

The Wood Knowledge Centre

Craft in the City
Urban Architecture
January 29, '21
Thijn Smit

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- Spatial layout
 - Exterior
 - Interior
- Building technology
- Construction design
- Climate design

Research

Personal choice



Wooden side table, by Smit, T.

Research

Hypothesis



The role of wood



Crafts Education over time

*"Wood and the education and practice of its crafts,
to some might look ancient, seem to make a comeback."*

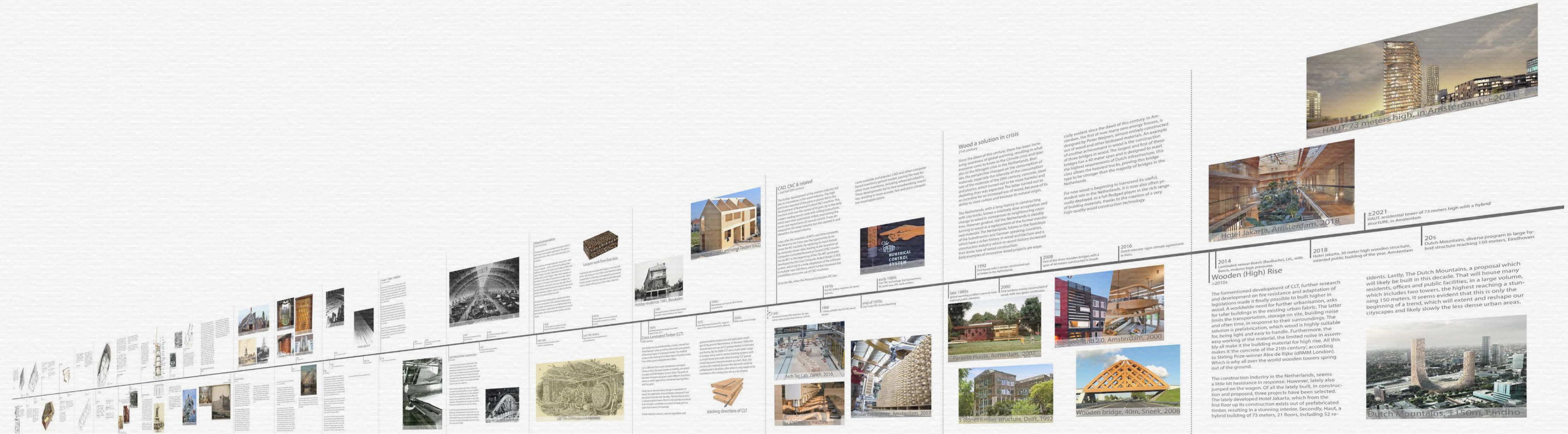
*"What has been the role of wood and craft education in the
Netherlands over time?"*

*"...insight is given in knowledge centres of the past and present to
elaborate if a new knowledge centre might be relevant at present..."*

Research

Wood

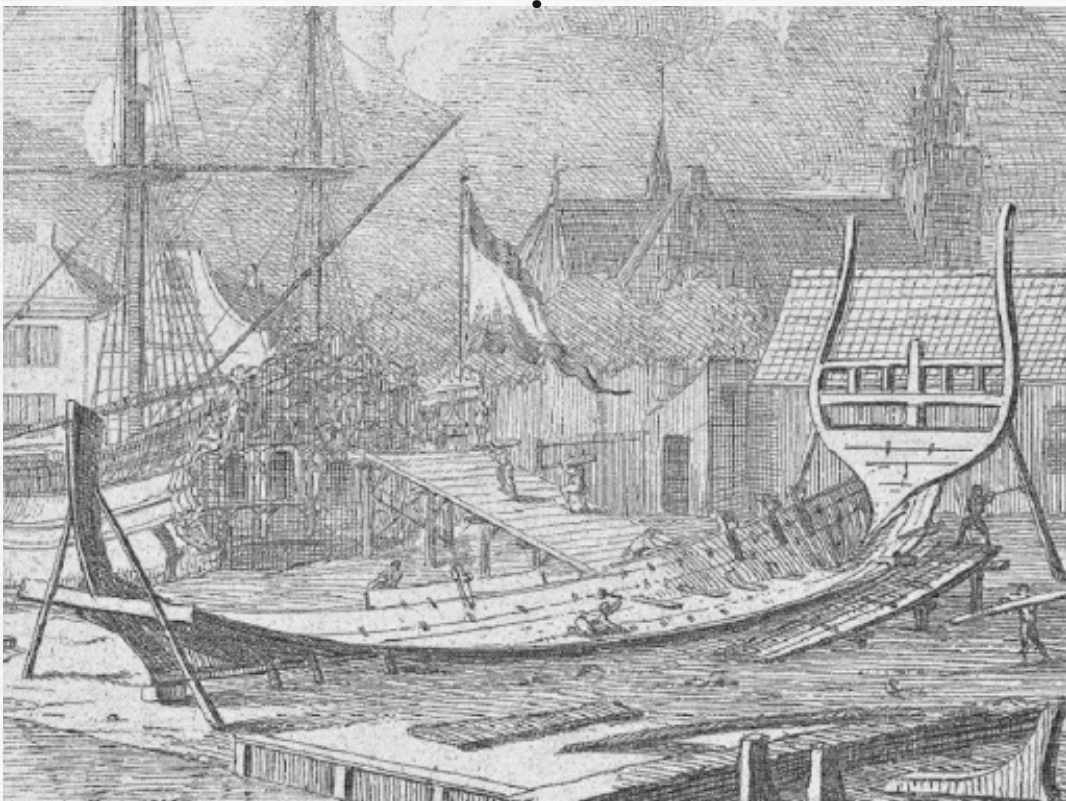
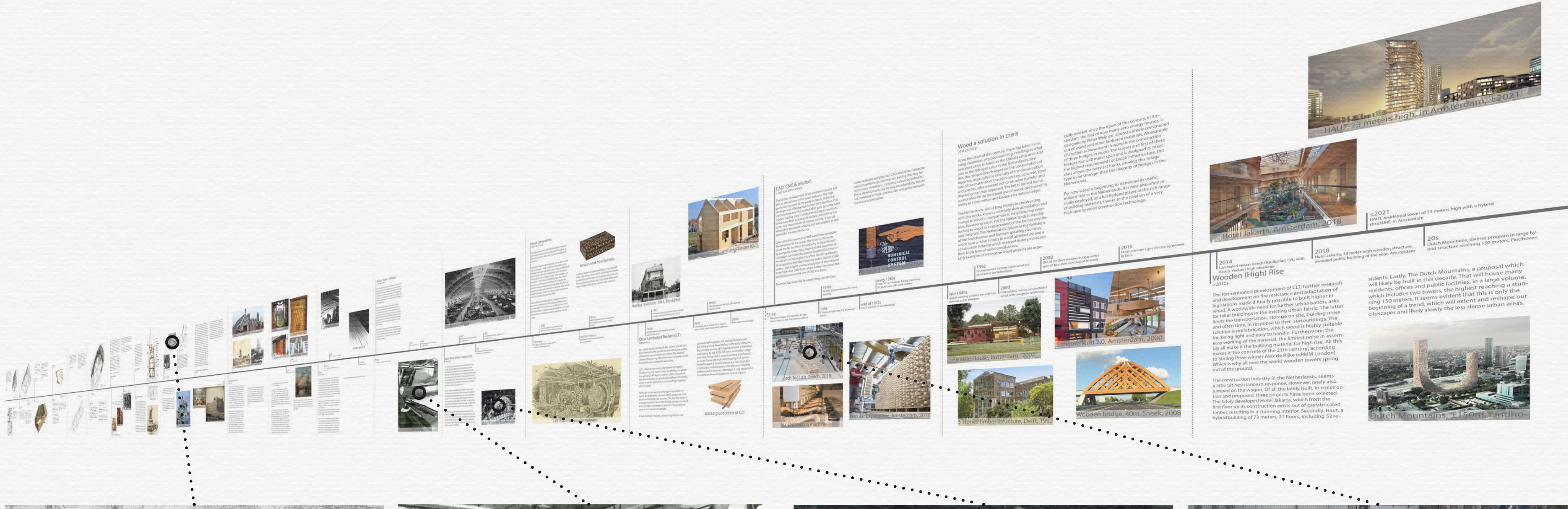
Wood in time



