COMPLEX PROJECTS

# ECHOES OF TOMORROW

A PARLIAMENT OF NATURAL THINGS FOR BERLIN

Vittorio Domanda

05/07/2024 - P5

Prologue

# WHANGANUI RIVER

# MAORI SETTLEMENTS

# NEW VOICE

**The Guardian, 2017**

## New Zealand river granted same legal rights as human being

**After 140 years of negotiation, Māori tribe wins recognition for Whanganui river, meaning it must be treated as a living entity**

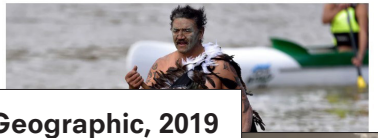
Prince Harry paddled down the Whanganui river during a visit to New Zealand in 2015. Photograph: Chris Jackson/Getty Images

**Washington Post, 2017**

## This New Zealand river now has the same legal rights as a human being

By Travis M. Andrews

March 16, 2017 at 6:11 a.m. EDT



**Al Jazeera, 2017**

## New Zealand river is the world's first 'legal person'

*Under legislation passed, the Whanganui river has been formally declared a living entity.*

river has been given a legal identity [Getty Images]

**National Geographic, 2019**

## A VOICE FOR NATURE

The Whanganui River in New Zealand is a legal person. A nearby forest is too. Soon, the government will grant a mountain legal personhood as well. Here's how it happened, and what it may mean.

BY KENNEDY WARNE

PHOTOGRAPHS BY MATHIAS SVOLD

**BBC, 2020**

*By Kate Evans* 20th March 2020

In 2017, New Zealand granted legal personhood to the Whanganui River. Since then, other nations have followed suit in an effort to protect the environment.

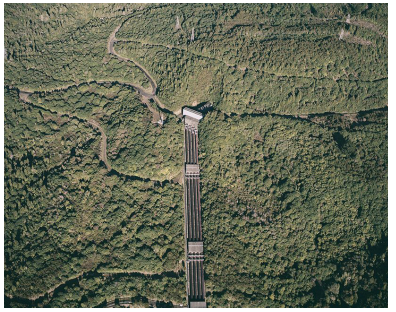
**CNN, 2020**

## This river in New Zealand is legally a person. Here's how it happened

By Julia Hollingsworth, CNN

12 minute read · Updated 9:43 PM EST, Fri December 11, 2020

# AND NOW?



## SHOULD ALL NATURE AROUND THE WORLD BE GRANTED LEGAL RIGHTS?

01

# INTRODUCTION

DESIGN BRIEF CONCEPT IMPLEMENTATION DEVELOPMENT CONCLUSION

1. RIGHTS OF NATURE

2. PARLIAMENT OF THINGS

3. PROBLEM STATEMENT

# ENVIRONMENTAL CRISIS

**70%** Extinct vertebrate life on Earth

Since 1970 (one human generation).
Source: Embassy of the North Sea.

**1.6n** Equivalent number of Earths

Used to maintain our current way of life.
Source: UN Environment Program.

**66%** Ocean area impacted

By human activities, like fisheries and pollution.
Source: UN Environment Program.

"Rights of Nature: Case-studies from six contintents" / Embassy of the North Sea

Rights of Nature

# ECOCIDE

/ˈɛkə(ʊ)sʌɪd/ • noun

From Greek oikos, “home”, and the Latin occidere, “to kill”.

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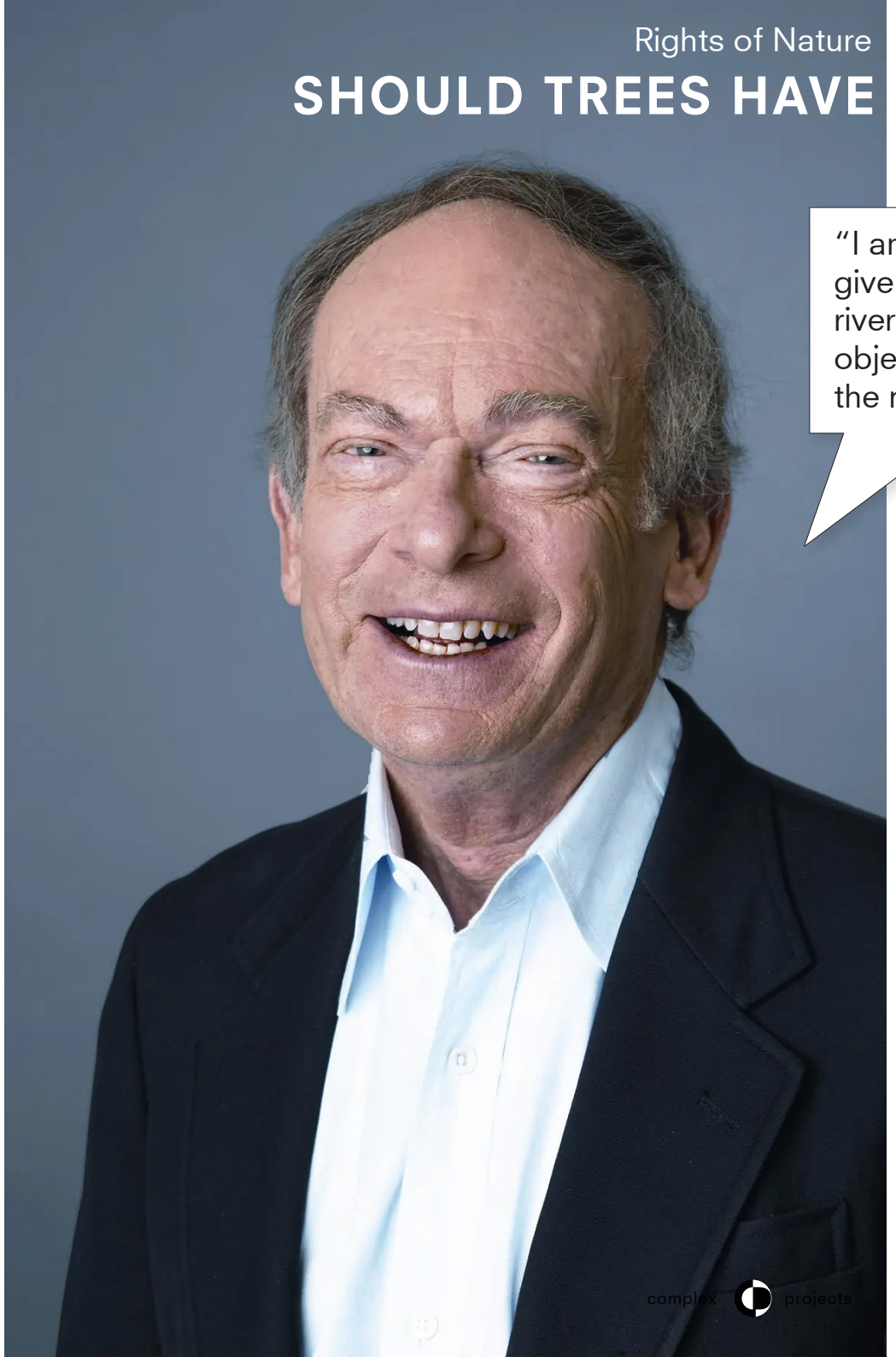
Large-scale damage, destruction or loss of ecosystems, a serious damage to nature that is widespread or long-lasting.

Rights of Nature

# SHOULD TREES HAVE STANDING?



"I am quite seriously proposing that we give **legal rights** to forests, oceans, rivers and other so-called "natural objects" in the environment-indeed, to the natural environment as a whole."

*Should Trees Have Standing?*
*Towards Legal Rights for Natural Objects.*
Cristopher D. Stone, 1972.

# RIGHTS OF NATURE WORLDWIDE

"Manoomin, or wild rice, within all the Chippewa ceded territories, possesses inherent rights to exist, flourish, regenerate, and evolve, as well as inherent rights to restoration, recovery, and preservation."

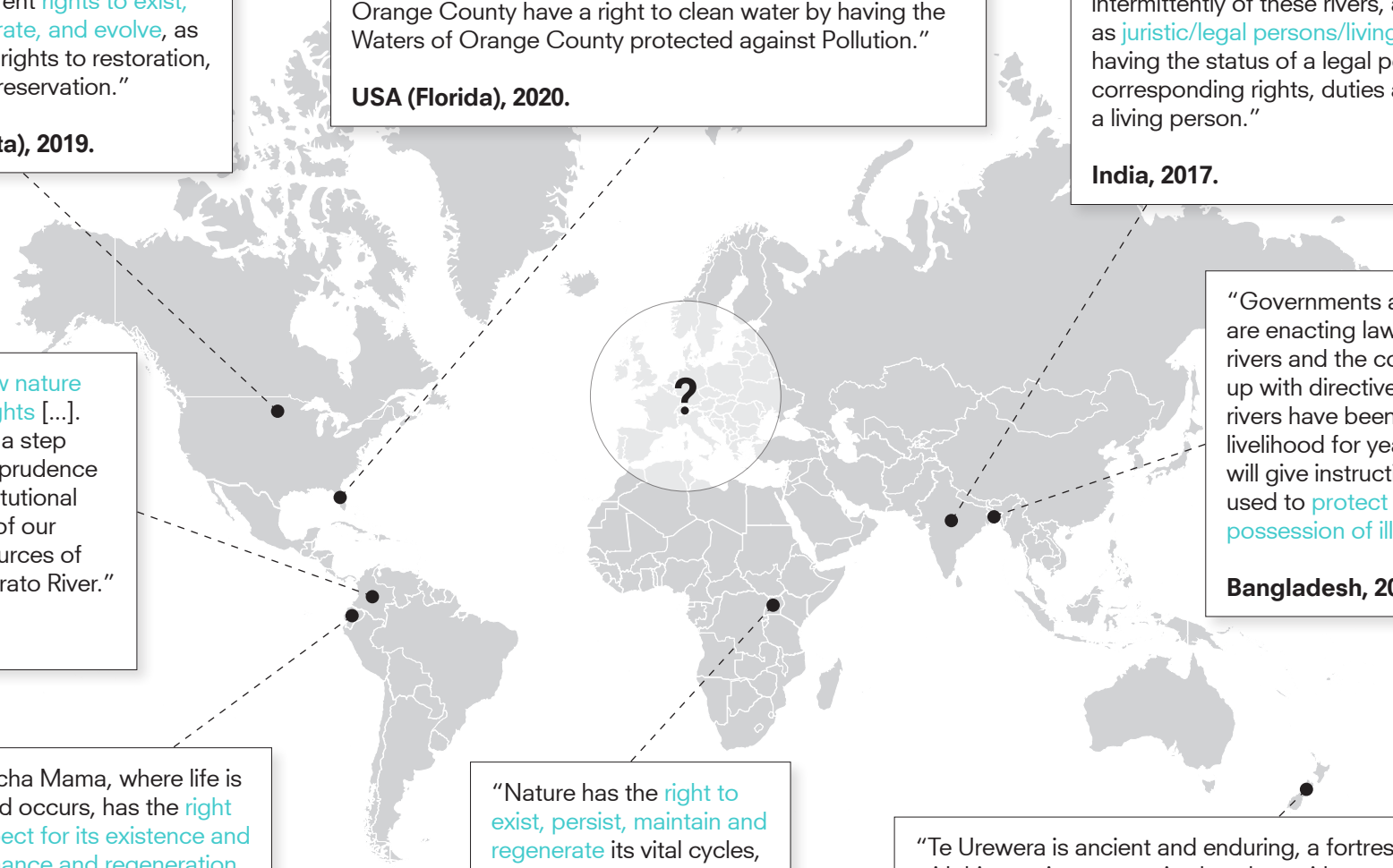
**USA (Minnesota), 2019.**

"The Wekiva River and Econlockhatchee River, and all other Waters within the boundaries of Orange County, have a right to exist, flow, to be protected against pollution and to maintain a healthy ecosystem [...]. All Citizens of Orange County have a right to clean water by having the Waters of Orange County protected against Pollution."

**USA (Florida), 2020.**

"The Rivers Ganga and Yamuna, all their tributaries, streams, every natural water flowing with flow continuously or intermittently of these rivers, are declared as juristic/legal persons/living entities having the status of a legal person with all corresponding rights, duties and liabilities of a living person."

**India, 2017.**




"Justice must allow nature to be subject to rights [...]. Necessary to take a step forward in the jurisprudence towards the constitutional protection of one of our most important sources of biodiversity: the Atrato River."

**Colombia, 2016.**

"Governments across the globe are enacting laws to protect their rivers and the courts are coming up with directives [...]. These rivers have been the source of livelihood for years. So, the court will give instructions which can be used to protect all the rivers from possession of illegal occupation."

**Bangladesh, 2019.**

"Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes."

**Ecuador, 2008.**

"Nature has the right to exist, persist, maintain and regenerate its vital cycles, structure, functions and its processes in evolution."

**Uganda, 2019.**

"Te Urewera is ancient and enduring, a fortress of nature, alive with history; its scenery is abundant with mystery, adventure, and remote beauty. Te Urewera is a place of spiritual value, with its own mana and mauri.Te Urewera has an identity in and of itself, inspiring people to commit to its care."

**New Zealand, 2014.**

# TE UREWERA PARK

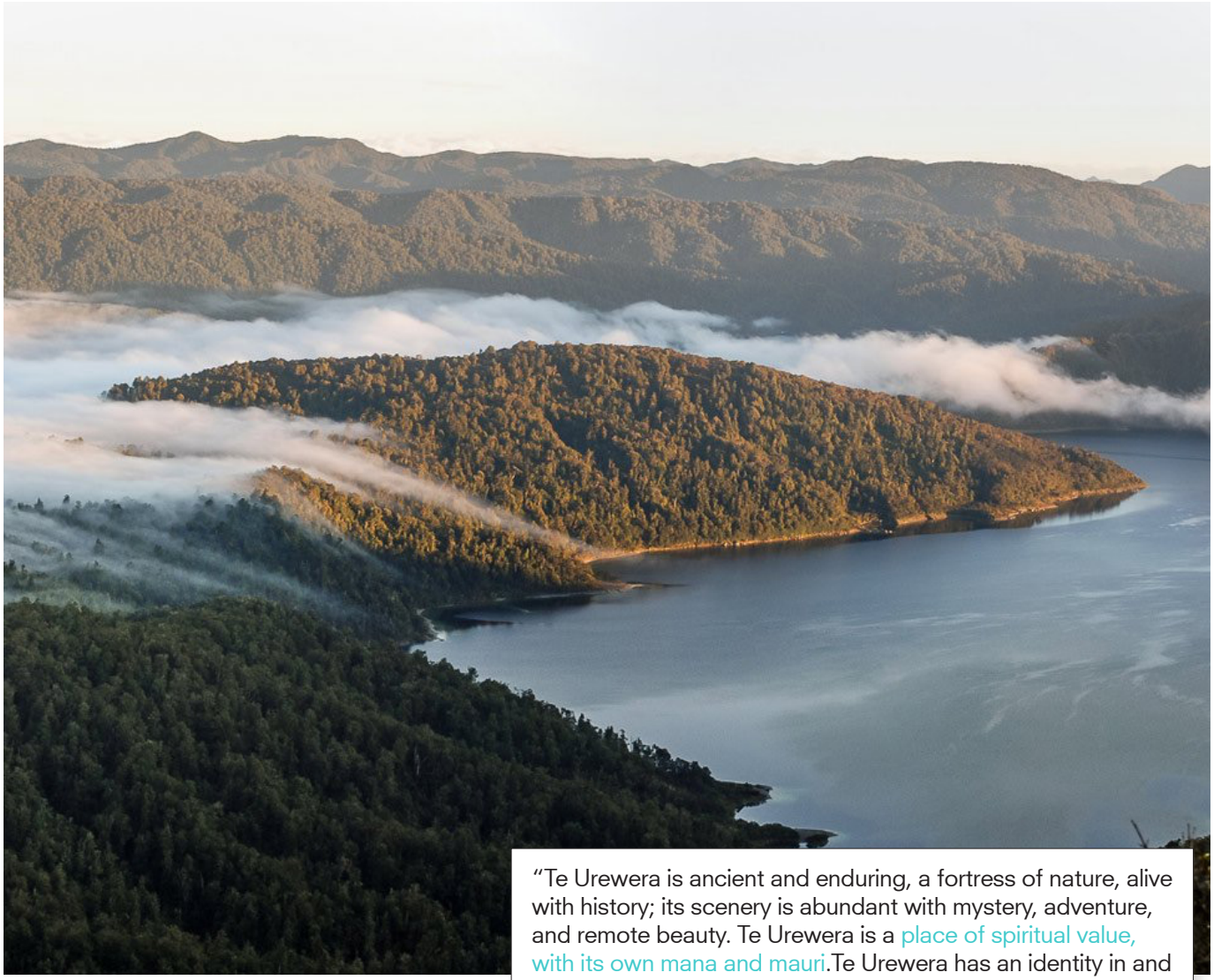
## The Te Urewera Act
New Zealand, 2014

1. Te Urewera ceases to be a national park and is vested in itself as its own **legal entity**.
2. Te Urewera will own itself in perpetuity with the **Board** to speak as its voice to provide governance and management in accordance with the principles of the Act.

↓

Section 11 establishes Te Urewera as a legal entity, with all the rights, powers, duties, and liabilities of a legal person. Te Urewera Board exercises the rights, powers and duties of Te Urewera. The Te Urewera Board is composed by 3 Crown and 6 Tūhoe members.

Te Urewera Board (x6) × Government Ministers (x3) = Park legalisation



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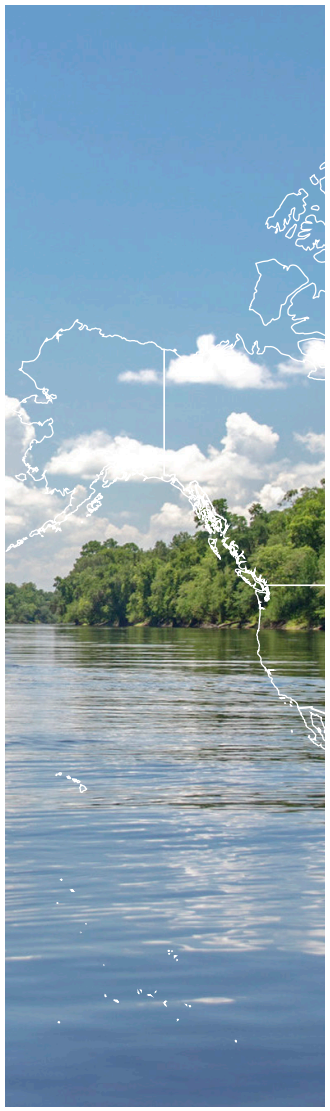
**New Zealand, 2014.**

Rights of Nature

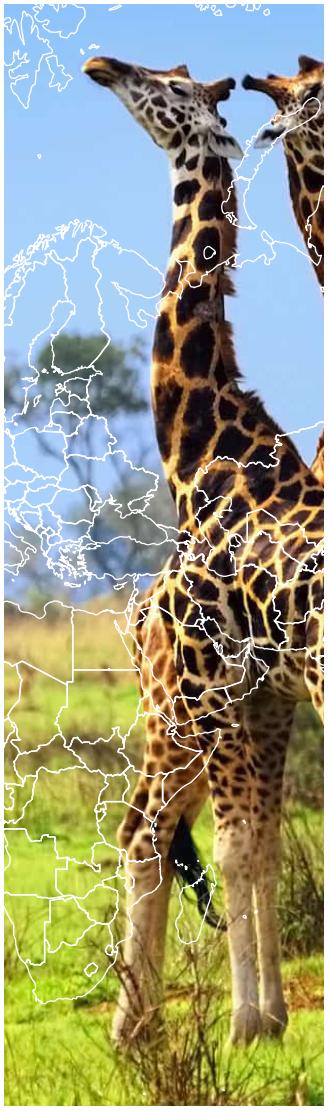
# EUROPE'S LACK



Suwannee River
- USA, North America -

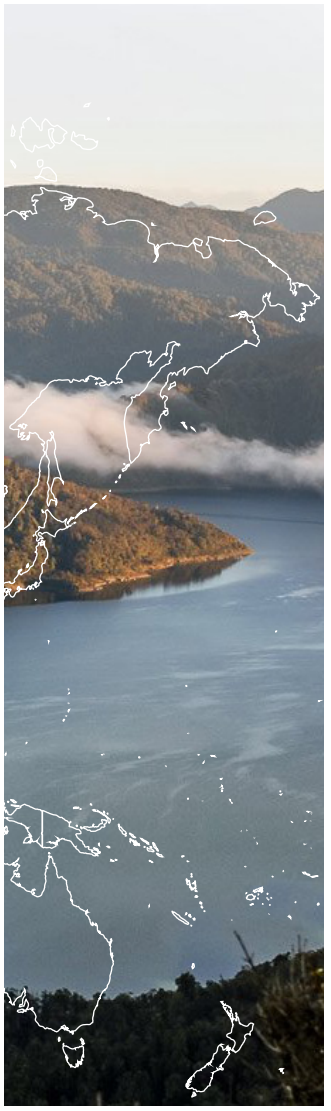
Amazon tropical rainforest
- Ecuador, South America -

Loire River
- France, Europe -



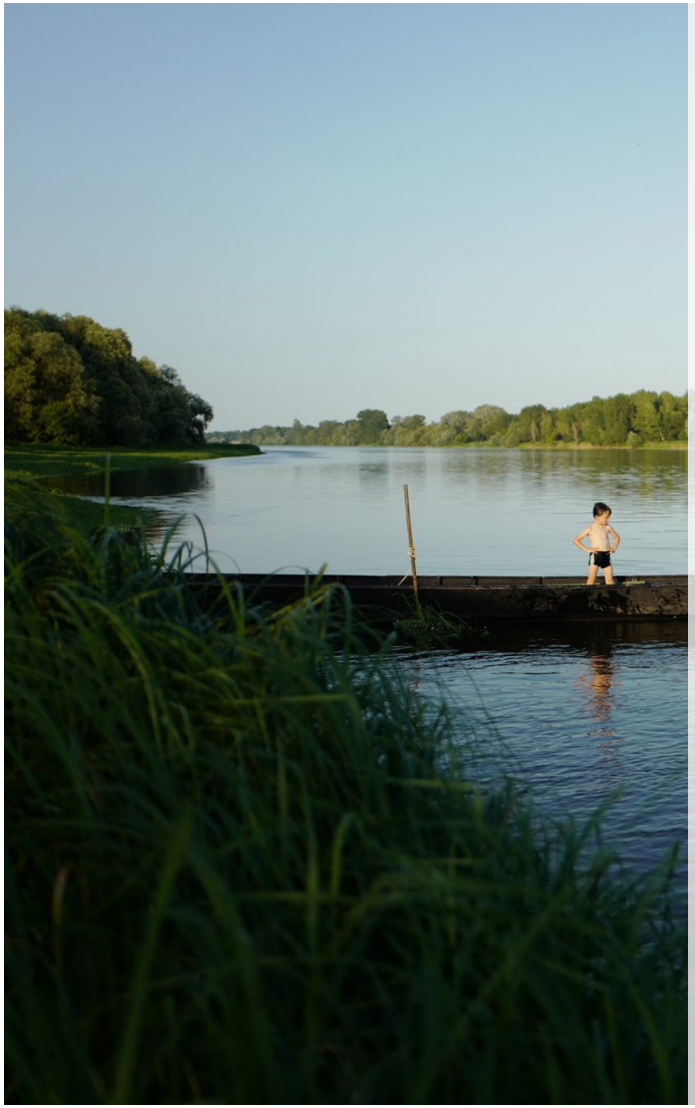
Lake Mburo National Park
- Uganda, Africa -

Ganges River
- India, Asia -



Te Urewera Park
- New Zealand, Oceania -

# THE LOIRE PARLIAMENT



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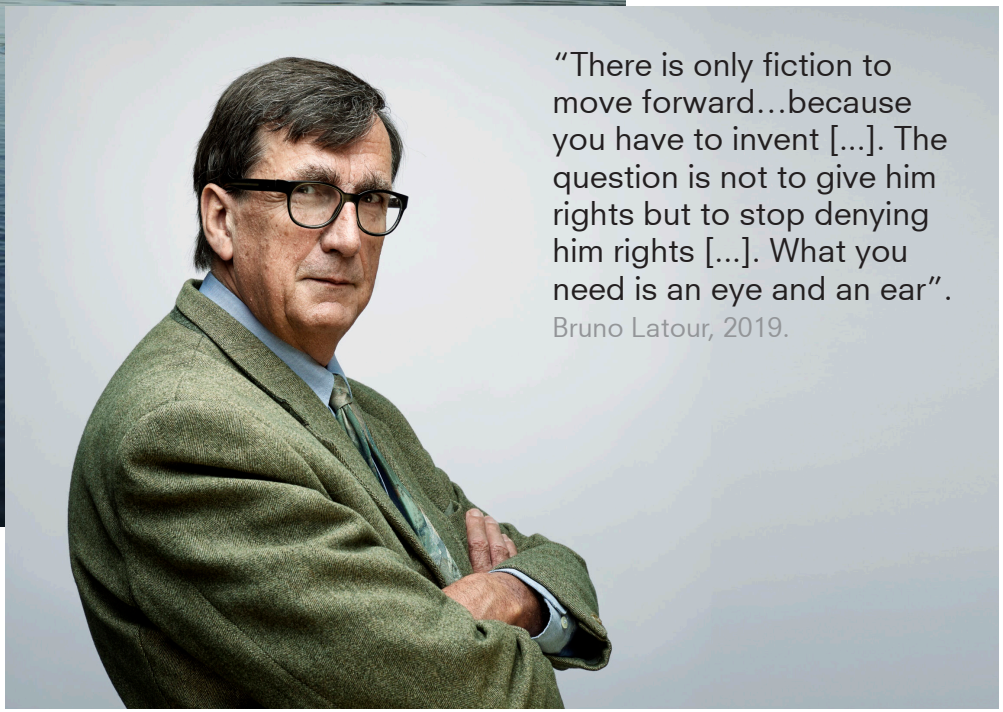
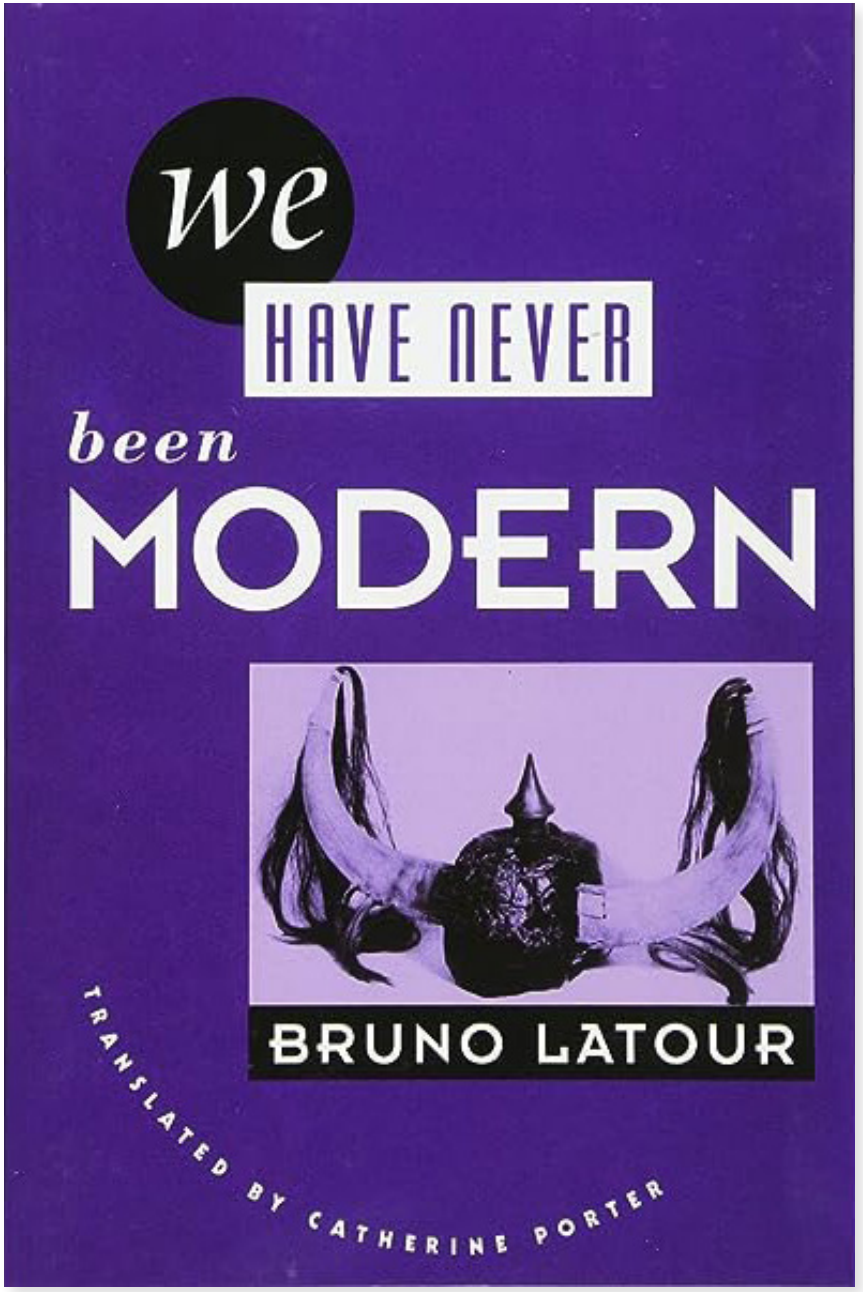
Loire River
- France, Europe -



"There is only fiction to move forward…because you have to invent [...]. The question is not to give him rights but to stop denying him rights [...]. What you need is an eye and an ear".
Bruno Latour, 2019.

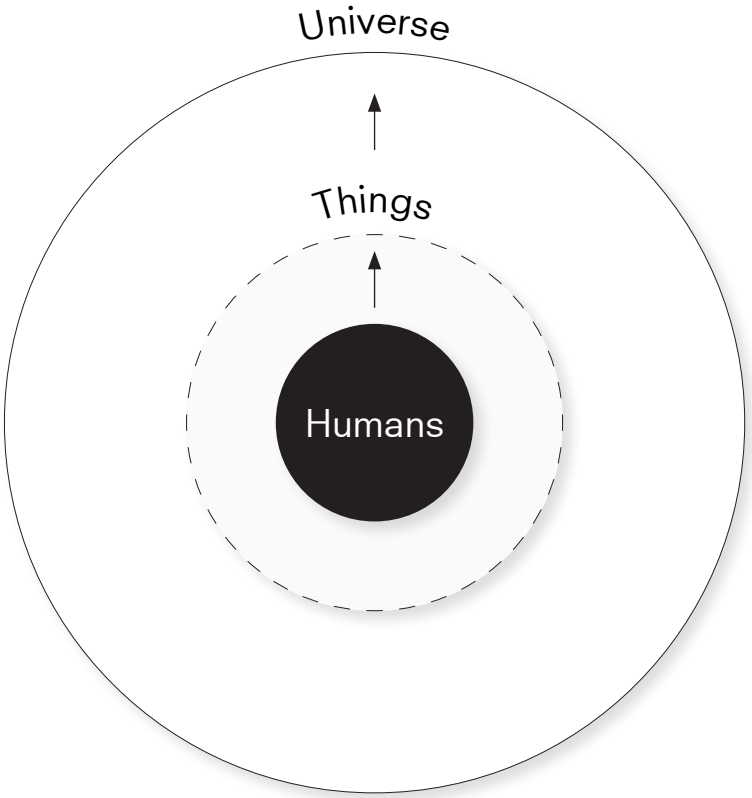
# WE HAVE NEVER BEEN MODERN

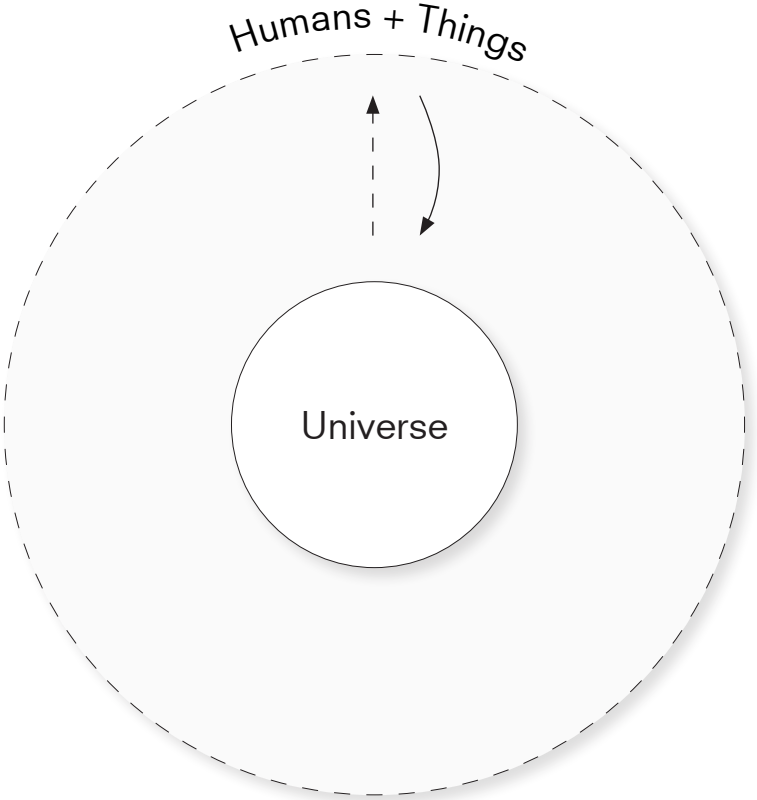



**We Have Never Been Modern**
Bruno Latour
Harvard University Press, 1993

# REVOLUTION OF THOUGHTS

Can we speak on behalf of things? Why do we place ourselves at the **centre** of the universe?



# POT DEFINITION

/ˈpɑːlɪm(ə)nt ɒv,əv θɪŋ/ • *nouns + article*

From Bruno Latour's "We Have Never Been Modern", 1991.

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A political assembly where, beside humans, also non-human entities have a voice and are granted representation in decision-making processes, highlighting the interconnectedness of the natural and human worlds.

# RIGHTS OF THINGS

"Non-human entities should also be **formally represented, have rights**, etc. in addition to human entities (...). Non-human "things" only have a **voice vicariously articulated by scientists, activities, artists etc...**, since they don't have free will and ability to express themselves."

*We Have Never Been Modern*
Bruno Latour, 1993.

# PROBLEM STATEMENT

What is the **role** of the parliamentary institution in our society?

Is the classic **form** of legislative body outdated and anachronistic?

What is the **future of Parliaments** in the coming years?

# PARLIAMENT DEFINITION

/ˈpɑːlɪm(ə)nt/ • noun

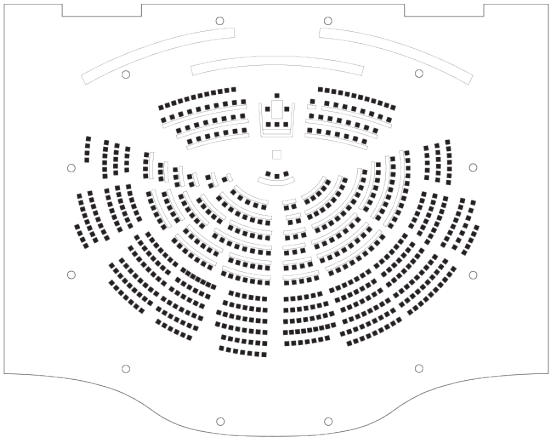
From Old French parlement, “discussion, discourse”, and parler, “to talk”.

In some countries, the group of (usually) elected politicians or other people who make the laws for their country. In modern politics, and history, a parliament is a legislative body of government.

Problem statement

# PARLIAMENT TYPOLOGY

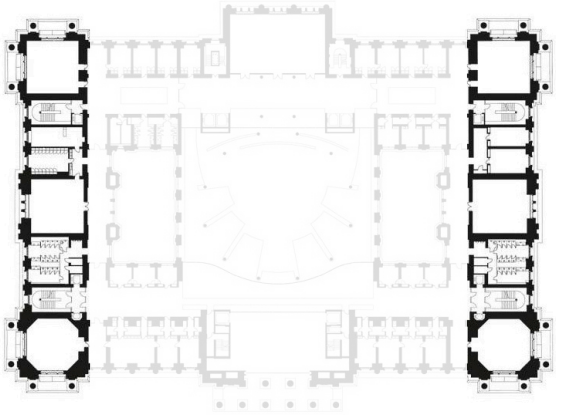
Type 1



Assembly Hall

- Reichstag Building / Berlin, Germany -

Type 2



Consultative spaces

- Reichstag Building / Berlin, Germany -

Problem statement

# PARLIAMENTARY CRISIS

**18%** Under-40 Parliamentarians

Out of 709 Parliamentarians in the Bundestag.
Source: The Governance Post.

**39%** People who demand for drastic changes

About national politics for german population.
Source: Pew Research Center.

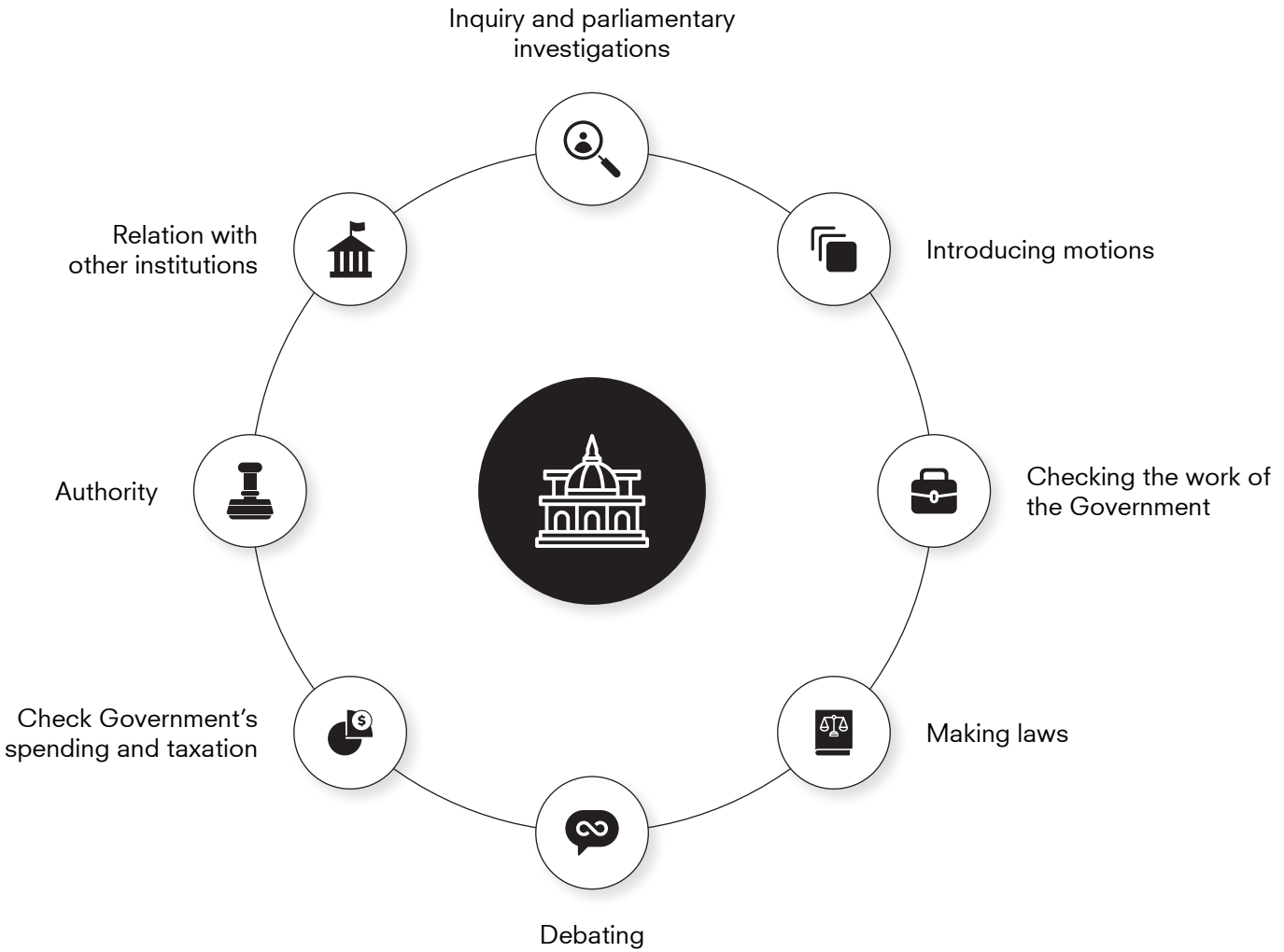
**36%** Dissatisfaction rate

In Germany (4th best ranked EU country)
Source: Pew Research Center.

"The crisis of parliamentarism as an opportunity for the political participation of young people" / The Governance Post

Problem statement

# NEW NEEDS



Climate control and management

International cooperation

Civil rights

Local policies

Gender equality enhancement

Peace

Problem statement

# RESEARCH QUESTION

How can a **contemporary Parliament** be designed to include, besides humans, natural entities in the legislative process?

Problem statement

# RESEARCH QUESTION

How can a **contemporary Parliament** be designed to include, besides humans, natural entities in the legislative process?

1. In what ways can legal representation of natural things promote **democratic participation?**
2. What kind of **parliamentary space** can accommodate human and non-human representatives?
3. How can the design of a **new type** of legislative building serve as a model for sustainable future?

Problem statement

# RESEARCH QUESTION

# TITLE EXPLANATION

**ECHOES** of **TOMORROW**

1. CLIENT
2. PROGRAM
3. SITE

Client

# THE “THREE OF BERLIN”

Federal Parliament
(Bundestag)

Federal Council
(Bundesrat)

House of Representatives of Berlin
(Abgeordnetenhaus von Berlin)

Client

# WHY THE ABGEORDNETENHAUS?

Federal Parliament
(Bundestag)

Federal Council
(Bundesrat)

House of Representatives of Berlin
(Abgeordnetenhaus von Berlin)

Decentralised position

Inappropriate space

Old architecture

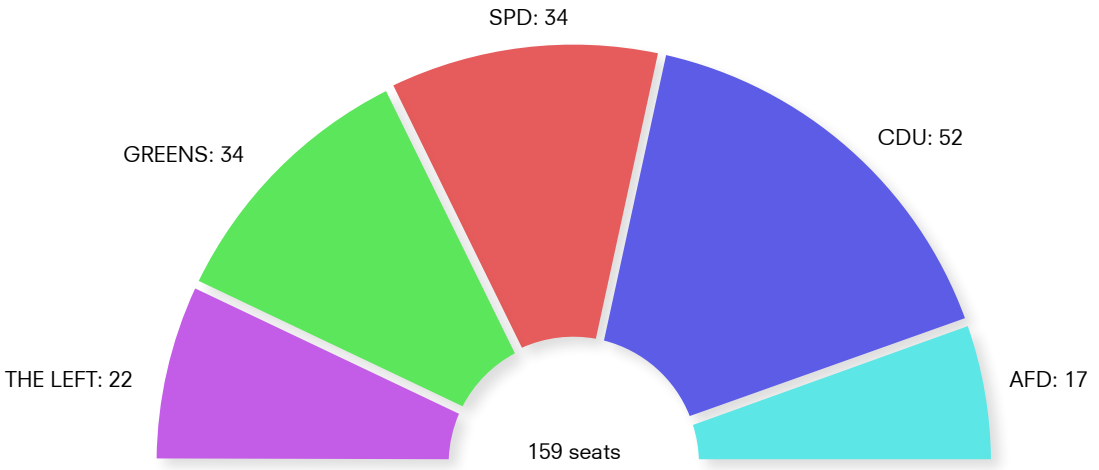
Absence of transparency

Historicism

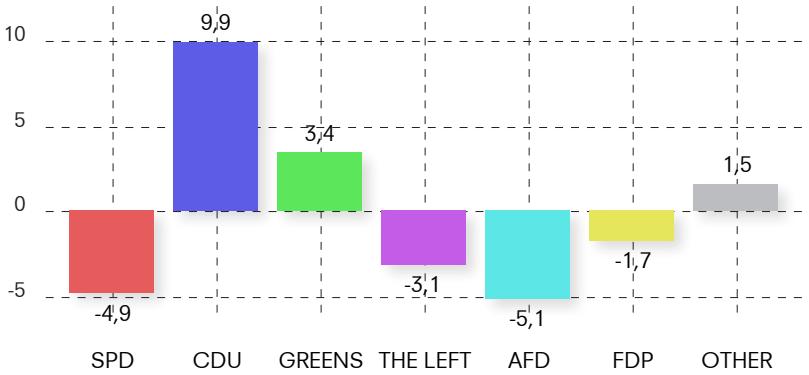
Acontextual style

Client

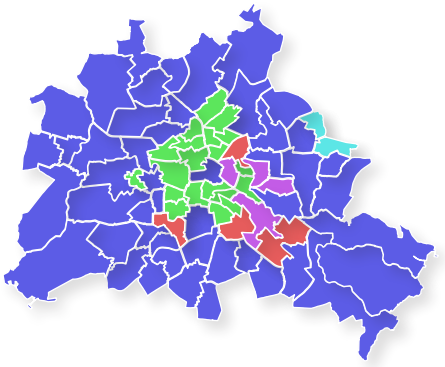
# POLITICAL ANALYSIS




Allocation of seats.
Source: https://www.wahlen-berlin.de.



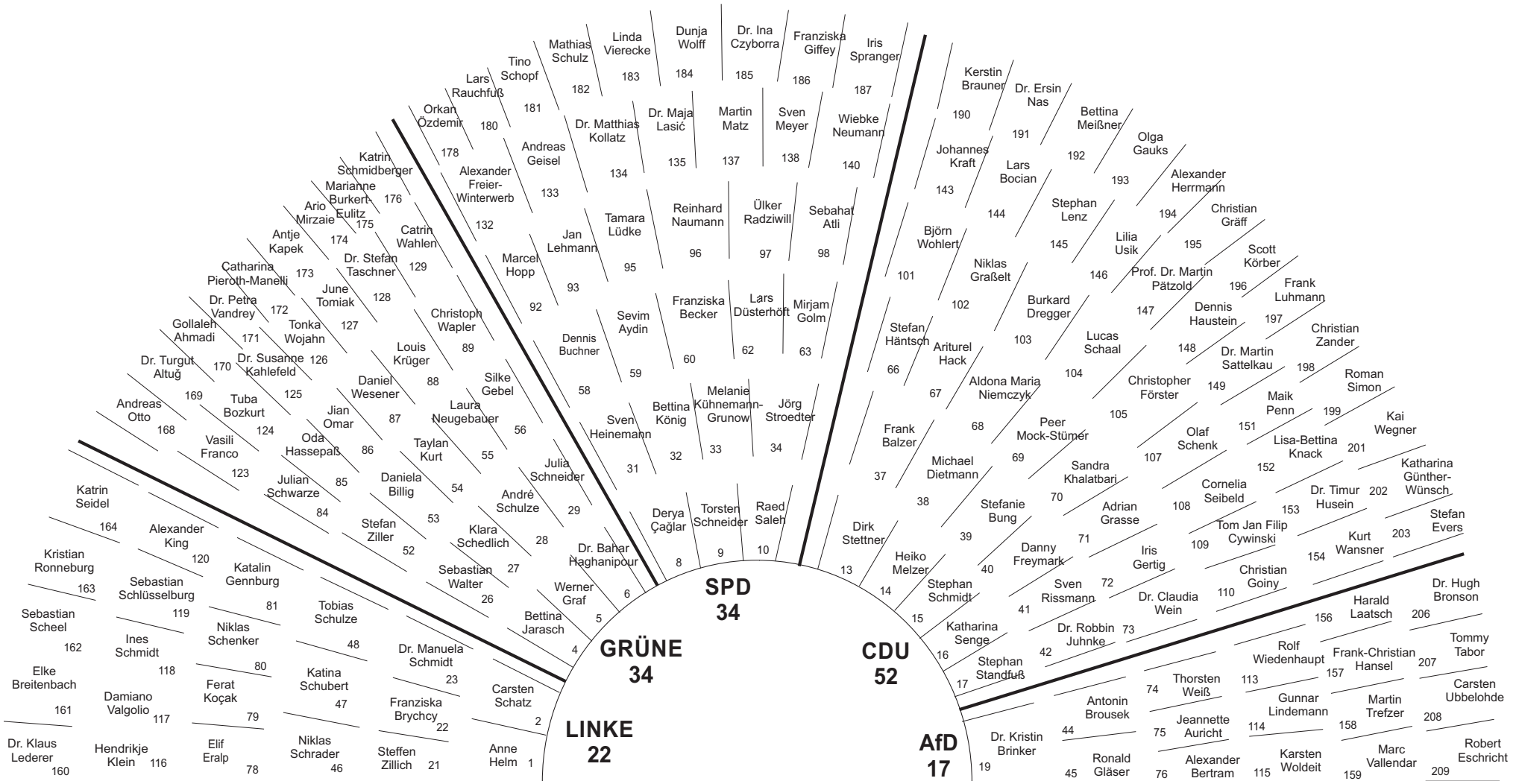

Gains/losses: First votes (compared to 2016).
Source: https://www.wahlen-berlin.de.



First vote majority in the constituencies.
Source: https://www.wahlen-berlin.de.

