TRANSFORMATION
Lighthouse KUB Nord
– a radically new hybrid flexible facility

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TRANSFORMATION
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– a radically new hybrid flexible facility

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Lighthouse KUB Nord
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A collaborative design for cocreation, innovation and entrepreneurship across university and society…

Approach
Place
Task
Solution
Process
Perspectives

Approach – in general

…architecture initiates interaction between content, service, users, space, place and time
we develop the design in a co-creative process with client, staff, users, suppliers and craftsmen

A few examples…

Royal Danish Library, Aarhus DK

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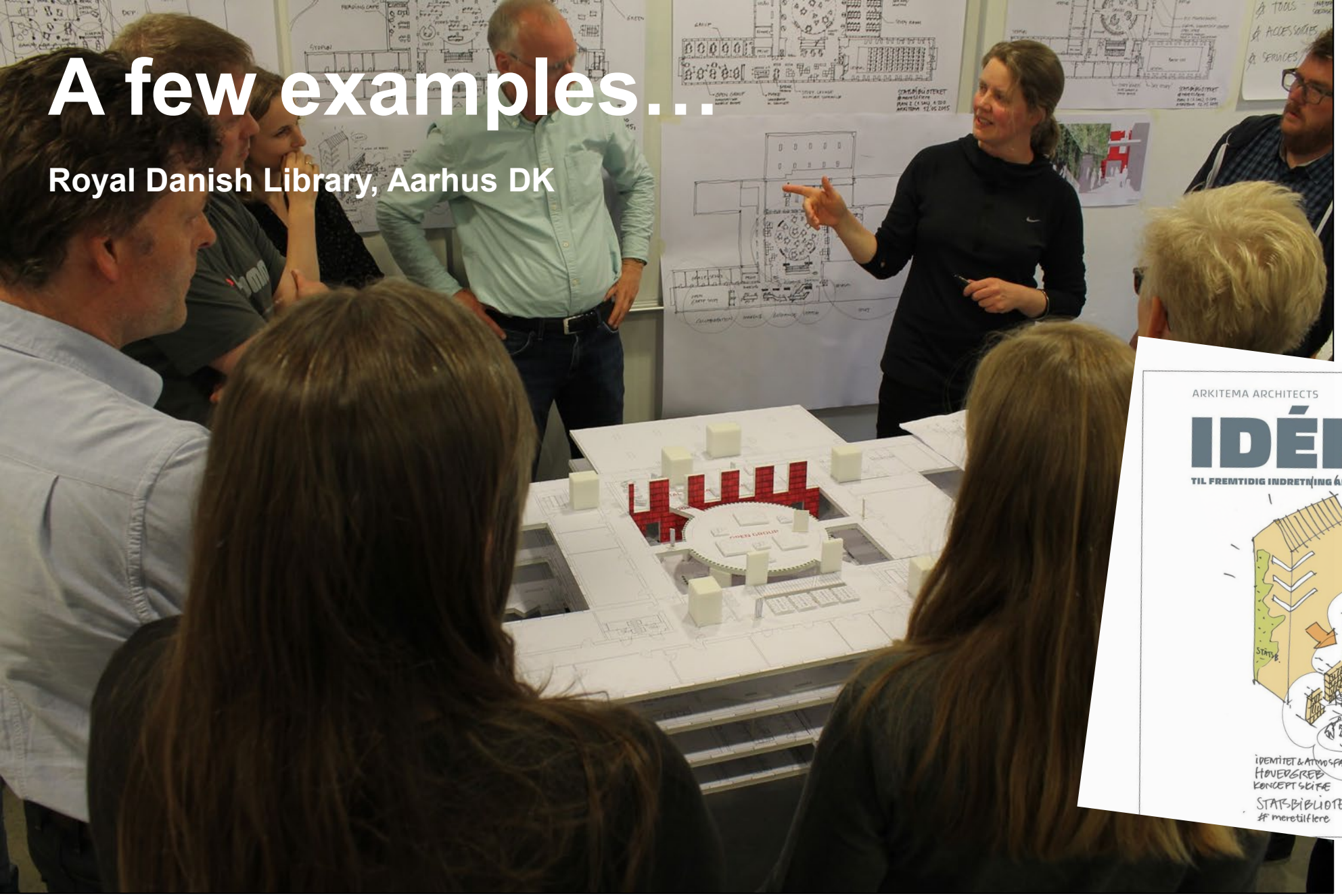
Royal Danish Library, Aarhus DK



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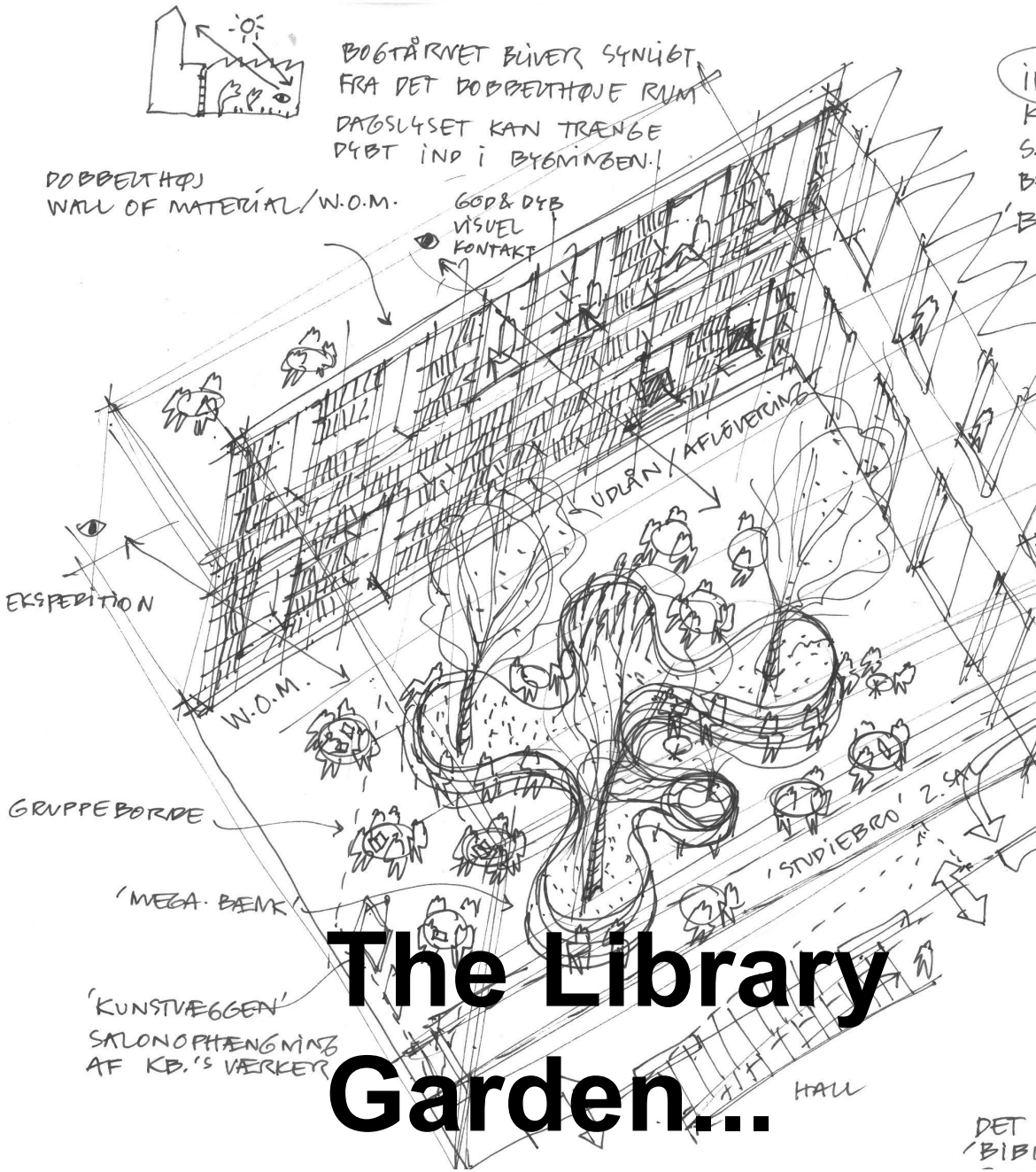
The Library Garden…



Arkitema

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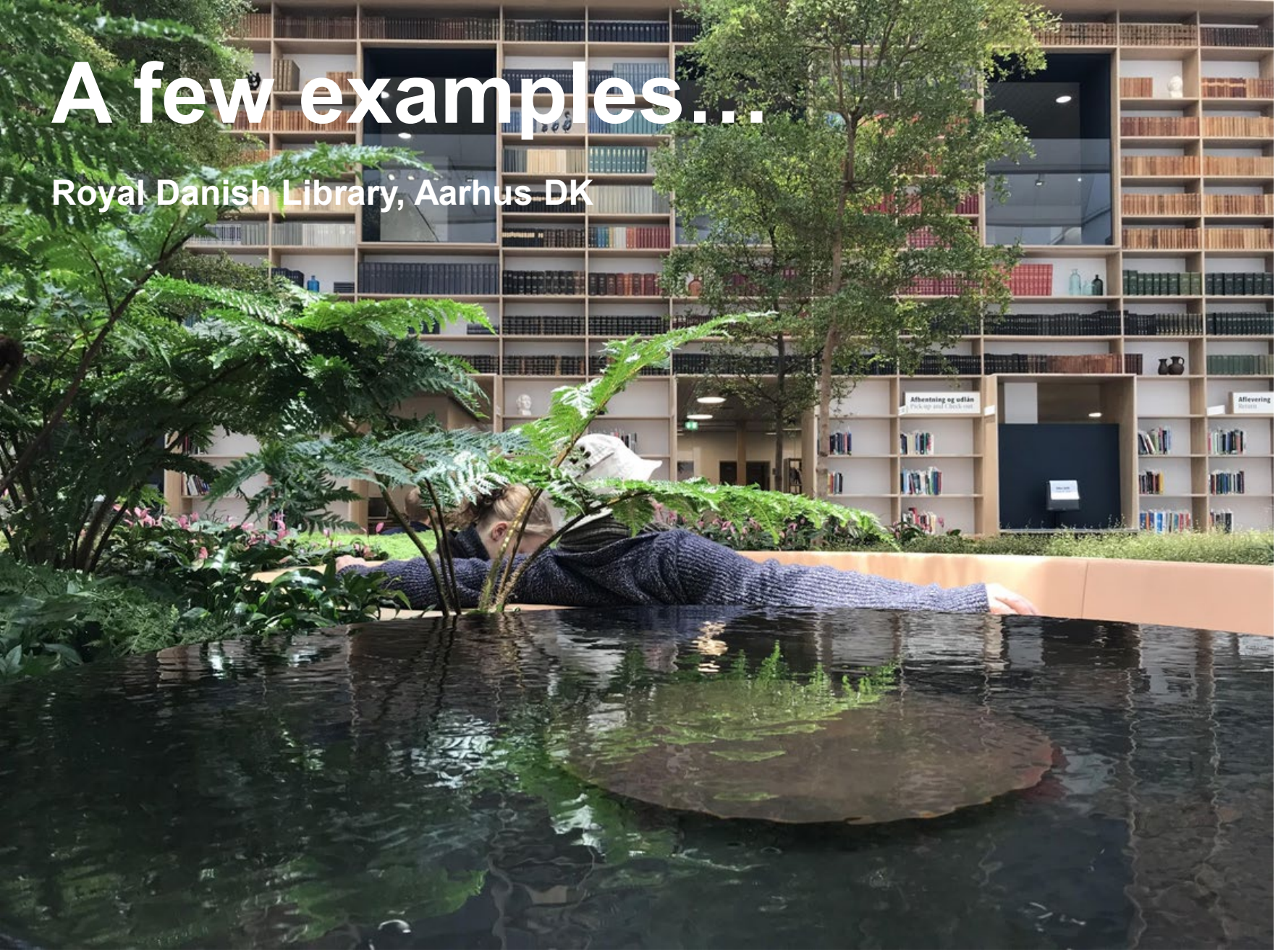

The Library Garden...

A few examples...

Royal Danish Library, Aarhus DK

The "Tænkepausen"

A few examples…

Royal Danish Library, Aarhus DK

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Royal Danish Library, Aarhus DK

A few examples…

Royal Danish Library, Aarhus DK

Try Out...

1:1 Mock ups

Virtual Reality

Fysiske modeller

A few examples…

Royal Danish Library, The Black Diamond CPH, DK

Transformation of reading room to new shared Research Reading Room for Danish National Archives & Royal Danish Library

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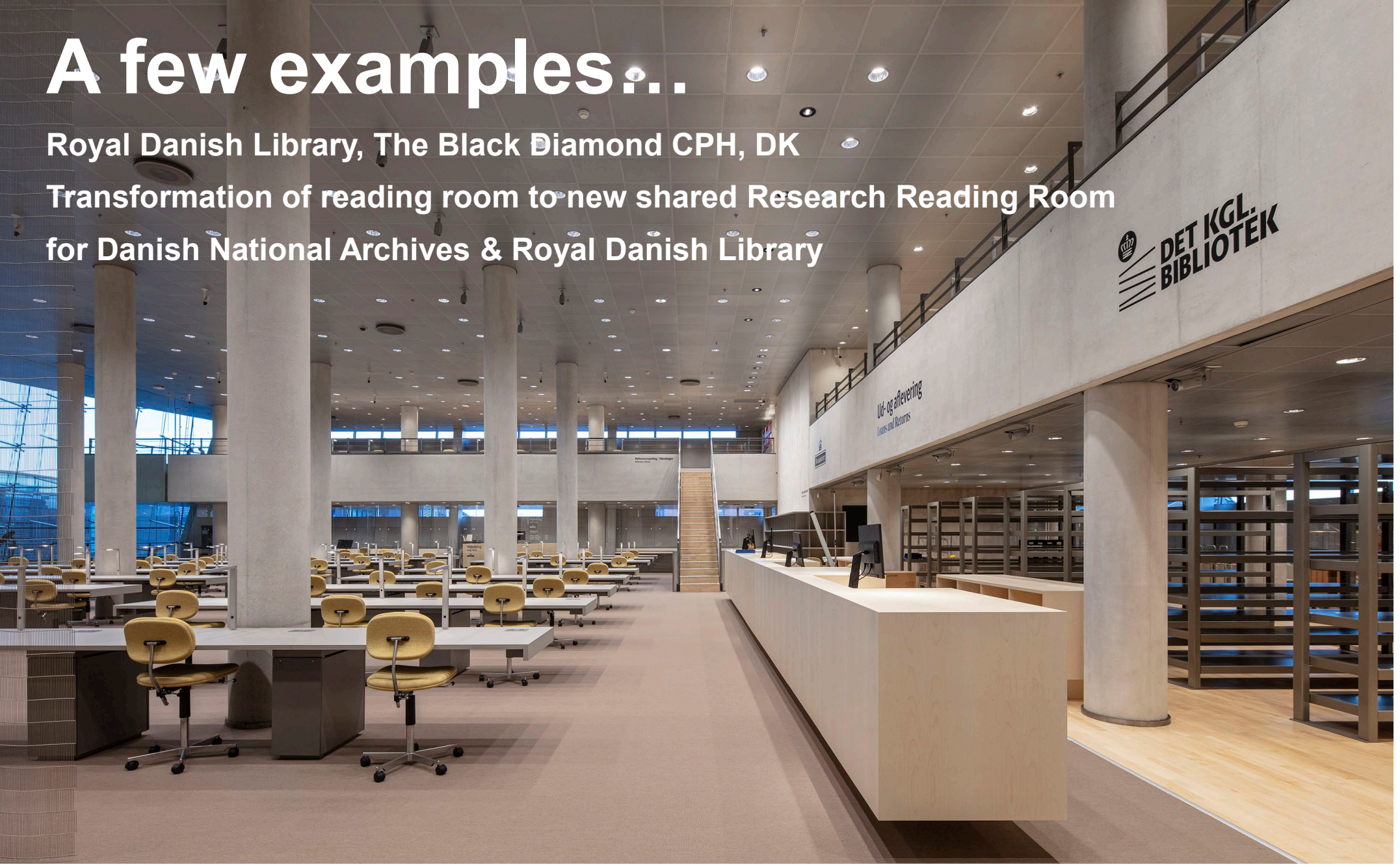

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Royal Danish Library, The Black Diamond CPH, DK

Transformation of reading room to new shared Research Reading Room for Danish National Archives & Royal Danish Library

A few examples…

UCPH South Campus,Transformation of existing introverted university building from 1971-79 to a modern university as an active part of the urban neighborhood.
Here: a former courtyard transformed into Knowledge Center and Library,The Faculty of Law .

