

# HE:AL Campus

An open, connected campus dedicated to research in preventive medicine housing offices, laboratories, a learning centre, restaurants and a library.

CLIENT

HE:AL Campus SA

TEAM

Patriarche (Architecture, Interior architecture  
Landscape, Urban design, Concept design,  
Sustainability, BIM)  
Partners :  
Atelier George, Oteis, LUXPLAN SA  
Credits :  
Jeudi Wang

KEYPOINTS

Reversibility.  
Demountability.  
An open, permeable campus.  
Amplifying the landscape.

SUSTAINABILITY

Circular economy.  
Wood frame.  
Prefabrication.  
Bioclimatism.

The HE.AL campus, dedicated to preventive medicine, is designed to be open and connected within a changing urban system. Comprising seven buildings, it is organised around a strong landscaped axis.

Just as medicine is evolving and changing paradigm, we are applying the same principals to the urban planning, landscape and architecture within our proposed masterplan. The project is designed to promote a productive and regenerating urban ecosystem; with a reversible and demountable design to meet a wide range of functions and requirements.

The dynamic structure addresses the circular economy of the site, giving the client optional flexibility and reversibility as their requirements shift. The urban scale naturally extends beyond the HE:AL Campus to resonate with the surrounding area and the city as a whole.

Typology  
**Health, Education, Offices**

GFA  
**124,490 m²**

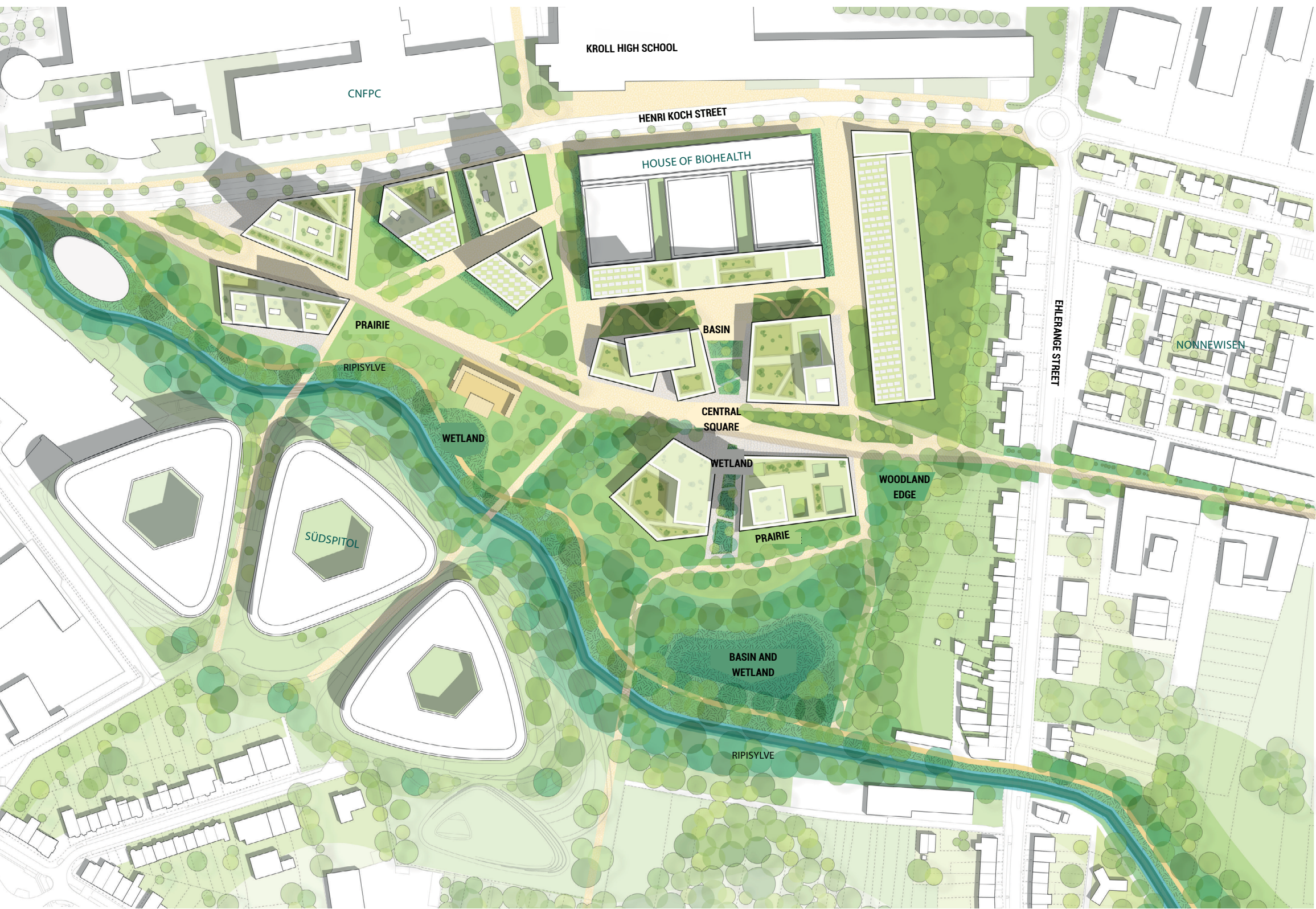
Construction cost  
**250 M€**  
  
Location  
**Esch-sur-Alzette, Luxembourg**

Status  
**Competition 2023 (2<sup>nd</sup> place)**  
  
Project delivery  
**Private-sector project management**

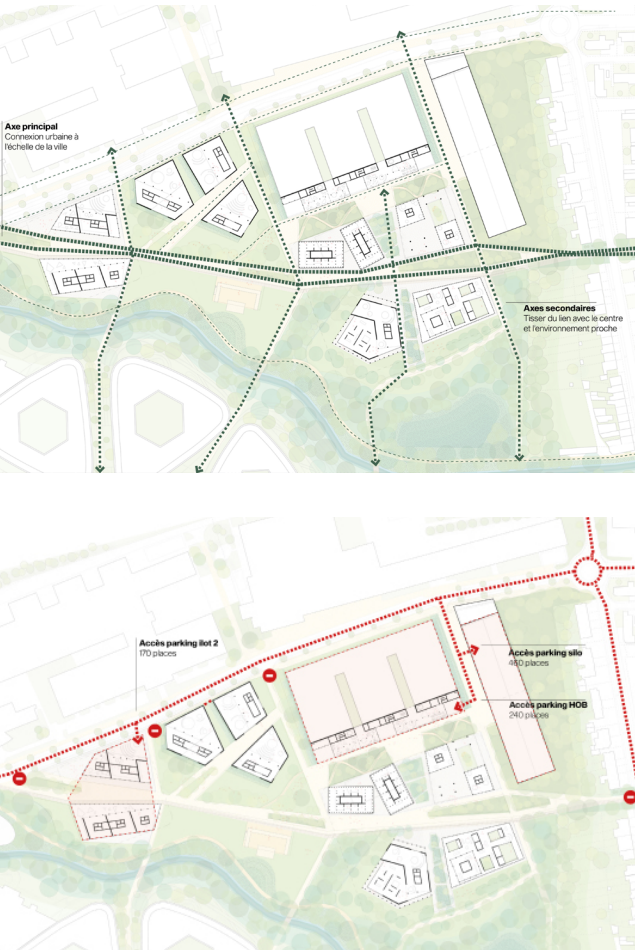




# Masterplan



The HE:AL campus is set within a strong geographical context, which it aims to reinforce by combining the three main scales of the territory.

