

UNIT

a micro living solution for urban densification

INTRODUCTION

RESEARCH

THE CONCEPT

THE MARINE AREA : A TEST

CONCLUSION AND FUTURE PERSPECTIVES



“

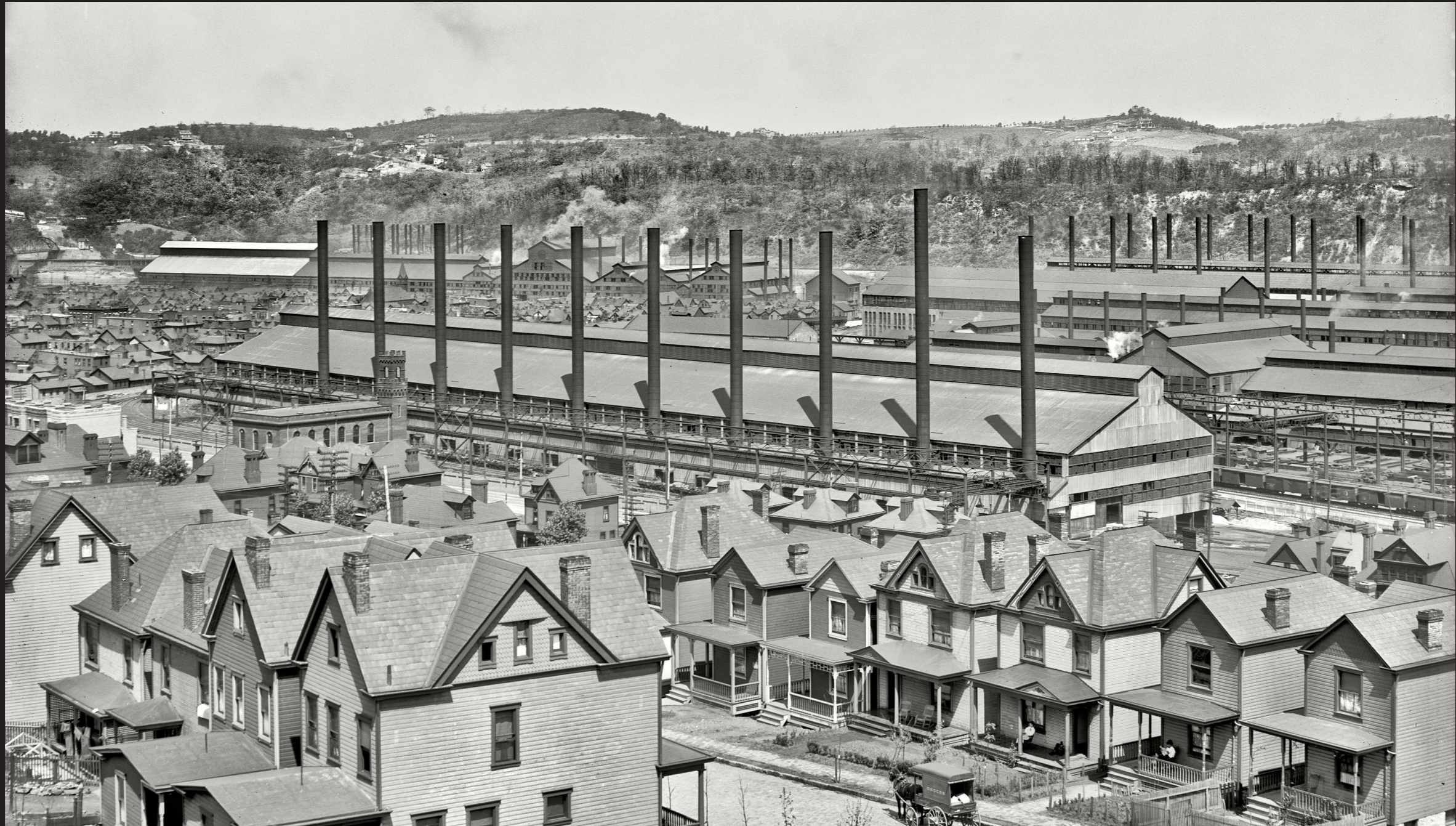
I had never lived in a house before. Habitat was the first.

*Everything about it gave me the feeling of a house and yet it
gave me all the other things I had always wanted in a house
but never found in the isolation of the
anonymous suburb*

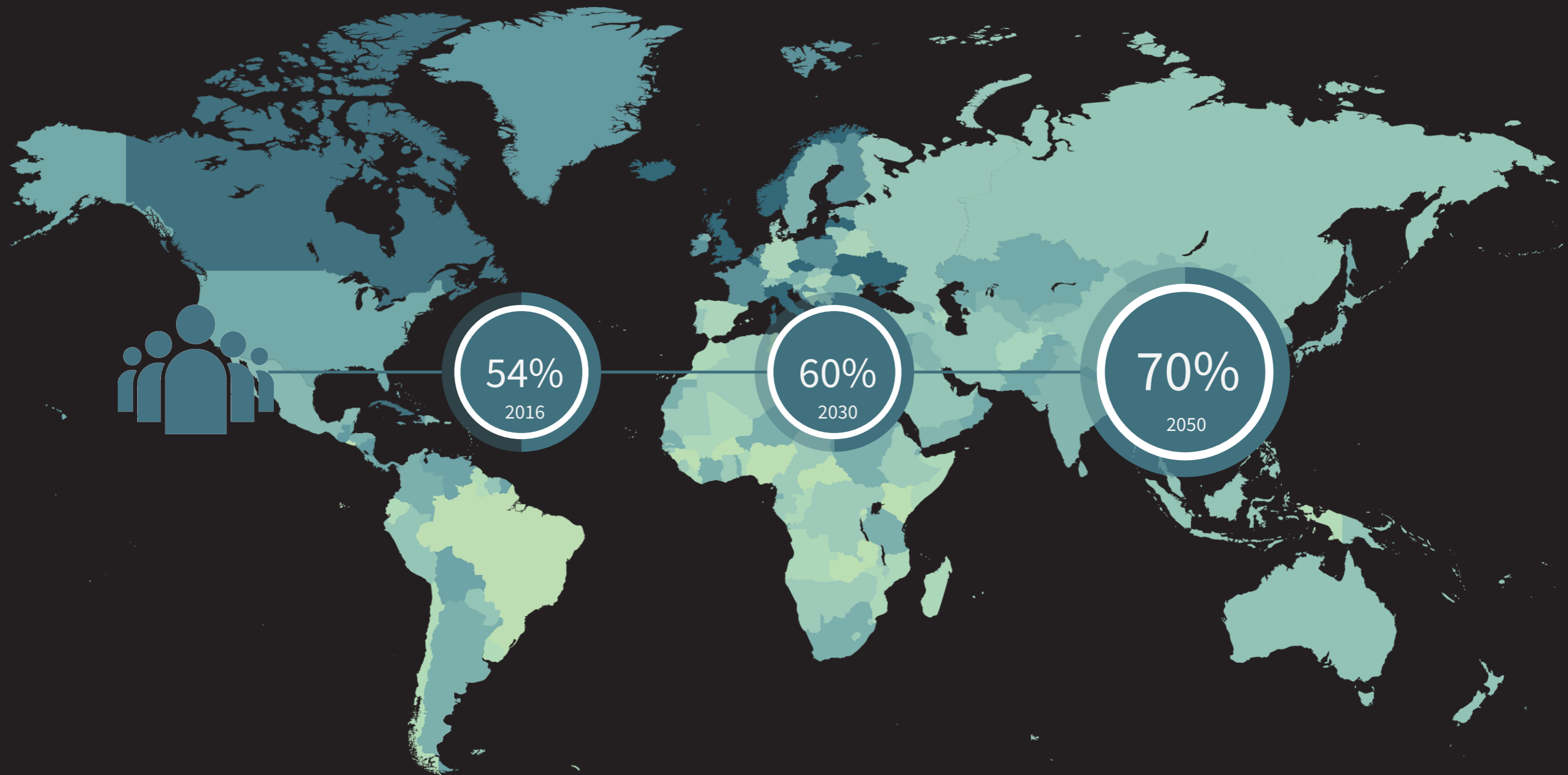
”

Moshe Safdie (1973)









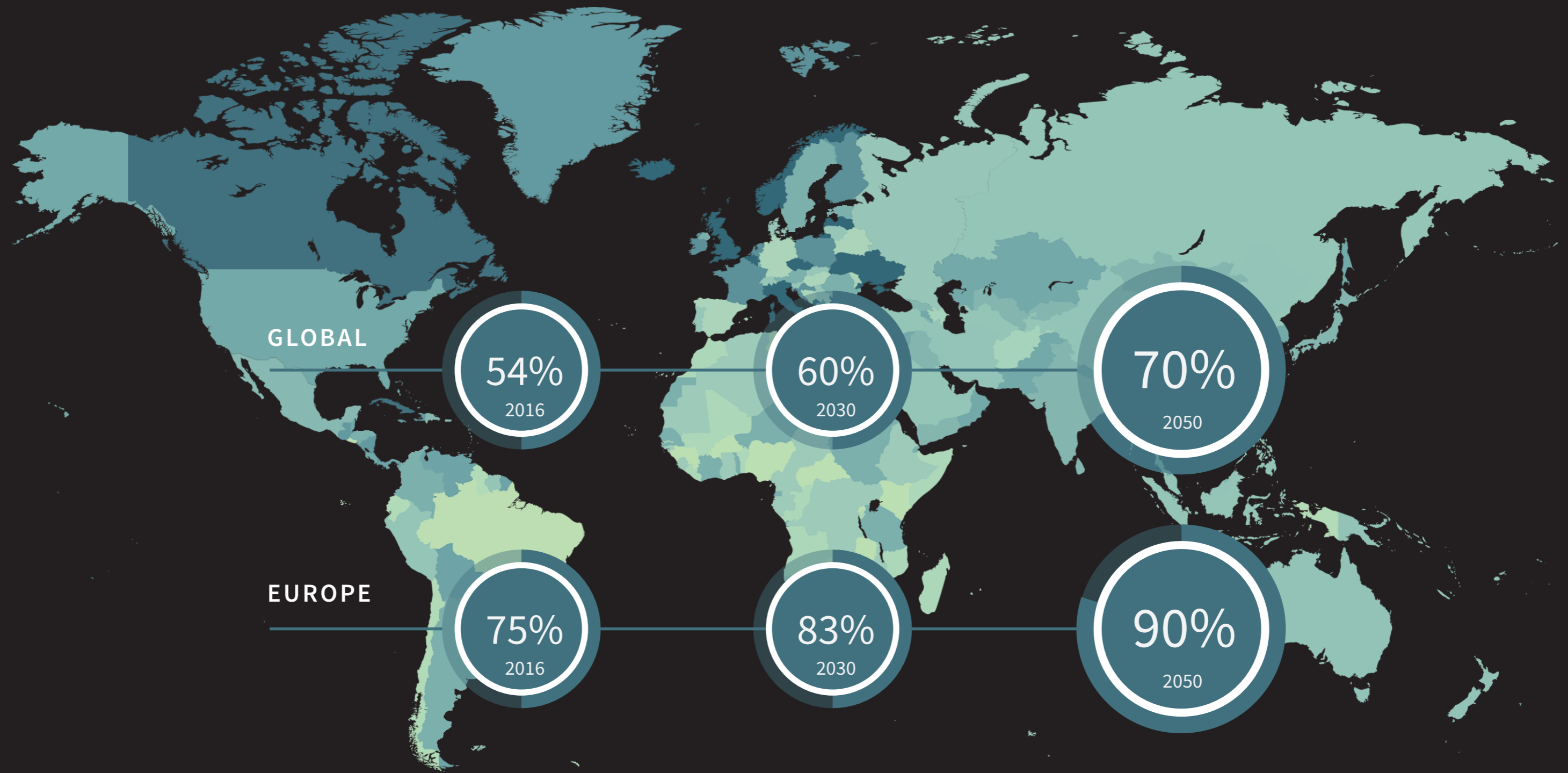




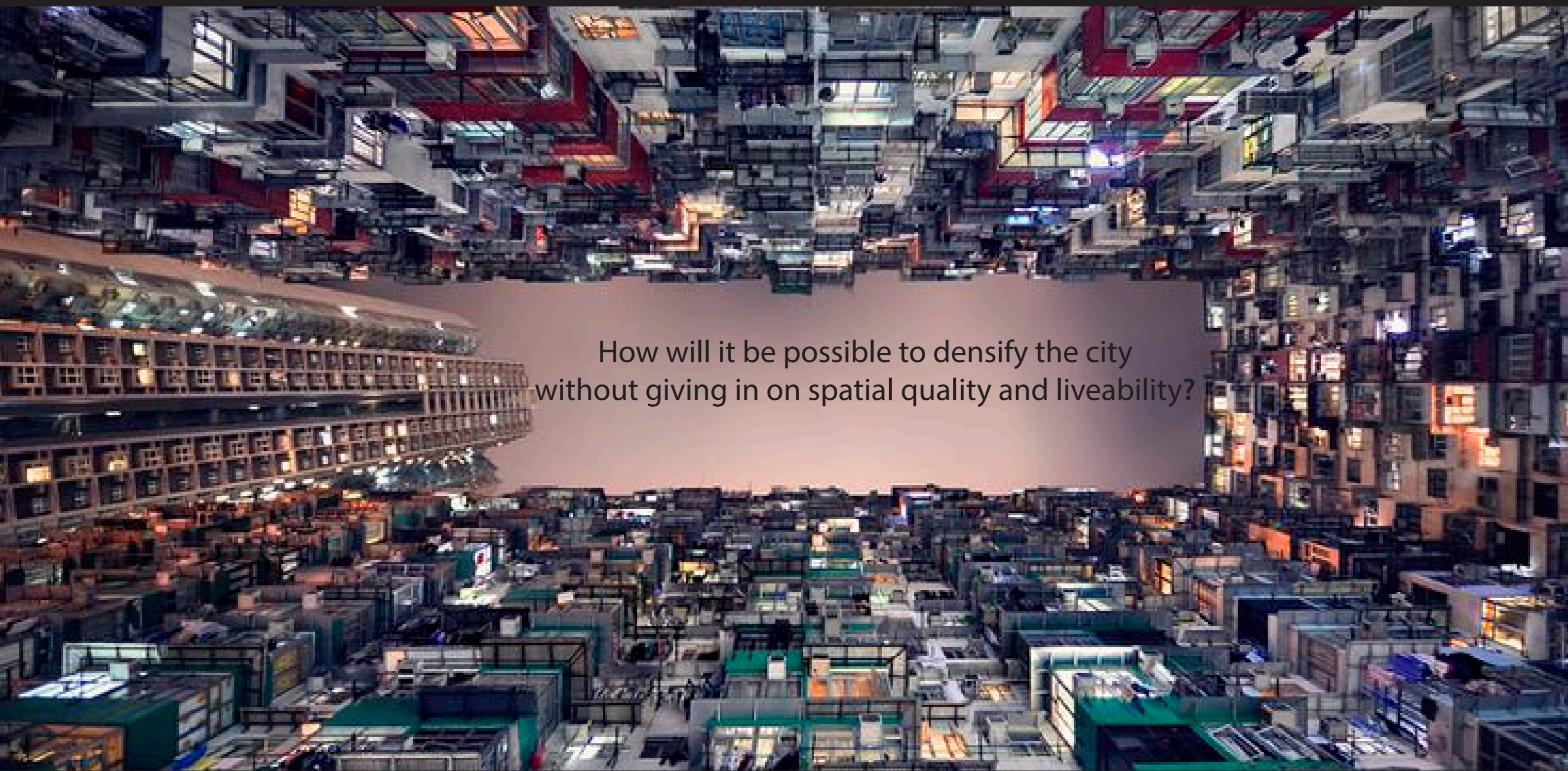
Foto: Ronald Bakker

Wonen in stad alleen voor de 'happy few'

AMSTERDAM - De gekte op de huizenmarkt in Amsterdam en Utrecht jaagt de gewone man de stad uit. Wonen in deze steden is financieel eigenlijk alleen nog maar bereikbaar voor de 'happy few'.