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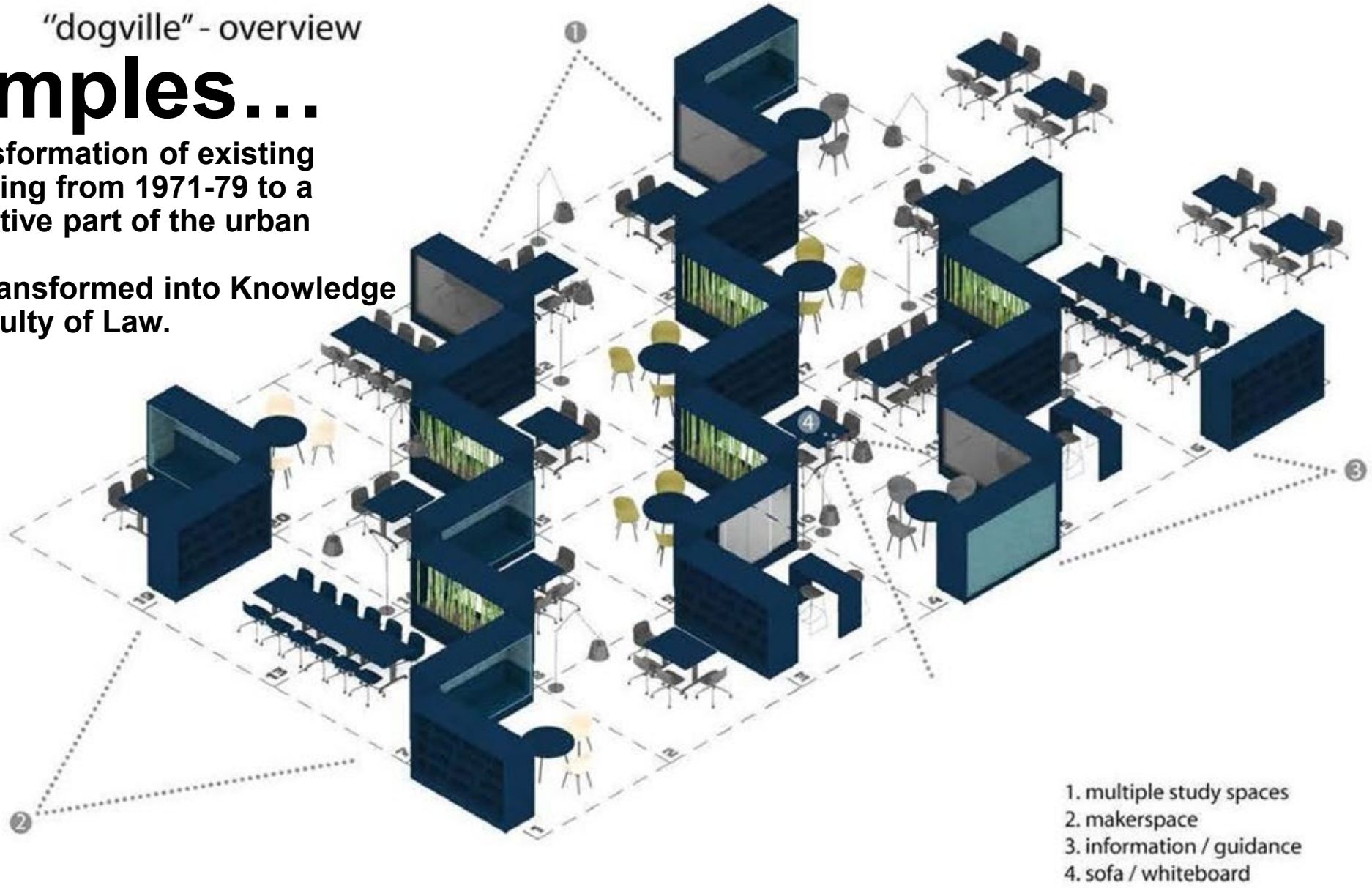

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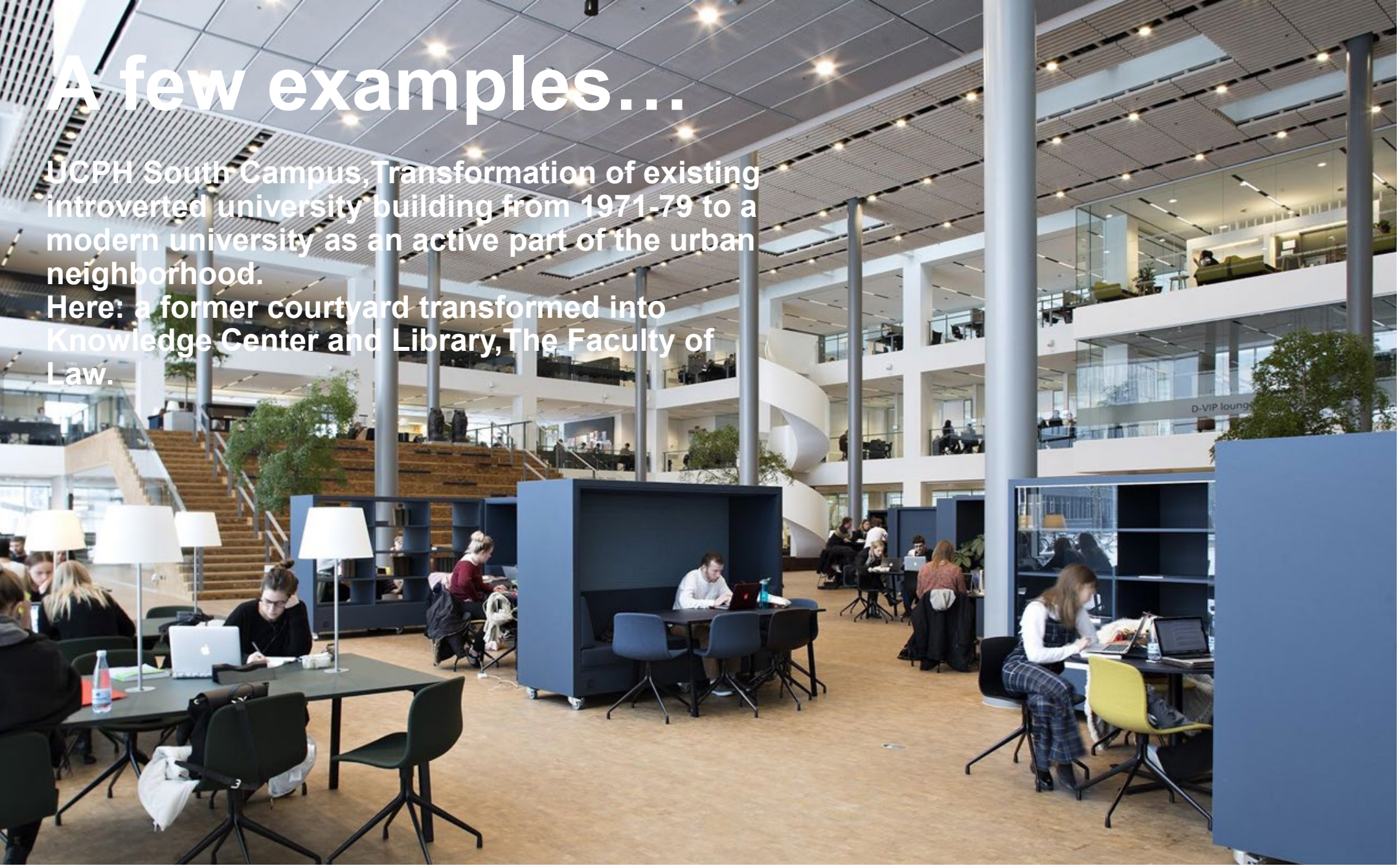

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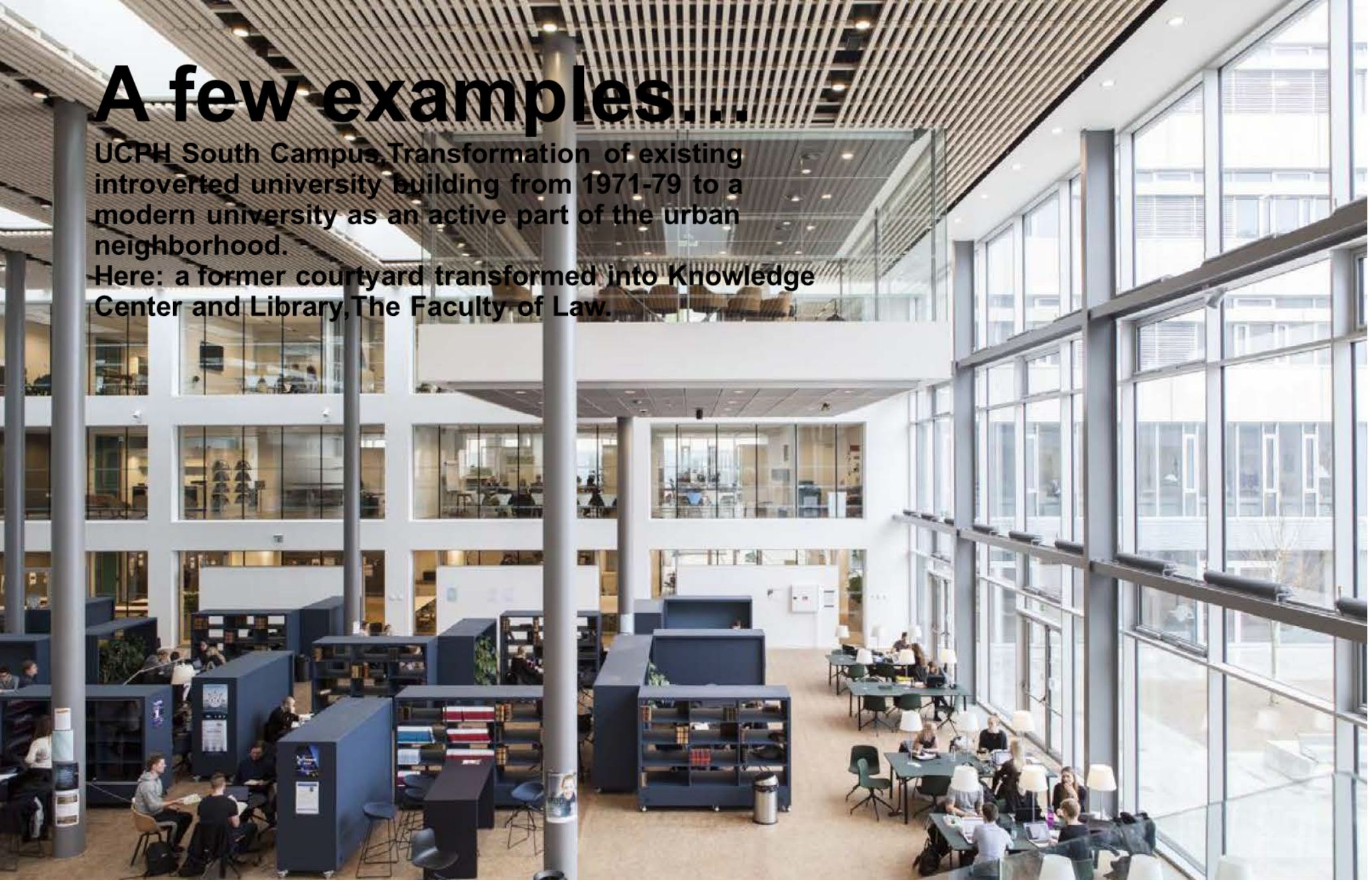


A few examples…

UCPH Faculty of Law DK…

A few examples…

DTU Library, DK

Antonella Da Messina, "Saint Jerome in his Study", approx. 1475, National Gallery, London

500 years...

...what is attractive?

