



KRANKENHAUS // ZIEKENHUIS // HÔPITAL

Hospital Engineering Trends

SWECO ARCHITECTS	01
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ANTWERPEN // ZNA Cadix	03
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# 01

**SWECO // SWECO ARCHITECTS**

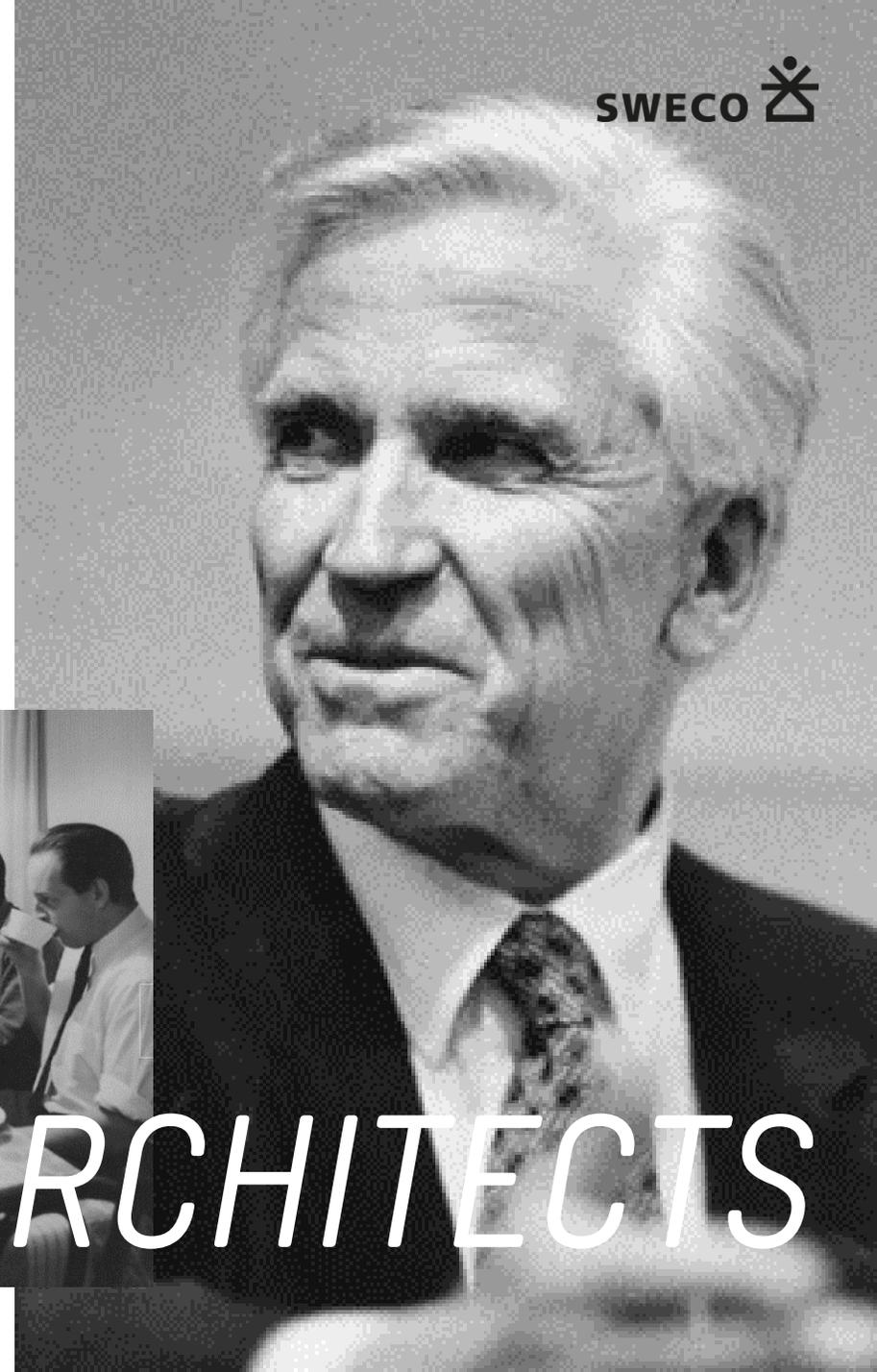
## Bringing **architects** and **engineers** together

Founded in **1958**, Sweco is based on Gunnar Nordström's vision of a combined architecture and engineering firm.

- The idea is to bring together different perspectives to solve the challenges of our time.



*WE ARE SWECO ARCHITECTS*





architects  
+ engineers  
part of SWECO



**No. 1**  
IN THE EUROPEAN MARKET



**13**  
COUNTRIES IN EUROPE



**2,7 BILLION €**  
IN REVENUE IN 2024

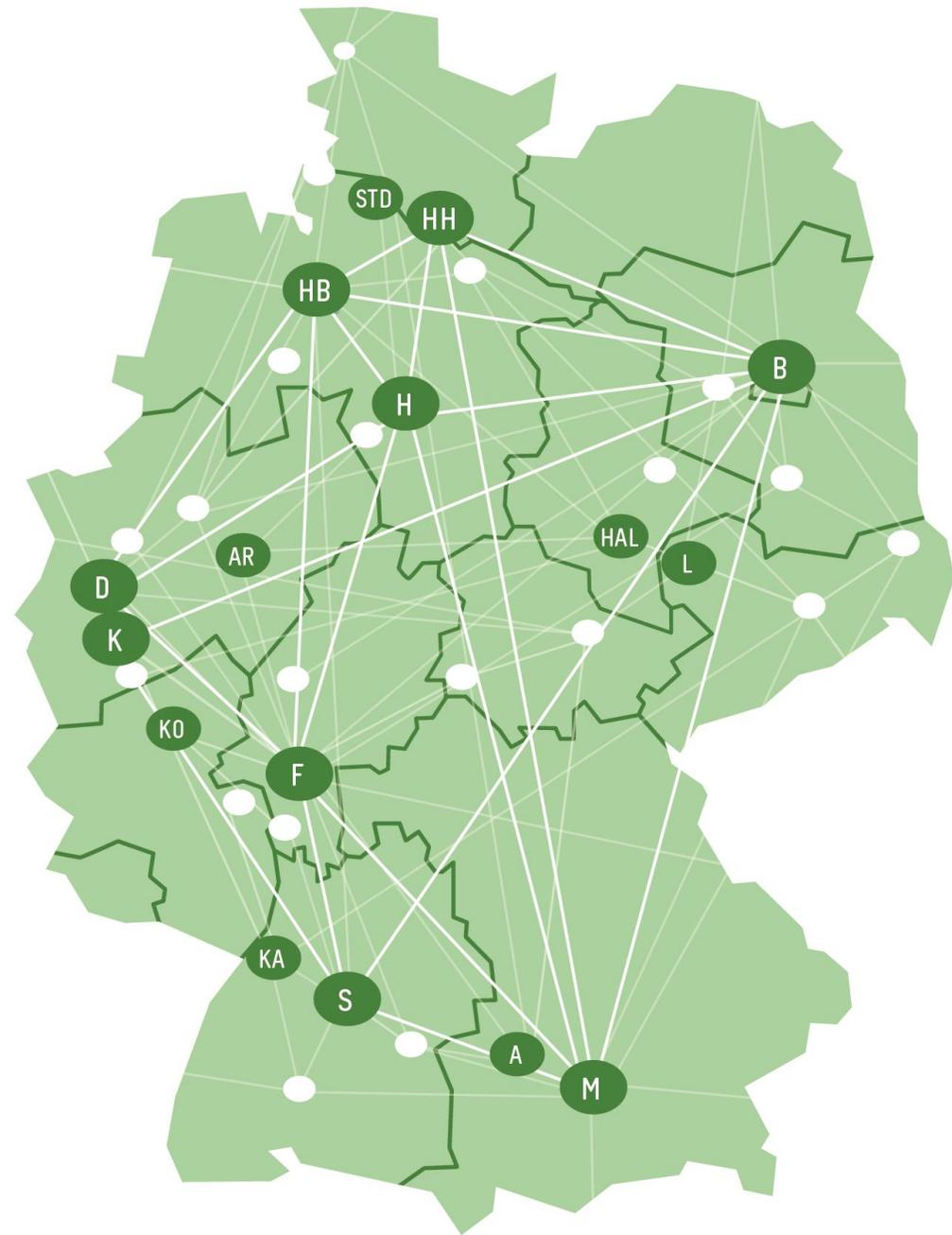


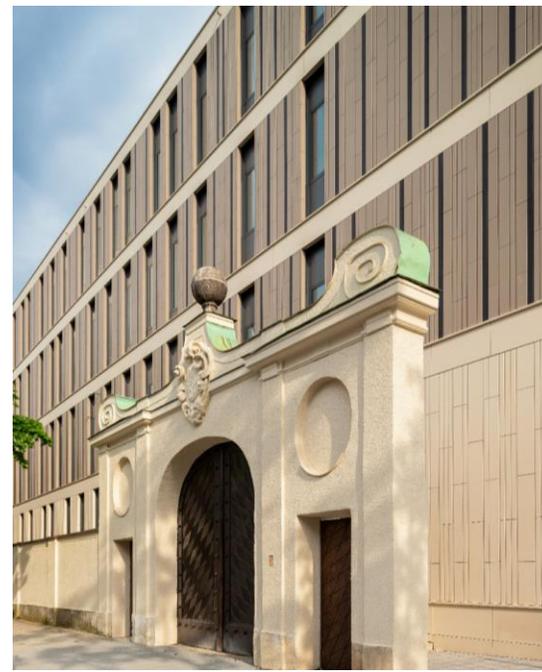
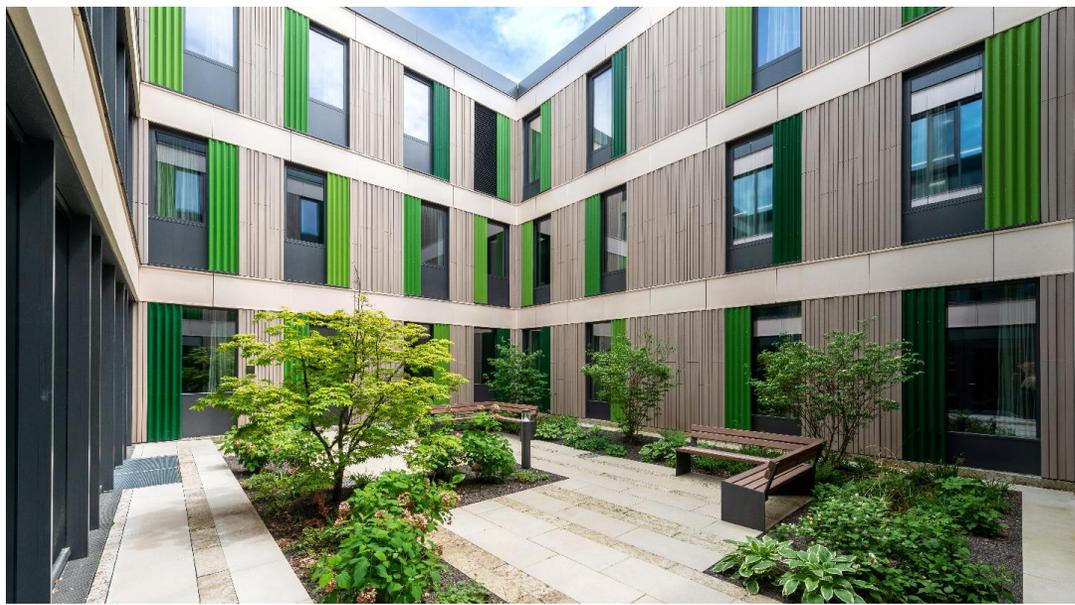
**22.000**  
EXPERTS  
WITH MANY DIFFERENT PERSPECTIVES



**200**  
SWECO ARCHITECTS IN GERMANY













## LIMITED FUNDS



## MAXIMUM EFFECT

Through simplicity, repetition, functionality,  
flexibility and expandability



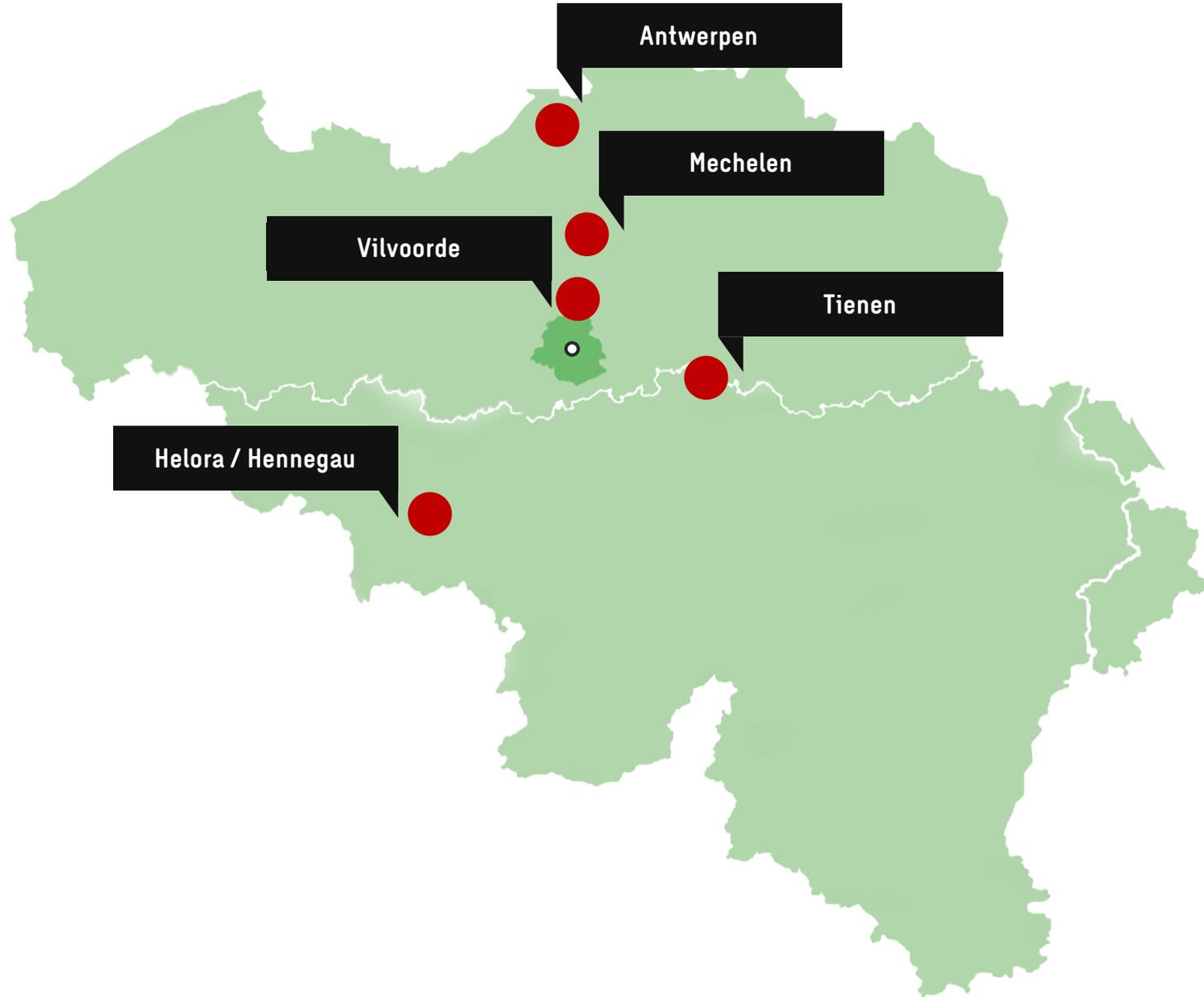
## HUMAN SCALE & NATURE INTEGRATION

Achieved through human scale and integration  
of nature



## NATURE

Nature is at the center, everything is geared  
towards nature



# 02

**MECHELEN // ALGEMEEN ZIEKENHUIS SINT MAARTEN**



**Architects:** VK architects + engineers, part of Sweco

**Client:** Emmaüs

**Site:** Mechelen (Belgium)

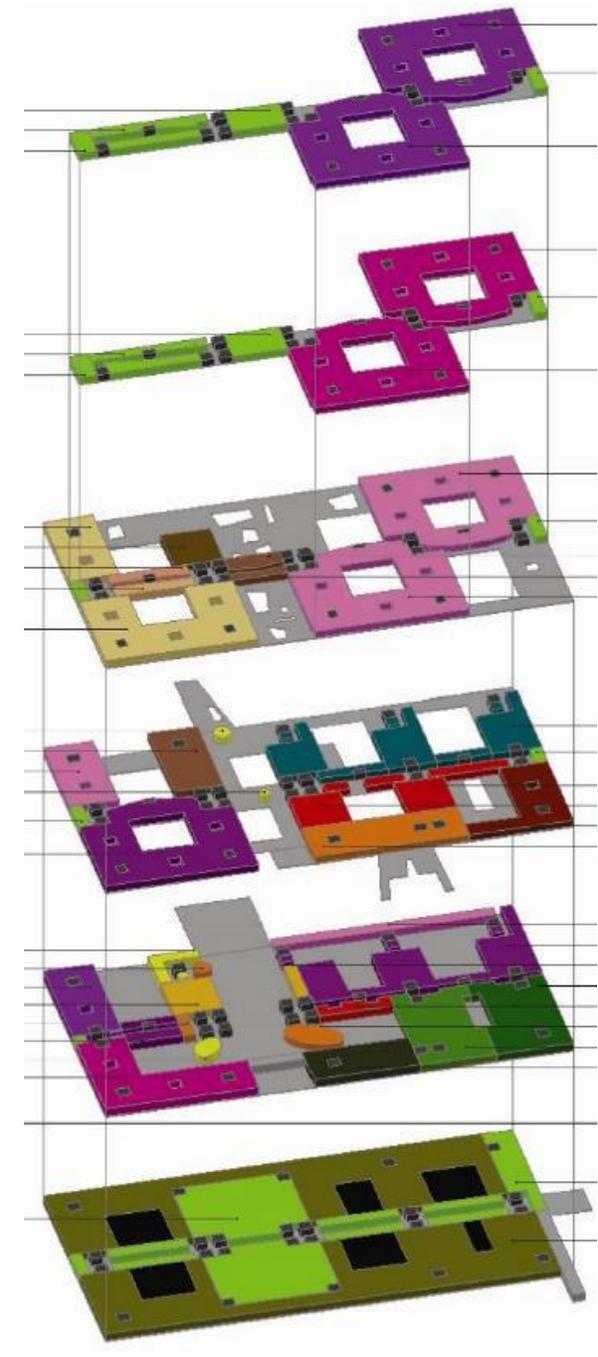
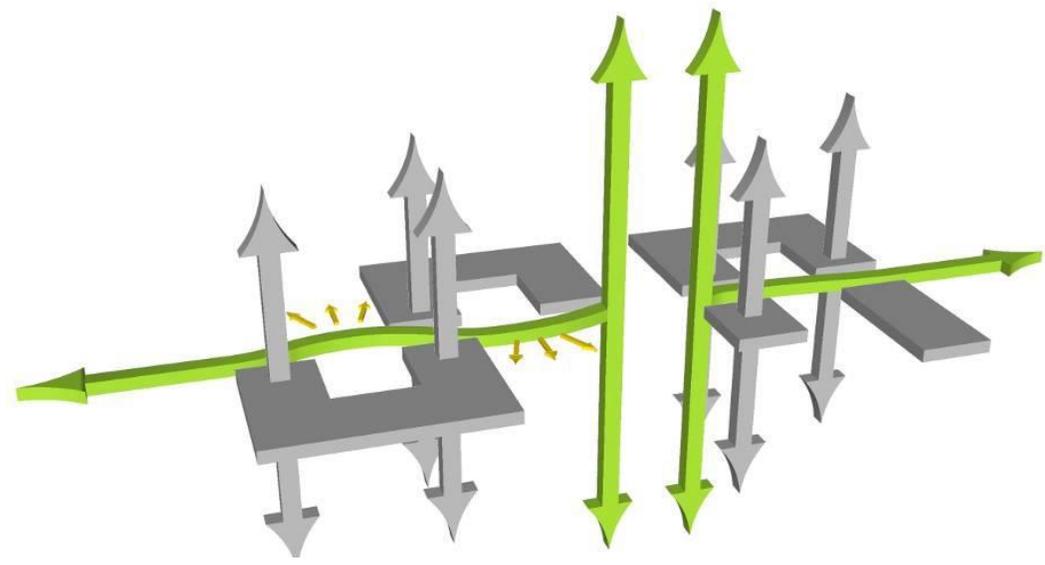
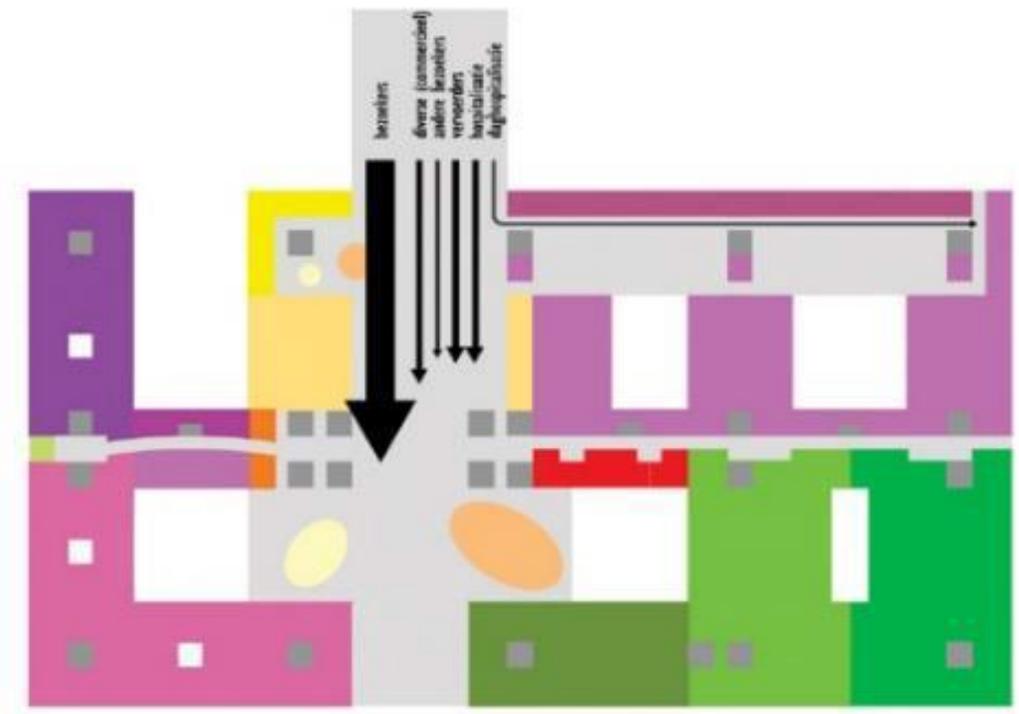
**Project Period:** 2008 – 2018