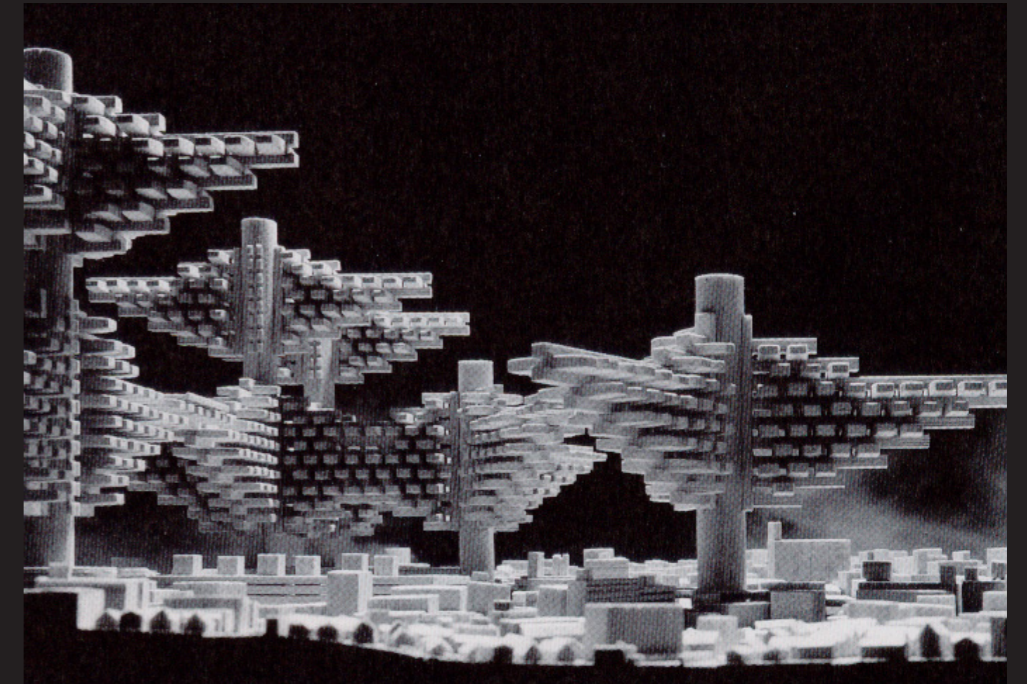
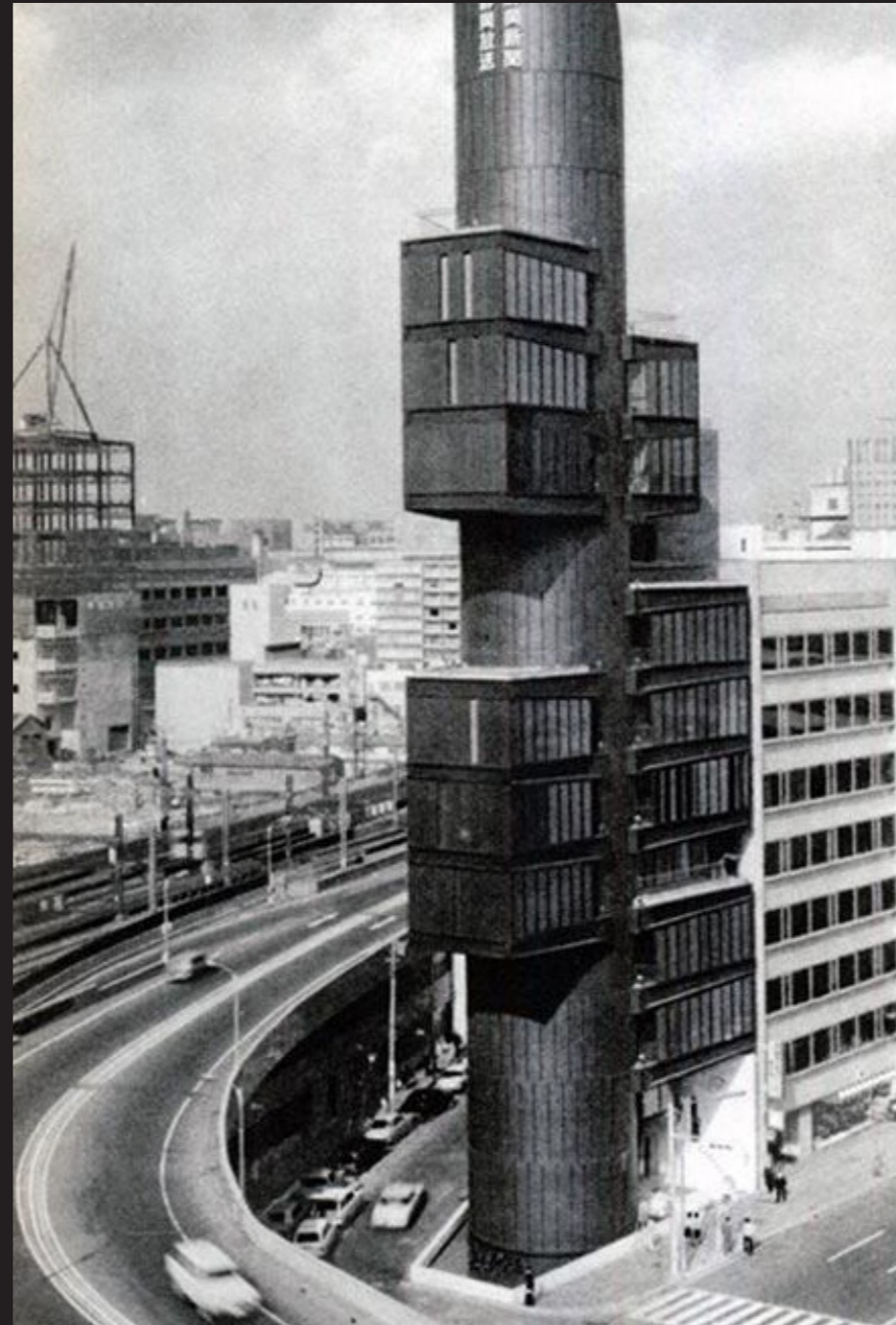
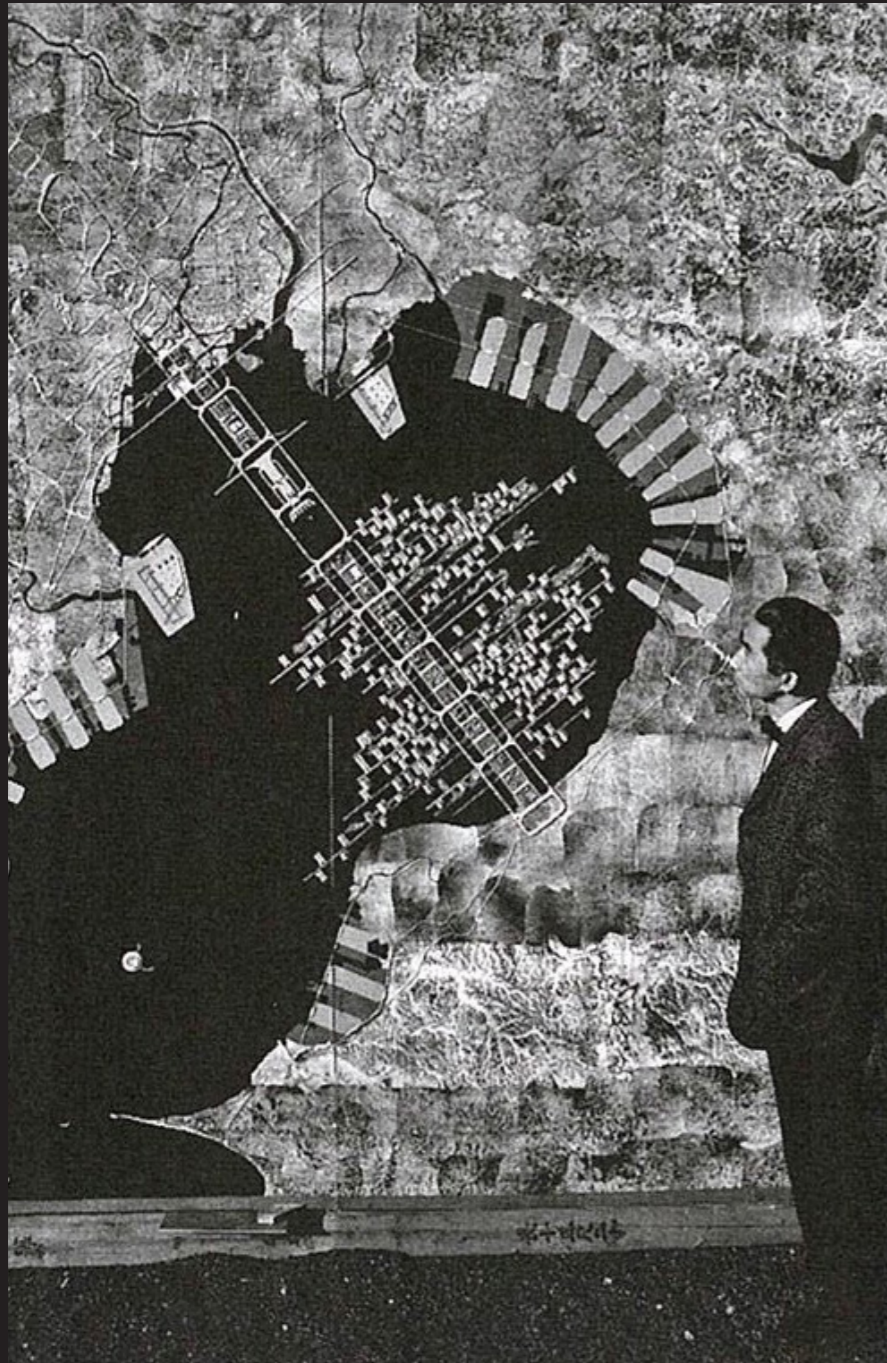


How will it be possible to densify the city
without giving in on spatial quality and liveability?



METABOLISM MOVEMENT

capsule-like mega structures that could grow and shrink according to demand and necessity.



METABOLISM MOVEMENT

Capsule tower by Kisho Kurokawa



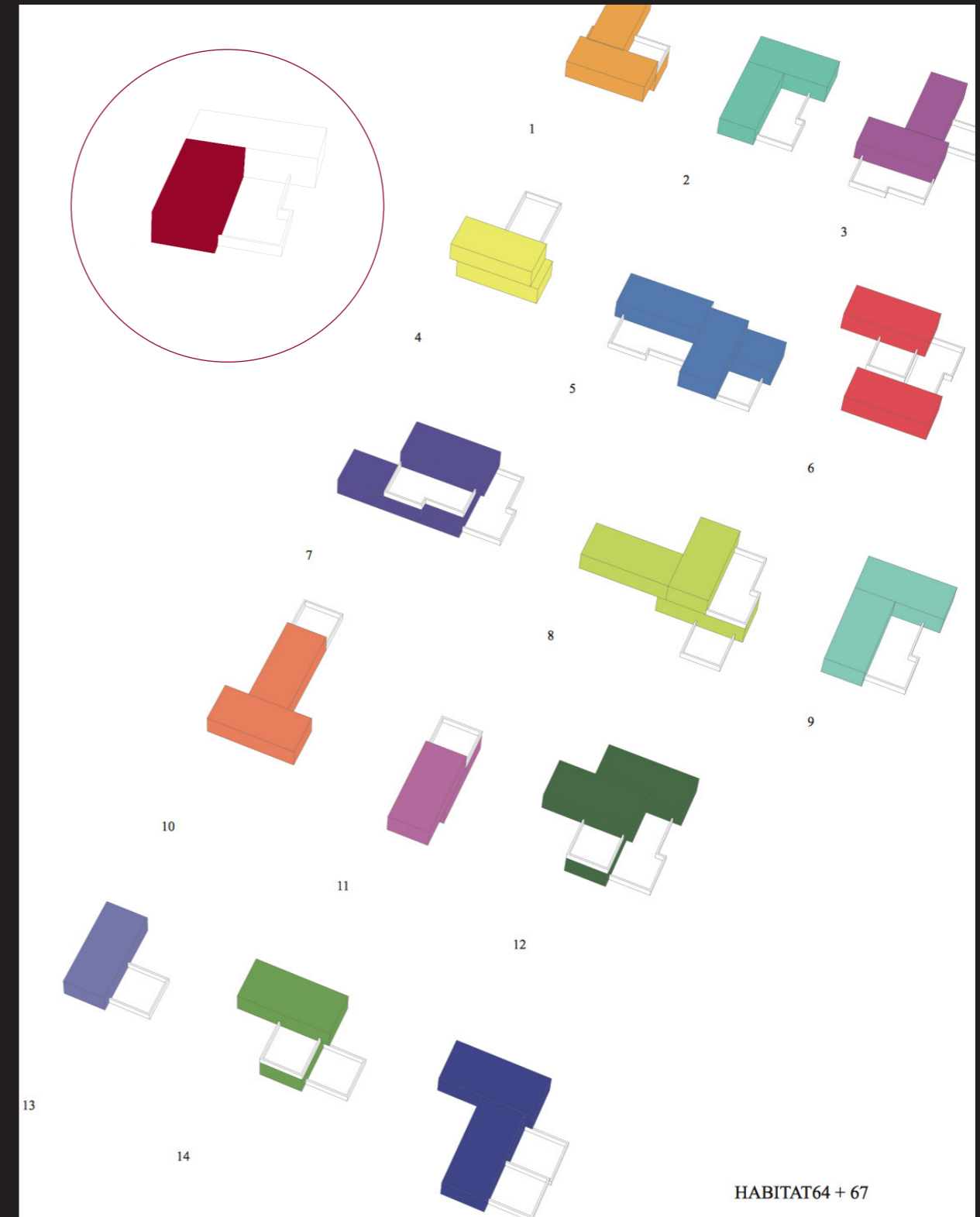
HABITAT 67, Montreal Moshe Safdie

- Inspired by Metabolism movement, building with one module
- prefabrication
- rethinking the apartment building for high density living



