

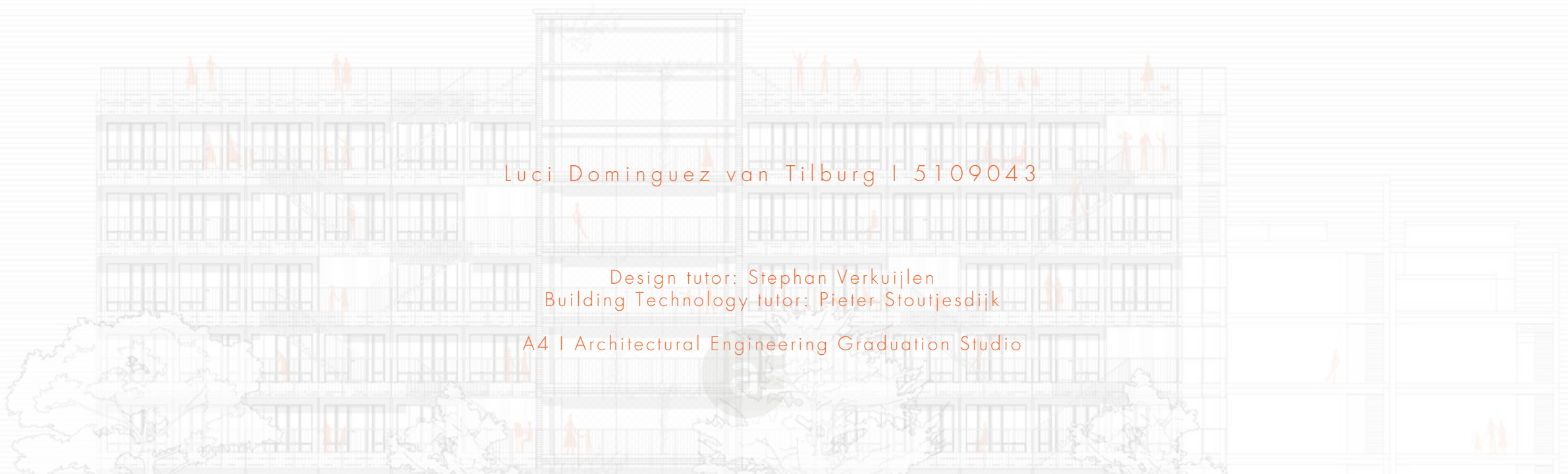
Spaces of Coexistence

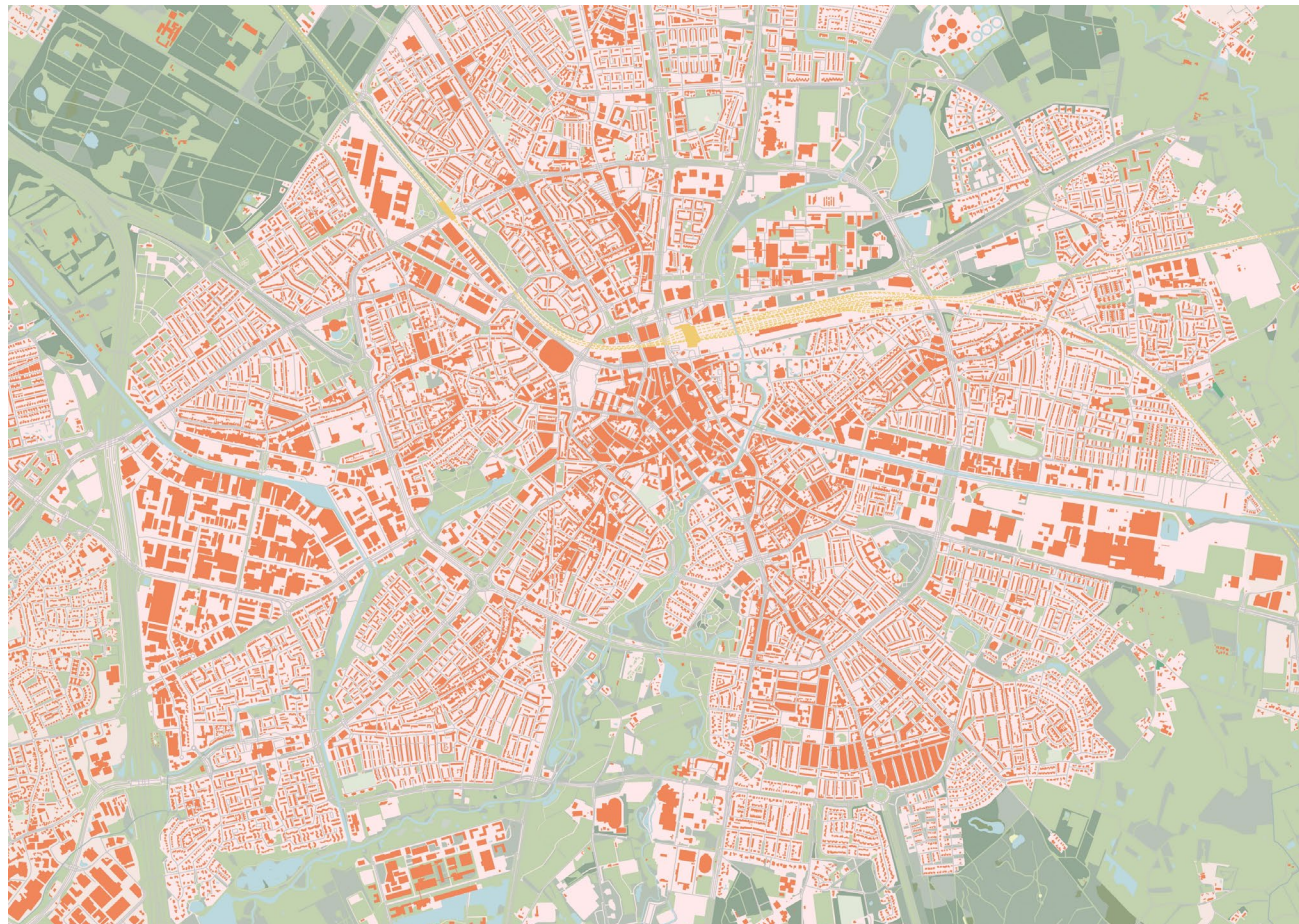
*'Transforming post-office buildings into circular co-living environments
for culturally diverse households'*

Luci Dominguez van Tilburg | 5109043

Design tutor: Stephan Verkuijlen
Building Technology tutor: Pieter Stoutjesdijk

A4 | Architectural Engineering Graduation Studio





repeating history



1891

Philips Establishment



1930

Development of
Philips Neighbourhoods



1984

ASML Establishment



1996

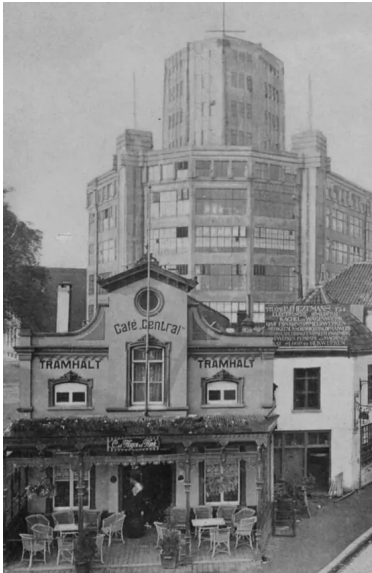
Philips restructures and
leaves Eindhoven



2024

Developments in
the KnoopXL region

repeating history



1891

Philips Establishment



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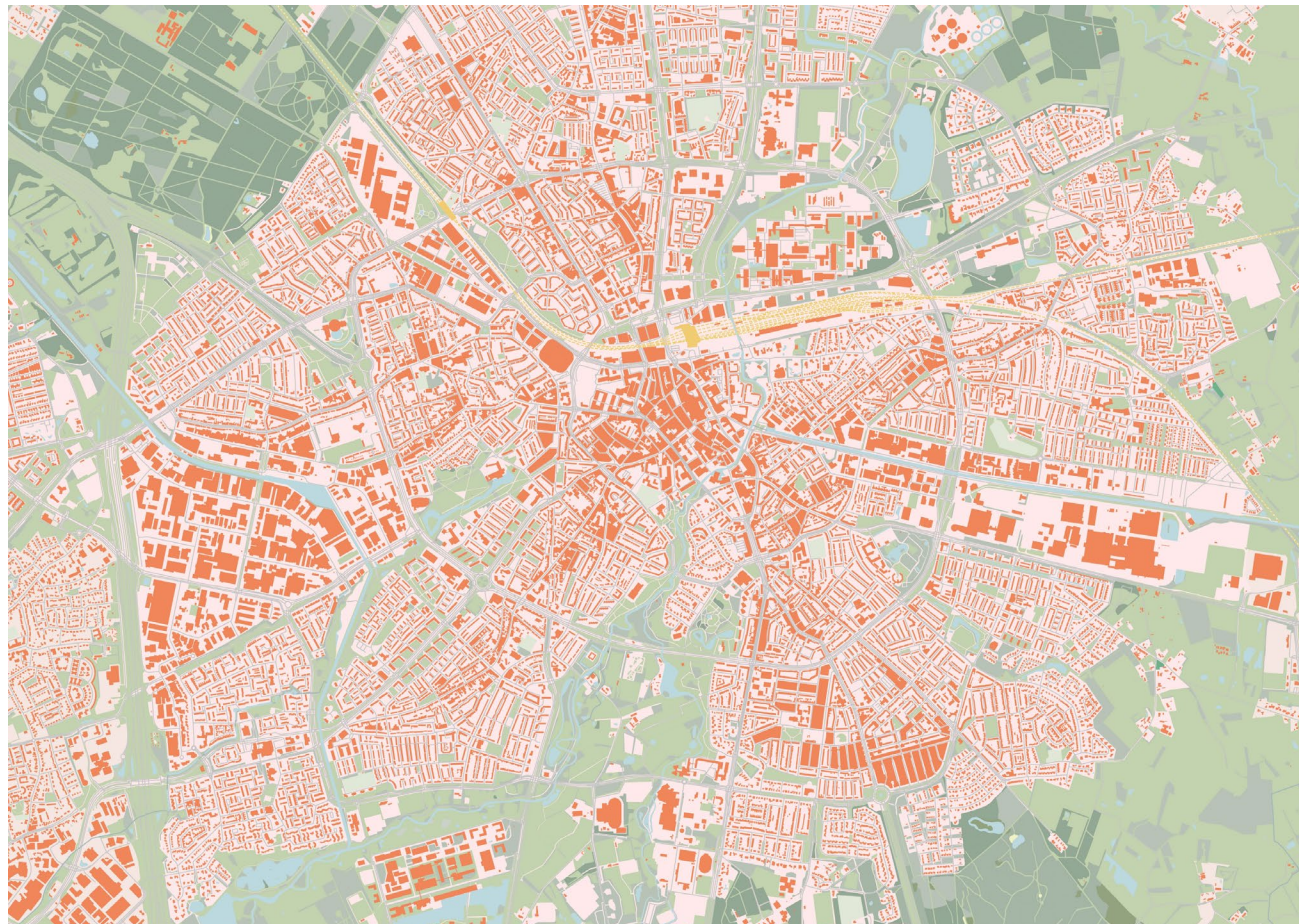
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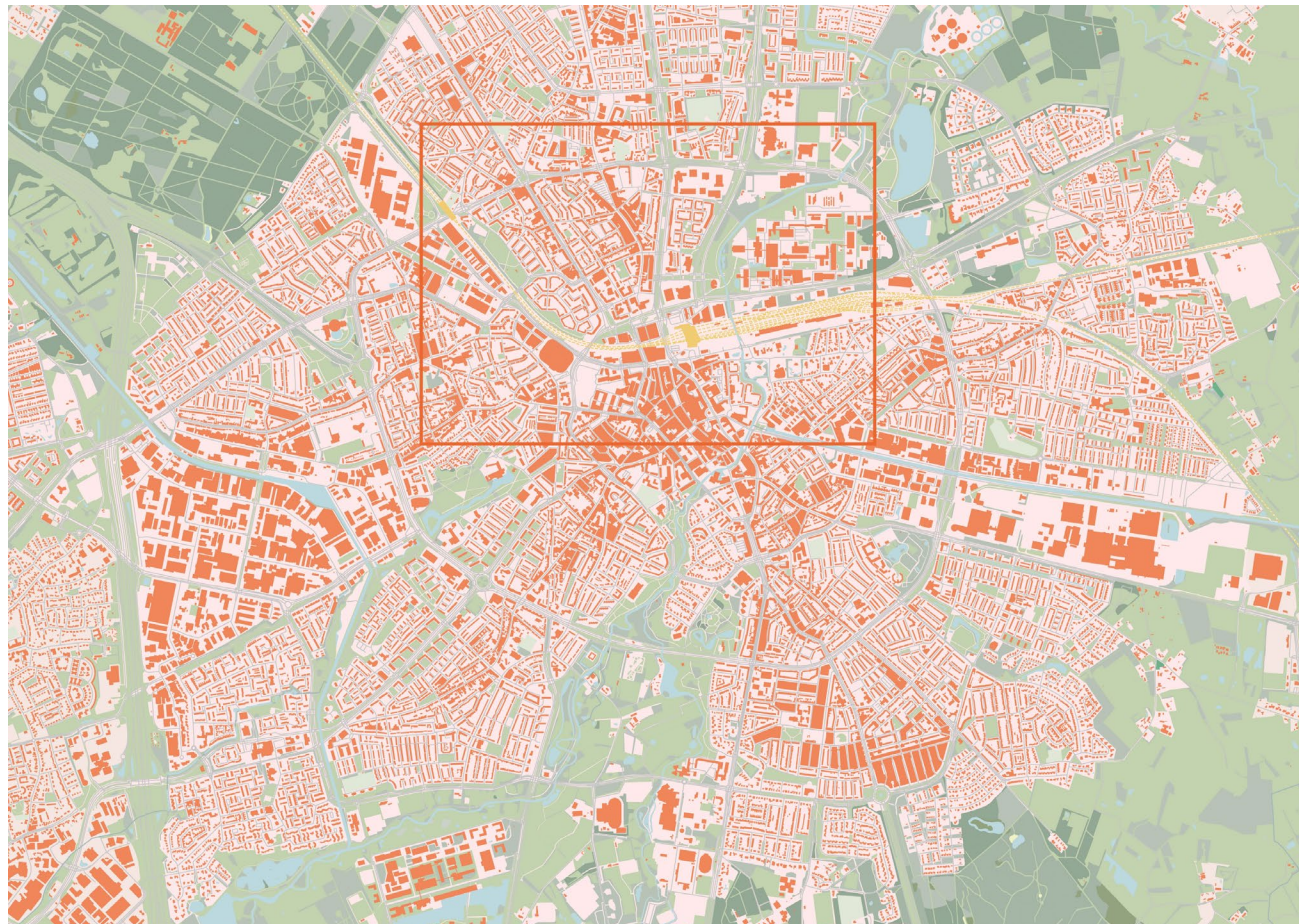