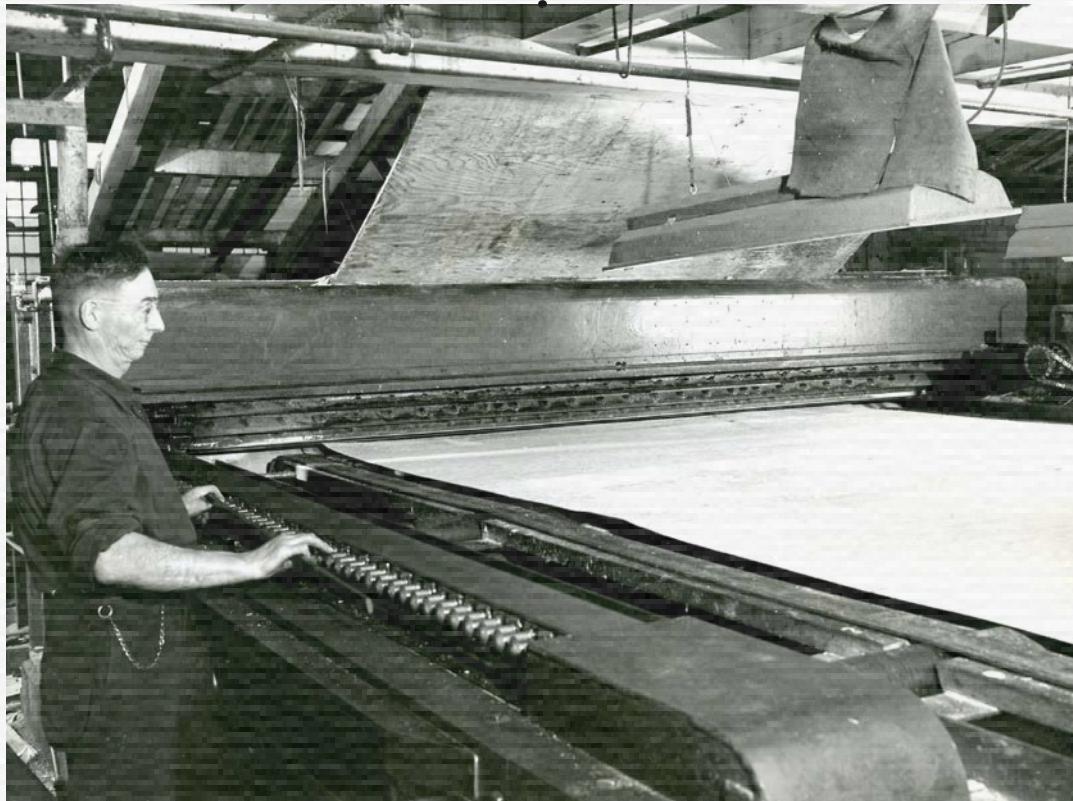
Research

Wood

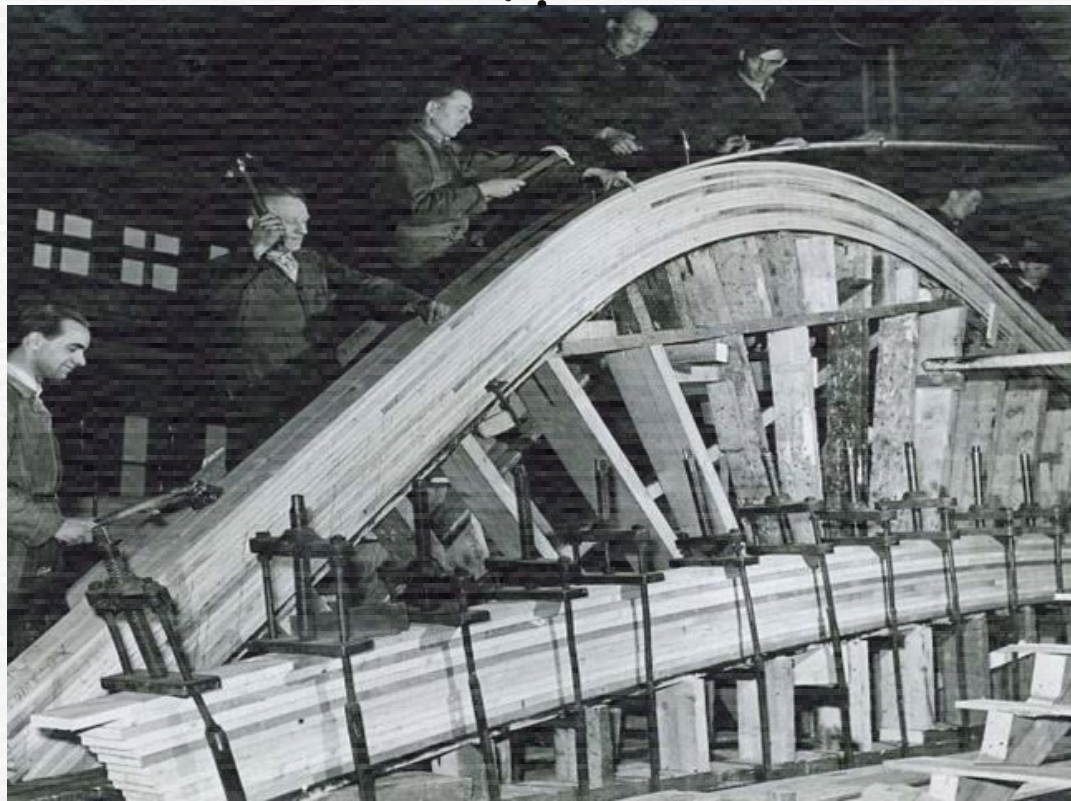
Wood in time



Wooden ships & city in 16th-17th century



Veneer chipper



Fabrication of laminated beams

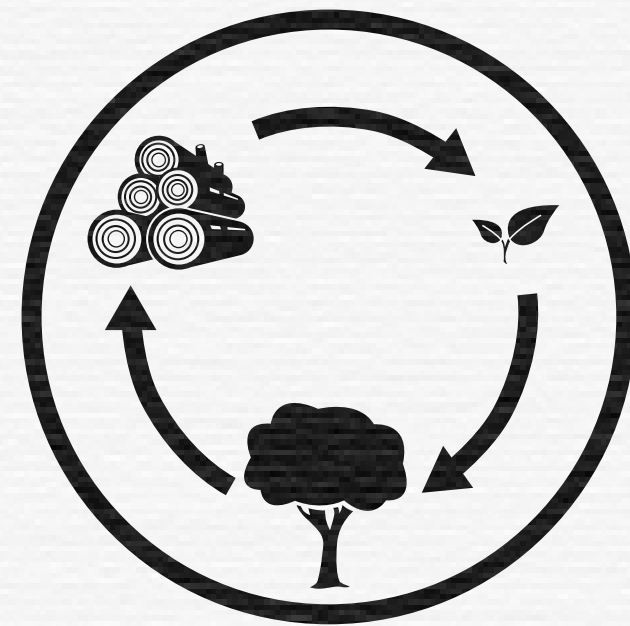


Assembly of trusses

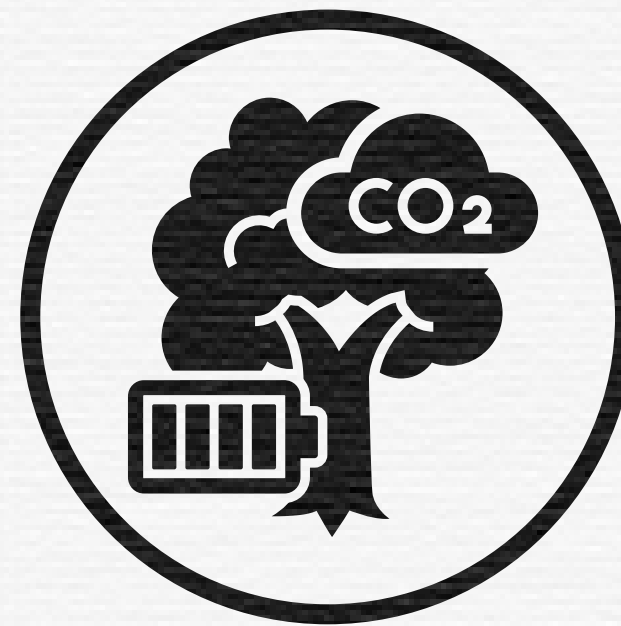
Research

Wood

New incentives



renewable/circular

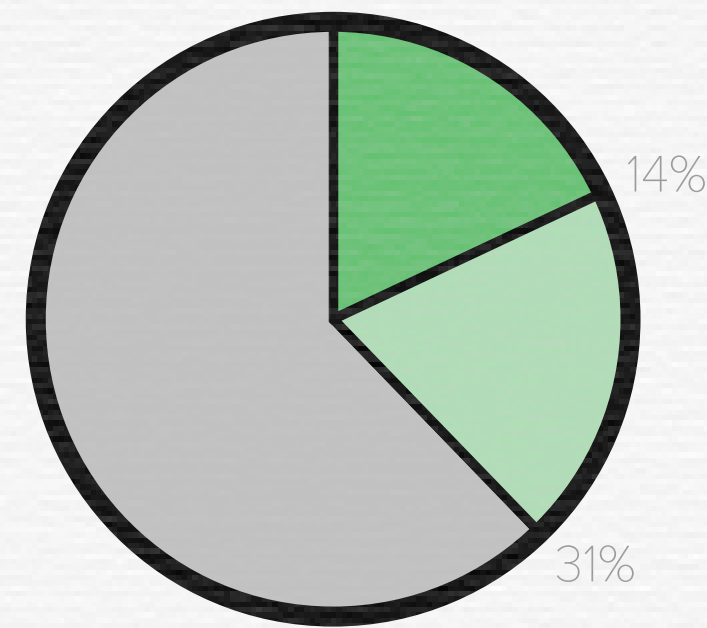


carbon storage

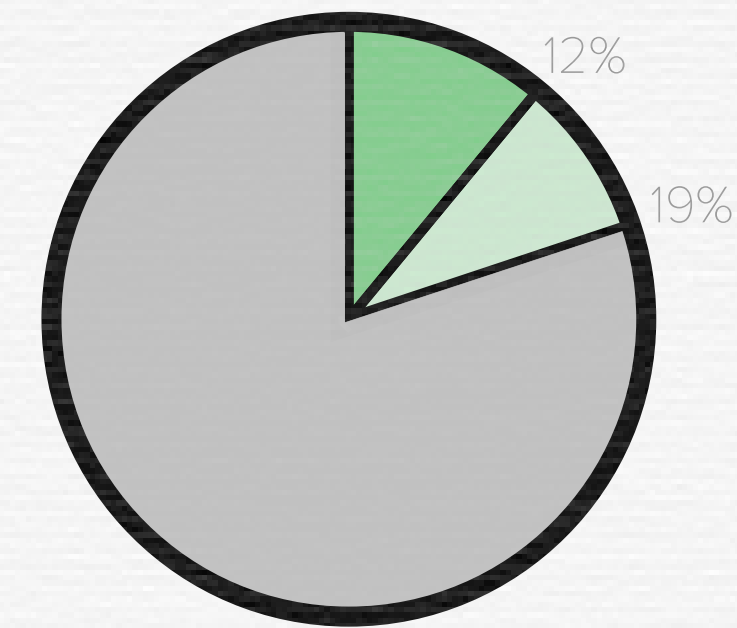


light transport & easy processing

If application increases by 14% worldwide...



global CO₂ emissions



global fossil fuel consumption

~ Yale University, 2014

Research

Crafts Centres

Education centres



Rijkswerkplaats, in Weert, 1958

Research

Crafts centres

Knowledge centres



Bouwcentrum, in Rotterdam, completed 1948



Interior, Bouwcentrum, Rotterdam

Design

Montage



Design

Montage



Design

Montage



Design

Montage



Design

Montage



Design

Montage



Design

Montage



Zoho

Zomerhof / Zoho, Rotterdam

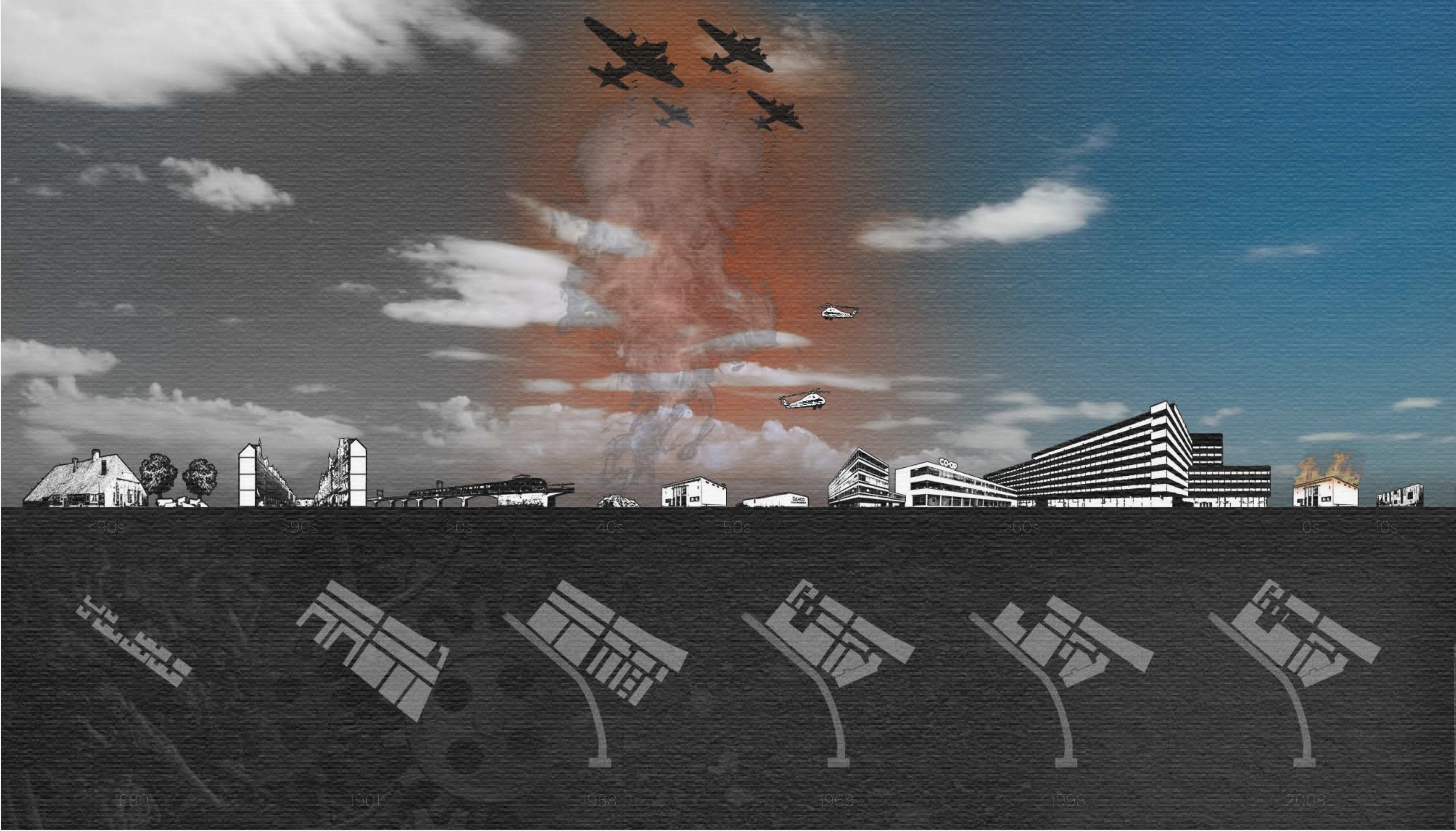


Legend:

- ① education
- ② craftsman
- ③ creative industries
- ④ creative offices
- ⑤ events
- ⑥ Hofbogenlijn
- ⑦ canal & green area
- ⑧ tram stop
- ⑨ train station
- ⑩ new developments

