LITTLE AMSTERDAM

AMSTERDAM 2020

Future House

Land Scarcity
Retrofitting

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*“Welcome to your **Little Amsterdam** where young people can settle, share spaces and be together whenever they want in a co-living community.*

Imagine living in a space which becomes flexible and where most organic matters are produced locally. This new hamlet is defined in real time by digital technology, so everyone has the impression they live in a bigger space.”

Land Scarcity

A country which is **geographically small** but has a **real potencial growth**



Agricultural Rural Seasonal Urban Forest

Due to BREXIT Amsterdam is the **new center of Europe**

4th richest population of the world due to **agriculture**

Leaders in **agricultural** innovations

Most **densely populated** country of the EU

World’s largest **exporter of food** products

Reduction in **Agricultural land** percentage from **68.5%** in 1961 to **53.3%** in 2016 due to a urban sprawl.

“Little Amsterdam” tries to reuse the same land to occupy more space while incorporating both lands efficiently and shaping it interactively and therefore preserving the other types of Land.

Site Analysis



2.25 km
Central station to NDSM

15 min
Traveltime with free boat

5 min
Highway to site





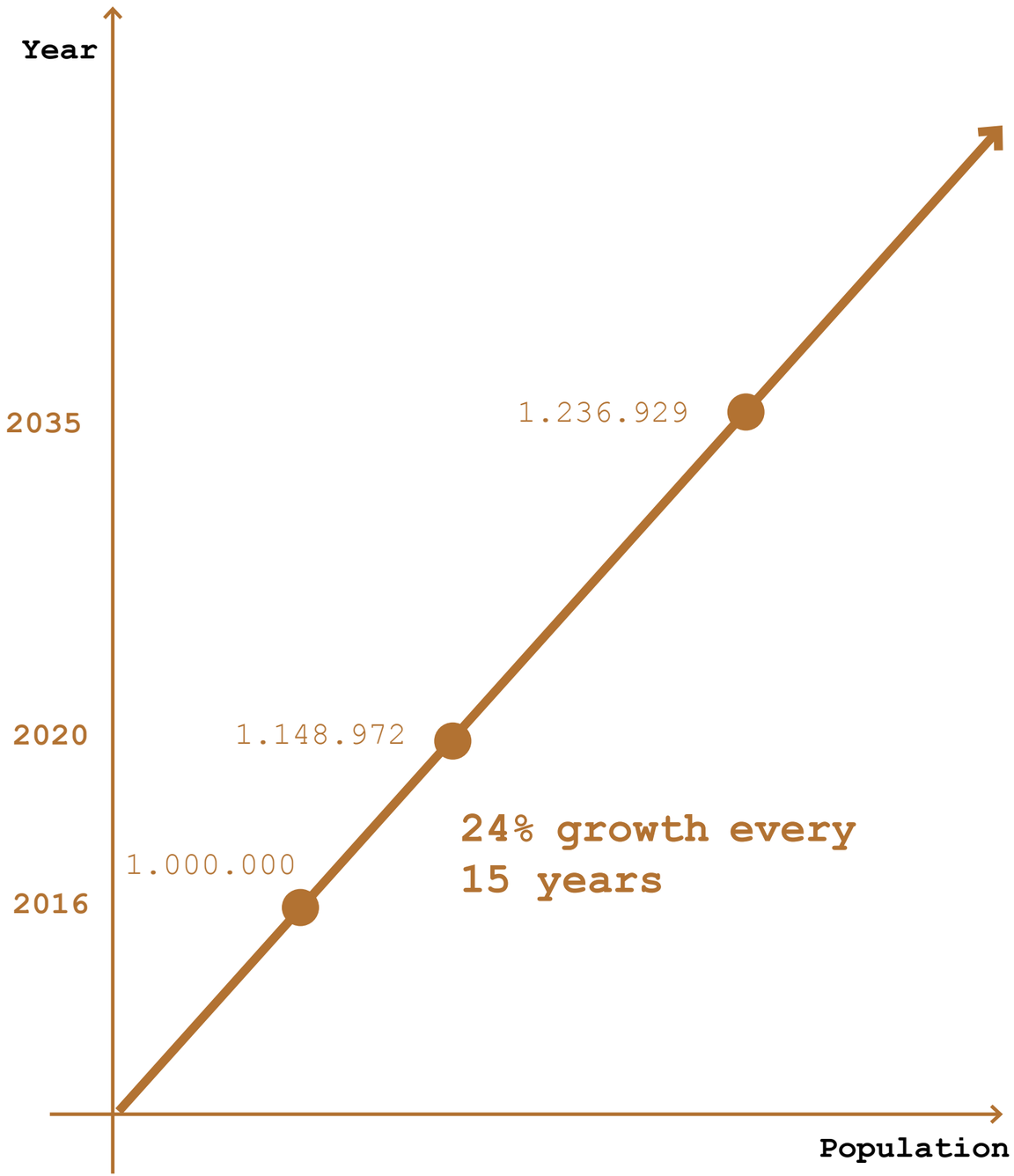
Warehouse
160x130x28m
2080 m^2

Amsterdam
T.T. Neveritaweg 15
1033 WB



An industrial warehouse built in 1919/1920 the NDSM yard is now used as a **urban space** for festivals and contains trendy restaurants, ateliers and pop ups.

Client





IMMIGRANTS

48.3%

- Have a flexible place to move upon arrival in the country - 1 month notice
- Provide economical support