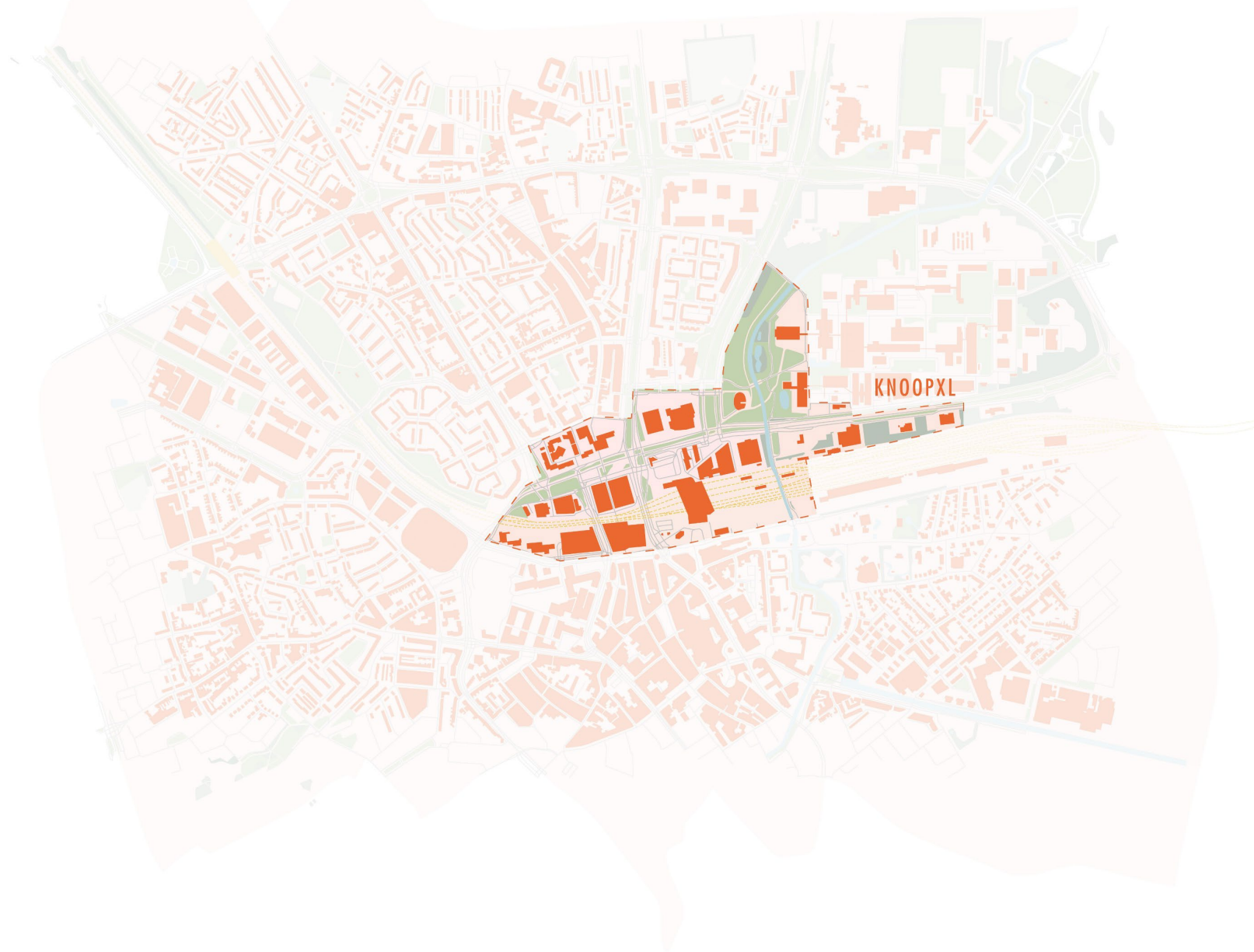
2024

Developments in
the KnoopXL region

KNOOPXL



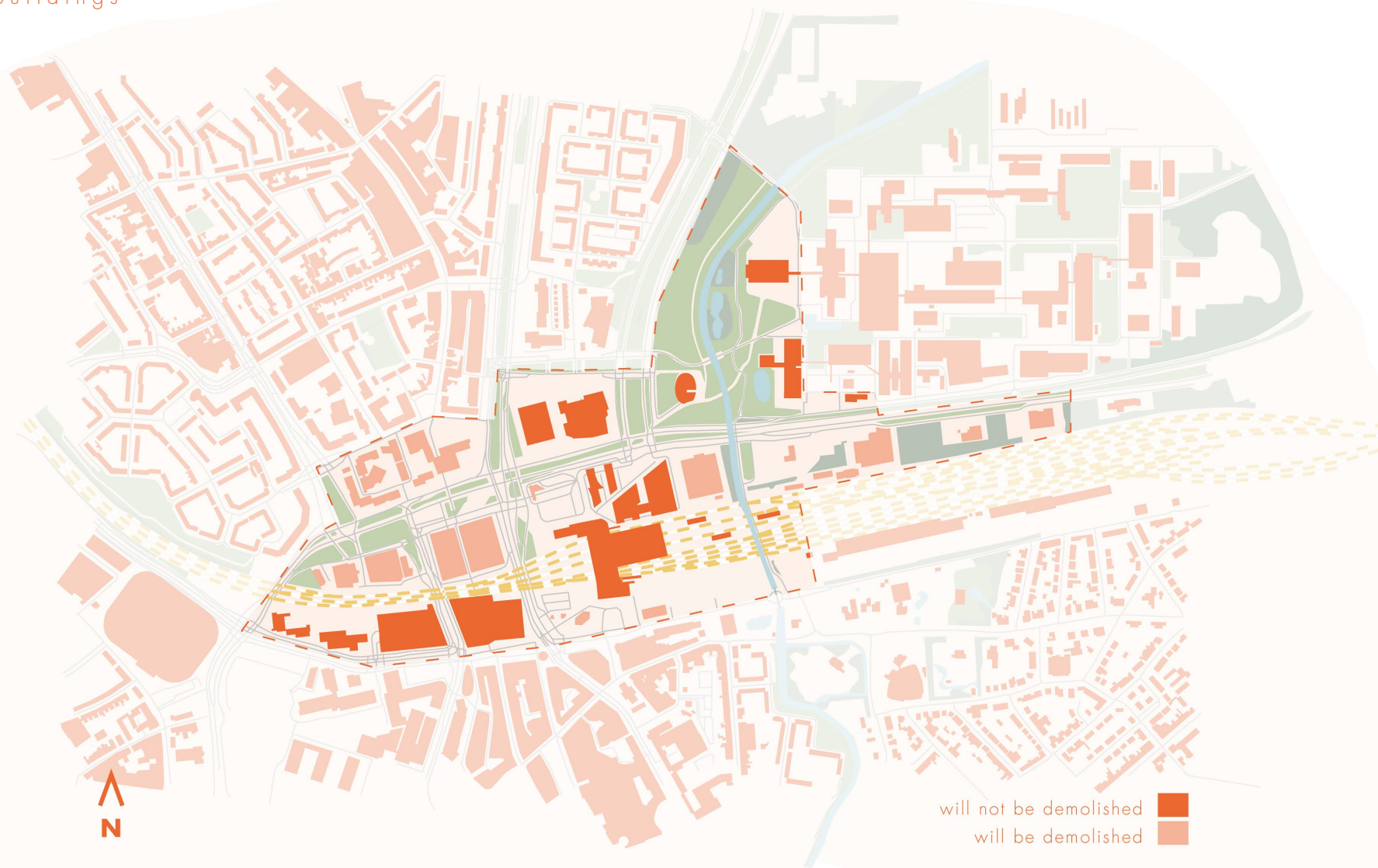




the proposed KnoopXL masterplan



to be demolished buildings



2nd

largest global contributor to
CO₂ emissions

30%

of global waste is produced
by the building industry

9.2%

of the total office stock, is
vacant in the Netherlands

office vacancy remains

30%

above pre-pandemic levels

50%

Single-person households

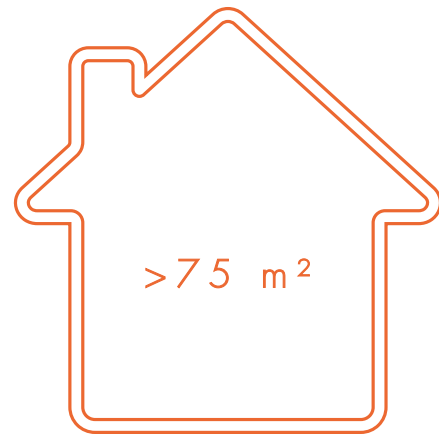
26%

Households with children

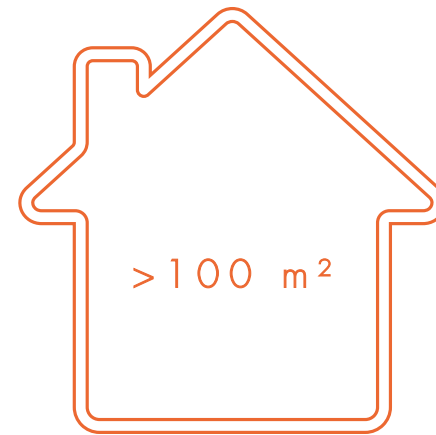
24%

Households without children

“Spacious living applies in 61% of cases”

