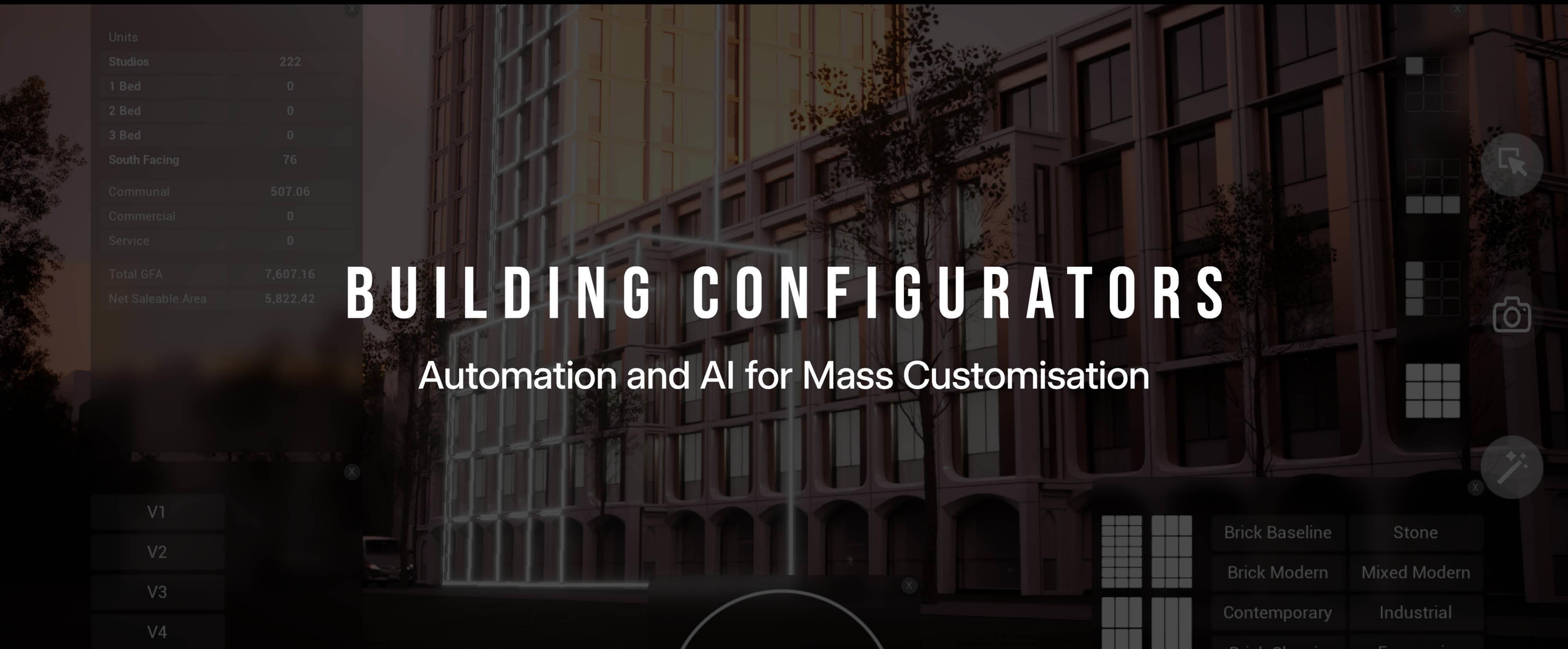
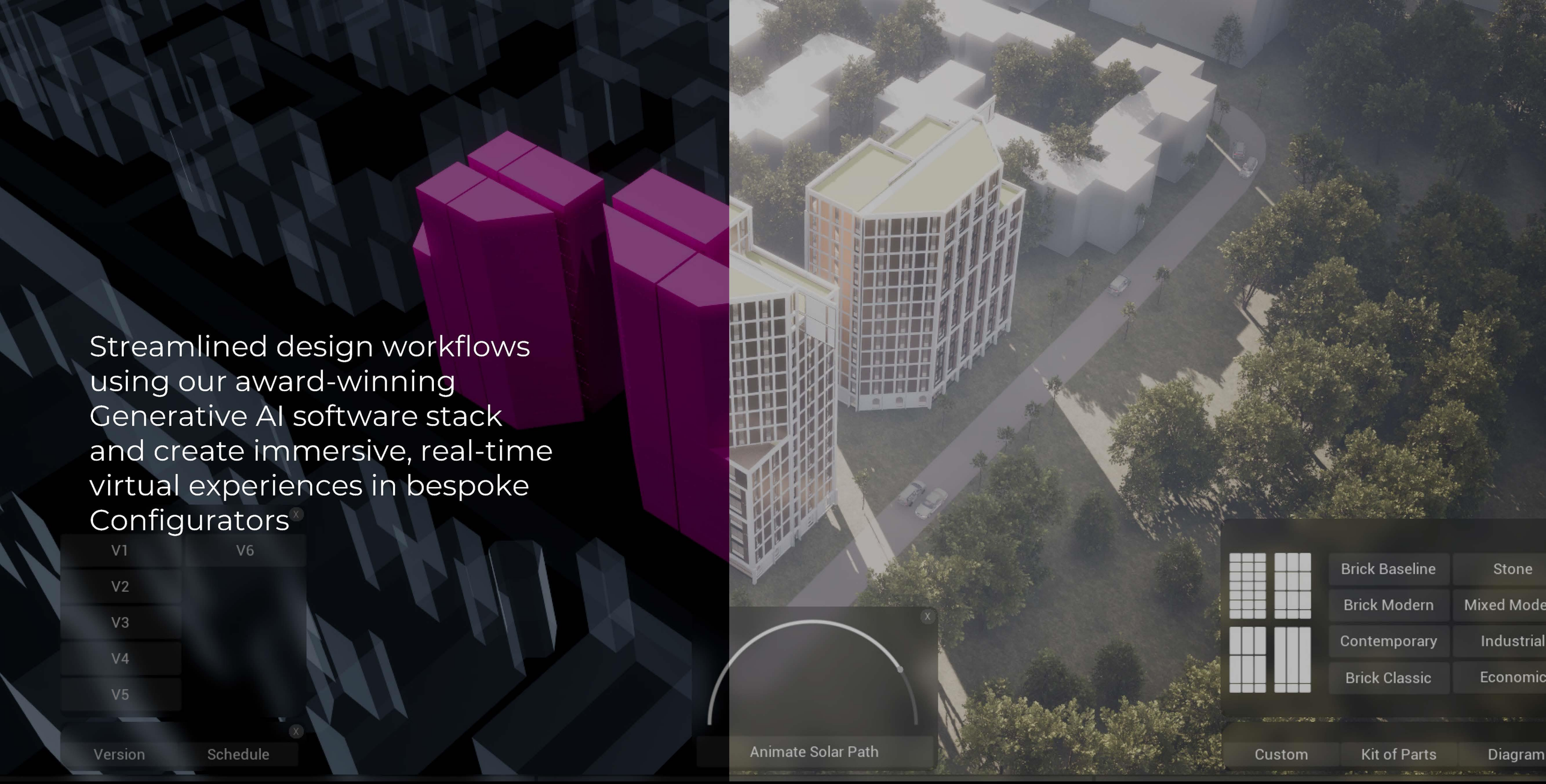
AALTER

BUILDING CONFIGURATORS

Automation and AI for Mass Customisation



Streamlined design workflows using our award-winning Generative AI software stack and create immersive, real-time virtual experiences in bespoke Configurators