Client

# NAMES AND PARTIES



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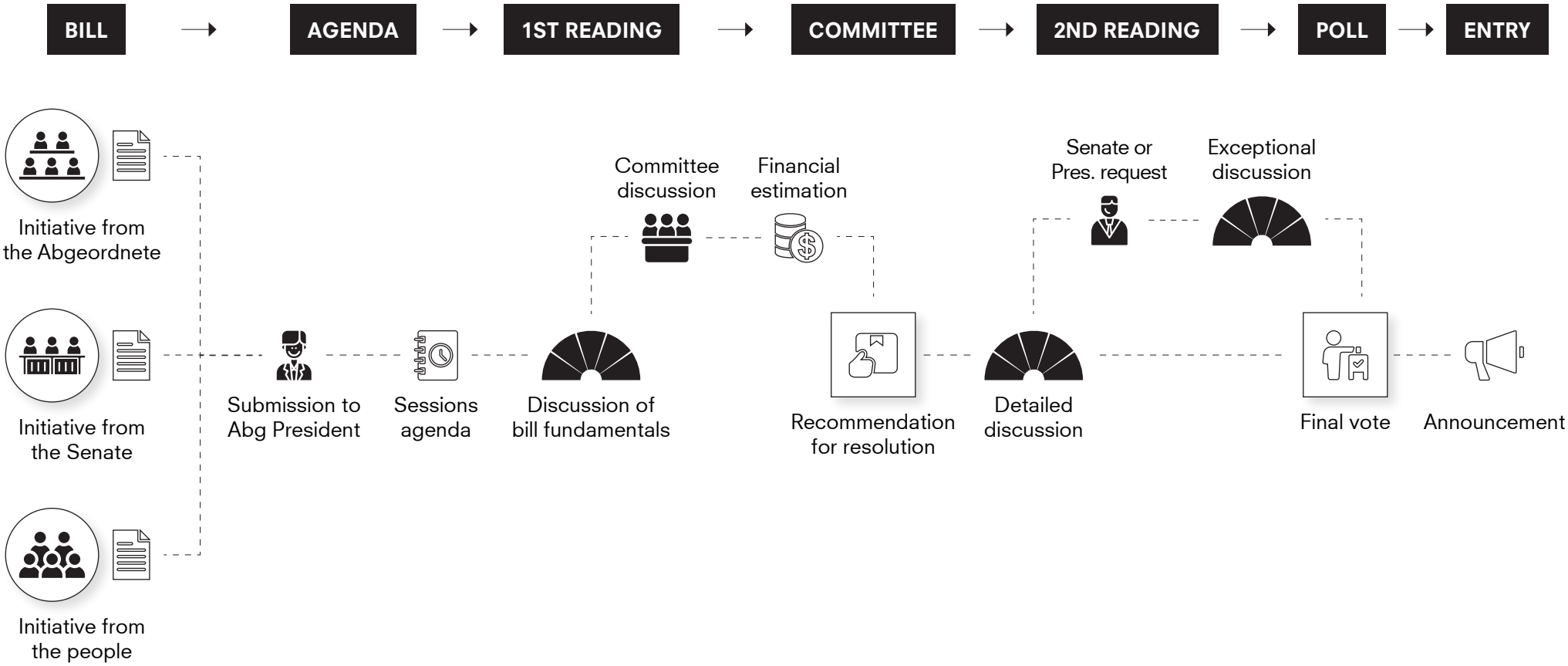
# FACES

Client

# CURRENT POLITICAL PROCESS



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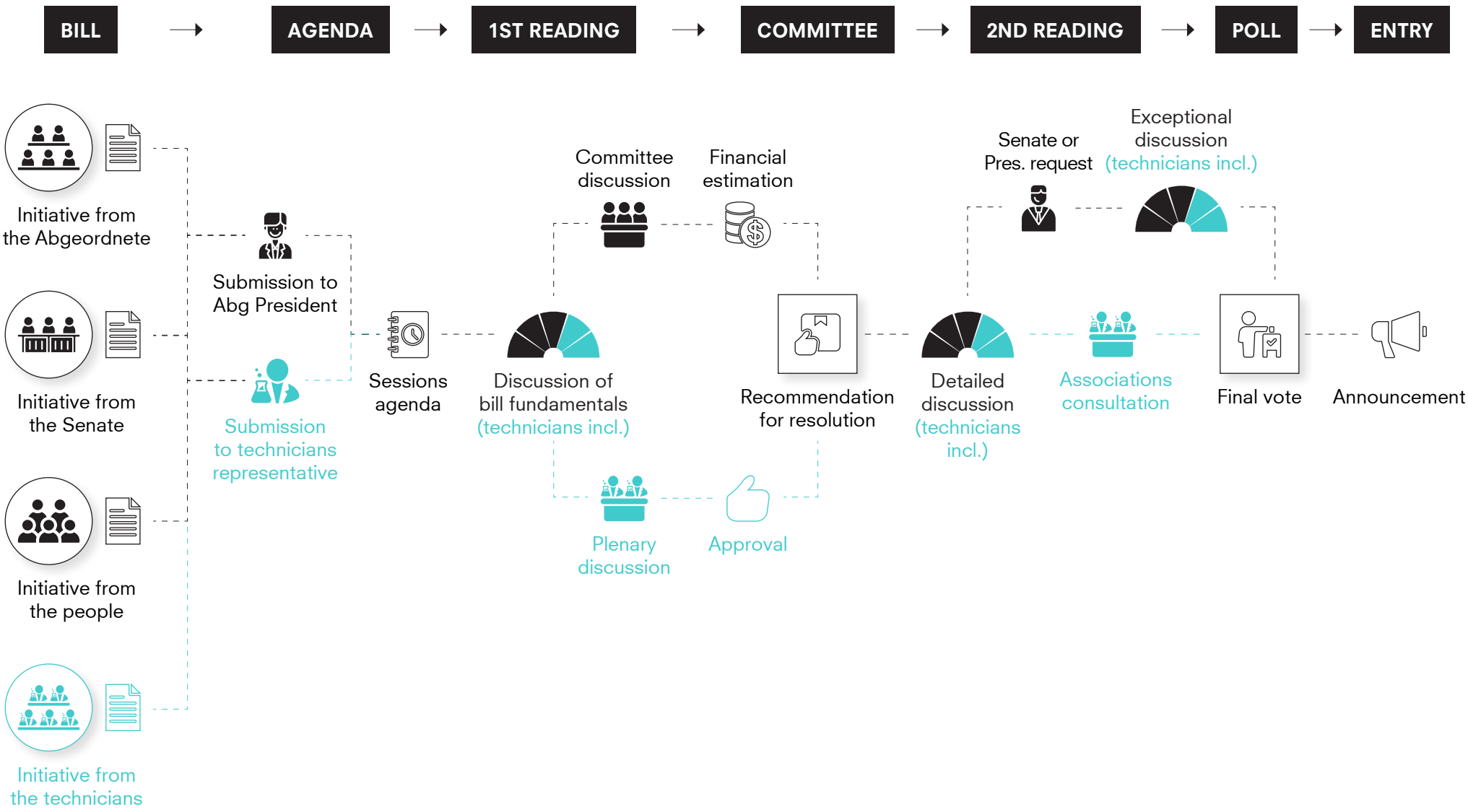
# PROPOSED POLITICAL PROCESS



Client

# ELECTION ISSUE

**1** Governing Mayor

→ **Elected by:** Parliamentarians → **When?** After election of the Parliament

**10** Senators

→ **Appointed by:** Governing Mayor → **When?** After election of Mayor

**~160** ≥130 Parliamentarians (Abgeordnetenhaus)

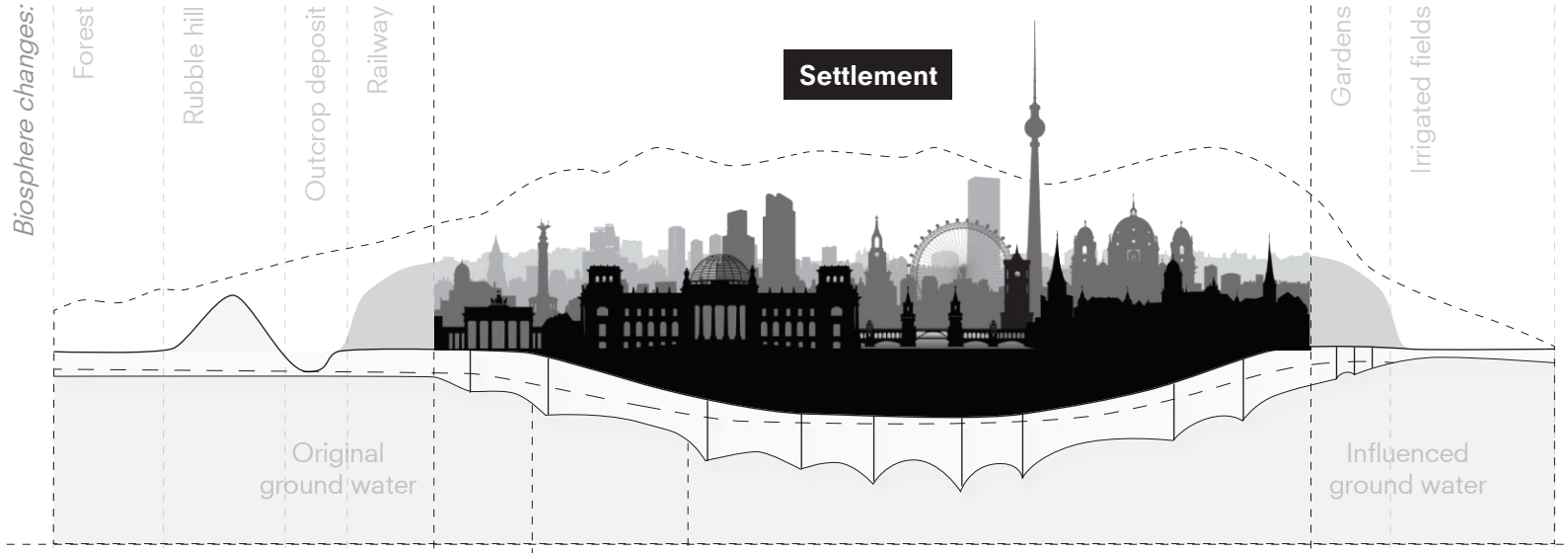
→ **Elected by:** People aged 18 and over who have their main residence in Berlin and have German citizenship → **When?** Every 5 years

**~160 + 1** ≥130 + 1 Technicians

→ **Nominated by:** Super partes institutional figures

← **How many?** +1 compared to parliamentarians

# WHY THE ABGEORDNETENHAUS?




*Effects on:*

**Climate**

- Air polluted
- Air warmed
- Air humidity decreased
- Air circulation reduced

**Soils and water**

- Eulrophicated
- Soil compressed, partially lightened, thus renewal of groundwater reduced
- Groundwater lowered
- Water courses regulated (or transformed in canals and polluted)
- Groundwater artificially raised

**Relief**

- Raised
- Raised
- Lowered
- Raised, levelled
- Raised
- Lowered

**Vegetation:**

- Planted
- Destroyed
- Damaged
- Damaged
- Destroyed or changed
- Planted
- Damaged

· Epiphylic vegetation

- Ephiphytic desert

· Ruderal vegetation

- Suburban
- Urban industrial

**Fauna**

- Blackbird
- Greenfinch
- Suburban zone
- Inner urban Swift zone
- Blackbird
- Greenfinch
- Suburban zone

Client

# BERLIN'S NATURAL ECOSYSTEM

## Non-living

### Earth

- Soil and Bedrock: The natural ground composition found in parks, gardens, and open spaces.
- Hills and Terrain: Natural elevations and landscapes within the city.
- Rocks and Boulders: Natural rock formations and large boulders found in parks and natural areas.
- Sand and Gravel: Natural deposits of sand and gravel in riverbanks and lakeshores.
- Dunes: Sandy areas in parks and natural reserves, such as those near the Müggelsee Lake.
- Clay Deposits: Natural clay-rich soil found in various locations.

### Water

- Rivers and Lakes: Natural bodies of water like the Spree River, Wannsee Lake, and Müggelsee Lake.
- Canals.
- Ponds.
- Natural Springs: Underground sources of freshwater.
- Rain and Precipitation: Natural water supply from the atmosphere.
- Ice and Snow: During the winter months, ice and snow are natural features in Berlin.
- Mineral Springs: Natural sources of mineral-rich water.

### Wood

- Forests: Berlin's natural wooded areas with trees.
- Deadwood and Fallen Trees: Natural tree debris in forests and parks.
- Parks.
- Gardens and green areas.
- Botanical gardens.

### Air

- Sunlight: The natural light and heat from the sun.
- Wildfires: Although not common in urban areas, they can occur in surrounding forests.
- Atmosphere.
- Sky and Clouds.
- Weather patterns.

### Metal

- Mineral Deposits: Berlin has natural mineral resources in its surrounding areas.
- Pebbles and Stones: Natural stones and small mineral fragments.

## Living

### Fauna

Domesticated animals
- Dogs
- Cats
- Fish (e.g., goldfish, betta fish)
- Small birds (e.g., canaries, finches, budgerigars)
- Hamsters
- Sheeps
- Guinea pigs
- Rabbits
- Small reptiles (e.g., geckos, small turtles)
- Small rodents (e.g., mice, rats)

Birds
- House Sparrow (Passer domesticus)
- European Starling (Sturnus vulgaris)
- Common Blackbird (Turdus merula)
- Eurasian Magpie (Pica pica)
- Common Wood Pigeon (Columba palumbus)
- Mallard (Anas platyrhynchos)
- Eurasian Collared Dove (Streptopelia)
- Great Tit (Parus major)
- European Robin (Erithacus rubecula)
- Grey Heron (Ardea cinerea)

Mammals
- Red Fox (Vulpes vulpes)
- European Hare (Lepus europaeus)
- Eastern Gray Squirrel (Sciurus carolinensis)
- Common Hedgehog (Erinaceus europaeus)
- European Roe Deer (Capreolus)

Amphibians
- Common European Toad (Bufo bufo)
- Common Frog (Rana temporaria)

Insects and Arachnids
- European Honey Bee (Apis mellifera)
- Common European Wasp (Vespula)
- European Garden Spider (Araneus)
- Ladybird Beetle (Coccinellidae)
- Common European Butterfly Species (e.g., Small Tortoiseshell)

Fishes
- Common Carp (Cyprinus carpio)

Reptiles
- European Grass Snake (Natrix natrix)

### Flora

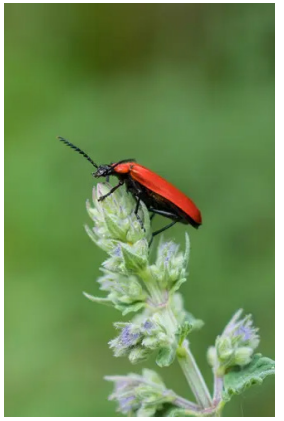
Trees
- Common Oak (Quercus robur)
- European Beech (Fagus sylvatica)
- Silver Birch (Betula pendula)
- Horse Chestnut (Aesculus hippocastanum)
- Linden (Tilia spp.)

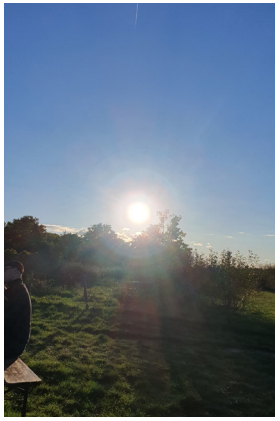
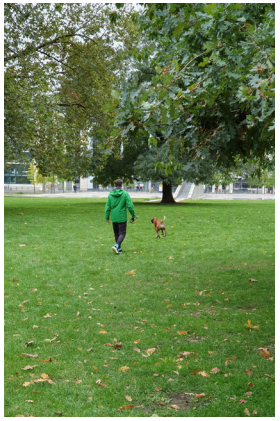
Shrubs and Flowers
- Common Elder (Sambucus nigra)
- Blackberry (Rubus fruticosus)
- Buttercups (Ranunculus spp.)
- Daisies (Bellis perennis)
- Dandelion (Taraxacum officinale)
- Common Foxglove (Digitalis purpurea)
- Daylilies (Hemerocallis spp.)
- Roses (Rosa spp.)
- Moss
- Lichen

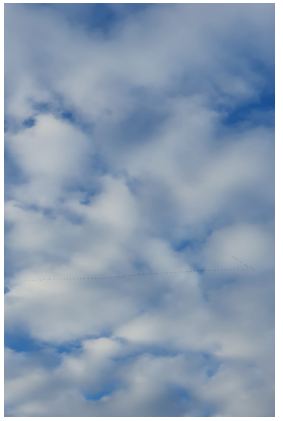
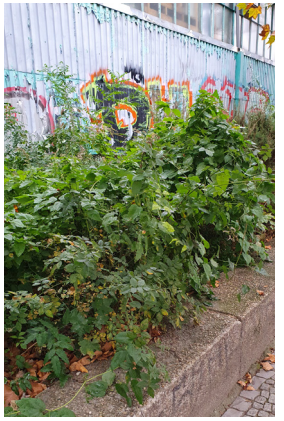
Aquatic Plants
- Water Lily (Nymphaea spp.)
- Bulrush (Schoenoplectus spp.)

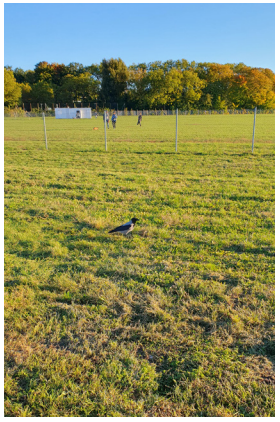
Client

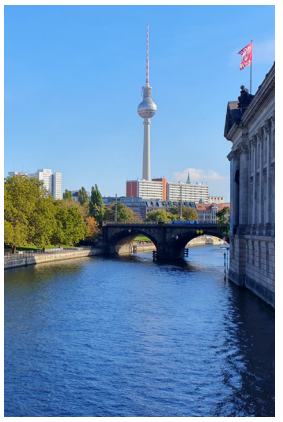
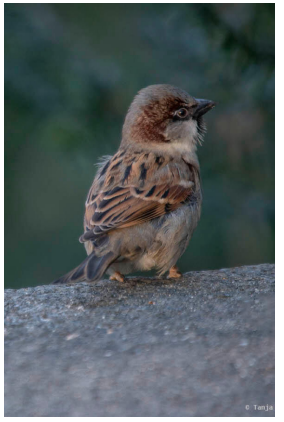
# BERLIN’S NATURAL THINGS





1. CLIENT

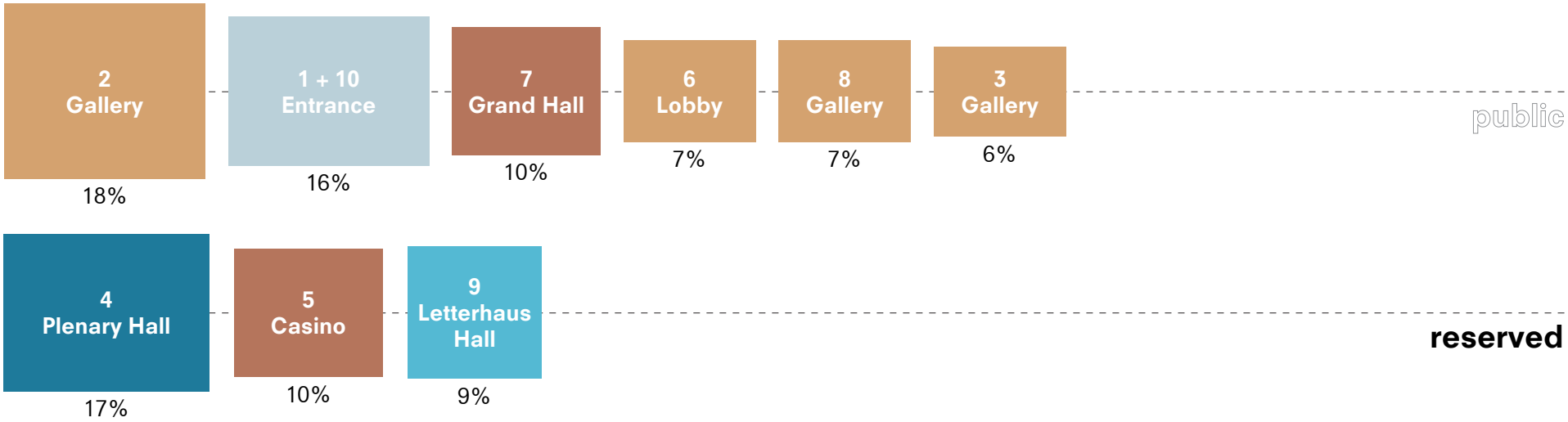
2. PROGRAM

3. SITE

# PROGRAM CLASSIFICATION

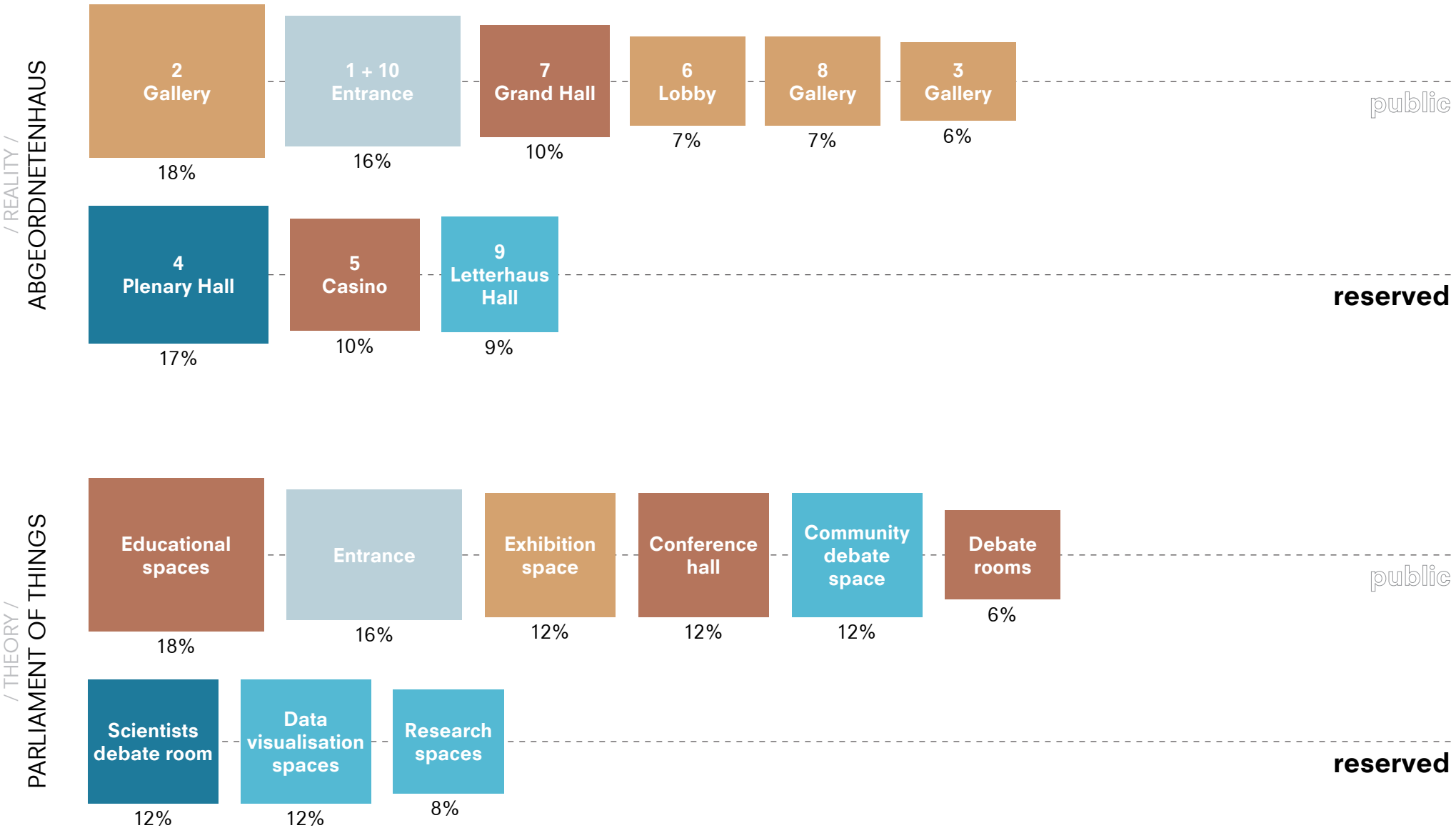
# ABGEORDNETENHAUS PROGRAM

/ REALITY /
ABGEORDNETENHAUS



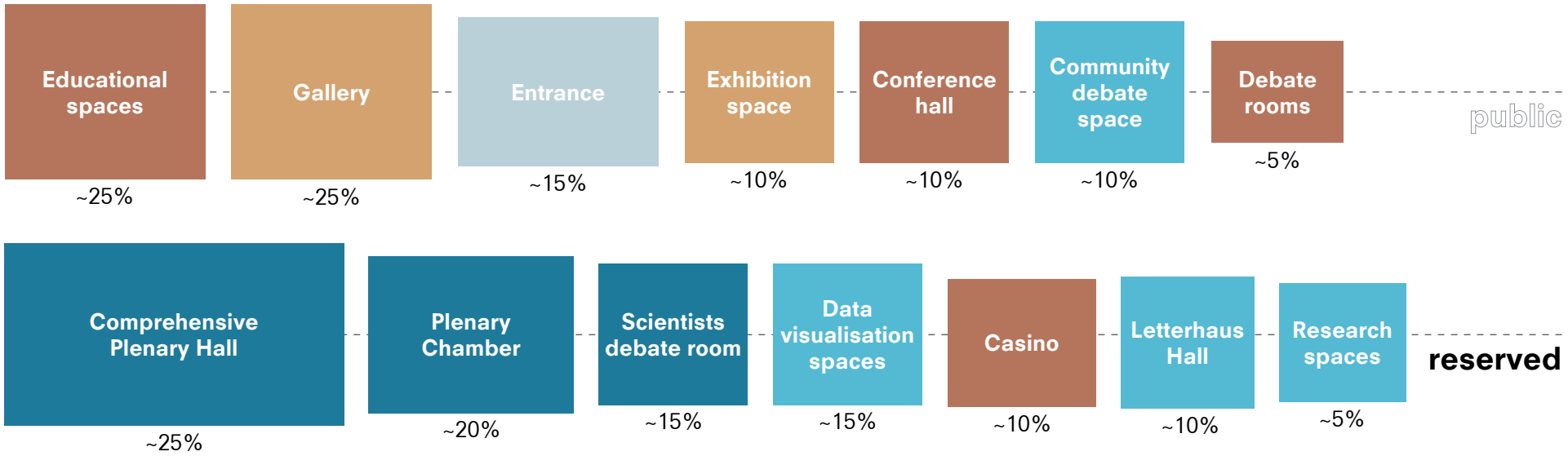
Program

# POT PROGRAM



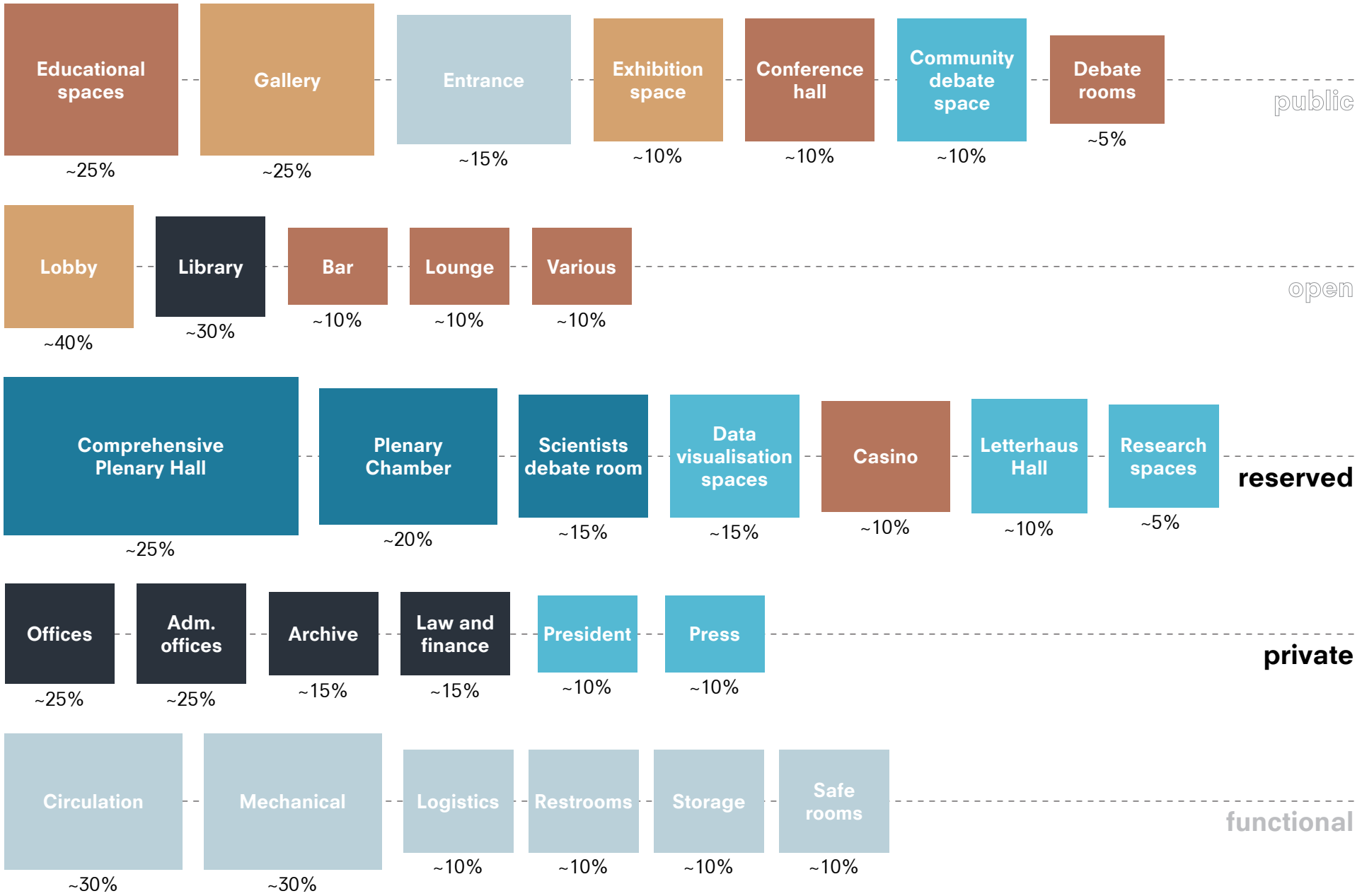
Program

# COMBINATION



# PRELIMINARY PROGRAM





# CASE STUDIES

/ ANALYTICAL /
SIMILAR FEATURES

**Government type**
Bundestag / Germany

+

**Democracy Index**
State Parliament of North Rhine-Westphalia / Germany

+

**Number of seats**
Hellenic Parliament / Greece

+

**Location**
Rafael Bauler Theiss / Germany
*Student project*

/ SUBJECTIVE /
PREFERENCES

**Personal preference 1**
Louise Weiss Building / France

+

**Personal preference 2**
National Congress Palace / Brazil

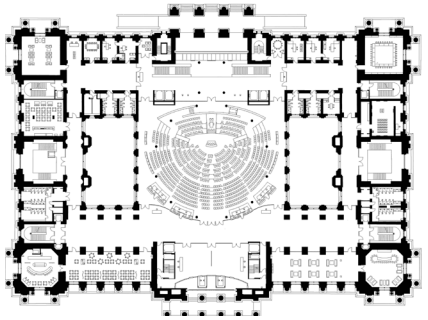
+

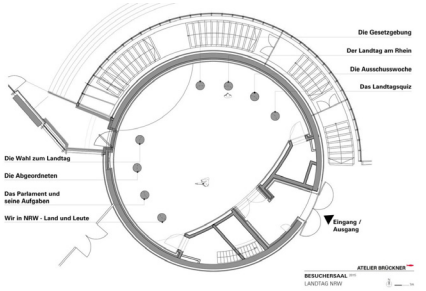
**Personal preference 3**
Jatiya Sangsad / Bangladesh

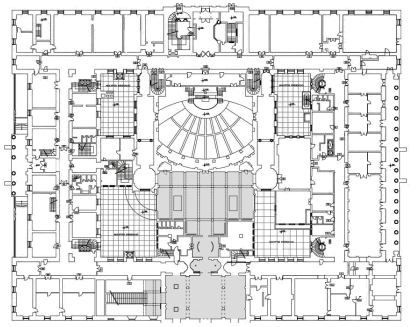
+

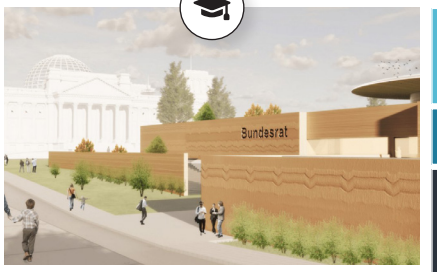
**Personal preference 4**
Tudor Cosma / Germany
*Student project*

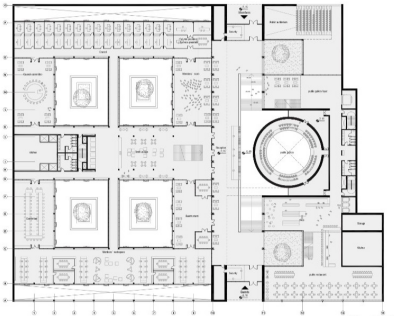
# CASE STUDIES

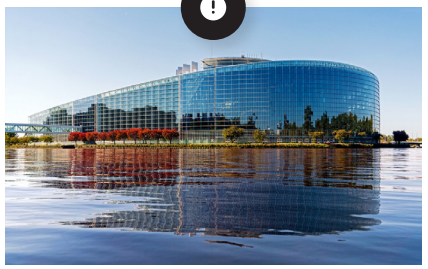


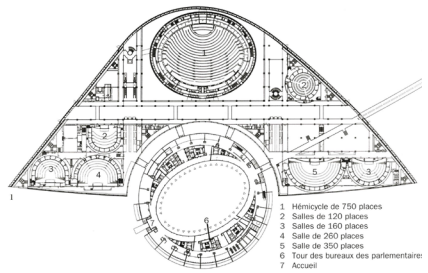


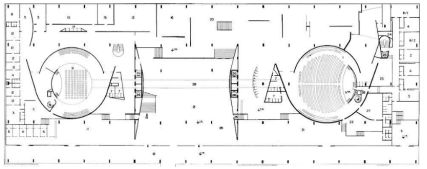


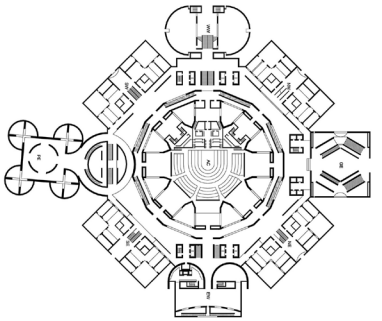


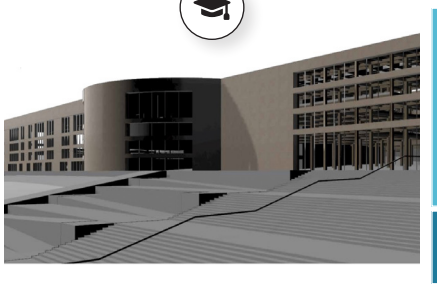



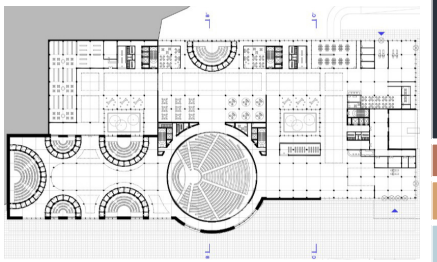








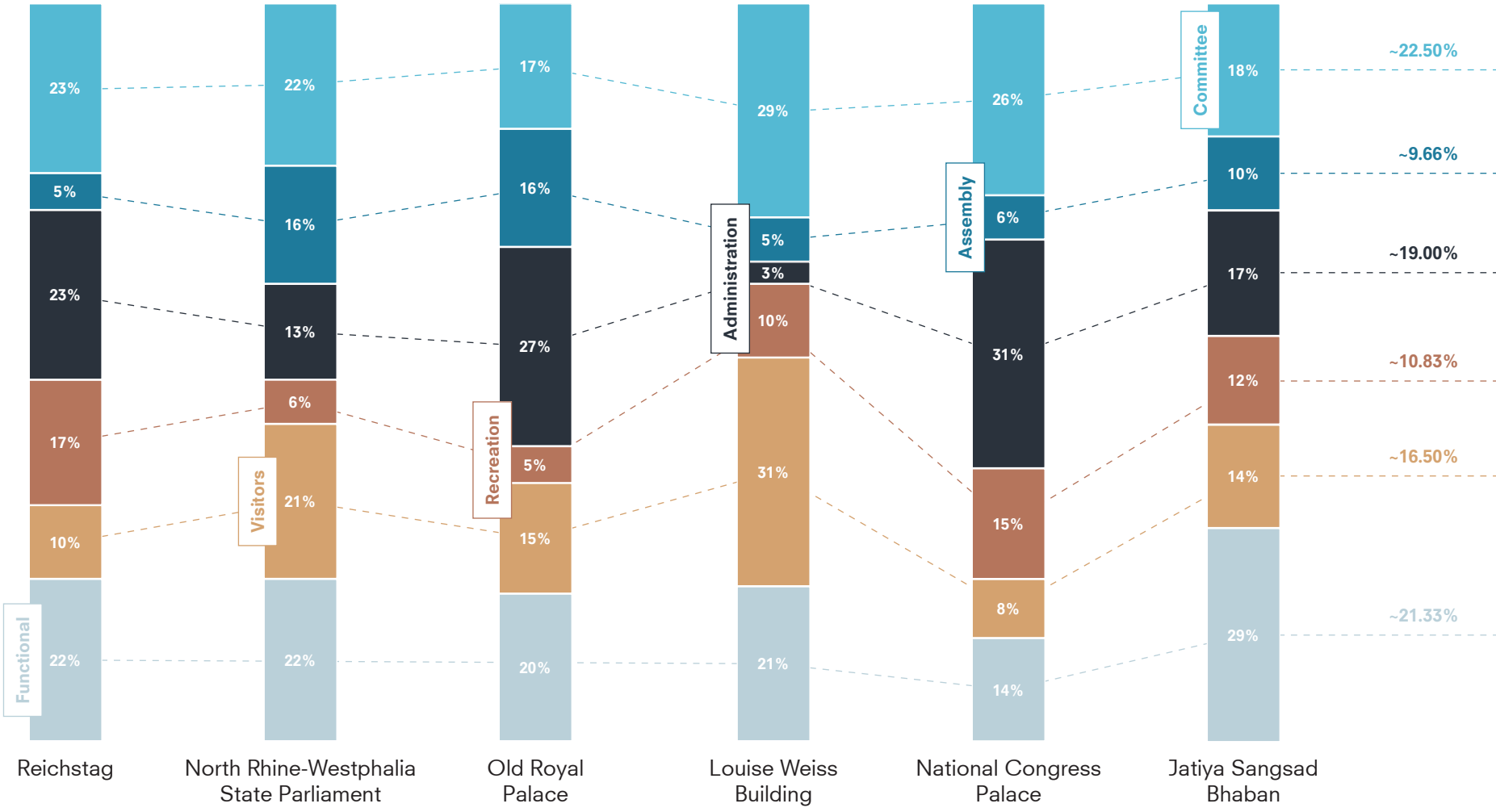




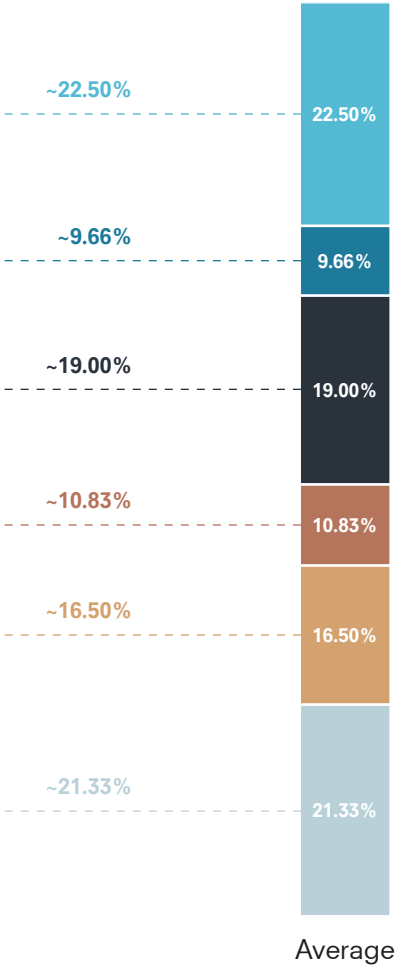
Committee Assembly Administration Recreation Visitors Functional