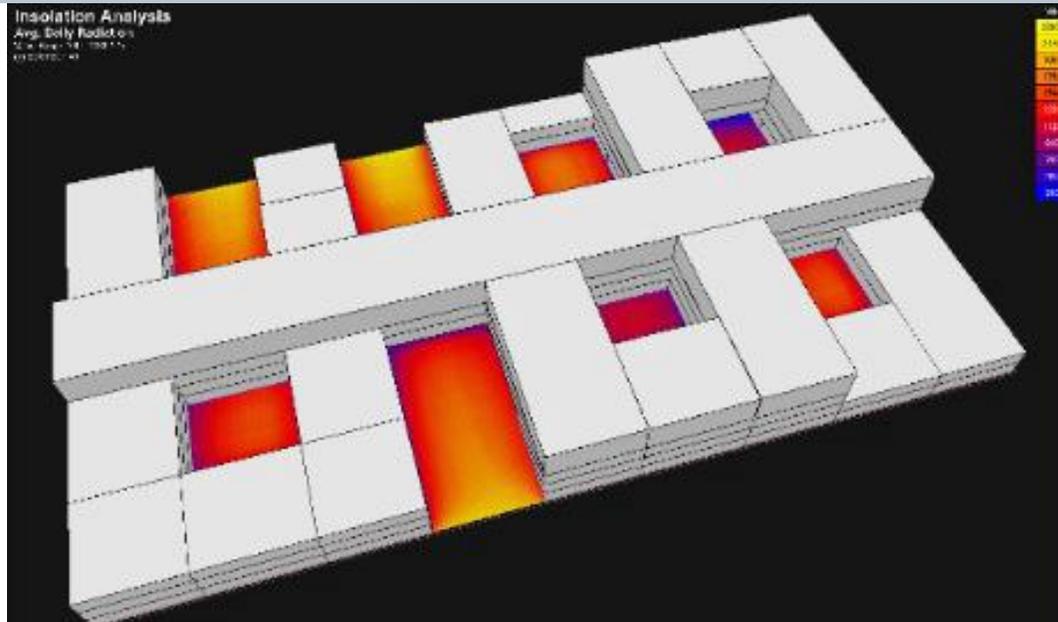
**Beds:** 723

**Floor Area:** 114.500

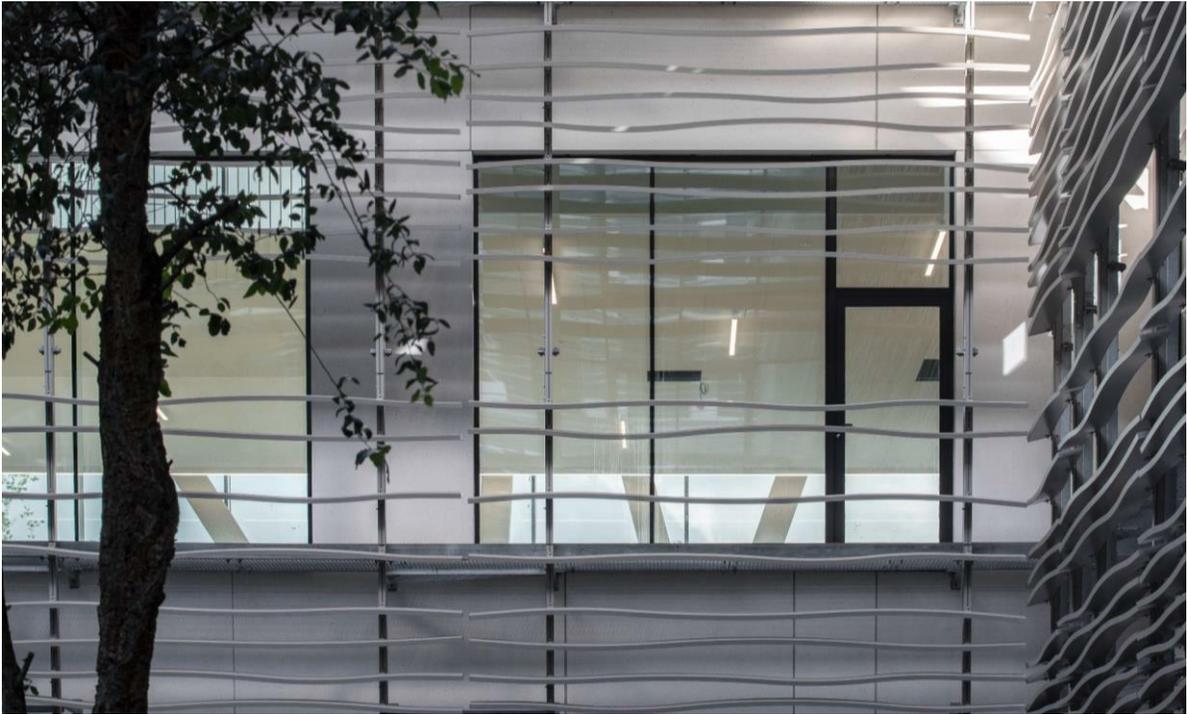
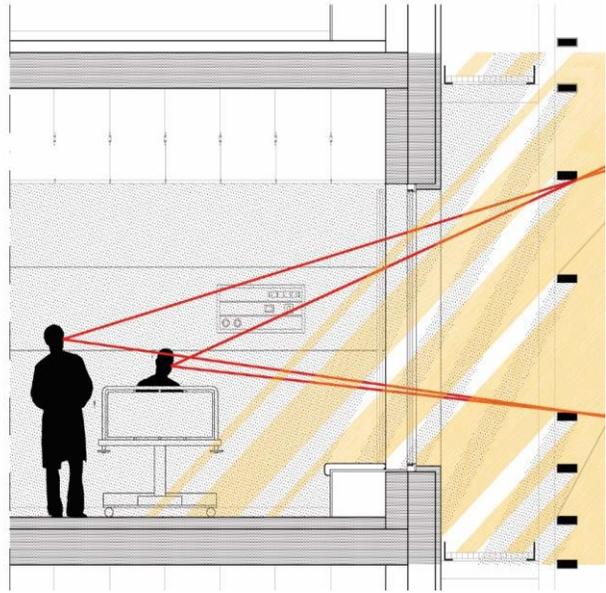
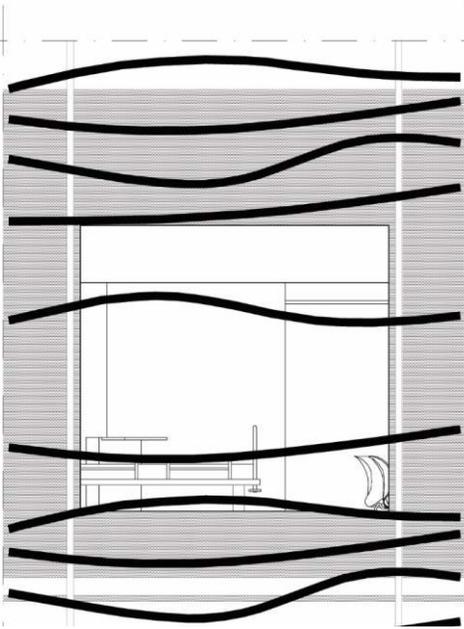