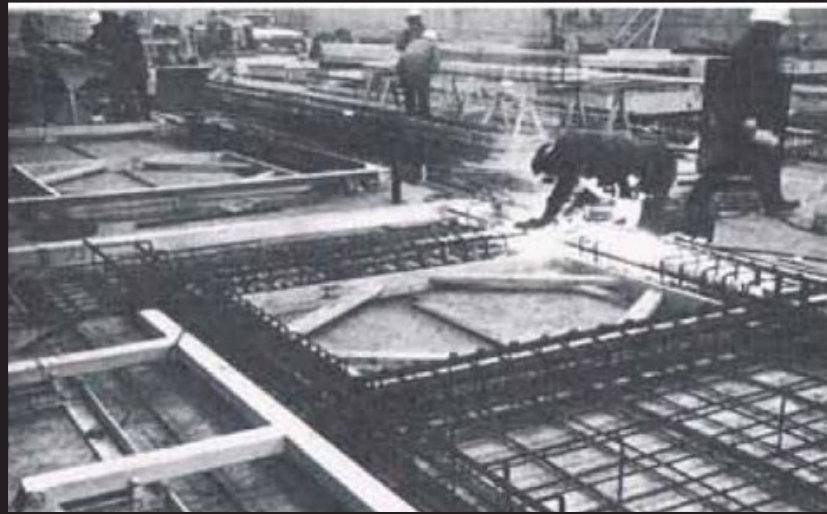
HABITAT 67, Montreal Moshe Safdie

prefabrication and variation

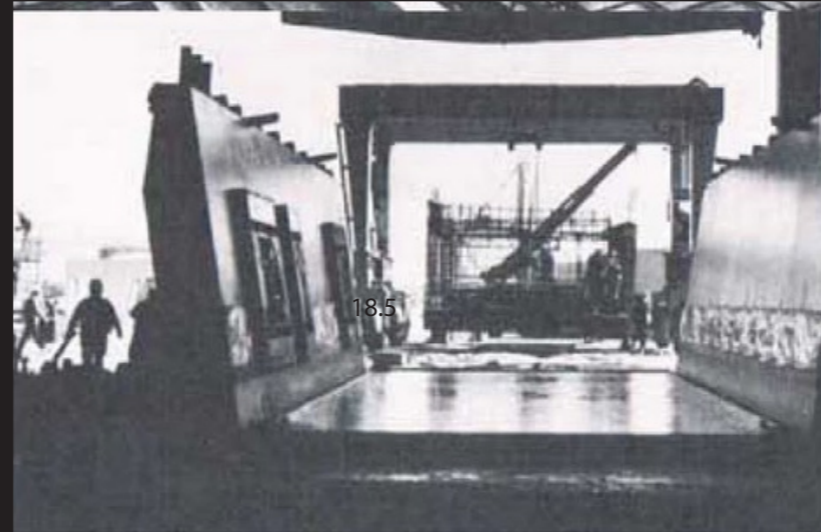


HABITAT 67, Montreal Moshe Safdie

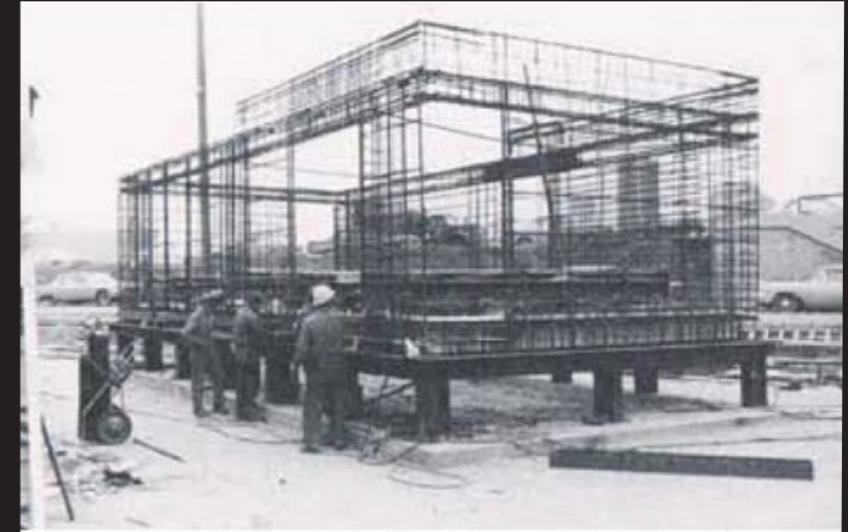
prefabrication



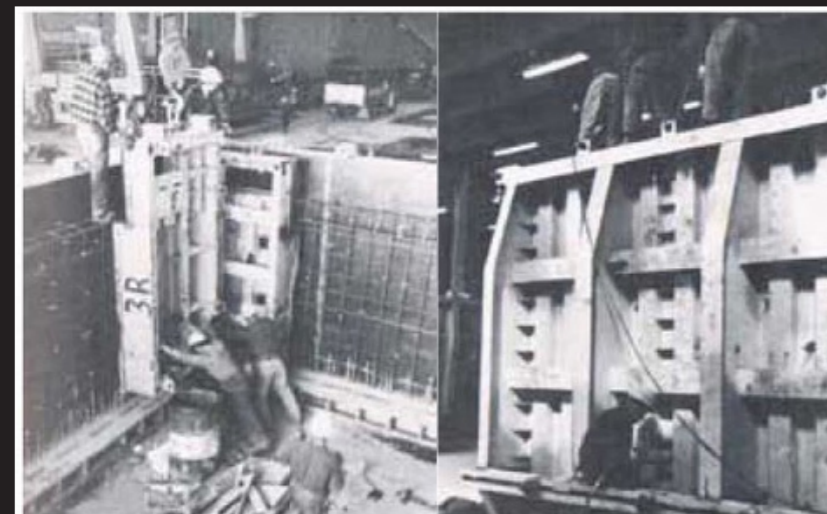
Making the box / preparing the reinforcing panels