UNEMPLOYED

7.9%

- Can work as farmers of the community/ urban farming



FREELANCERS

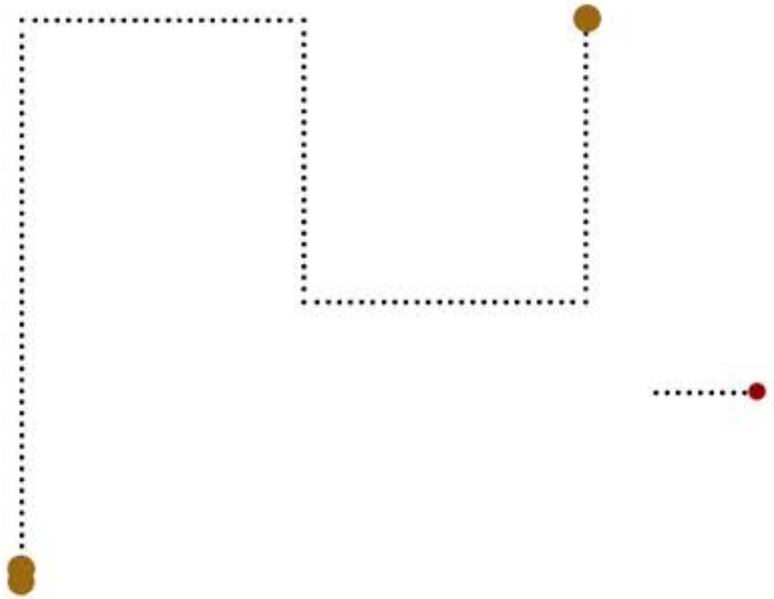
~1 million

- Usages co living workspaces
- Provide economical support

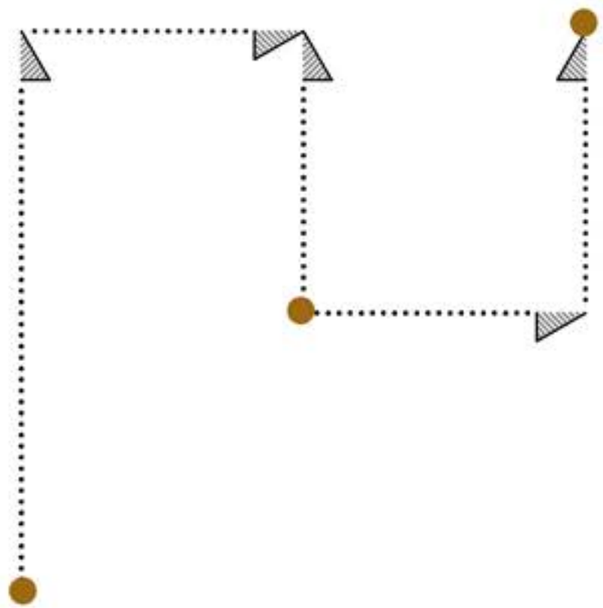


Concept

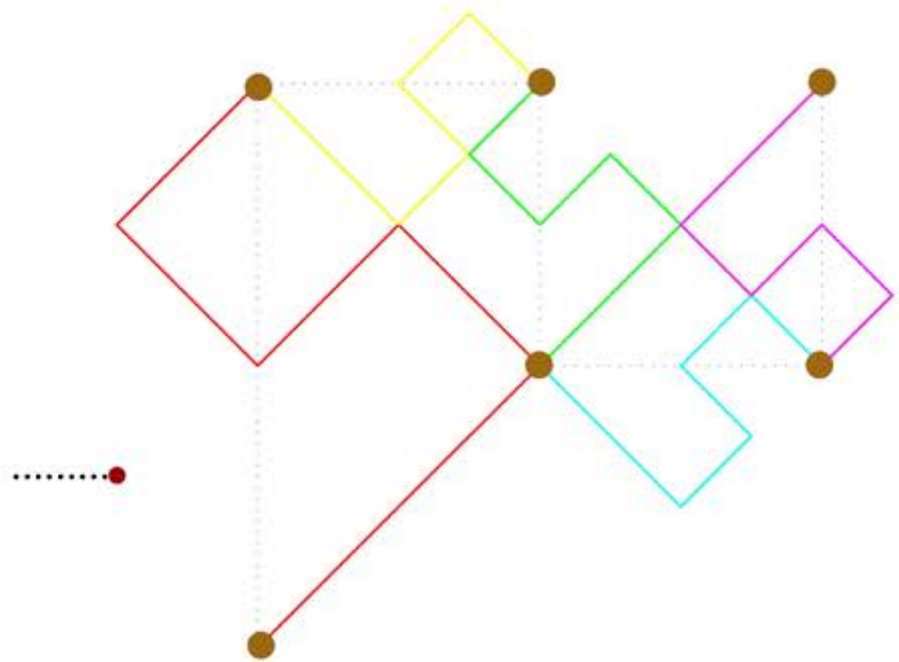