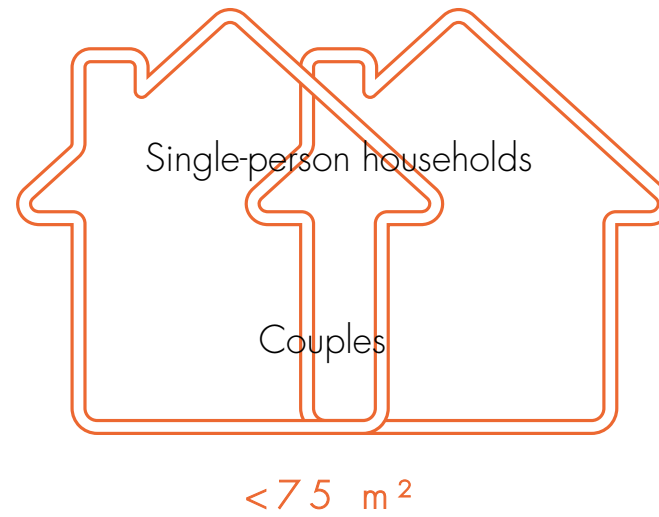


Single-person households

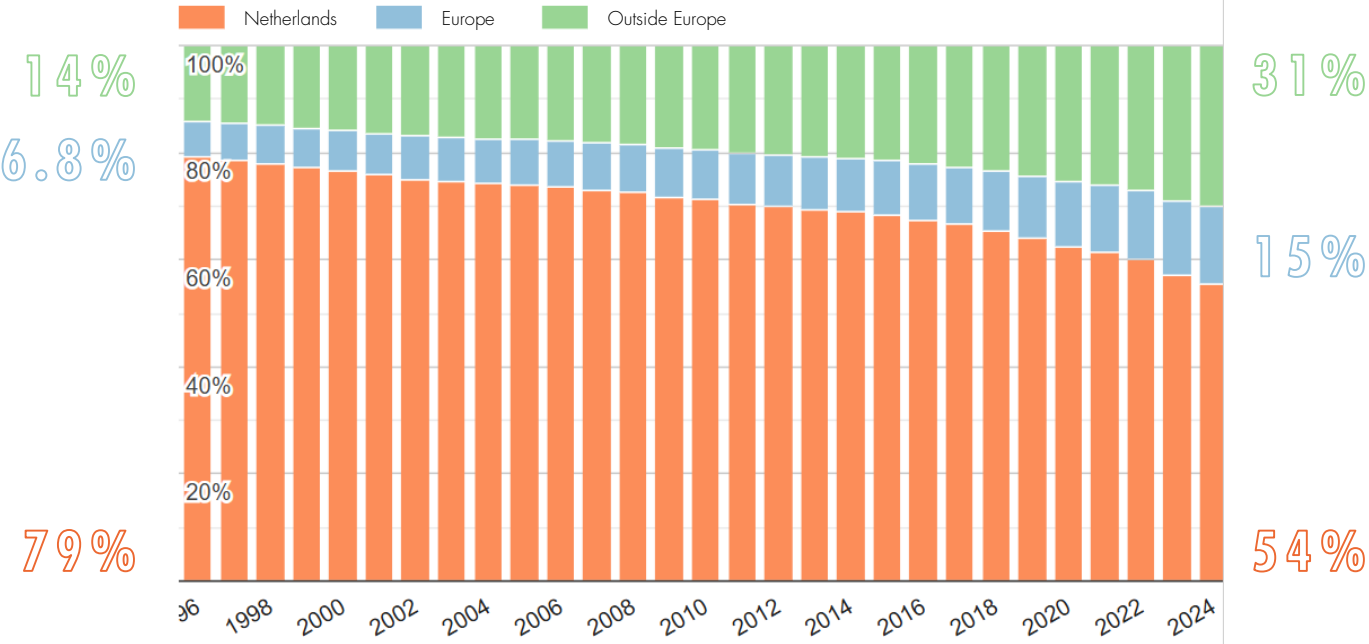


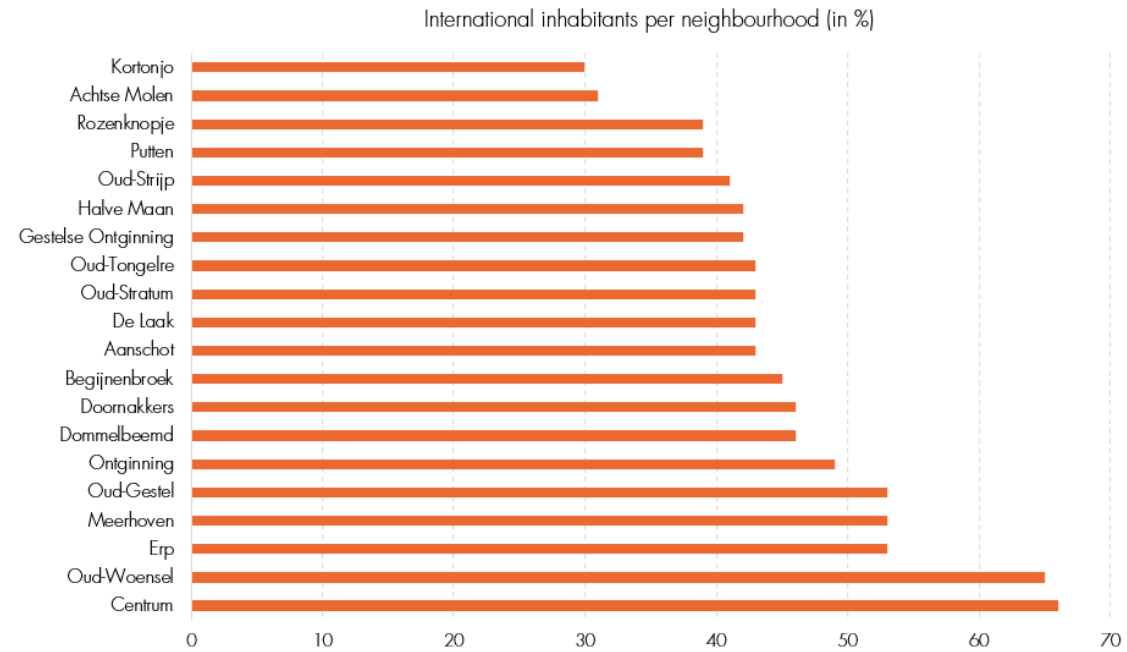
Couples

“A shift in housing culture is needed, whereby collective living becomes the norm”



“ASML and other tech companies in Eindhoven are planning major expansion. At least 70,000 employees, mainly migrant workers, will need somewhere to live. But where? “This will be at the expense of our village atmosphere.””









to conclude

1
Demolition of
buildings in the
KnoopXL area

2
Increasing office
vacancy

3
Exponential growth
of international
inhabitants

4
Increase of single-
person households

5
Spacious living

5
Shift towards
co-living

HOW are all these elements
integrated?

“How can former office buildings in the KnoopXL area be *transformed into mixed-use co-living buildings*, that enable everyday *coexistence* between local communities and international newcomers, while remaining *adaptable over time*?”



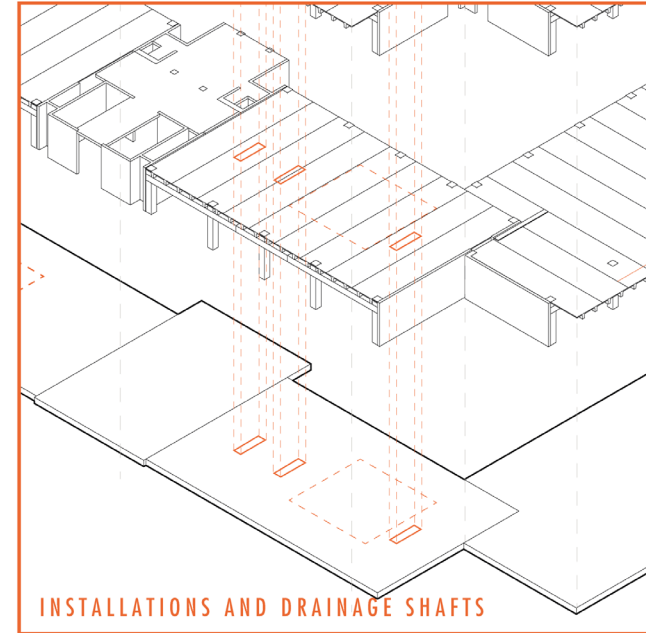
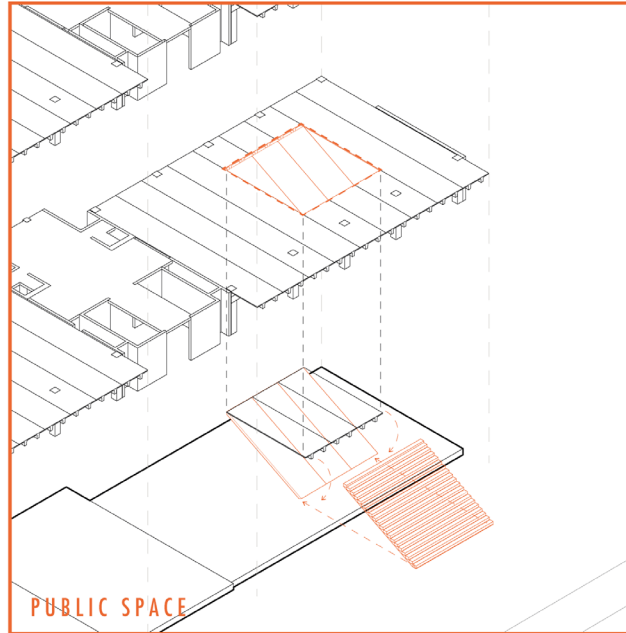
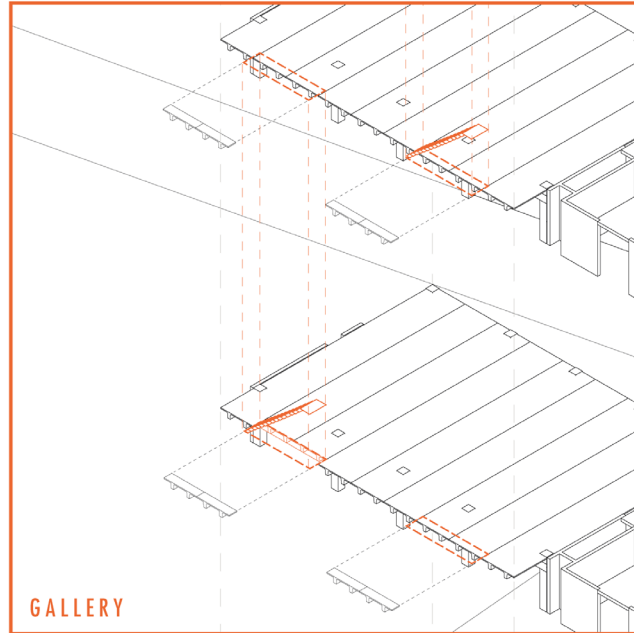


former WTC office building



Prototyping !

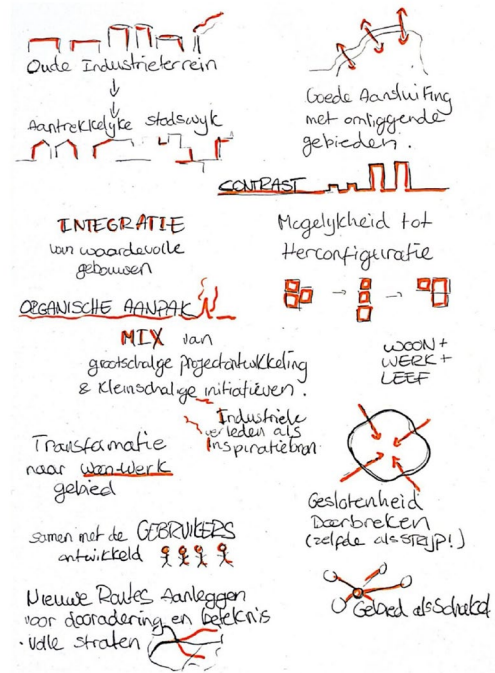
Structural interventions

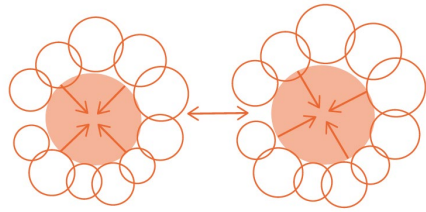


strijp-S & former DAF terrain

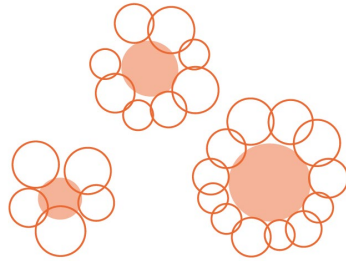


strijp-S & former DAF terrain

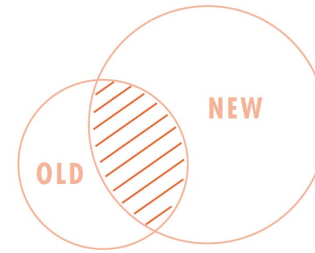




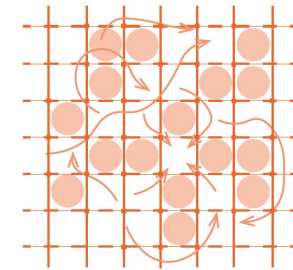
FOSTER INTERACTION
between international newcomers and
local communities.



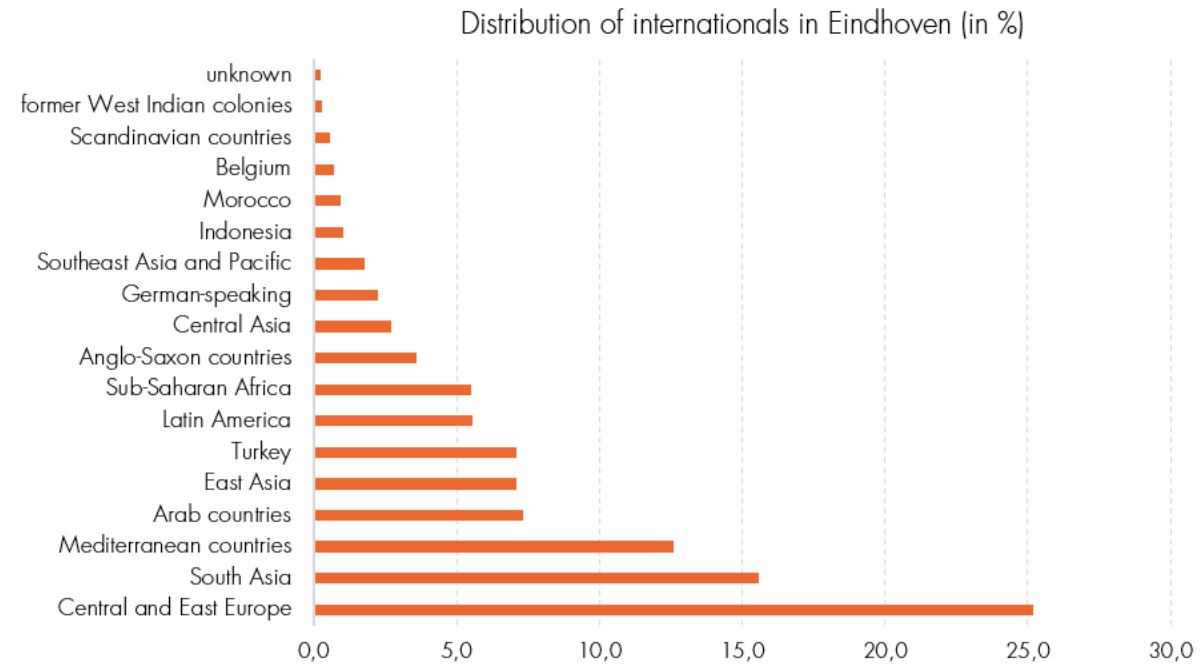
COMMUNAL & SHARED SPACES
as hearts of the building, divided into
clusters with different gradients of
shared use.



MIX OLD AND NEW
Integrate the past and the future, always
aiming for the highest circularity possible.



