

The Marketplace Of Ideas: Sharing And Discovery

Studio: The Public Building Graduation Studio AR3AP100 MSc 4/4 2023-24
Master Thesis of Christoph Psykalla 5858712

WHY PUBLIC BUILDING STUDIO?

WHY VERTICAL CAMPUS?

"..Today universities are particularly interested in ensuring that students, teachers and researchers are **embedded more in society**. Therefore, they invest in possibilities for start-ups and other businesses for the **application of research and hands-on training."**

foreword

Welcome to the 2023-24 Graduation Studio of the Public Building Group!

Every academic year, the Public Building Graduation Studio investigates a new building type that is emerging from the ceaseless densification of our cities. In the next two semesters, we will explore the **Vertical Campus** for universities and institutes of higher education.

New building types often result from the **hybridization** of existing types that may have existed for decades and even centuries. Under the influence of today's lifestyles, digitalization, market economy, and climate change, historical paradigms of architecture are shifting. We will investigate the campus architecture of **higher education** that ventures out to other cities because the existing traditional university cities are unable to cope with the ever-increasing number of students and the limits to horizontal expansion. We will investigate how **learning and teaching** are changing because of new concepts arising from digital tools and virtualization, and what they mean for the types of architecture we need. We will also explore the possibility of various institutions and functions sharing buildings and facilities.

This studio will specifically focus on how to blend vertically configured educational buildings and facilities into The Haugue's fast-growing center of the Dutch national government and international institutions around **The Hague Central Station**.

The verticality may provide a more sustainable way to build by enabling multiple use of spaces on a limited footprint. We will also tap into the need for **lifelong learning** and continuing education of for example government officials, educators, and professionals. Today, universities are particularly interested in ensuring that students, teachers and researchers are embedded more in society. Therefore, they invest in and create, close to campuses, possibilities for start-ups and other businesses for the application of research and hands-on training.

What can this new way of thinking of a university, growing on top, inside, and together with a government center embedded in a Dutch city center, look like? We will adopt an umbrella term **campus** for this. This is sometimes called the "fifth generation" campus. This means in particular campuses should be more integrated into daily life than in the past. When universities started centuries ago, they were also quite integrated into cities. In order to retrace the origin of universities, we will first take an excursion to Great Britain where the concept of university, college, and (at a later stage) campus was partly invented. We will visit **Oxford** to learn about the medieval model and **London** where very modern universities are integrated into the city's fabric.

For the construction and materialization part in this studio – as an integral part of your architectural design – with the help of Technical Building Design instructors, we urge you to follow the concepts of **circular design** and find a way to minimize energy use and greenhouse gas emissions in order to help counter adverse climate conditions in cities. Through workshops, we will also encourage and support the use of **digital design tools** including coding and scripting for both urban research and mapping, as well as for making your own architectural design.

In addition, **Atelier Rijksbouwmeester** (Studio of the Chief Government Architect) will support us based on its current study of how to redevelop and expand the government center of the future both by re-use and creating new buildings. The Public Management group of **Real Estate Management** at BK will also help us along the way on the (multiple) usage of spaces, densities, and related data. With all the above in mind, we expect a high level of design in **Multiplicity.**

In this studio, you can really help invent the new types of **Vertical Campus** appropriate for our time and the coming future. The cities and their universities only now begin to develop such new concepts.

I am very much looking forward (and upward) to the results of the Vertical Campus Graduation Studio!

Nathalie de Vries
Head of Public Building Group



Roy and Diana Vangelos Education Center, Diller Scofidio + Renfro, New York, USA, 2016. Photo: Iwan Baan

FROM STUDIO SYLLABUS

INTERDISCIPLINARY HANDS-ON BACKGROUND

student

architecture

mechanical engineering

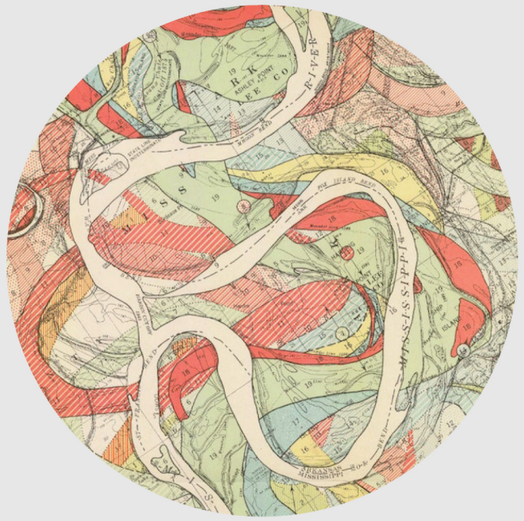
woodworking

urban planning

productdesign









1. Topic (WHAT?)

University

2. Context (WHERE?)

The Hague

3. Conclusion (HOW?)

Agenda

4. Design

Marketplace of Ideas

What?

Potentials and shortcomings
of University Education



POTENTIALS OF UNIVERSITY TEACHING



1. Hands-on work.

Specialized tools and addressing contemporary social challenges.



2. Mentoring.

Personal guidance and growth, contrasting with generic online courses.



3. Networking

Interdisciplinary work and learning from other disciplines.

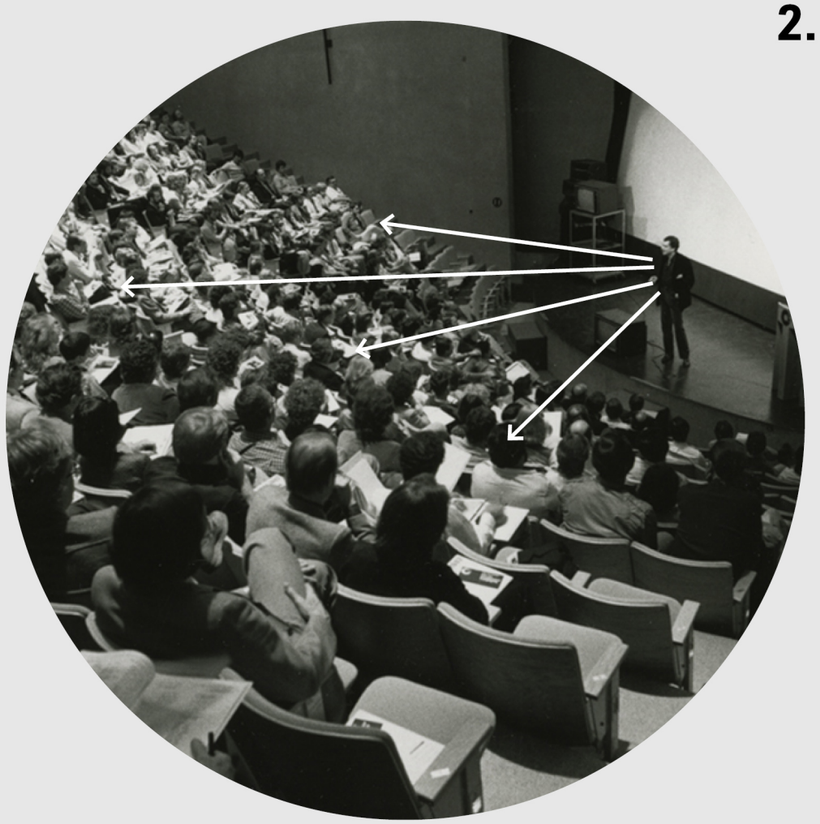


4. Projects that live-on.

Real-world application of research an project output.

SHORTCOMINGS OF UNIVERSITY TEACHING

1. Theoretical and one-sided



2. Isolated study-subjects

3. Isolated form city and public.

4. Few real world applications

UNIVERSITY → RESEACH QUESTION 1/2

How can The Hague's new campus fosters practical learning and real-world application?


What?
Where?
Potentials and shortcom-
ings of The Hague


THE HAGUE
Studio site (part of central Innovation district)
Central station

POTENTIALS OF THE HAGUE



1. Political Center of NL.

e.g. Ministry of the Interior
Ministry of Finance
Ministry of Foreign Affairs



2. Center for peace and justice.

International mediator and communicator.



3. International Organisations.

NGO's and Social Enterprises.



4. Innovation and start-ups.

Top 5 fastest growing tech hub in Europe.

SHORTCOMINGS OF THE HAGUE

1. Closed-off buildings



2. Disconnect: public <-> politics





4. Heavy traffic

3. No street activity

CONTEXT → RESEACH QUESTION 2/2

How can The Hague's new campus be a dynamic,cross-disciplinary forum betwen the public, politics and industry?





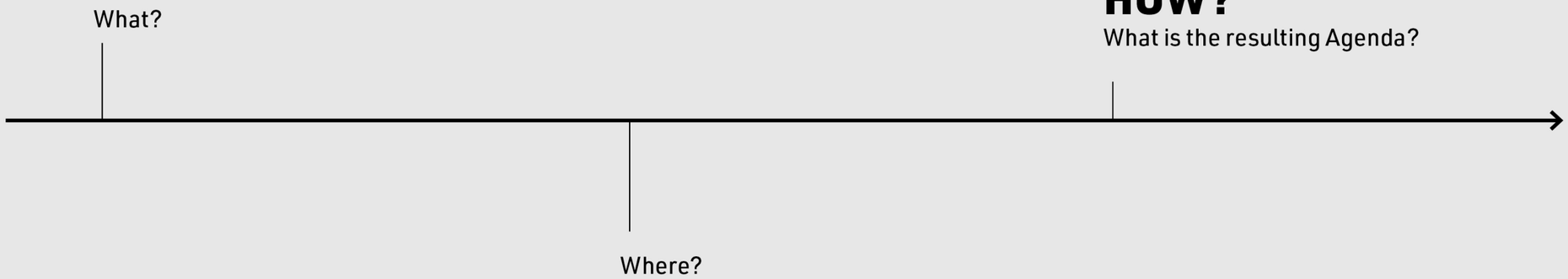

WHERE?

How can The Hague's new campus be a dynamic, cross-disciplinary forum betwen the public, industry and politics that fosters practical learning and real-world application?

WHAT?







What?
HOW?
What is the resulting Agenda?
Where?

AGENDA

University as a marketplace of higher education.

As a social conception this means that the university is **open to people** of all ages, on a full-time, part-time, or course by course basis.."

V.S.

"**Concentrated, cloistered universities**, with closed admission policies and rigid procedures ..**kill opportunities** for learning."

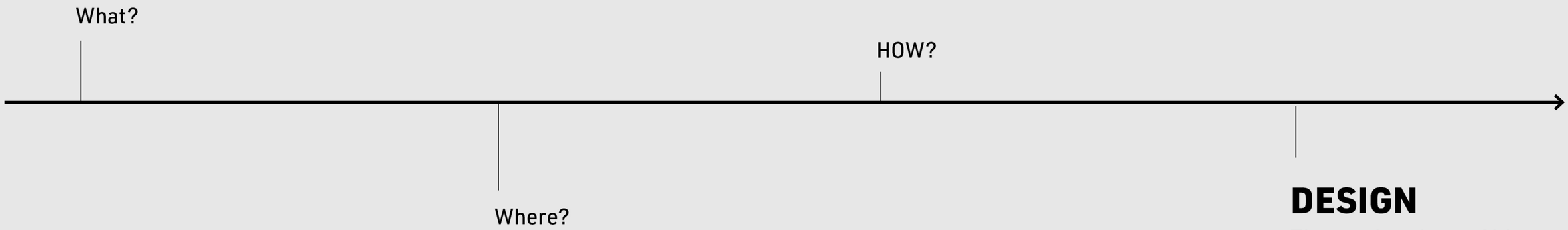
"A pattern language" , Christopher Alexander, Sara Ishikawa and Murray Silverstein

AGENDA / MANIFESTO

THE MARKETPLACE OF IDEAS: SHARING AND DISCOVERY

1. Public access / For everyone
2. Local industry involvement
3. Political engagement
4. Active street scene
5. Interdisciplinary collaboration
6. Diverse learning environments
7. Sustainability-focused

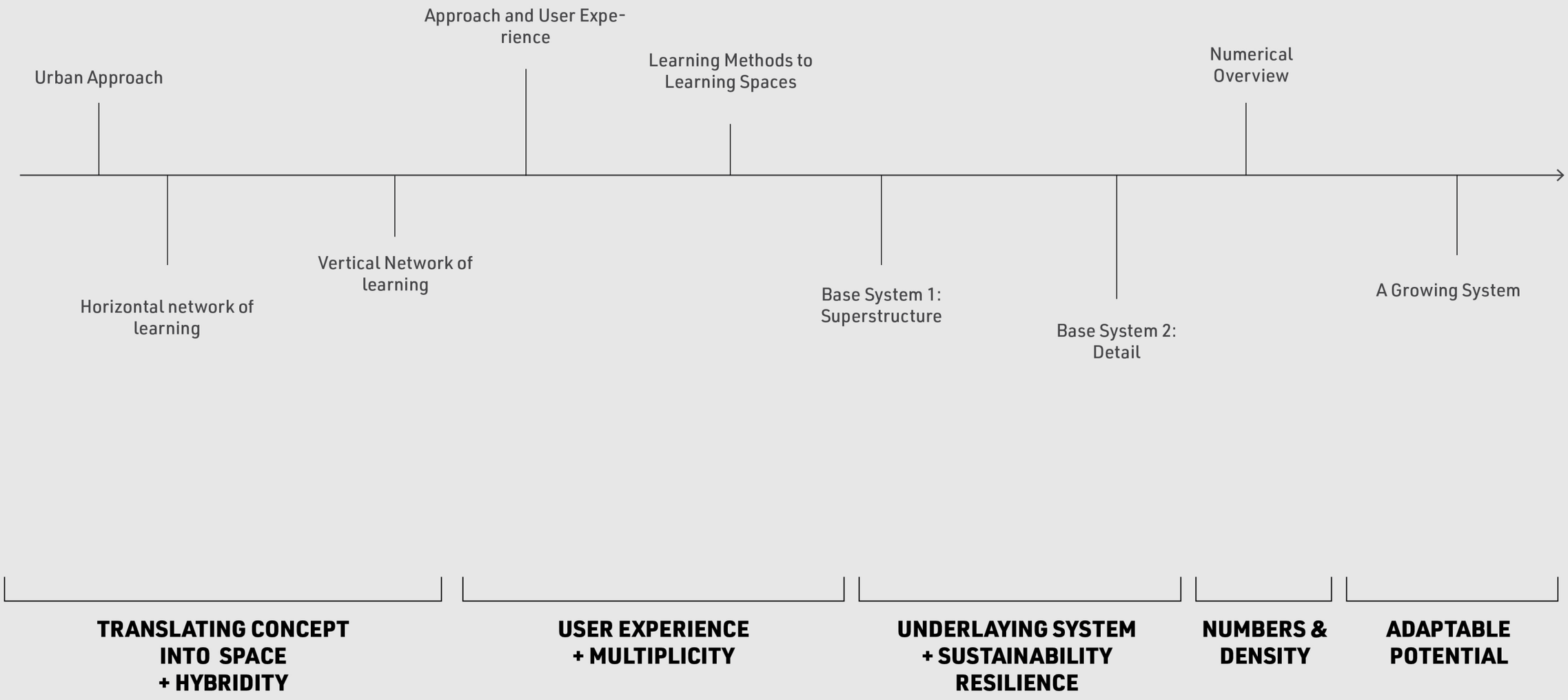




DESIGN

The marketplace of ideas, sharing and discovery.

DESIGN: OVERVIEW



URBAN APPROACH

Choice of Location
Laying the foundation for an urban campus.



LOCATION:

MANIFESTATION OF POTENTIALS

ENDLESS OPPORTUNITIES

park
school
politics
justice agency
school
business association
gaming association
school
politics
park
small shops and cafés
politics
business center
Leiden Uni
Library
train station
national archive

LOCATION:

MANIFESTATION OF SHORTCOMINGS

MULTI LEVEL TRAFFIC LANES

POLICIES BEHIND CLOSED DOORS







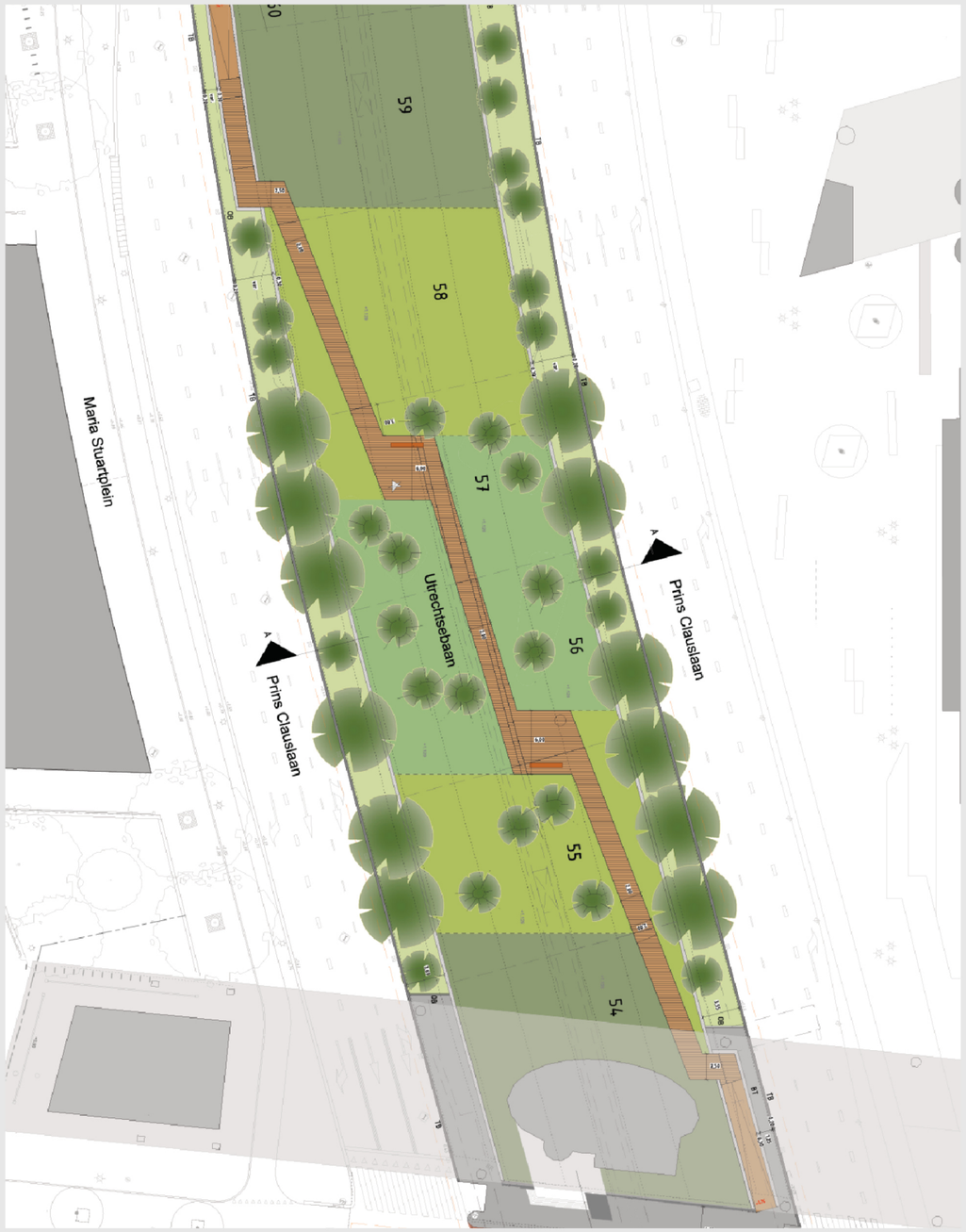


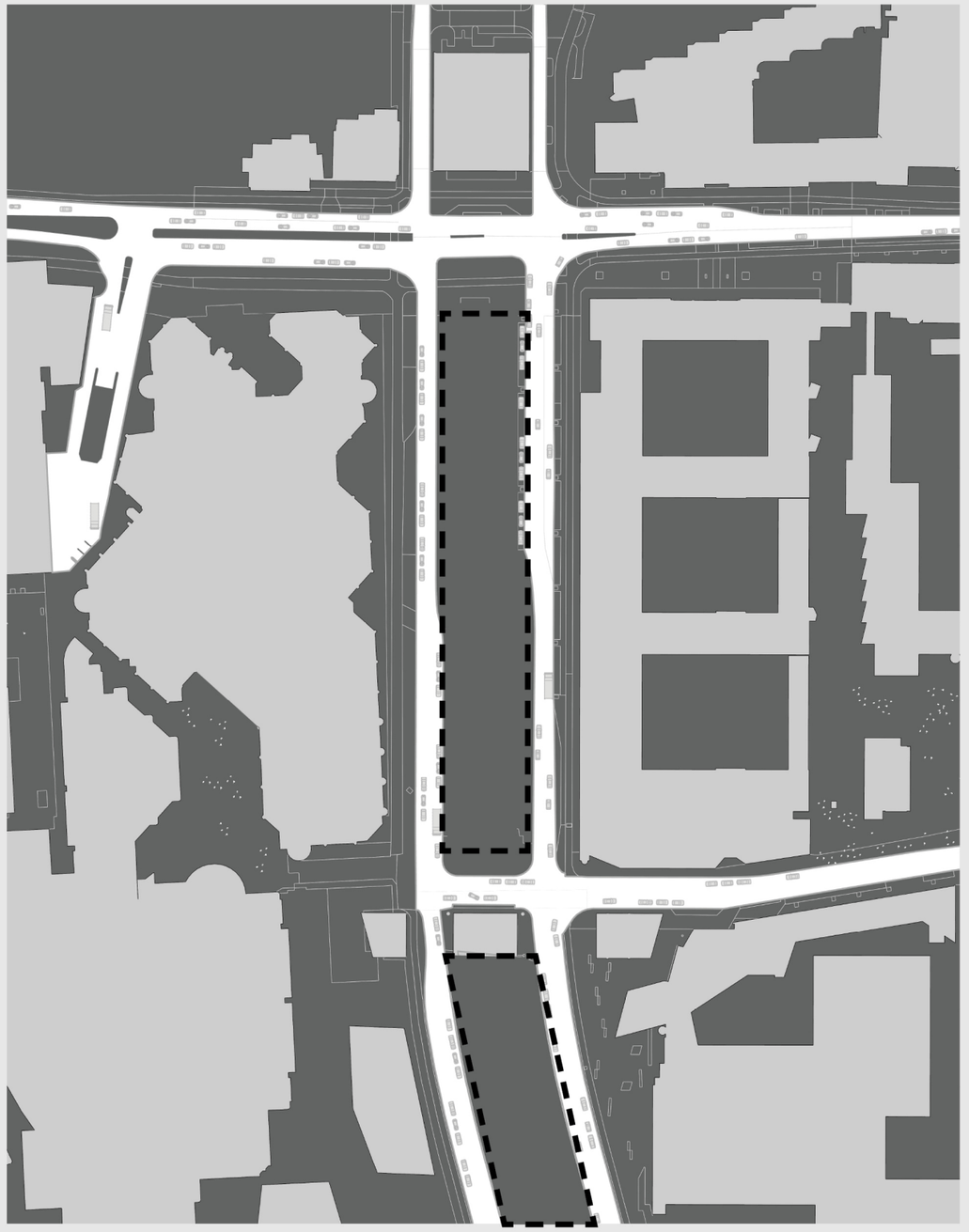
CURRENT STATE

cental station
busy / lively

low rise resential
small shops and cafés

CURRENT PLANS





Effect... (?)