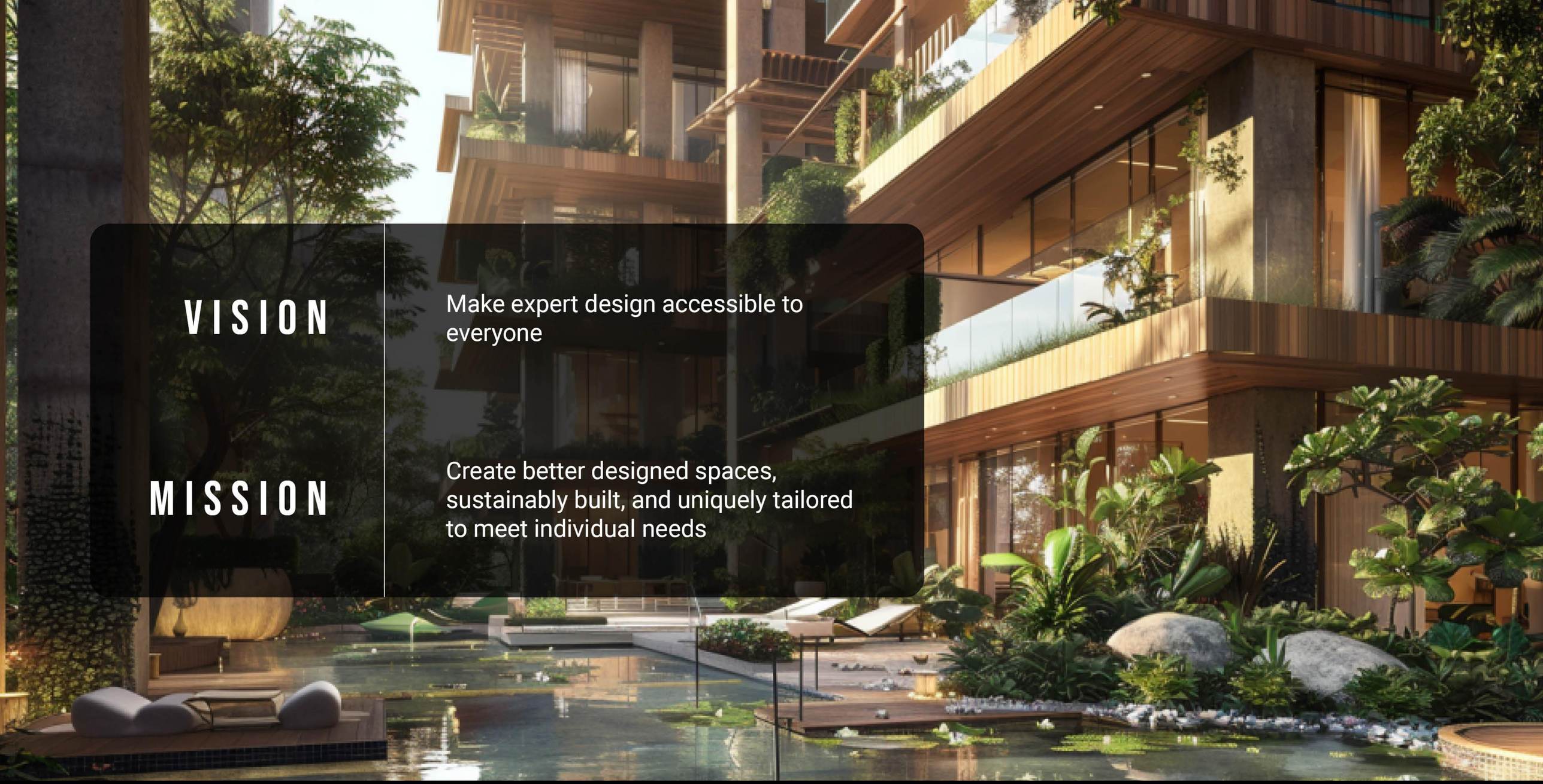


AALTER

AUTOMATED DESIGN

ENHANCED EXPERIENCE

USER PARTICIPATION



VISION

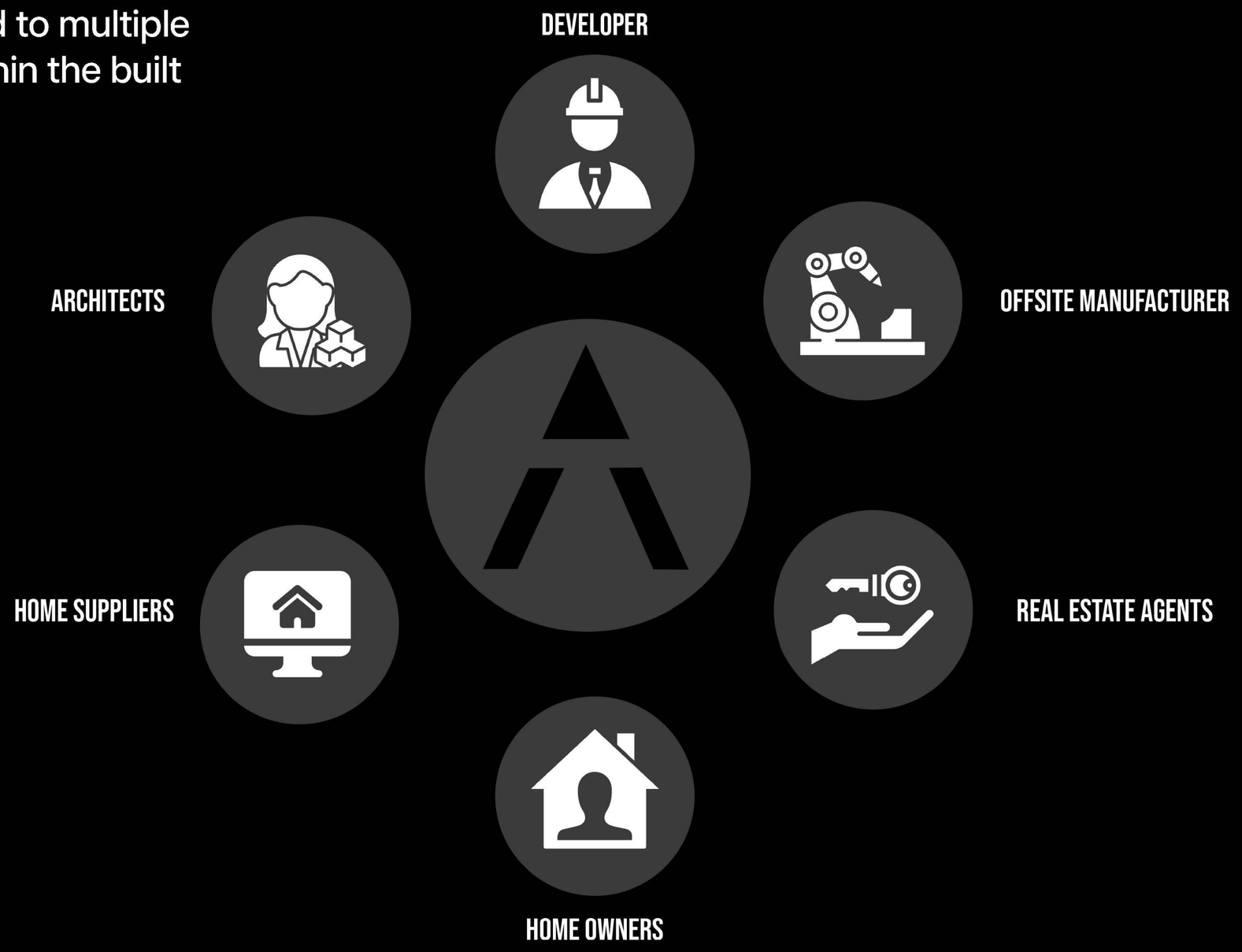
Make expert design accessible to everyone

MISSION

Create better designed spaces, sustainably built, and uniquely tailored to meet individual needs

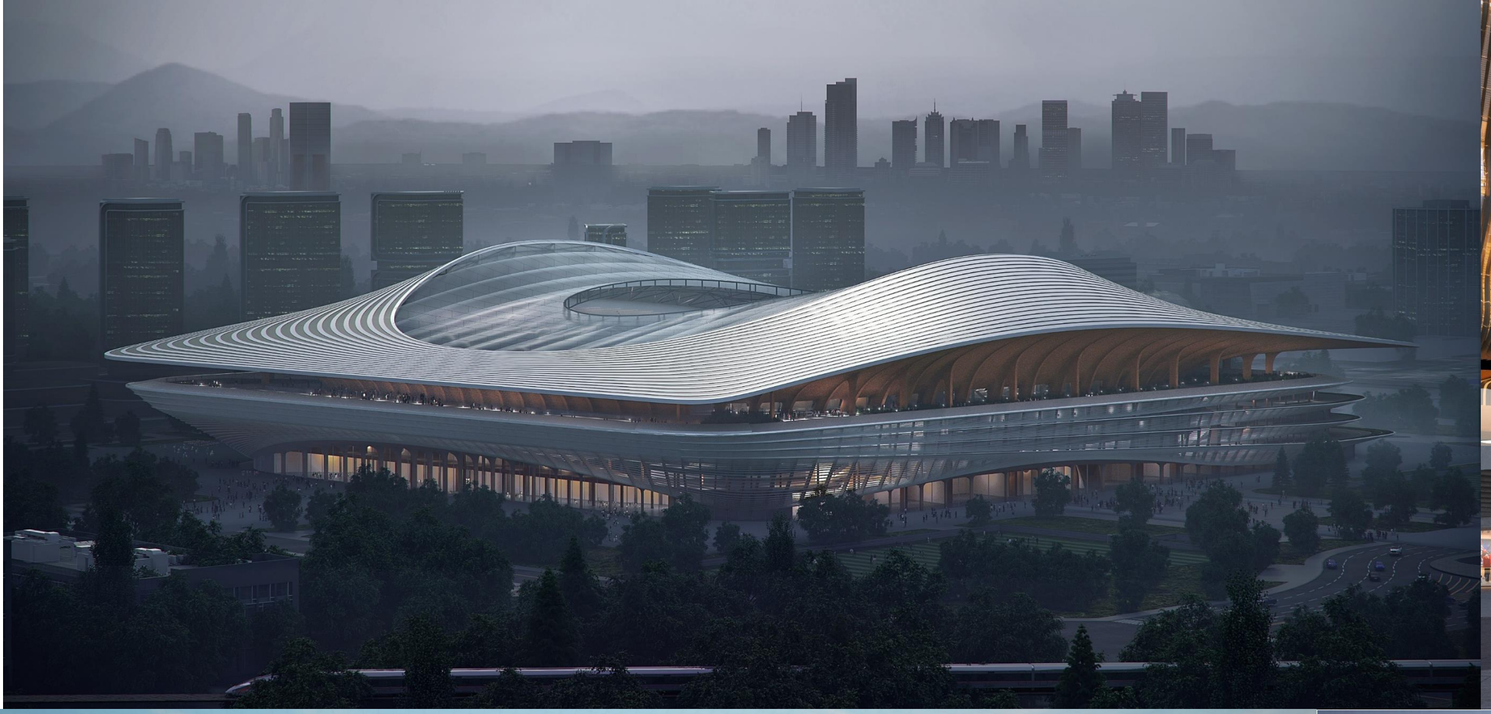
AALTER

Solutions catered to multiple stakeholders within the built environment

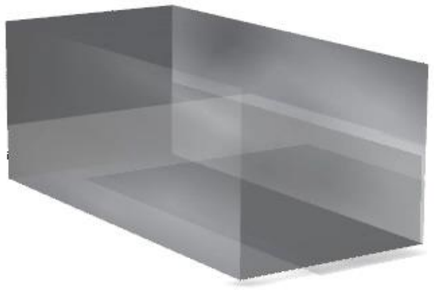


AALTER

ZAHA HADID ARCHITECTS | ZHCODE



(c) Zaha Hadid Architects



Order Summary

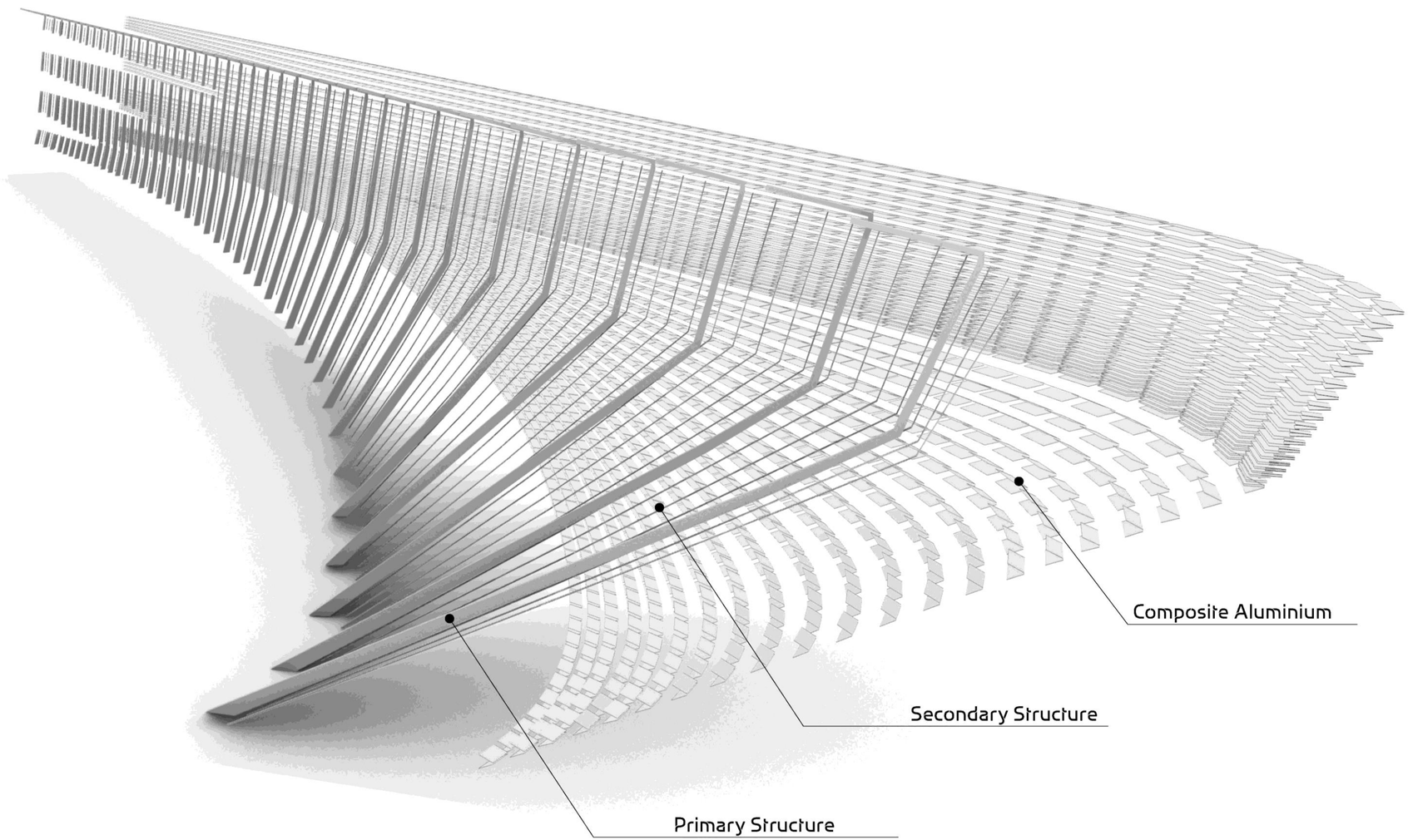
Facade panel	
Opaque	0
Glazed	0
Shading System	0
Roof	
Flat - Terrace	0
Palapa	0
Garden	0
Balcony	
Single Front	0
Double	0
Side	0
Air Rights	
Top	0
Side	0
Bottom	0
Total	0