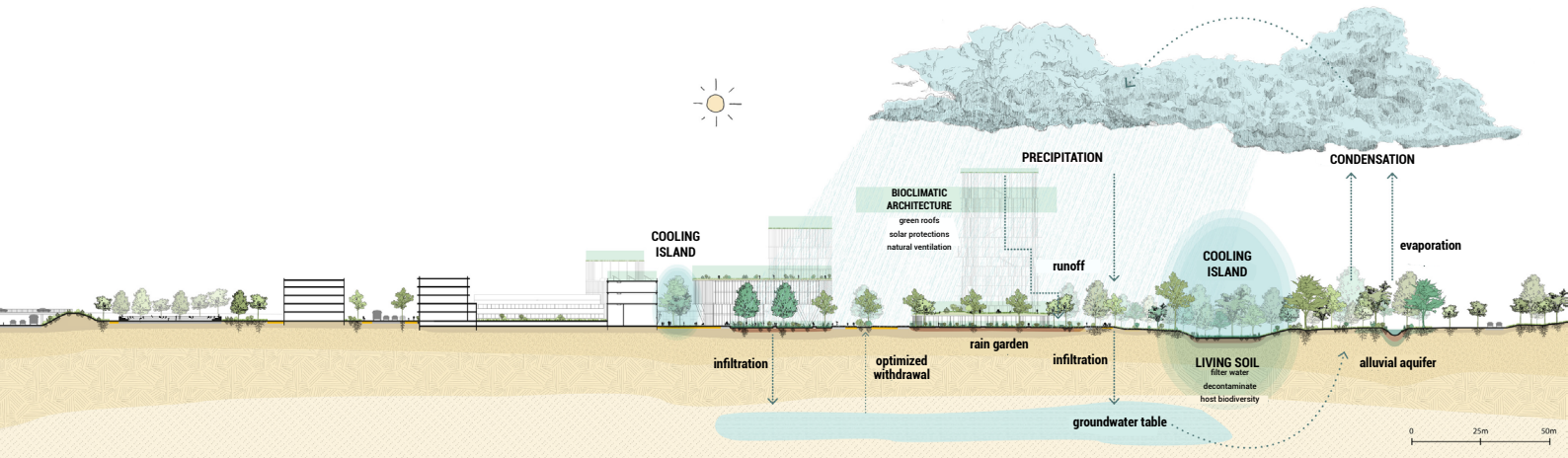


## The three scales of intervention

- The geography of the Dipbech urban valley, which needs to be rewilded so it can fully play its role as an ecological corridor structuring the city's various development hubs.
- The campus's public spaces, whose user comfort is in synergy with the restoration of natural environments (riparian forest, wooded edges, meadows, wetlands, etc.), serving as a support for soft mobility.
- Everyday spaces in symbiosis with architecture (terraces, balconies, loggias), whether shared or productive (bio-solar): a vertical landscape offering breathing space and a connection to nature on every floor.



# The landscape and living soils as an organizational framework



By rapidly and collaboratively installing all the components of a complex natural ecosystem (water, riparian forest, woodlands, herbaceous layers), we provide the HE:AL campus with a new structuring ecology that cares for living capital and organizes the site.

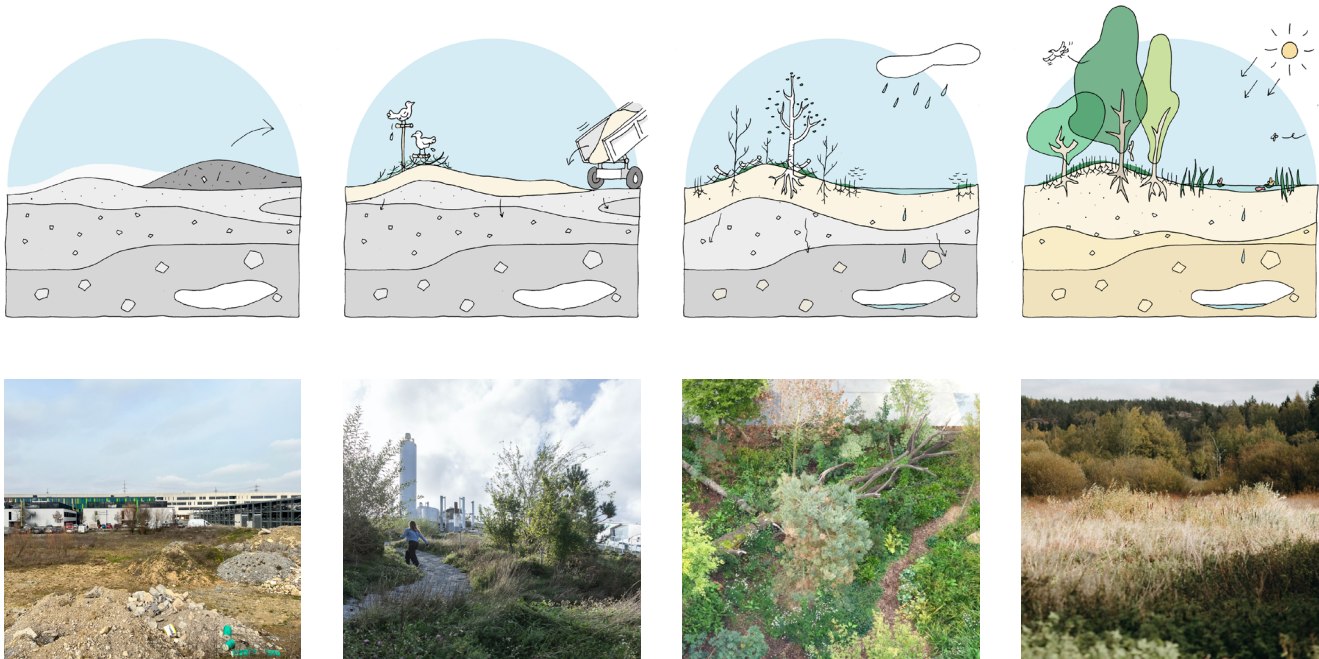
This framework is built through extensive work on creating living soils, introducing diverse plant layers, slowing down the water cycle at the site scale, and designing a vertical landscape fully intertwined with the architecture.

