTION

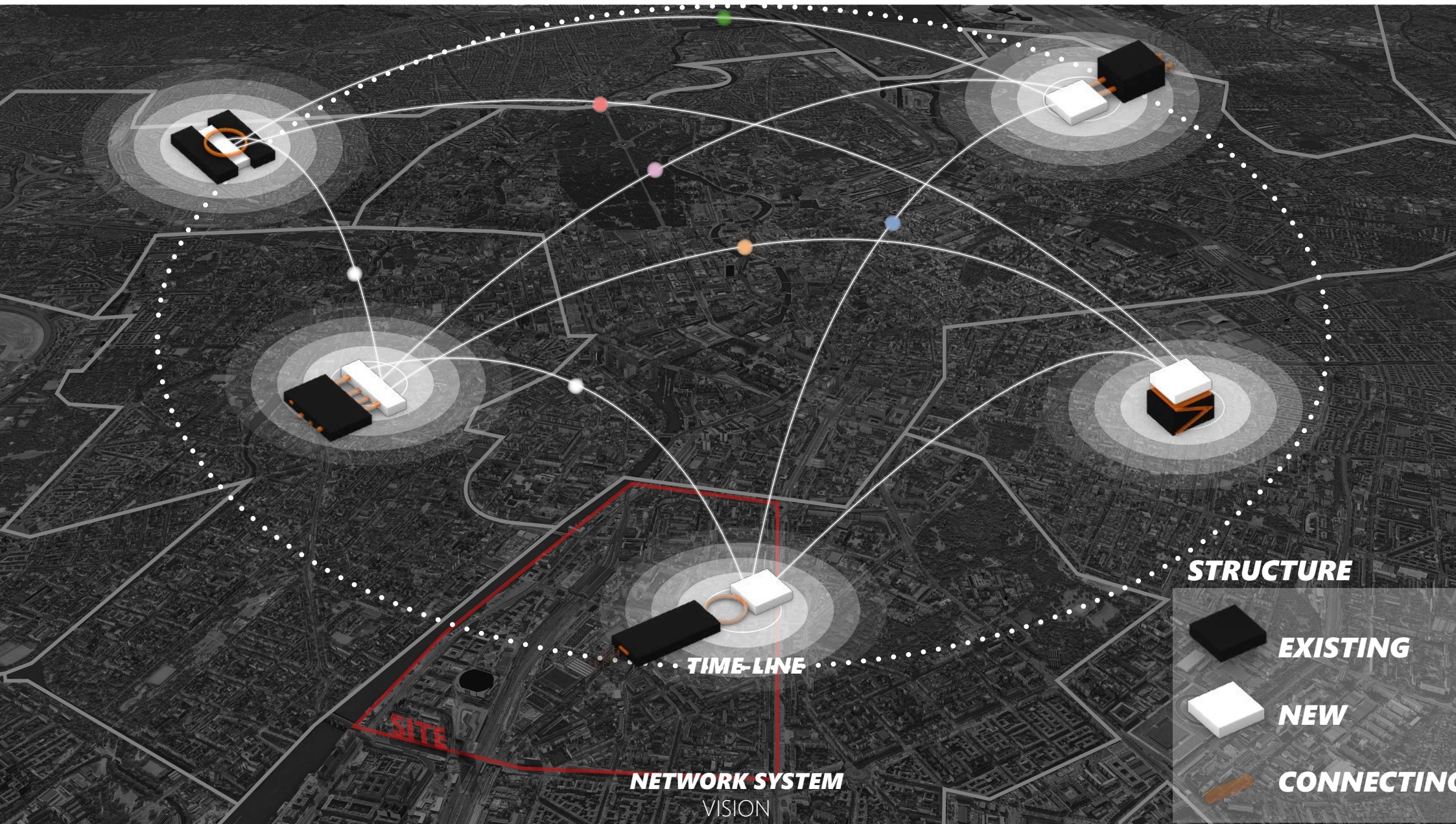
## BUILDING



ADAPTIVE  
RE-USE

## **PROJECT VISION**

BERLIN



**NETWORK SYSTEM**  
VISION

**STRUCTURE**

**EXISTING**

**NEW**

**CONNECTING**

## RESEARCH

### **METABOLISM IN ARCHITECTURE**

### **METABOLISM IN ARCHITECTURE**

Beyond utopia, japanese metabolism.  
Architecture and the birt of mythopia.

Megastructure according to Ralph Wilcoxon:

- constructed of modular units
- capable of great or even unlimited extension
- a structural framework into which smaller structural units can be built, or even plugged-in or clipped-on after having been prefabricated elsewhere.
- a structural framework expected to have a useful life much longer than that of the smaller units which it might support.

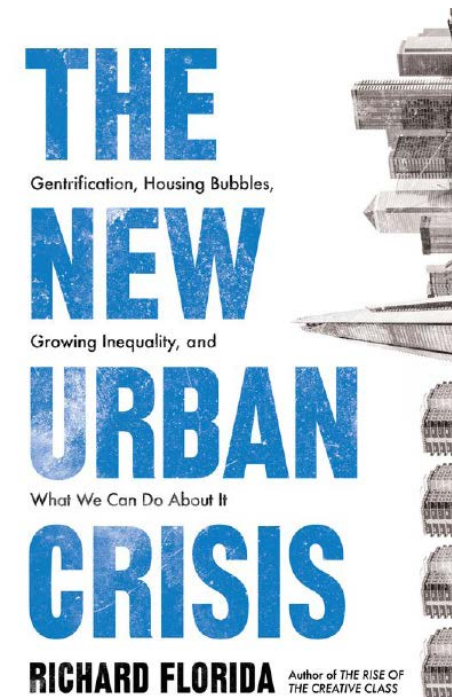
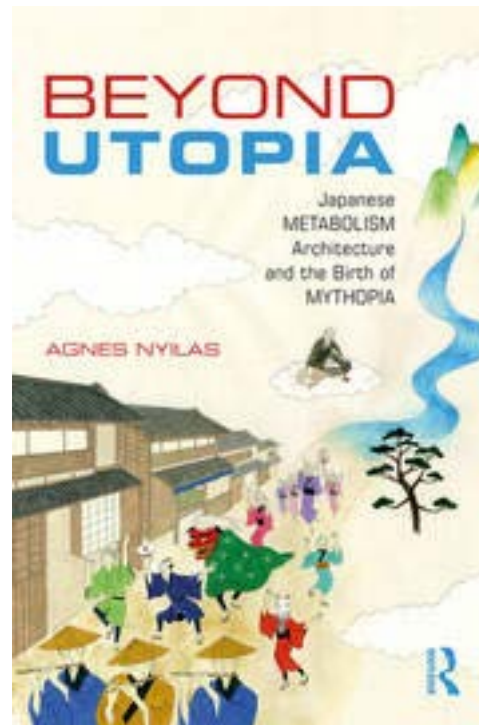
#### **Artificial land:**

Definition: 'A vertical or horizontal plate, which accommodates the individual living units and backs up their life with common facilities, while being independent rom each of their floor-slabs.

#### **difference unicellular organism to multicellular organisms:**

Although some prokaryotes live in colonies, they are not specialised cells with differing functions. These organisms live together, and each cell must carry out all life processes to survive. In contrast, even the simplest multicellular organisms have cells that depend on each other to survive

Nyilas, A. (2018). Beyond utopia: Japanese metabolism architecture and the birth of mythopia. Routledge.



### **Metabolic building by chatGPT**

Metabolic building is a concept in architecture that is based on the idea of designing buildings that mimic the metabolic processes of living organisms. The idea is to create buildings that can produce and consume energy, as well as recycle waste, just like living organisms do.

In a metabolic building, various systems are integrated to create a closed-loop system that minimizes energy waste and reduces the building's carbon footprint. These systems include renewable energy sources such as solar panels, wind turbines, and geothermal systems, as well as systems for water recycling, waste management, and air purification.

For example, a metabolic building might use natural ventilation to cool the interior spaces, rather than relying on air conditioning systems that consume large amounts of energy. It might also incorporate green roofs and walls, which not only provide insulation but also help to absorb carbon dioxide and filter pollutants from the air.

Overall, metabolic building is an approach to architecture that prioritizes sustainability, energy efficiency, and environmental responsibility. By incorporating natural processes into the design of buildings, it seeks to create structures that are not only functional and aesthetically pleasing but also in harmony with the natural world.

### **Metabolic building by chatGPT**

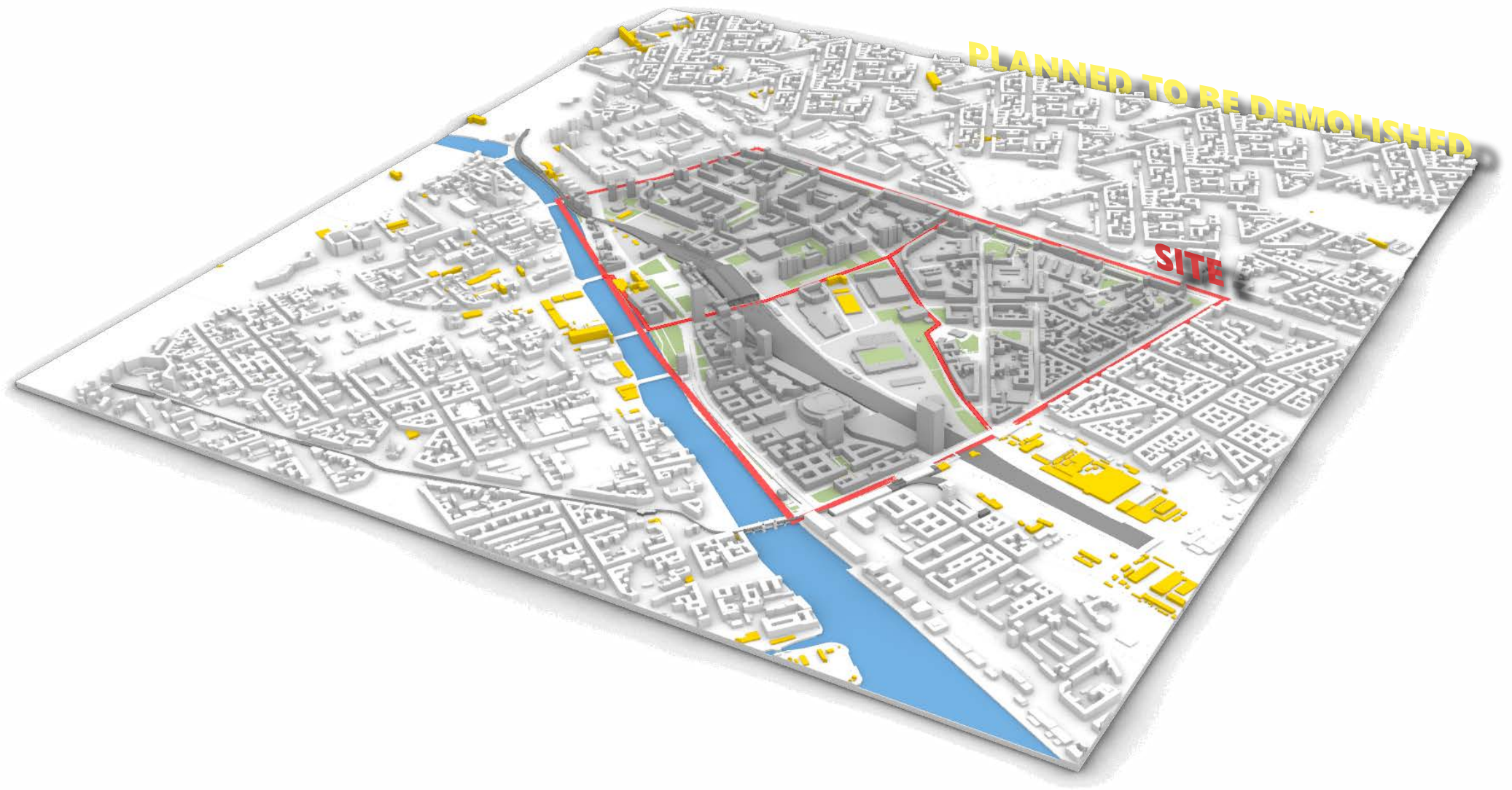
A megastructure in architecture is a large-scale, multi-functional structure that can house a variety of different functions within a single unified system. The accommodated spaces within a megastructure are designed to serve specific functions, such as residential, commercial, educational, or recreational, among others.

The concept of a megastructure is based on the idea of creating a self-contained environment that can accommodate a variety of different functions while minimizing the need for transportation and other infrastructure. A megastructure can be designed to include a range of different spaces, from individual apartments to large open public spaces, all connected by a system of walkways, elevators, and other means of circulation.

The accommodating spaces within a megastructure are designed to be flexible and adaptable, allowing them to be easily modified and repurposed as needed. For example, a space that was originally designed as a retail store could be converted into a restaurant or an office space with relative ease.

Overall, the relationship between the accommodated spaces and the megastructure as a whole is one of interdependence. The design of the accommodated spaces must be carefully coordinated with the overall design of the megastructure to ensure that they fit together seamlessly and function effectively as part of a larger whole. The result is a building that is not just a collection of separate spaces but a cohesive system that works together to create a unified and efficient whole.

RESEARCH  
**RE-USE BUILT ENVIRONMENT**



### Reuse in the built environment (chat GPT)

refers to the practice of repurposing existing structures, buildings, or materials instead of constructing new ones. It has gained increasing attention and significance in recent years due to its numerous benefits and positive environmental impacts. Several key reasons drive the adoption of reuse practices in the built environment:

**Environmental Sustainability:** Reuse helps mitigate the environmental impacts associated with new construction. By repurposing existing structures or materials, it reduces the need for raw material extraction, manufacturing, and transportation, which contribute to energy consumption, carbon emissions, and waste generation. Reuse conserves resources, reduces landfill waste, and helps combat climate change.

**Preservation of Cultural Heritage:** Reusing historic buildings and structures helps preserve a region's cultural heritage and architectural identity. It allows for the retention of unique architectural styles, craftsmanship, and historical significance, enhancing the sense of place and community identity. Adaptive reuse of historical buildings can breathe new life into them while respecting their cultural and historical value.

**Cost Efficiency:** Reuse can be a cost-effective alternative to new construction. Retrofitting and repurposing existing structures often require less investment compared to building from

scratch. Reuse can offer significant savings in terms of material procurement, labor, and time. Additionally, repurposing buildings can revitalize underutilized or economically depressed areas, attracting investment and fostering economic growth.

**Flexibility and Adaptability:** Reuse allows for adaptive design and flexibility to meet changing needs. Existing buildings can be retrofitted and reconfigured to accommodate different functions, whether it's transforming an old factory into a mixed-use development or converting a warehouse into loft apartments. Reusing spaces can provide opportunities for innovation, creativity, and experimentation in design and functionality.

**Social and Community Benefits:** Reuse projects can contribute to community revitalization, social cohesion, and a sense of place. Repurposed buildings often become community gathering spaces, cultural centers, or affordable housing, fostering social interaction and enhancing the quality of life for residents. Reusing existing infrastructure can also help maintain established neighborhoods and prevent displacement of long-term residents.

**Energy Efficiency and Sustainable Infrastructure:** Reusing existing buildings allows for the integration of energy-efficient technologies and sustainable design practices. Retrofitting

projects can improve energy performance, optimize insulation, upgrade HVAC systems, and incorporate renewable energy sources. By reusing buildings, energy and water consumption can be reduced, contributing to a more sustainable and resilient built environment.

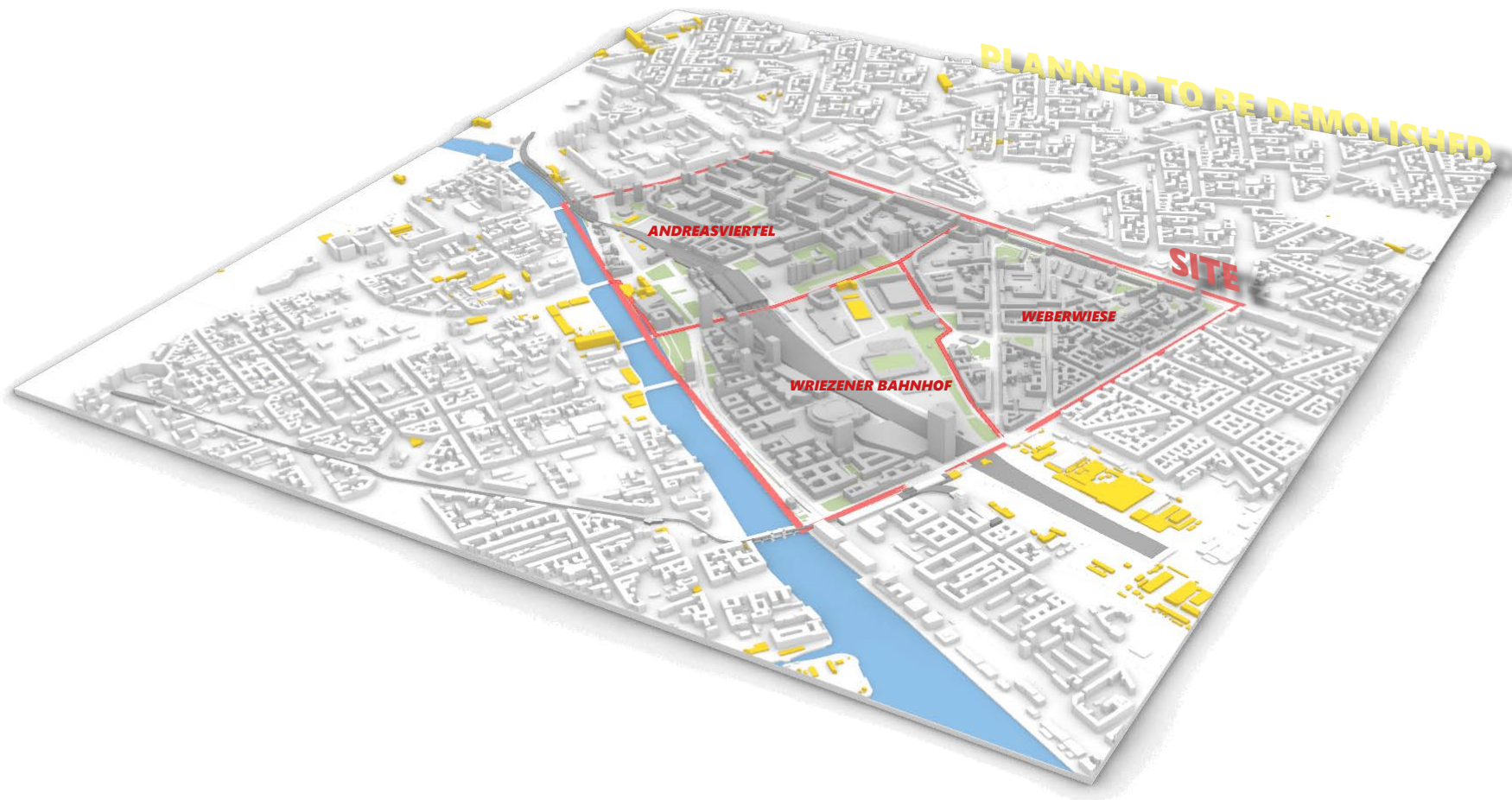
**Reduced Construction Waste:** The construction industry generates a significant amount of waste. Reuse minimizes waste by extending the lifespan of existing structures and reducing the amount of materials sent to landfills. This approach aligns with the principles of a circular economy, where resources are kept in use for as long as possible, reducing the demand for new resource extraction.

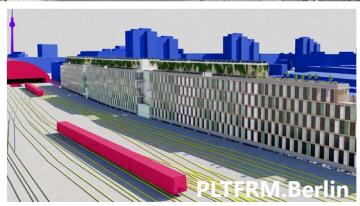
In conclusion, the reasons for reusing in the built environment are diverse and compelling. From environmental sustainability and cost efficiency to preserving cultural heritage and fostering community well-being, reuse offers a multitude of benefits. Embracing reuse practices can lead to a more sustainable, resilient, and socially vibrant built environment.