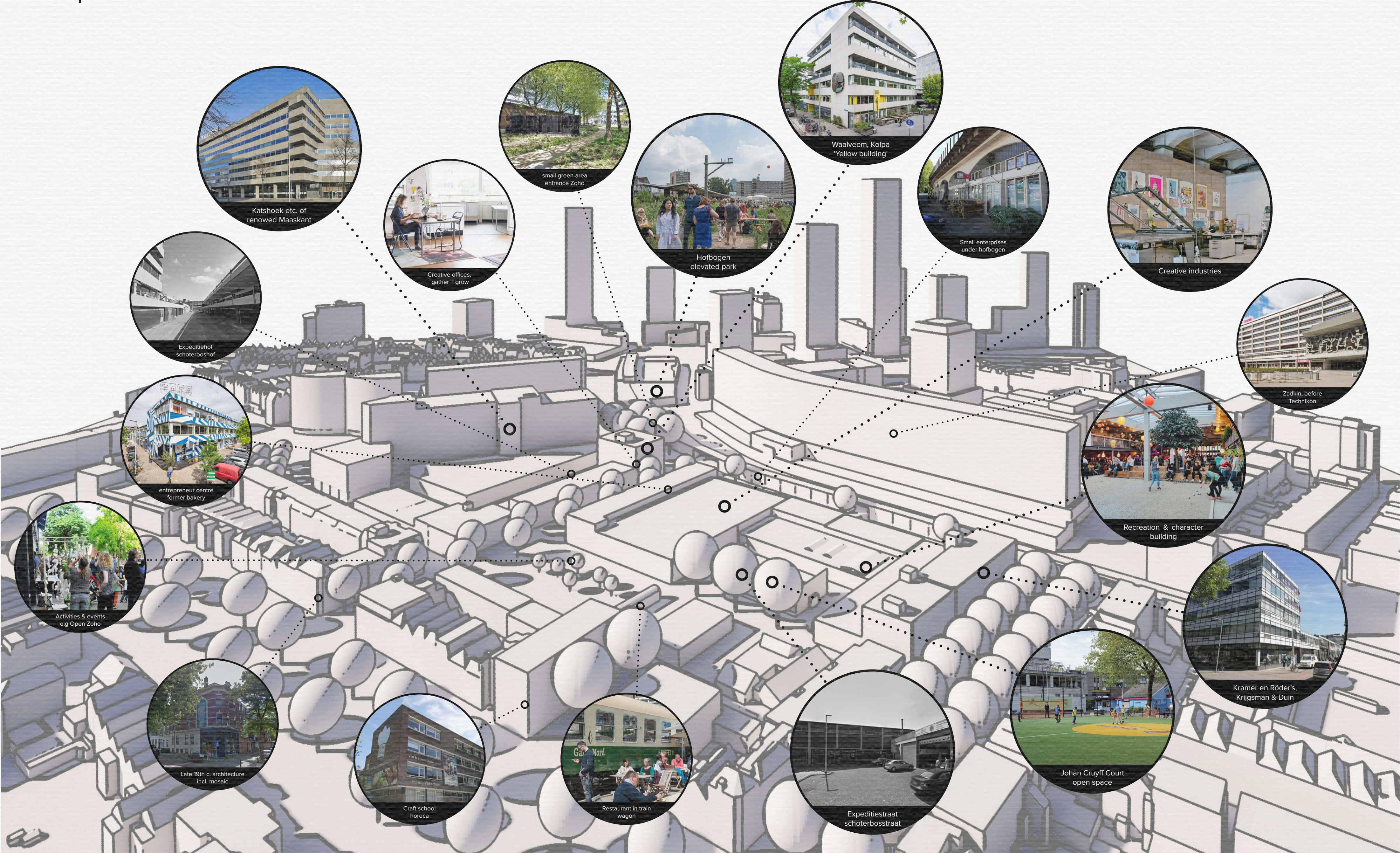
Zoho

Zoho - history



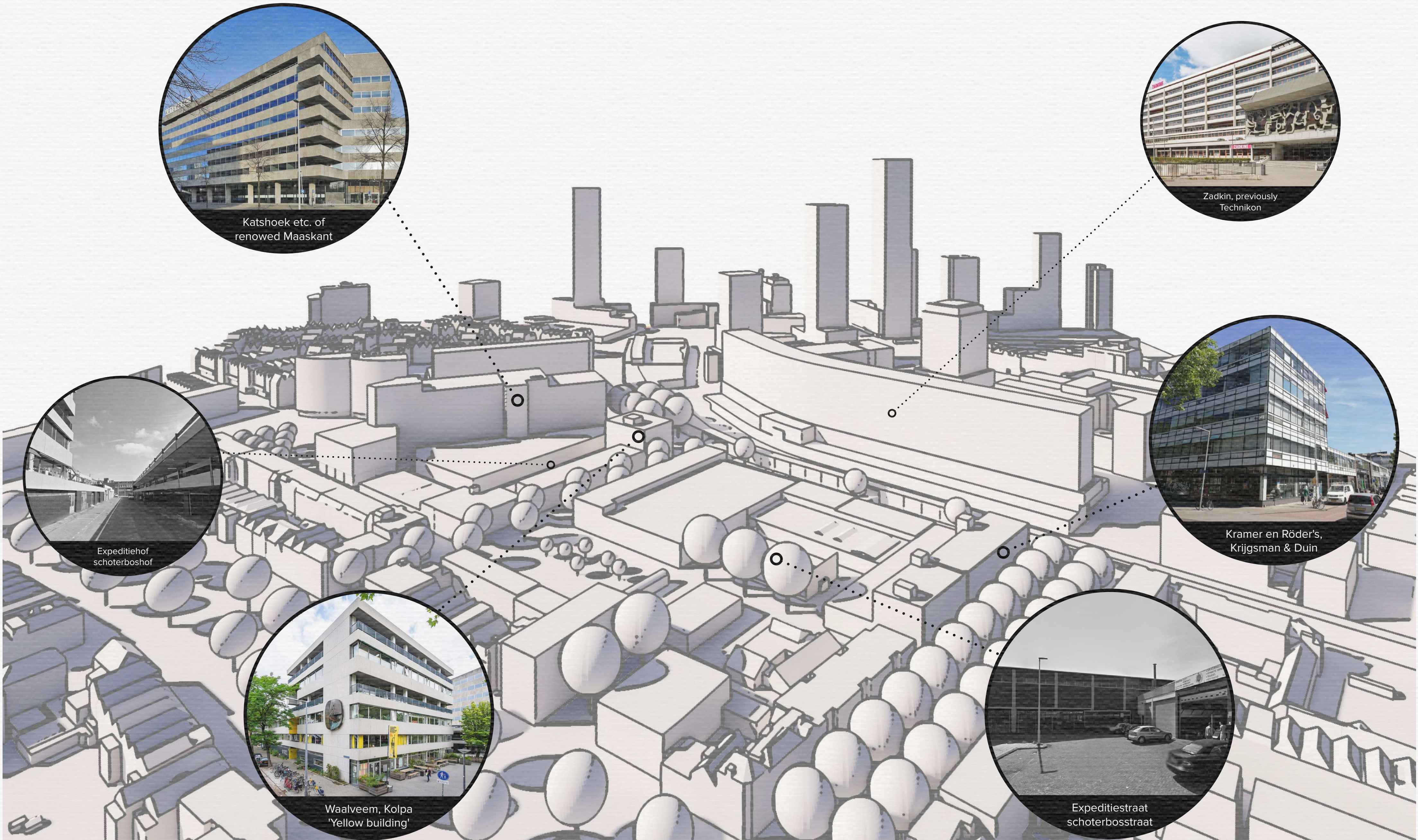
Zoho

Zoho - present



Zoho

Zoho - present



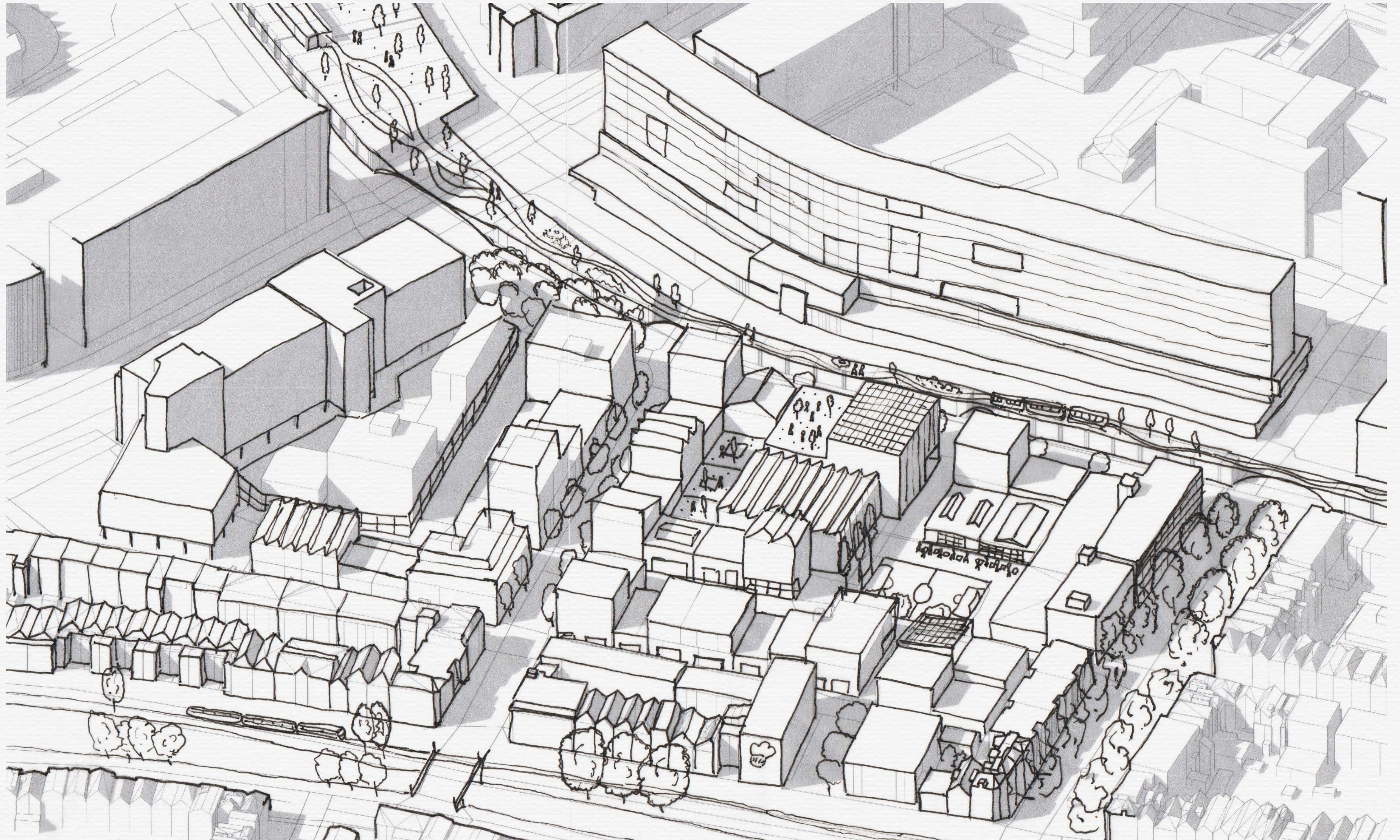
Zoho

Zoho - present

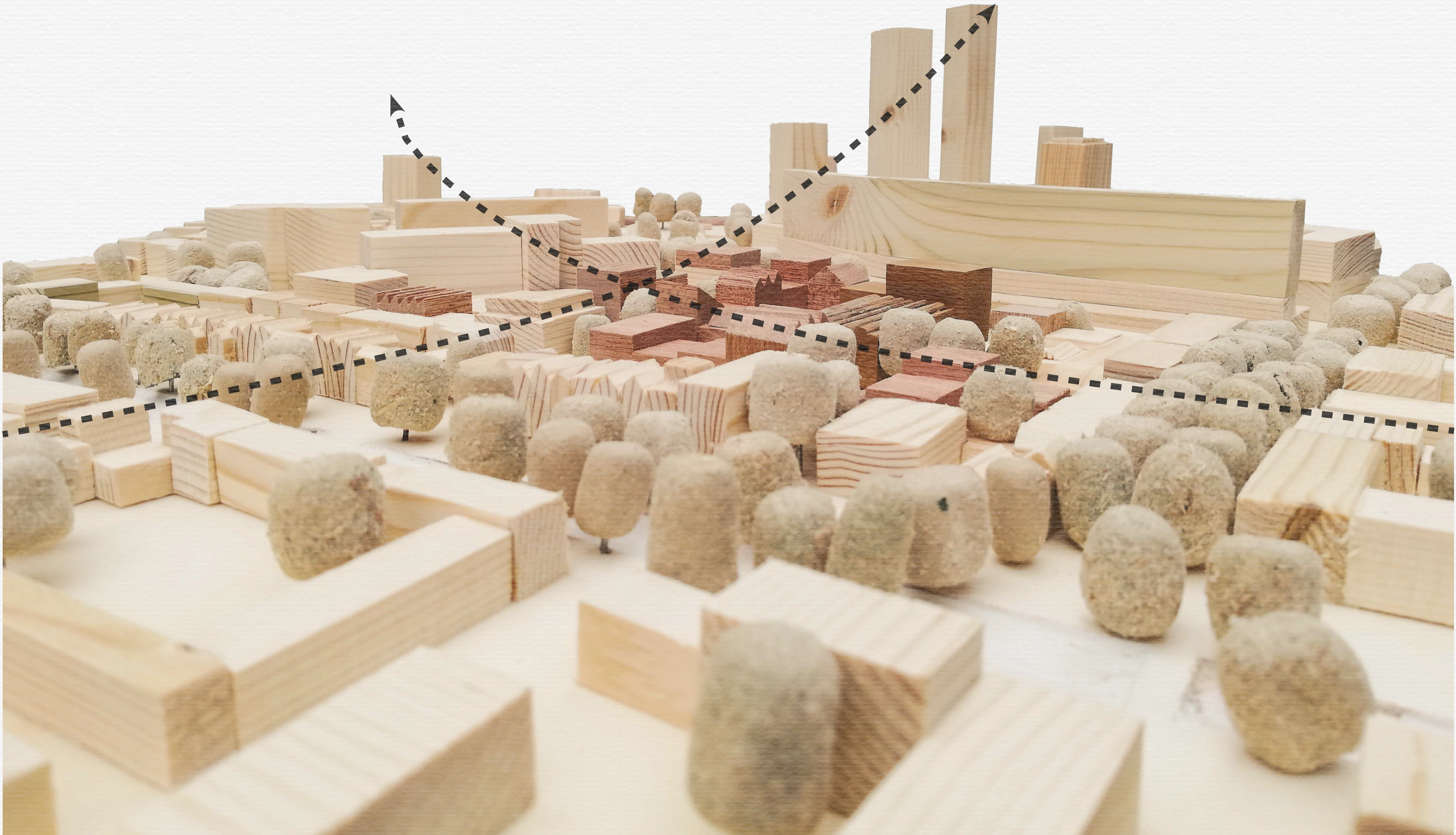


Zoho

Zoho - future



Proposal



Transition zone between high city centre & low suburbs
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Zoho

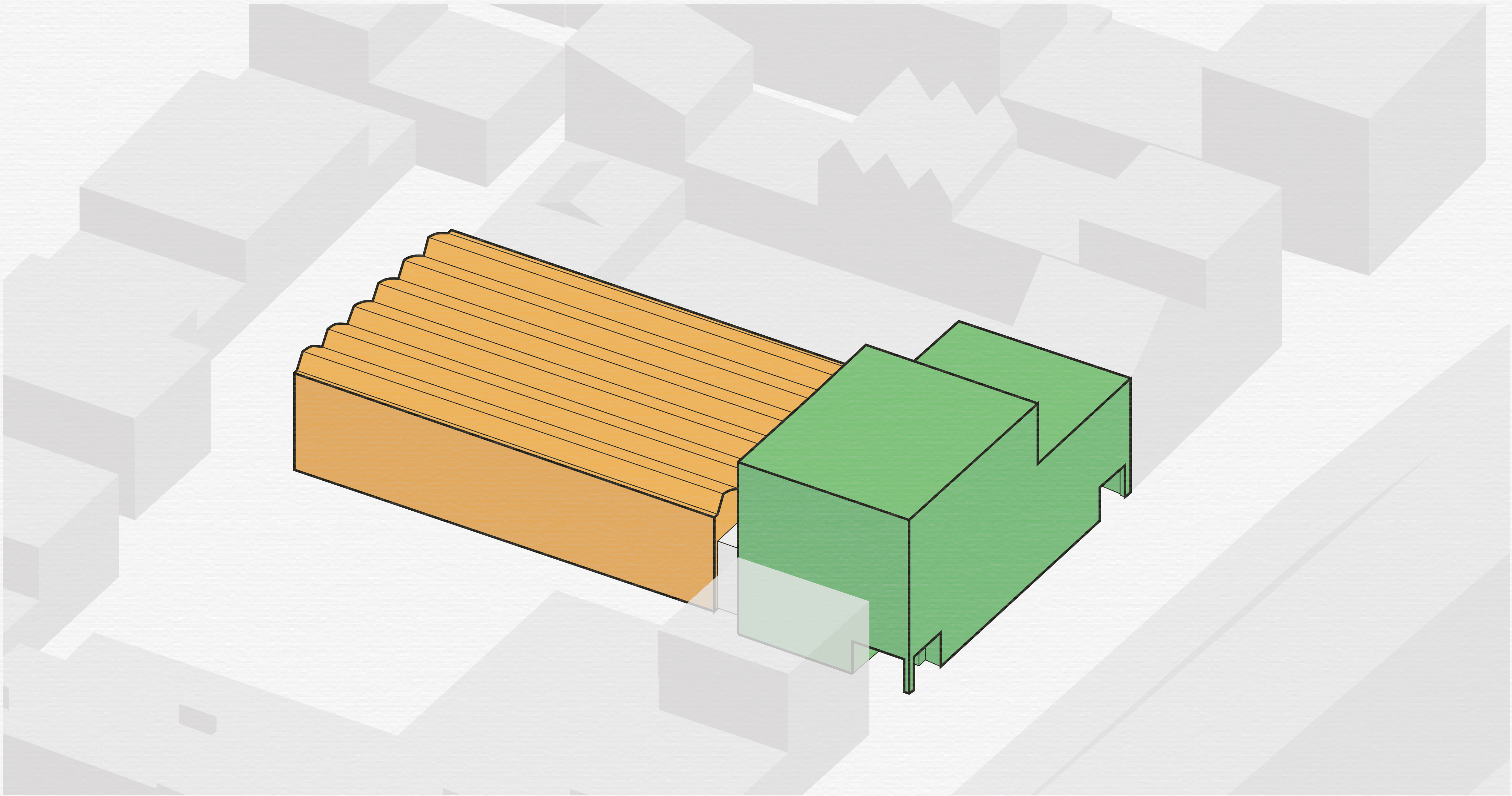
Proposal



Special objects and places
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The Wood Knowledge Centre

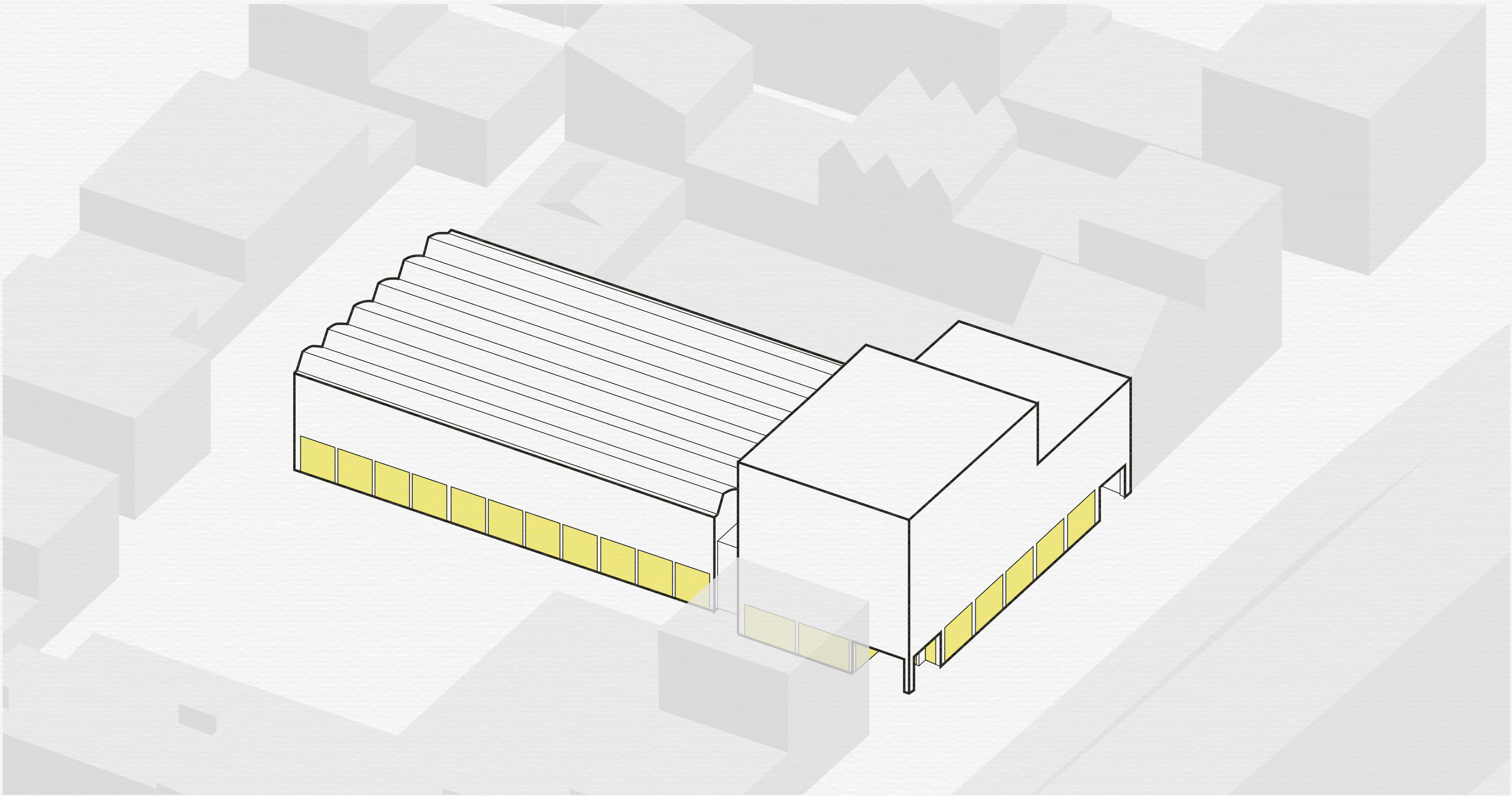
Concept diagram



'Back' (practice) & 'Front' (theory)