## Create a moving landscape

The landscapes thus created generate ever-changing atmospheres that reveal natural cycles. Tree stumps and dead trunks become habitats for small wildlife and humus for the soil; layers of bark and foliage mark the paths; piles of stones and bird perches act as seed traps. A whole mosaic of micro-habitats whose management practices must be guided by an adapted approach to ensure their sustainability and ecological functioning.

## Vertical landscape

- Inhabited landscape: the building podiums can accommodate on their roofs a thick layer, about 60 cm, planted mainly with multi-stem shrubs.
- Accessible landscape: intermediate roofs will have a thinner layer, about 40 cm, planted with smaller species and herbaceous plants. These soils will be shaped to allow micro-natural environments to develop, adapted to each substrate thickness.
- Energy landscape on inaccessible roofs: the highest roofs are ideal for installing biosolar systems (no shading from other buildings). A thin herbaceous layer (around 20 cm) will be planted, on which solar panels are installed. Plant evapotranspiration cools the underside of the panels, prevents overheating, and thus increases electricity production (by about 10 to 20%).





# Targeted reversibility

We address scalability and reversibility at the urban scale, no longer just at the building scale.

Contrary to the trend of making all buildings adaptable or reversible to anticipate the unpredictable, we are betting on targeted reversibility to strike the right balance in the project's carbon footprint. We approach adaptability and reversibility at the urban scale, rather than just the building scale, to address reversibility—and thus the site's circular economy—in a far more realistic, ambitious, and productive way.