THE PLOT





500 M

**SURROUNDINGS**



**ANDREASVIERTEL**



13.151



**WEBERWIESE**



10.974



500 M


**WRIEZENER BAHNHOF**



1.155



**FUNCTION ZONING**

-  RESIDENTIAL
-  RESIDENTIAL/COMMERCES
-  CORE AREA
-  COMMERCIAL INDUSTRY
-  PUBLIC INSTITUTIONS
-  PUBLIC GREEN



**PLATTENBAU BUILDING**  
(DESOLATED HOTEL)

**UTILITY BUILDING**  
(EMPTY)

**FORMER PAPER FACTORY**  
(CURRENTLY EVENTSPACES)

**700 SQM**

**864 SQM**

**5200 SQM**

**25M**

**18M**

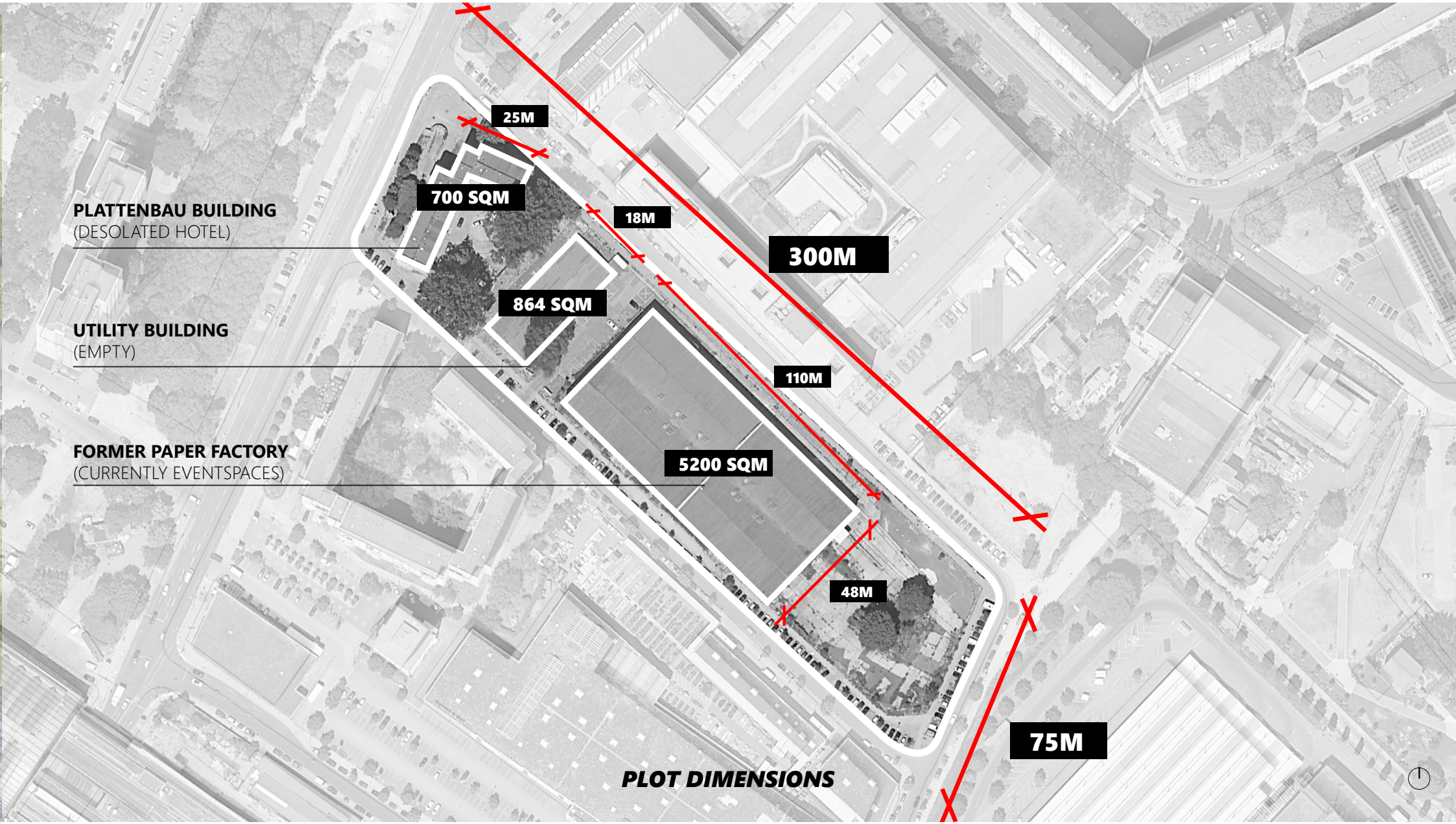
**300M**

**110M**

**48M**

**75M**

**PLOT DIMENSIONS**

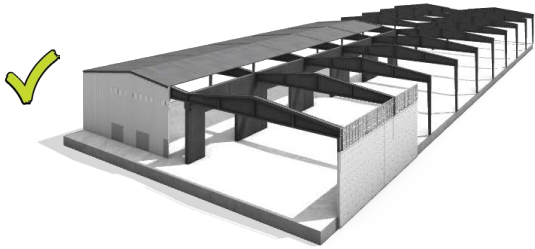


# STUDY

## EXISTING STRUCTURE

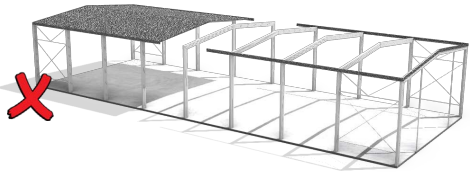
### RE-USE OLD PAPER FACTORY (EVENT HALL)

- EVENT FUNCTION
- STRUCTURE



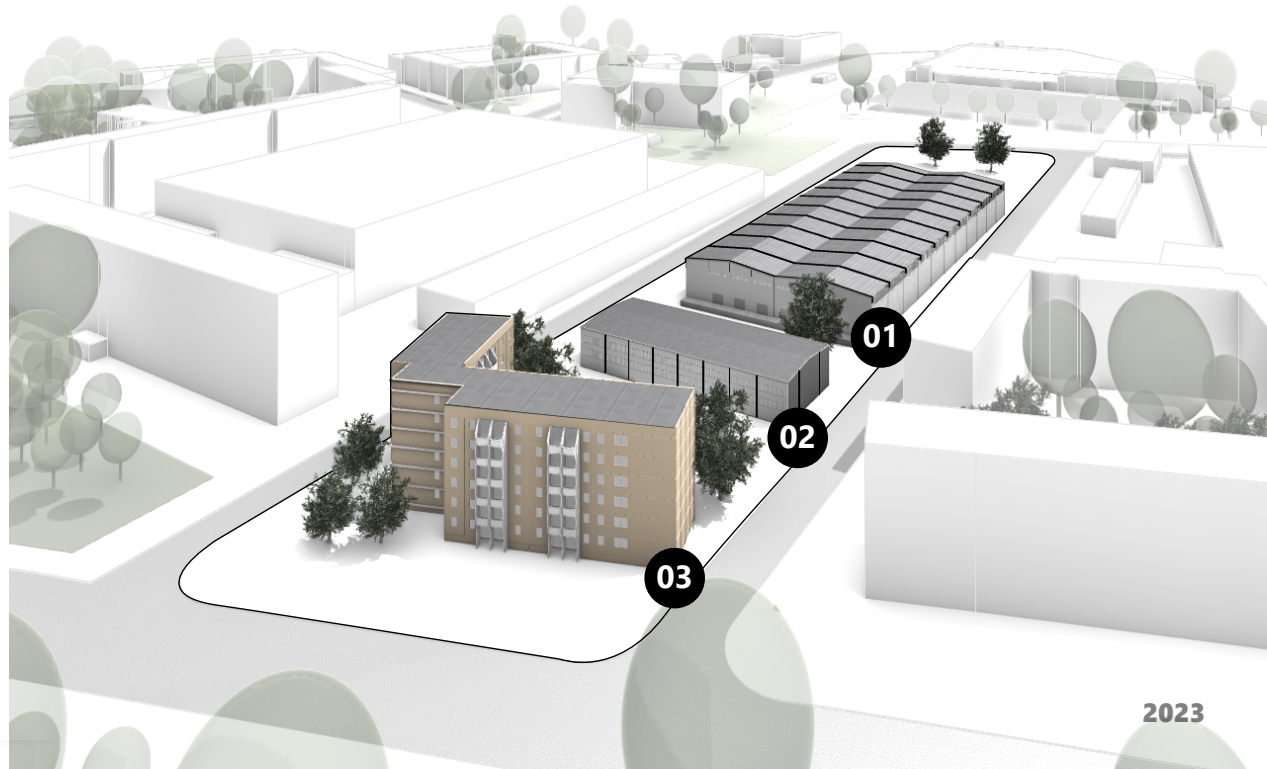
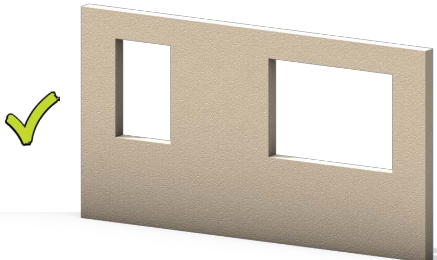
### RE-USE UTILITY BUILDING (EMPTY)

- 



### RE-USE PLATTENBAU HOTEL (EMPTY)

- FACADE ELEMENTS (PLATTEN)

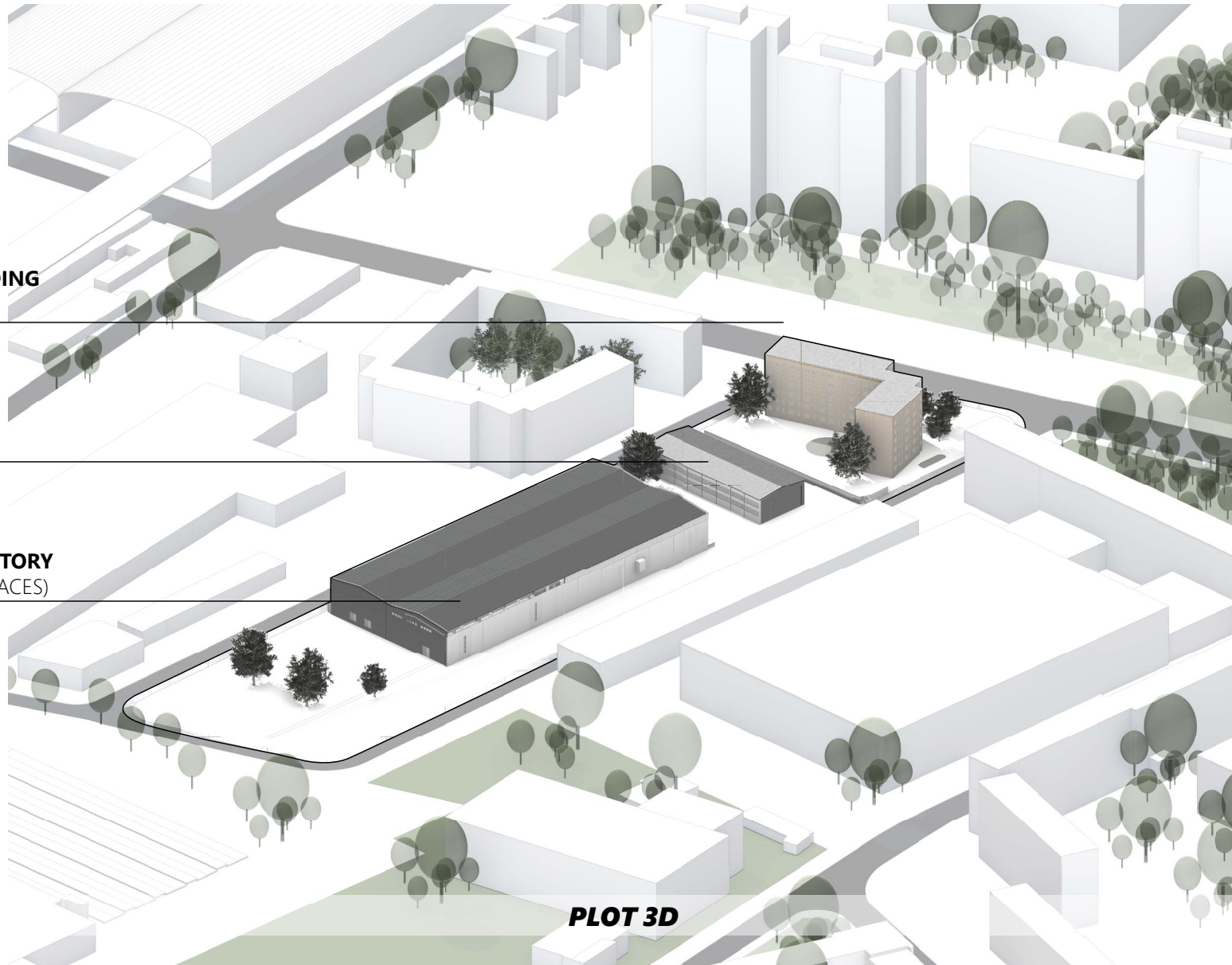


**PLATTENBAU BUILDING**  
(DESOLATED HOTEL)

**UTILITY BUILDING**  
(EMPTY)

**FORMER PAPER FACTORY**  
(CURRENTLY EVENTSPACES)

**PLOT 3D**





PLATTENBAU  
HOTEL



WAREHOUSE

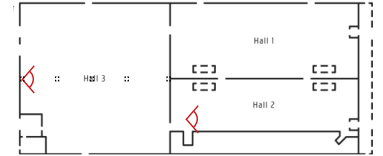


EVENT HALL

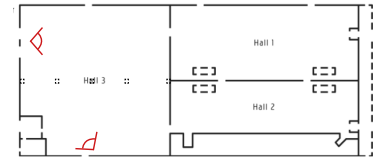


INBETWEEN SPACE

**EXISTING EXTERIOR**

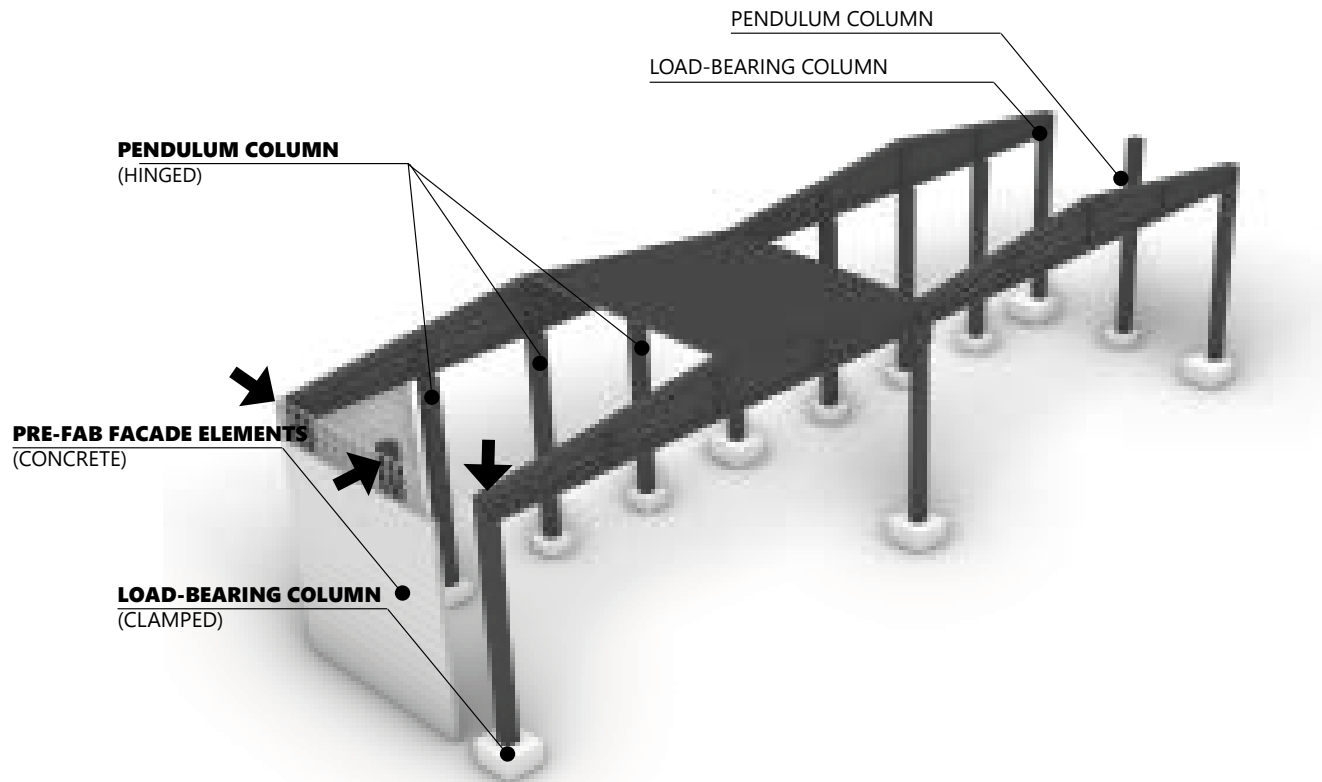
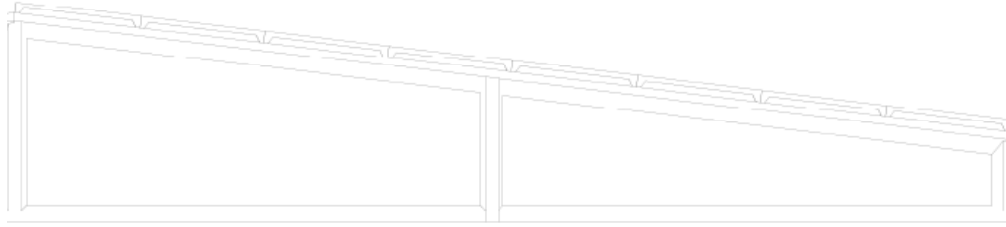


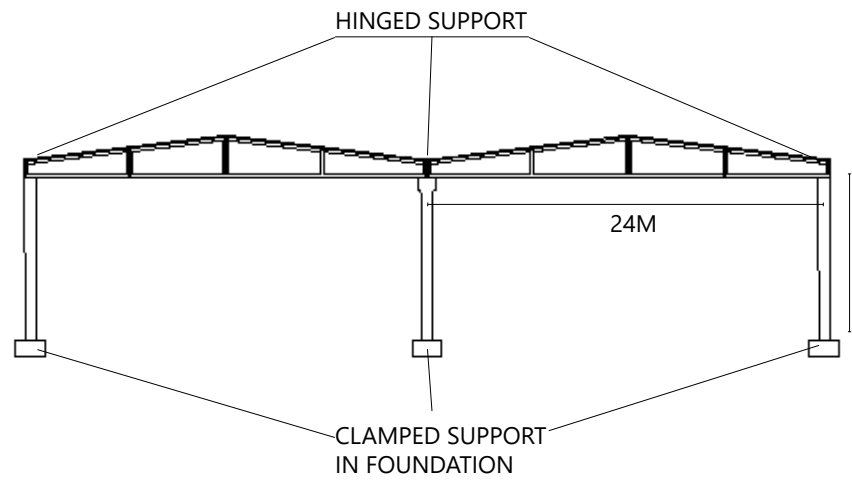
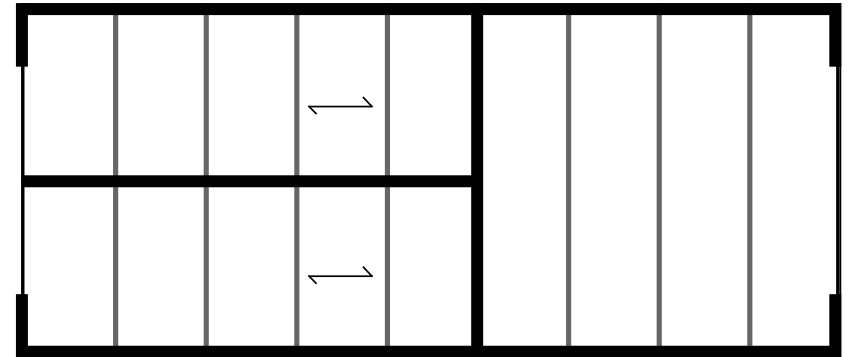
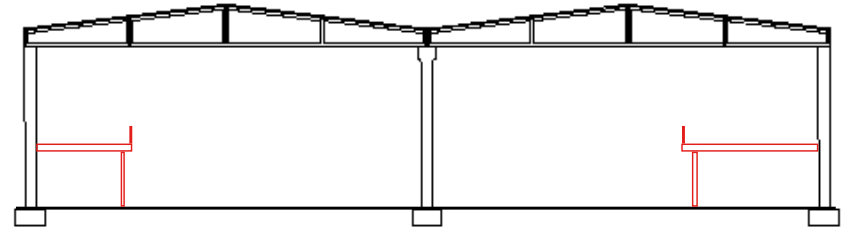
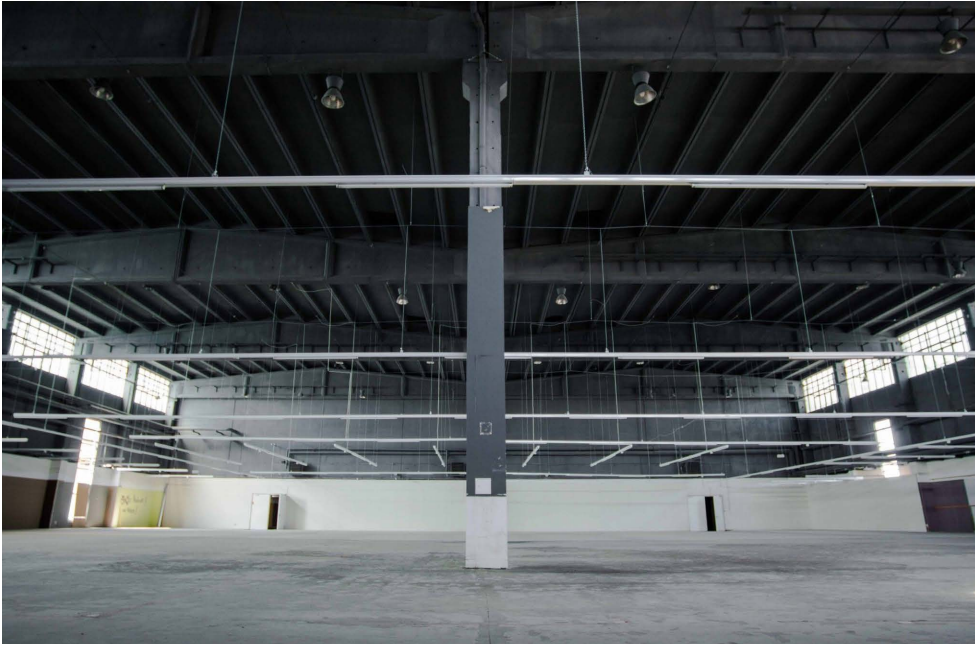
**EXISTING INTERIOR**  
INTACT STRUCTURE