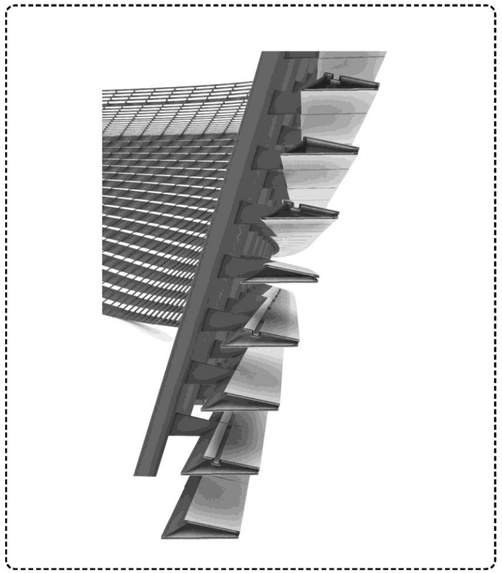
(c) Zaha Hadid Architects

(c) Zaha Hadid Architects

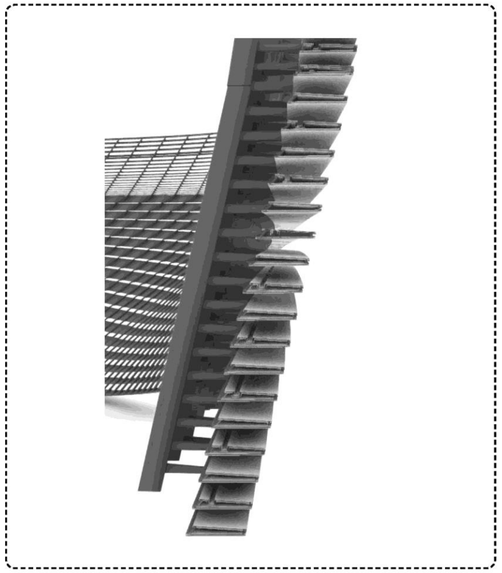
ZAHA HADID ARCHITECTS - XIAN STADIUM

Zaha Hadid Architects - Xian Stadium





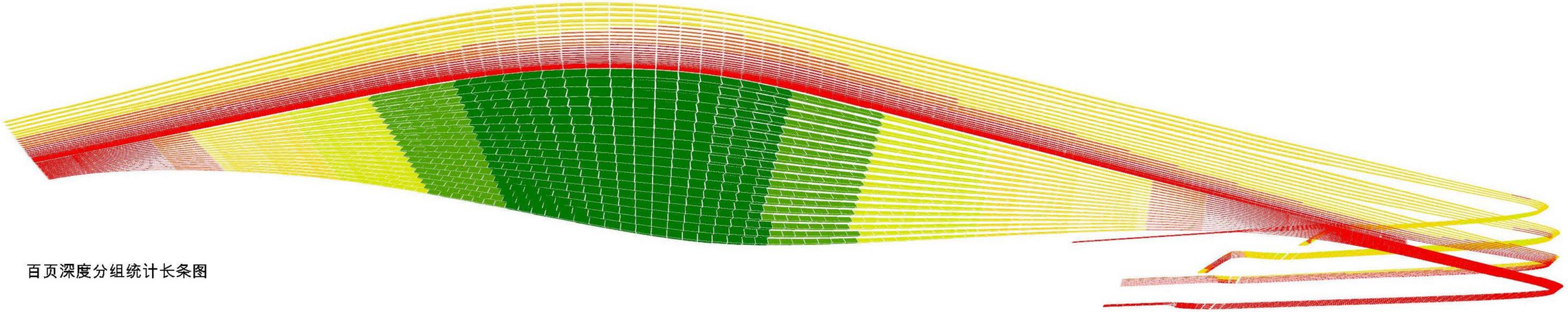
Section B



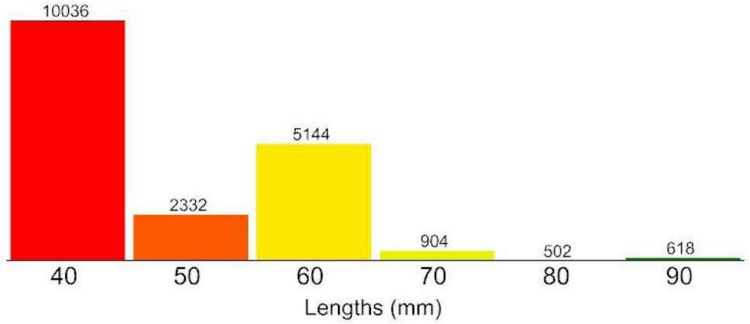
(c) Zaha Hadid Architects

Zaha Hadid Architects - Xian Stadium

Depth Clusters



百页深度分组统计长条图



(c) Zaha Hadid Architects

Zaha Hadid Architects - Xian Stadium

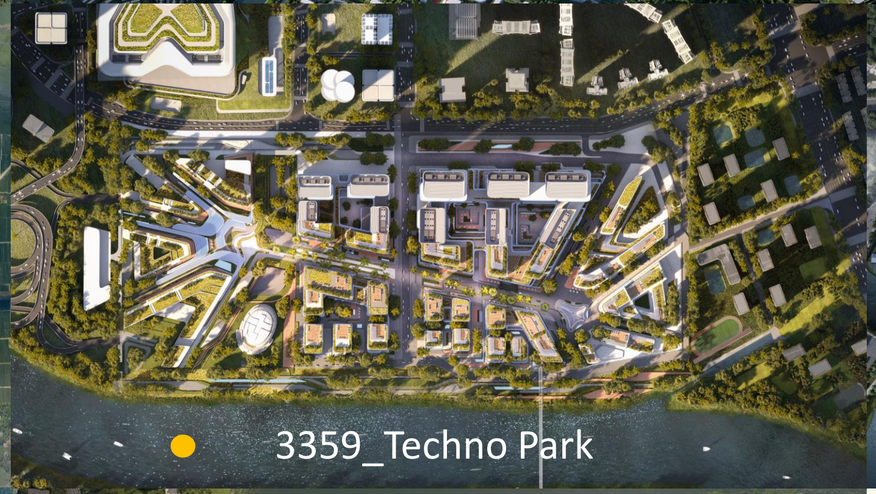
Masterplan Projects | *Zaha Hadid*

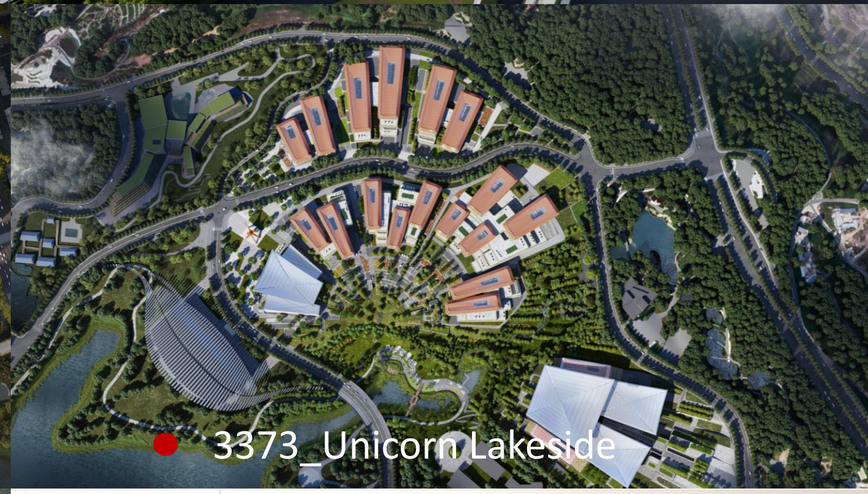
4106_Pazhou Masterplan

4059_Yiwu Masterplan

3750_Liberland

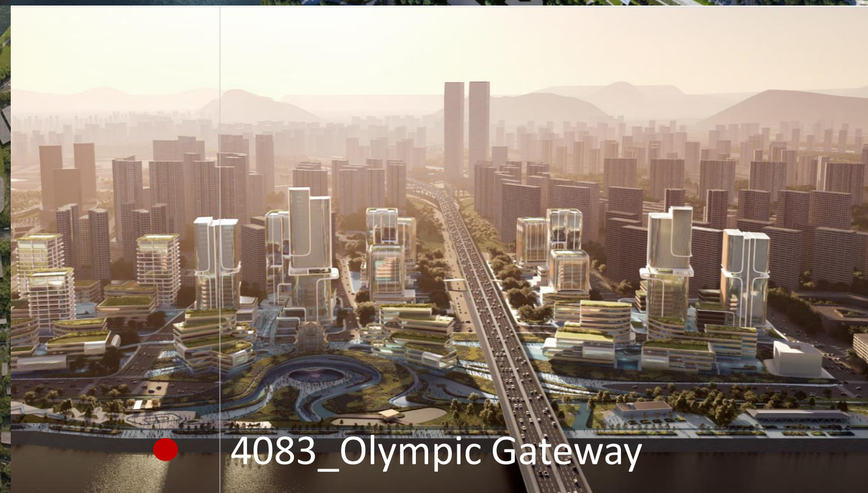
3136_Xingtai Masterplan


3359_Techno Park


3373_Unicorn Lakeside

3924_Praxis

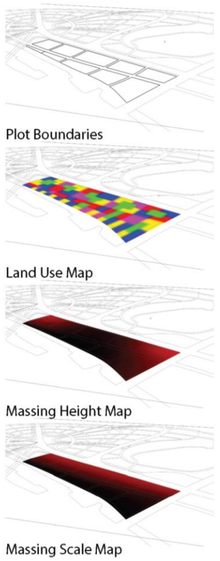
2868_Unicorn Island


4083_Olympic Gateway

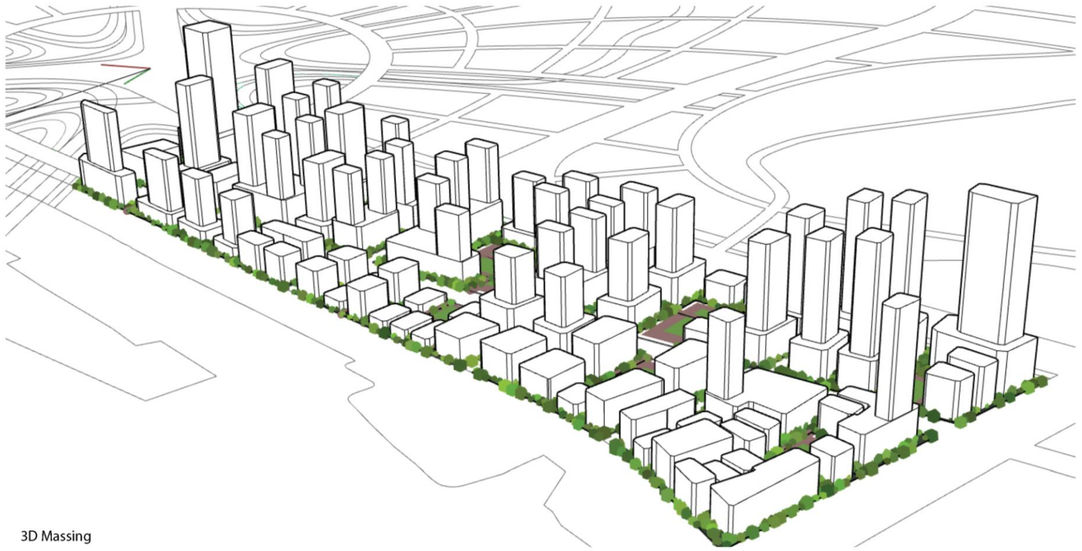
(c) Zaha Hadid Architects

Masterplan Toolsets

Design Tools



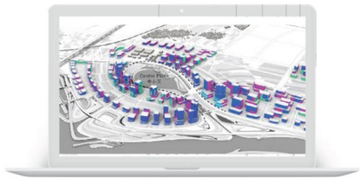
3D Generation →



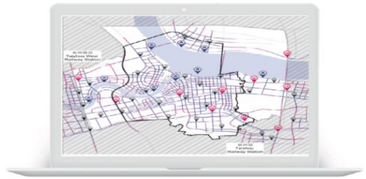
3D Massing

Network Creation

Parcel Generation

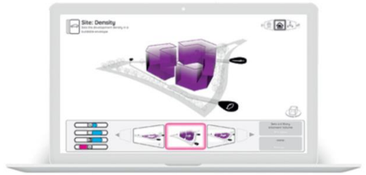


View Analysis



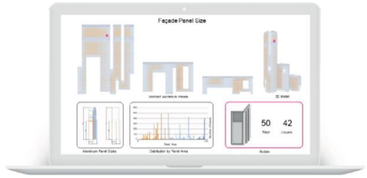
Accessibility Analysis

Planner



Investor

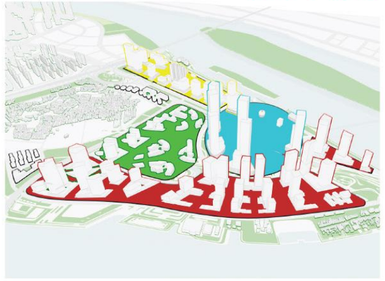
Developer



Supplier

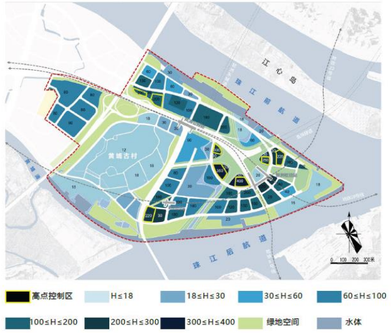
Analytic Tools

GFA Map — GFA 537wm²



总建筑面积:5,370,000㎡ Total GFA
总占地面积: 2,100,000㎡ Total Area
2,212,000㎡
1,224,000 ㎡
511,000 ㎡
1,423,000 ㎡

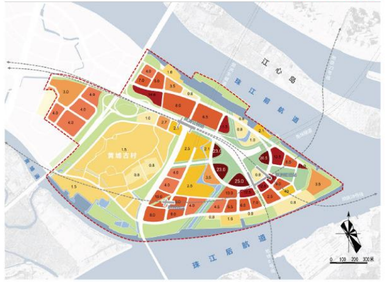
Height Map — 18m-400m



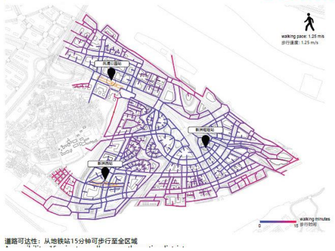
Green Ratio — 23%

绿地总面积占比: 23%
Percentage of urban greenery
屋顶绿化面积占比: 45%
Percentage of roof grennery