ADAPTABILITY
in future scenario's, when household
compositions, cultures, or programs
change.



cultural diversity in Eindhoven

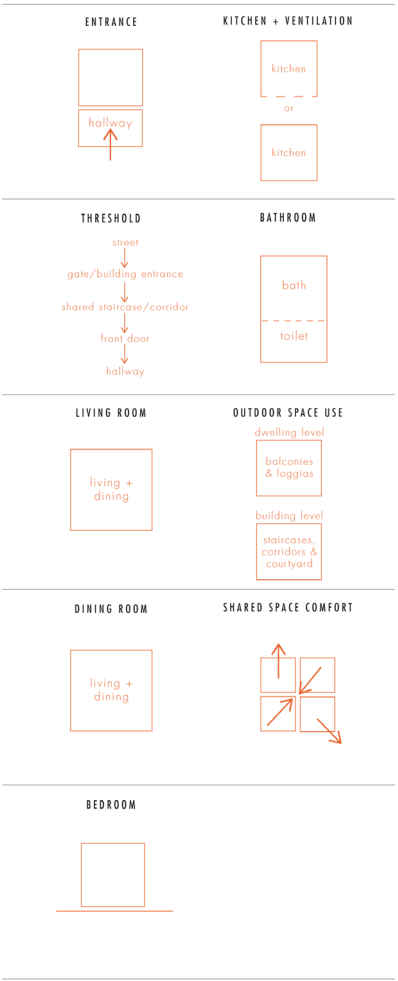


cultural diversity in Eindhoven

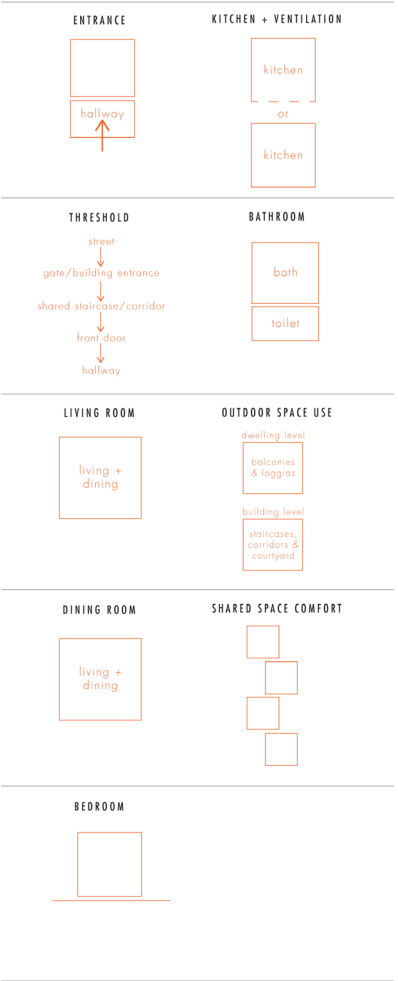


spatial preferences

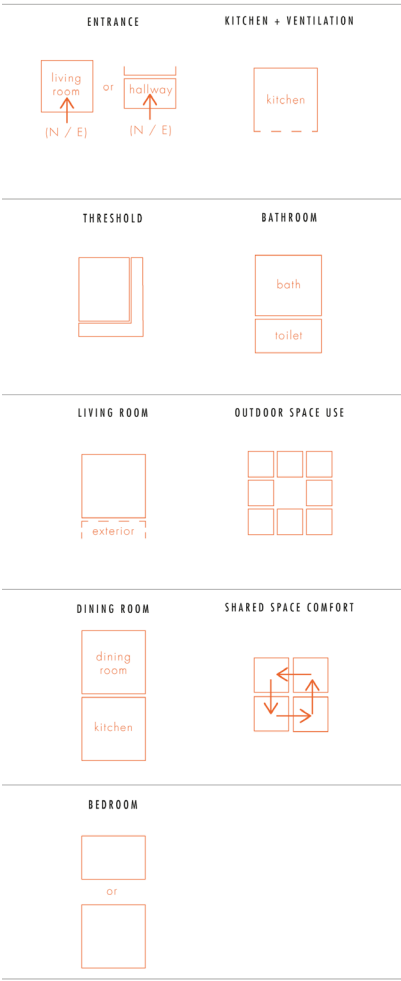




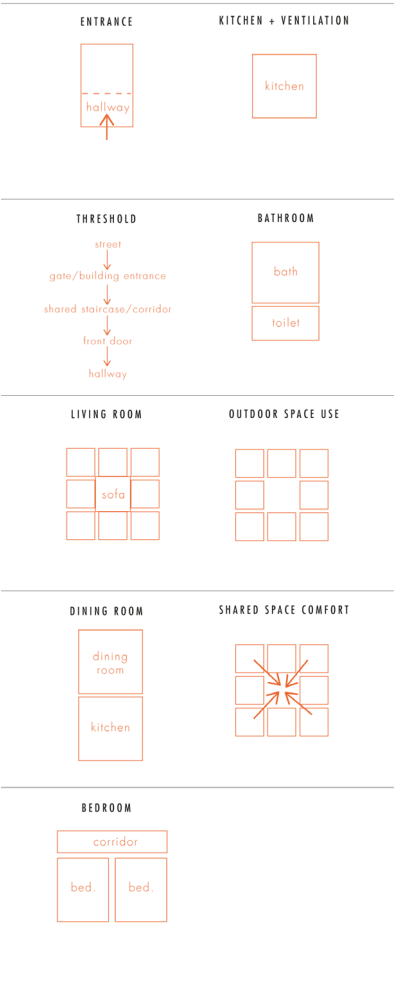
Netherlands



Poland



India



Turkey

bathroom



Netherlands



Poland



India



Turkey

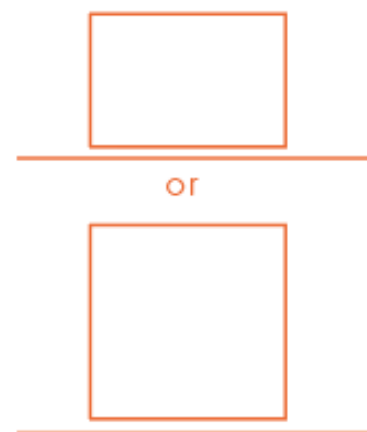
bedroom



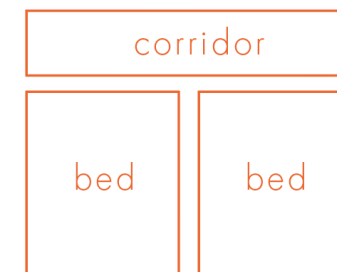
Netherlands



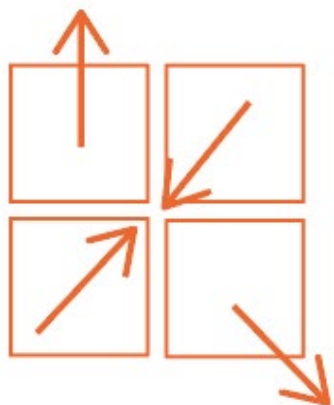
Poland



India



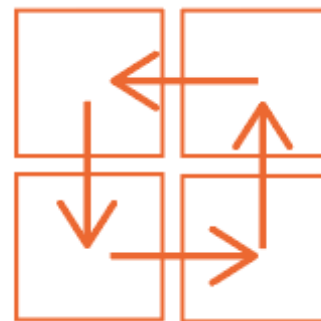
Turkey



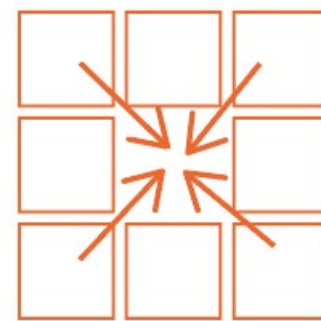
Netherlands



Poland



India



Turkey

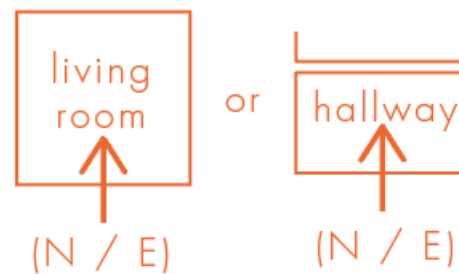
entrance



Netherlands



Poland



India



Turkey

WHAT is the result?

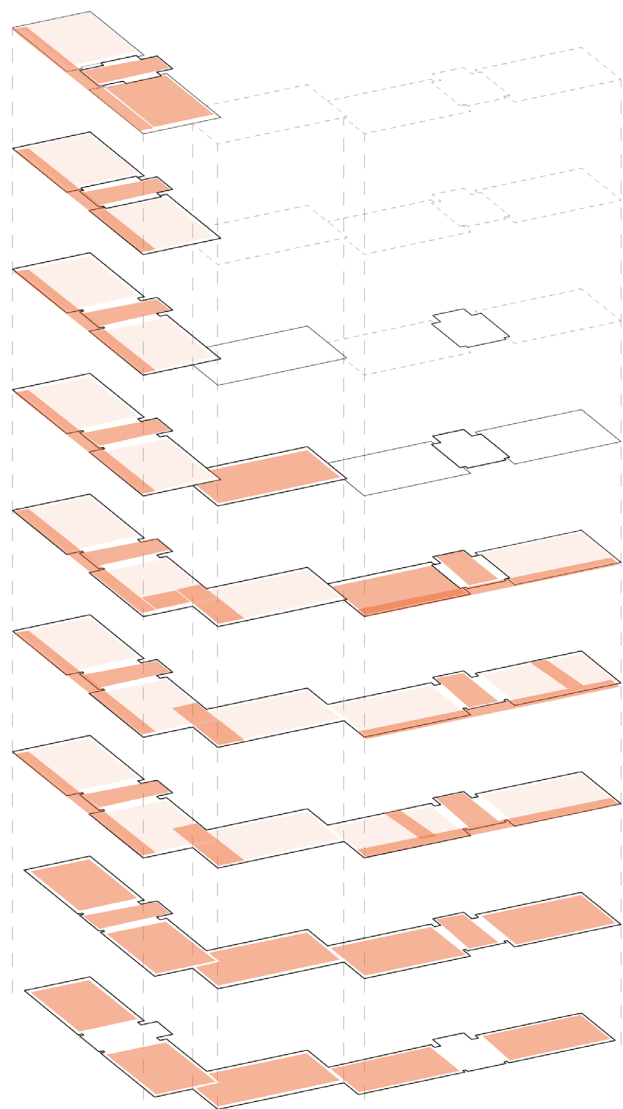
The existing building



oud-woensel

KNOOPXL

centrum



TECHNICAL ROOMS

DWELLINGS

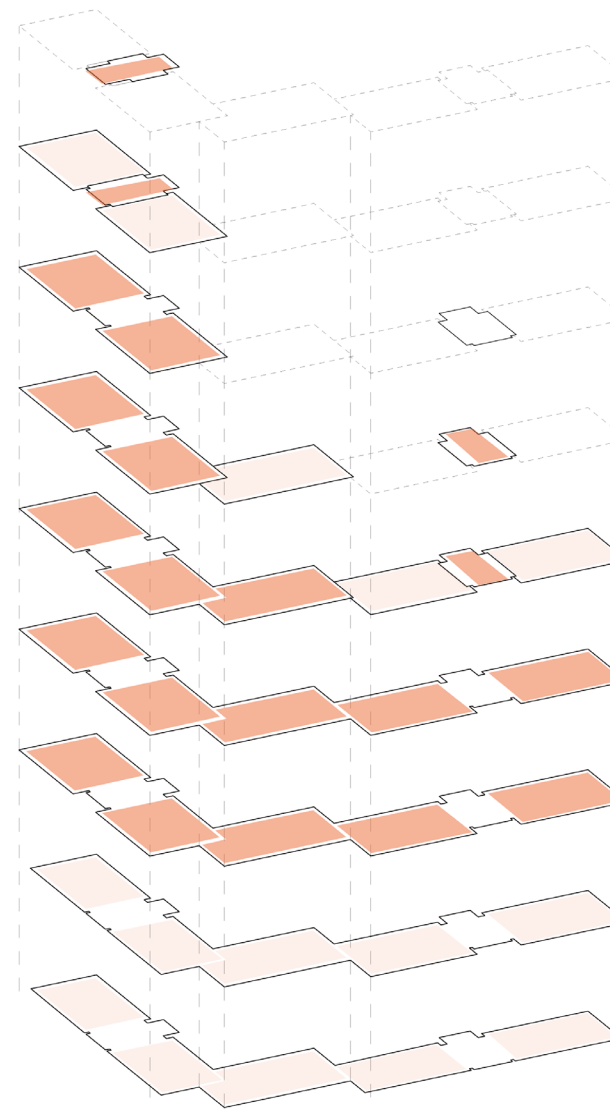
clustered based on layers of privacy & shared space use

COMMUNAL SPACES

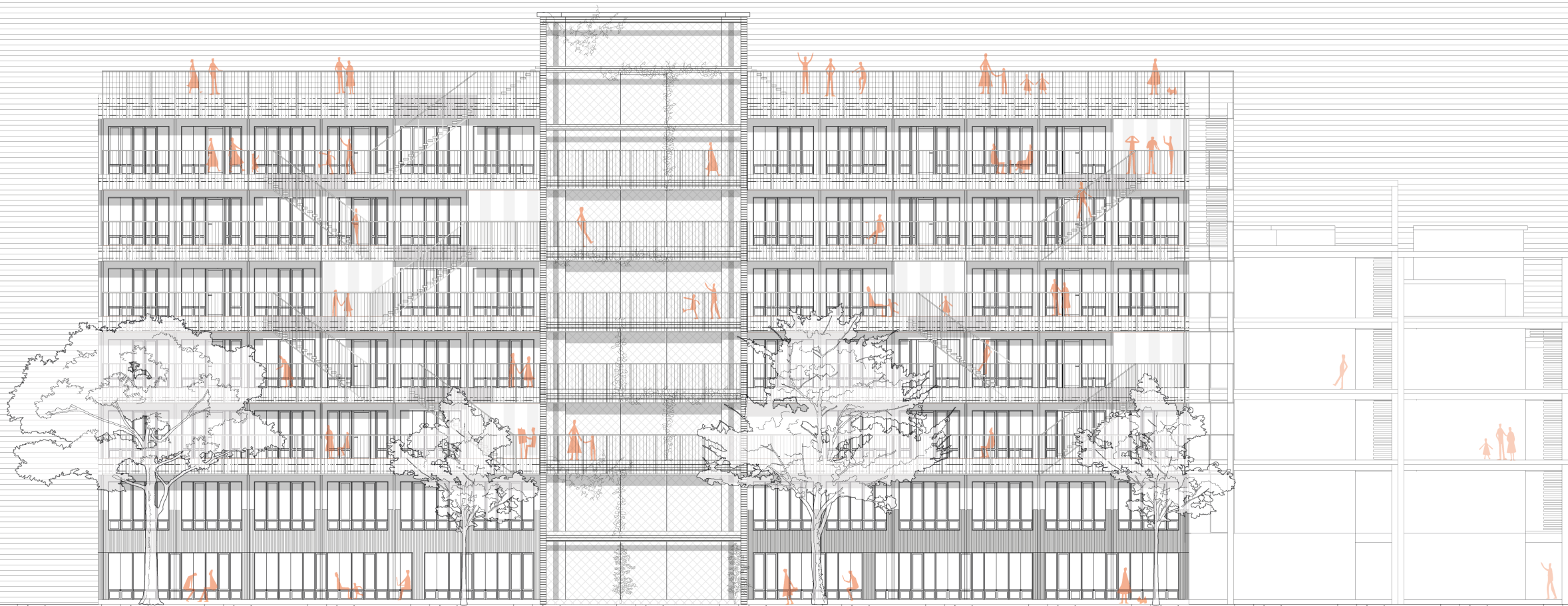
function as hearts of the building, where interaction between residents takes place. Positioned based on layers of privacy & shared space use.

