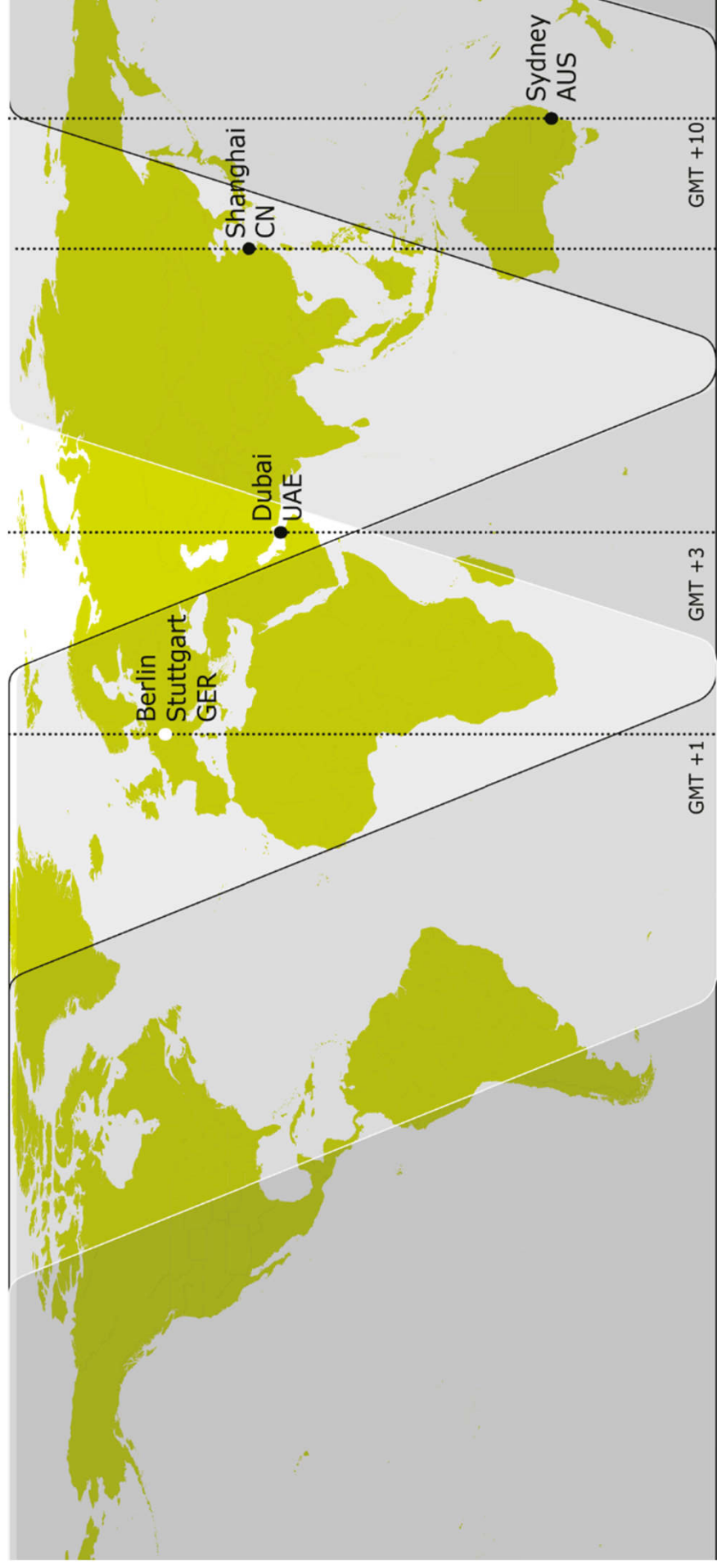


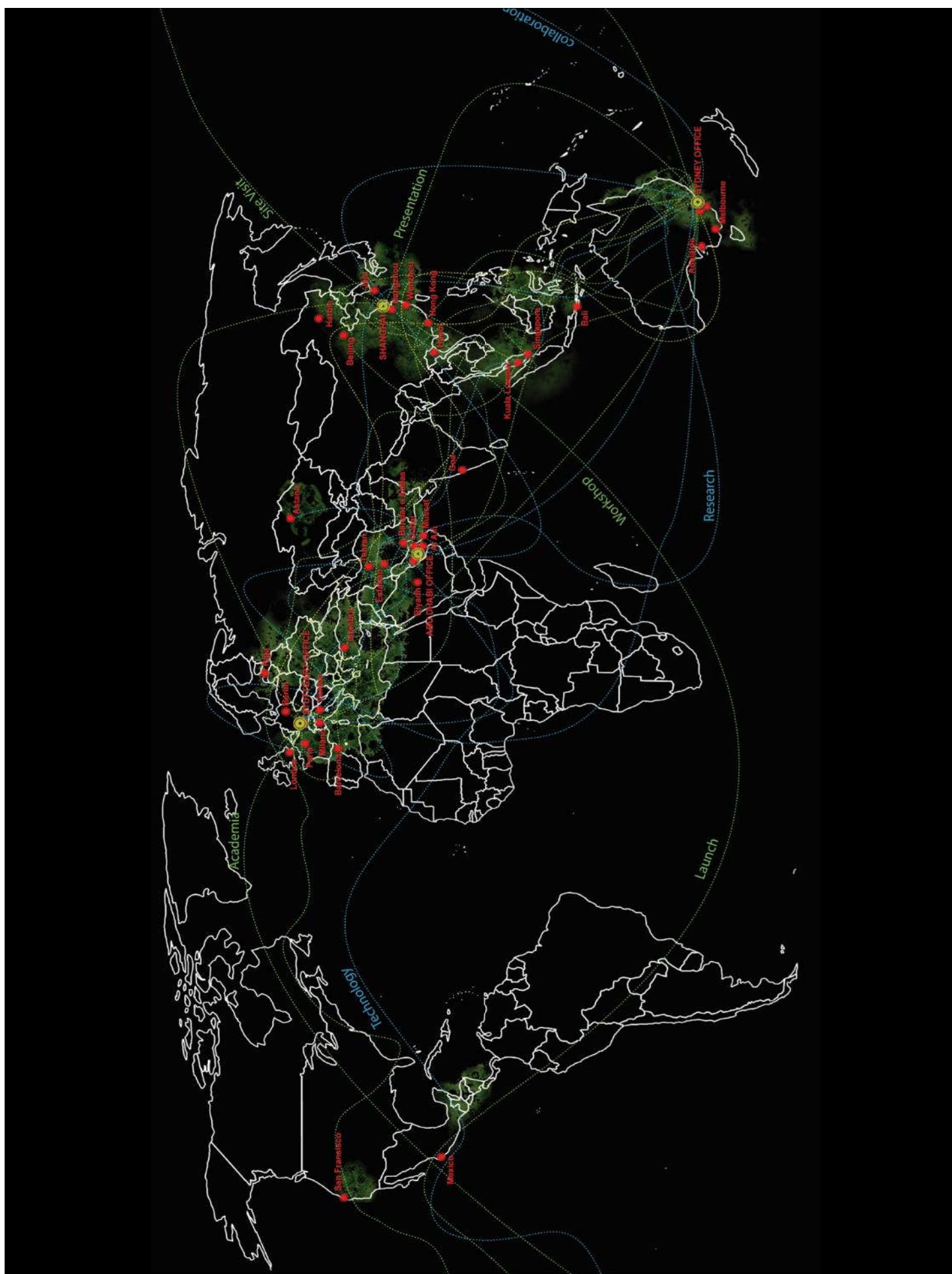
LAVA
LABORATORY FOR
VISIONARY
ARCHITECTURE

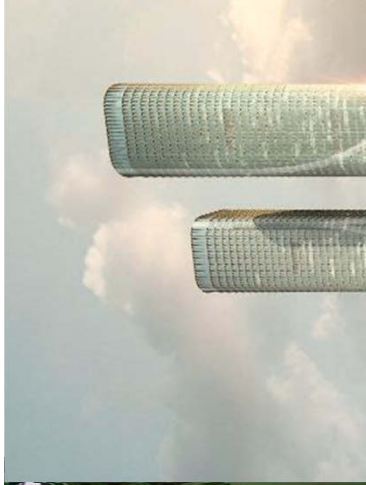
**674. Schleswig-Holsteinisches Baugespräch
Die Digitale Zukunft des Bauens**

DIGITAL DESIGN CHAIN

Dipl. Ing. Arch. Christian Tschersich
Senior Architect LAVA

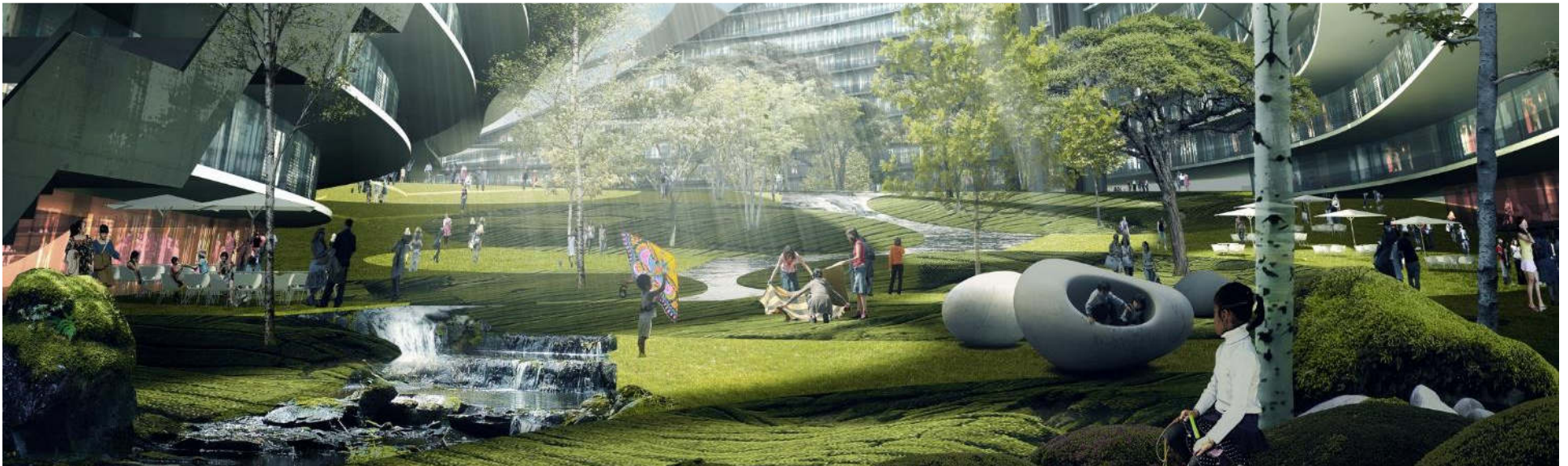


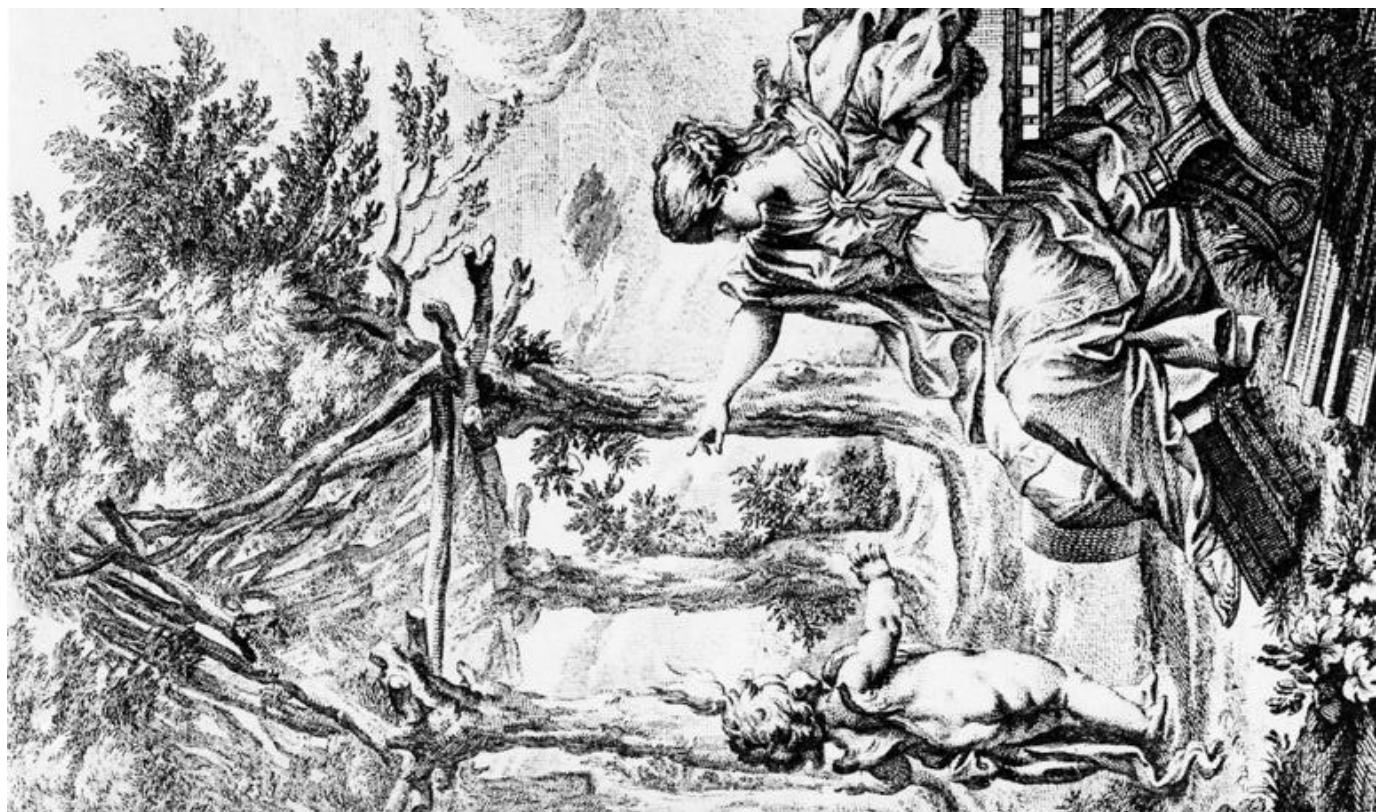
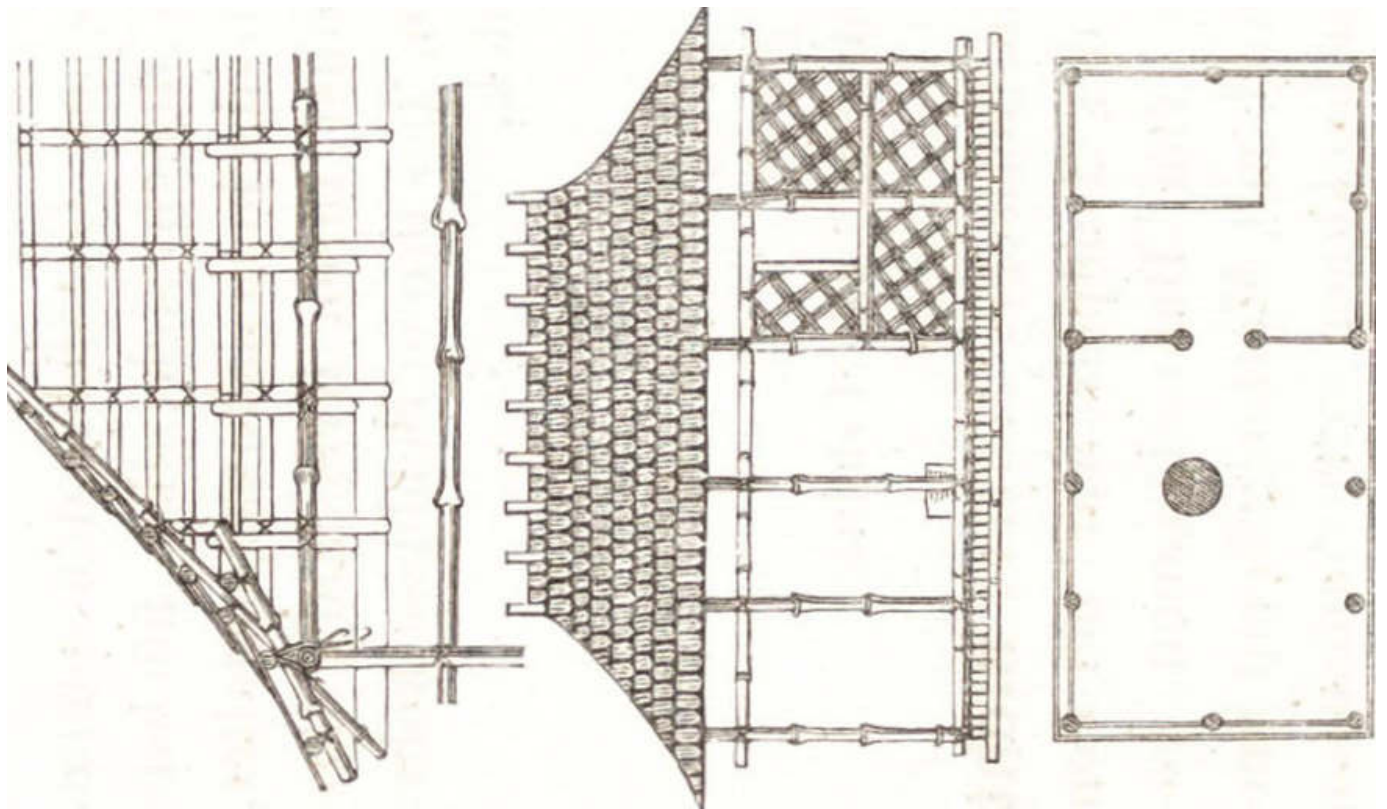