Assembling the reinforcing steel cage



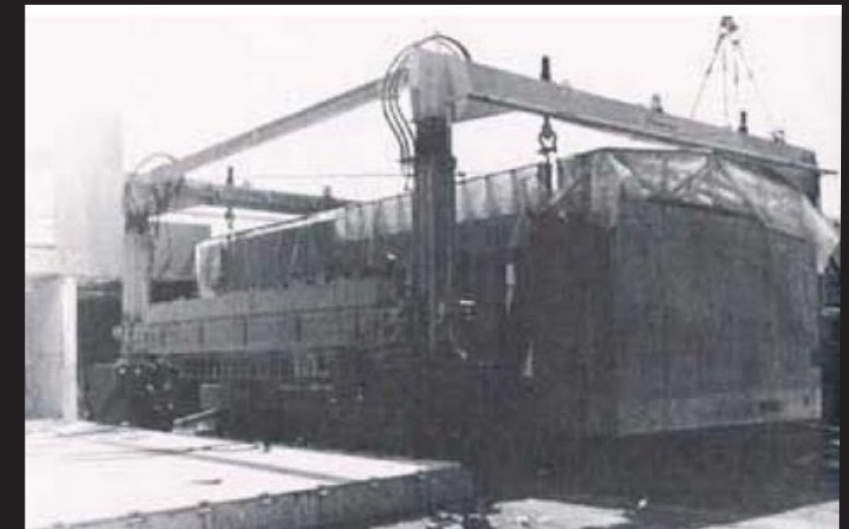
moving the cage into the molds



placing the inner mold



pouring concrete



Module with its temporary polythelene roof is moved to the site



HABITAT 67, Montreal Moshe Safdie

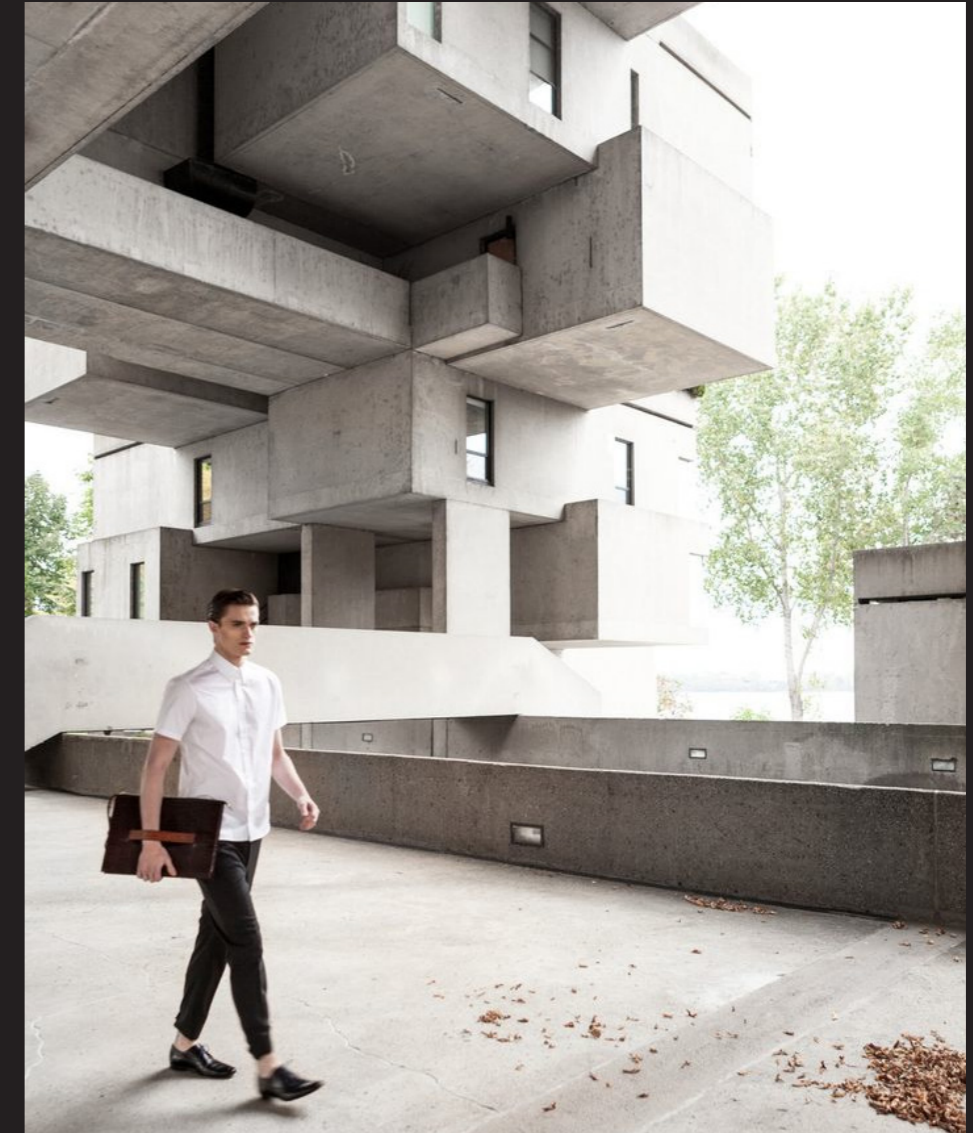
streets instead of corridors



corridor

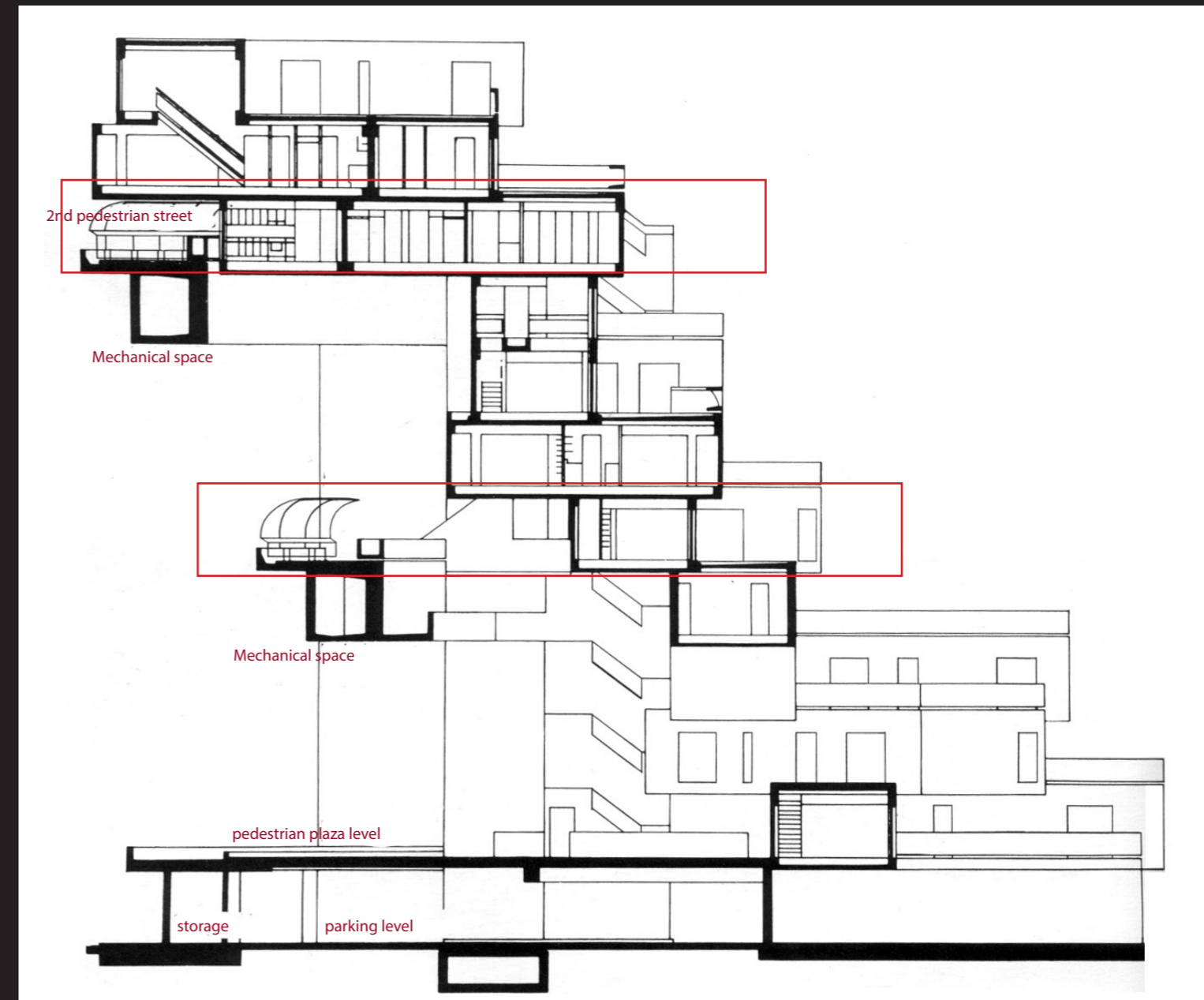


Public streets



HABITAT 67, Montreal Moshe Safdie

streets instead of corridors



HABITAT 67, Montreal Moshe Safdie

for everyone a garden



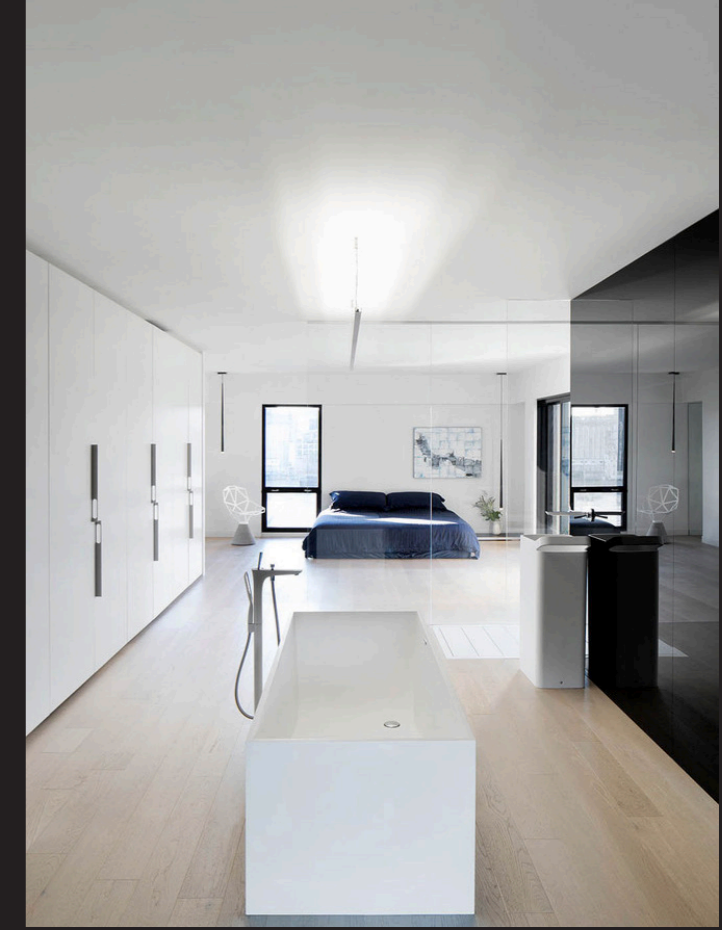
HABITAT 67, Montreal Moshe Safdie

change of concept over time

one module, basic living



luxurious apartments



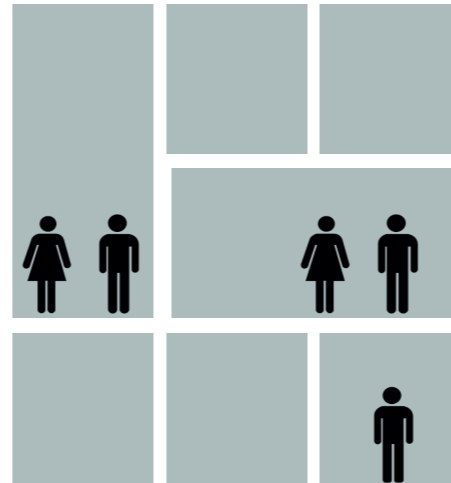
Is it possible to develop a building system that offers a solution for micro living in urban areas reinterpreting the ideas of pioneers like Moshe Safdie and Kurokawa and combining them with modern technological innovations?



STARTING POINTS



DESIGN FOR HIGH DENSITY
one unit, one human (24 m2)

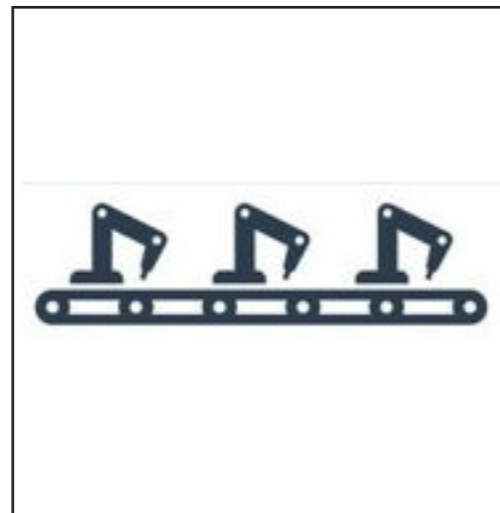


DESIGN FOR CHANGE
one module, diversity of housing typologies

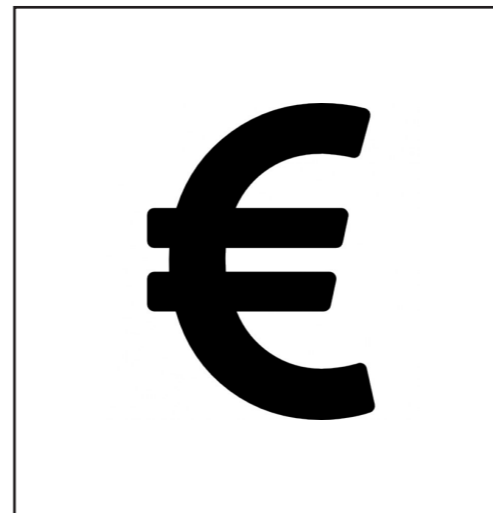
through the connection of modules
different housing typologies can be created



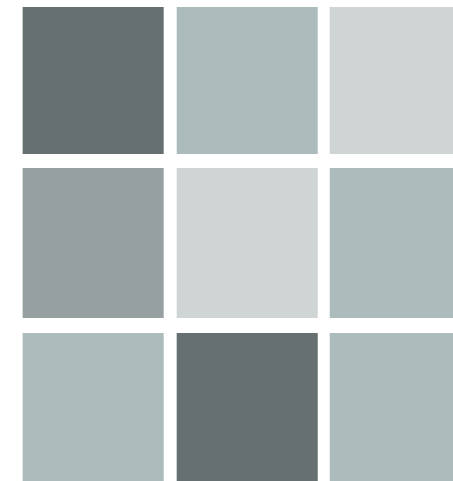
DESIGN FOR COMMUNITY
social sustainability



DESIGN FOR SERIAL PRODUCTION



AFFORDABLE



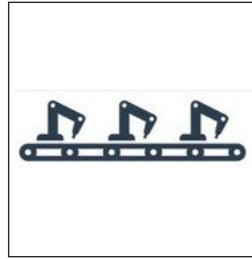
DIVERSITY OF ARCHITECTURAL EXPRESSION
NO CONTAINER MONOTONY!!



MODERN TECHNOLOGIES

the investigation of technologies
and materials



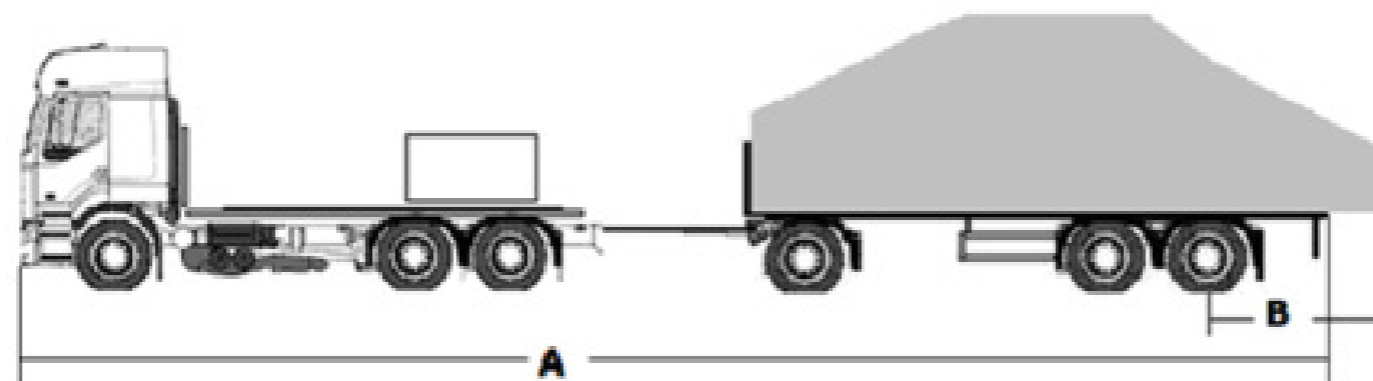
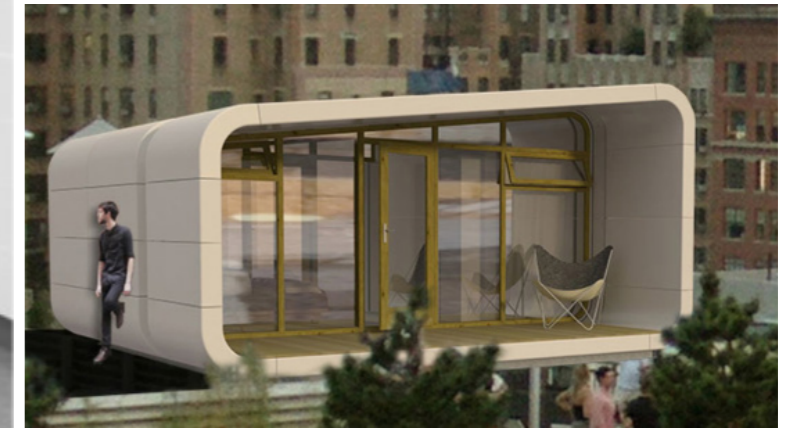


Material:

- EPS
- light
- constructive and isolation qualities
- can be 100% recycled
- quick

prefabrication:

- High level of detail
- various types of housing can be created



THE UNIT

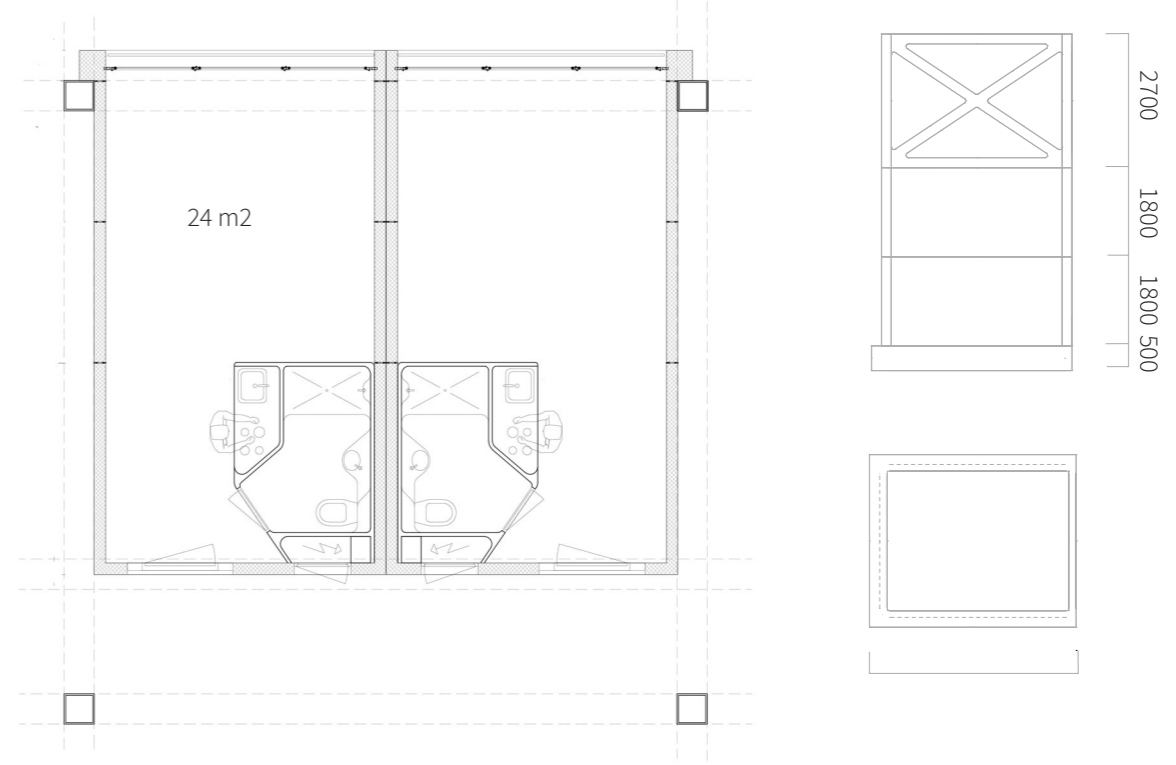
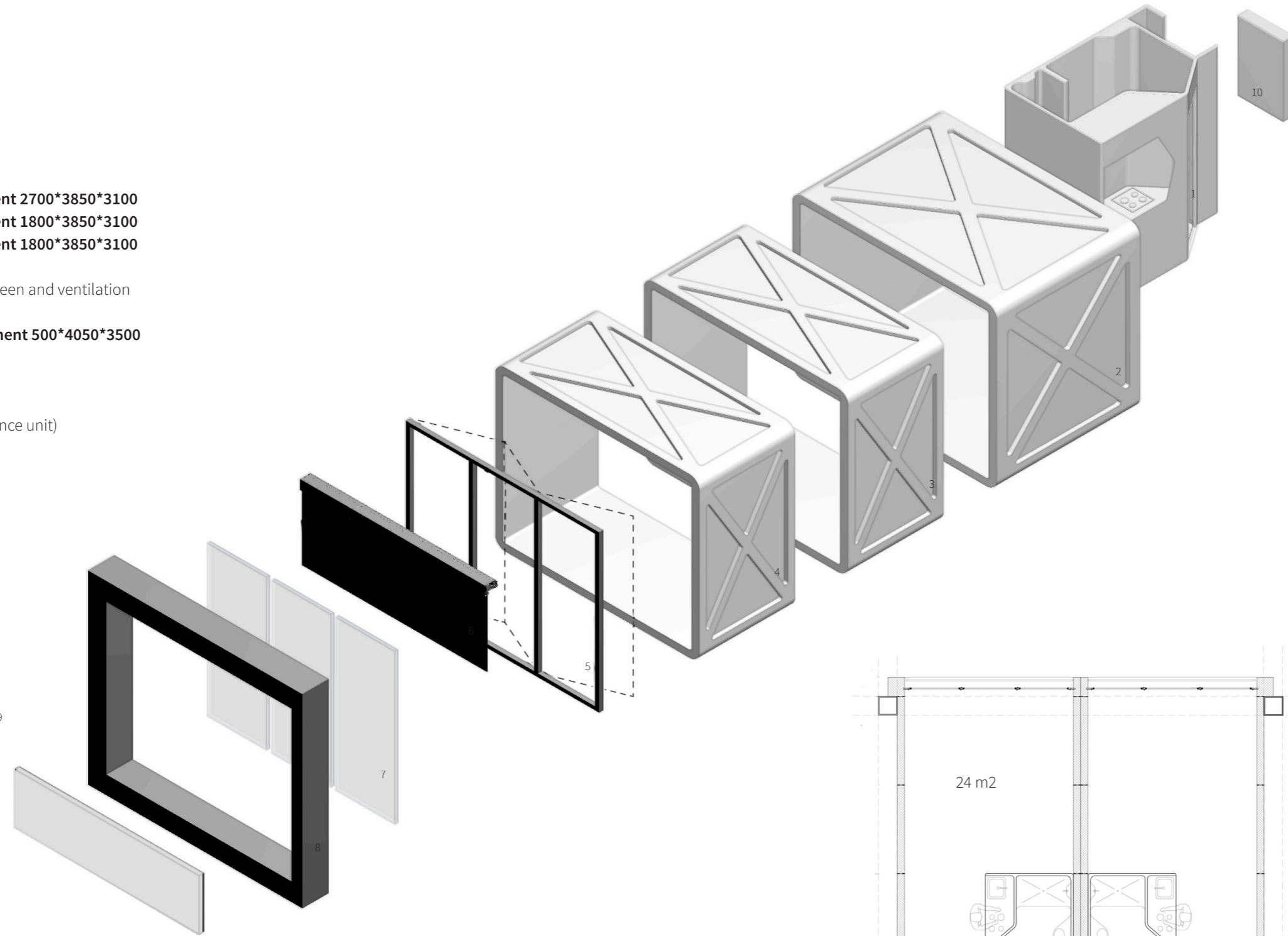
the design of the basic module