PUBLIC AND COMMUNAL FLOORS

makerspace, repaircafe, creative space, bakery, coffee and childcare, small initiatives, foodhallen, filmhallen, co-working, study spaces, bars & restaurant.



elevation showing the community as a whole



impression



impression

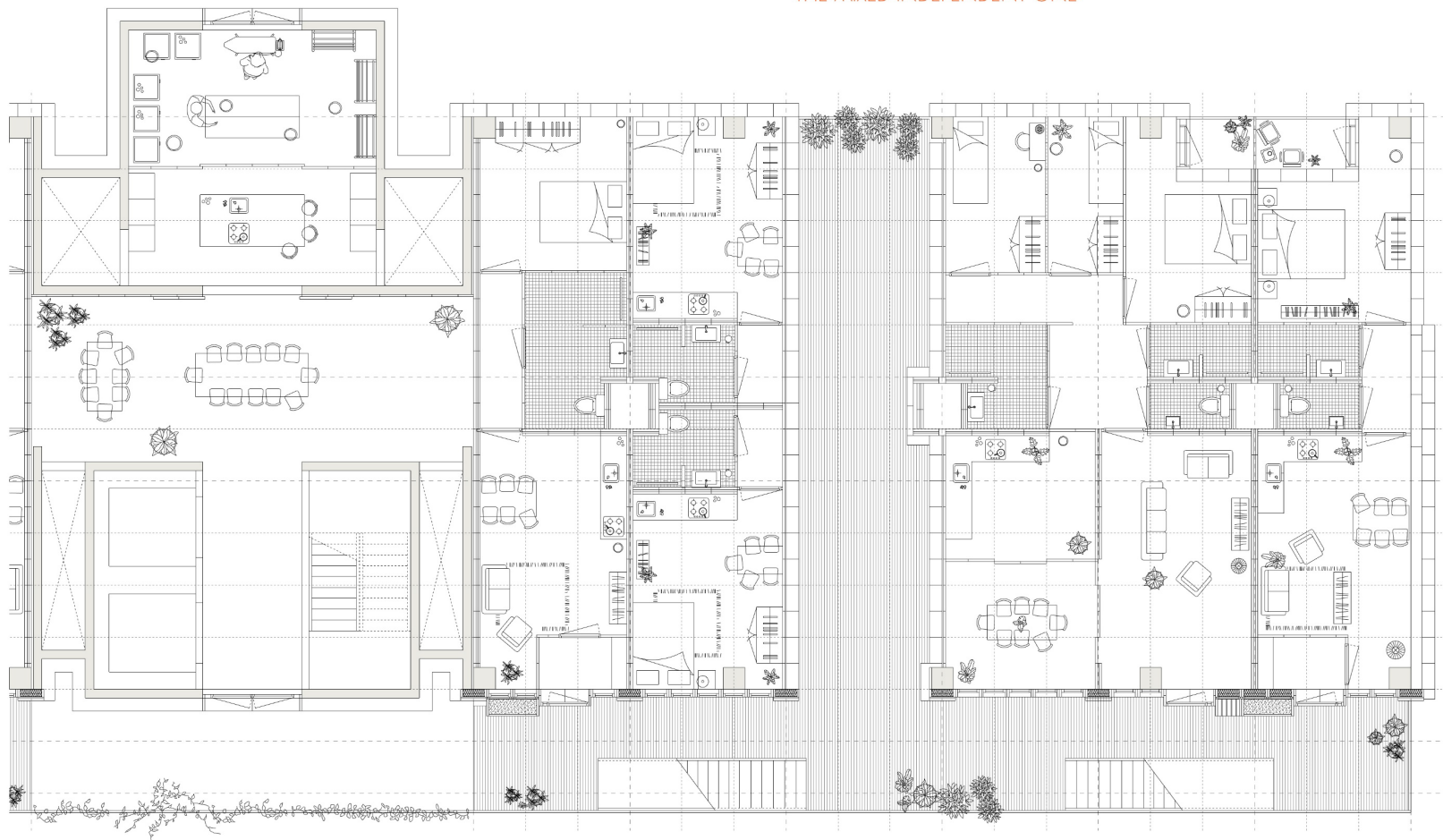


impression

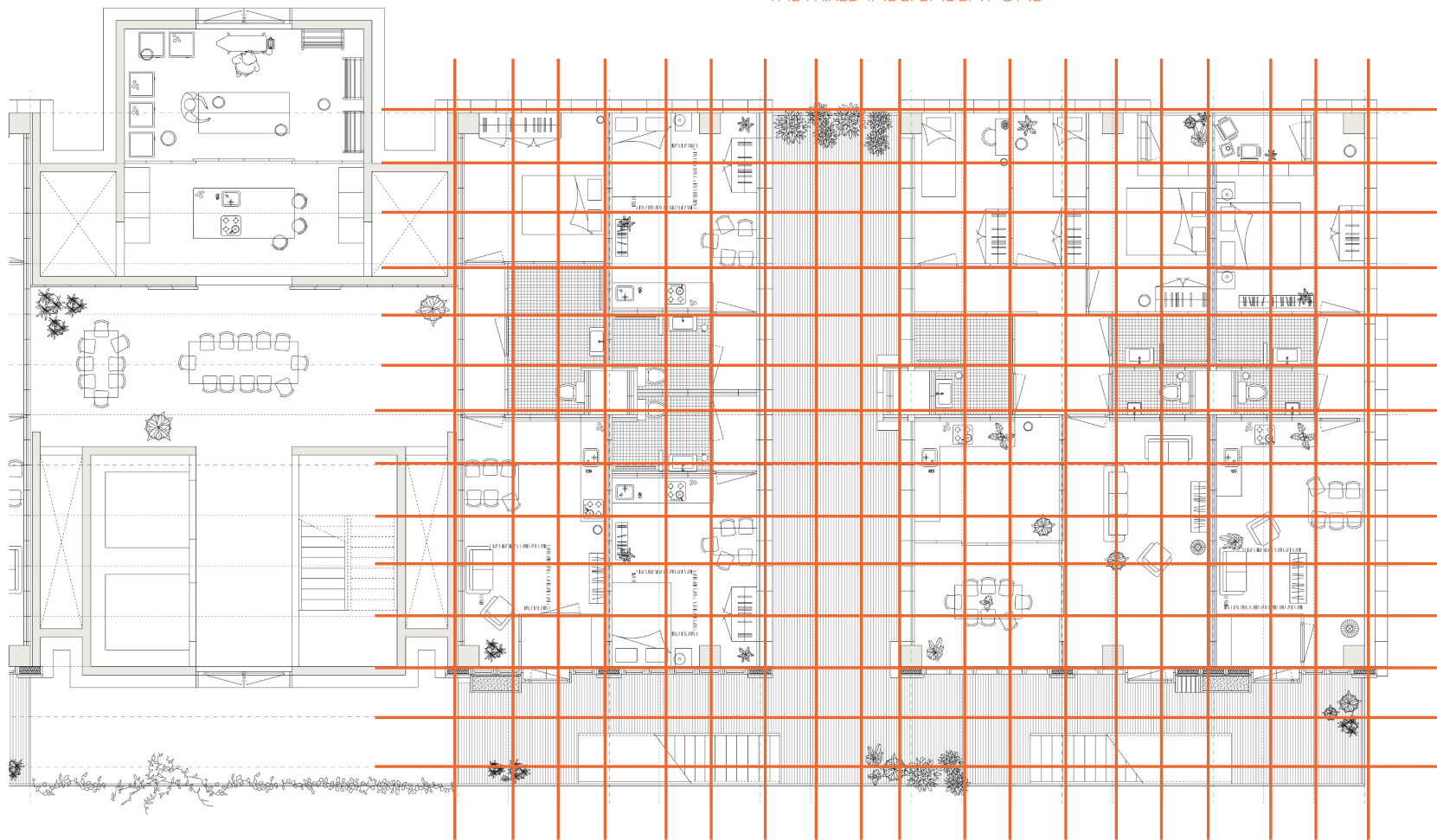




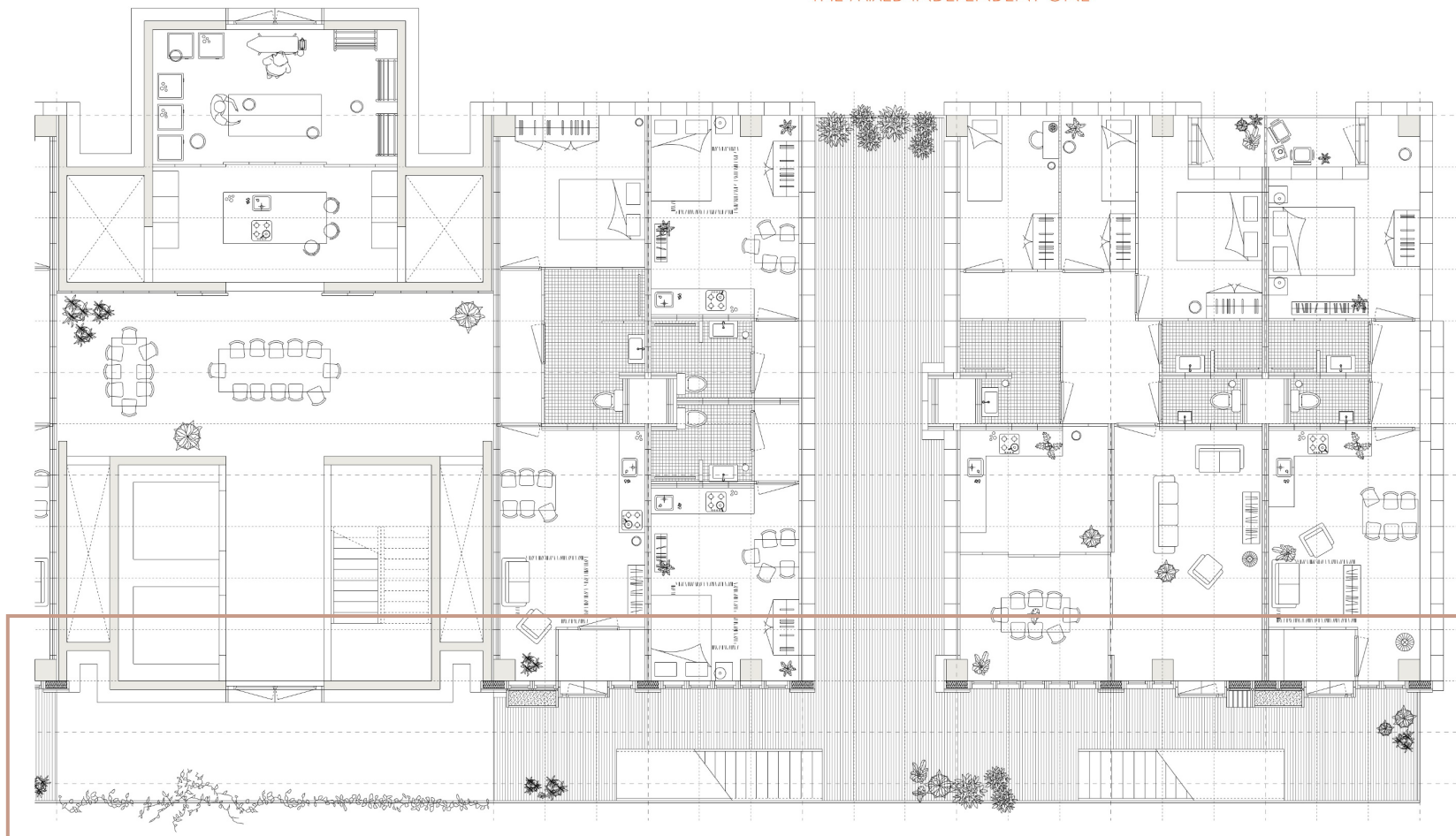
"THE MIXED INDEPENDENT ONE"



"THE MIXED INDEPENDENT ONE"



"THE MIXED INDEPENDENT ONE"