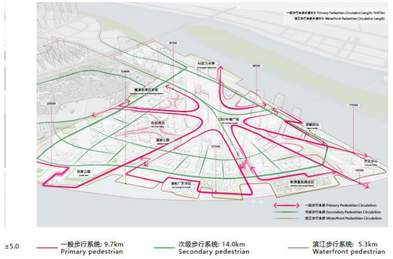
Development Intensity — FAR < 25



Accessibility — Walking minutes to entire district 15mins



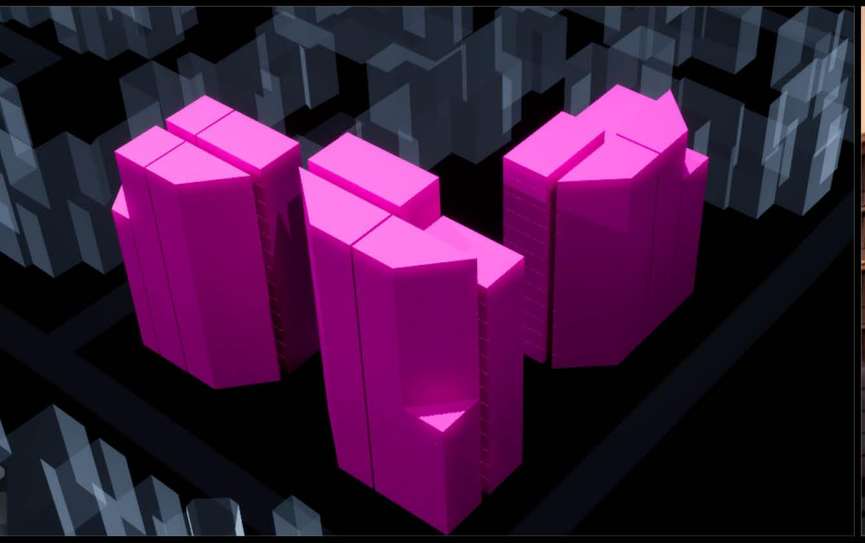
Walkability — Total length of Walkable district 29km



(c) Zaha Hadid Architects

AALTER

Aalter Apps

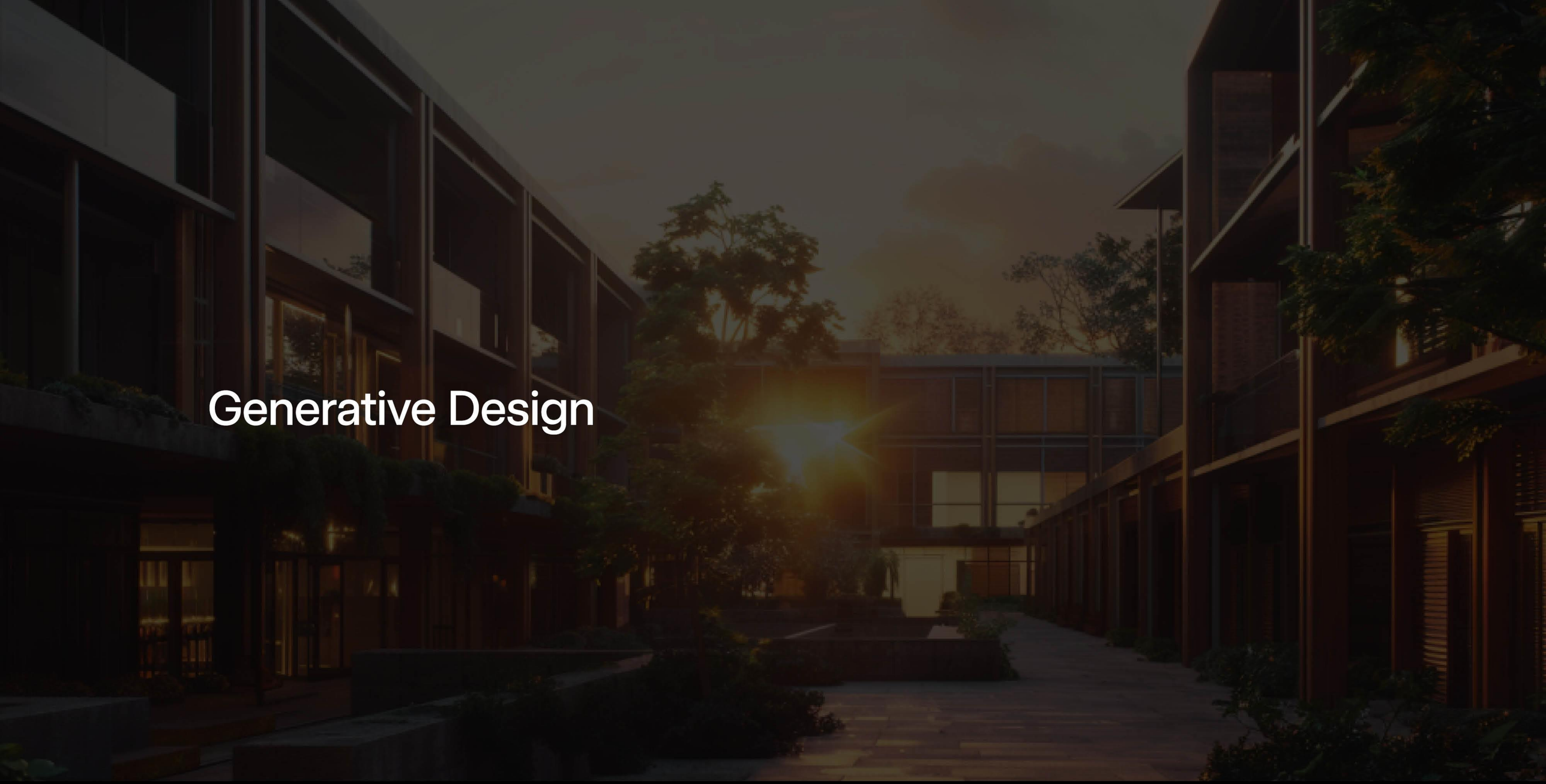


Generative Design

Configurators

Digital Twin

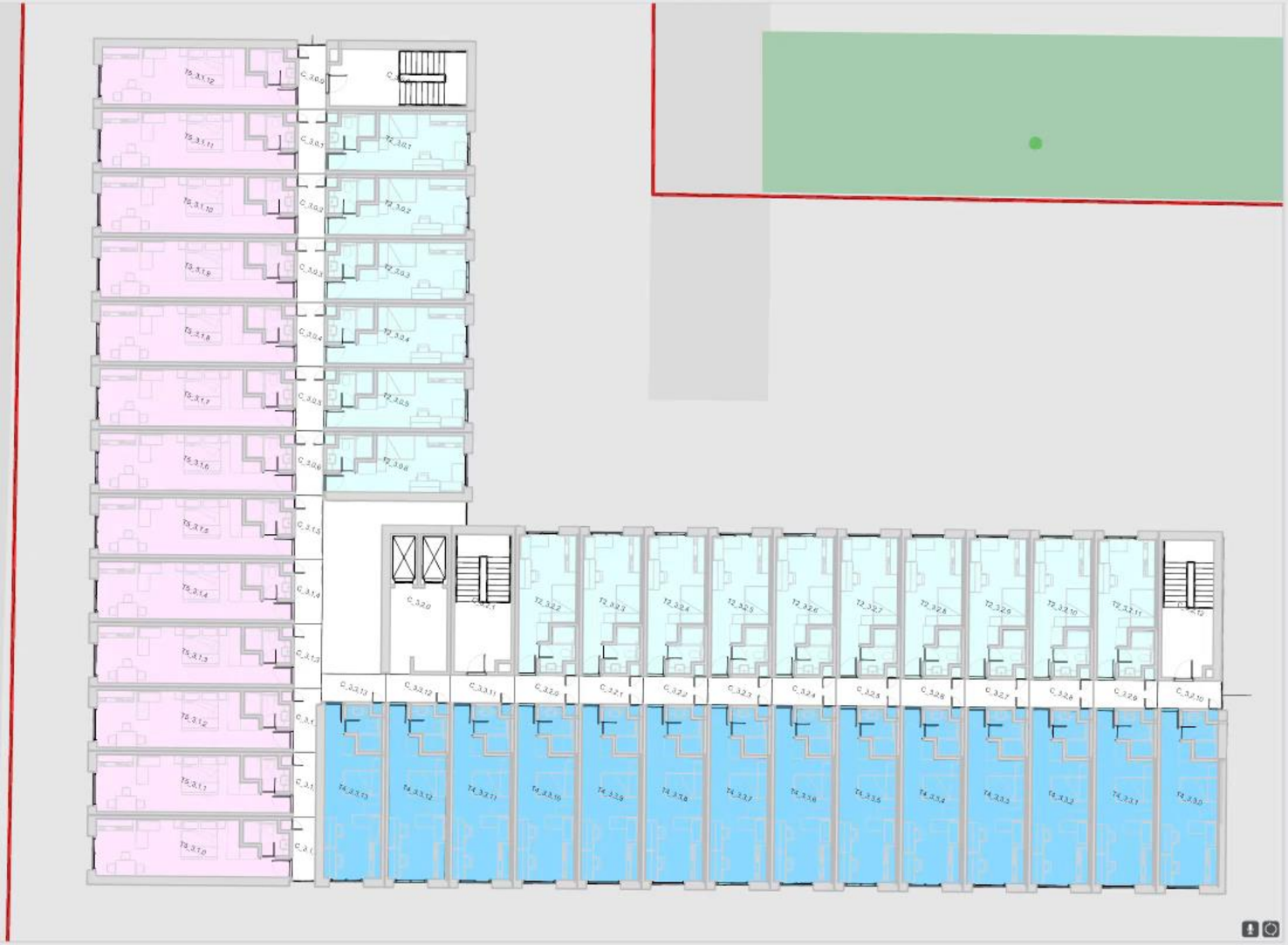
AALTER



Generative Design

AALTER

Masterplan Performance



	A	B	C	D	E
7	**Item**	**Totals**	Level 0	Level 1	Level 2
8	**Bedrooms**				
9	T1	**0**	0	0	0
10	T9	**0**	0	0	0
11	T2	**142**	23	29	29
12	T4	**16**	0	4	4
13	T5	**64**	4	12	12
14	T6	**0**	0	0	0
15	T10	**0**	0	0	0
16	T13	**0**	0	0	0
17	Special	**0**	0	0	0
18	**Total PBSA**	**222**	**27**	**45**	**45**
19	Cartwright (1 Bed)	**0**	0	0	0
20	Cobham (3 Bed)	**0**	0	0	0
21	Shaw (2 bed)	**0**	0	0	0
22	**Total Residential**	**0**	**0**	**0**	**0**
23	**Total Bedrooms**	**222**	**27**	**45**	**45**
24	**Net Saleable Area (m2)**	**0.00**	**0.00**	**0.00**	**0.00**
25	**South Facing Rooms**	**0**	**0**	**0**	**0**
27	**Service**				
28	Communal units	**18**	18	0	0
29	Commercial units	**0**	0	0	0
30	BOH units	**0**	0	0	0
31	**Commercial Area (m2)**	**0**	0	0	0
32	**Communal Area (m2)**	**507.06**	507.06	0	0
33	**BOH Area (m2)**	**0.00**	0	0	0
35	**Total GFA (m2)**	**7607.16**	**1454.83**	**1454.83**	**1454.83**

Untitled - Rhino 8 Educational - [Top2*]

File Edit View Curve Surface SubD Solid Mesh Drafting Transform Tools Analyze Render Window Help

Initialising Aggregation
Command: AAInitialiseAggregation
Initialising Aggregation
Command:

Standard CPlanes Set View Display Select Viewport Layout Visibility Transform Curve Tools Surface Tools Solid Tools SubD Tools Mesh Tools Render Tools Drafting New in V8

Top2*

T1 0 | TW 0 | T2 162 | T4 0 | T5 108 | T6 0 | T10 0 | T13 0 | CM 0 | BH 0 | RT 0 | CI 60

Perspective2 Top2 Front Right

OSnap
- End
- Near
- Point
- Mid
- Cen
- Int
- Perp
- Tan
- Quad
- Knot
- Vertex
- Project
- Disable

Aalter

Level	Height	Isol	Bou	Id
level 0	0			
level 1	4			
level 2	7			
level 3	10			
level 4	13			
level 5	16			

Modules

Branch	Width	Length	Type	Cor
0	3.225	7.2	PBSA	
1	3.225	9.82	PBSA	
2	3.225	7.2	PBSA	
3	3.225	9.82	PBSA	

Select Graph Lines

Solver: Run | Update | Reset

AI Solver: Fix Length | Fix Width | Variable | Targe

Circulation: Compute | Add | Set

Units: Add | Set | Length

Display Diagram: 2D 3D

Legend

Mixed PBSA Resi

CPlane X 116.594 Y -48.883 Z 0 Millimeters Default Grid Snap Ortho Planar Osnap SmartTrack Gumball (CPlane) Auto CPlane (Object) Record History Filter Memory use: 1427 MB