BEFORE



AFTER (current plans)

BASE FOR AN OPEN CAMPUS

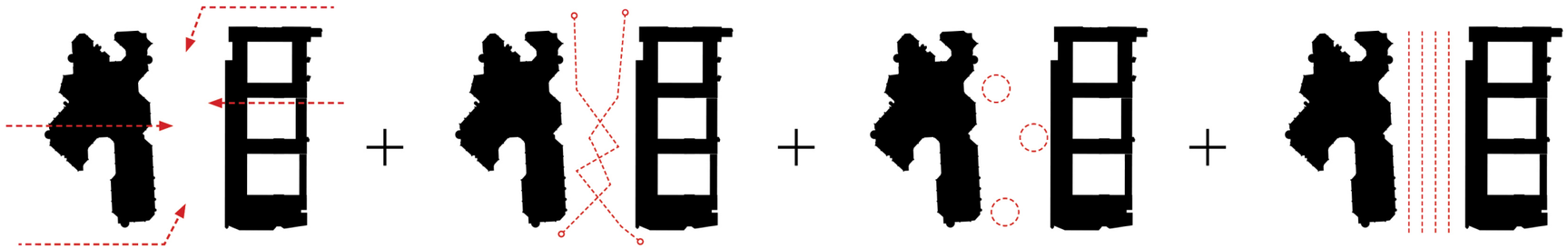


BEFORE



AFTER (alternative proposal)

HORIZONTAL PRINCIPLES
BASED ON MANIFESTO



PERMEABLE
INTEGRATION WITH CITY

EXPLORABLE
NO BORDERS

PLAZA ACTIVITIES
AROUND THE CLOCK

STRUCTURE:
UNDERGROUND LANES



THE CITY BECOMES
THE CAMPUS

Urban Approach



HOIZONTAL NETWORK OF LEARNING

Integrating Qualities of the Central Innovation District
New Urban center

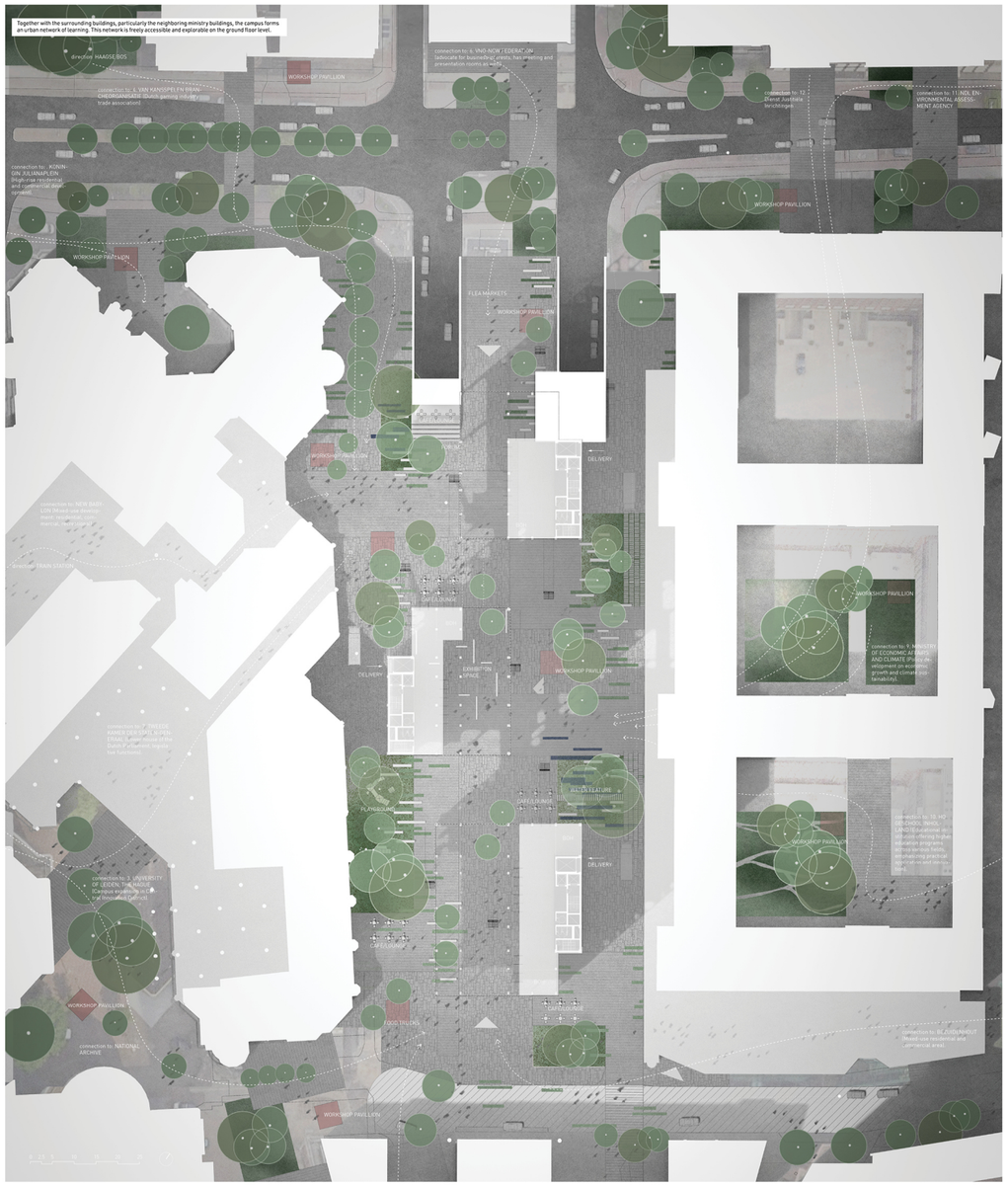
Poster 3:

HORIZONTAL NETWORK OF LEARNING

THE MARKETPLACE OF IDEAS: AN URBAN NETWORK

Integrated with The Hague's specific environment, the campus is responsive to local needs and uncovers existing potential.

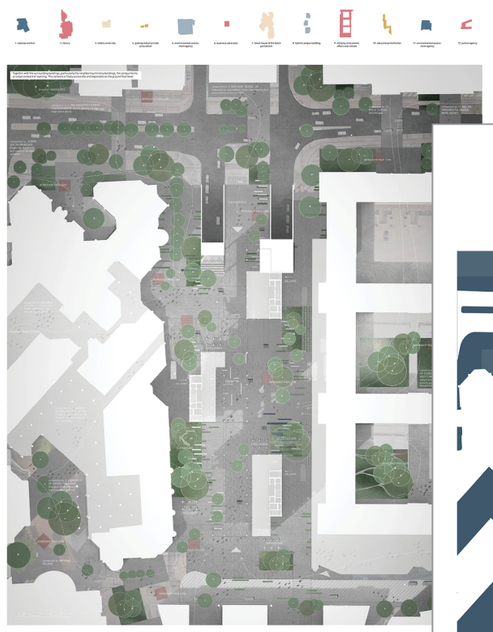




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MAIN ELEMENTS

COMBINED URBAN SITE



Studio: The Public Building Graduation Studio ARSAP100 MSc 3/4 2023-24
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PEDESTRIAN SPACE & WORKSHOP PAVILLIONS



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ACCESSIBLE INTERIOR SPACE



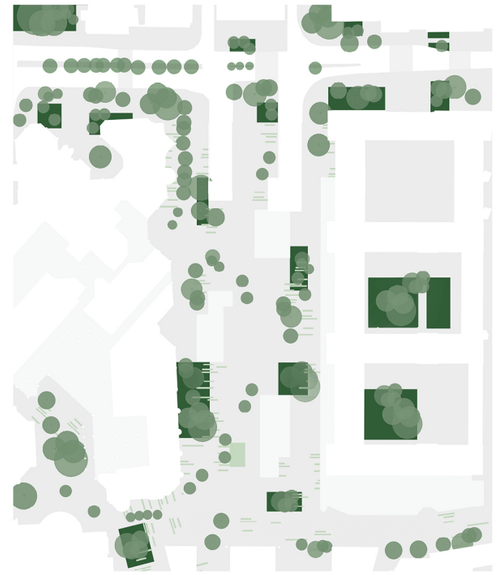
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WOODEN DECKS AND PEDESTRIAN PATHS



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TREES AND PARKS



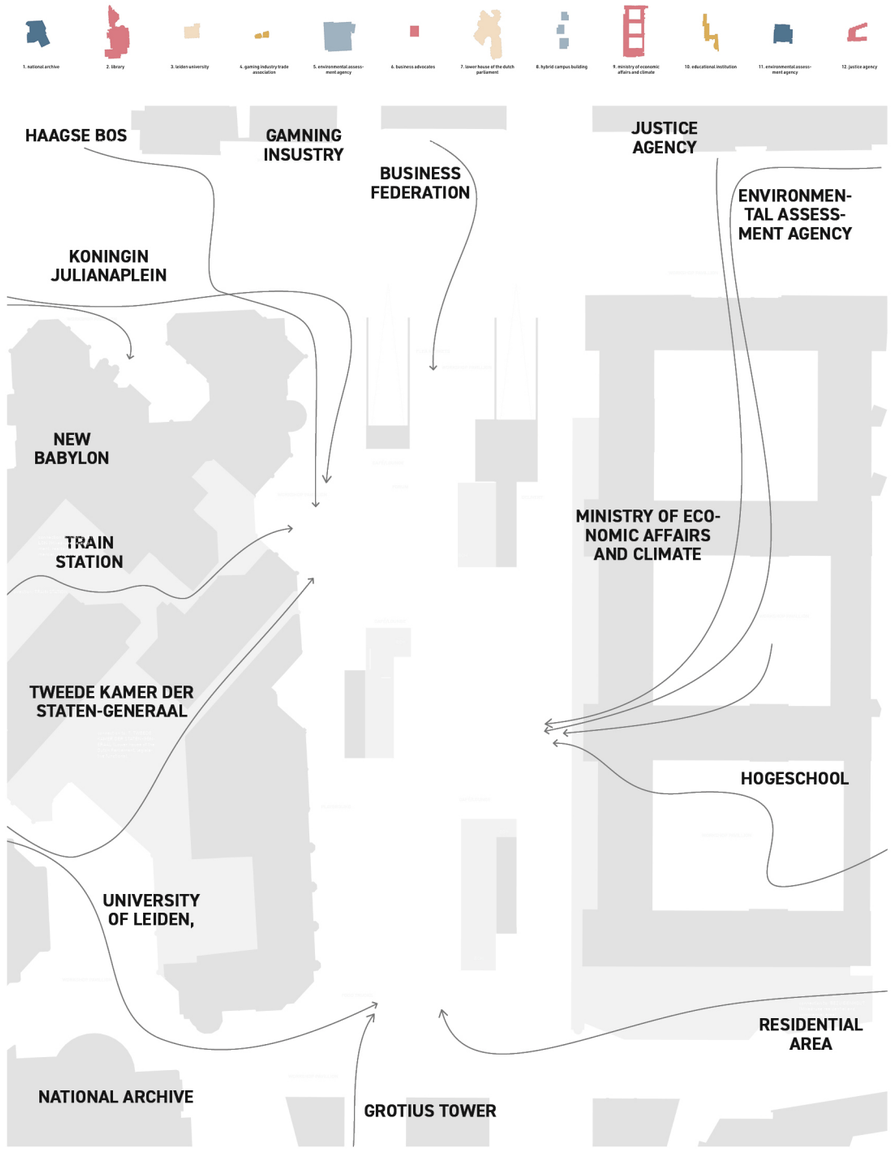
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PATHS

COMBINED URBAN SITE



PATHS: TO/FROM NEIGHBOURS



Urban Approach

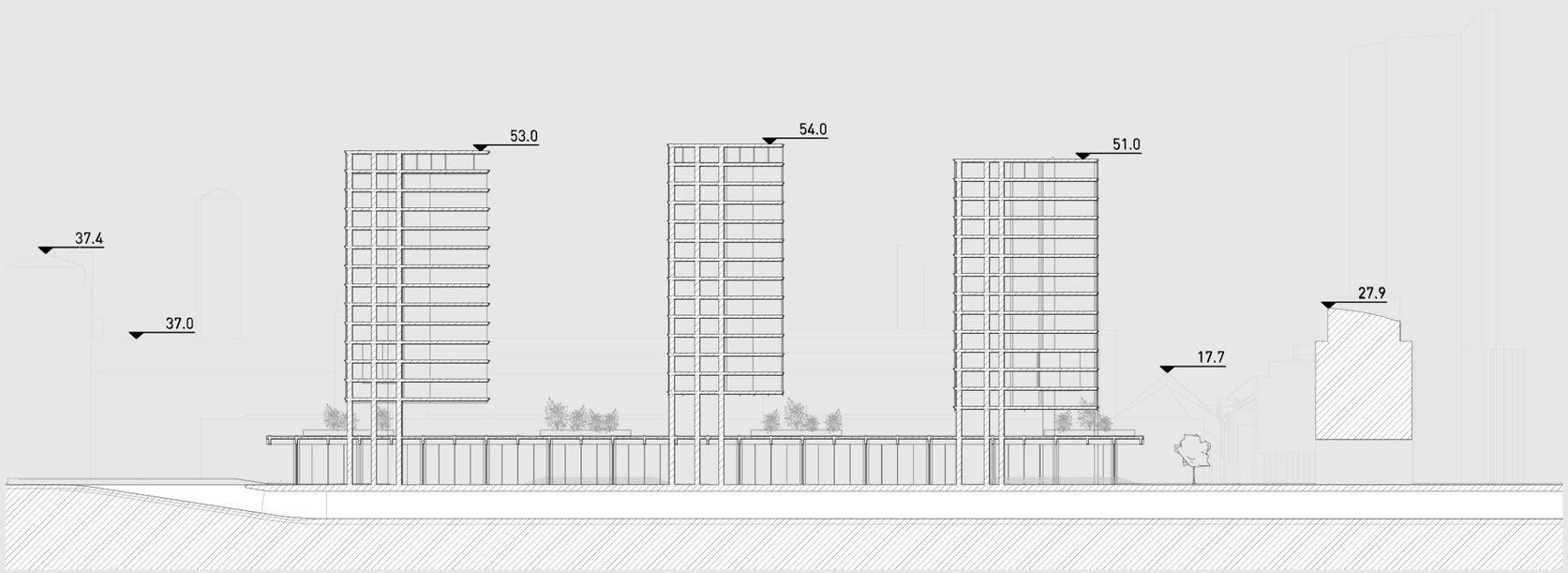
VERTICAL NETWORK OF LEARNING

Collaboration between students.
Exploring new disciplines.



Horizontal network
of learning

FIRST APPROACH



vertical, dense, concentrated

horizontal, open, accessible

WHY IT DID NOT WORK

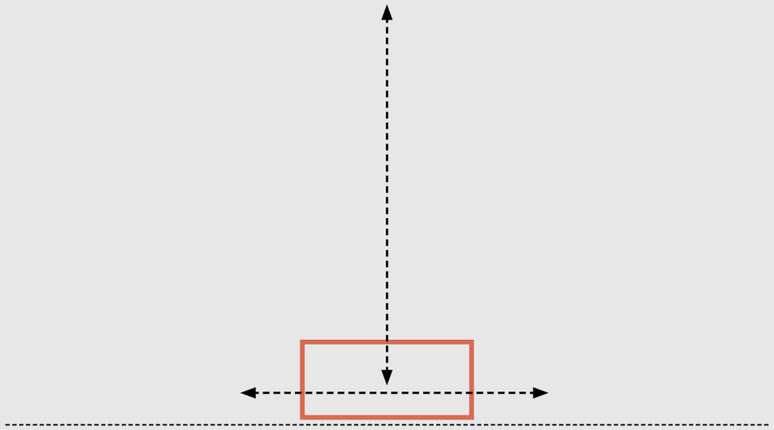
SEGREGATED (DOES NOT WORK)



MARKETPLACE (WORKS)

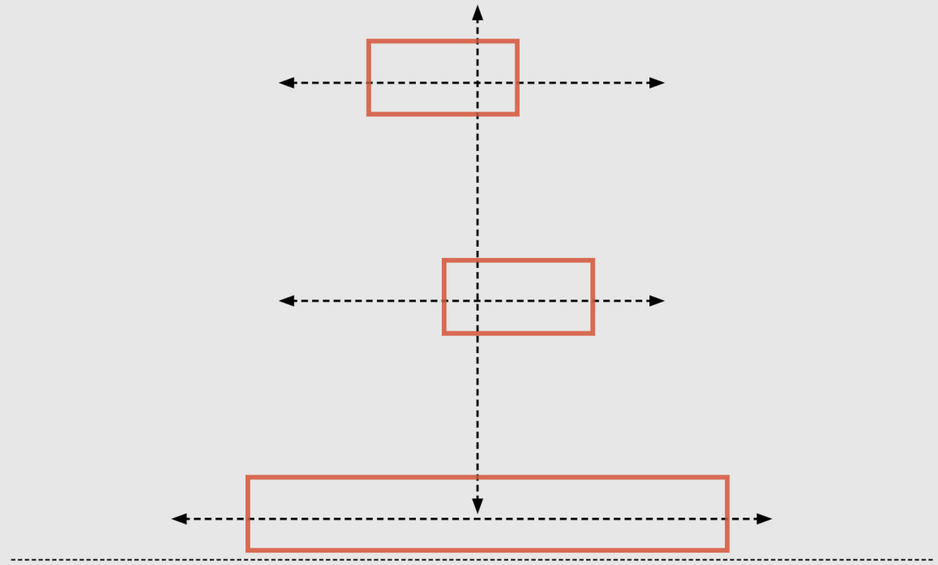
LEARNINGS

First approach:



sharing/interaction only at base of building

Updated approach:



“distributed” sharing/interaction including city

INSPIRAION:

EXPLORING AN URBAN CENTER

VERTICAL PRINCIPLES
BASED ON MANIFESTO

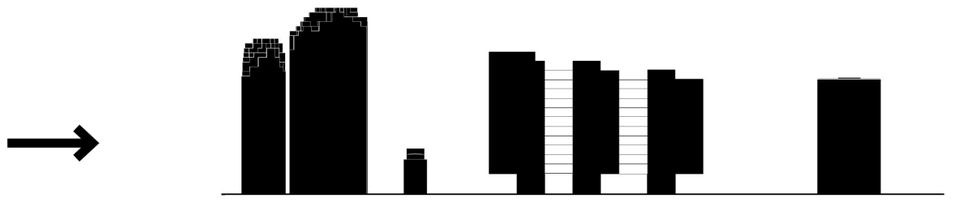


DISTRIBUTION
OF ACCESS

OPEN UP
INTEGRATE CITY

BLEND
INTO CONTEXT

INTERCONNECT
PROGRAM BETWEEN TOWERS



PROGRAMMATIC AGENDA TO TRANSLATE:

SHARING AND DISCOVERY



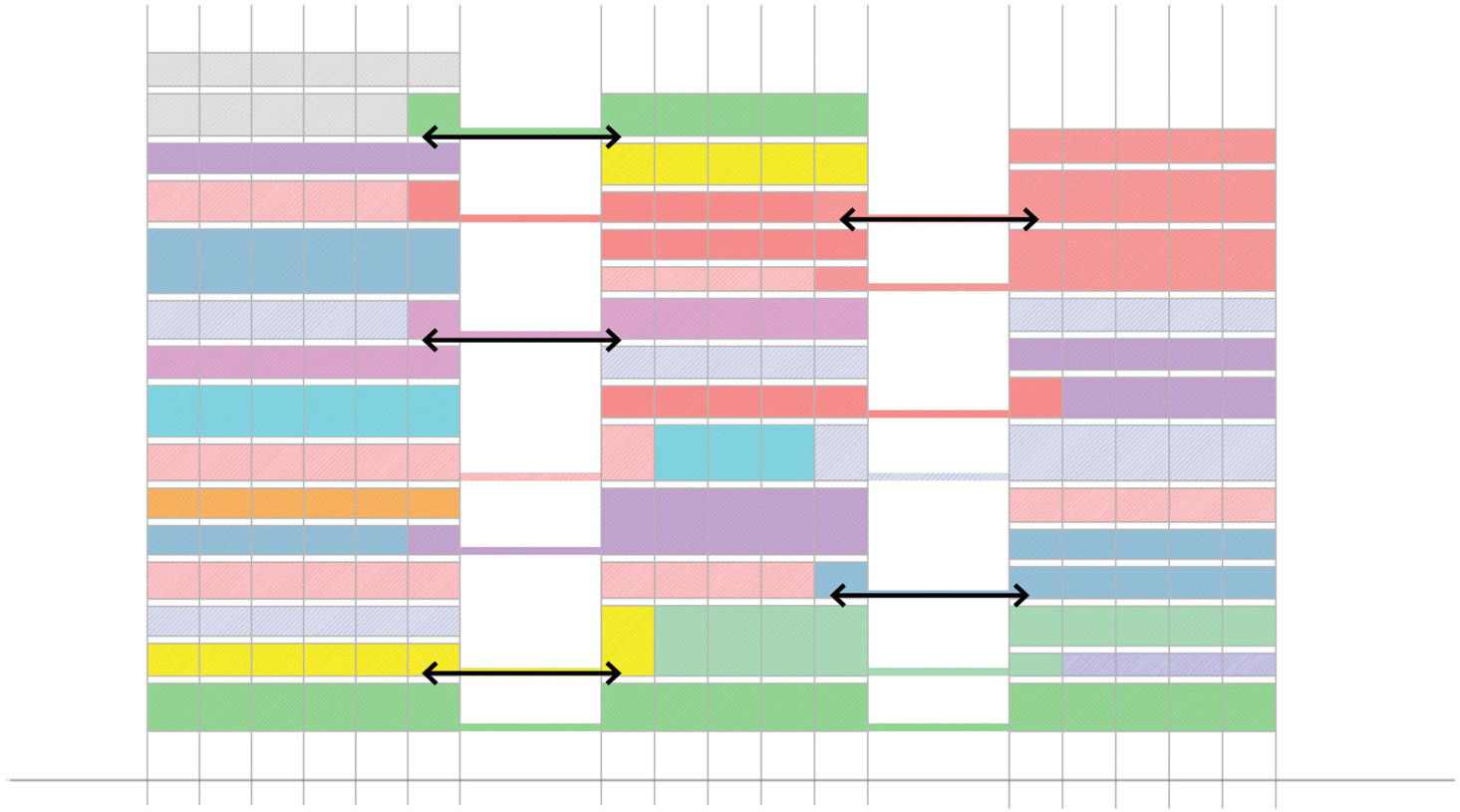
CONVENTIONALLY STACKED

DIFFERENT PROGRAM
DIFFERENT HIGHTS

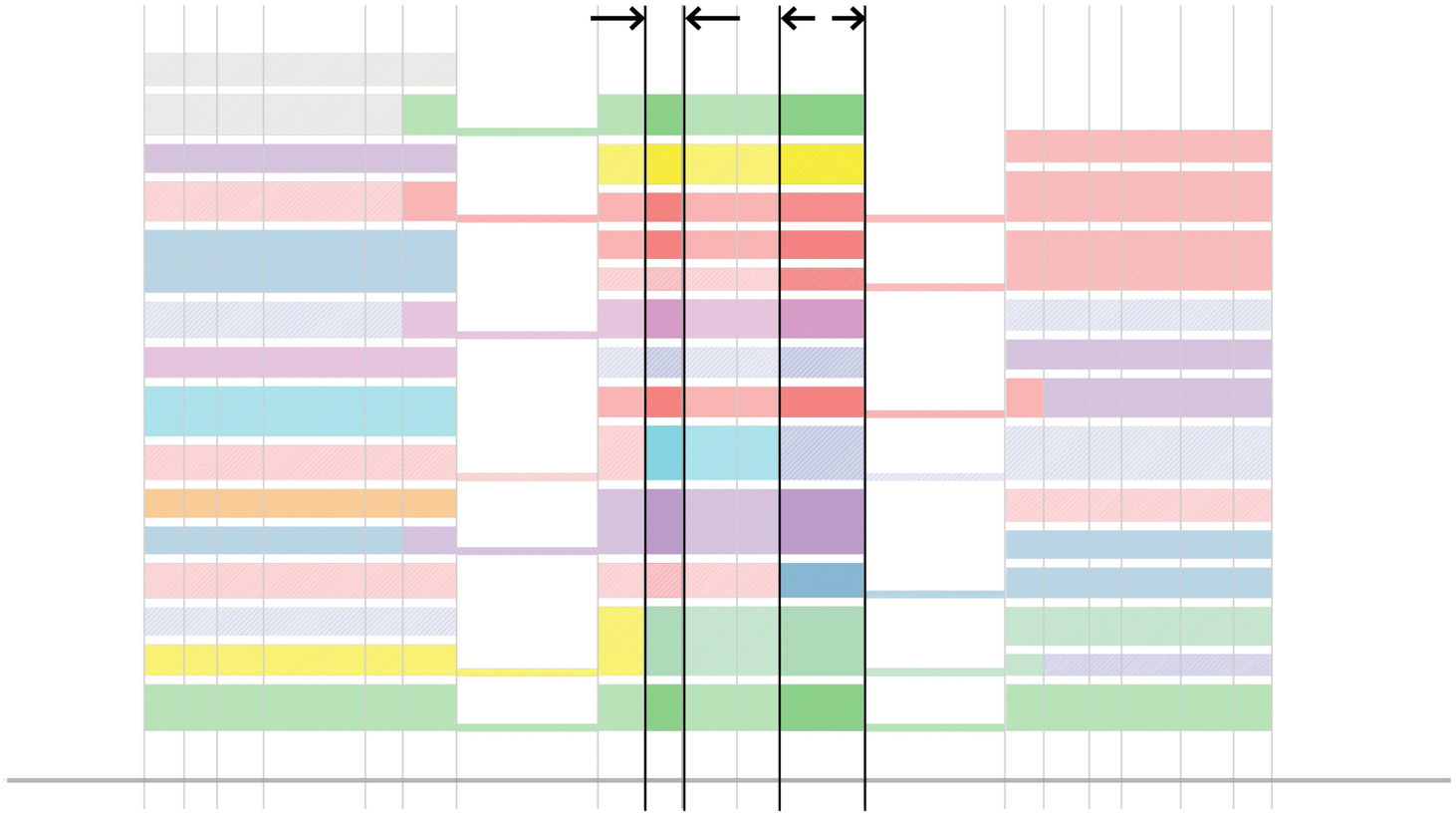


1. Commercial Space
2. Café and Lounge
3. Learn and Daycare
4. Learn Group Studio Space
5. Library and Mediacenter
6. Workshops
7. Center for Advanced Virtuality
8. Research Space
9. Intense Learning
10. Lecture Theaters
11. Exhibition Space
12. Sports Center
13. Office Space
14. Bar and Event Space

