City Hall of Brussels

MSC 4 Interiors Buildings Cities, The Palace
Graduation Studio

25/08/2020
P5 Presentation

Lin Yang
4859375
• Research:
  1. In Urban Scale
  2. In Building Scale
  3. Political Position

• Strategy:
  1. In Urban Scale
  2. In Building Scale

• Project:
  1. Public Engagement
  2. Public Movement
  3. Three Key Spaces
  4. Material And Structure
  5. Facade
  6. Climate Strategy
RESEARCH
In Urban Scales
Brussels

Mini Ring

Small Ring

10 min

5 min

site

Boulevard Anspachlaan

Brussels
Urban Sequence of Pedestrians Boulevard

- Munt Opera House
- Place De Brouckère
- Muntpunt Library
- Stock Exchange building
- Ancienne Belgique
- Parc Fontainas
Metro Stations As Gate For City Center
Overlap the Urban Research
RESEARCH
In Building Scales
Three Radical Interventions In The Center
Dome Project
Centrale Hallen

Parking 58
Conclusion

- Open spaces
- Renovated buildings
- Metro stations
- Pedestrians zone in city center

Site
RESEARCH
Political Position
Picnic the Street at Place de la Bourse, Summer 2012

“POOL IS COOL” at Bozar, Summer 2017
P1 model: Political Space
P1 model: Political Space
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Urban Strategy
Urban Strategy

Site

Administrate Centre

- renovated buildings
- planning pedestrians zone
- existing pedestrians zone
- open spaces
Strategy For Immediate Surrounding

For The South Side

In The Middle

For The North Side
Mass Study
Building Strategy
15. Infrastructure - Transition within Architecture & Public transportation

Central station
Subway
Centre for Fine Arts
Exhibition and conference rooms, a cinema and a concert hall

In the 1930s, a bunker was built underneath it, connected by tunnels to the House of Parliament.

The gallery continues the 19th-century tradition of covered passages.

The height of the building was restricted so as not to compromise the King's view of Brussels' skyline from the Royal Palace.

Offices (on the upper floors), Commercial stores & Exhibition, Small art studios.

Royal Park

Galerie Ravenstein
Bozar

Building As Infrastructure To Link The Pedestrian System
Public life on the ground level, urban passage to cross the site.

Organize the building by urban strategy.

horizontal circulation

Architectural Strategy
Atria to break the barrier and create communication
Project
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View of Public Square
co-working space / public permeable

terrace

Public

Public assemble / debate / transition

Programme Analysis
The School of Economics Building at the Universita Luigi Bocconi, Italy, Grafton Architects
Ground Level Of City Hall
Transition Space
Cross Section 1: 200
-1 Level Floor Plan 1: 500  -5m

- Council hall, assembly hall, public zone
- Exhibition
Movement in Office Space

- **Private Working Space**
- **Co-working Space**
- **Study Center**
- **Reception**
- **Public**
- **Politicians/OFFICE WORKER**
- **Logistics**
Public Room and Street
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**Project**

- 125 individual office
- 1220 landscape office
- 24084 m² above the ground
- 13215 m² under the ground
- 9 floors
  - +1-4 coworking office
  - +5-9 private office

**Brief Analysis - Working Spots**

- 131 individual office
- 1156 landscape office
Material and Structure
Comparison of the energy consumption (GJ/m²) during production

Material Matters- CLT and Glulam Timber

Believe in Better Building, UK / Arup Associates

Construction process of CLT
Grid: 8m * 7.5m

Glulam timber column:
H=4000
400mmx400mm

Glulam timber beam:
400mmx550mm

Grid: 8m * 7.5m

Prefabricated concrete column:
H=4000
450mmx450mm

Prefabricated concrete column:
450mmx550mm

+1 (north) - +9 level
Glulam timber skeleton and CLT slab

Ground level and +1 on south:
Prefabricated concrete

Underground: In situ concrete
+1 (north) - +9 level
Timber structure with terracotta facade

Ground level and +1 on south:
Prefabricated concrete with prefabricated concrete facade
Extrusion Terracotta Facade
Elevation
co-working space / public permeable
Public assemble / debate / transition
Public
Facade Idea
South Elevation 1: 500

± 0.000
+ 5.500
+ 9.500
+ 13.500
+ 17.500
+ 18.700
View of North Side
View Of The Intermediate Street
Facade Fragment
1. Main structure,
   Glulam timber skeleton with CLT floor slab,
   column: 450mm*450mm, beam: 450mm*550mm

2. Insulation,
   mineral wool 150 mm.

3. Extrusion Terra Cotta tile: 150mm, 300mm

4. HF400 Timber/ Aluminium windows.
   Operable window, triple insulated glazing:
Raised Floor

CLT Slab

Glulam Beam

Glulam Column

Assemble
1. Main structure, Glulam timber skeleton with CLT floor slab.
   (column: 450mm*450mm beam: 450mm*550mm)

2. Insulation, mineral wool 150 mm.

3. Extrusion Terra Cotta tile: 150mm, 300mm

4. Floor:
   15 mm birch parquet,
   12 mm plywood sheet,
   150mm raised floor, space for service runs between,
   insulation layer, 50mm mineral wool 150 mm.

5. HF400 Timber/Aluminium windows.
   Operable window, triple insulated glazing.

5-layer CLT floor slab, 150mm.
Working Space
Climate Strategy
Natural Ventilation in the Building

atrium to encourage stack effect

operable window
Mechanical Ventilation
Summer Winter

Heating and Cooling

heat exchange
air intake
air exhaust

Heat exchange
Air intake
Air exhaust

Heat storage Heat storage

Summer

Winter

Heating and Cooling
Experience In City Hall
On the street
Entrance And Square
Thank You!

Sam De Vocht | Mauro Parravicini | Daniel Rosbottom | Hendrik Ploeger | Mark Pimlott

Lin Yang 4859375 | P5 presentation | 25th, August, 2020

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Appendix
Fire Escape
-3 Level Floor Plan 1: 500  -13.5m