17:44 02/09/2024

SP_SKETCH_01.3dm (40 KB) - Rhino 6 Educational

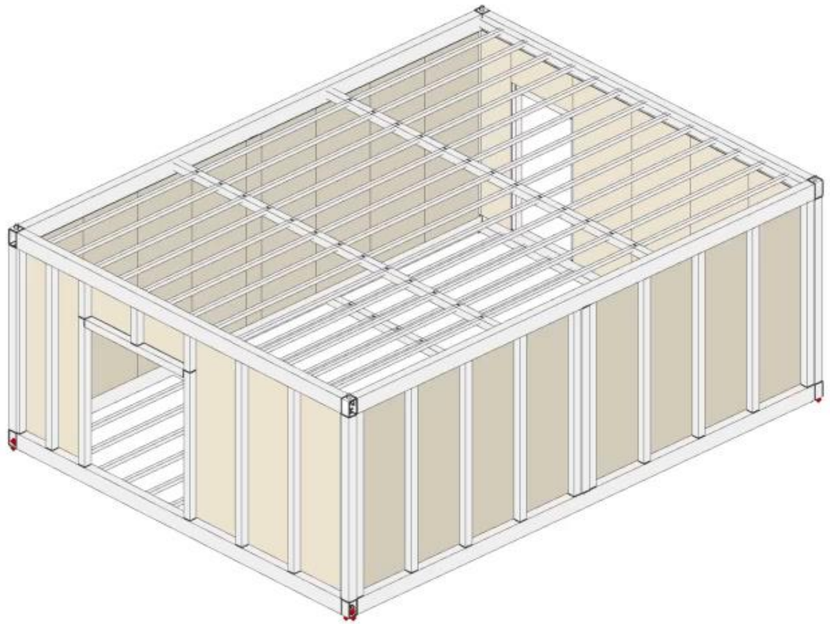
File Edit View Curve Surface Solid Mesh Dimension Transform Tools Analyze Render Panels Help

Standard CPlanes Set View Display Select Viewport Layout Visibility Transform Curve Tools Surface Tools Solid Tools Mesh Tools Render Tools Drafting New in V6

Display mode set to "Shaded".
Display mode set to "Shaded".
Display mode set to "Wireframe".
Display mode set to "Rendered".
Command:

Top

Parallel



CONTROL WINDOW

UNITS

WIDTH	5381
LENGTH	7221
HEIGHT	2775

DOORS

DOOR PARAM	0.806
DOORWIDTH	900
DOORHEIGHT	2100

WINDOW

WINDOWPARAM	0.363
WINDOWWIDTH	1600
WINDOWHEIGHT	1800

STRUCTURE

STCOL_MAX_SEPARATION	4015
STBEAM_MAX_SEPARATION	3472
WST_MAX_SEPARATION	1000

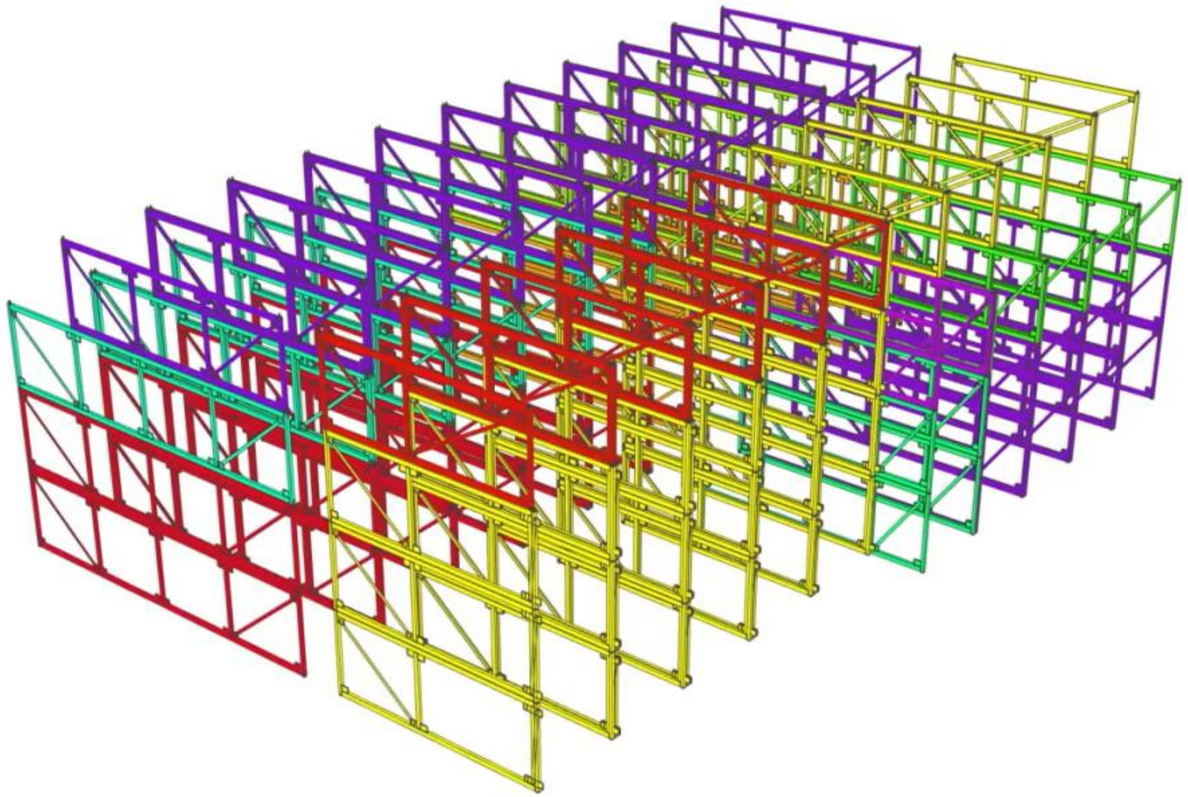
Parallel Top Front Right

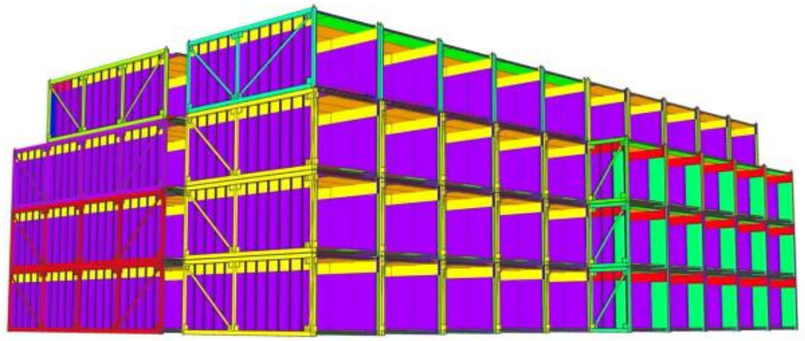
End Near Point Mid Cen Int Perp Tan Quad Knot Vertex Project Disable

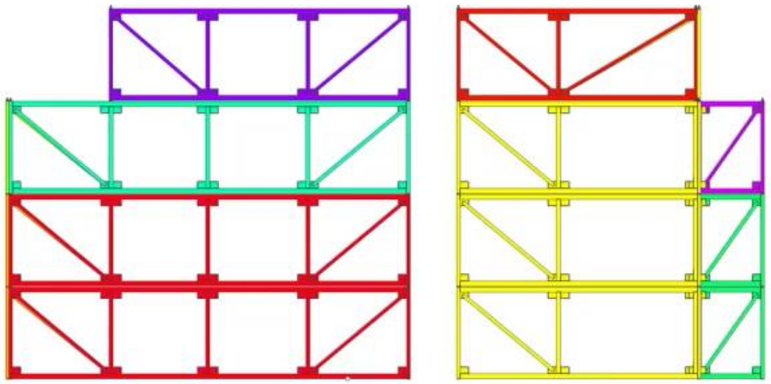
CPlane x -1836.425 y -5919.952 z Millimeters Default Grid Snap **Ortho** Planar **Osnap** **SmartTrack** **Gumball** Record History Filter Memory use: 1507 MB

02:21
06/09/2024

Structure Optimisation - Clustering







demo_awards.3dm (5 MB) - Rhino 8 Educational - [Perspective4]

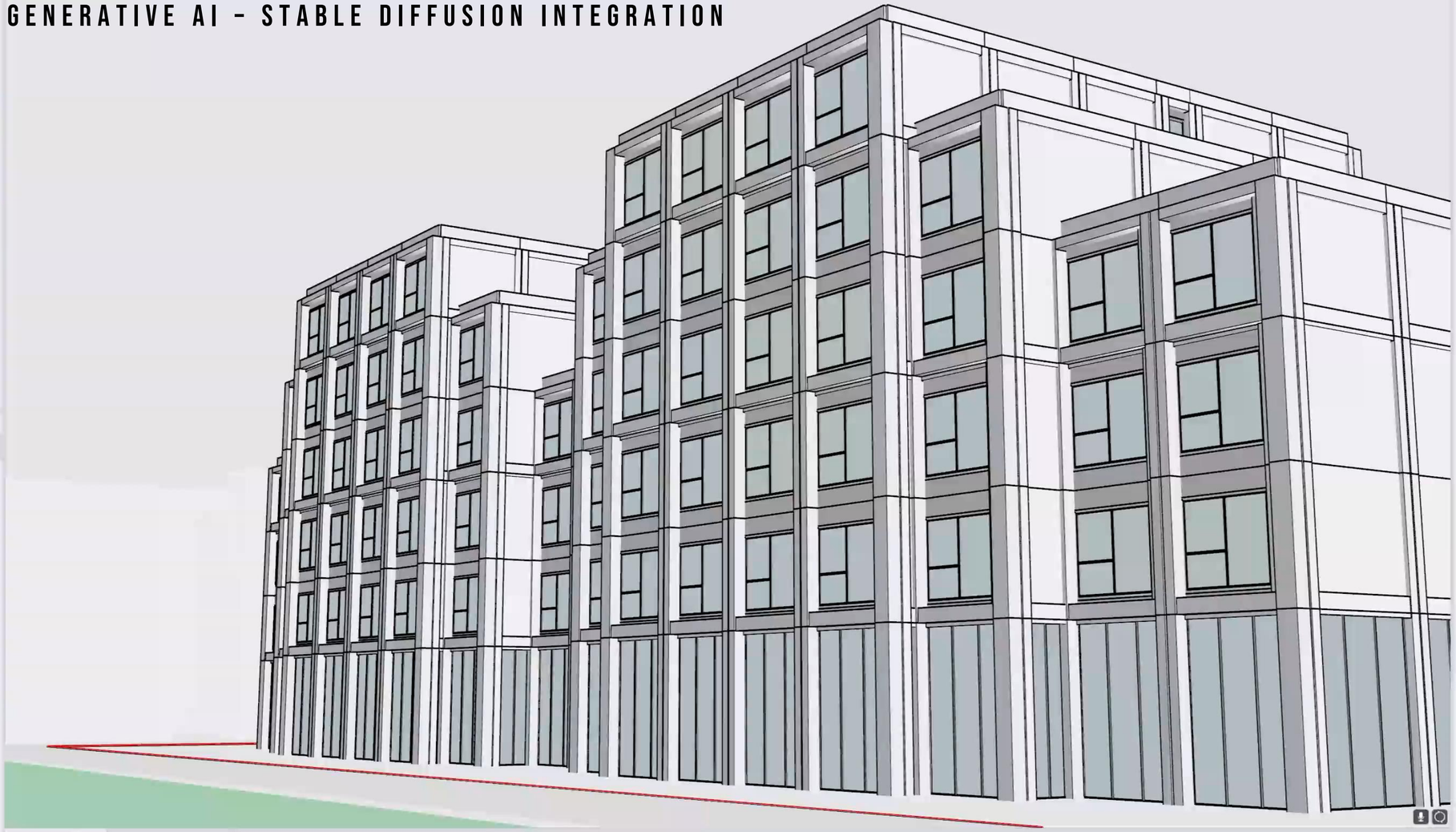
File Edit View Curve Surface SubD Solid Mesh Drafting Transform Tools Analyze Render Window Help

Command: _Save
File successfully saved as C:\Users\cafra\Desktop\demo_awards.3dm.
Command:

Standard CPlanes Set View Display Select Viewport Layout Visibility Transform Curve Tools Surface Tools Solid Tools SubD Tools Mesh Tools Render Tools Drafting New in V8

Perspective4

GENERATIVE AI - STABLE DIFFUSION INTEGRATION



Aalter

Solver
Run | Type | Custom | Side Facade
Update | Reset | Clear

Display
☑ Display
Bake

Render
Render Diffusion

OSnap
☑ End
☑ Near
☑ Point
☑ Mid
☐ Cen
☐ Int
☑ Perp
☐ Tan
☐ Quad
☐ Knot
☑ Vertex
☐ Project