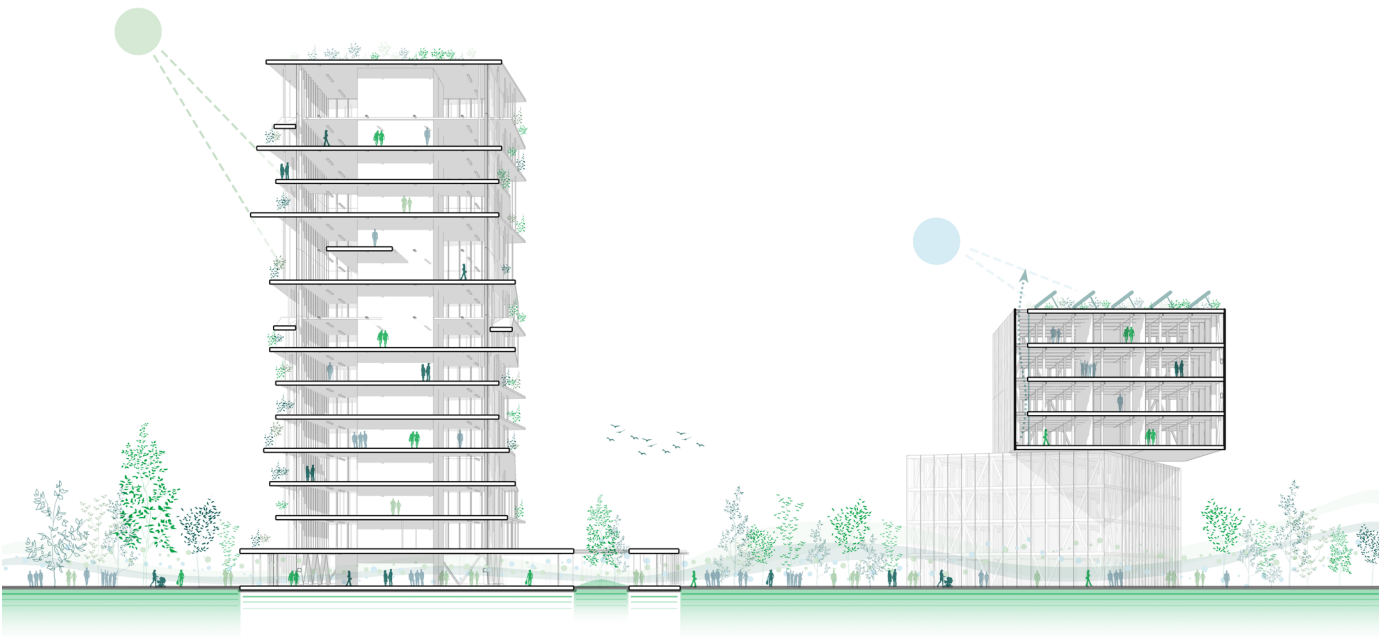
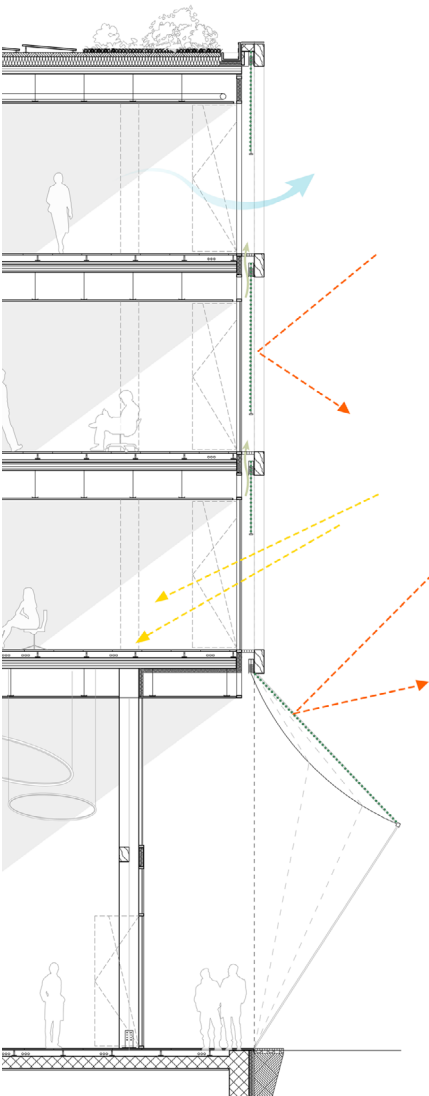
The diversity of proposed urban forms (and the 'architectural bestiary') allows for hosting various functions and therefore different types of reversibility over time.

It supports the business life cycle and naturally contributes to a form of adaptability at the campus scale. Circular economy then applies to the entire site and its extensions, rather than simply to the buildings.

## Buildings with variable heights

Why do we consider buildings of uniform height as the norm when they can—and should—accommodate multiple uses or functions that are sometimes very different? We choose to challenge this 'ready-made thinking' by proposing here, in a targeted way, a few buildings with variable heights. These naturally offer spatial conditions (ceiling height, outdoor views, visual connections...) that are very different and respond more intuitively to the needs of multiple users and uses.

At the same time, they contribute to creating an additional step toward the adaptability and reversibility of spaces.







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