STARTERS IN THE CITY:
A LIVELY AND VIBRANT LIVE-WORK ENVIRONMENT IN THE FUTURE METROPOLITAN AREA OF ROTTERDAM

GRADUATION PRESENTATION
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28 JANUARY 2021
Woningtekort blijft nog tot zeker 2030 groot probleem

De woningnood waar we momenteel in Nederland mee te kampen hebben blijft nog zeker tien jaar duren. In 2030 zijn er nog steeds 200.000 woningen te weinig. Met name in de Randstad blijft de situatie nijpend. Dat blijkt uit onderzoek van AFB Research in opdracht van het ministerie van Binnenlandse Zaken.

Het woningtekort loopt nog veel verder op

ijfers bouw De recente stikstofcrisis zal nog jaren voelbaar zijn in de bouw. De gewenste bouw van 75.000 woningen per jaar blijft uitdaging.
HOUSING SHORTAGE

Bron: Staat van de woningmarkt, ABF Primos
POPULATION

Average Household Size
1950 - 2019

Population
1980 - 2020

Bevolkingsomvang en aantal huishoudens

Index (1980 = 100)

Bron: CBS
1M Homes

Creating 1 million homes

The 1M Homes Initiative is an interdisciplinary platform of research Environment that aims to promote the development of knowledge towards an inclusive, affordable, climate friendly and healthy living environment.

There is an urgent need for affordable housing solutions in the Netherlands before 2030. However, the focus should not only be on producing new dwellings, but rather on creating homes and neighbourhoods that meet the needs of the future population. In urban regions, housing production lags behind and real estate prices are growing, resulting in a shortage of affordable homes, especially for starters. Moreover, changes in the housing provision have led to a lack of affordable homes in non-urban regions as well.

In response to these challenges, the 1M Homes Initiative brings together experts from various fields to ensure a coherent vision across scales and disciplines. Social, economic, geographical, technological and environmental aspects are equally important. Through living labs we conduct live scale projects and experiments in cooperation between researchers, educators, the public sector, housing associations and society.

Latest articles
Tekort aan woningen in de regio wordt alleen maar groter: jongeren de dupe


Aandacht voor specifieke groepen (starters, middeninkomens) en kwetsbare doelgroepen


Source: Rijksoverheid
ZUIDVLEUGEL REGION

Just graduated starters want to live here

230,000 homes before 2030

Keep the ‘young potentials’ in the city after graduation
RESEARCH:

How to create a building block that perfectly meets the requirements and wishes of the young graduated starter?
STARTERS

KNOWLEDGE WORKERS

- JUST GRADUATED
- HIGH EDUCATED
- UNCERTAIN JOB
- INCOME TOO HIGH FOR SOCIAL RENT
- INCOME TOO LOW FOR THE FREE MARKET
- NEED TO LIVE IN THE CITY FOR WORK AND NETWORK

YOUNG SINGLES

YOUNG COUPLES

YOUNG EXPATS
PREFERENCES

SINGLES (23-28)
- Rent
- Uncertain Future
- Location is the most important
- Around City Center
- Studio/Apartment
- 1/2 Rooms
- 40-70 m²
- ± €700,- Incl.

YOUNG COUPLES (28-35)
- Rent/Buy
- Ensured Job
- Location is still important
- Size of the house is important
- Around City Center
- Apartment
- 2/3 Rooms
- 80-100 m²
- > €1000,- Excl.

EXPATS (25-30)
- Rent
- ‘Short Stay’
- Location is the most important
- Preference for Furnished Room
- Studio/Apartment
- 1/2 Rooms
- Price is less important

LIVE
- Living urban environment with various types of building and population
- Green Neighbourhood
- Studio / Small Apartment
- The city as an extension of the house
- Small private outdoor space

WORK
- Large international offices
- Technical startups
- University Campus

SERVICES
- Shared Facilities
- Urban Facilities on walking/biking distance
- Good Connection to Public Transport
- Close to the city center
- ‘Urban Living Rooms’ Like a coffeebar
COLLECTIVITY

1. Shared staircase or hallway.
2. Meeting elements in the hall.
4. Shared facilities.
5. Shared living elements.
URBAN PLAN

Keep the old characteristic buildings and form new buildings around them.

Create small squares inside the block to keep the coziness of the current area alive.

Create landmarks at the end of every street.

The building height at the park side is based on the height of the soundproof building.

The building line at the park side is based on the keepsed buildings.