Program

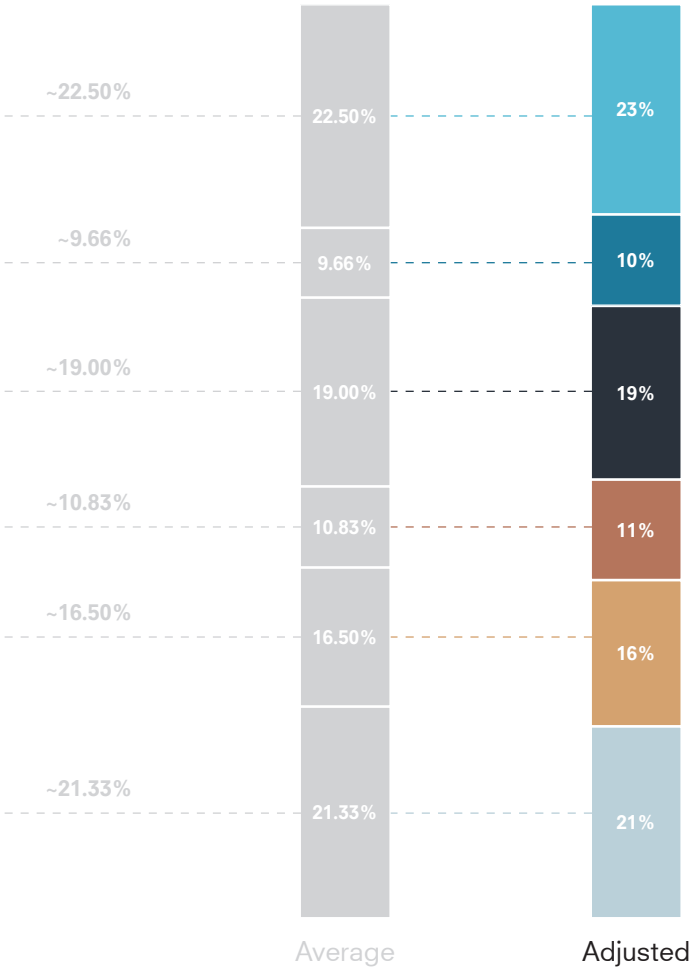
# COMPARISON



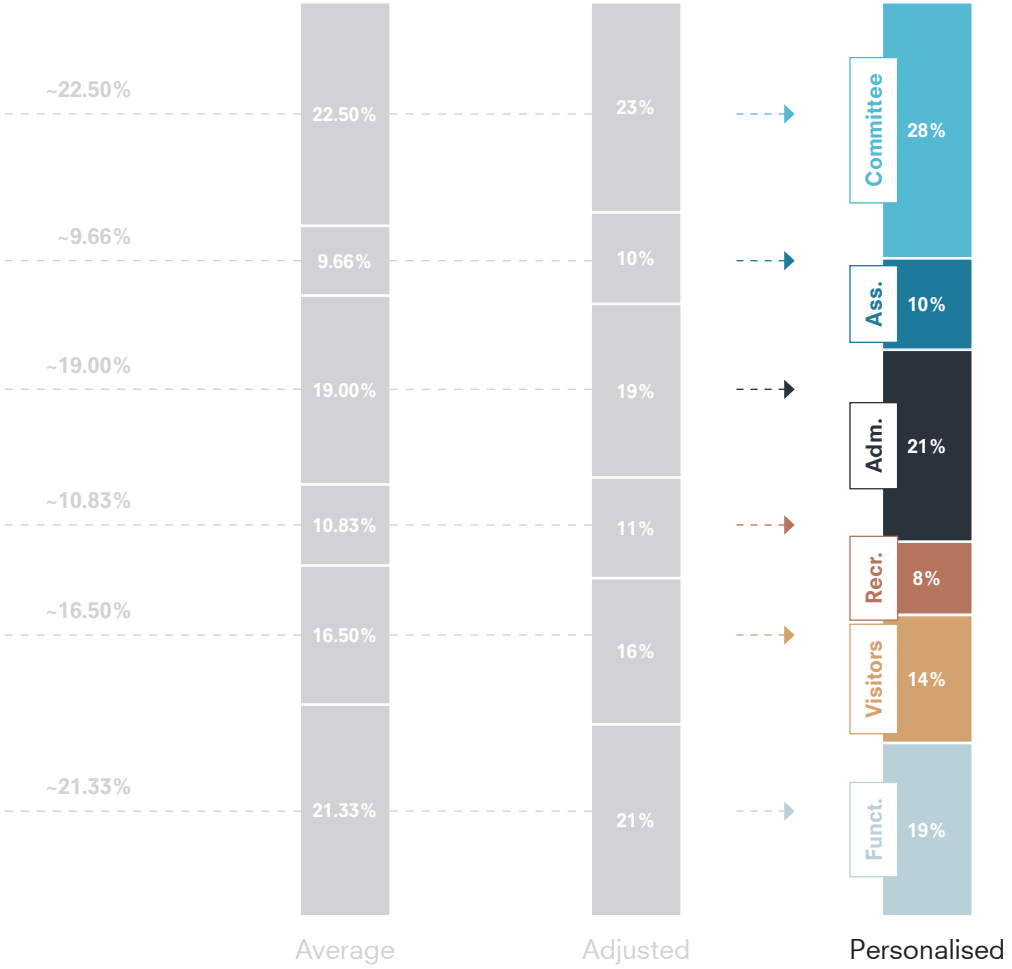
# AVERAGE PROGRAM BAR



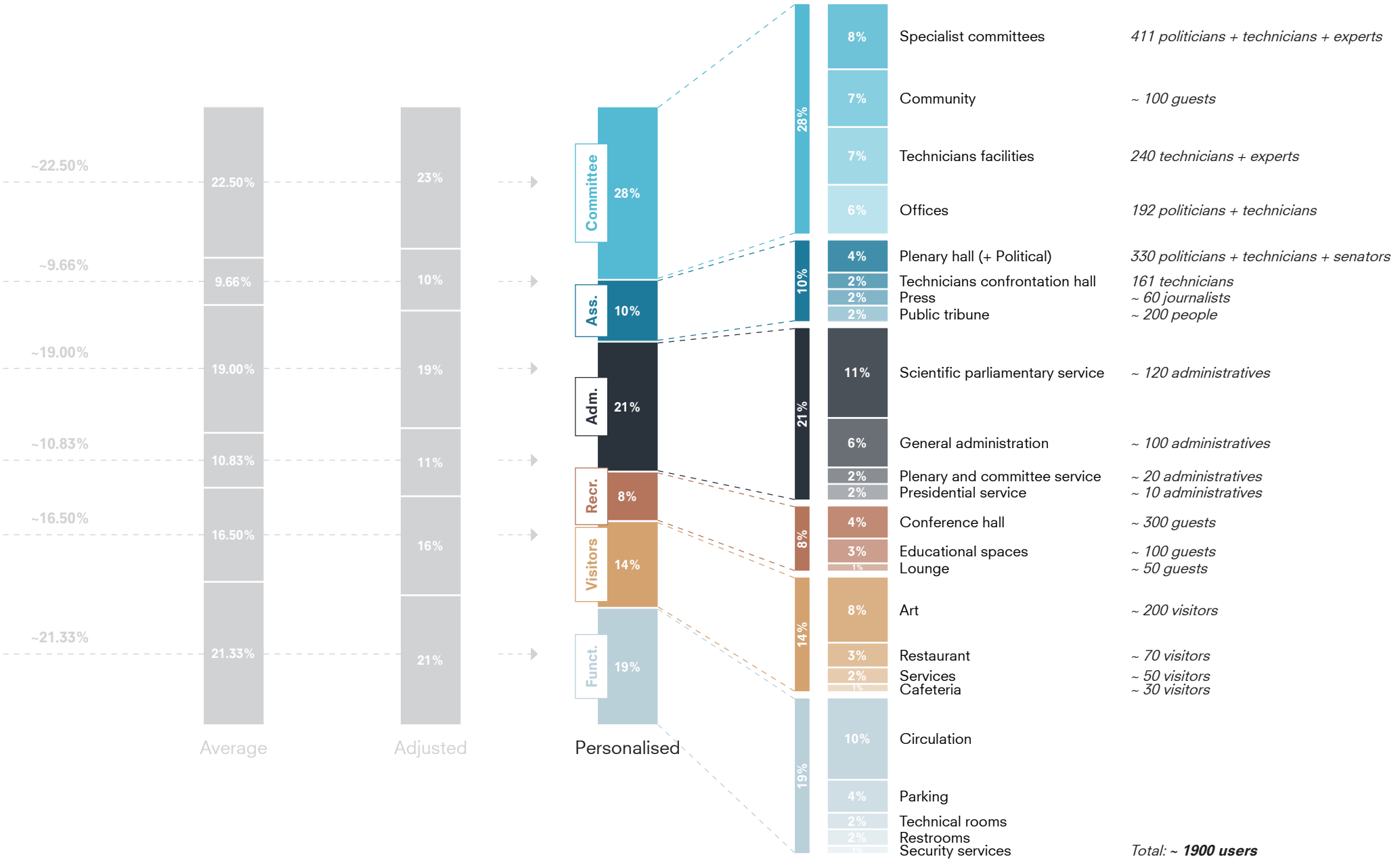
# ADJUSTED PROGRAM BAR



# PERSONAL PROGRAM BAR

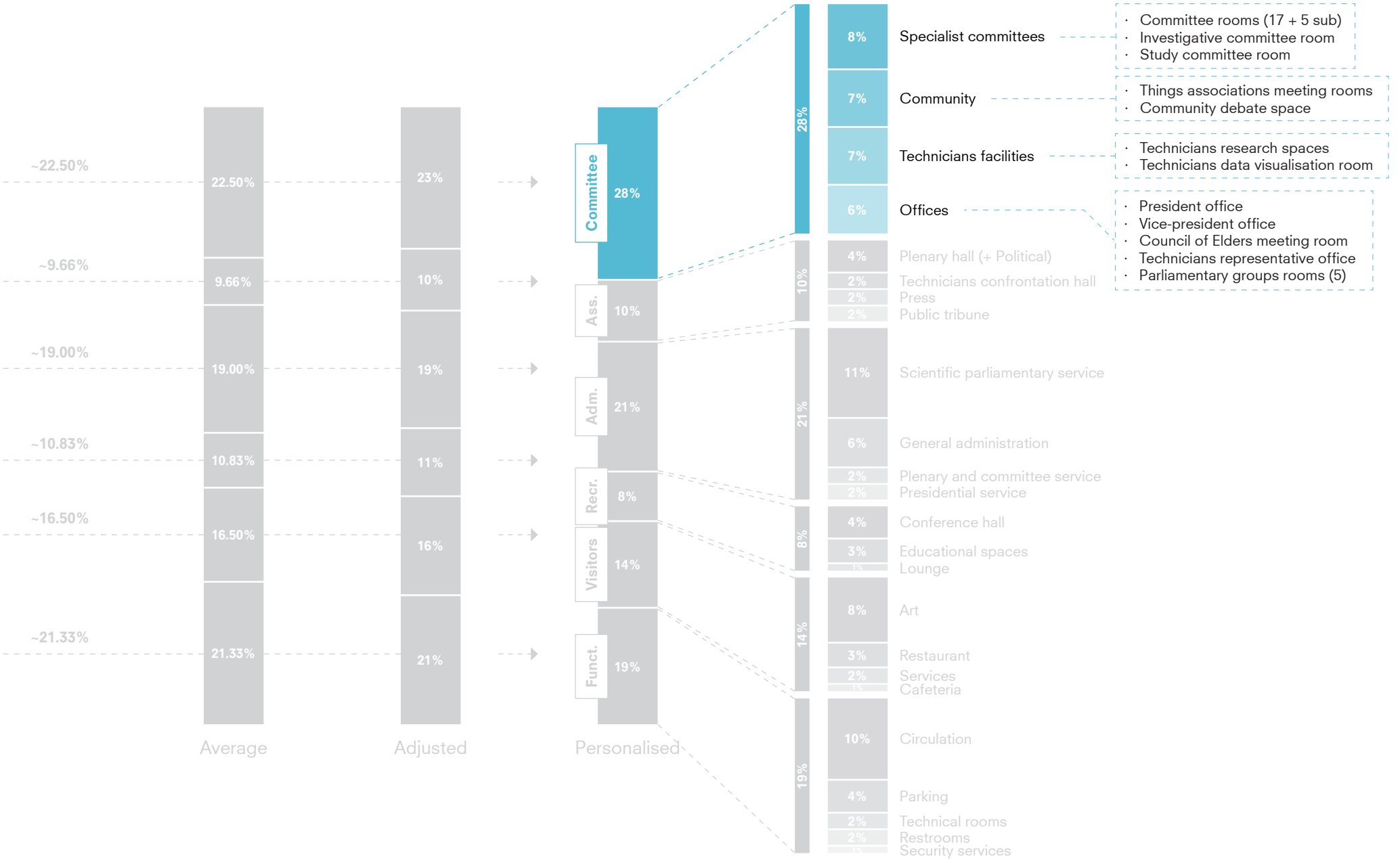


# DETAILED PROGRAM BAR



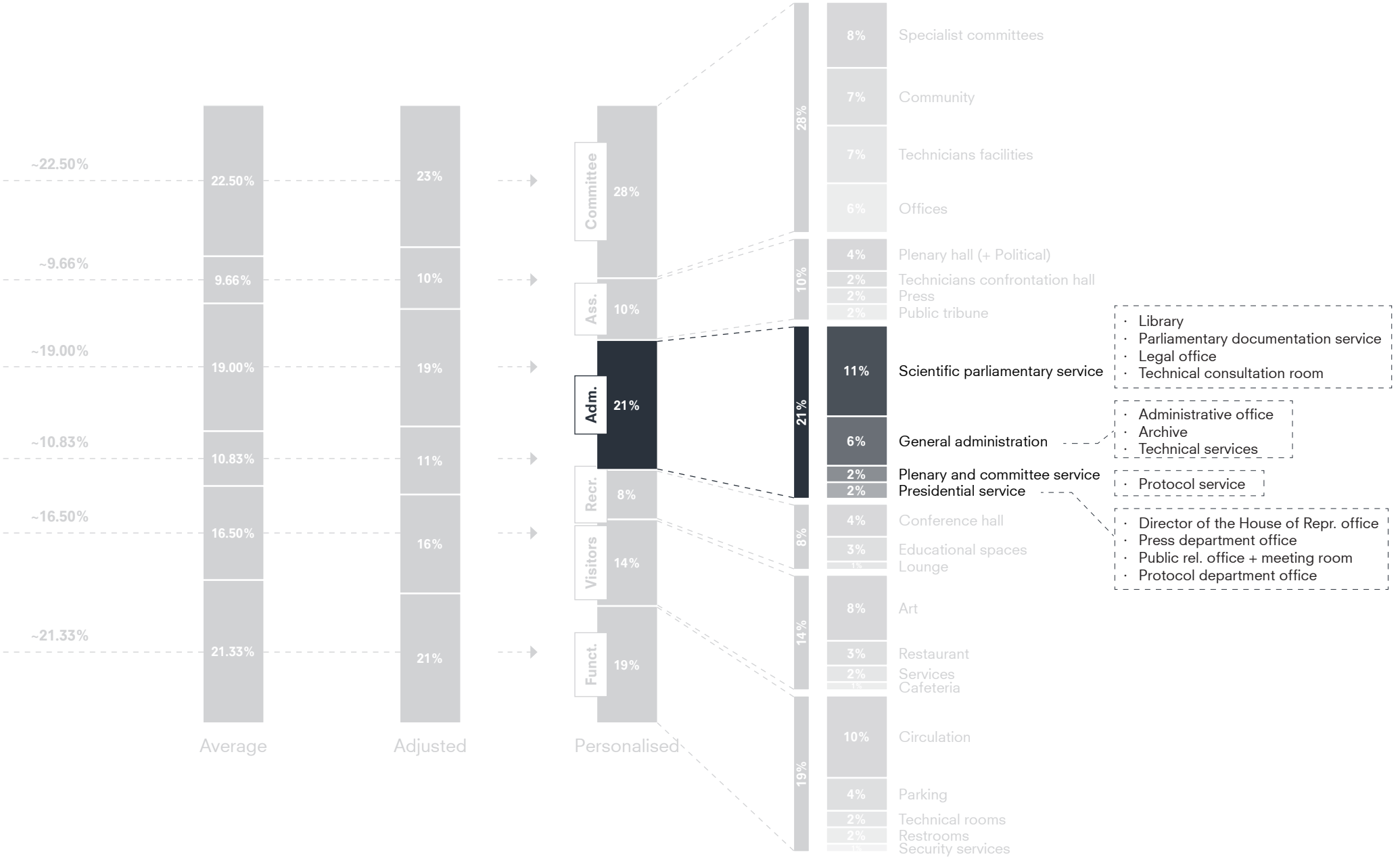
Program

# COMMITTEE



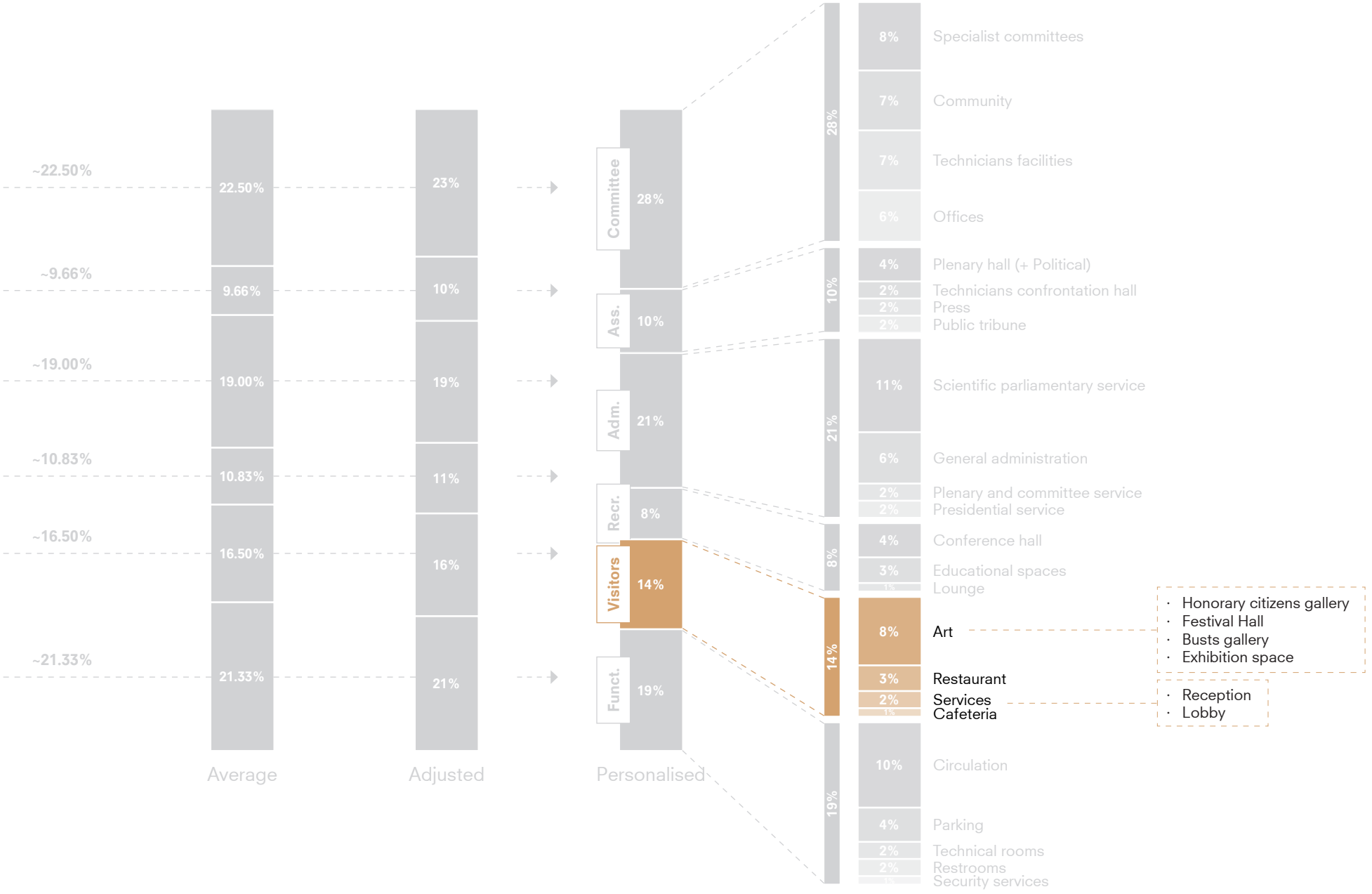
Program

# ADMINISTRATION



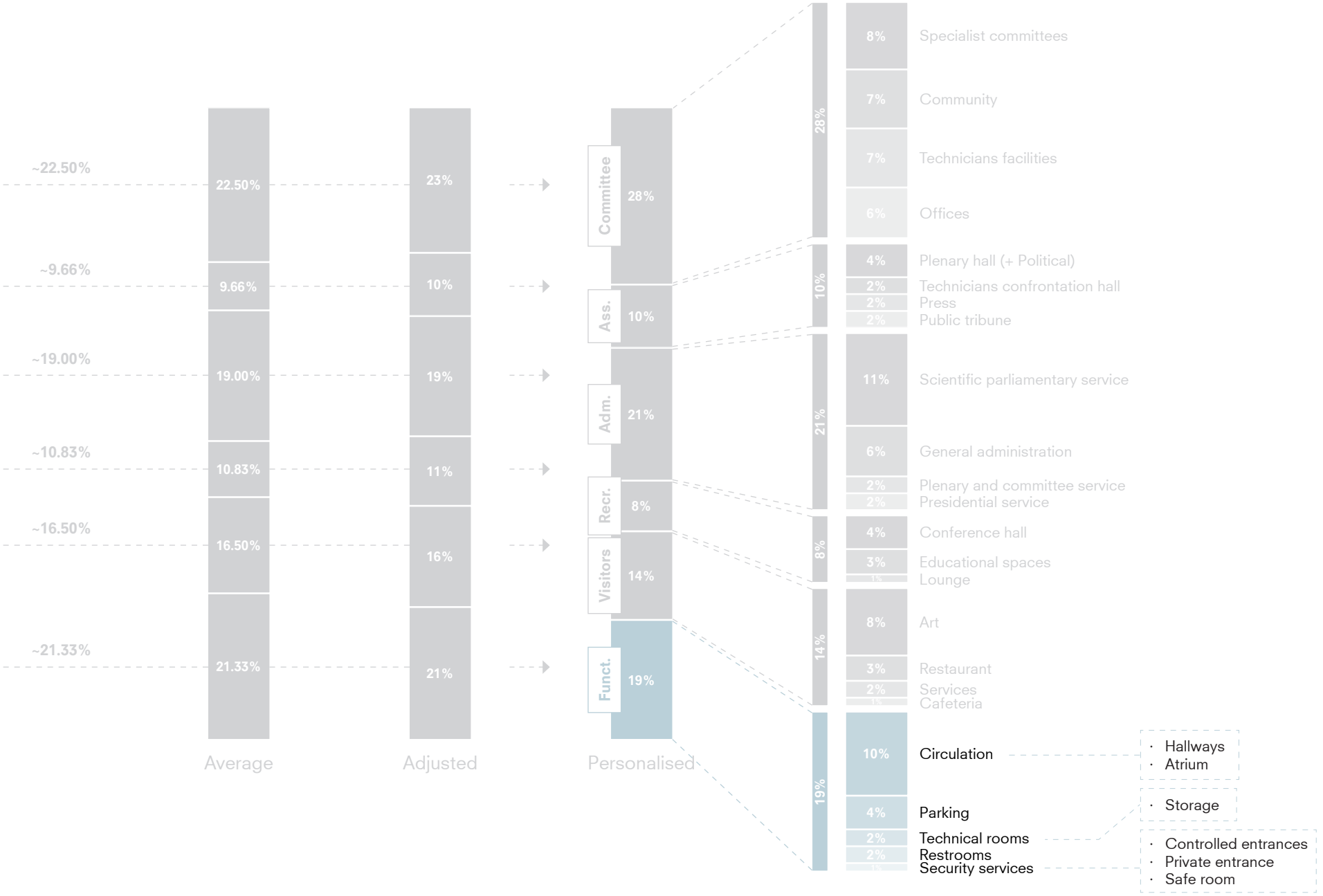
Program

# VISITORS



Program

# FUNCTIONAL



Program

# CASE STUDIES

**Focus 1**
National Congress Palace / Brazil

+

**Focus 2**
Bundestag / Germany

+

**Focus 3**
Jatiya Sangsad / Bangladesh

Program

# M²/SEAT

**2.41 M²/**

Abgeordnetenhaus von Berlin
- Berlin, Germany -

**1.49 M²/**

National congress of Brazil
- Brasilia, Brazil -

+

**2.41 M²/**

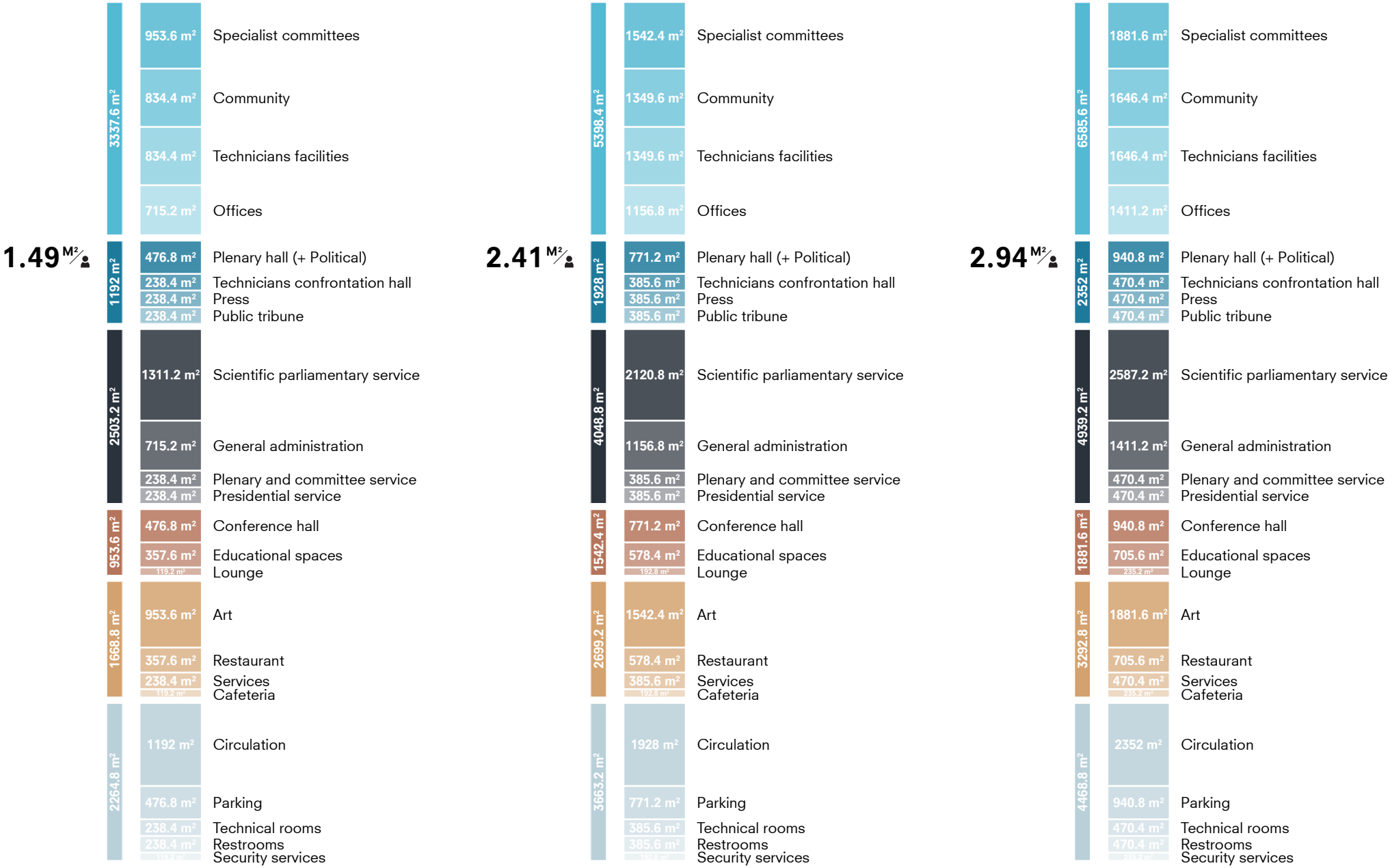
Bundestag
- Berlin, Germany -

+

**2.94 M²/**

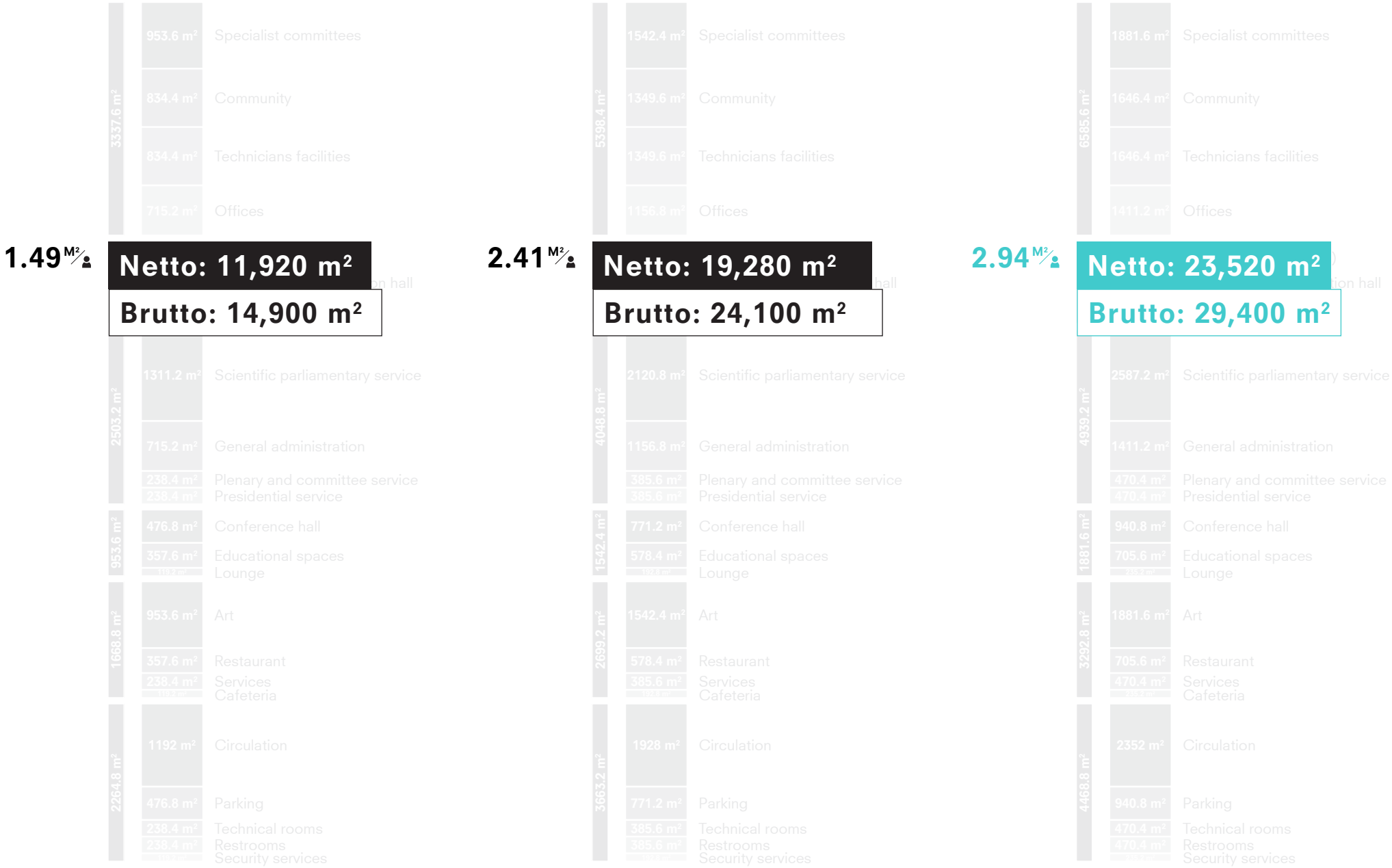
Jatiya Sangsad Bhaban
- Dhaka, Bangladesh -

# MEASURED PROGRAM BARS



Program

# NETTO / BRUTTO



1. CLIENT

2. PROGRAM

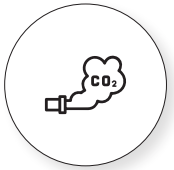
3. SITE

# REQUIREMENTS AND CRITERIA

/ GROUP /
REQUIREMENTS

**High thermal burden**
Locate the building close to a highly thermal burdened area

+




**High air pollution**
Locate the building close to a highly air polluted area

+

**Noise pollution**
Locate the building close to a traffic-noise polluted area

/ INDIVIDUAL /
GENERAL CRITERIA

**Relevance**
Clear visibility from public places and natural areas

+

**Organisation**
Closeness to institutional areas and things associations

+

**Mix**
Positioning integrated in the mixed city fabric

/ INDIVIDUAL /
SPECIFIC CRITERIA

**Logistics**
Proximity to main public transportation hubs

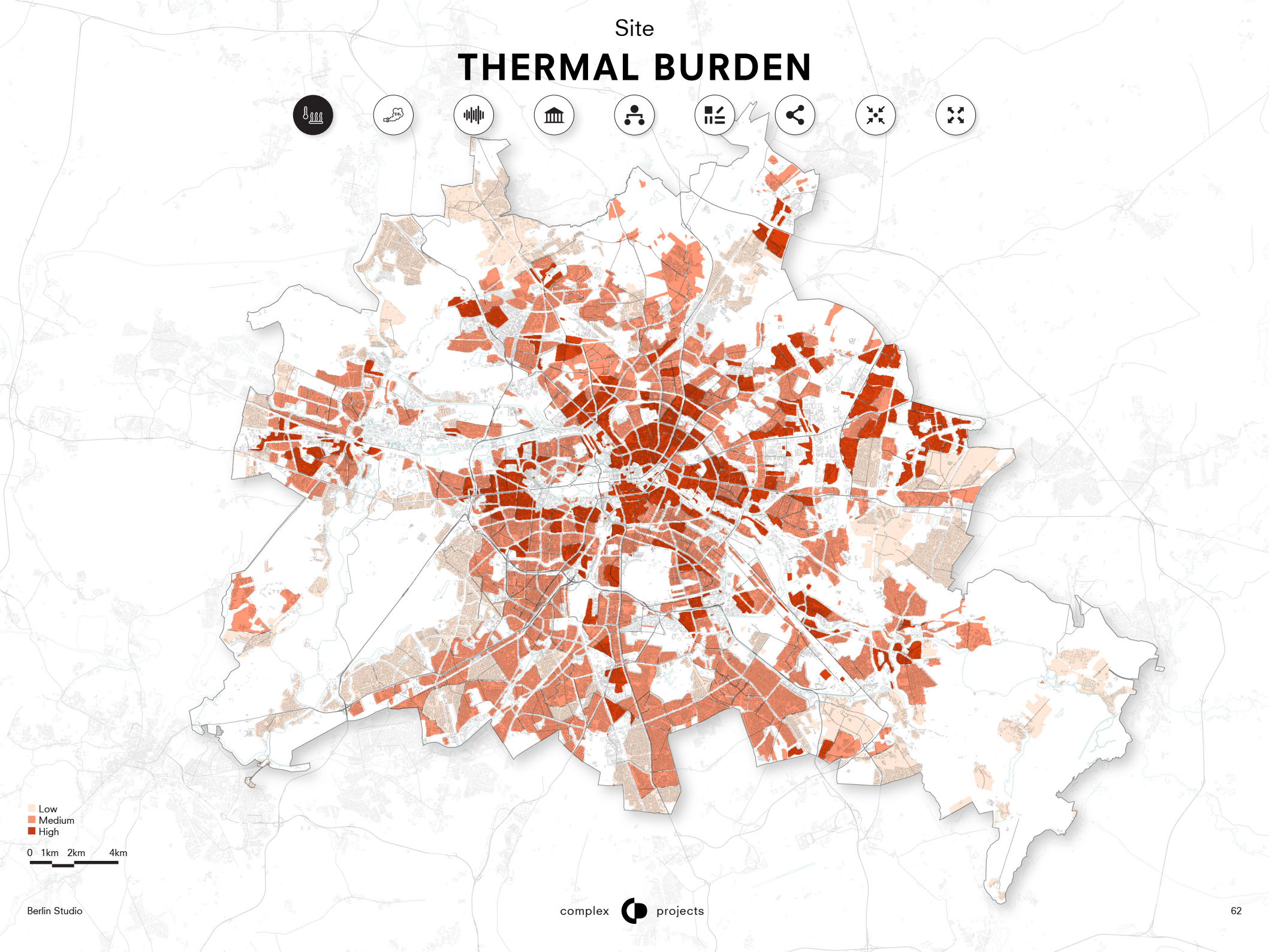
+

**Gathering**
High footfall and visibility to a diverse audience

+

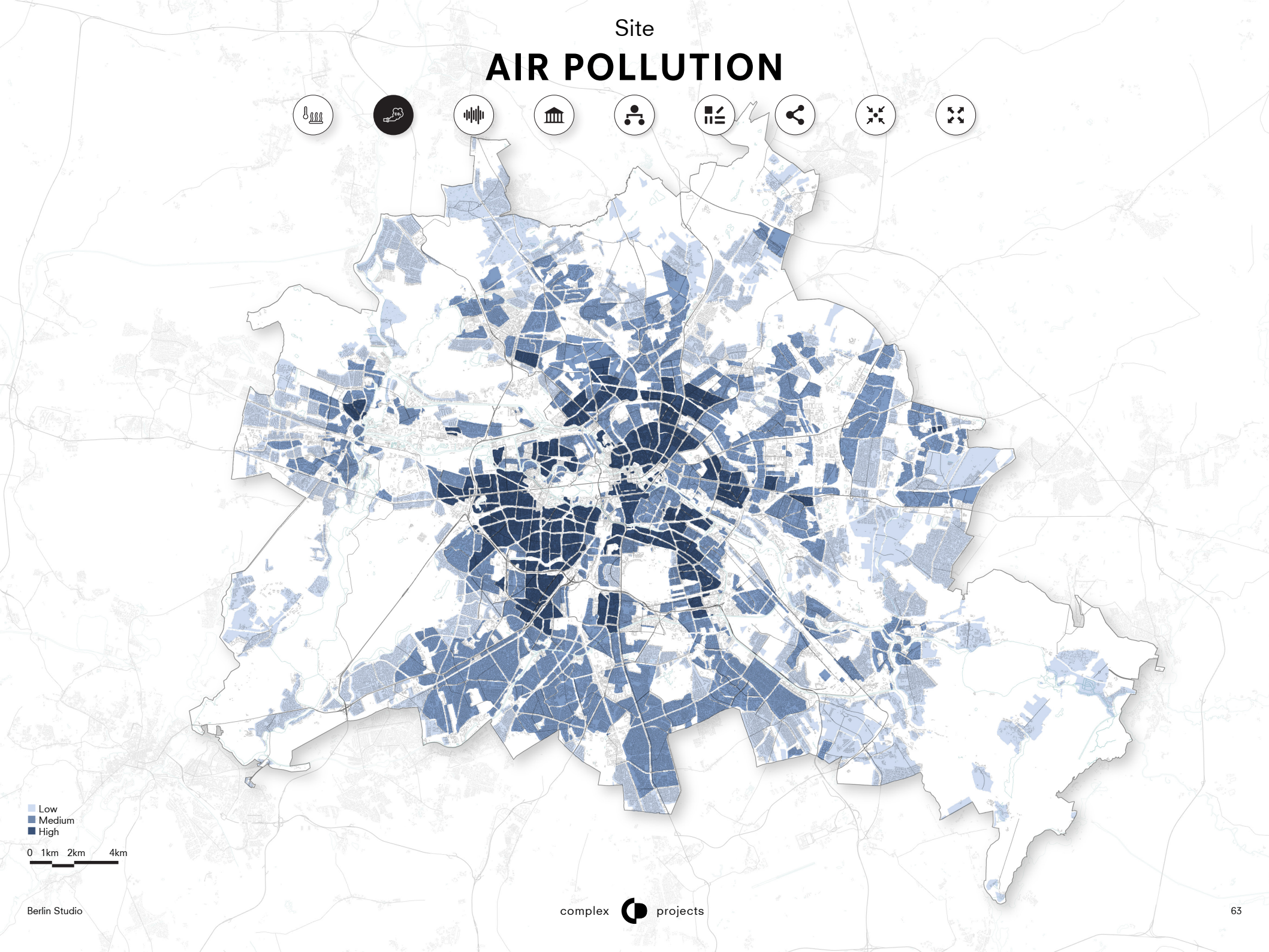
**Openness**
Absence of physical and visual boundaries on the sides

# THERMAL BURDEN

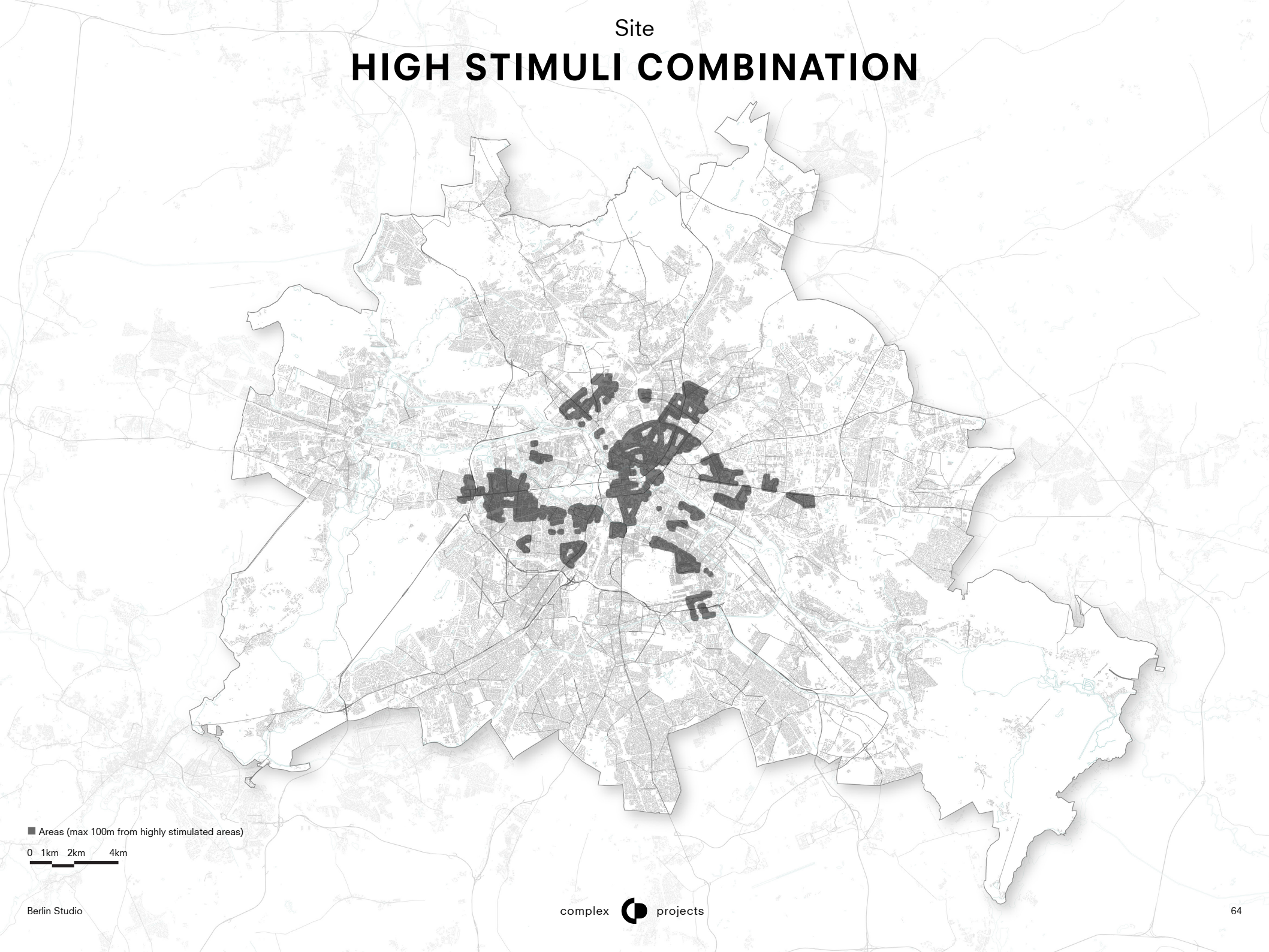


Site

# AIR POLLUTION

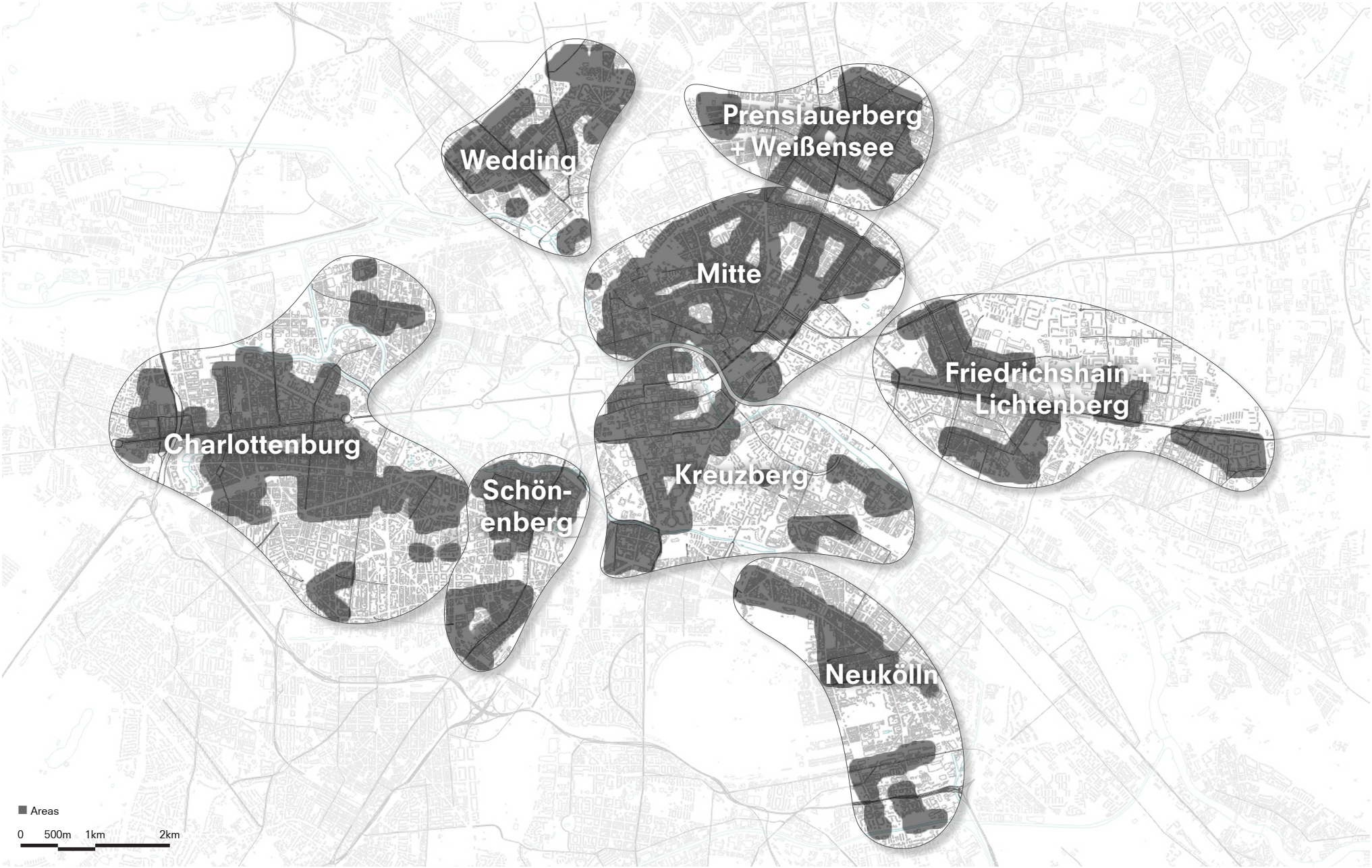


# HIGH STIMULI COMBINATION

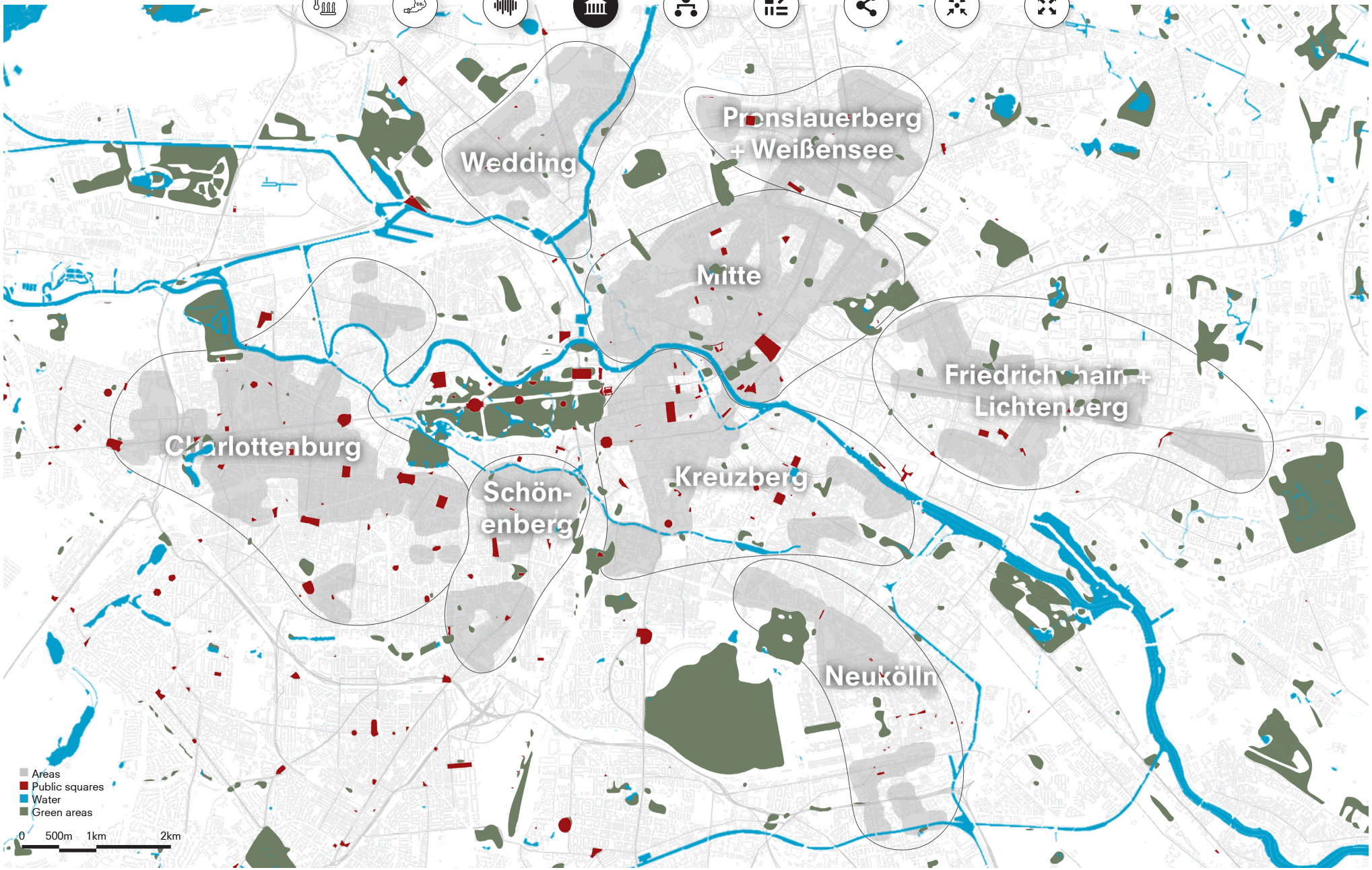


Site

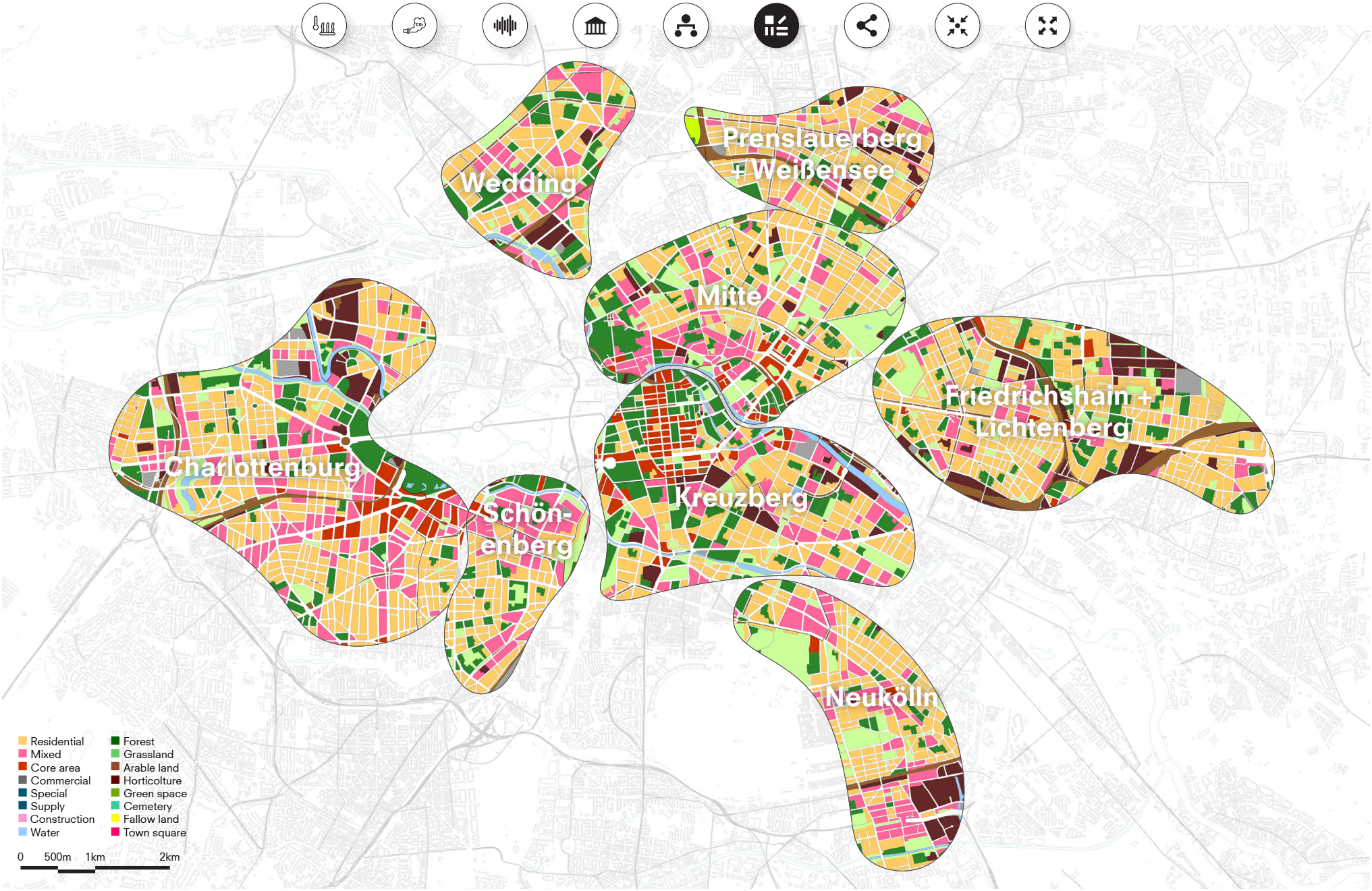
# LIMITED AREAS



# NATURAL + PUBLIC AREAS

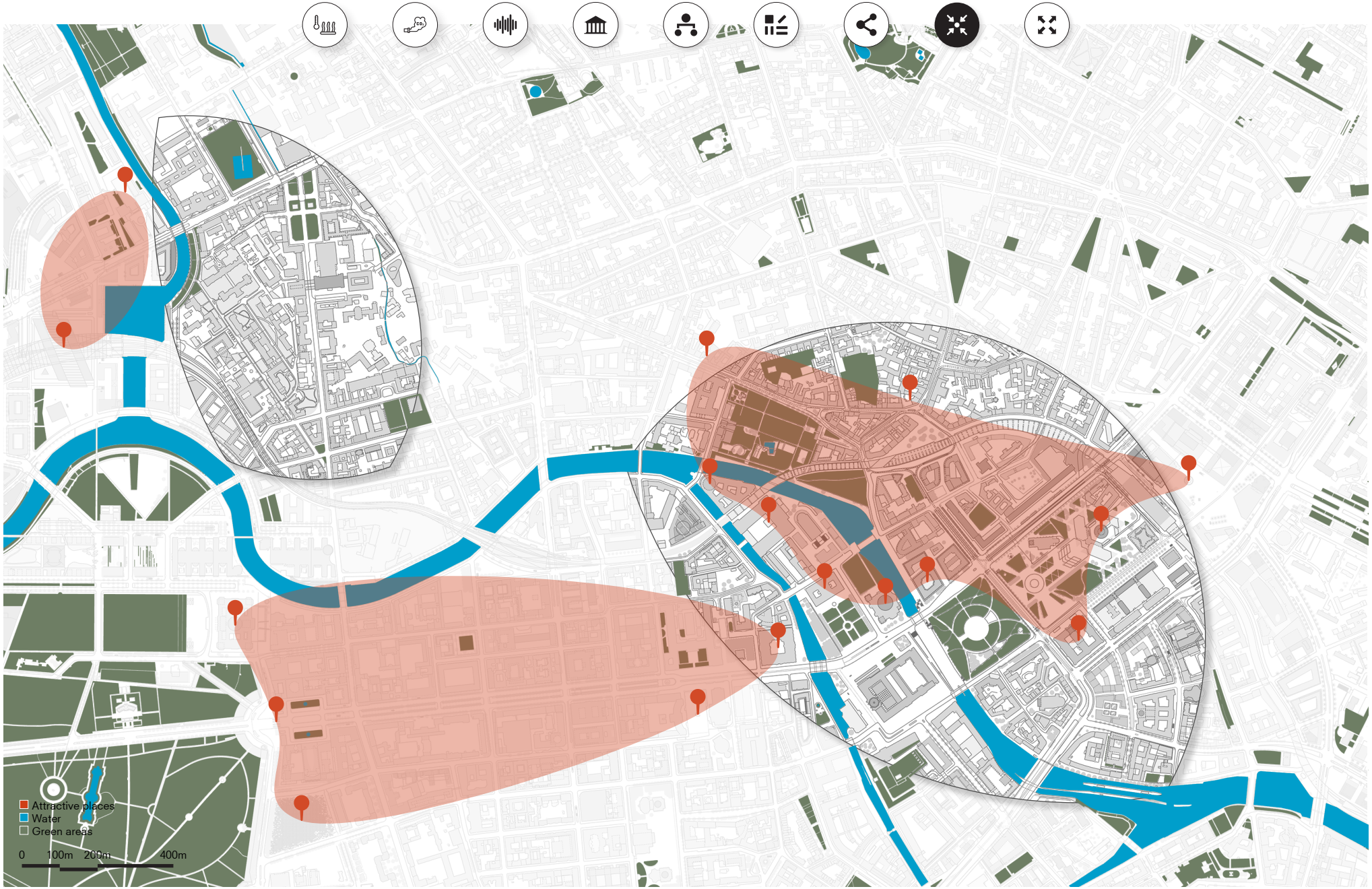


# LAND USE


Wedding
Prenslauerberg + Weißensee
Mitte
Friedrichshain + Lichtenberg
Charlottenburg
Schön-enberg
Kreuzberg
Neukölln
Residential
Mixed
Core area
Commercial
Special
Supply
Construction
Water
Forest
Grassland
Arable land
Horticolture
Green space
Cemetery
Fallow land
Town square
0
500m
1km
2km

# PROPOSED SITES

# ATTRACTIVE PLACES



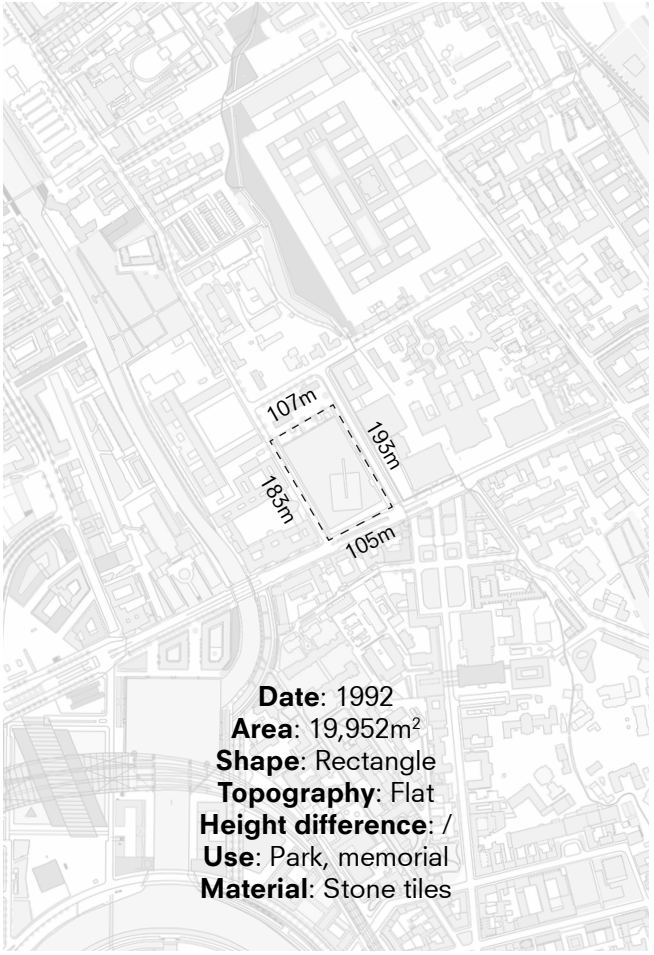
Site

# LOCATIONS

Site

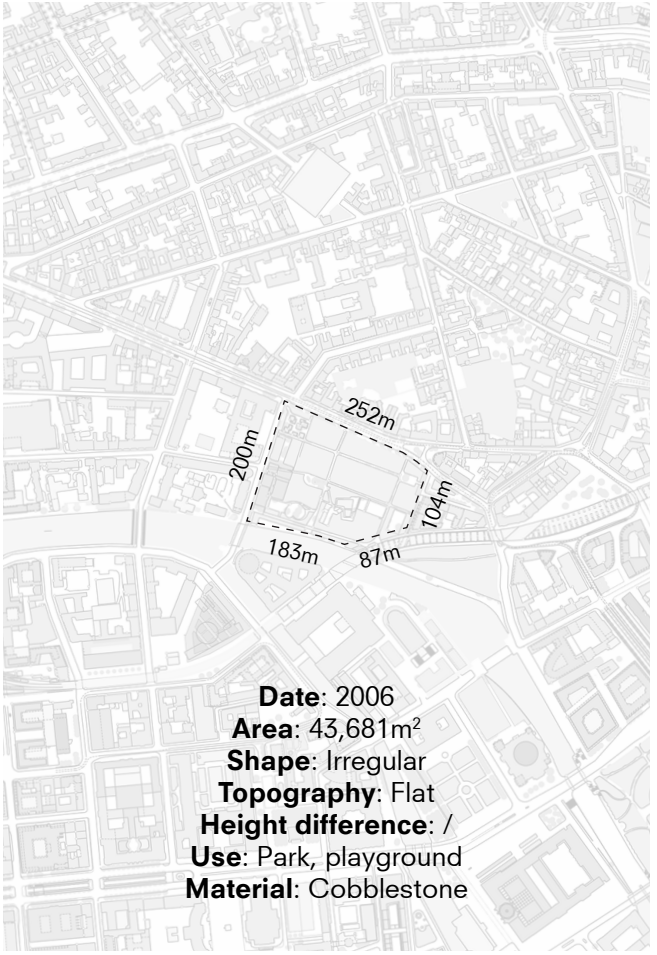
# DATA

Location 1
**Invalidenpark**



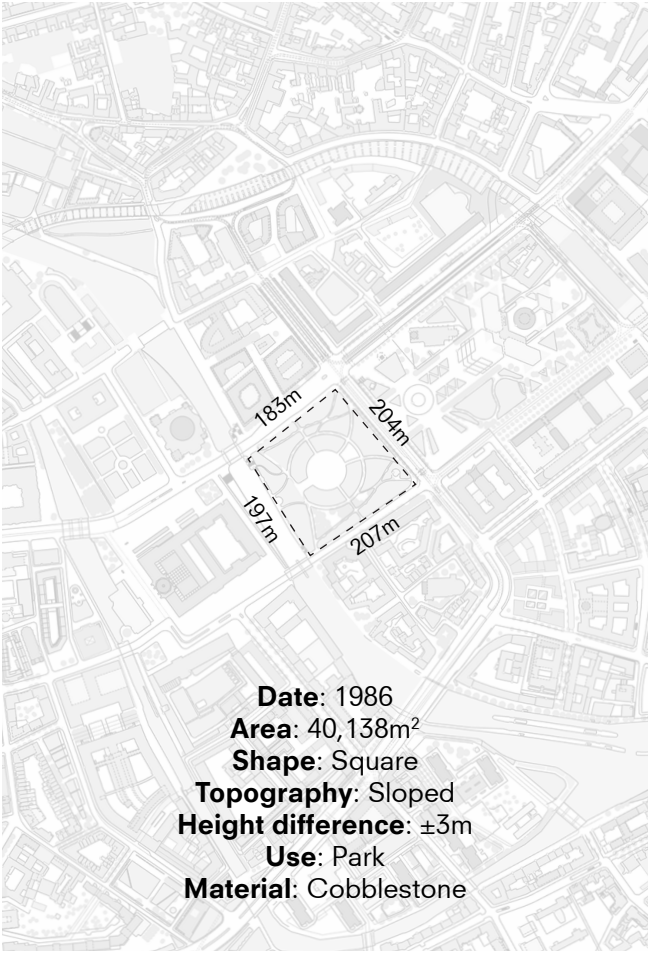

**Date**: 1992
**Area**: 19,952m²
**Shape**: Rectangle
**Topography**: Flat
**Height difference**: /
**Use**: Park, memorial
**Material**: Stone tiles