The Wood Knowledge Centre

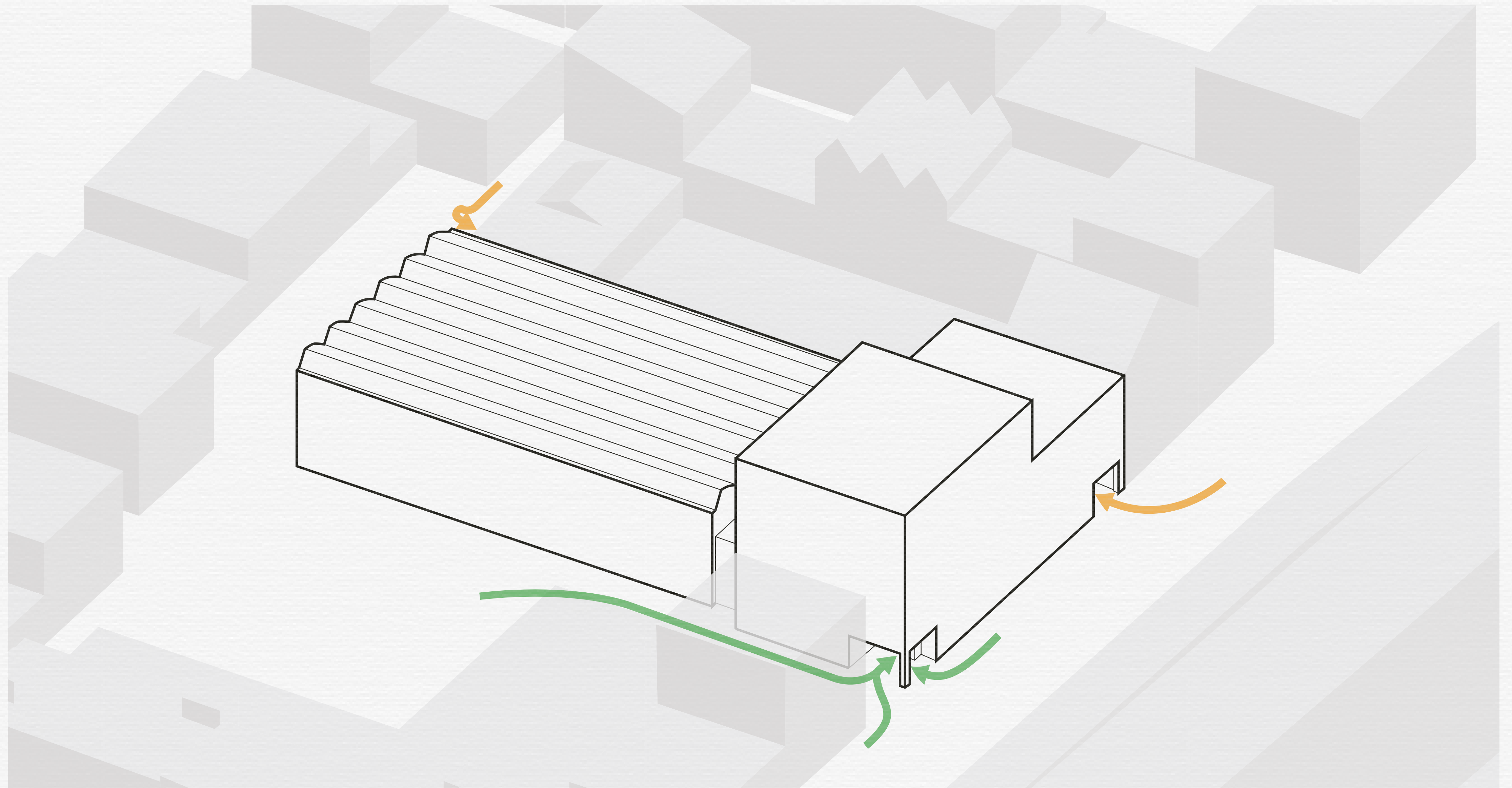
Concept diagram



Transparent plinth

The Wood Knowledge Centre

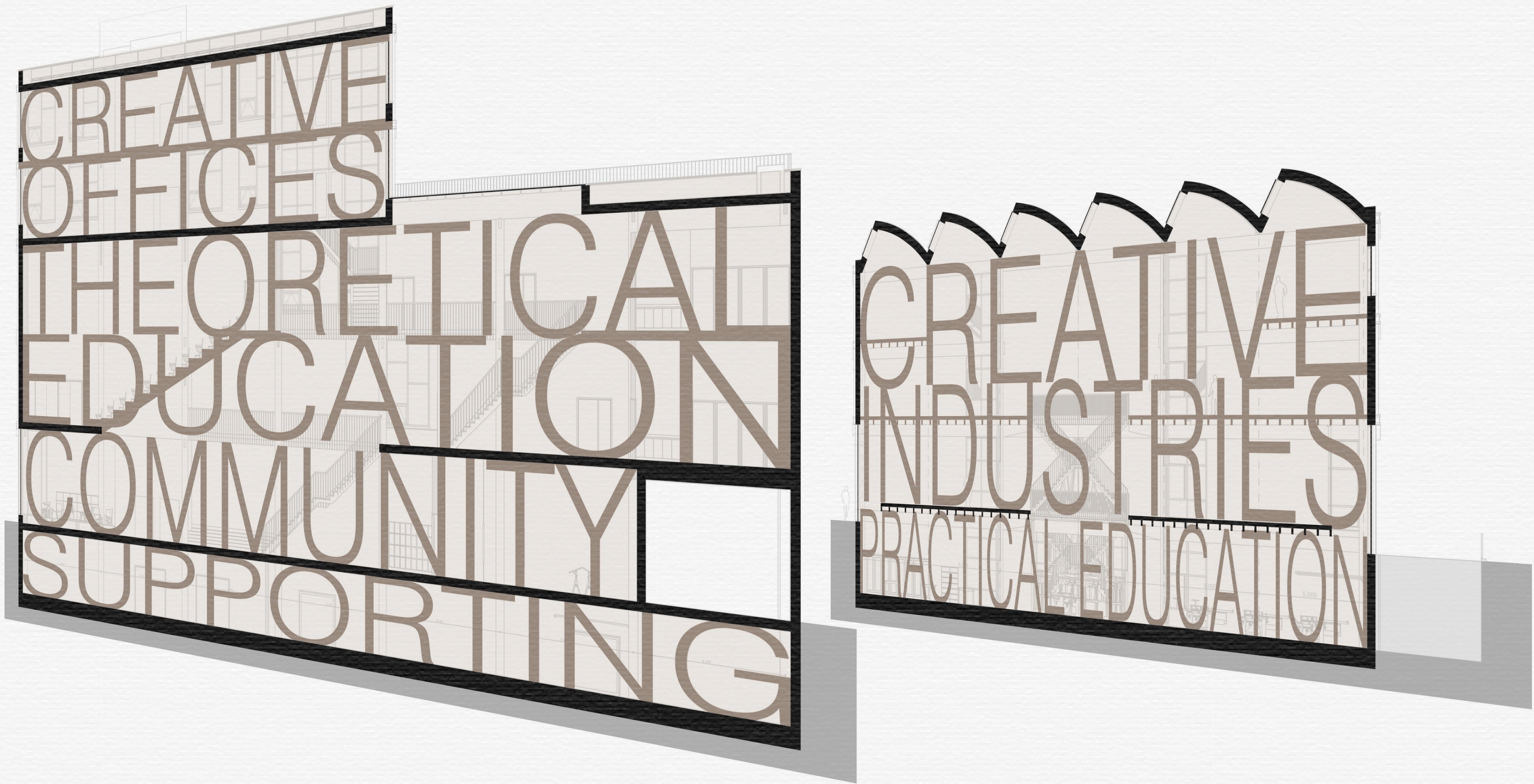
Concept diagram



Ways of approach

The Wood Knowledge Centre

Program Front - Back



Function division

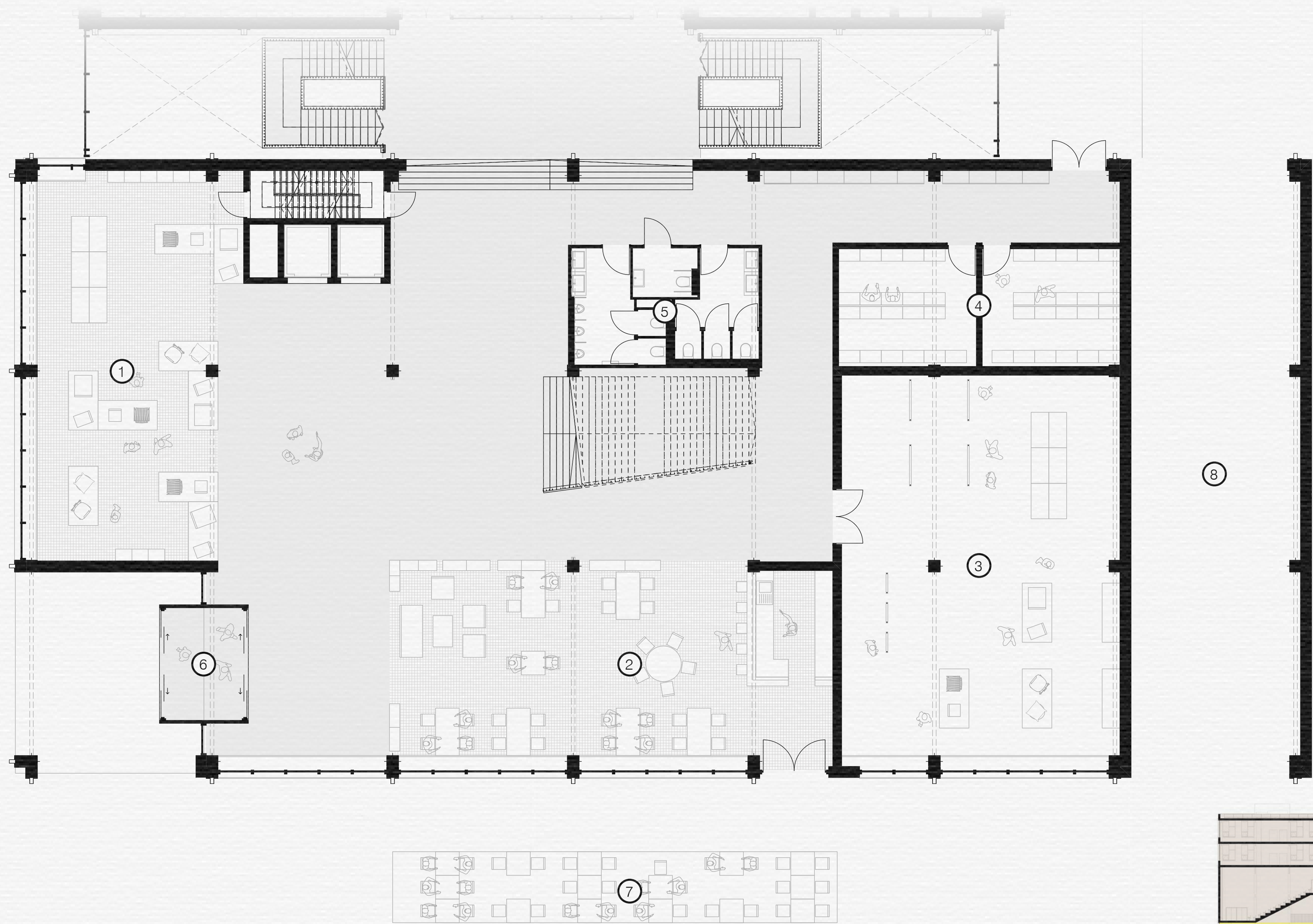
The Wood Knowledge Centre

Site plan



The Wood Knowledge Centre

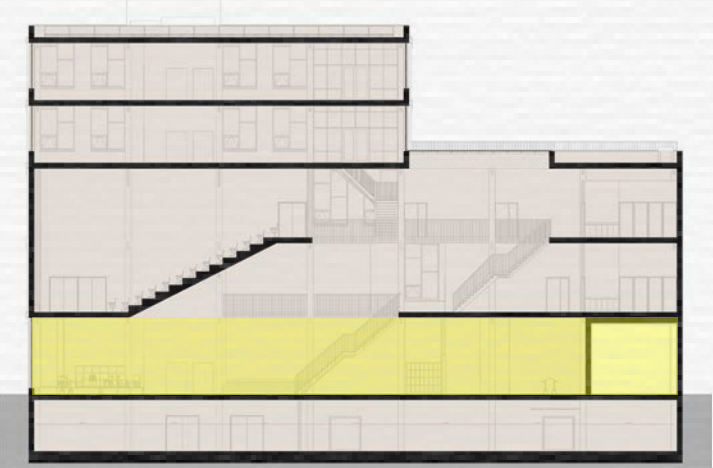
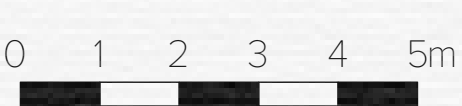
Ground floor 'front'



Legend:

- ① shop
- ② cafe
- ③ exhibition space
- ④ locker rooms
- ⑤ sanitation

- ⑥ airlock
- ⑦ outdoor passage
- ⑧ terrace

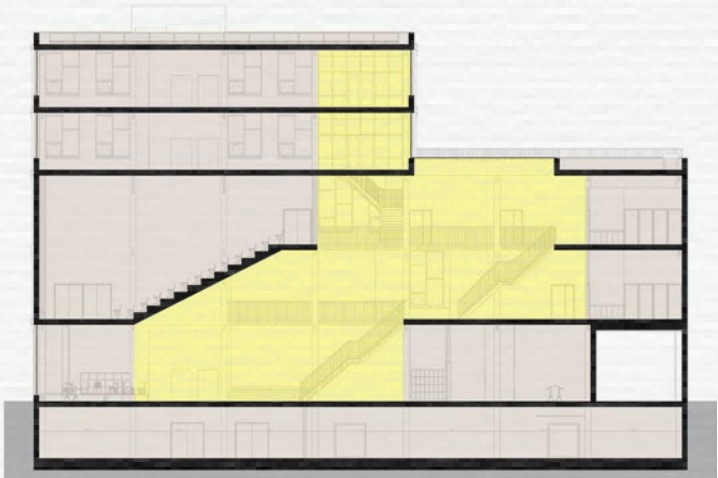


Section 'front'