ROOT 8 CURVE GEOMETRY EVOLUTION



CURVE



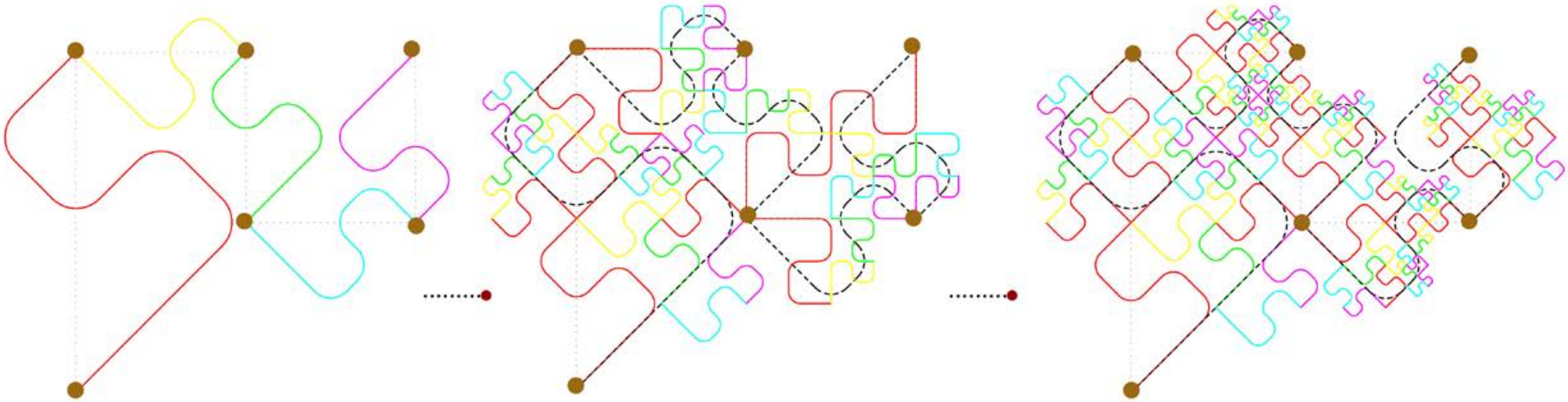
DIRECTION



ITERATION

Concept

ROOT 8 CURVE GEOMETRY EVOLUTION

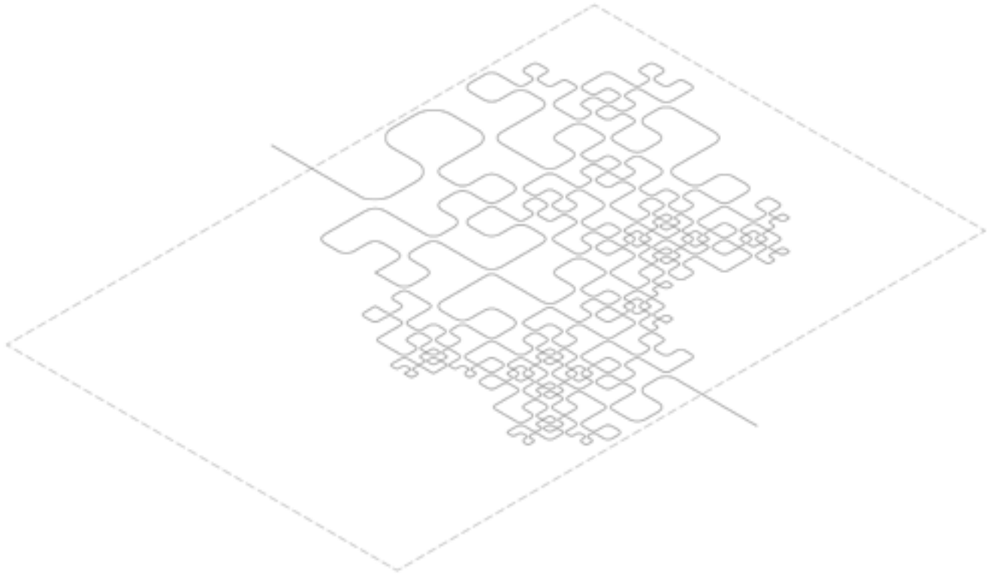


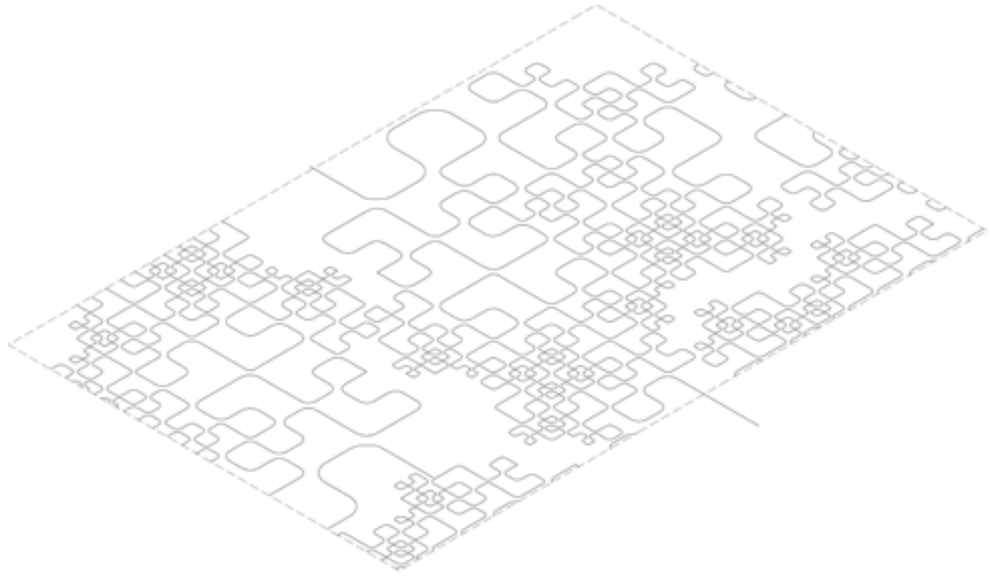
SOFTEN EDGES ACCORDING TO THE CLUSTER