Location 2
**Monbijoupark**




**Date**: 2006
**Area**: 43,681m²
**Shape**: Irregular
**Topography**: Flat
**Height difference**: /
**Use**: Park, playground
**Material**: Cobblestone

Location 3
**Marx-Engels-Forum**




**Date**: 1986
**Area**: 40,138m²
**Shape**: Square
**Topography**: Sloped
**Height difference**: ±3m
**Use**: Park
**Material**: Cobblestone

# DATA MAPS

Accessibility
Nolli map
Land use
Floor Space Index
Site Occupancy Index
Building Heights
Population density
Location 1
Invalidenpark
Location 2
Monbijoupark
Location 3
Marx-Engels-Forum

Site

# NATURAL THINGS

Location 1
**Invalidenpark**

- trees number: 18
- green surface: 12,746m²

Location 2
**Monbijoupark**

- trees number: 209
- green surface: 27,254m²

Location 3
**Marx-Engels-Forum**

- trees number: 296
- green surface: 30,437m²

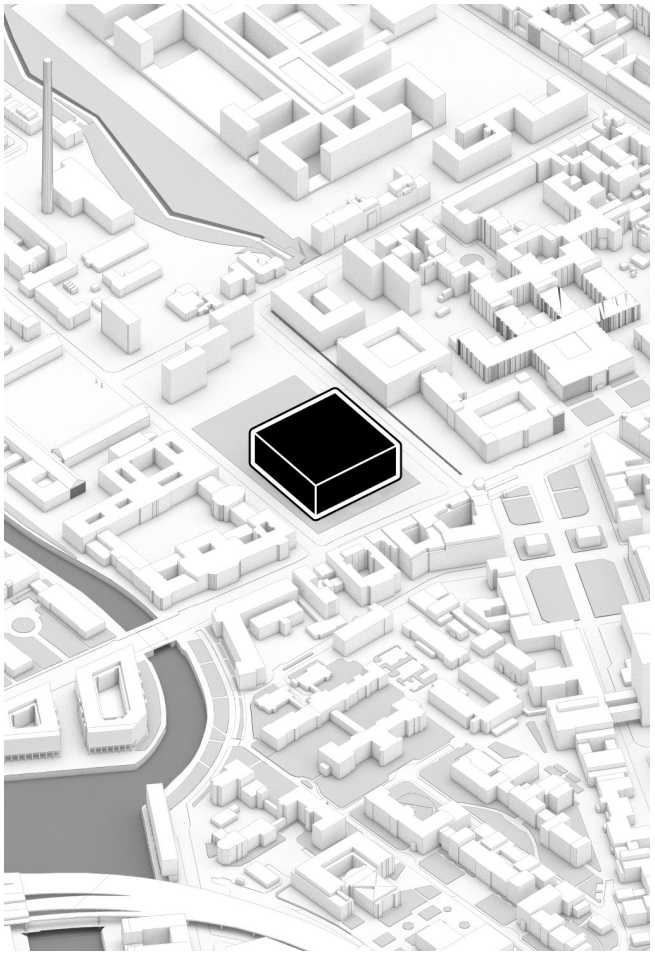
Green areas Trees Water

Site

# PROGRAM IMPACT

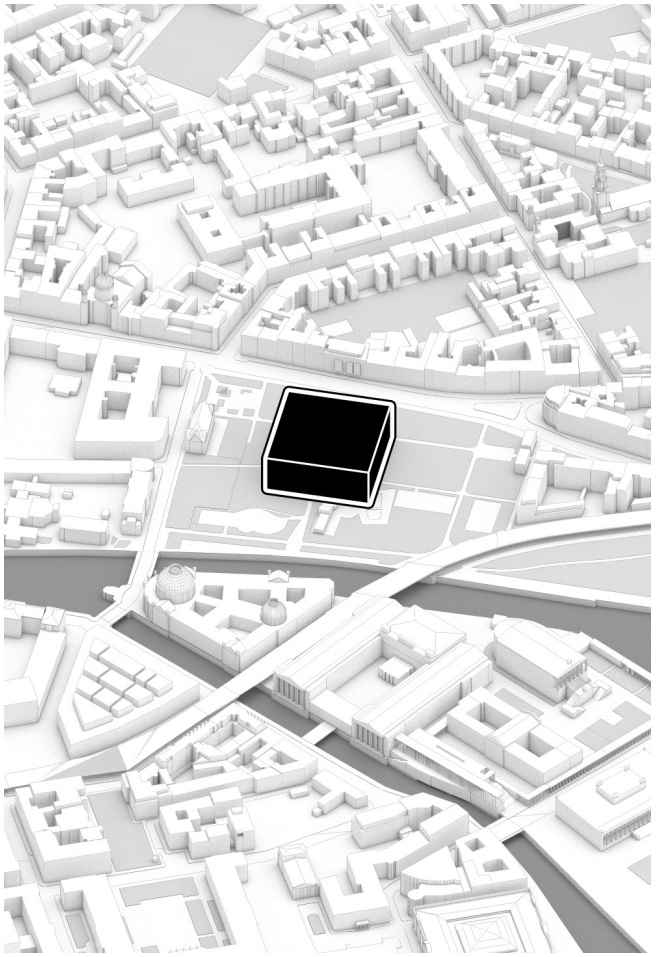
Location 1
**Invalidenpark**

+ sufficient surface
+ regular shape
- very limited surrounding space



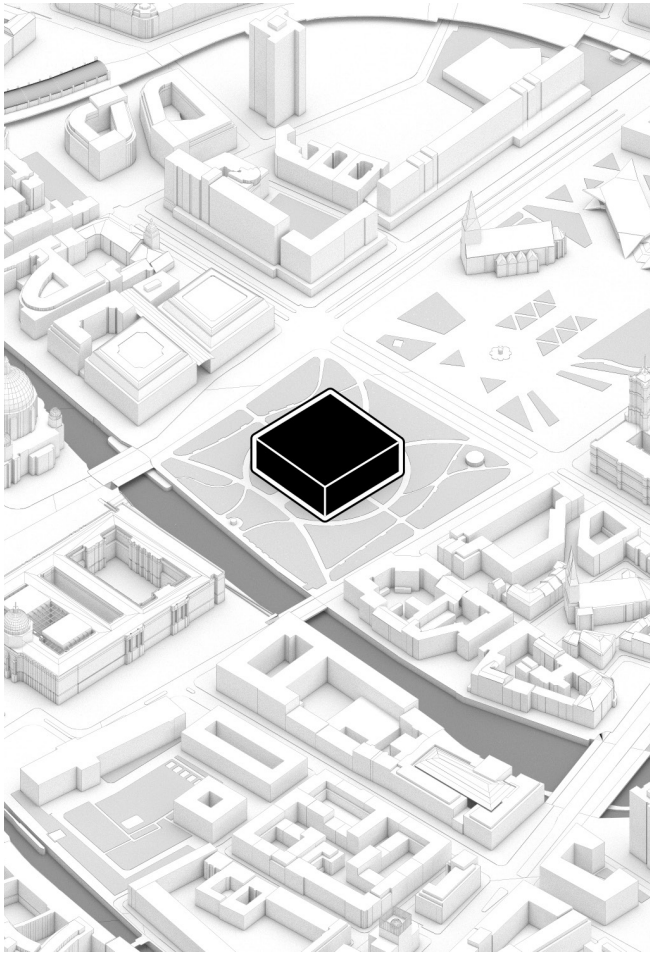
Location 2
**Monbijoupark**

+ sufficient surface
+ wide surrounding area
- irregolar shape
- lower context



Location 3
**Marx-Engels-Forum**

+ sufficient surface
+ wide surrounding area
- //////////////////////



■ Program impact (~30,000 m²)

Site

# ANALYTICAL COMPARISON

| | Relevance | Organisation | Mix | Logistics | Gathering | Openness | Cabin suitability | Things integration | *Total* |
|---|---|---|---|---|---|---|---|---|---|
| Location 1 **Invalidenpark** | 3rd | 2nd | 3rd | 3rd | 3rd | 3rd | 2nd | 3rd | 6x 3rd 2x 2nd |
| Location 2 **Monbijoupark** | 2nd | 3rd | 2nd | 2nd | ★ | 2nd | 3rd | ★ | 2x 3rd 4x 2nd 2x ★ |
| Location 3 **Marx-Engels-Forum** | ★ | ★ | ★ | ★ | 2nd | ★ | ★ | 2nd | 2x 2nd 6x ★ |

Site

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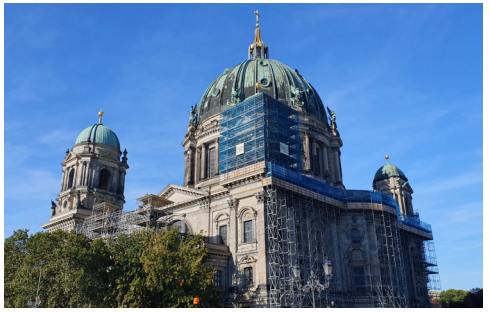
| Location 1 **Invalidenpark** | 3rd | 2nd | 3rd | 3rd | 3rd | 3rd | 2nd | 3rd | 6x 3rd<br>2x 2nd |
| Location 2 **Monbijoupark** | 2nd | 3rd | 2nd | 2nd | ★ | 2nd | 3rd | ★ | 2x 3rd<br>4x 2nd<br>2x ★ |
| Location 3 **Marx-Engels-Forum** | ★ | ★ | ★ | ★ | 2nd | ★ | ★ | 2nd | 2x 2nd<br>6x ★ |

Site

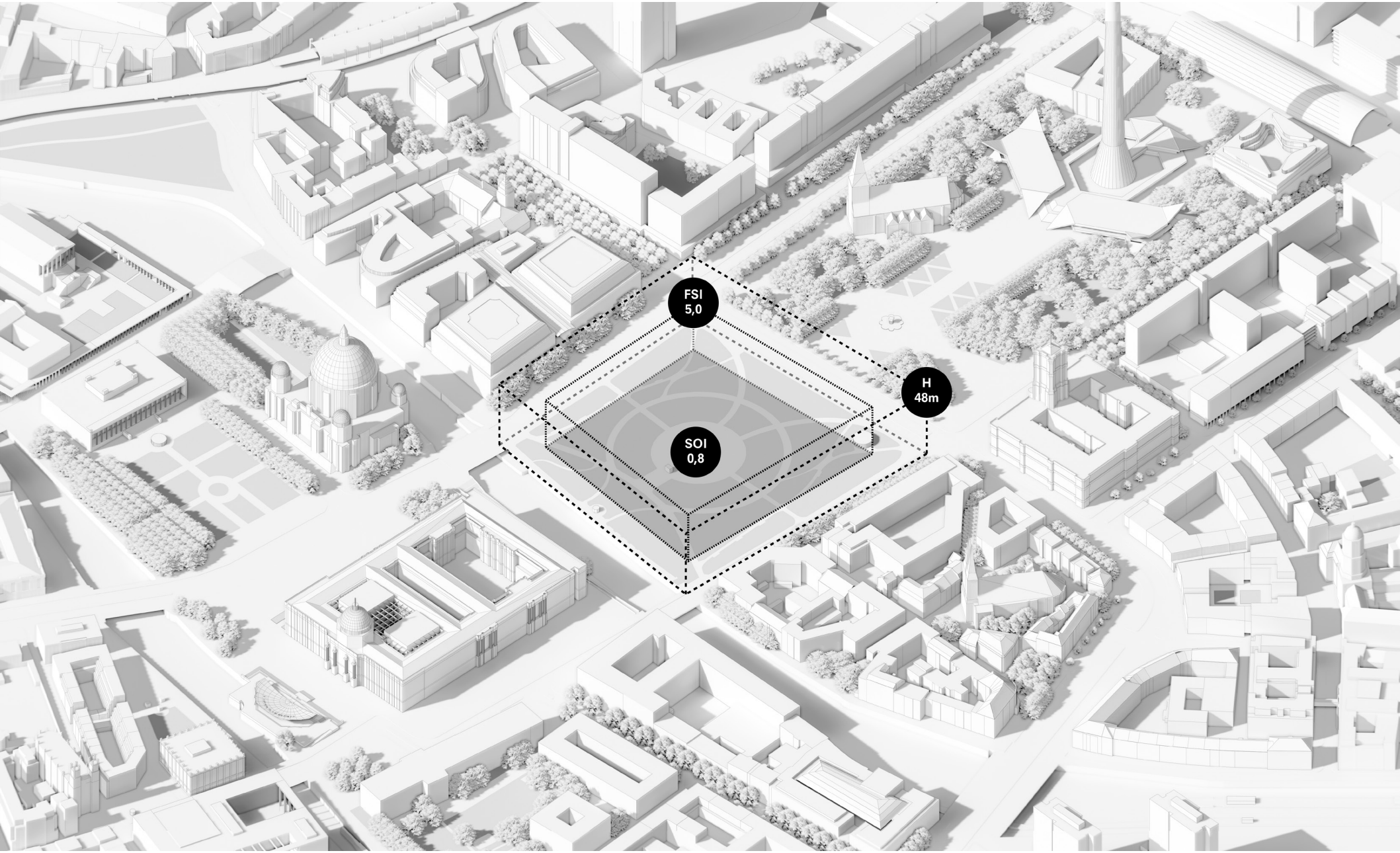
# ATMOSPHERE



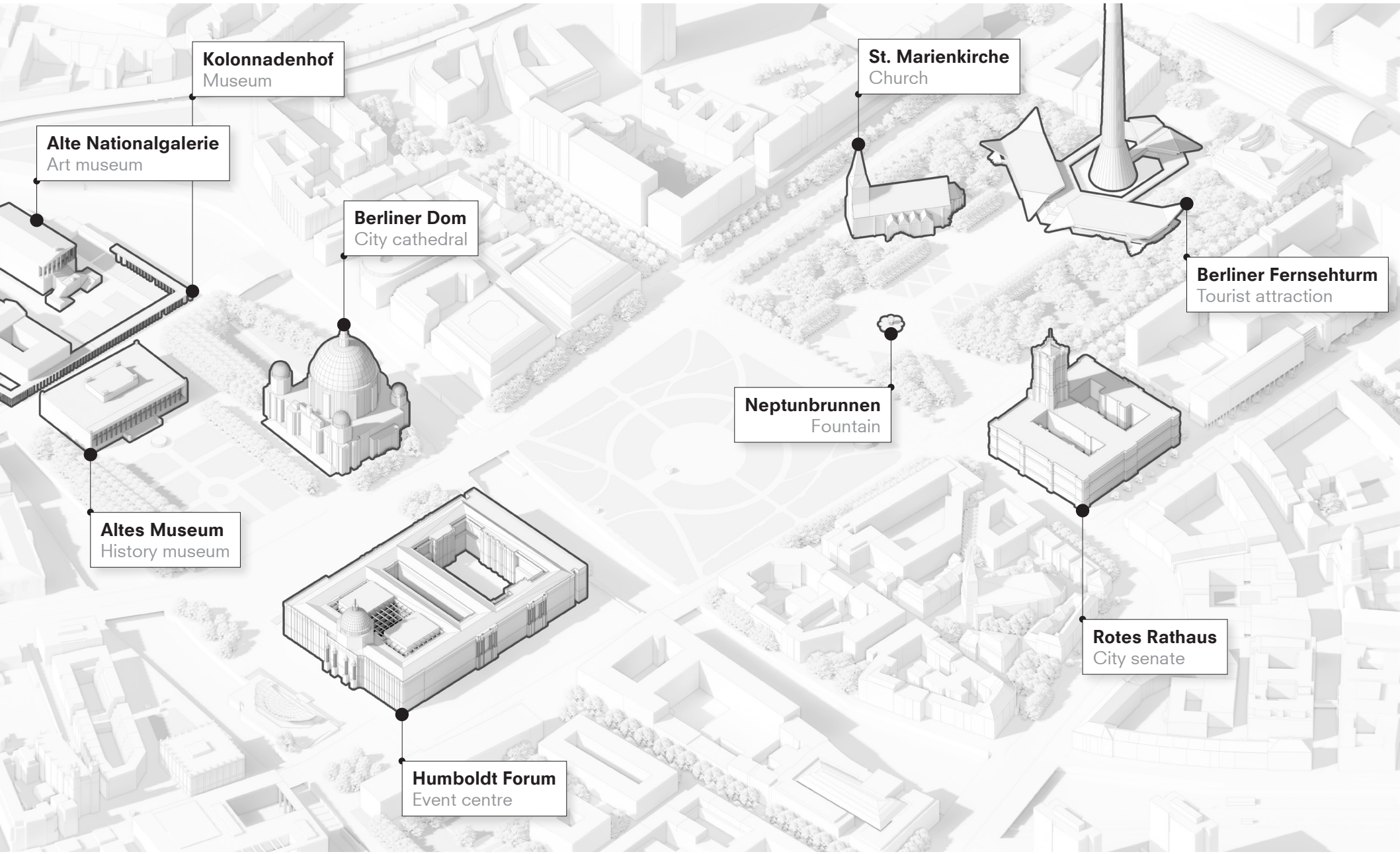
Site

# MARX-ENGELS-FORUM

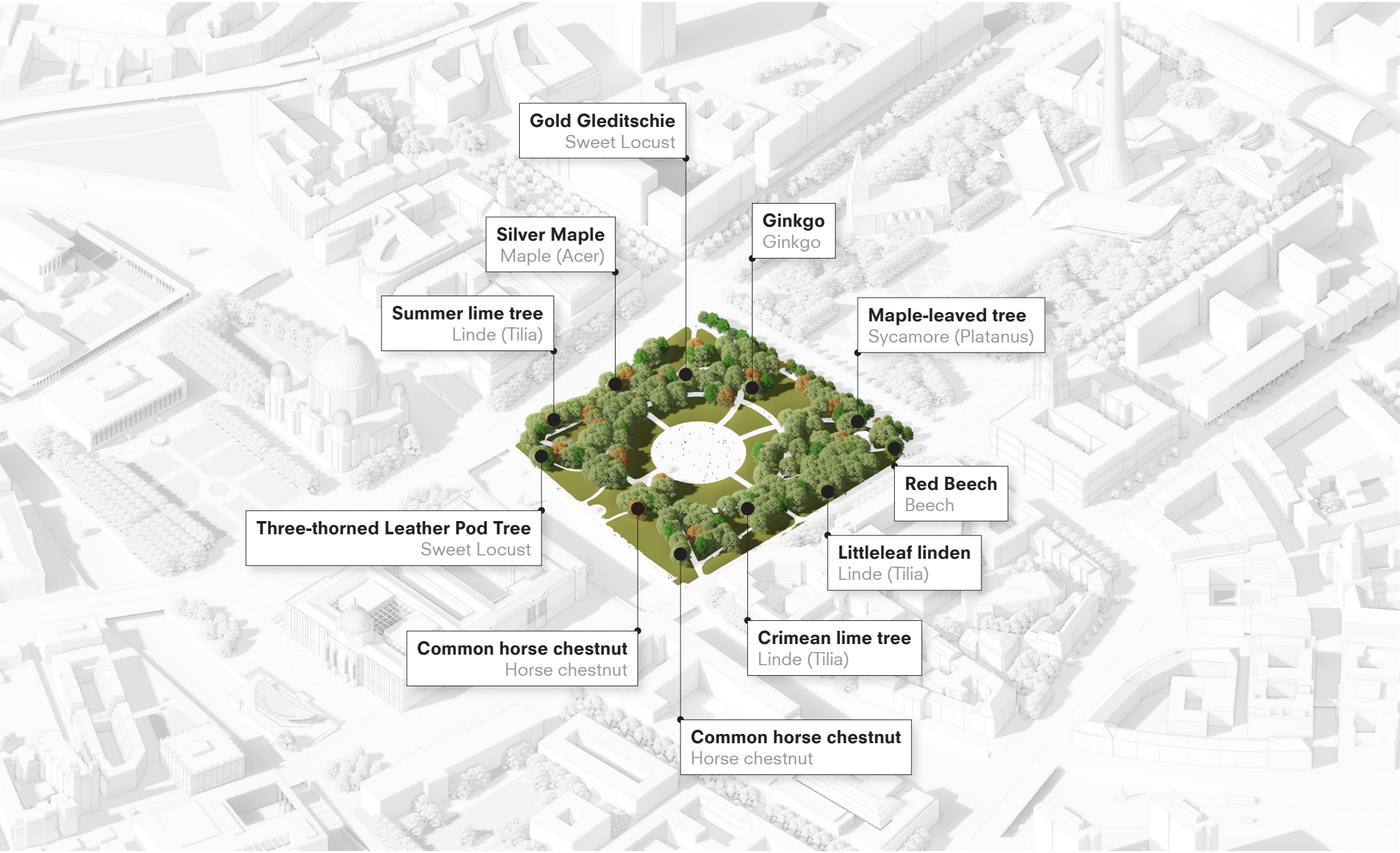
# SITE LIMITATIONS



# ARCHITECTURAL CONTEXT



# THINGS SPECIES



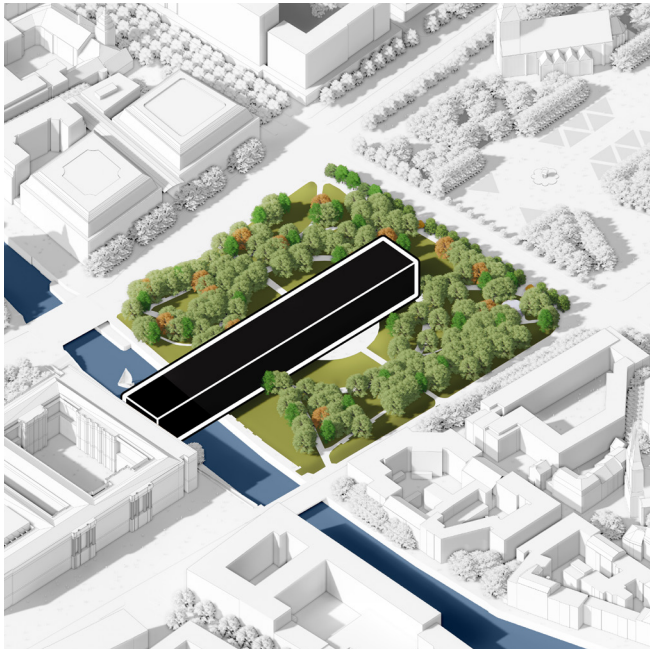
1. MASSING

2. KEY SPACE(S)

3. PROGRAM DISTRIBUTION

# POSSIBLE DESIGN STRATEGIES

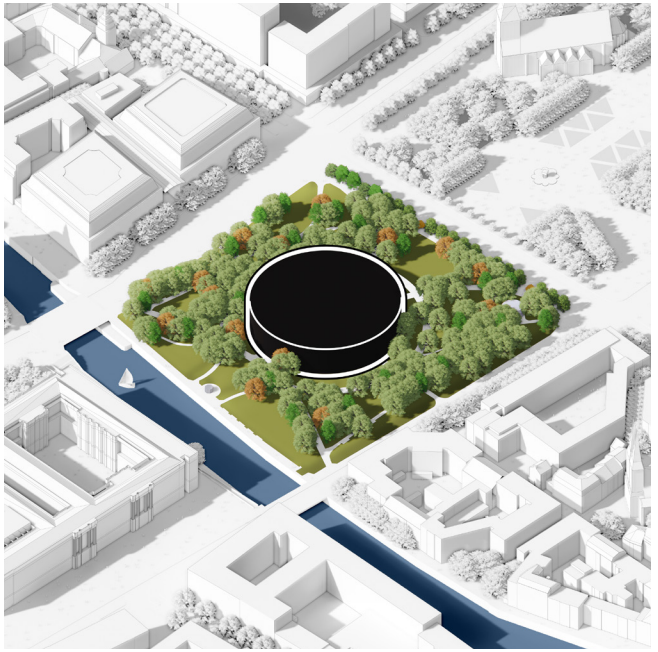
/ STRATEGY 1 /
## WATER CONNECTION



+ connection to river
+ focus on trees+water

- some trees cut down
- difficult system
- occupation of river space

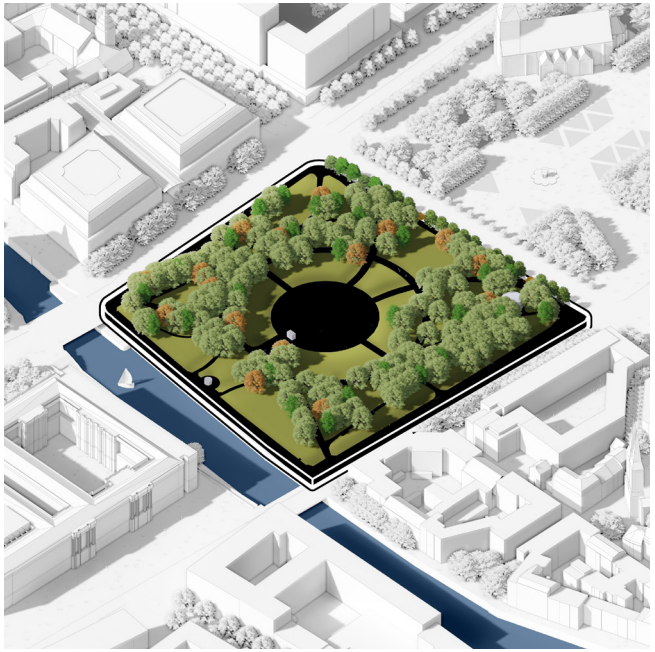
/ STRATEGY 2 /
## HIDDEN BEHIND NATURE



+ focus on trees
+ nature more important than building
+ 0 trees cut down

- /

/ STRATEGY 3 /
## NATURE ON TOP



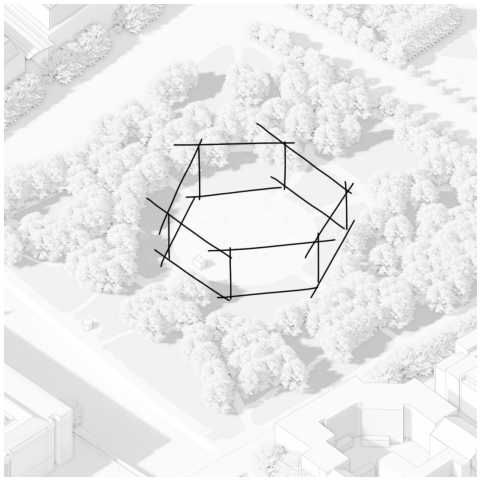
+ focus on trees

- all trees cut down
- difficult system
- greenwashing

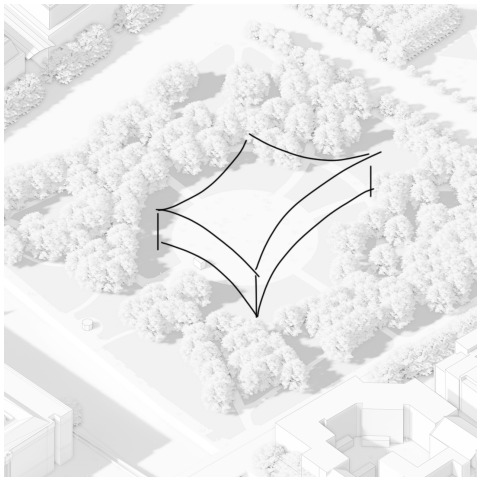
Massing

# PRELIMINARY SKETCHES

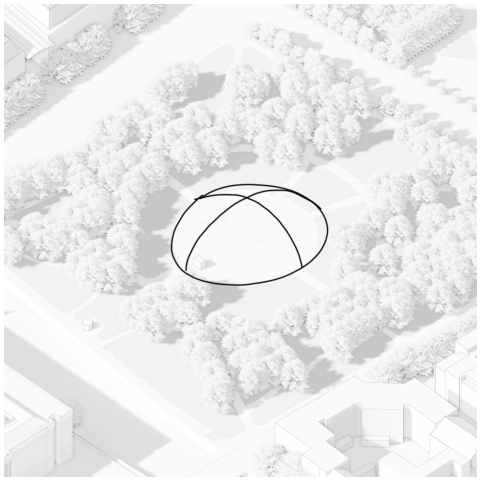
*Circle*



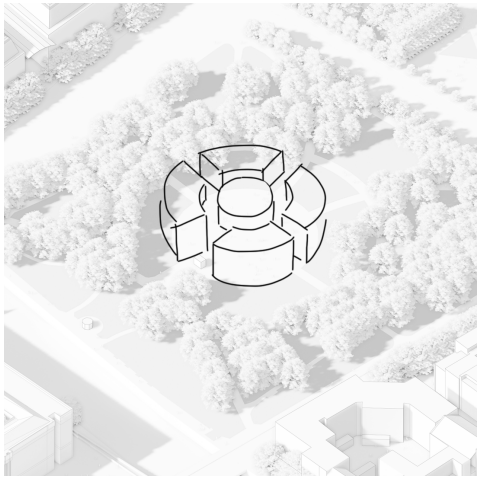
*Hexagon*



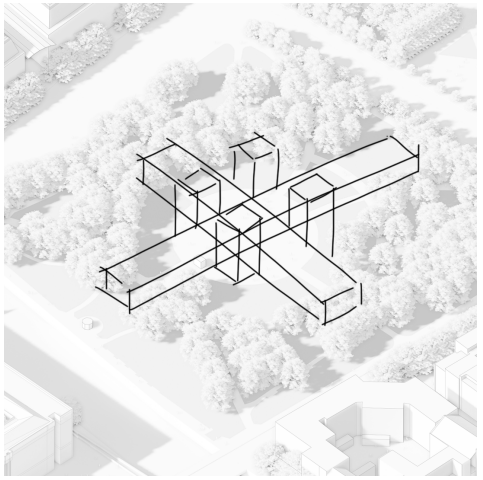
*Curve*



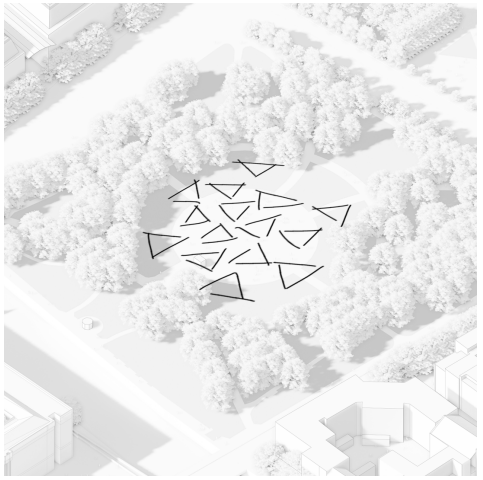
*Dome*



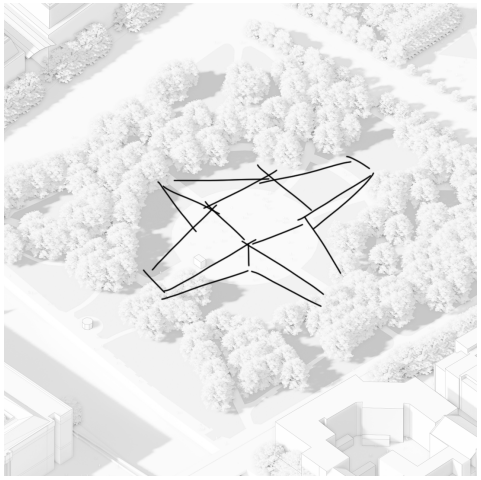
*Radial*



*Towers*



*Underground*



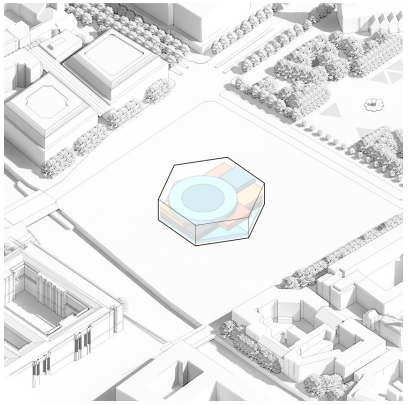
*Ramps*

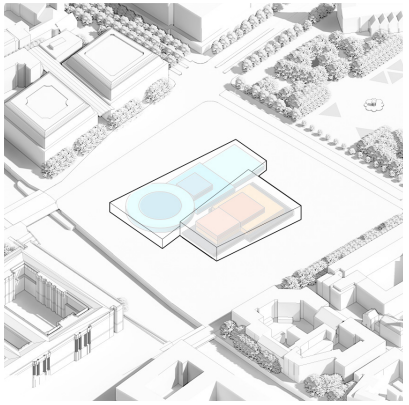
Massing

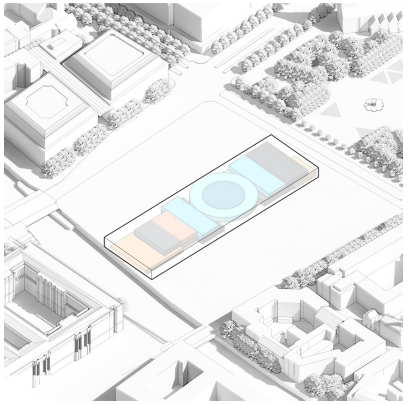
# OVERVIEW

/ CATEGORY /
SITE

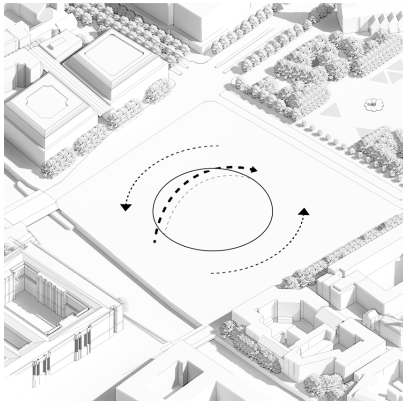
/ CATEGORY /
PROGRAM

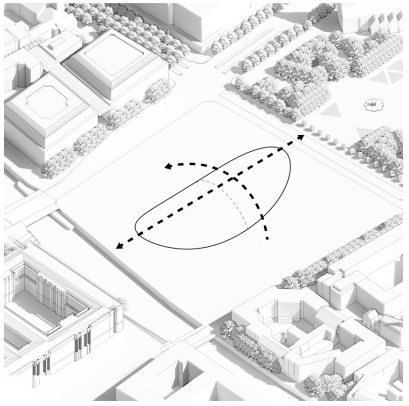


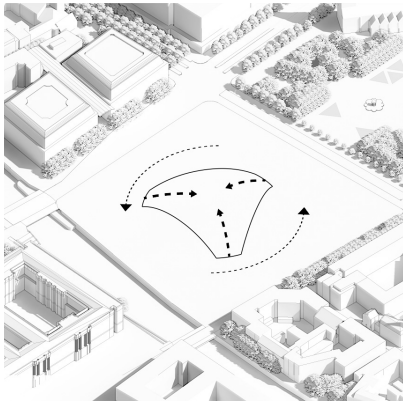




/ CATEGORY /
CLIENT







Massing

# MODELS

/ CATEGORY / SITE

/ CATEGORY / PROGRAM

/ CATEGORY / CLIENT

Massing

# CONCEPTS

/ CATEGORY /
SITE

CONCEPT 1

**RESPECT OF NATURAL BOUNDARIES**

/ CATEGORY /
PROGRAM

CONCEPT 2

**PH + DB HIGHLIGHT**

/ CATEGORY /
CLIENT

CONCEPT 3

**CURVILINEAR THEME**

# PROJECT AMBITIONS

## Participation

A building which promotes broad participation, democratic debate, and dialogue in the name of a new inclusivity.

## Representation

A space where both human and natural entities are represented and have a role in the legislative system.

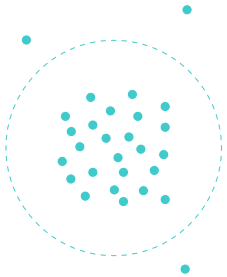
## Model

A new architectural type for legislative buildings, a model for the future of national and internationl institutions.

# DESIGN AMBITIONS

From “Participation”

## Open access

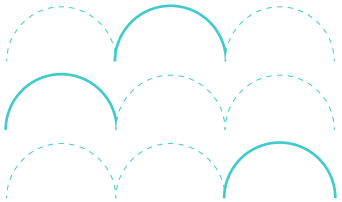


An inclusive space which allows interaction between interior and exterior and promotes dialogue inside.

- Public functions highlighted
- Open access

From “Representation”

## Symbolic theme

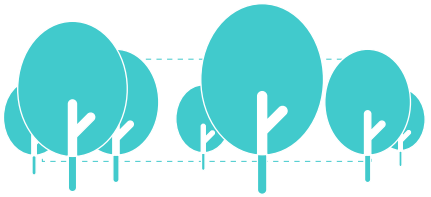


An architecture which reflects human and natural features, making use of repetitions, patterns, and symbols.

- Repetition of key element

From “Model”

## Frontless building



A new type of monumentality, which doesn’t provide a specific front but is placed behind existing green.

- Surrounded by trees
- Max height: ~20m

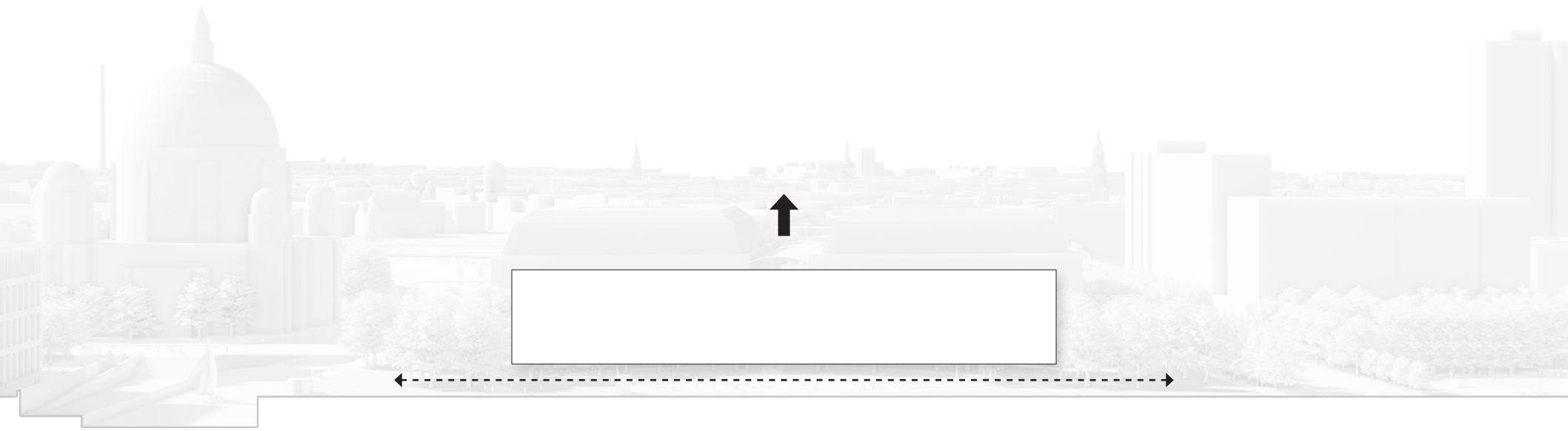
# THOUGHT PROCESS

Massing

# THOUGHT PROCESS

*Frontless building* = **Circular shape**

# THOUGHT PROCESS



*Frontless building* = Circular shape

*Public ground floor* = **Floating structure**

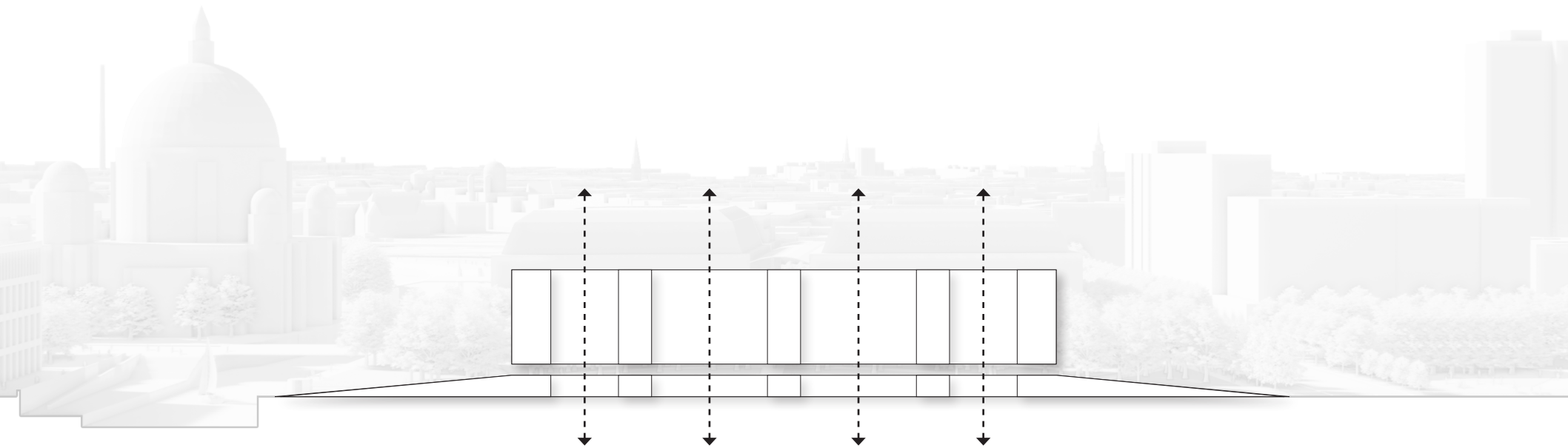
Massing

# THOUGHT PROCESS

*Frontless building* = Circular shape
*Public ground floor* = Floating structure
*Open access* = **Upward flow**

Massing

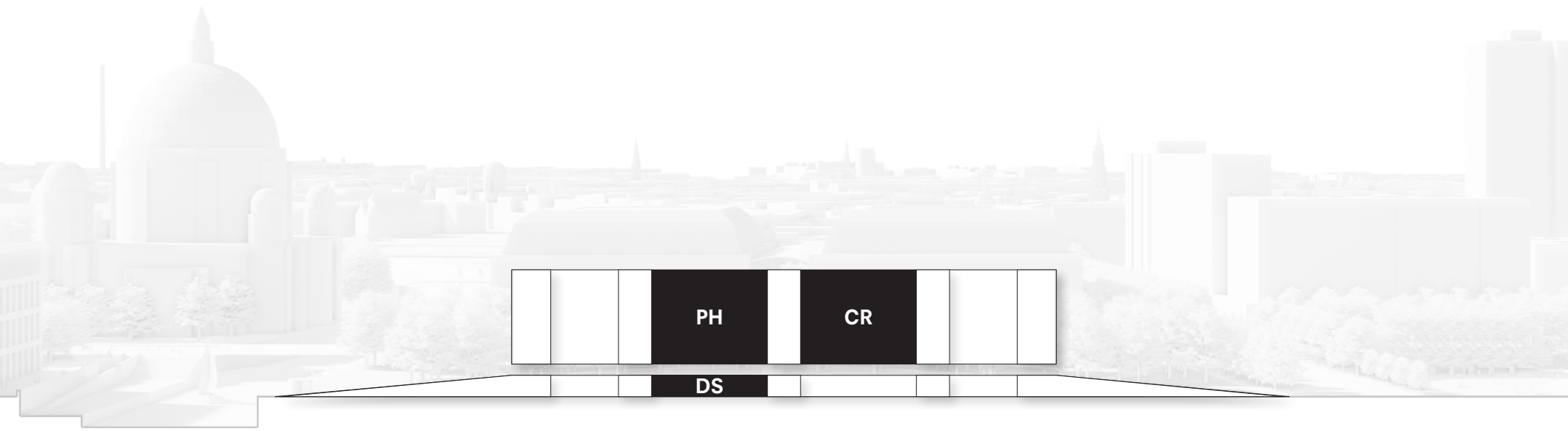
# THOUGHT PROCESS



*Frontless building* = Circular shape
*Public ground floor* = Floating structure
Open access = Upward flow
*Public functions highlighted* = **Vertical voids**

Massing

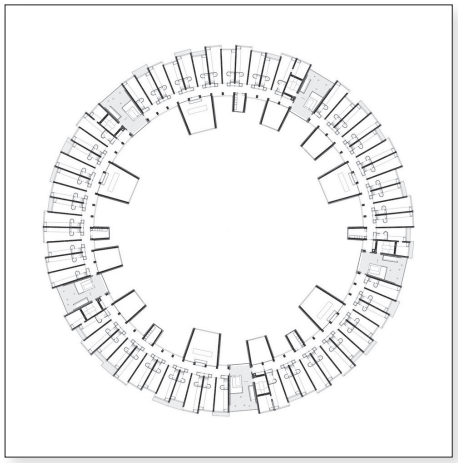
# THOUGHT PROCESS




*Frontless building* = Circular shape
*Public ground floor* = Floating structure
Open access = Upward flow
*Public functions highlighted* = Vertical voids
**Key functions**

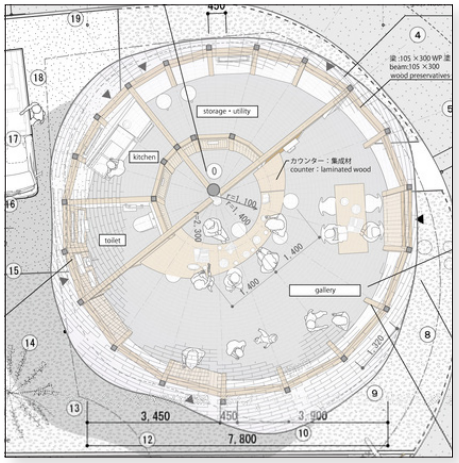
# HOW TO... CIRCULAR PLAN

/ TYPE 1 /
RADIAL



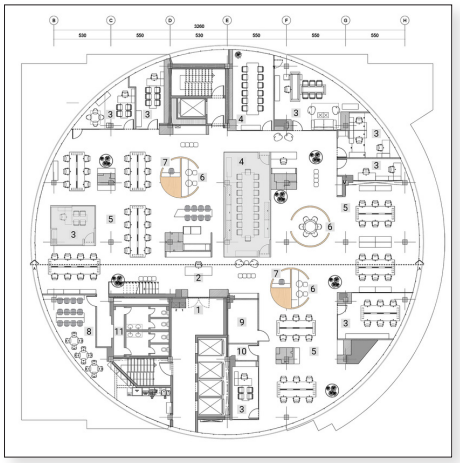
Tietgen Dormitory
Lundgaard & Tranberg Architects

/ TYPE 2 /
RADIAL DECENTRALISED



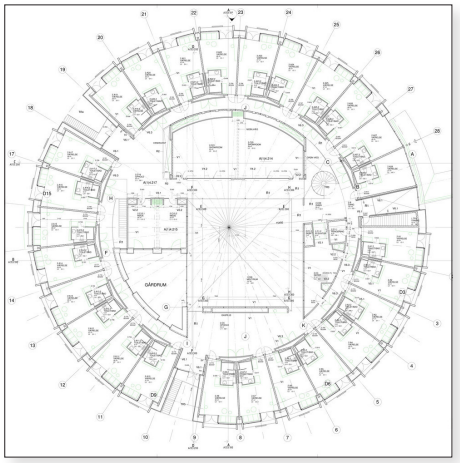

Aichi Institute of Technology
H. Kichi + I. Matsumoto

/ TYPE 3 /
ORTHOGONAL



Private Office Headquarters
Persian Garden Studio

/ TYPE 4 /
MIXED

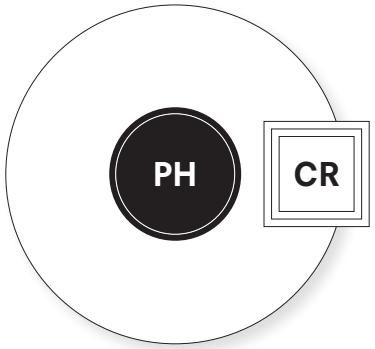


Ecco's Hotel
Dissing+Weitling Architecture

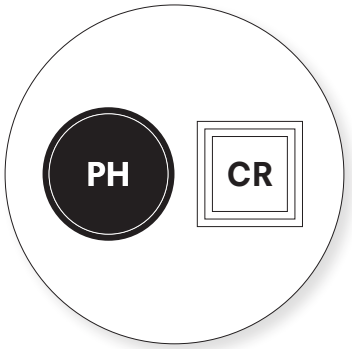
Key space(s)

# PH + CR POSITION

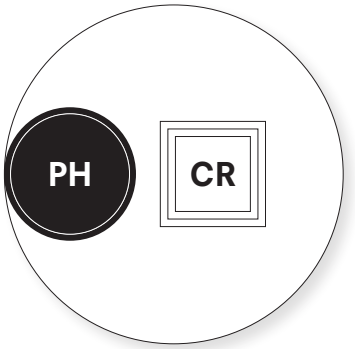
/ OPTION 1 /
CENTRALISED




/ OPTION 2 /
SHIFTED




/ OPTION 3 /
LATERAL

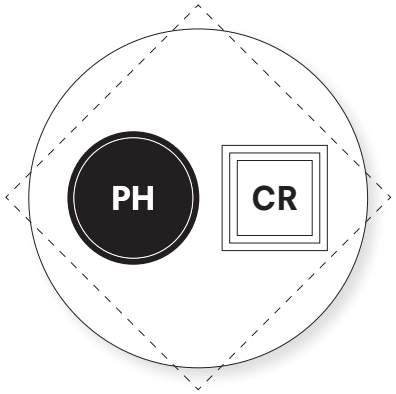


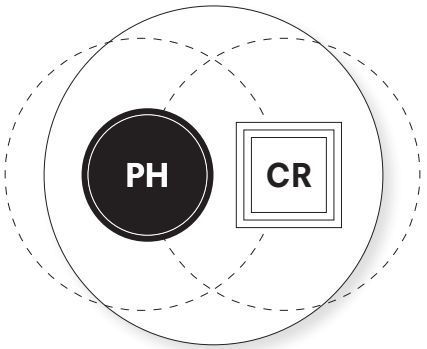

Plenary Hall

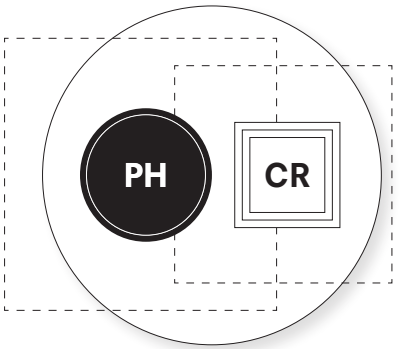
Confrontation Room

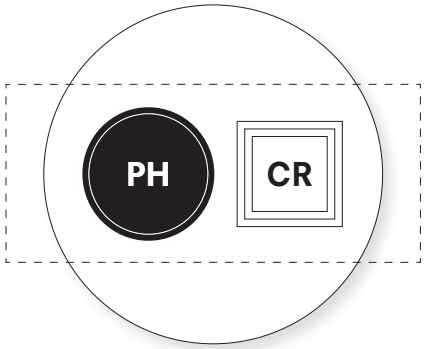
Key space(s)

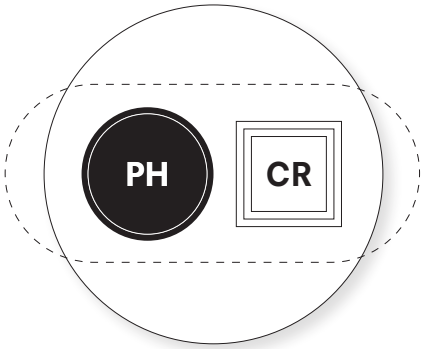
# ORGANISATION OPTIONS

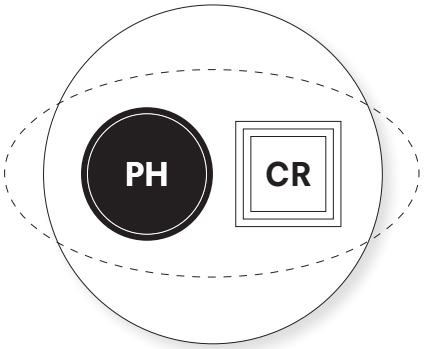


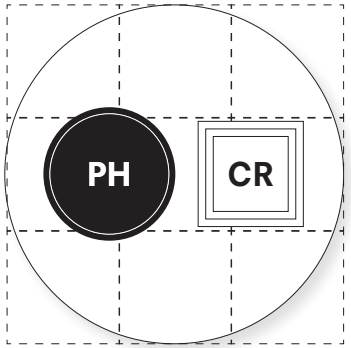



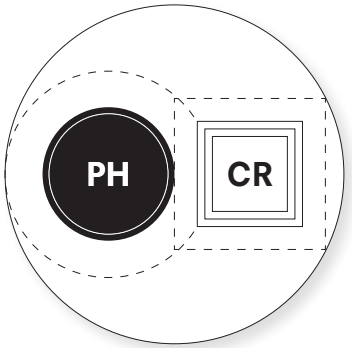



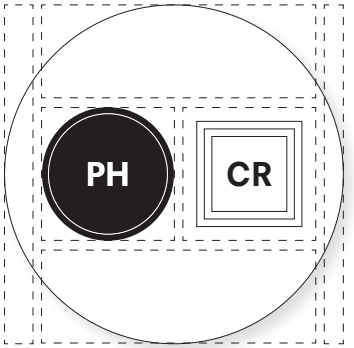



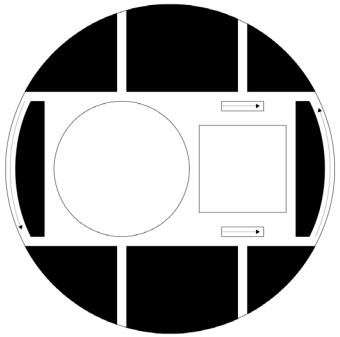



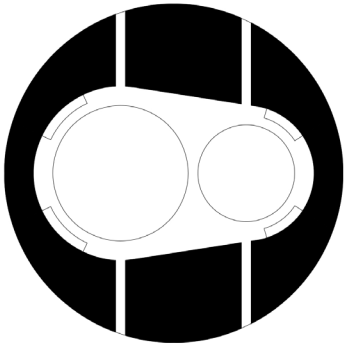
Key space(s)

# SPACES?

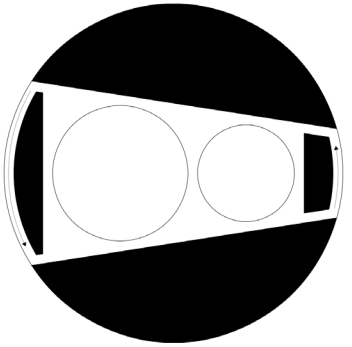
/ RECTANGLES /
ORTHOGONAL



/ SEGMENTS /
RADIAL



/ TRAPEZIUMS /
OBLIQUE



Key space(s)

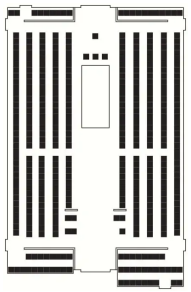
# RESEARCH QUESTION

Where should the **design** of the
internal composition **start** from?