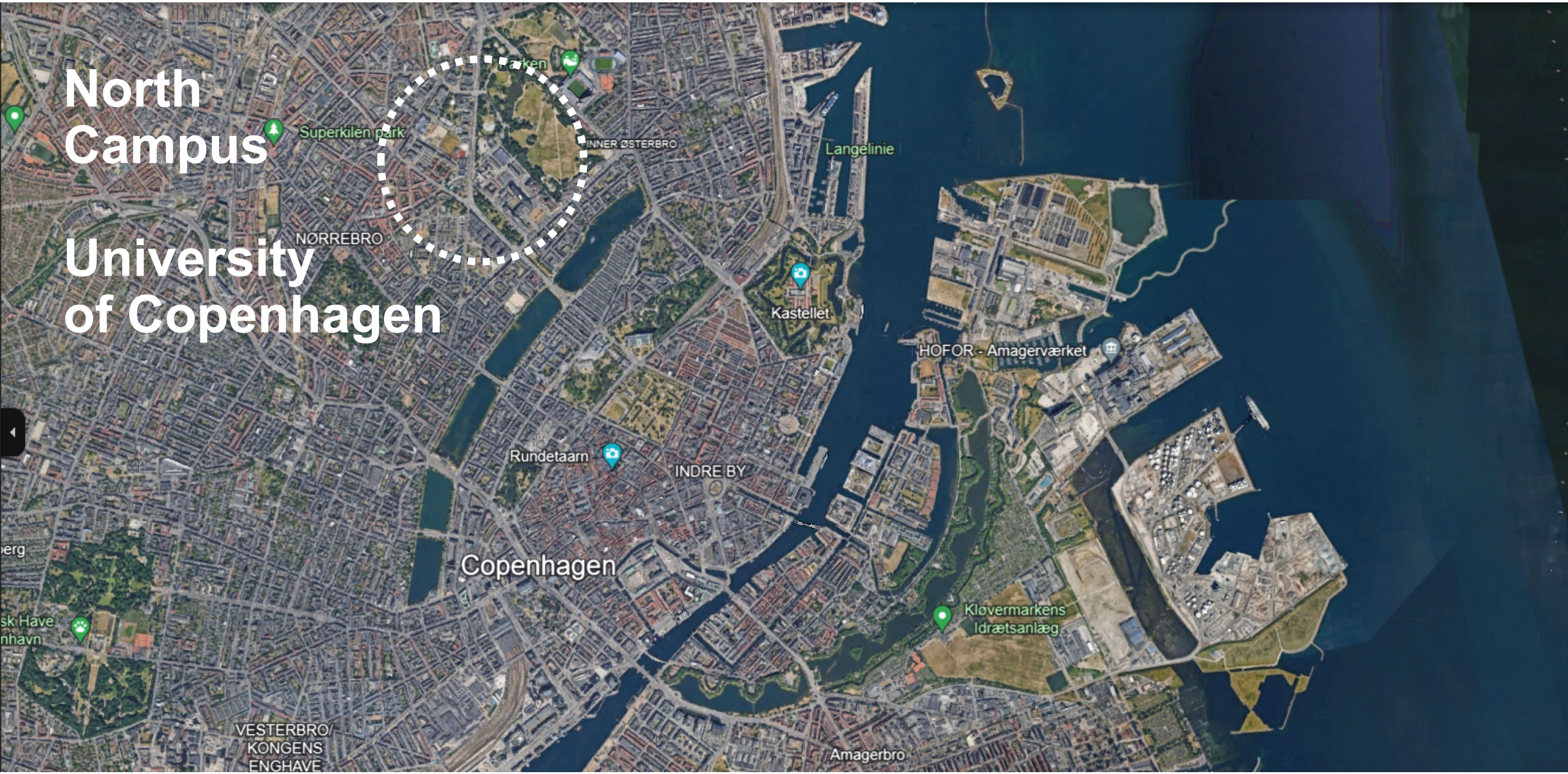
Transformation | Lightl

Anna Kathrine Bisgaard, Arkitema Architects akb@arkitema.dk

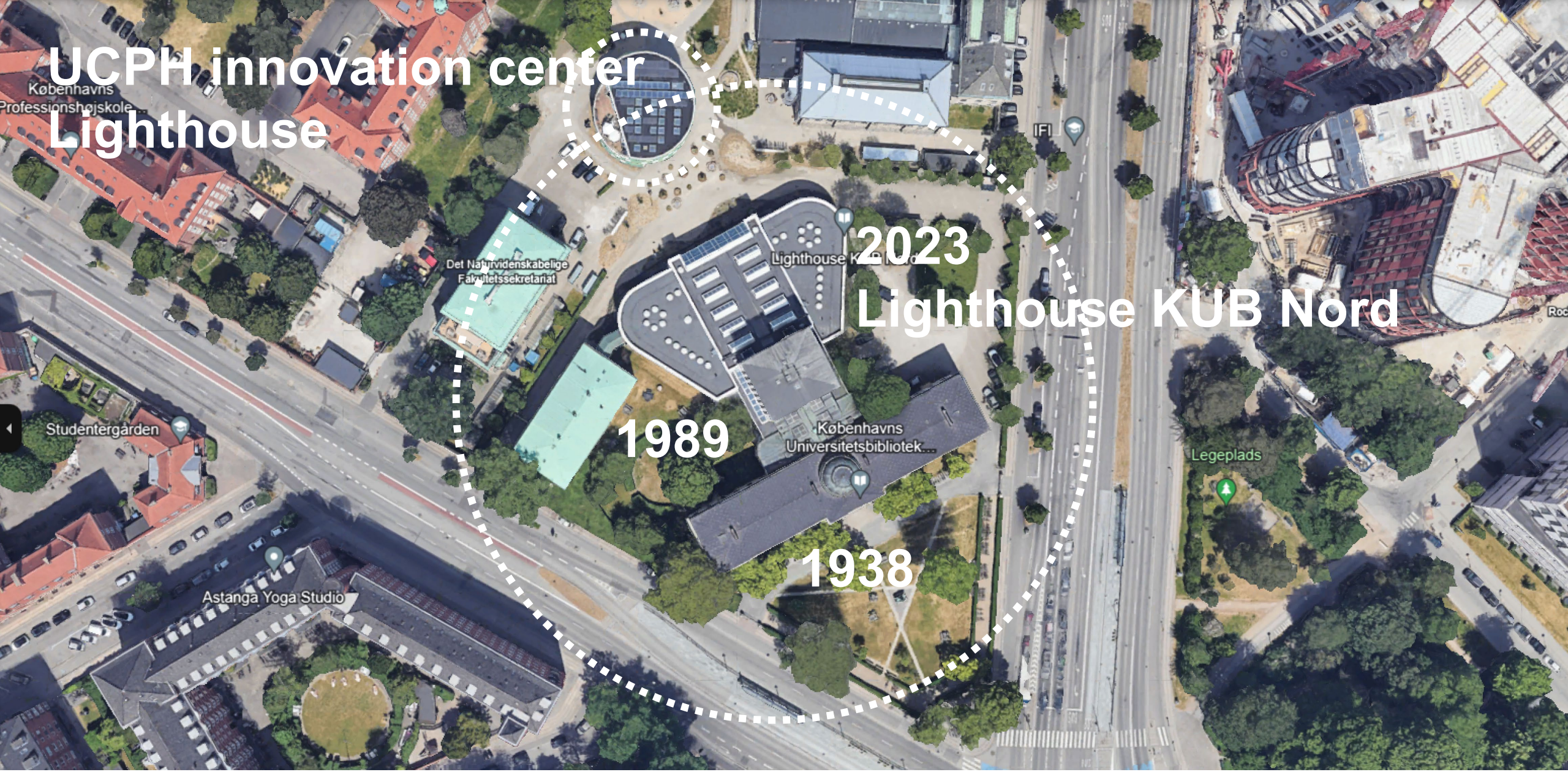
This approach is also fundamental for the hybrid-flexible facility Lighthouse KUBNord

It was the road to create this new kind of space inbetween the physical and virtual world…

Place

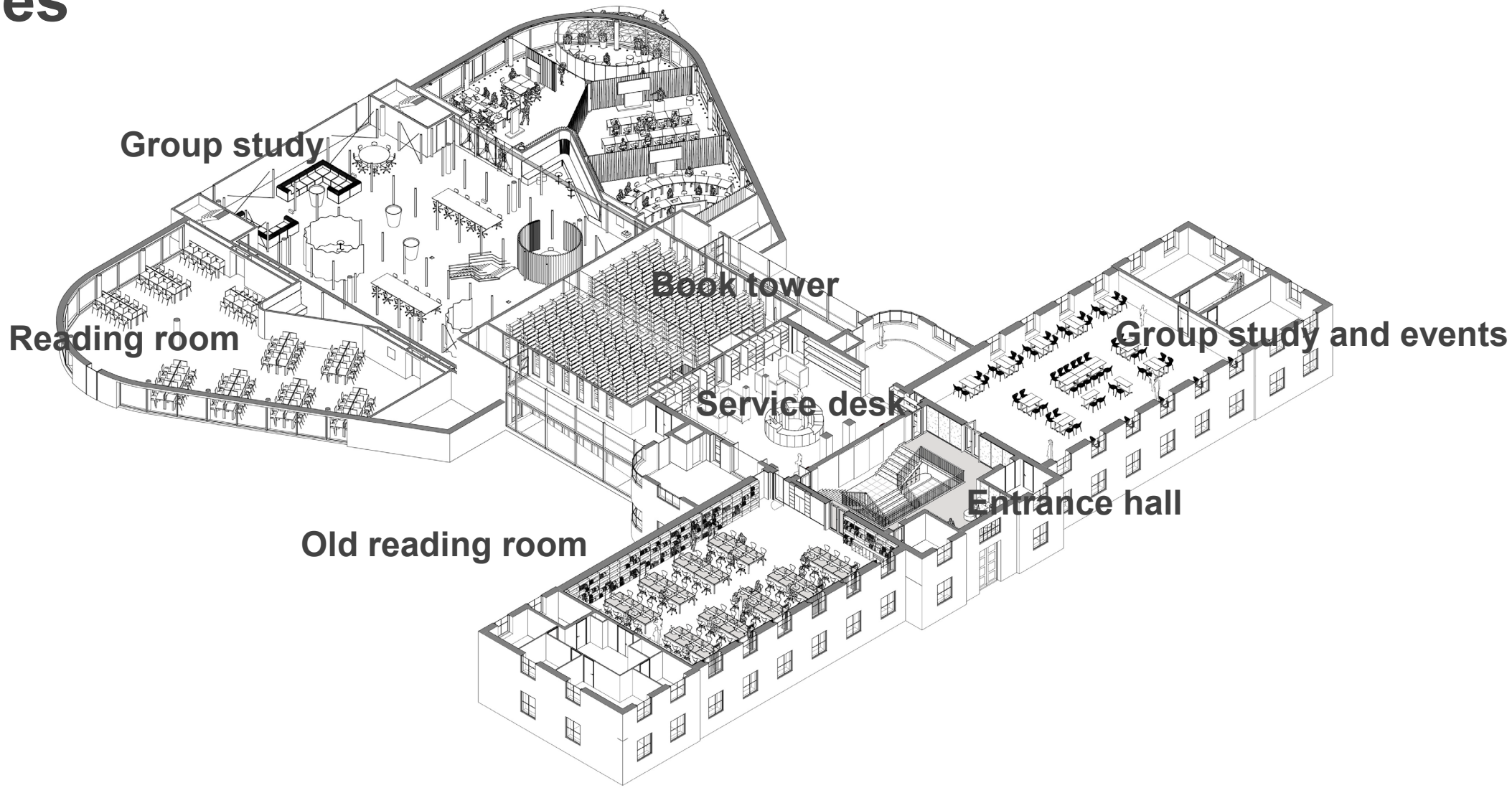

North Campus
University of Copenhagen
Superkilen park
INNER ØSTERBRO
Langelinie
NØRREBRO
Kastellet
HOFOR - Amagerværket
Rundetaarn
INDRE BY
Copenhagen
Kløvermarkens Idrætsanlæg
VESTERBRO/ KONGENS ENGHAVE
Amagerbro

Copenhagen University Library
KUB Nord
Natural and Health Science


UCPH innovation center
Lighthouse
2023
Lighthouse KUB Nord
1989
1938
Det Naturvidenskabelige Fakultetssekretariat
Københavns Universitetsbibliotek...
Studentergården
Astanga Yoga Studio
Legeplads
IFI

Library facilities

New hybrid flexible facility – ”Lighthouse KUB Nord”



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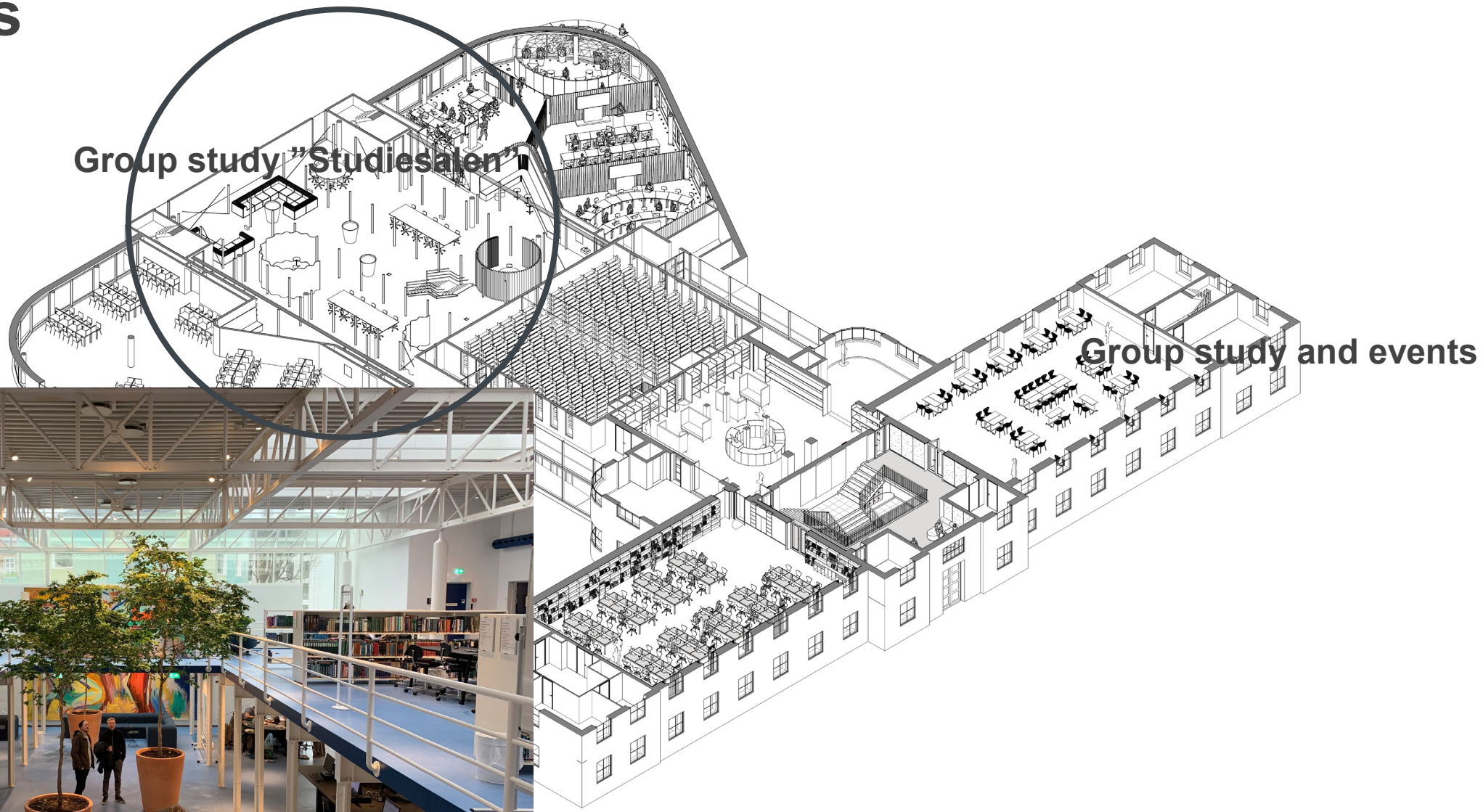