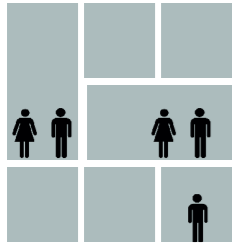




UNIT PARTS

1. Intelligent unit
2. **Basic unit element 2700*3850*3100**
3. **Basic unit element 1800*3850*3100**
4. **Basic unit element 1800*3850*3100**
5. Foldable wall
6. integrated sunscreen and ventilation
7. glass panels
8. **Unit facade element 500*4050*3500**
9. Juliette balcony
10. TESLA Wall Battery
(option for High performance unit)



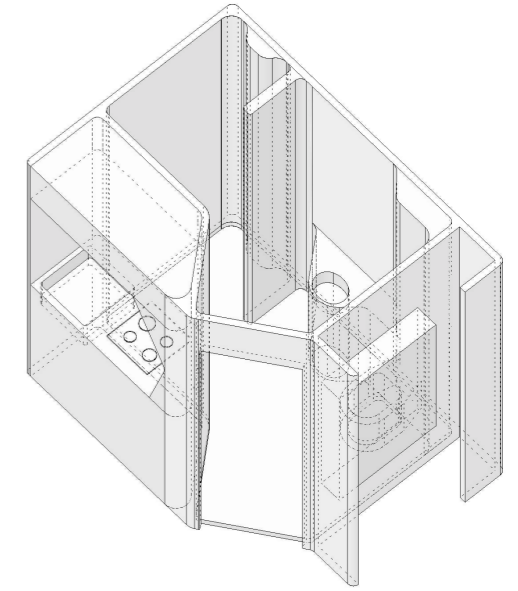
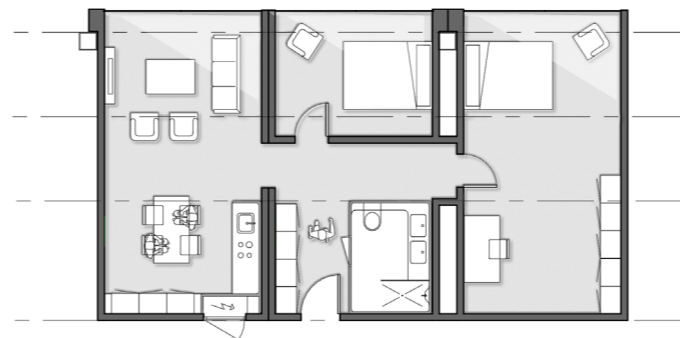
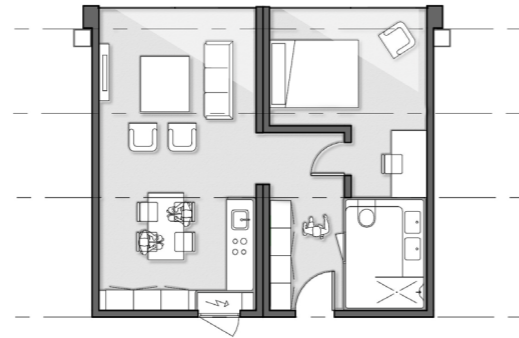
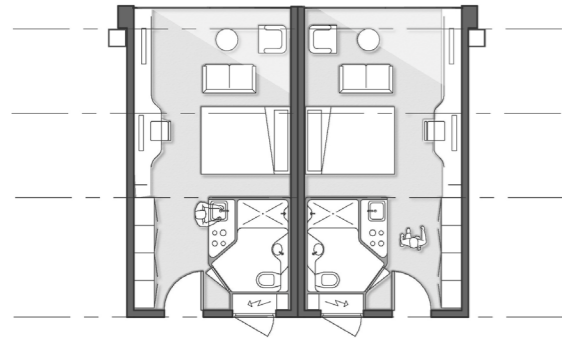


Basic unit

Double unit

TRIPLE UNIT

Basic intelligent unit

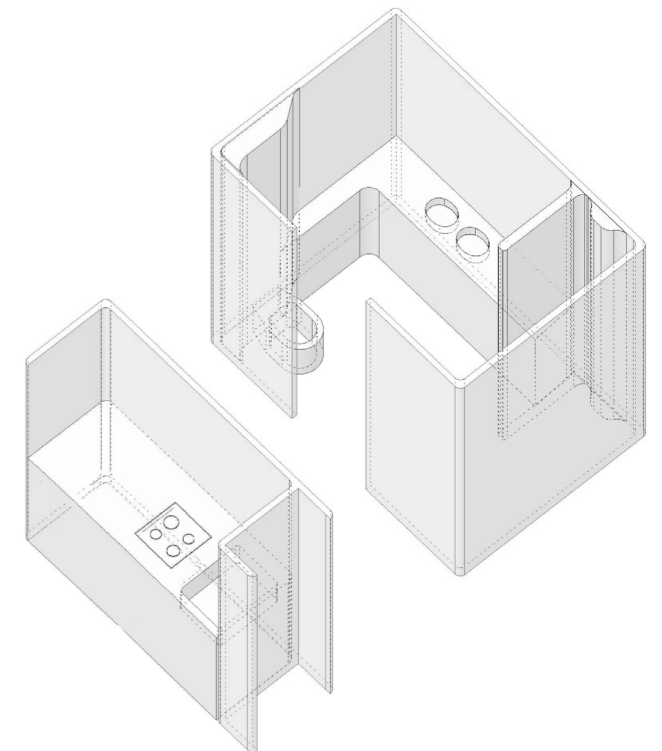
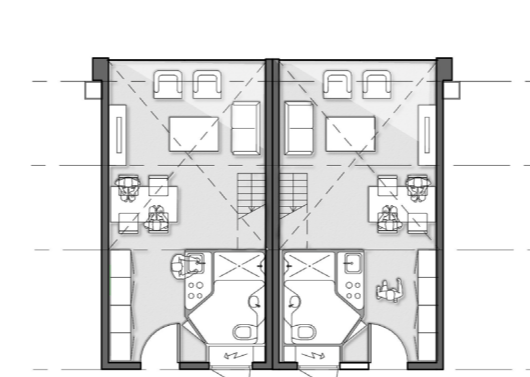
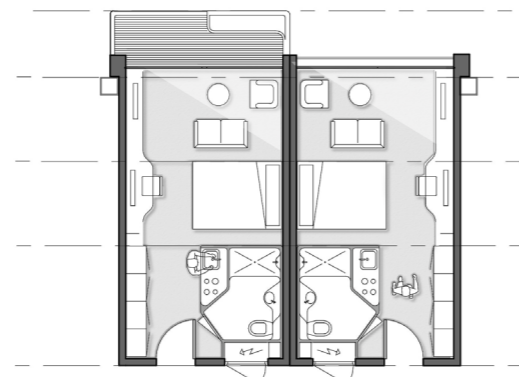
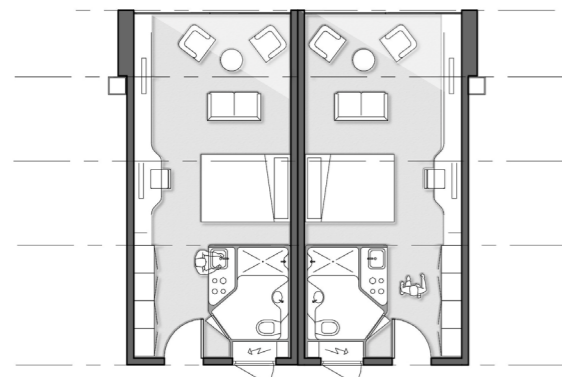


Extended unit

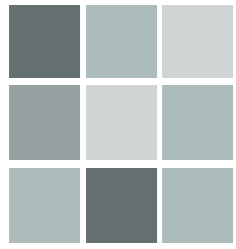
Unit with balcony

Double height unit

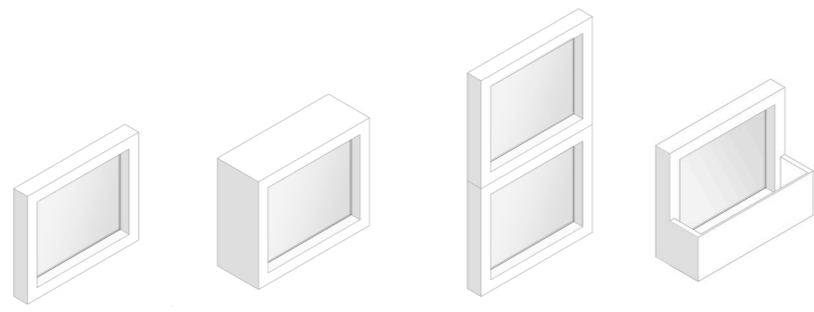
Extended intelligent unit



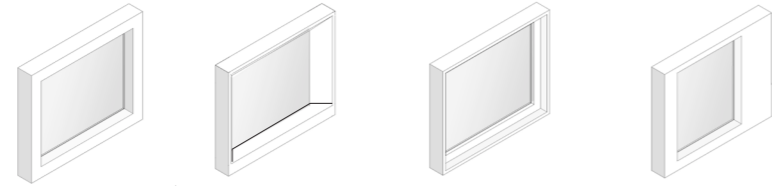
THE UNIT • VARIATION OF HOUSING TYPOLOGIES



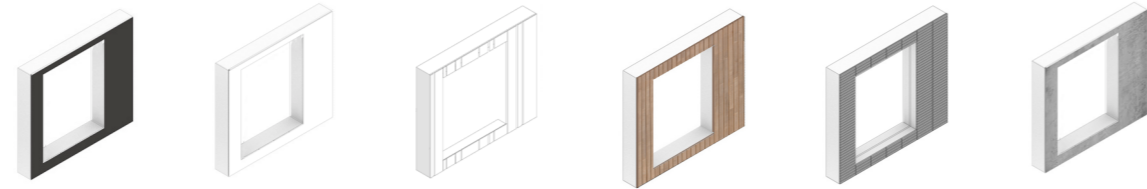
SPACE



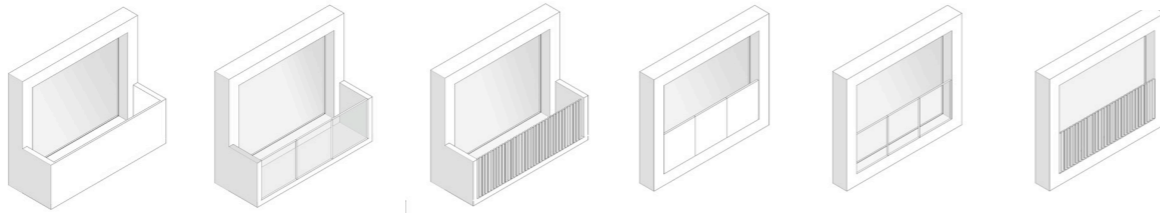
SHAPE



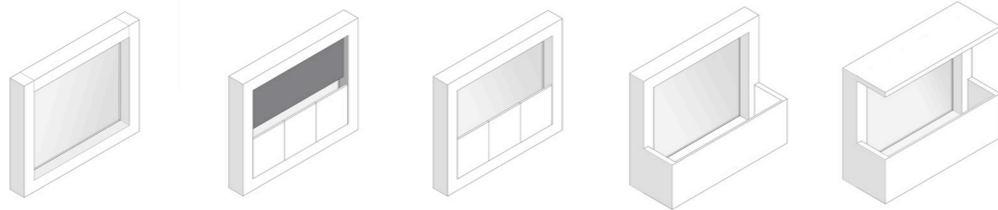
TEXTURE



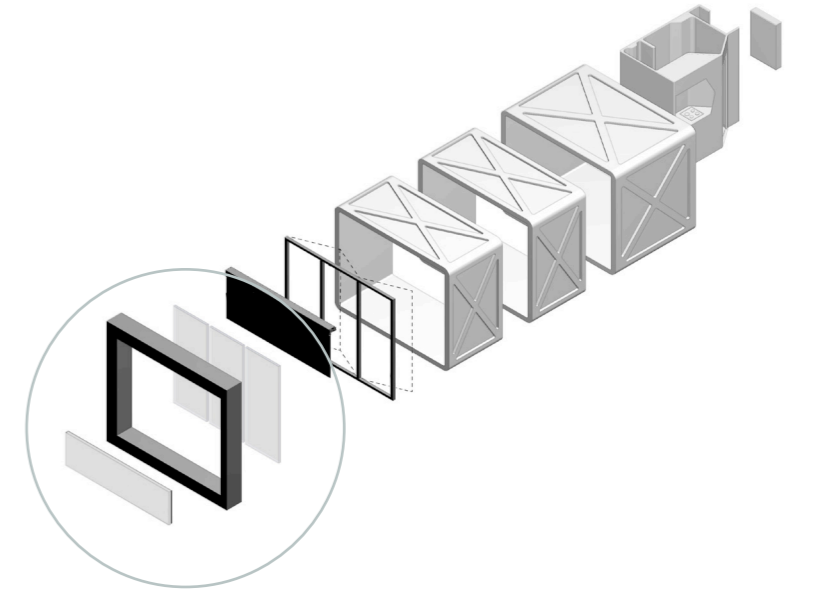
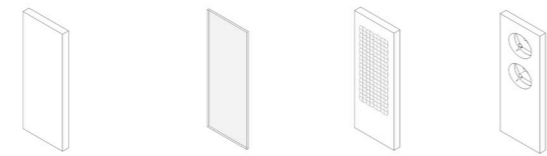
OUTDOOR