Key space(s)

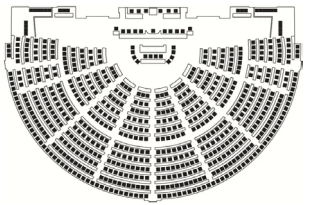
# PLENARY HALL PROTOCOL

## Opposing Benches
House of Common
- England -



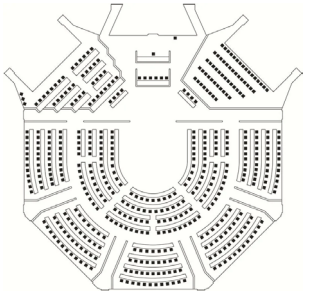
- Agonistic model
- Anti-democratic system
- Vertically organized societiey

## Semicircle
Paris National Assembly
- France -



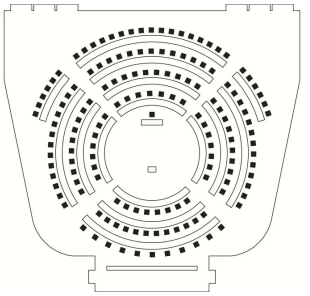
- Classical antiquity
- Aura of gravitas
- Representative elite

## Horseshoe
Jatiya Sangsad Bhaban
- Bangladesh -



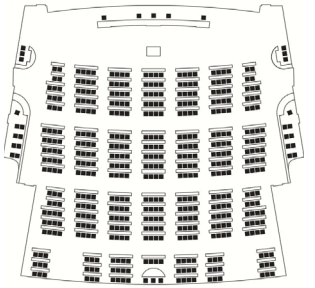
- Representative elite
- Vertically organized societiey

## Circle
National Assembly
- Slovenia -



- Democratic equality
- Broad representativeness

## Classroom
Duma
- Russia -



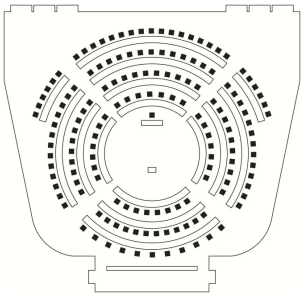
- Regimented rows
- Anti-democratic system
- Focus on single speaker

Key space(s)

# DEMOCRACY INDEX

/ PLENARY HALL /
TYPOLOGY

Circle



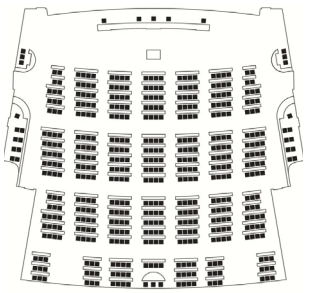
*Meaning*
· Democratic equality
· Broad representativeness

**Democracy Index**

From most to least

From least to most

Classroom



*Meaning*
· Regimented rows
· Anti-democratic system
· Focus on single speaker

Russia - Duma
Moderate Autocracy
DI: 0.262/1.000

North Korea - People's Assembly
Hard autocracy
DI: 0.029/1.000

/ PLENARY HALL /
SIZE

Small

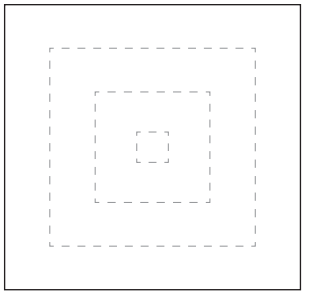
*Meaning*
· Broad participation
· Closeness to institution
· Intense debate

**Democracy Index**

From most to least

From least to most

Big

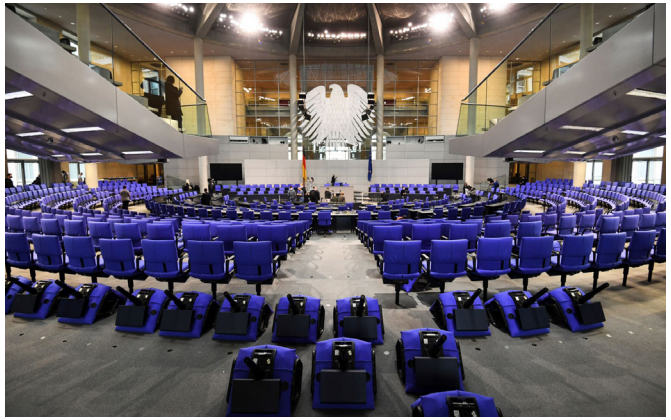


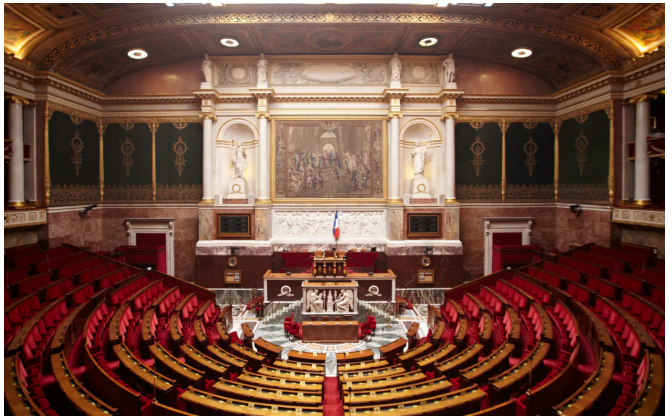
*Meaning*
· Idea of authority
· Monumentality of the space

China - People's Congress
Hard Autocracy
DI: 0.048/1.000

Key space(s)

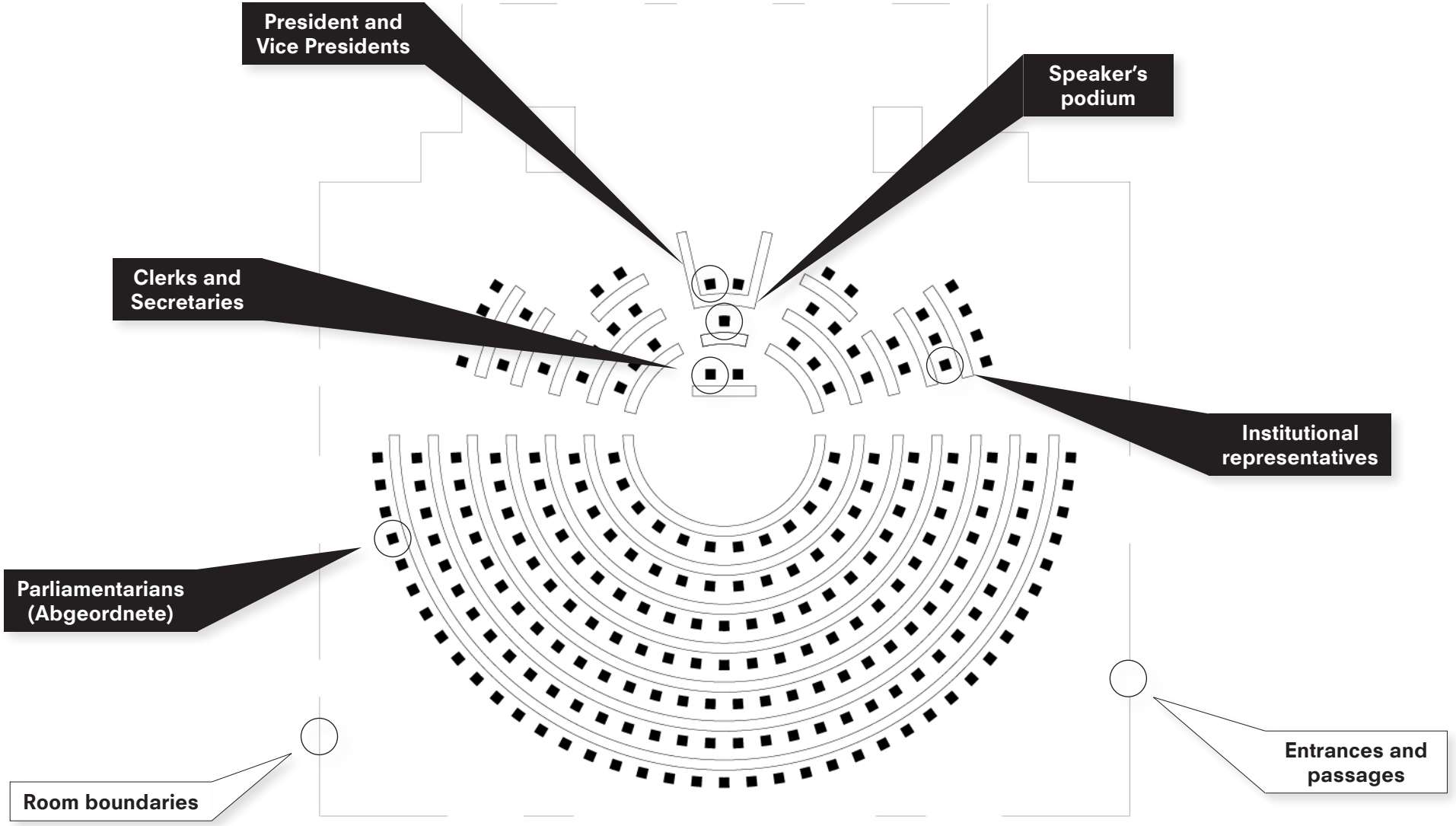
# VIEWS





Key space(s)

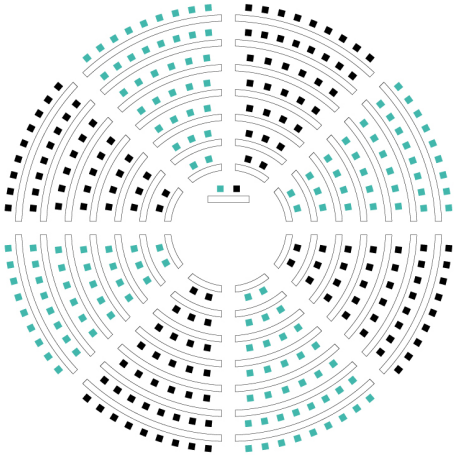
# CURRENT PLENARY HALL



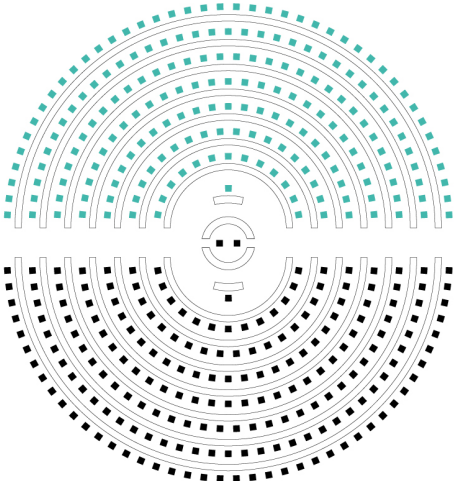
Key space(s)

# DESIGN POSSIBILITIES

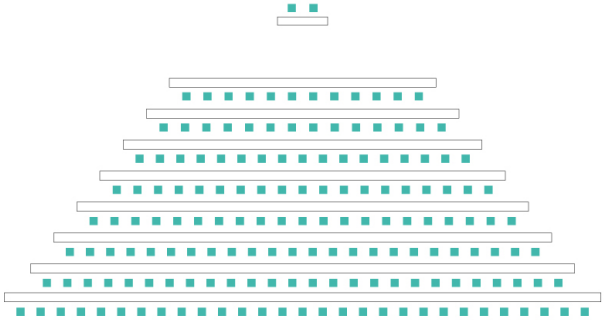
**1** Circle
Divided



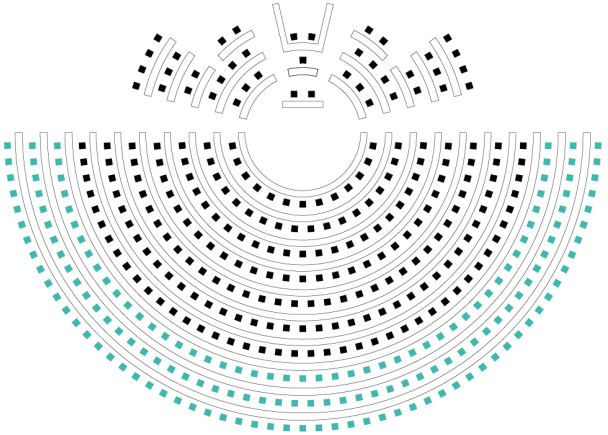
**2** Circle
Opposed semicircles



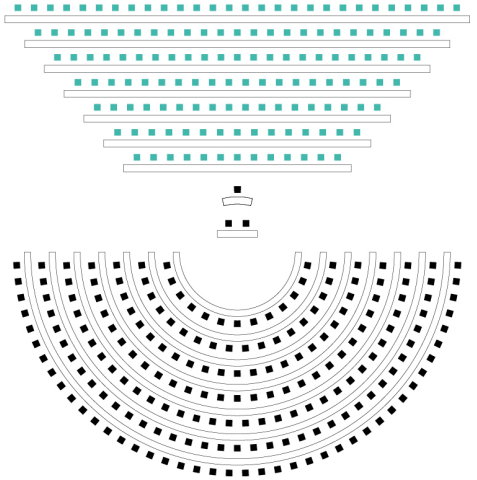
**1** Classroom
Lecture layout



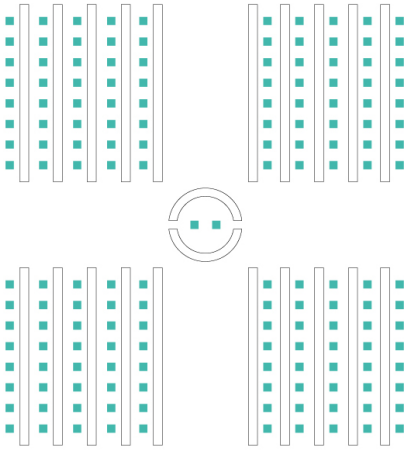
**3** Semicircle
Centre + border



**4** Opposing
Semicircle + classroom

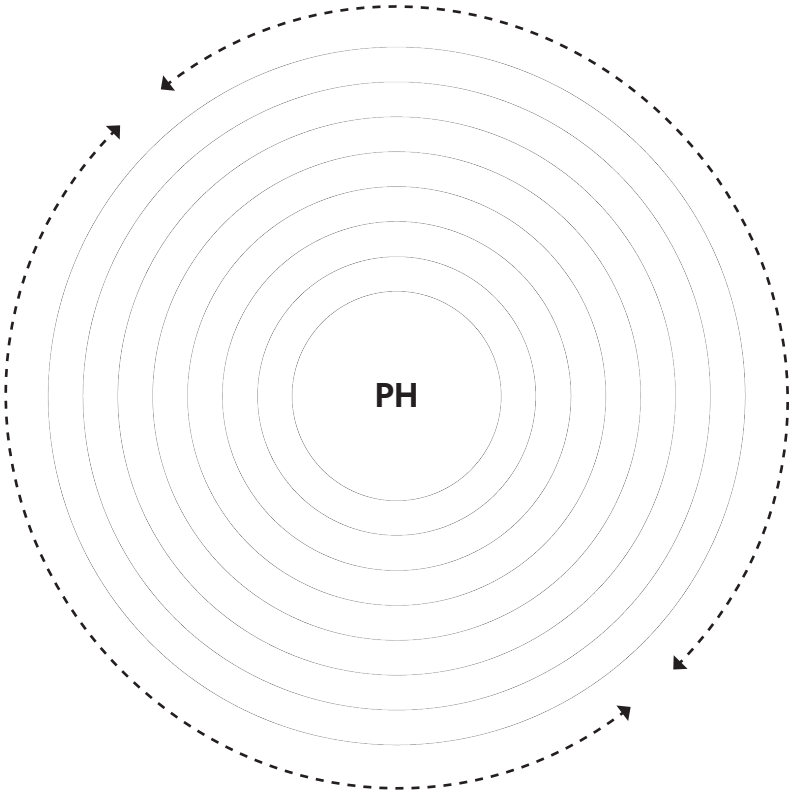


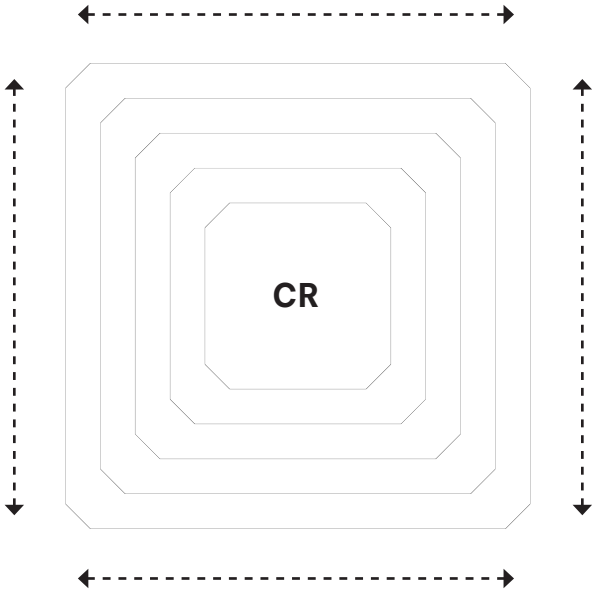
**2** Groups
Close discussion layout



Key space(s)

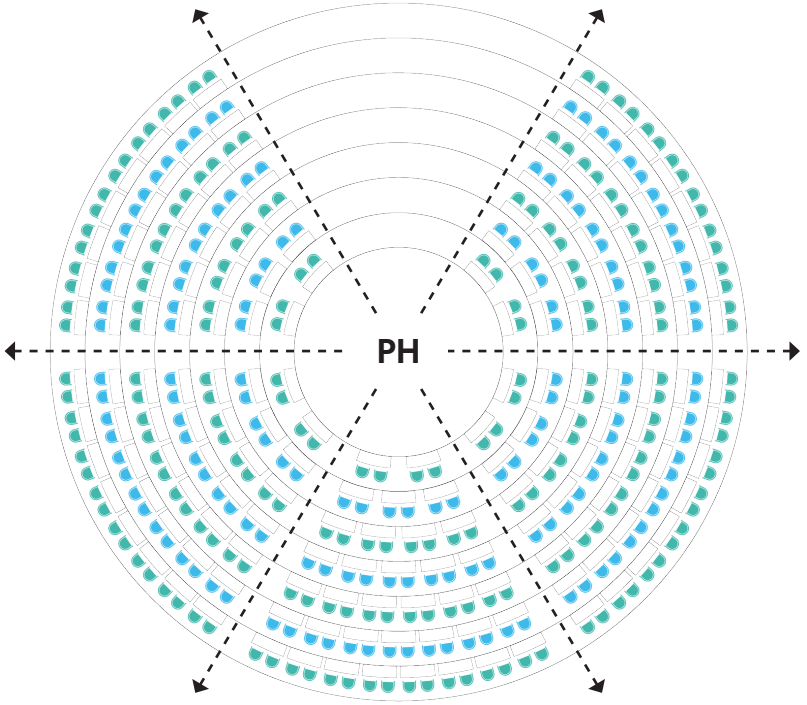
# PROCESS

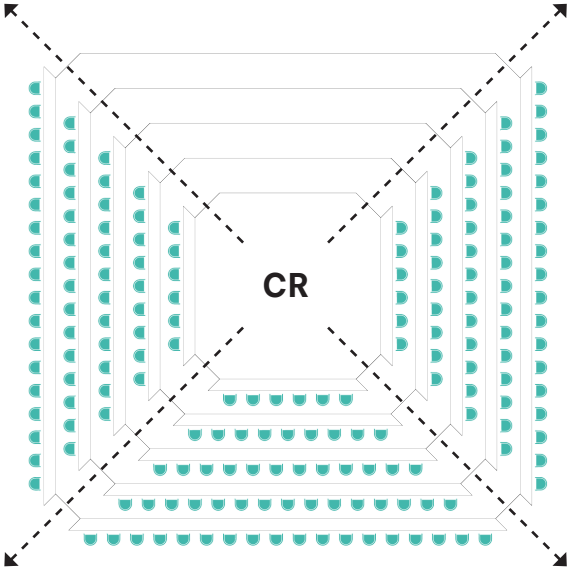


Key space(s)

# PROCESS

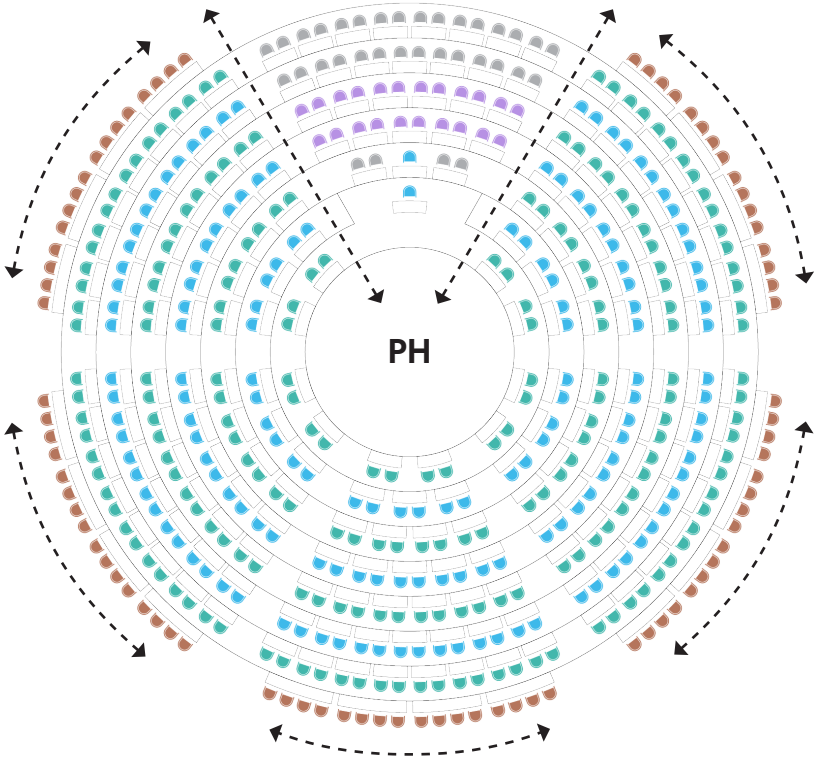


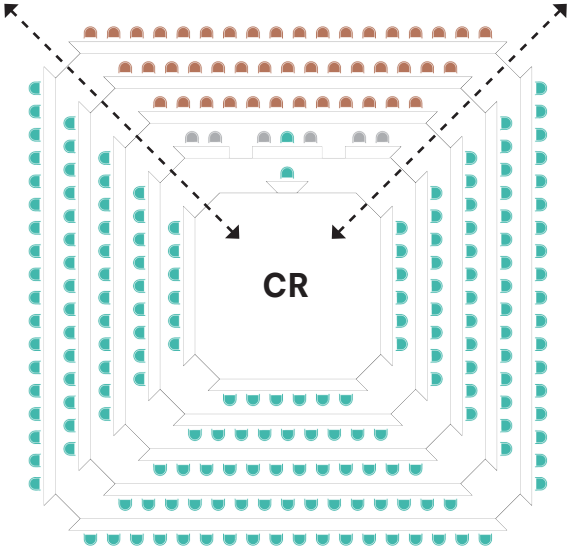




Parliamentarians Technicians

Key space(s)

# PROCESS

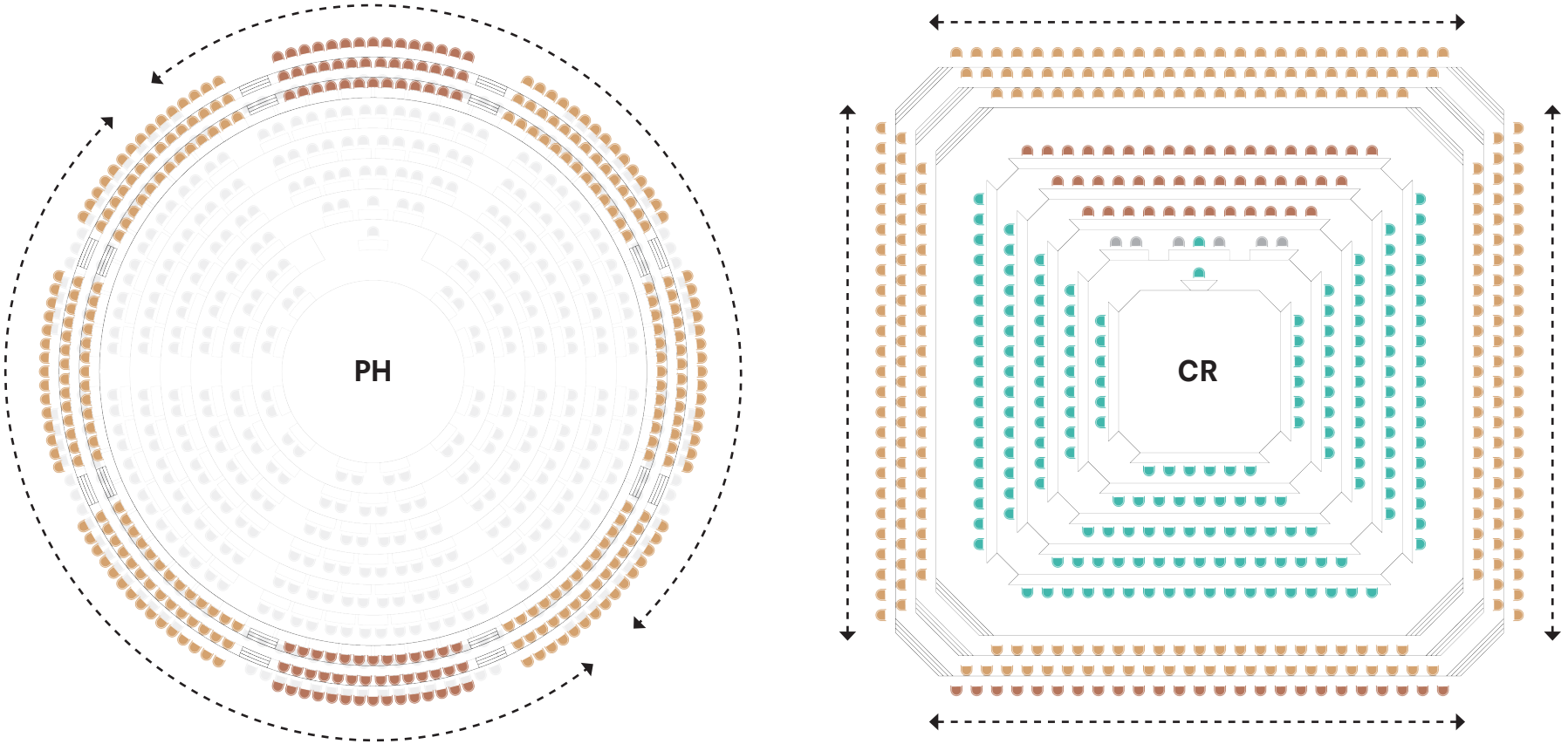



Parliamentarians Technicians Senators Servants Media

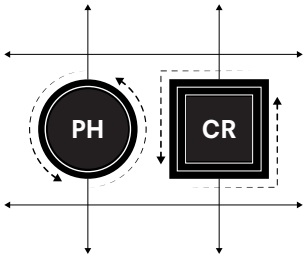
Key space(s)

# PROCESS



Program distribution

# FLOWS




*First Level*

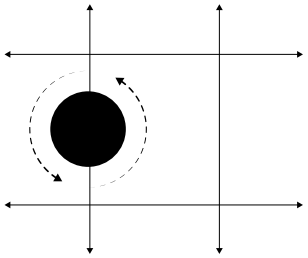
Key spaces flow

General flow

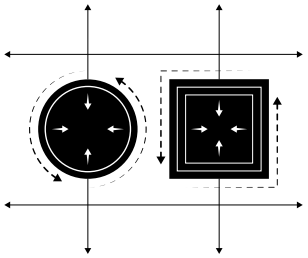
Access

Program distribution

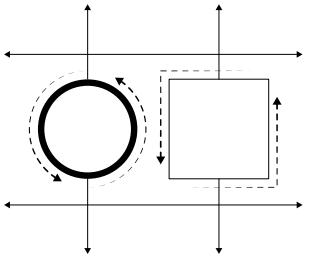
# FLOWS



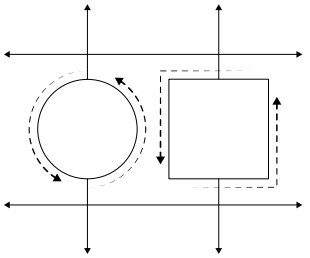
*Ground Level*



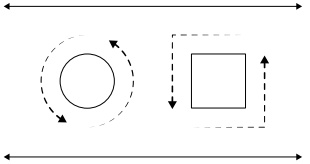
*First Level*



*Second Level*



*Third Level*



*Roof Level*

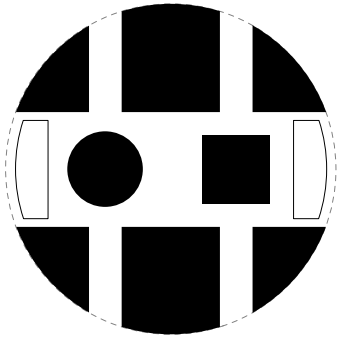
Key spaces flow

General flow

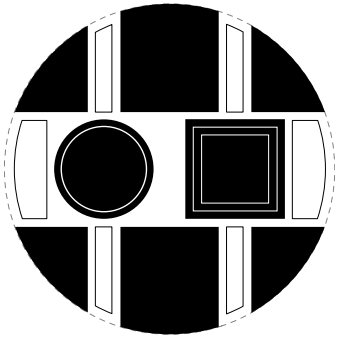
Access

Program distribution

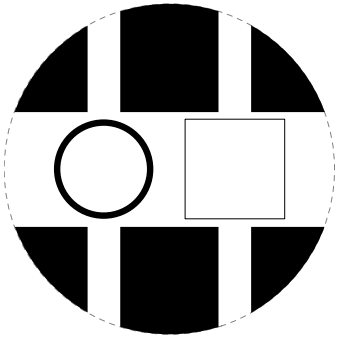
# SPACES



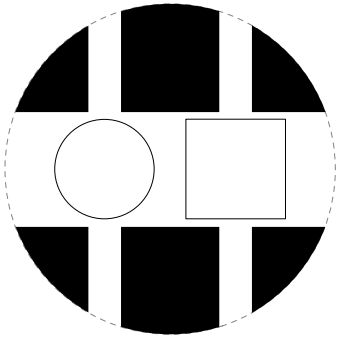
*Ground Level*



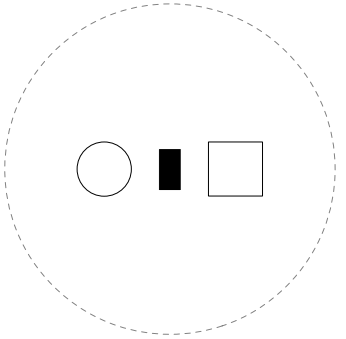
*First Level*



*Second Level*



*Third Level*



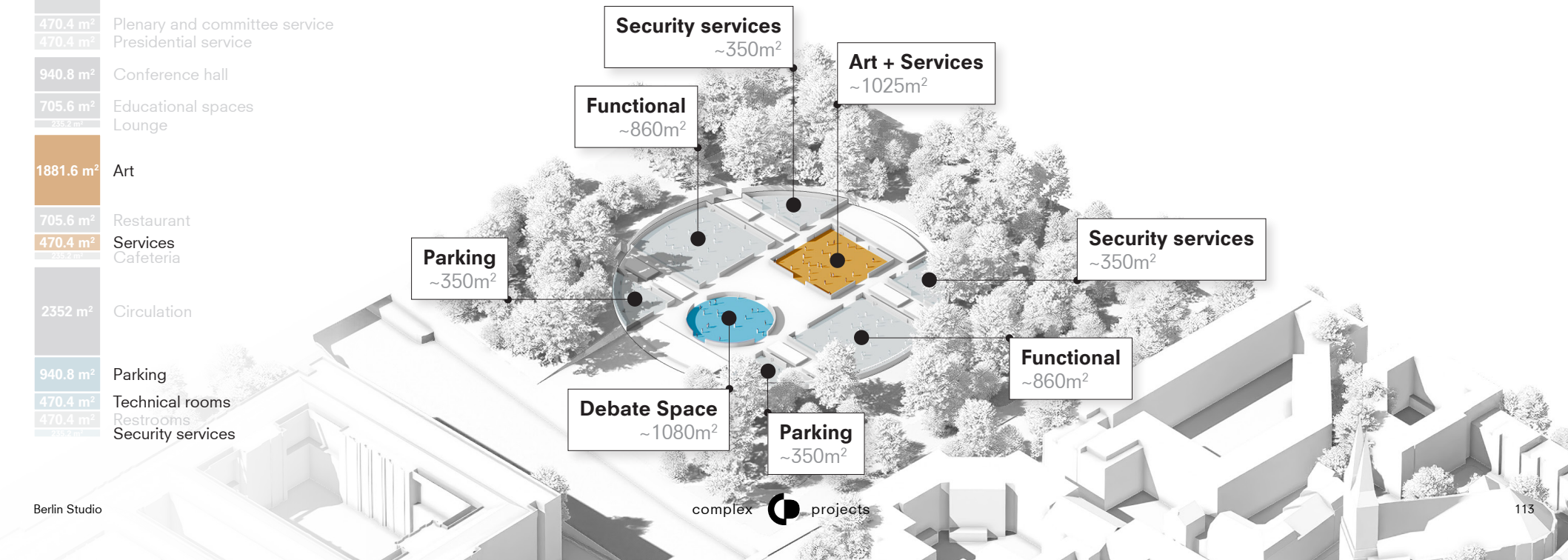
*Roof Level*

Spaces

Program distribution

# LEVEL 0

- 1881.6 m² Specialist committees
- 1646.4 m² Community
- 1646.4 m² Technicians facilities
- 1411.2 m² Offices
- 940.8 m² Plenary hall (+ Political)
- 470.4 m² Technicians confrontation hall
- 470.4 m² Press
- 470.4 m² Public tribune
- 2587.2 m² Scientific parliamentary service
- 1411.2 m² General administration
- 470.4 m² Plenary and committee service
- 470.4 m² Presidential service
- 940.8 m² Conference hall
- 705.6 m² Educational spaces
- 235.2 m² Lounge
- 1881.6 m² Art
- 705.6 m² Restaurant
- 470.4 m² Services
- 235.2 m² Cafeteria
- 2352 m² Circulation
- 940.8 m² Parking
- 470.4 m² Technical rooms
- 470.4 m² Restrooms
- 235.2 m² Security services



Program distribution

# LEVEL 1

1881.6 m² Specialist committees

1646.4 m² Community

1646.4 m² Technicians facilities

1411.2 m² Offices

940.8 m² Plenary hall (+ Political)

470.4 m² Technicians confrontation hall

470.4 m² Press

470.4 m² Public tribune

2587.2 m² Scientific parliamentary service

1411.2 m² General administration

470.4 m² Plenary and committee service

470.4 m² Presidential service

940.8 m² Conference hall

705.6 m² Educational spaces

Lounge

1881.6 m² Art

705.6 m² Restaurant

470.4 m² Services

Cafeteria

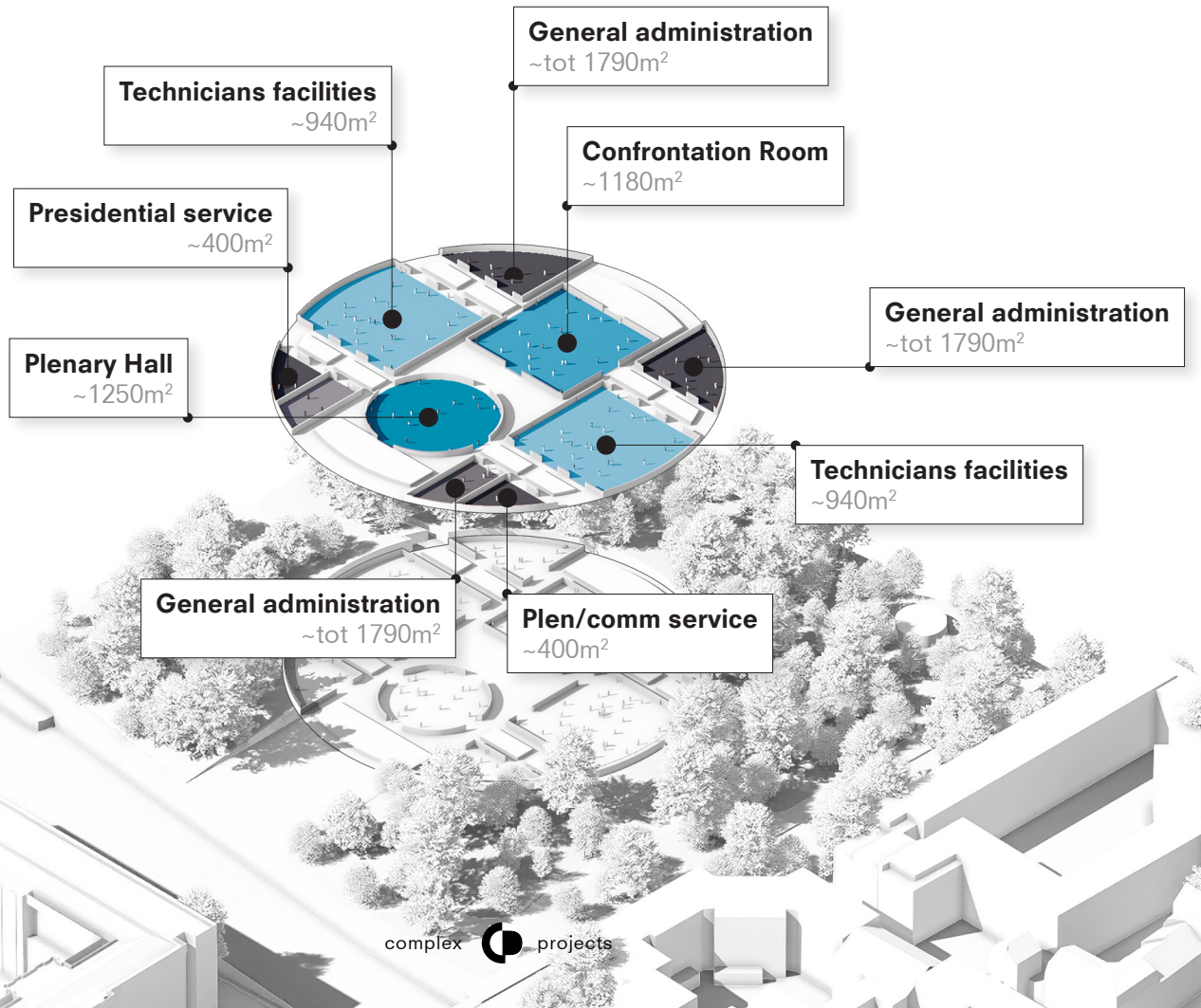
2352 m² Circulation

940.8 m² Parking

470.4 m² Technical rooms

470.4 m² Restrooms

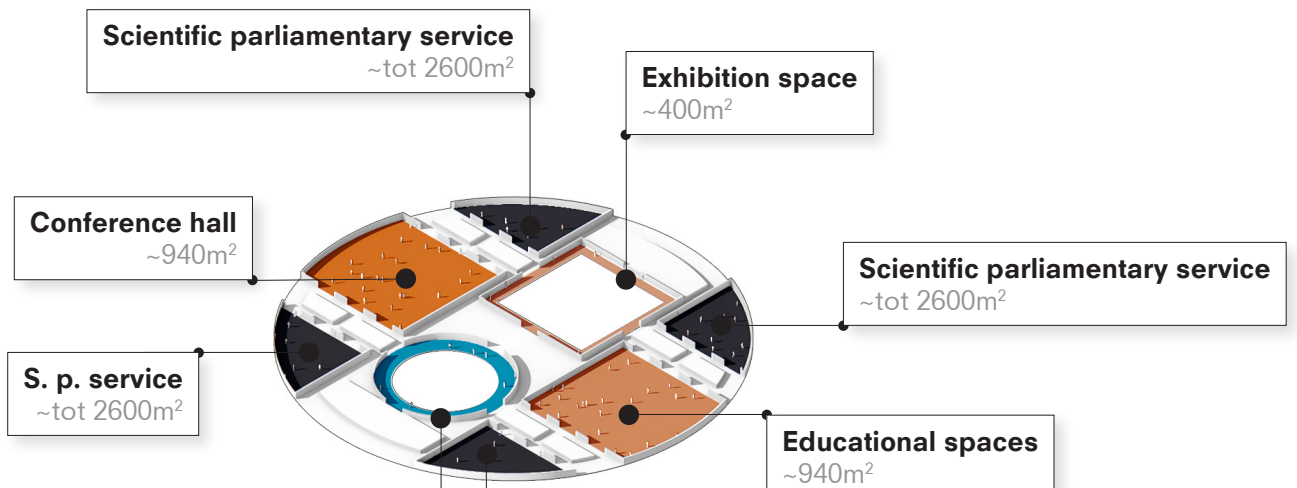
Security services



Program distribution

# LEVEL 2

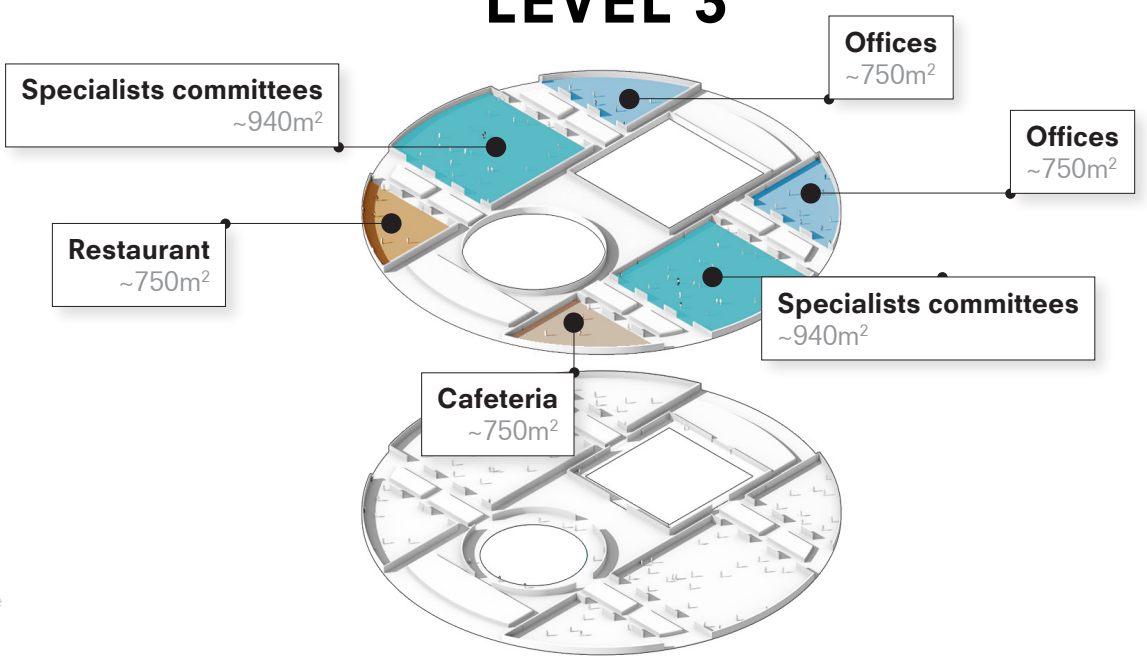
1881.6 m² Specialist committees
1646.4 m² Community
1646.4 m² Technicians facilities
1411.2 m² Offices
940.8 m² Plenary hall (+ Political)
470.4 m² Technicians confrontation hall
470.4 m² Press
470.4 m² Public tribune
2587.2 m² Scientific parliamentary service
1411.2 m² General administration
470.4 m² Plenary and committee service
470.4 m² Presidential service
940.8 m² Conference hall
705.6 m² Educational spaces
235.2 m² Lounge
1881.6 m² Art
705.6 m² Restaurant
470.4 m² Services
235.2 m² Cafeteria
2352 m² Circulation
940.8 m² Parking
470.4 m² Technical rooms
470.4 m² Restrooms
235.2 m² Security services



# Program distribution

# LEVEL 3

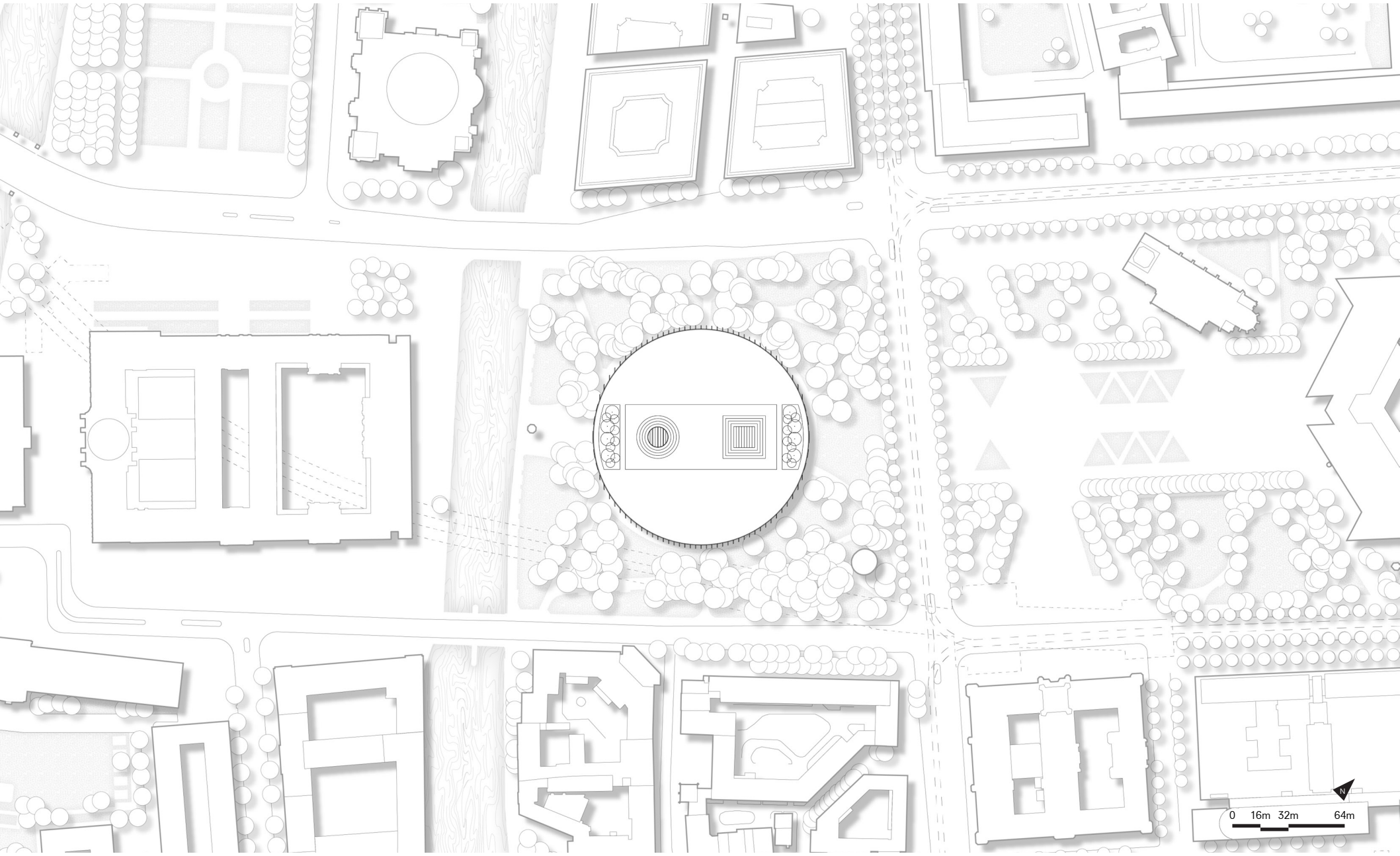
- 1881.6 m² Specialist committees
- 1646.4 m² Community
- 1646.4 m² Technicians facilities
- 1411.2 m² Offices
- 940.8 m² Plenary hall (+ Political)
- 470.4 m² Technicians confrontation hall
- 470.4 m² Press
- 470.4 m² Public tribune
- 2587.2 m² Scientific parliamentary service
- 1411.2 m² General administration
- 470.4 m² Plenary and committee service
- 470.4 m² Presidential service
- 940.8 m² Conference hall
- 705.6 m² Educational spaces
- Lounge
- 1881.6 m² Art
- 705.6 m² Restaurant
- 470.4 m² Services
- Cafeteria
- 2352 m² Circulation
- 940.8 m² Parking
- 470.4 m² Technical rooms
- 470.4 m² Restrooms
- Security services