The Wood Knowledge Centre



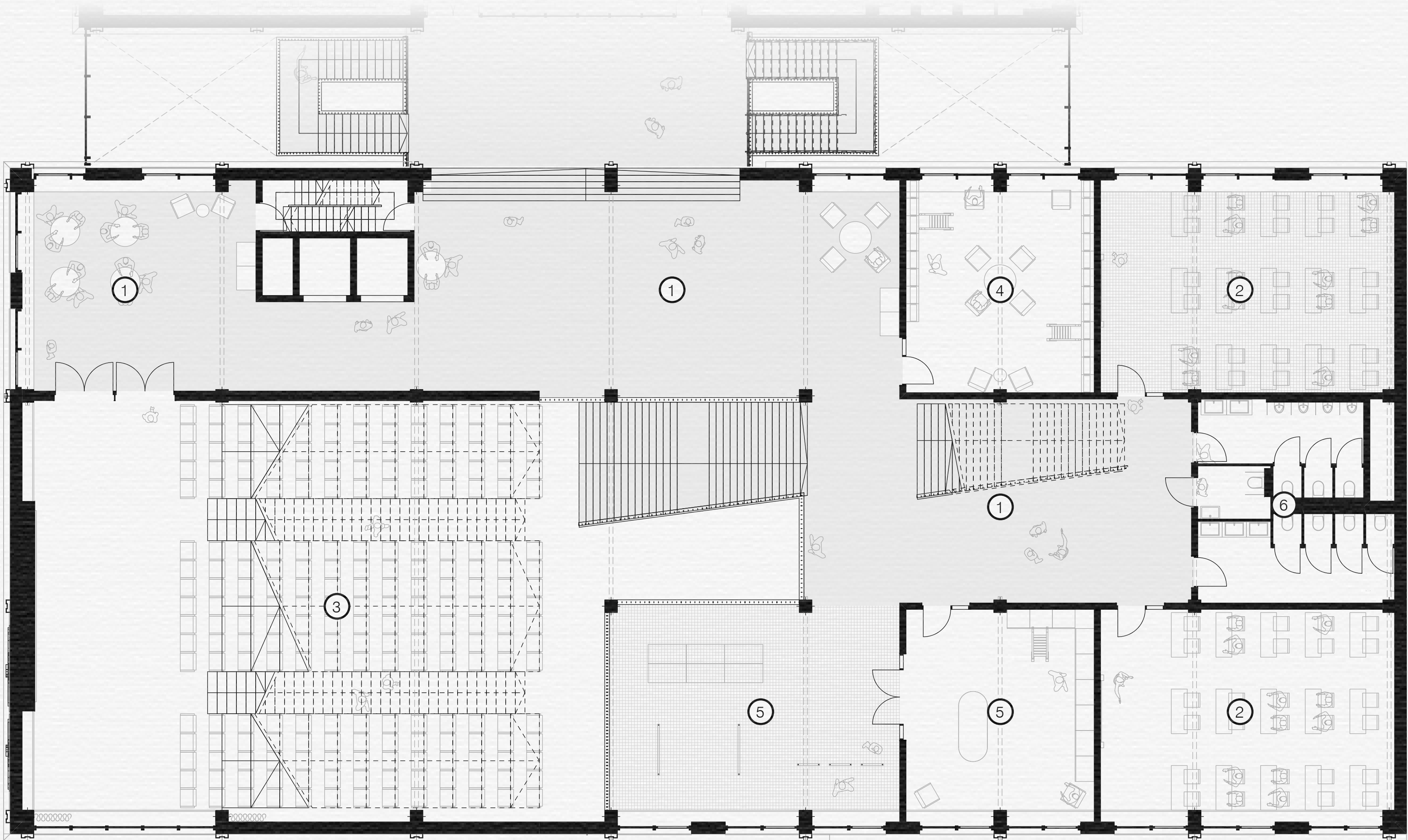
Interior (Hall) 'front'



Section 'front', central hall

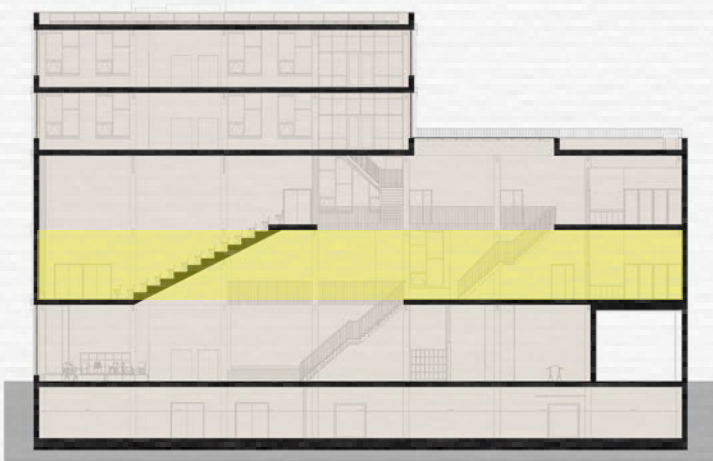
The Wood Knowledge Centre

1st floor 'front'



Legend:

- ① flexible-/ break out space
- ② class rooms
- ③ auditorium
- ④ library for documentation
- ⑤ library for materials (samples)
- ⑥ sanitation



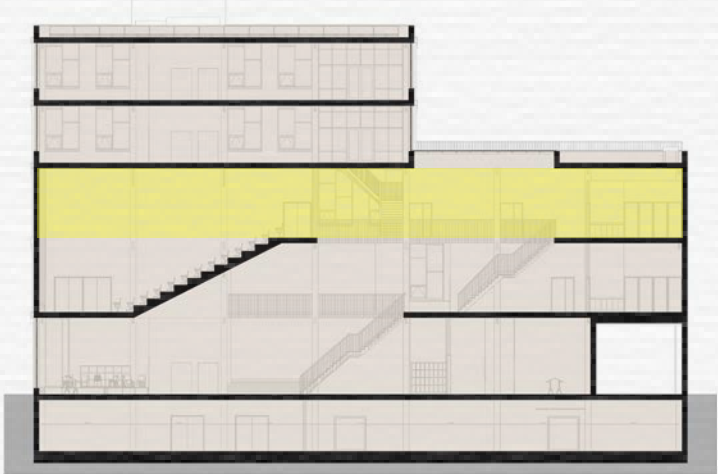
Section 'front'

The Wood Knowledge Centre

2nd floor 'front'



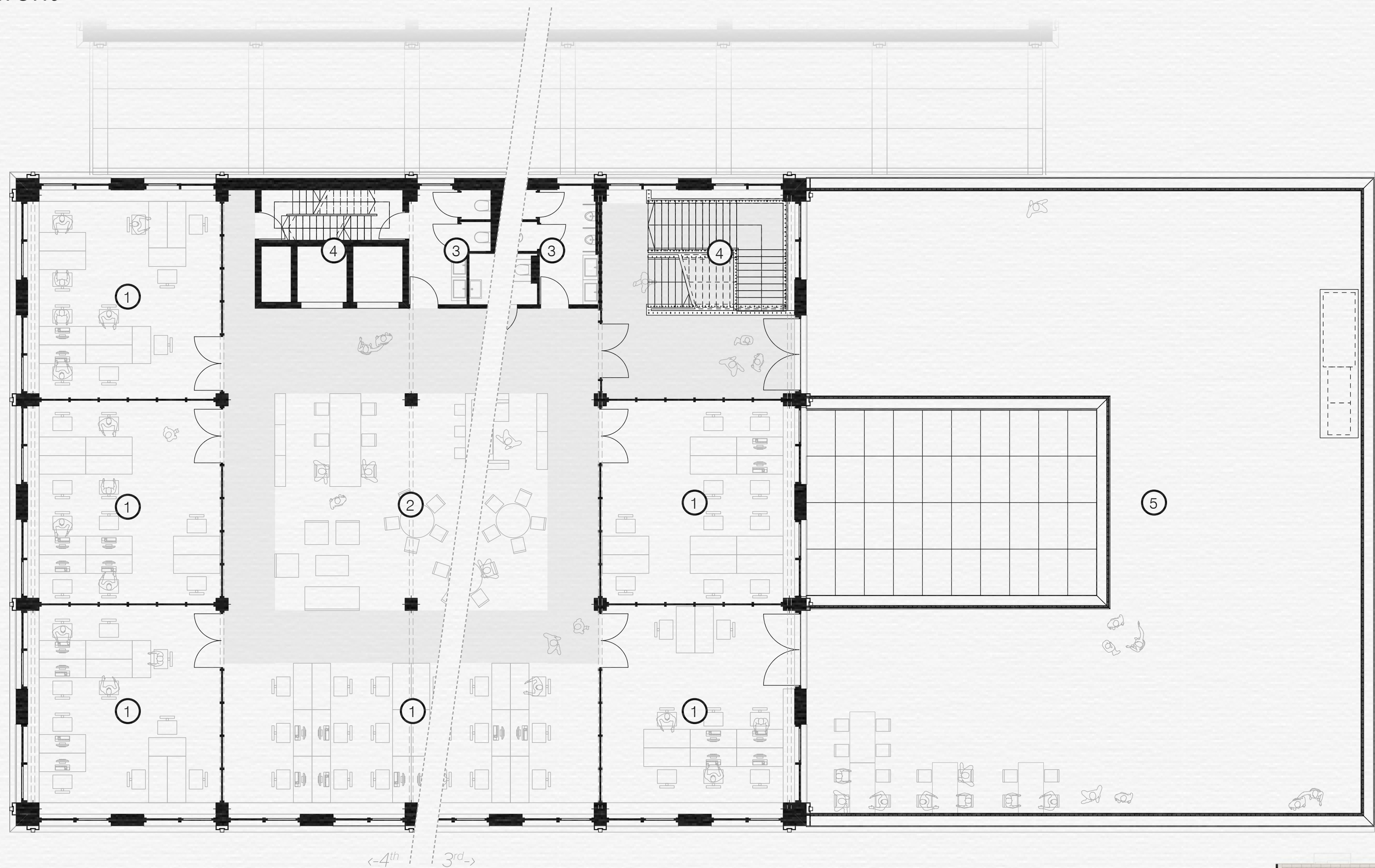
- Legend:
- ① flexible-/ break out space
 - ② meeting room (for education & offices)
 - ③ auditorium
 - ④ sanitation



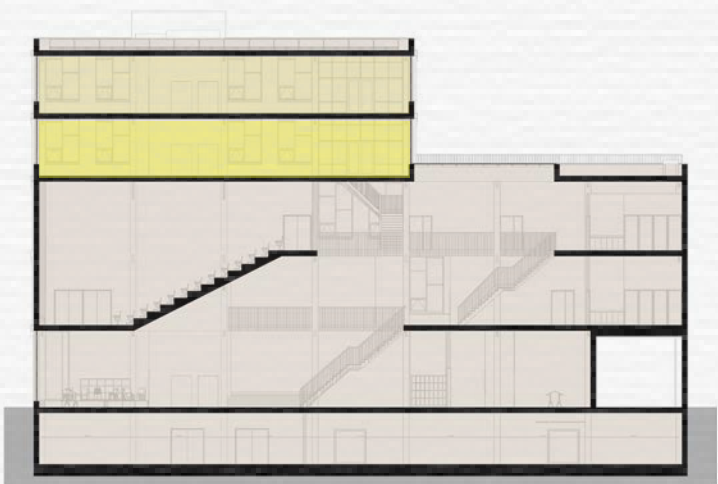
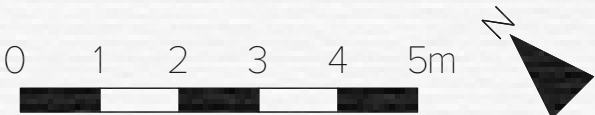
Section 'front'

The Wood Knowledge Centre

4th / 3rd floor 'front'



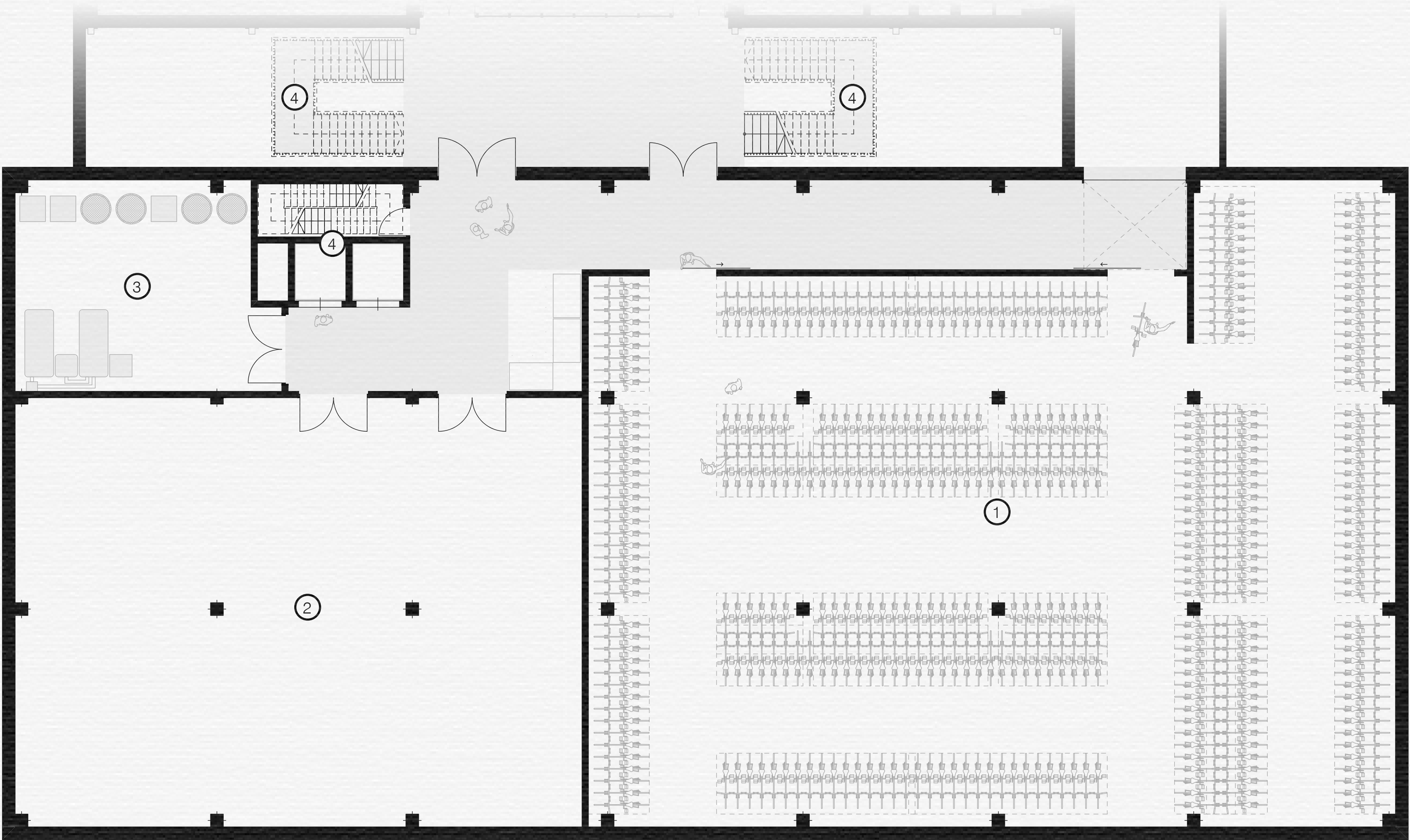
- Legend:
- ① flexible office.
 - ② facilities, bar, lunch & flexible space
 - ③ sanitation
 - ④ vertical circulation
 - ⑤ terrace



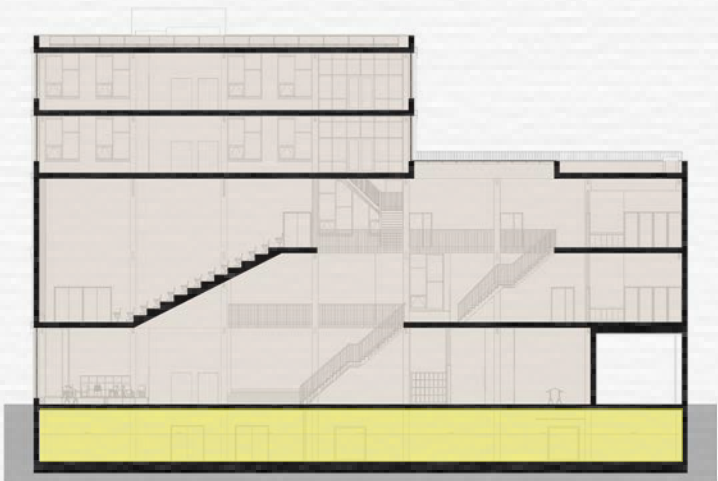
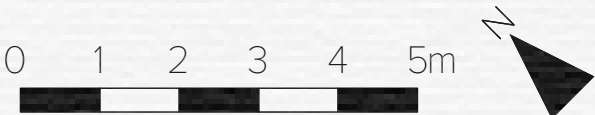
Section 'front'

The Wood Knowledge Centre

Basement 'front'



- Legend:
- ① bicycle parking
 - ② storage space
 - ③ installation room (*heath pump, grey water system, solar boiler etc.*)
 - ④ vertical circulation

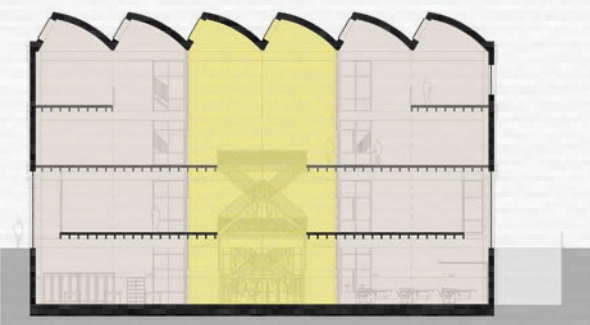


Section 'front'