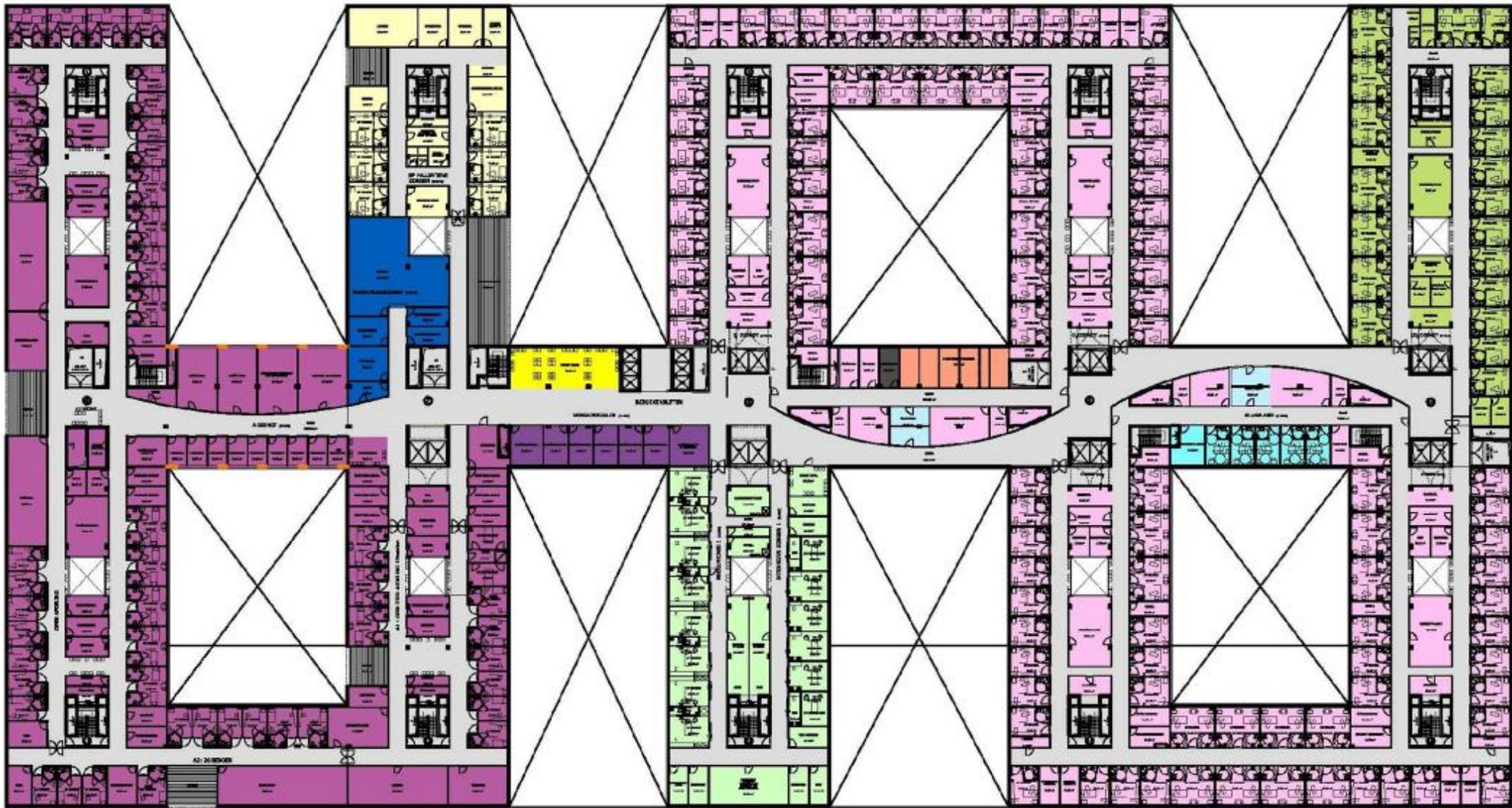




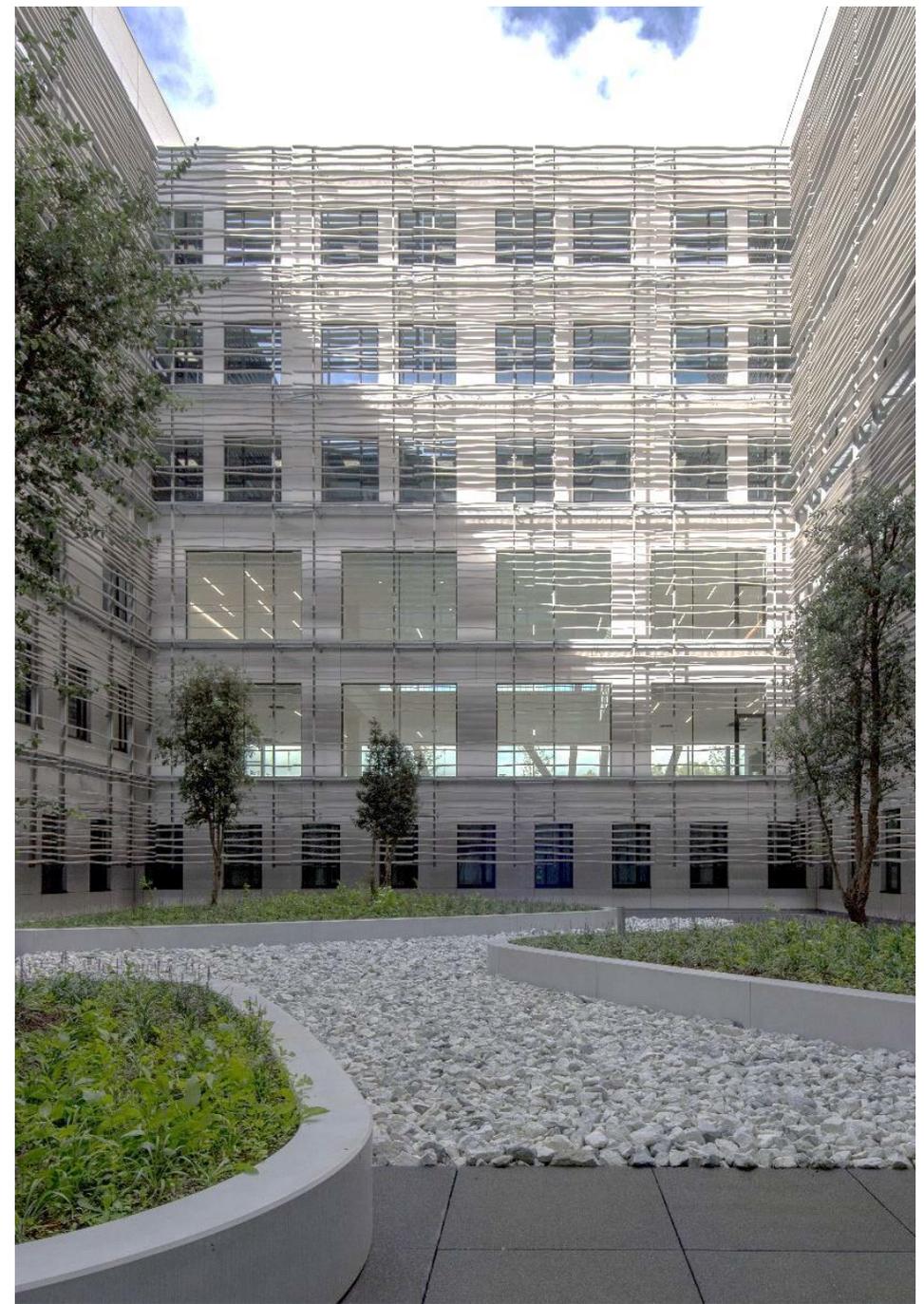


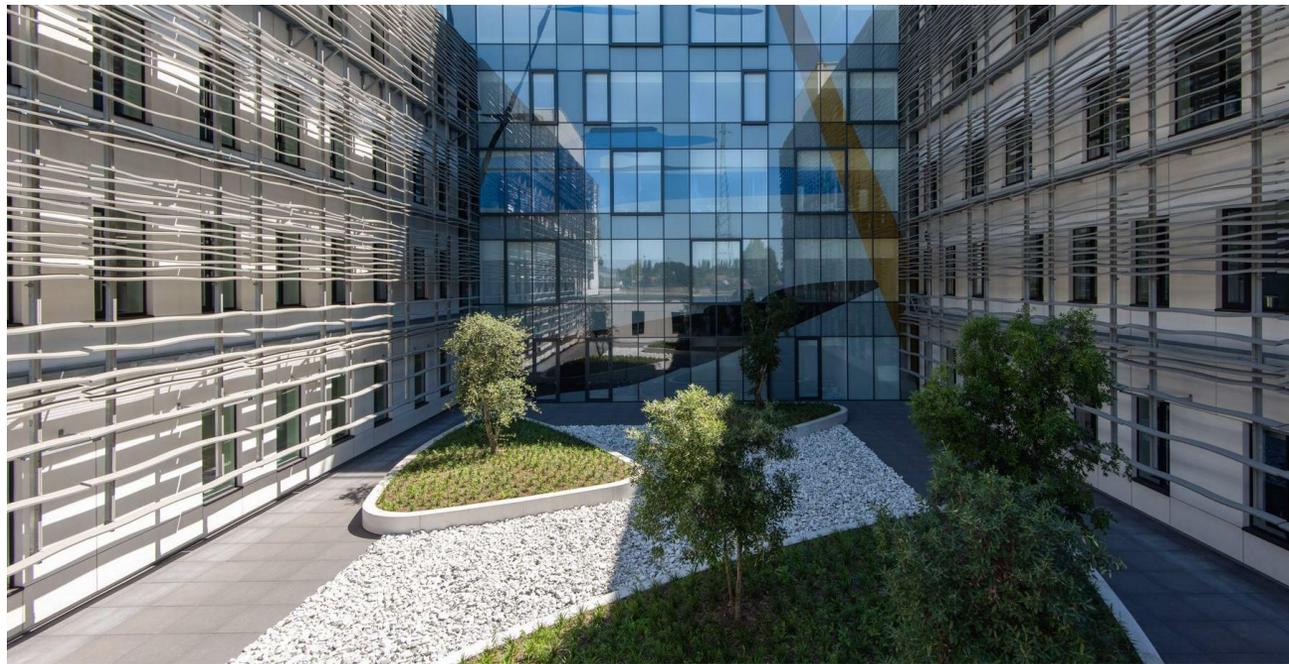
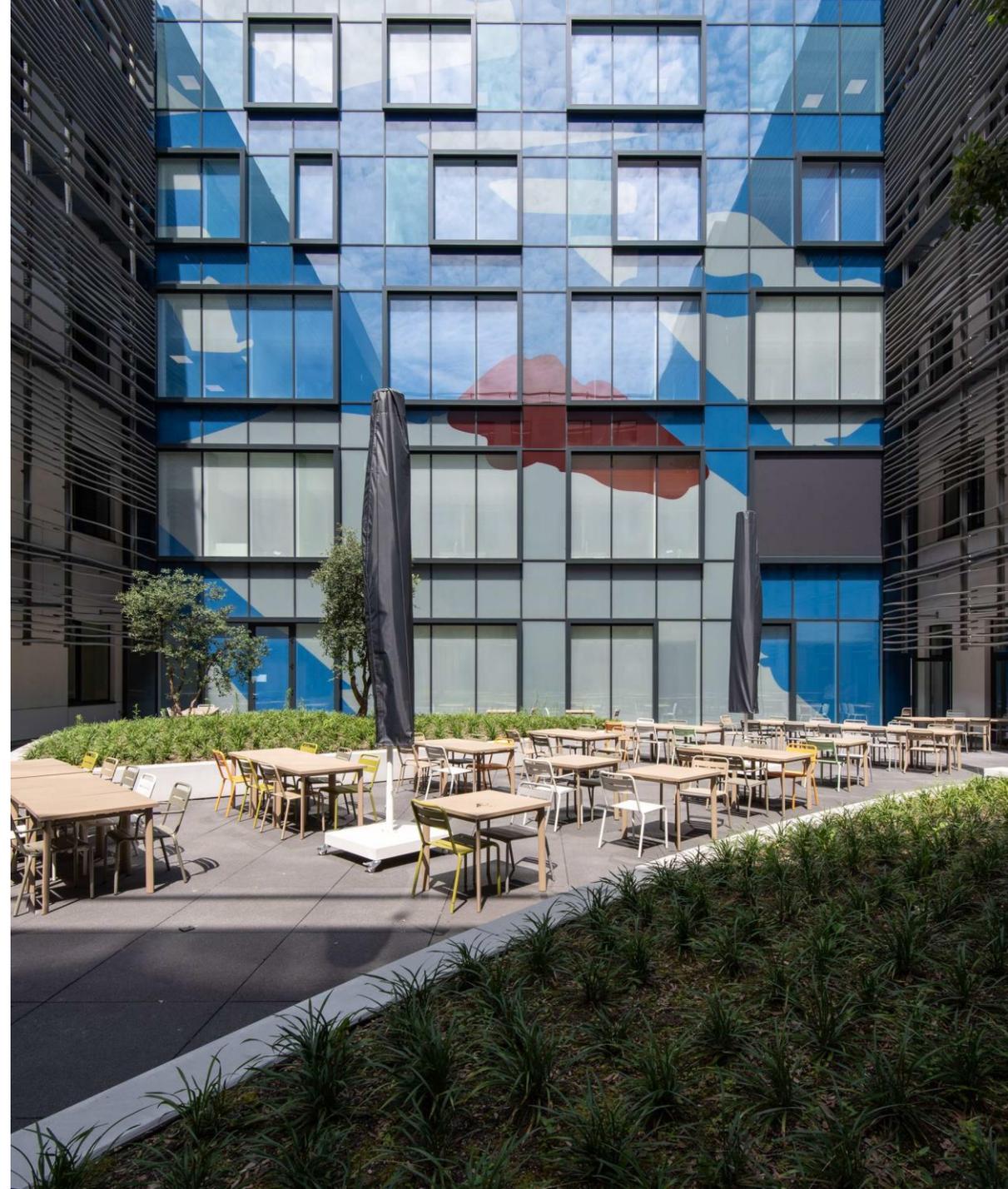












# 03

**ANTWERPEN // ZNA CADIX**

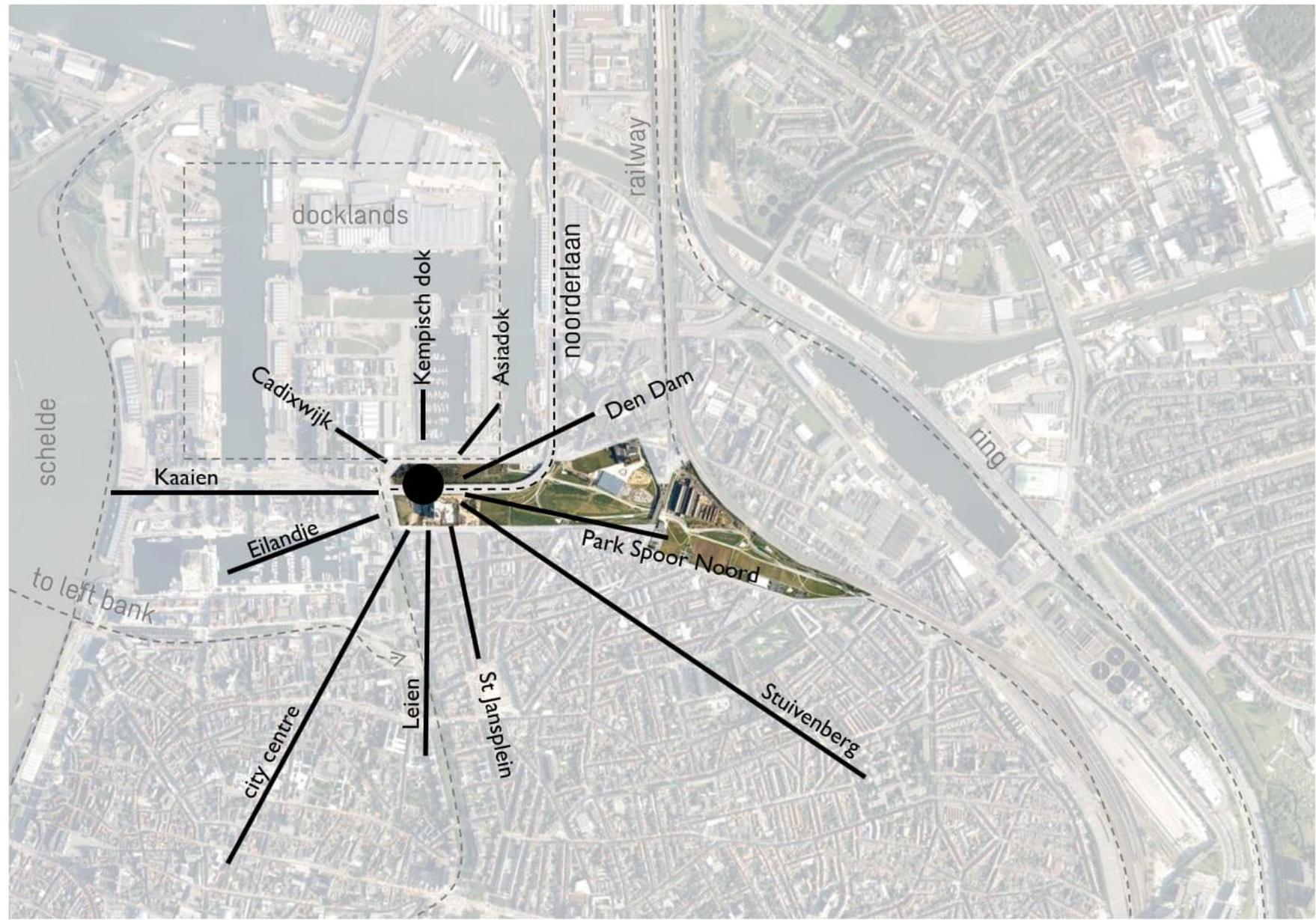


- Architects:** VK architects + engineers, part of Sweco | Robbrecht en Daem architecten
- Projekt team:** Kairos – VK architects+engineers  
Robbrecht en Daem architecten -Omgeving
- Client:** ZNA
- Site:** Antwerp (Belgium)
- Project Period:** 2012 – 2023
- Beds:** 375
- Parking:** 950 places incl. bike parking
- Surface:** 67.500 m<sup>2</sup> – 22 étages – 28 ascenseurs
- Gross floor area:** 106.650 m<sup>2</sup>
- Footprint:** 14.833 m<sup>2</sup>