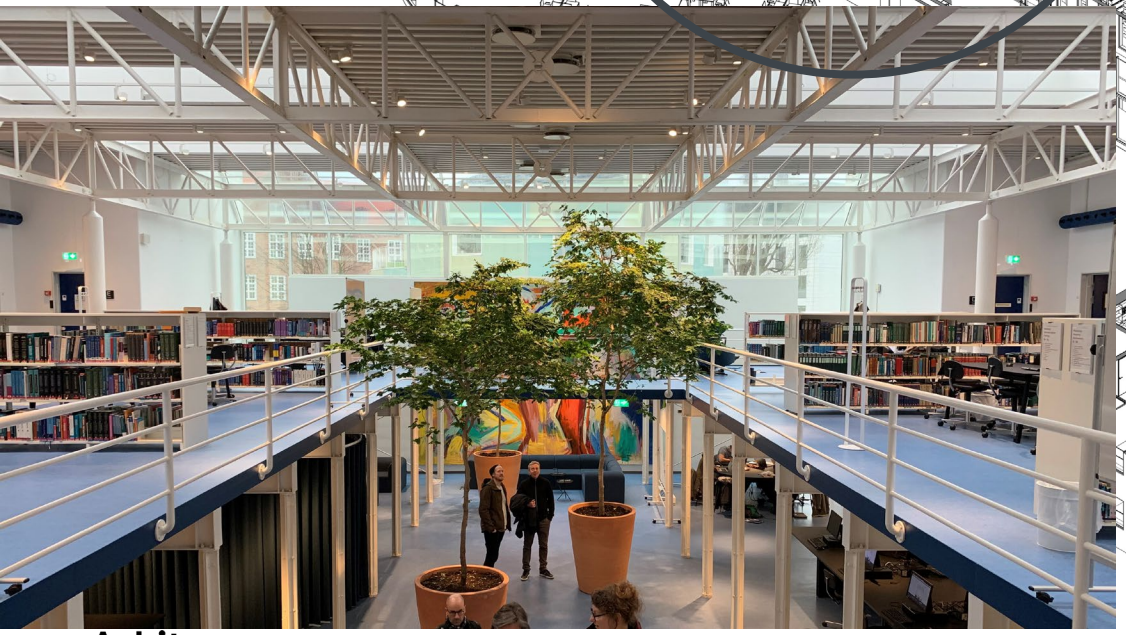

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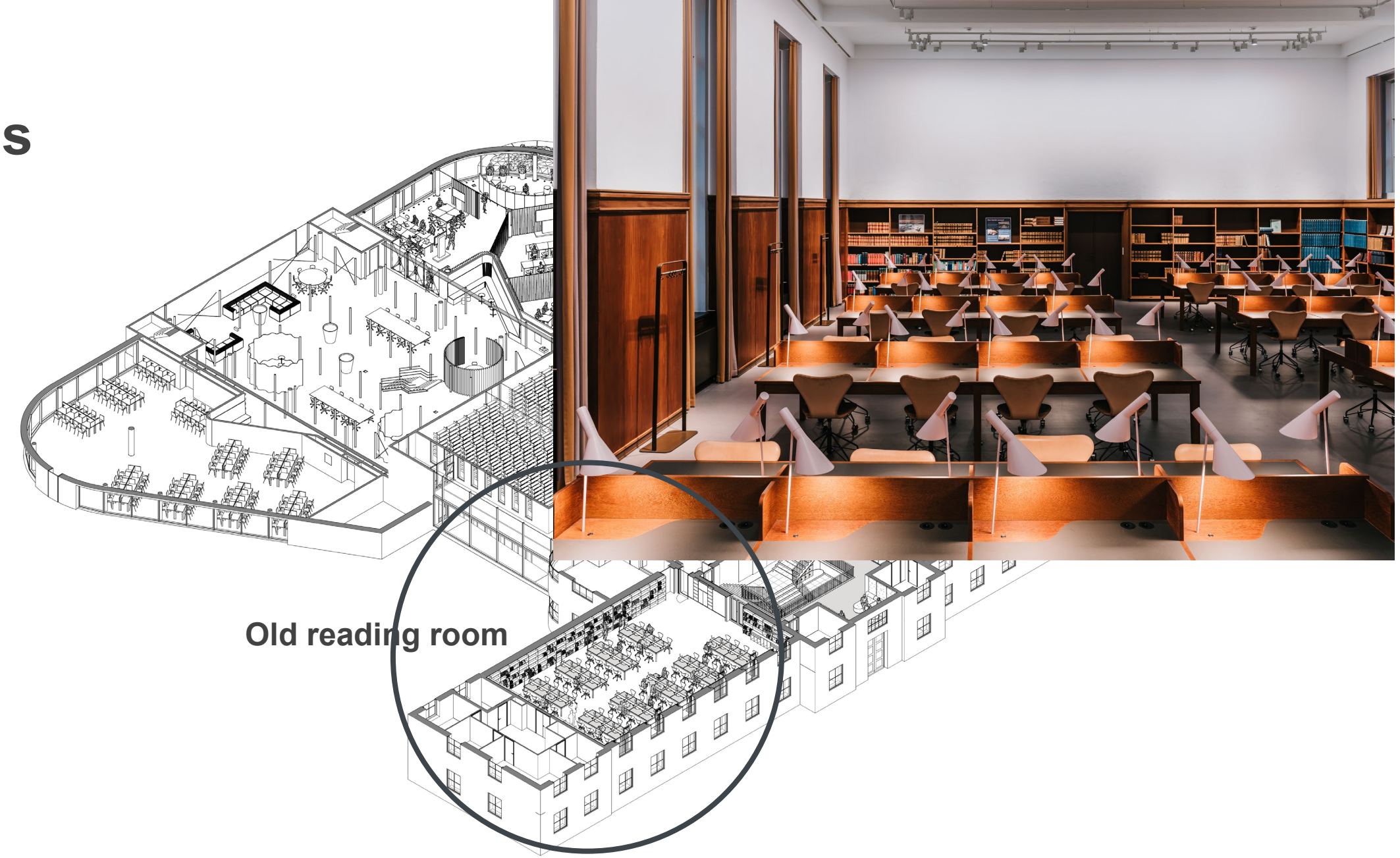
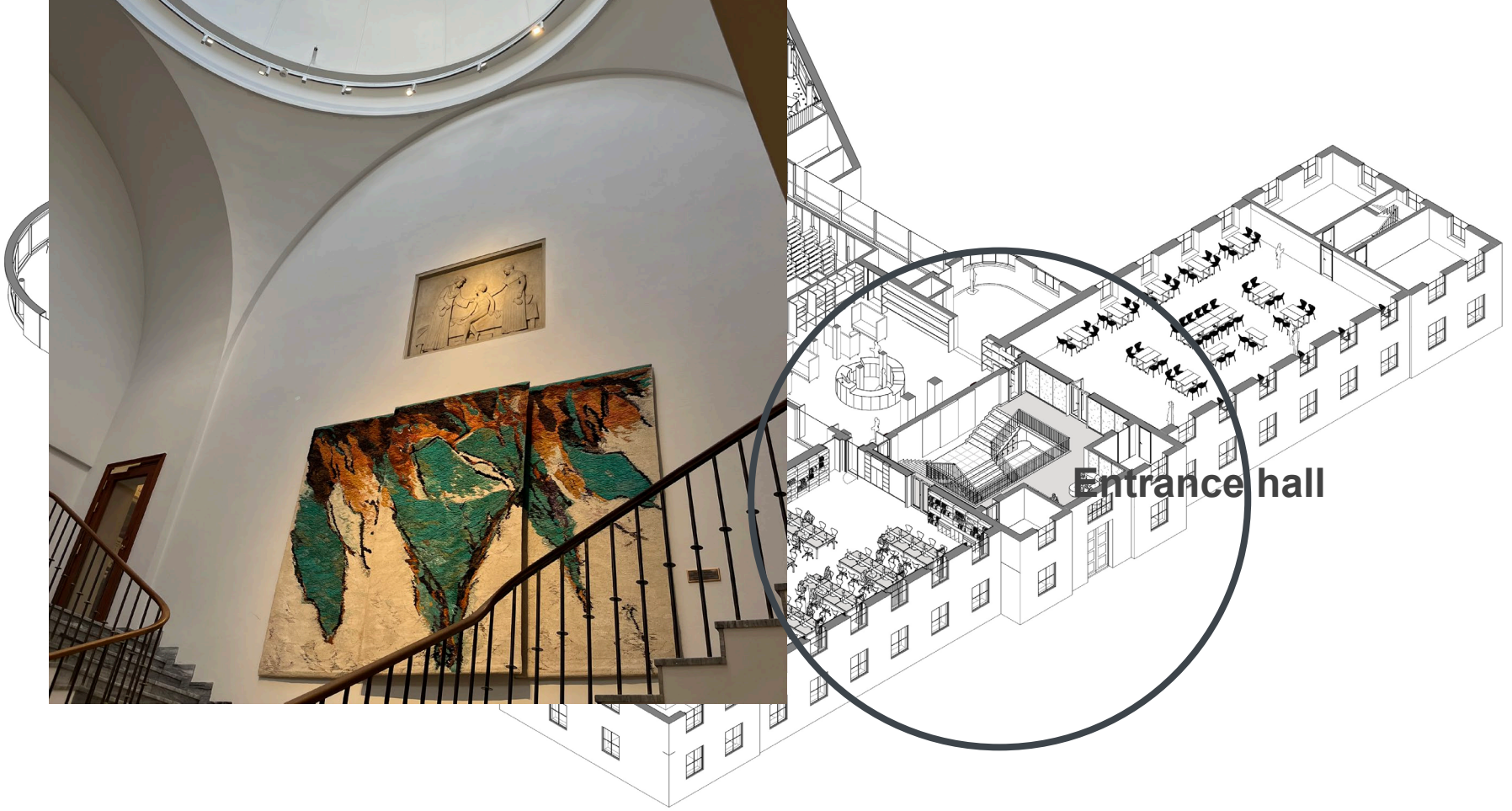


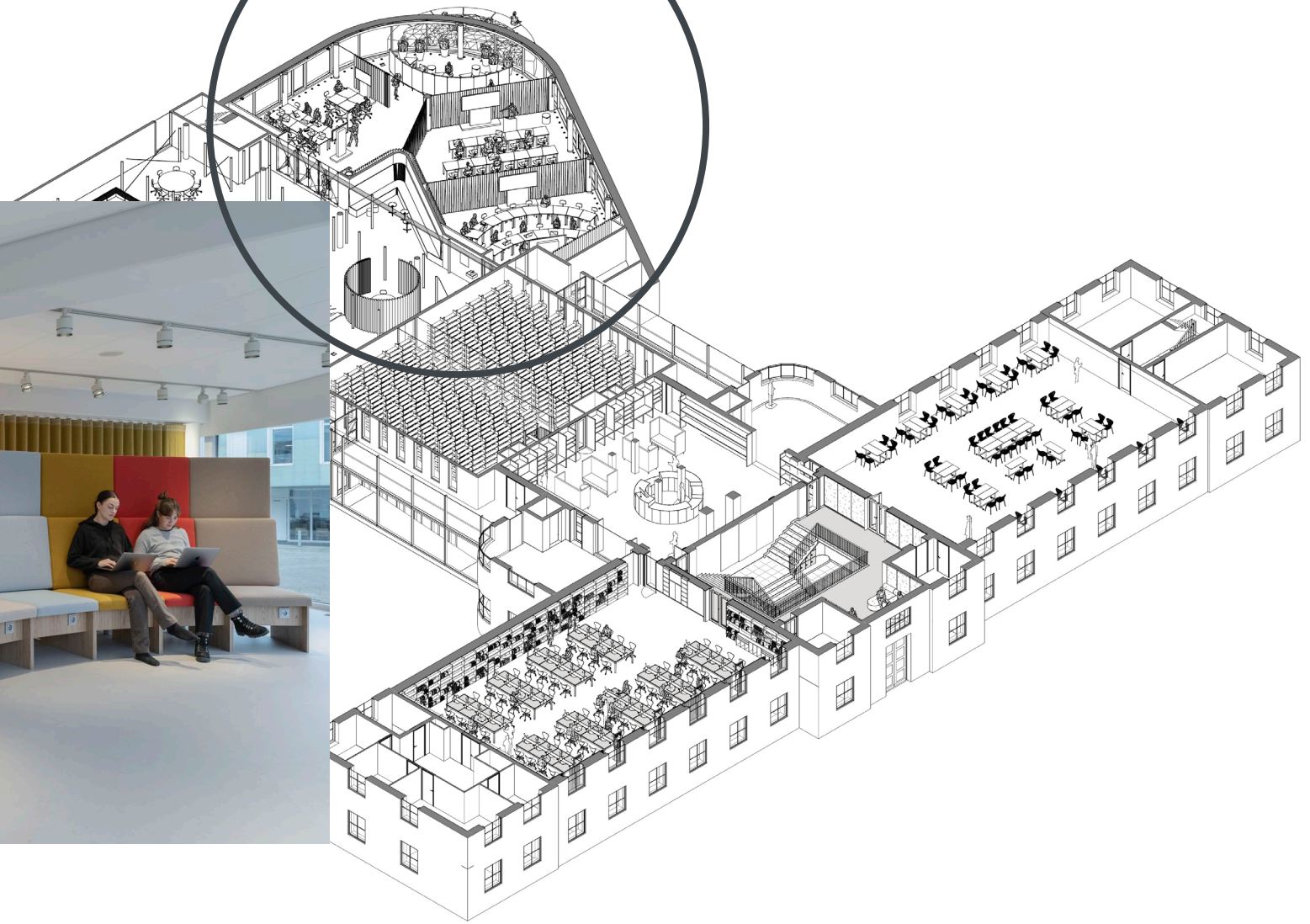
Old reading room

Library facilities



Facilities

New hybrid flexible facility – ”Lighthouse KUB Nord”



Task

Task

Excerpt from a brief task description from the Royal Library:

"The purpose of the renovation is twofold:

We would like to create a flexible learning space for use in teaching, events, data lab activities, and promoting group interaction.