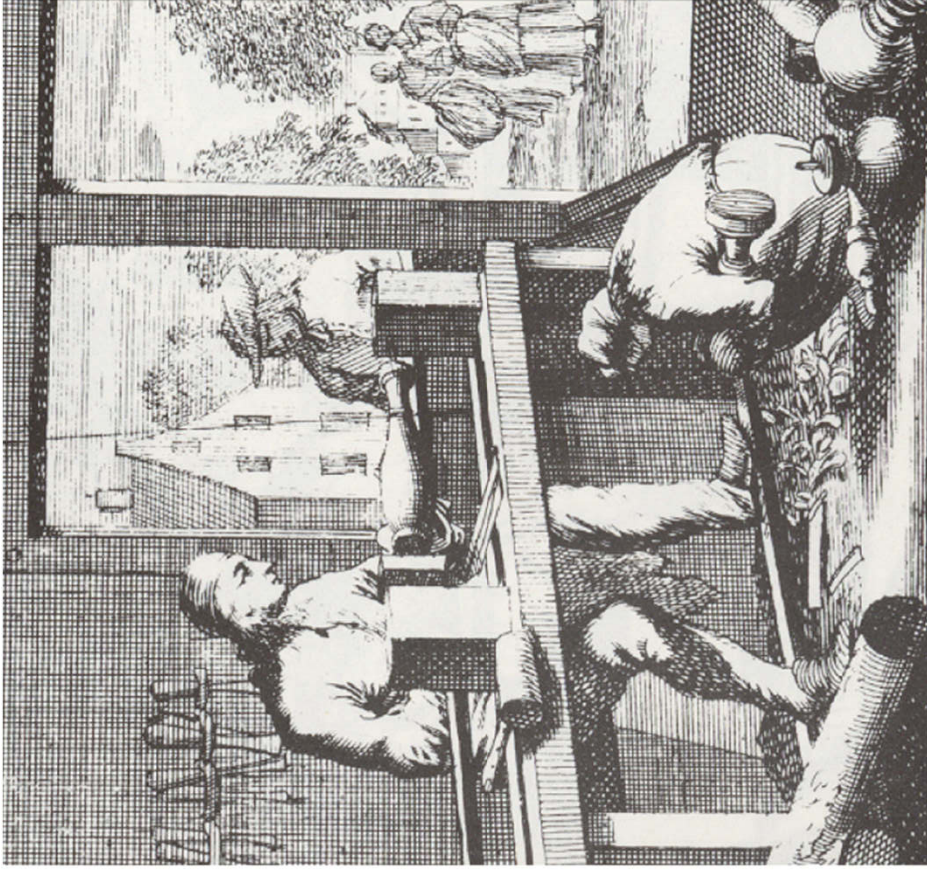


LAVA
LABORATORY FOR
VISIONARY
ARCHITECTURE

MAN – NATURE - TECHNOLOGY



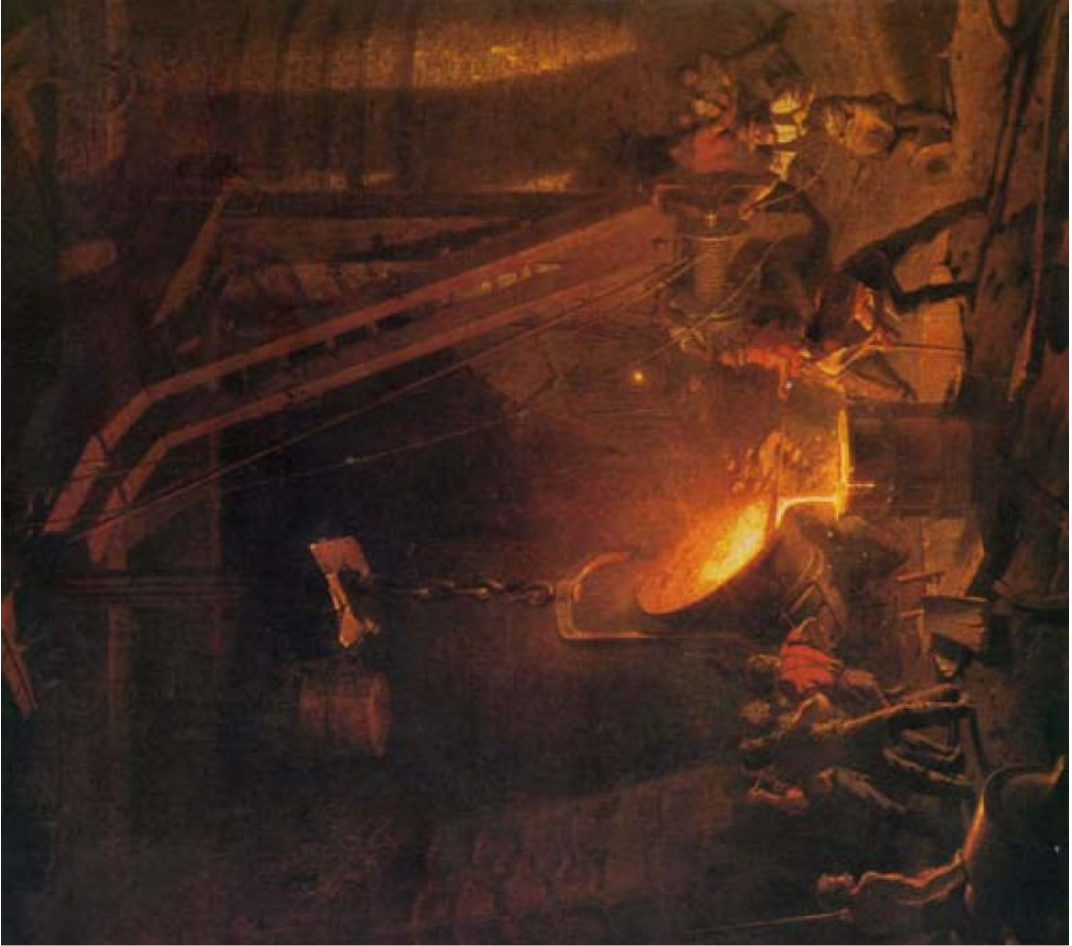
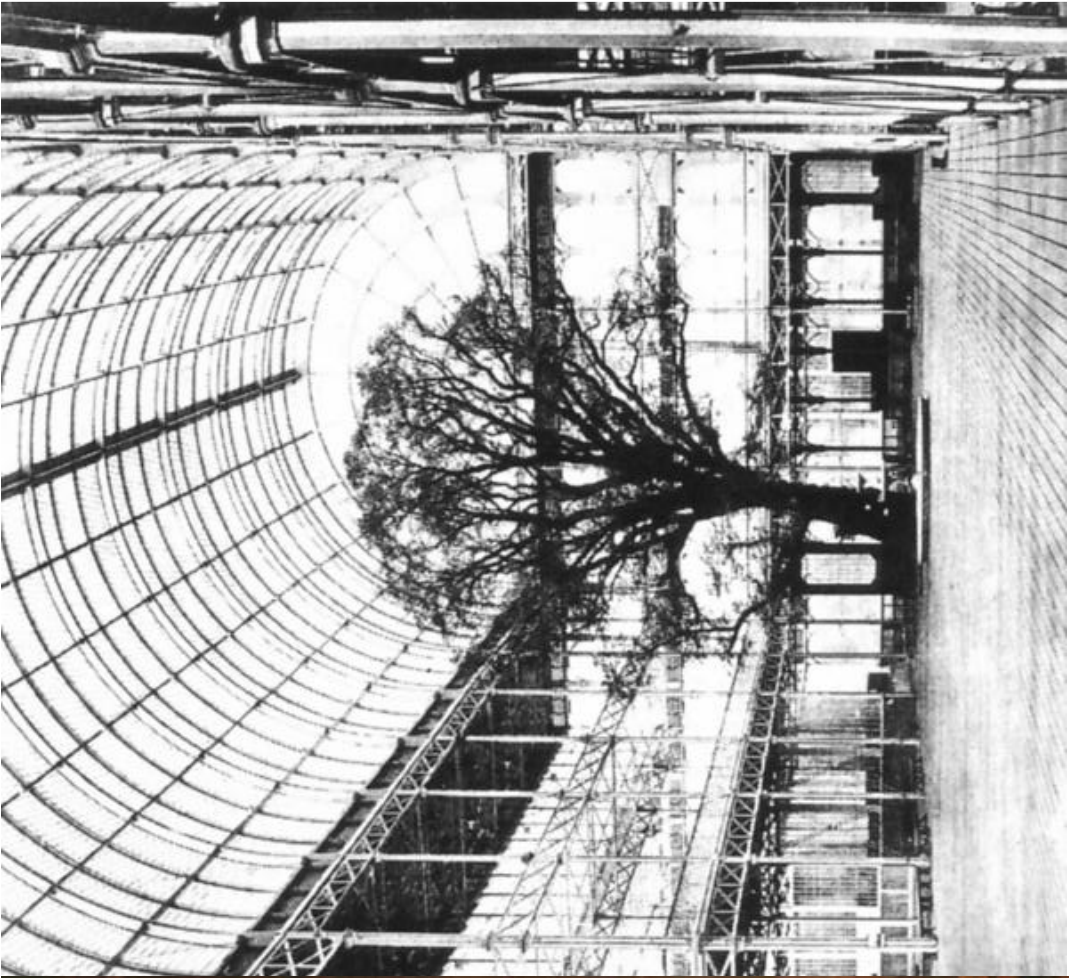




Drechsler / Christoff Weigel . Abbild und Beschreibung der Gemein-Nützlichen Haupt-Stände / 1698



Francesco Borromini / Sant'Ivo alla Sapienza . Rom / 1642





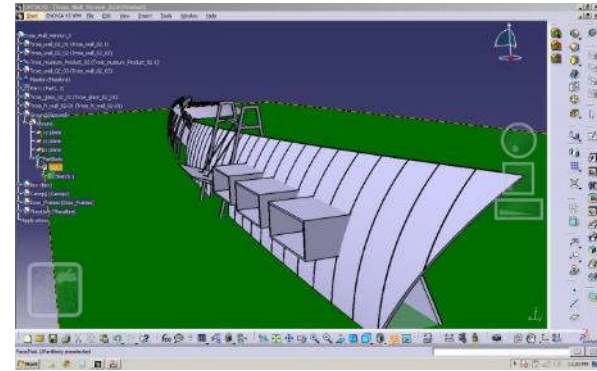
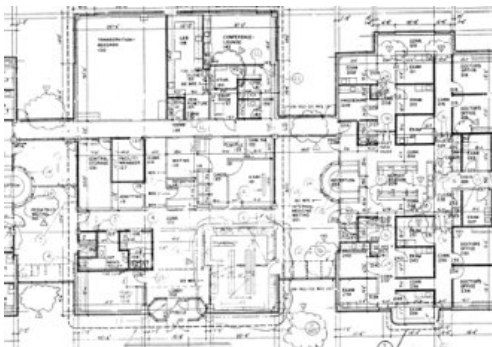
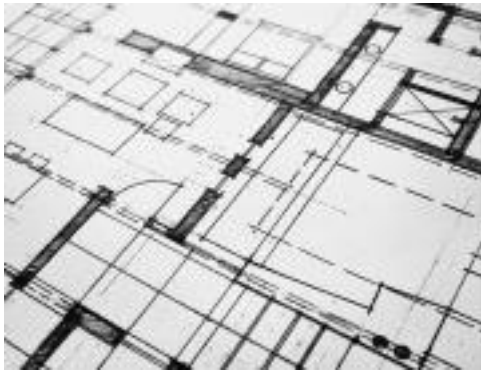