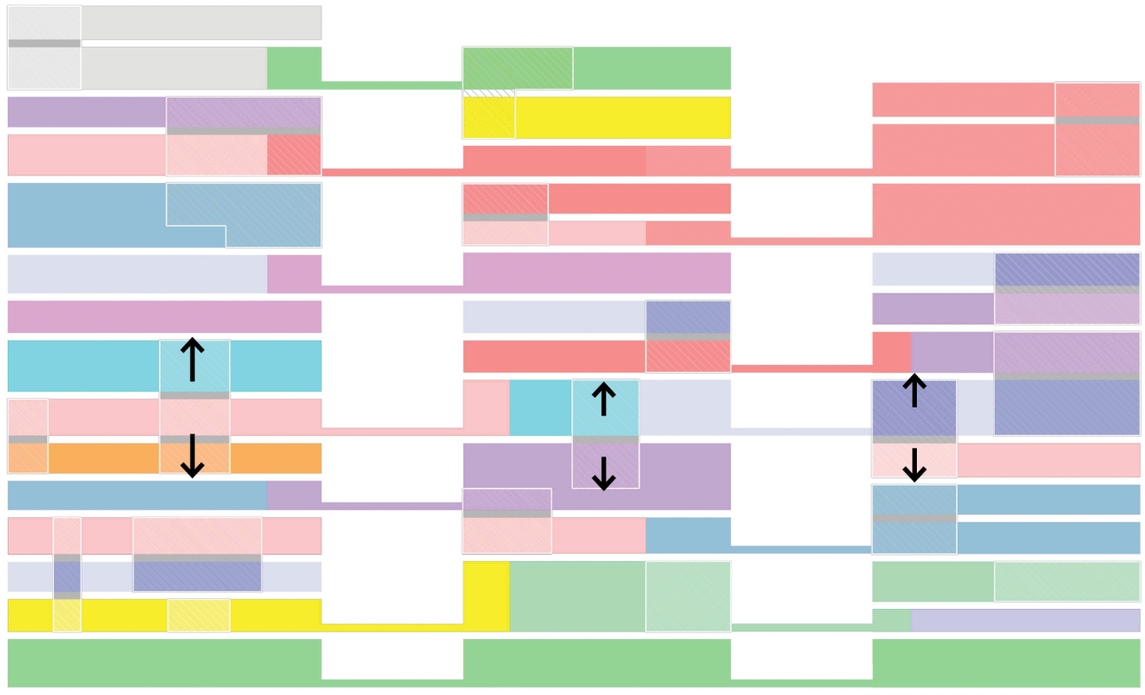
INTERCONNECTING



SHRINKING GRID
ENLARGING GRID

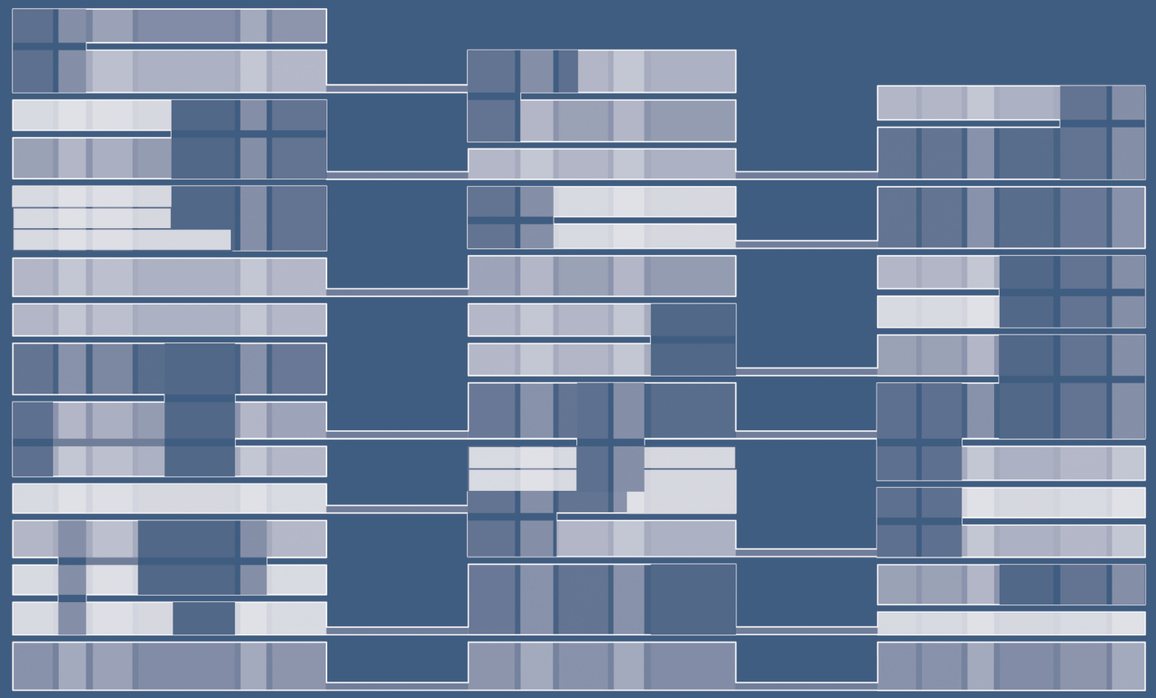


OPEN-UP VERTICALLY

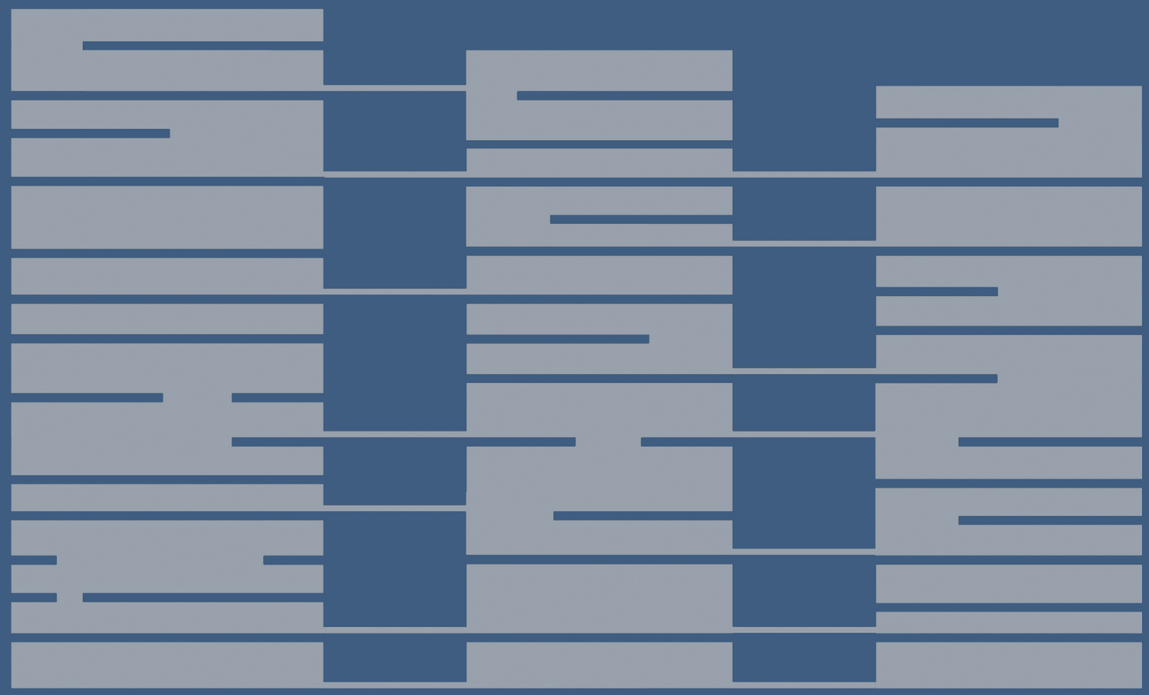


FROM DENSE

TO SPACIOUS



SPATIAL CONTINUITY

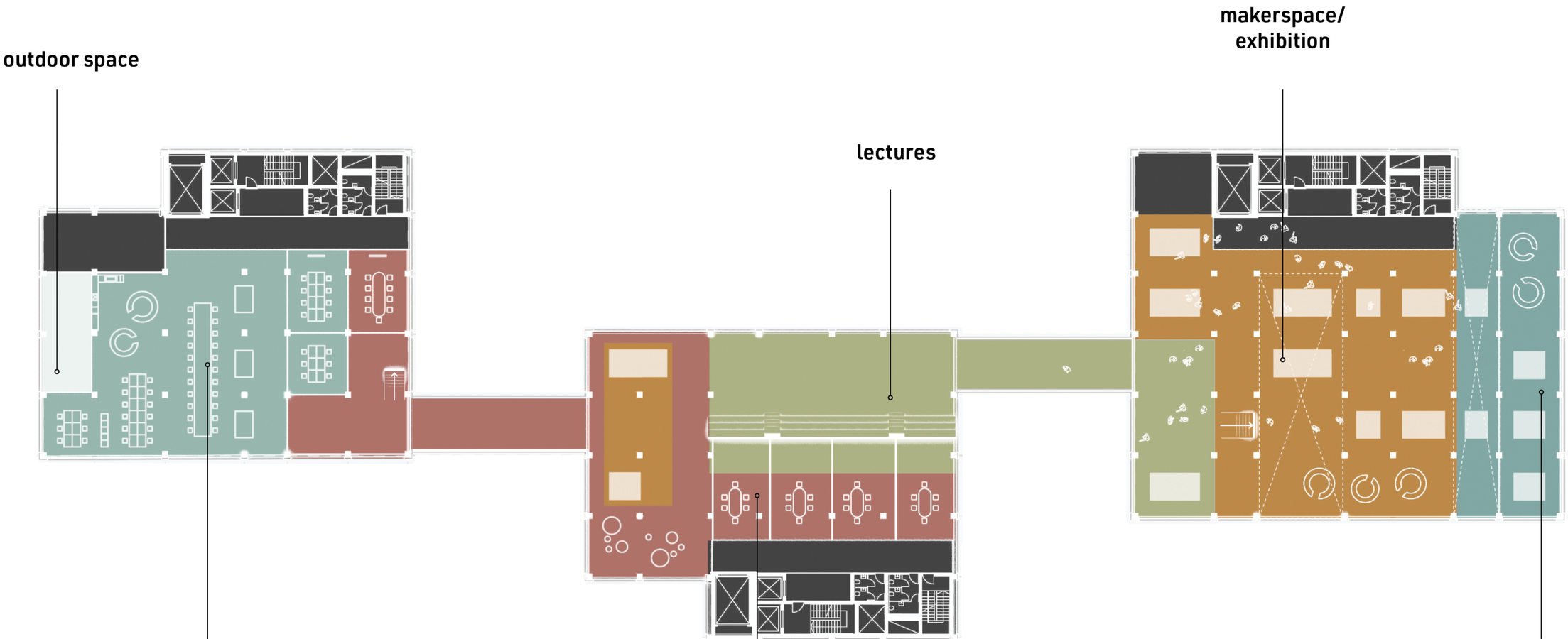




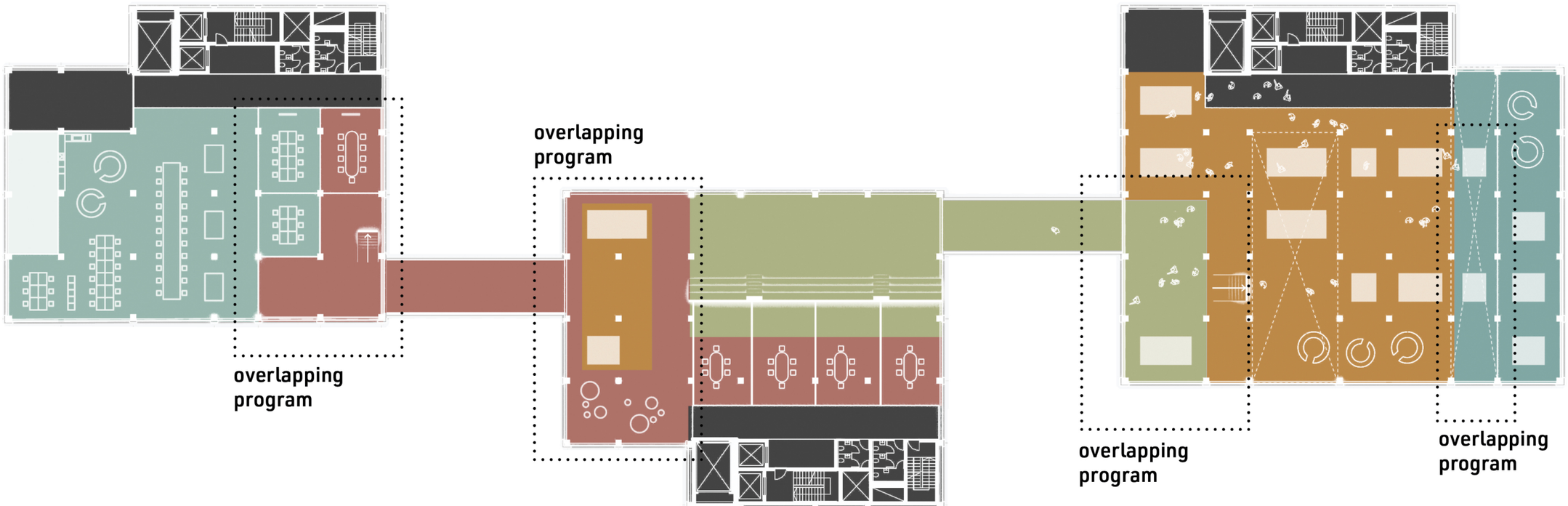
RESULTING

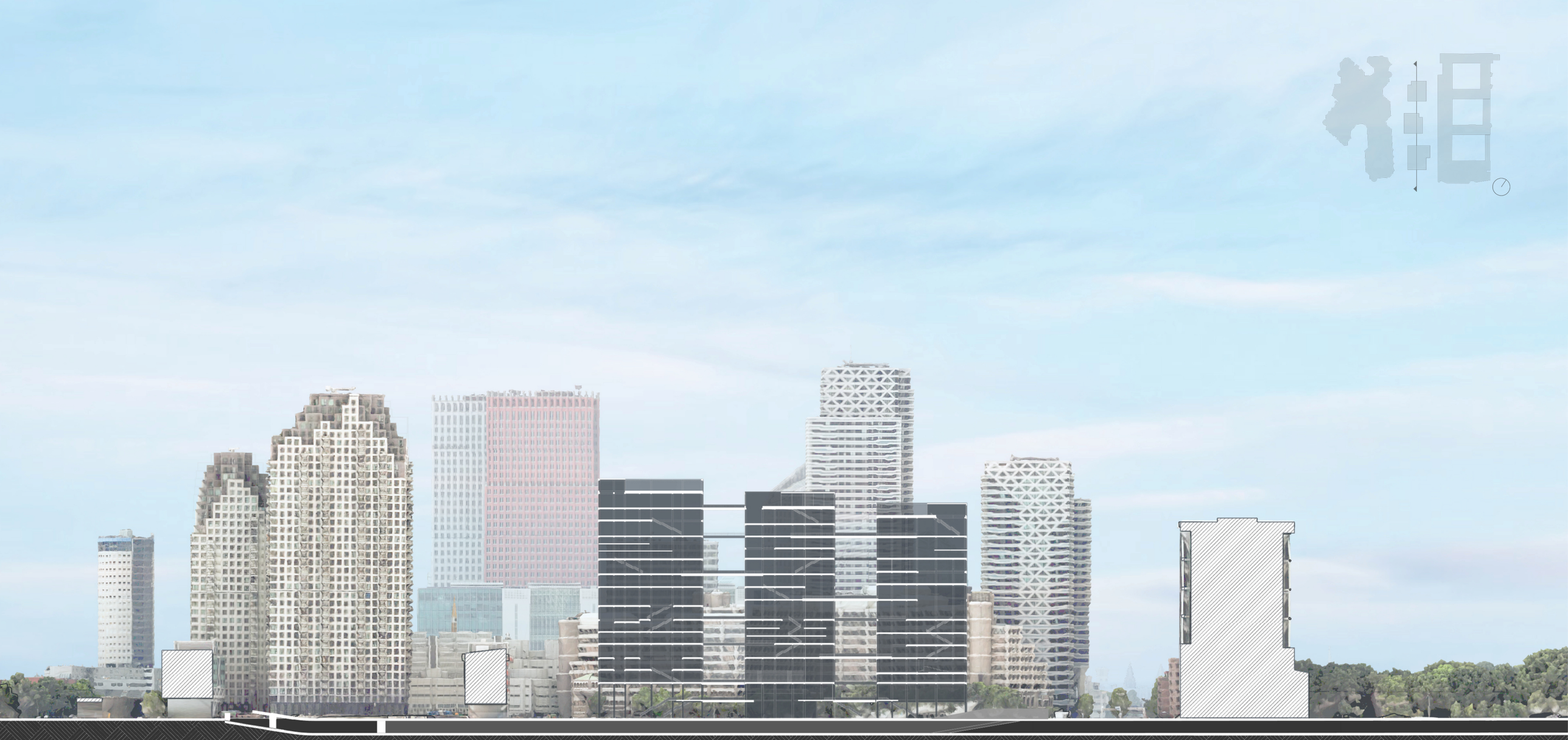
HYBRIDITY IN SECTION

HYBRIDITY IN PLAN



SHARED SPACES

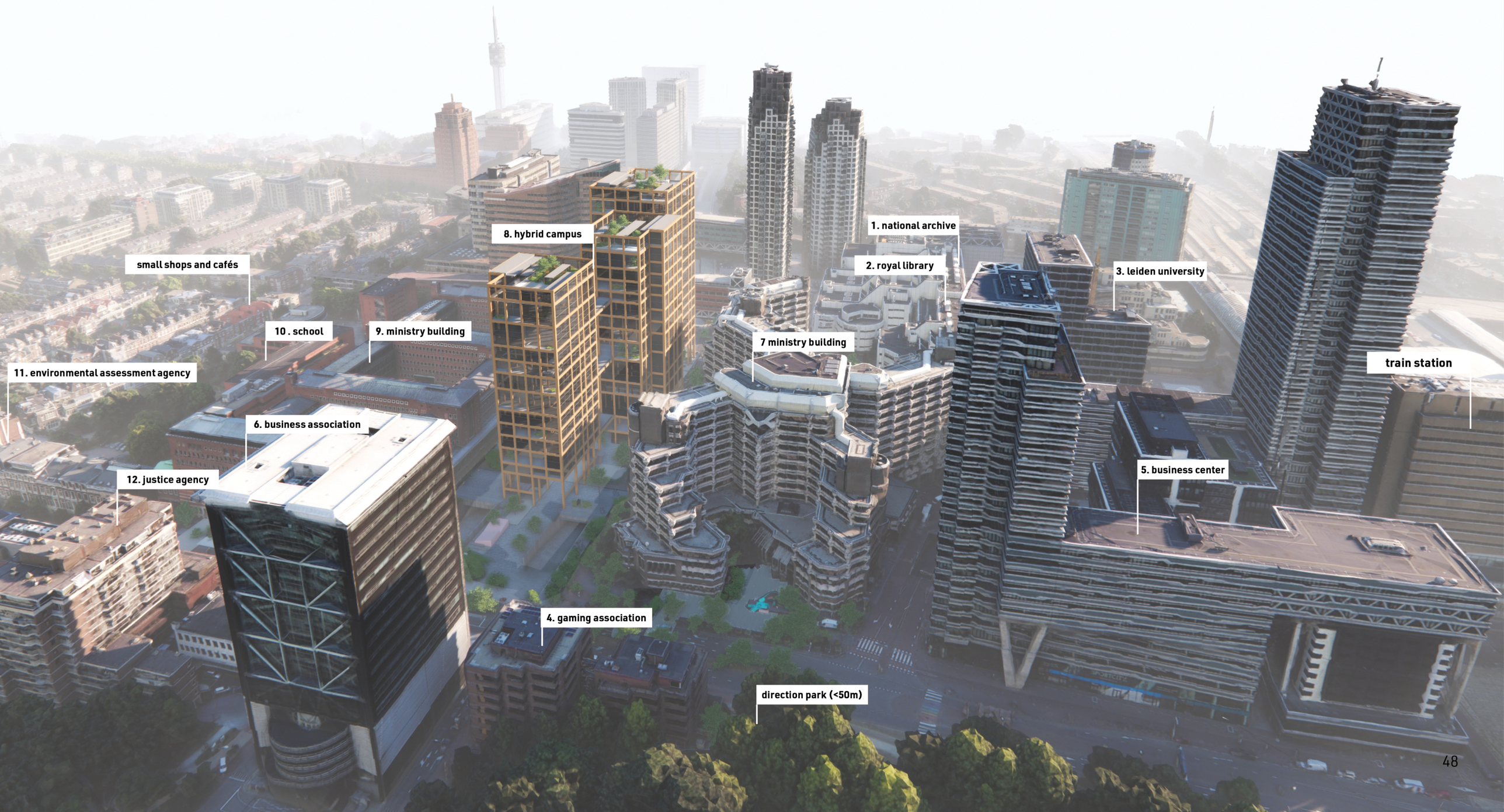




PROGRAMMATIC APPROACH...

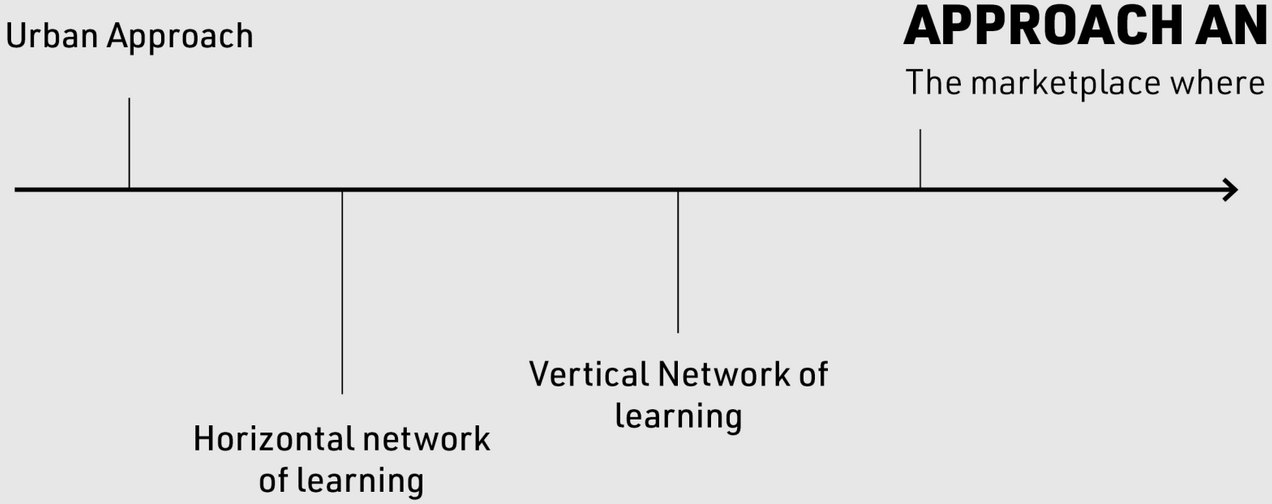
TRANSLATED INTO SPATIAL LAYOUT

HORIZONTAL AND VERTICAL NETWORK OF LEARNING

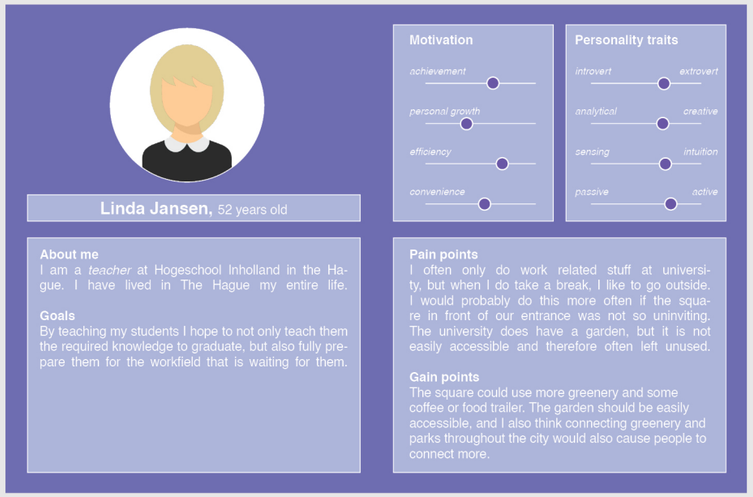


APPROACH AND USER EXPERIENCE

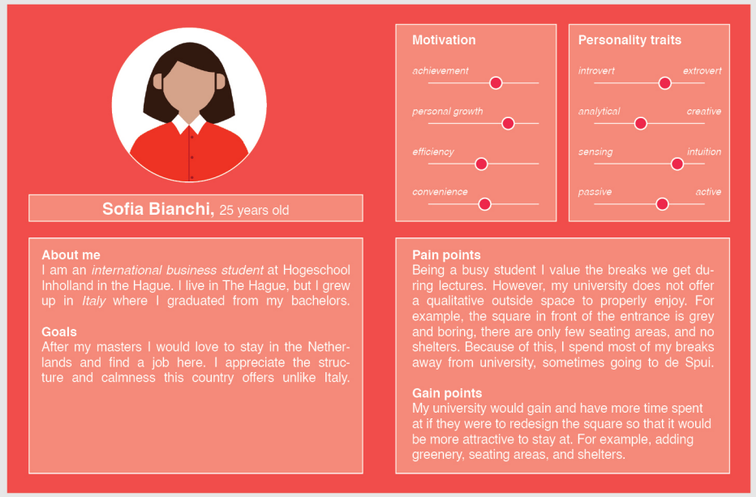
The marketplace where people and ideas intersect.