**EXISTING INTERIOR**  
USE OF SPACE

STUDY  
**EXISTING STRUCTURE**







THE CONCEPT

## LIST OF POSSIBLE FUNCTIONS AND ACTIVITIES

### SITE DEMOGRAPHICS



### CULTURE

Theater



Performing arts center

Music Venue



Cinema

Opera house

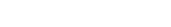
Dance hall



Workshop

Hackerspace

Makerspace



### CULTURE

Museum

Gallery

Exhibition space

Acquarium

Planetarium

Media center

Offices

Learning center

Science center

Youth center

Daycare

### URBAN

Urban farm

Botanical garden

Herb garden

Community garden

Park

Square

Lagoon

Cafeteria

Night club

Pub

Restaurant

Coffee corner

Lounge room

Urban livingroom

Parking

### SPORTS

Playground

Swimming pool

Fitness

Ski center

Skatepark

Race track

Running track

Martial Art

Bouldering

Squash

### SPORTS

Sports hall

Spa

Yoga

Medical facilities

Rehabilitation center

Table tennis

Tennis

Padel

### URBAN

Market

Fashion store

Grocery store

Pharmacy

Bicycle store

Pet shop

Temporary store

Hairdresser

### URBAN

Primary school

After school

Child center

Extra classrooms

Language course center

### REMOVE



<12 months



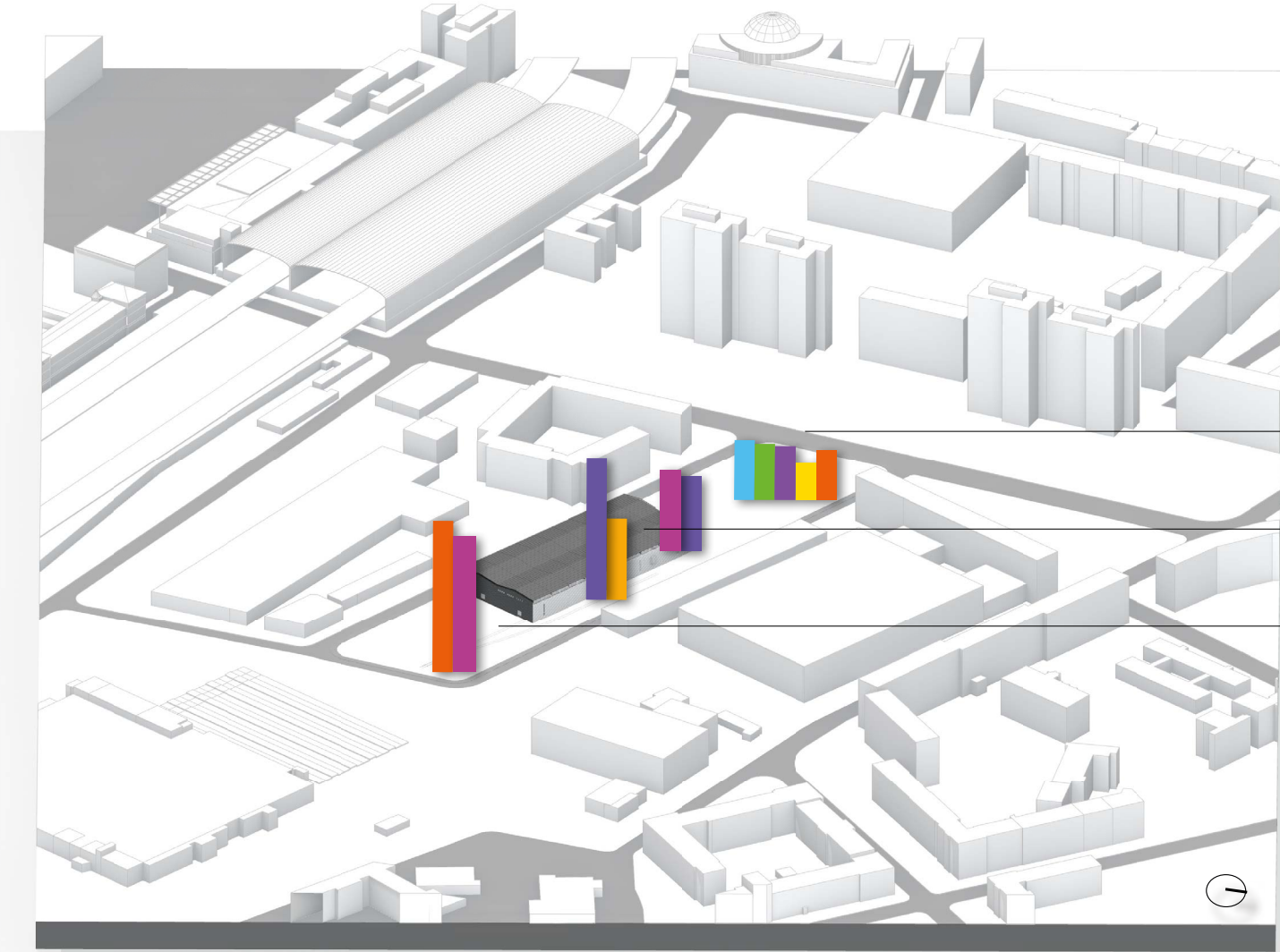
1-5 years



5-20 years

## PROGRAM FRIEDRICHSHAIN, 2035

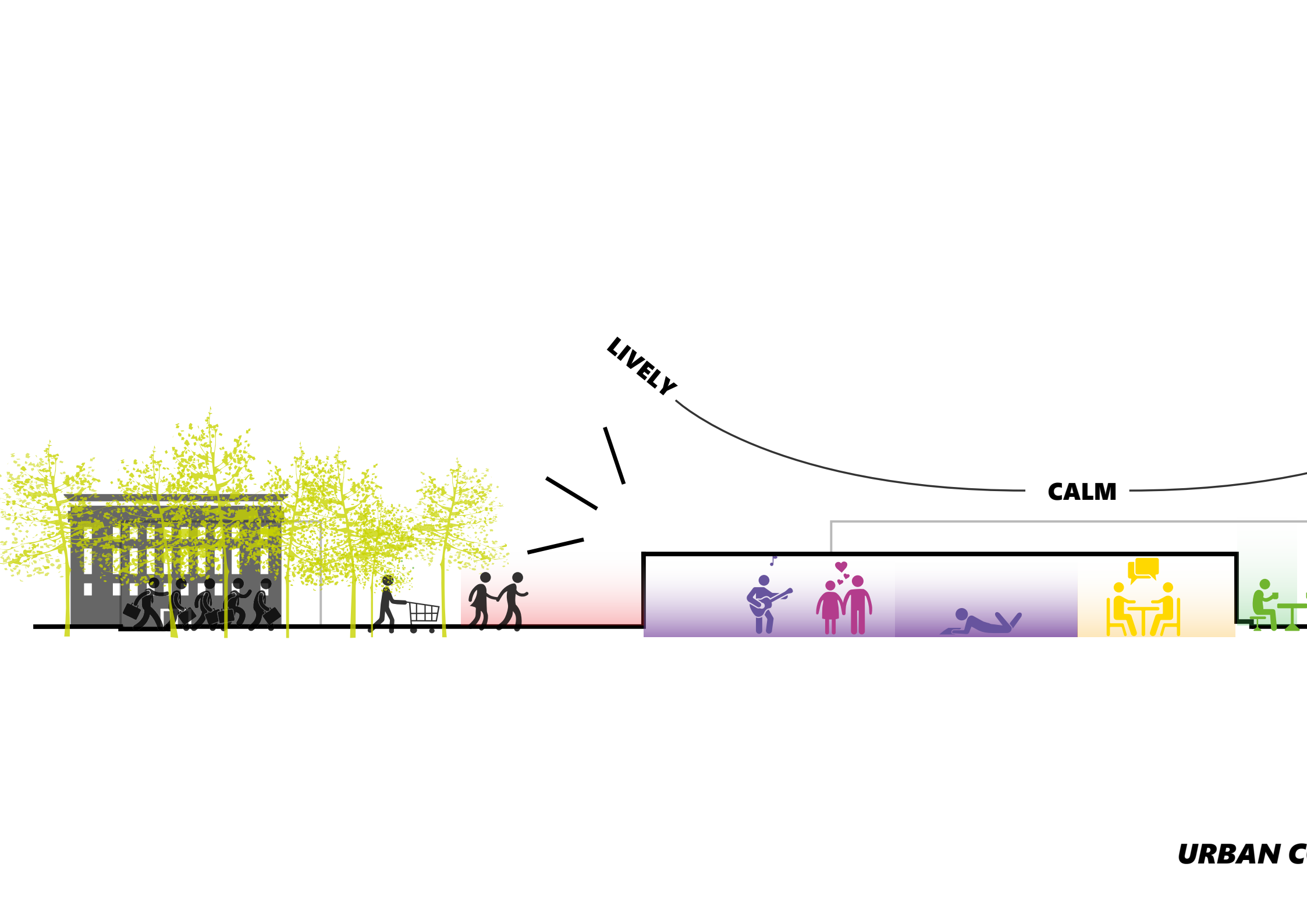
TIME-LINE

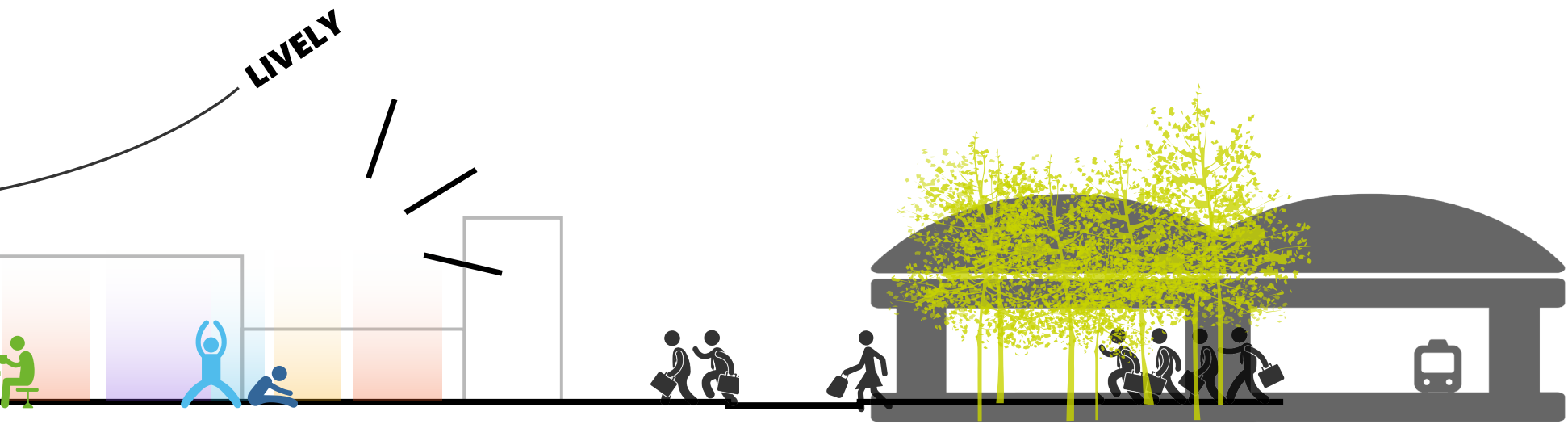


**PROGRAM PLACING STRATEGY:**

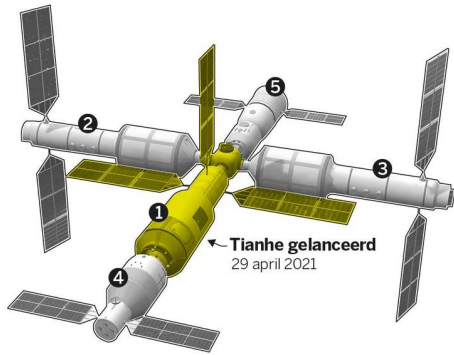
- flexible
- small
- permanent
- large
- flexible
- large





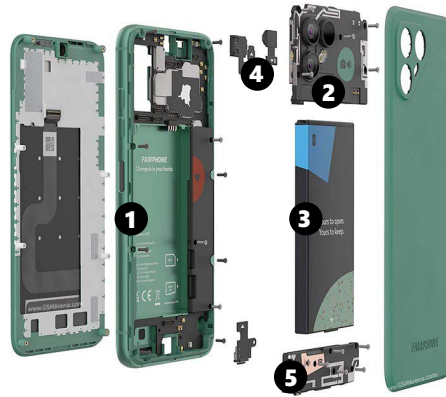


**CORRIDOR**



← Tianhe gelanceerd  
29 april 2021

- 1 BASE
- 2 WENTIAN, RESEARCH STATION
- LAUNCH 2022**
- 3 MENGtian, RESEARCH STATION
- LAUNCH 2022**
- 4 TIANZHOU-2, UNMANNED CARGO SHIP



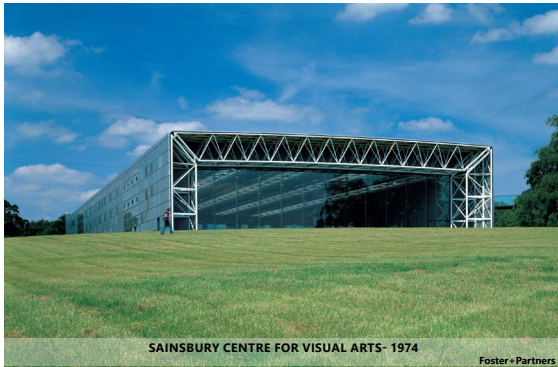
- 1 BASE
- 2023**
- 2 CAMERA
- UPDATE 2024**
- 3 BATTERY
- UPDATE 2025**

**SPACE INDUSTRY**

CONNECTING TO SPACE STATION

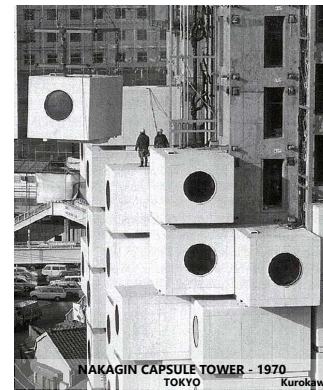
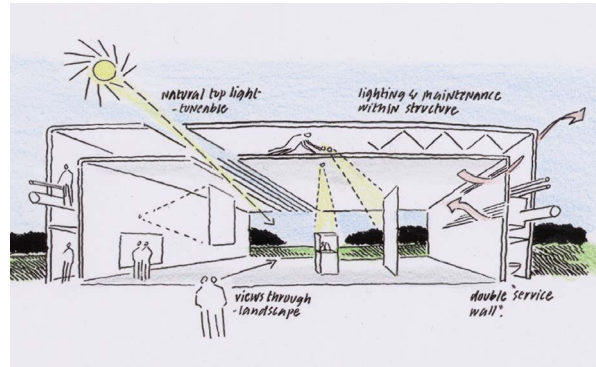
**PHONE INDUSTRY**

UPDATABLE HARDWARE



SAINSBURY CENTRE FOR VISUAL ARTS- 1974

Foster+Partners



NAKAGIN CAPSULE TOWER - 1970  
TOKYO

Kurokawa



INNOVATION PARTNERSHIP SCHOOL BUILDINGS - 2023

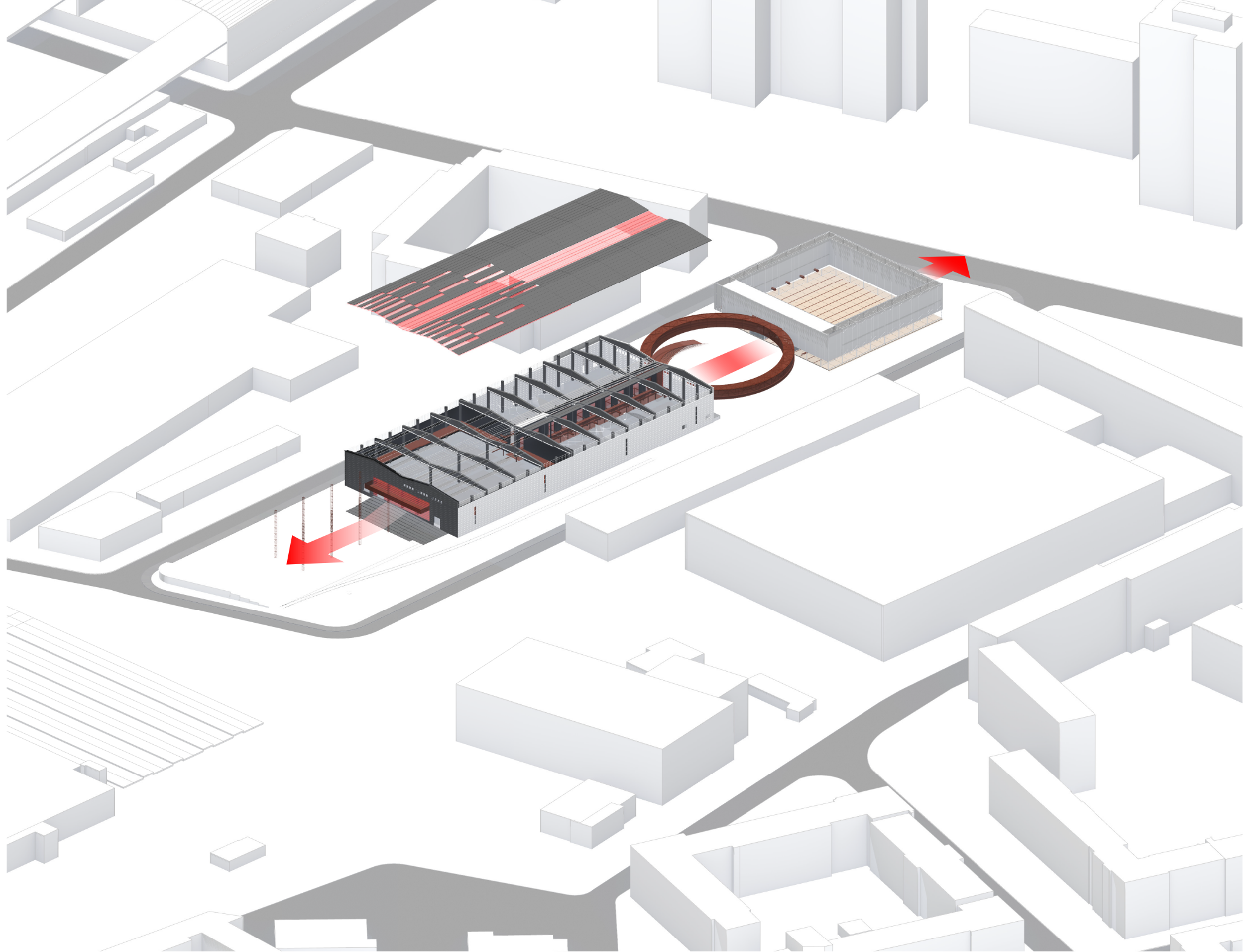
OMA

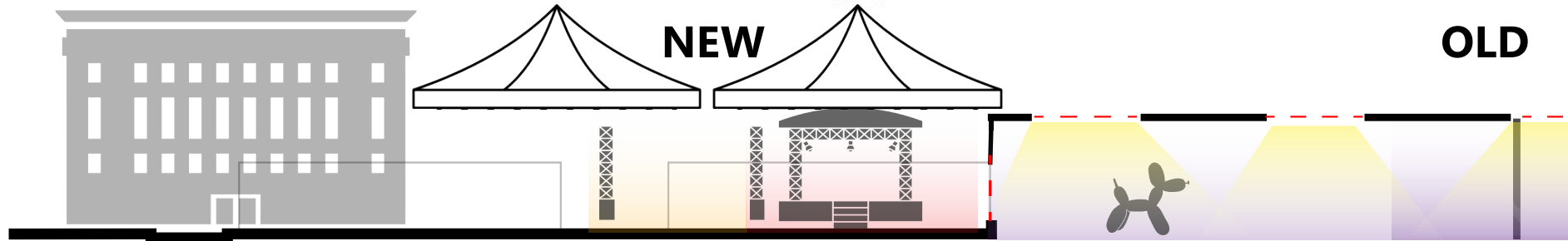
**HIGH-TECH ARCHITECTURE**

FACILITATING

**ARCHITECTURE**

UPDATABLE





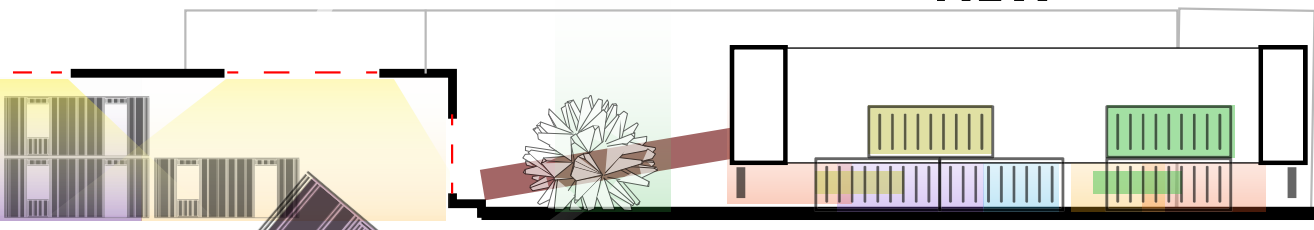
< 5 days

> 20 years

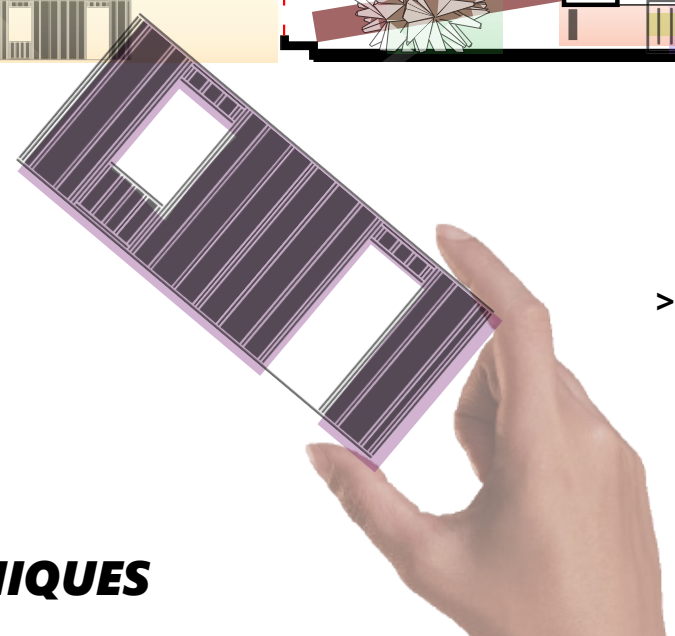
**CONSTRUCTION**



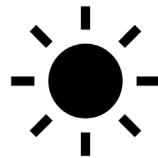
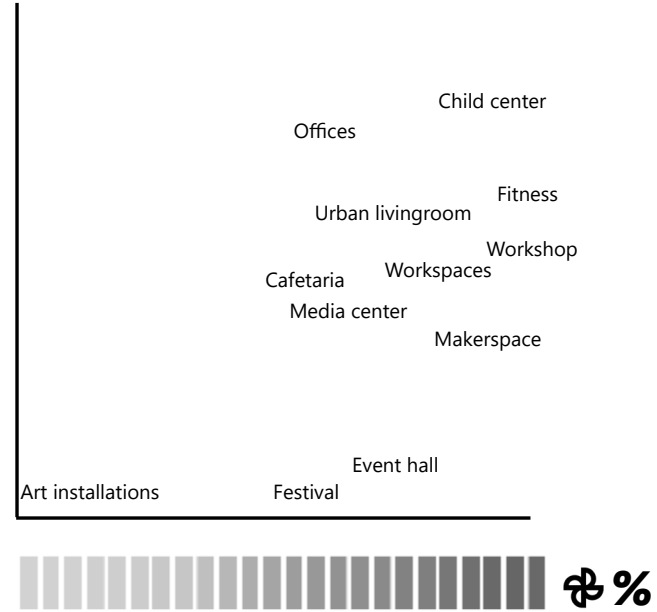
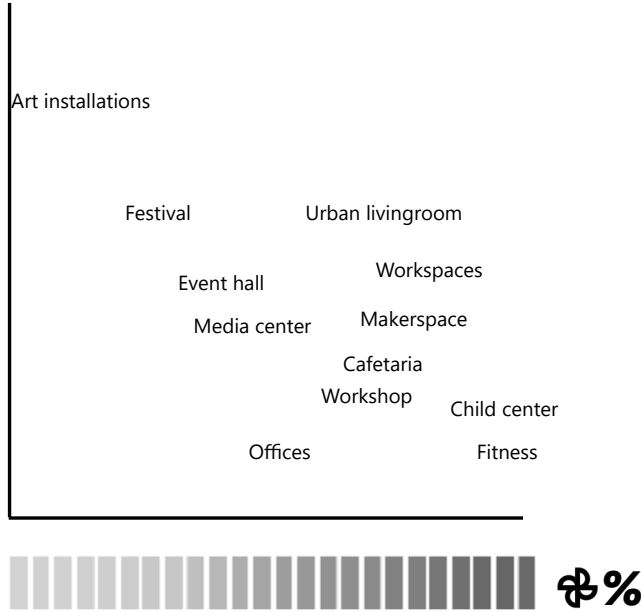
**NEW**