ALEXANDER MC QUEEN, 1999

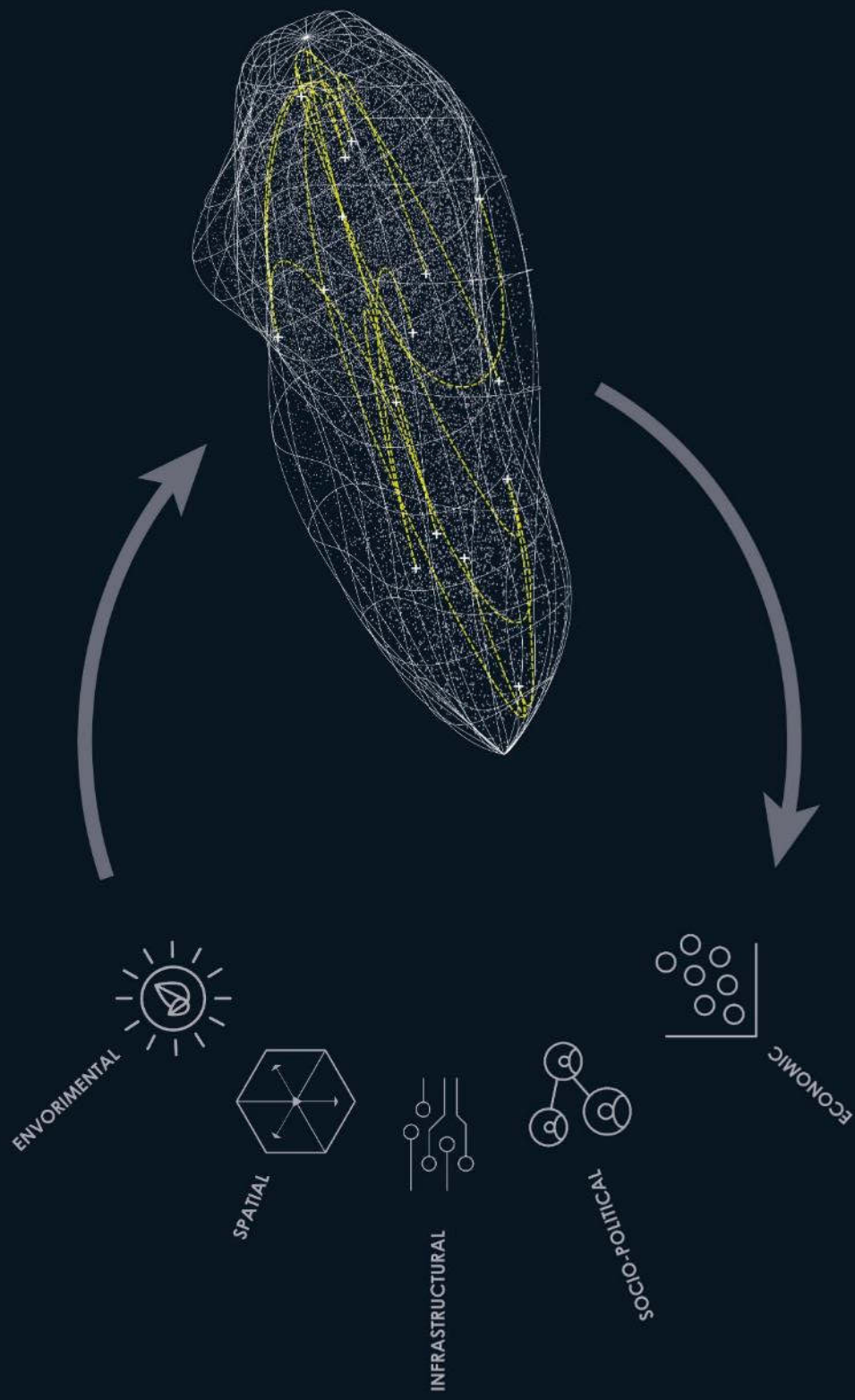
computerisation

vs

computation





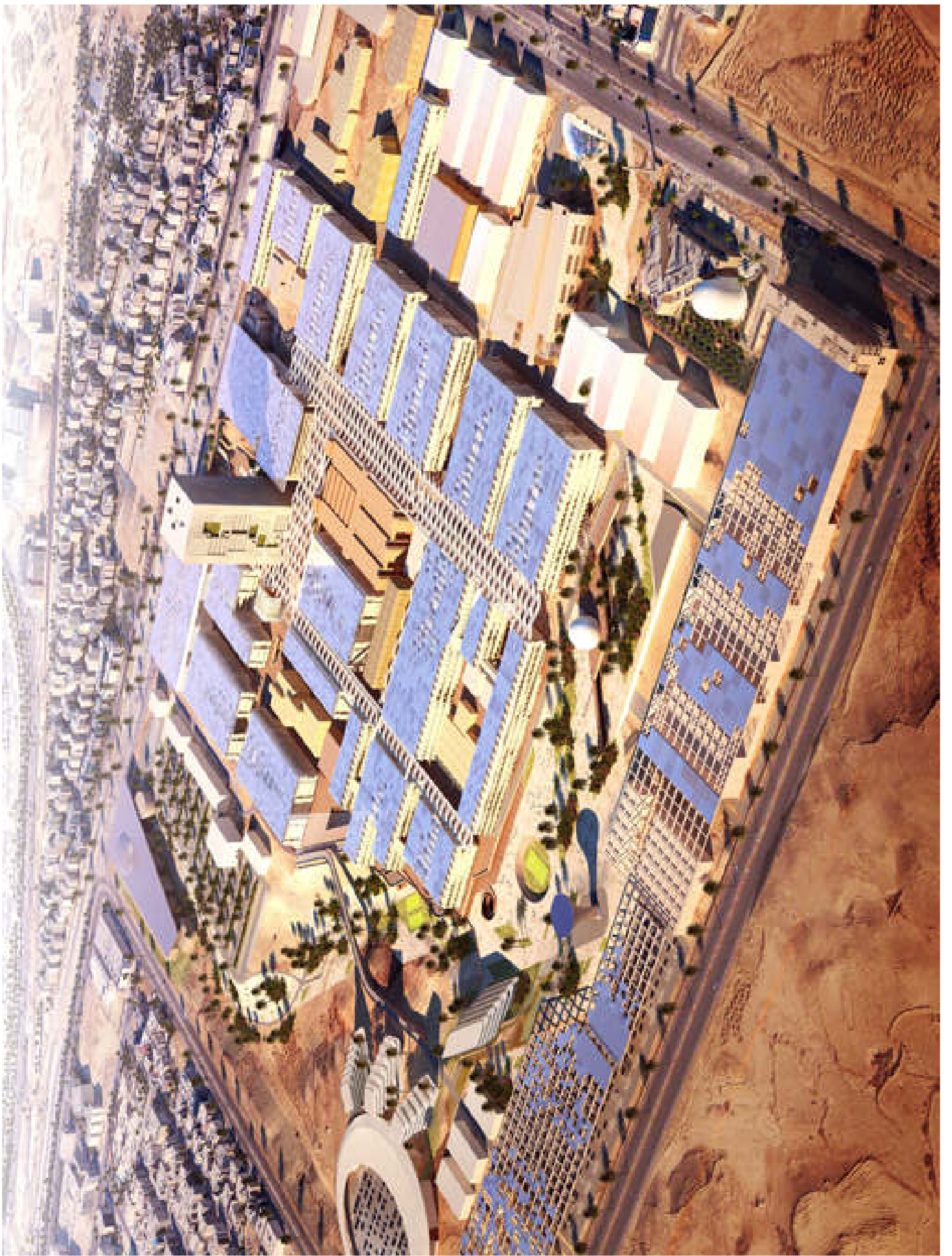


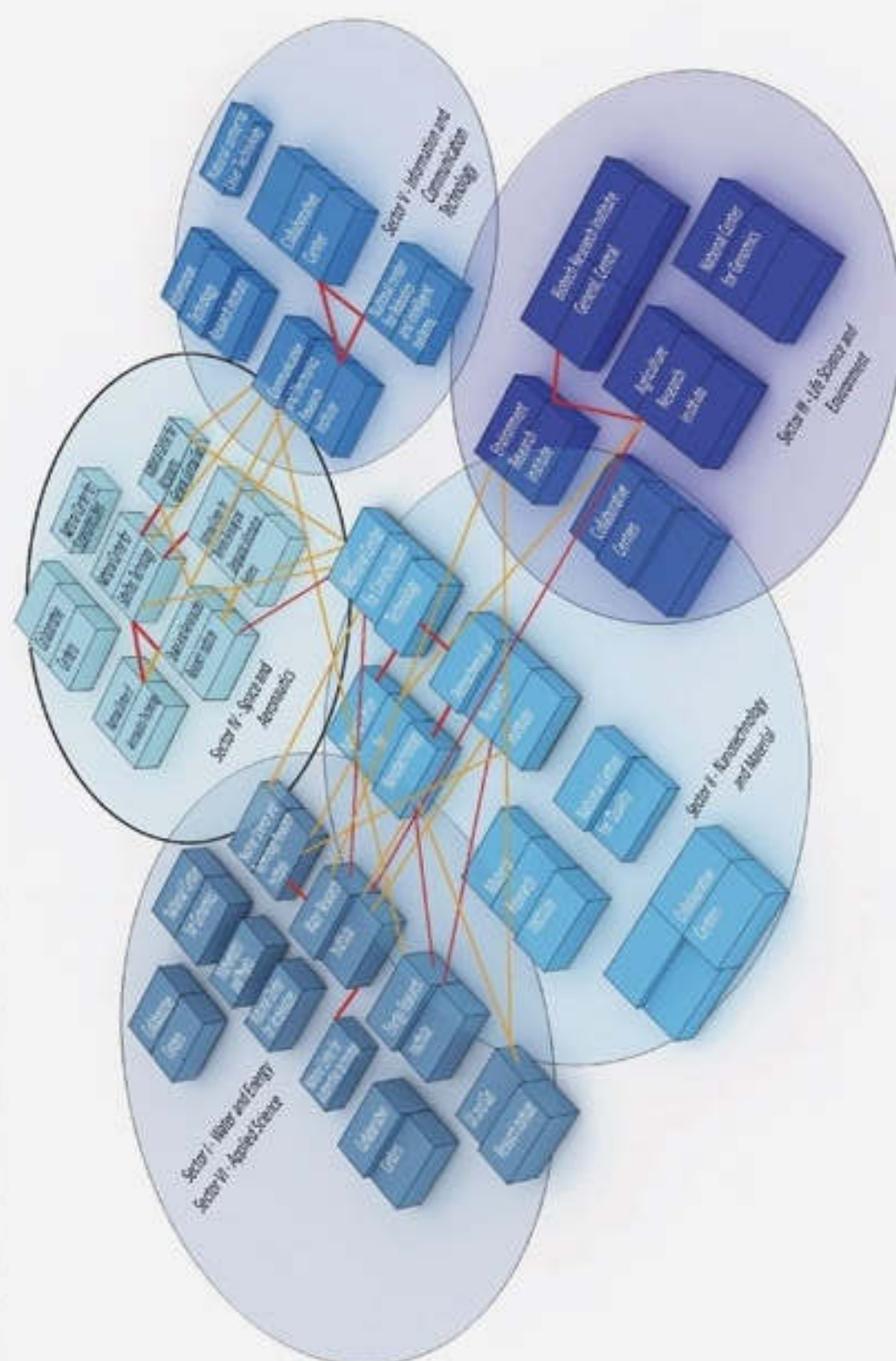


Riyadh, KSA

KACST







•CAR PARK ACCESS



Arrival NW



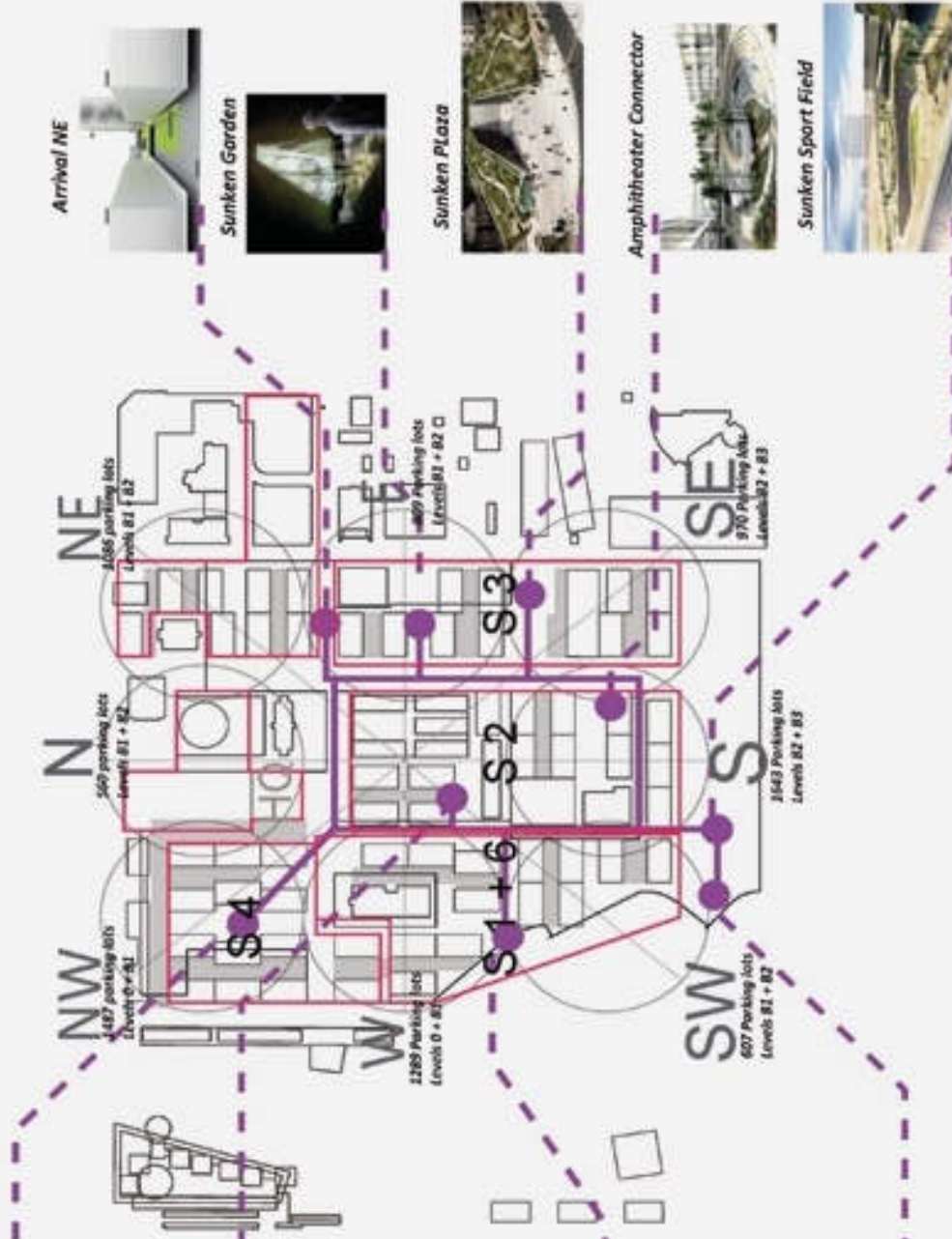
Inner Circuit Patio



Wadi Connector



Spiral Connector /Leisure Club



Arrival NE



Sunken Garden



Sunken Plaza

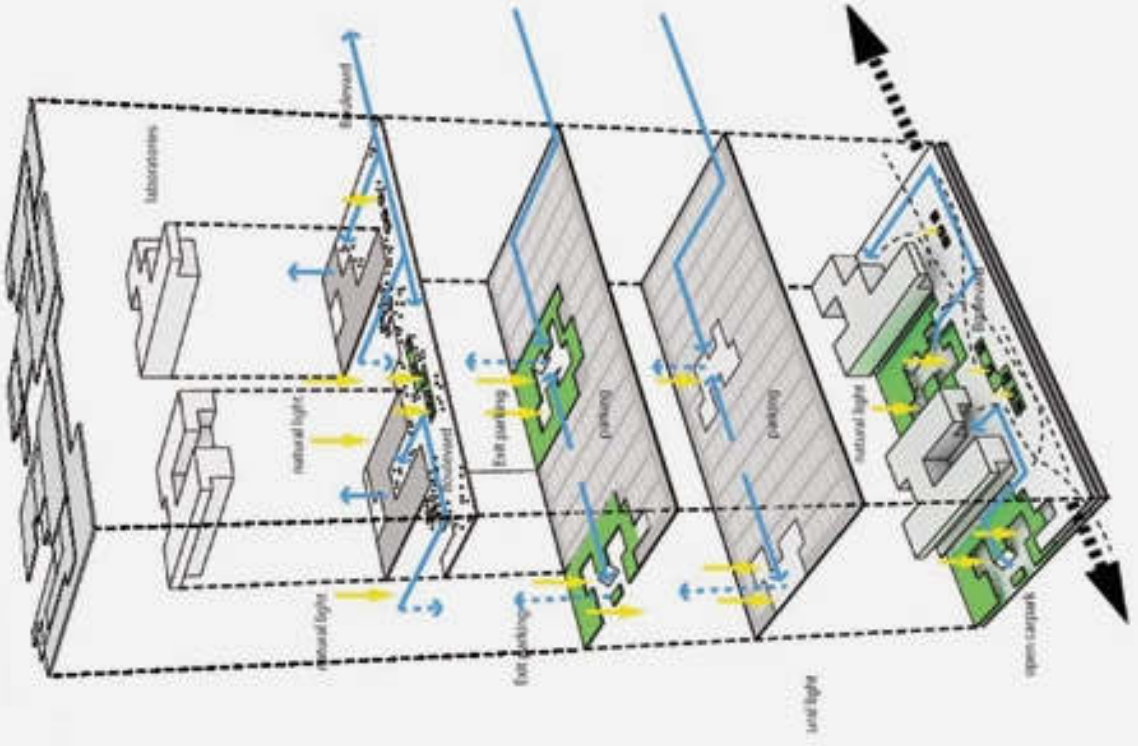


Amphitheater Connector



Sunken Sport Field



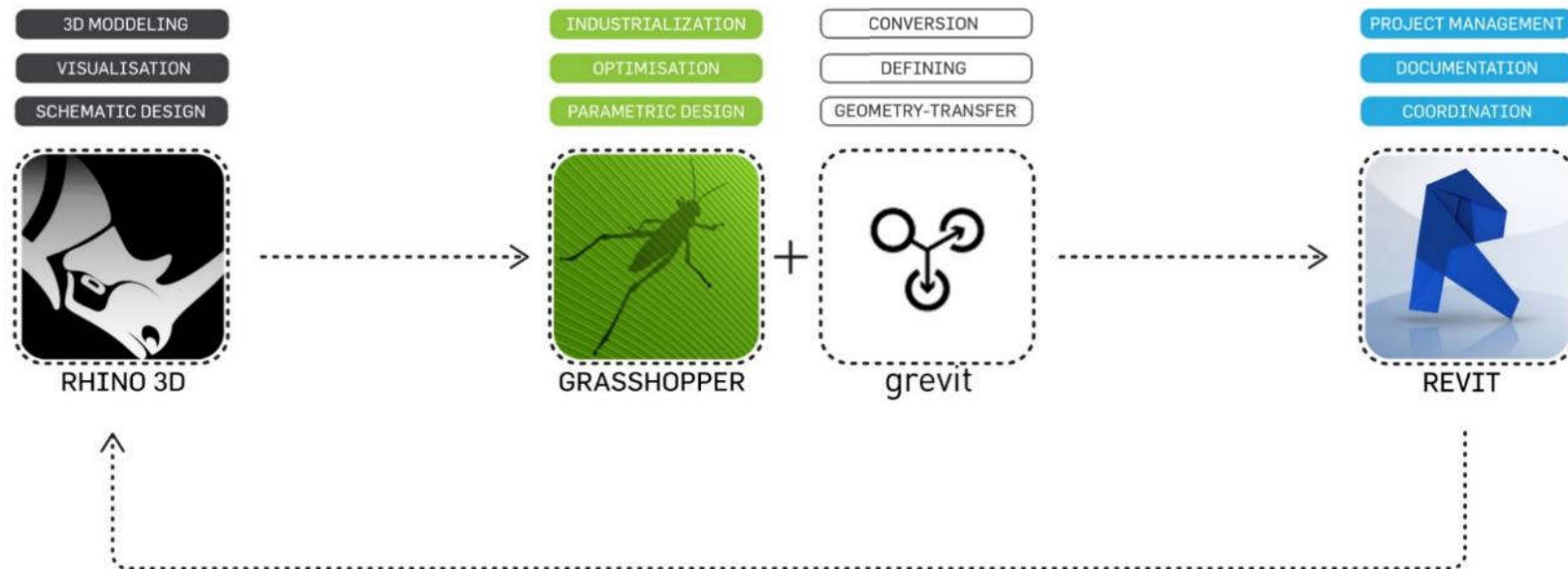
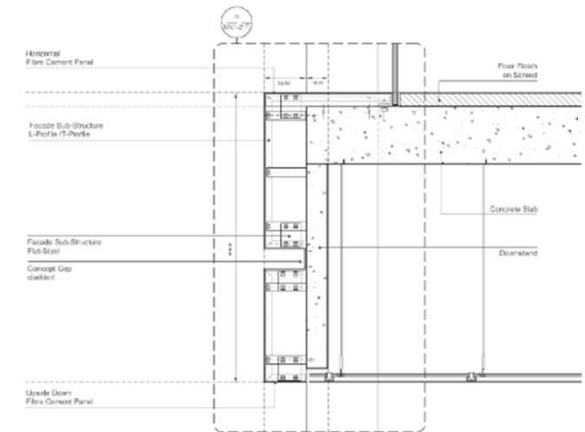




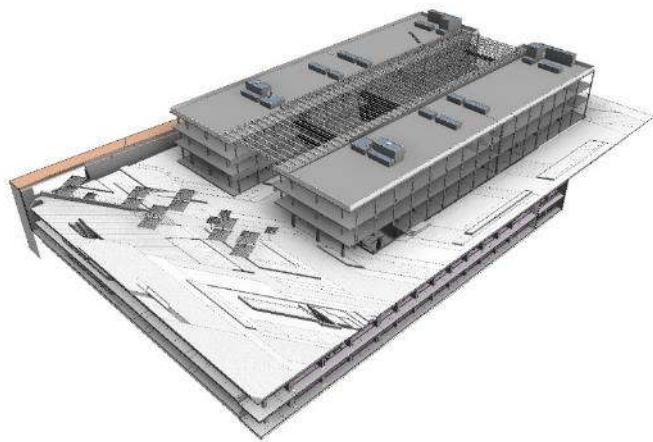




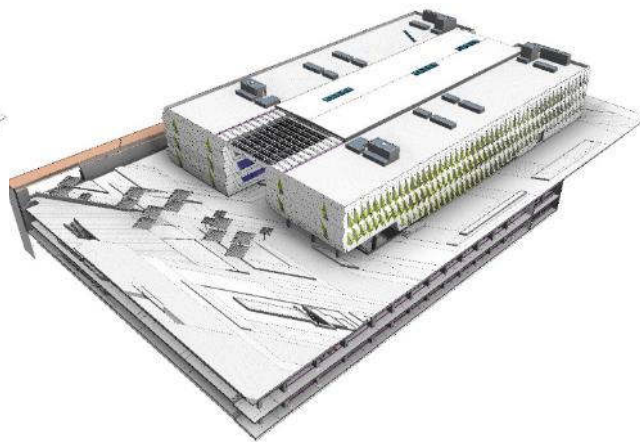
BIM workflow diagram



Structural



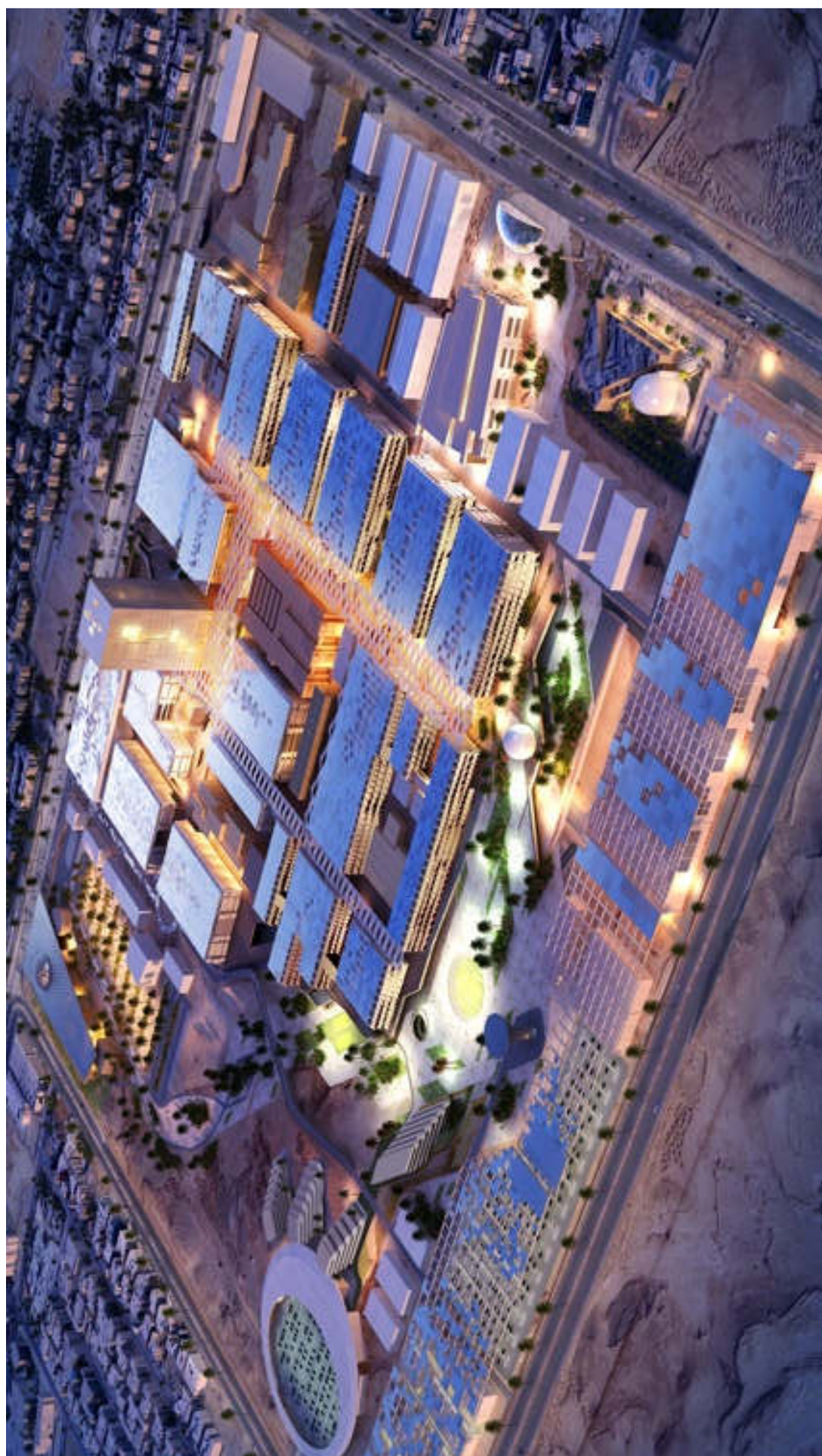
Architecture



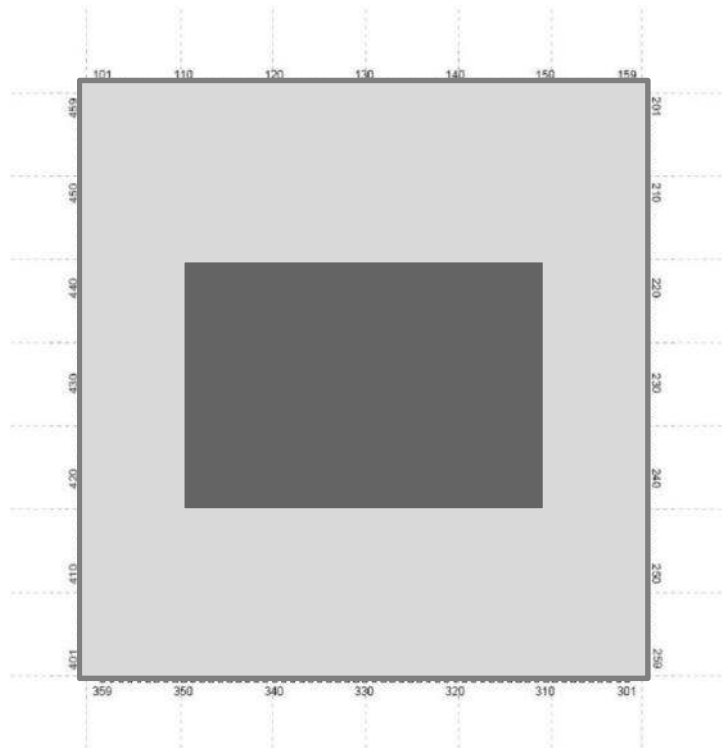
Mechanical









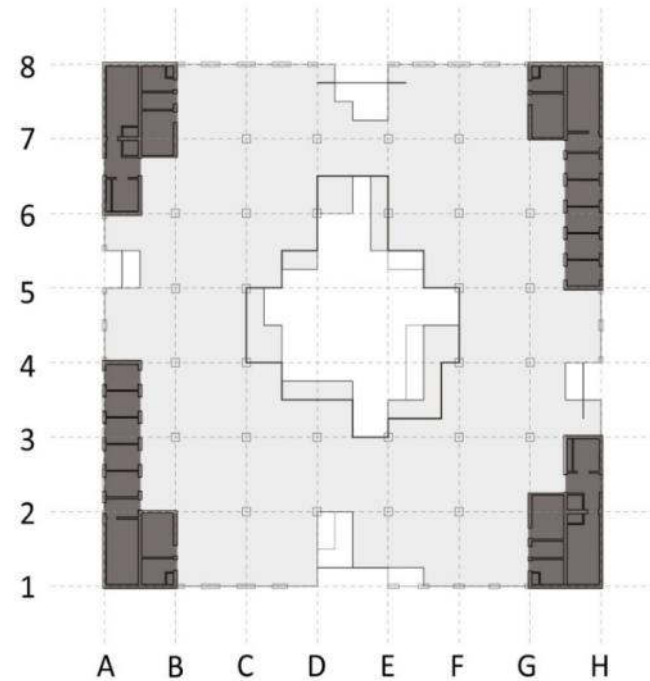


● **GENERIC PLAN**

floorplan WTC

12 5

- *WTC, New York City,*
- *Typical Central Core Highrise*
- only horizontal communication
- Core as obstacle
- strictly divided by floorplates