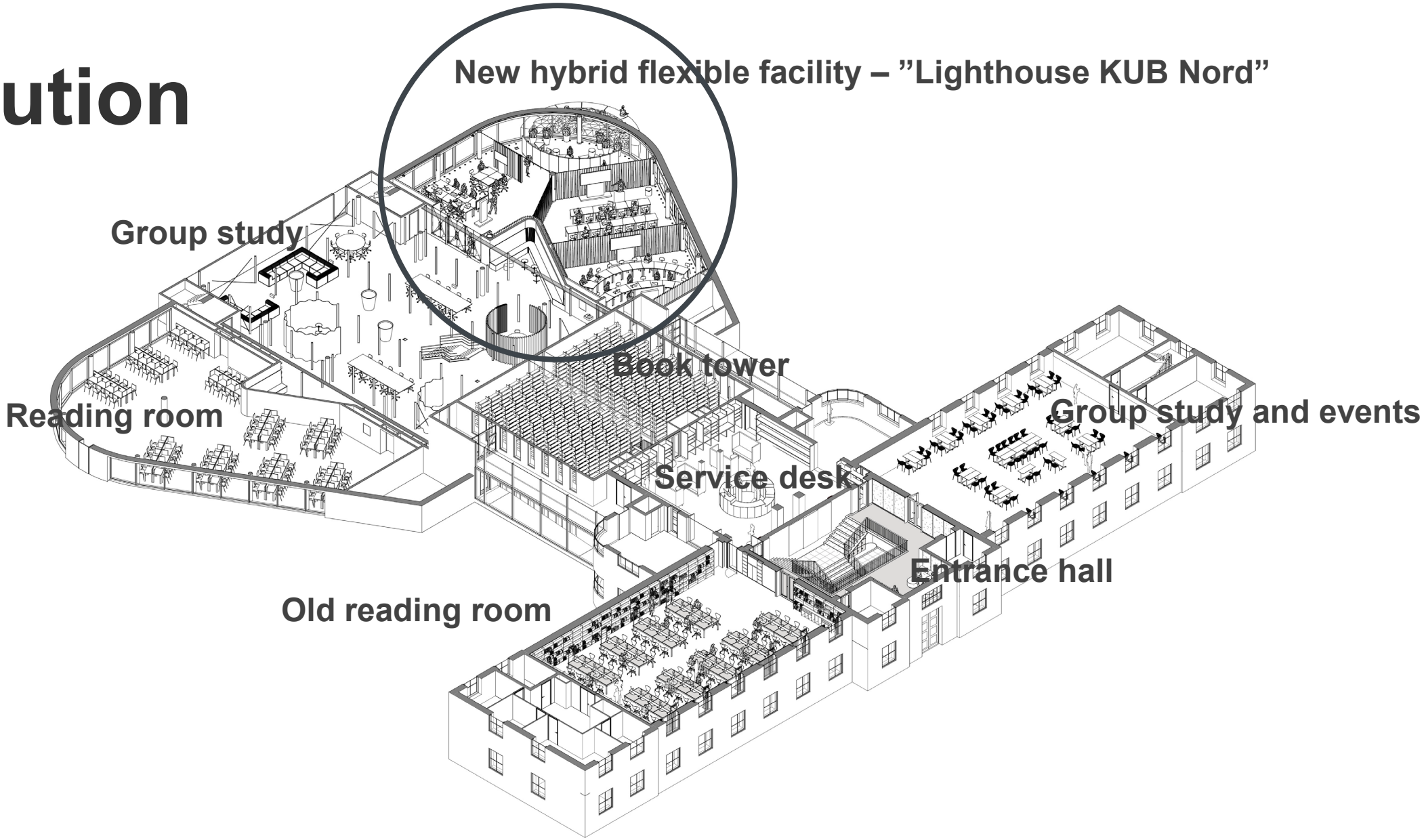
We would like to prepare for the upcoming collaboration on a joint KU Innovation Center with Green Light House, which is a neighboring building to KUB Nord…"

Transforming the former archive and reading room into…

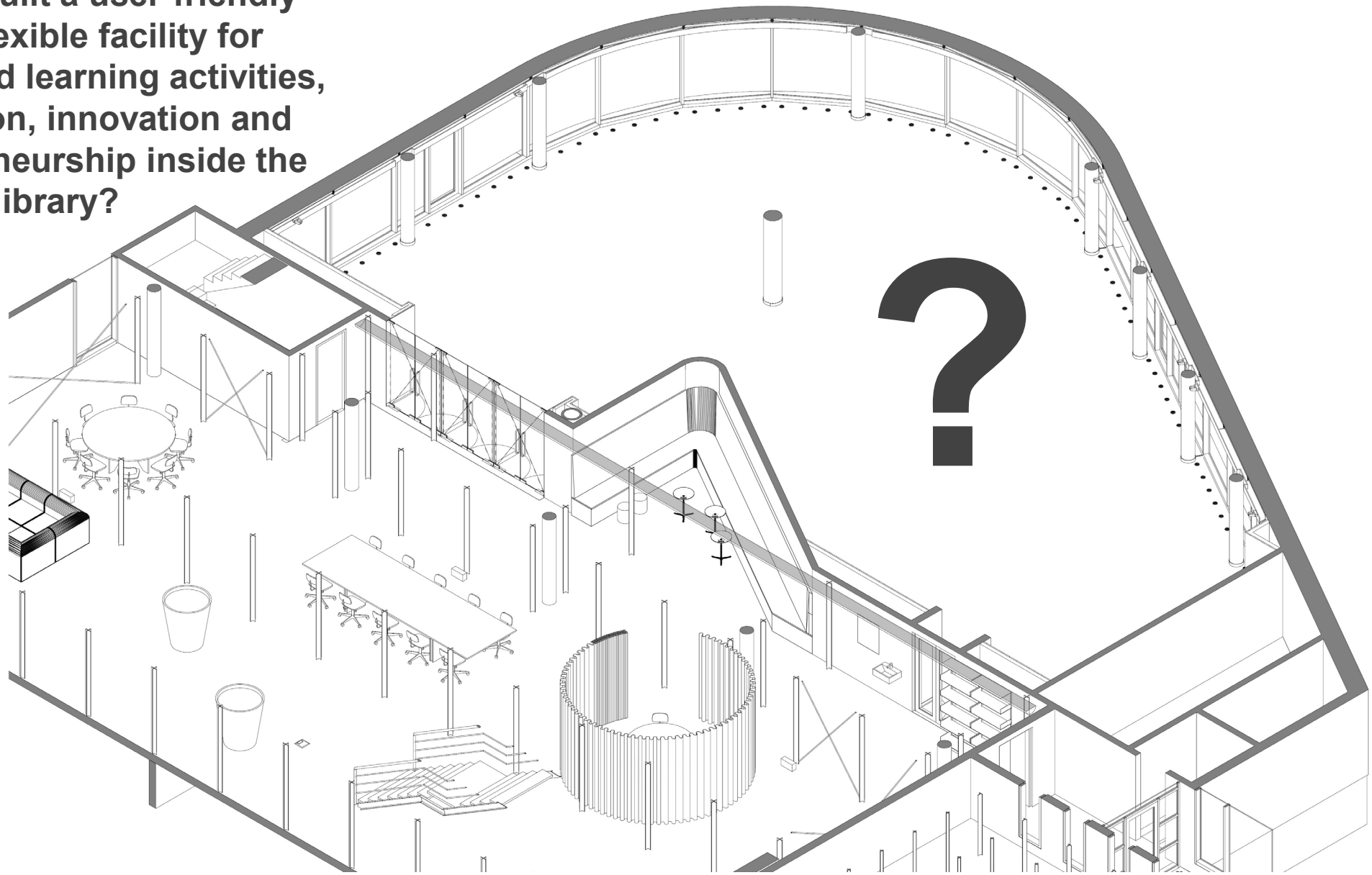
…a melting pot!

Solution

Solution


New hybrid flexible facility – ”Lighthouse KUB Nord”
Group study
Book tower
Reading room
Group study and events
Service desk
Entrance hall
Old reading room

How to built a user-friendly hybrid-flexible facility for study and learning activities, cocreation, innovation and entrepreneurship inside the existing library?



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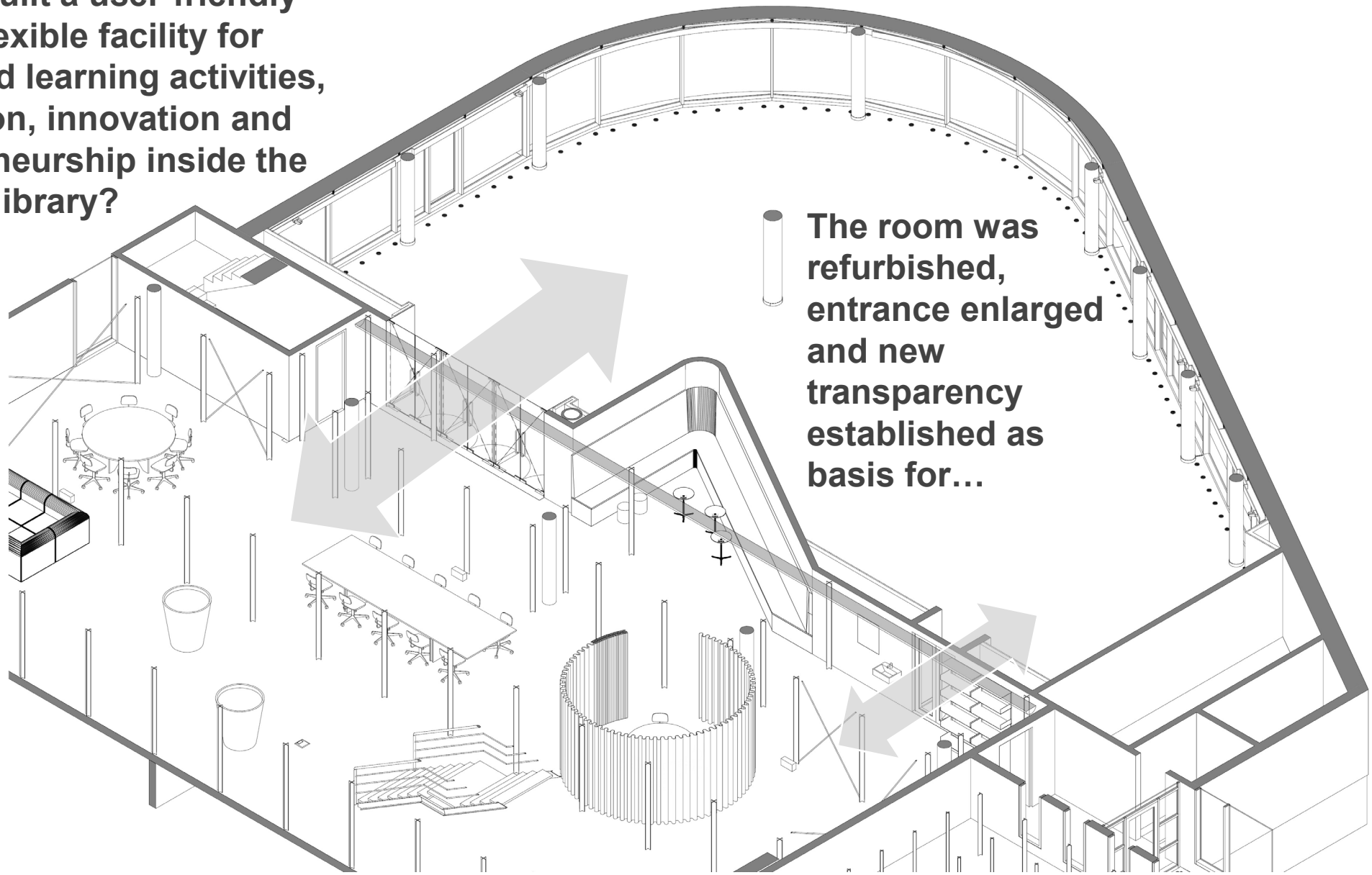


SOLID ”CIRCLE SOFA”

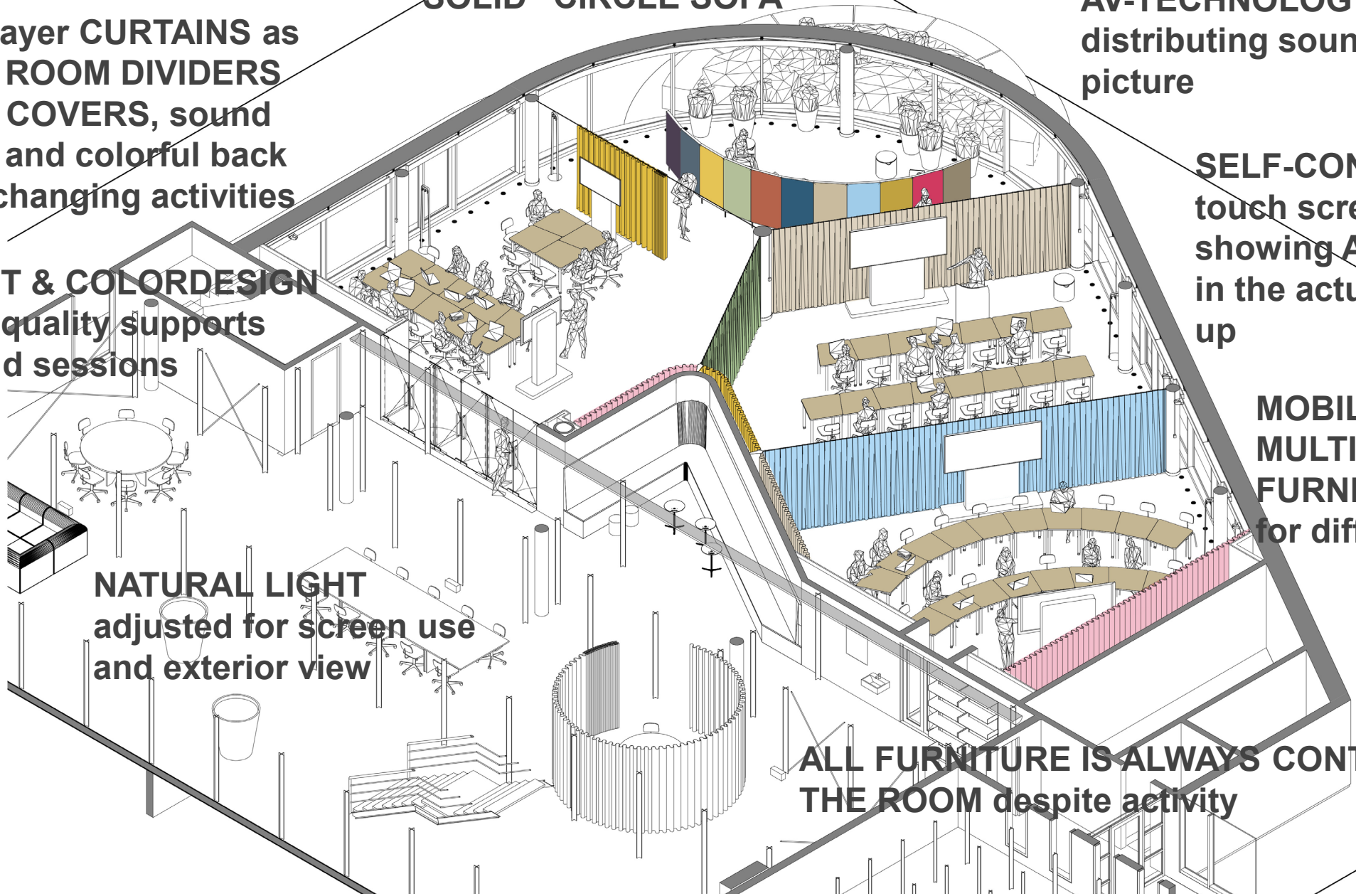
AV-TECHNOLOGY
distributing sound and picture