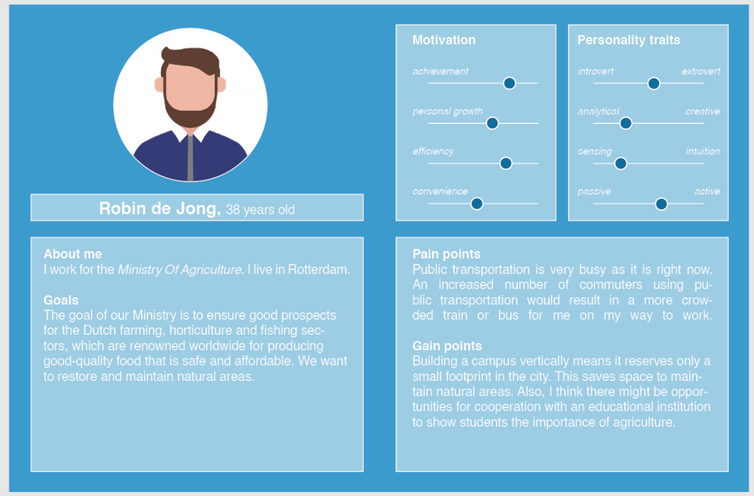
FUTURE USERS



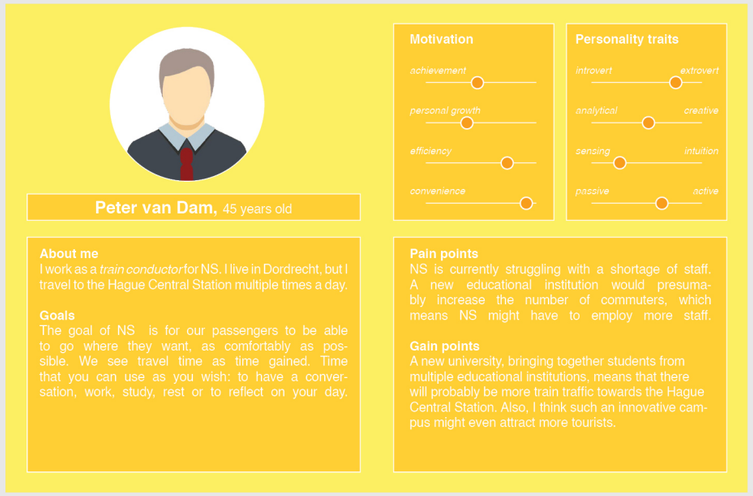
TEACHER



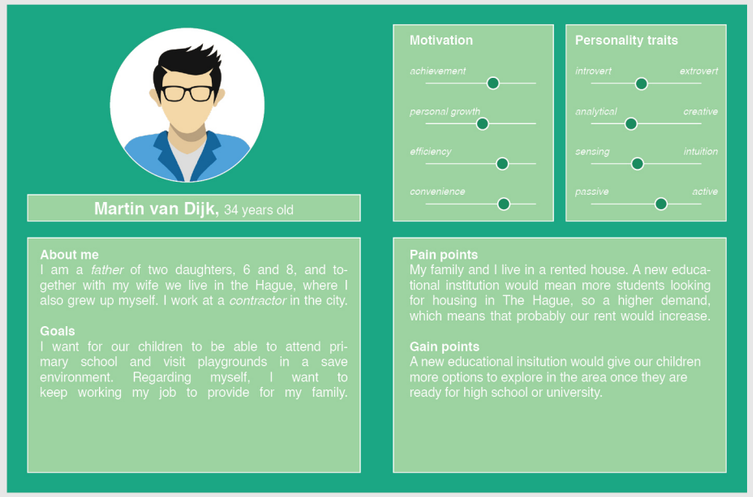
STUDENT



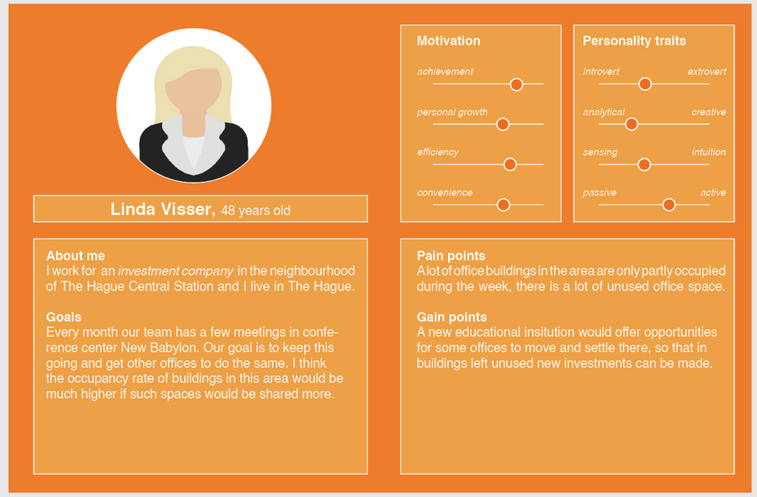
POLITITIAN



NS WORKER



RESIDENT / FAMILY



OFFICE WORKER

MEET ALEX DE JONG

Alex de Jong (22)

Study: BSc in **Computer Science**, 3rd Year

Traits: analytical, organized, **introvert**

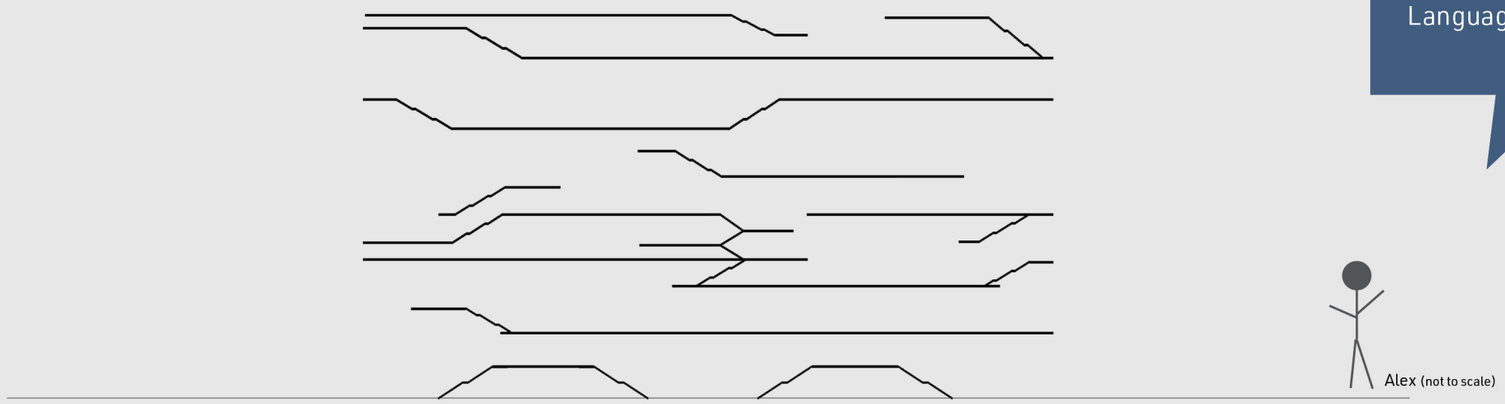
Interests: AI, **machine learning**, Programming languages

Activities: **Robotics club**, teaches coding, enjoys cycling

Career Goals: **Tech startup** in AI, further studies in data science

Social: Teamwork, tech meetups, **not much time** besides university

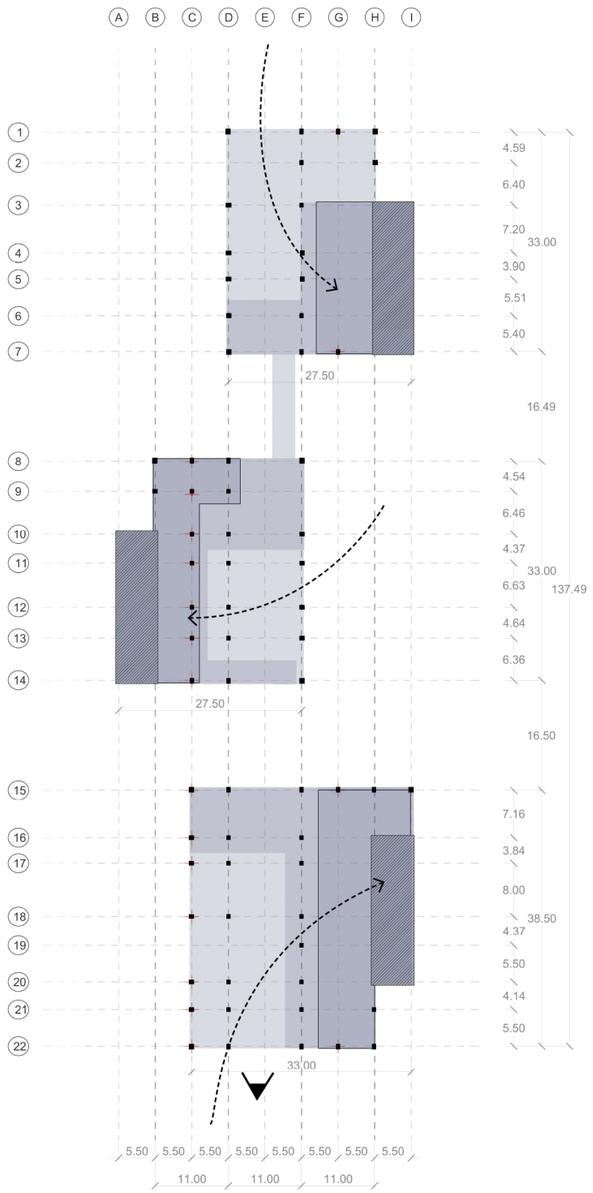
Languages: Dutch (fluent), English (fluent), German (basic)



TIME: 9:00

ARRIVING AT THE

MAIN ENTRANCE



1st floor (above)

mezzanine (above)

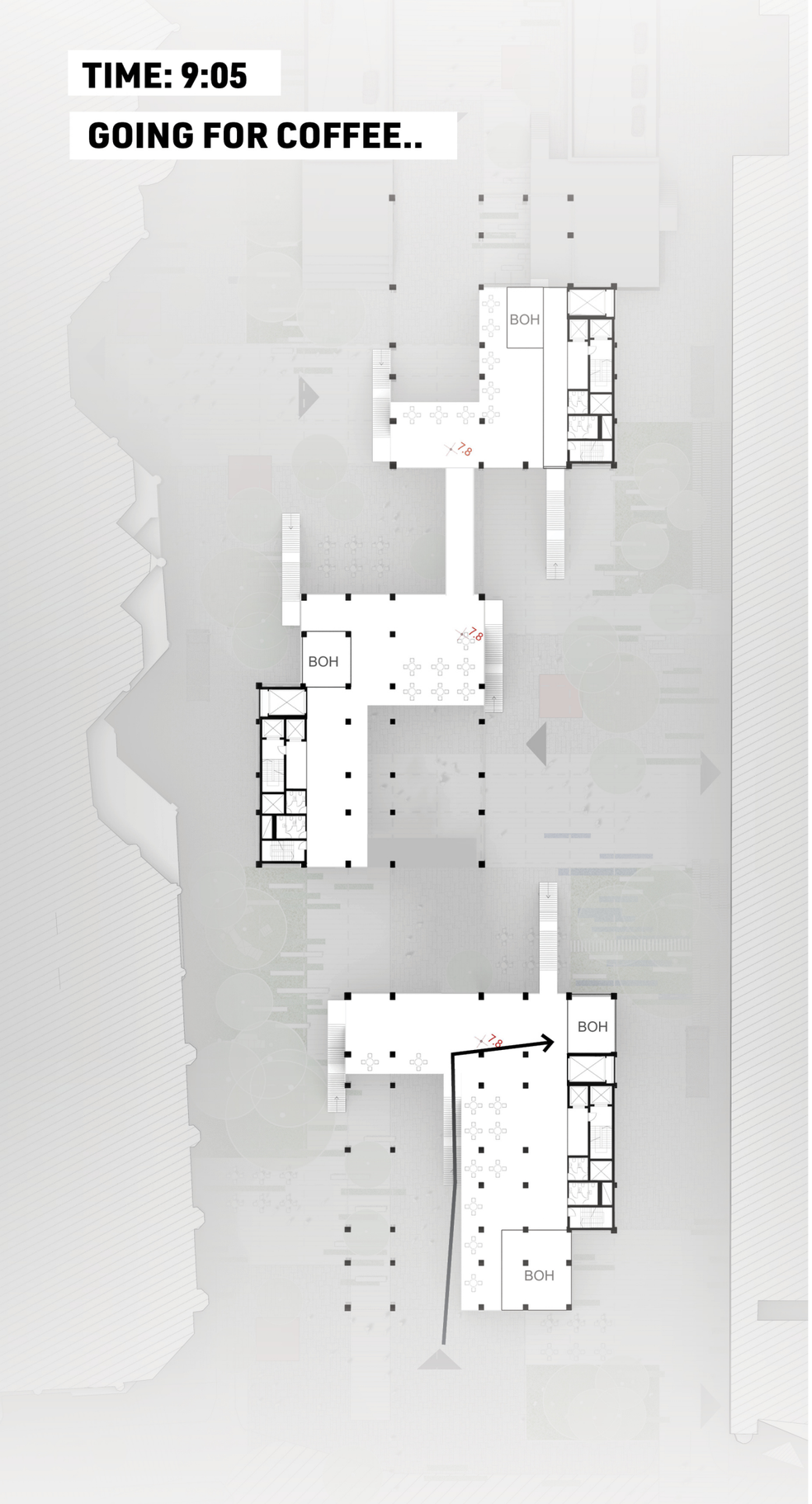
interior

core



TIME: 9:05

GOING FOR COFFEE..



TIME: 9:10

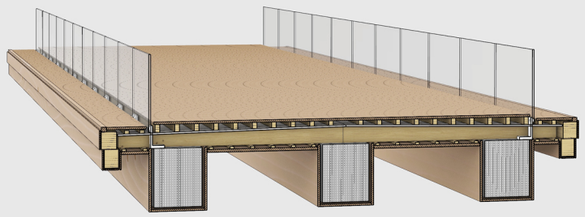
ENDED UP JOINING A POLITICAL DEBATE





TIME: 9:25

THE FORUM PLAZA



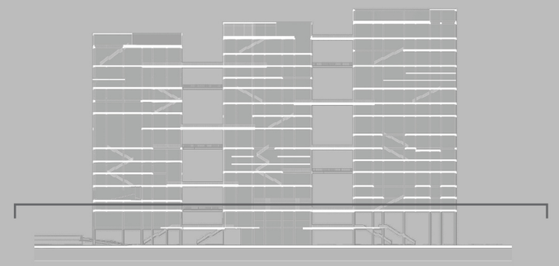
BEFORE
v.s.
AFTER

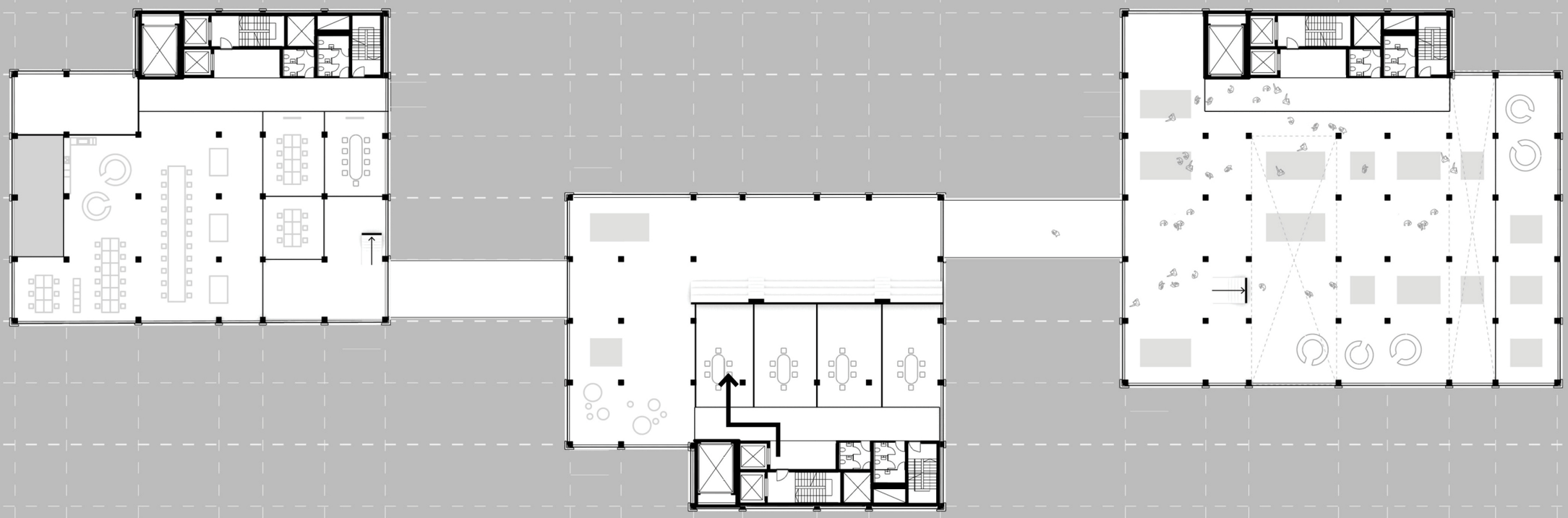




TIME: 9:30

LATE FOR GROUP WORK



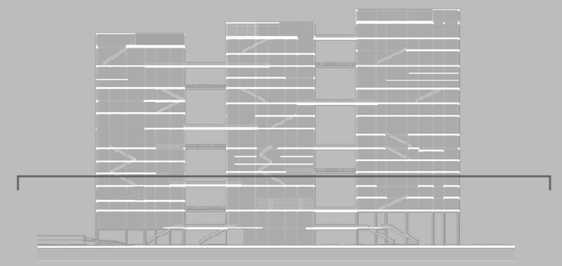


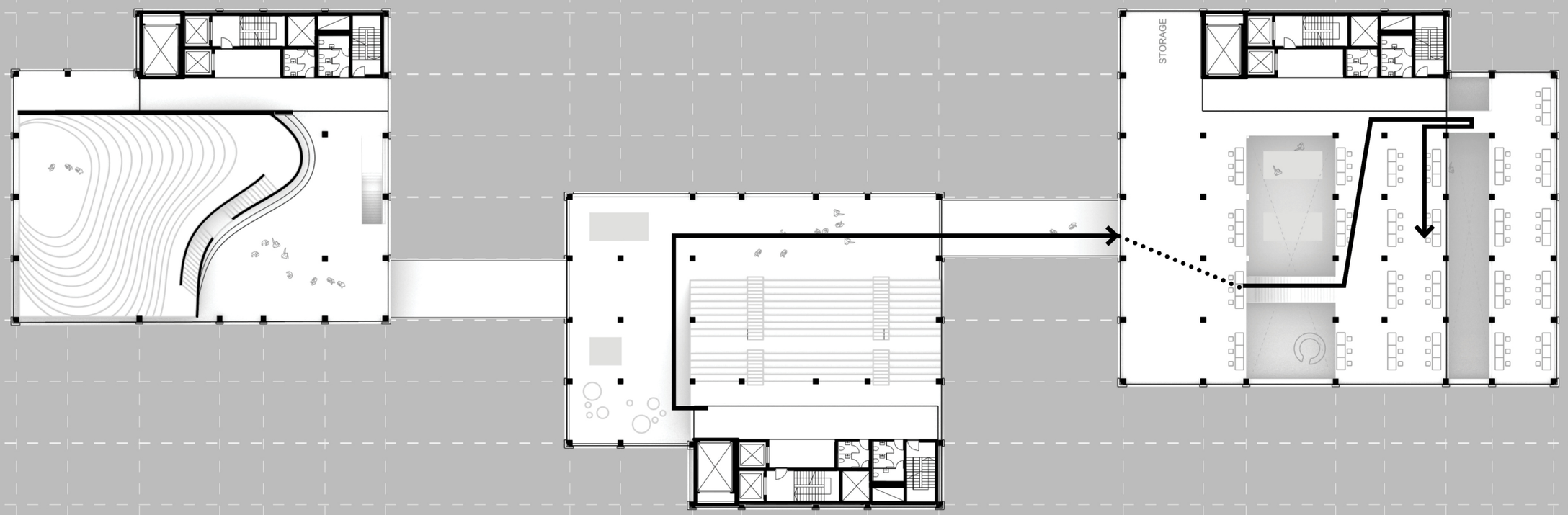
FL 1

TIME: 13:00

WENT TO STUDY...

ENDED UP PROTOTYPING





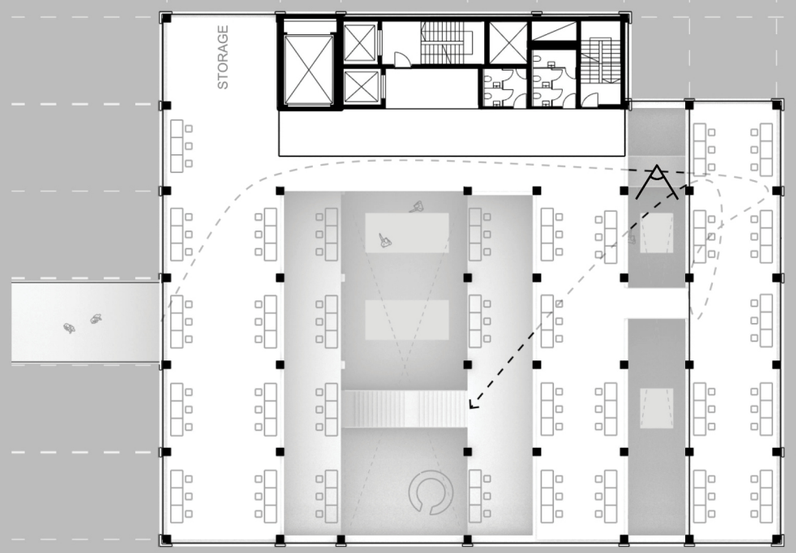
FL 1/2

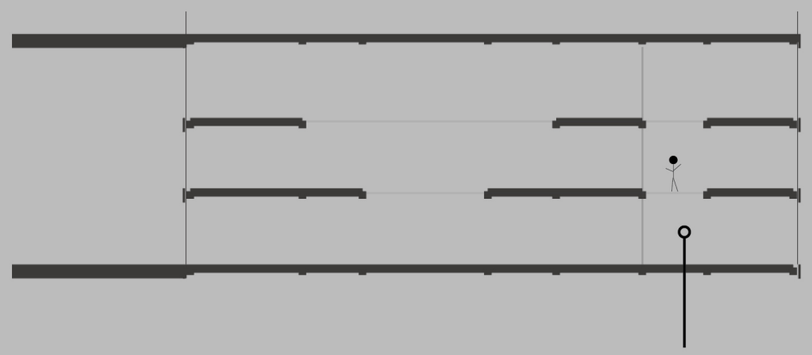
GROUP WORK

MAKERSPACE

STUDY

THE MARKETPLACE MOMENT



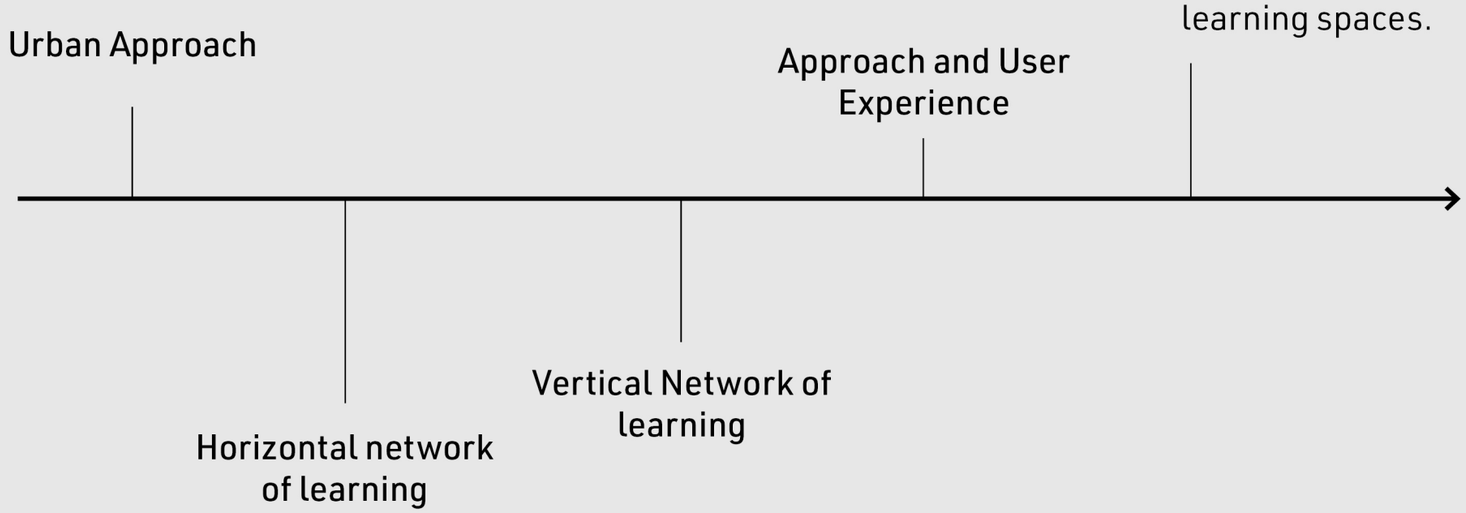


MARKETPLACE MOMENT



LEARNING METHODS TO LEARNING SPACES

Methods to develop skills which inspire learning spaces.