DEEP PLAN

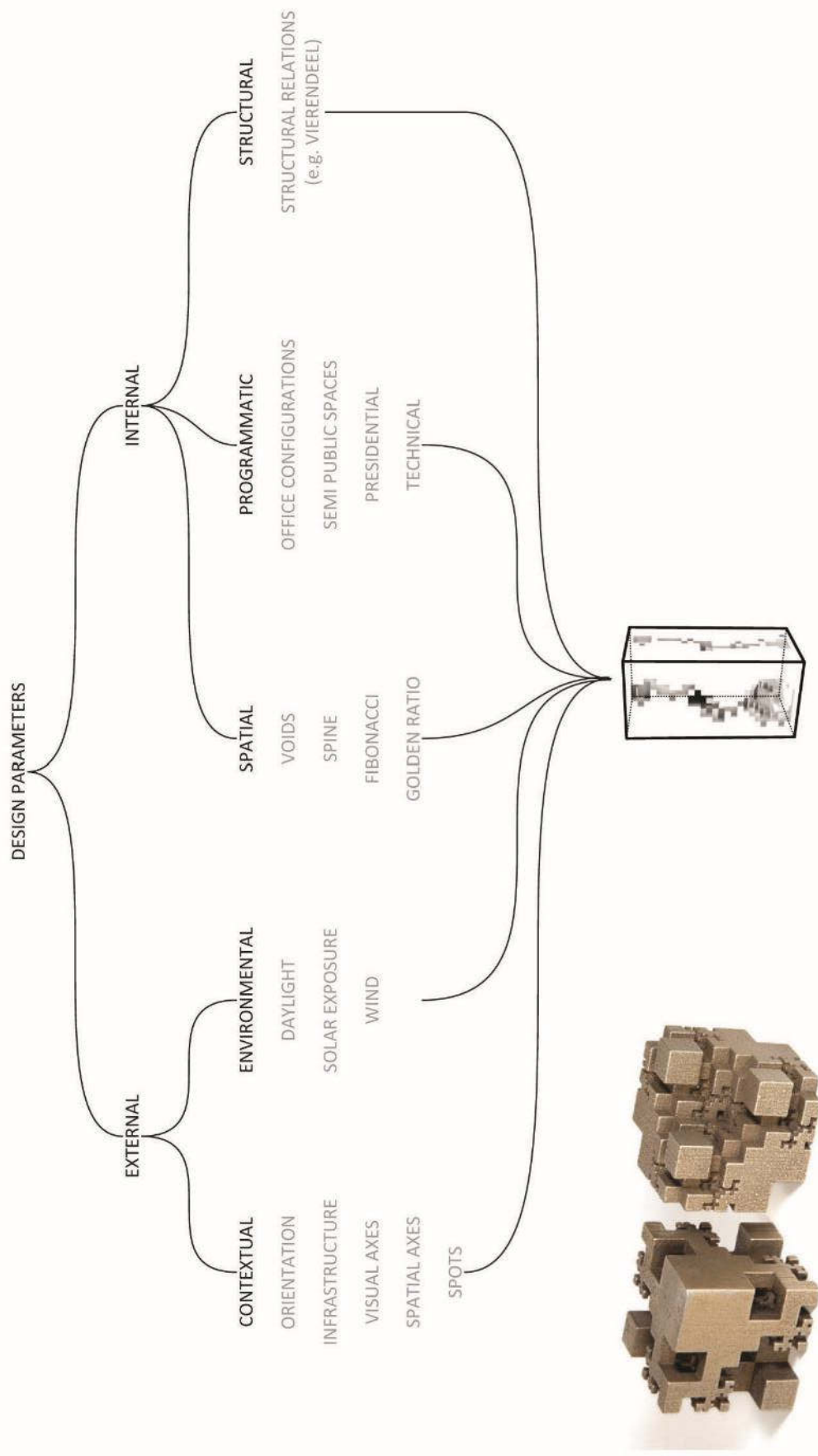
floorplan KACST

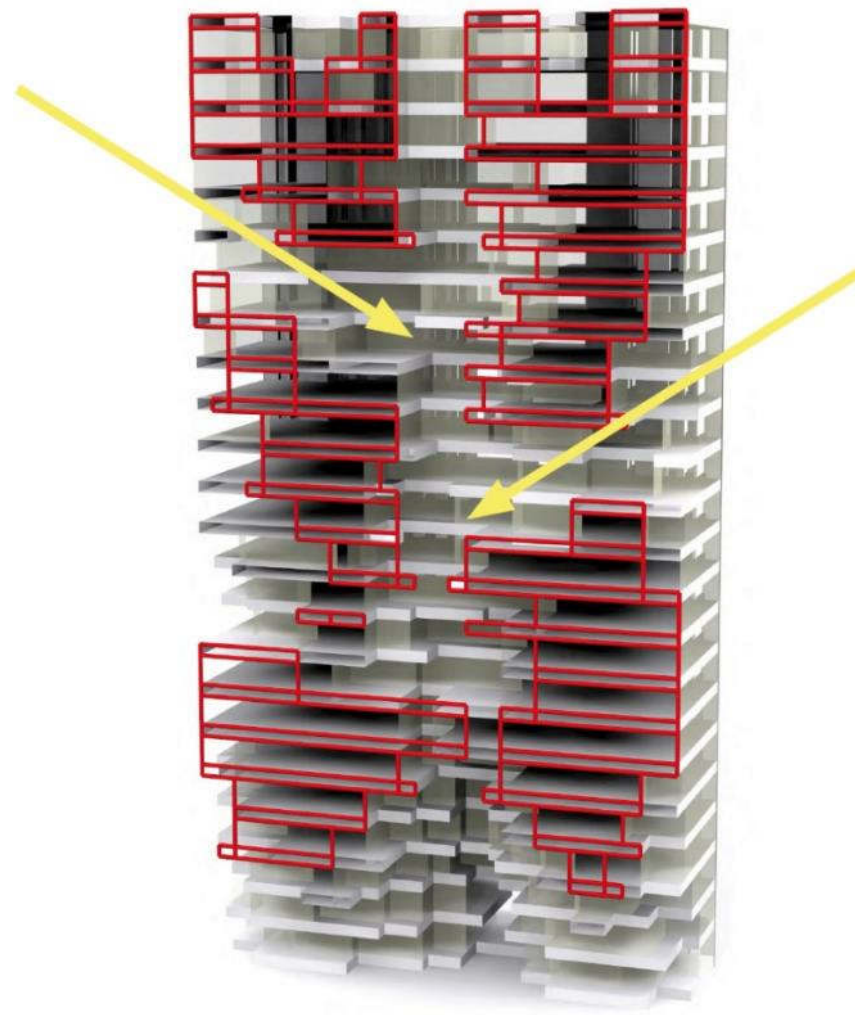
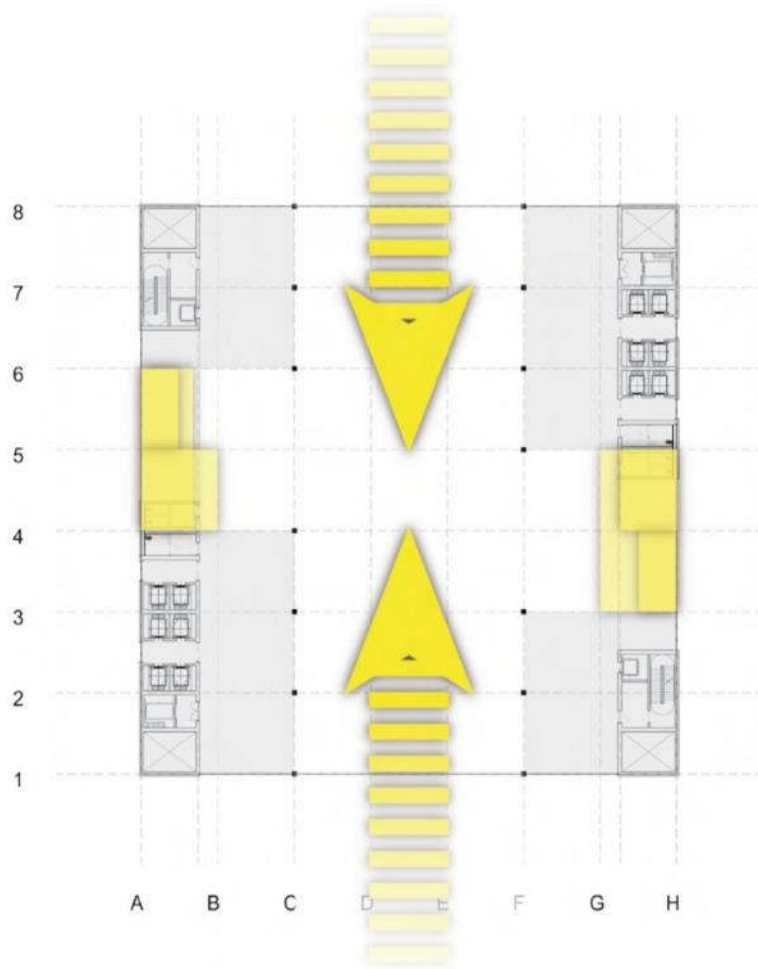
12 5

KACST HQ, Riyadh,
Deep Plan

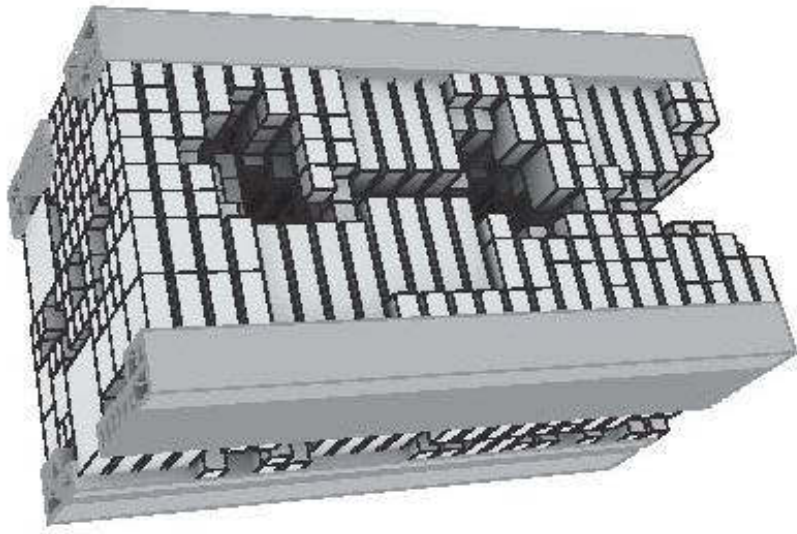
Atrium enables directors to see that everyone does their work

Accessibility of directors
communication inside; views to outside

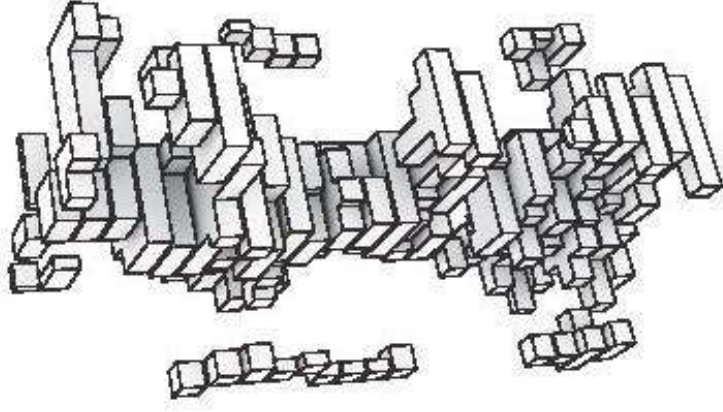




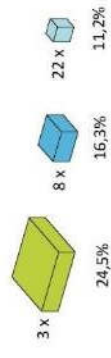
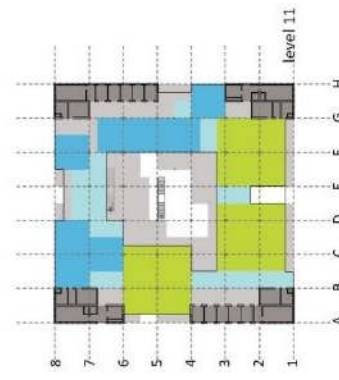
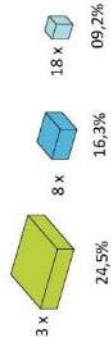
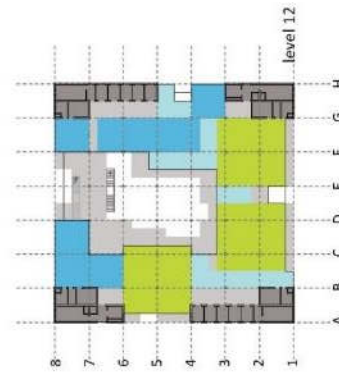
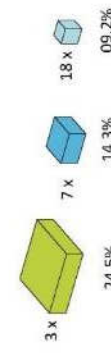
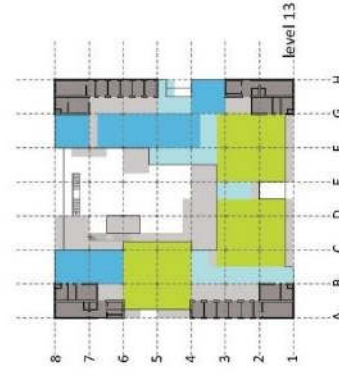
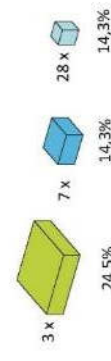
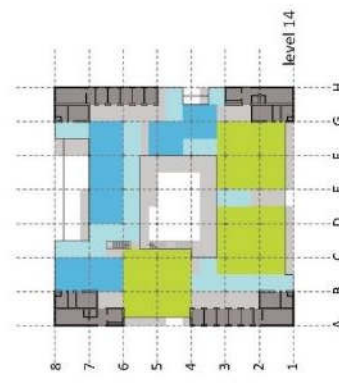
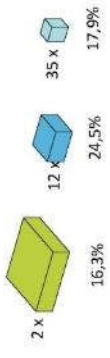
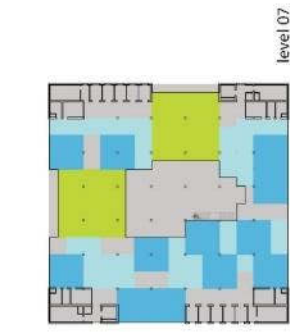
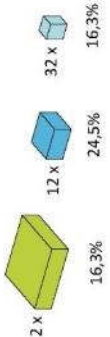
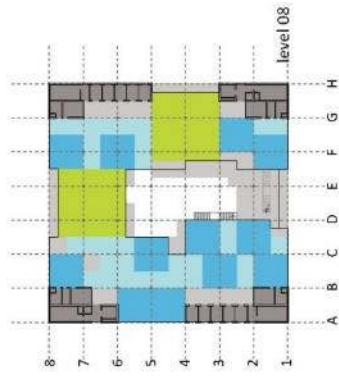
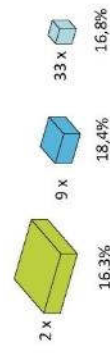
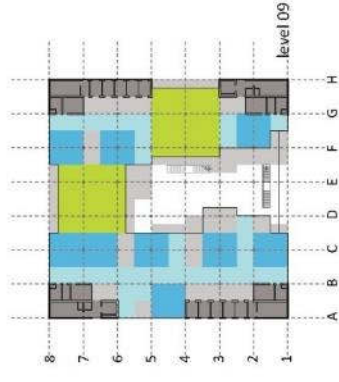
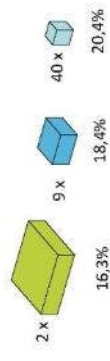
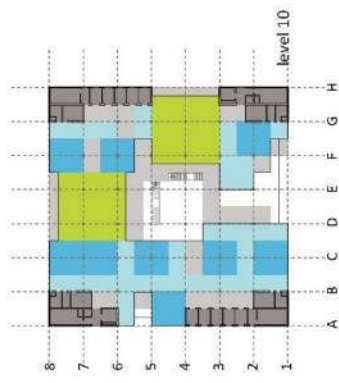
- **Orientation**
- according to the solar studies the voids will be situated in north-south orientation
- in east-west orientation smaller cutouts will structure the facade



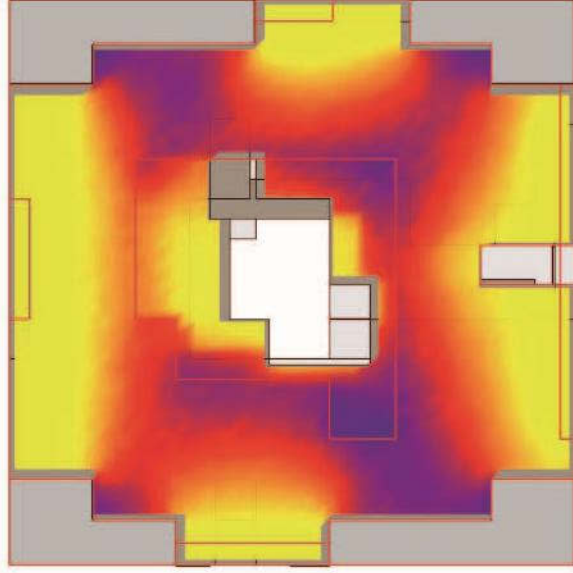
massing



inverted void



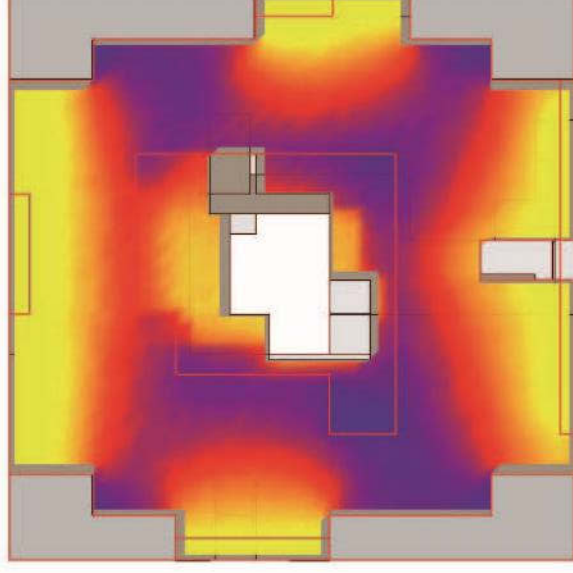
Analysis Grid
0.45 External CDA 500
© 2013 RGTBC 1.45



CDA 500

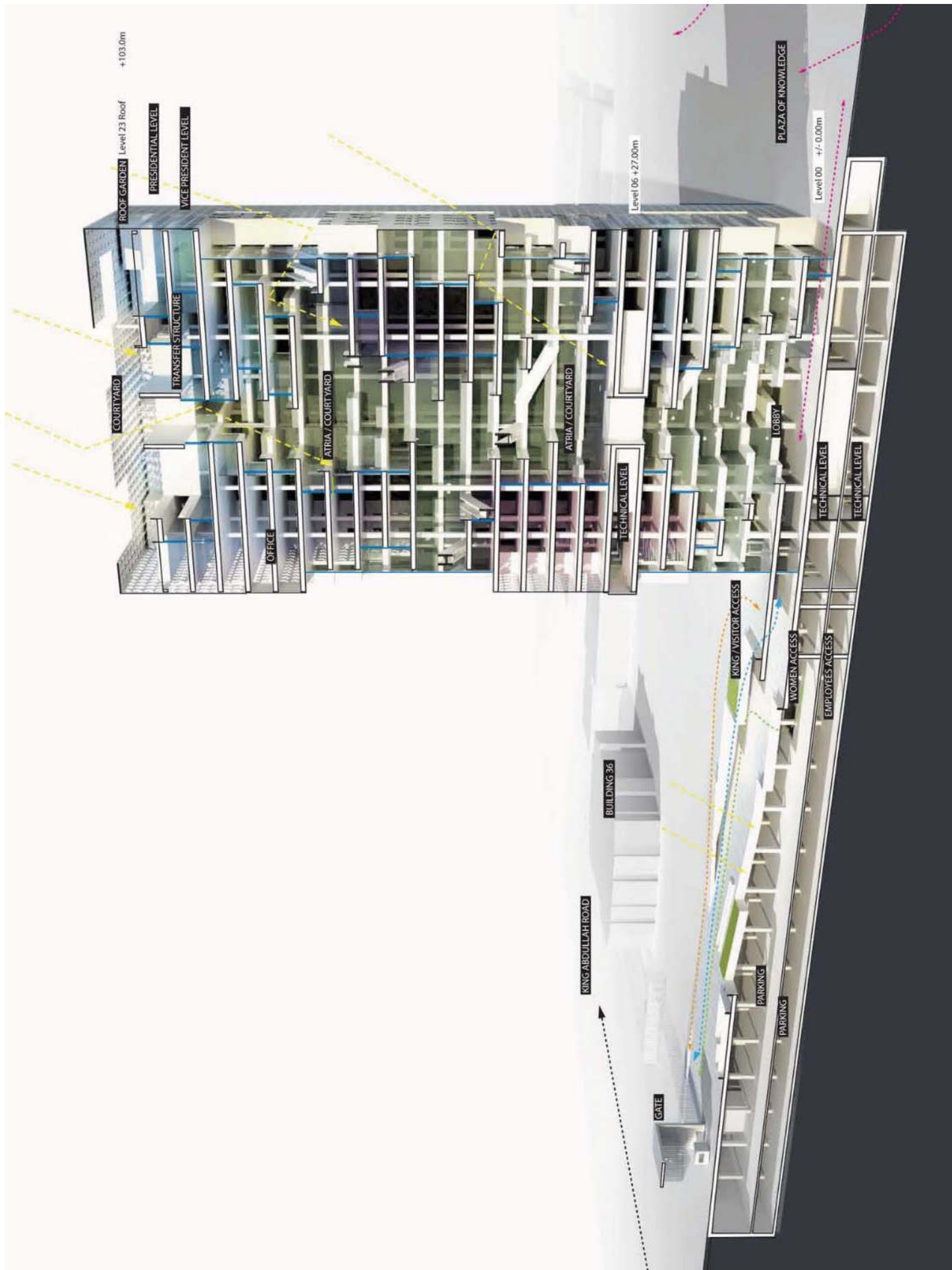
This results shows the percentage of time during the year (between 9AM-6PM) the various areas on the eleventh floor receive light above 500lux without the requirement of artificial luminaires with the solar transmittance of external windows at 0.45.