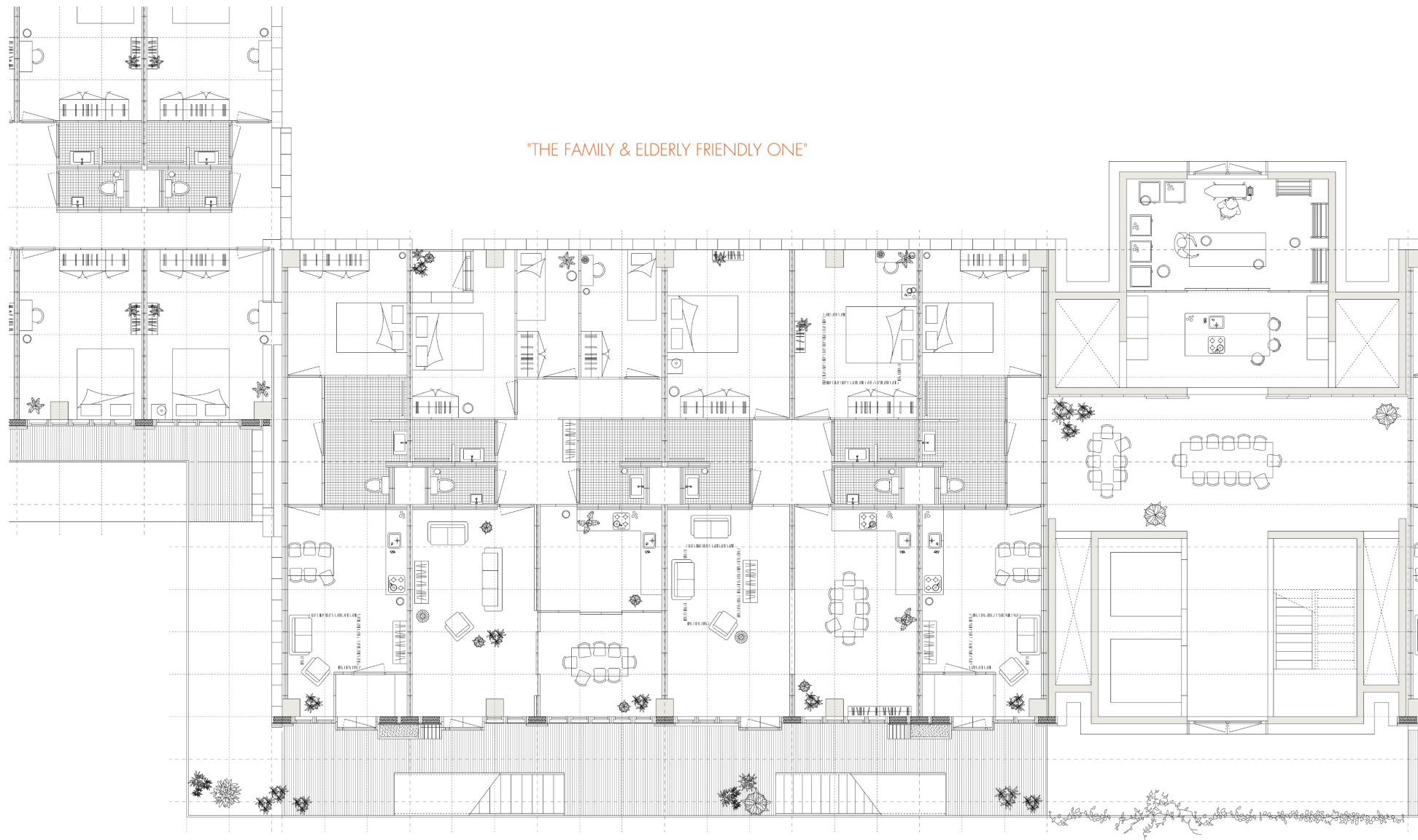


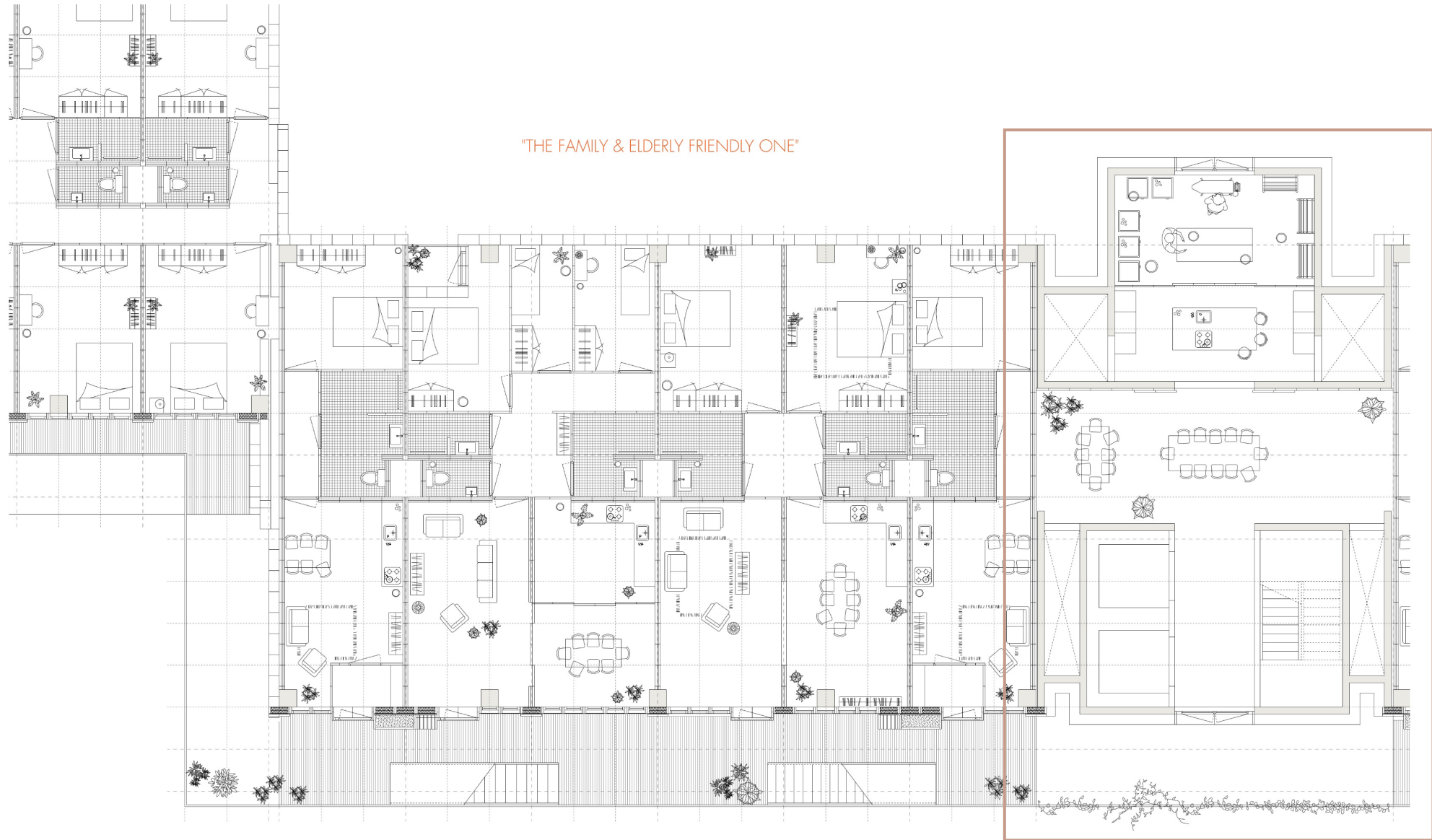


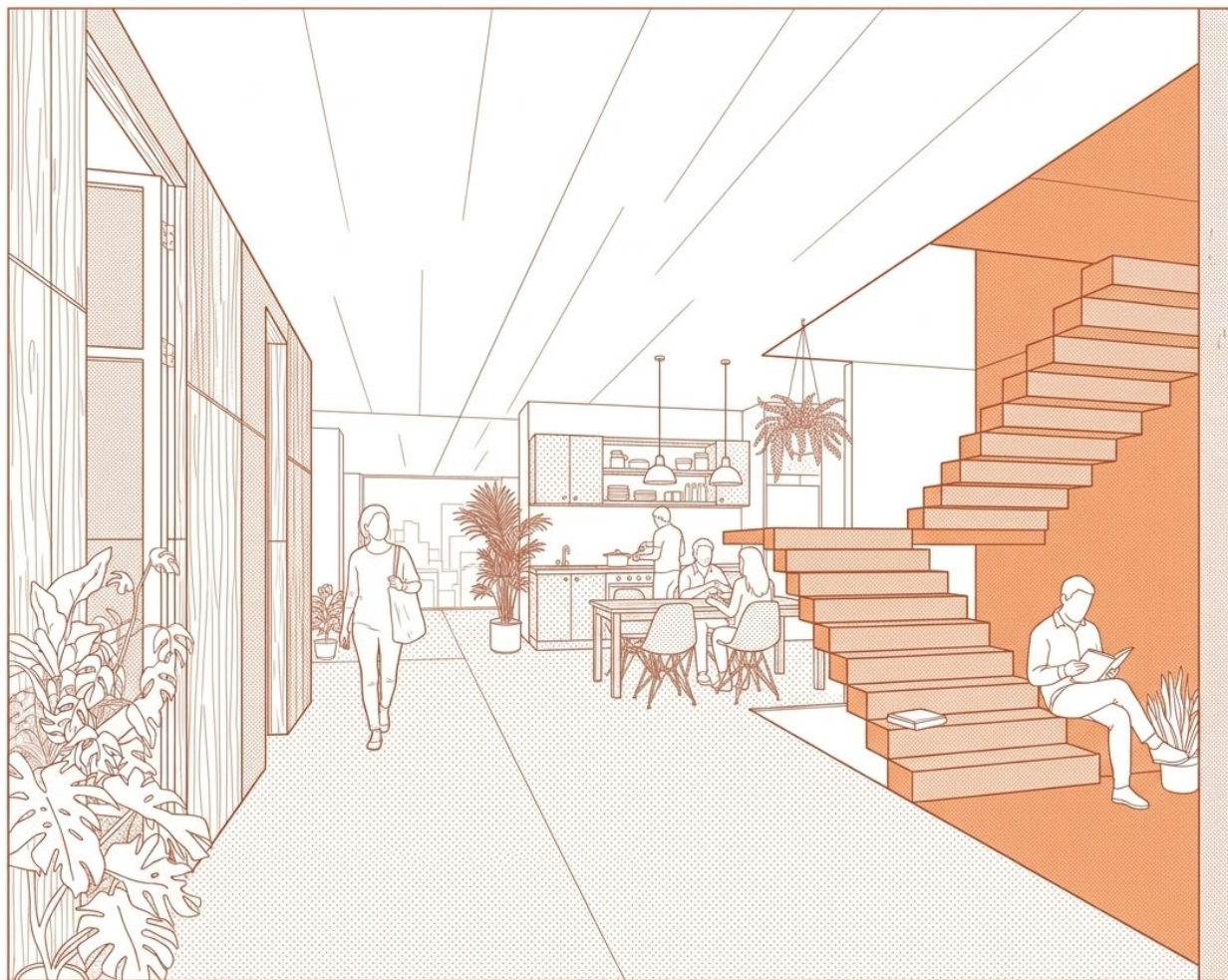


impression

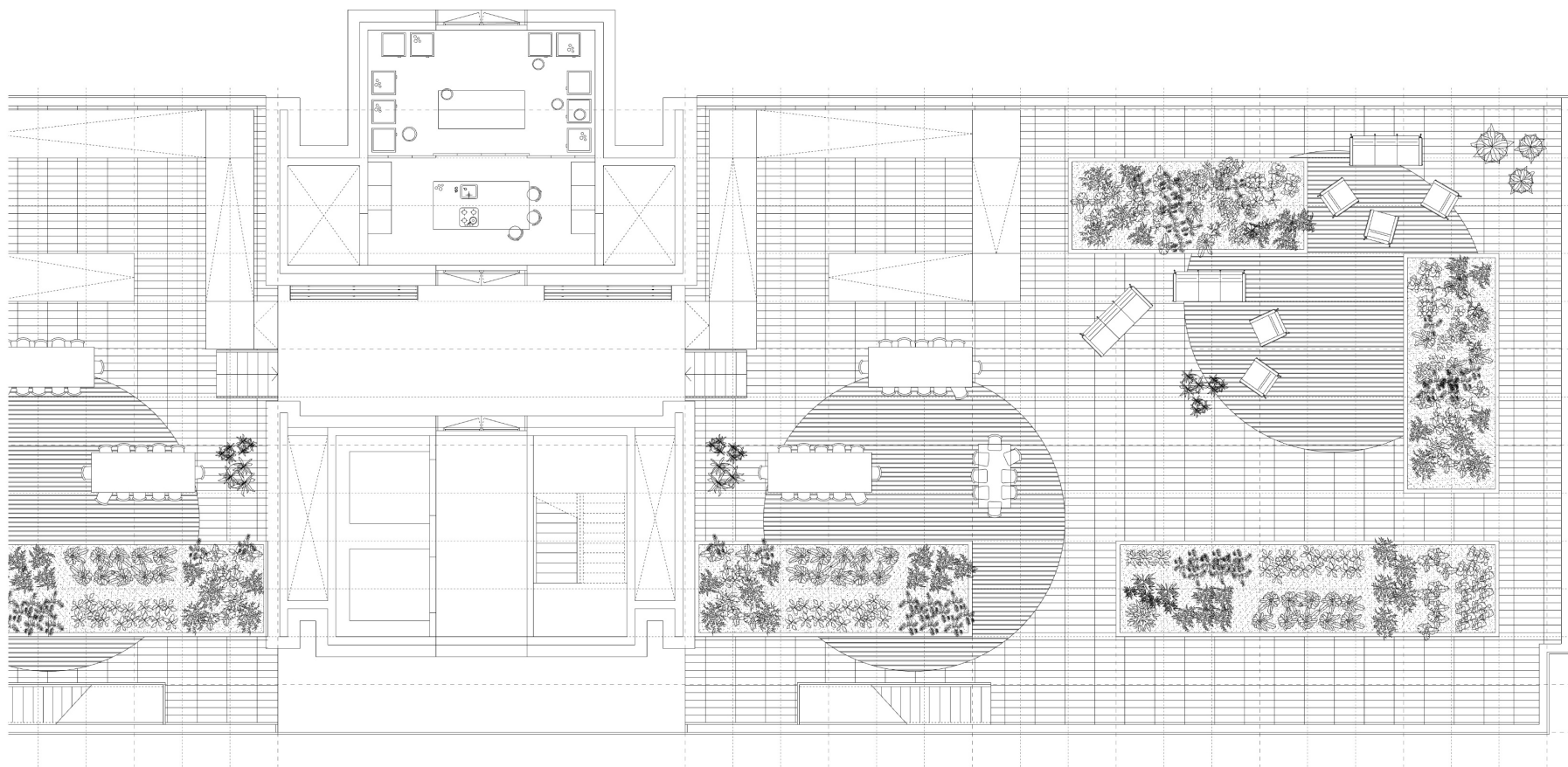