SOFT 1-7 layer CURTAINS as FLEXIBLE ROOM DIVIDERS and WALL COVERS, sound absorbers and colorful back drops for changing activities

SELF-CONFIGURING
touch screen showing AV-elements in the actual room set up

LIGHT & COLORDESIGN
high quality supports hybrid sessions

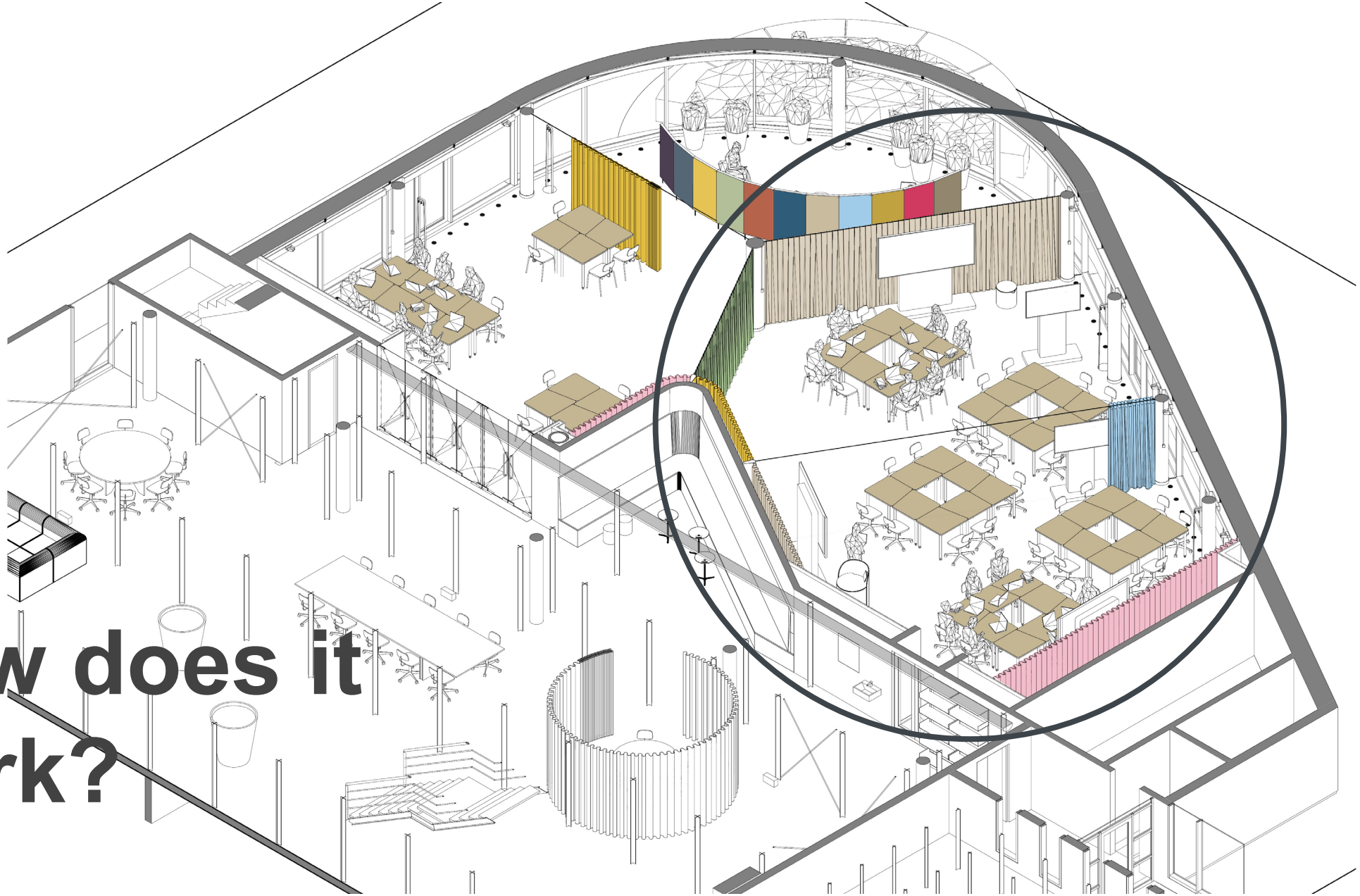
MOBILE MULTIPURPOSE FURNITURE
for different set ups



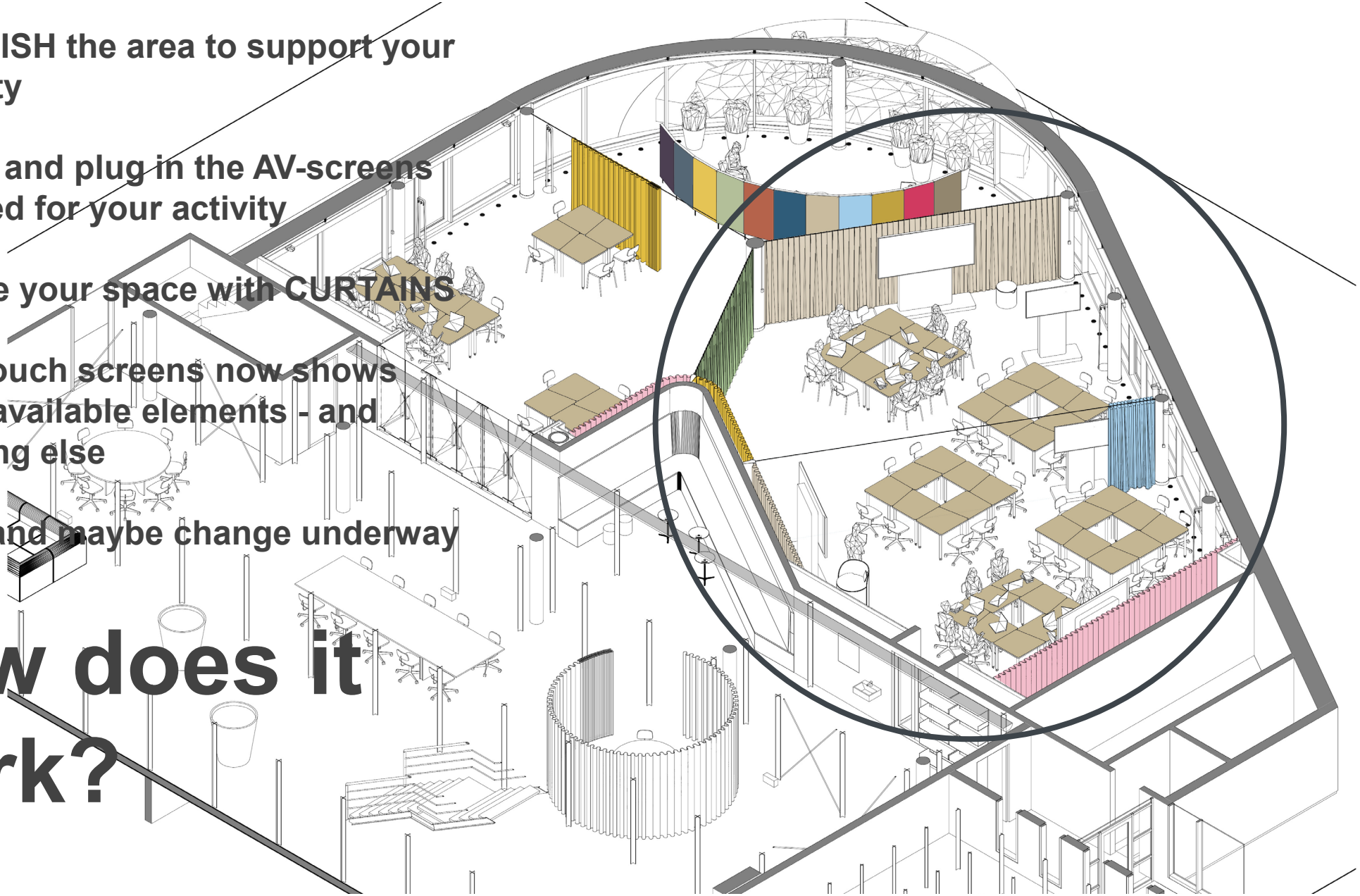
NATURAL LIGHT
adjusted for screen use and exterior view

ALL FURNITURE IS ALWAYS CONTAINED IN THE ROOM despite activity

How does it work?

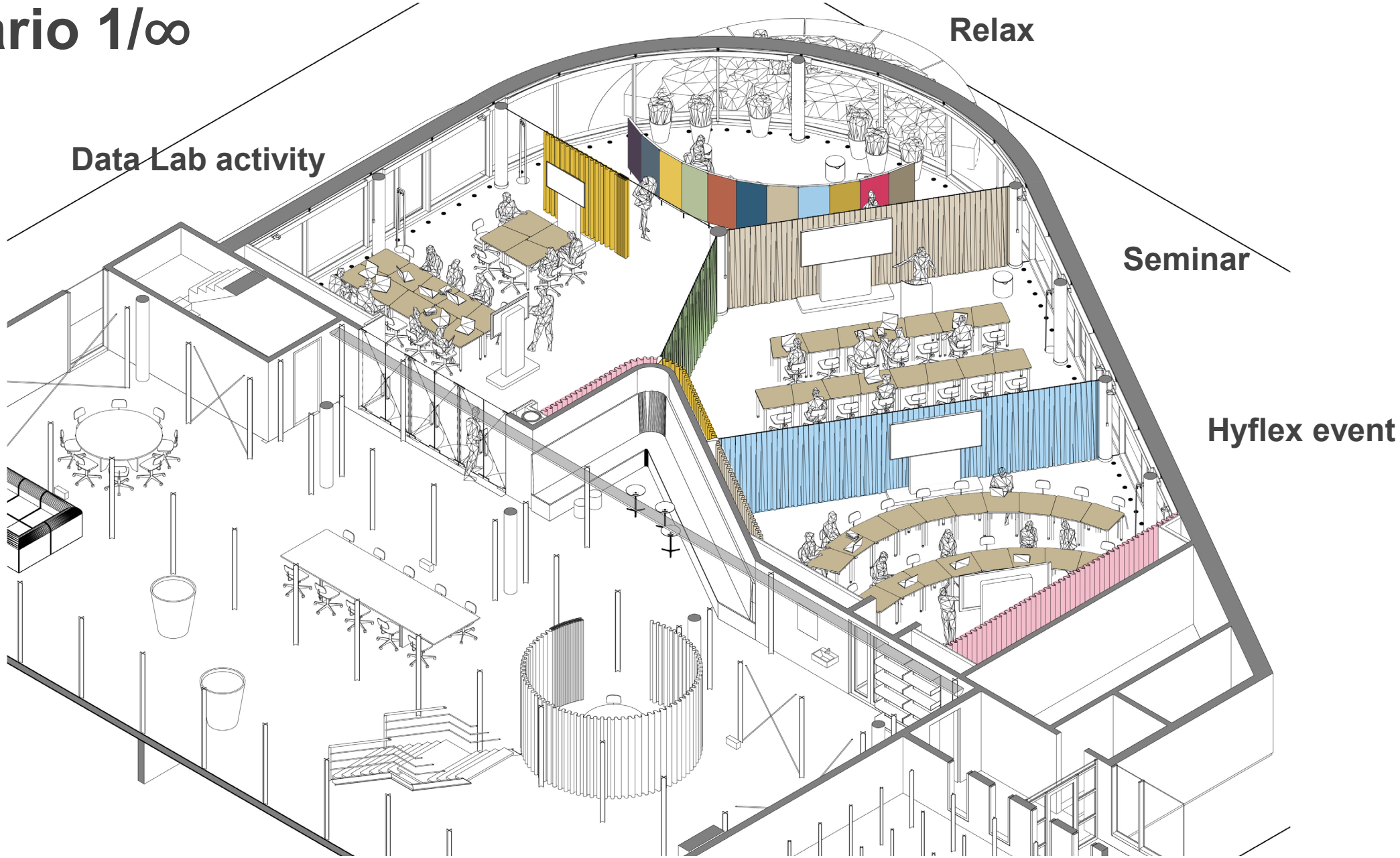


1. FURNISH the area to support your activity
2. Place and plug in the AV-screens needed for your activity
3. Define your space with CURTAINS
4. The touch screens now shows your available elements - and nothing else
5. Go…and maybe change underway