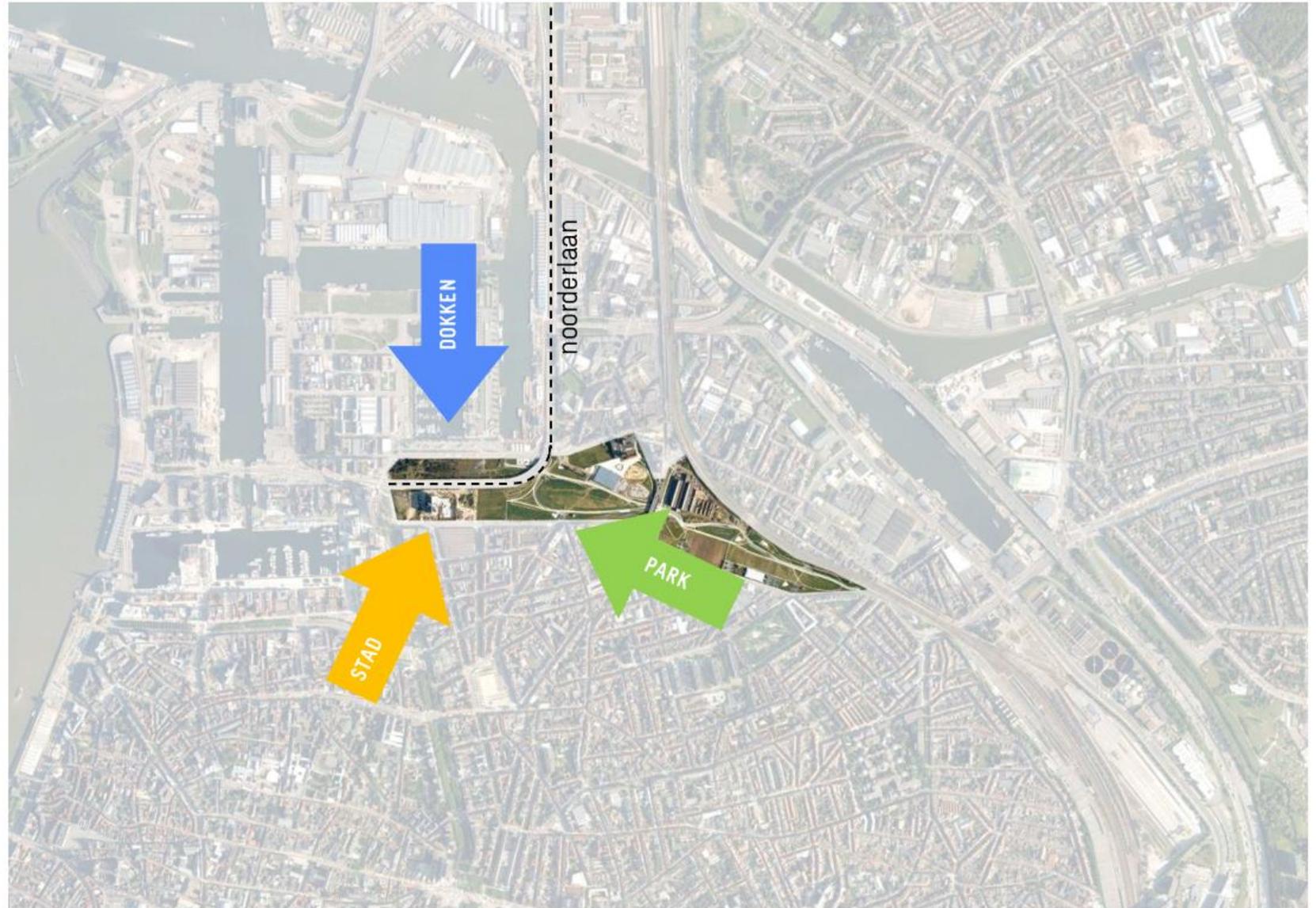
# location

the calming horizon



# location

the healing environment





# site analysis

## highrise variation



# hospital quality

the layered & connected hospital

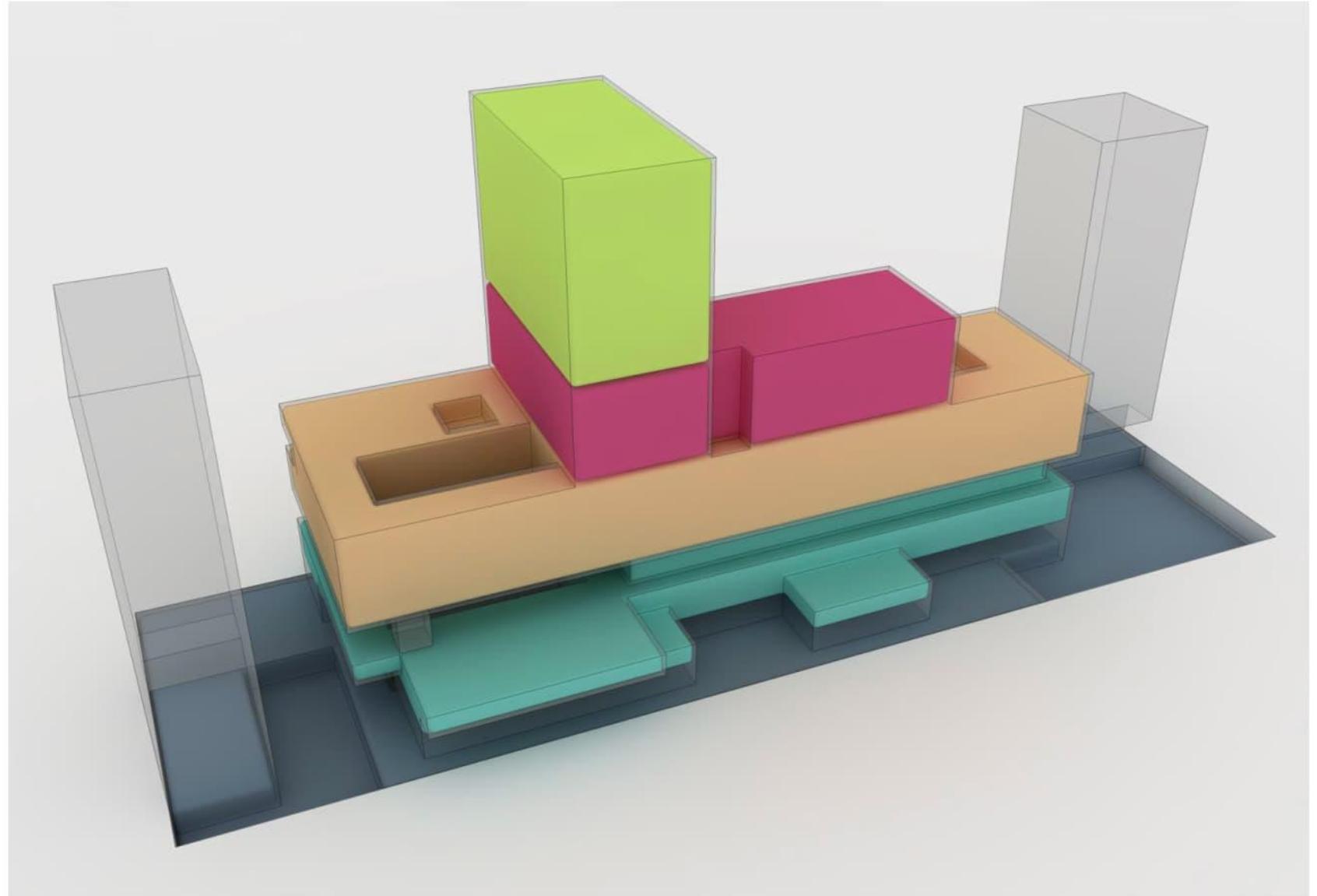
administration block

L-shaped wards

medical technical block

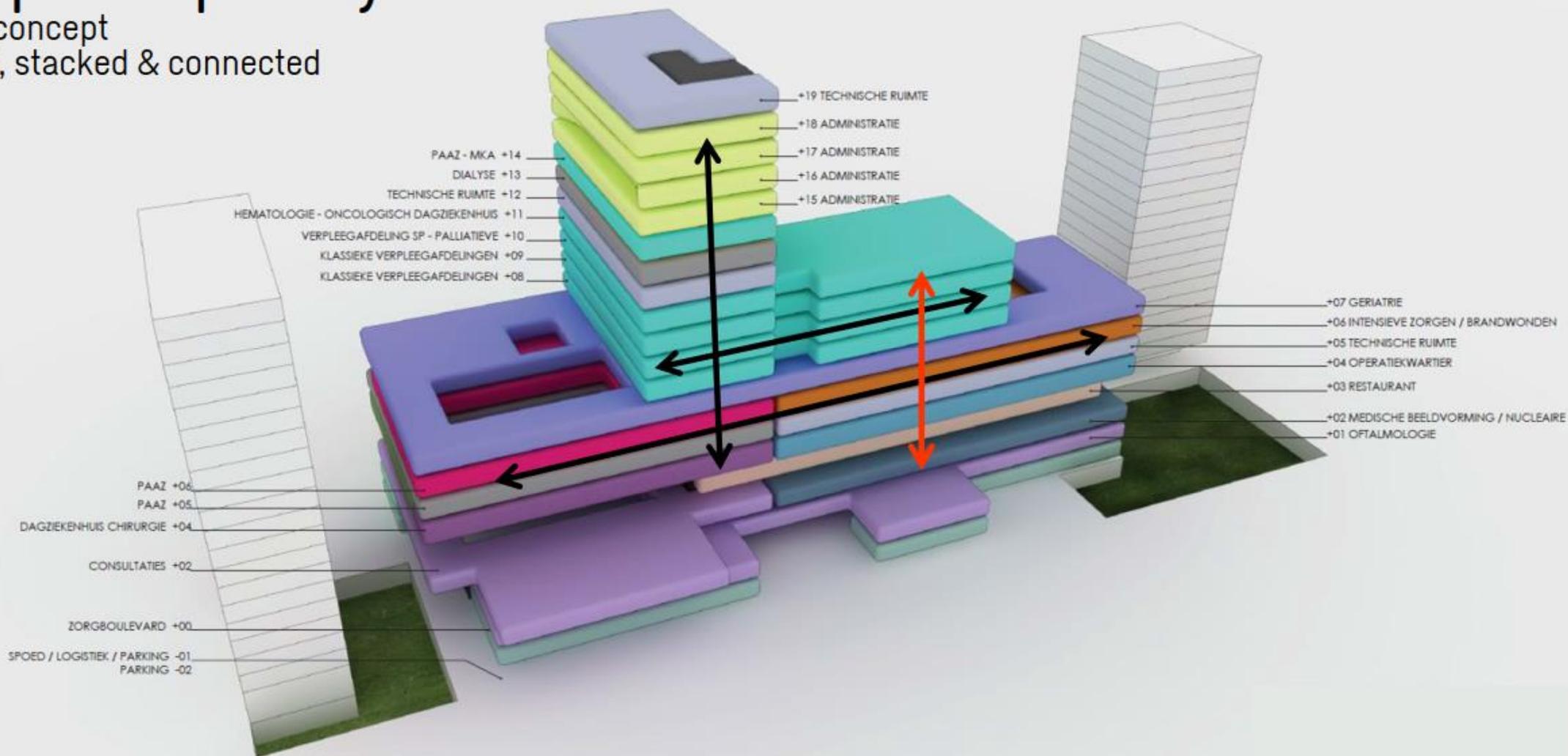
plinth

underground



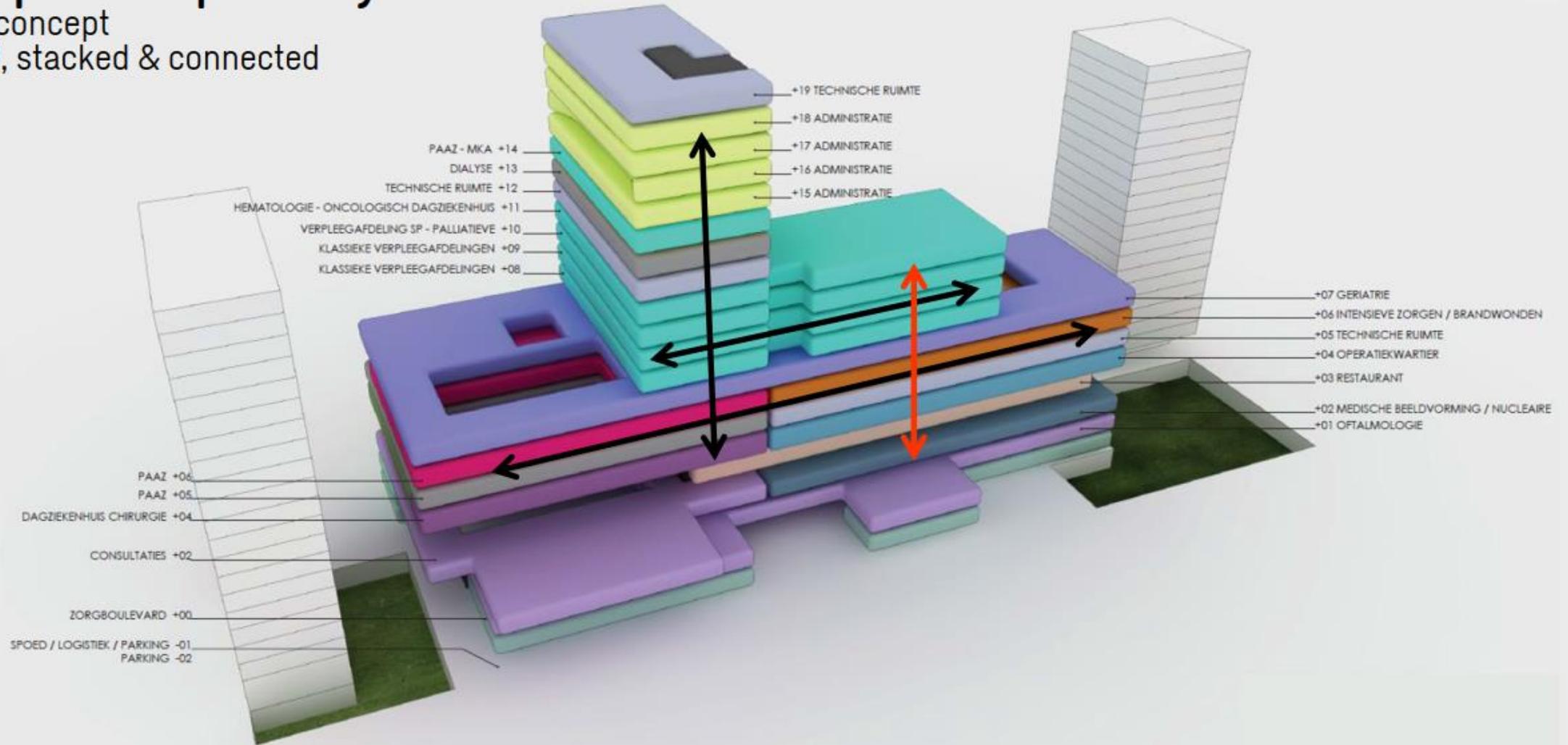
# hospital quality

hybrid concept  
 layered, stacked & connected



# hospital quality

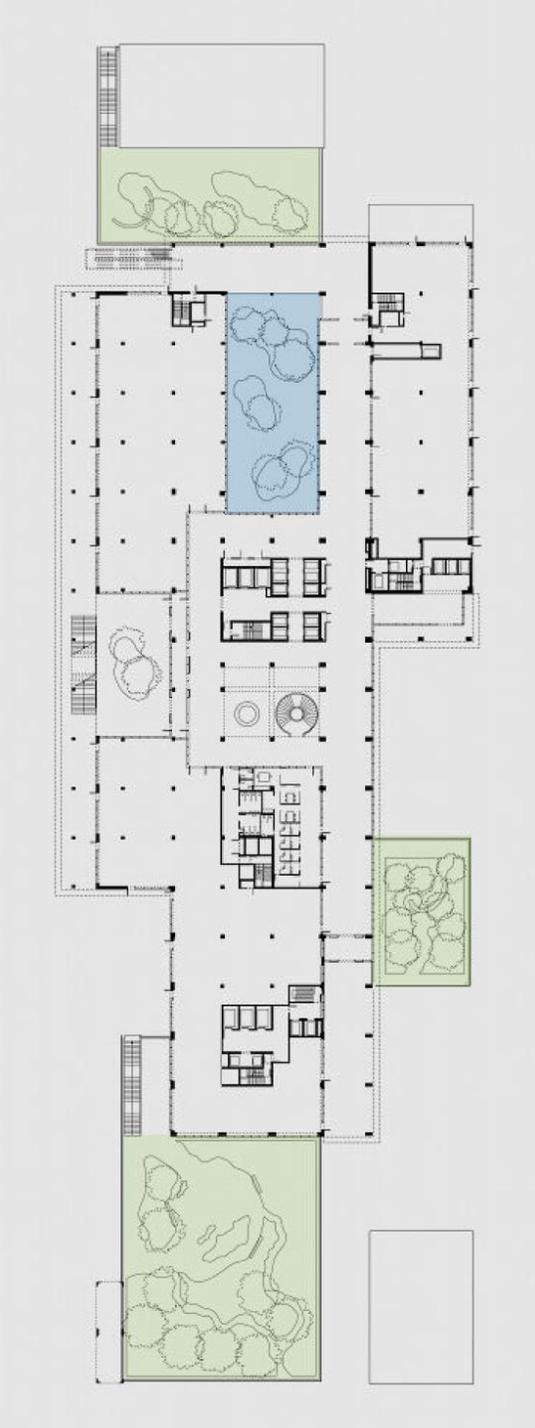
hybrid concept  
 layered, stacked & connected





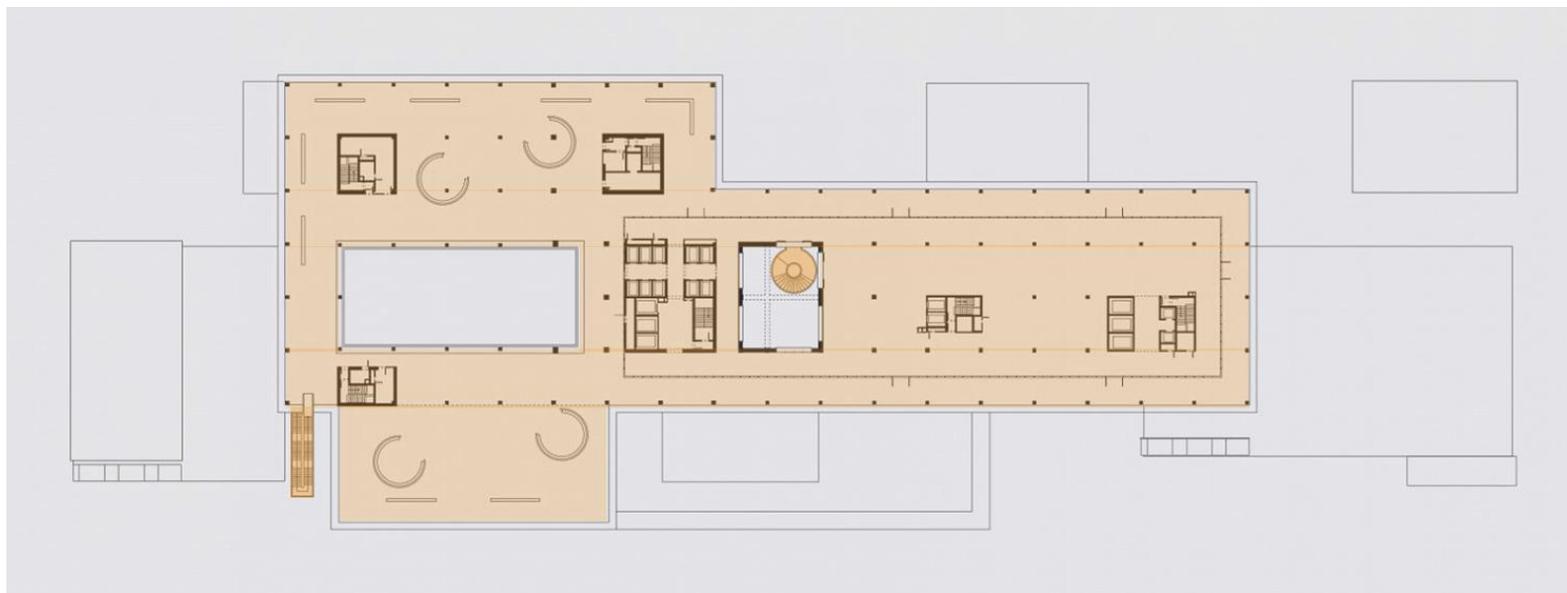
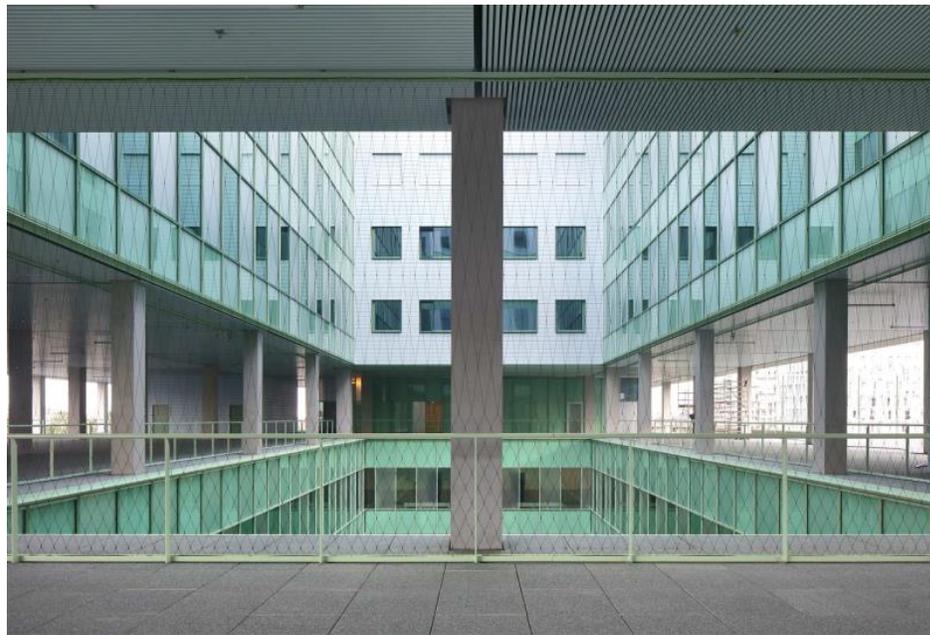
architects  
+ engineers

part of SWECO



SWECO 







# hospital quality

the layered hospital

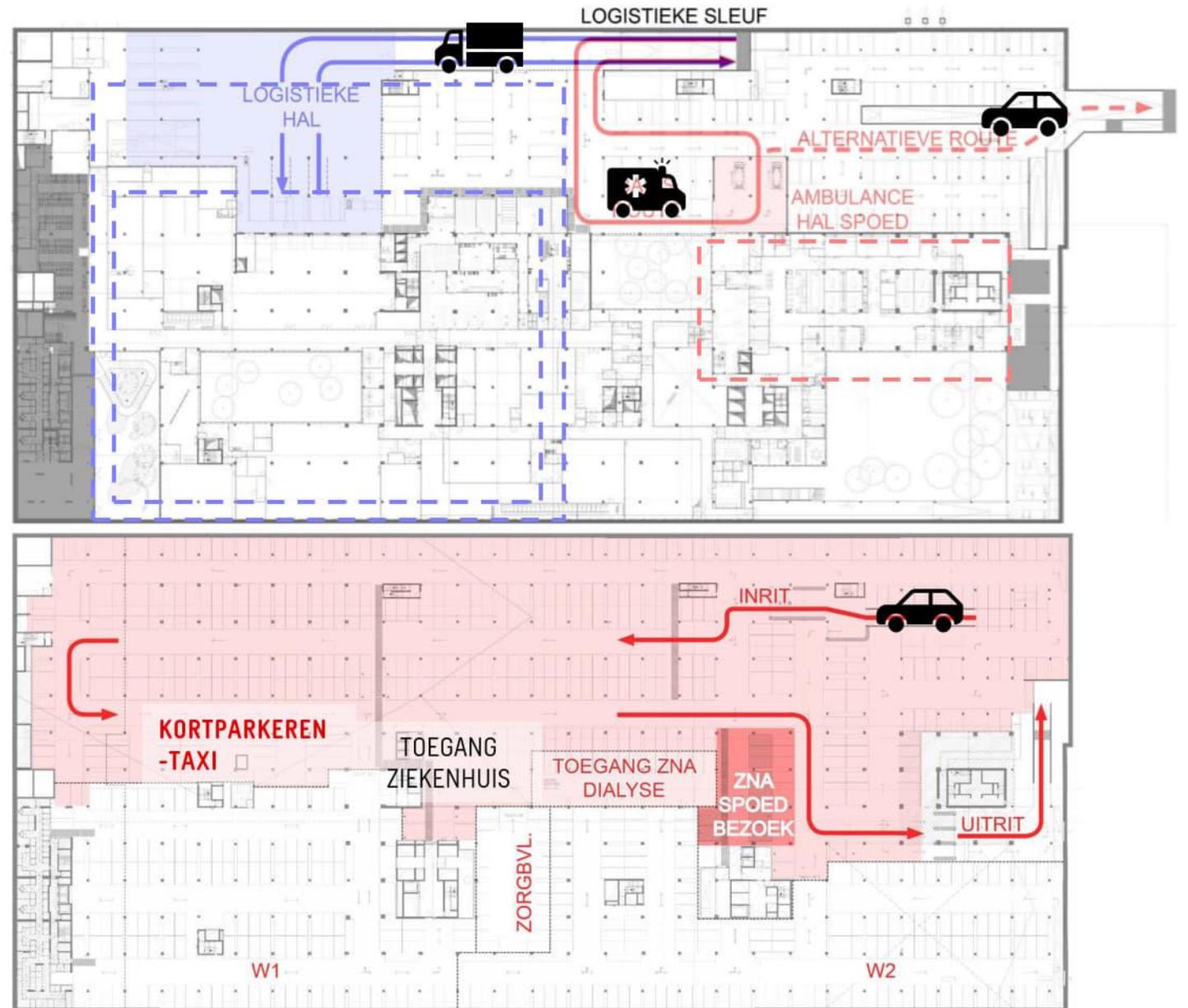


underground levels

logistics

emergency

parking spaces



# hospital quality

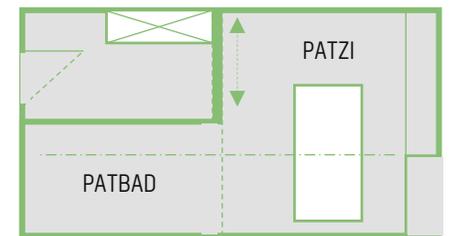
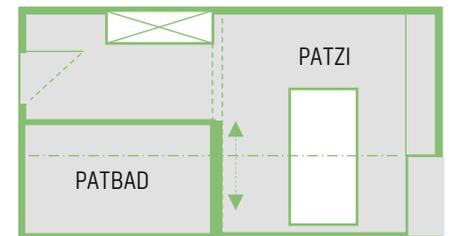
the connected hospital

level 4  
surgery dayclinic  
↕  
preparation  
↕  
operating theatres



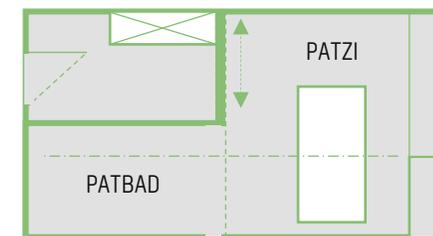
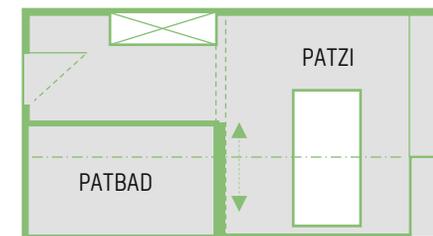
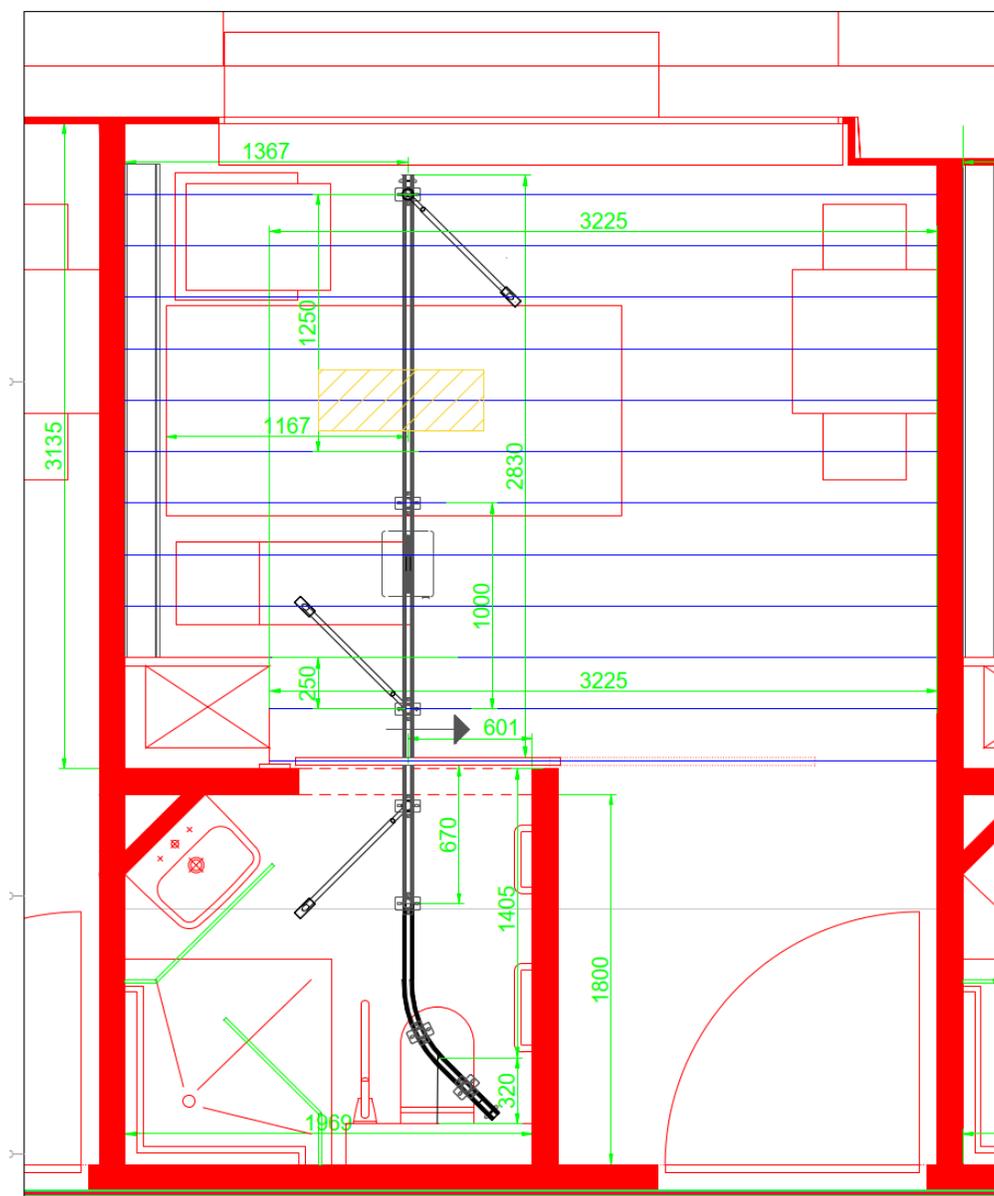
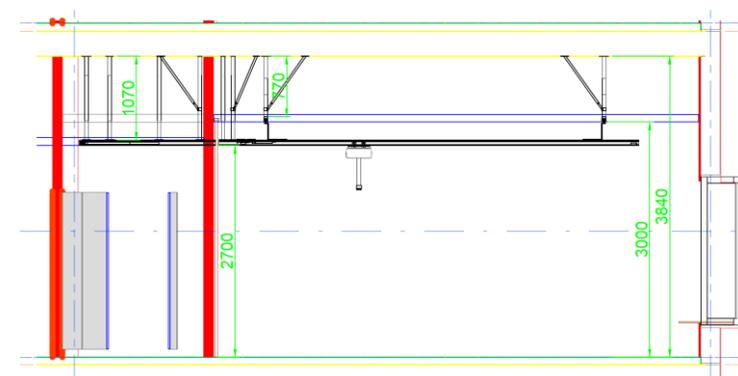