RESEARCH:
LEARNING METHODS
TO DEVELOP SKILLSET

skills (that graduate students need)

learning methods

	Critical Thinking	Problem-Solving	Communication Proficiency	Teamwork	Adaptability	Information Literacy	Creativity and Innovation	Digital Literacy	Global Awareness	Leadership and Initiative	Ethical Responsibility	Life-Long Learning	Emotional Intelligence	Practical Skills	Research Proficiency	Time Management	Resilience	Problem Identification	Cultural Competence	Public Speaking	Data Analysis	Technical Skills	Networking	Initiative	Project Management	Environmental Awareness	Conflict Resolution	Interdisciplinary Thinking
Action Learning	6	4	6	5	4	6	4	10	6	2	4	7	5	3	6	1	2	4	4	2	4	4	8	8	3	4	4	7
Apprenticeship Model	10	9	13	3	11	7	9	18	3	4	6	10	4	2	9	1	8	11	10	8	10	5	2	5	1	11		16
Behaviorism	22						28						29													23		
Blended Learning	17	15	19	18	15	16	14	2	13	16	17	18	14	16	11	16	10	13	16	17	15	19	17	21	12	25	19	10
Constructivism	8		2					12			12	1	2	13	4	4	5	8	2	13	6	17	22	1	22	22	7	1
Critical Pedagogy	7	7	10	27	8	4	7	27	17	17	1	9	10	24	23	11	7	7	5	11	9	14	13	14	17	10	6	9
Design Thinking	5	1		14	6		1	20		19	4		15	8			1				7		28	4	15	18		4
Digital Storytelling	28	21	29	26		22	19	6	26	29	25	28	26	29	22	25	25	23	28			25			14	17	22	28
E-Learning	21	18	20	20	17	15	16	1	14	24	18	17	20	17	20	18	21	27	18	24	17	20	18	27	11	26	18	23
Experiential Learning Theory (Kolb)	4	5	3	1	1	5	5	13	1	1	2	2	1	1	5	5	1	6	3	1	1	1	6	2	4	1	1	2
Flipped Classroom	24	17		28	14	19	26		18	15	23	21	13	20	12	7	19	12	19	16	22	23	23	20			17	11
Gamification		22	24	15	22	25	22	23	25	18	24	24	23	21	29	27	23	10	24	26	21	24	27	12	23	19	23	24
Holistic Learning	16	27		29	23	20	17	29	23	14	21	14	12	23	25	9	22	19	9	19	12		21	23	7	9	16	21
Industry-Academia Collaboration Models	23	10	15	11	13	11	12	19	4	9	7	11	16	9	10	22	9	15	11	15	11	9	1	19	6	13	12	15
Inquiry-Based Learning	3	6	9			1	6	15	27	21	13	8	9	25	3	12	13	5	29	10	5	16	14	13	16	7	5	8
Internships		14	17	13	12			25	9	12	15	13	18	8	16		16	17	13	21	14	10	3	17	5	15	14	
Language Immersion	26		27	24	24	24	20		10		27	26	25	27	24	23	27	23	21	28	28	26		29	28	20	26	
Massive Open Online Courses (MOOCs)	18	16	22	19	16	17	13	3	15	13	20	16	19	18	14	17	18	18	17	23	16	22	20	18	18	27	20	20
Mentoring	13		14	9		12			22	7	9	29		11		14	12	22	14	9	27	12	4	10		12	10	17
Microlearning		29				28							28								25	29	26		26		28	
Mind Mapping	27	28	28	25	27	23	21	28	28		29	27	27	28	26	29	28	24	27	29		27	29		27		27	27
Mindfulness Training					26	29	27			26	26				28	10	29		26					24	29	24		29
Mobile Learning		20	23					5		27				22		26		26		25				22				
Montessori Method	25	25	12	16	25	21	24	26	24	25	28	25	24	26		24			25			8					29	26
Online Tutorials	19	19	21	21	19	14	15	4	19	28	19	19	21	19	13	19	17	28		22	18	21	19	25	21	28	21	19
Peer Coaching	12		8	10	29	13		22	21	8	10		6	12	13	8	11	21	15	3	24	13	5	11	25	16	11	18
Peer Learning	11		7	8	28		29	21	20	23					18	28					23		25	9	24		9	12
Problem-Based Learning	1	3	4	6	2	2	2	8	16	5	3	5	7	5	1	2	3	2	7	5	2	2	10	6	19	2	2	5
Project-Based Learning	2	2	5	4	3	3	3	9	5	3	8	6	8	4	2	3	4	3	6	4	3	3	7	7	2	3	3	6
Service Learning	14	8	11	7	9	9	10	16	7	10	5	15	11	10	27	13	14	20	18	12	26	15	15	15	8	6	15	13
Simulated Environments	29	24	25	22	20	26	18	11	29	20	22	22	22	6	21	20	24	14	22		20	6	9	26	13	5	24	25
Socio-Cultural Theory (Vygotsky)	9	11	1	2	7	8	8	14	2	6	11	3	3	14	7	15	6	9	1	14	8	18	11	3	20	21	8	3
Traditional Classroom Learning	20	26	18	17	18	18	25	24	12	22	16	20	15		17		20		20	18	19	28	24	28	10	29		22
Virtual Reality (VR) Learning		23	26	23	21	27	23	7				23				21	26	29	23	27	29	7					25	
Work-Integrated Learning (WIL)	15	13	16	12	10	10	11	17	8	11	14	12	17	7	15		15	16	12	20	13	11	16	16	9	14	13	14

ZOOM-IN

SOCIO CULTURAL THEORY (VIGOTSKY)

	Critical Thinking	Problem-Solving	Communication Proficiency	Teamwork	Adaptability	Information Literacy	Creativity and Innovation	Digital Literacy	Global Awareness	Lea
Project-Based Learning	2	2	5	4	3	3	3	9	5	
Service Learning	14	8	11	7	9	9	10	16	7	
Simulated Environments	29	24	25	22	20	26	18	11	29	
SOCIO-CULTURAL THEORY (VIGOTSKY)	9	11	1	2	7	8	8	14	2	
Traditional Classroom Learning	20	26	18	17	18	18	25	24	12	
Virtual Reality (VR) Learning		23	26	23	21	27	23	7		
Work-Integrated Learning (WIL)	15	13	16	12	10	10	11	17	8	

EXCELLS IN: Communication Proficiency, Teamwork (here: guidance/teaching others), Emotional Intelligence, Taking Initiative

NOT SUITABLE FOR: Digital Literacy, Time Management, Technical Skills, Project Management

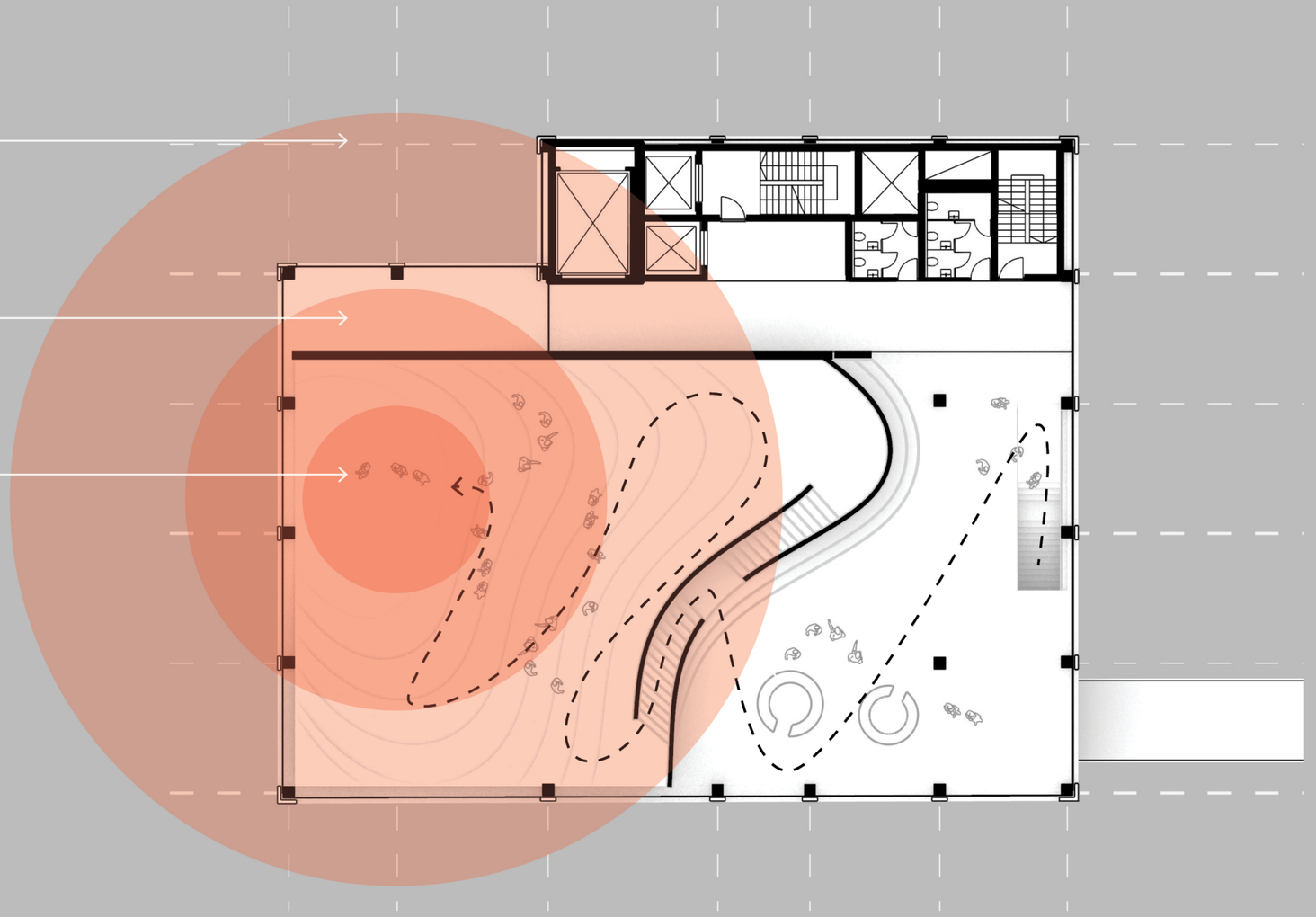
VYGOTSKY:

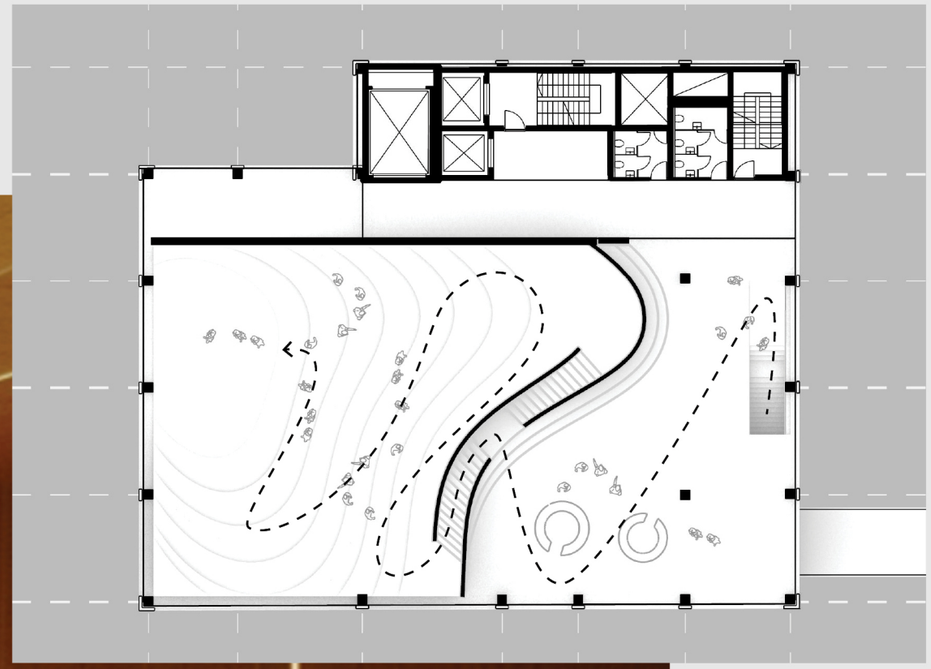
ZONE OF PROXIMAL DEVELOPMENT

things that the learner already can do

zone of proximal development

what the learner can not yet do but others can





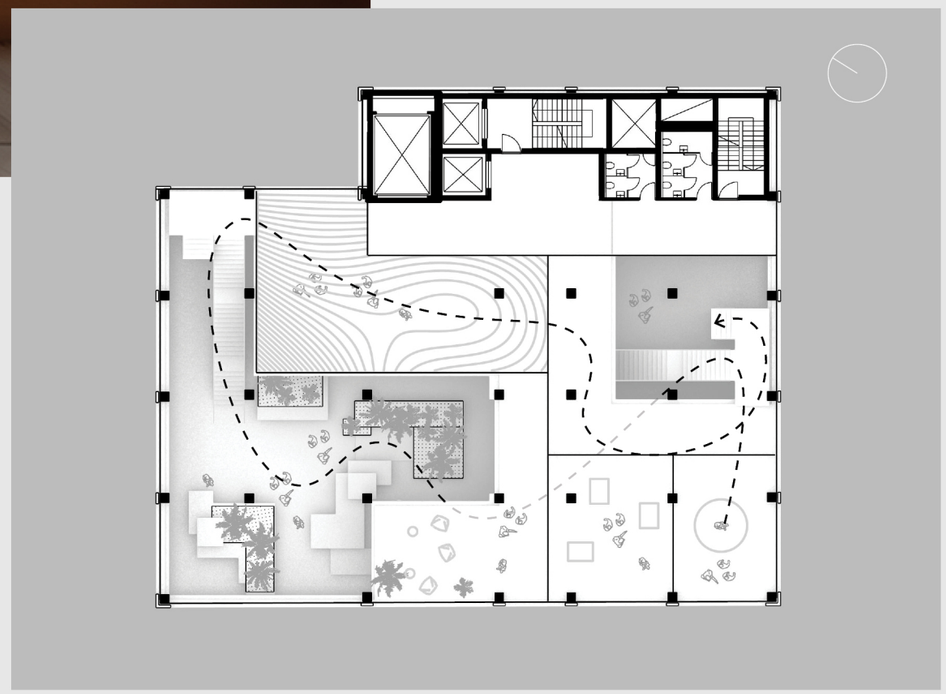
THE CRITICAL FORUM

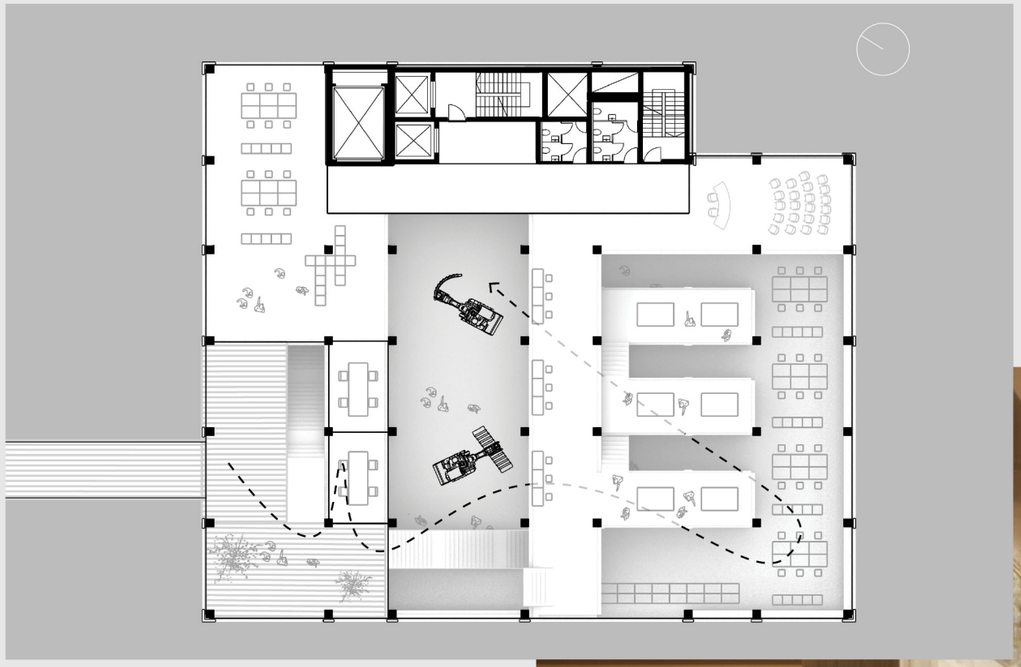
Sociocultural theory by Vygotsky
Embracing participation and initiative
Transition from “being a spectator” to “active participant”



EXPERIENTIAL GARDENS

Experiential Theory by Kolb
Immersive Lab Studios with central group reflection space (gardens)

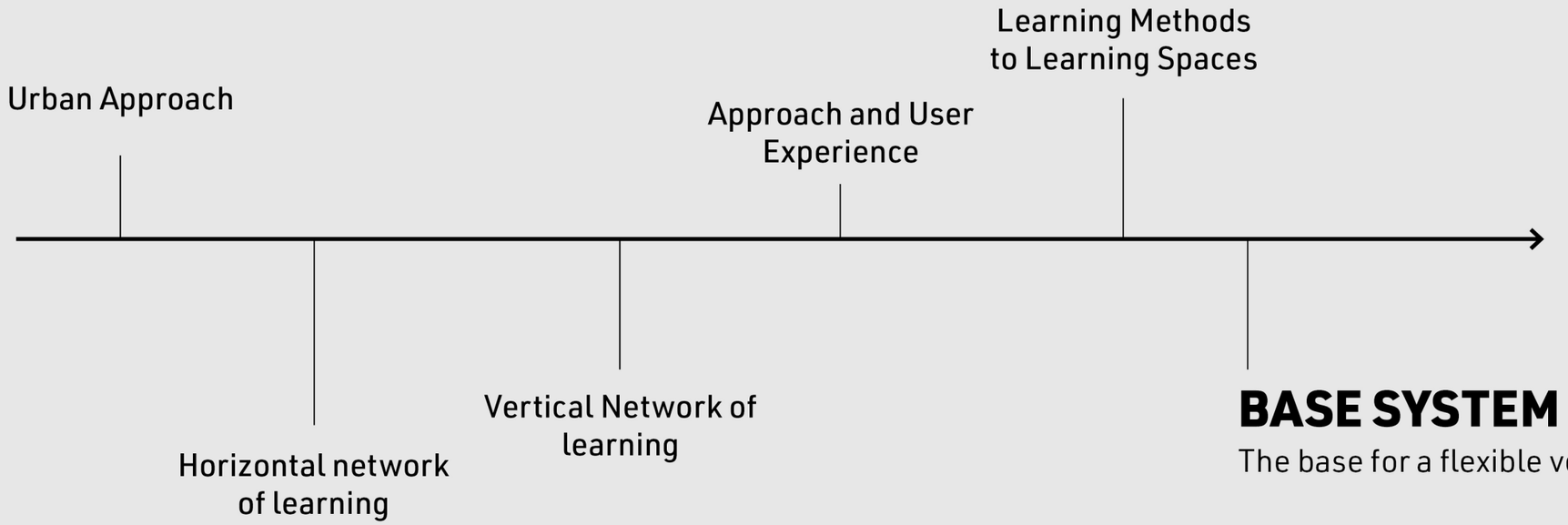






THE APPRENTICESHIP HUB

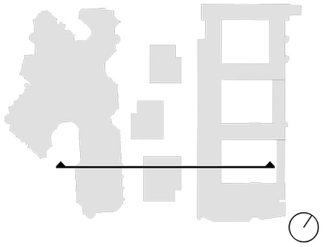
Problem/Project Based Learning
Industry-Academia Collaboration
Mentorship and Interdisciplinary work

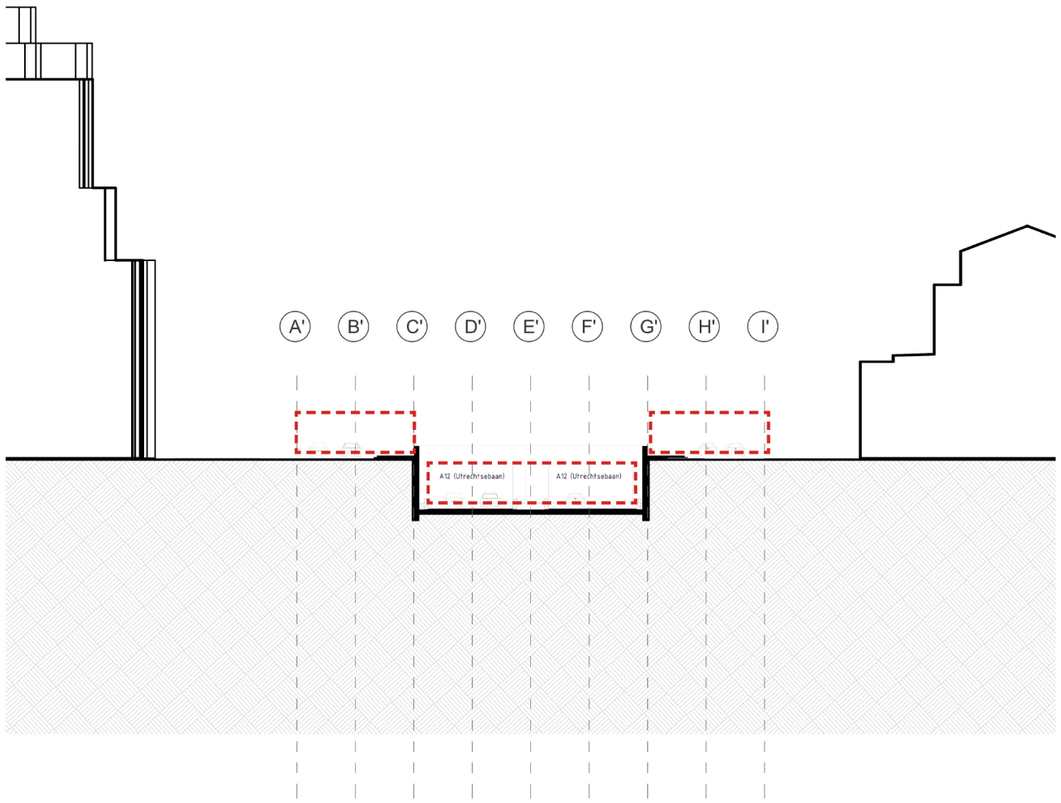


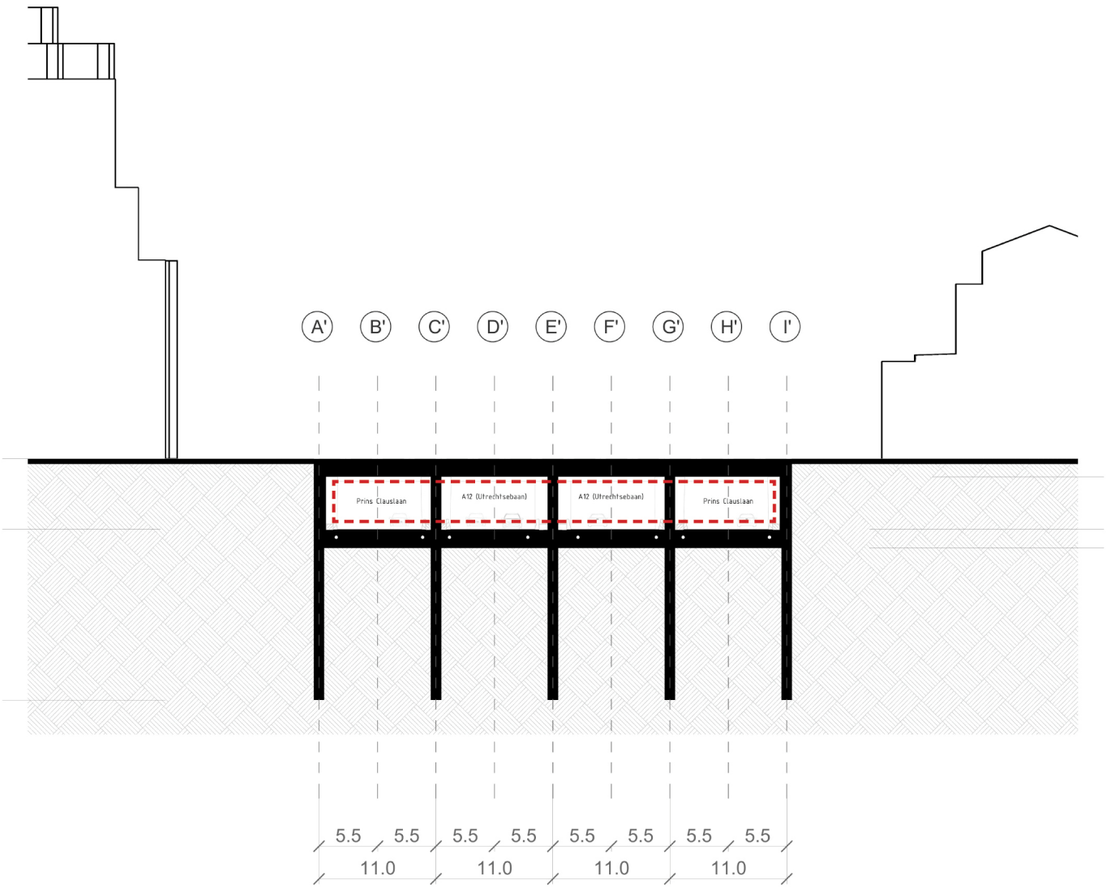
BASE SYSTEM 1: SUPERSTRUCTURE

The base for a flexible vertical campus.