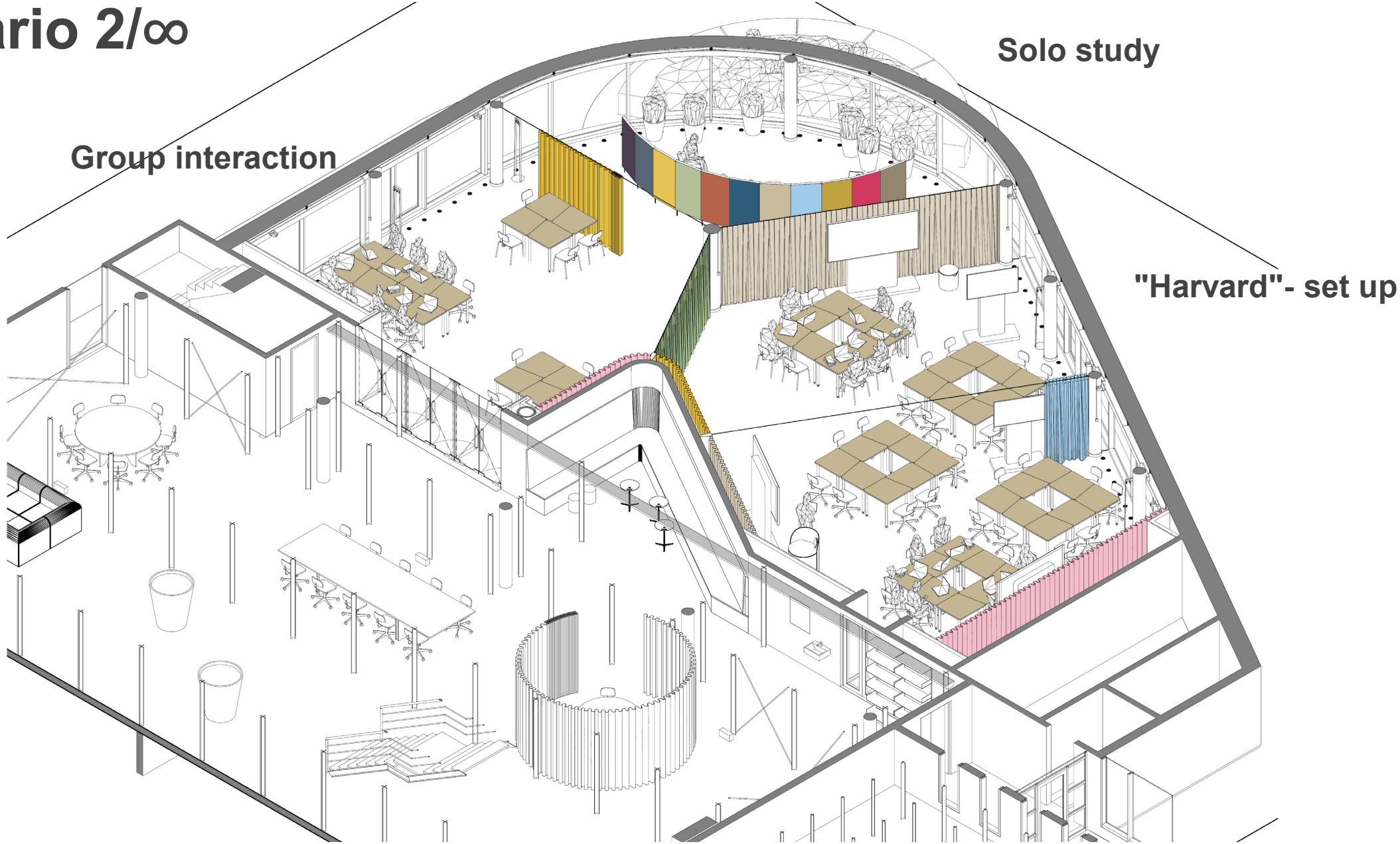


How does it work?