The Wood Knowledge Centre



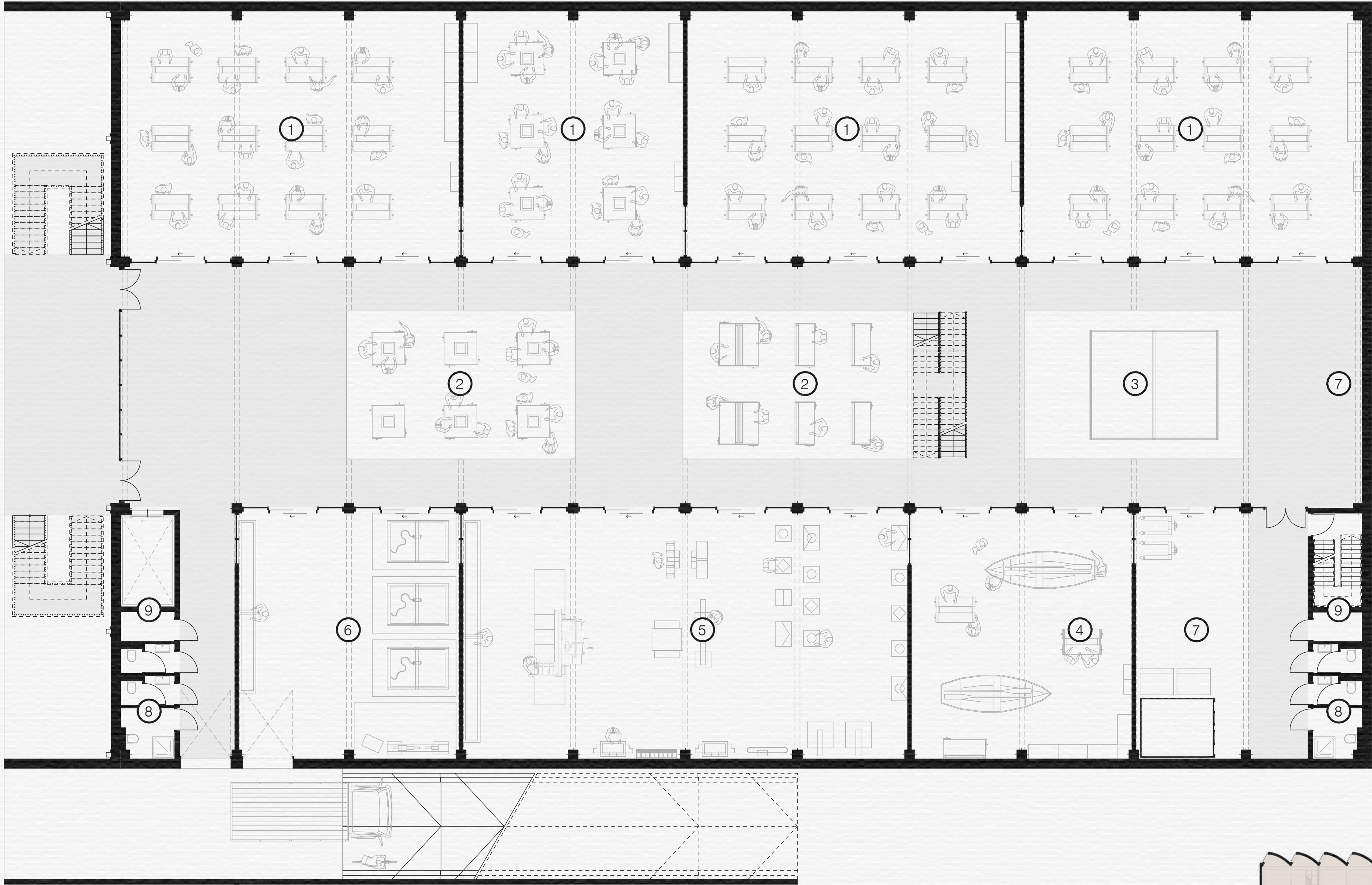
Interior centre 'back'



Section 'Back', Centrall hall/void

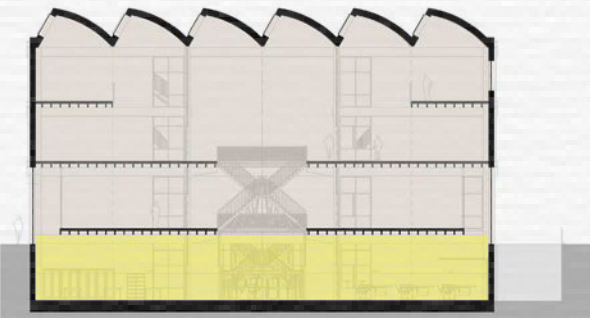
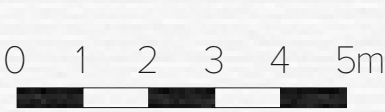
The Wood Knowledge Centre

Basement 'back'



Legend:

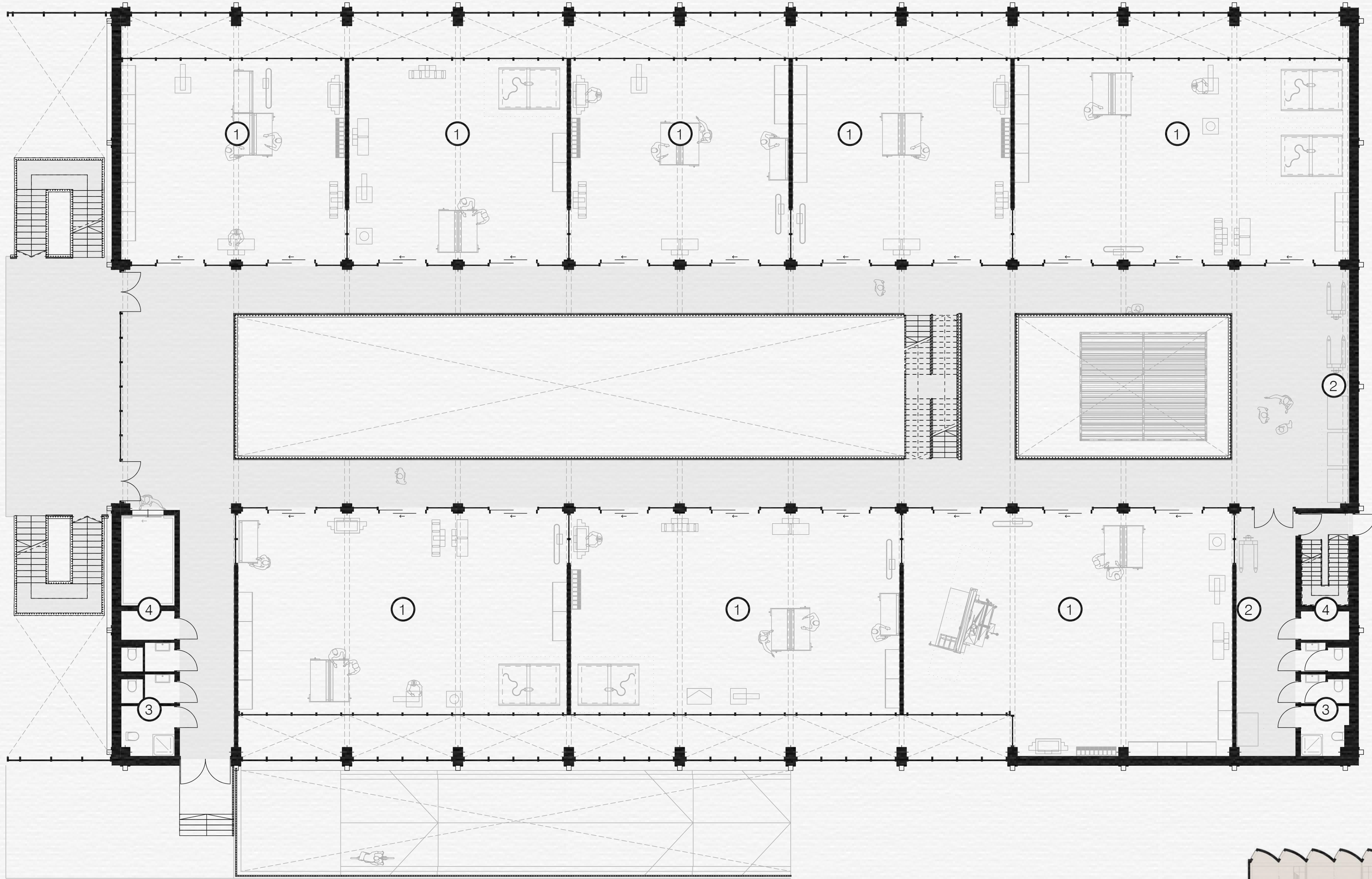
- ① classroom for practice
- ② flexible workspaces
- ③ assembly space (extra high)
- ④ flexible workshop
- ⑤ machine hall
- ⑥ machina hall (advanced machines)
- ⑦ flexible space for spray booth etc.
- ⑧ sanitation
- ⑨ vertical circulation



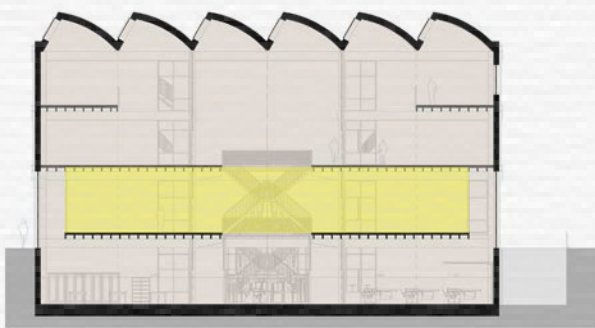
Section 'back'

The Wood Knowledge Centre

Ground floor +1m 'back'



- Legend:
- ① workshop (SME) 70-210m²
 - ② flexible space for containers, carts etc.
 - ③ sanitation
 - ④ vertical circulation



Section 'back'

The Wood Knowledge Centre



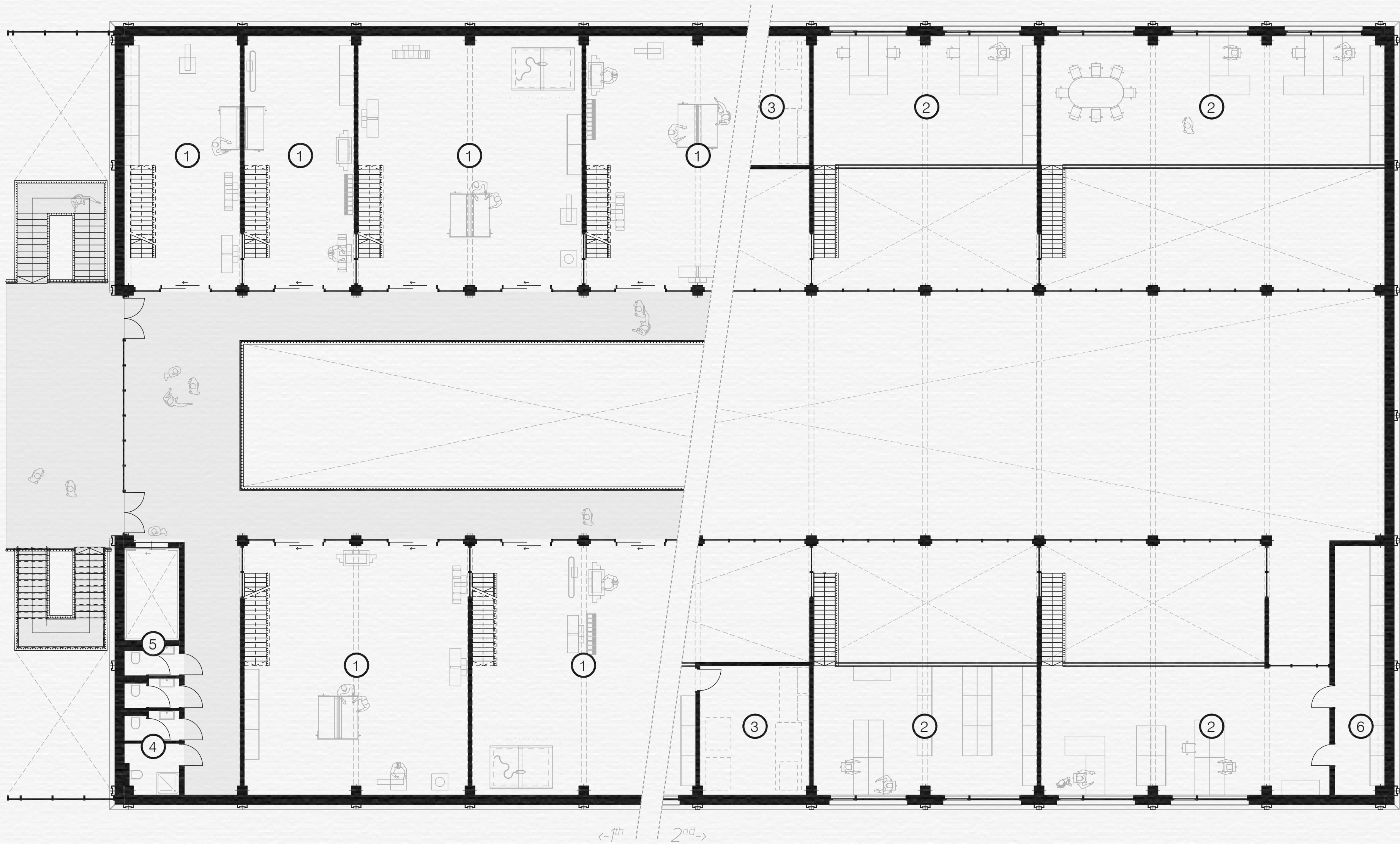
View from outside, on practice industry & education



White stained fir

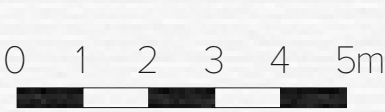
The Wood Knowledge Centre

1st floor/ 2nd floor 'back'



Legend:

- ① workshop (SME) 70-210m²
- ② duplex of workshop underneath
- ③ installation space
- ④ sanitation
- ⑤ vertical circulation
- ⑥ storage



Section 'back'