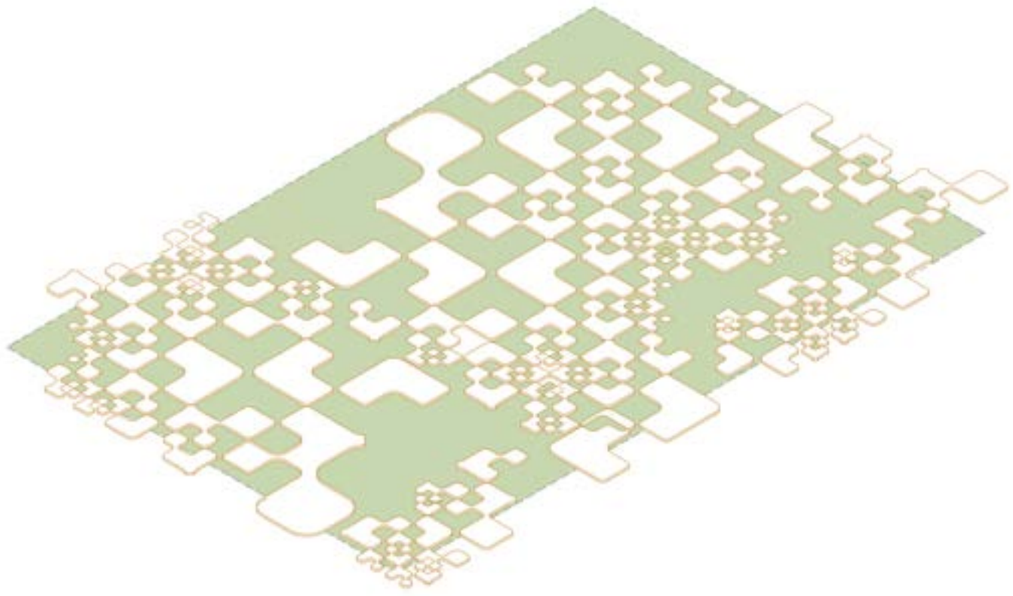
FULL PATTERN

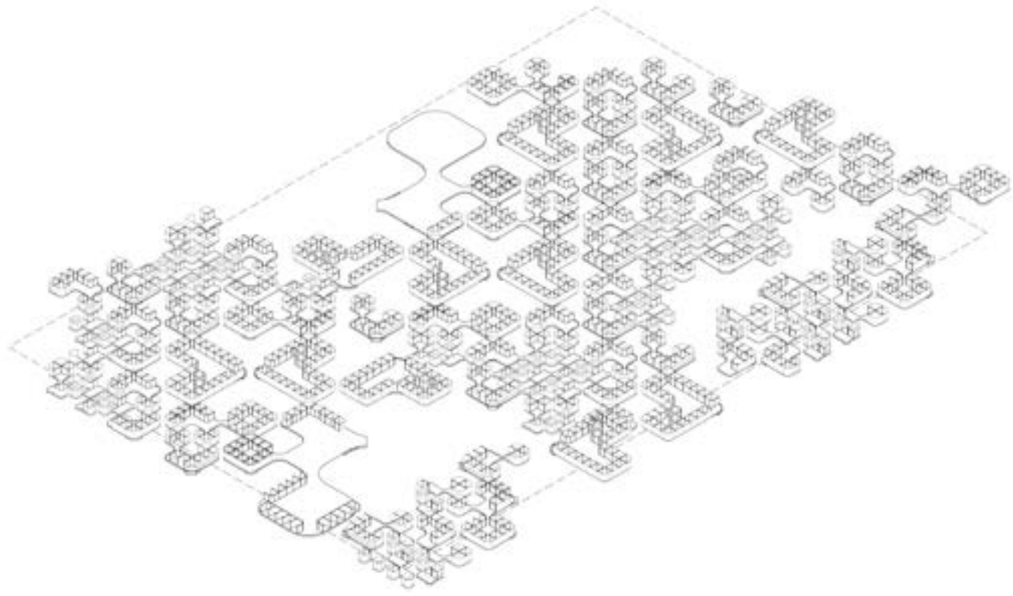
Layout

FORM EVOLUTION



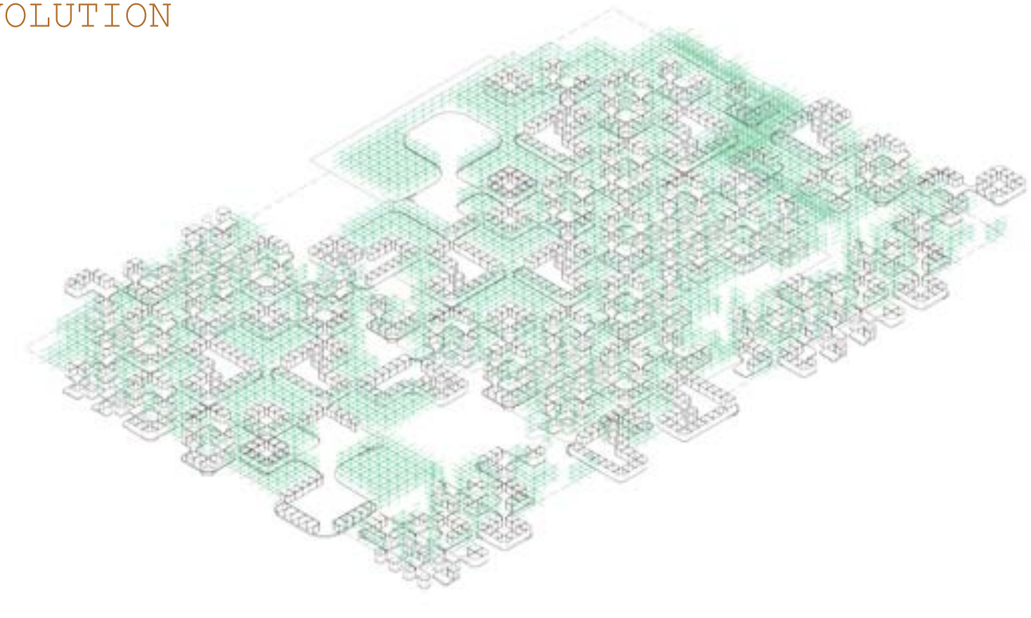


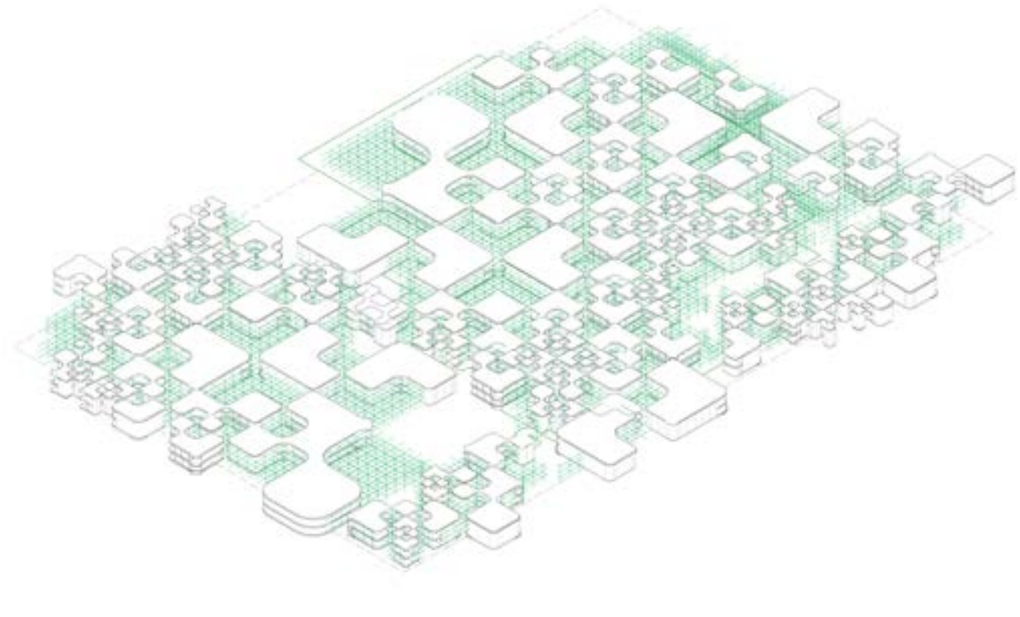


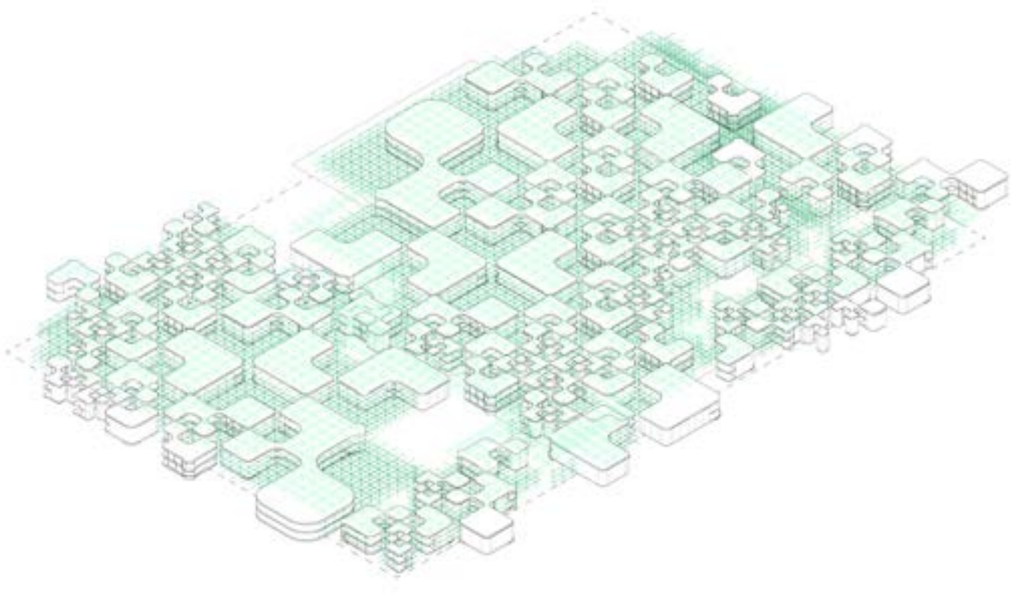