architects  
+ engineers  
part of SWECO



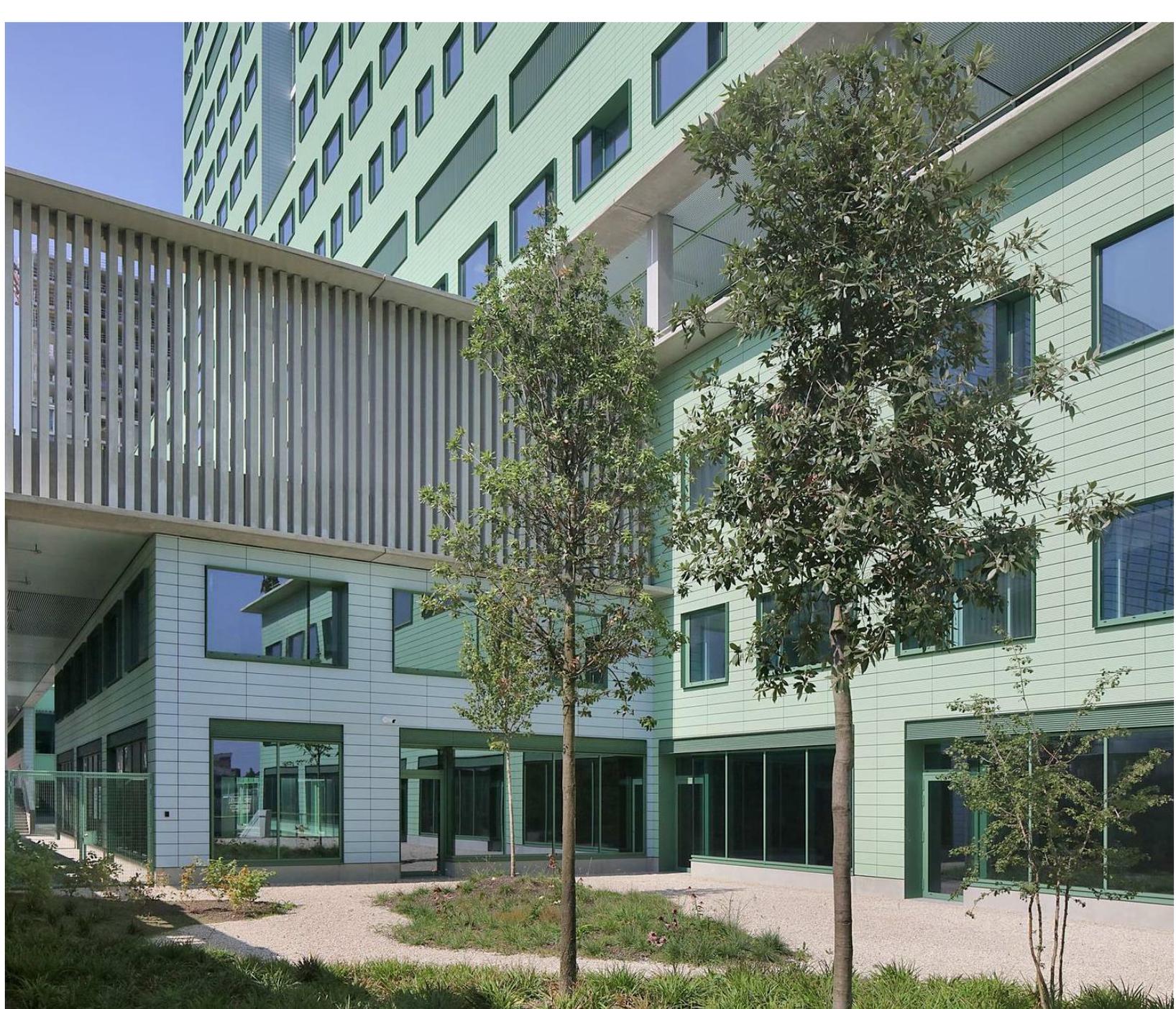
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Datum: 09-10-2019	Verdieping: 7	
Schaal: 1:25	Ruimte: 1P KAMER	

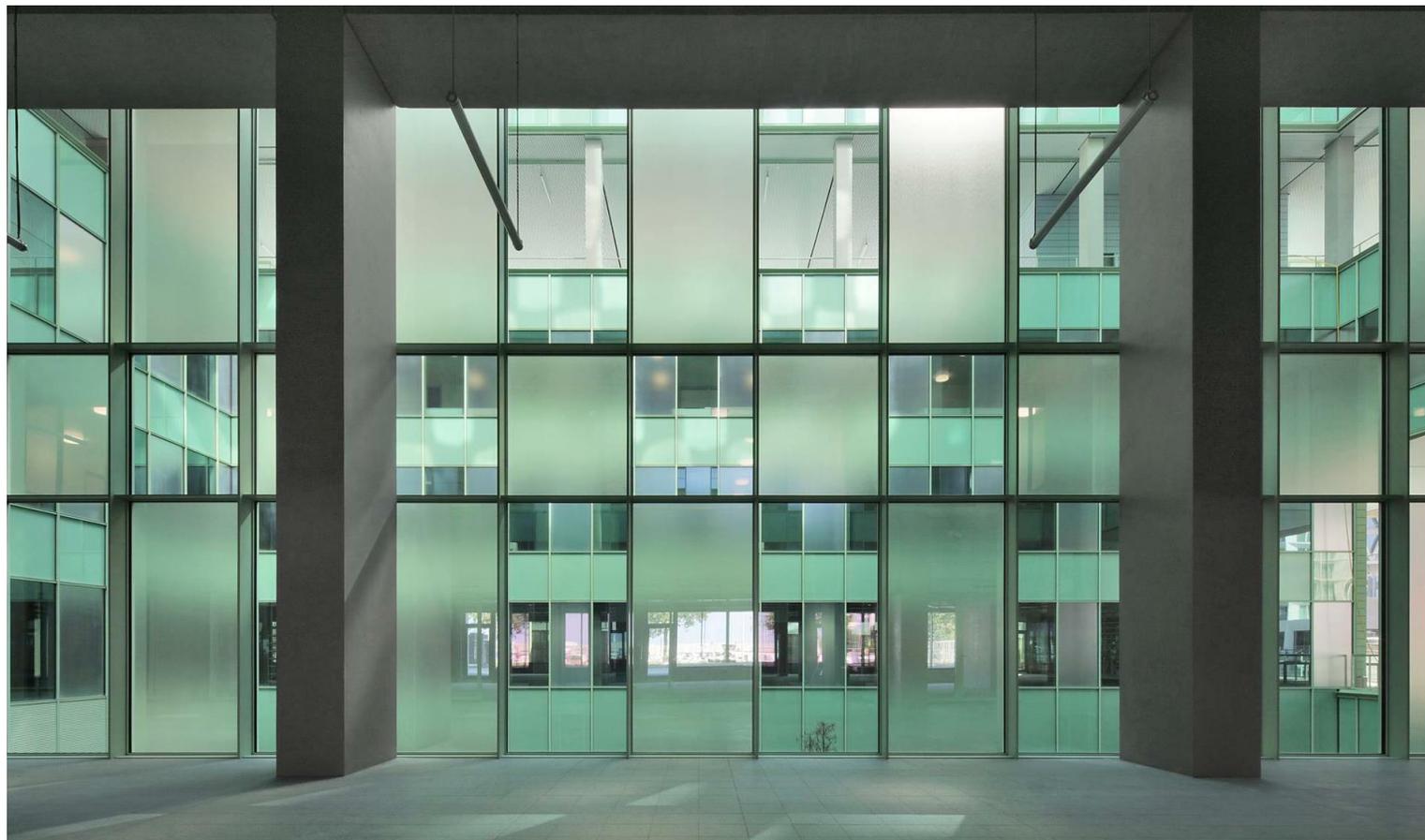
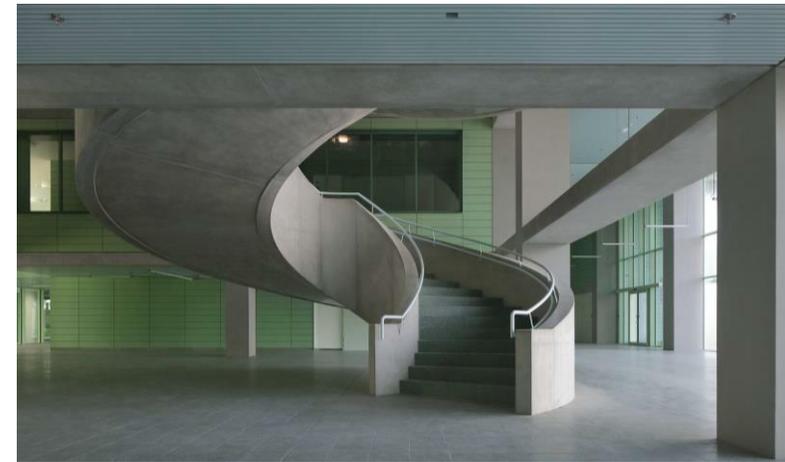


## Plafondliftsysteem

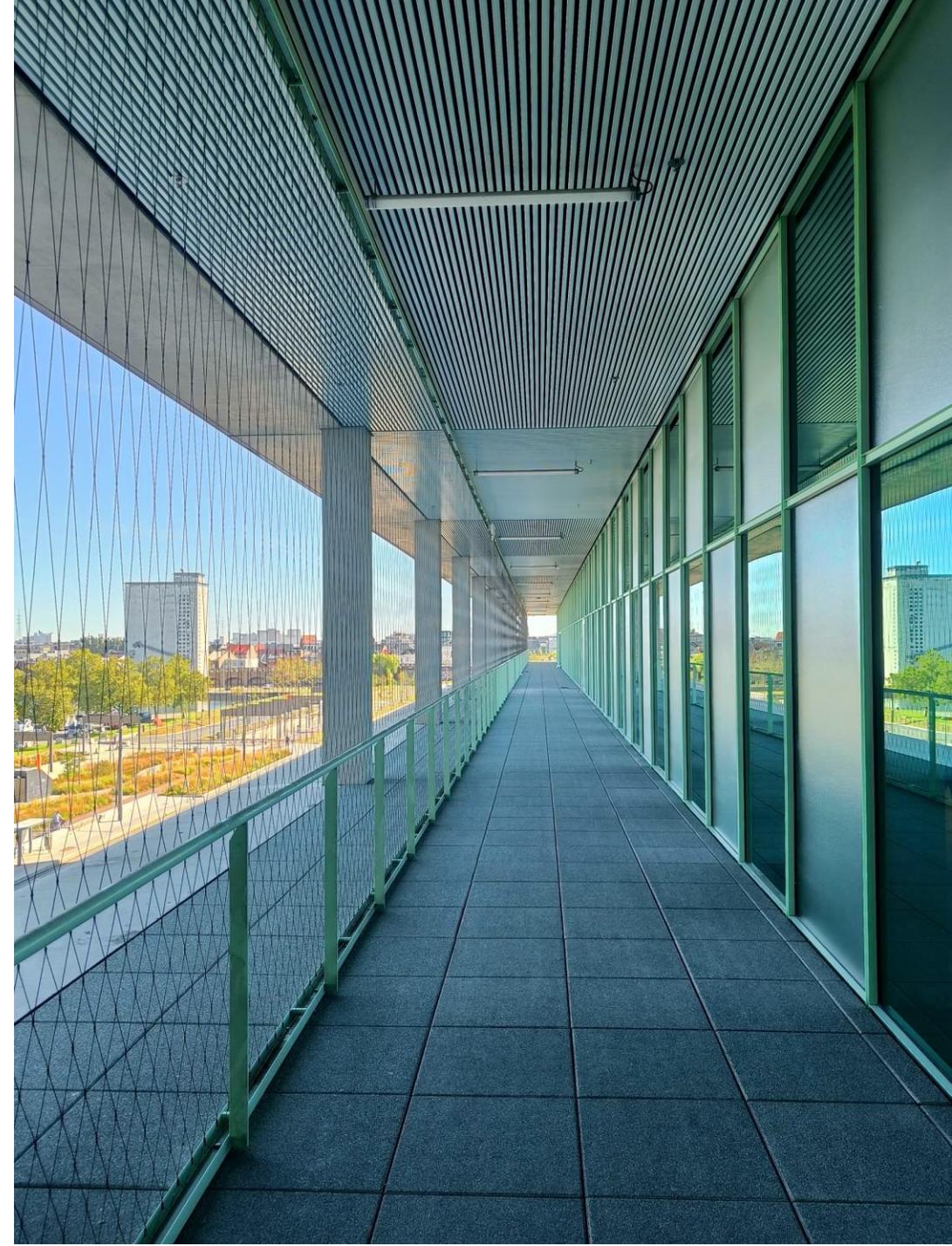
Tek.nr.: B17010-V7-R02.6













# 04

## VILVOORDE // ALGEMEEN ZIEKENHUIS JAN PORTAELS



**Architects:** VK architects + engineers, part of Sweco |  
Wiegerinck Architecten

**Client:** AZ Jan Portaels vzw

**Site:** Vilvorde (Belgium) – CAT site

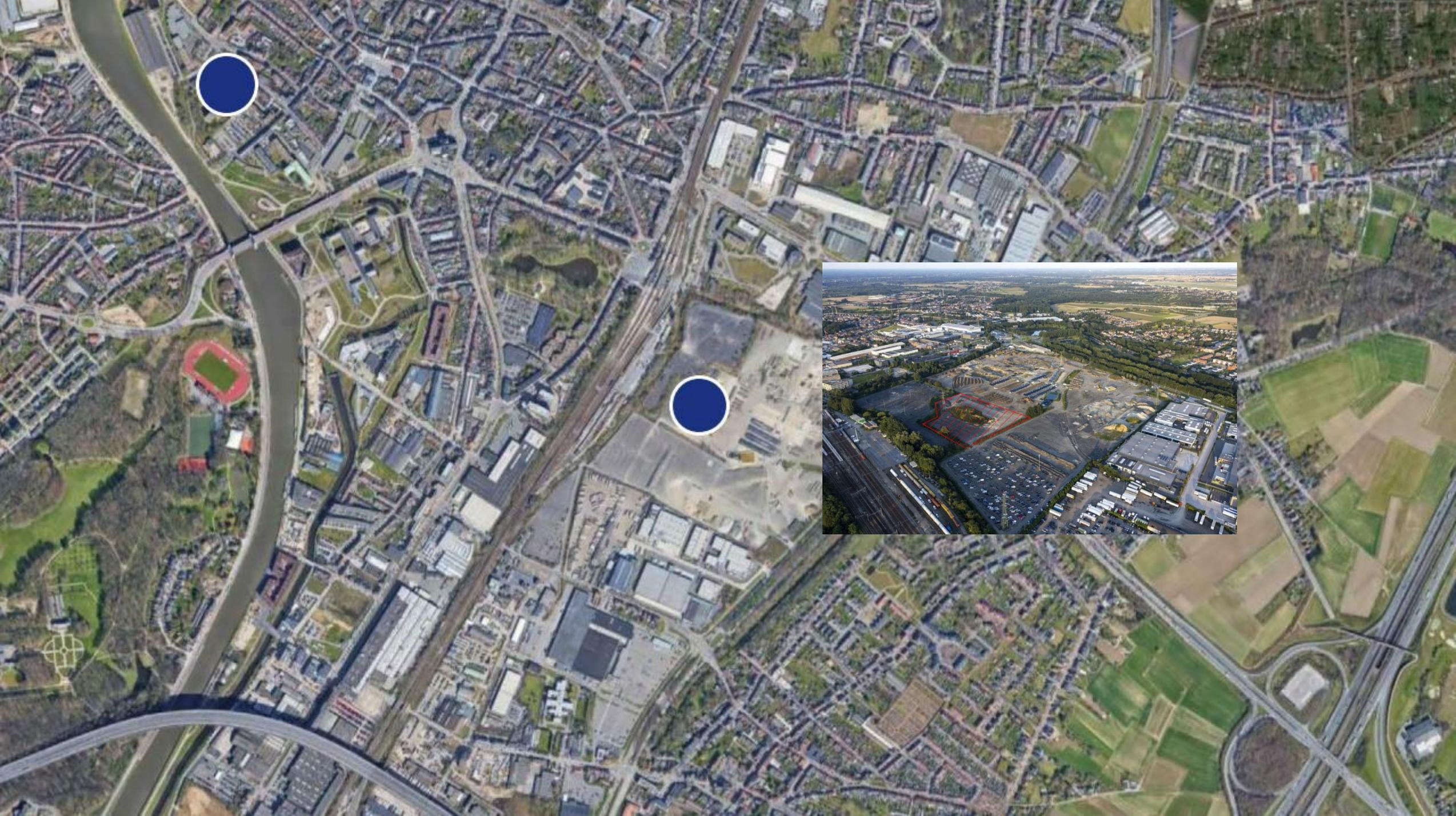
**Project Period:** 2022 – 2027

**Beds:** 300

**Floor Area:** 30.500 m<sup>2</sup>

**TCO (Total-Cost-of-Ownership)**

**SETA (Storage of Thermal Energy in Aquifers)**



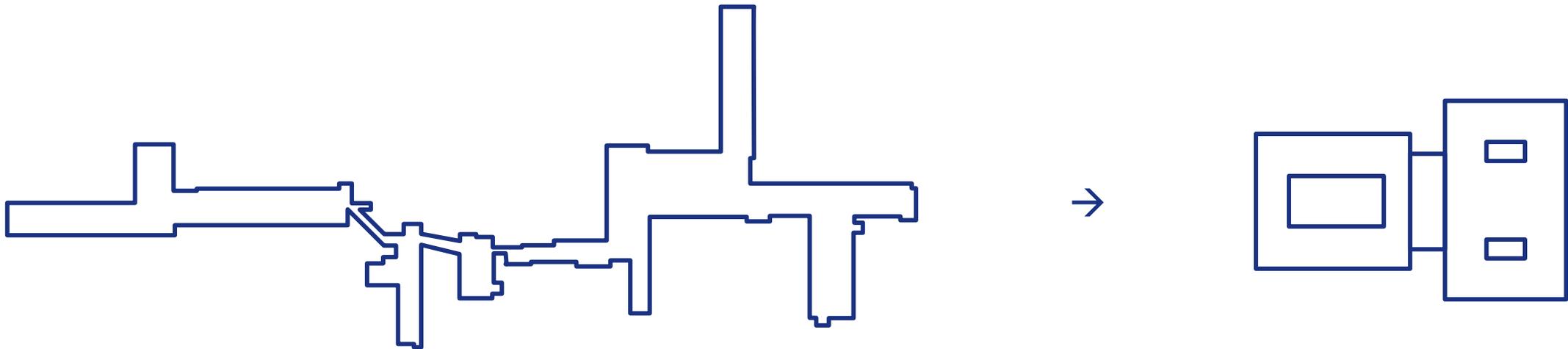


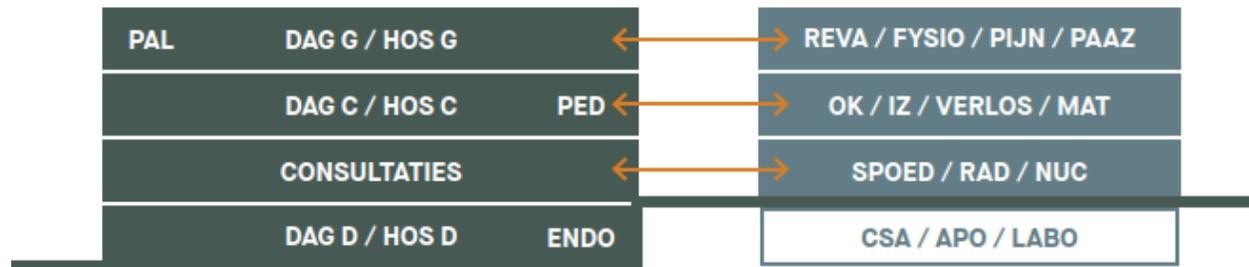
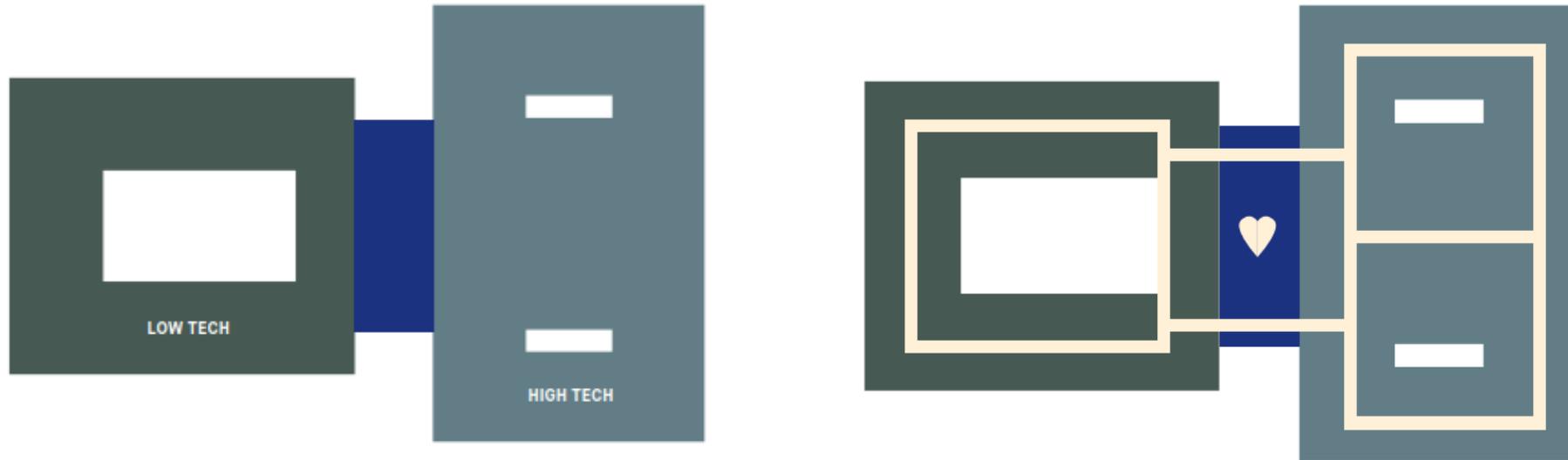