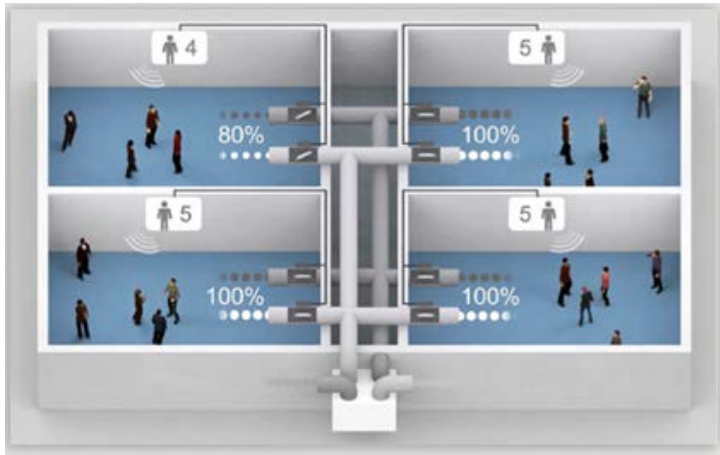
**> 5 < 15 years**



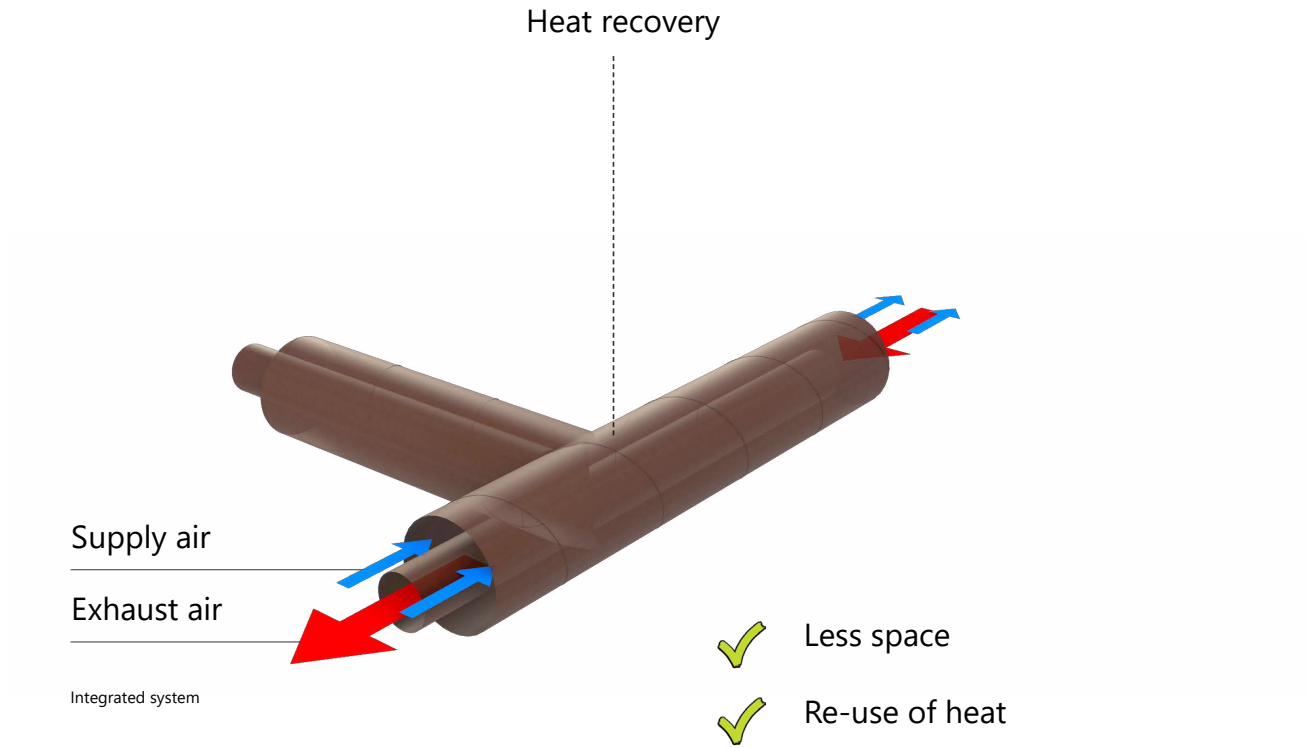
**TECHNIQUES**



**CLIMATE**  
NEEDS

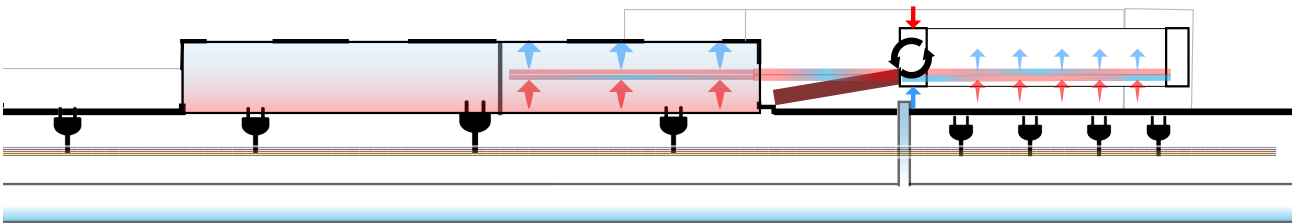


Conventional system

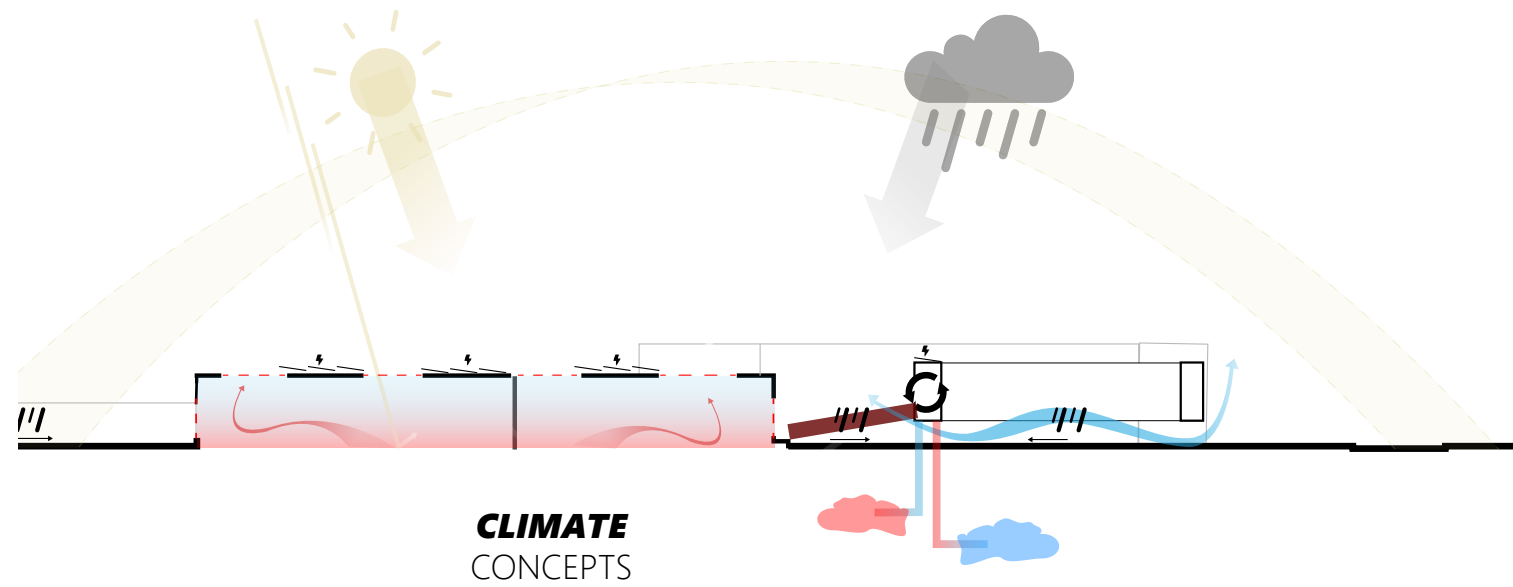


**TAILORED SYSTEM**  
CLIMATE

**MECHANICAL  
INFRASTRUCTURE**

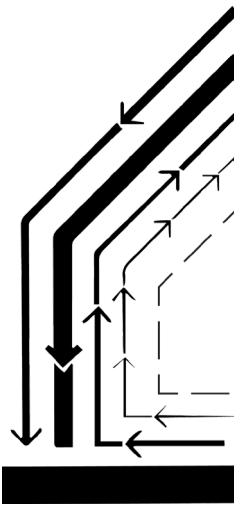


**NATURAL  
ADAPTATIONS**



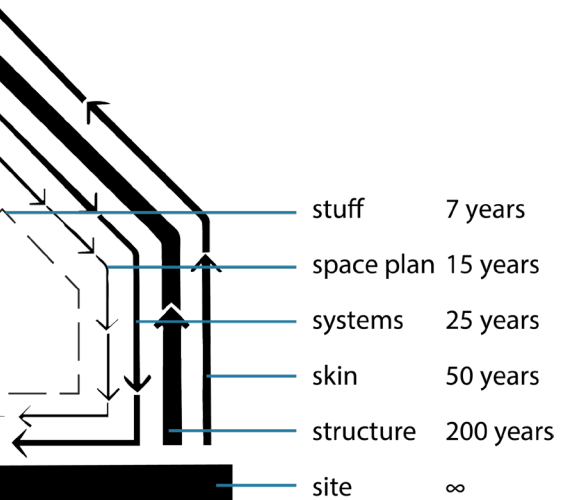
# ***PERMANENT***

'lasting or intended to last or remain unchanged'



# ***TEMPORARY***

'lasting for only a limited period of time'





**BLACK CONCRETE**  
**RE-USED**



**WASHED CONCRETE**  
**RE-USED**



**CORTEN STEEL**



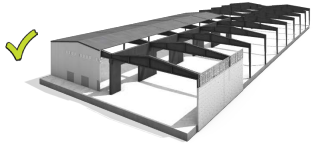
**SLIM STEEL COLUMNS**



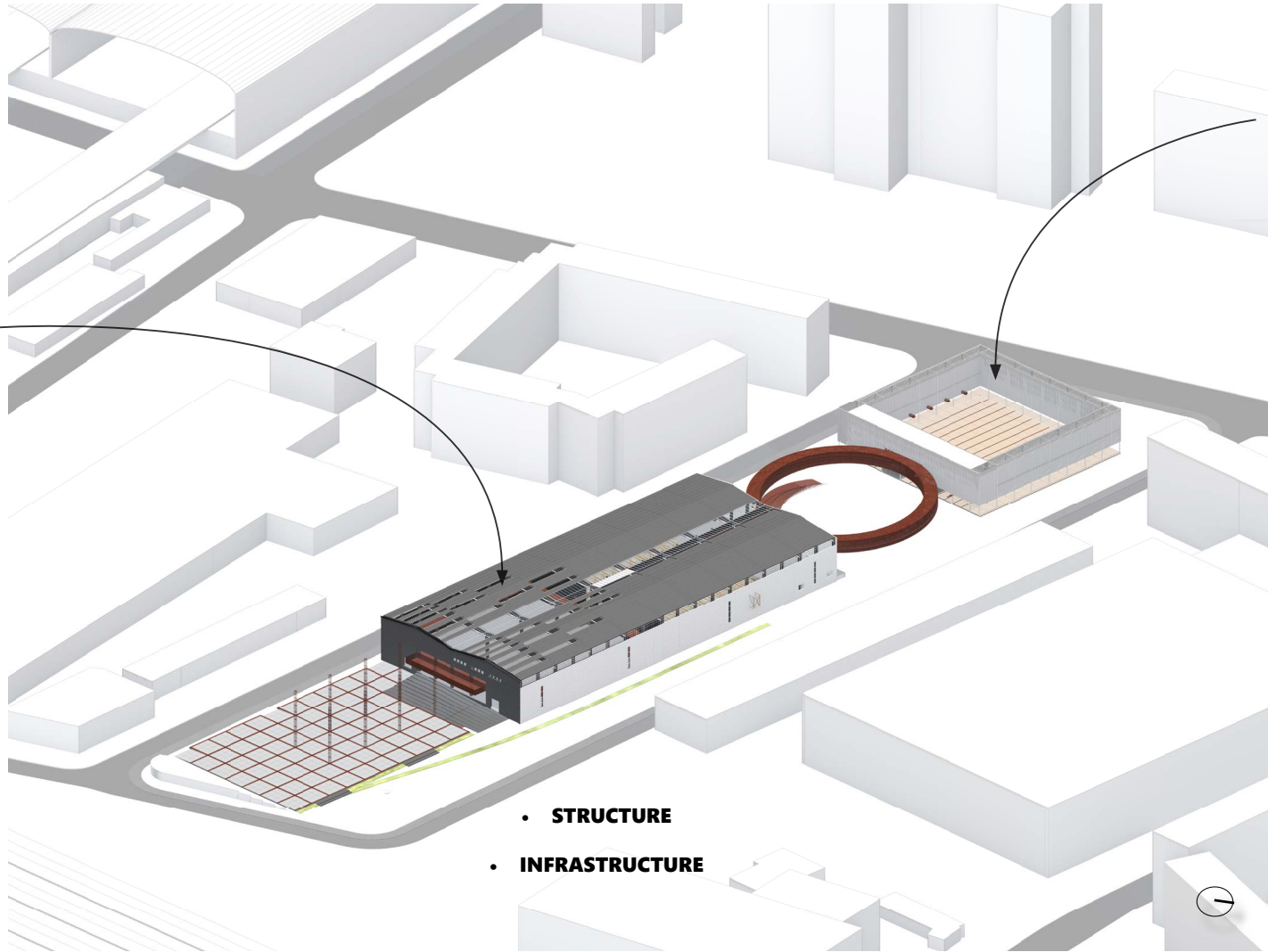
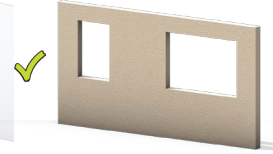
**EXPANDED METAL**

***PERMANENT STRUCTURES***

RE-USE OLD PAPER FACTORY  
STRUCTURE



RE-USE PLATTEN AS FLOOR ELEMENTS

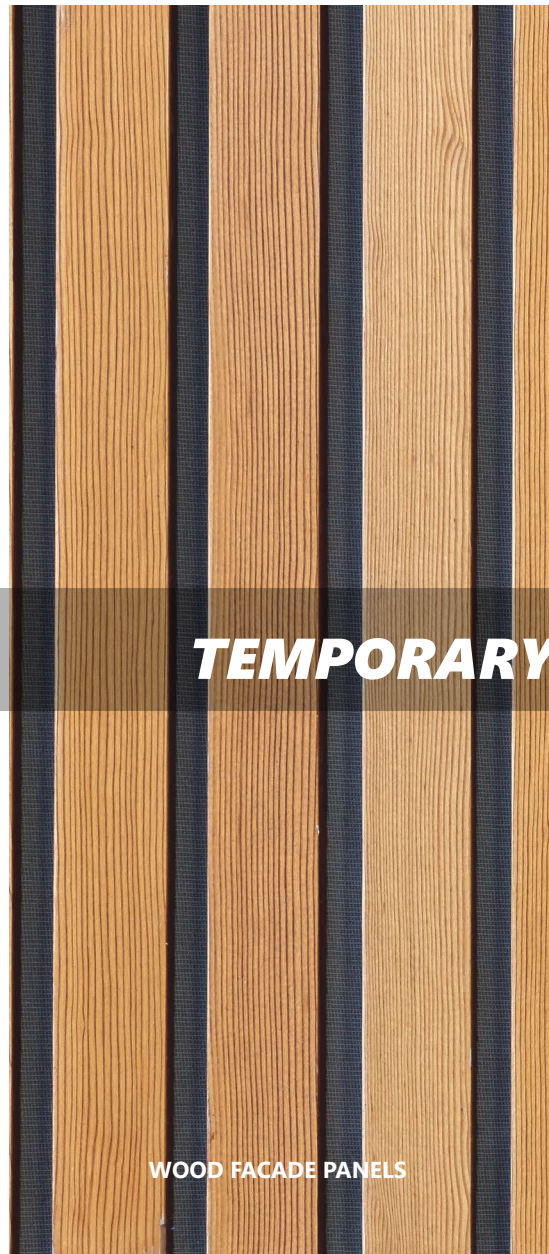


- STRUCTURE
- INFRASTRUCTURE

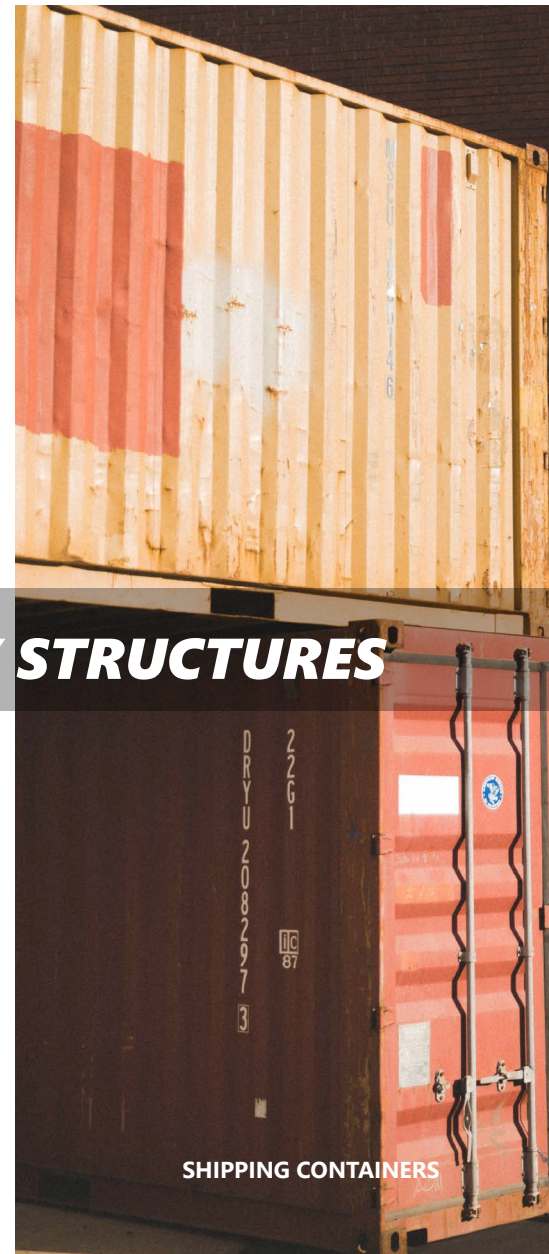
**PERMANENT BACKBONE**



DEMOUNTABLE WOOD



WOOD FACADE PANELS

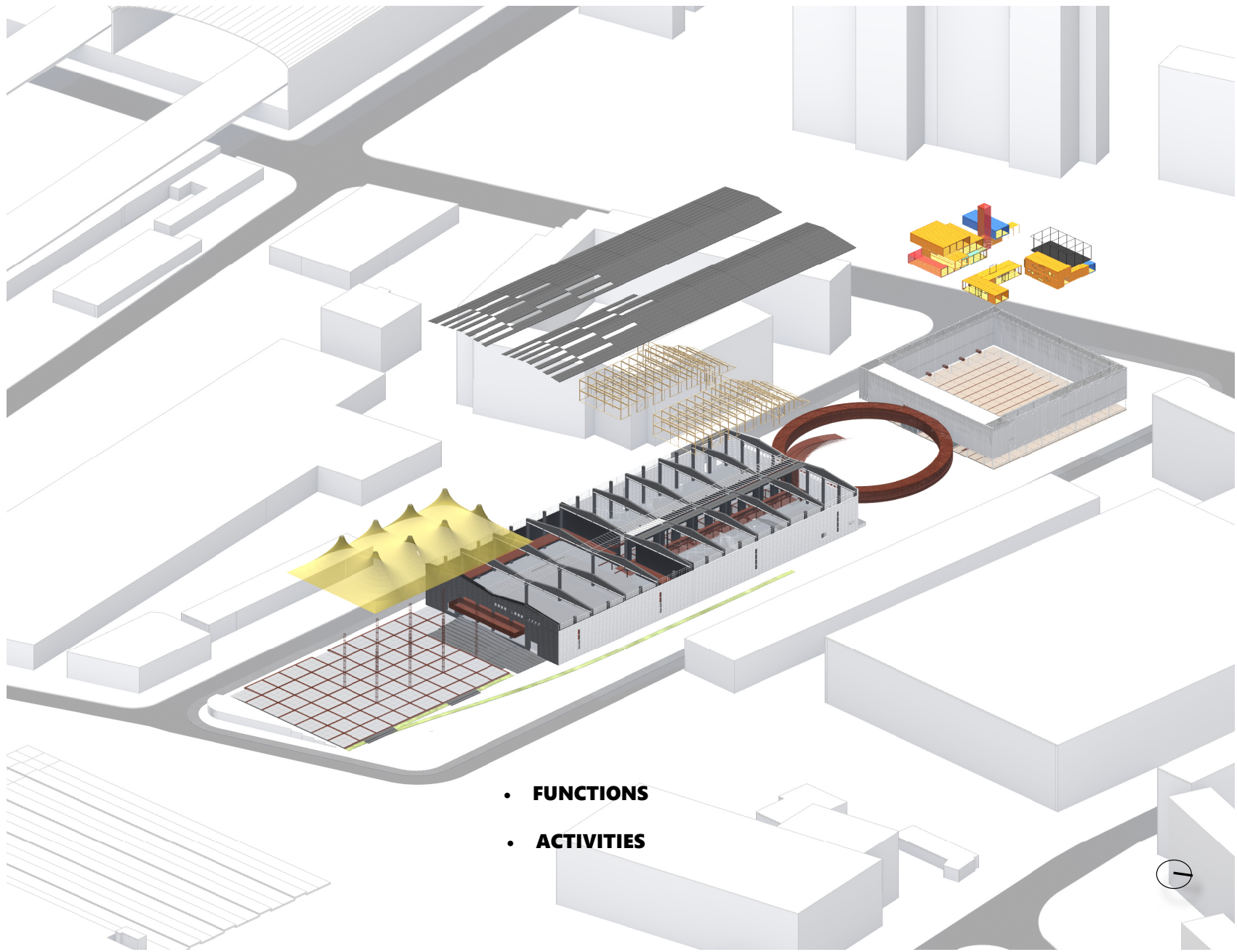


SHIPPING CONTAINERS



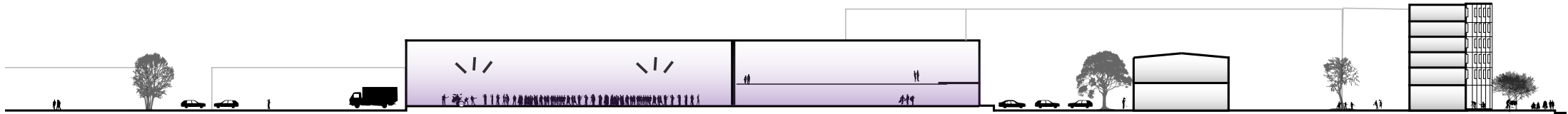
TENT FABRIC

## ***TEMPORARY STRUCTURES***

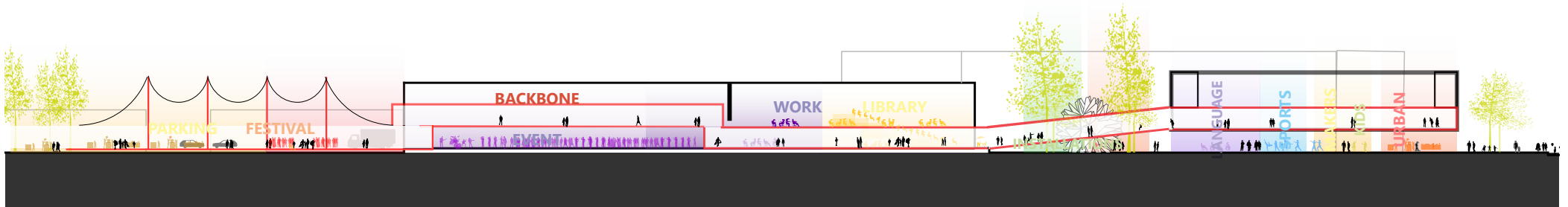
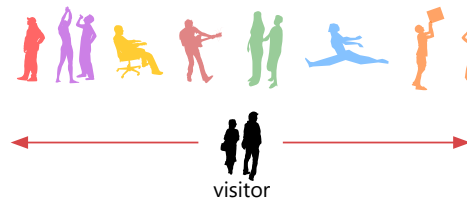