THE FOUNDATION



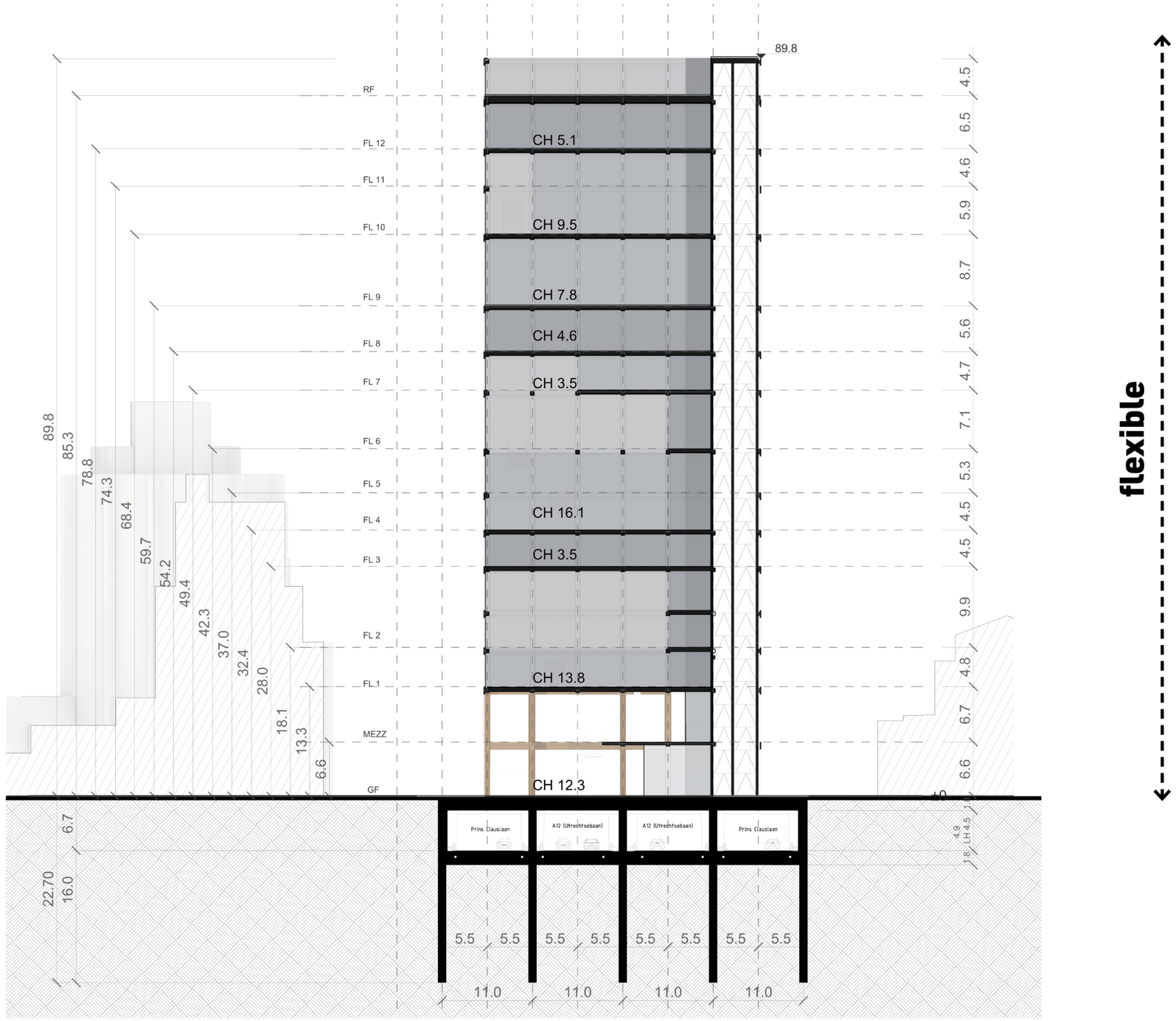




before

after

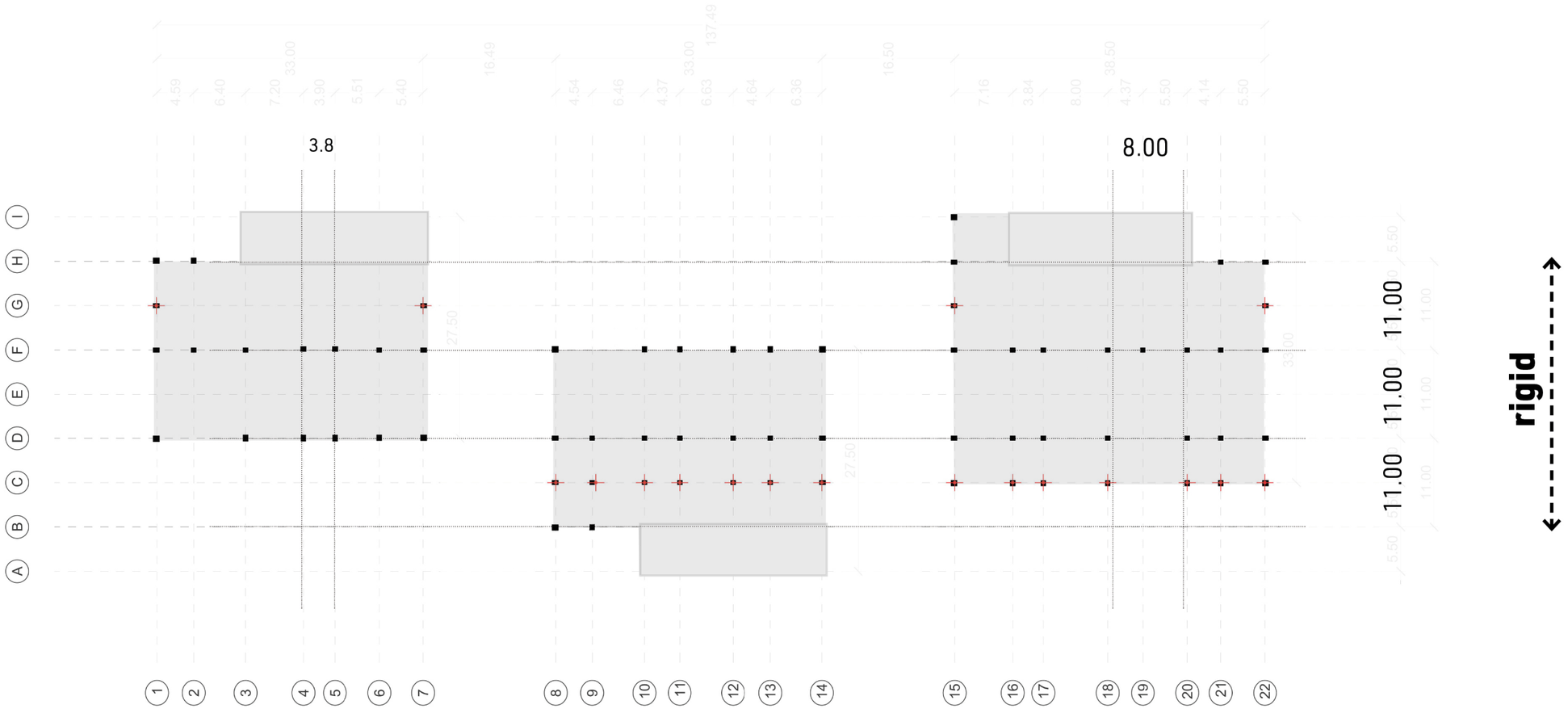
CONSTRAINED
v.s.
FREE



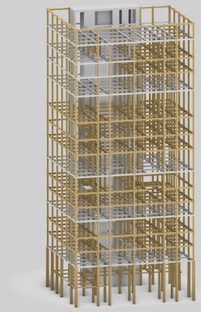
CONSTRAINED

v.s.

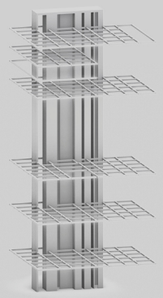
FREE



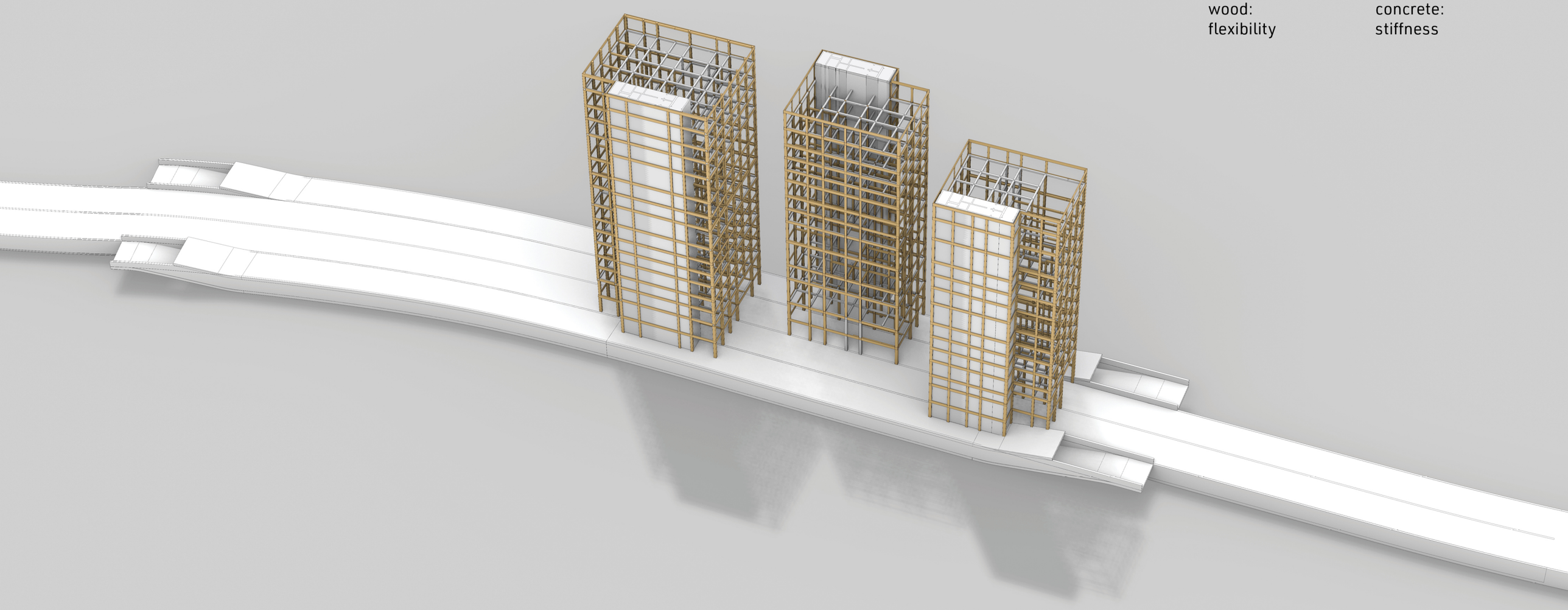
SUPERSTRUCTURE

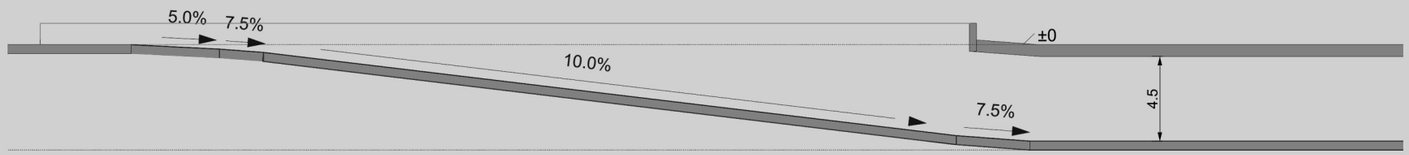


wood:
flexibility

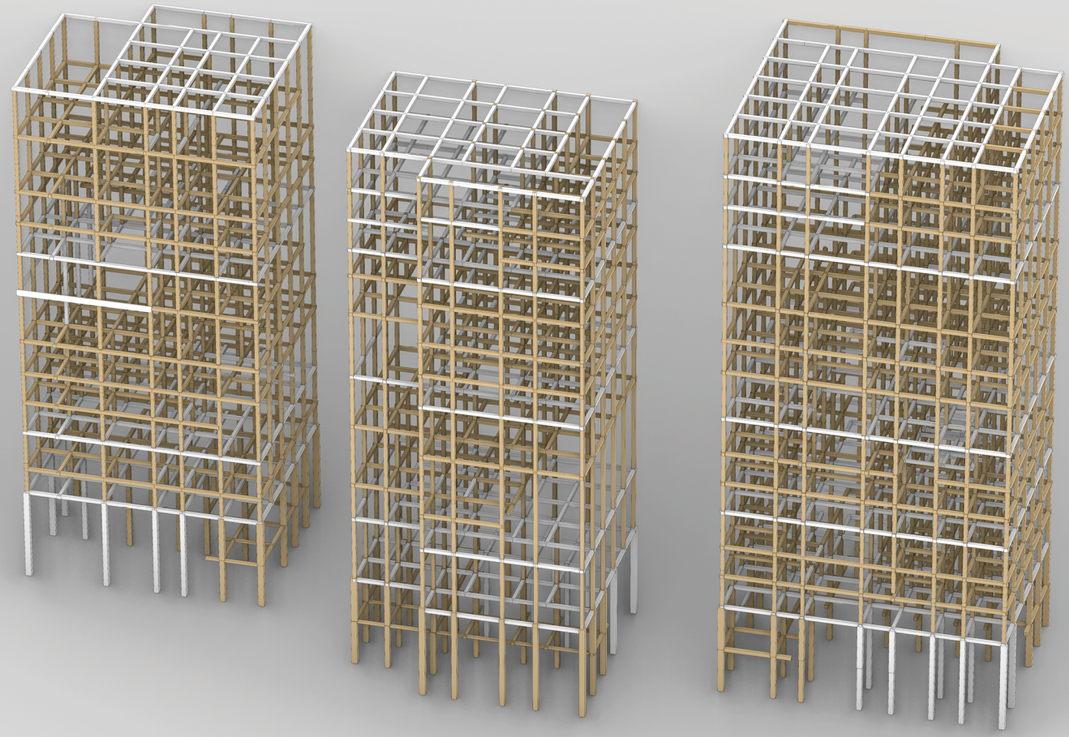


concrete:
stiffness





ADAPTABLE AND EFFICIENT

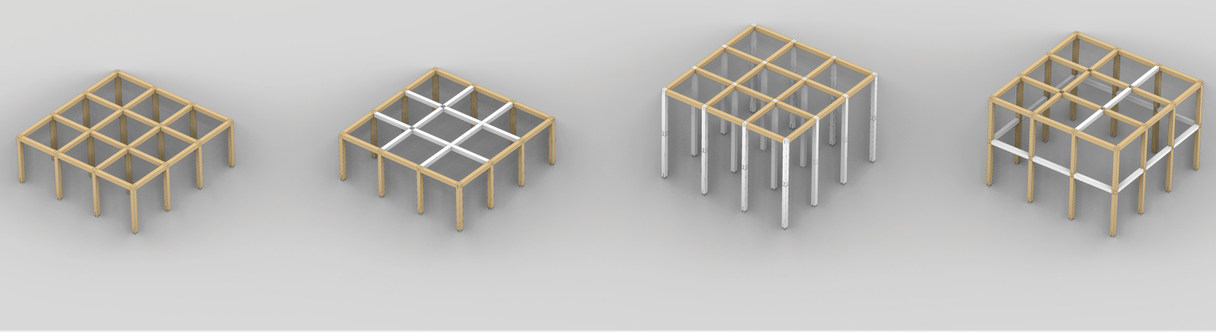


1. wooden skeleton

2. concrete beams for long spans

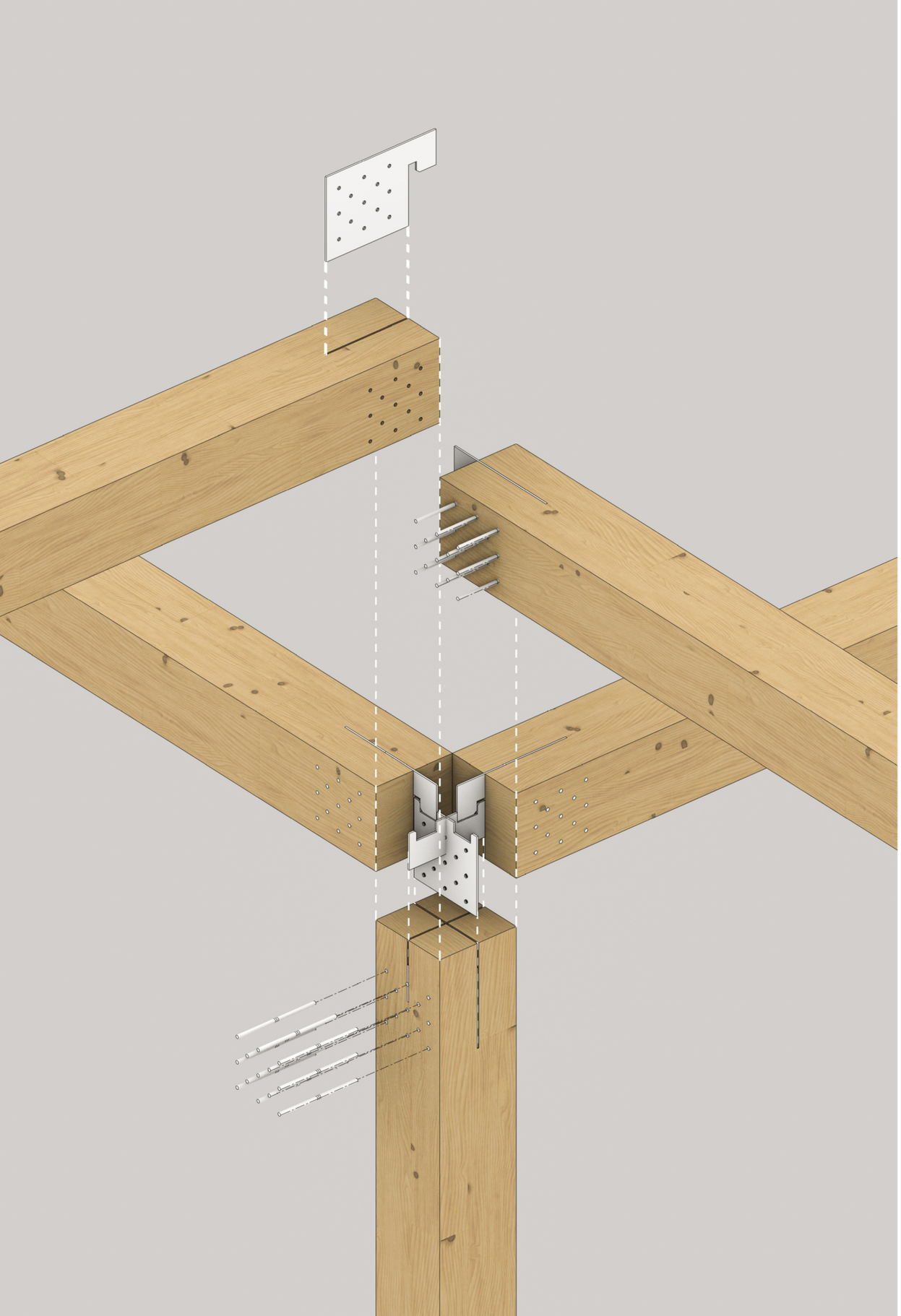
3. concrete columns at long buckling lenghts

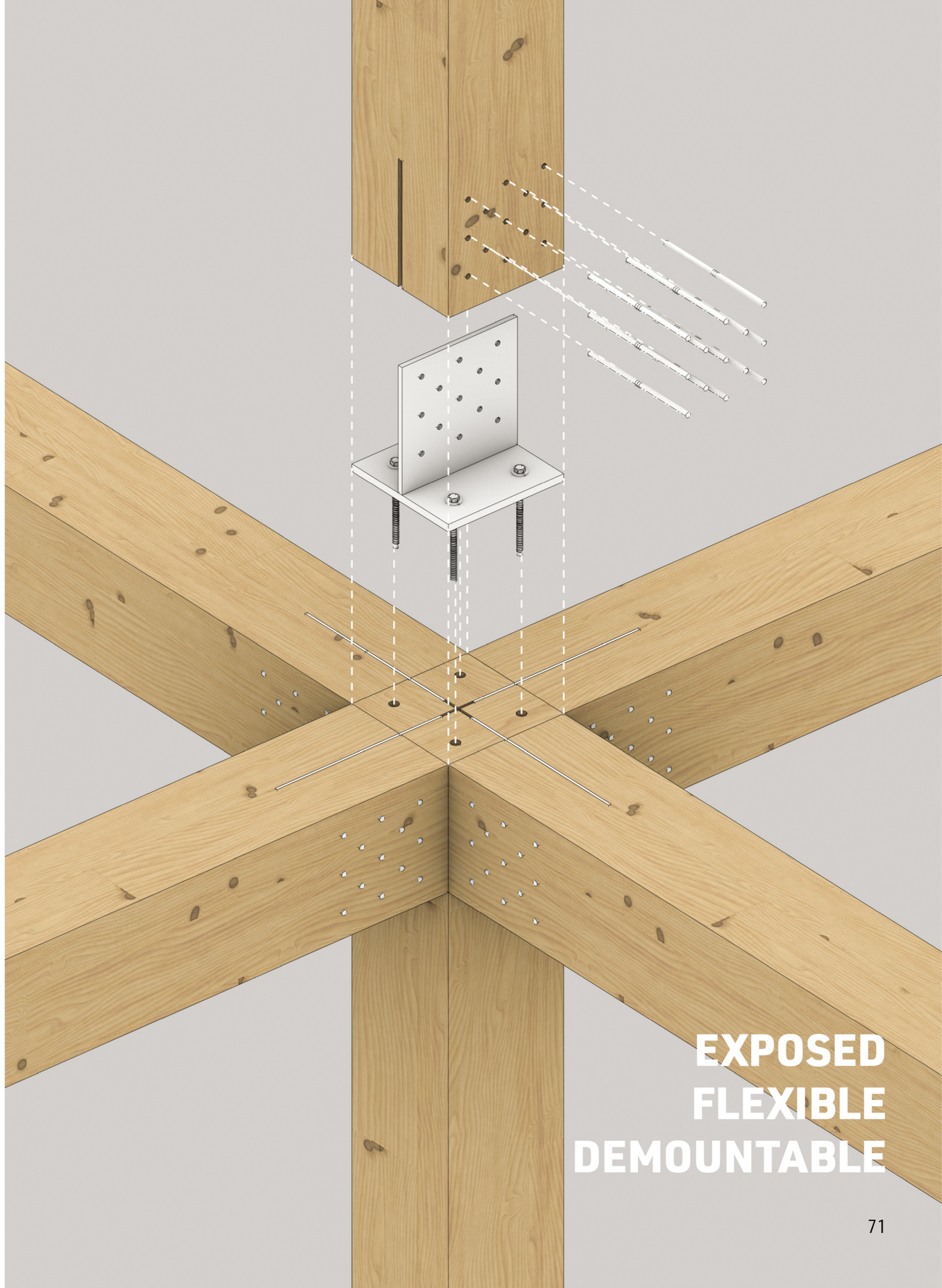
4. hybrid system for maximal flexibility and effeciency



concrete

wood

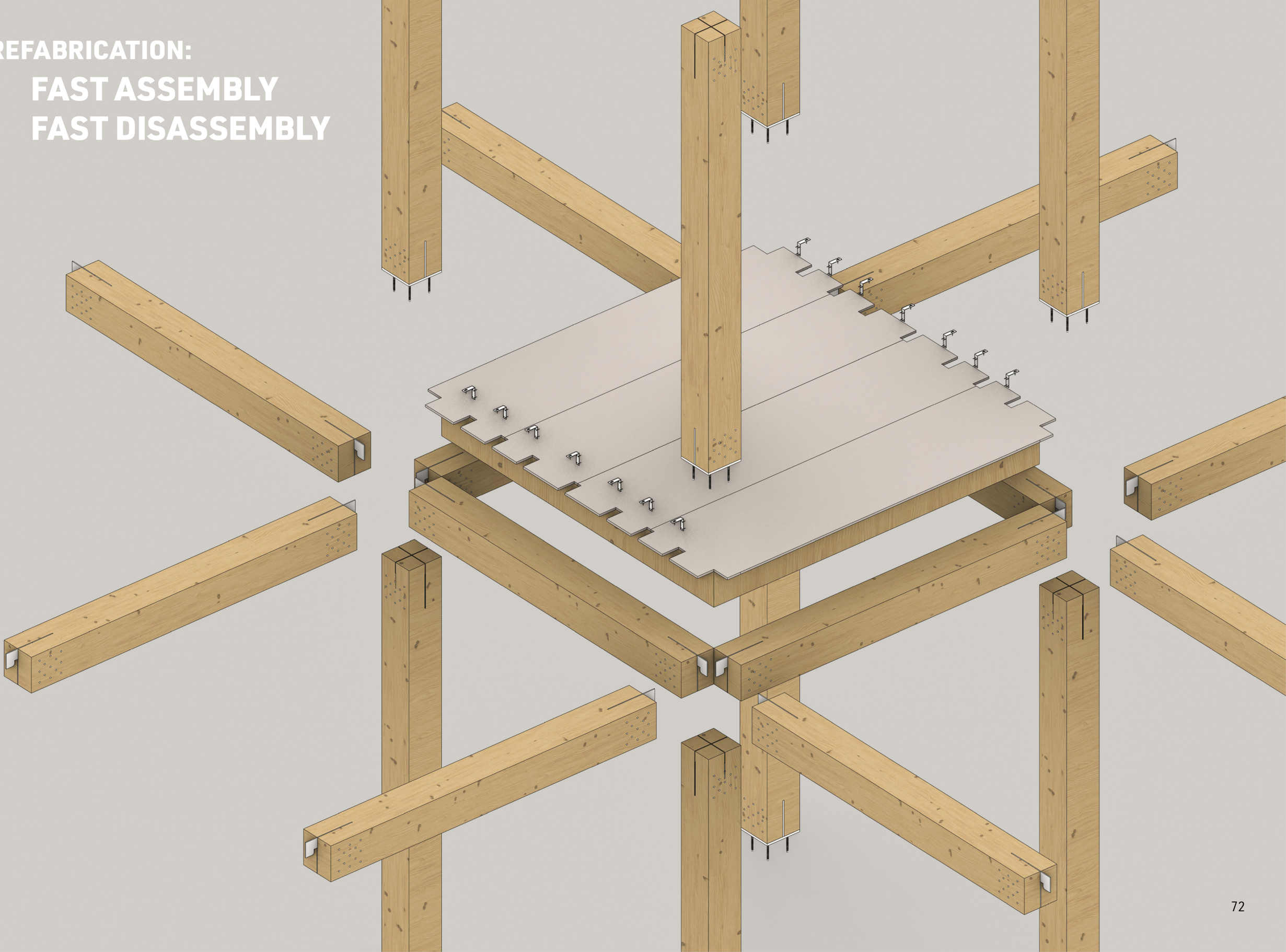


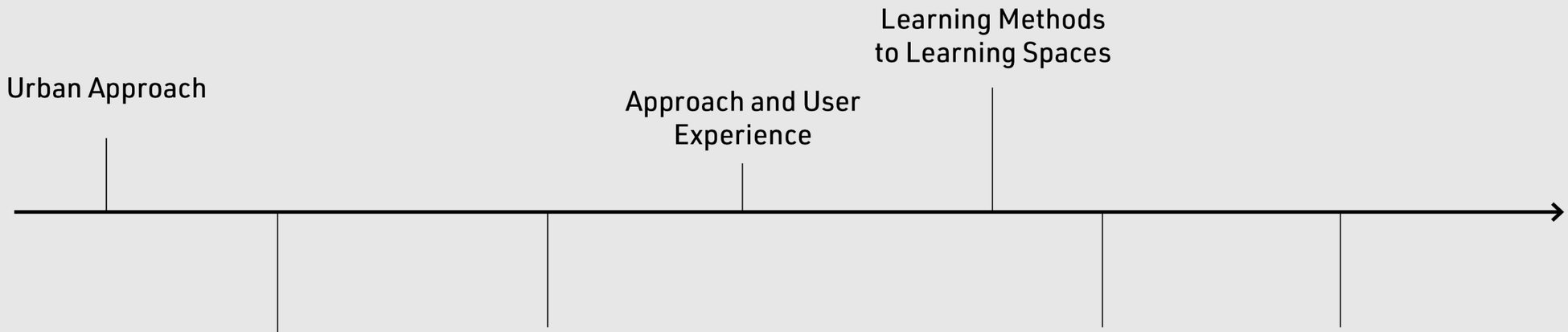


EXPOSED
FLEXIBLE
DEMOUNTABLE

PREFABRICATION:

FAST ASSEMBLY
FAST DISASSEMBLY

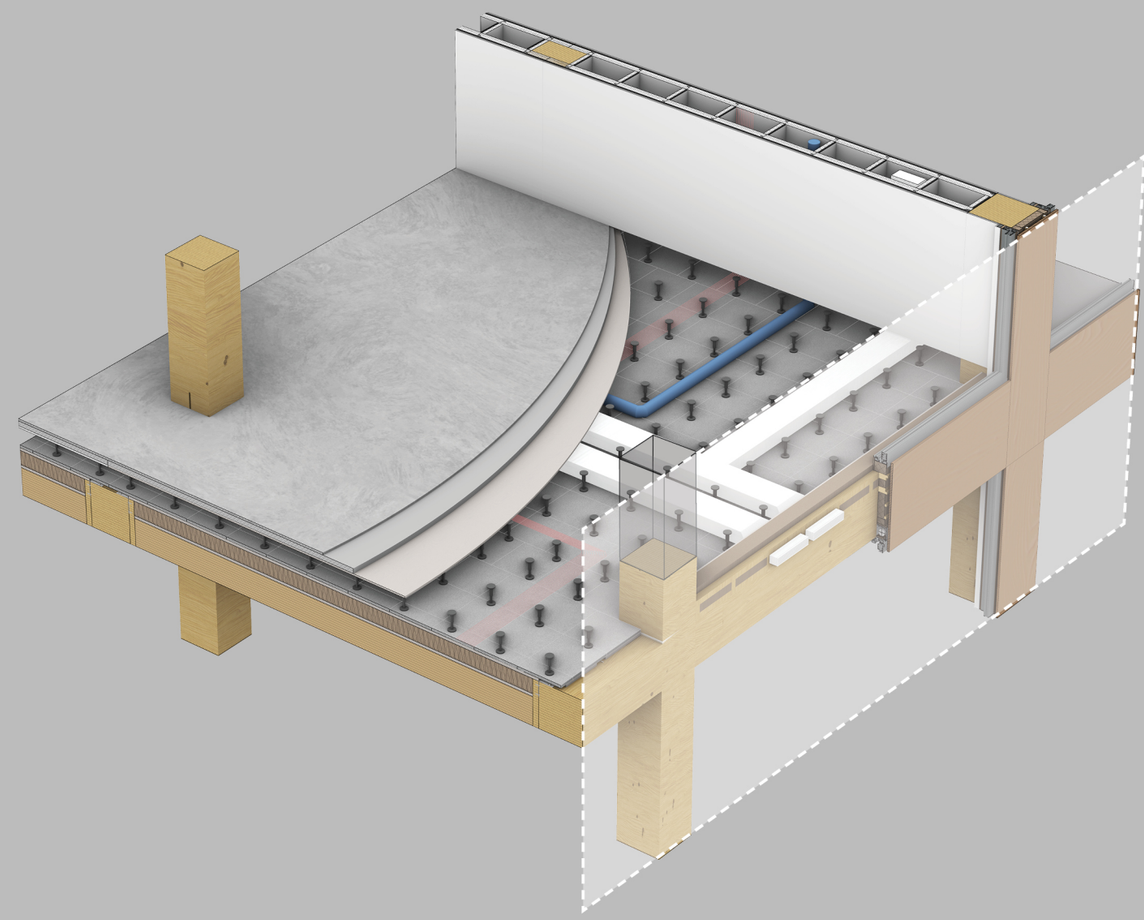




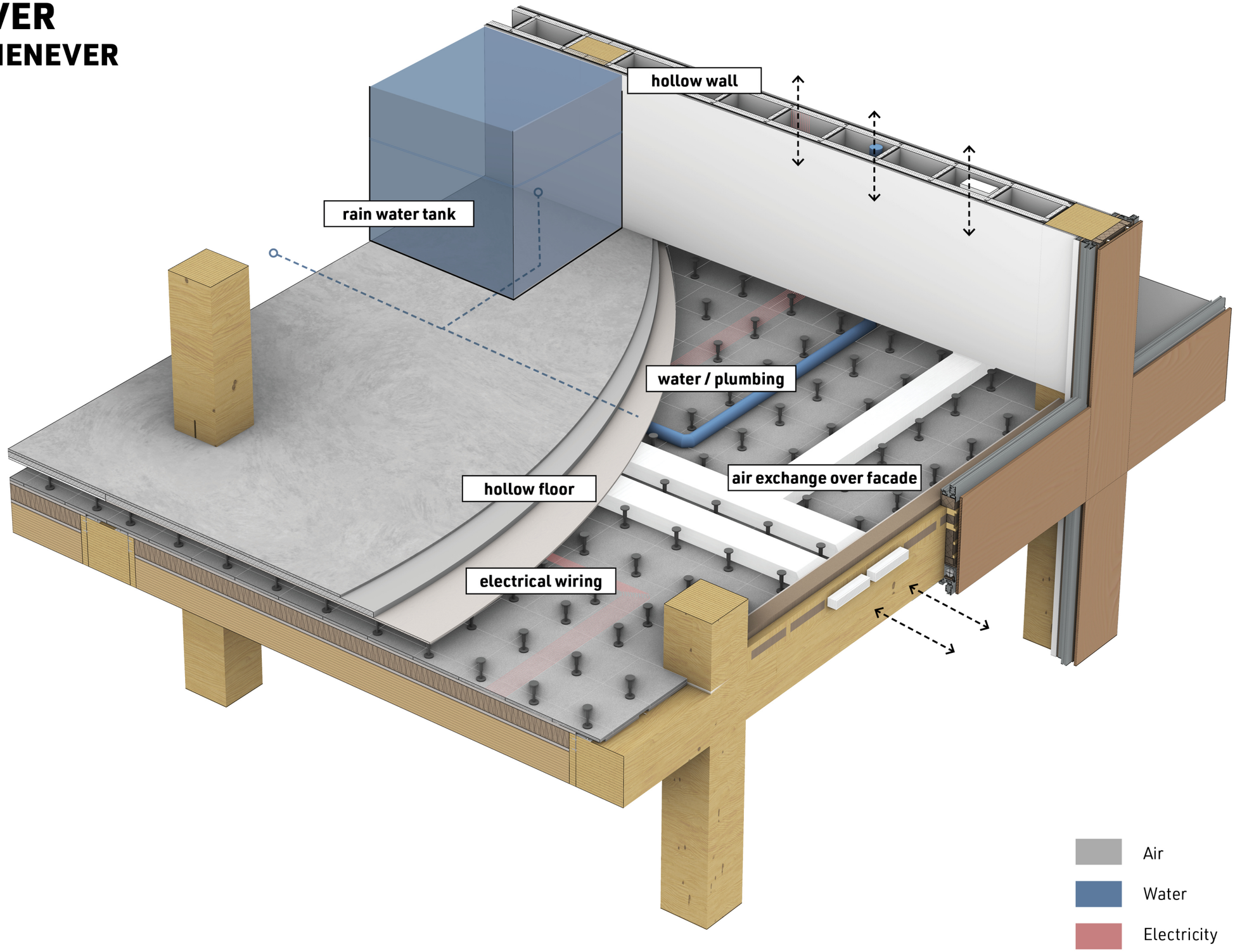
BASE SYSTEM 2: DETAIL

Ready for Today and Tomorrow.
Resilience built-in.

location of fragment

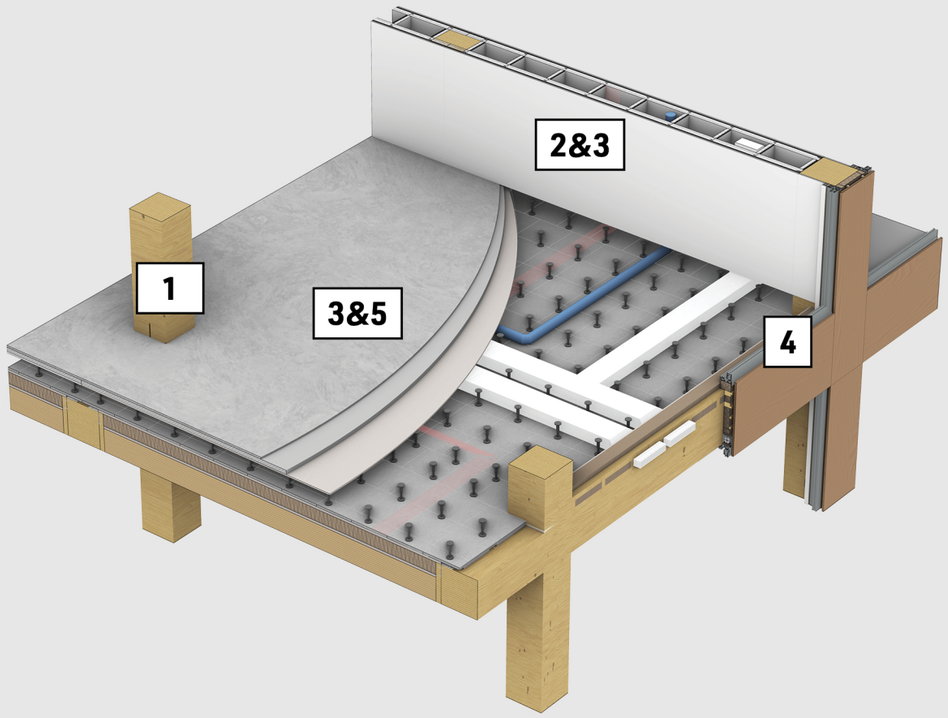


WHATEVER
WHEREVER
WHENEVER



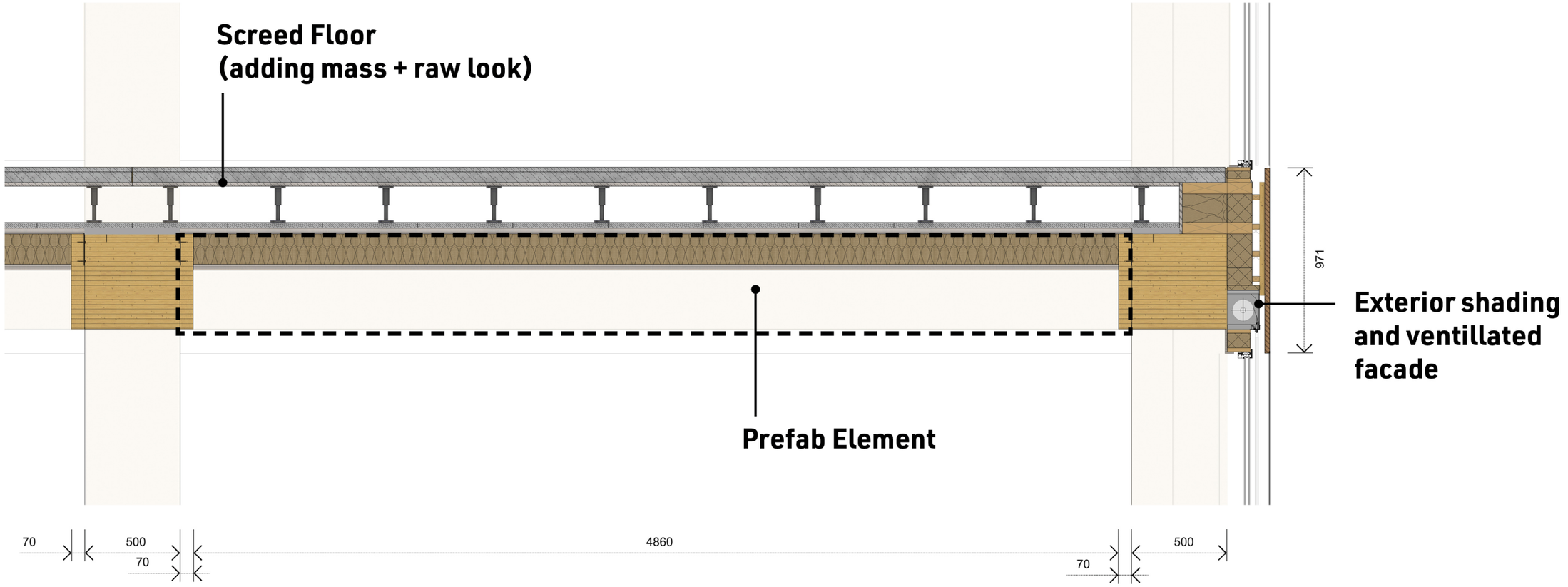
RAW MATERIALITY

HANDS-ON WORKING SPACES
REMODELLING ENCOURAGED





TYPICAL DETAIL



MODULAR CATALOGUE

SHOWCASING “HOW IT IS MADE”, AESTETIC DRIVER, COST REDUCTION, RESILIENCE

Three-layer-panel

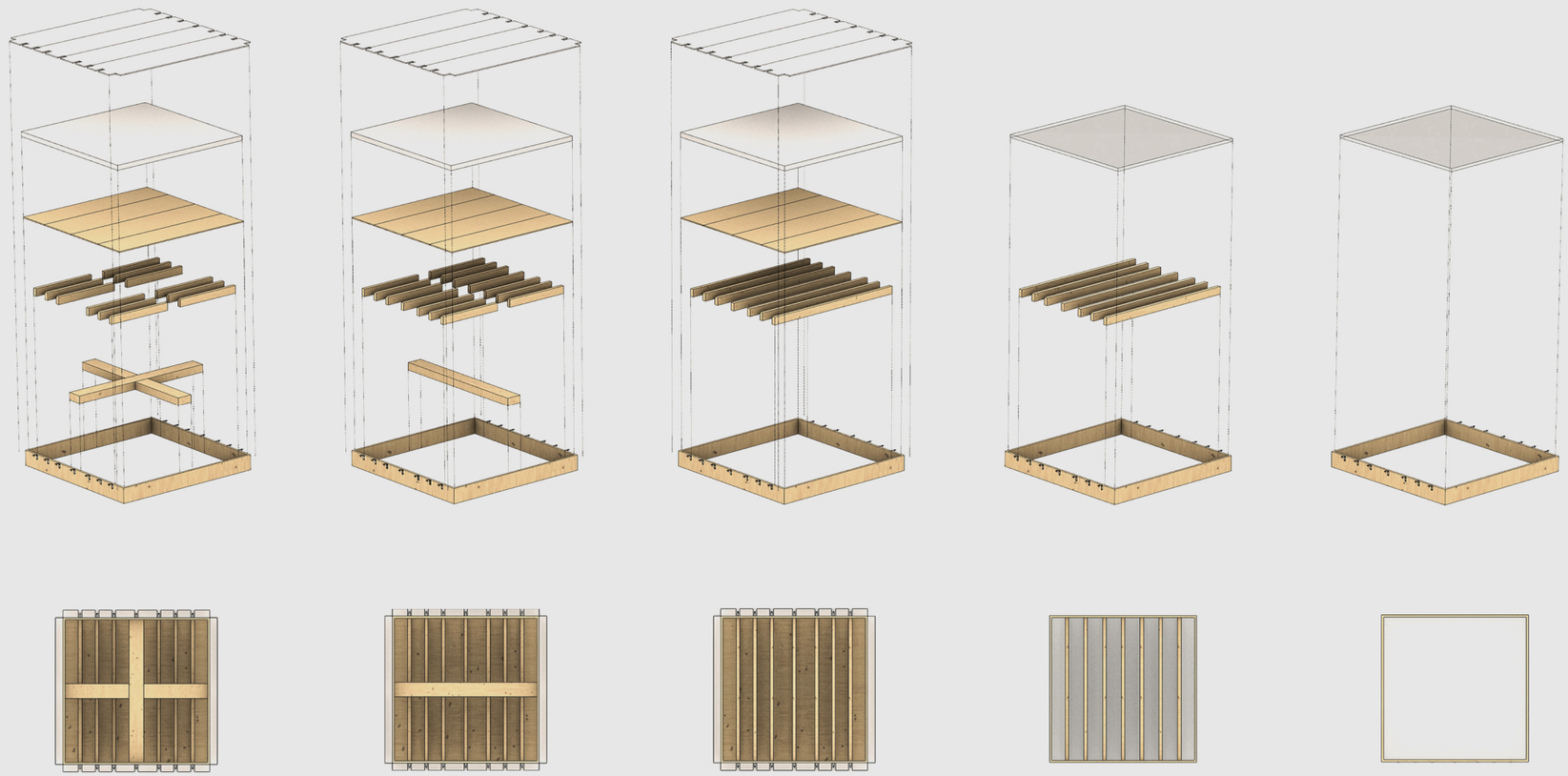
Wood fiber insulation board

Three-layer-panel

Structural wood

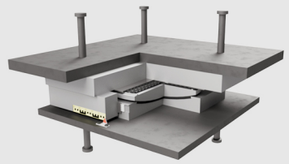
Structural wood

Timber frame

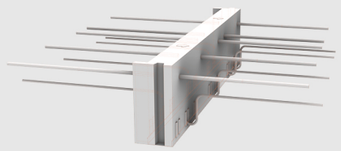


Laminated Glass
(2-3 layers of 10mm depending on span)

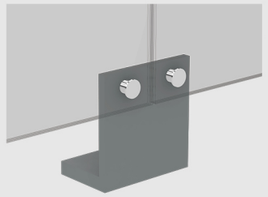
BRIDGE:
VERTICAL SECTION



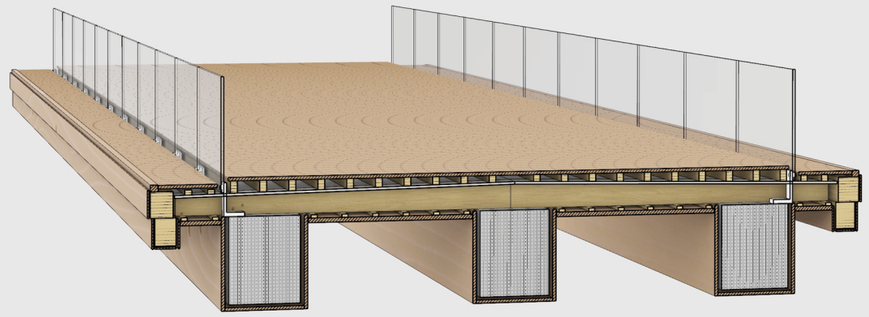
SPHERICAL BEARING

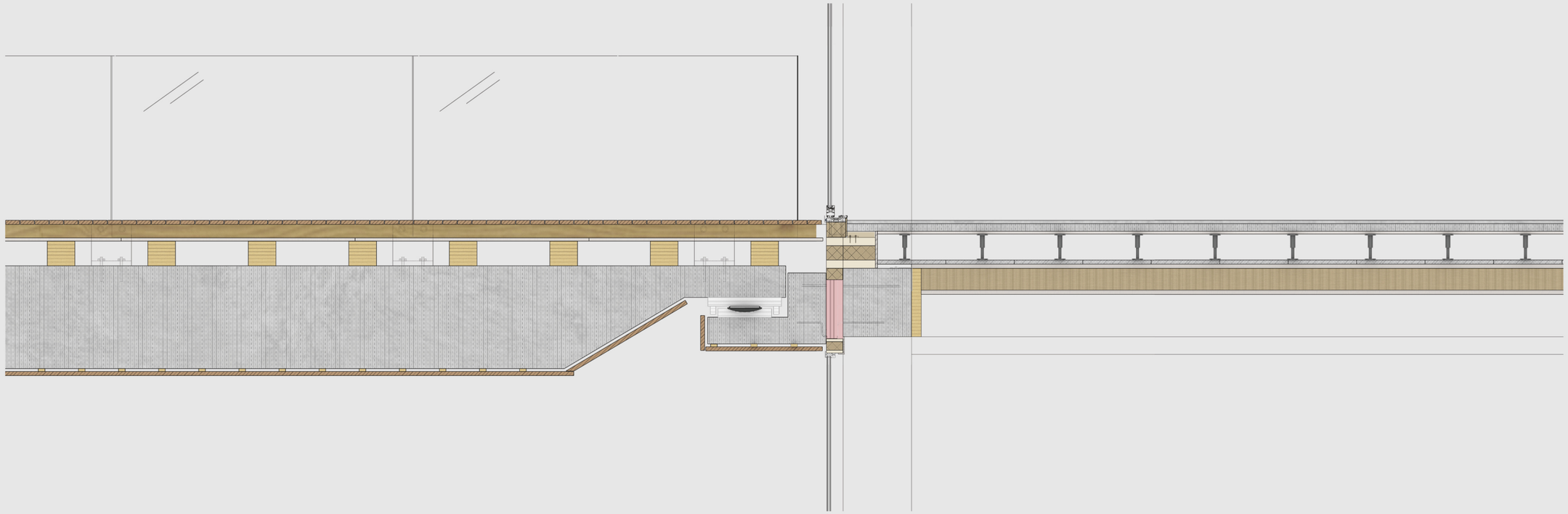


ISOKORB



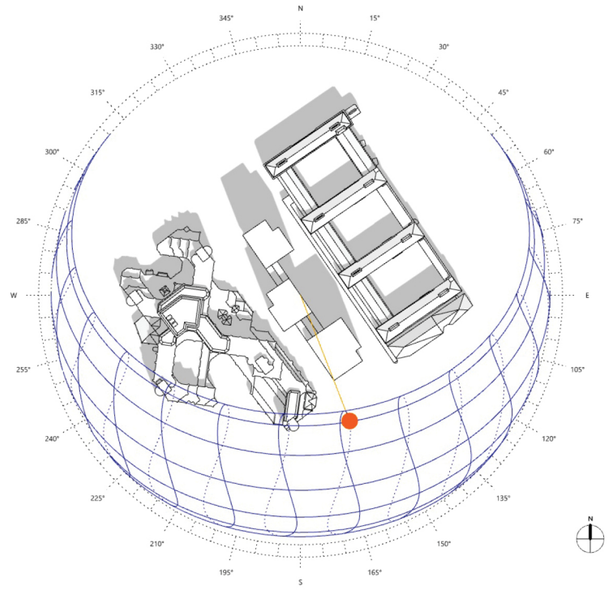
HIDDEN GLASS MOUNT



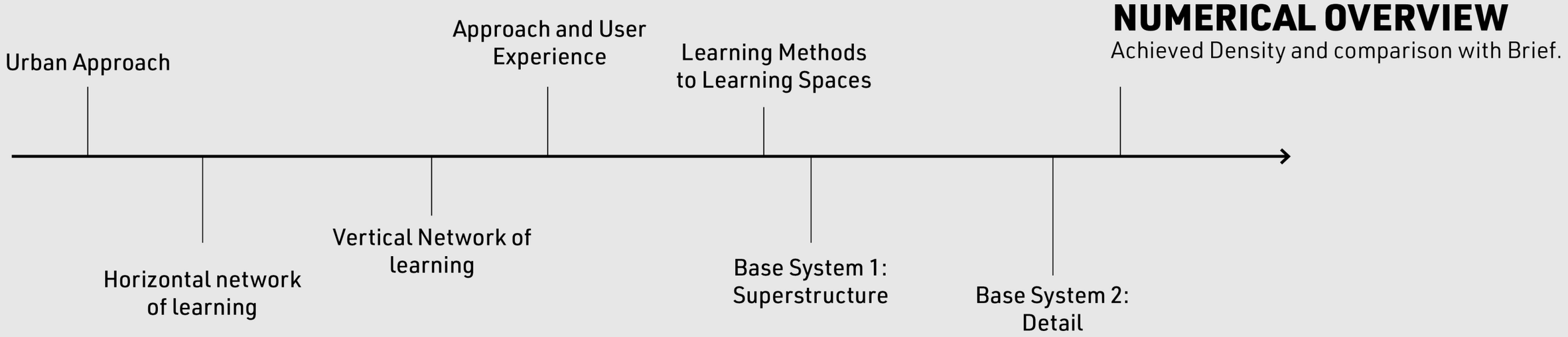


SUSTAINABILITY SUMMARY



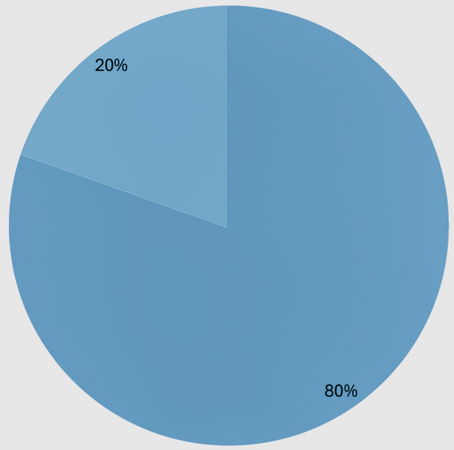


1. “WORST” CASE SUN DIRECTION IN JULY AT NOON
2. EVAPORATIVE COOLING
3. WARM AIR OUTLET OVER ROOF
4. MAIN WIND DIRECTION
5. OUTDOOR SPACES AND AIR CIRCULATION
6. AIR INTAKE THROUGH FACADE