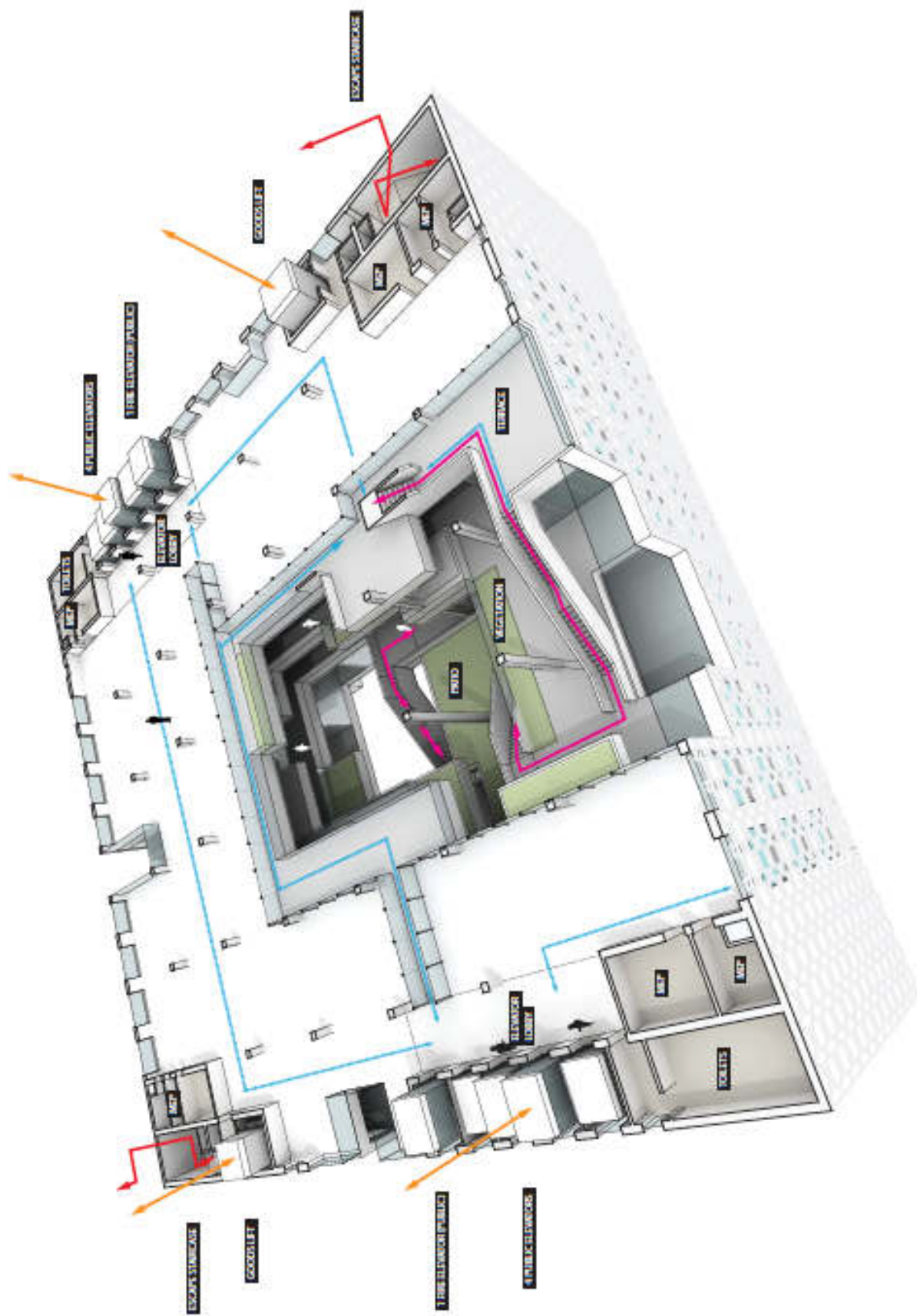
Analysis Grid
0.45 External CDA 700
© 2013 RGTBC 1.45



CDA 700

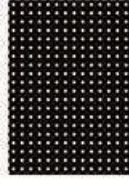
This results shows the percentage of time during the year (between 9AM-6PM) the various areas on the eleventh floor receive light above 700lux without the requirement of artificial luminaires with the solar transmittance of external windows at 0.45.







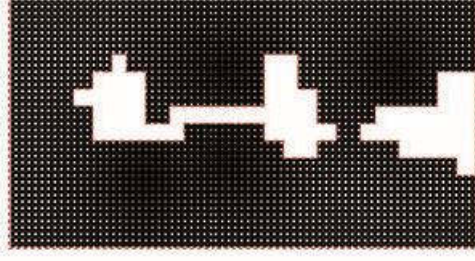
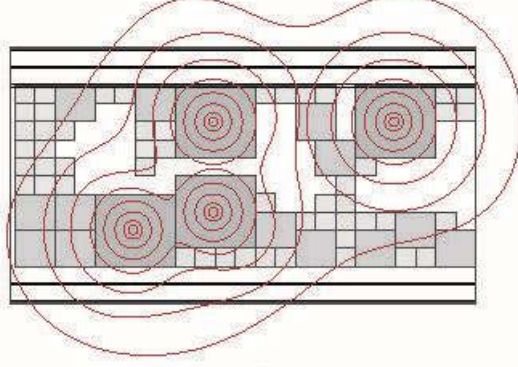
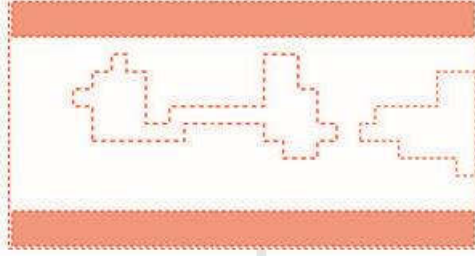
NORTH ORIENTATION



EAST, WEST ORIENTATION



SOUTH ORIENTATION



Solar Exposure (macro)

OPENING RATIO OF FACADE
PATTERN ACCORDING TO SAUDI
ARABIAN BUILDING CODE

Opening of canyons (Design Space Facade)

FACADE AREA AFTER CUT OUT
OF FULLY GLAZED VOID SPACES

Voxel Arrangement (micro)

GRADUAL DIFFERENTIATION IN
OPENING SIZES ACCORDING TO
INTERNAL SPATIAL CONFIGURA-
TION AND RESPECTIVE LIGHT-
ING REQUIREMENTS

Facade Pattern

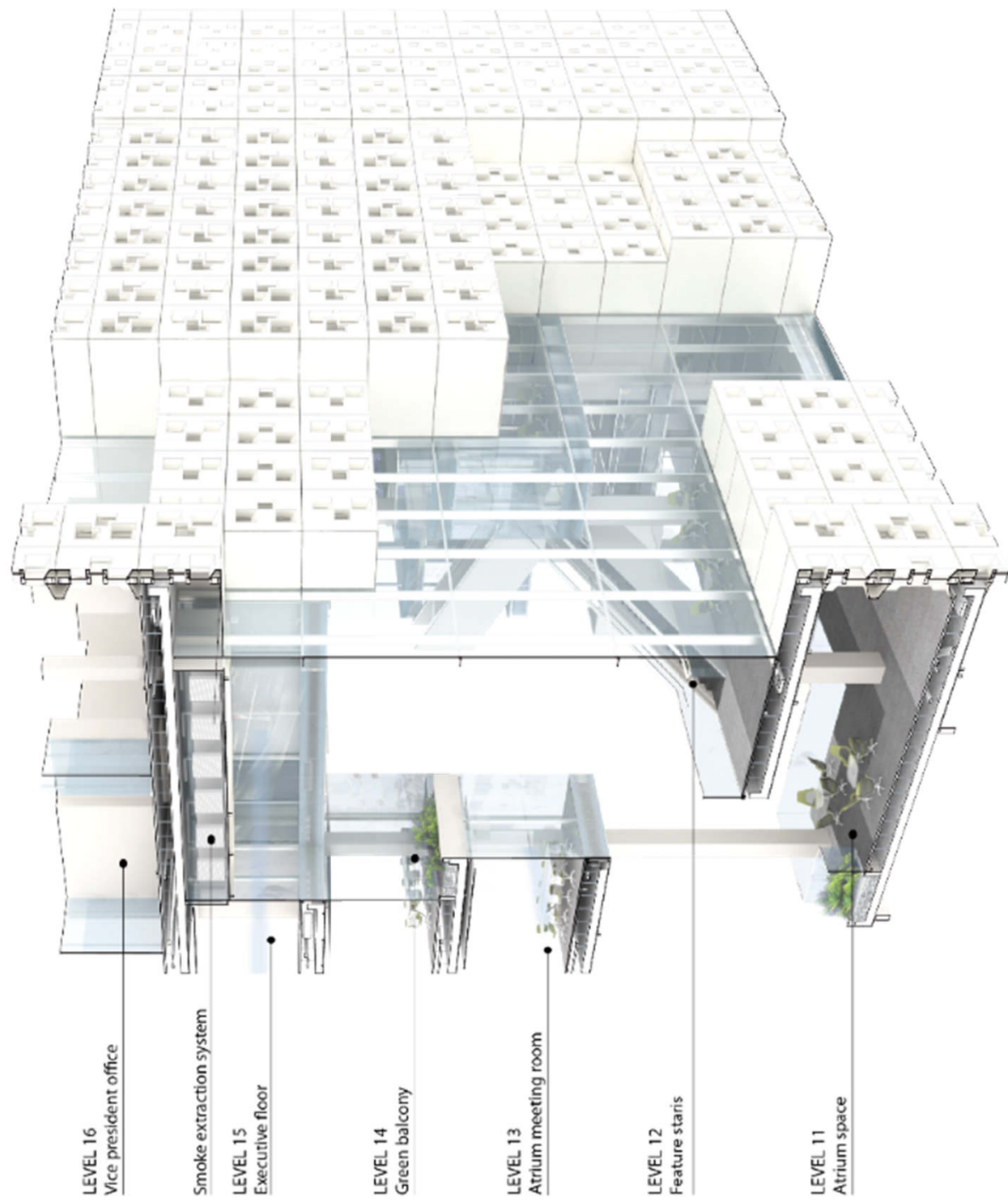
GEOMETRY OF THE RESULTING
FACADE PATTERN

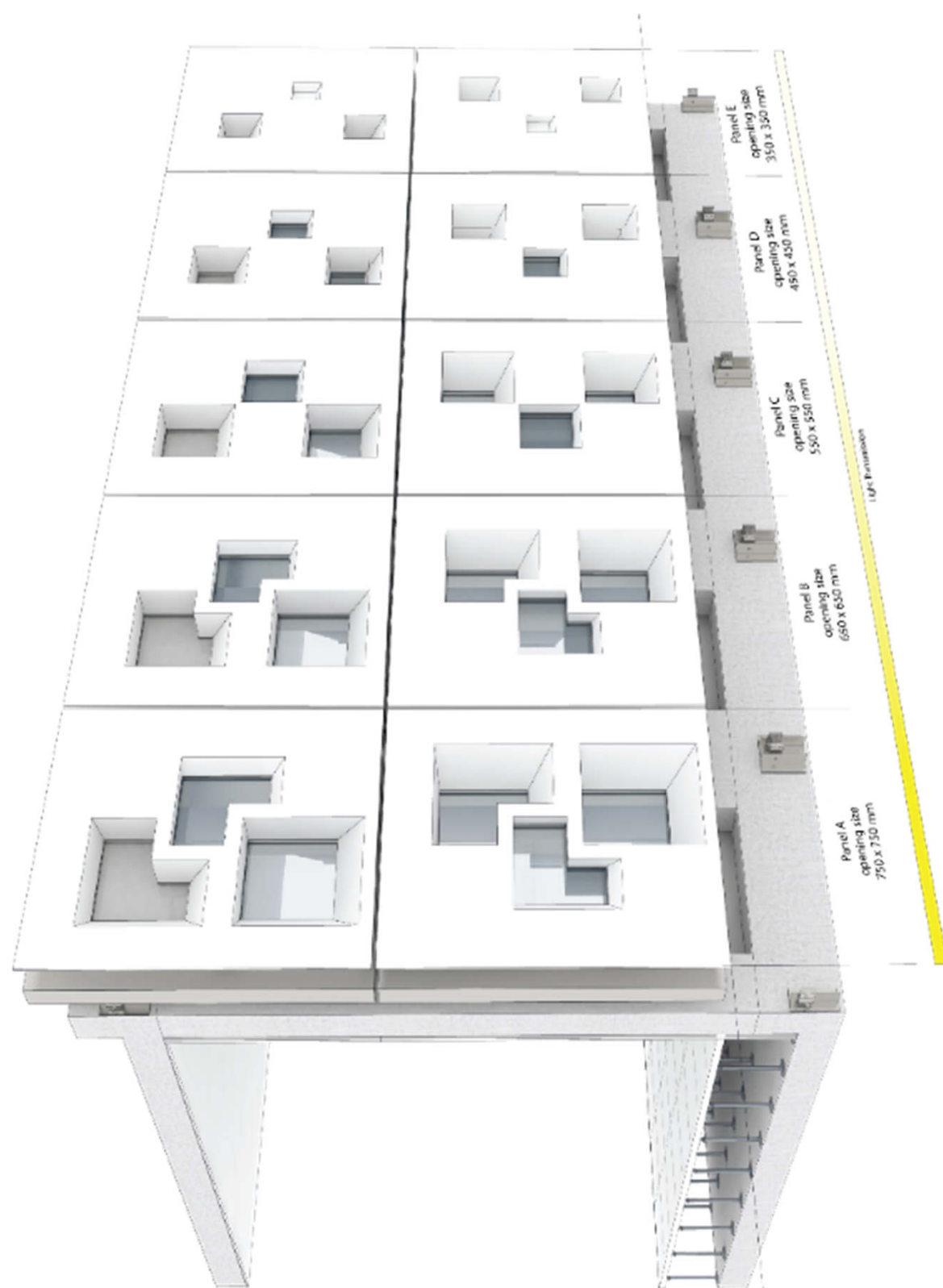
A B C D E F G H

Roof +108.00
 Level 23
 Roof Garden +103.50
 Level 22
 Office +99.00
 Level 21
 Office +94.50
 Level 20
 Office +90.00
 Level 19
 Office +85.50
 Level 18
 Office +81.00
 Level 17
 Office +76.50
 Level 16
 Office +72.00
 Level 15
 Office +67.50
 Level 14
 Office +63.00
 Level 13
 Office +58.50
 Level 12
 Office +54.00
 Level 11
 Office +49.50
 Level 10
 Office +45.00
 Level 09
 Office +40.50
 Level 08
 Office +36.00
 Level 07
 Office +31.50
 Level 06
 Technical Level +27.00
 Level 05
 Office +22.50
 Level 04
 Office +18.00
 Level 03
 Office +13.50
 Level 02
 Office +9.00
 Level 01
 Office +4.50
 Level 00
 Lobby +/- 0.00 = +635.00

A B C D E F G H

Roof +108.00
 Level 23
 Roof Garden +103.50
 Level 22
 Office +99.00
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 Office +94.50
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 Level 08
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 Level 07
 Office +31.50
 Level 06
 Technical Level +27.00
 Level 05
 Office +22.50
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 Office +9.00
 Level 01
 Office +4.50
 Level 00
 Lobby +/- 0.00 = +635.00

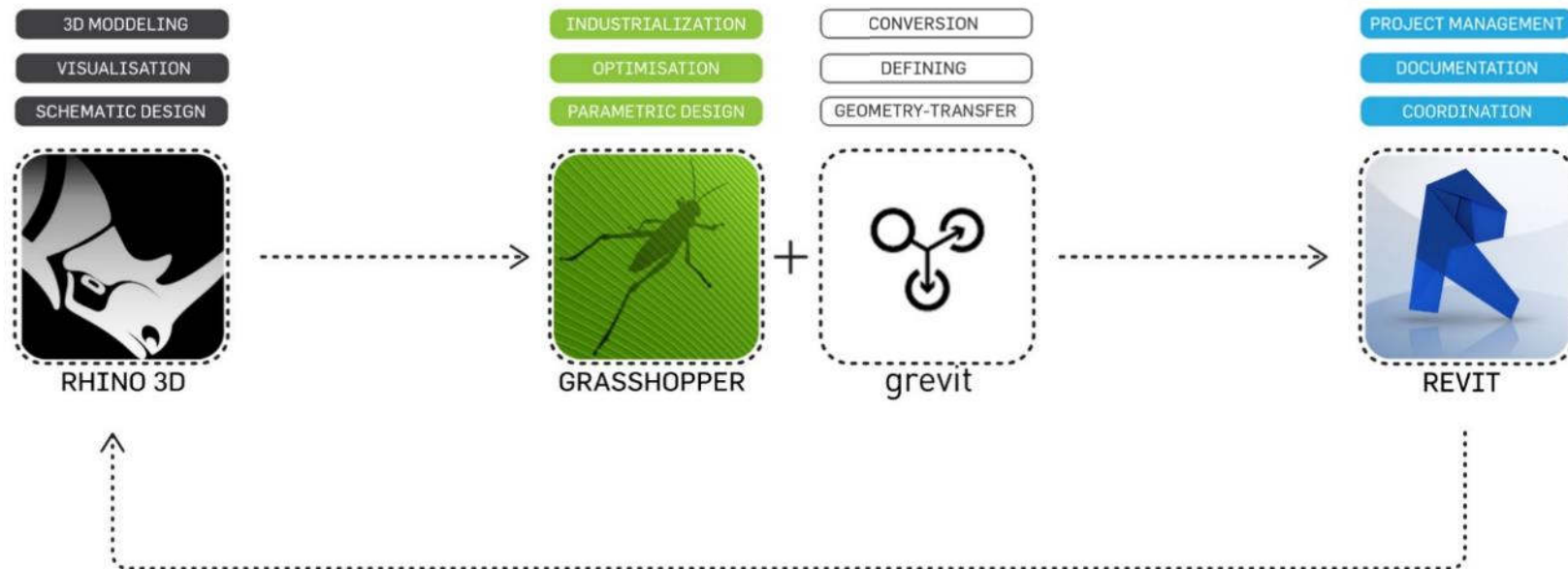
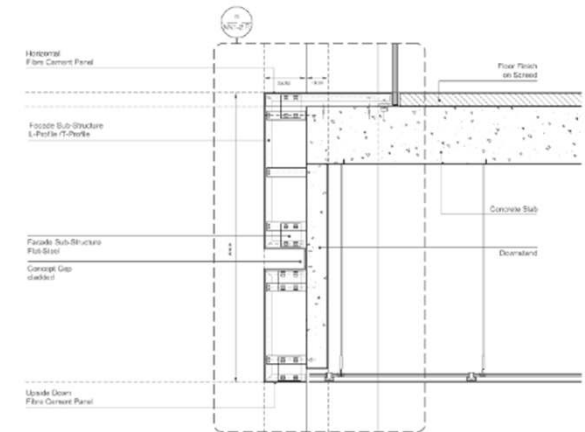