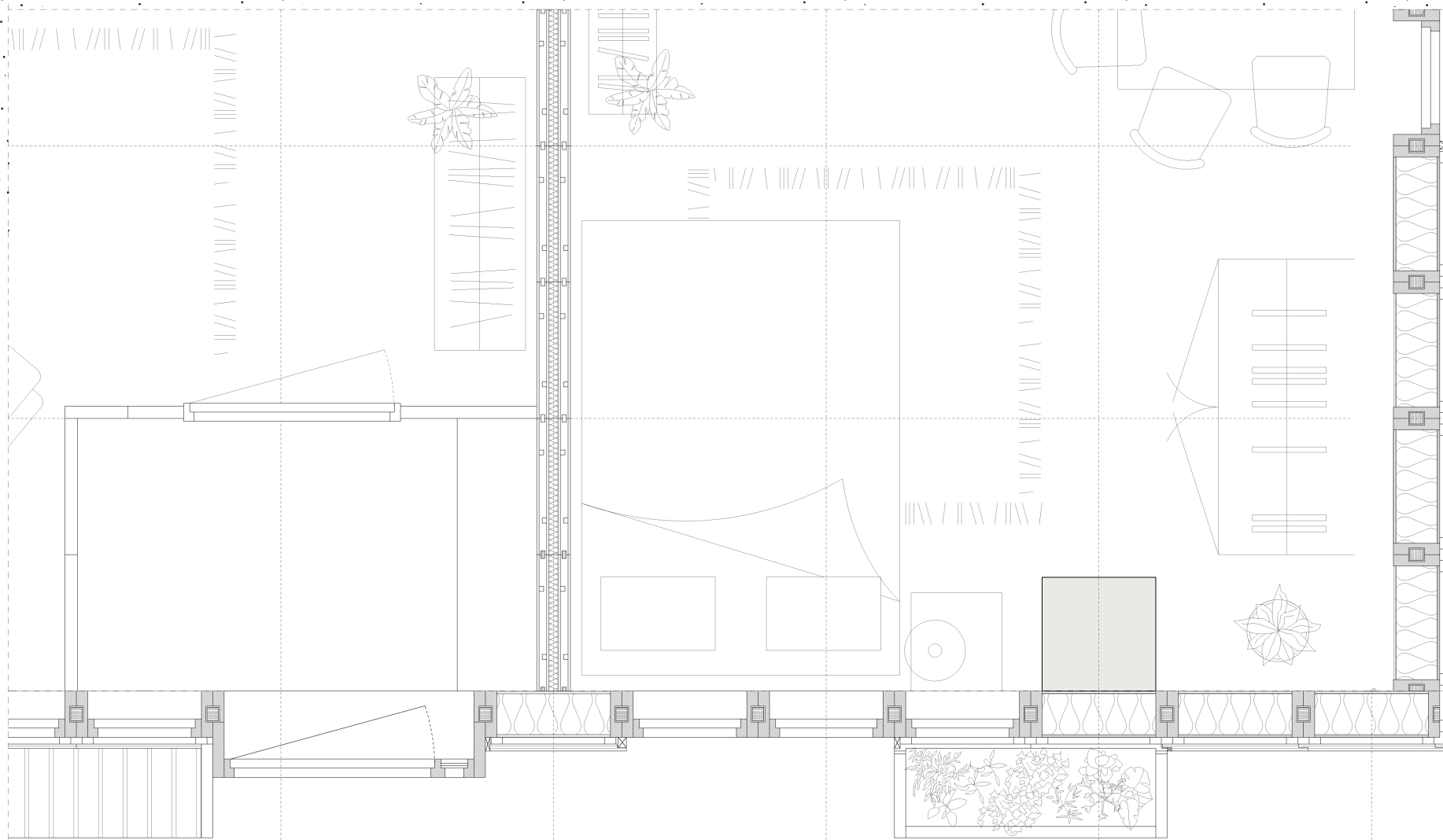


the rooftop terrace

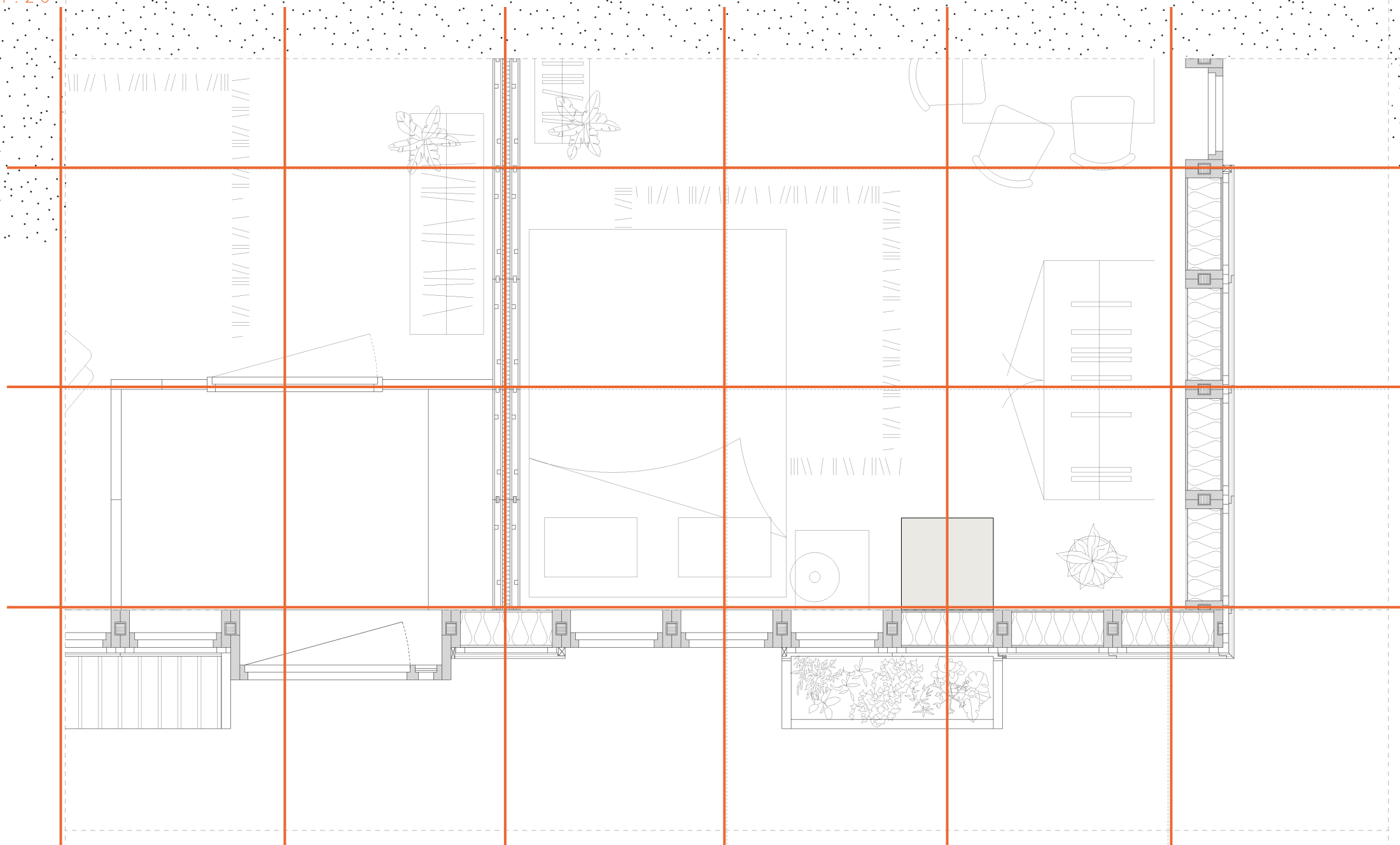


WHAT is the technical
elaboration?