☐ Disable

Perspective4 Top2 Front Right

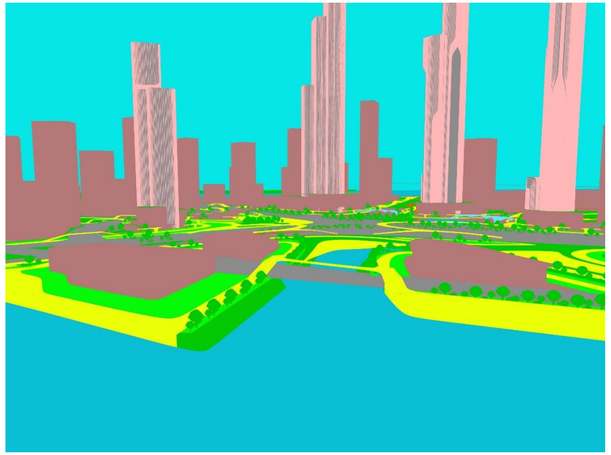
CPlane X 152.277 Y -70.720 Z 0 Millimeters Default Grid Snap Ortho **Planar** **Osnap** **SmartTrack** **Gumball (CPlane)** **Auto CPlane (Object)** Record History **Filter** CPU use: 0.1 %

A202 / Camber...
Construction

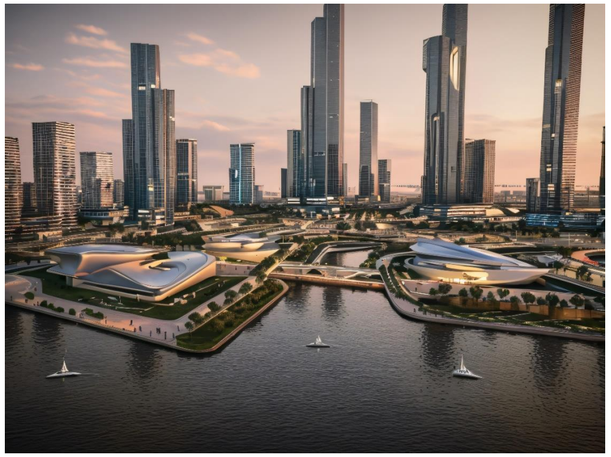
Search

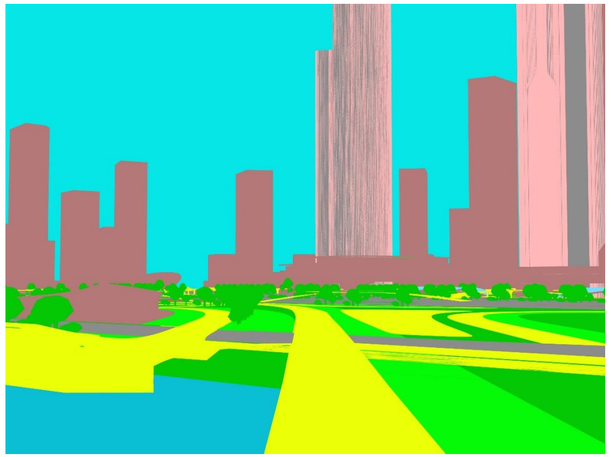
18:41
02/09/2024

Tool Development – AI Lora Trained Models in Earlier Design Stages



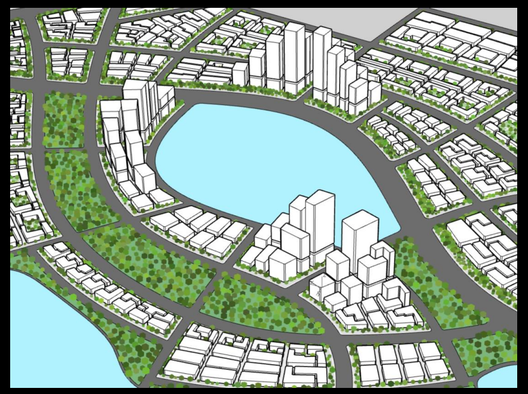
→





→

AI Lora Trained Models in Earlier Design Stages



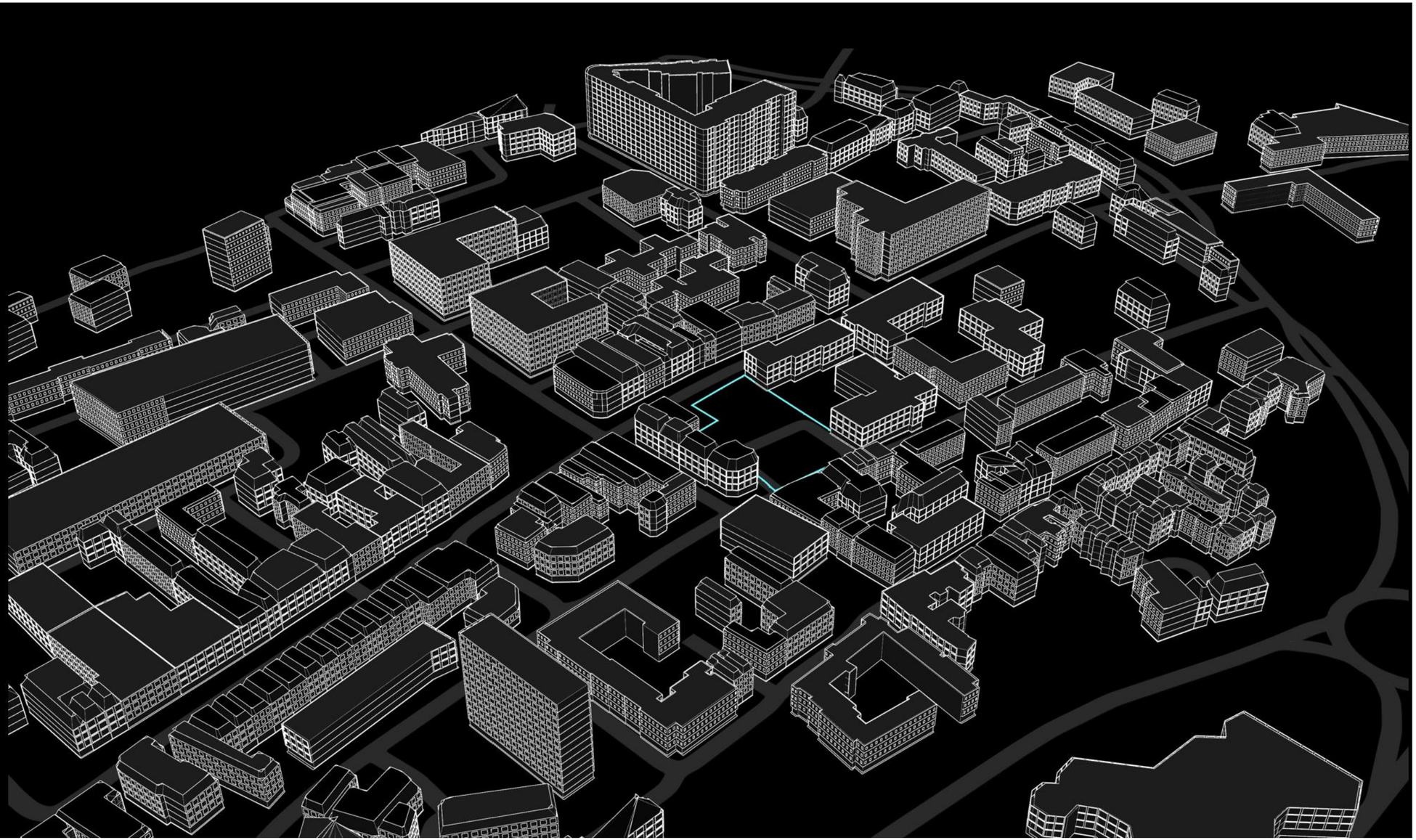
Model Preview

AI – Day time

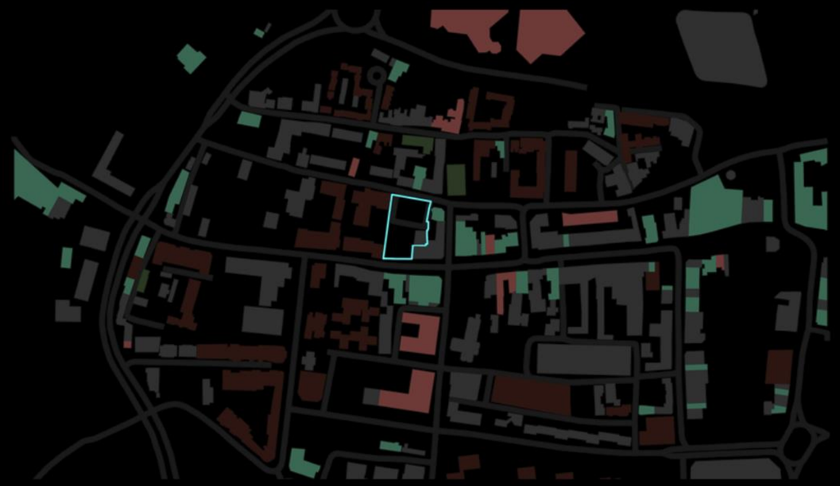
AI – Twilight

AI – Night

```
{
  "type": "node",
  "id": 1555781681,
  "lat": 50.9021610,
  "lon": -1.4044306,
  "tags": {
    "brand": "The Gym",
    "brand:wikidata": "Q48815022",
    "brand:wikipedia": "en:The Gym Group",
    "building": "yes",
    "check_date": "2023-06-13",
    "contact:website": "https://www.thegymgroup.
    "leisure": "fitness_centre",
    "name": "The Gym",
    "opening_hours": "24/7"
  }
},
{
  "type": "node",
  "id": 2344909025,
  "lat": 50.9004080,
  "lon": -1.4050050,
  "tags": {
    "addr:city": "Southampton",
    "addr:street": "Hamtun Street",
    "building": "apartments",
    "name": "Ironside Court"
  }
},
{
  "type": "node",
  "id": 3752146273,
  "lat": 50.9011872,
  "lon": -1.4010658,
  "tags": {
    "building": "commercial",
    "name": "McKenzies",
    "shop": "furniture"
  }
}
```