The Wood Knowledge Centre

Exterior



Exterior, elevation South-West

The Wood Knowledge Centre

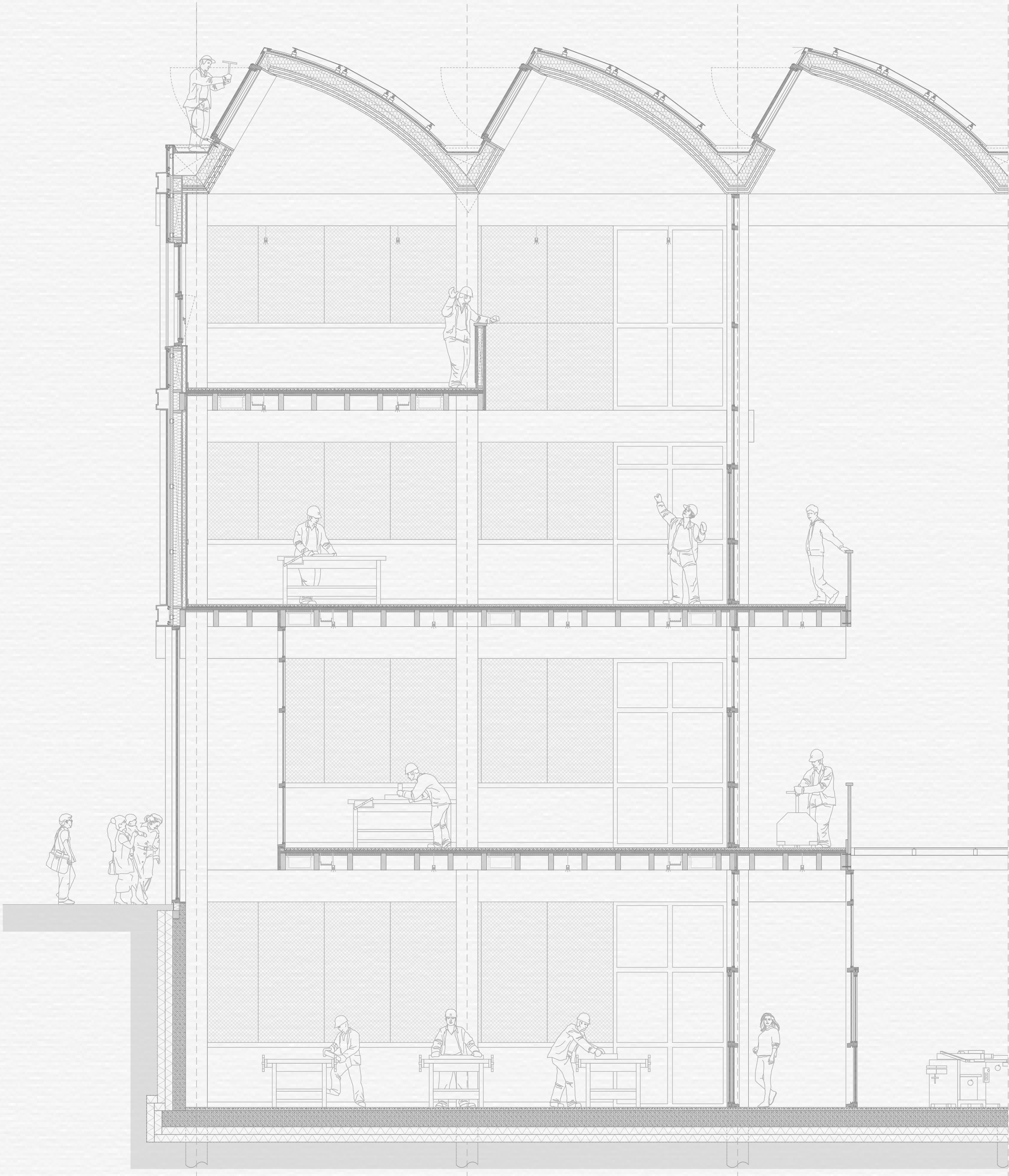
Interior (front)



Interior (classroom) 'front'

The Wood Knowledge Centre

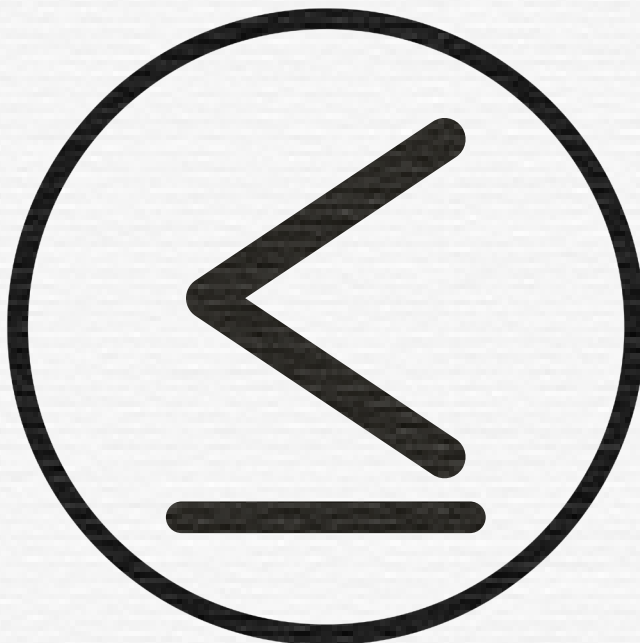
Interior (back)



Fragment of the 'back'

The Wood Knowledge Centre

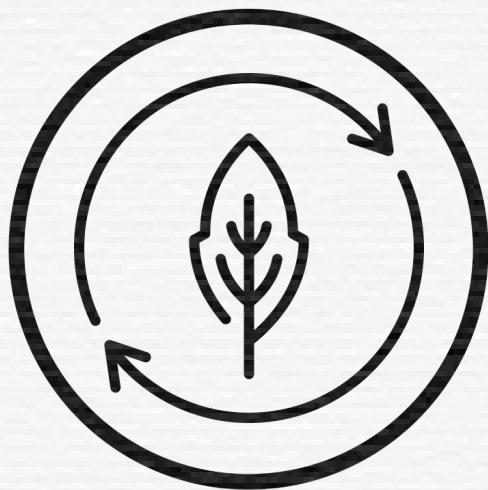
Technology - Ambition



economical



well considered



circular/ecological



prefabricated



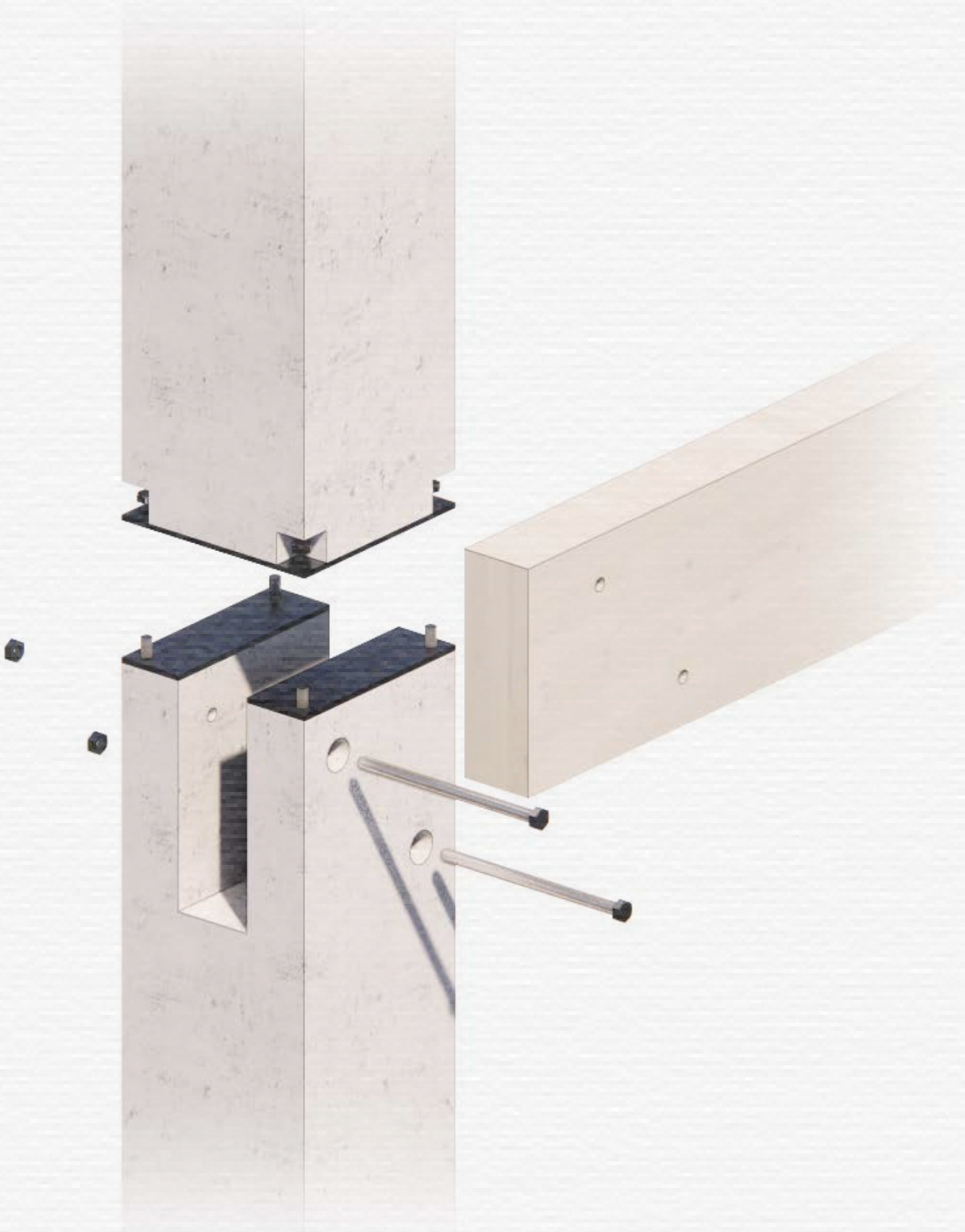
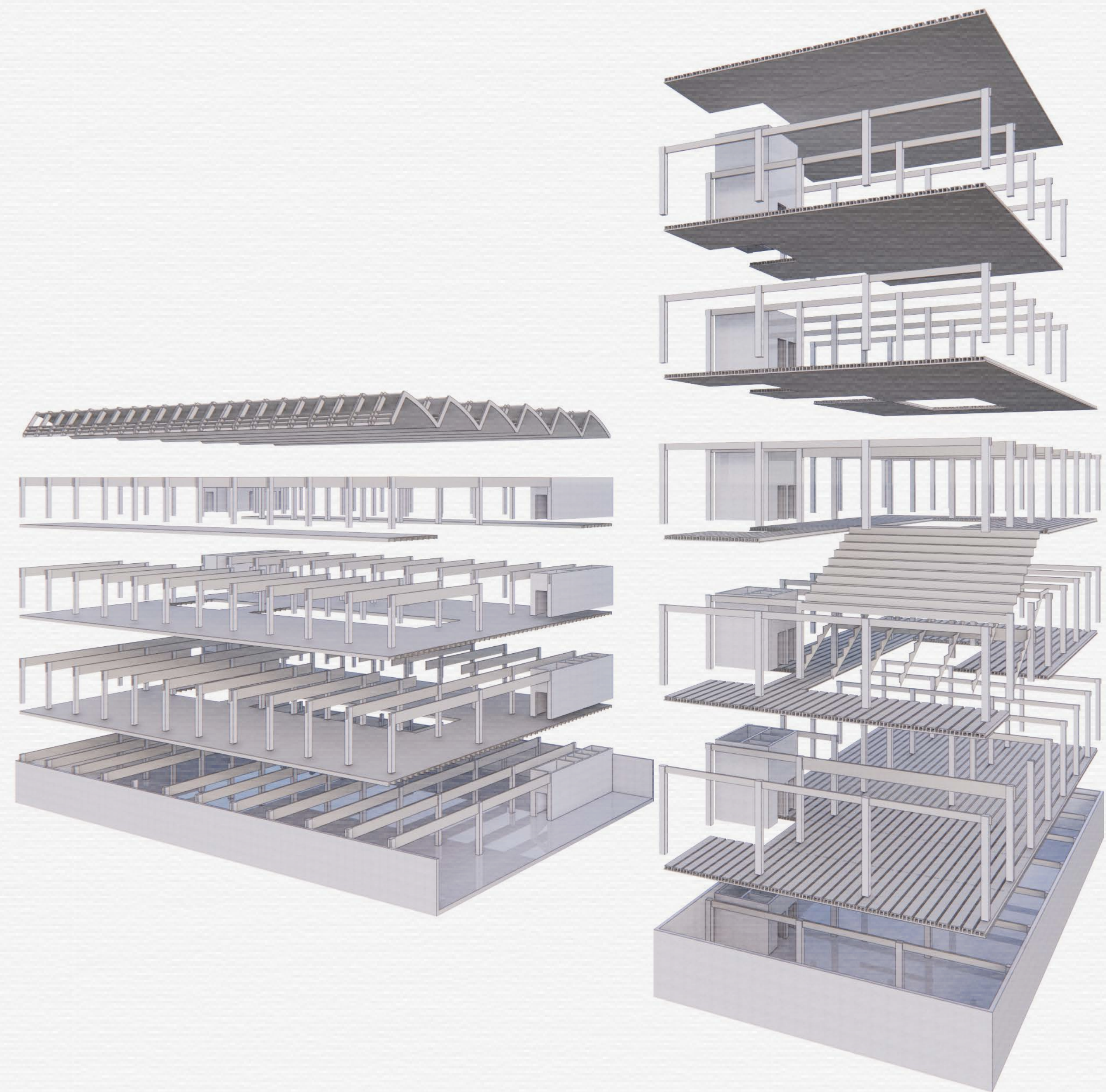
dry connections