As a result

- a. more effective and efficient care processes
- b. a more user-friendly environment for patients, staff and visitors
- c. more efficient logistics
- d. reduced maintenance requirements
- e. a building that is change-oriented, adaptable and flexible
- f. upgrading a “brownfield” site into a “healing environment”.

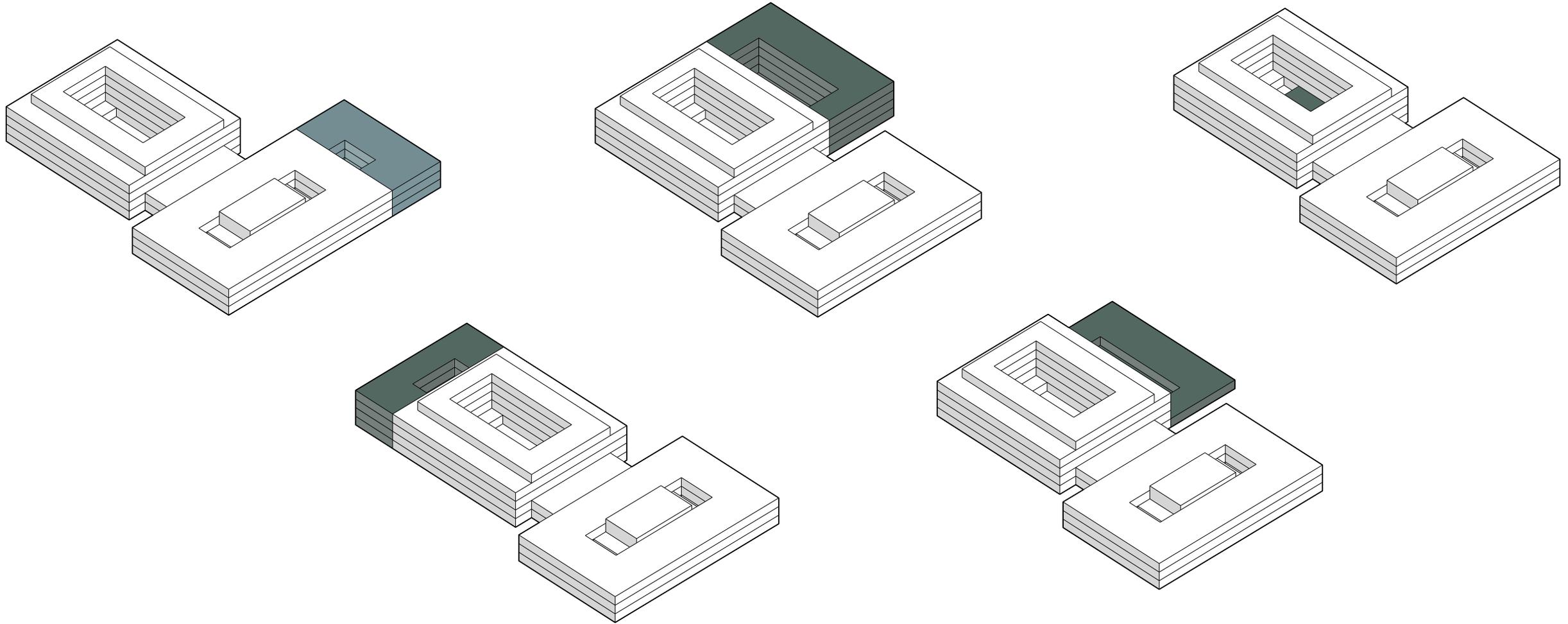




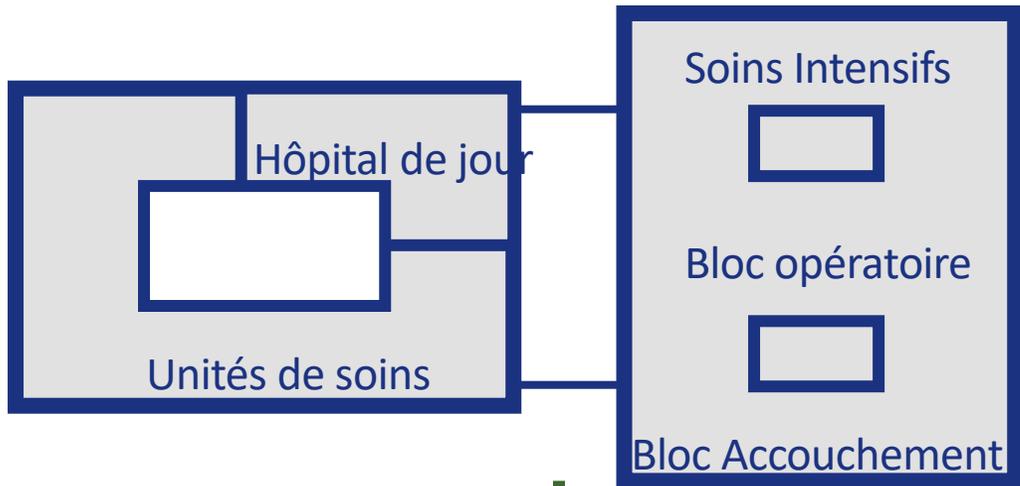








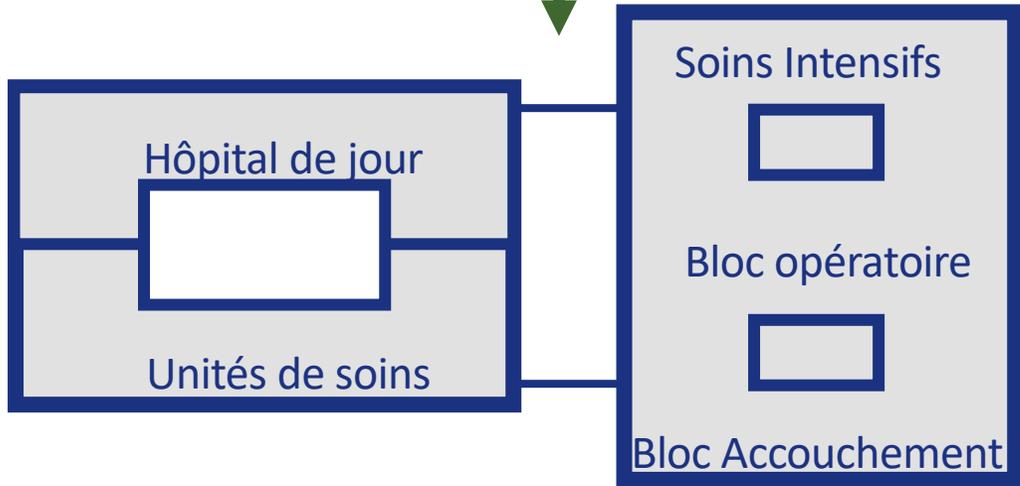
€ / bed



2027



€ / treatment



2037



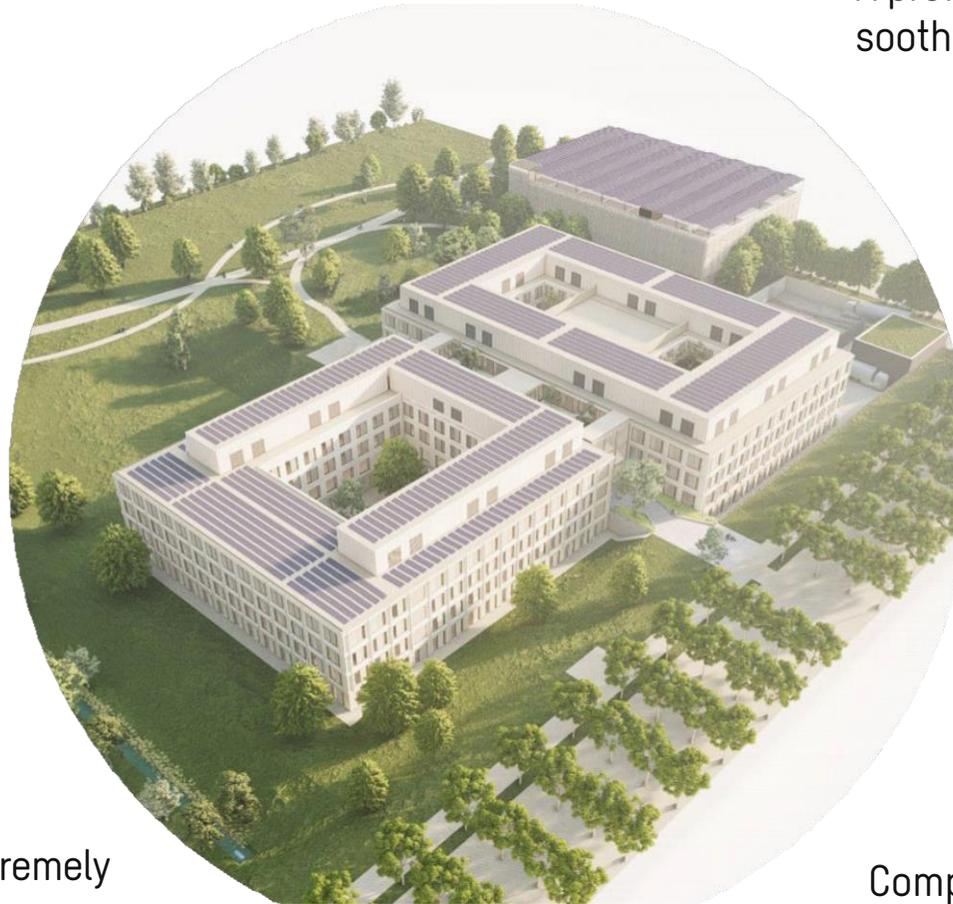
Transforming a Brownfield into a healing environment

Connection to the city and to the hospital network

Layered method  
High Tech vs. Low Tech

Robust 'casco' construction for interior fittings / installations / structures

Flexible installation, an extremely adaptable and expandable building



A professional environment that is functional, soothing and people-centered.

High level of standardization

Stress-reducing environment where autonomy is stimulated

Intuitive orientation, daylight, contact with the natural environment, human scale and short care paths

Compact and durable: more efficiency with less m<sup>2</sup>

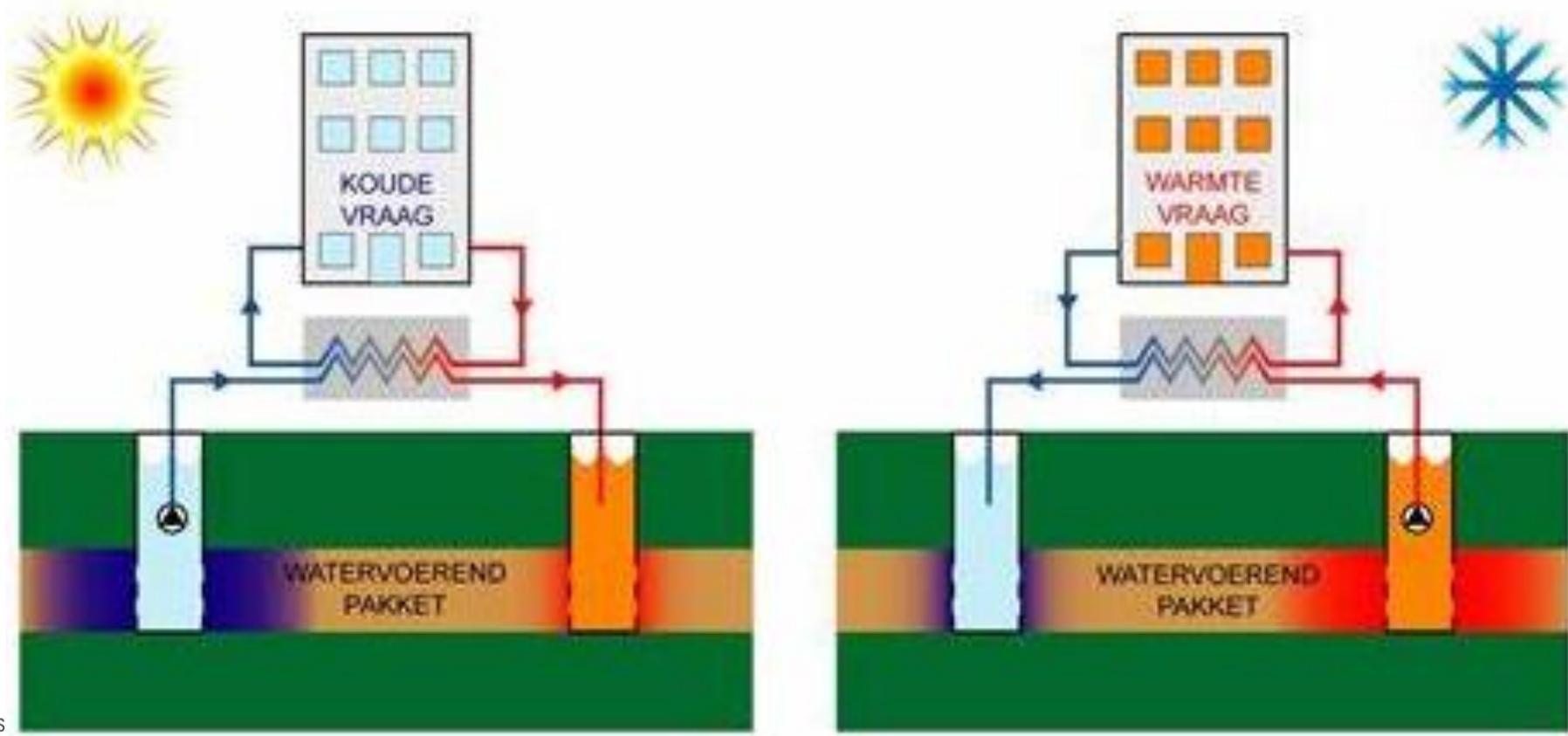


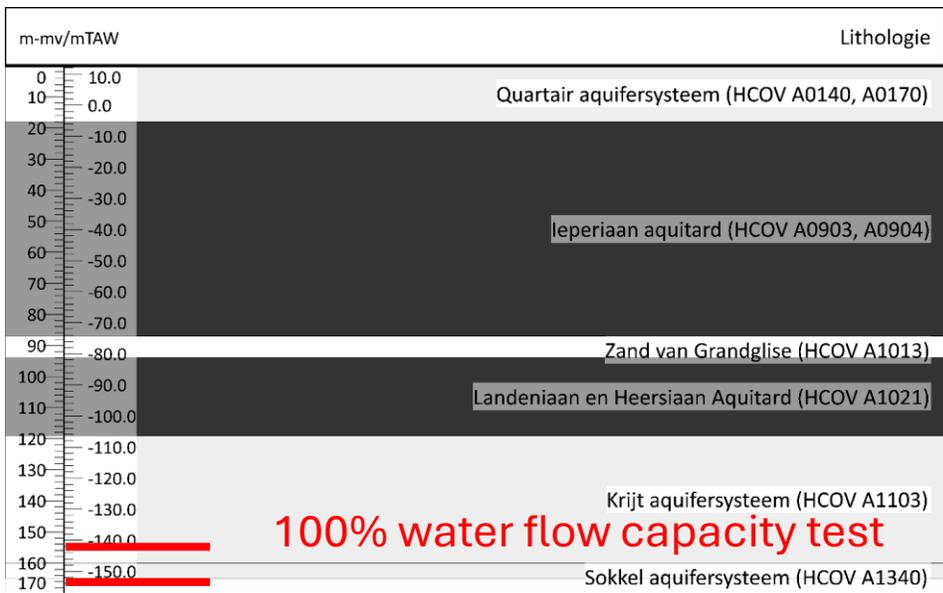
**SAMEN MAKEN WE  
MORGEN MOOIER**  
**OVAM**