1. FLOWS

2. ARCH CONCEPT

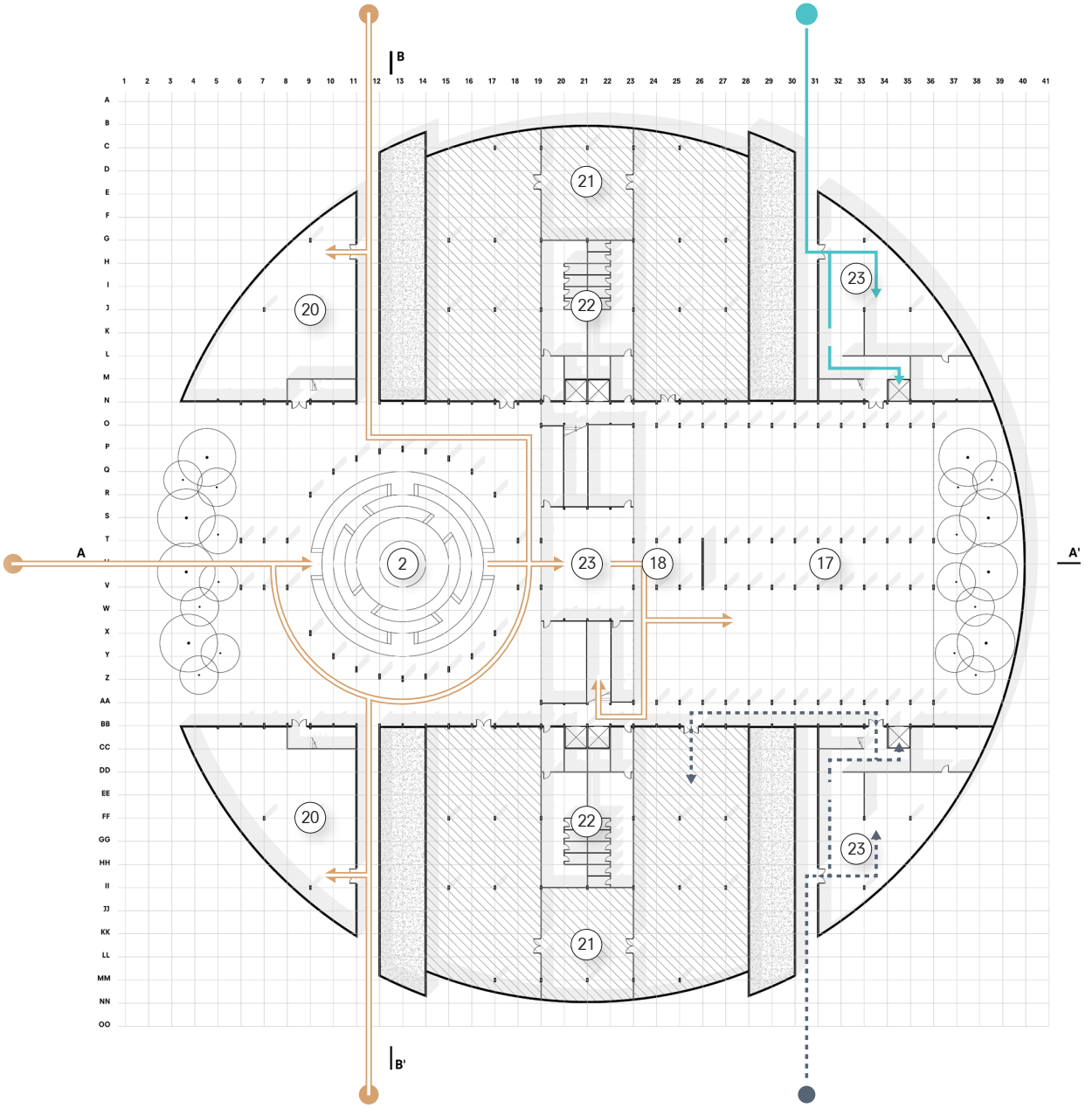
# SITE PLAN



Flows

# LEVEL 0

1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
8 Public tribune
9 Scientific parl. service
10 General administration
11 Plen./committee service
12 Presidential service
13 Conference hall
14 Educational spaces
15 Lounge
16 Restaurant
17 Art
18 Services
19 Cafeteria
20 Parking
21 Technical rooms
22 Restrooms
23 Security services

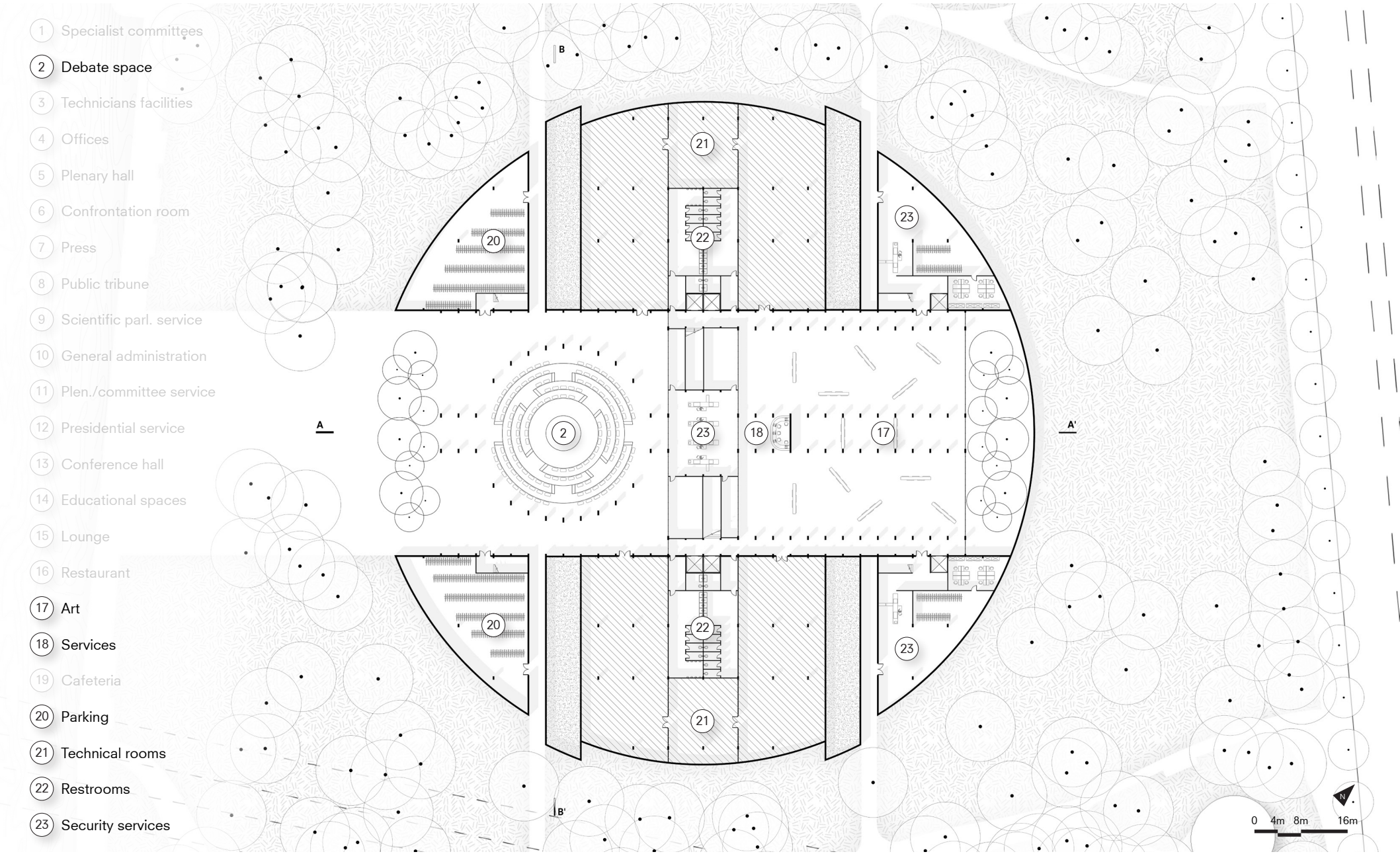



Visitors
Parliam. / Technic.
Employees

0 4m 8m 16m

# LEVEL 0

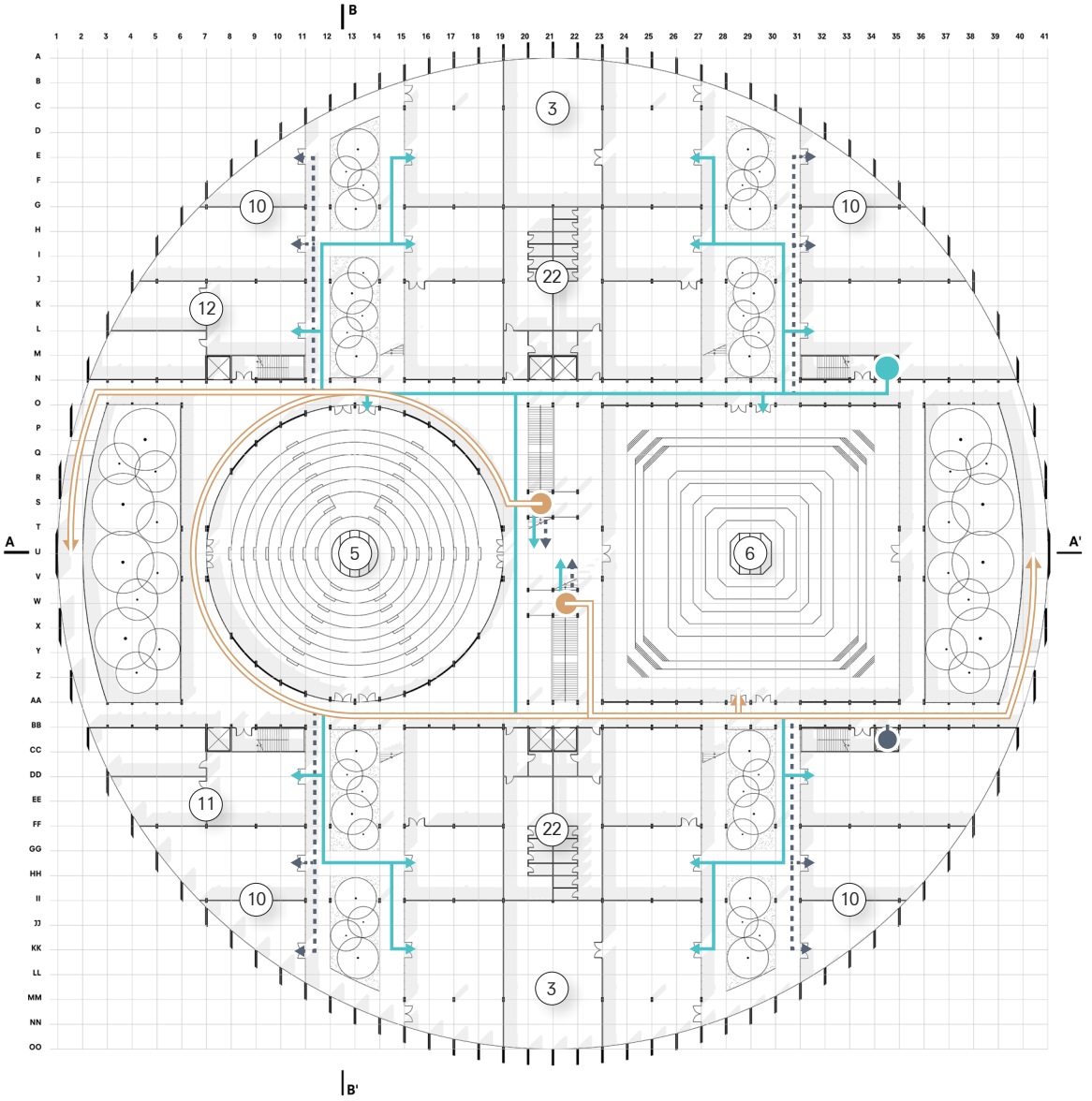
1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
8 Public tribune
9 Scientific parl. service
10 General administration
11 Plen./committee service
12 Presidential service
13 Conference hall
14 Educational spaces
15 Lounge
16 Restaurant
17 Art
18 Services
19 Cafeteria
20 Parking
21 Technical rooms
22 Restrooms
23 Security services



Flows

# LEVEL 1

1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
8 Public tribune
9 Scientific parl. service
10 General administration
11 Plen./committee service
12 Presidential service
13 Conference hall
14 Educational spaces
15 Lounge
16 Restaurant
17 Art
18 Services
19 Cafeteria
20 Parking
21 Technical rooms
22 Restrooms
23 Security services

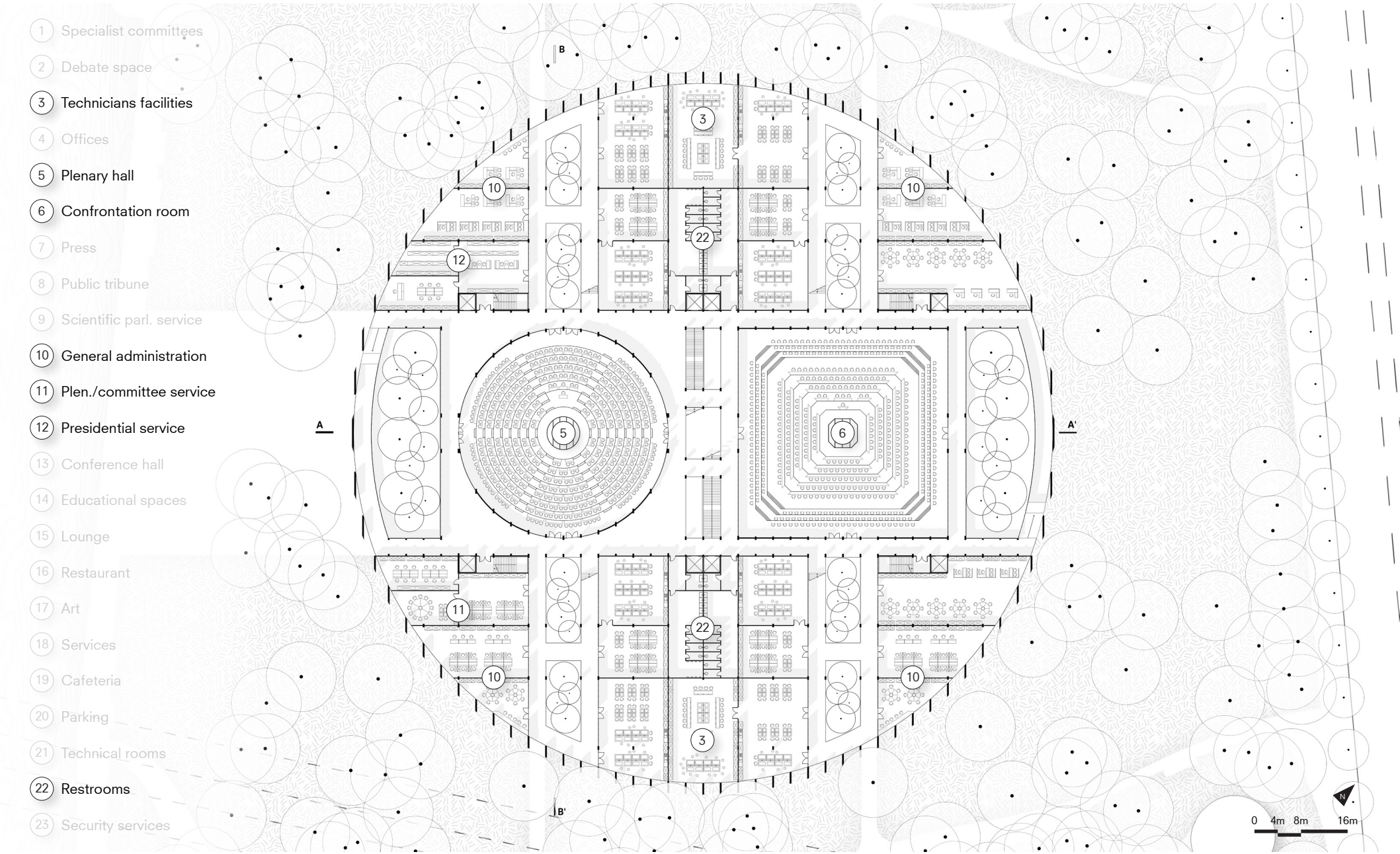



Visitors
Parliam. / Technic.
Employees

0 4m 8m 16m

# LEVEL 1

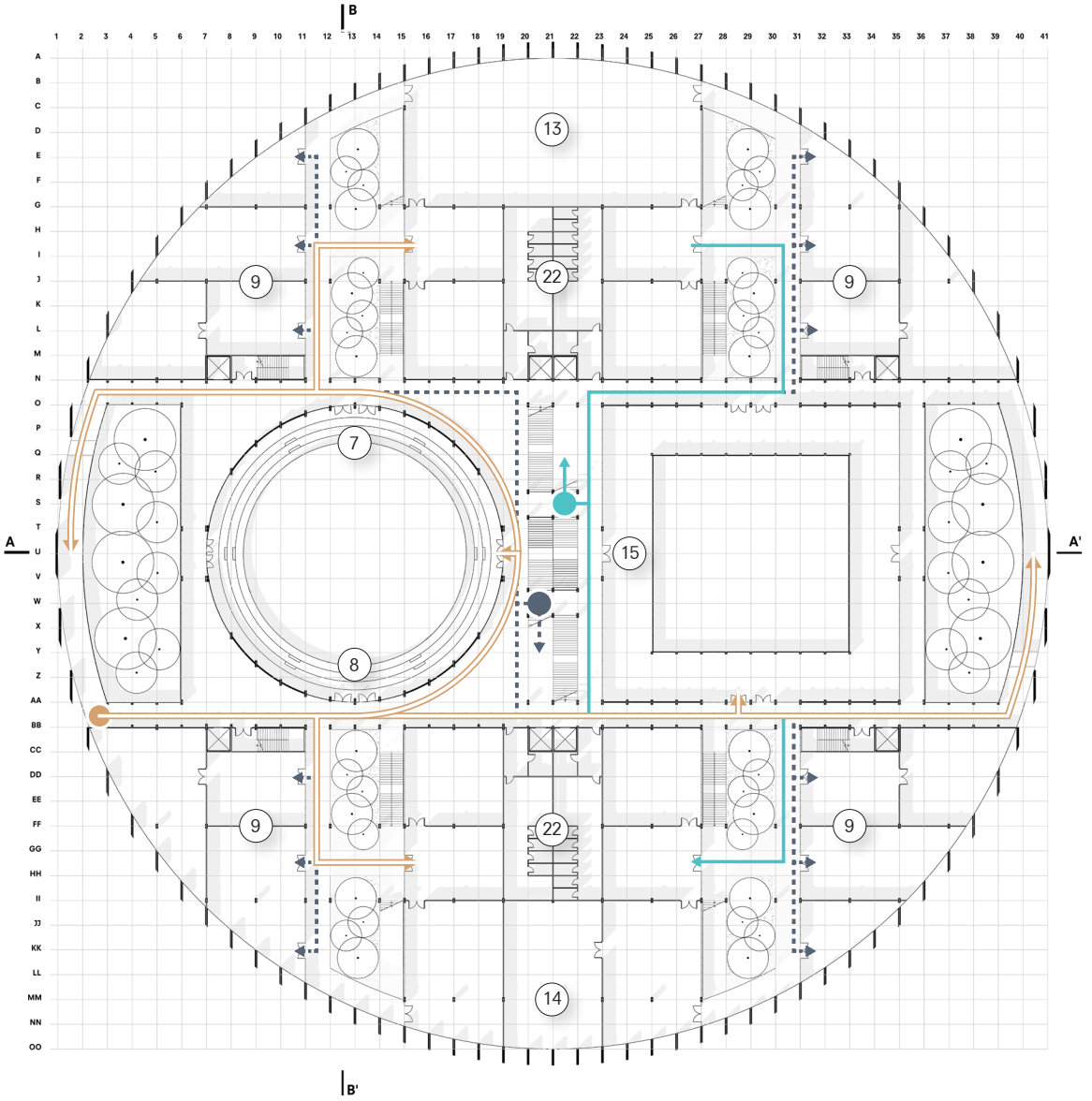
1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
8 Public tribune
9 Scientific parl. service
10 General administration
11 Plen./committee service
12 Presidential service
13 Conference hall
14 Educational spaces
15 Lounge
16 Restaurant
17 Art
18 Services
19 Cafeteria
20 Parking
21 Technical rooms
22 Restrooms
23 Security services



Flows

# LEVEL 2

1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
8 Public tribune
9 Scientific parl. service
10 General administration
11 Plen./committee service
12 Presidential service
13 Conference hall
14 Educational spaces
15 Lounge
16 Restaurant
17 Art
18 Services
19 Cafeteria
20 Parking
21 Technical rooms
22 Restrooms
23 Security services




Visitors
Parliam. / Technic.
Employees

0 4m 8m 16m

# LEVEL 2

1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
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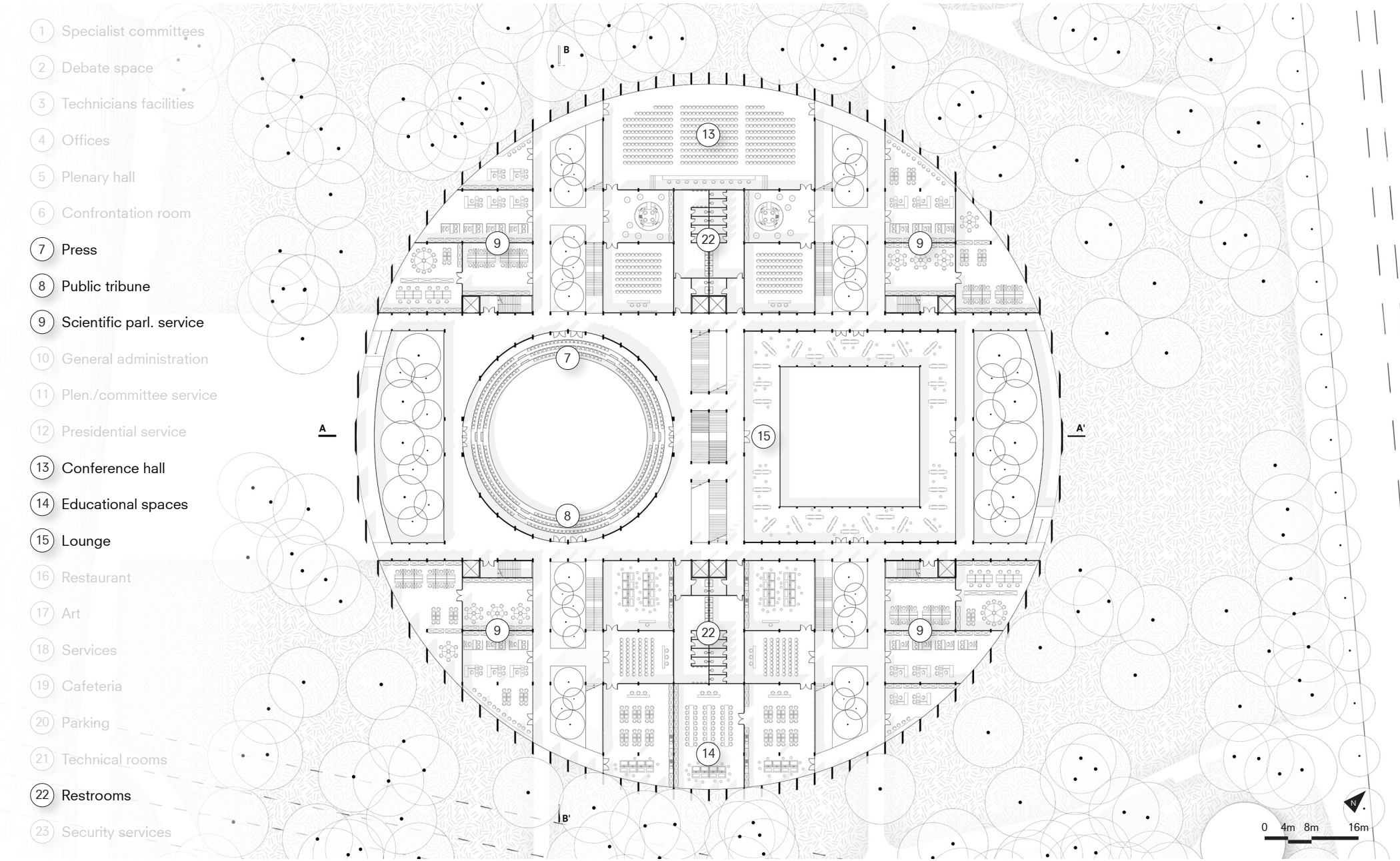

Flows

# LEVEL 3

1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
8 Public tribune
9 Scientific parl. service
10 General administration
11 Plen./committee service
12 Presidential service
13 Conference hall
14 Educational spaces
15 Lounge
16 Restaurant
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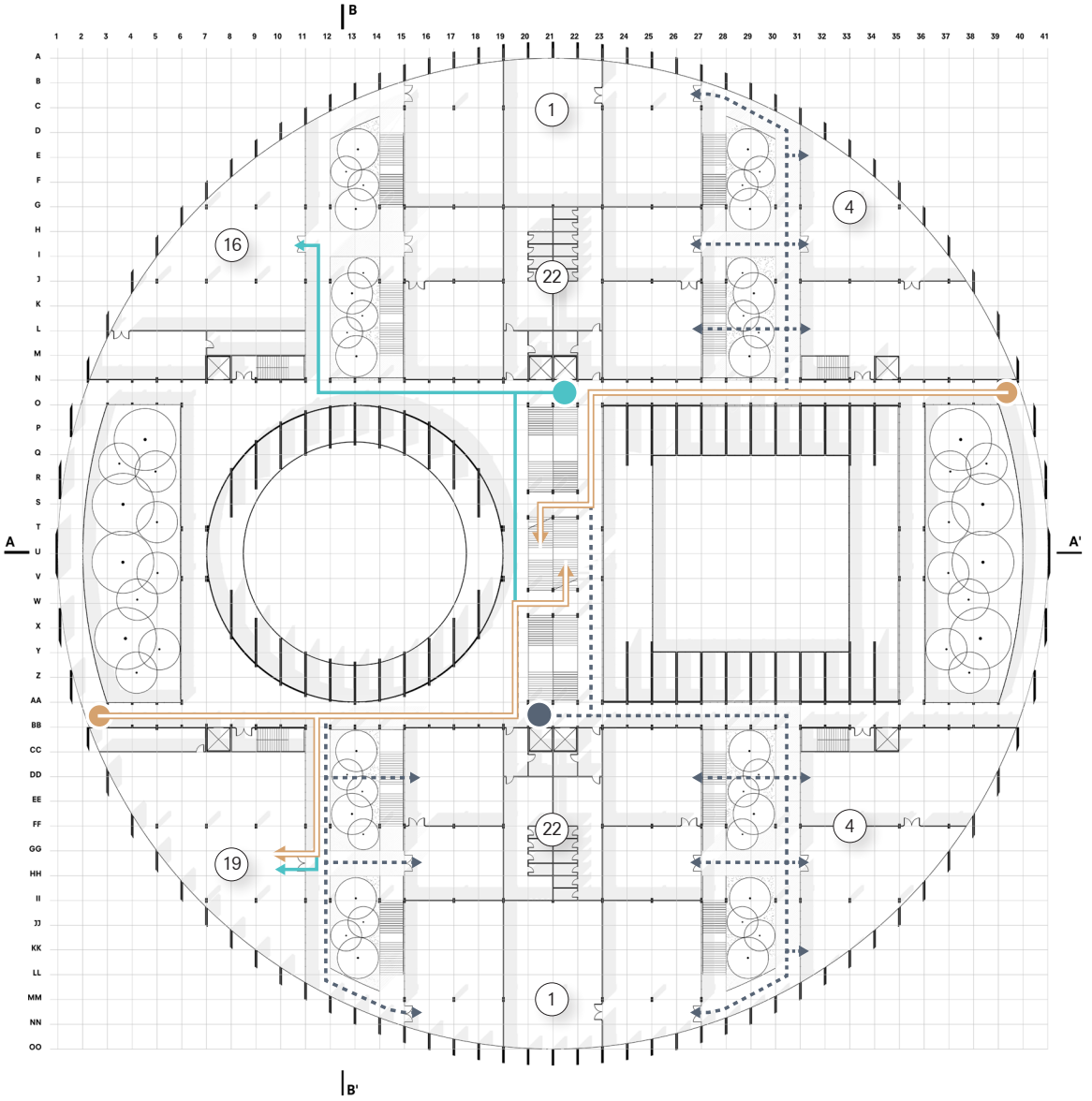
23 Security services




Visitors
Parliam. / Technic.
Employees

0 4m 8m 16m

# LEVEL 3

1 Specialist committees
2 Debate space
3 Technicians facilities
4 Offices
5 Plenary hall
6 Confrontation room
7 Press
8 Public tribune
9 Scientific parl. service
10 General administration
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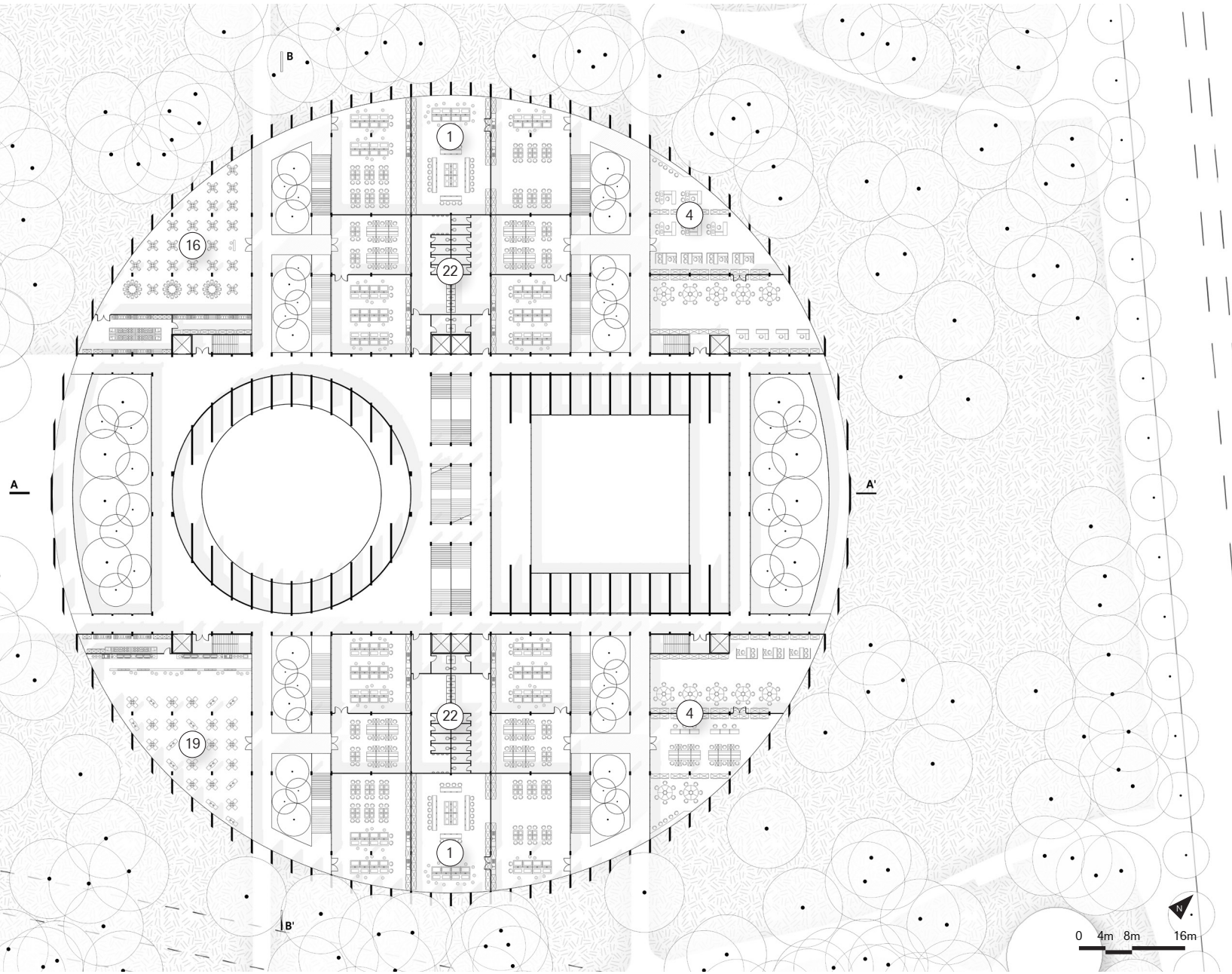
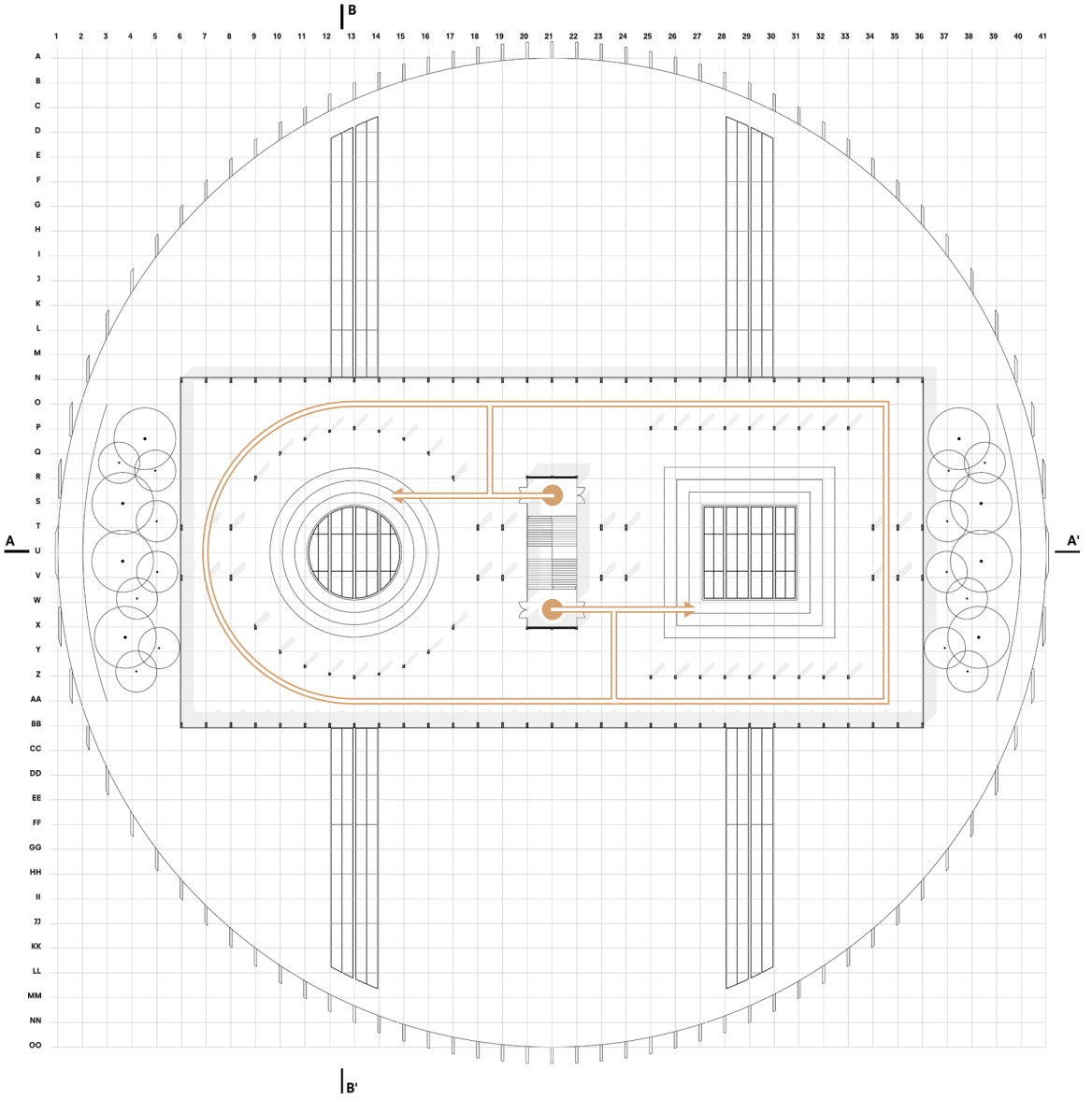


Flows

# LEVEL 4

1. Specialist committees
2. Debate space
3. Technicians facilities
4. Offices
5. Plenary hall
6. Confrontation room
7. Press
8. Public tribune
9. Scientific parl. service
10. General administration
11. Plen./committee service
12. Presidential service
13. Conference hall
14. Educational spaces
15. Lounge
16. Restaurant
17. Art
18. Services
19. Cafeteria
20. Parking
21. Technical rooms
22. Restrooms
23. Security services




Visitors

0 4m 8m 16m

Flows

# LEVEL 4

1. Specialist committees
2. Debate space
3. Technicians facilities
4. Offices
5. Plenary hall
6. Confrontation room
7. Press
8. Public tribune
9. Scientific parl. service
10. General administration
11. Plen./committee service
12. Presidential service
13. Conference hall
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17. Art
18. Services
19. Cafeteria
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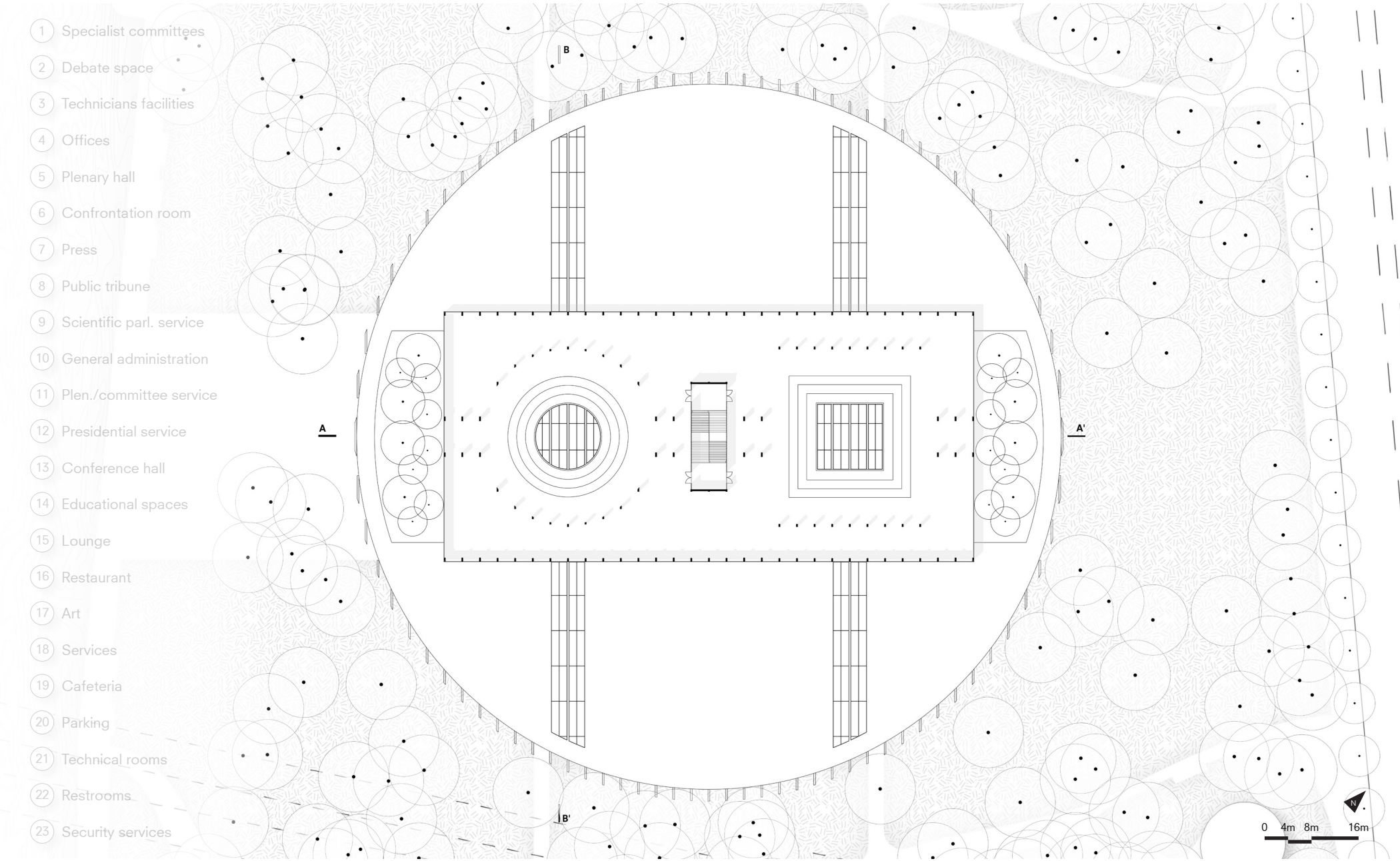
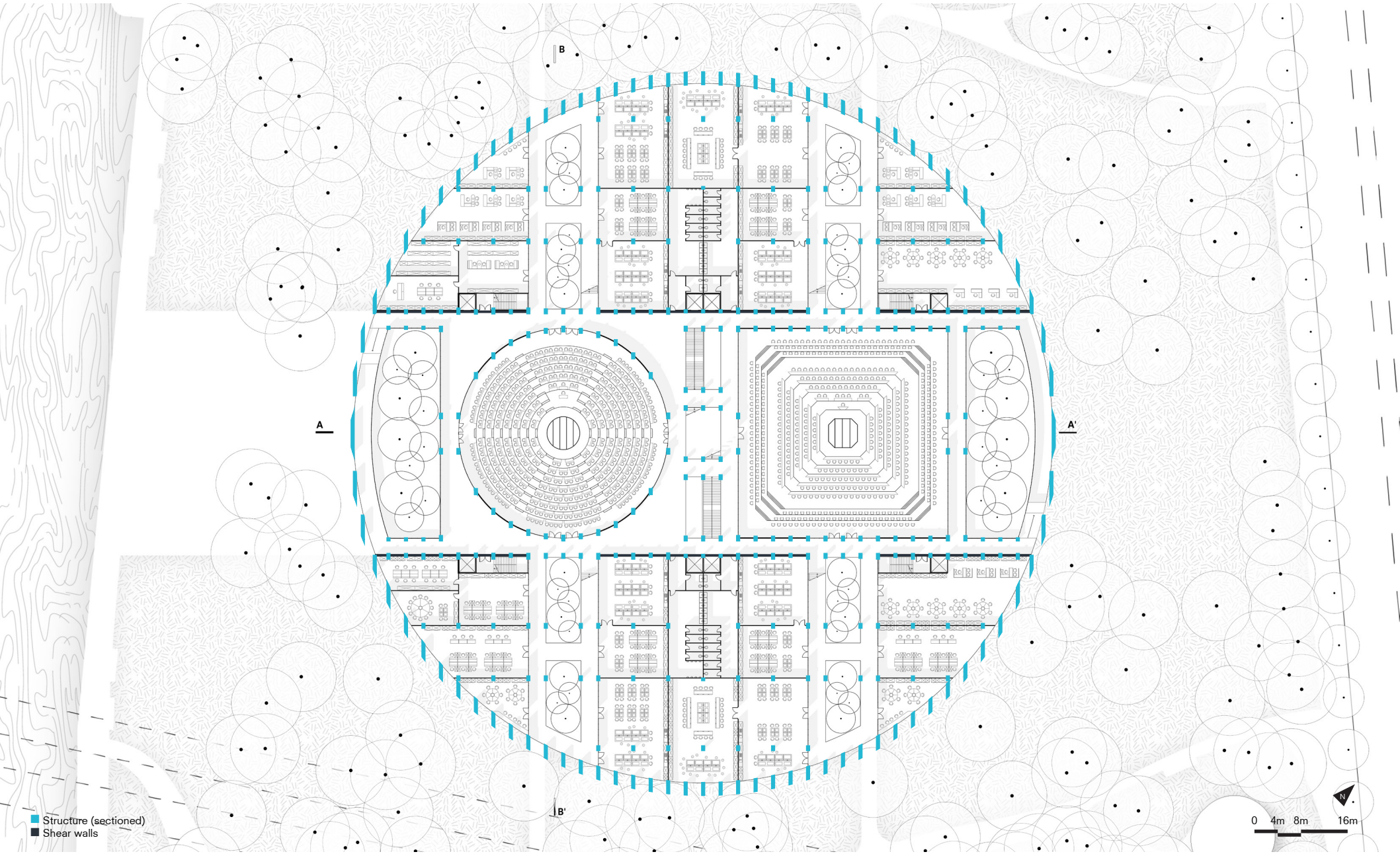
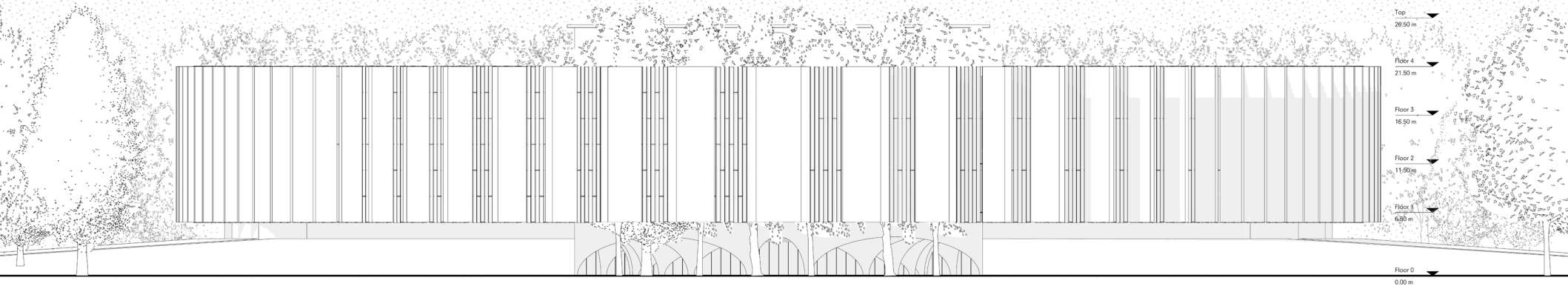


# STRUCTURAL GRID

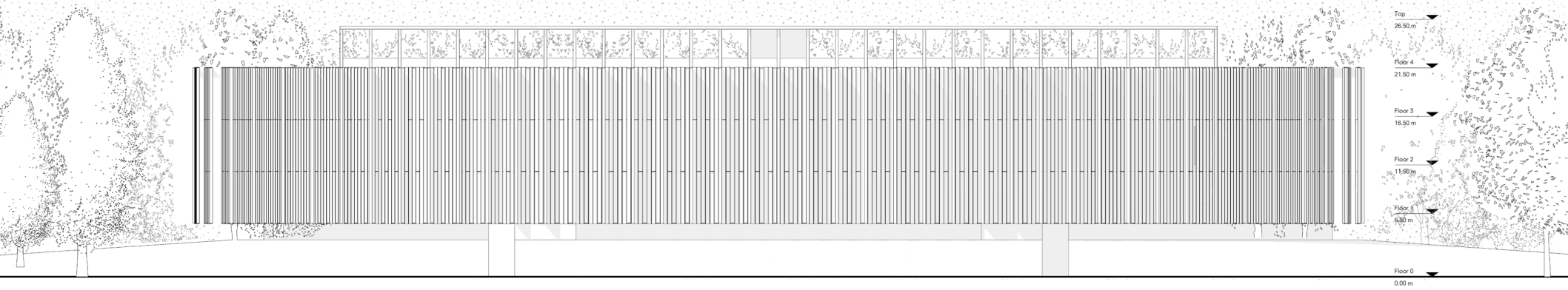


# ELEVATION SOUTH-WEST




0 4m 8m 16m

# ELEVATION SOUTH-EAST




0 4m 8m 16m

Arch concept

# ISSUE

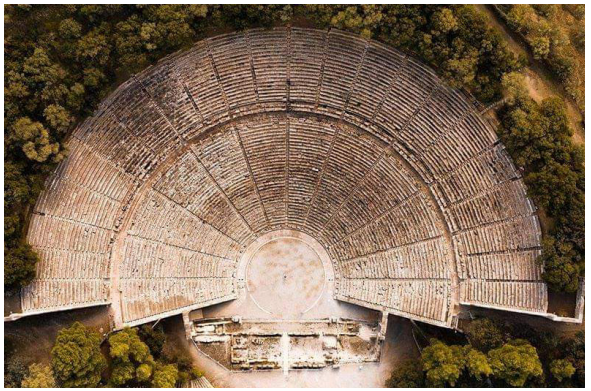
Where are the **Things** of Berlin in the Parliament you are talking about? What is their role in the actual design of the building?