indoor climate

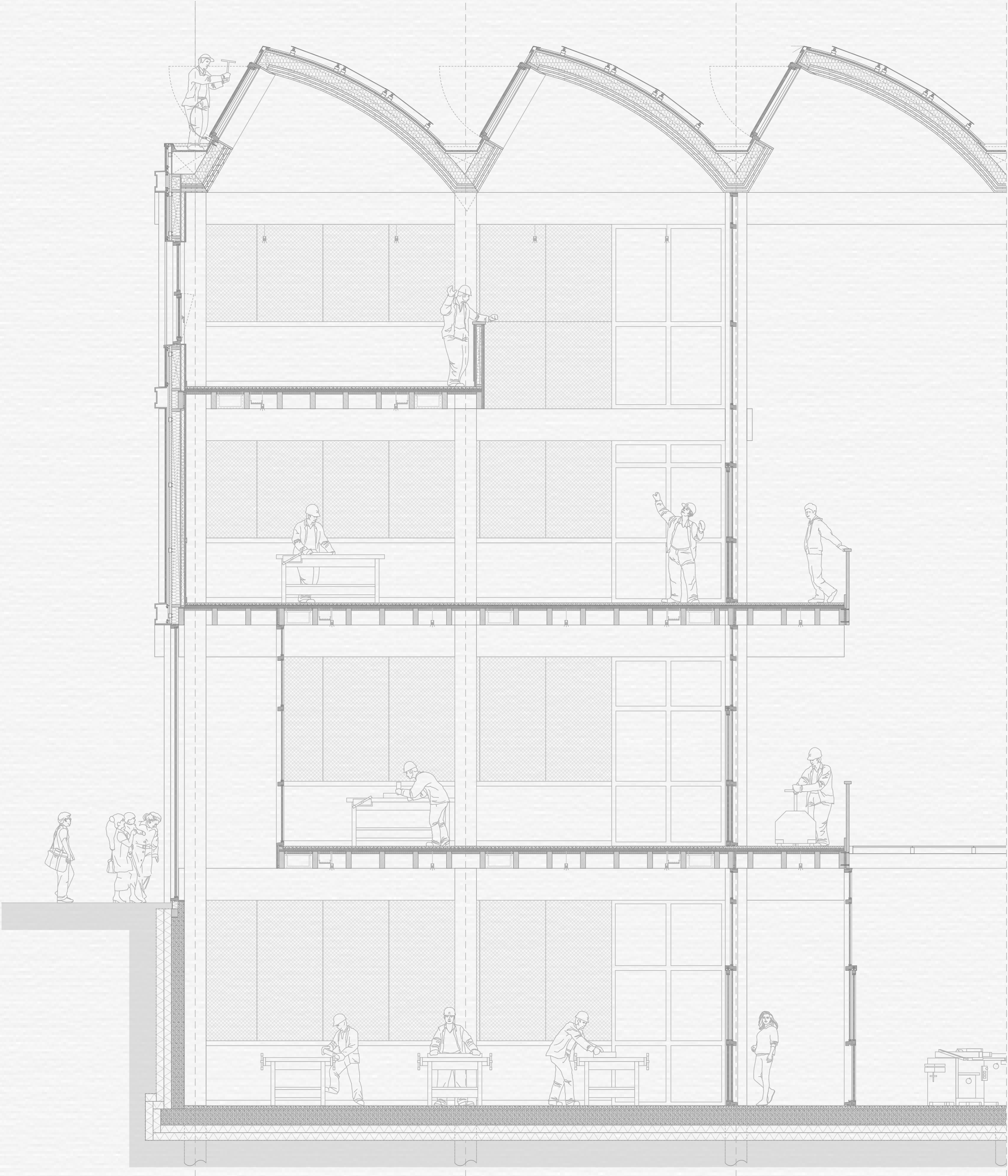
The Wood Knowledge Centre

Construction



The Wood Knowledge Centre

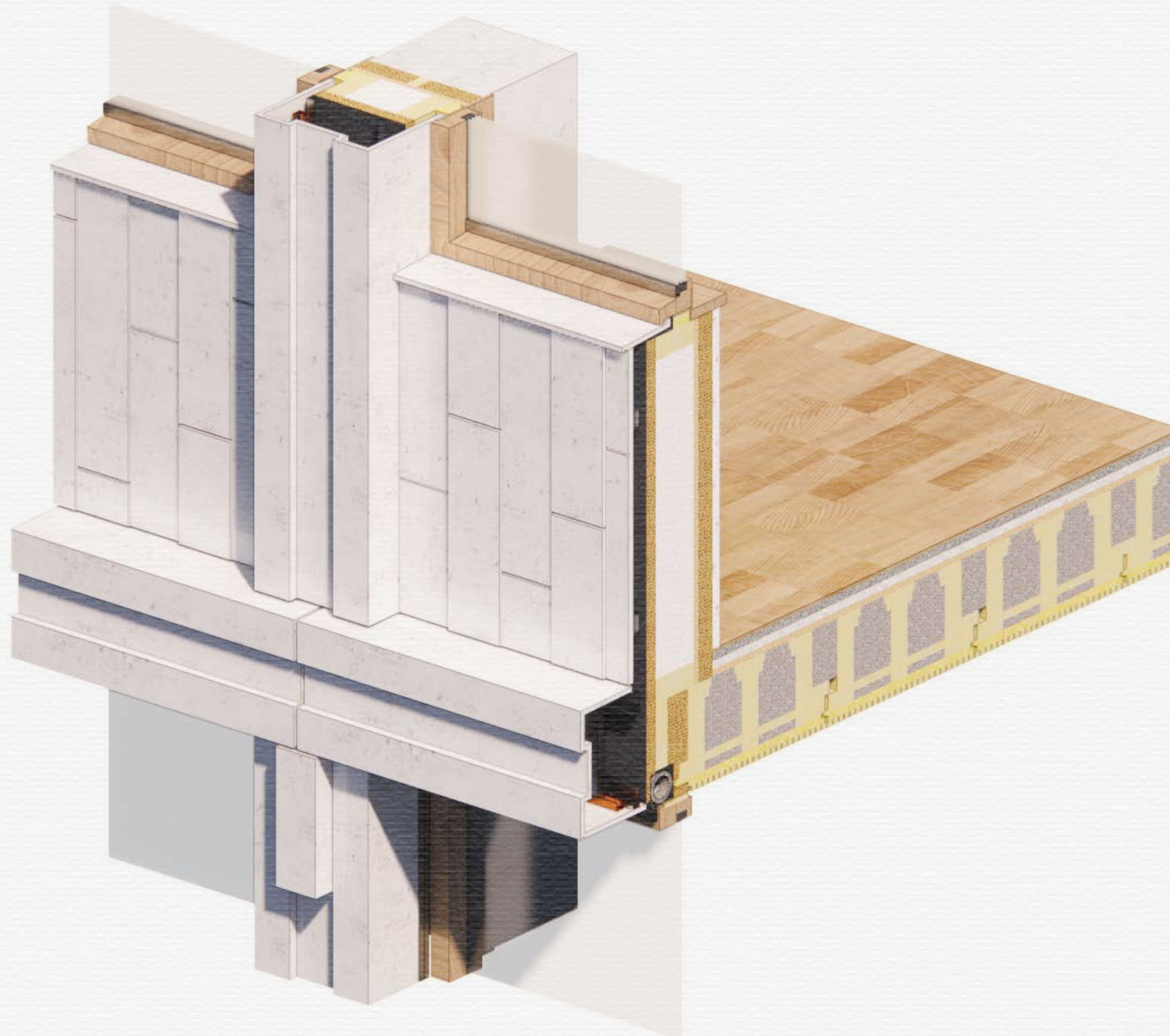
Fragment



Fragment of the 'back'

The Wood Knowledge Centre

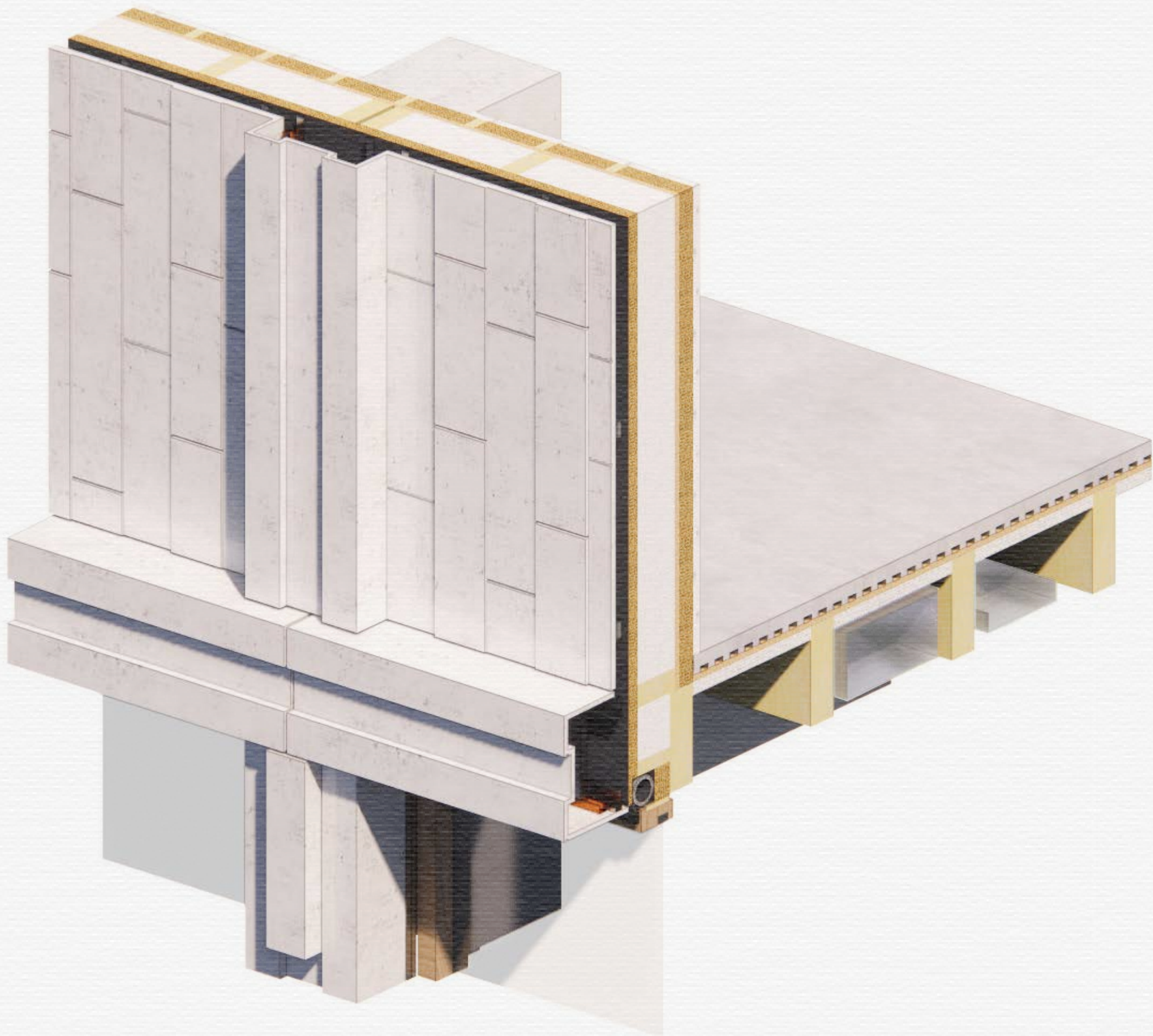
Facade - 'front'



Fragment structure 'front'

The Wood Knowledge Centre

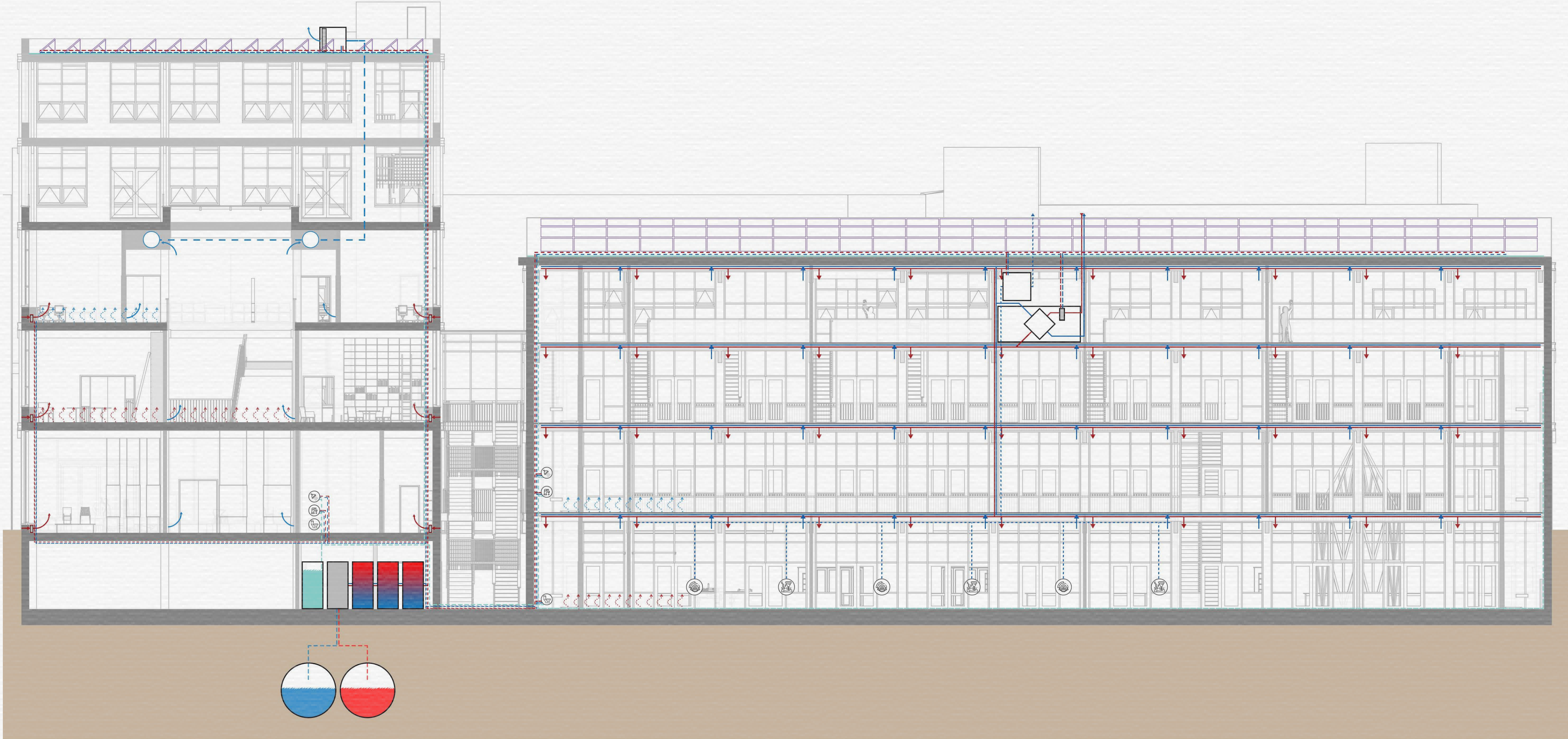
Facade - 'back'



Fragment structure 'back'

The Wood Knowledge Centre

Climate



Climate diagram, entire building

The Wood Knowledge Centre

Climate & Architecture



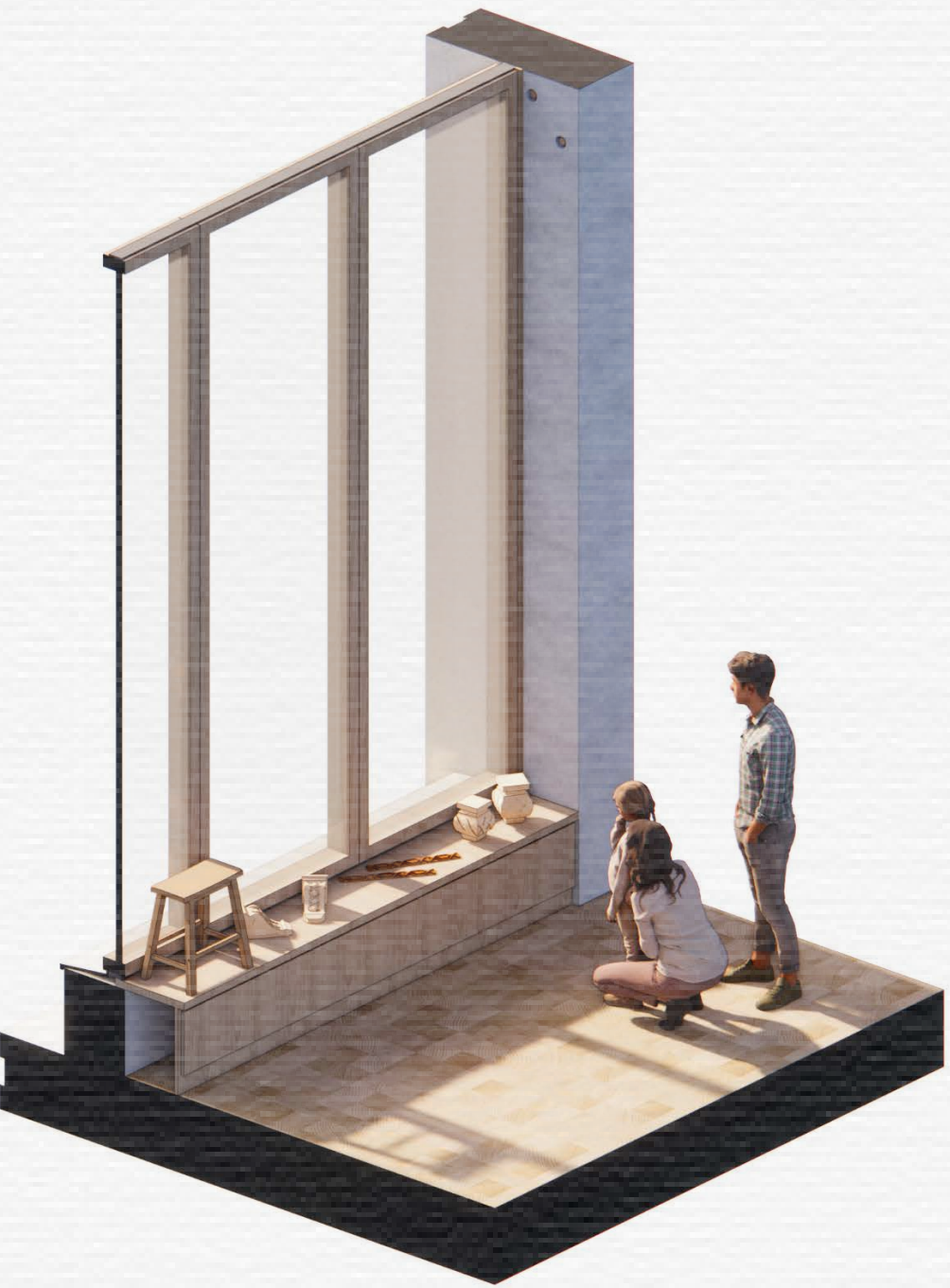
Cabinet



Desk



Seat



Platform



Ventilation supply unit

Furniture element along outern wall

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