**M|G**  
REAL ESTATE

200,000 tons  
95% reclaimed land









# 05

TIENEN // REGIONAL ZIEKENHUIS HEILIG HART



**Architects:** VK architects + engineers, part of Sweco

**Client:** RZ HH Tienen

**Site:** Tienen (Belgium)

**Project Period:** 2020- 2028

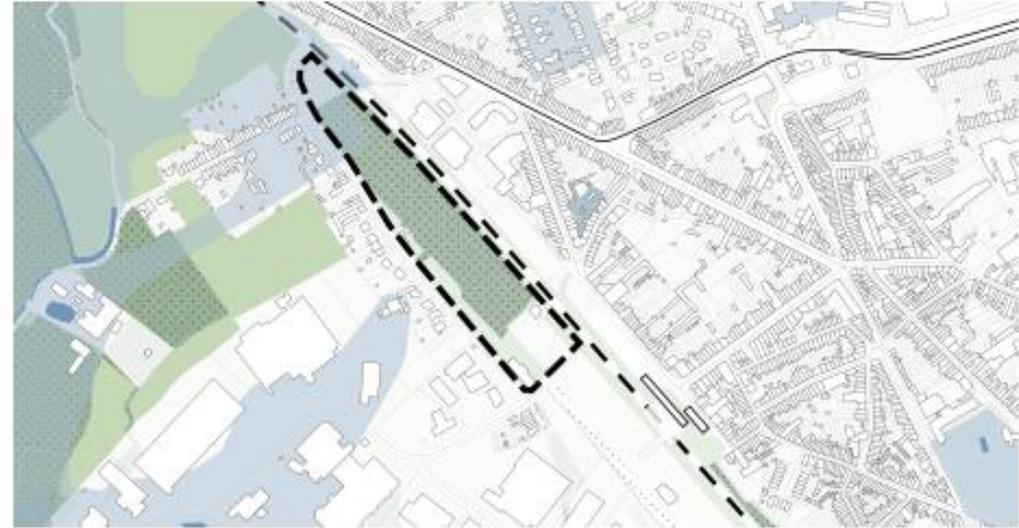
**Beds:** 330

**Parking:** 500 places + 420 bike parking

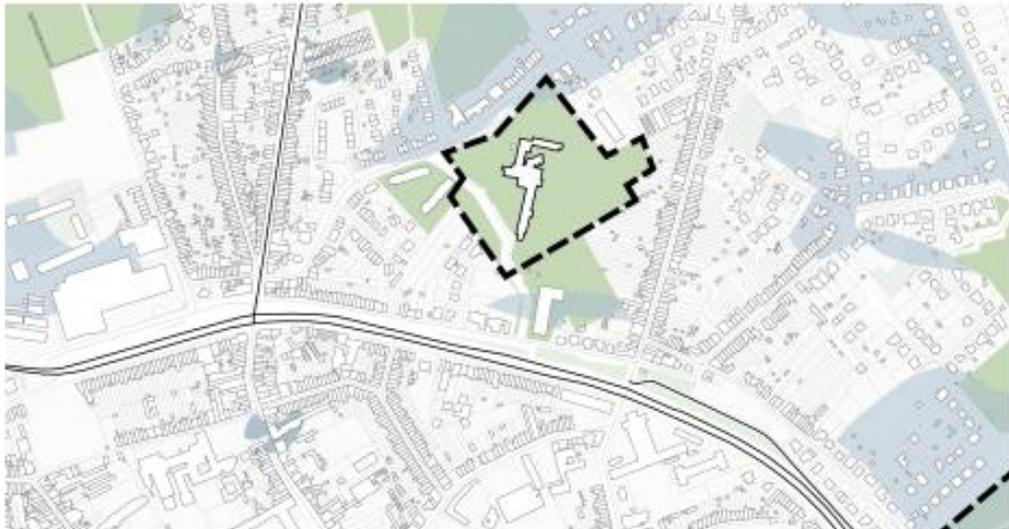
**Gross floor area:** 42.500 m<sup>2</sup>



Westelijke ring - 12,93 ha



Stationsomgeving - 4,85 ha

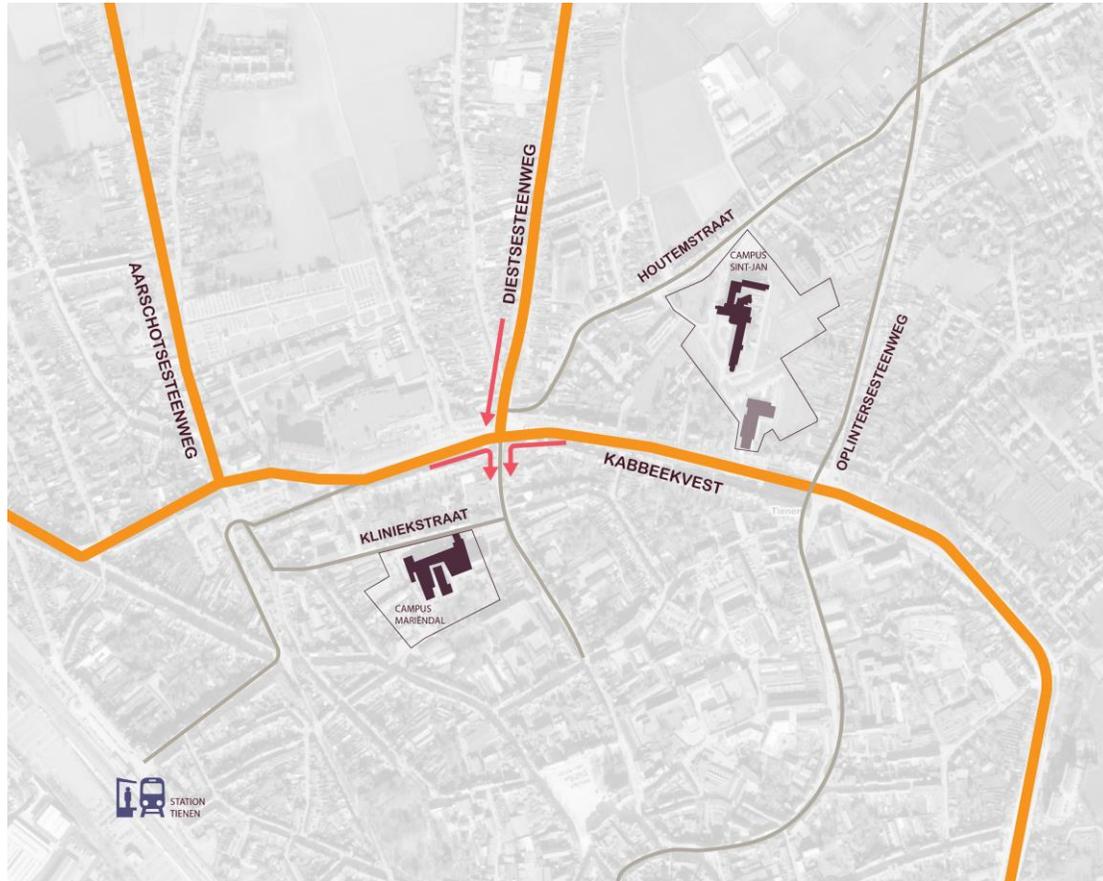


Campus Sint-Jan - 4,45 ha



Boomgaard - 13,10 ha

# Urban context



Existing situation

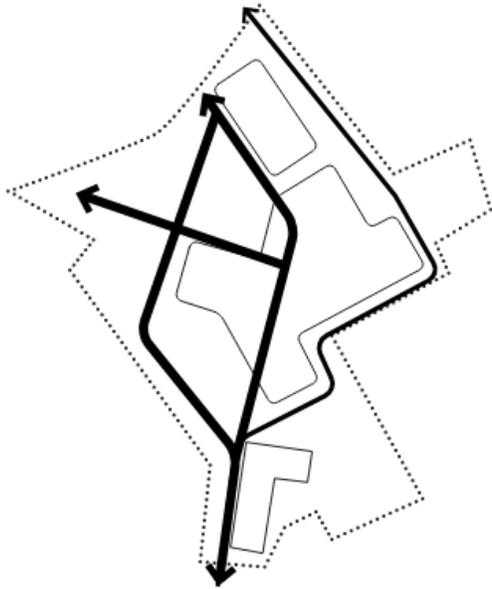
# 2 in 1 on 4.45ha...



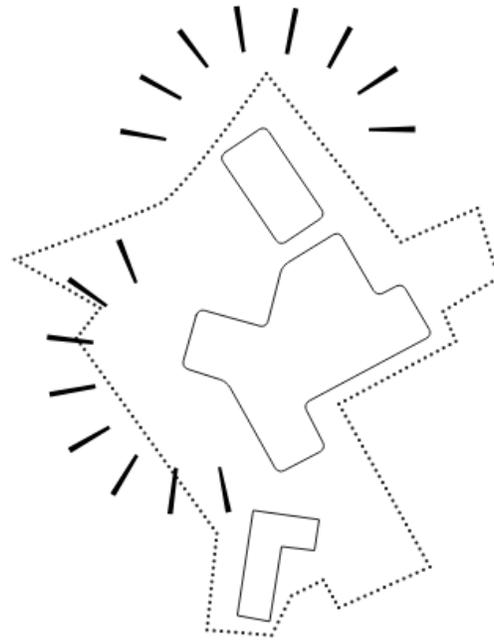
Desired situation... a unified campus



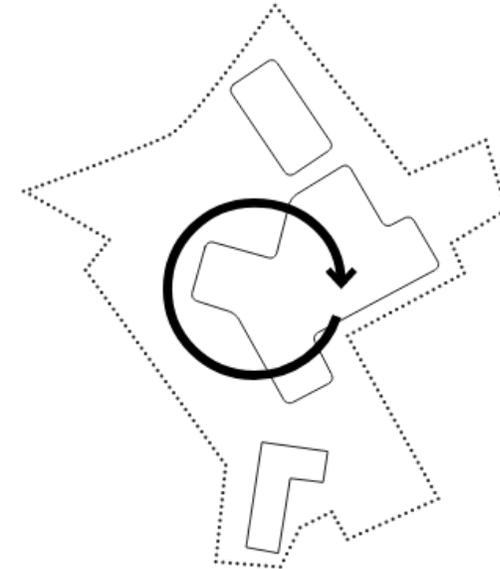
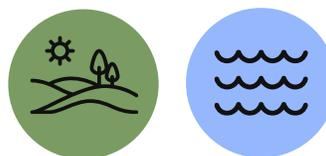
# The health-food-park



Une mobilité claire et durable



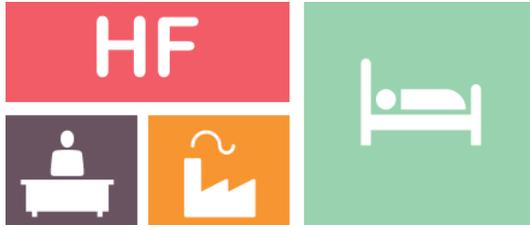
Un réseau robuste **vert** & **bleu**



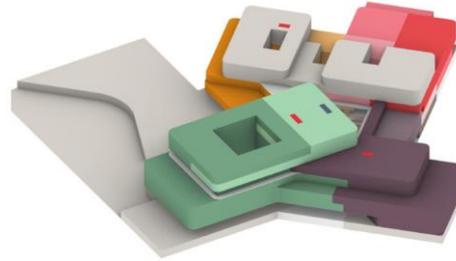
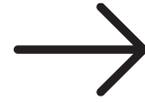
Un parc alimentaire de santé orienté vers l'avenir



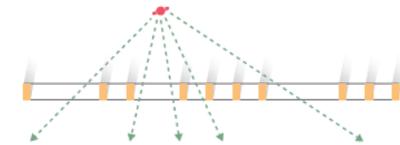
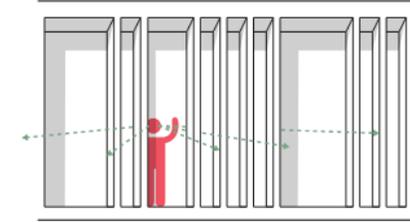
# The efficient, compact hospital



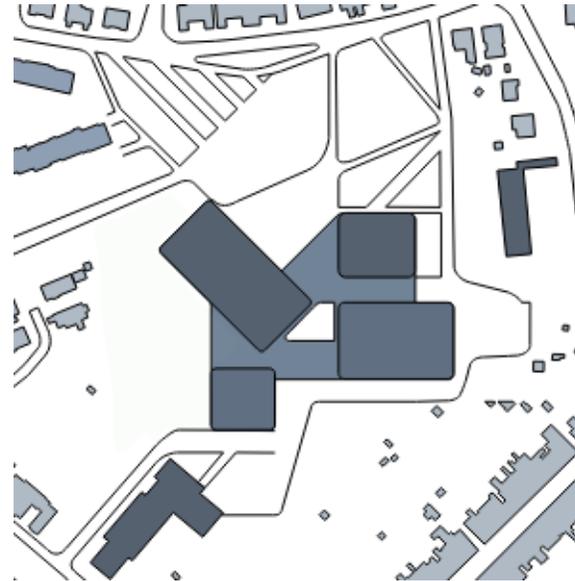
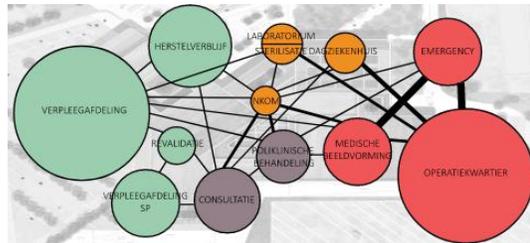
The 'layer model'



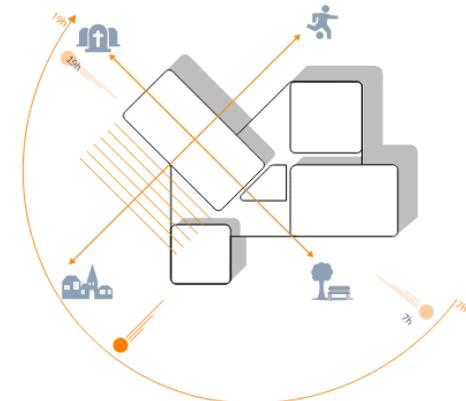
Modular facade 

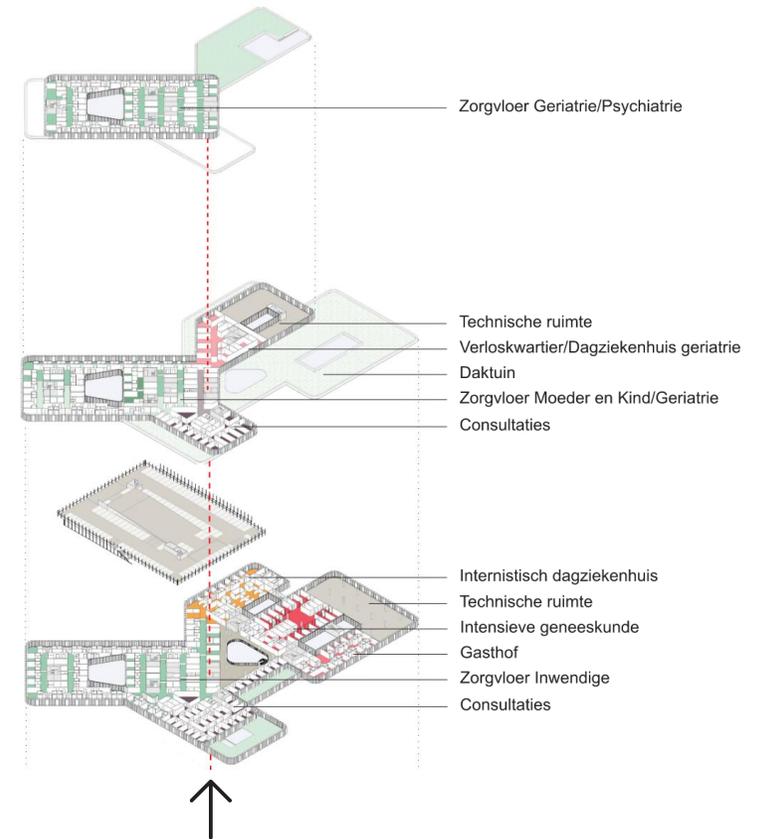
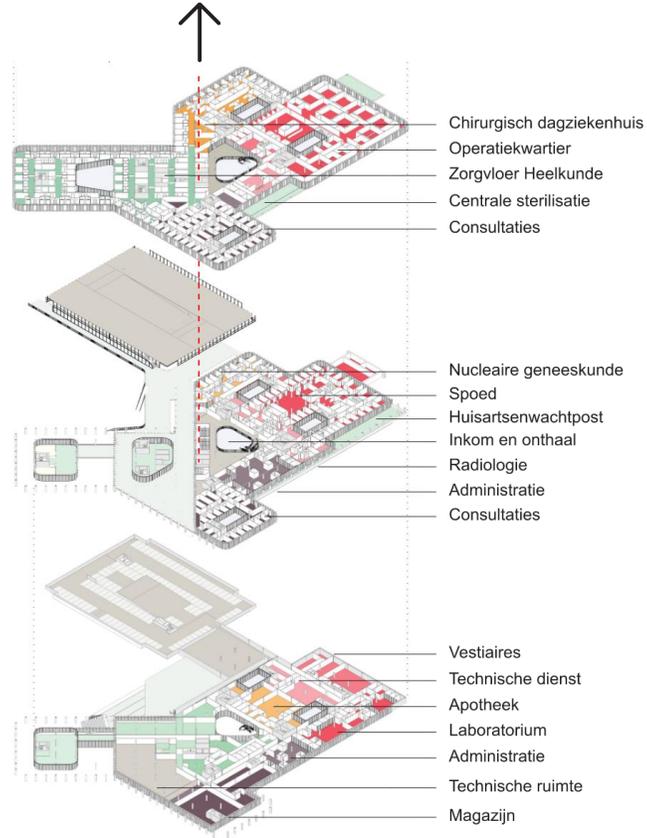
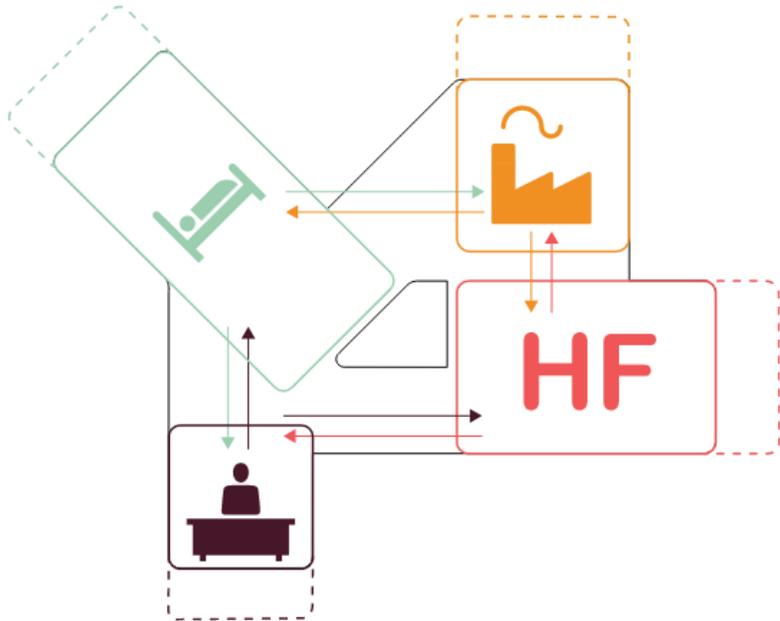