Scenario 1/∞



Scenario 2/∞

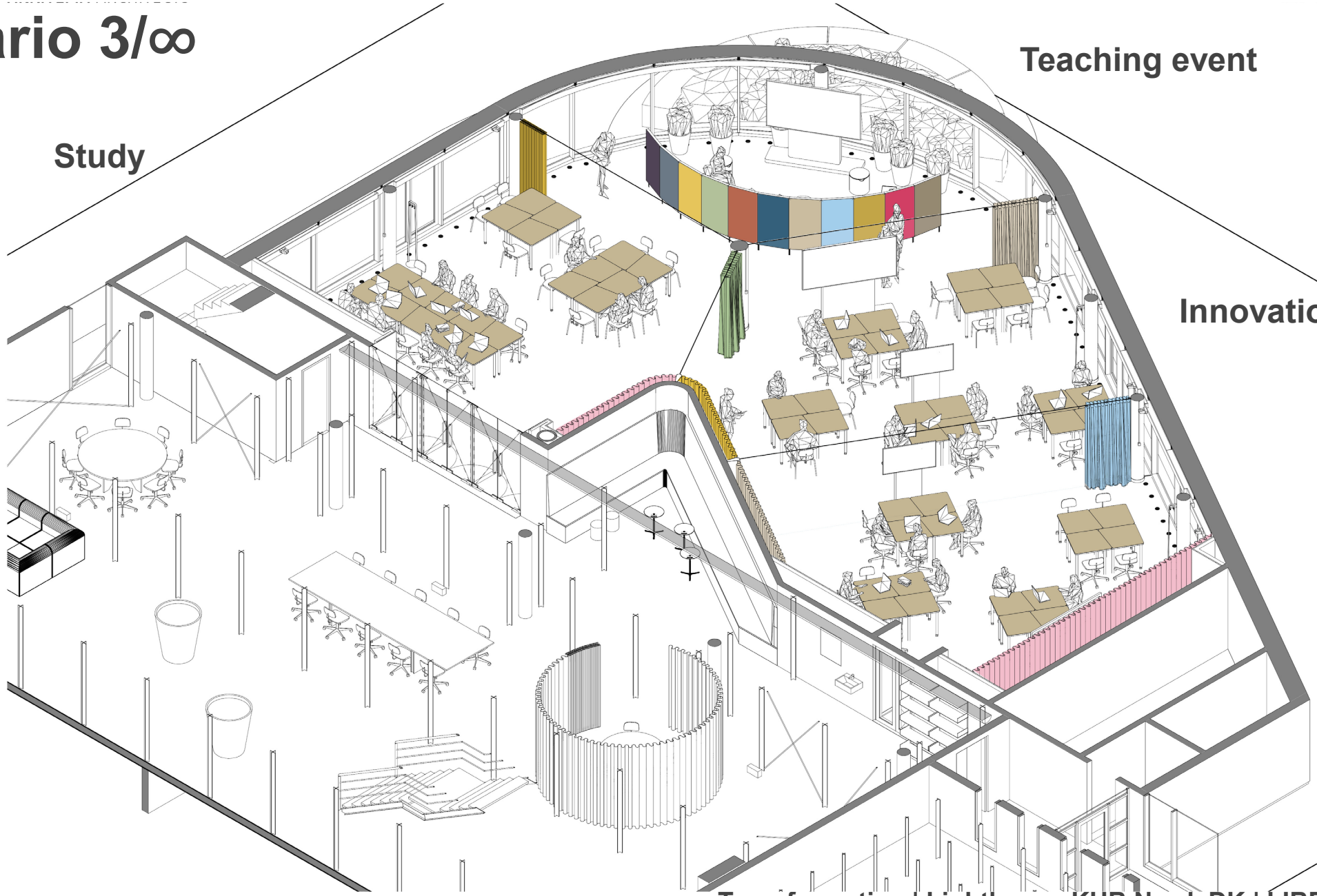


Scenario 3/∞

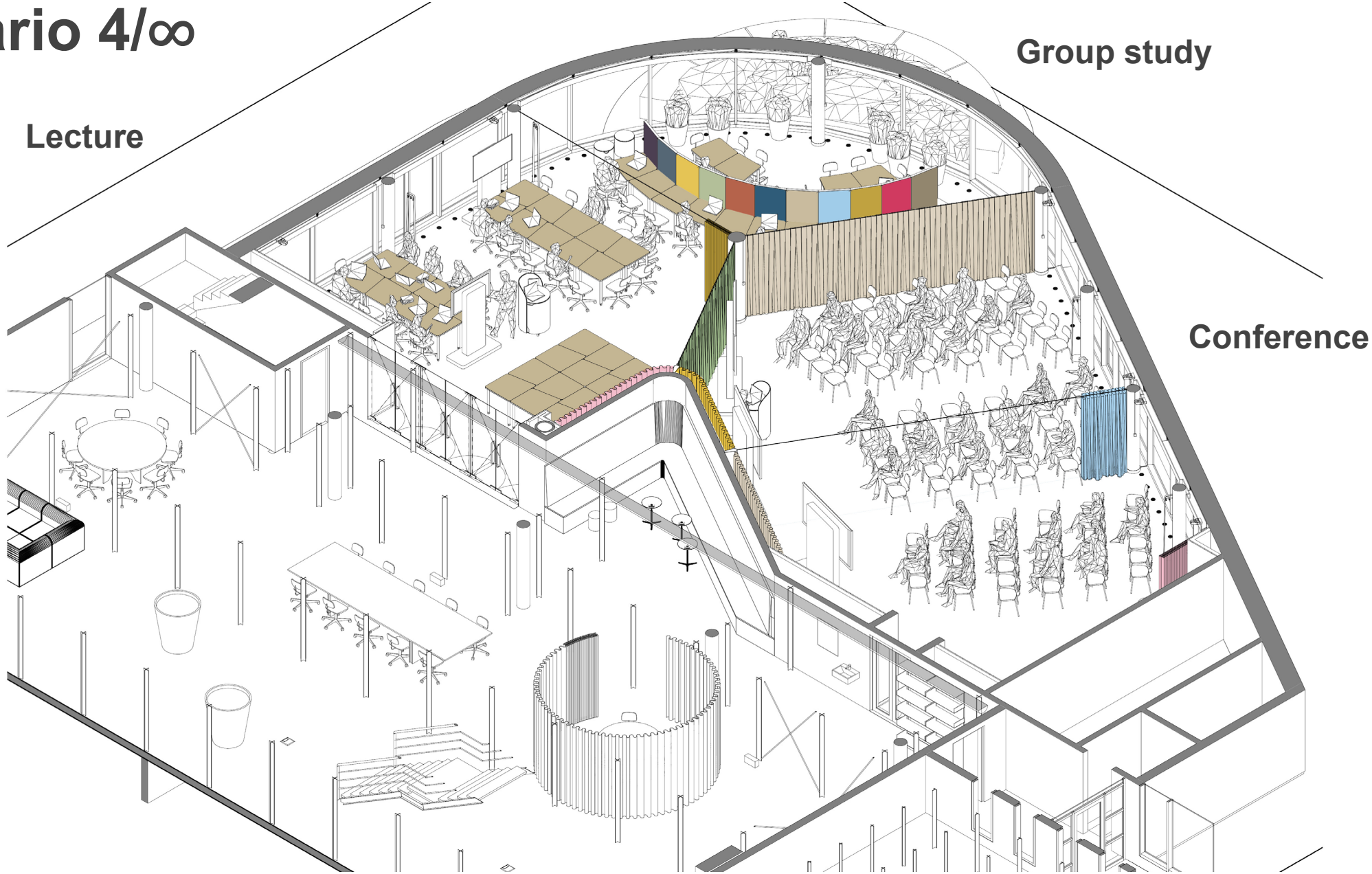
Study

Teaching event

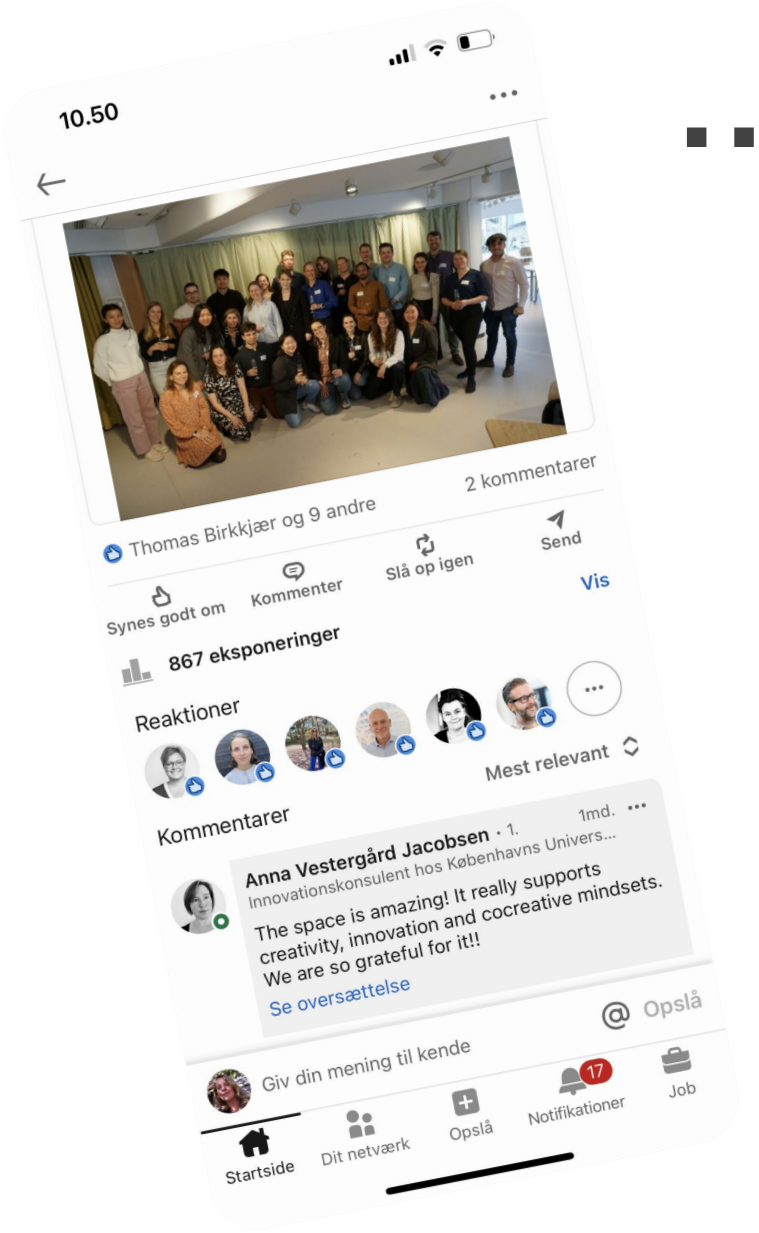
Innovation workshop



Scenario 4/∞



...UX - user experience

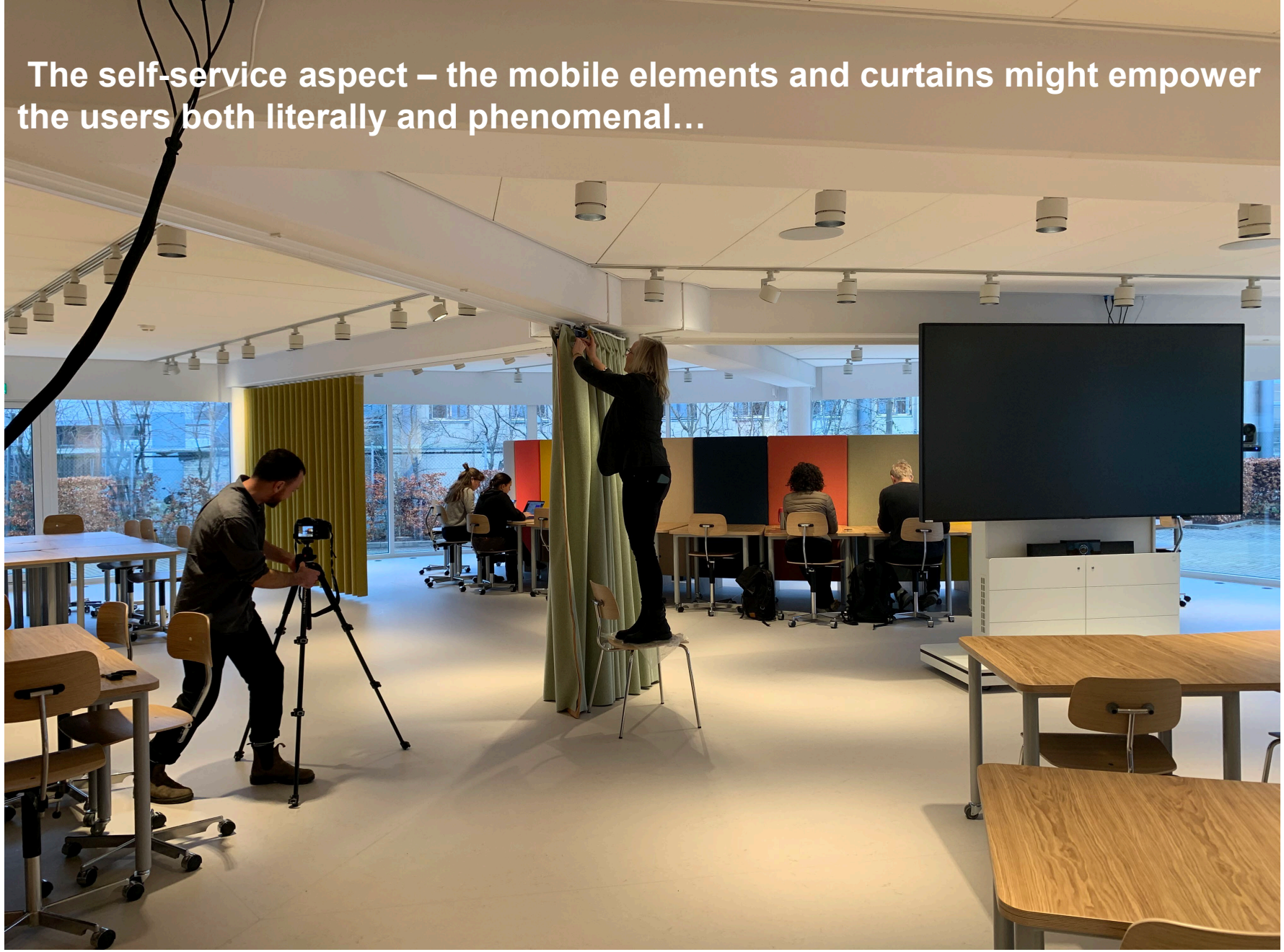


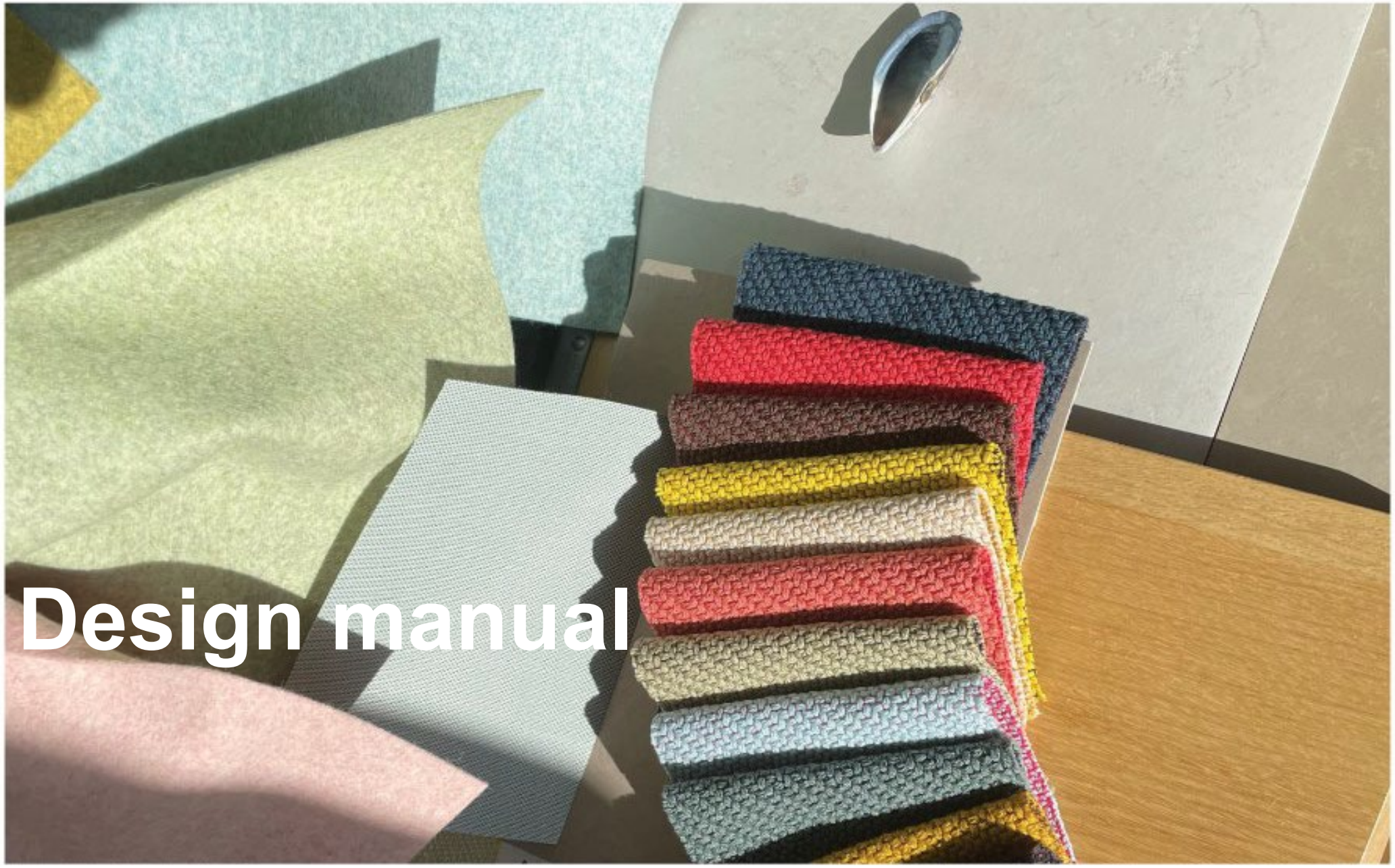
WHY does it work?

textile is a long known element for human kind – we wear it, - as tents in early, nomadic, and contemporary out door culture… - establish a feeling of confidence…maybe feeling at home...

WHY does it work?

EXPLORE
Socials
@csenews
@dtuskylab
@kulighthouse
#EXPLORE


The self-service aspect – the mobile elements and curtains might empower the users both literally and phenomenal…



Design manual

How textile and technology interacts: what´s the formula?

SOUND is distributed in the room by a voice lift system. This allows users to speak in normal sound level
So the general sound level is relative low.

This allows us to use textile room dividers - "wollen walls" that dampens 16-18 dB

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Process

- **Defining architectural values in existing building**
- **Sketching programming analysis and iterative development process**
- **Virtual Reality with real sound**
- **1:1 Mock up of tailormade acoustic curtain collab with suppliers**
- **Study trip to DTU Lyngby.**
- **Software/interface development with users.**

- Defining architectural values in existing building
- Sketching programming analysis and iterative development process
- Virtual Reality with real sound
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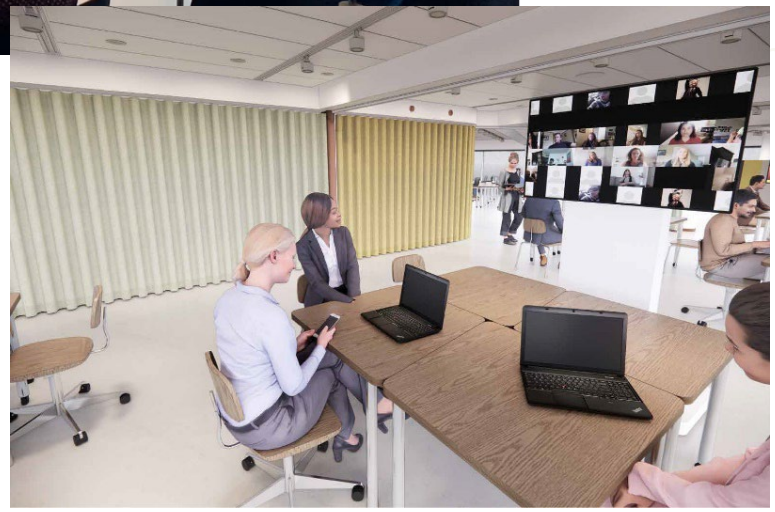
VR 3D model tour including the sound scape



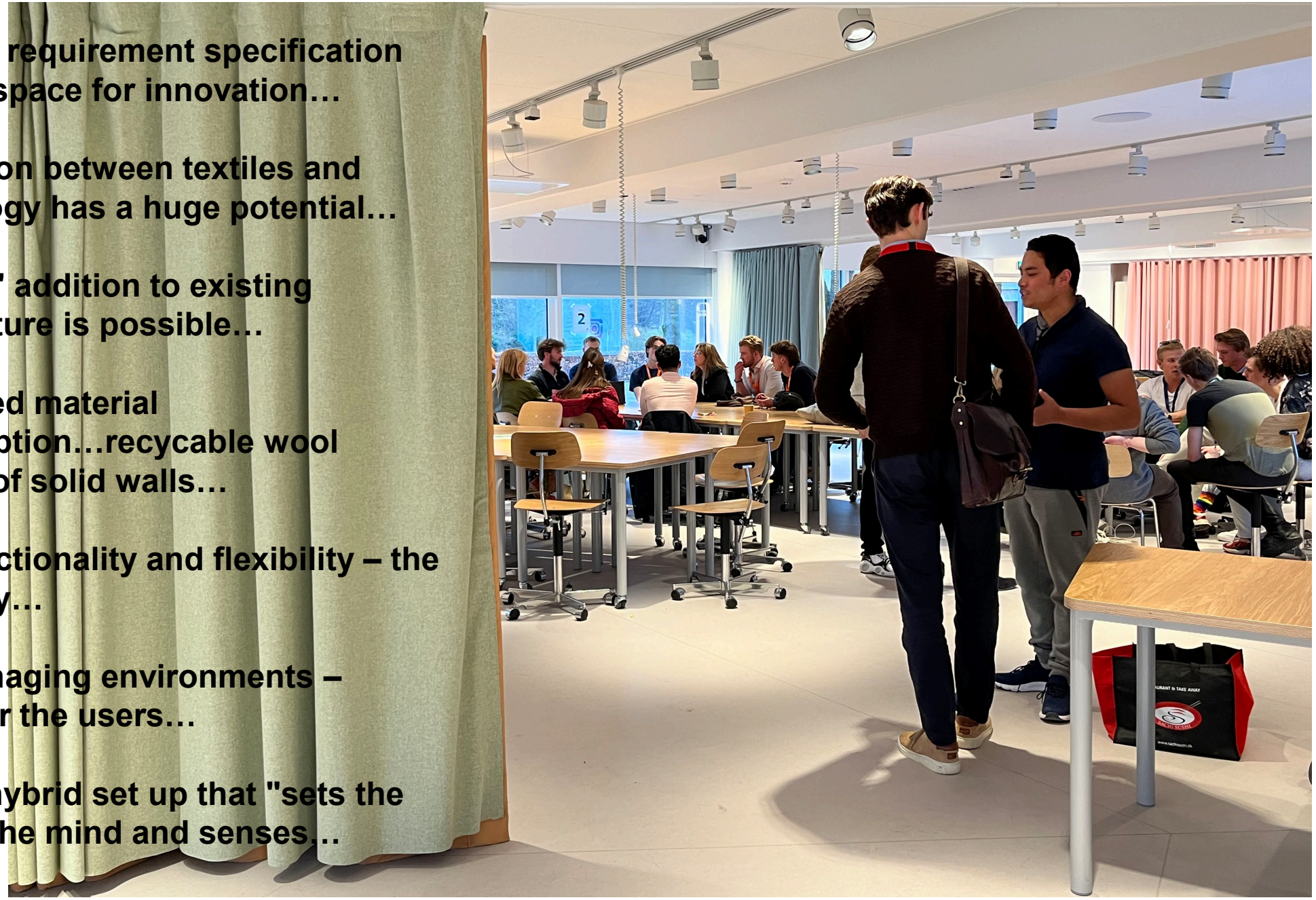
The ”sound curtain”

3.2
4.1

3.2
4.1

Perspectives

- An open requirement specification creates space for innovation…
- Interaction between textiles and technology has a huge potential…
- "Simple" addition to existing architecture is possible…
- Minimized material consumption…recycable wool instead of solid walls…
- Multifunctionality and flexibility – the easy way…
- Self-managing environments – empower the users…
- Spatial/hybrid set up that "sets the stage", the mind and senses…



1. **Innovative Library Spaces**: The evolution of library spaces, from traditional to flexible and multifunctional designs.

2. **Sustainable and Environmental Impact:** Strategies for designing environmentally friendly and sustainable library buildings.

3. **Digital Transformation**: The impact of digital transformation on library architecture and design

4. **Community Engagement:** Designing libraries that serve as vibrant community hubs.

5. **Accessibility and Inclusivity**: Creating library spaces that are welcoming and accessible to all patrons.

6. **Preservation of Heritage**: Strategies for preserving historical libraries while meeting modern needs.

7. **Adaptive Reuse:** Converting existing structures into functional and efficient library spaces.

8. **Future trends and Emerging Technologies:** Exploring the future of library architecture in a rapidly changing environment.

Arkitema

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