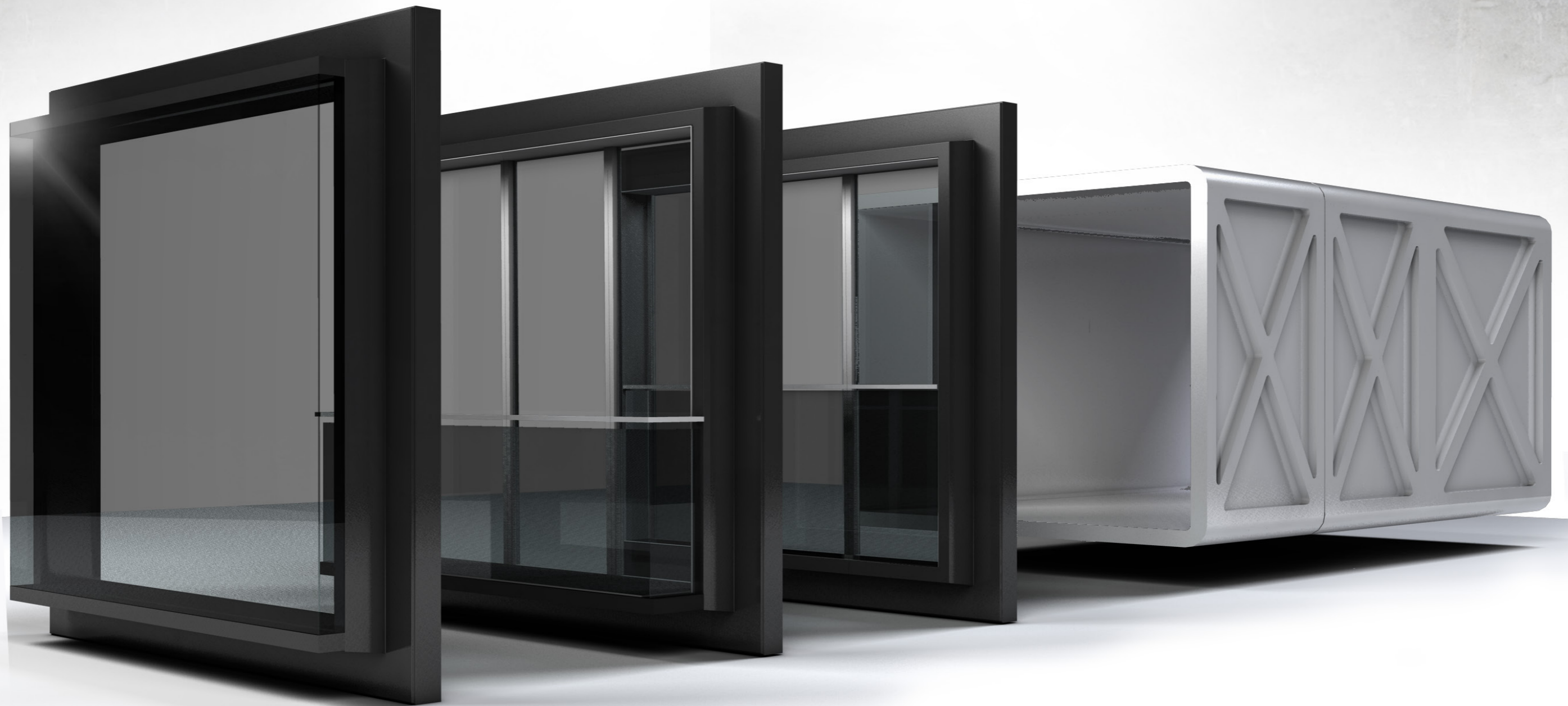


Use



SPECIALS





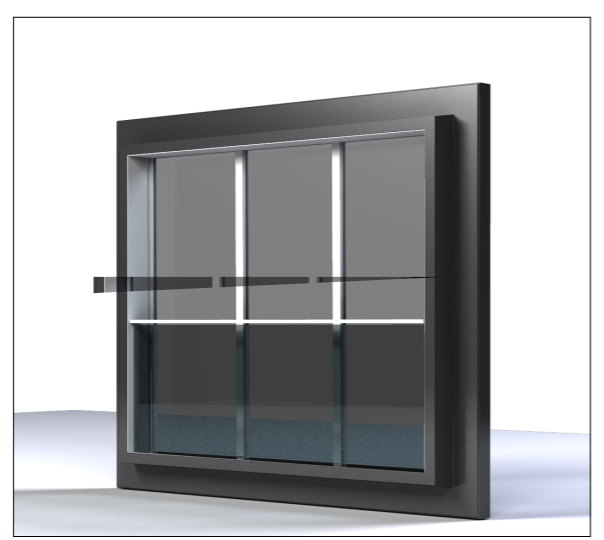
bay window

Balcony

french balcony



PICK YOUR SIZE



BASIC UNIT

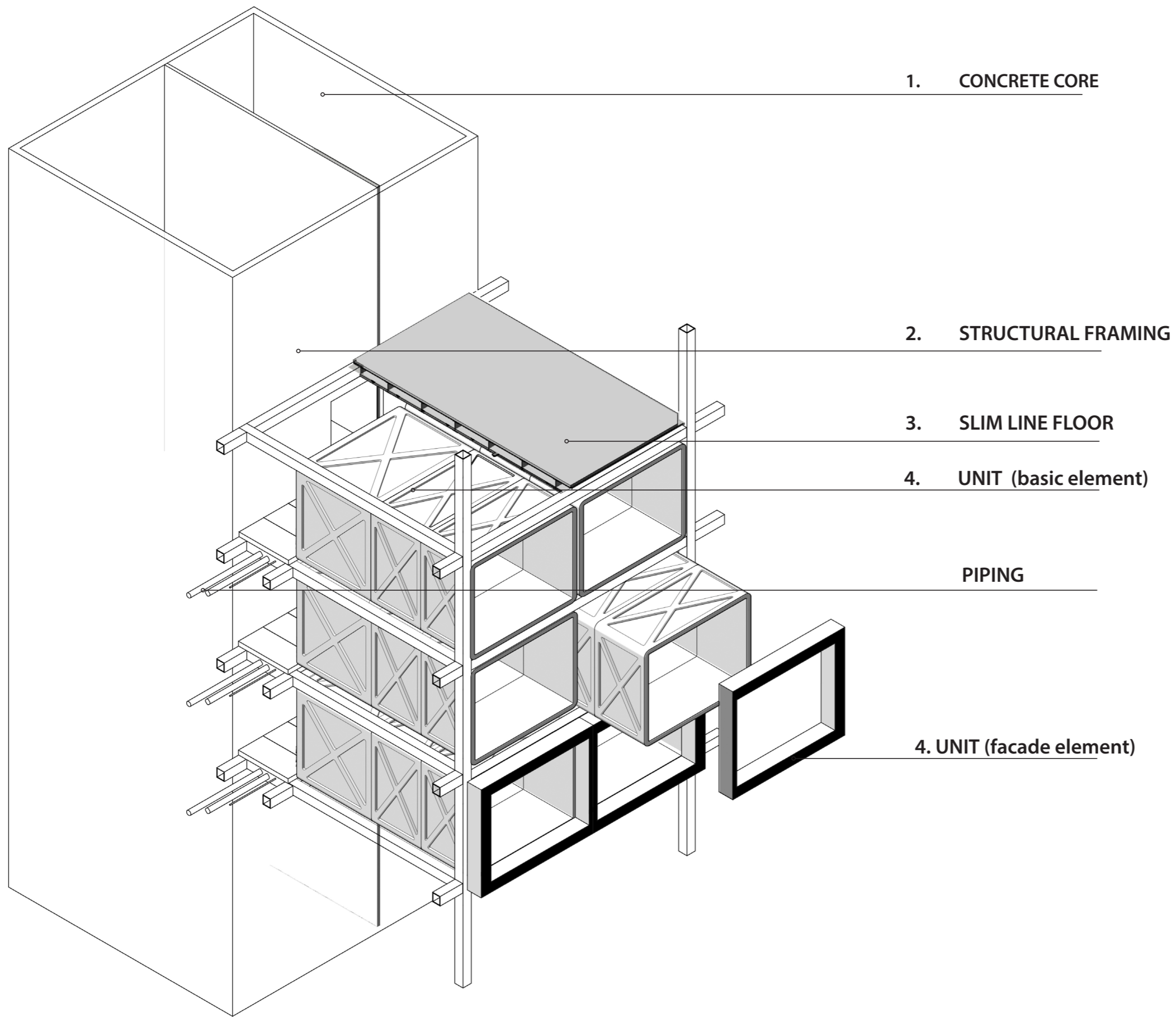
OPTIONS

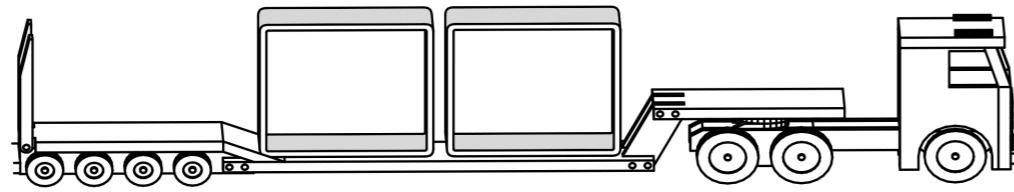


THE SYSTEM

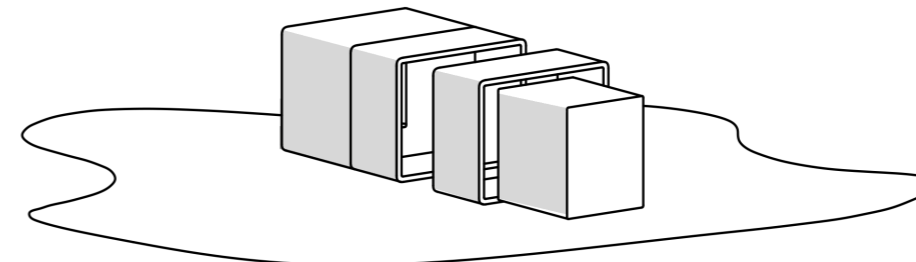
HOW TO MAKE A BUILDING?