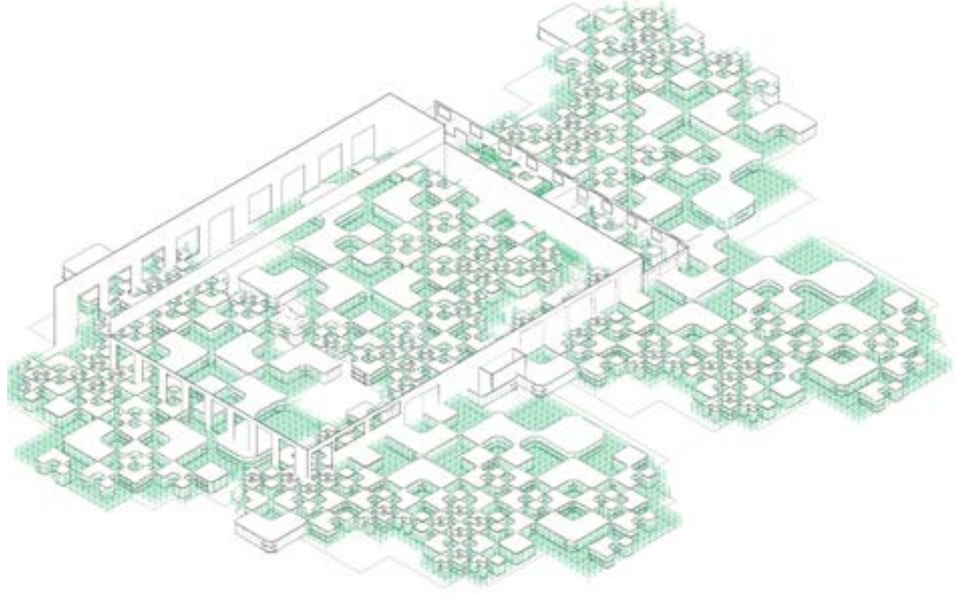
Layout

FORM EVOLUTION

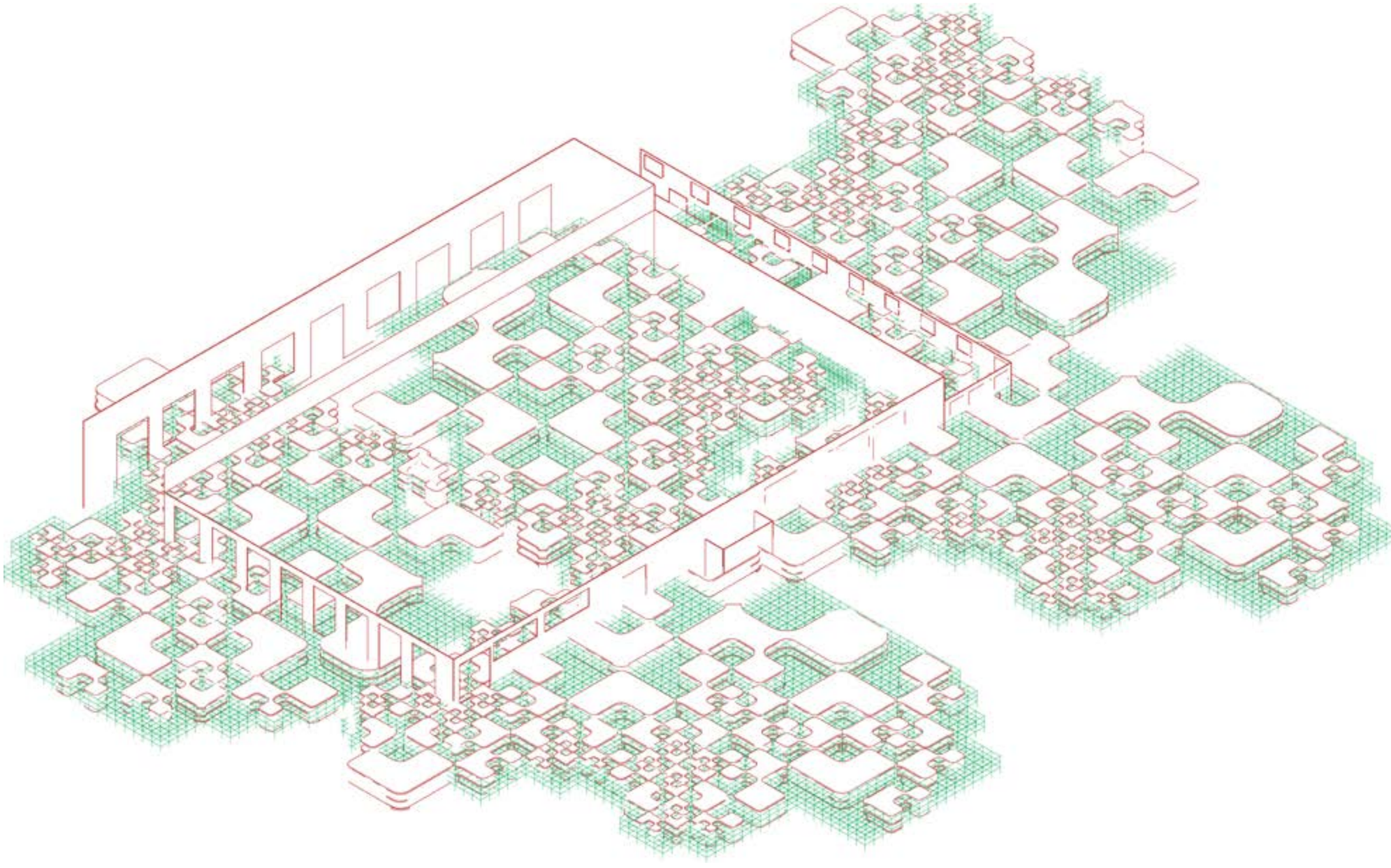








Final Layout





Amount of capsules: **1740**

Growth of 24% based on 15 years: **435 capsules total**
29 capsules a year
Growth able for a maximum of **60 years: 3480 capsules**