The facades at the park side are all the same height and oriented to the park (South-East).
URBAN BLOCK

Building blocks
- Plint height 6 meter
- 4 Layers on top
- Monotony and Unity

The Towers
- 8-12 Floors Heigh
- Need to be visible from the ground floor of the Ferrodome

Kept Structures
- Original character and structure are kept. Only minor refurbishments and interventions

Viehovenstraat
- 12-20 floor (40-60m)
- 1st floor at 6 meters from ground plane
- 4 story building per block
- Facade on lower side max height of 18 m

Kellingweg
- 6 floors (14-16m)
- 1st floor at 6 meters from ground plane
- high monotony and unity

Benjamin Franklinstraat
- 4 floors
- 1st floor at 6 meters from ground plane
- high monotony and unity

Park
- 4 or 5 floor (16-18 m)
- 1st floor at 6 meters from ground plane
- high monotony and unity

Street width is 7.9 m
DESIGN:
STARTING POINT

AFFORDABLE

COLLECTIVITY

SUSTAINABILITY

LIVE-WORK ENVIRONMENT

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CONTEXT
RESEARCH
DESIGN
REFLECTION
CONCEPT

Low Rise
4-6 Floors
Studios
Apartments
Corridor Access
Elevator and Stairs

High Rise
13 Floors
Apartments
Core Access
Elevator and Stairs

Makers
6 Meter plinth height
2 Floors above
Workshop and offices
Glass Facade
CONCEPT
SUSTAINABILITY

BENG
‘Bijne Energie Neutraal Gebouw’

LOW IN ENERGY

SELF-SUFFICIENT

RENEWABLE MATERIALS

SMALL DWELLINGS

GREEN ROOF

SOLAR PANELS

HEATING PUMP
CLT

- LESS CO₂
- RENEWABLE MATERIAL
- LIGHT WEIGHT
- FASTER CONSTRUCTION
- PREFABRICATION
- FIRE RESISTANT
- GOOD INSULATION
- LESS WASTE
CLT

Bouwen in CLT: duurzaam en circulair - © Waugh Thistleton Architects
CONSTRUCTION
HEATING PUMP
SOLAR PANELS

ENERGY BY SOLAR PANELS

- Southwest Facade
- Southeast Facade

By using solar panels most of the needed energy for the building is produced on a natural way. The panels are integrated in the facade, which gives the facade a modern appearance.

TOWER
LOWRISE
880 x 2600
216 x 2.288

ROOF

TOTAL
OUTPUT / M²
116 x
100 x
2.288 m²
494 m²
1100 m²
1594 m²

OUTPUT / M²
150 kWh

TOTAL OUTPUT
239,100 kWh/J
FAÇADE MATERIAL
Rockpanel

- Secondary raw materials
- Recycled content from other industries
- Natural basalt
  Solidified lava from a volcano
- Recycled used stone wool products
- Recycled stone wool
  Recycled stone wool waste from own production process

- High-density Rockpanel board
  - Fire resilient
  - Light weight
  - Easy to install
  - Recyclable

- Coating
  - Unlimited design options
  - High durability
  - Low maintenance

STEP 1
Producing stone wool fibres

STEP 2
Pressing the boards

STEP 3
Coating the boards
FAÇADE MATERIAL

Rockpanel

- Fire Resistant Material
- Flexible Material
- Natural Material
- Environmentally Friendly
- Durable Material
- High Self-Cleaning Ability
- 100% Recyclable
- Heated on 1500 C
- Endless Colour Possibilities
FAÇADE ELEMENTS
ASSEMBLY
DETAIL
WORK SPACE
Ground Floor

STORAGE BOXES
Ground Floor

COFFEEBAR
Ground Floor

BICYCLE STORAGE
Ground Floor

ELEVATORS
Ground Floor

ENTRANCE
Ground Floor
ENTRANCE
COLLECTIVE SPACES

WORK SPACE
Third Floor

CORRIDOR
Every Floor

WASHING ROOM
Every Floor

COLLECTIVE SPACE
Fourth Floor

ROOF GARDEN
Fourth Floor

ATRIUM
Every Floor
LAUNDRY ROOM
Every Lower Floor
COLLECTIVE ‘LIVING ROOM’
COLLECTIVE ROOF TERRACE
ATRIUM
ROOF GARDEN
LAYOUT

- WASH
- SLEEP
- EAT
- LIVE

FUNCTIONS

- PRIVATE

PRIVATE

- SUNLIGHT

SUNLIGHT

- PUBLIC

PUBLIC

- 0%
- 25%
- 50%
- 75%
- 100%

VENTILATION

- 0%
- 25%
- 50%
- 75%
- 100%

FUNCTIONS
VENTILATION

TOILET
BATHROOM
KITCHEN

7 dm³/s
14 dm³/s
21 dm³/s

42 dm³/s

MINIMUM

46 m² x 0.9 = 41.58 dm³/s

PREHEATED AIR

CLIMATOP 60

12 dm³/s/m

DOORWIDTH

3.5 meter

3.5 x 12 = 42 dm³/s
APARTMENT
APARTMENT
Dwellings:

67 Studios

147 Apartments

Collective Facilities

1000m² Workshop Space

1500m² Offices

1594m² Solar Panels

800m² Green Roof

Woolen Construction

Good Insulated

Heating Pump

Solar Panels

Recyclable Façade

Coffee Bar

Bicycle Storage
REFLECTION:
'A dense residential building, which meets the requirements of the graduated starter, and facilitates a Lively and vibrant live-work environment'