Research based design



Orientation











architects  
+ engineers

part of SWECO



# vert bleue



vert bleue





architects  
+ engineers

part of SWECO



# Hôpital versus Healthcare?



# Hôpital versus Healthcare?



# A wellness centre in a (food) health park



# A wellness centre in a (food) health park



# 06

HELORA // MONS – LA LOUVIERE – NIVELLES – LOBBES – WARQUIGNIES



**Architects:** VK architects + engineers, part of Sweco |

**Projekt team:** AVKT  
Archipelago  
VK architects+engineers, part of Sweco  
Tractebel engineering

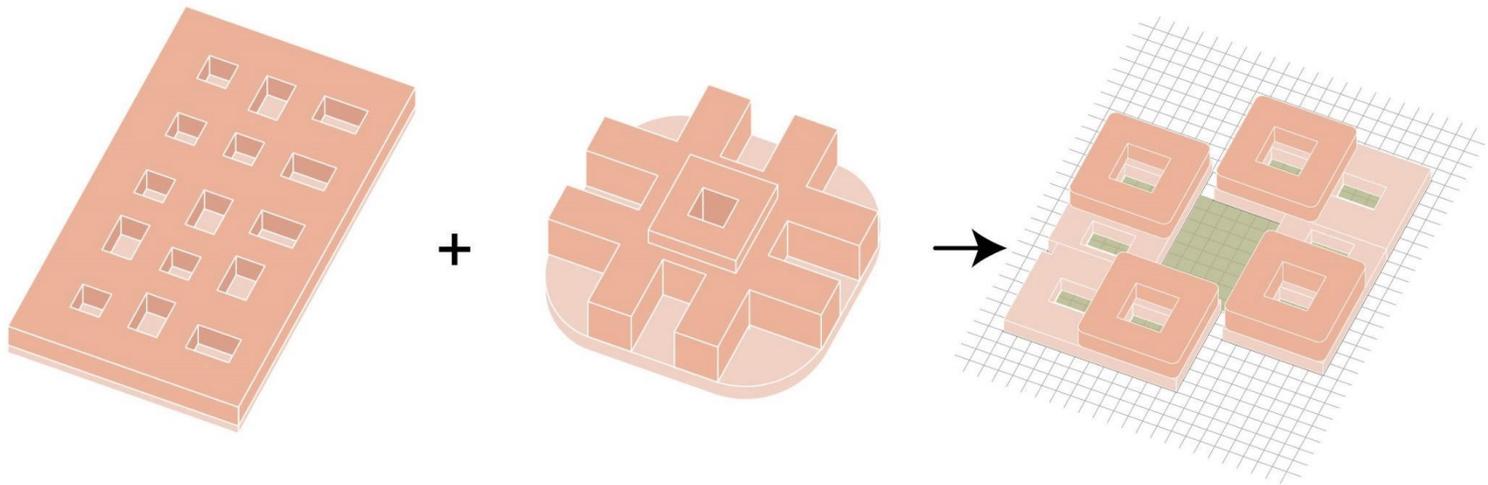
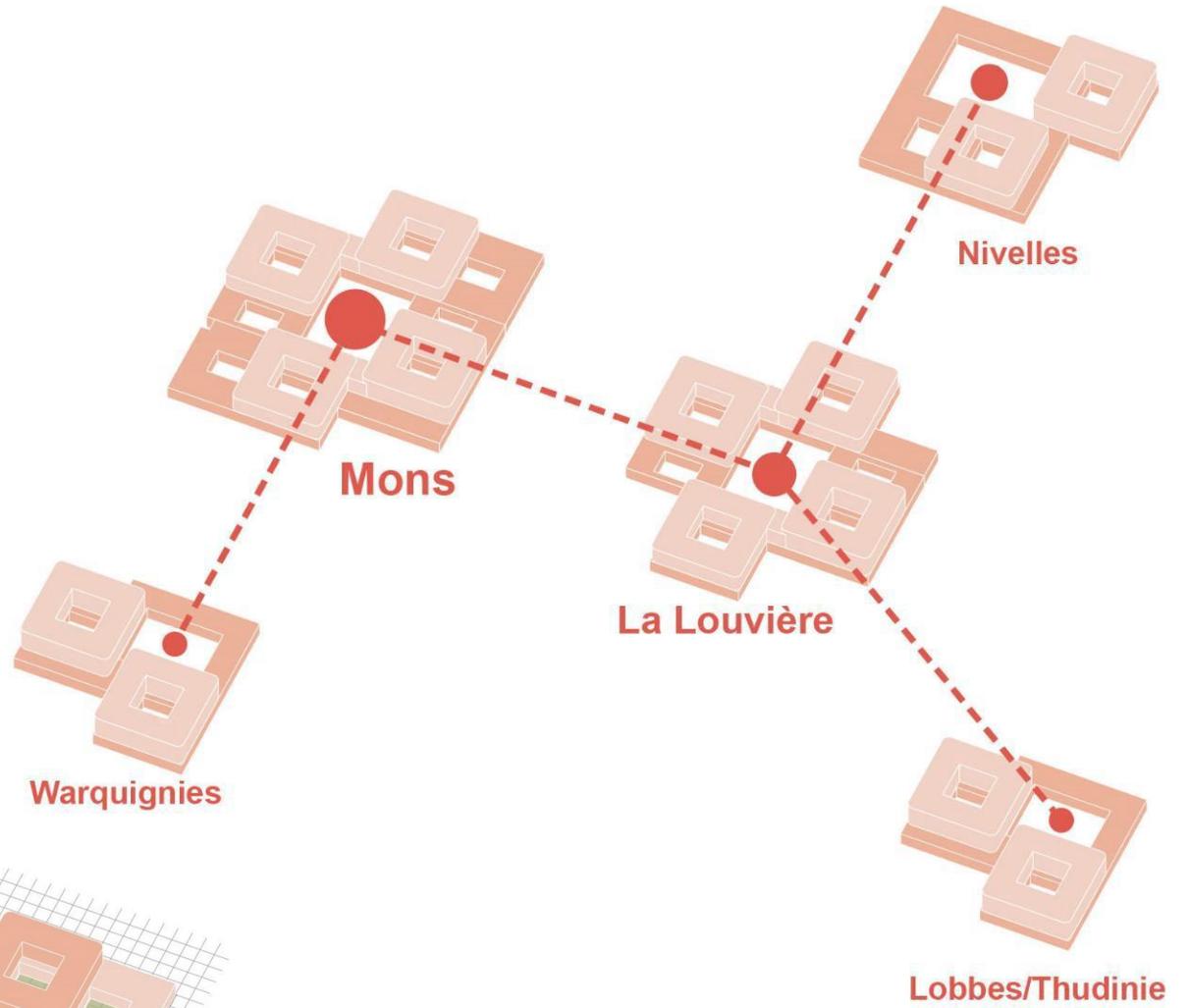
**Client:** réseau hospitalier Helora

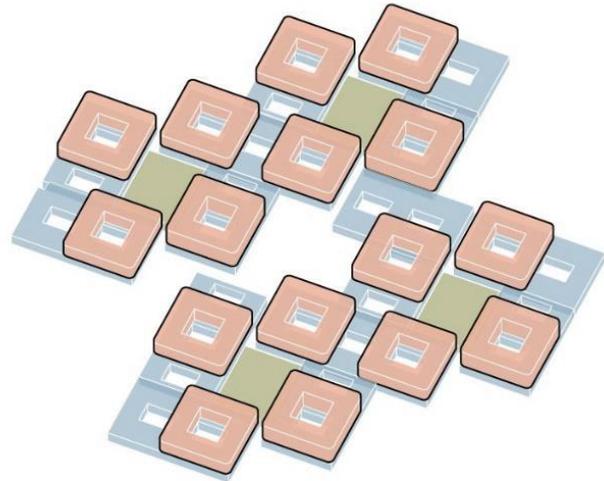
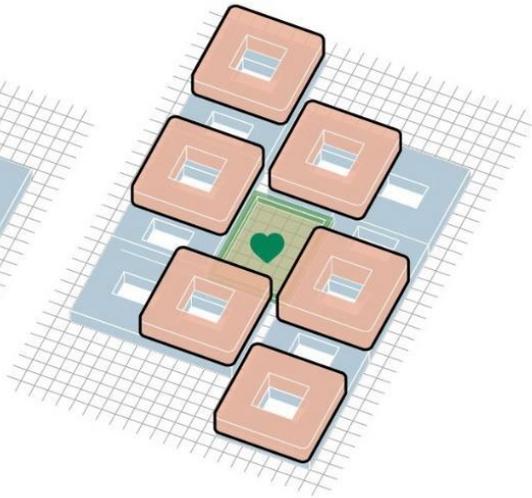
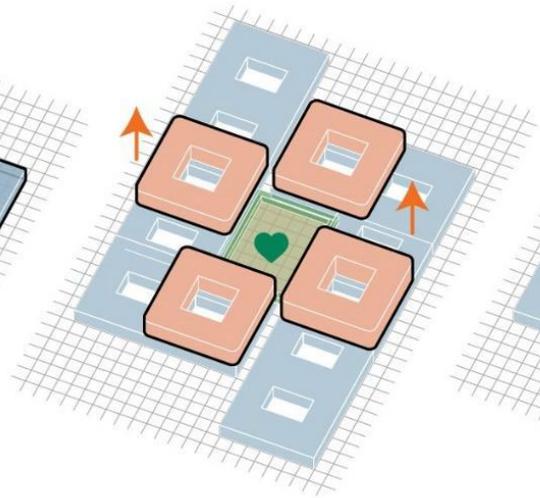
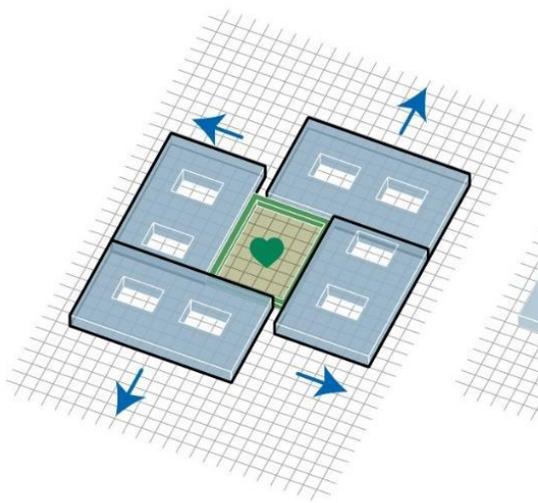
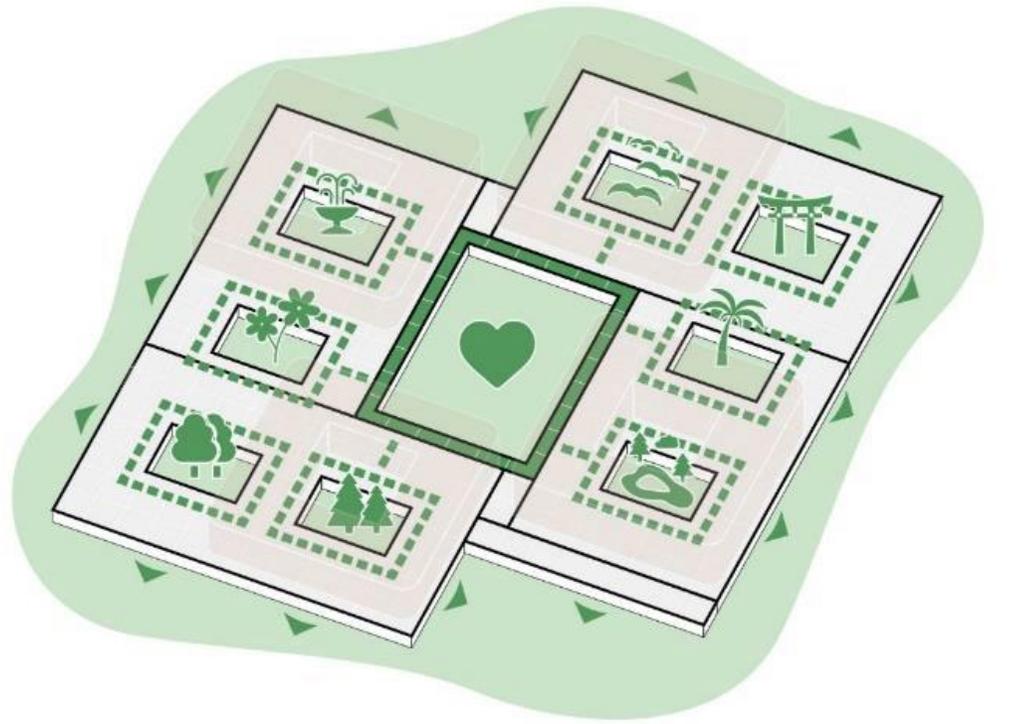
**Site:** Mons, La Louvière, Nivelles, Warquignies,  
Lobbès (Belgium)

**Project Period:** 2023 -

**Beds:** 1.800

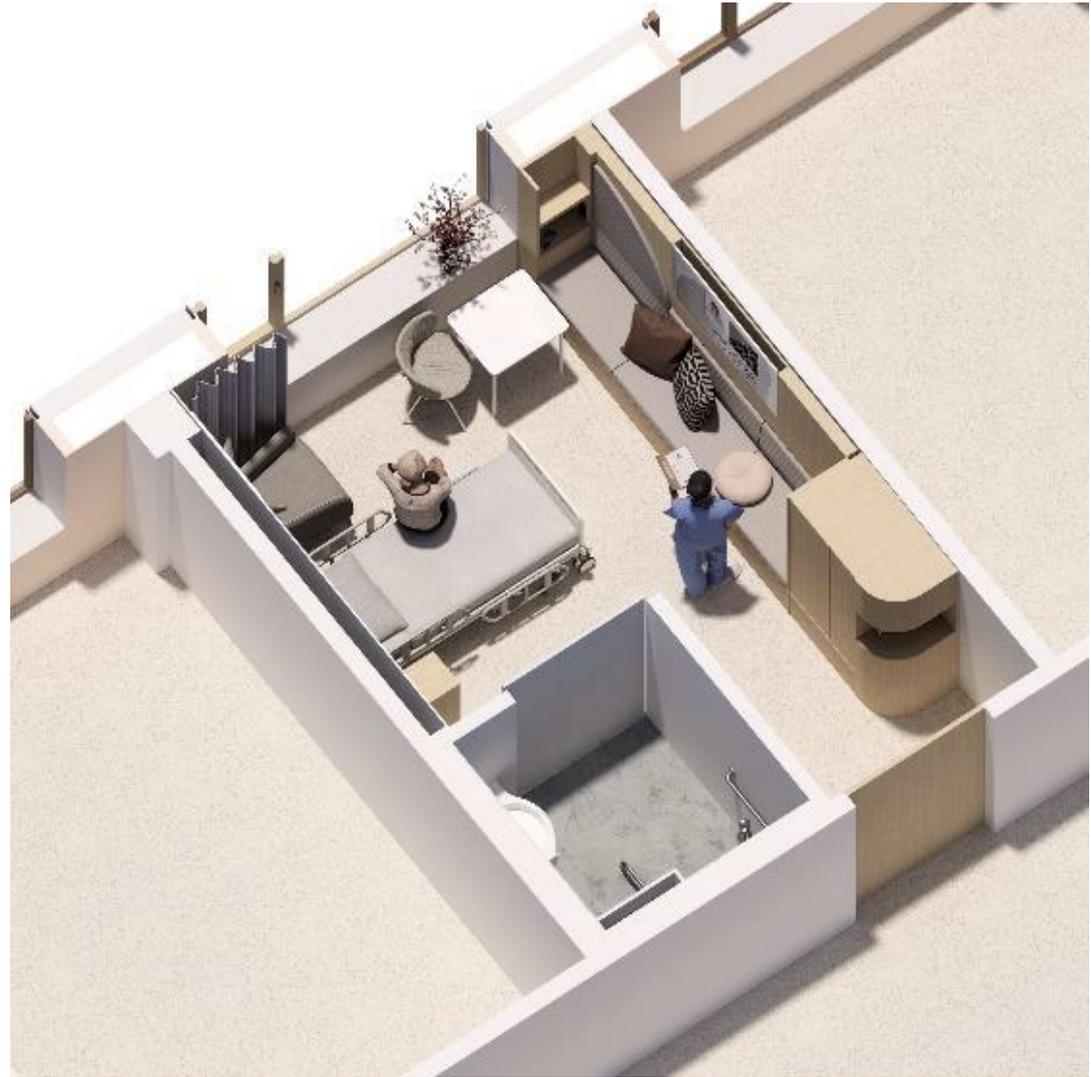
**Floor Area:** 220.000 m<sup>2</sup>



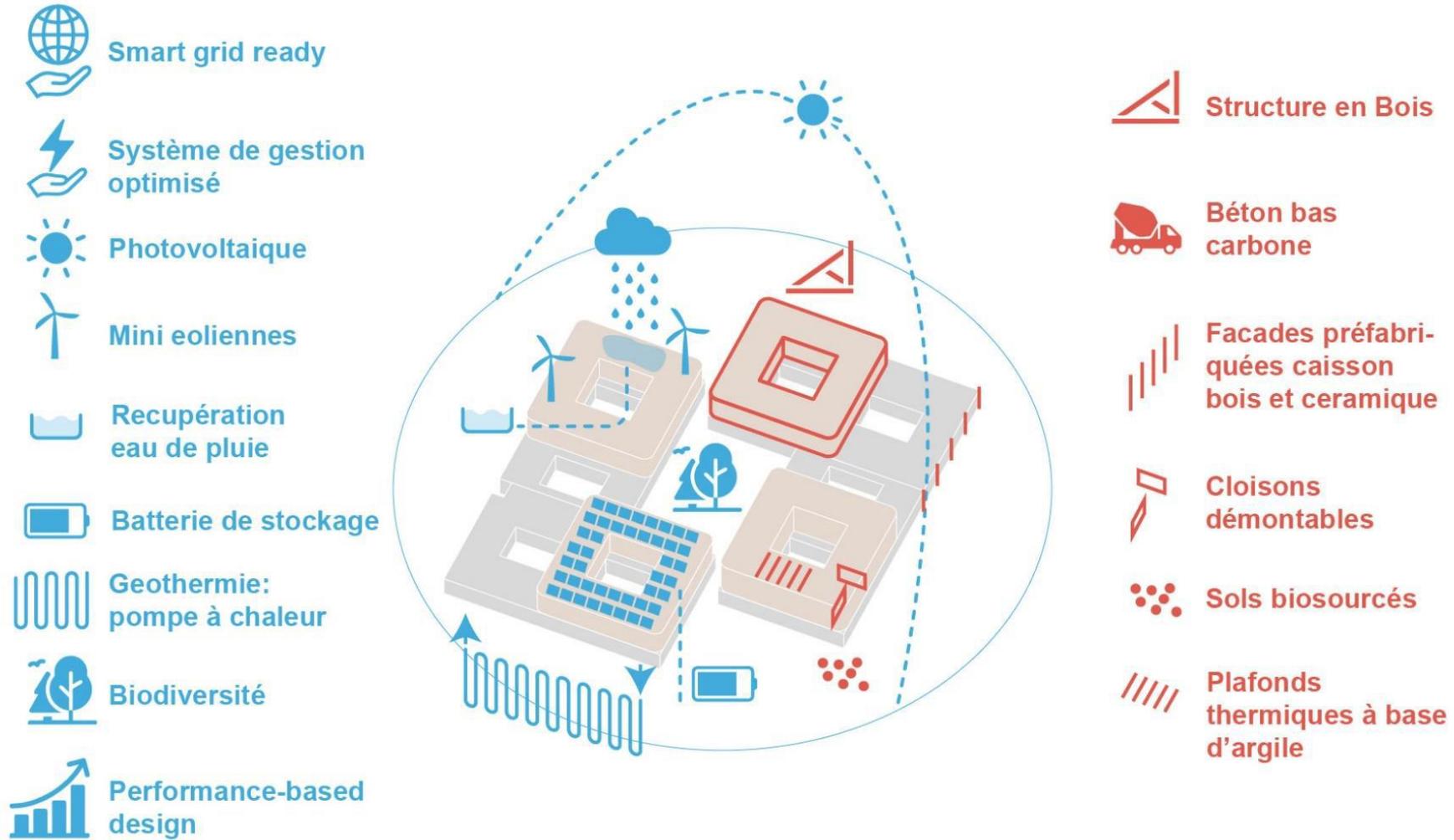


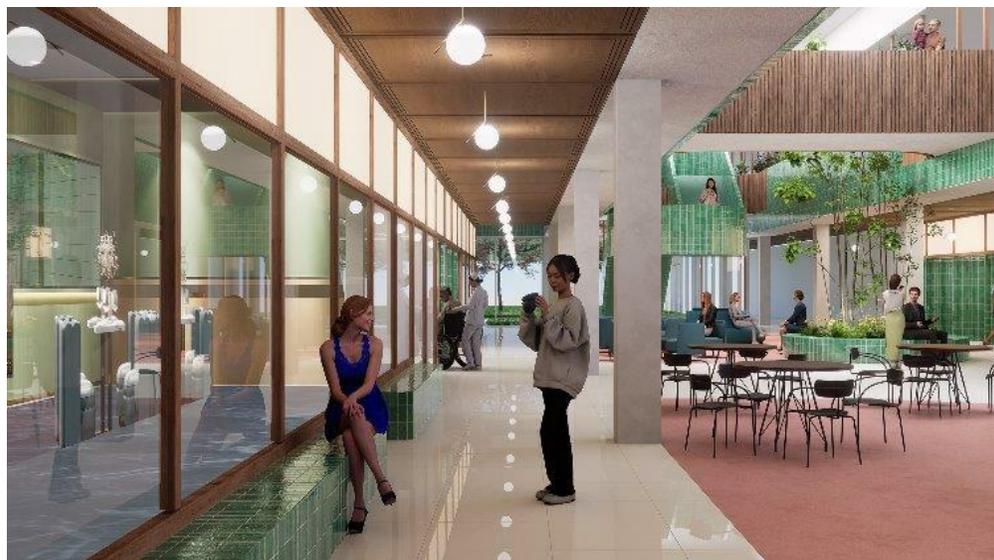






# HELORA network hospitals: towards a zero neutral carbon footprint





AZ Portael, une maison de santé prêt pour l'avenir



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