Capsules are produced in-house by **3D printers and robots**

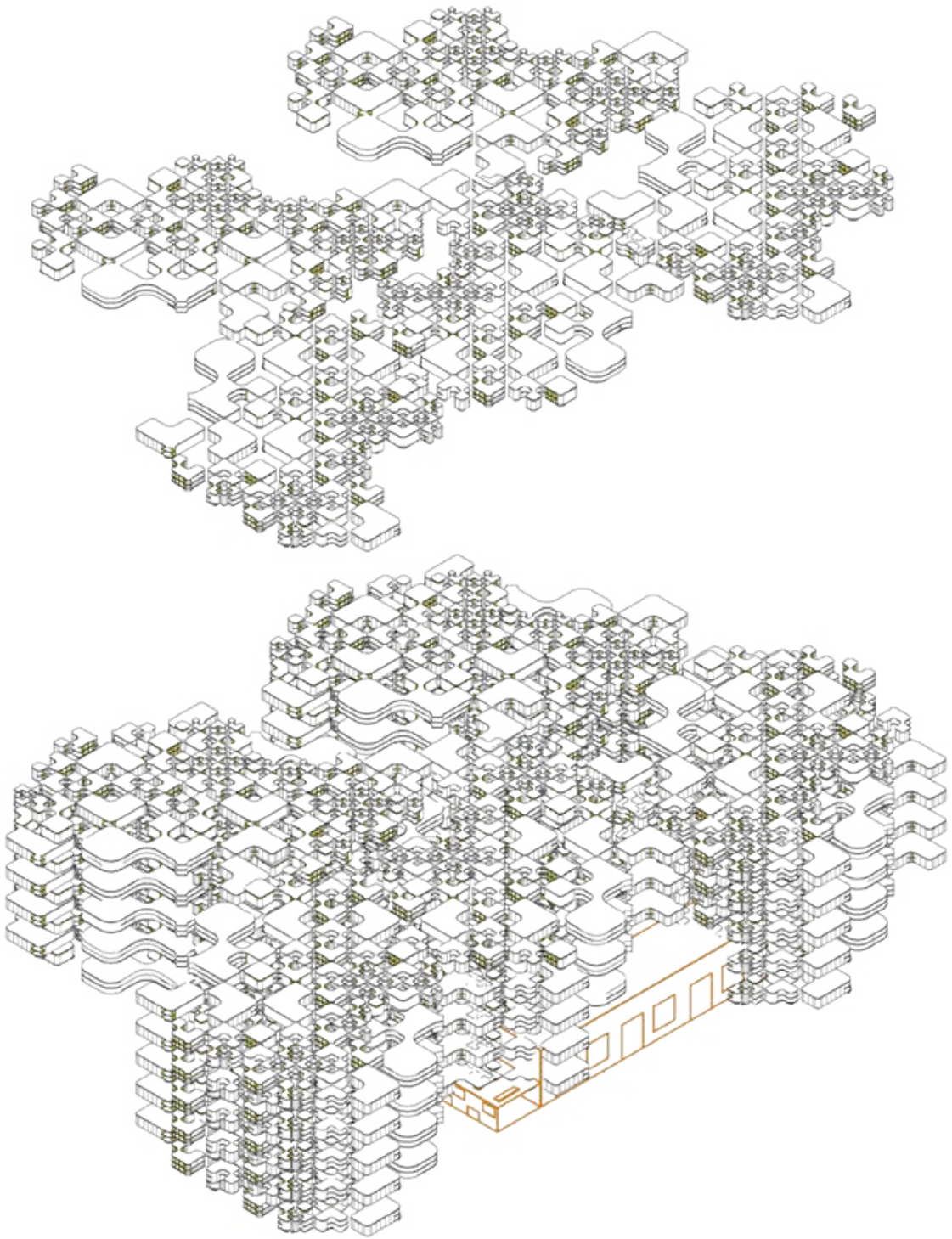


Work spaces can be **booked on-line** for professional meetings

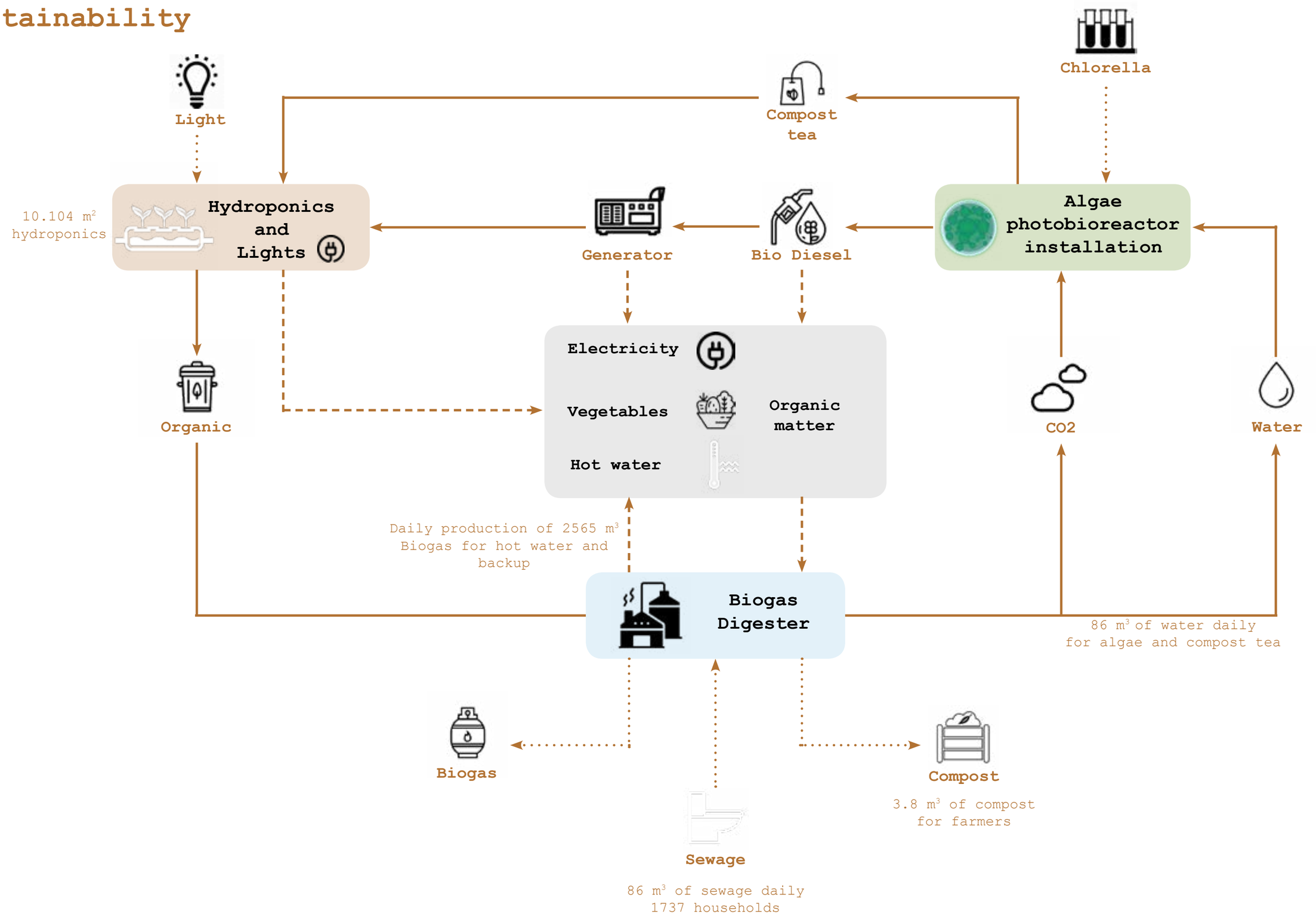


In-house **hydroponics for food production,** maintained by the tenants

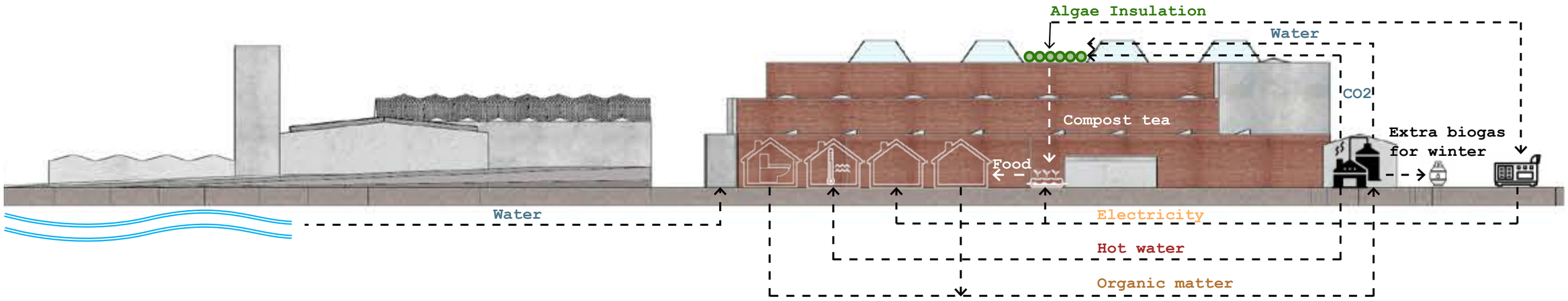
Future vision



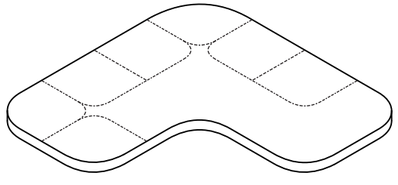
Sustainability



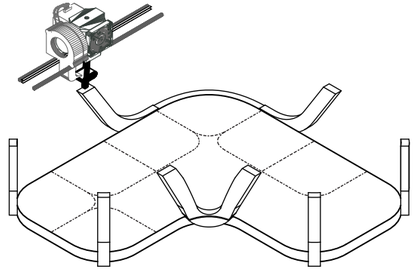
Site section



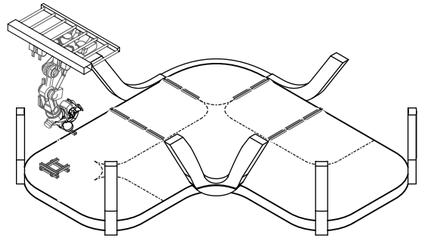
Construction Method



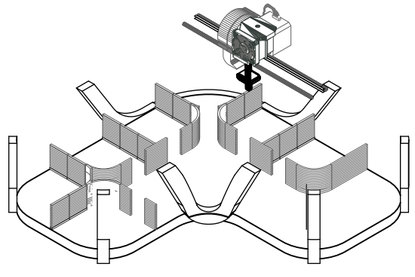
3D printing of the base



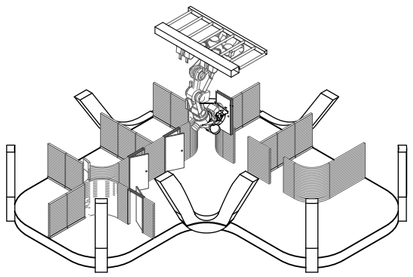
3D printing of the structure