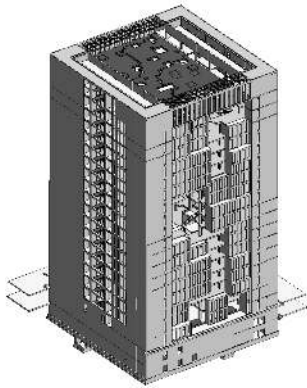
10/12/2015 10:11 AM

BIM workflow diagram

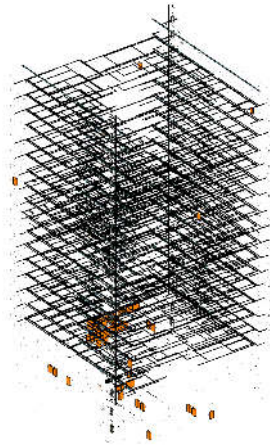


BIM models

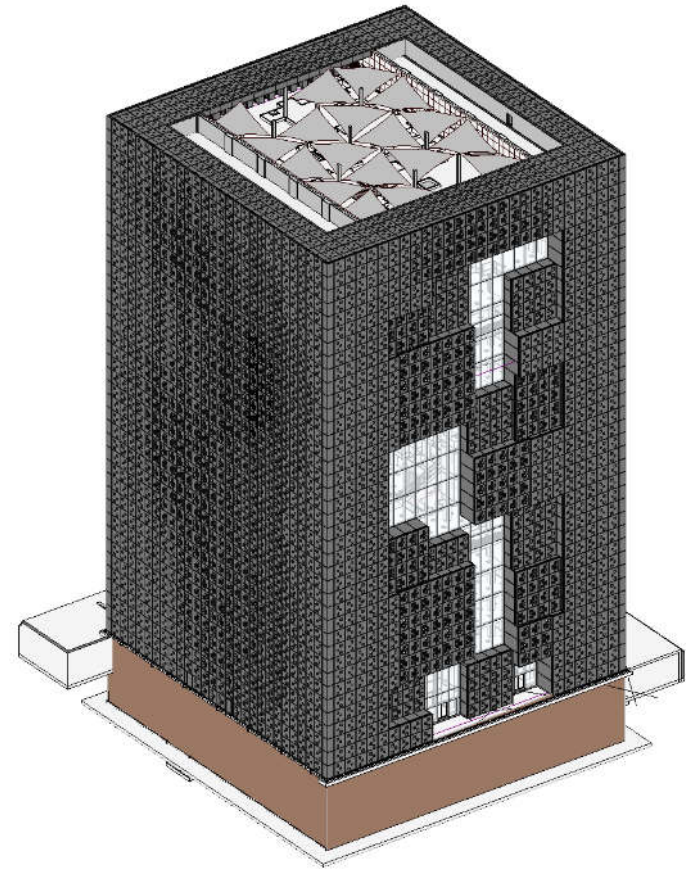
Structural



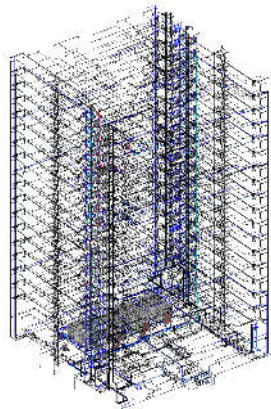
Electrical



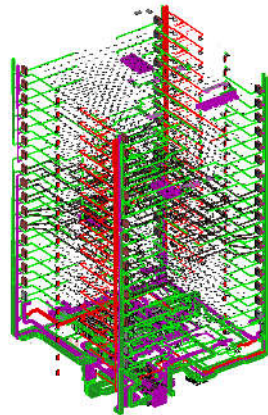
Architectural

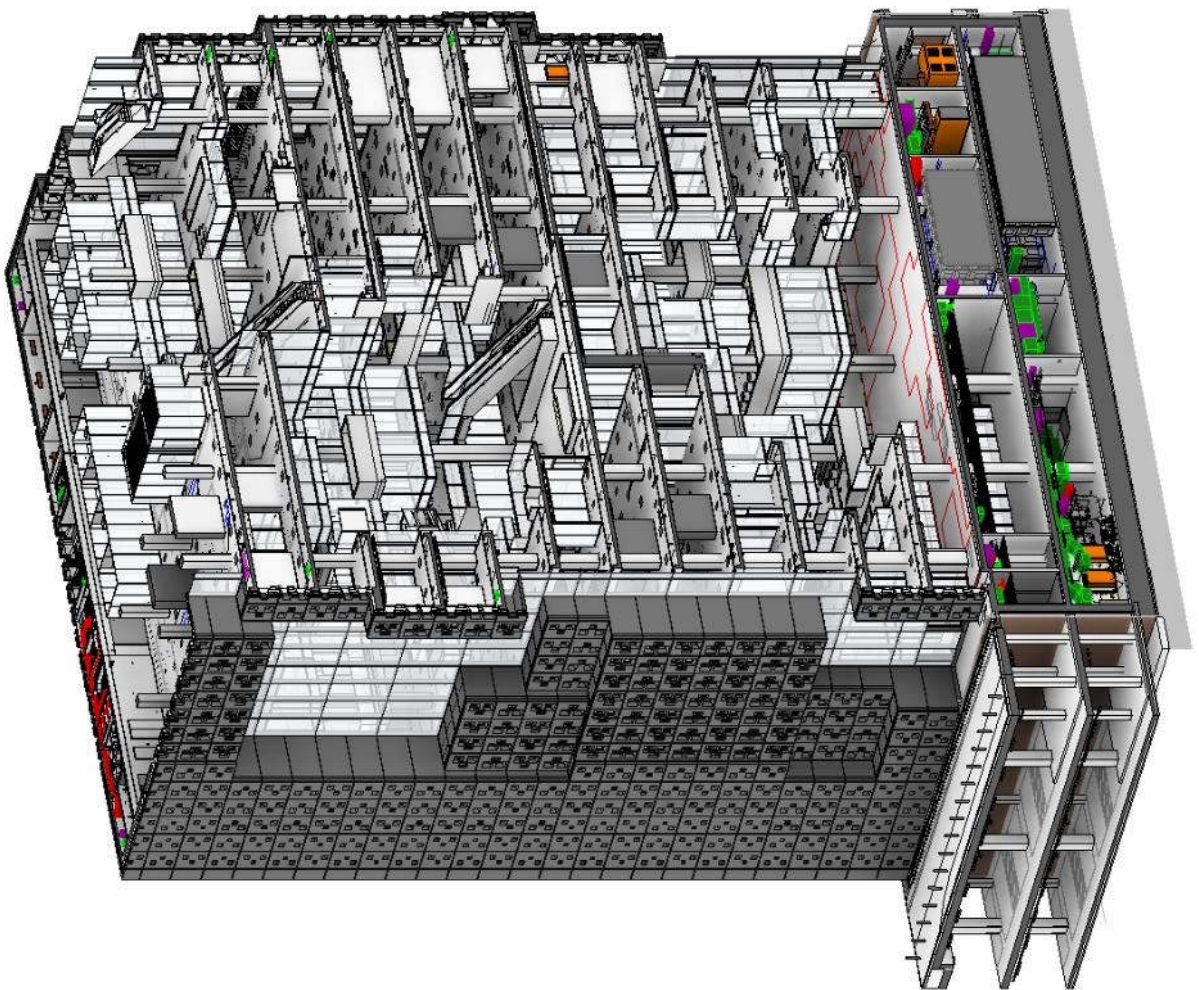


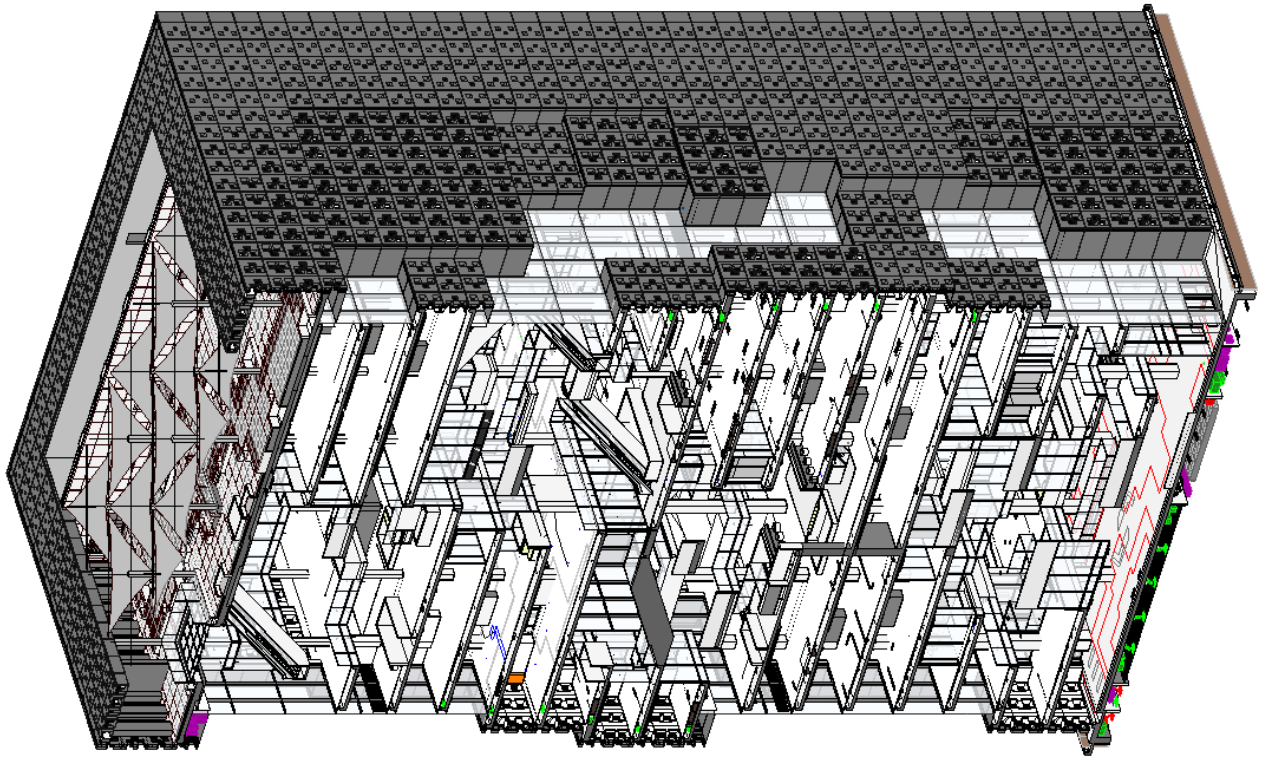
Plumbing

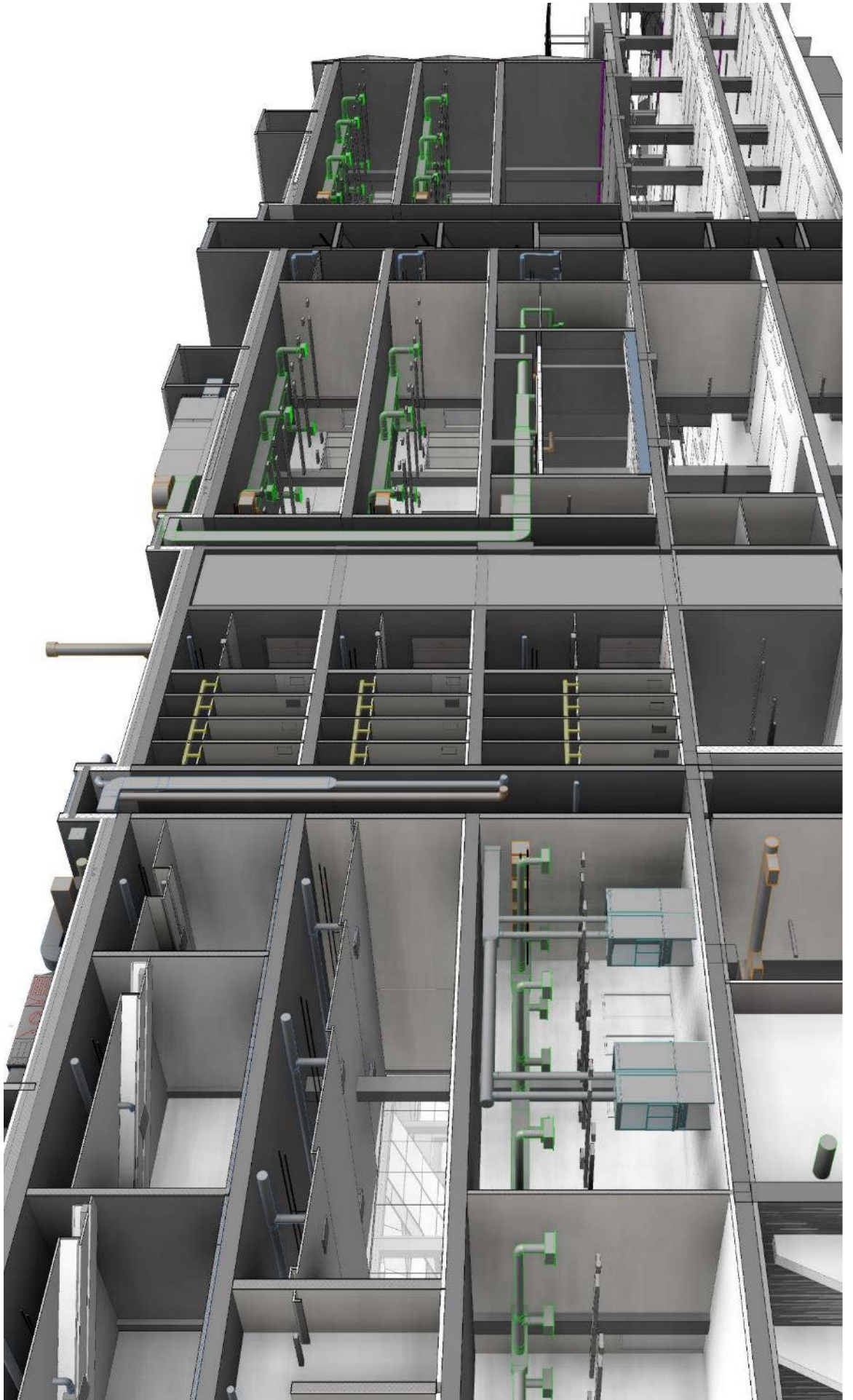


Mechanical

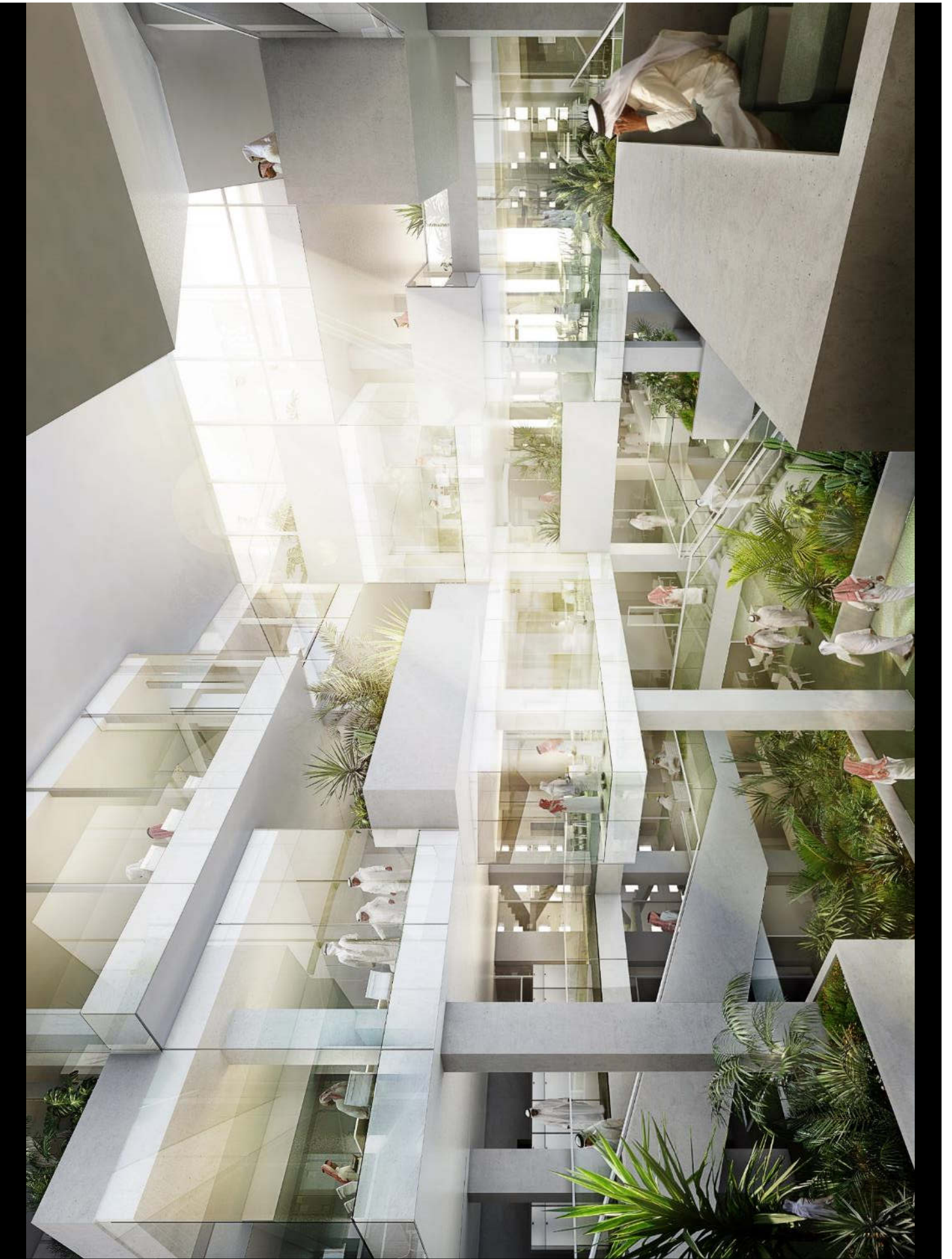


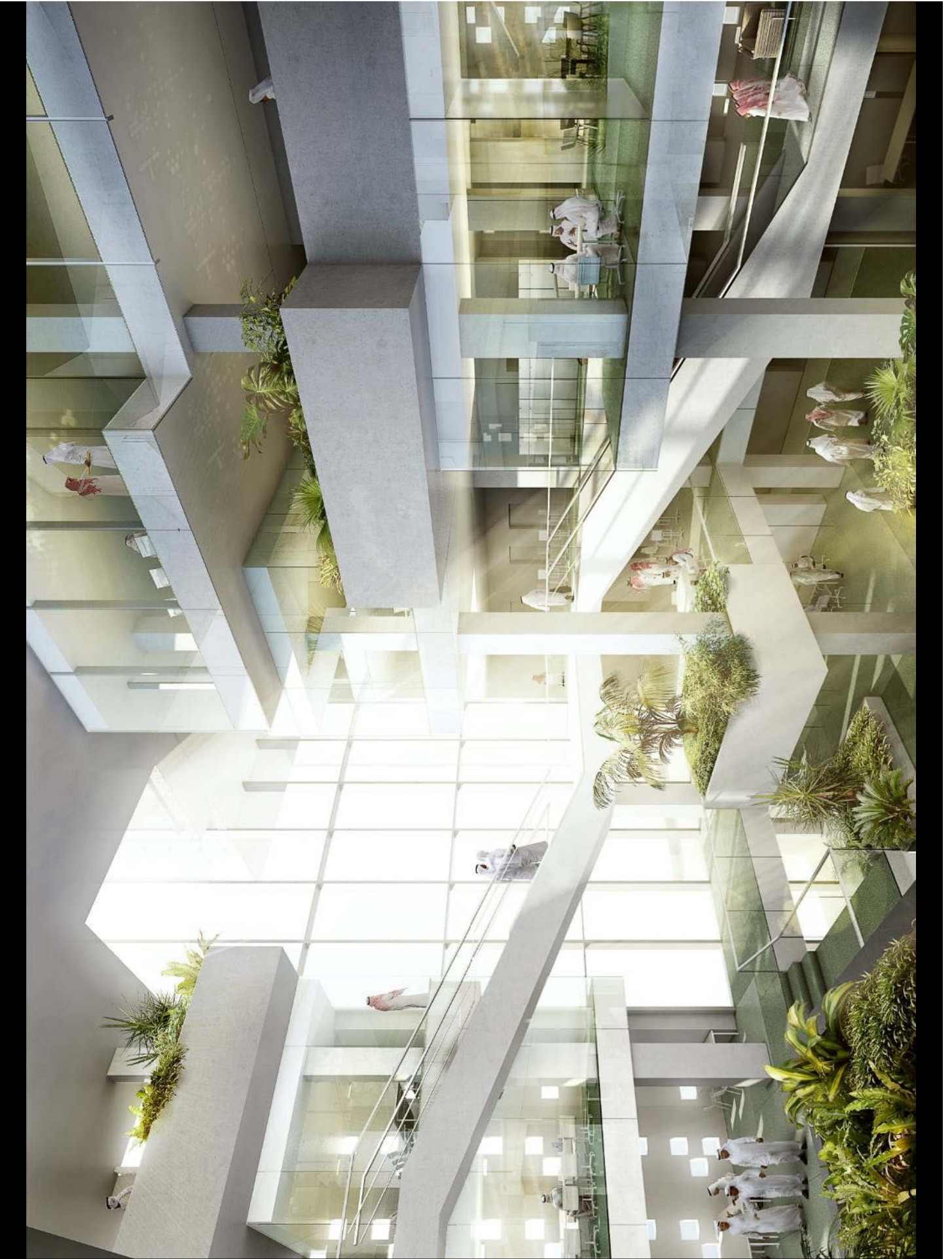






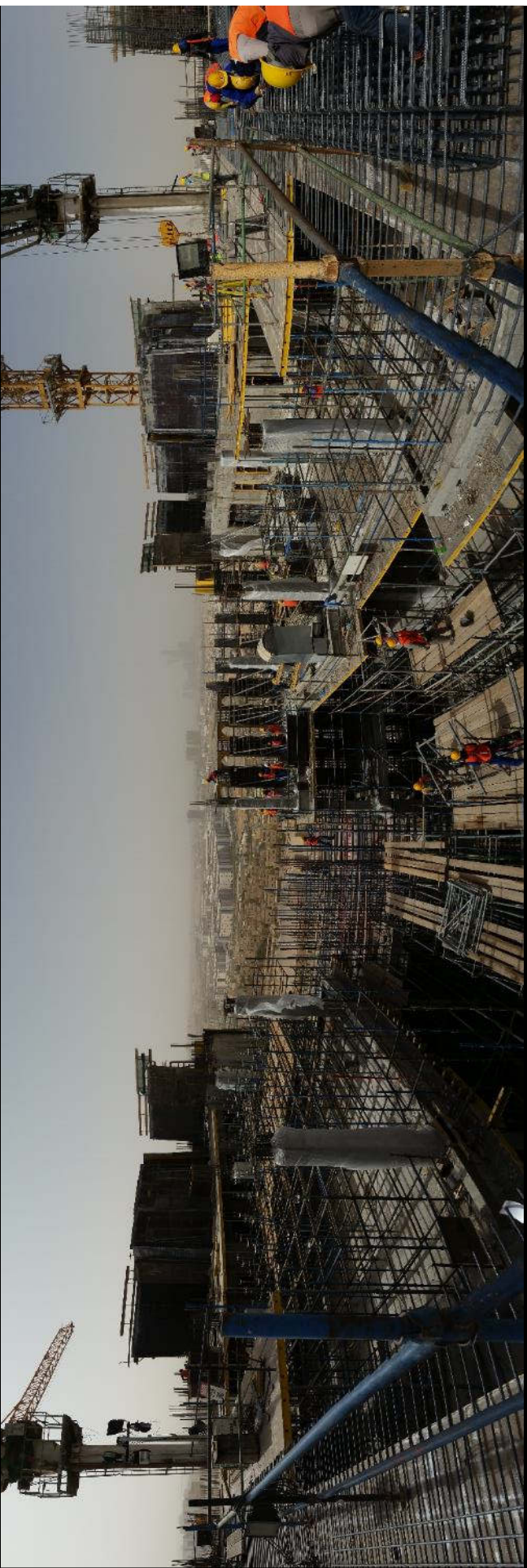




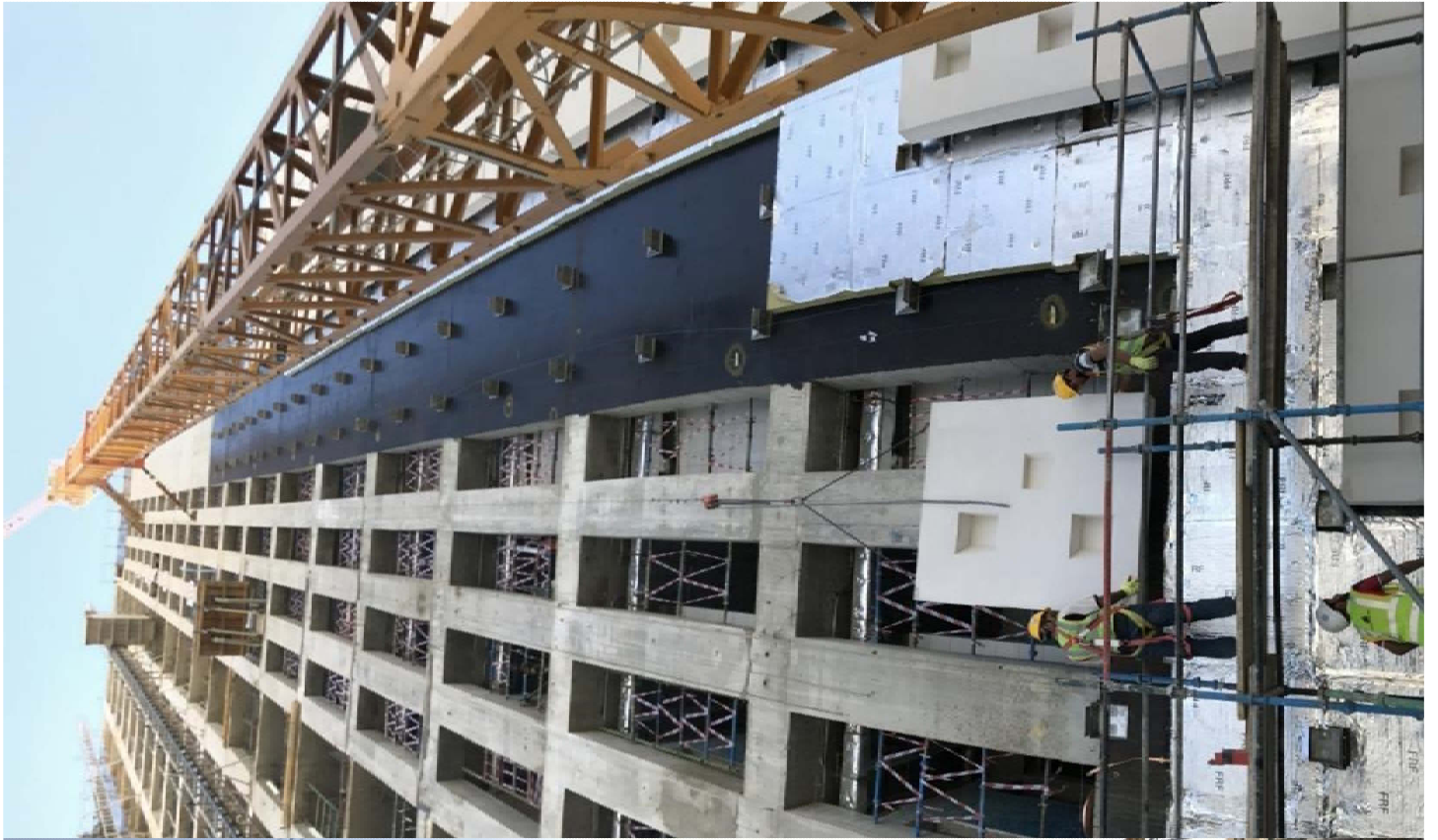
















Valentine, Switzerland

1005





Imagine a place which creates an atmosphere with all goods from nature:
fresh air, natural daylight, smooth sounds, warm materials ...

THE 6D BRAND EXPERIENCE



RELAXATION



acoustic



room proportion



light



room climate



technological integration



colours



market value

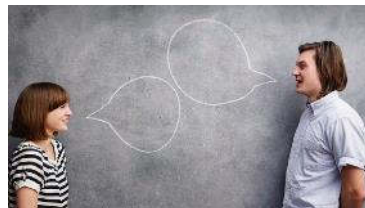


room sequence

ACTIVATION



orientation



face to face



security



corporate design



rituals



material



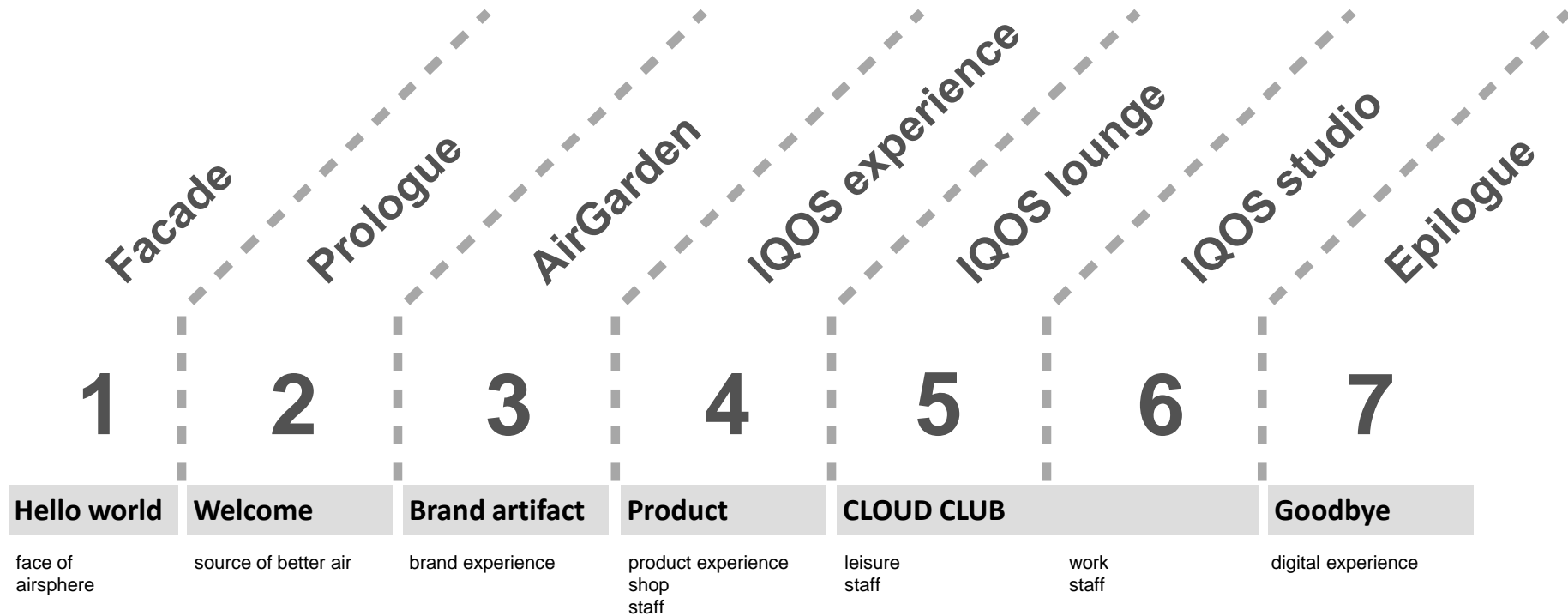
forms

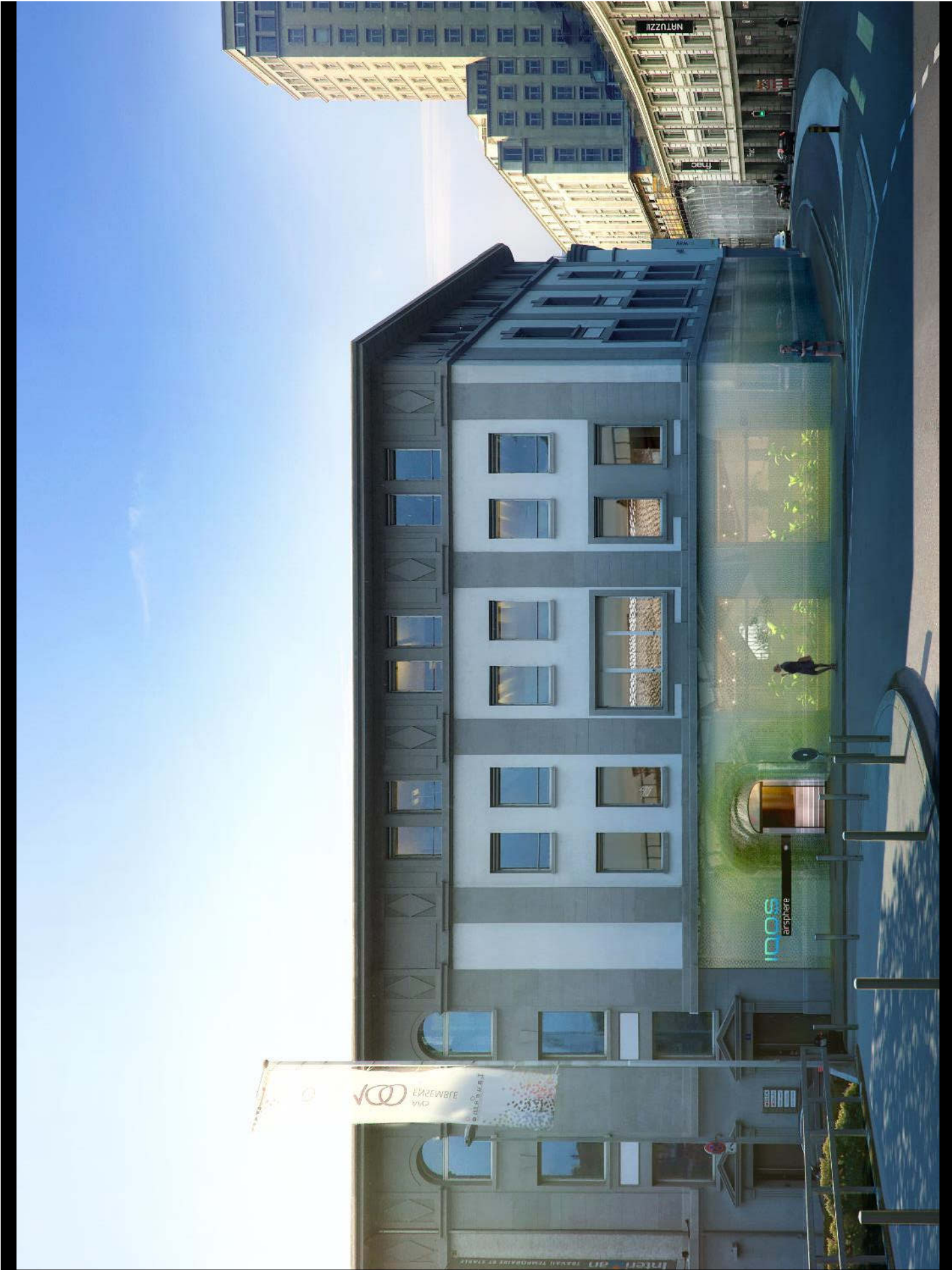


diversion

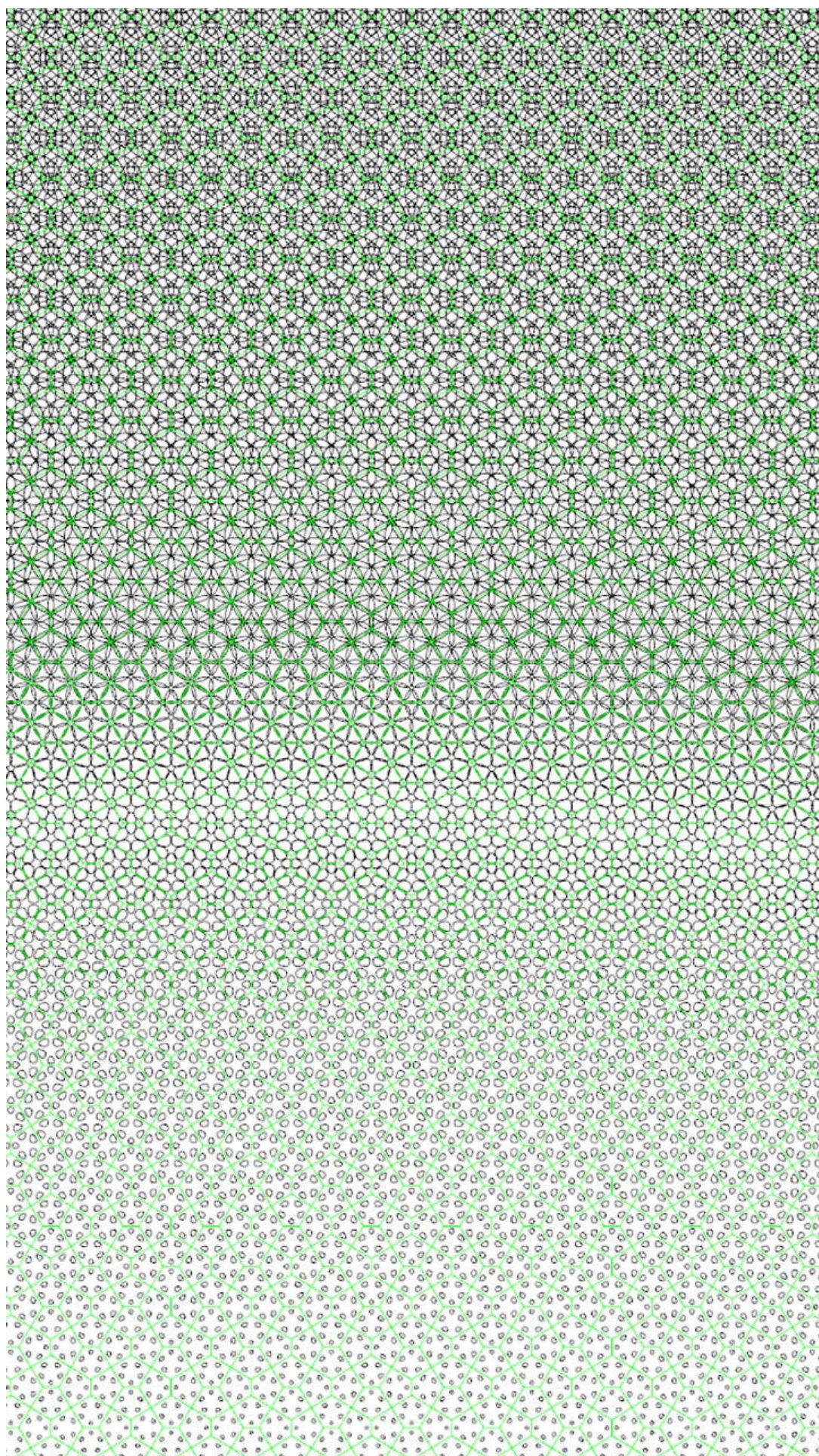
IQOS SCENOGRAPHY

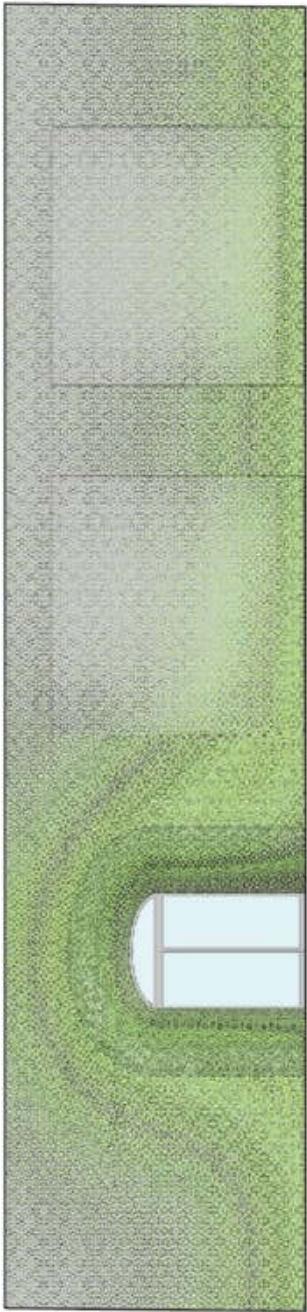
SPATIAL STORYTELLING





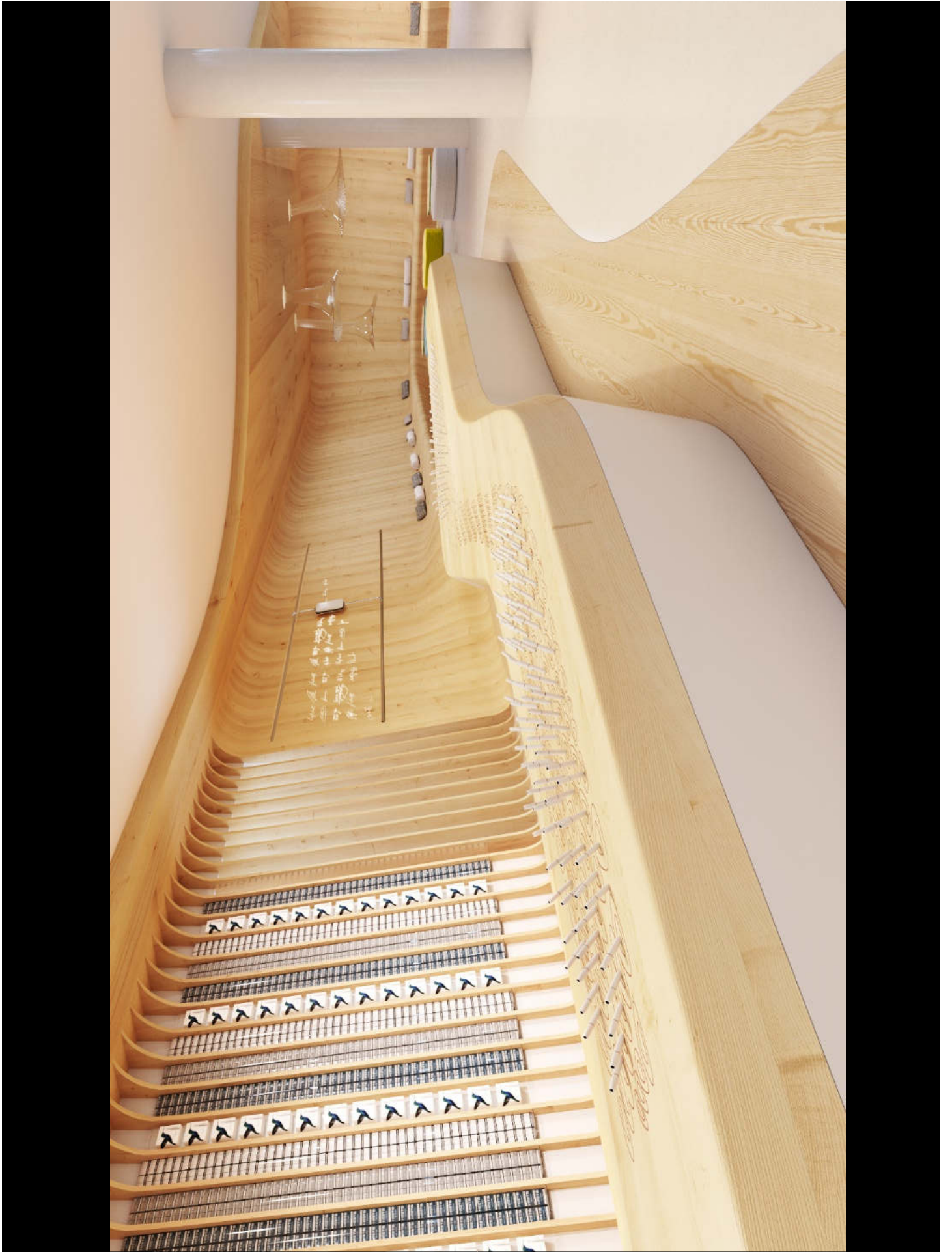


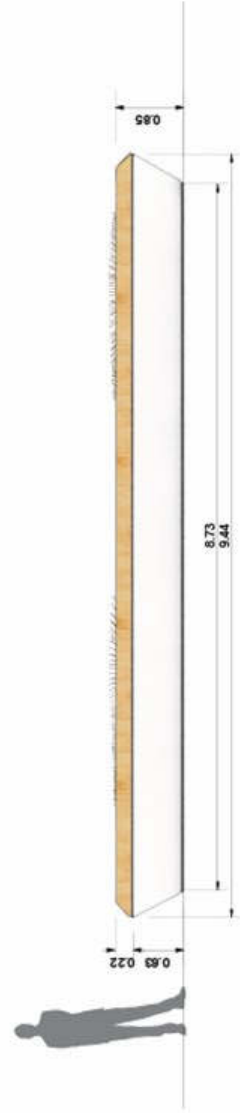
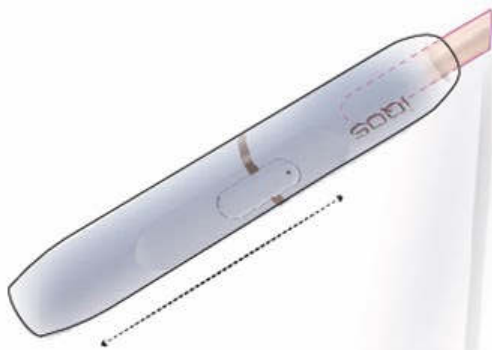