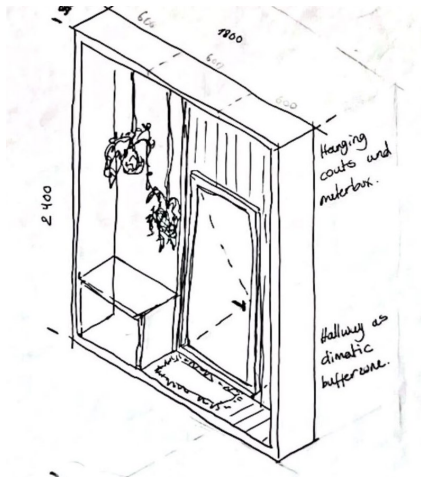
section 1:20



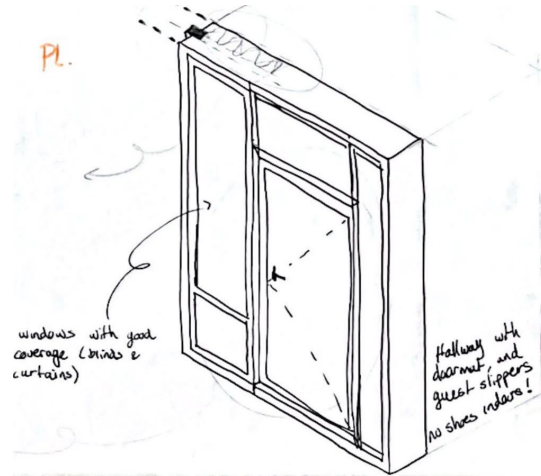
section 1:20



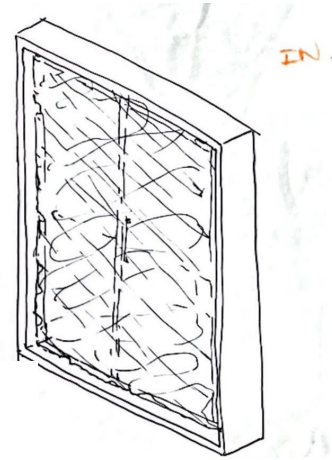
the panels system axonometry



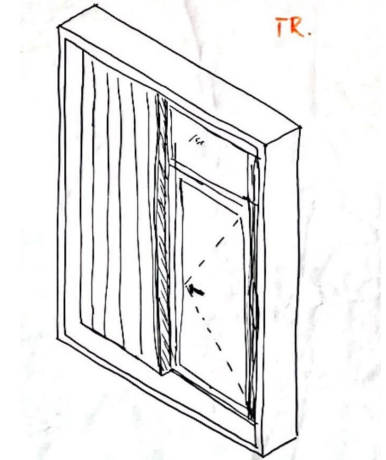
Netherlands



Poland

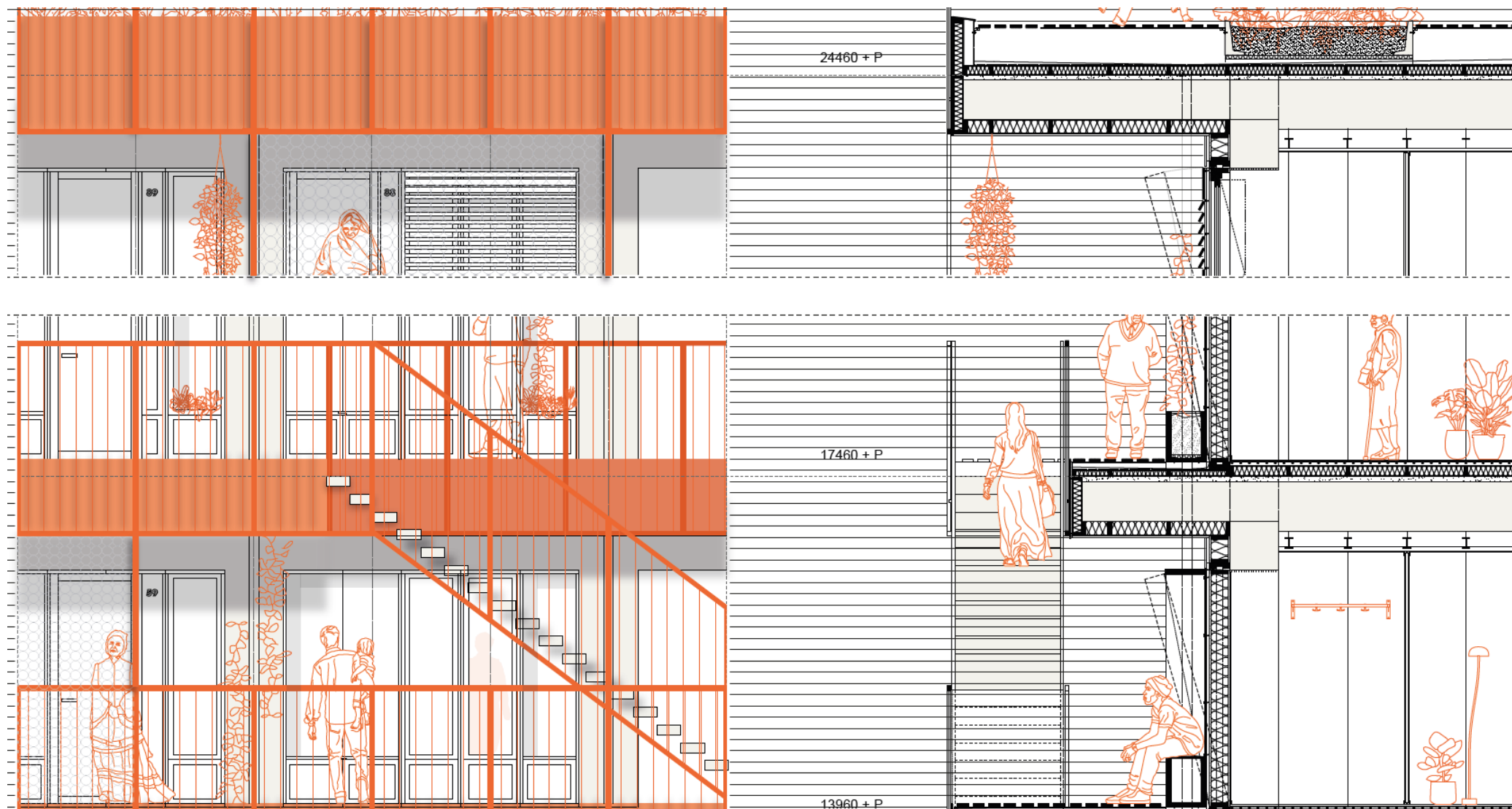


India



Turkey

different layers of privacy



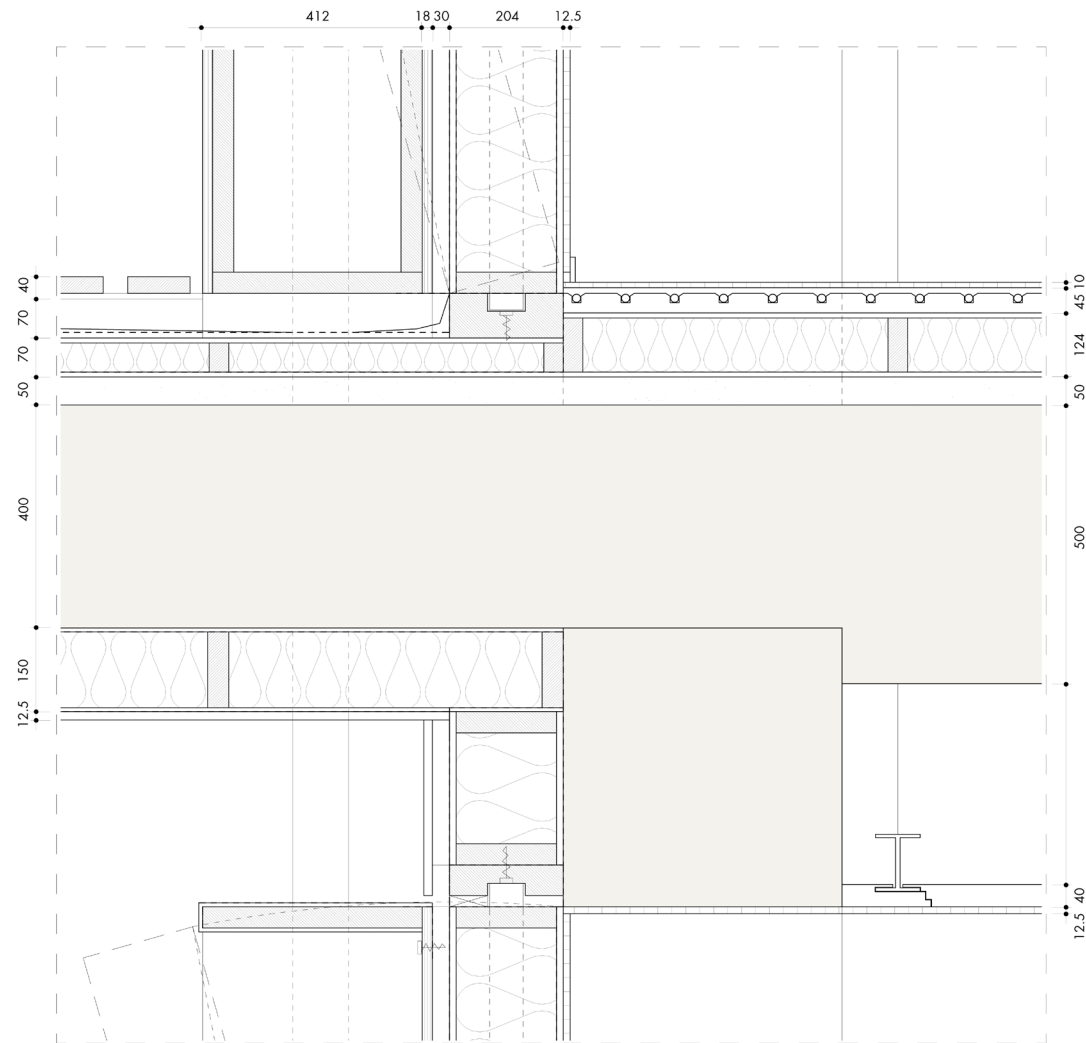
varying facade panels



varying facade panels



floor detail



Vertical Section

scale 1:5

Exterior Floor Construction:

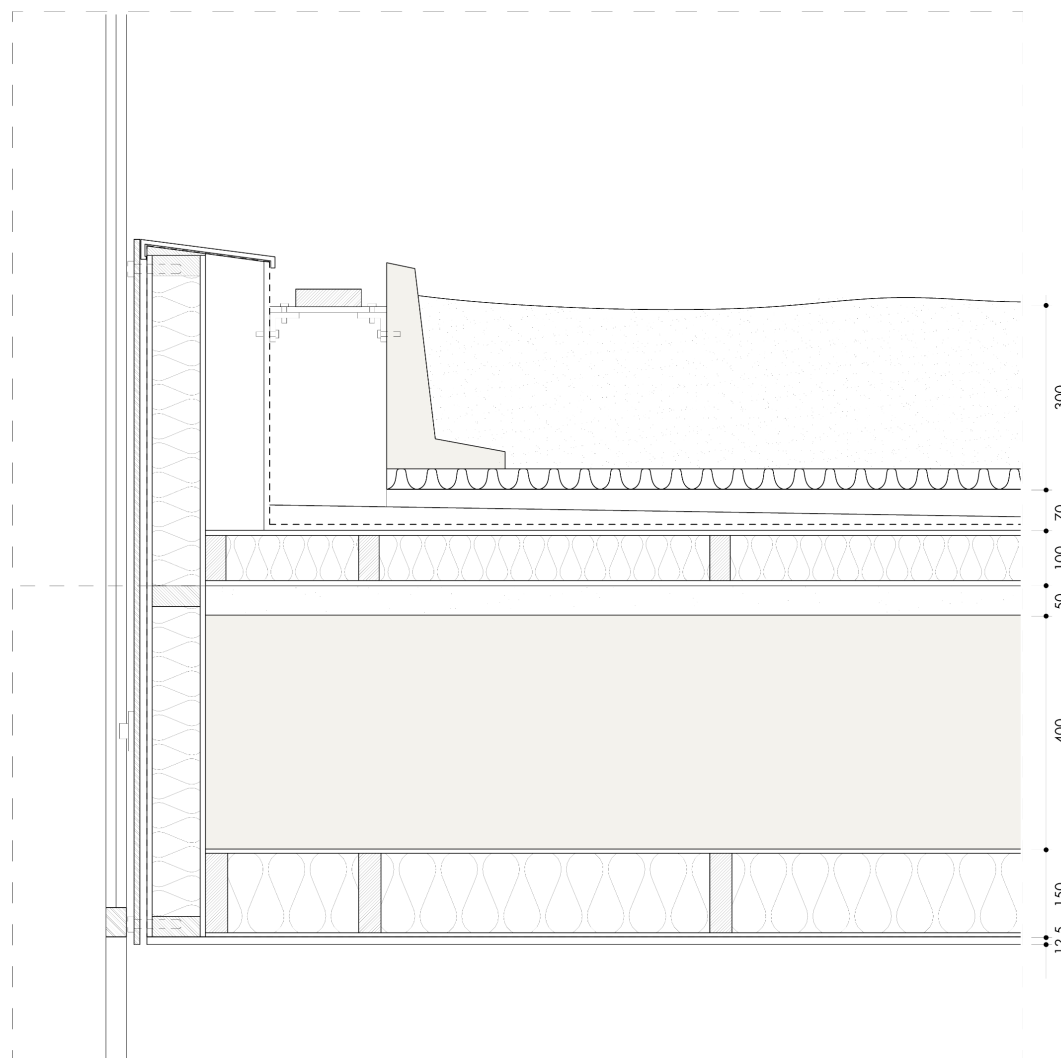
- 40 mm Wooden floors
- 70 mm Rainwater drainage
- 9 mm OSB board
- Watertight layer
- 52 mm Insulated timber frame construction, incl. 52x38 mm wooden beams
- Vapour barrier
- 9 mm OSB board
- 50 mm Screed
- 400 mm Precast concrete TT-floorslabs
- 9 mm OSB board
- Vapour barrier
- 132 mm Insulated timber frame construction, incl. 180x38 mm wooden beams
- Watertight layer
- 9 mm OSB board

Facade Construction:

- 412 mm Facade panel with built-in hardwood bench
- 30 mm Air cavity
- 12 mm OSB board
- Watertight layer
- 180 mm Insulated timber frame construction, incl. 180x38 mm wooden beams and 60x50 mm studs for (de)mountability
- Vapour barrier
- 12 mm OSB board
- 12.5 mm Plasterboard finish

Interior Floor Construction:

- 10 mm Wooden floor finish
- 45 mm Floor heating system
- 12 mm OSB board
- 100 mm Insulated timber frame construction, incl. 100x38 mm wooden beams
- 12 mm OSB board
- 50 mm Screed
- 500 mm Pre-cast concrete TT floor slabs
- 40 mm FAAY modular ceiling system
- 12.5 mm Plasterboard finish

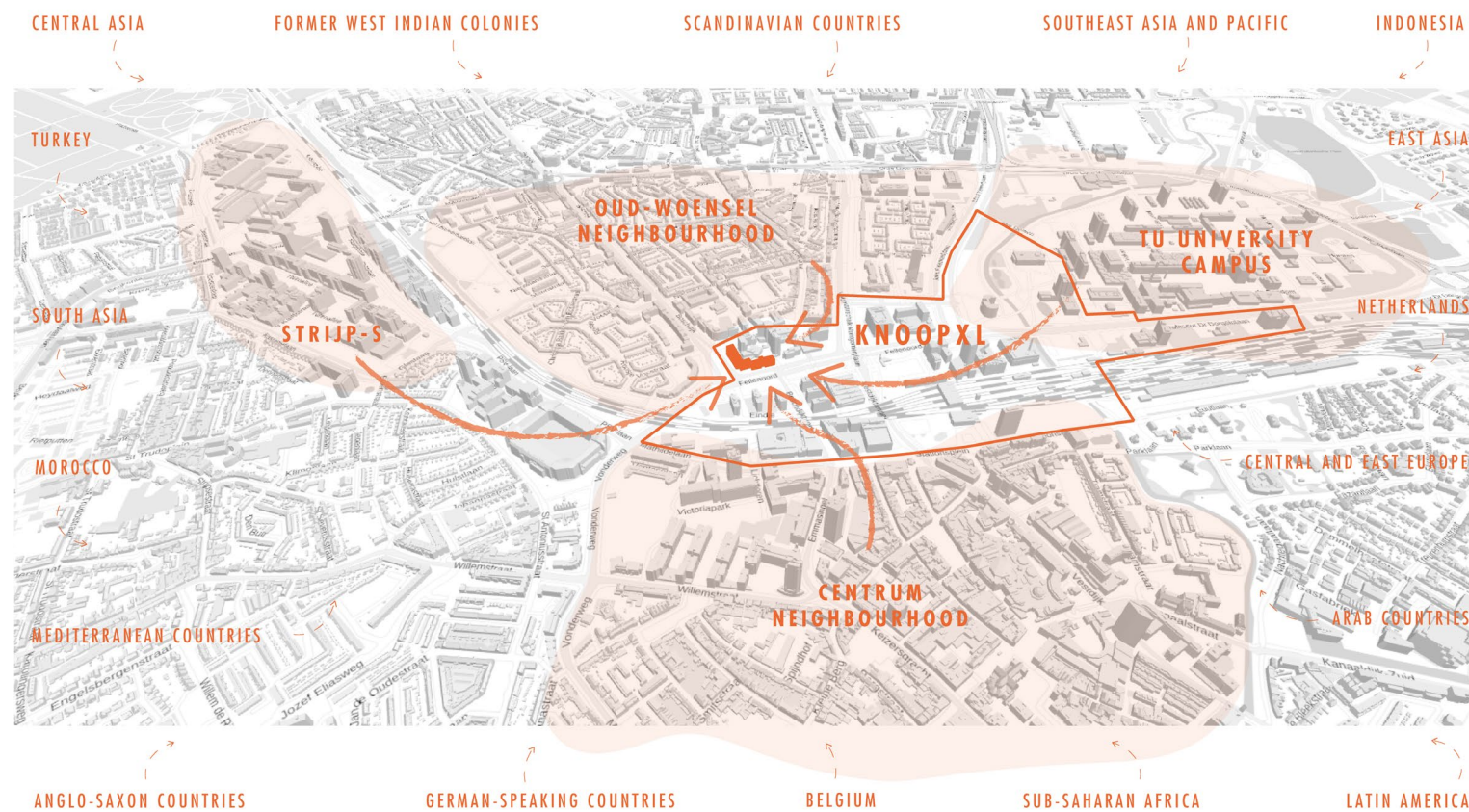


Vertical Section

scale 1:5

- Roof Construction:
- 300 mm Soil for vegetable garden laid on waterproof system
 - 70 mm Rainwater drainage
 - 9 mm OSB board
 - Watertight layer
 - 82 mm Insulated timber frame construction, incl. 82x38 mm wooden beams
 - Vapour barrier
 - 9 mm OSB board
 - 50 mm Screed
 - 400 mm Precast concrete TT-floorslabs
 - 9 mm OSB board
 - Vapour barrier
 - 132 mm Insulated timber frame construction, incl. 132x38 mm wooden beams
 - Watertight layer
 - 9 mm OSB board
 - 12.5 mm Plasterboard finish

reflecting on design



THANK YOU !