Open Street Maps Analysis

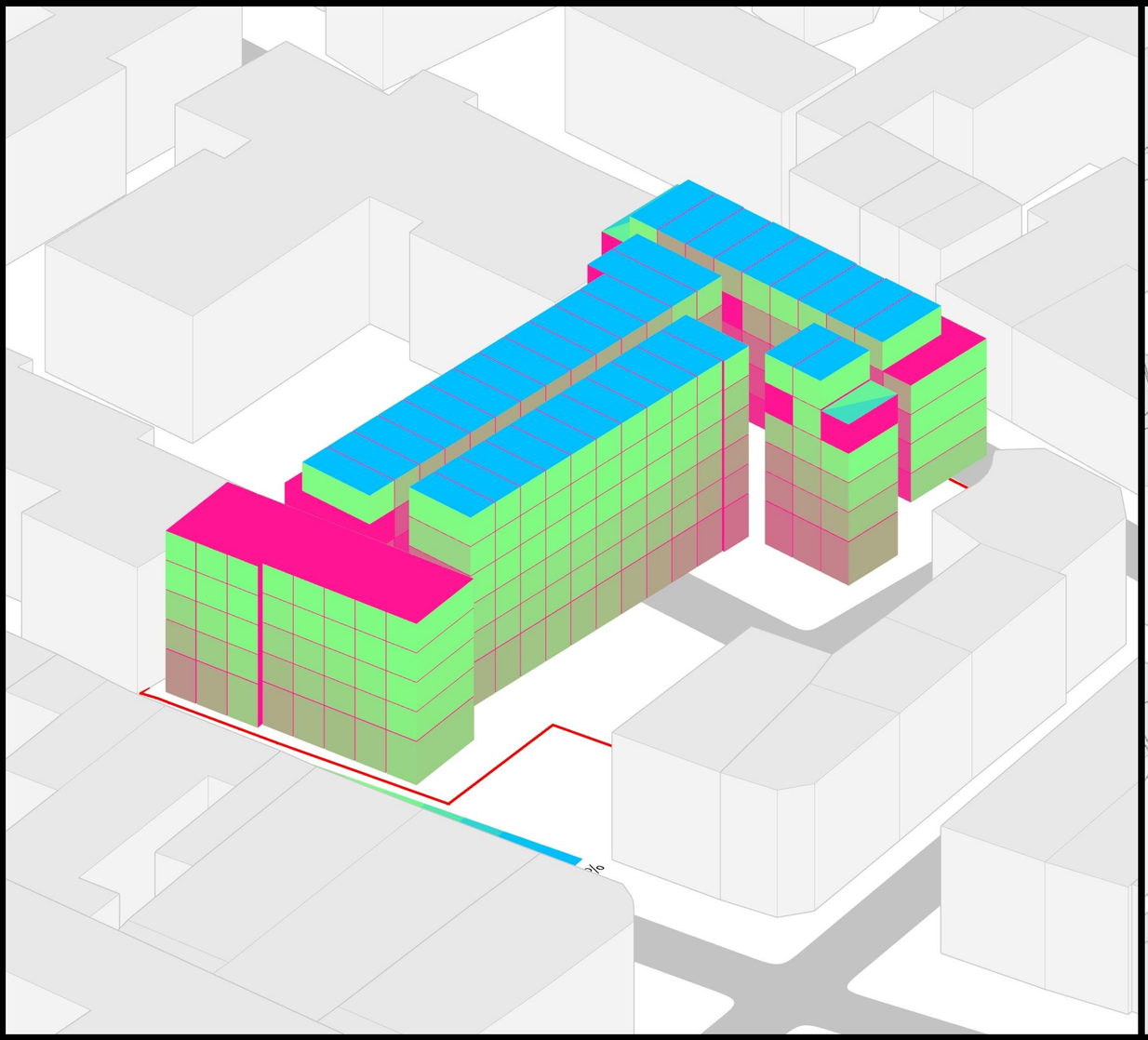


Land Use

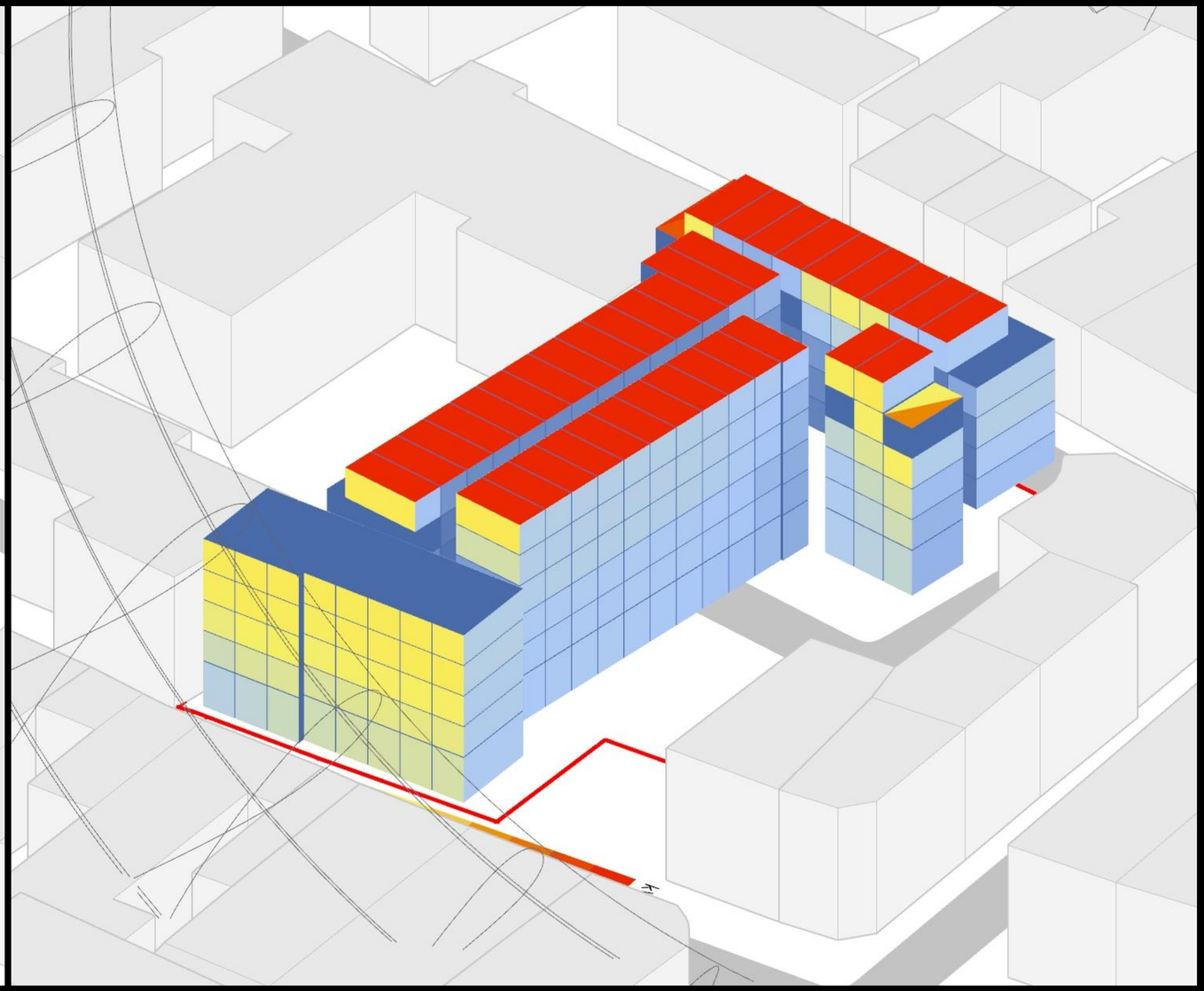
Height maps

Road analysis and public transport

Building Analysis

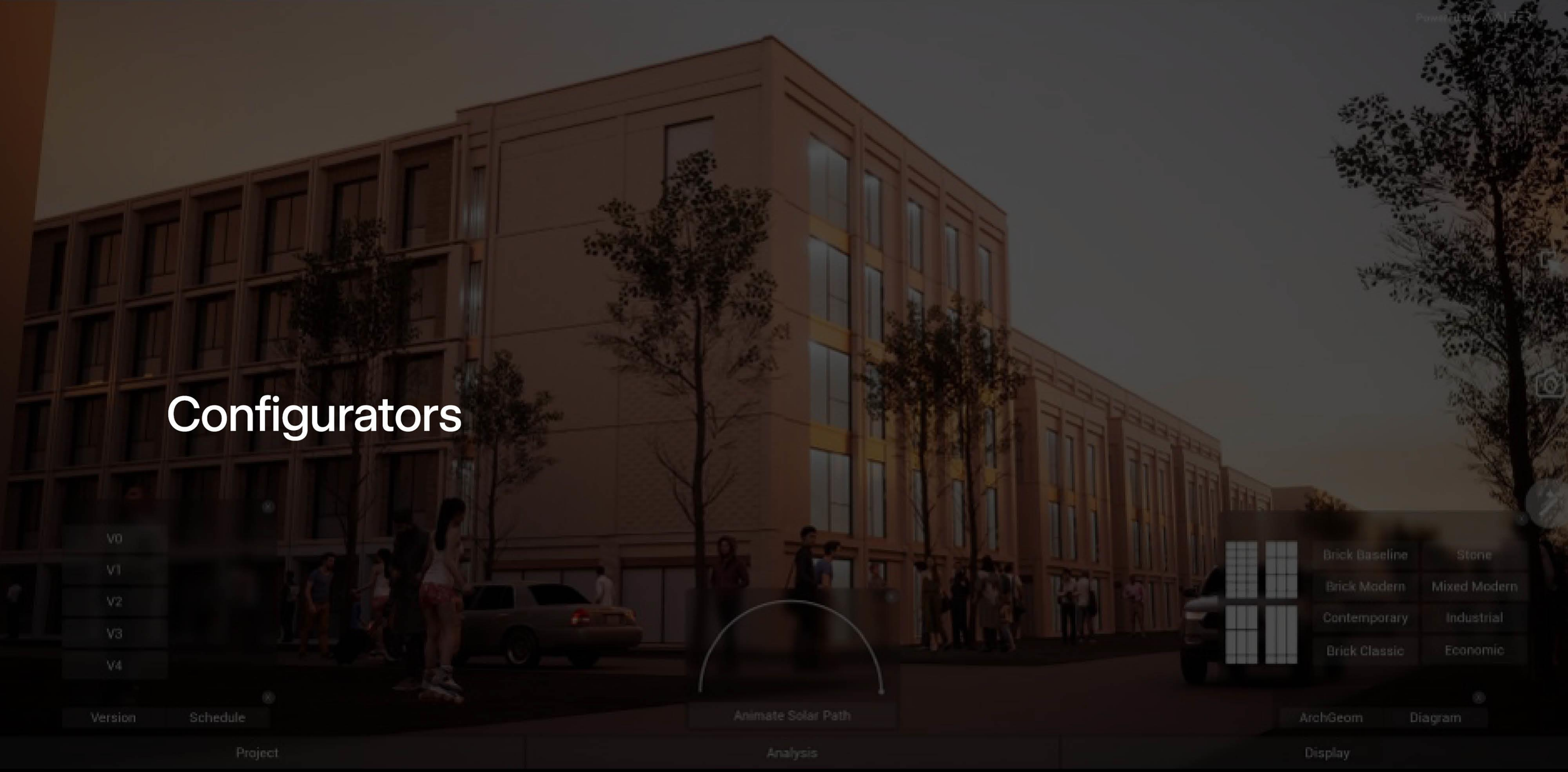


View analysis

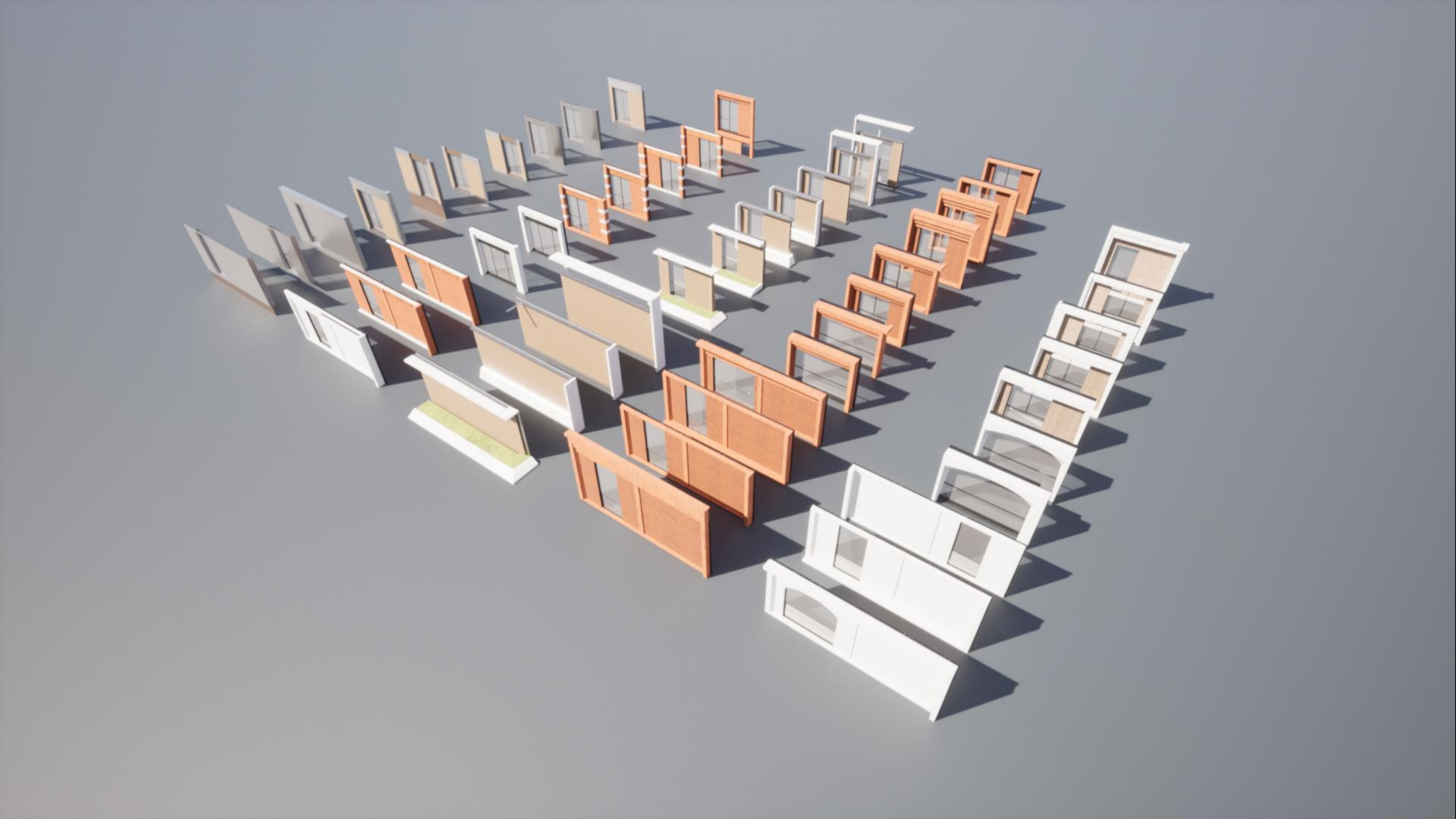


radiation analysis

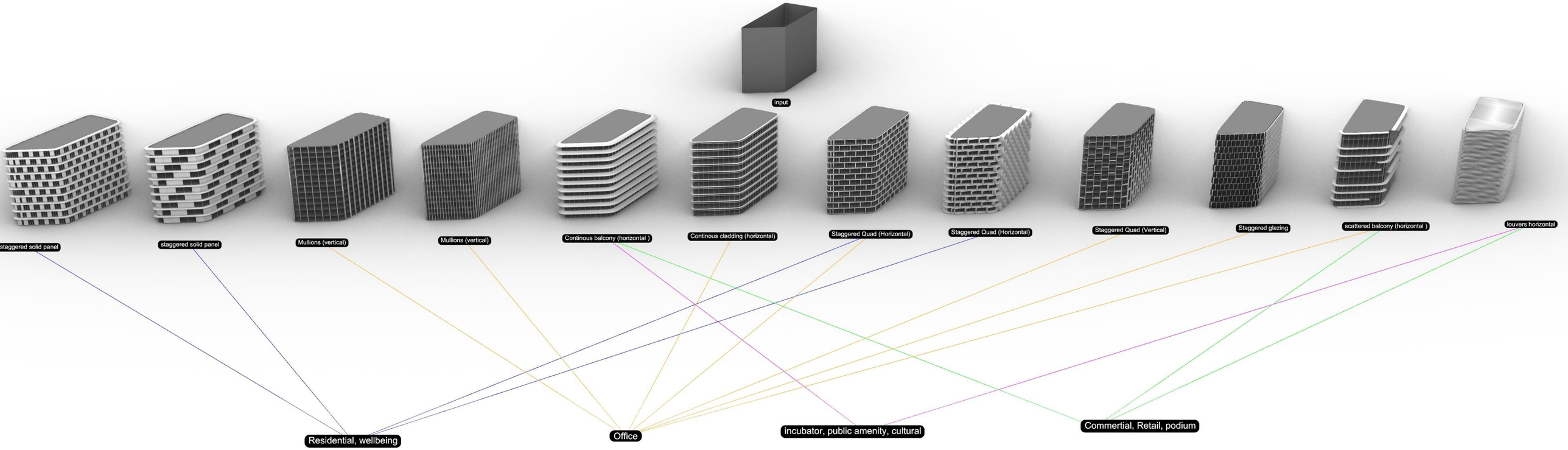
Configurators

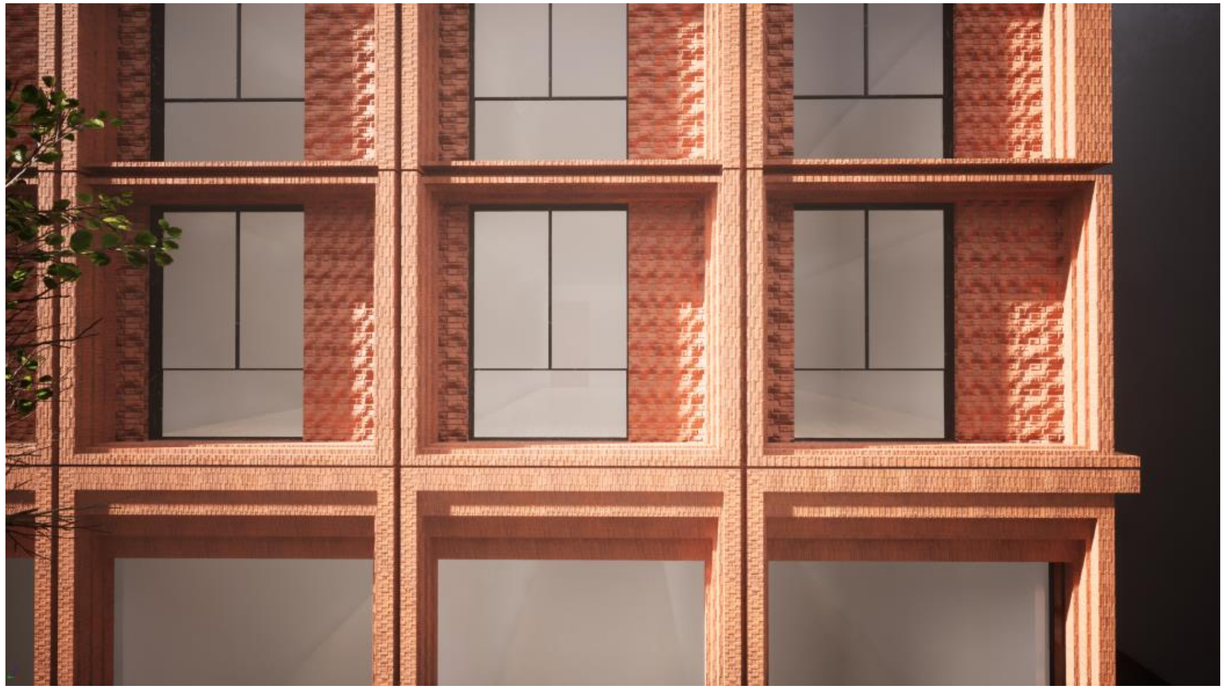


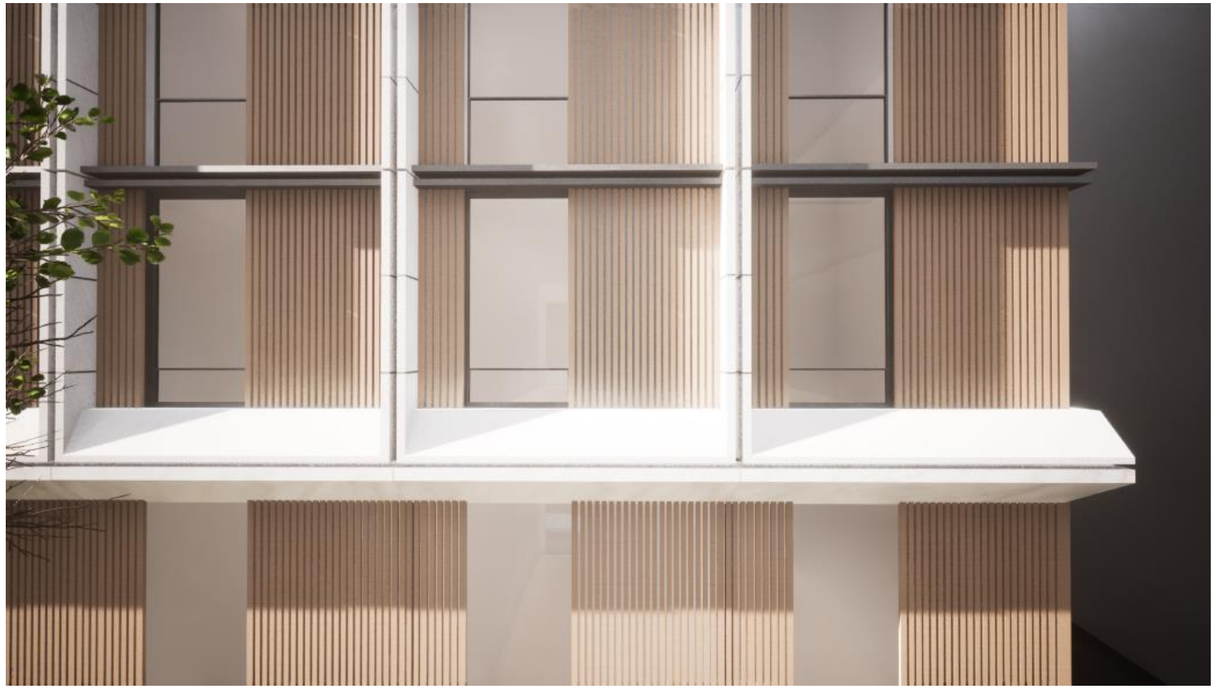
AALTER



Façade Development







Digital Twins

AALTER

Aalter App

localhost:3000/home

Reload this page