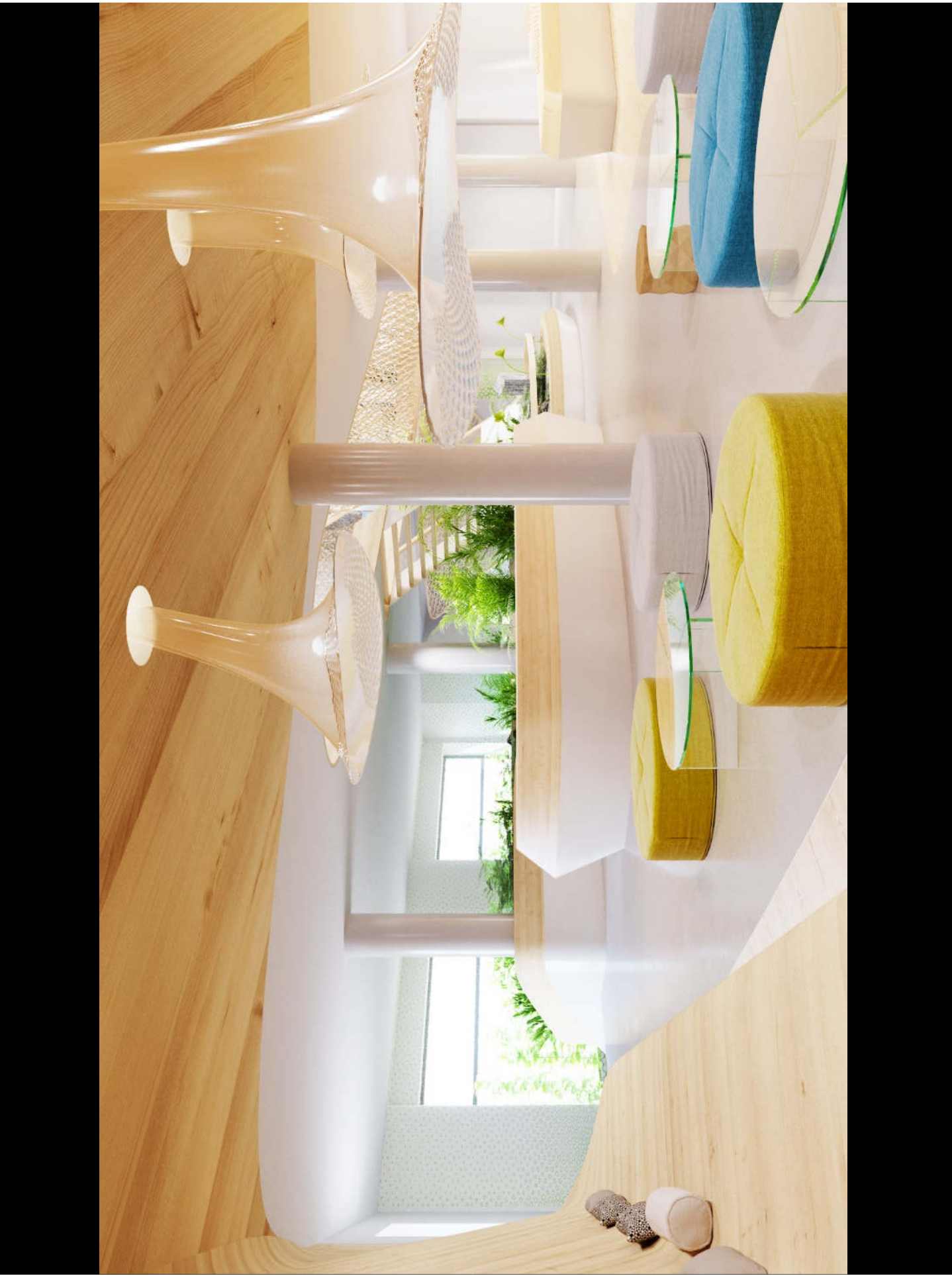


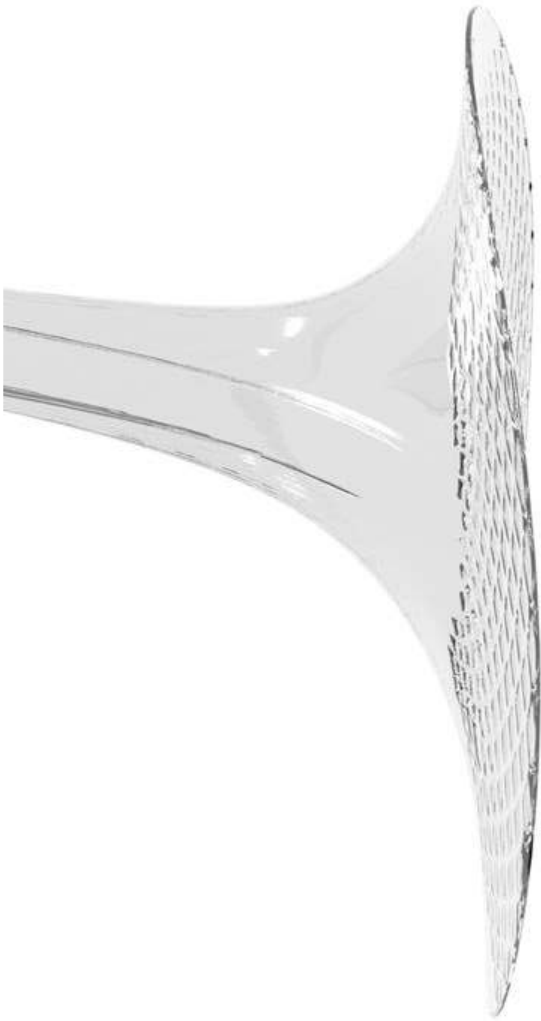


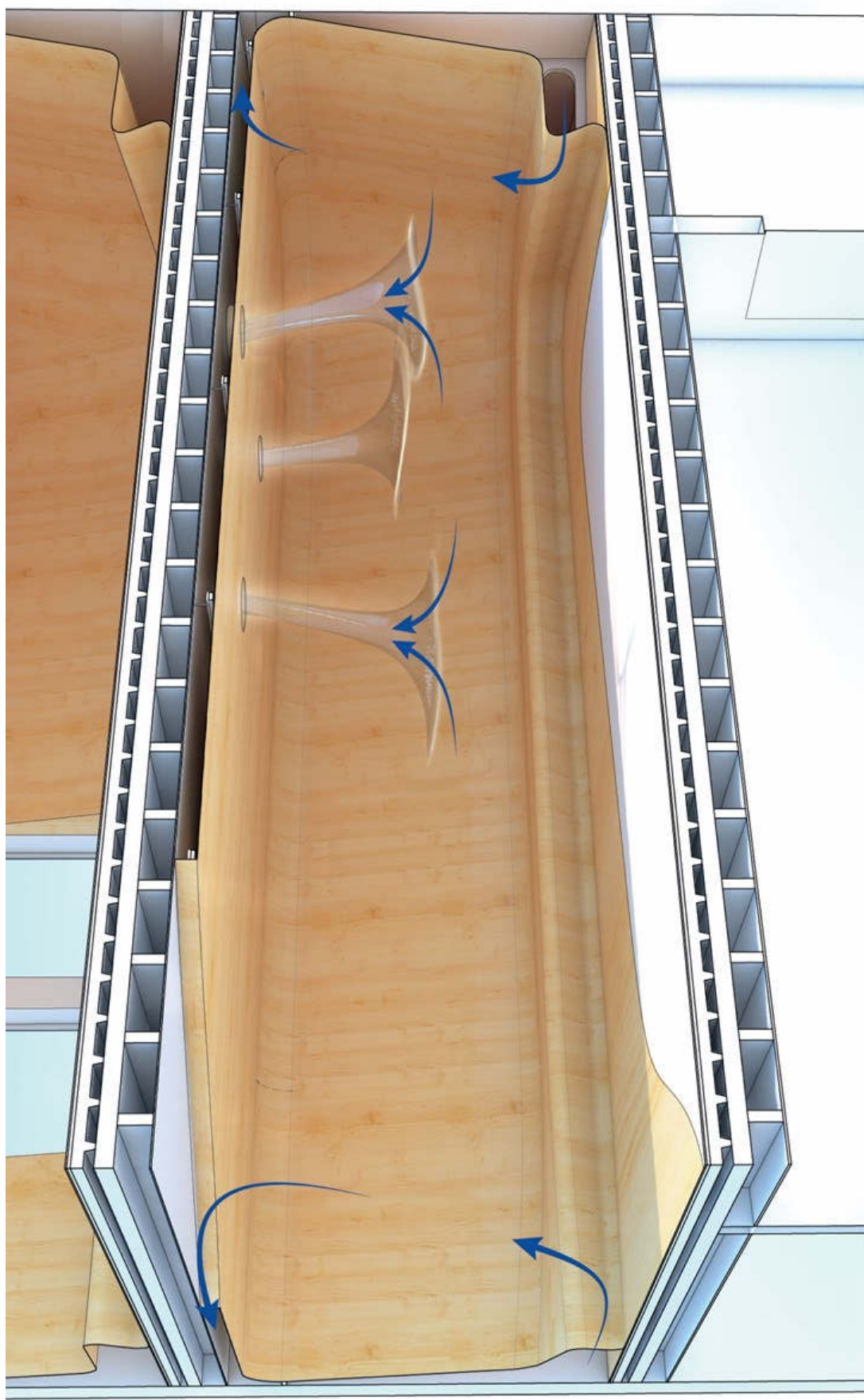


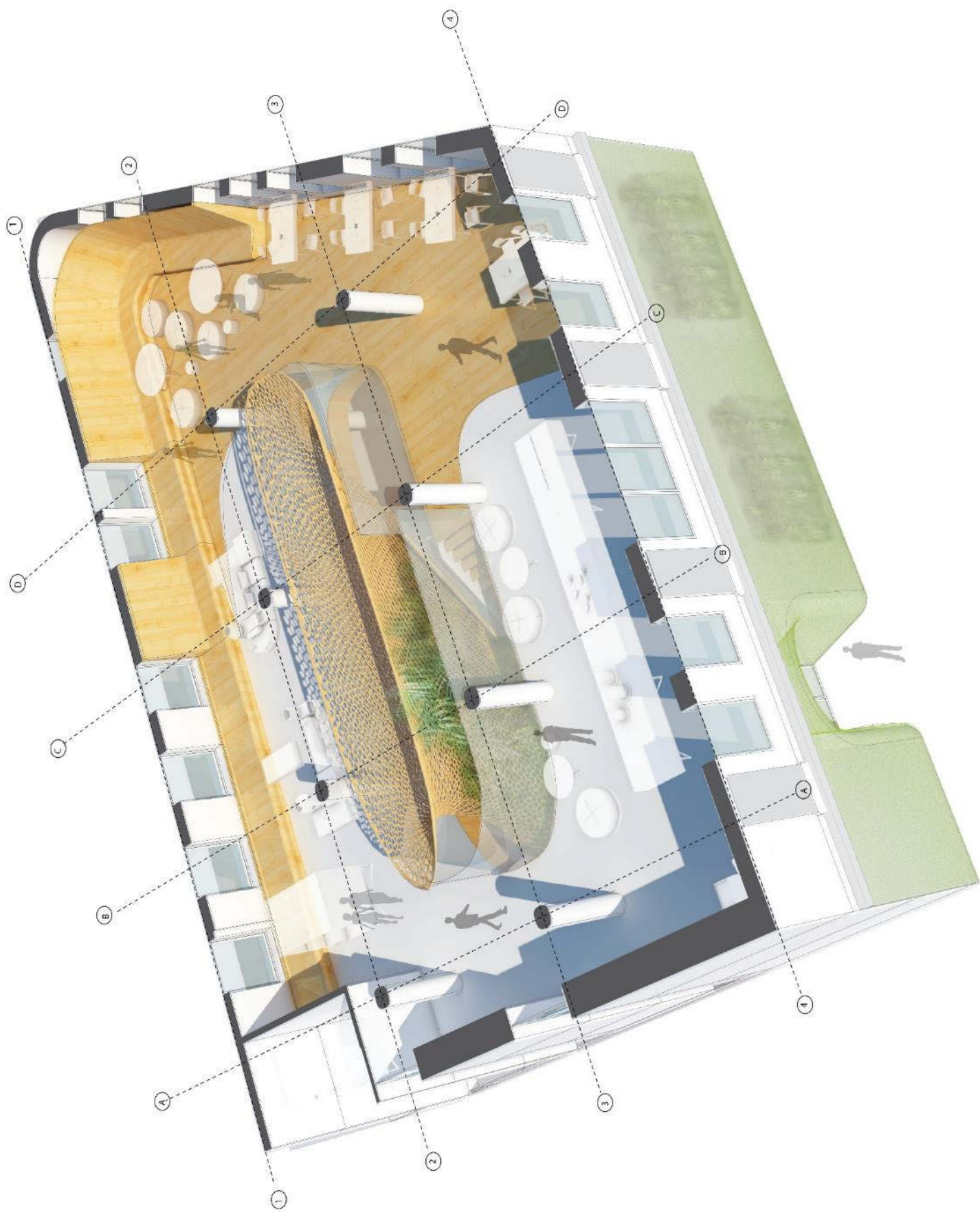




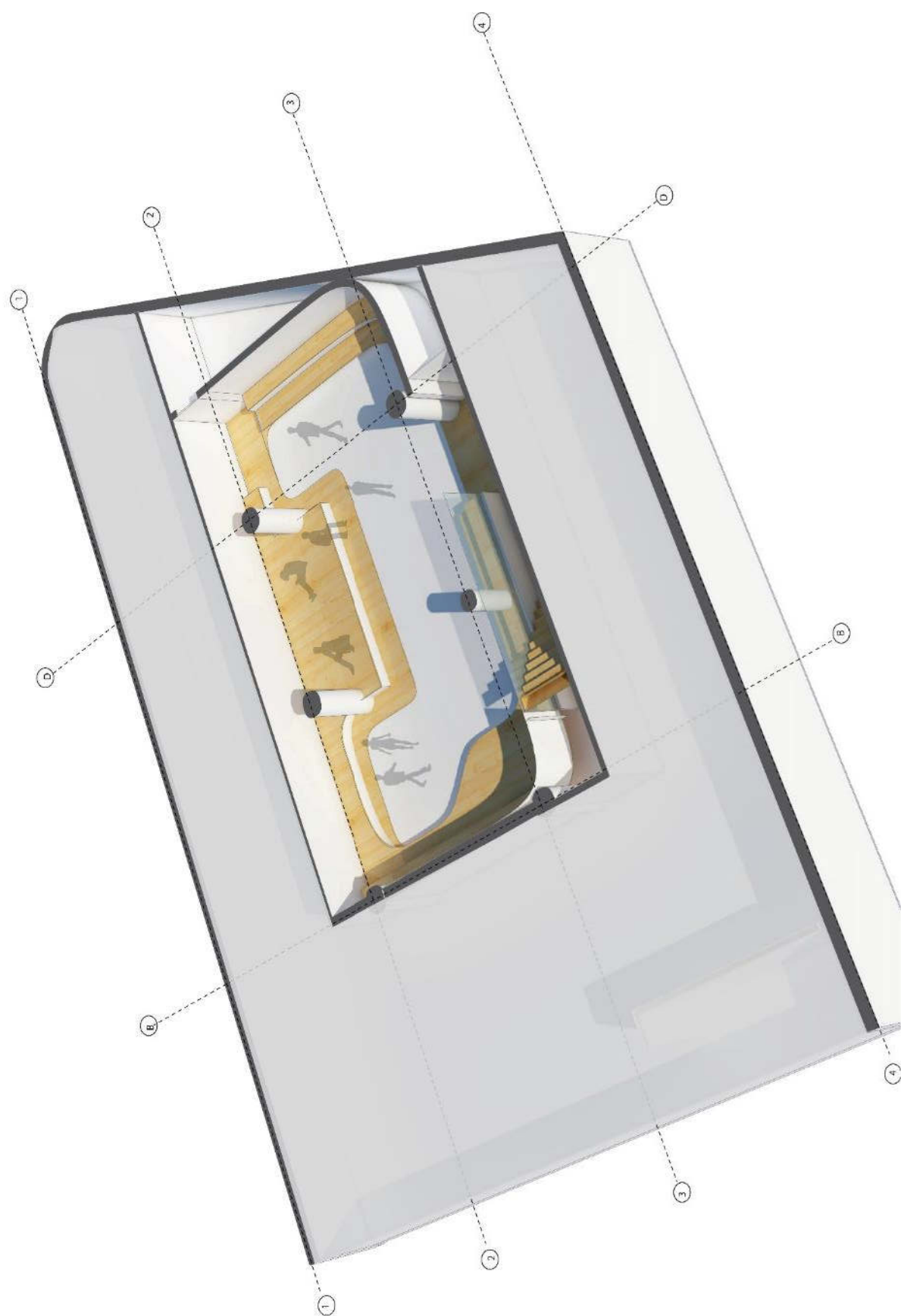














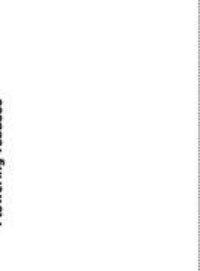















A. AIR GARDEN	B. TOBACCO FACADE	C. MICRO GARDEN	D. HERBAL AROMAS
 A.1 <i>Dussia furcata</i> Bamboo Palm	 B.1 <i>Nicotiana glauca</i> Flowering Tobacco	 C.1.1 <i>Nicotiana glauca</i> Flowering Tobacco	 D.1 <i>Rosmarinus officinalis</i> Rosemary
 A.2 <i>Pteris multifida</i> "Jade Waterfall" Spider Brake Fern	 B.2 <i>Nicotiana glauca</i> Flowering Tobacco	 C.2.5 <i>Nicotiana glauca</i> Flowering Tobacco	 D.5 <i>Origanum vulgare</i> Oregano
 A.3 <i>Pteris vittata</i> Ladder Brake Fern	 B.2 <i>Nicotiana glauca</i> Flowering Tobacco	 D.2 <i>Thymus vulgaris</i> Thyme	 D.6 <i>Mentha piperita</i> Peppermint
 A.4 <i>Thuidium delicatulum</i> Delicate Fern Moss	 D.3 <i>Salvia officinalis</i> Sage	 D.4 <i>Laurus nobilis</i> Bay Leaf	 D.3 <i>Salvia officinalis</i> Sage