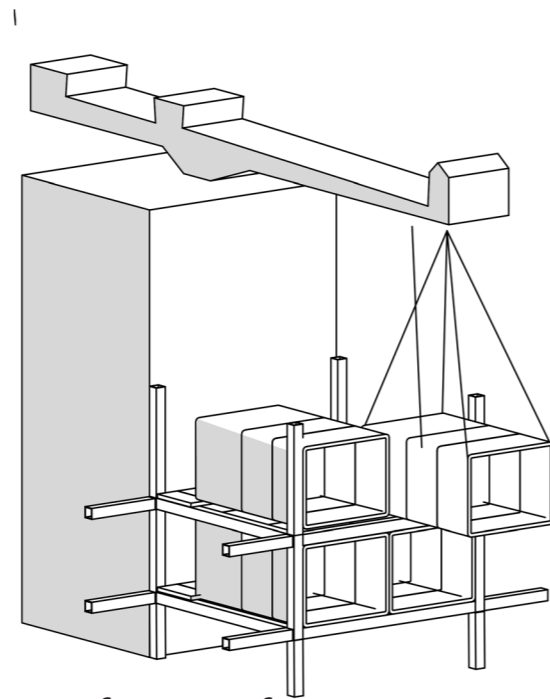


1. Units are transported from factory to the building site

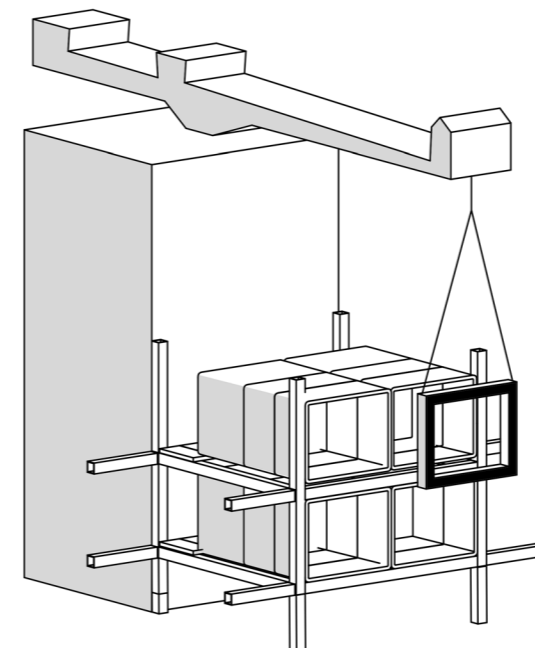


2. site assembly of units and intelligent unit

kg

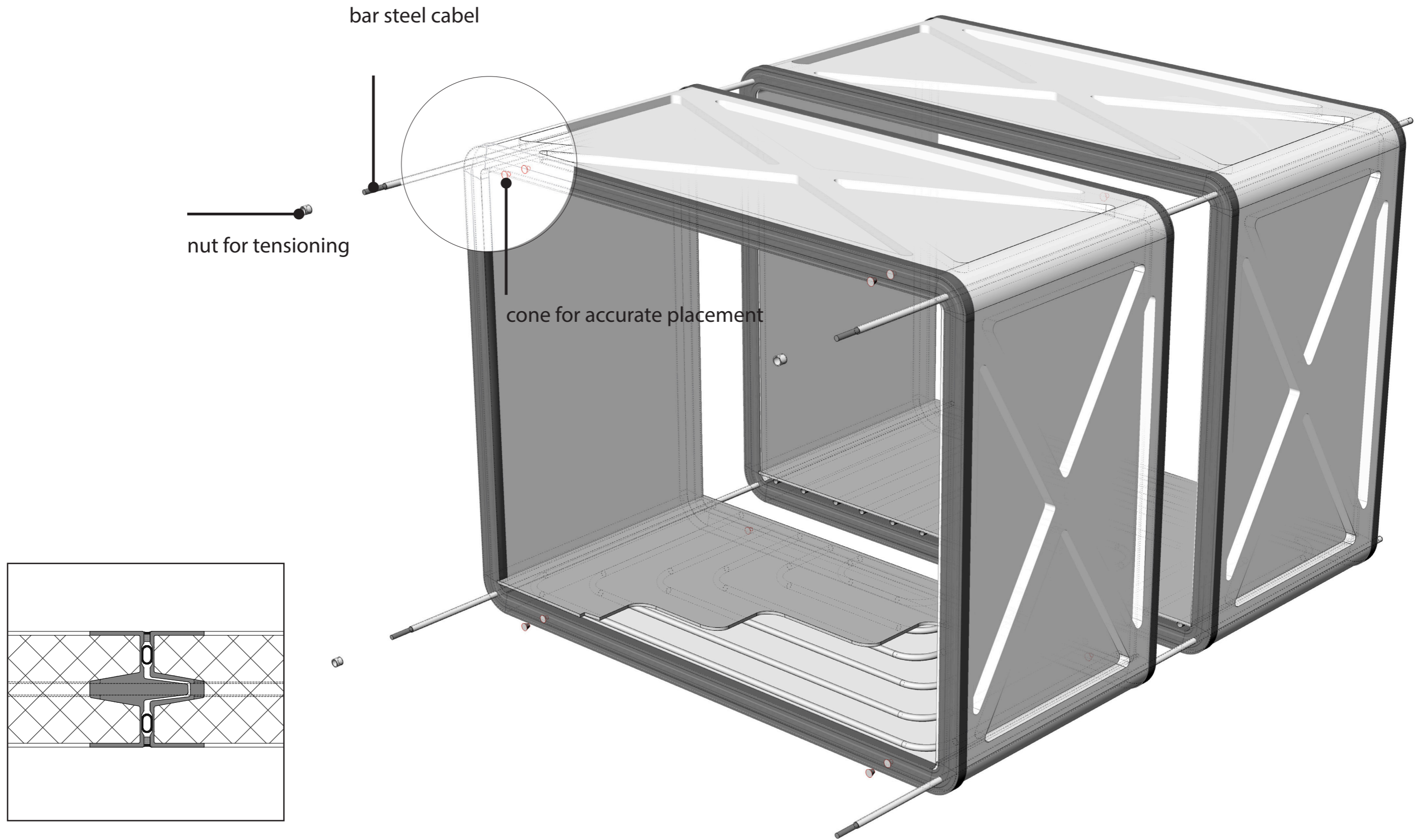


3. placement of units in frame

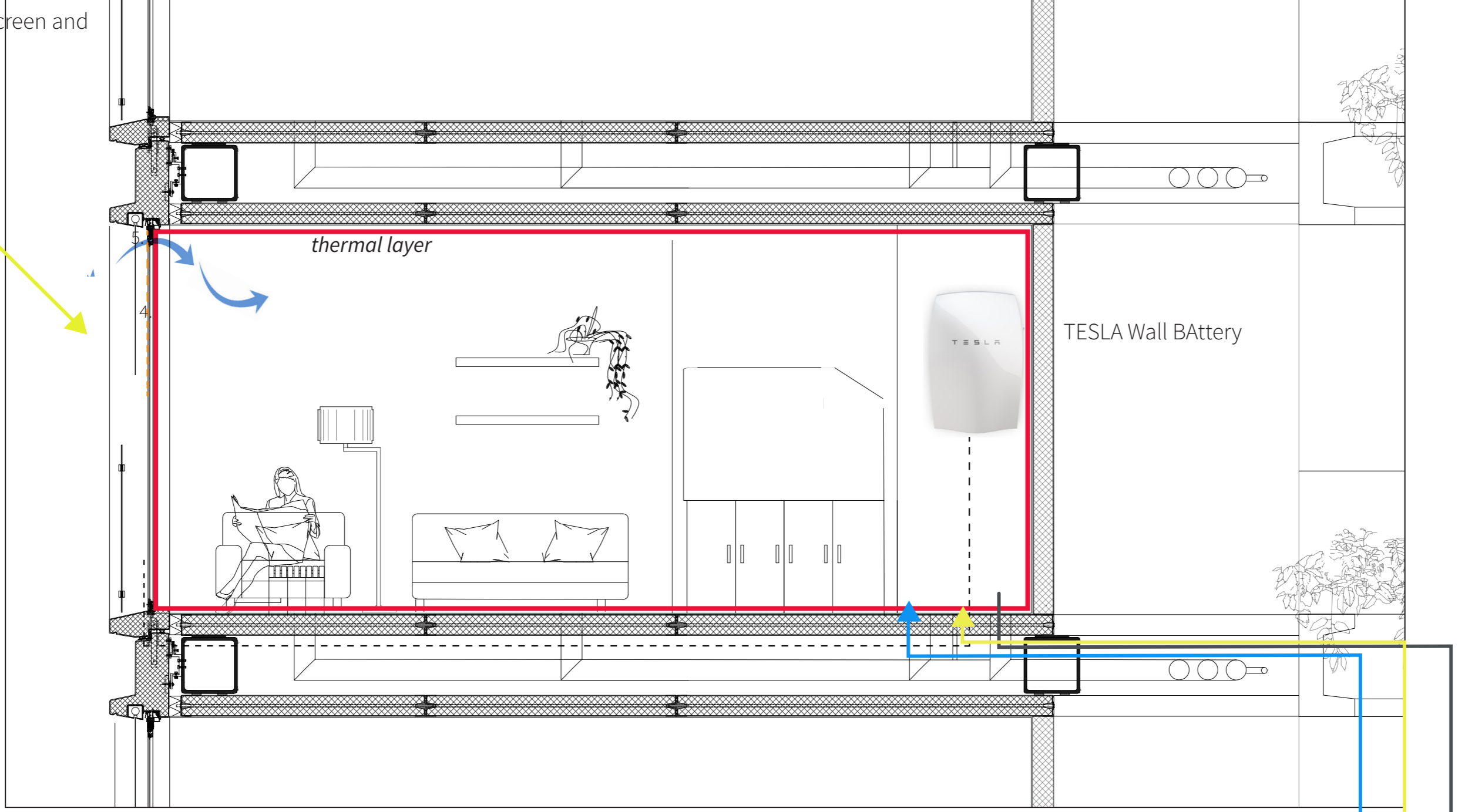


4. placement of facade elements





integrated sunscreen and ventilation

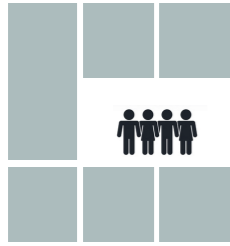


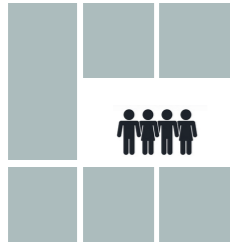
TESLA Wall BAattery

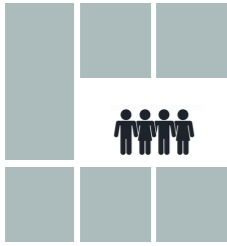
thermal layer

pipng to core
- water
- grey water
- electra
(-ventilation)