- **FUNCTIONS**
- **ACTIVITIES**

**TEMPORARY FUNCTIONS**

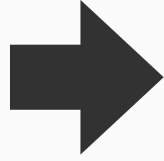


**BEFORE (2023)**

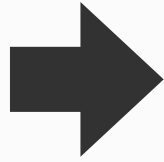


**AFTER (2035)**

**PERMANENT**



**TEMPORARY**



**SECTION**

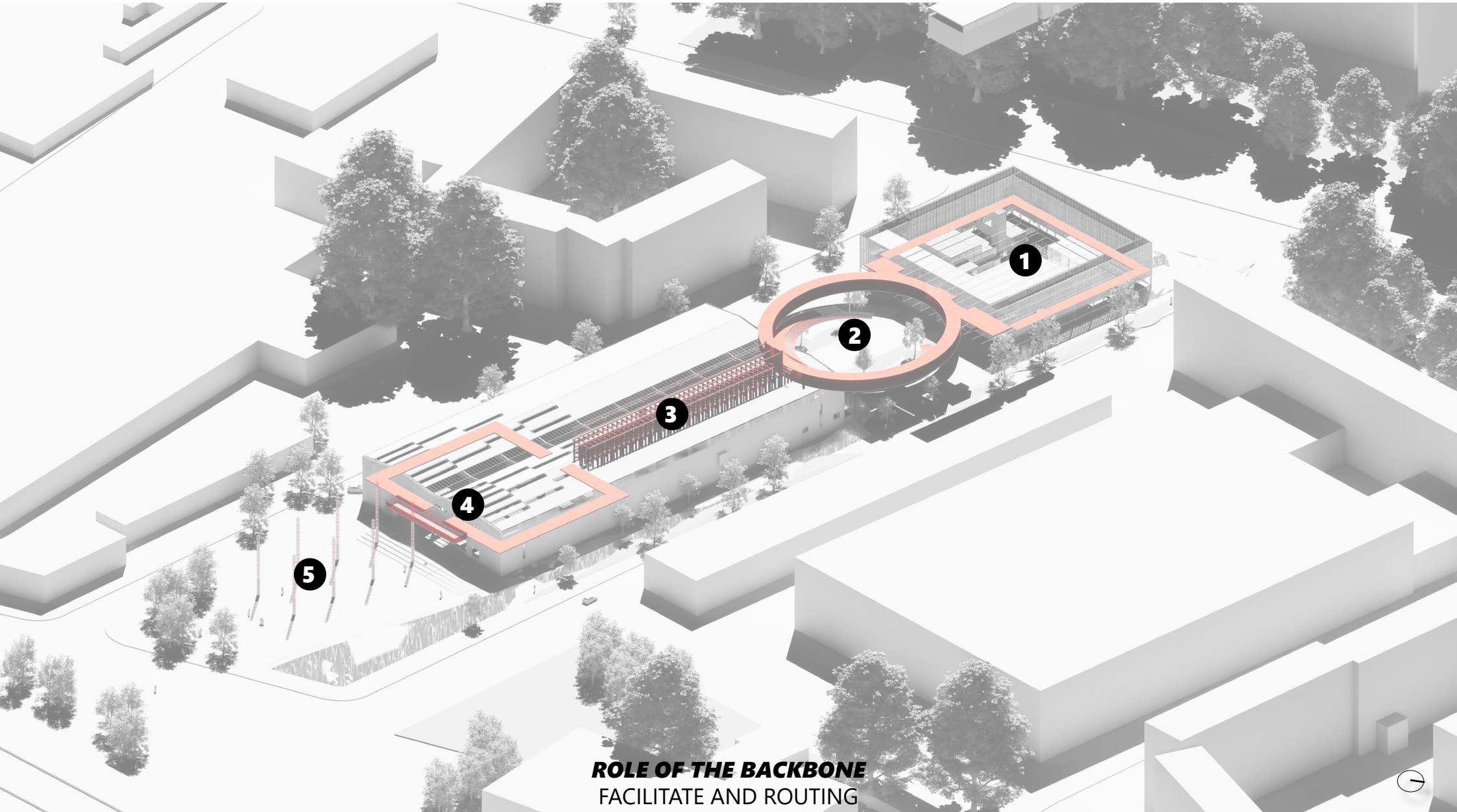


**V (2035)**

The project is comprehensively presented through plans, sections, details, 3D models, and perspectives at various scales.

**G**

FINAL DESIGN



**ROLE OF THE BACKBONE**  
FACILITATE AND ROUTING



**5 THE SQUARE**

- EVENTS
- FESTIVAL
- PARKING

**4 THE PERIMETER**

- EVENTS

**3 THE CORRIDOR**

- COFFEE CORNER
- LIBRARY
- SHARED WORKSPACES
- OFFICES

**2 THE CIRCLE**

- ART INSTALLATION PLAZA
- SCULPTURE ROUTE

**1 THE SCREEN**

- MAKERSPACE
- URBAN LIVINGROOM
- GYM
- KIDS CENTER
- DAYCARE
- LANGUAGE COURSE CENTER



**FLEXIBLE PROGRAM**  
BACKBONE



**THE SCREEN**  
APPROACH

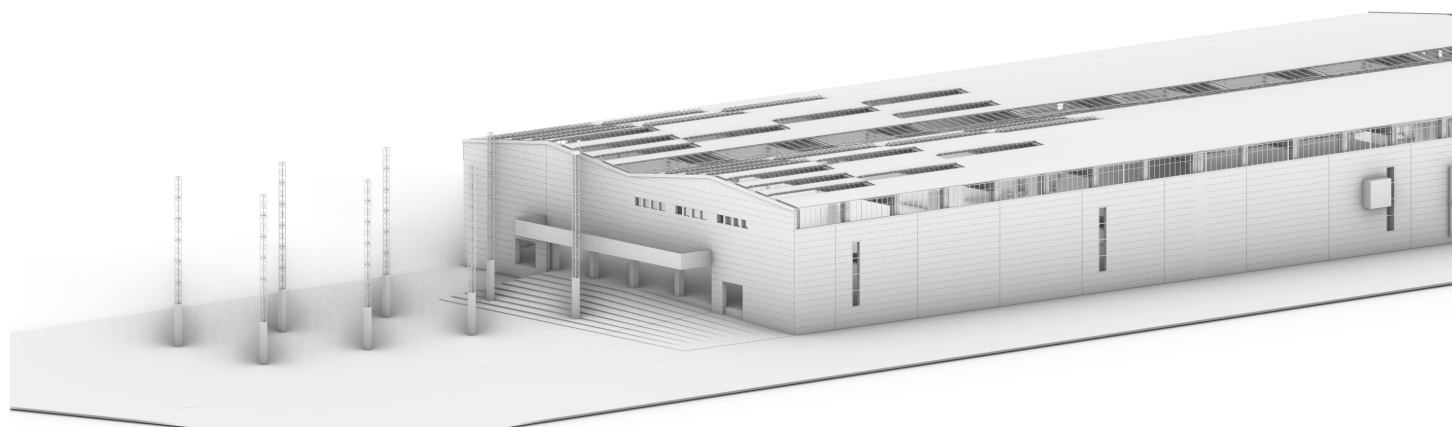


**THE SCREEN**  
INSIDE WORLD

**STRUCTURE**

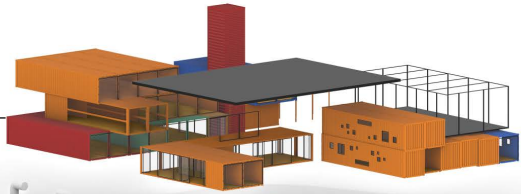
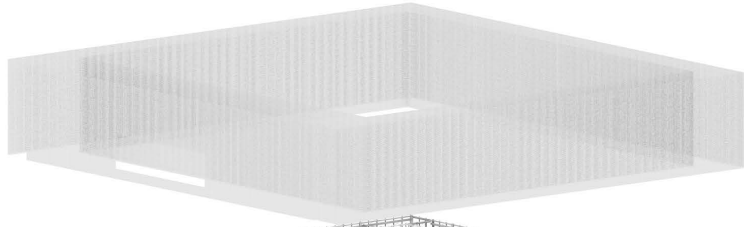
**INSTALLATIONS**

**USE**



**PART 01**

1



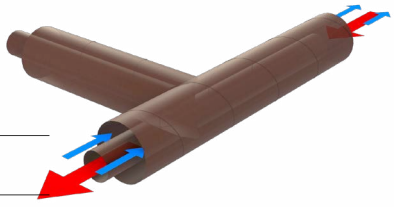
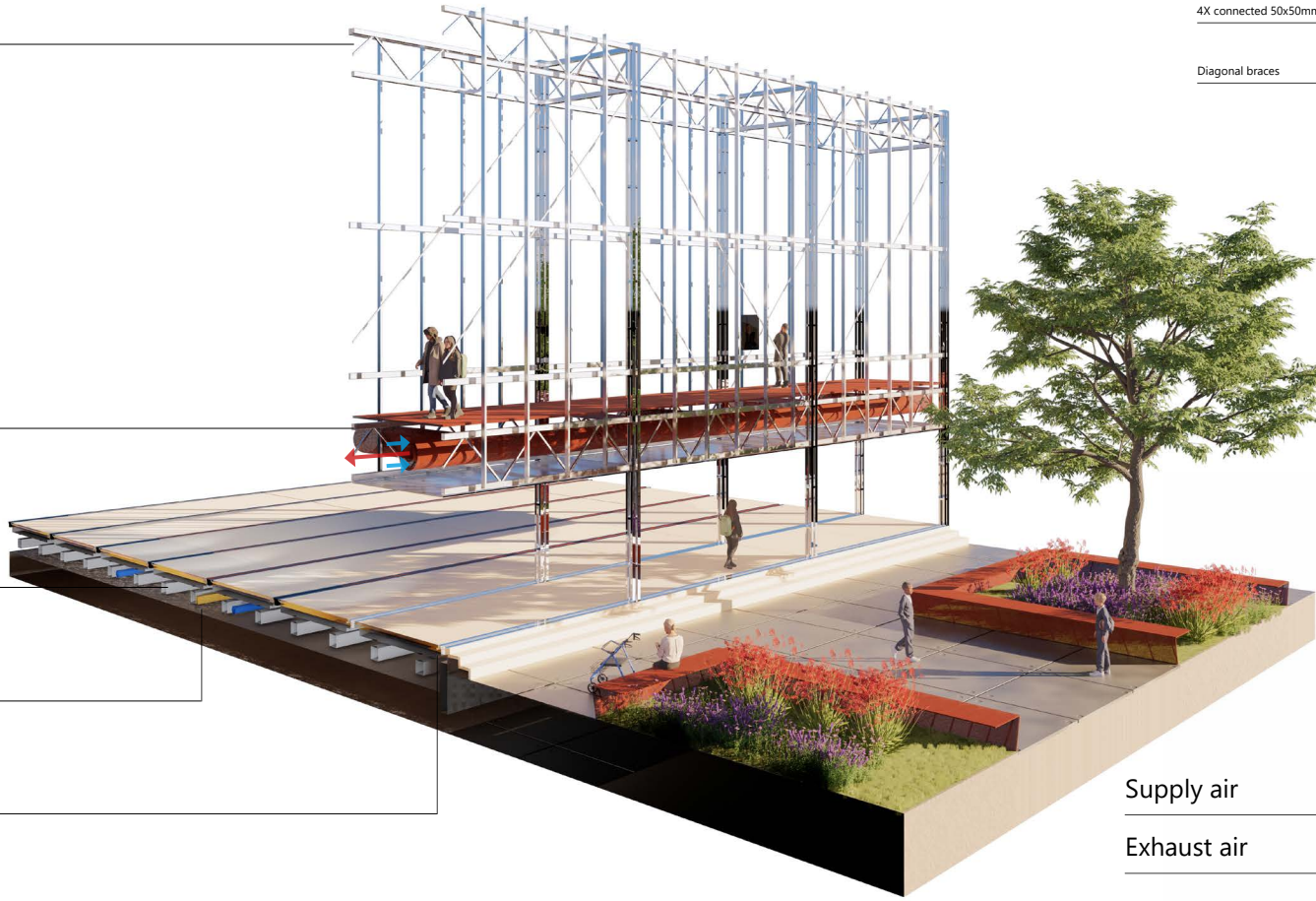
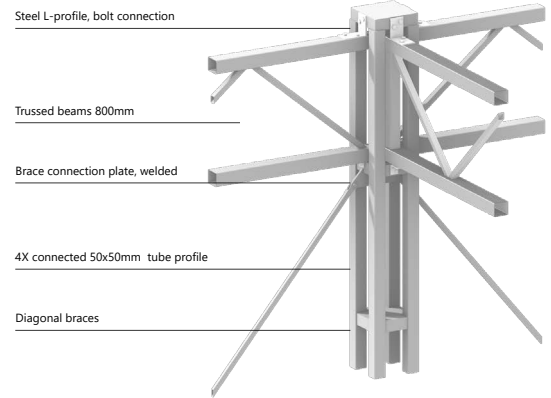
**SPACE TRUSS**  
Steel truss beams in combination with diagonals work as a rigid construction

**VENTILATION**  
Ducts surrounding the square for flexible plug-in of functions

**WATER**  
Water supply and sewerage system.

**ELECTRICITY**  
Central cable tray

**WATER RE-USE**  
Gutters every 3 meters. Collected rainwater is re-used for toilets and watering.

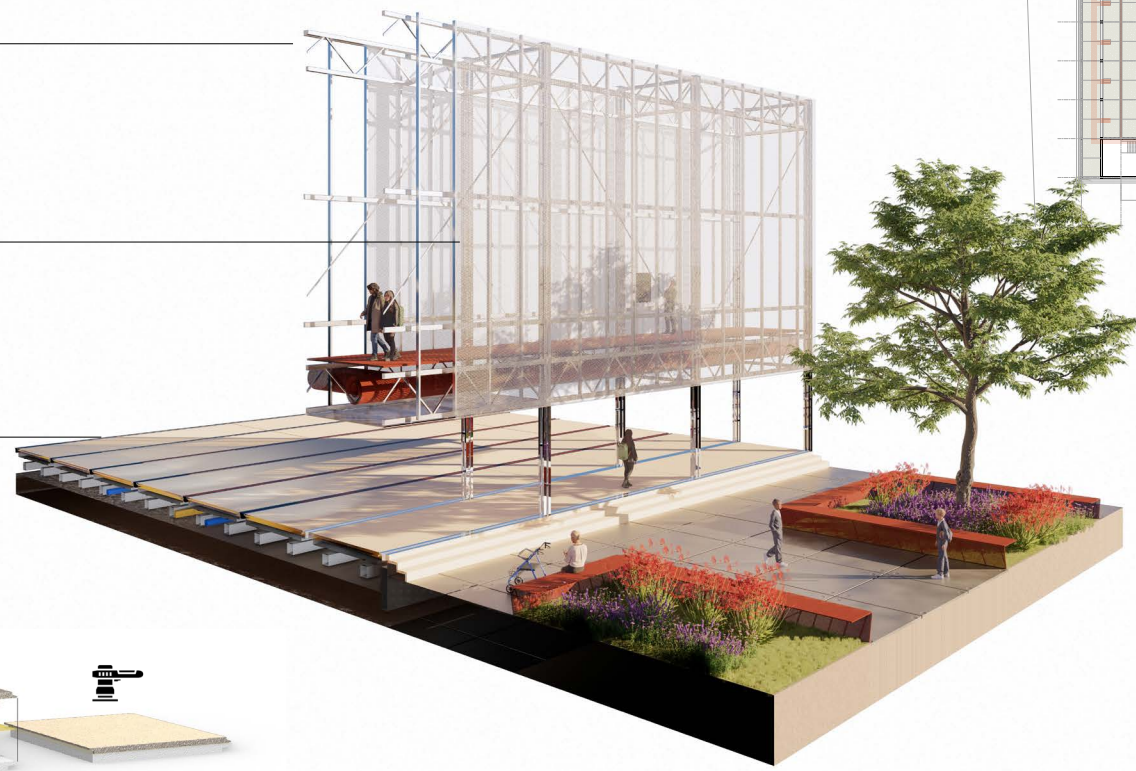
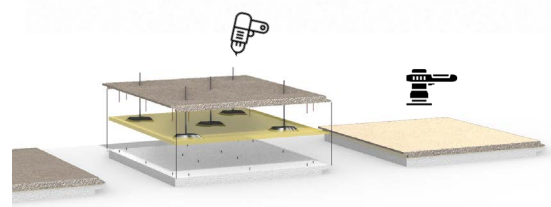
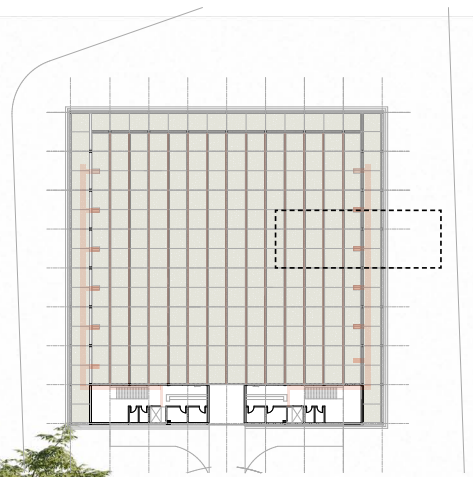


**STRUCTURE / INFRASTRUCTURE**  
PERMANENT

laddered  
metal  
railing.

is finished  
with satin polish,  
no patina

forcing  
the 'plattens'  
to total  
width  
(2.80m)



**MATERIALS**  
PERMANENT

**FITNESS** (200M<sup>2</sup>)

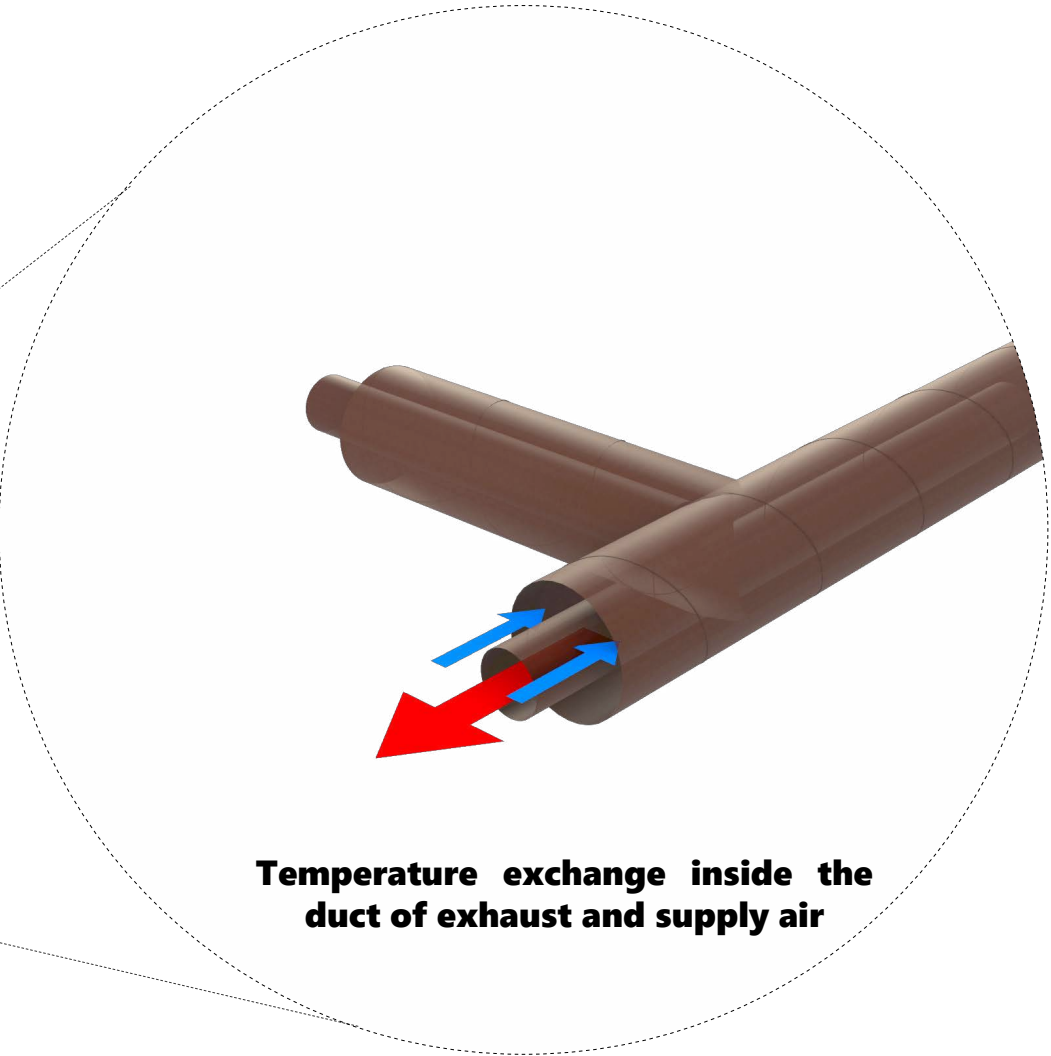
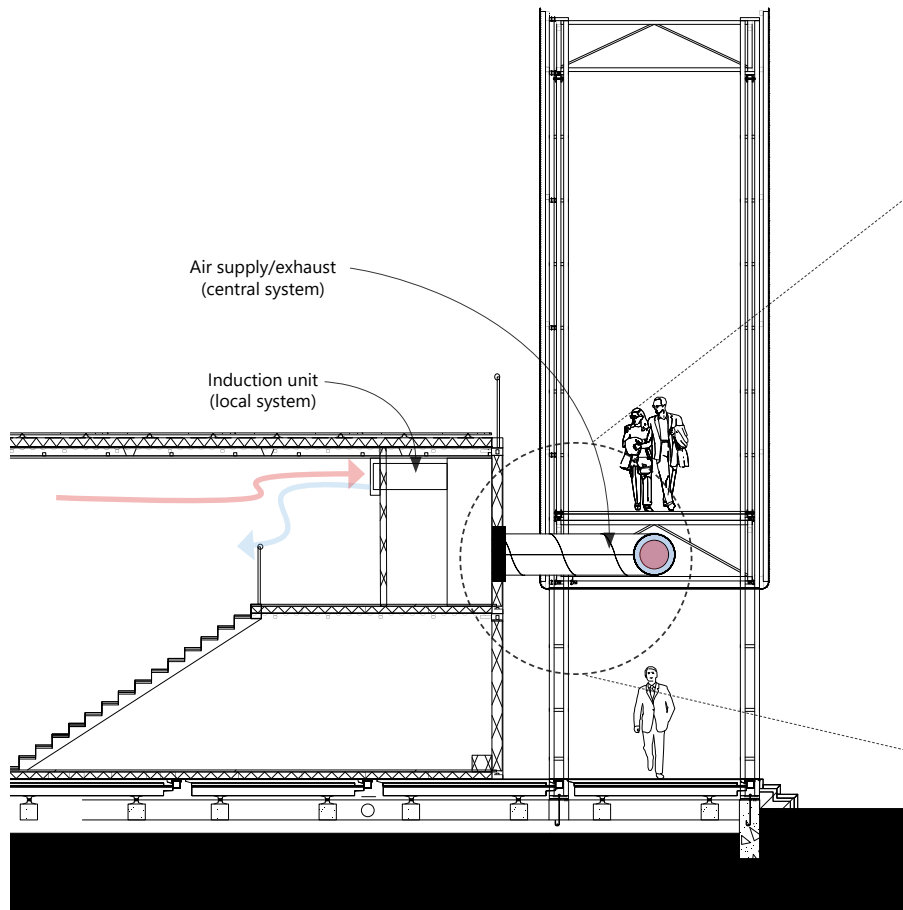
- Entrance & Reception
- Toilets
- Changing rooms
- Sports room
- Staff
- Installations