# DESIGN QUESTIONS

/ PRINCIPLES /
HUMAN FEATURES

Harmony

Geometrical foundation



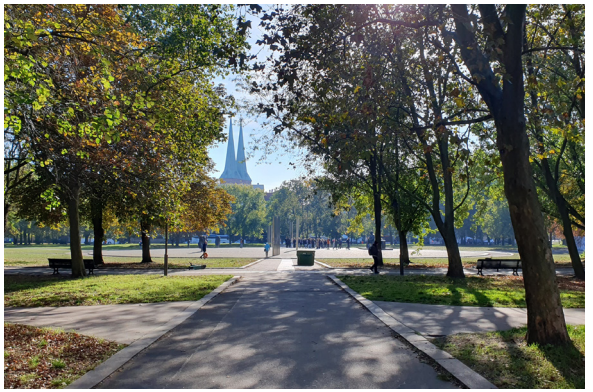
Balance

/ PRINCIPLES /
THINGS FEATURES

Organic composition

Repetitivity

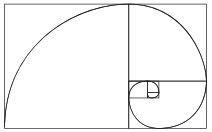
Clear structure



# ARCHITECTURAL FEATURES

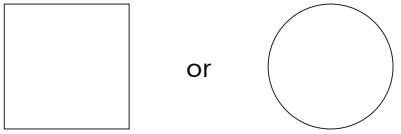
/ PRINCIPLES /
HUMAN FEATURES

### Harmony



proportions

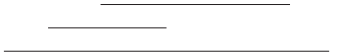
### Geometrical foundation




inscribed in a square

inscribed in a circle

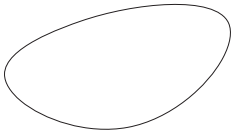
### Balance



equilibrium

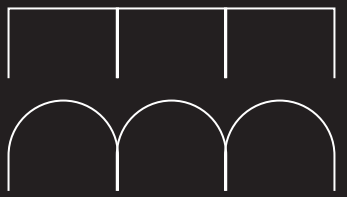
/ PRINCIPLES /
THINGS FEATURES

### Organic composition



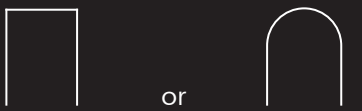
curvilinear shape

### Repetitivity



pattern repetition

### Clear structure

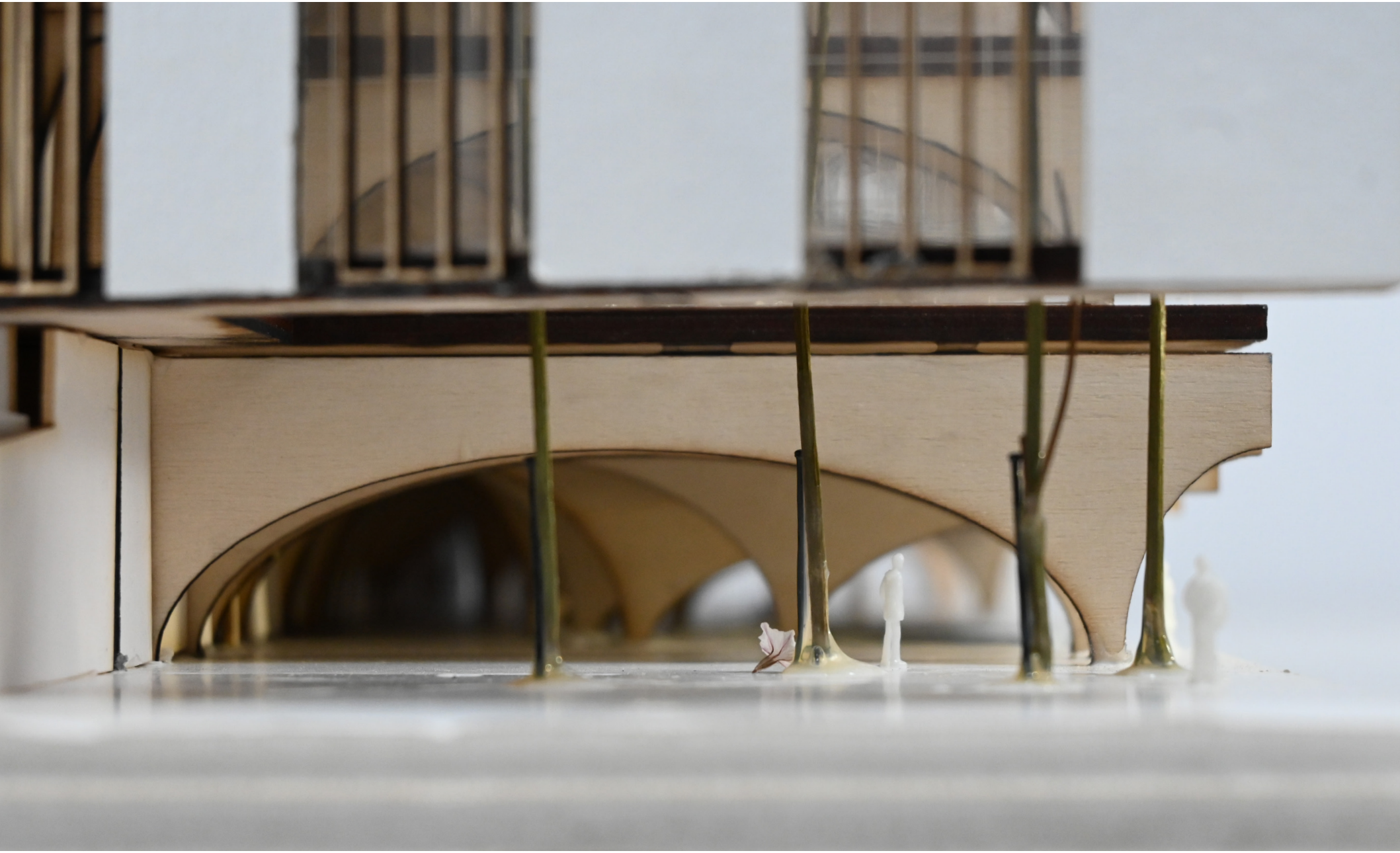



exhibited structure

arched structure

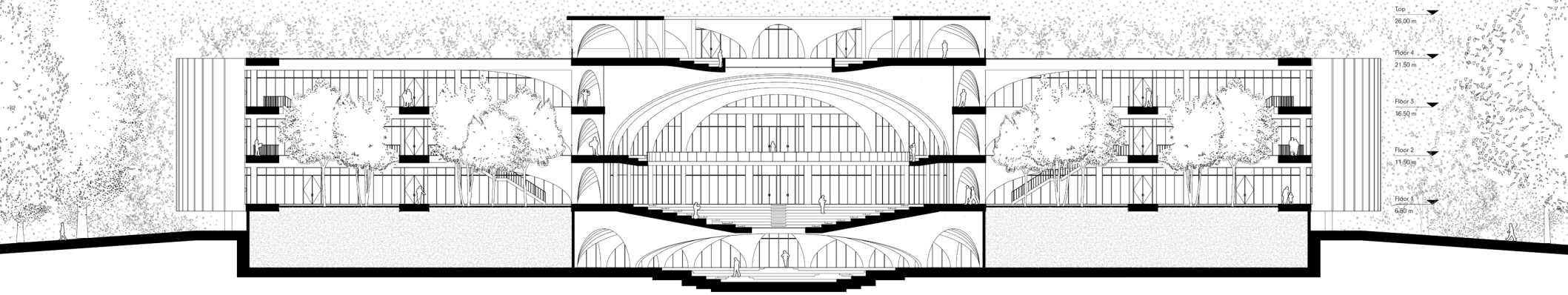
Arch concept

# ARCHES SUCCESSION



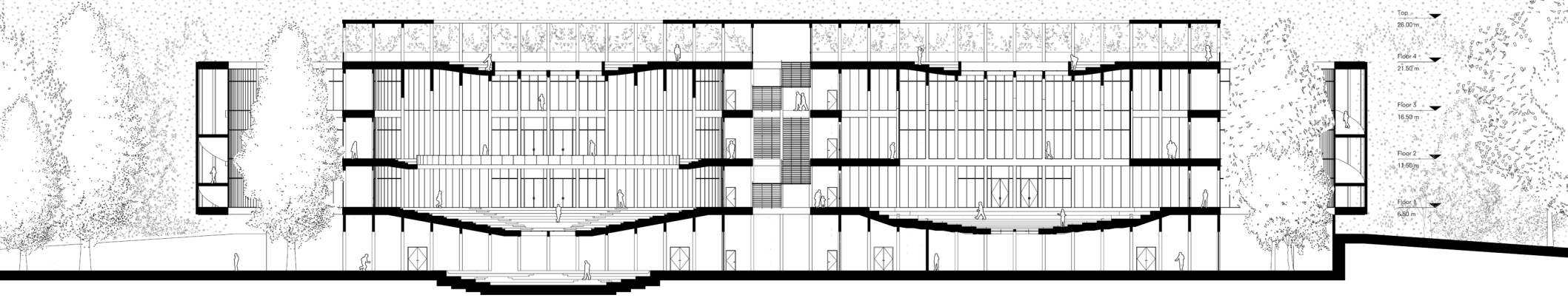
Arch concept

# SECTION B-B’




0 4m 8m 16m

# SECTION A-A’

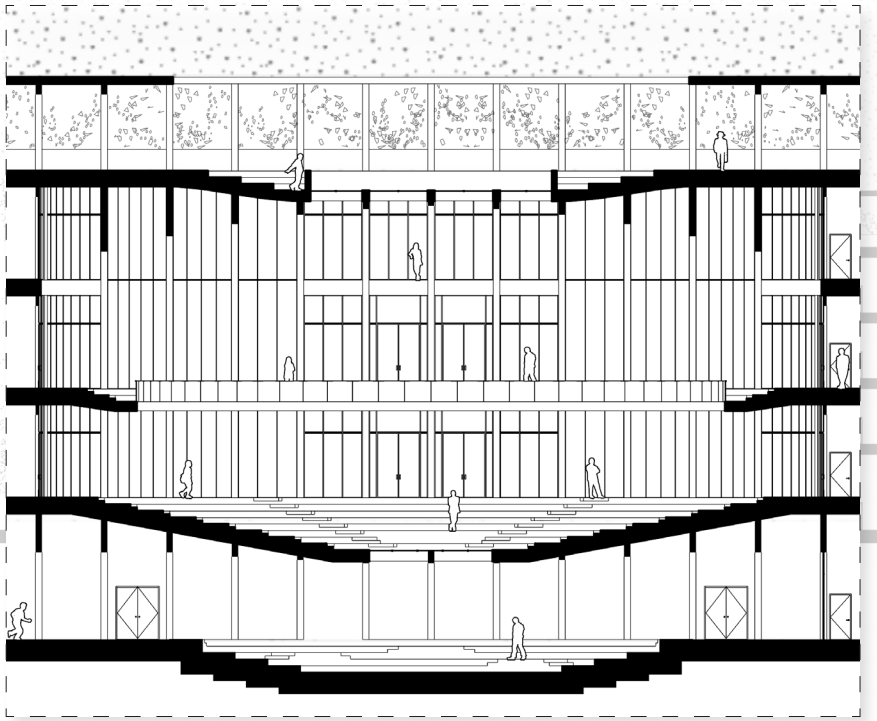



0 4m 8m 16m

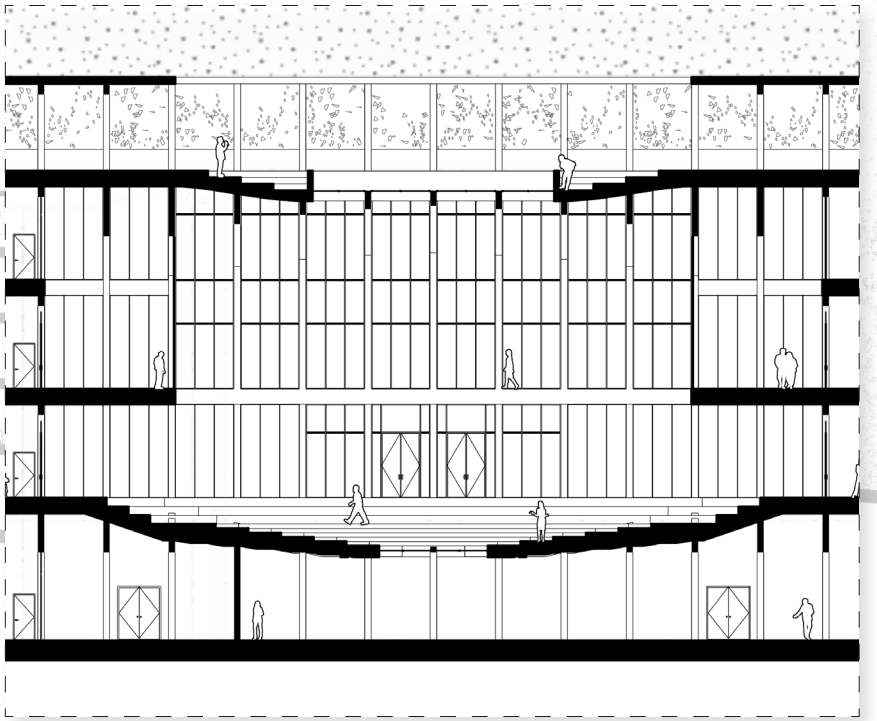
Arch concept

# KEY SPACE(S)

Plenary Hall

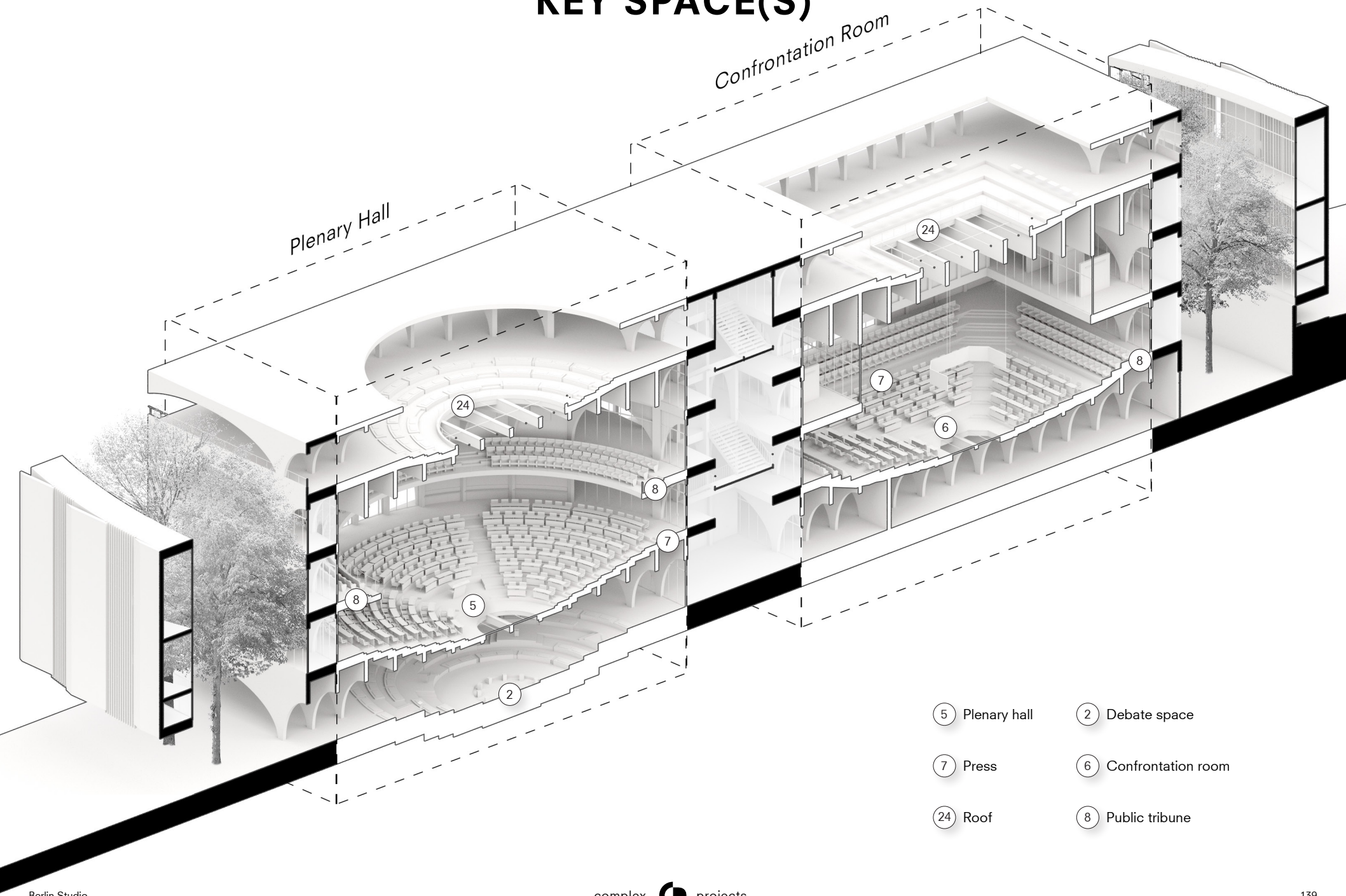


Confrontation Room



Arch concept

# KEY SPACE(S)

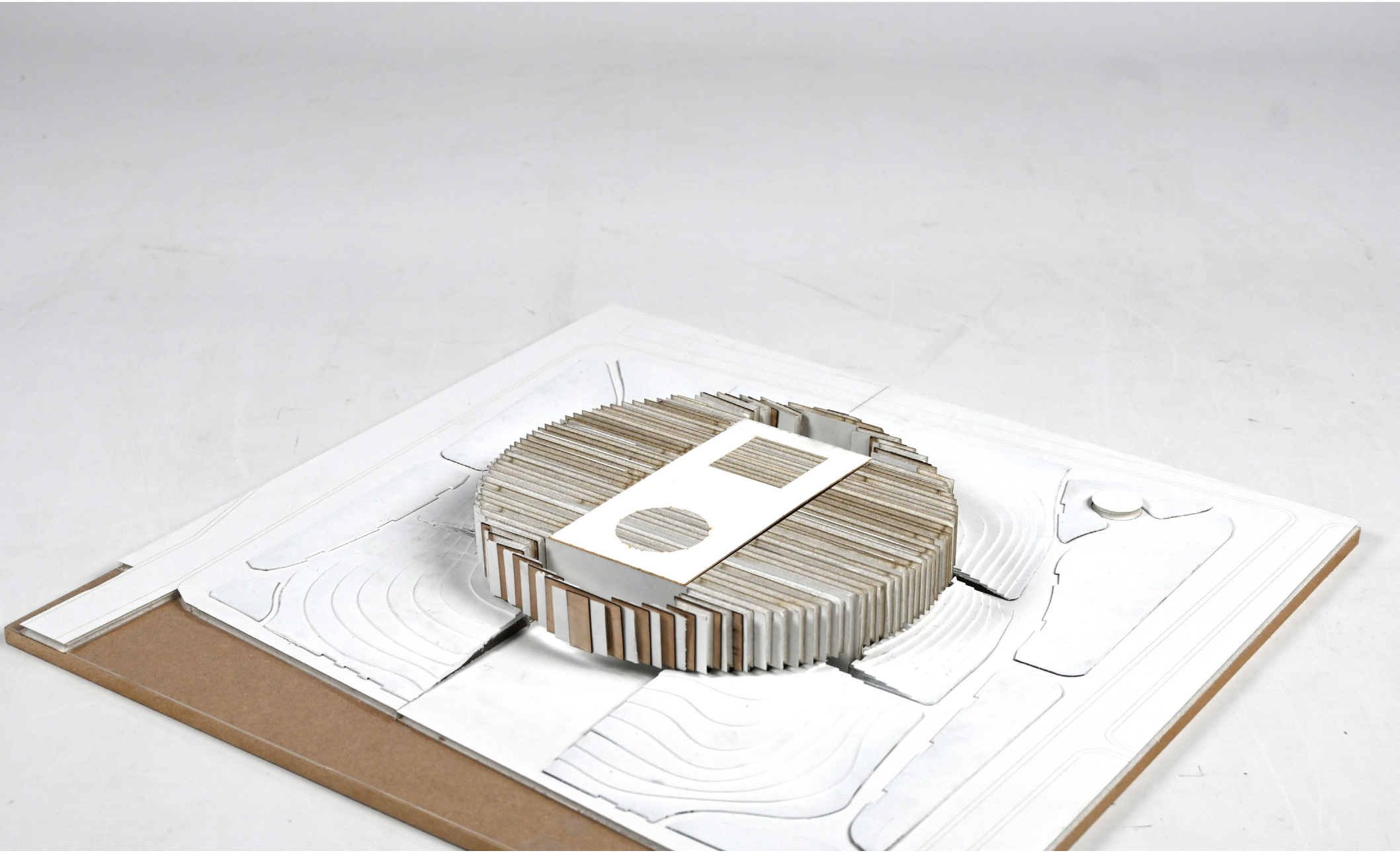


1. STRUCTURE

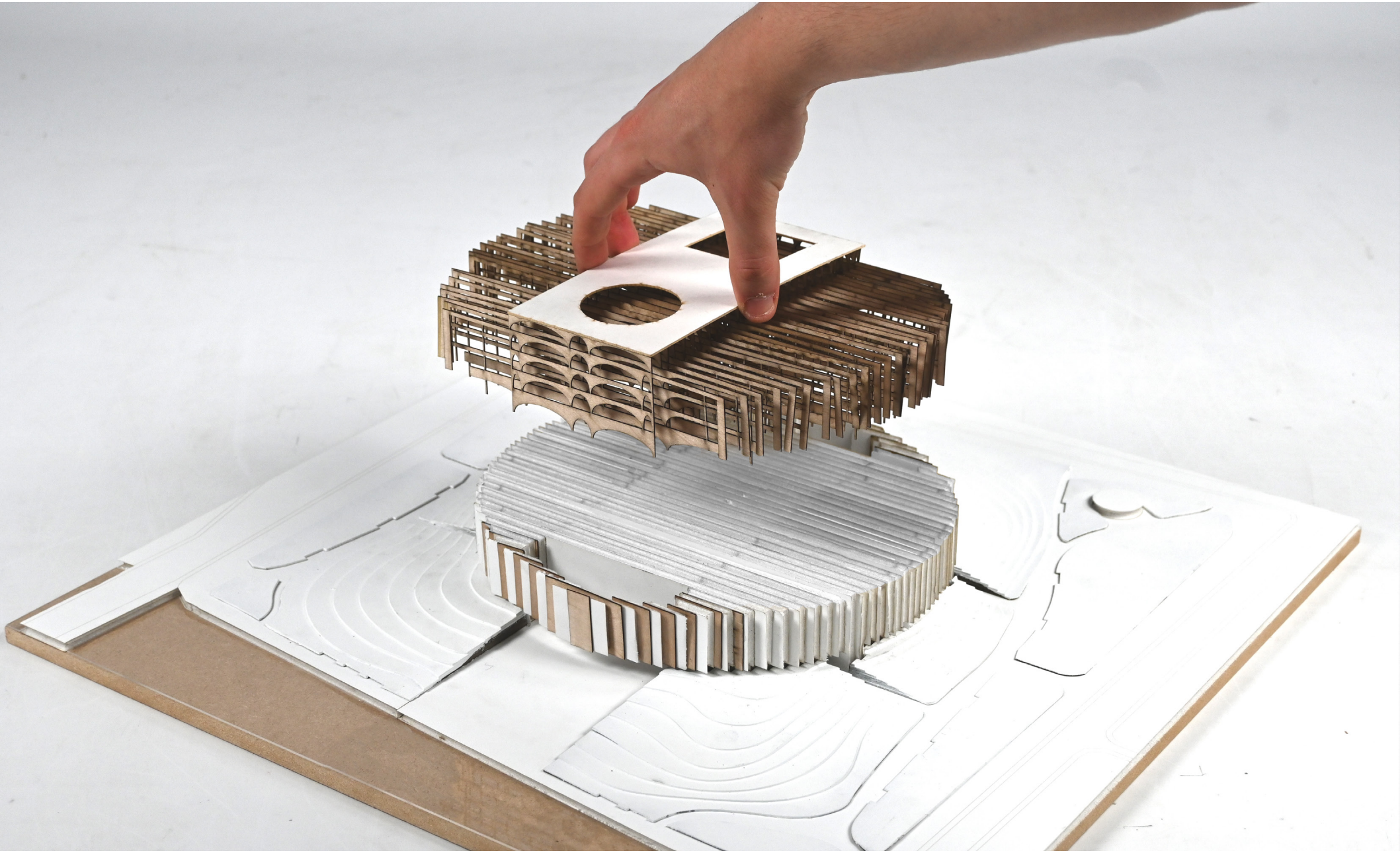
2. CLIMATE STRATEGY

3. MATERIALISATION

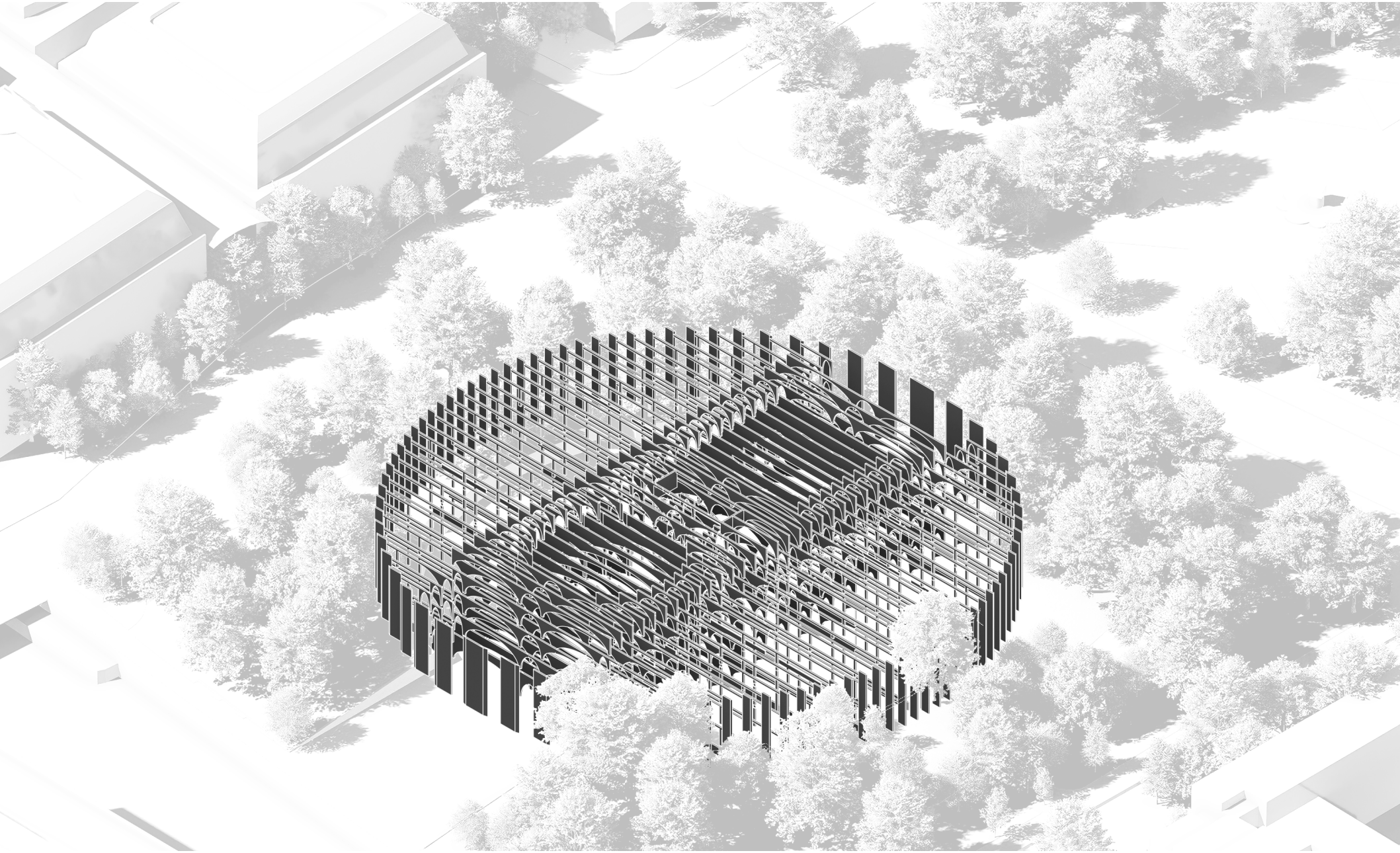
# GENERAL OVERVIEW



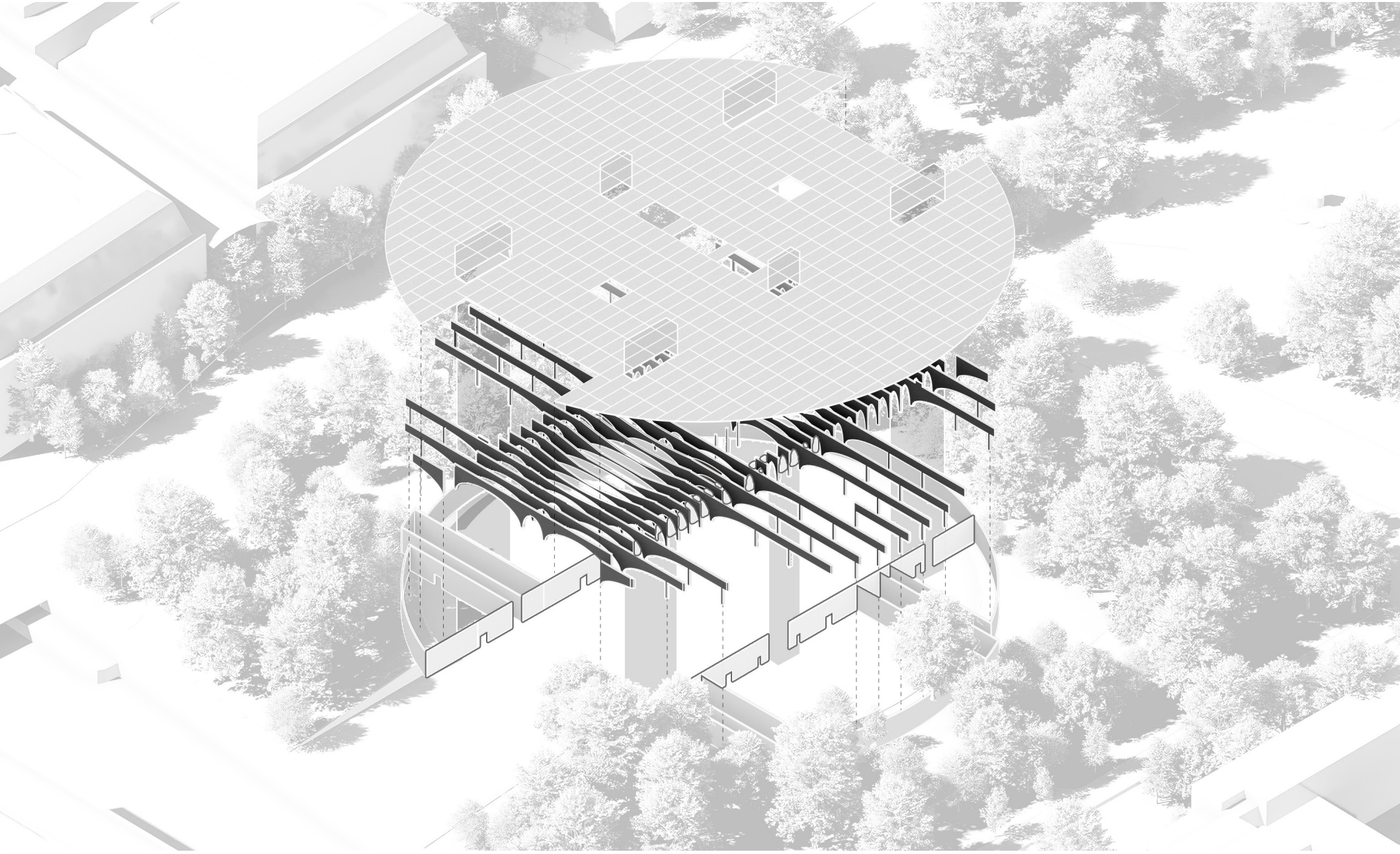
# GENERAL OVERVIEW



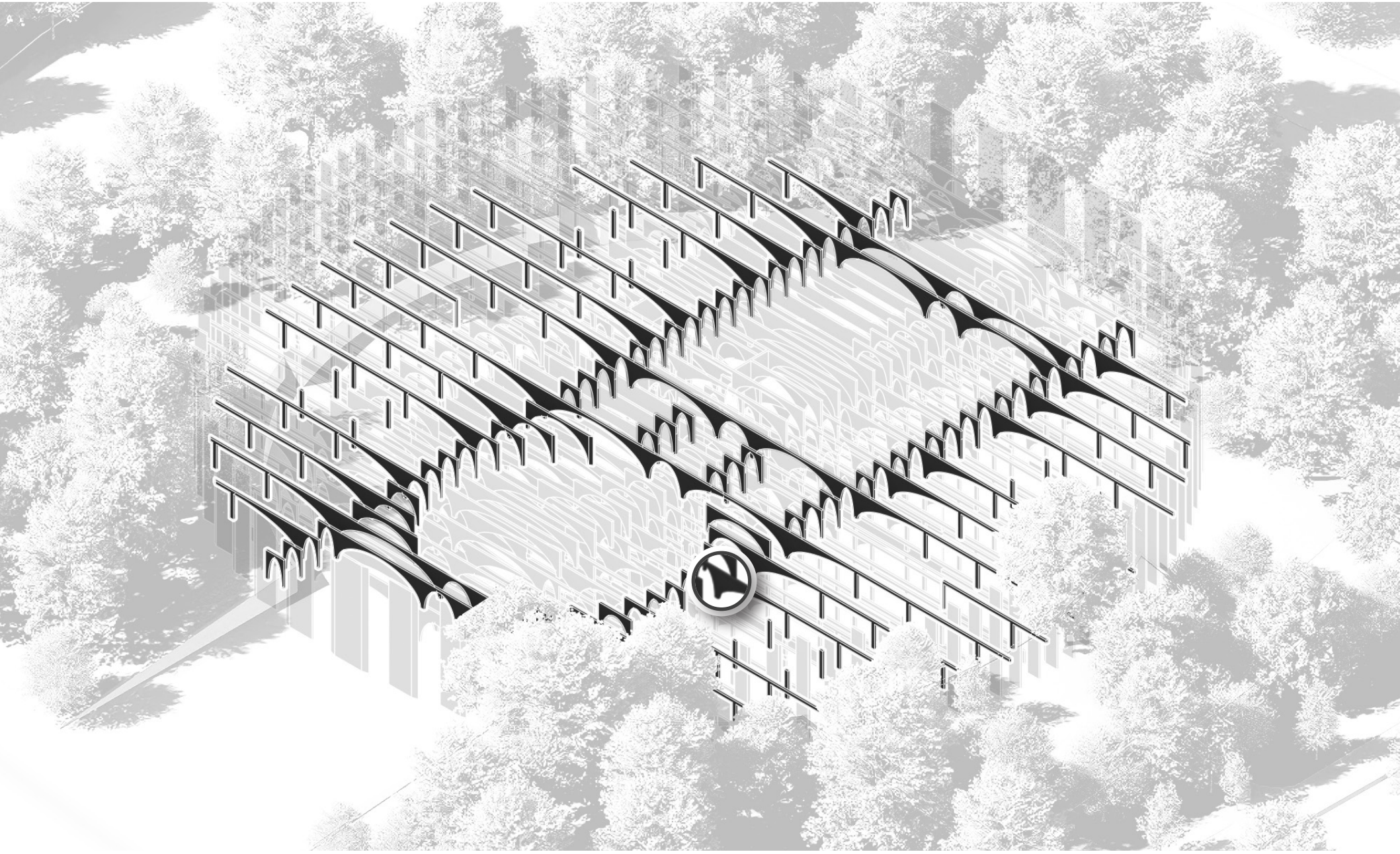
# ARCHED STRUCTURE



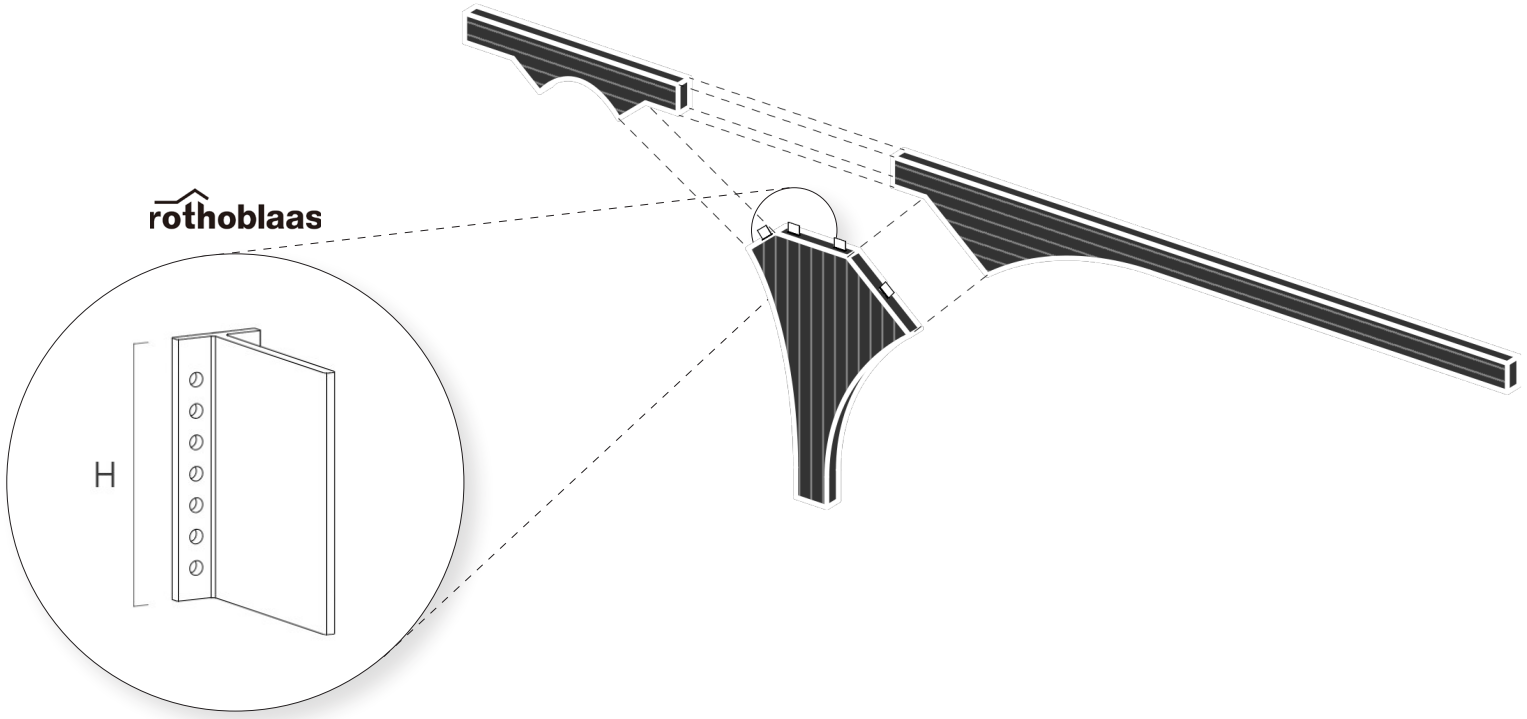
# STRUCTURE L0



# PRIMARY STRUCTURE L1

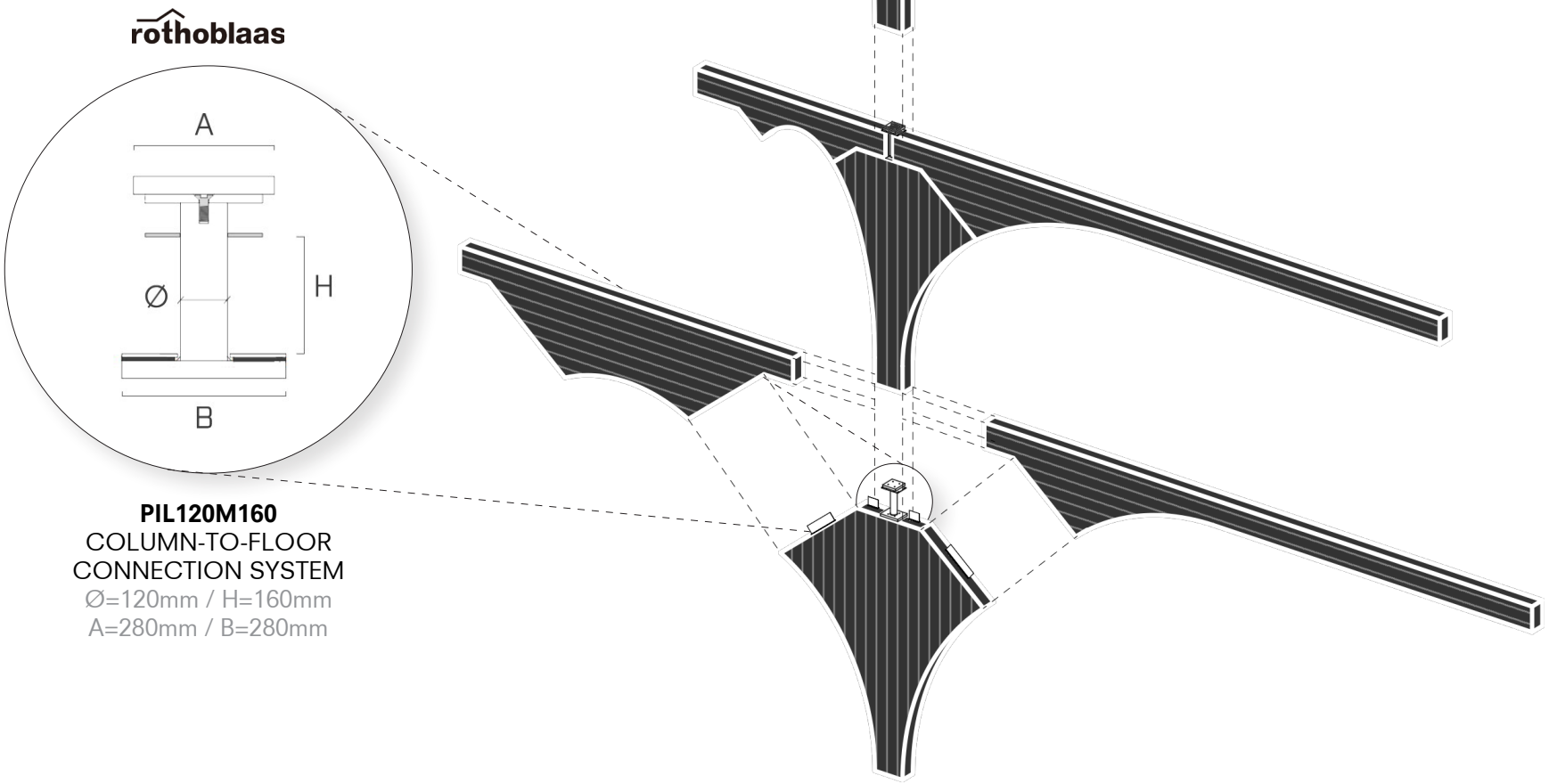


# ARCHES DETAIL



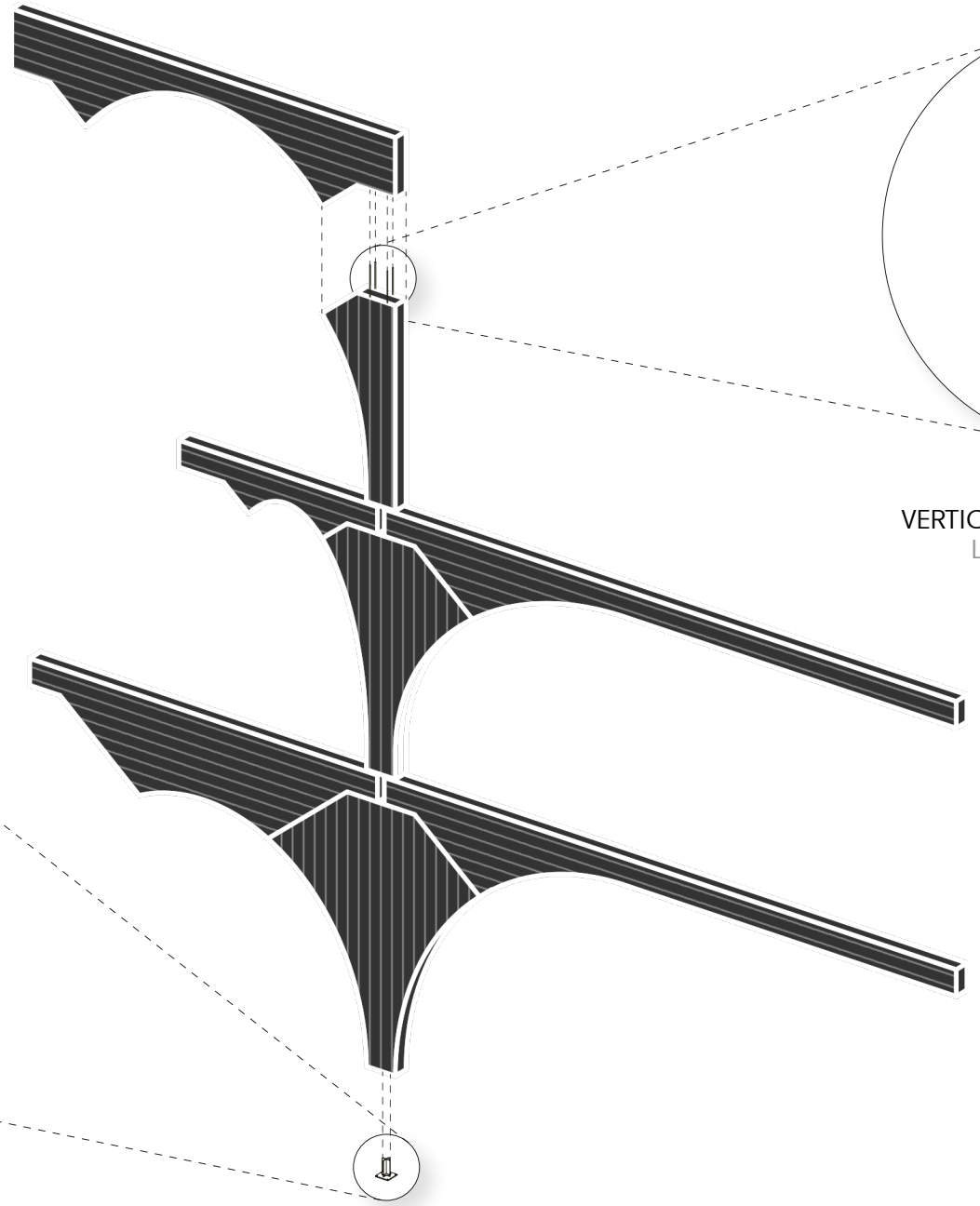

**ALUMINI215**
CONCEALED BRACKET WITHOUT HOLES
H=215mm

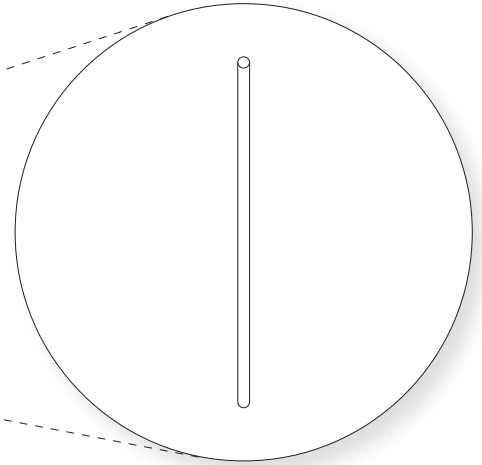
# ARCHES DETAIL




**PIL120M160**
COLUMN-TO-FLOOR
CONNECTION SYSTEM
Ø=120mm / H=160mm
A=280mm / B=280mm

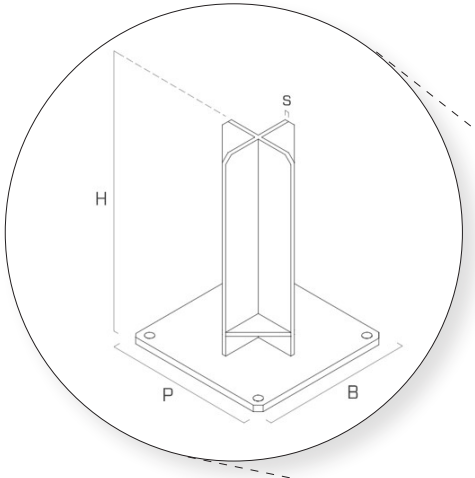
# ARCHES DETAIL





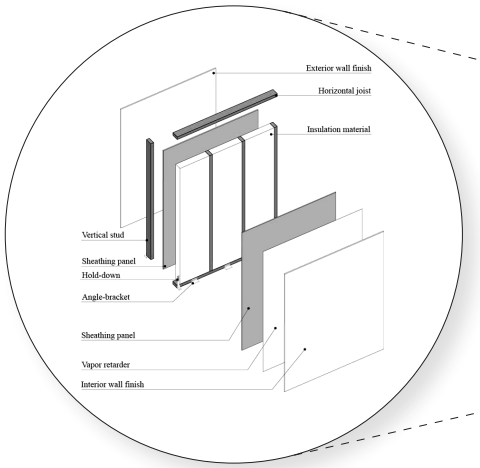
**METAL RODS**
VERTICAL METAL CONNECTION
L=1500mm / R=25mm