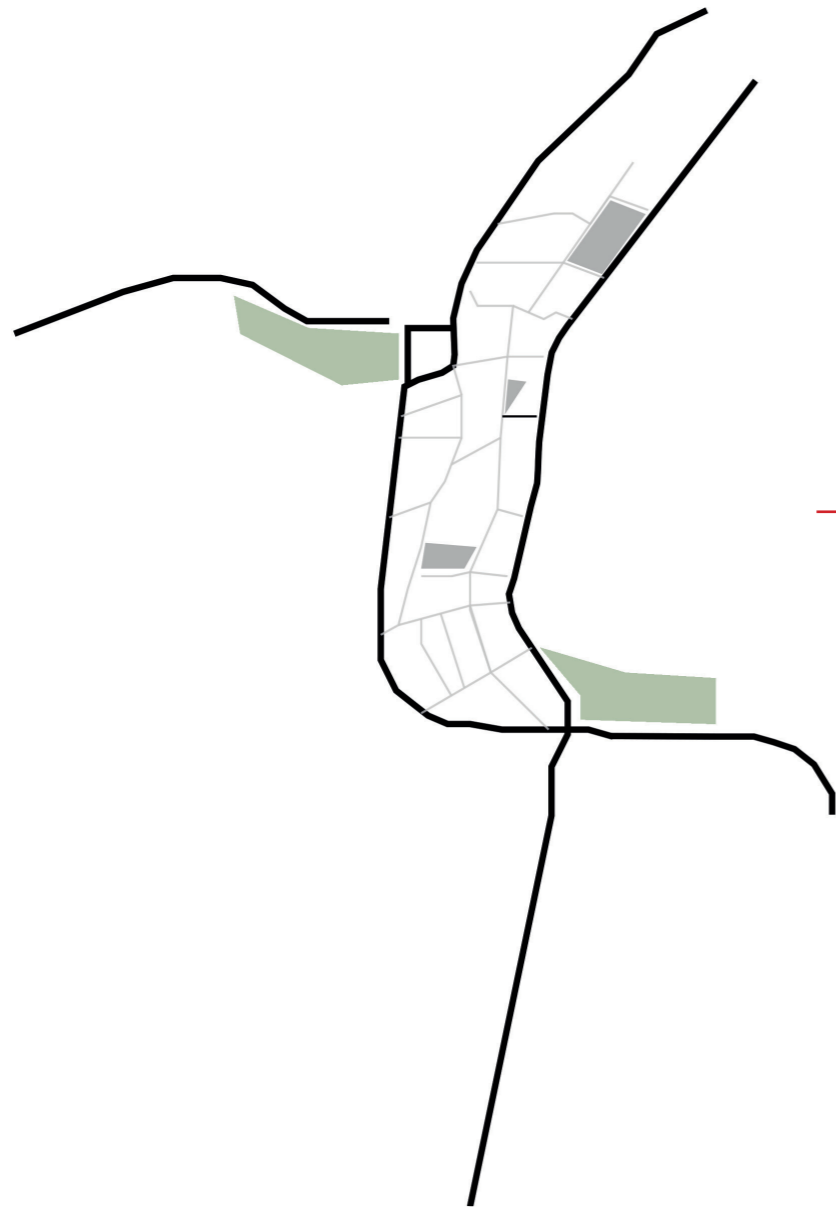




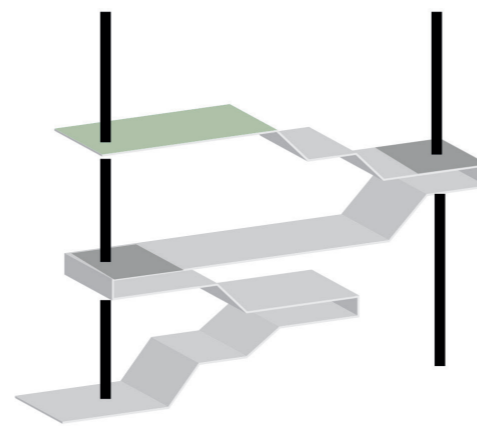




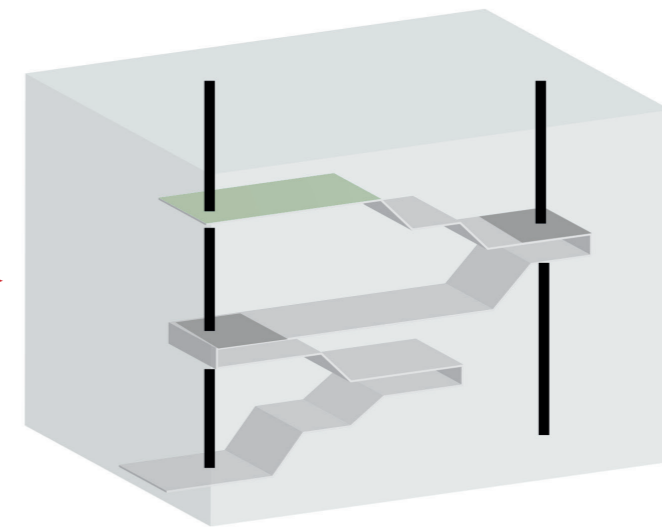
traditional structure

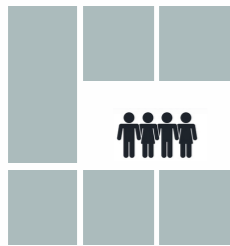


translation to vertical city



adding housing mass



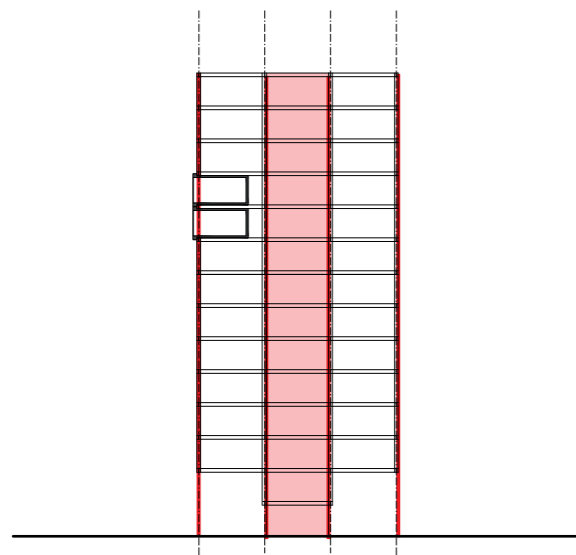


THE SYSTEM • UNIT PLACEMENT

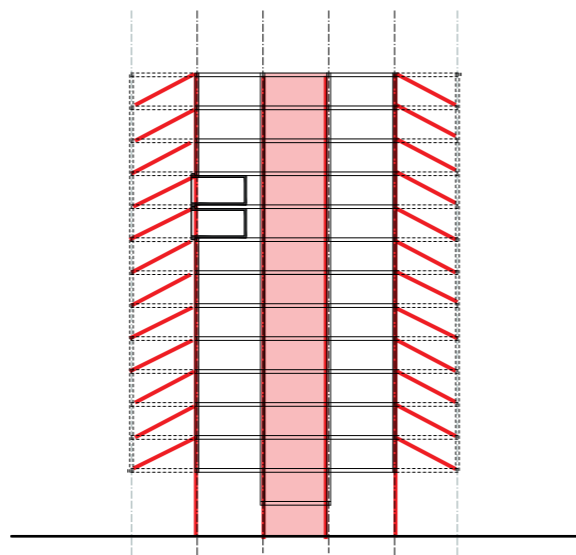
SUMMER SITUATION
60 degrees

WINTER SITUATION
30 degrees

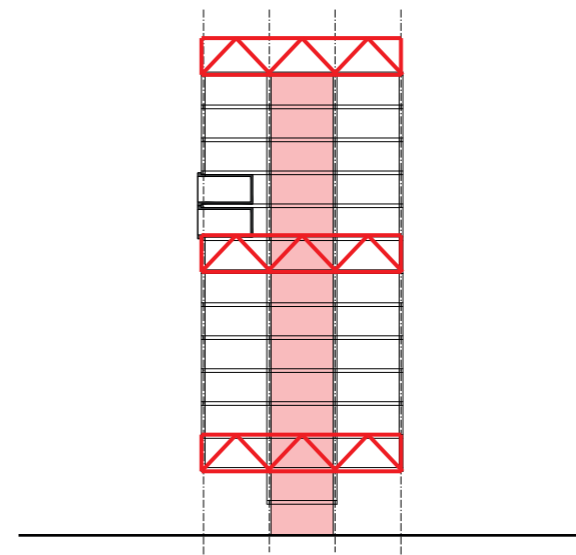




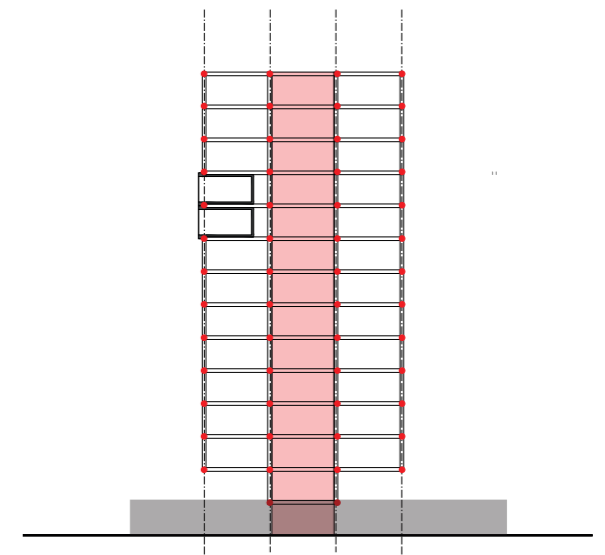
structural concrete core - all columns



all columns excl. perimeters



constructive floors



moment fixed connections

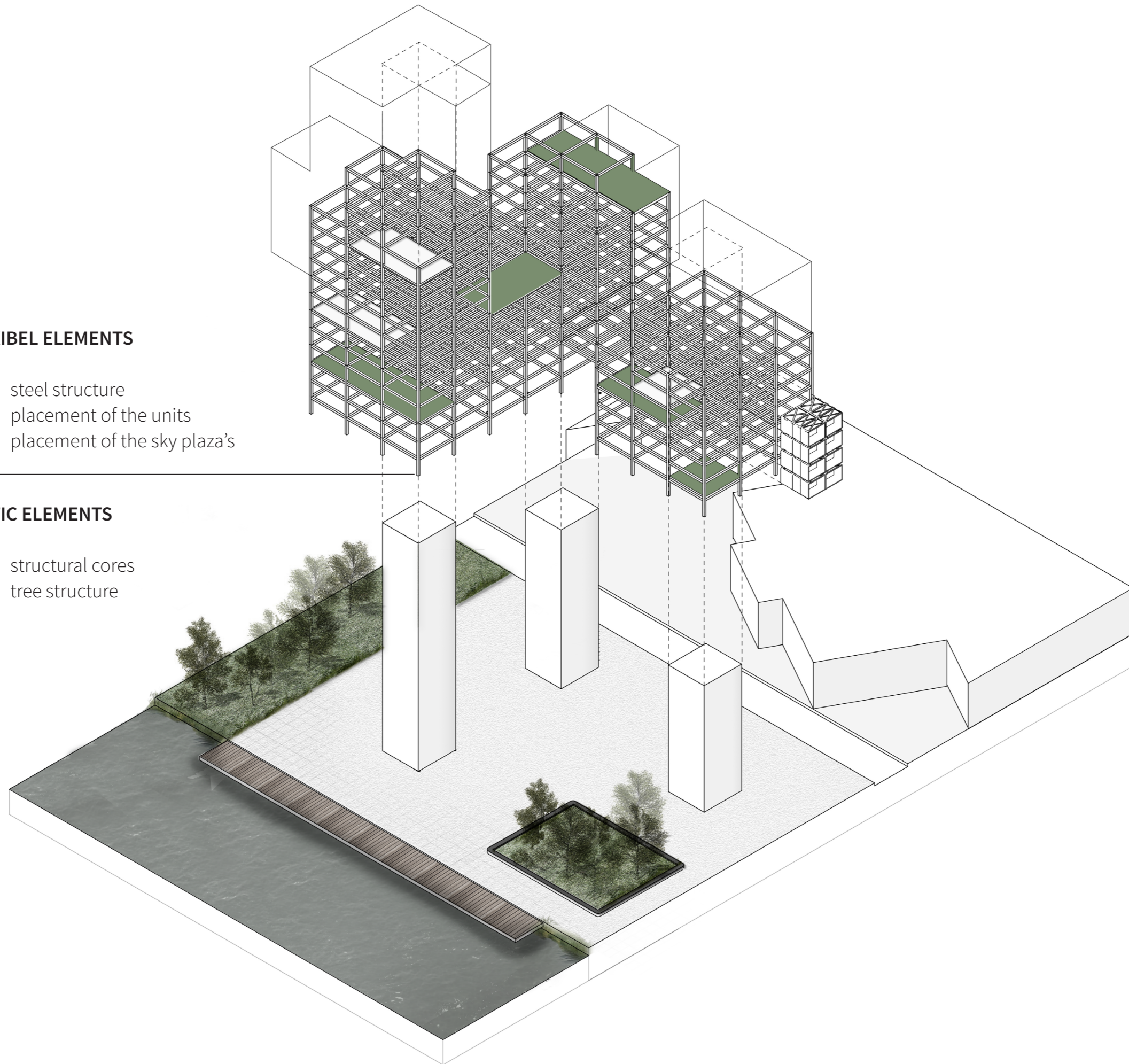


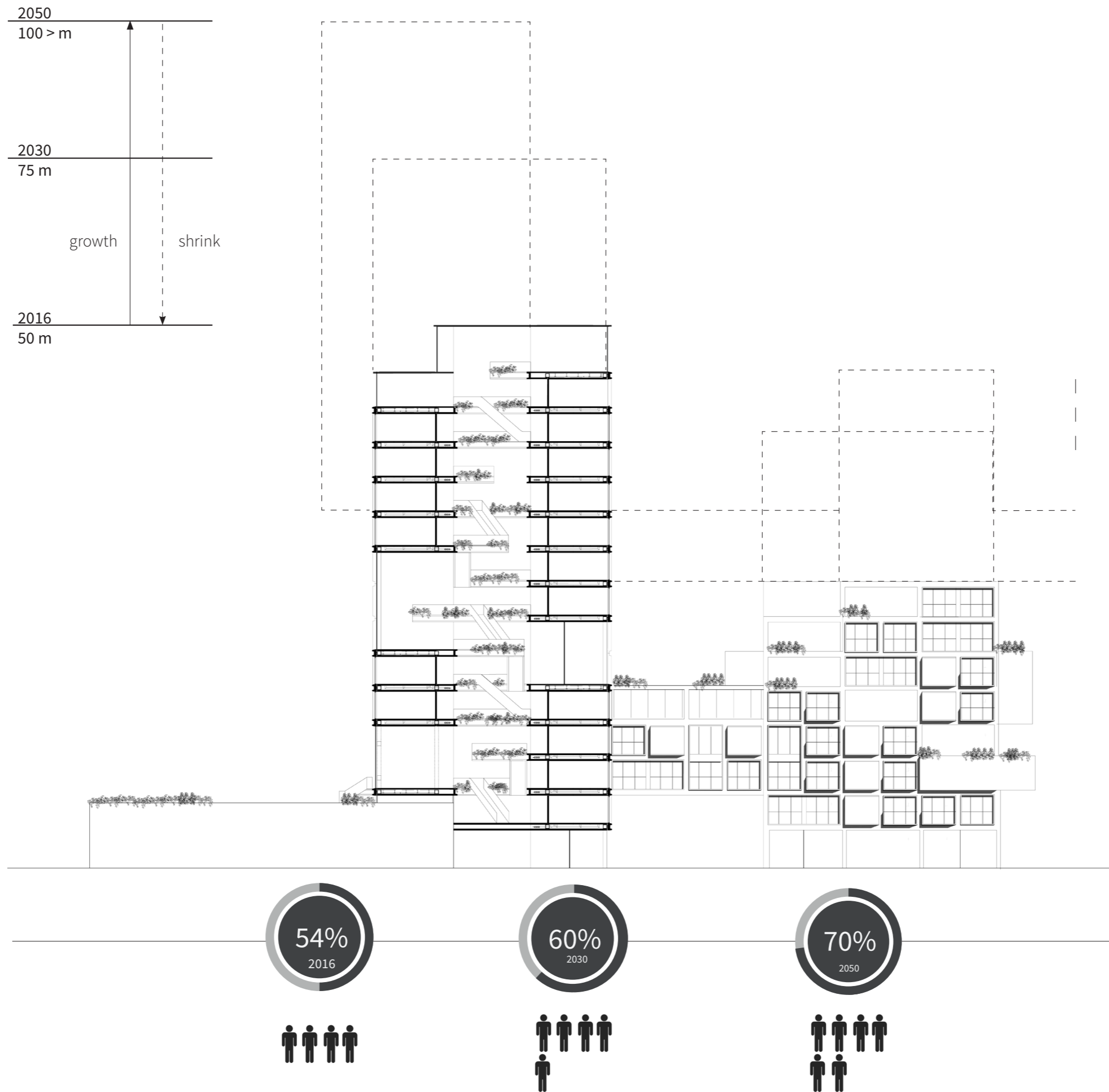
FLEXIBEL ELEMENTS

steel structure
placement of the units
placement of the sky plaza's

STATIC ELEMENTS

structural cores
tree structure





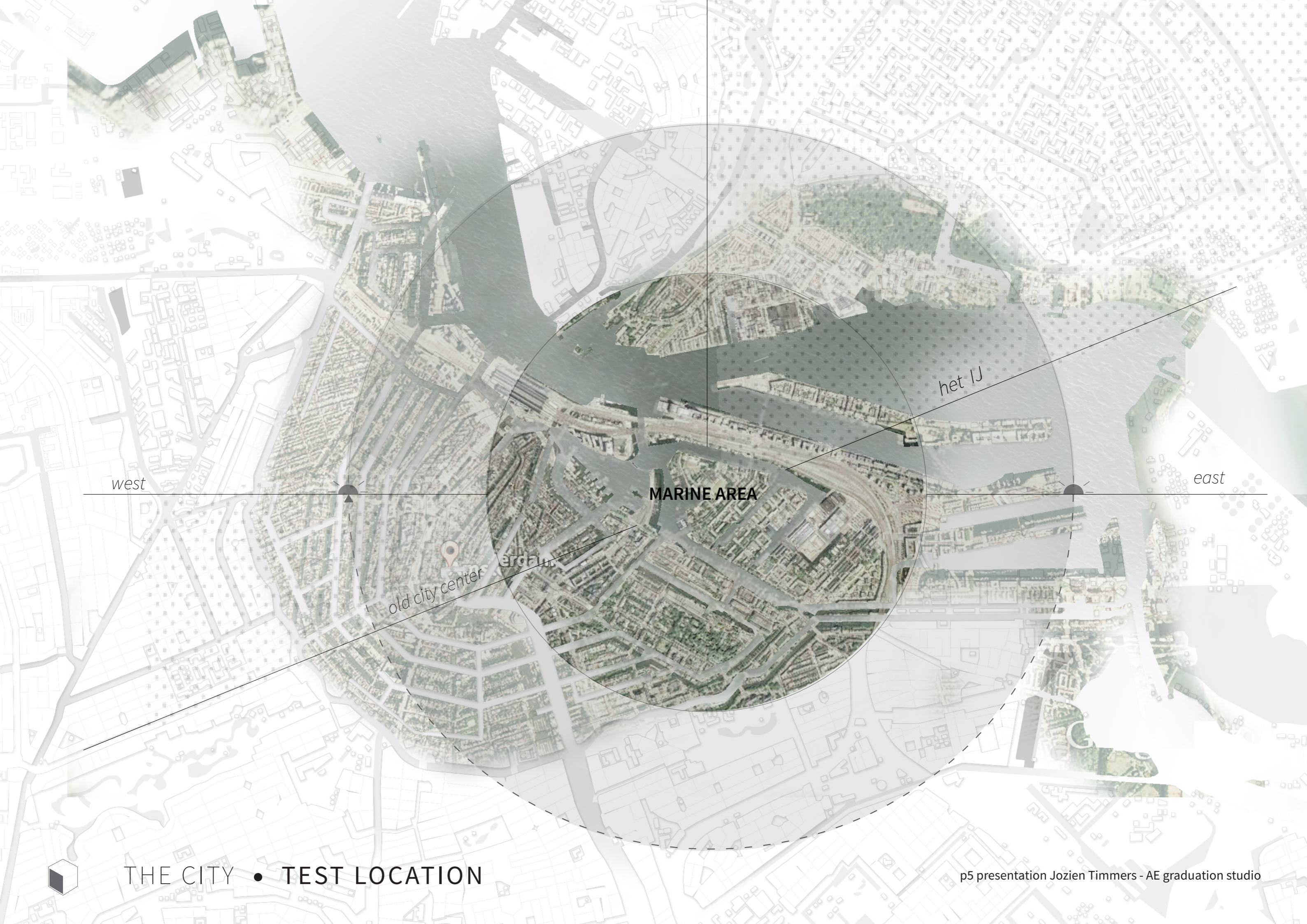
THE SYSTEM • ORGANIC GROWTH



THE CITY

HOW TO IMPLEMENT THE SYSTEM WITHIN THE CITY?





west

east

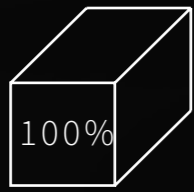
MARINE AREA

het IJ

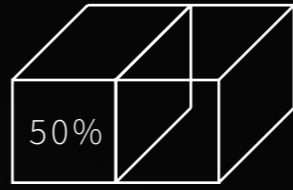
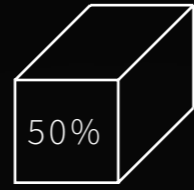
old city center
erdan



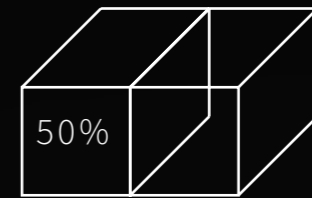
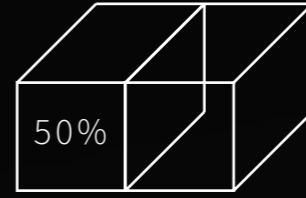
THE CITY • TEST LOCATION



850 units/ha

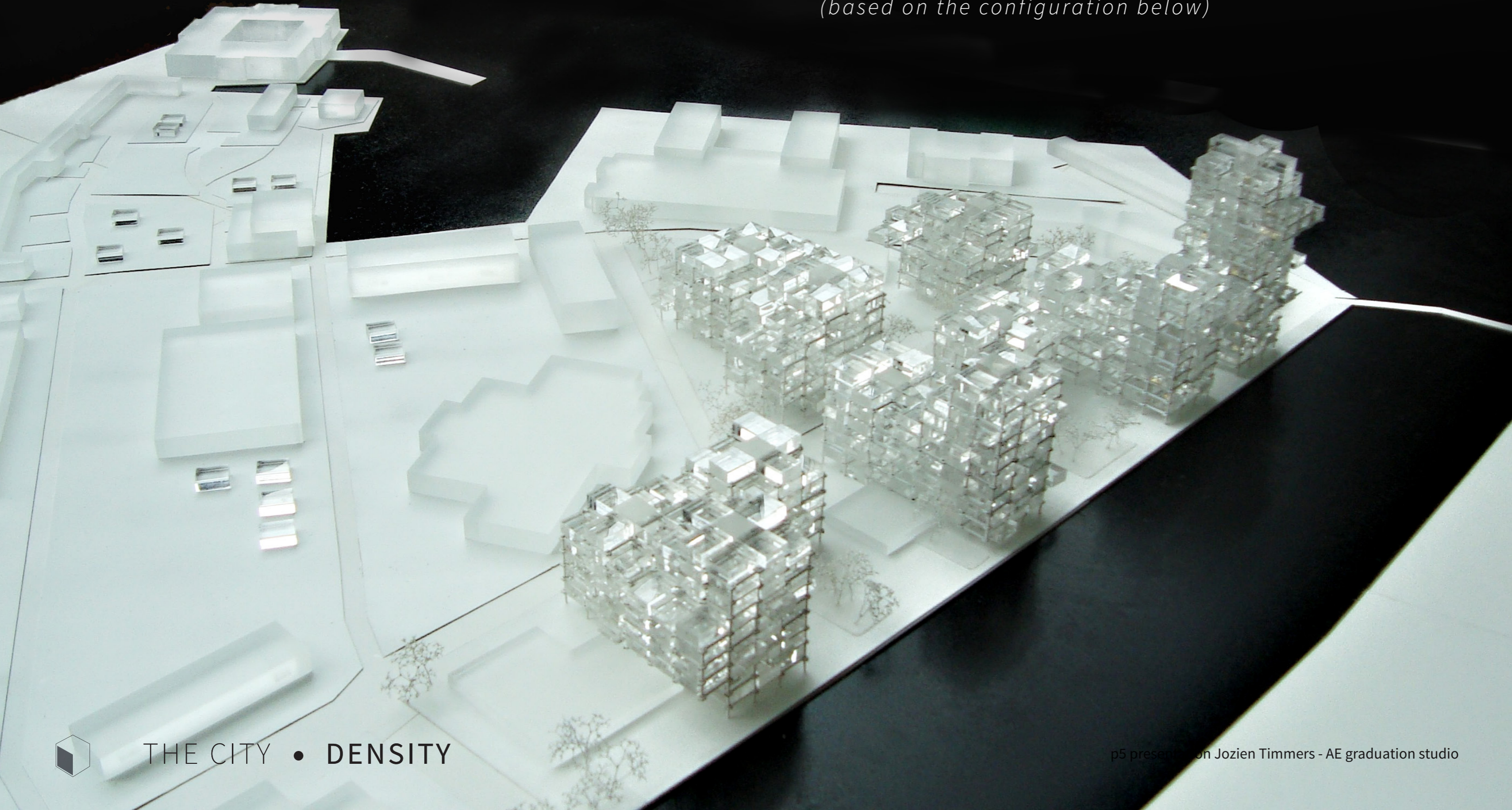


650 units/ha



428 units/ha

(based on the configuration below)



VINEX LOCATION: 30 woningen/ha



WESTERDOK EILAND: 300 woningen/ha









CONCLUSION

- inspired by ideas from the past
- elaborated with modern technologies and materials
- a highly flexible and adaptable building system.

offering a new perspective for high density living without giving in on architectural and spatial quality!



THANK YOU!