**DAYCARE/SCHOOL** (350M<sup>2</sup>)

- Entrance & Reception
- Toilets
- Classroom 01
- Classroom 02
- Staff
- Installations



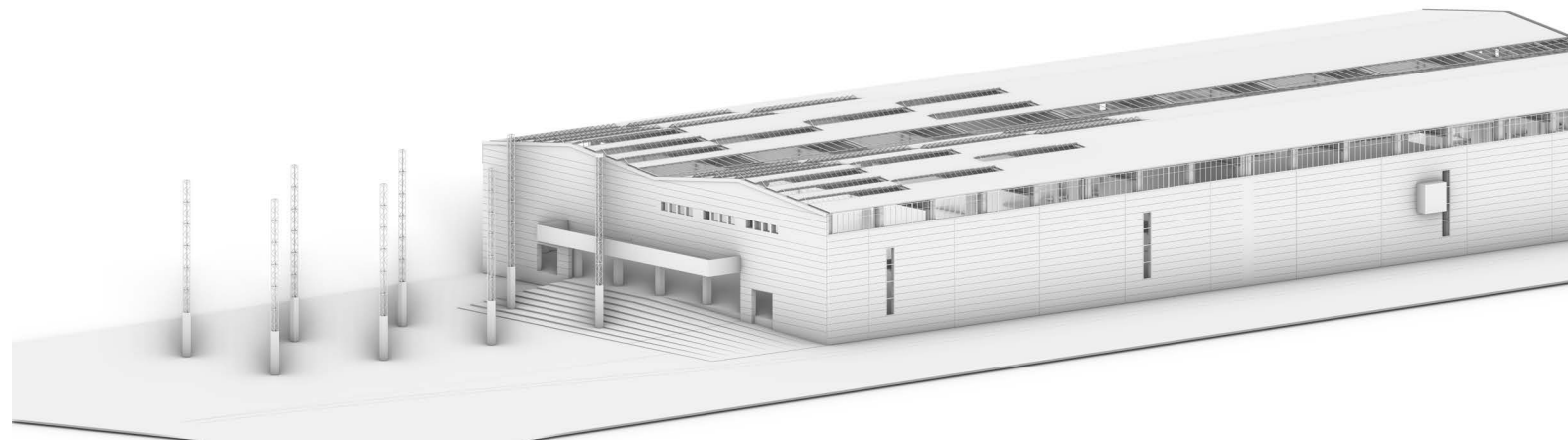
**USE**  
FLEXIBLE



**1:20/1:5**  
DETAIL FRAGMENT

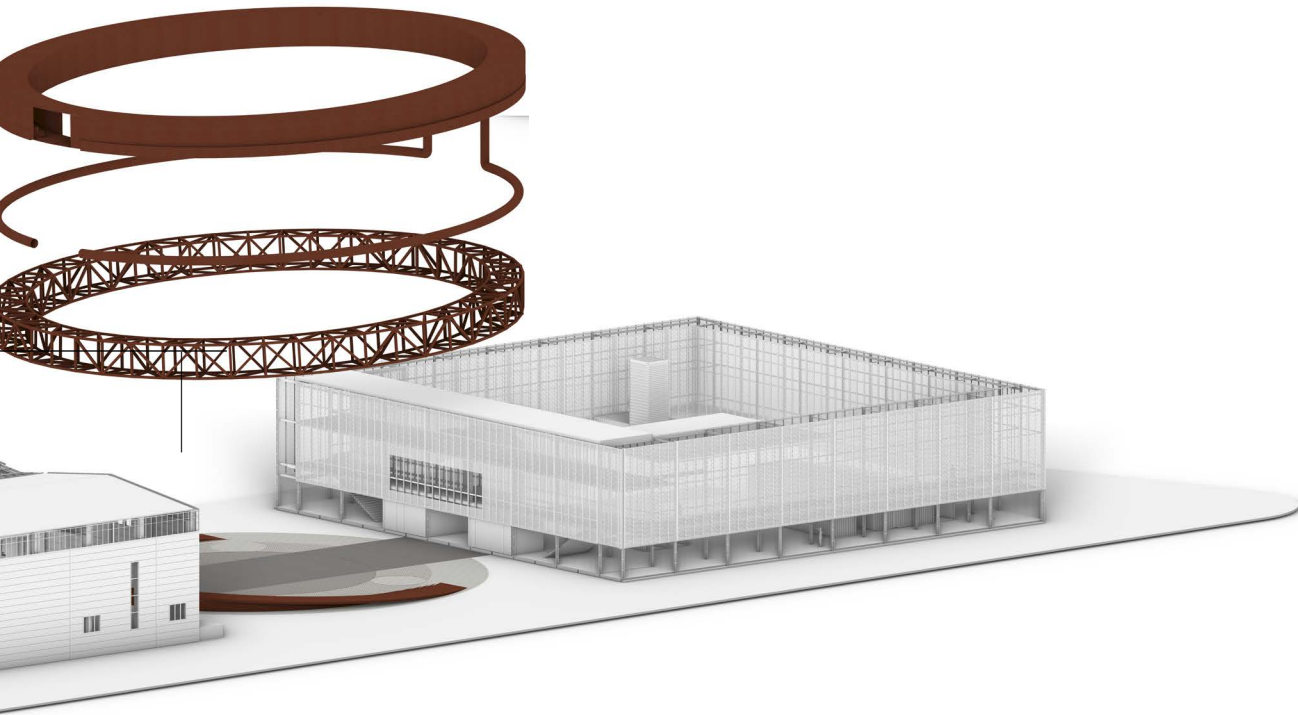
**STRUCTURE**  
**(BACKBONE)**

**USE**



**PAR**

2



ART INSTALLATION PLAZA

CONNECTING  
SCULPTURE ROUTE

2

0 5 10 15 METER 20





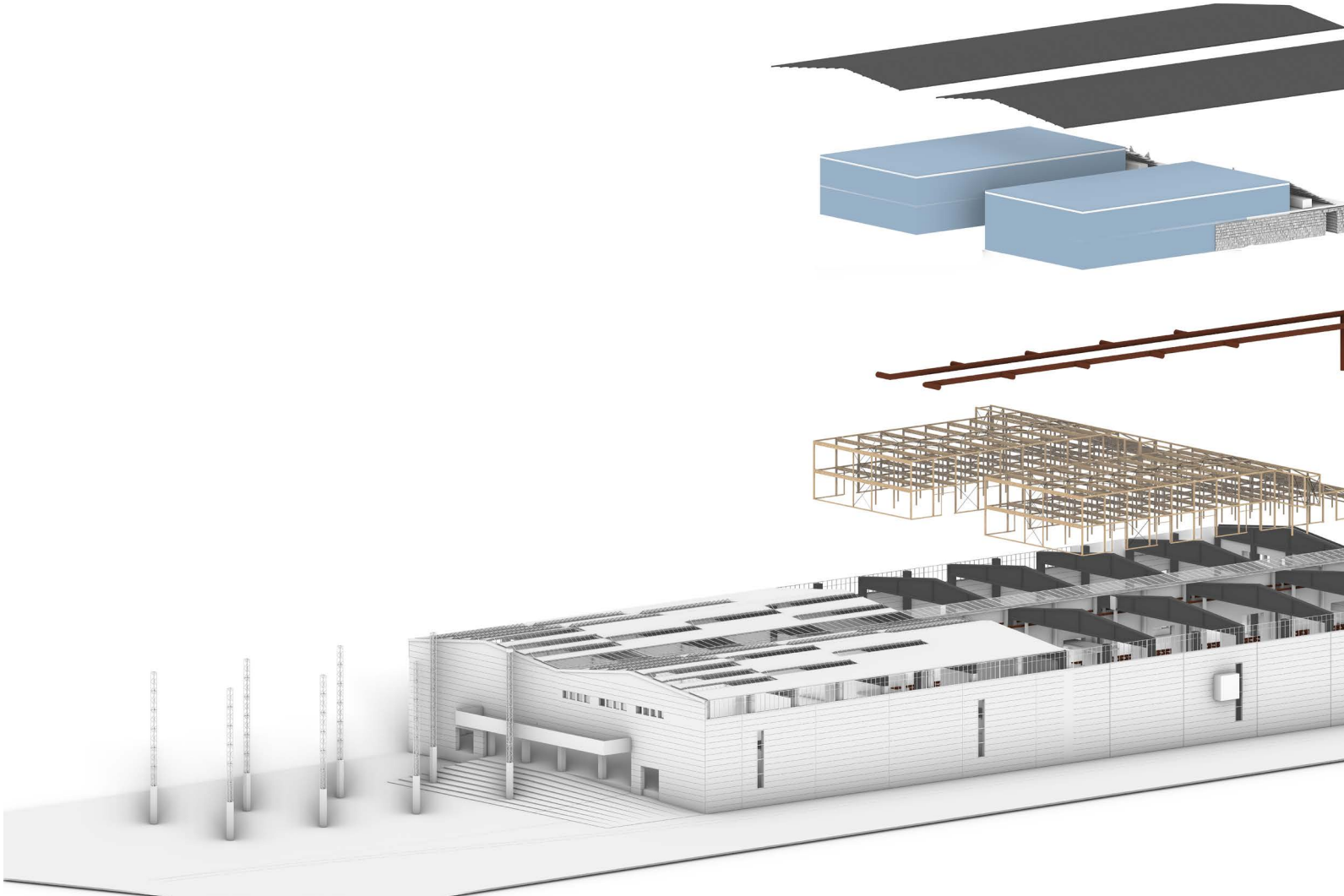
**BACKBONE AS CONNECTION**  
EXHIBITIONS



**PERMANENT**  
STRUCTURE



3





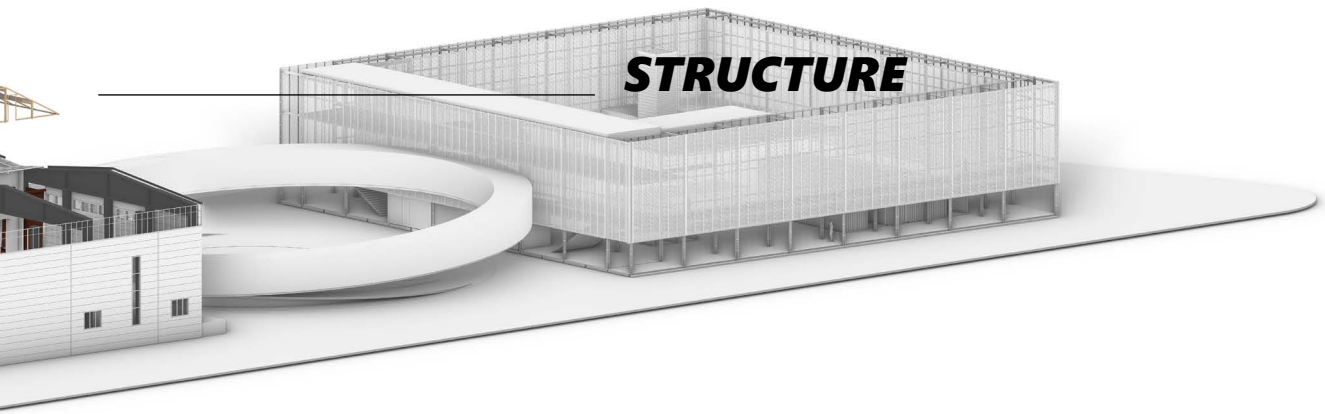
**USE**



**INSTALLATIONS**



**STRUCTURE**





**OFFICES**

**SHARED WORKSPACE**

**LIBRARY TRIBUNE**

**STUDY PLACES**

**CANTEEN**

**RENTABLE OFFICES**

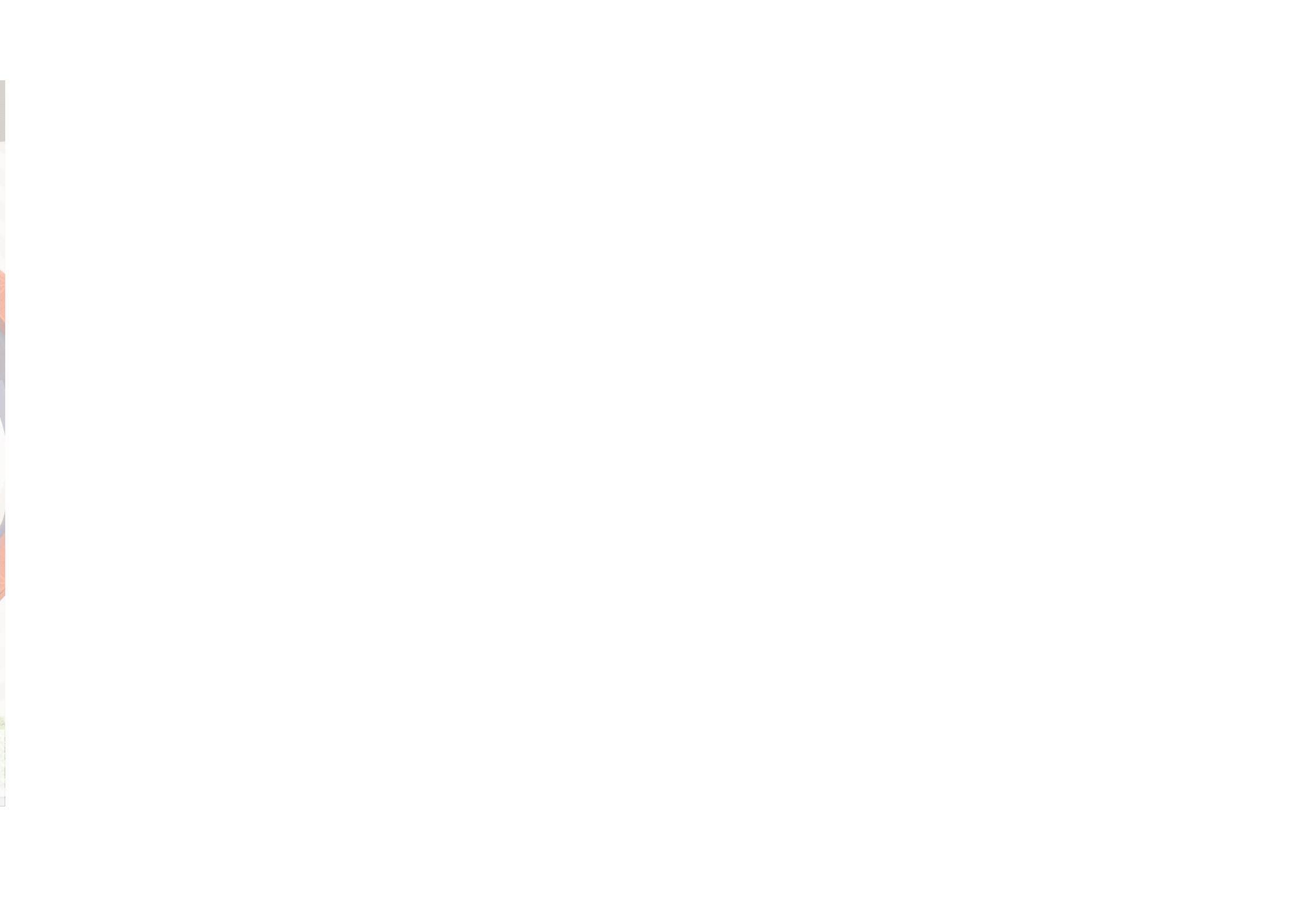
**QUIET SPACES**

**TOILETS**

**COFFEE CORNER**

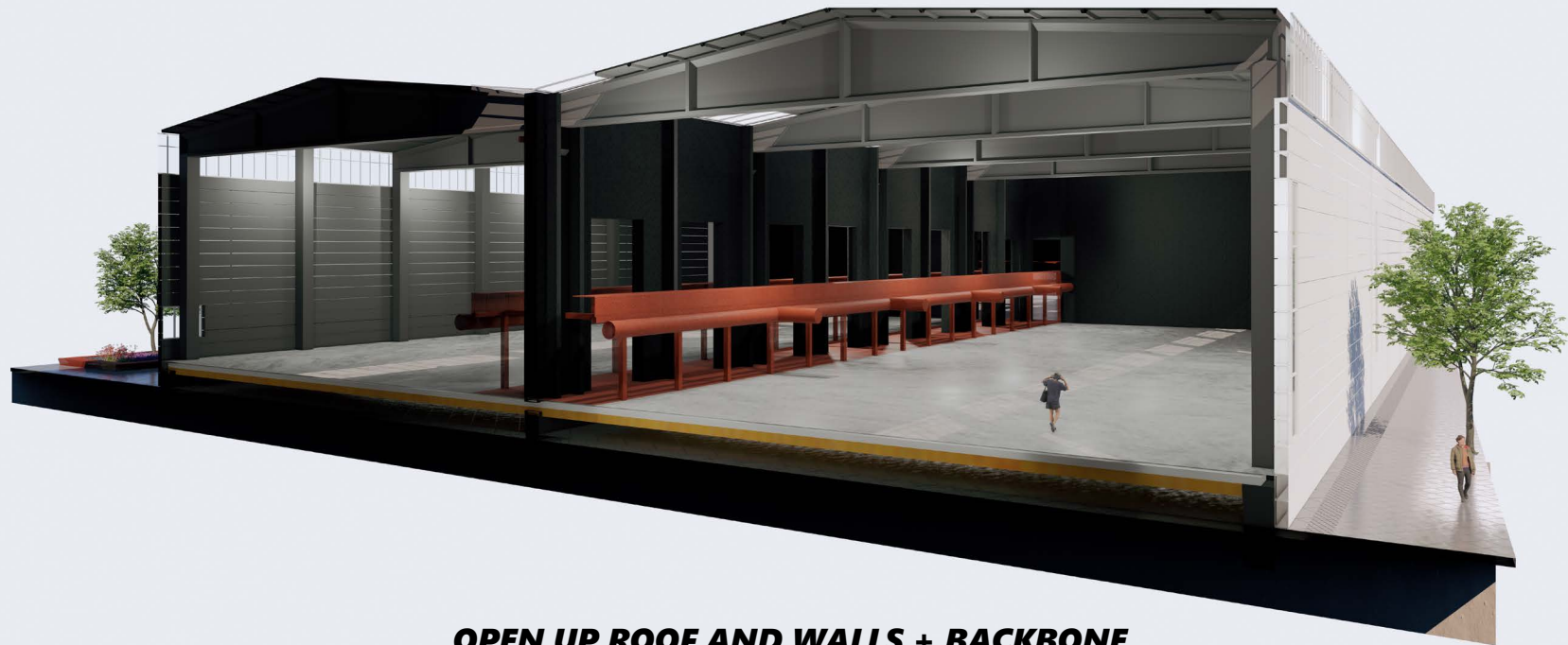


0 5 10 15 20  
METER

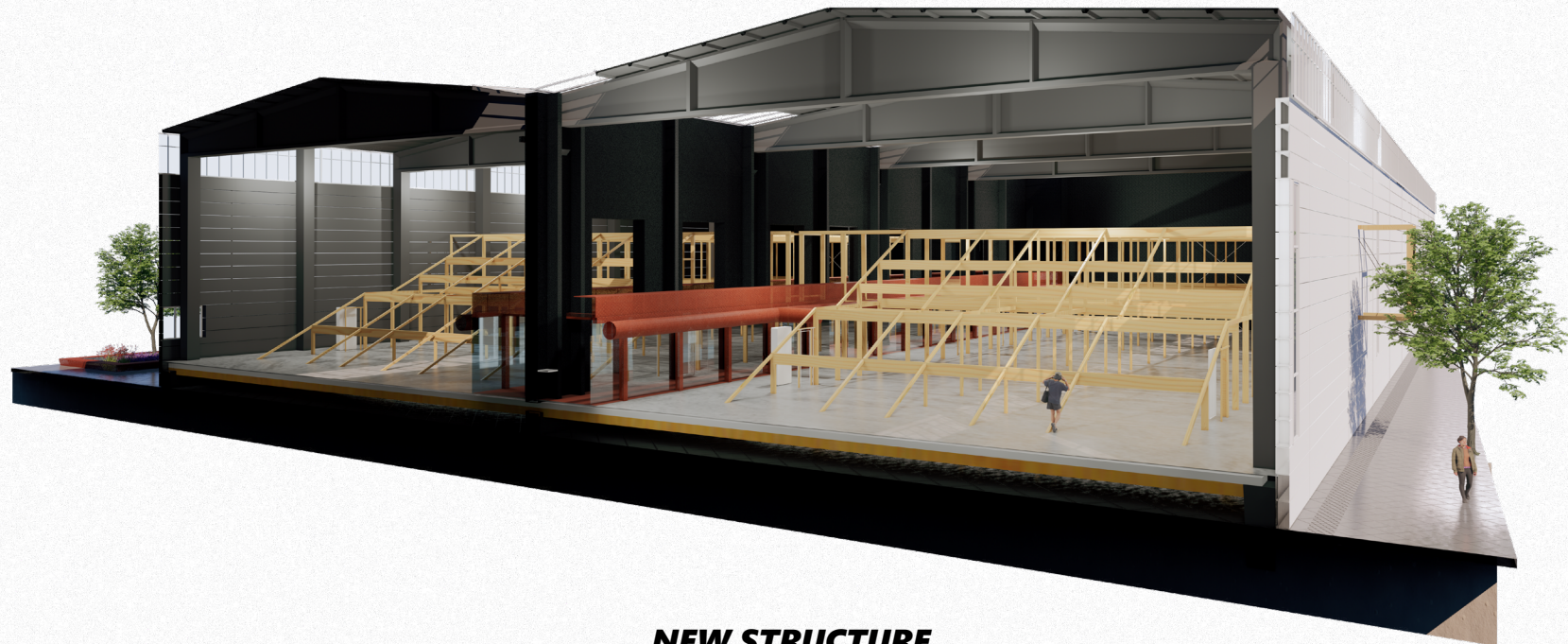
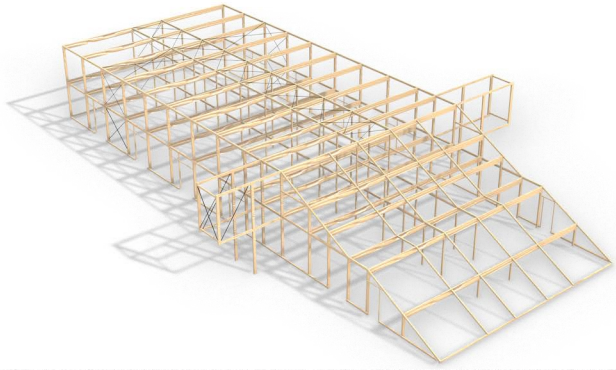