rothoblaas

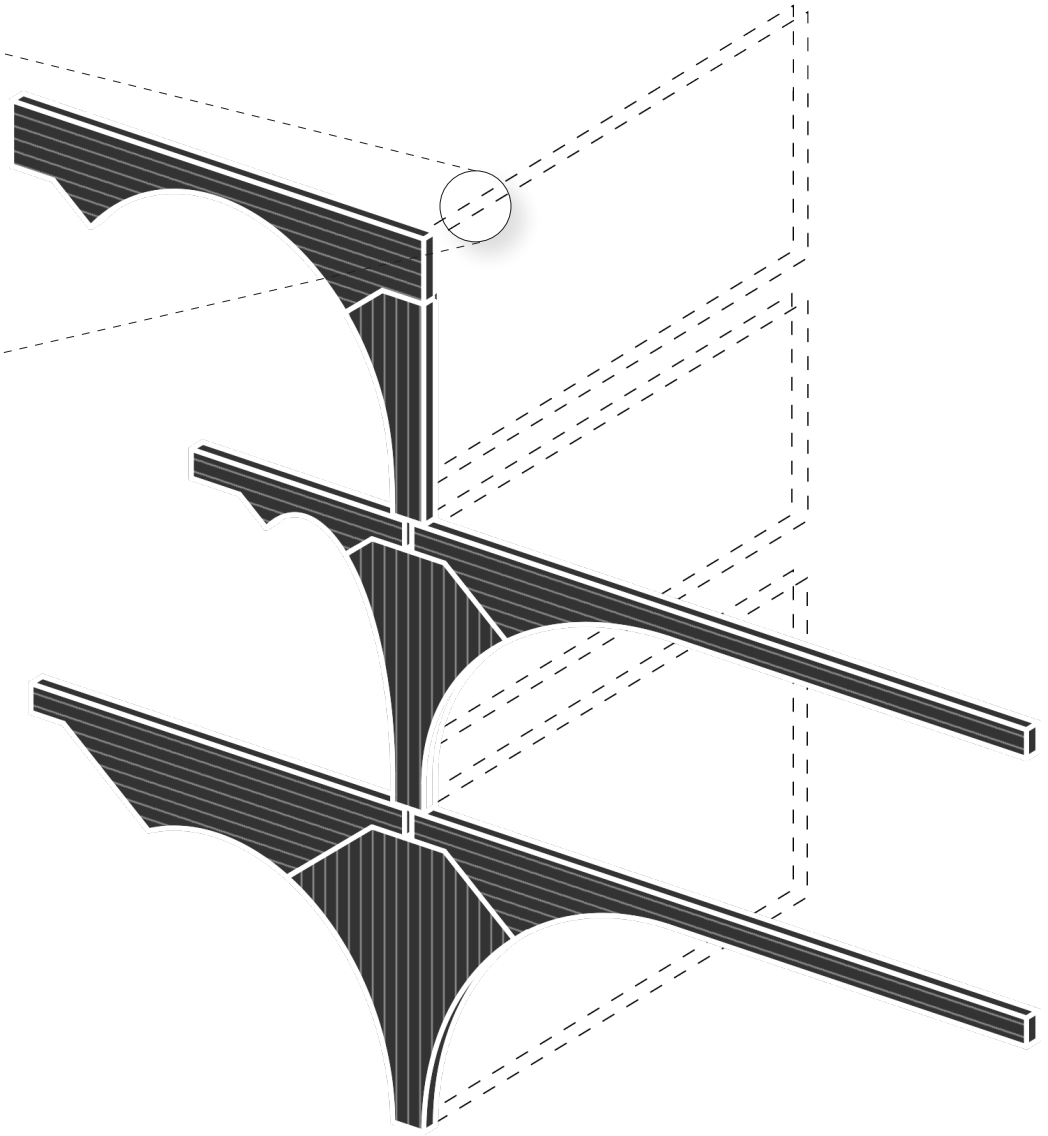



**XS10160**
CROSS-SHAPED POST BASE
B=220mm / P+260mm
H=312mm / S=8mm

# ARCHES DETAIL

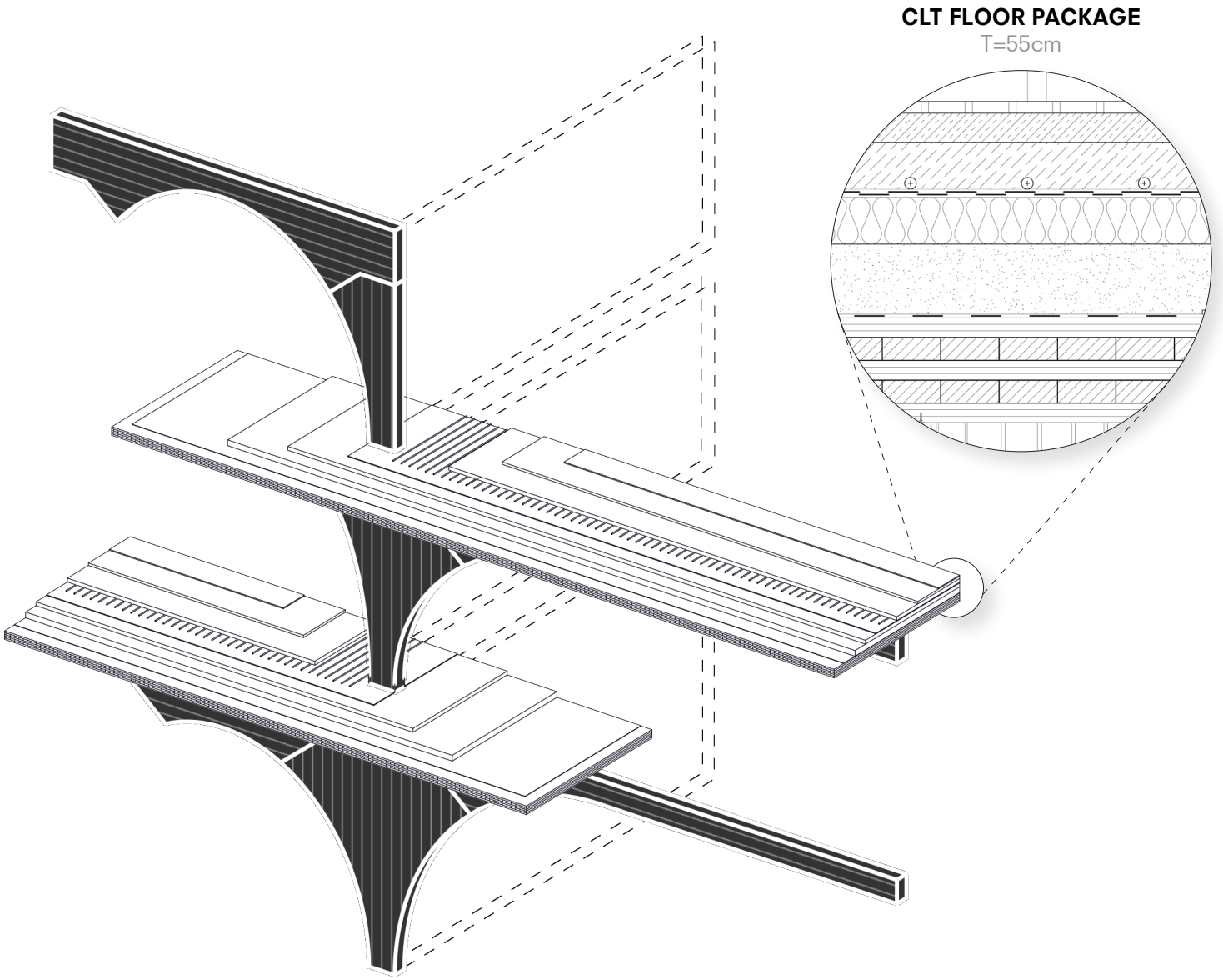



**TIMBER SHEAR WALLS**
VERTICAL CONNECTION
H=4000mm / T=300mm

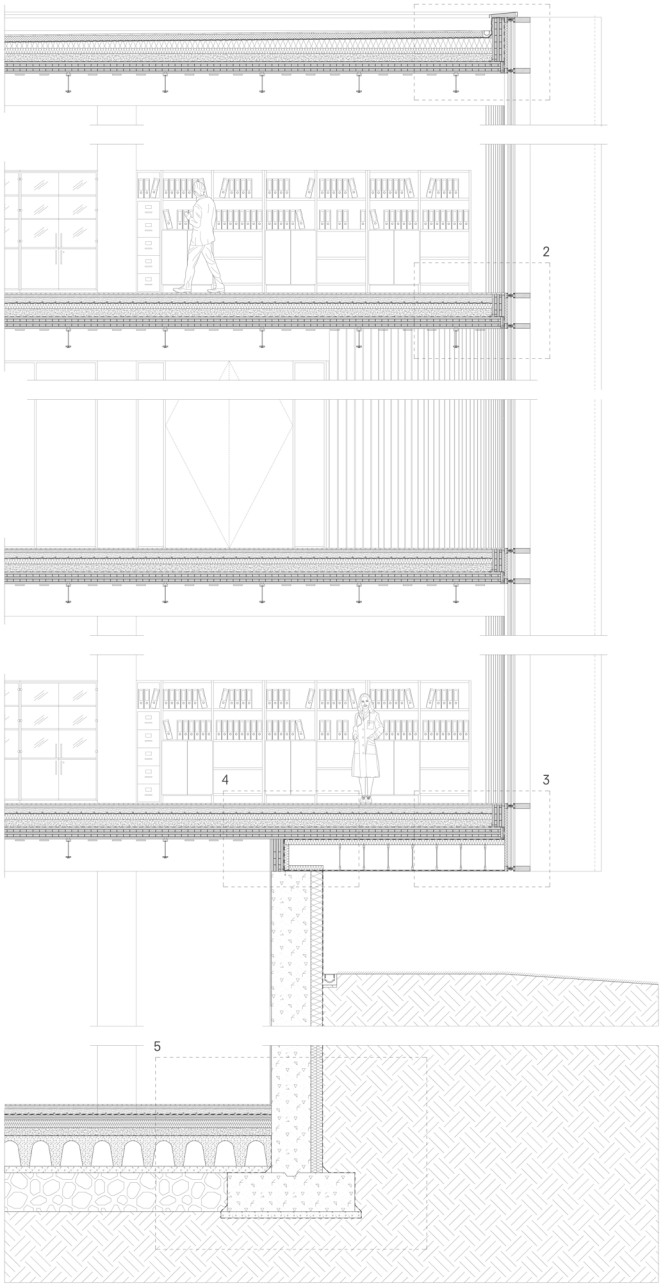


Structure

# ARCHES DETAIL

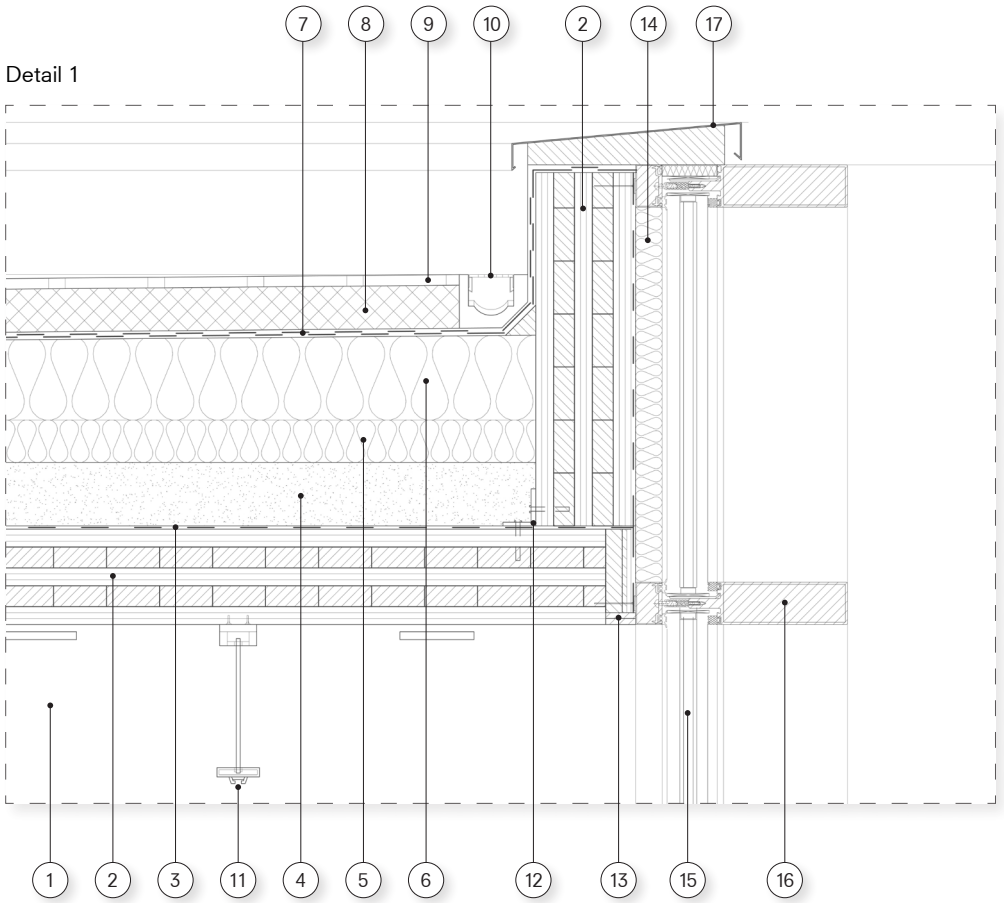


# ENVELOPE FRAGMENT 1:50

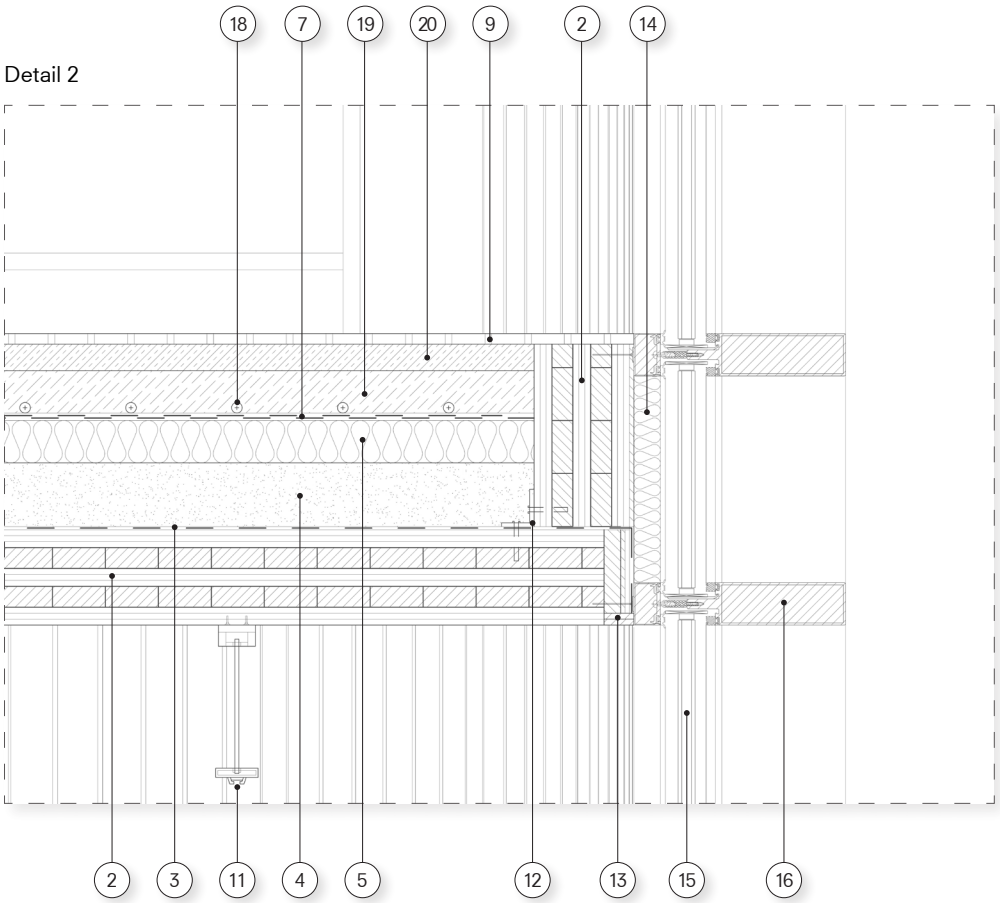


# TECHNOLOGICAL DETAILS 1:5

Detail 1



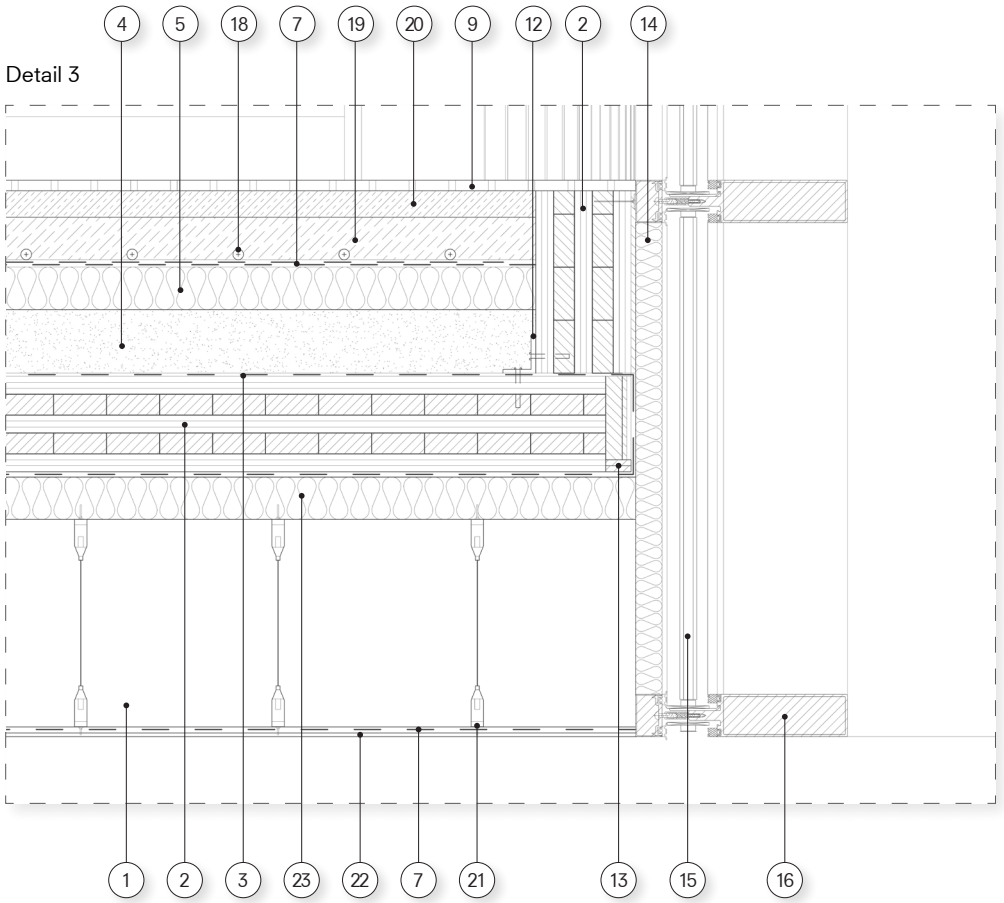

Detail 2



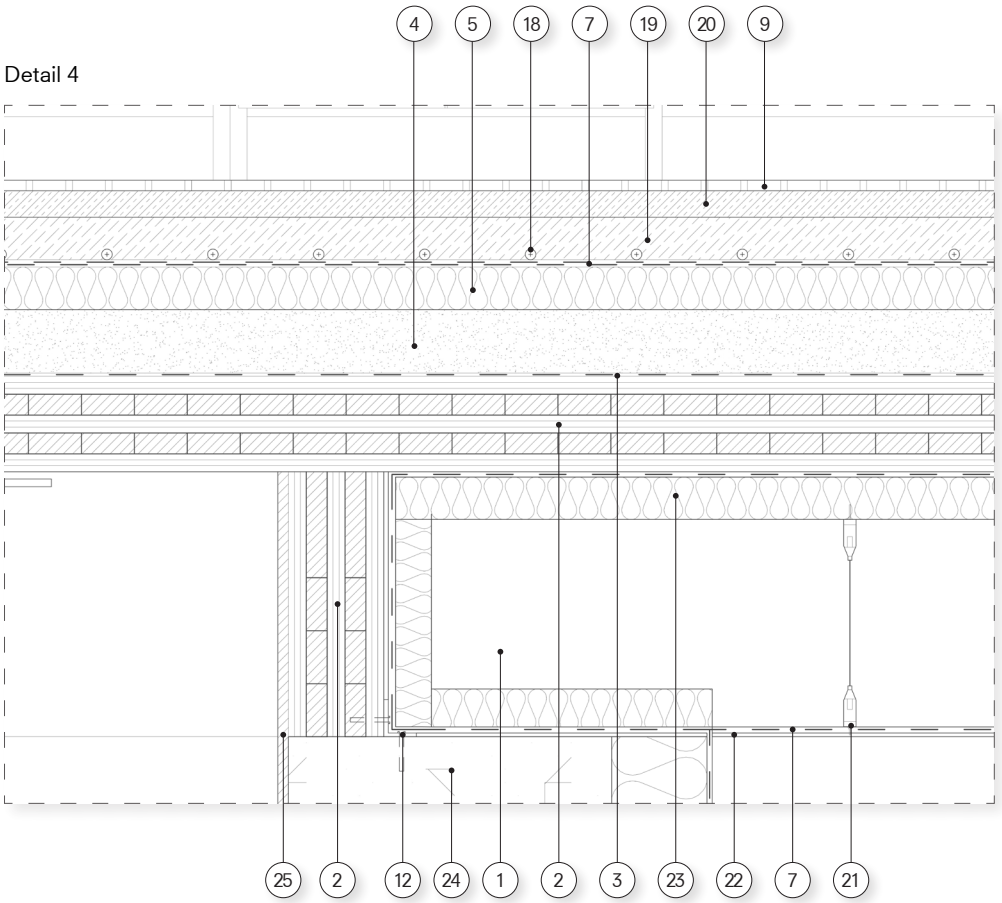

1. Primary wooden beam 300mmx600mm
2. Cross laminated timber 180mm
3. Trickle protection
4. Latex-bonded chipping infill 120mm
5. Mineral fibre footfall sound insulation 80mm
6. Mineral fibre insulation 160mm (in gradient)
7. Vapor barrier (separating layer)
8. Drainage element 80mm
9. Floor covering 20mm
10. Gutter
11. Lighting fixture
12. Angular metal bracket
13. Wooden edge finiture
14. Mineral fibre thermic insulation 50mm
15. Doubl glass panel 32mm
16. Wooden mullion 80mmx400mm
17. Drip edge
18. Embedded tubes radiant floor
19. Cement screed 80mm
20. Bedding mortar 50mm

# TECHNOLOGICAL DETAILS 1:5

Detail 3




Detail 4

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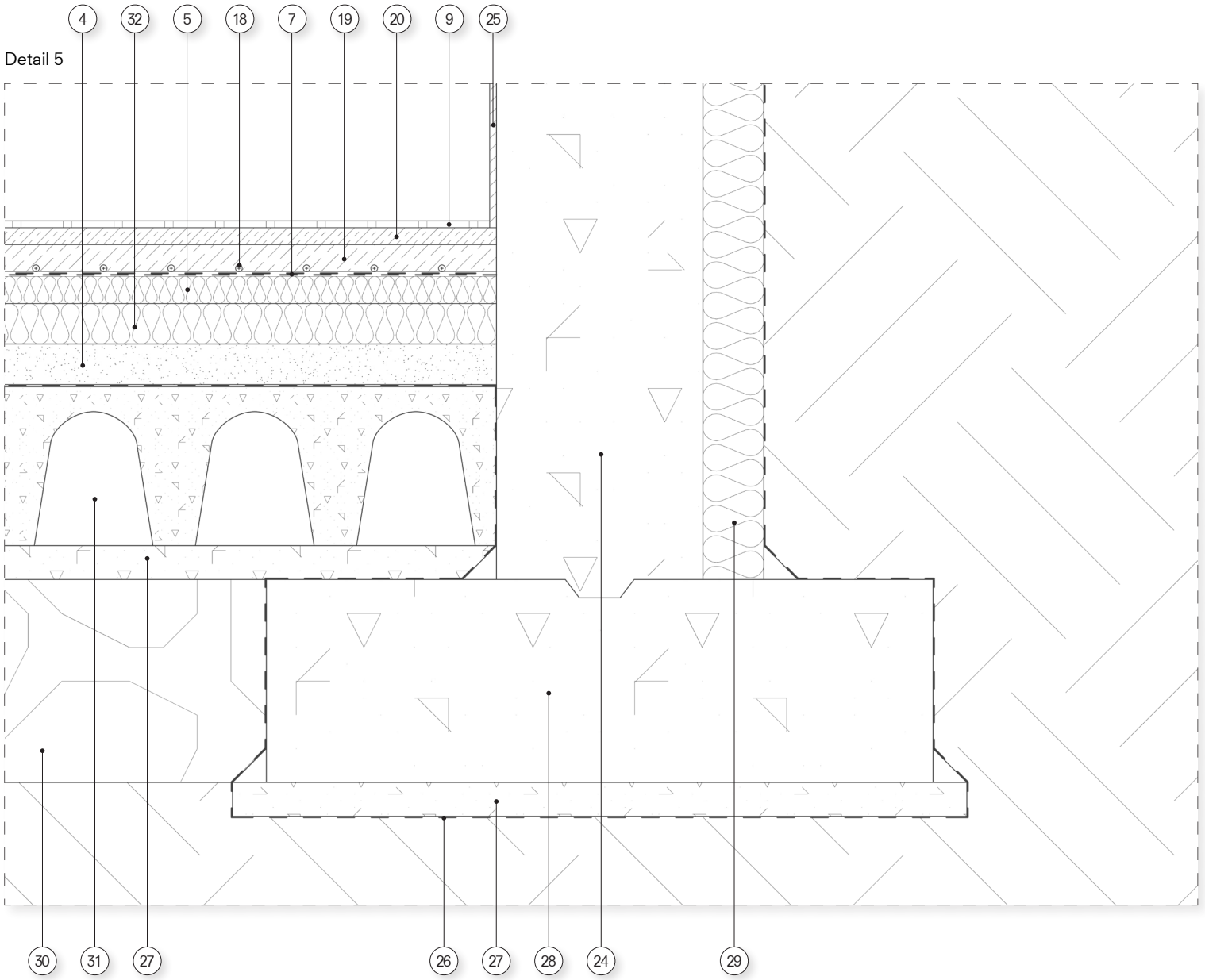
7. Vapor barrier (separating layer)
9. Floor covering 20mm
12. Angular metal bracket
13. Wooden edge finiture
14. Mineral fibre thermic insulation 50mm
15. Doubl glass panel 32mm
16. Wooden mullion 80mmx400mm
18. Embedded tubes radiant floor
19. Cement screed 80mm
20. Bedding mortar 50mm
21. Suspended ceiling aluminum hangers
22. Plywood board 7mm
23. Mineral fibre thermic insulation 80mm
24. Concrete wall 60mm
25. Plywood board 20mm

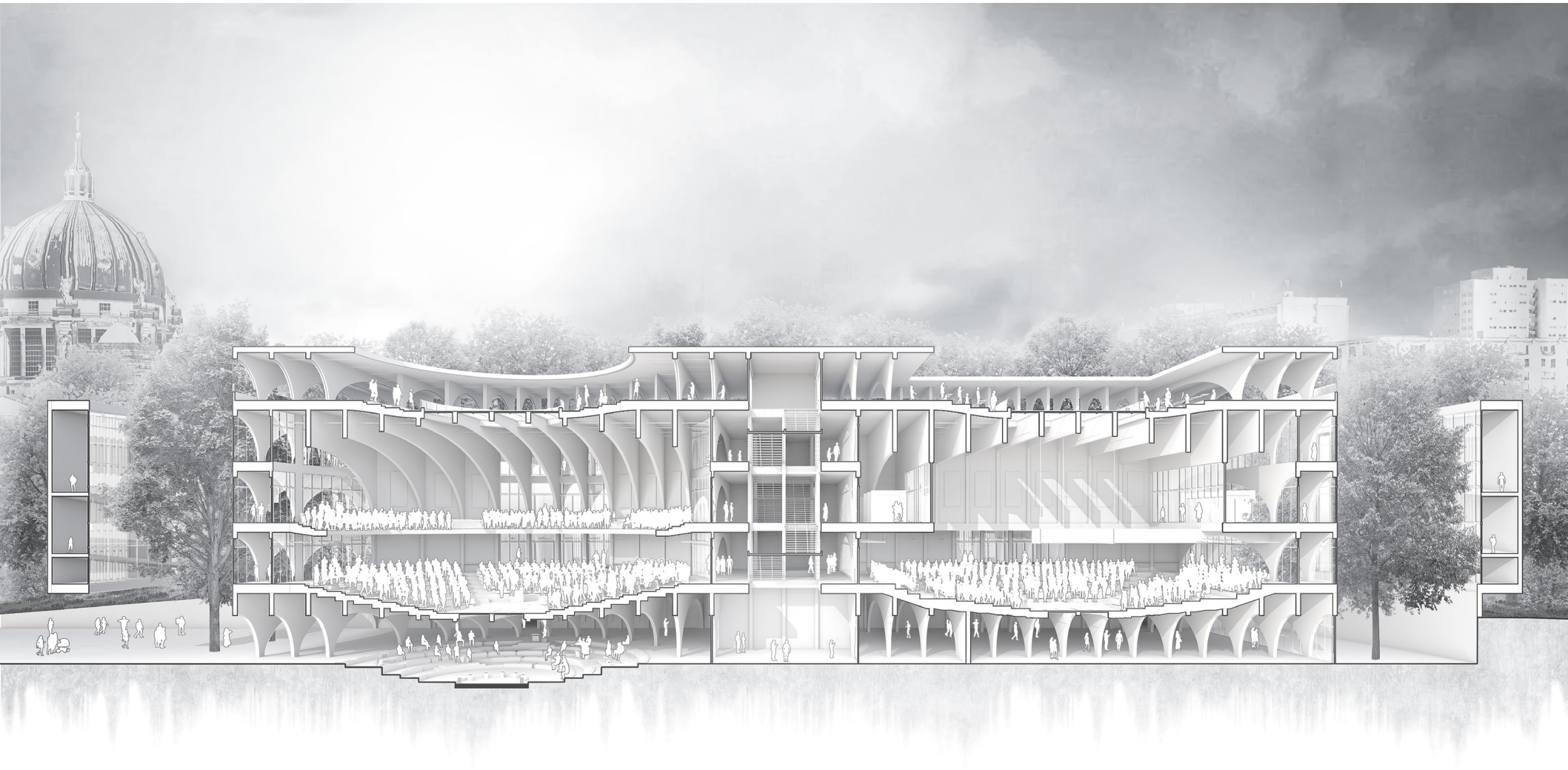
# TECHNOLOGICAL DETAILS 1:5

Detail 5



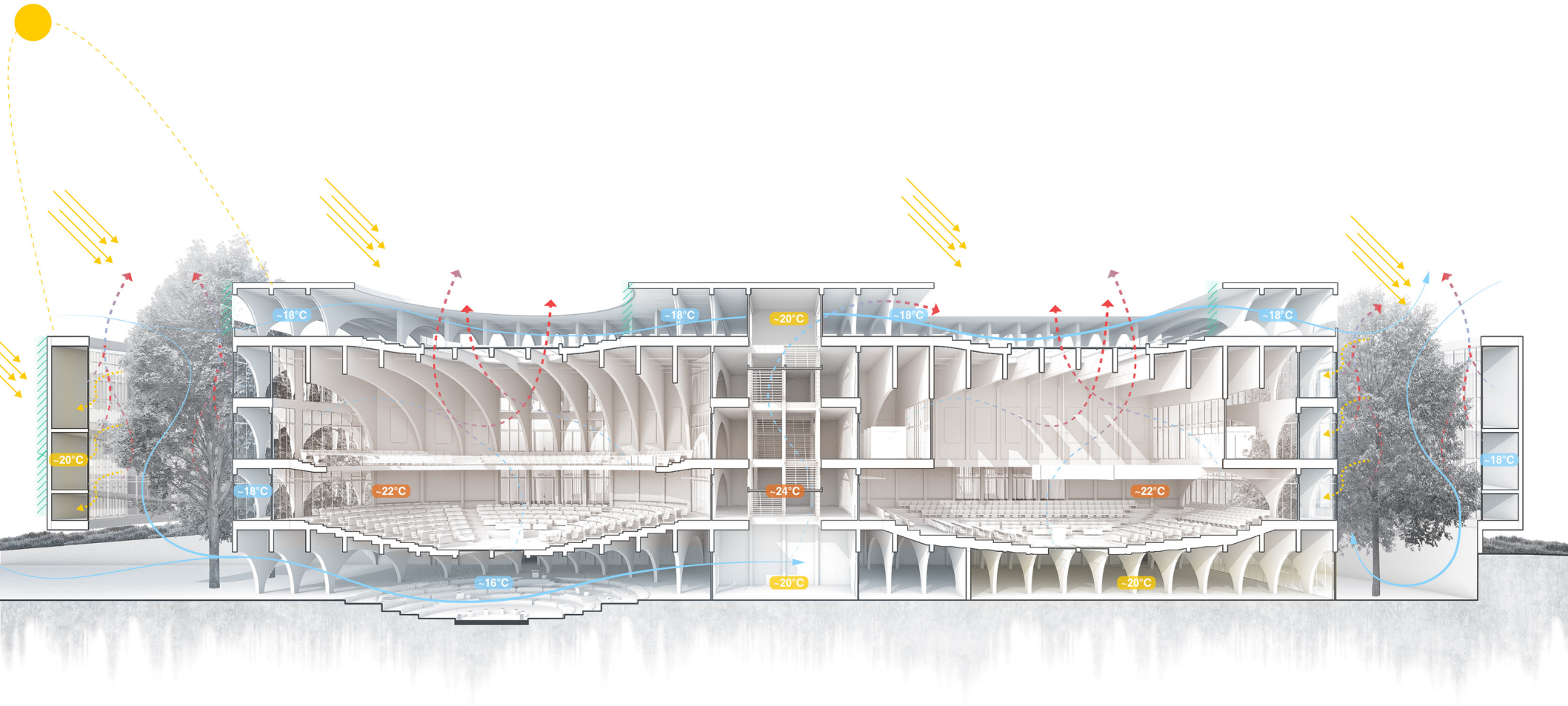

4 Latex-bonded chipping infill 120mm
5 Mineral fibre footfall sound insulation 80mm
7 Vapor barrier (separating layer)
9 Floor covering 20mm
18 Embedded tubes radiant floor
19 Cement screed 80mm
20 Bedding mortar 50mm
24 Concrete wall 60mm
25 Plywood board 20mm
26 Waterproof layer
27 Cement screed 100mm
28 Concrete foundation 600mm
29 Mineral fibre thermic insulation 180mm
30 Gravel substrate 400mm
31 Collaborating jet in ventilated crawl space
32 Mineral fibre thermic insulation 120mm

# KEY DRAWING



Climate strategy

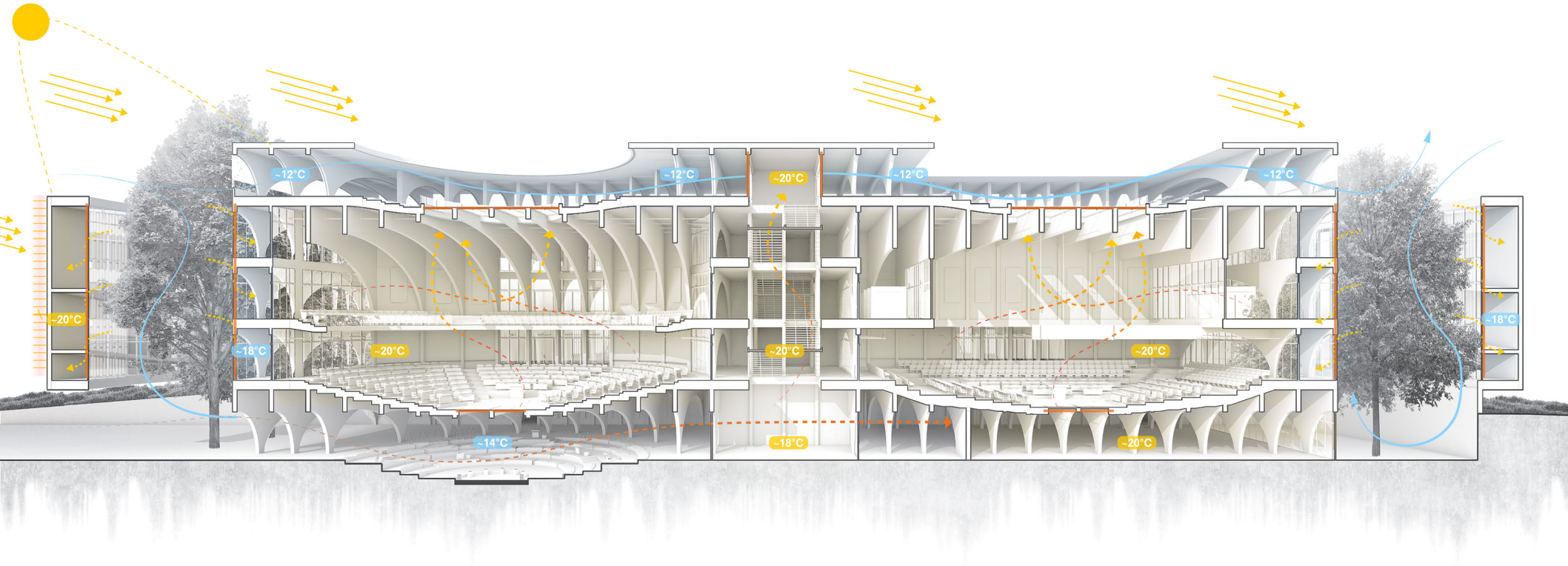
# SUMMER SCHEME




*Summer season* *Winter season* *Water management*

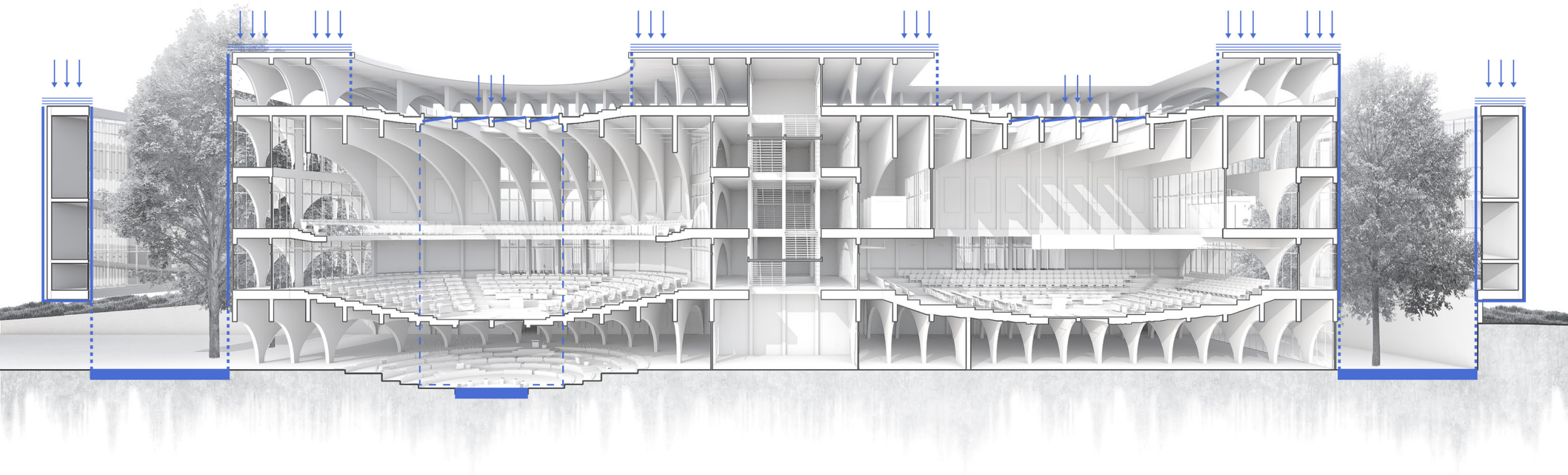
Climate strategy

# WINTER SCHEME




*Summer season* *Winter season* *Water management*

# RAINWATER COLLECTION



*Summer season* *Winter season* ***Water management***

# KEY DRAWING

# MATERIAL SELECTION

Wood - Light
Arches / Portals

Wood - White
Blades / Exterior arches

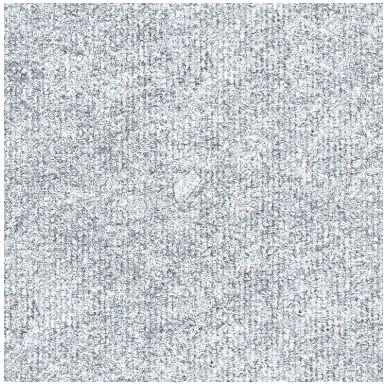
Wood - Dark
Mullions / Panels

Wood - CLT panels
Ceiling

Wood - Planks
Flooring

Concrete
Walls (L0)

White plaster
Walls (L1/2/3)



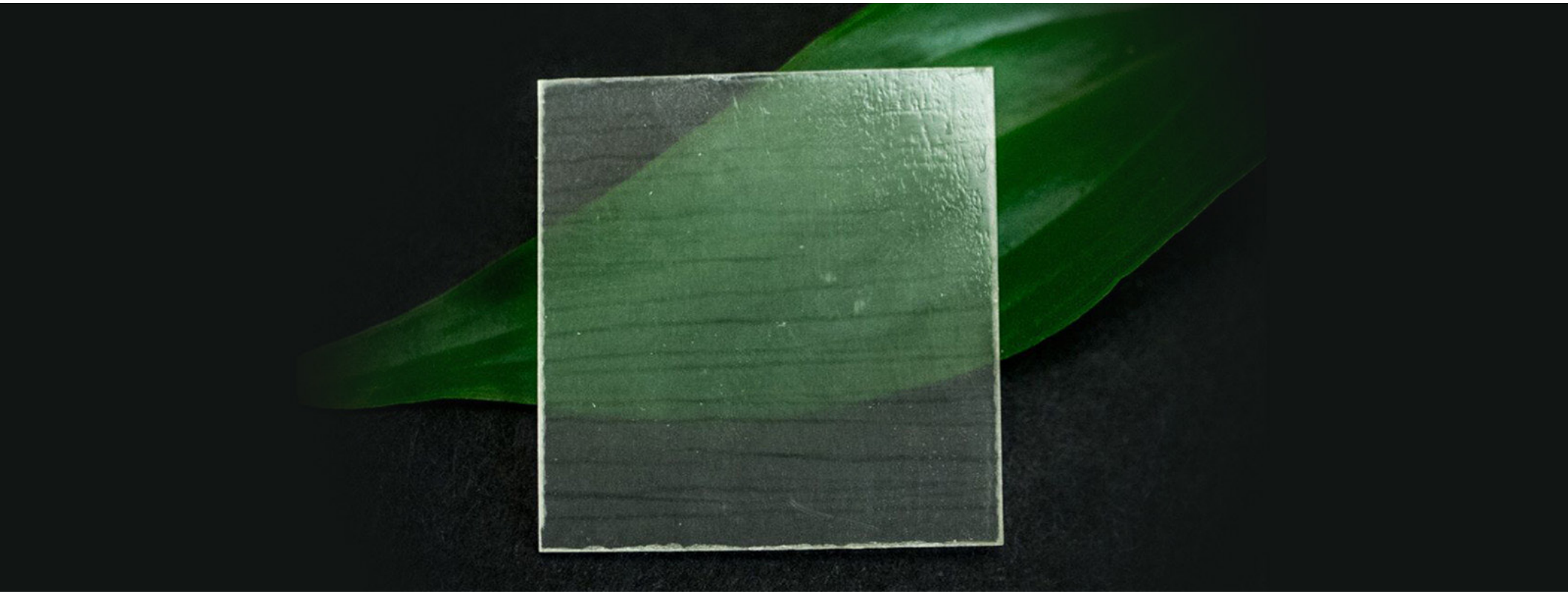
Carpet
PH / CR

Sandstone
Flooring



Wood - Transparent
Panels

# TRANSPARENT WOOD

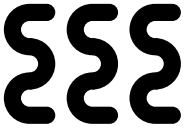


Transparent wood: the building material of the future?
*Horizon: The EU Research & Innovation Magazine*
Sarah Wild / 26 November 2019

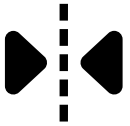
# PROPERTIES AND FEATURES

/ TYPE /
TECHN. PROPERTIES

**Elevate strenght**
3 times stronger than transparent plastics like Plexiglass and about 10 times tougher than glass



**High insulation**
Far better insulation than the one provided by glass

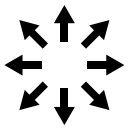


**High haze**
Low levels of optical reflection

**(Relative) Transparency**
~4-millimeter-thick wood transmits around 40 percent of light

/ TYPE /
ARCH. FEATURES

**Biodegradability**
High level of biodegradability, same as normal wood



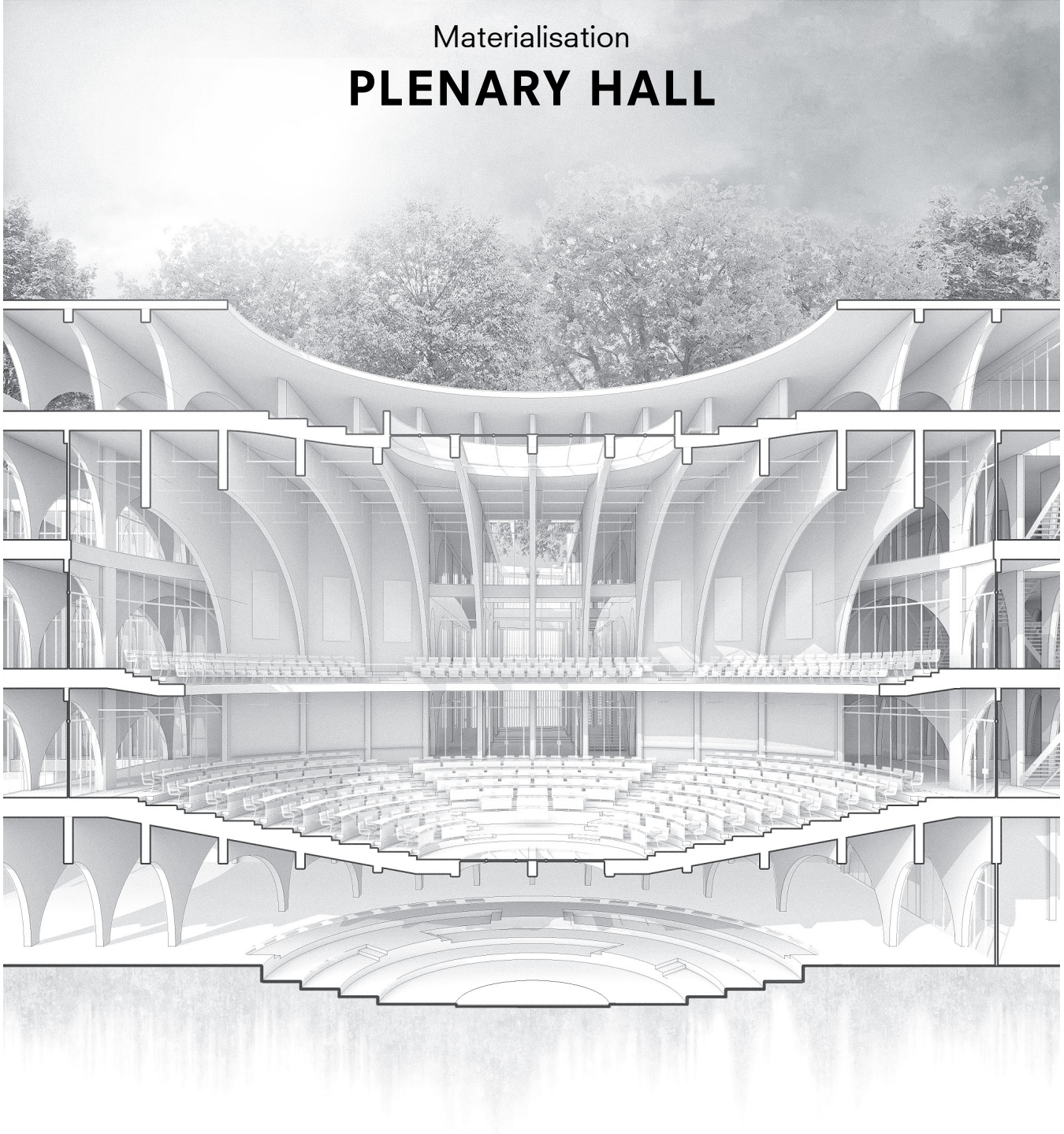
**Diffuse light**
Semi-transparent panels with diffuse light transmission

**Colour changing**
Possible switch from transparent to tinted to block visibility or the Sun's rays

**Pattern**
Visible wooden texture on the surface of the panels

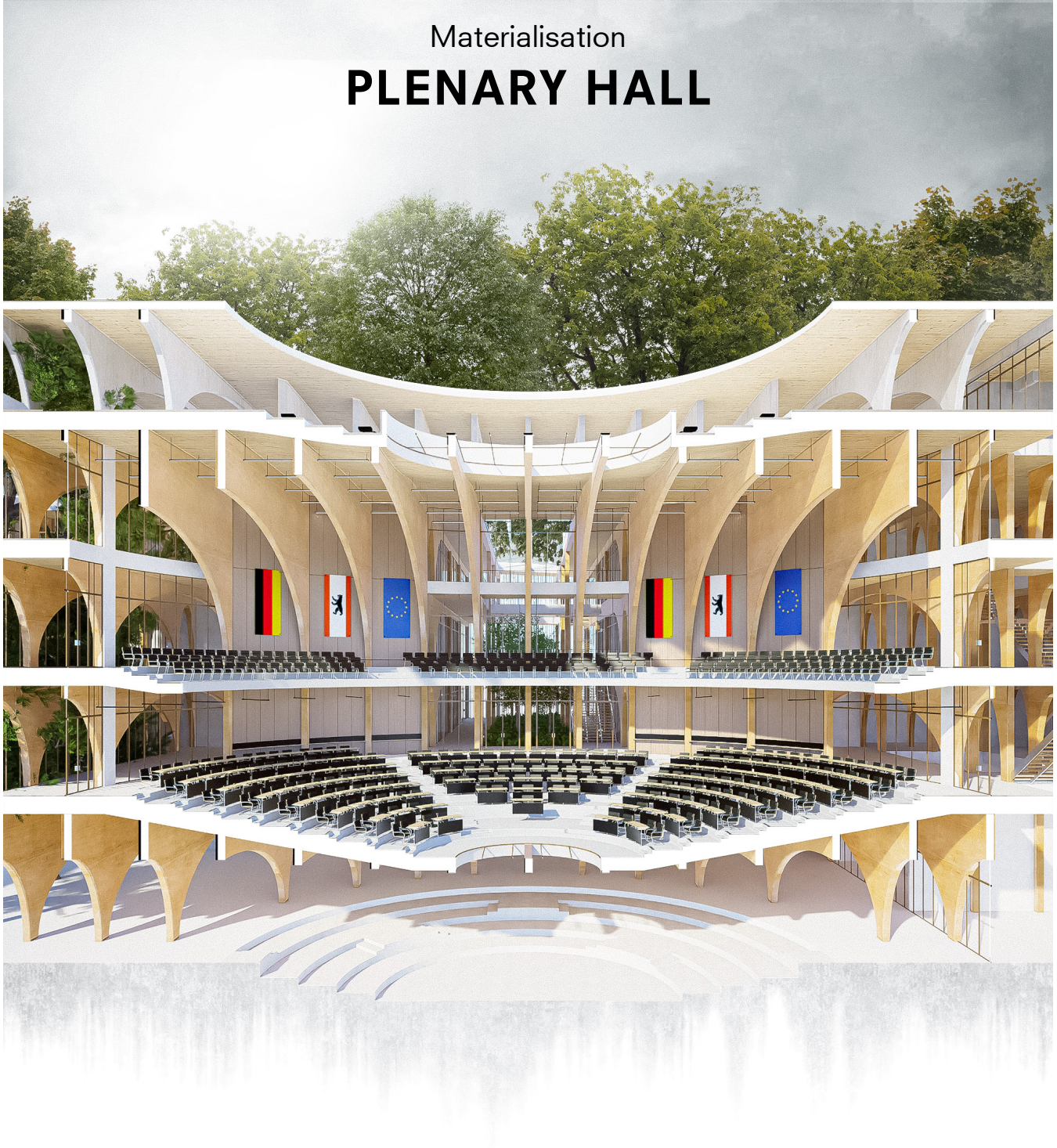
Materialisation

# PLENARY HALL



Materialisation

# PLENARY HALL



06

# CONCLUSION

# KAI WEGNER

# BACK VIEW

# FACADE DETAILS

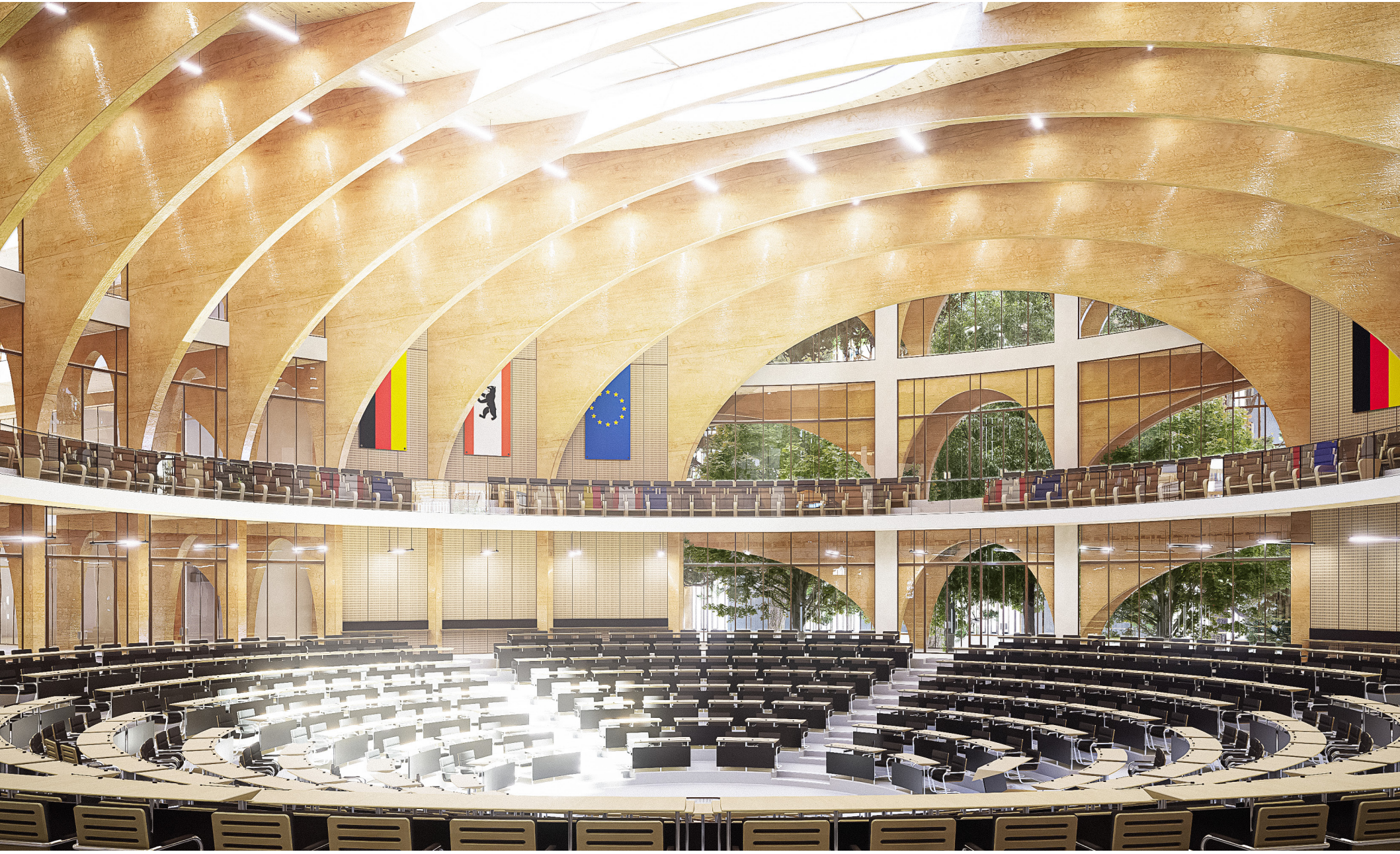
# FRONT VIEW

# DEBATE SPACE

Conclusion

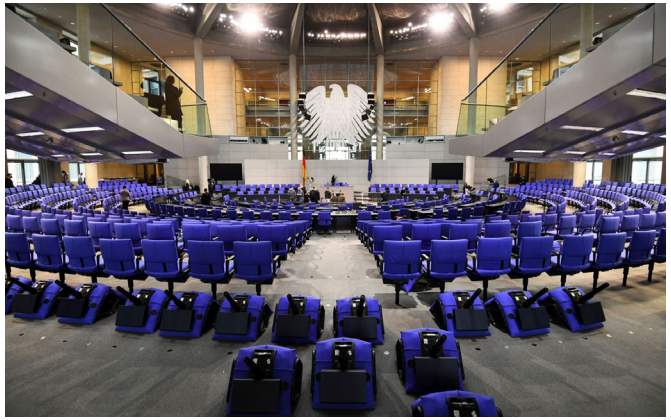
# DEBATE SPACE

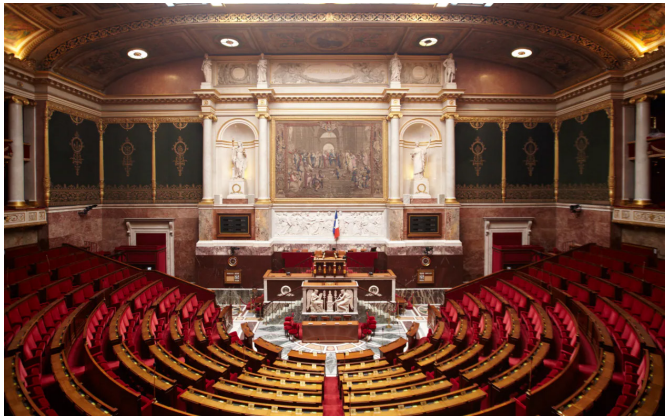
# PLENARY HALL



# PLENARY HALL

# GALLERY





# PLENARY HALL

# SPEAKER PODIUM

# INTERVIEWS

# GREEN WING

# CONFRONTATION ROOM

# CONFRONTATION ROOM

# CONFRONTATION ROOM

# TWO IDENTITIES

# RESTAURANT

# FRONT VIEW

SYSTEM CHANGE! NOT CLIMATE CHANGE
DINOS THOUGHT THEY HAD TIME TOO!!
SOS
CLIMATE CHANGE KILLS
PEOPLE NOT PROFIT

# ROOF

# RESEARCH QUESTION

How can a **contemporary Parliament** be designed to include, besides humans, natural entities in the legislative process?

THANK YOU !