Urban Approach
Horizontal network of learning
Approach and User Experience
Vertical Network of learning
Learning Methods to Learning Spaces
Base System 1: Superstructure
NUMERICAL OVERVIEW
Achieved Density and comparison with Brief.
Base System 2: Detail

NUMERICAL OVERVIEW:

TOTAL AREA



Floor Area Ratio: 4

Entrance 326
Commercial Space 1456
Café and Lounge 2814
Learn and Daycare 1727
Learn Group Studio Space 1632
LIbrary and Mediacenter 2008
Workshops 1615
Center for Advanced Virtuality 1507
Research Space 2288
Intense Learning 1890
Lecture Theaters 1379
Exhibition Space 1723
Sports Center 2070
Office Space 5223
Bar and Event Space 2006
Storage, Circulation, MEP 6482

(GFA): 32.413 m2

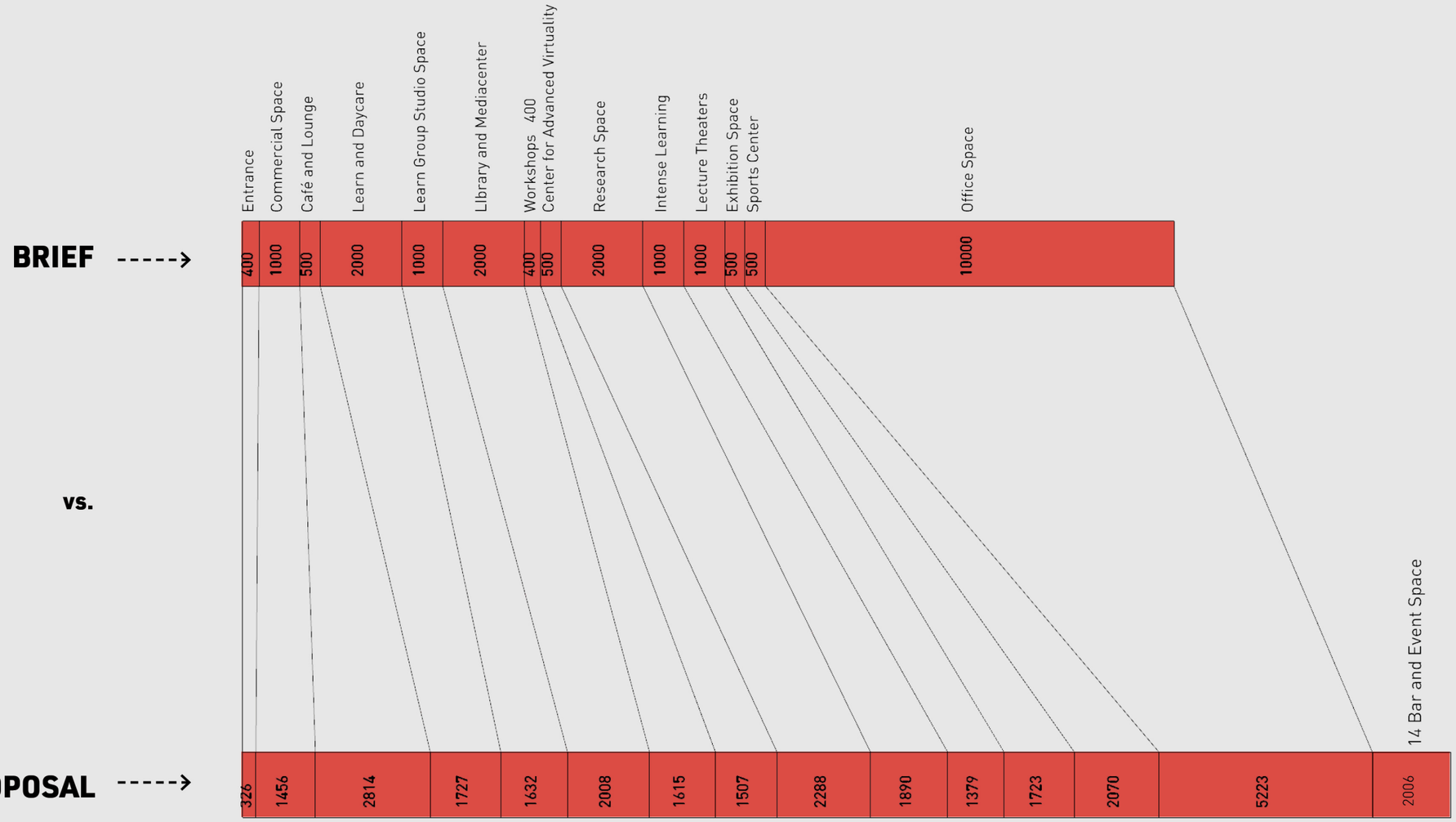
open-plaza with seating 1617
green leisure park 1365
workshop pavillions 1094
forum plaza 757
food trucks, flea market 422
bike parking 867
café 797
interactive exhibition 691

LANDSCAPE 7.891 m2

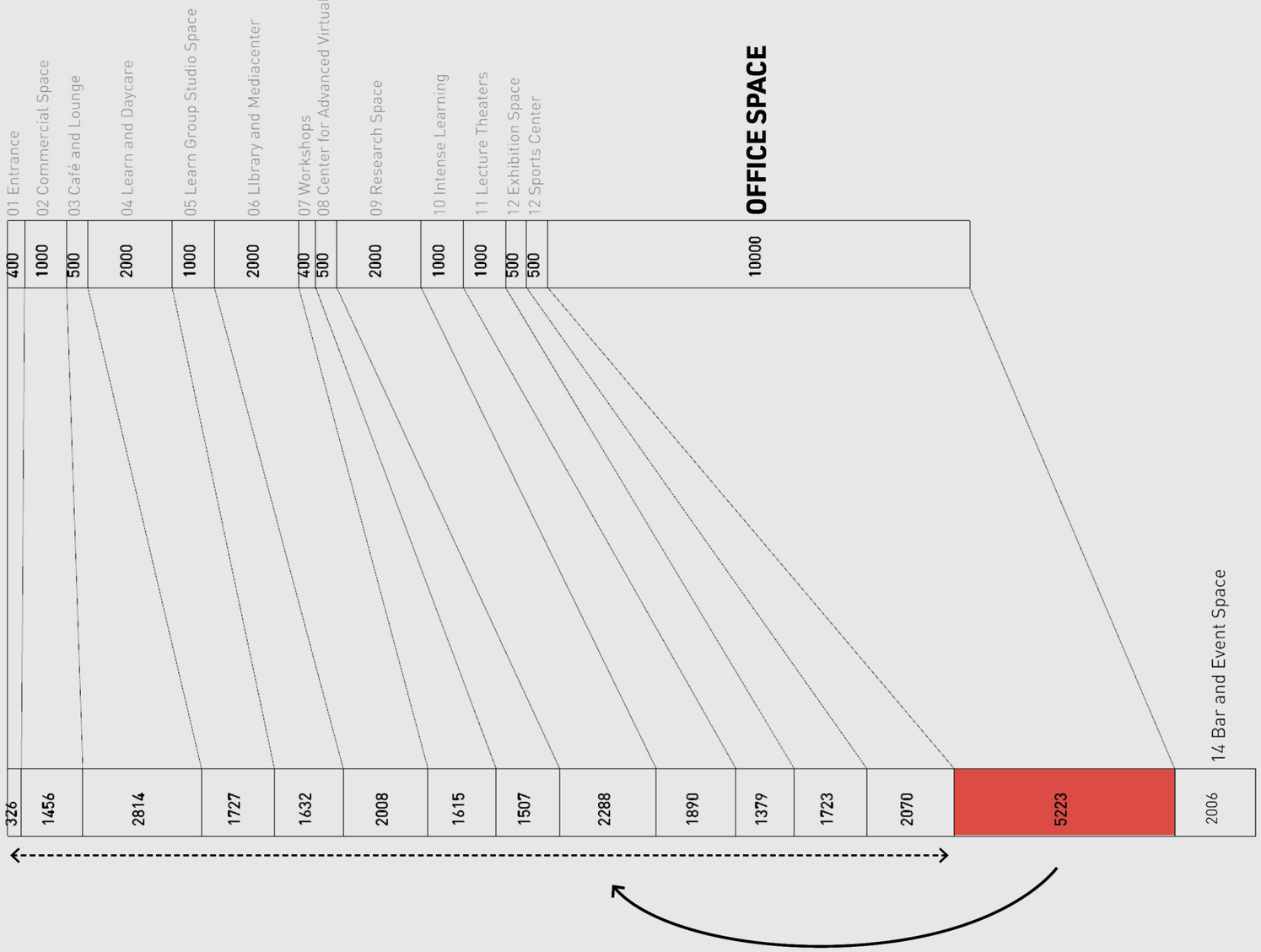
GFA	32.413
Landscape	7891

TOTAL: 40.304m2

COMPARISON WITH STUDIO BRIEF

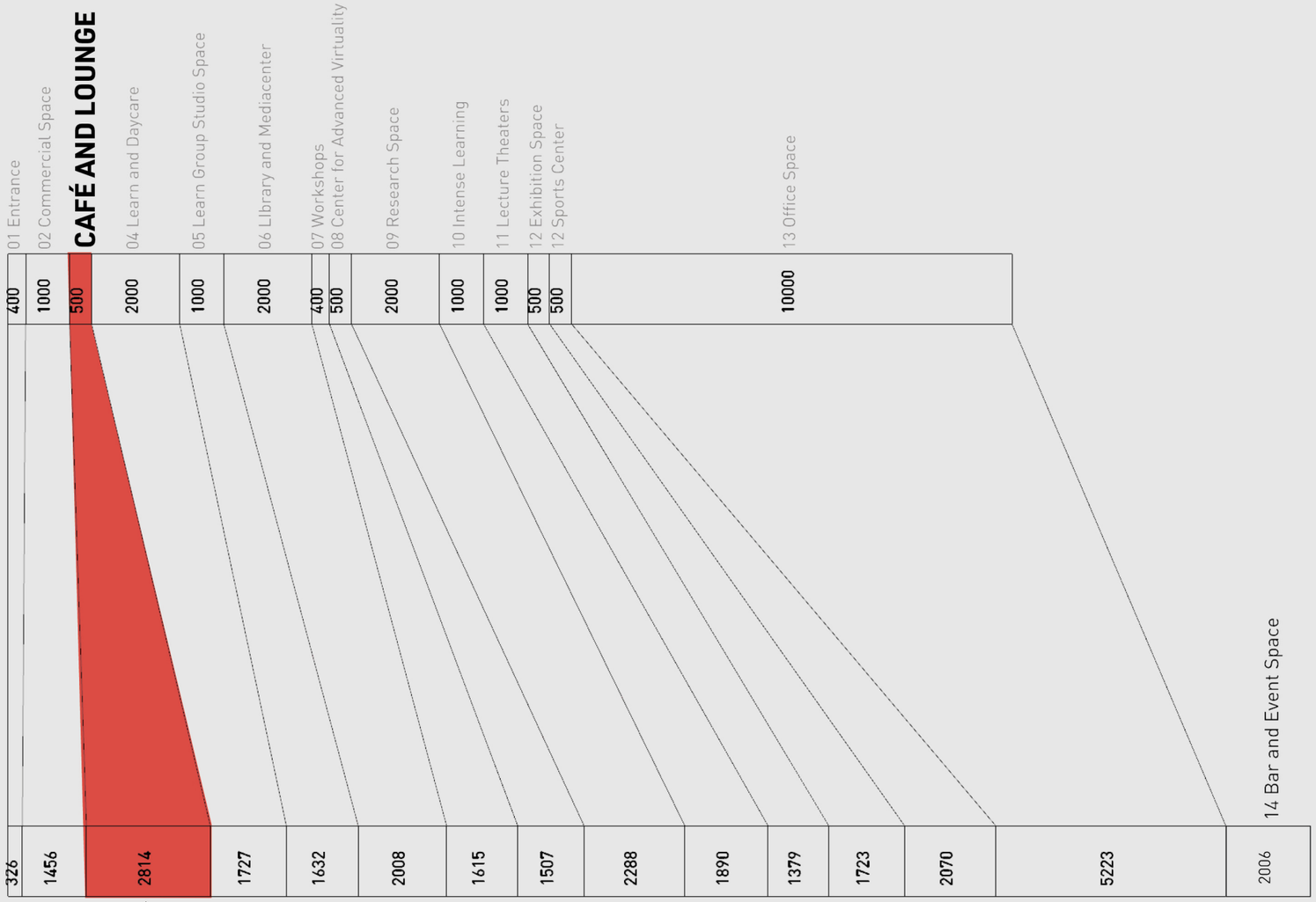


LESS MONOFUNCTIONAL SPACES



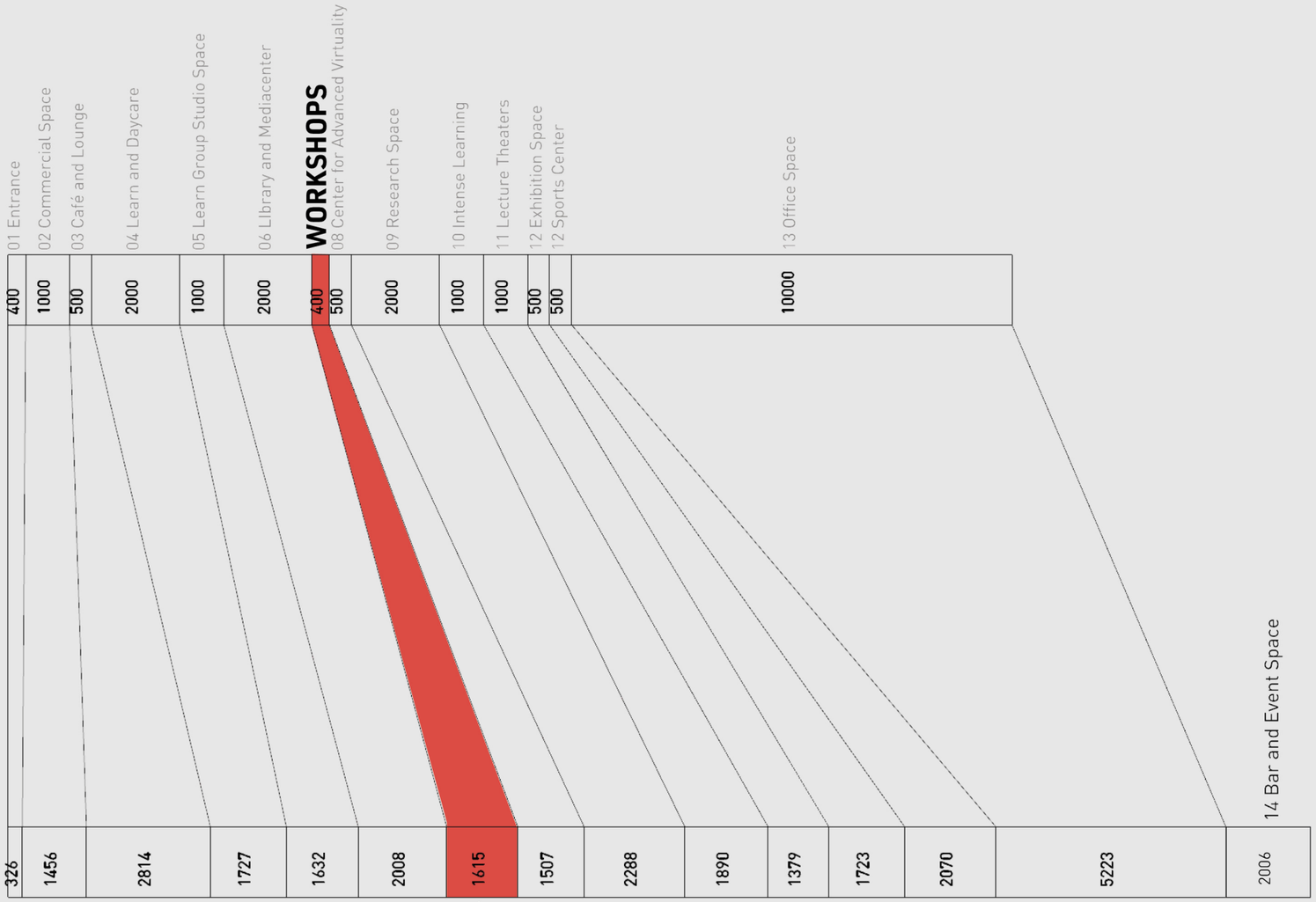
MORE HYBRID OFFICE SPACES

CENTER OF PUBLIC LIFE

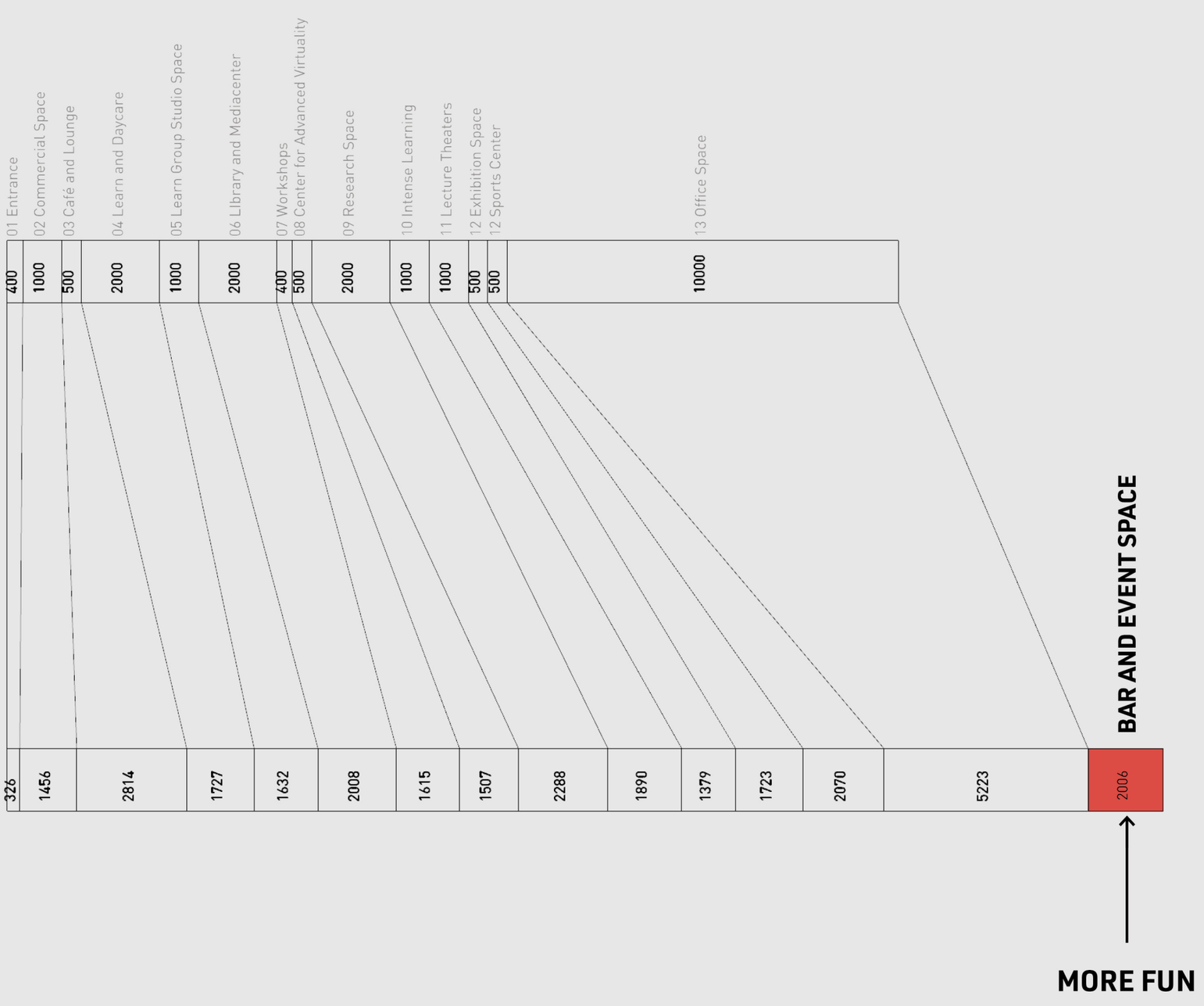


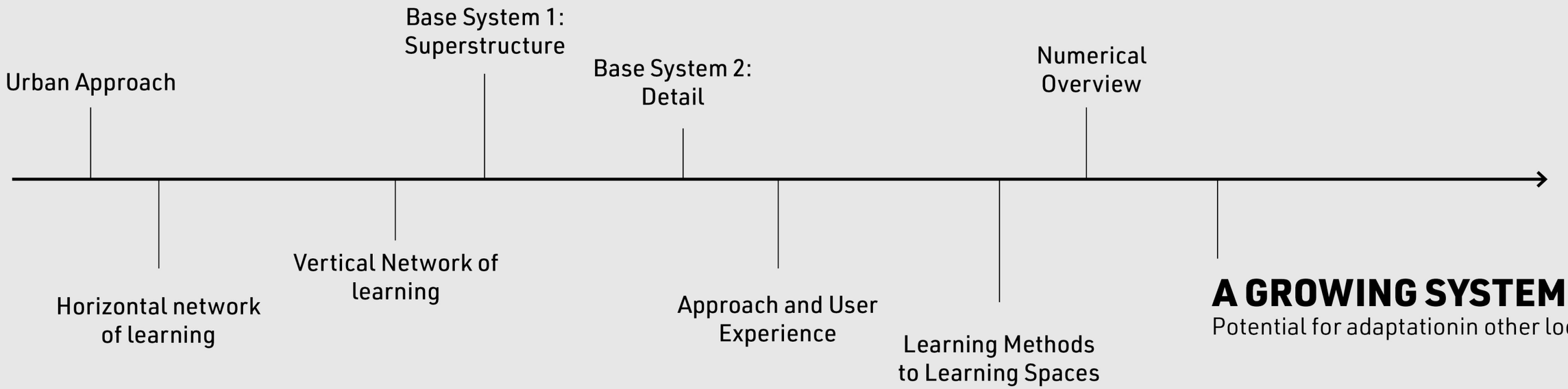
MORE FOOD, CAFÉ AND LOUNGE SPACE

EMPHASIS ON PROJECT-BASED LEARNING



PROGRAM AROUND THE CLOCK





A GROWING SYSTEM

Potential for adaptationin other locations.

POTENIAL:

EXTENDING BEYOND THE SITE





THANK YOU