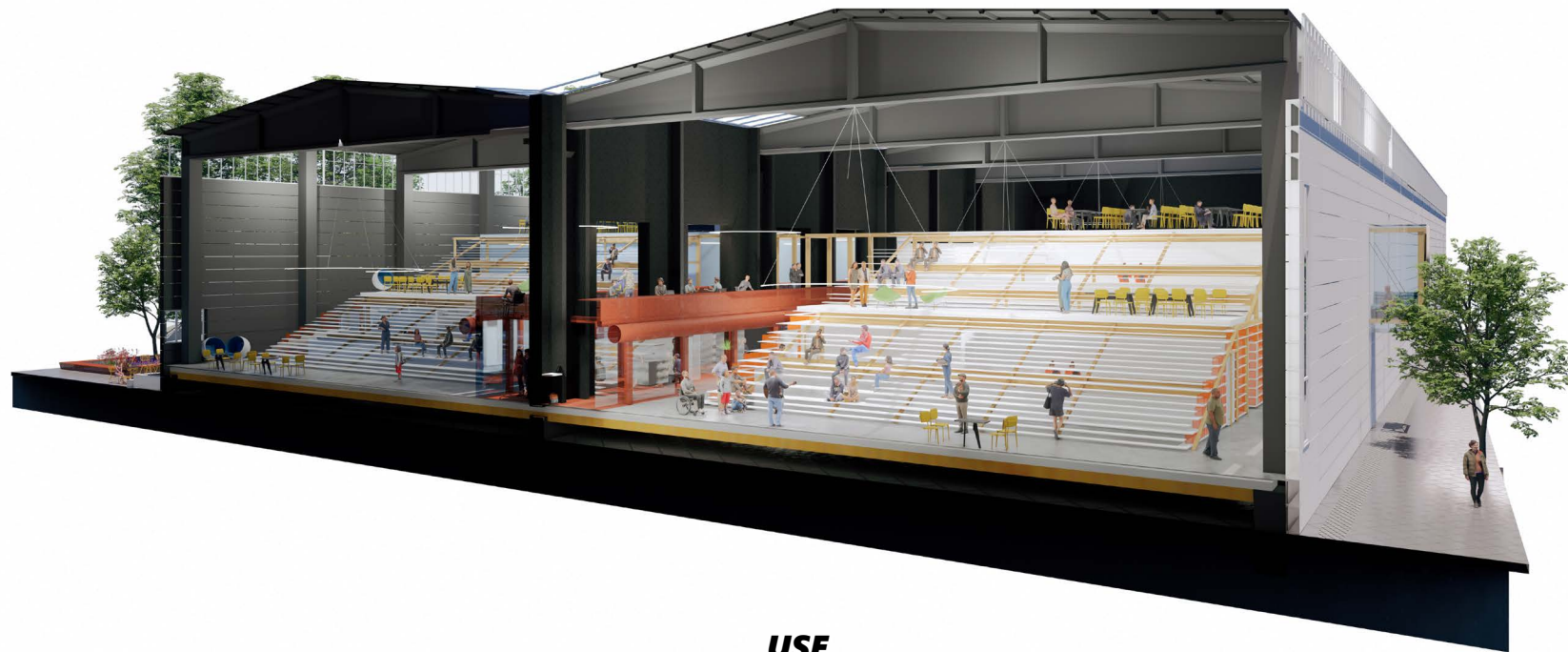
***EXISTING STRUCTURE, 2023***  
PERMANENT



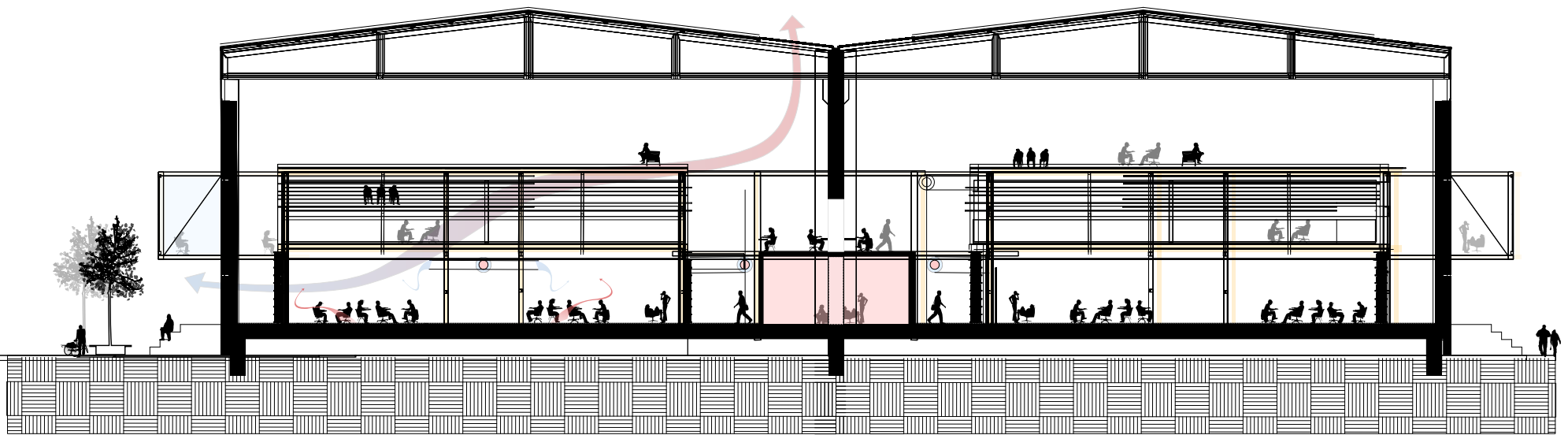
**OPEN UP ROOF AND WALLS + BACKBONE**  
PERMANENT



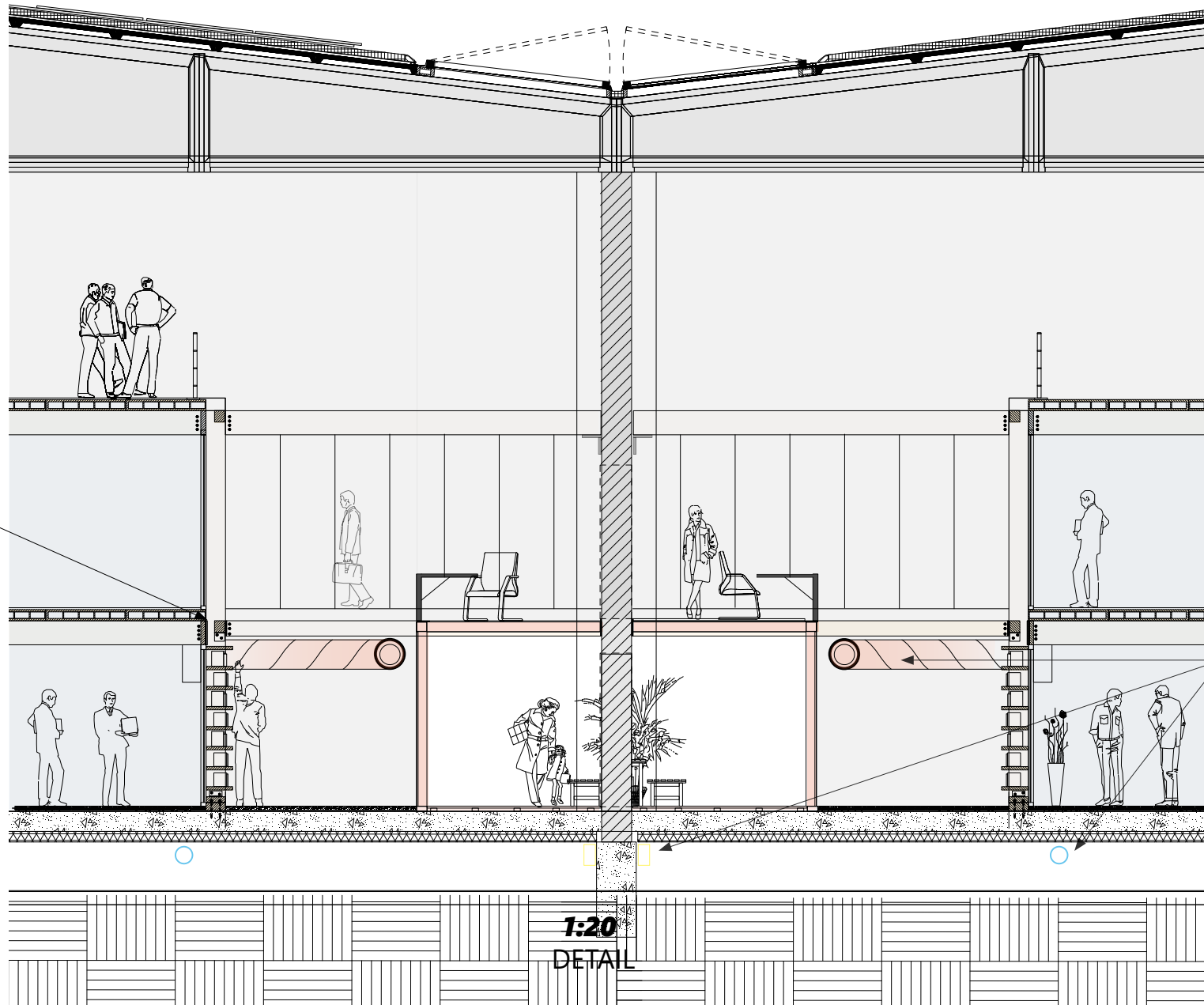
**NEW STRUCTURE**  
FLEXIBLE



**USE**  
FLEXIBLE



**VENTILATION**  
MECHANICAL/NATURAL



**WOODEN STRUCTURE**  
Demountable

**INFRASTRUCTURE**

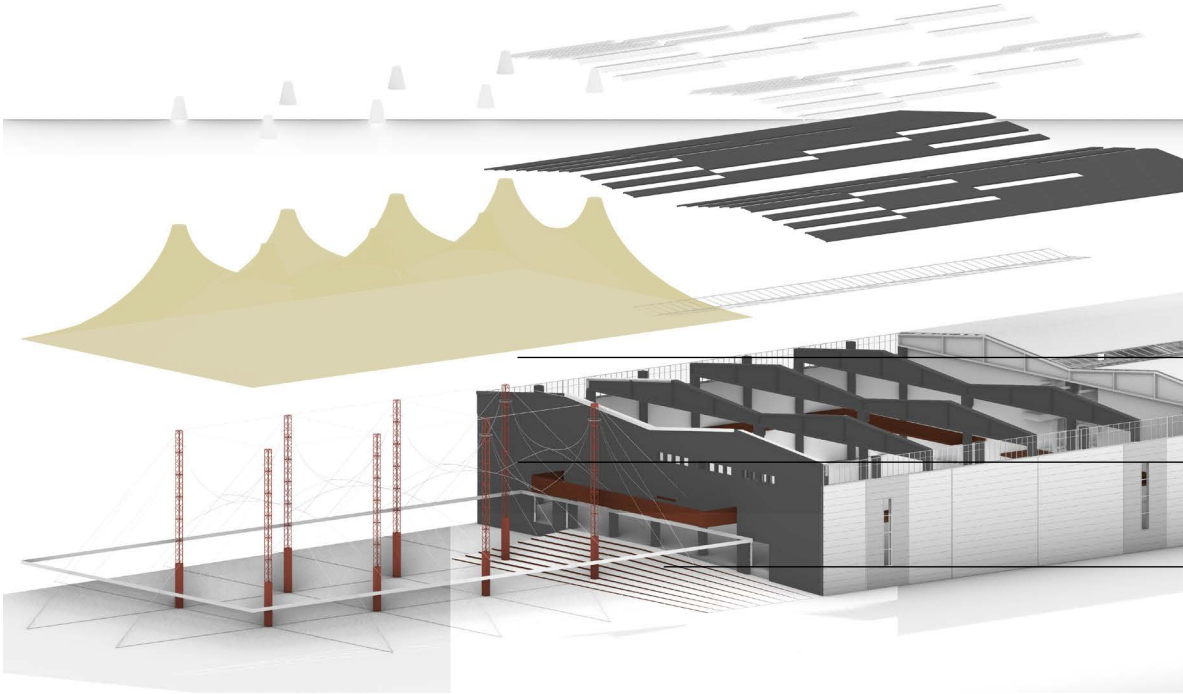
- ventilation
- electricity
- water

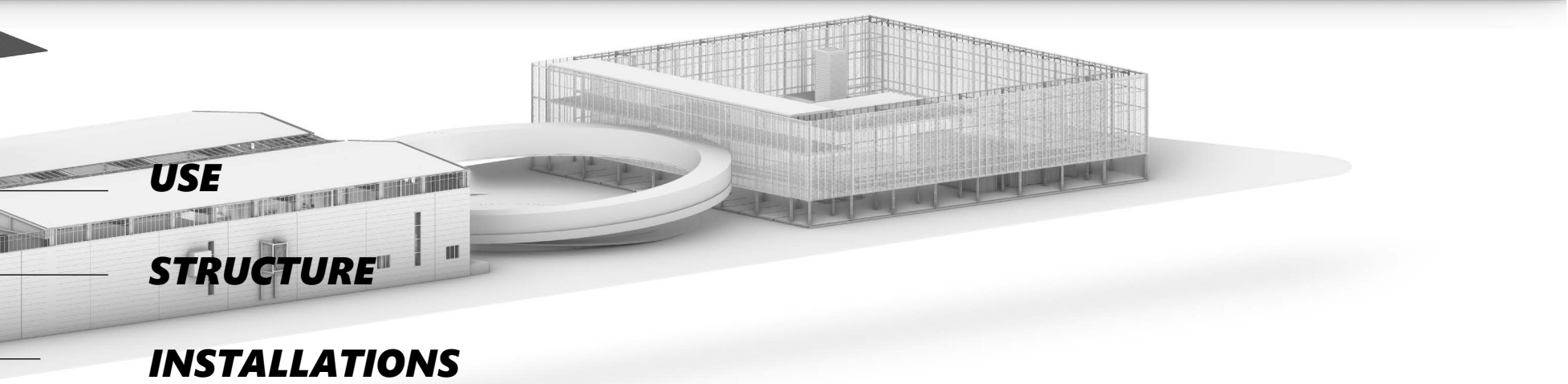
**1:20**  
DETAIL





**TRIDOR**





**USE**

**STRUCTURE**

**INSTALLATIONS**

**EVENT SQUARE**

**LOGISTICS**

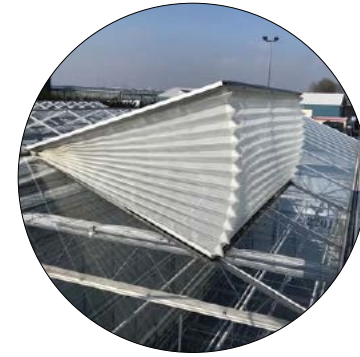
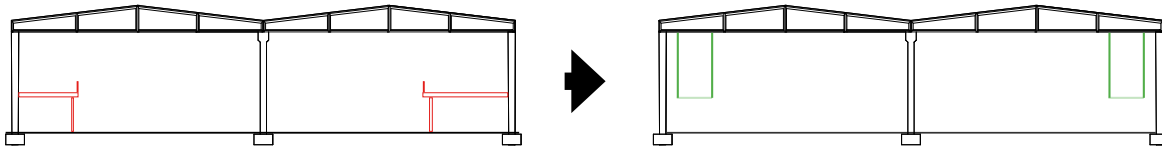
**ROUND WALK**

**EVENT HALL**

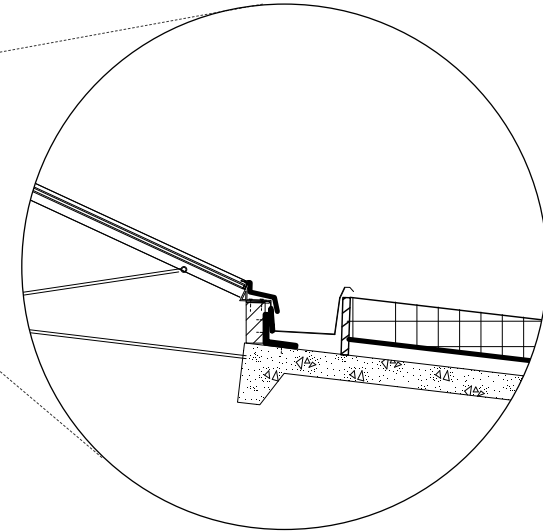
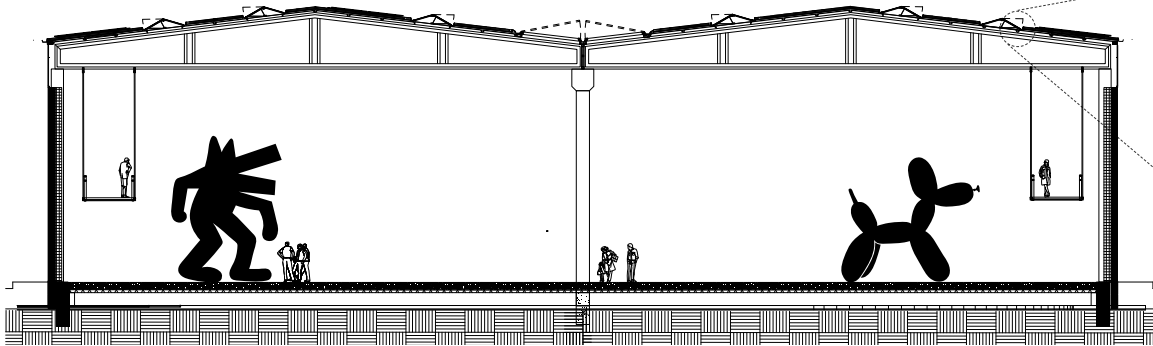
**OUTDOOR**

**INDOOR**





**RE-USE OPENABLE GREENHOUSE ROOFS**



**INDOOR**



**EXISTING**

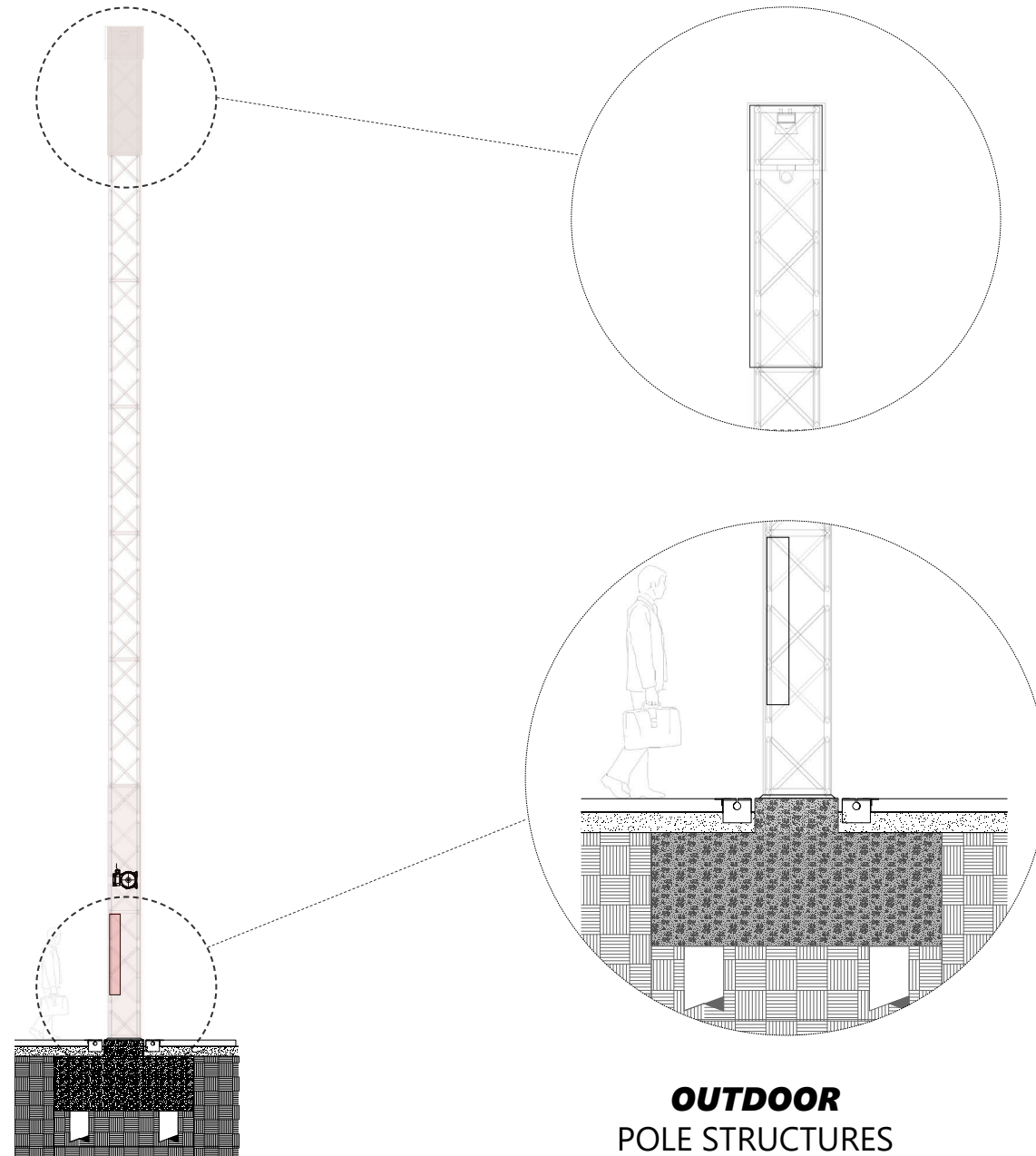


**ADAPT + BACKBONE**



**EVENT HALL**





**OUTDOOR**  
POLE STRUCTURES



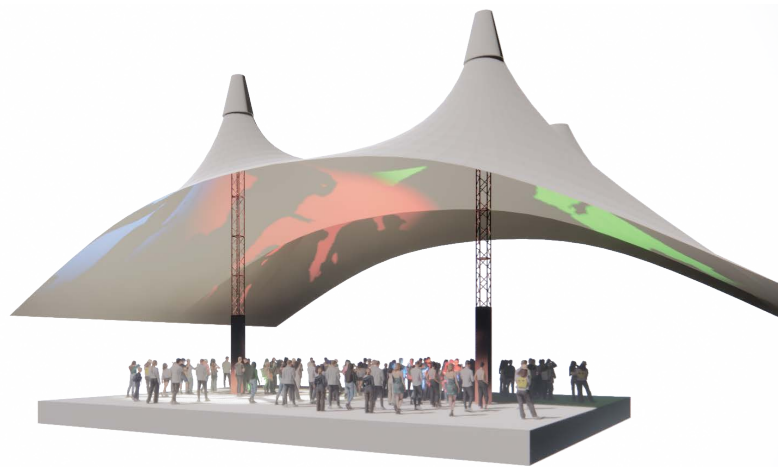
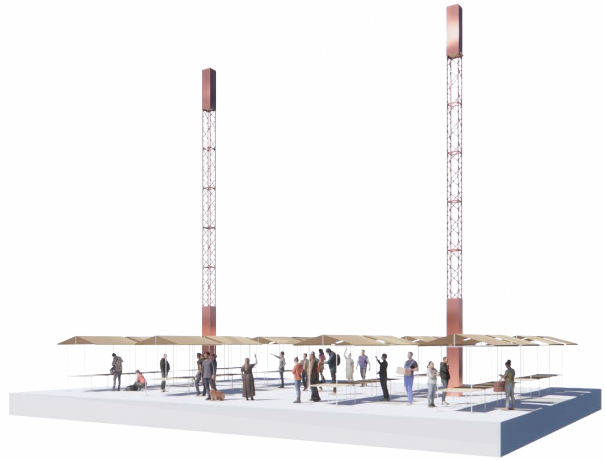
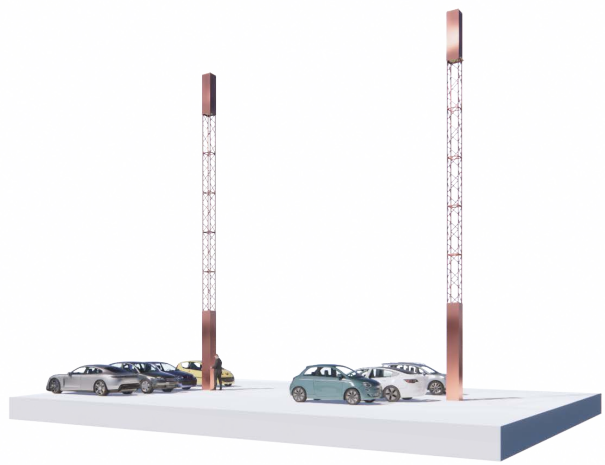
**FESTIVAL TENT**



**CHARGING POLES**



**ELECTRICITY FOR MARKETS**





**STREETLIGHT SCULPTURES**



**CHANGING SYSTEM**





**ARTICULATE EXISTING**









Reflection on the research by design process of the multi-phase project in Friedrichshain,  
Berlin.