Bath | Aalter - Dashboard | Vagon | your compu... | Online Video Downl... | ChatGPT | Account - Apple De... | Launch a Unity gam... | Unity Integration in... | All Bookmarks

+

5°C
Mostly clear

Search

19:12
15/10/2024

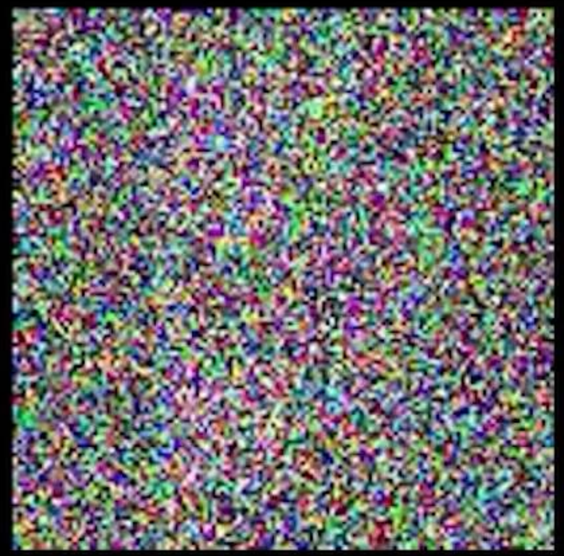
UCL | RC10 – AD MArch

Team Horizon

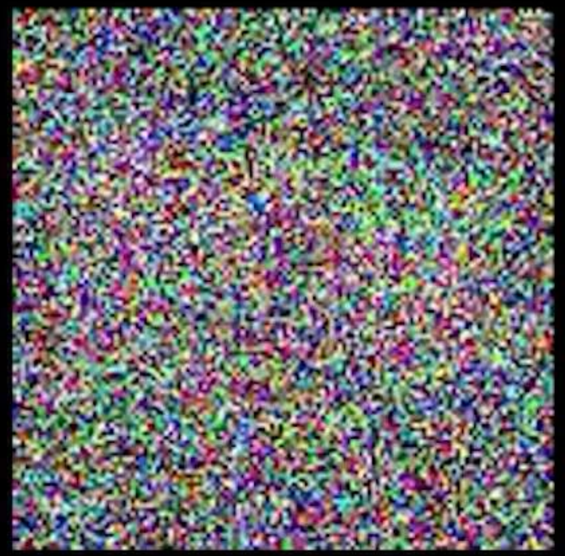
Jiajun Li
William(Jianfeng) Liu
Hanqing Xue
Qian Zhang

Tutors:
Cesar Fragachan
Federico Borello

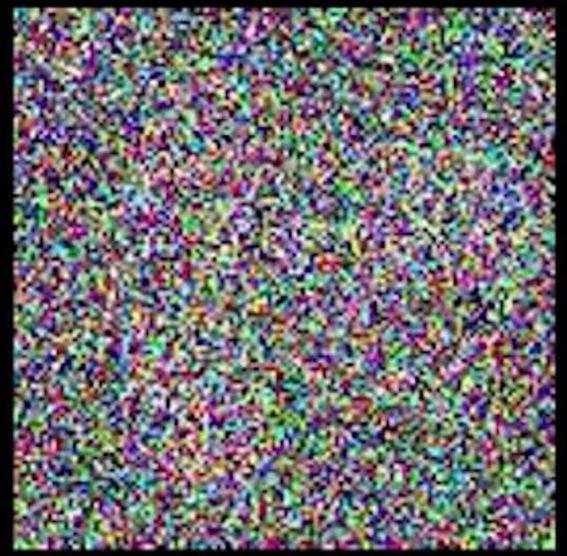
Size: [7.]



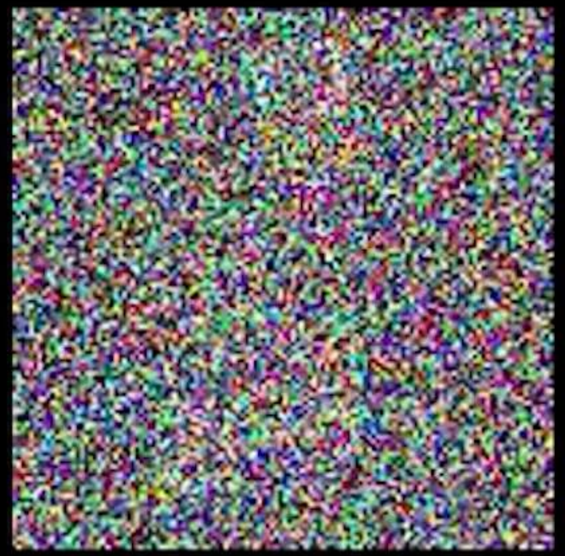
Size: [3.]



Size: [5.]



Size: [9.]



RC10 UCL

Jiajun Li
William(Jianfeng) Liu
Hanqing Xue
Qian Zhang

AALTER

www.aalter.ai
contact@aalter.ai