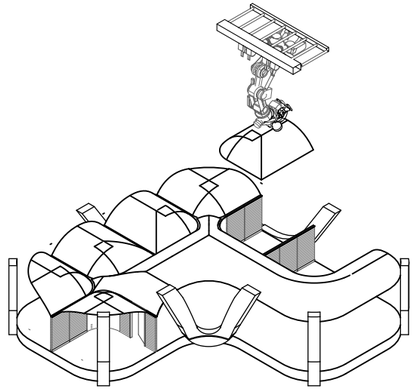
Placing of the wall frames



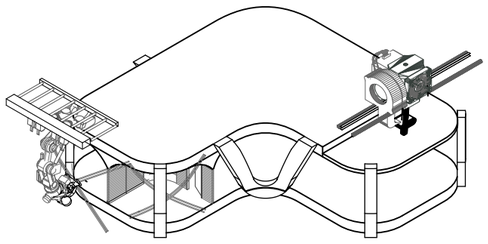
3D printing of the walls



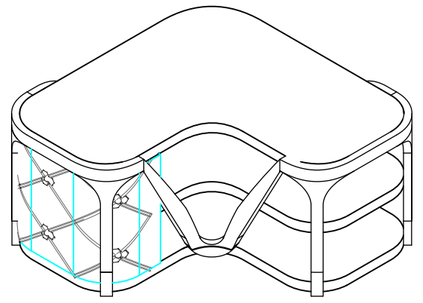
Placing of the door and window frames



Placing the mold for the roof

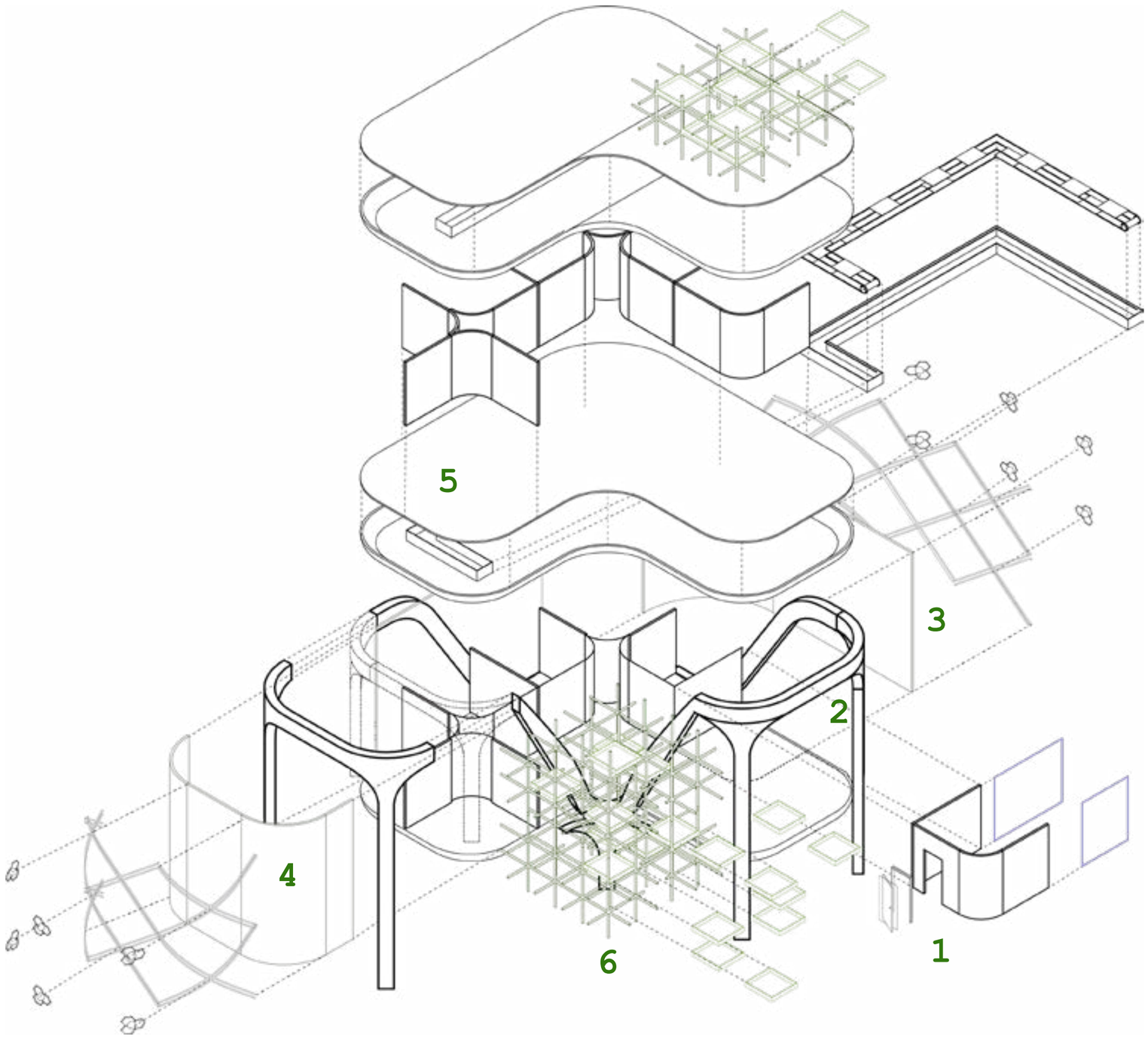


3D printing of the roof



Placing of the glass walls

Materials and Production



1 The scule of the capsule is **3D printed out of PLA plastic** with 30% recycled liquid carbon fiber for a **stronger structure.** The windows and door structures are placed before printing so these can be integrated in the capsule.

2 The strucutre is 3D printed out of **liquid metal.**

3 The **insulation** is made out of compressed recycled jeans that are locally produced in the Netherlands which also function as the **interior** of the capsule.

4 The **glass is ETFE plastic** that is 3D printed with possible **integration of data visualization.**

5 The **roof is 3D printed** out of the same material of the scule using molds and therefore placed with robotic machines

6 Hydroponics are prefabricated out of the same materials as the scule of the capsules and placed manually due to the different sizes and shapes.

7 Extra constructions such as 3D printed are made out of liquid metal.

No people are used in the building process.

Axonometric view