**H**  
REFLECTION

# P4 Reflection Paper

Max Meere  
4587006

## The Time-Line

A multi-phase project in Friedrichshain, Berlin that responds to urban changes through time.

Public Building graduation studio| AR3AP100 | 2022-23  
Public condenser, new urban lounge & commons

### Mentors:

Henk Bultstra      Architectural Design  
Florian Eckardt    Technical Building Design  
Stefano Corbo      Theory and Delineation

Rients Dijkstra      Examiner

Nathalie de Vries    Responsible instructor

1. What is the relation between your graduation project topic, your master track (Ar, Ur, BI, LA, MBE), and your master programme (MSc AUBS)?

The graduation project 'Time-Line' relates to the master track Architecture since it focuses on technical, spatial and social challenges within the built environment. The complexity of the project is in the re-use and adaptive re-use of the context, wherein a multi-phase system is designed to give answer to changing societal needs. This is in line with former studios complex projects and MEGA, where an integrated design has been made by incorporating all stake holders and disciplines. Also it relates to the Public Building studio topic commons. The project focusses on the commons of a big number of people separated in two main groups, original and new inhabitants. This division is relevant because of the gentrification process. Since this process is temporary, consisting of different phases, the project aims to create value and be functional in all phases by adapting over time.

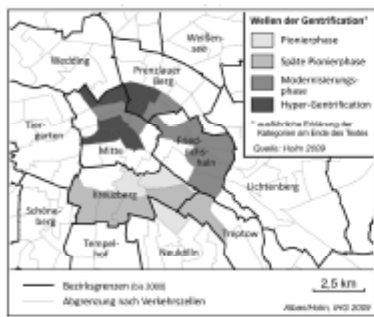
2. How did your research influence your design/recommendations and how did the design/recommendations influence your research?

### P1-P2

Up till P1 and P2, the research I have done has been focusing on two main subjects. First, the role of a public condenser in an era where social separation is a main topic. Secondly to gentrification in Berlin, in special the neighbourhood Friedrichshain as context of the design. This research combined with the studio themes diverged the scope of the project towards a prototypical system that responds to changes more than a static building.

The conclusion of this research is that gentrification is a process existing of multiple phases, happening in a circular movement throughout the city neighbourhoods of Berlin (image 01). By reading papers and books about gentrification, it became clear that development has positive and negative consequences. As Jane Jacobs said: "As long as gentrification proceeds gently, with moderation, it tends to continue to be beneficial, and diversifying.". However, the decreasing sense of belonging of both, new and original inhabitants, is a core problem of gentrification with negative social and economic consequences. One of these consequences is the replacement of original inhabitants. For me as an architect and spatial designer the solution started at this problem, focussing on the sense of belonging. The physical quantity 'time' started to interest me since the process happens over time, divided in sequential phases. The public condenser for me became a project that responds to social and economic issues by changing over time. In this way functions, spaces and activities are programmable to its surrounding needs.

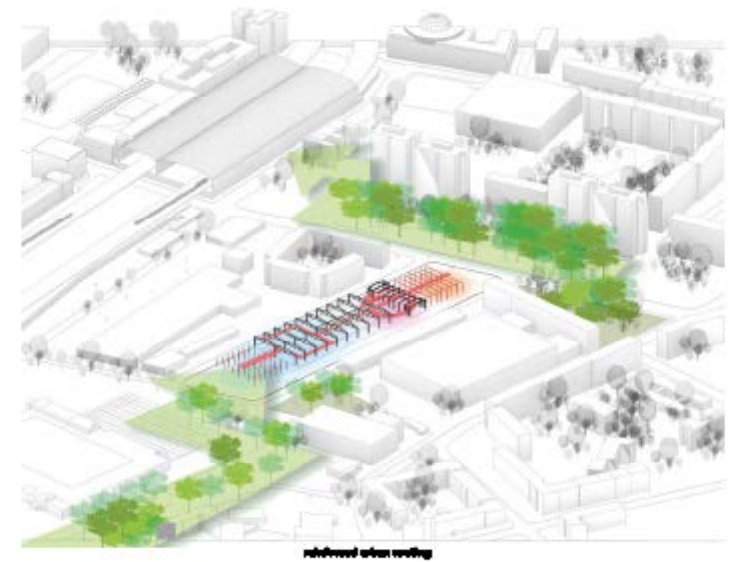
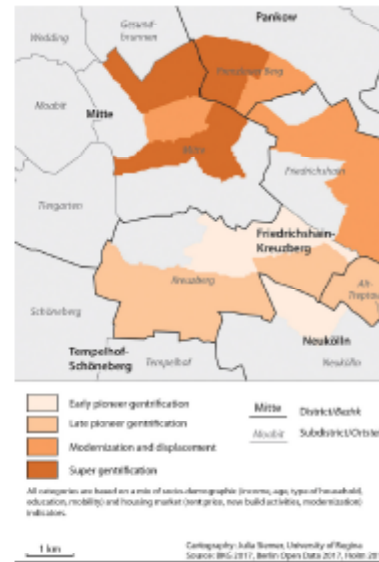




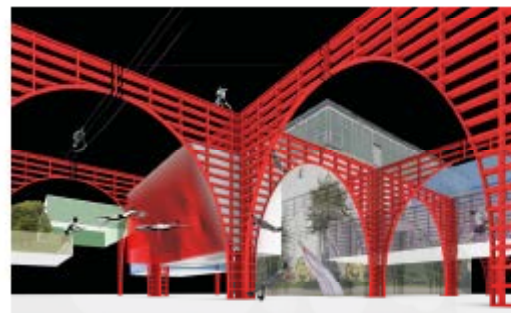
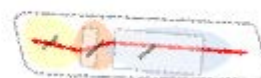
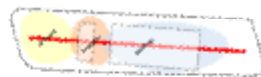
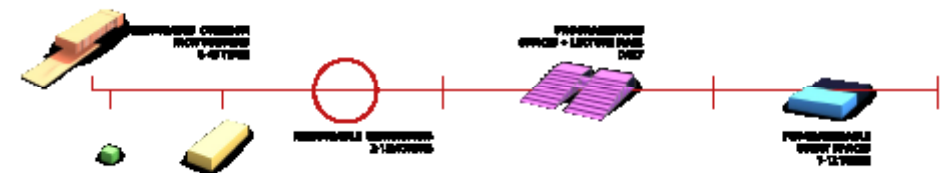
Based on research, a central site was chosen at the intersection of three neighbourhoods in Friedrichshagen. This location is positioned between areas that have undergone gentrification. There are many opportunities for development. Outdated large structures are being renovated or demolished, while modern office buildings are being constructed nearby.

The current plot features three buildings that vary in their condition. Giving the opportunity for re-using or for spatially expansion of the project in the future.

To develop the concept, further research has been conducted by design. Reference projects have been analysed to apply the main principles to the site. The principles focussed on change and adaptability. The backbone or carrier principle was found to be particularly fitting for the concept and location, albeit in a horizontal way, resulting in a favorable urban impact. The structure will accommodate changing functions and spaces while strengthening the urban routing. The form and character of the structure have been explored by the design tools collage & montage and superposition & superimposition.

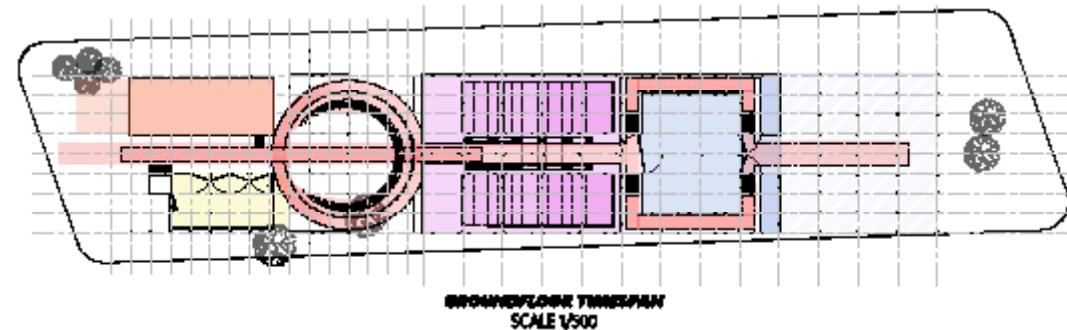


Through an analysis of research on common function users and the lifespan of various functions, a particular configuration has emerged. This configuration is reflected in the floor and site plan of P2, which demonstrates the placement of functions that follows the urban grid logic. The ends of the plot are in conversation with the adjacent public spaces. Here the functions focus on the attraction of different audiences, providing space to meet and encounter. Additionally, the functions placed in the middle of the plot are more stable and focus on connection.



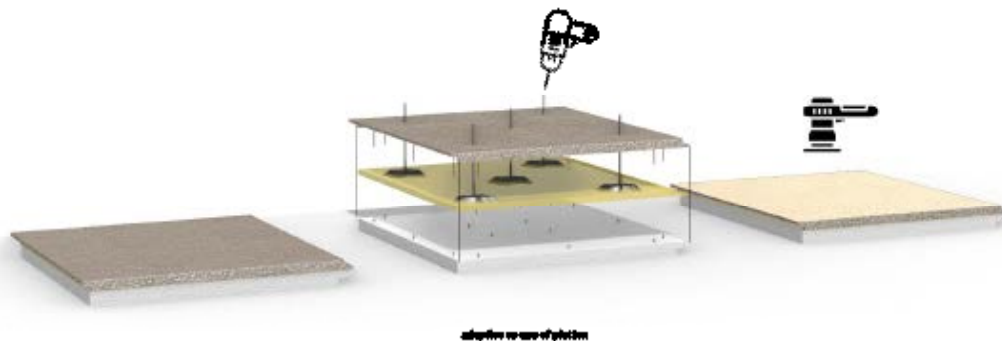
100 structure design

design option structural backbone



After P2 the research shifted towards feasibility and design studies on building scale. The design intertwined with the research, progressing from schematic design into the realm of technical building design, materialization, and construction design.

A second site visit helped by understanding the plot and its potential for adaptive reuse of existing buildings. The structure of the middle building turned out to be in a bad shape and was being demolished while I was there. The plattenbau building was in poor condition too. The factory building was as supposed in a good shape which emphasized the reason to re-use the building. Consequently, this research had a significant impact on the project's design, leading to the decision to demolish the two buildings in poor condition on suggestion from the Architectural mentor, while exploring options for adaptive reuse of the old factory building. Despite the need for demolition, the concrete plates of the plattenbau building were deemed worthy of further study. After deeper research and discussions with the TBD mentor, it was discovered that the concrete plates of the plattenbau building held potential for adaptive reuse as floor tiles. Together with section details and help from the construction mentor, the choice was made to reinforce them with injections.



By research and design an elaboration of the project was explored to emphasize the concept and principles of the system. Research to materials, structures and sustainability characteristics influenced and empowered the main principles of the project. Important characteristics were the looks, feeling and dimensions. By choosing materials, installations and structures a concept arose to create contrast between new and existing elements, but also to explain the life-time of an element. This principle is accomplished by designing the supporting structure in a sophisticated and minimalistic way. Together with the already aged material corten-steel, the structure got a long lasting appearance as an anchor in its surroundings. To give contrast, removeable functions are designed with lightweight materials and building components. Examples include shipping containers, wood structures and glass.

**STUDY MATERIALIZATION SCREEN (REFINED)**



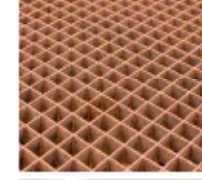
**EXPANDED METAL SCREEN**  
The unlit translucent screen shows only partially what is happening behind it, creating curiosity. The mesh openings are based on solar studies, letting the winter sun through while the summer sun is blocked as much as possible.



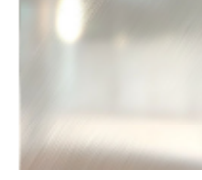
**SLIM STEEL COLUMNS**  
To create an airy and transparent square behind the screen, the columns should be as little as possible in sight. Three-lux white and slim columns are applied, with the possibility to use them for additional building.



**POLISHED CONCRETE**  
"Platten" of the hotel are re-used as floor tiles. The platten are adapted, by polishing the washed concrete a brezzo like tile is the result. Different levels of polishing will be further explored.



**PRE-CAST CORTEN STEEL**  
The round walk is designed with rusted steel. The round walk is a three-lux part of the project that will stay as long as the structure. A material that won't change over time is chosen therefore.



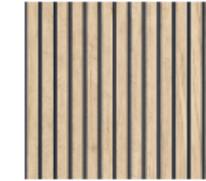
steel finished with a mirror mesh with mesh  
From a distance the columns integrate with the surroundings, making it feel like the screen hovers above the ground. Over the mirroring columns and ceiling give an multi perspective on all that's happening next and around it.

**STUDY MATERIALIZATION INFILL (ROUGH)**

**TEMPORARY MATERIALS**



**CONTAINER**  
Lightweight and temporary appearance contrasts the sophisticated floor and screen design.



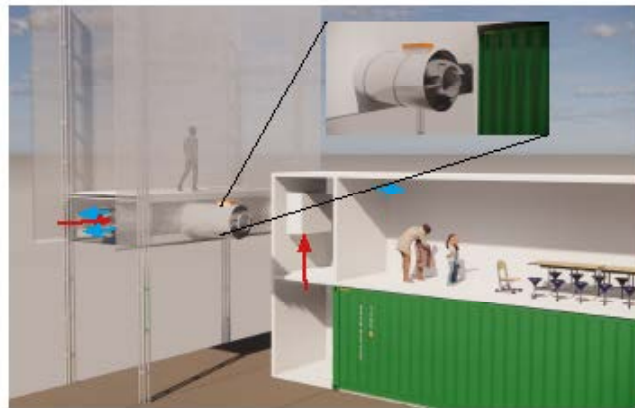
**WOOD FACADE**  
Lightweight structure and temporary appearance contrast the sophisticated floor and screen design.



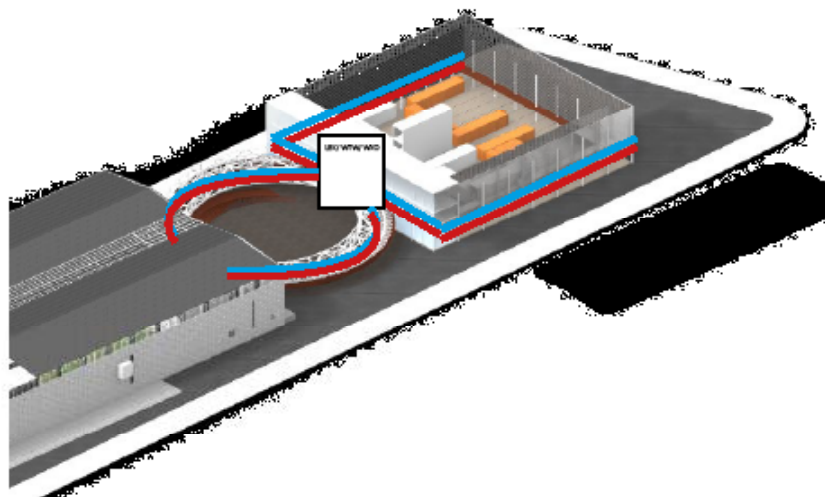
**BLACK ALUMINUM WALL PANEL**  
Together with the glass the wall panel play a background role, reinforcing the facade cladding of the functions.

The system I was designing came with the problem of its large scale. To understand the project better myself, I divided it in four fragments for the P3 presentation. For this presentation I mainly focused on the programmatic attract part. However, during the presentation, the feedback I received was that all four fragments lacked realism, and I was advised to pay closer attention to dimensions, connections, and structural properties. In addition, the urban move that the project made in the concept phase was no longer clear and convincing. With this feedback I started to do research by designing in a way to enhance the overall projects principles. To achieve this, I focused on creating sophisticated designs on a range of scales, including 1:50, 1:20, and 1:5.

To ensure the first fragment design aligned with the project's objectives, I consulted with both the TBD and structural mentors. In addition, I sought external expertise from a person who provided insights on the ventilation and installation requirements. This resulted in a smart way to recycle heat by combining the supply and exhaust ducts into one single duct. Through these consultations, I developed a coherent design for the screen that incorporated adaptive reuse and strategically placed installations, remaining in line with the overall project concept.



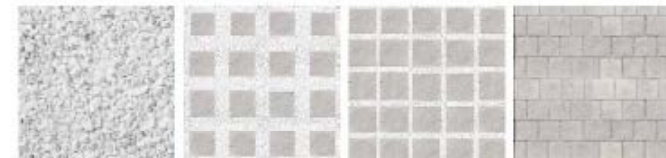
Recycling of heat by combining exhaust and supply ventilations. Success of the large screens on different levels.



The circle form pedestrian bridge, connecting the screen and the old paper factory, is a part of the backbone structure that lies naked. A large spaceframe of trusses has been engineered on the recommendation of the structural mentor. The, with expanded corten steel clad structure, plays a visual dominant role, while creating a place for exhibitions. The minimalistic detailing of the corten steel material further reinforces its durable and lasting character, while connecting it to the rest of the carrier. Moreover, the bridge serves as a transition element from the project's attract phase to its connect part. To ensure a perceptible transition, research has been done to materialisation of the space, with special attention paid to the role of sound and touch. The circle structure effectively shields the area from the noise and sight of the city, thereby creating an enhanced transition. The pavement, which transitions from pebbles to wooden Nicholson pavement, creates a perceptible change in both sound and touch.



Materialisation of a perceptible transition

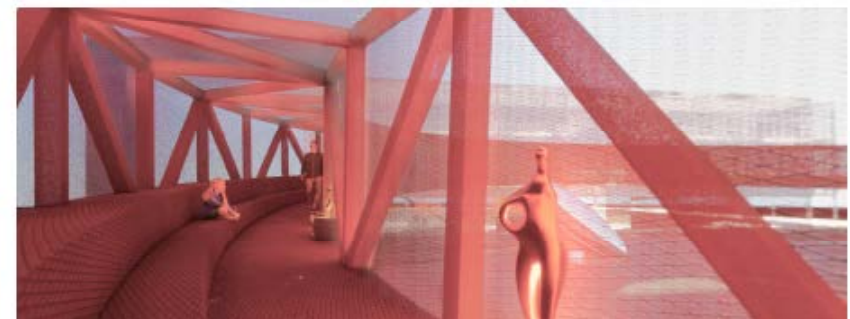


WHITE GRAVELS

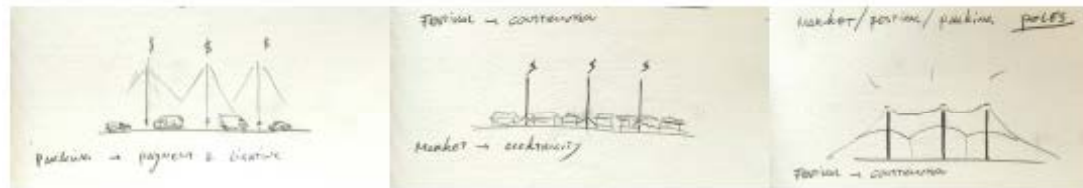
GRAVELS/ENDERANE

ENDERANE/GRAVELS

ENDERANE



In the next two fragments the role of the carrier is more integer. It continues in the same materialisation but plays a different role. On the background, the structure emphasizes the existing building and its former use. A passage of 3 meters high contrasts the two big halls on both sides. First horizontal lines were designed to contrast the vertical existing structure, but in consultation with the architectural mentor, a more portal passage was designed, creating an even more horizontal appearance while reinforcing the contrast of dimensions in space. The functions placed inside the building have, in contrast with the existing, a lightweight character. Wooden structures are made into a library staircase, café and offices. At the last fragment of the project the structure has a facilitating role, creating space for activities being programmed with and around the corten steel elements. The square and poles I designed, with recommendations of the architecture mentor, following the grid and needs of the pop-up functions situated here. The poles are designed elements to facilitate a market by giving electricity, a festival by being tentstructures and a parking lot by being a pay terminal and streetlights.



### 3. How do you assess the value of your way of working (your approach, your used methods, used methodology)?

The studio approach 'Research by design' was a bit uncomfortable in the beginning. Because of the theoretical questions I formulated at the start, a design approach didn't seem right. However, the Theory and delineation lectures gave new insights in possible ways of exploring design. The use of the design tools:

- Collage & montage
- Superposition & Superimposition
- Sample, Archive & Index
- Psychogeography
- Assemblage & Tectonics
- Affectation
- Intermodality

proposed new hypotheses, influencing the scope of the research. This gave direction and coherence at the concept development. Unexpected combinations of forms, materials and words solidified in choices which are still visible in the final design. Later in the process design often worked as a means to narrow down the outcomes of research.

Overall, the approach worked well for me. The research contributed to the design and the use of various design tools led to considered decisions based on research.

### 4. How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?

In an era where changes follow up on each other at a high pace and social separation is a main topic, public buildings and the public realm provide spatial solutions through different urban scales to create healthy and sustainable societies in growing cities. The project 'the Time-line' has a metabolic approach on architecture, giving answer to the four thematic pillars of the Public Building studio. By being programmable the project creates multiplicity, hybridity, resilience and sustainability as a foundation for a lasting, meaningful and valuable building in its surroundings. The project can be seen as an interchangeable system, giving it a prototypical character. This means that the project can become part of a bigger system through the city or even country, where interchangeability can contribute to sustainable growth of cities by responding on local needs.

*5. How do you assess the value of the transferability of your project results?*

The metabolic philosophy in architecture is a more often used concept, which has proven its relevance based on different ideologies. However, using it to respond to the fast-paced process of gentrification in Berlin to create a healthier and more liveable city for inhabitants, makes it into a new relevant concept worth exploring further in the larger social, professional and scientific field. The value of the project 'the time-line' is for now in the way the system is designed. The idea of having a central backbone with shared use of the utilities water, electricity and air control make the system into an efficient project. The plug-in system makes it highly flexible, necessary to respond to its changing surroundings. The elaboration of the project in terms of materials, dimensions, connections and structural properties empower the principles of the system. An architectural play between durability and sustainability becomes visible in the choices for materials, based on their characteristics. long lasting structures have been realized in strong materials in a low key way. Removeable structures are in contrast designed in lightweight structures with a temporary appearance. In this way the time line will inspire users, visitors and in special designers to explore the balance between sustainable and durable design.