
MAX.50 K

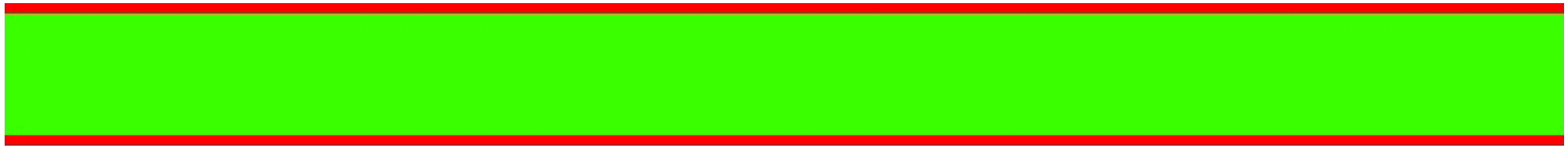

Danske
Fragtmænd


CONCOJIP


HILTI
241986

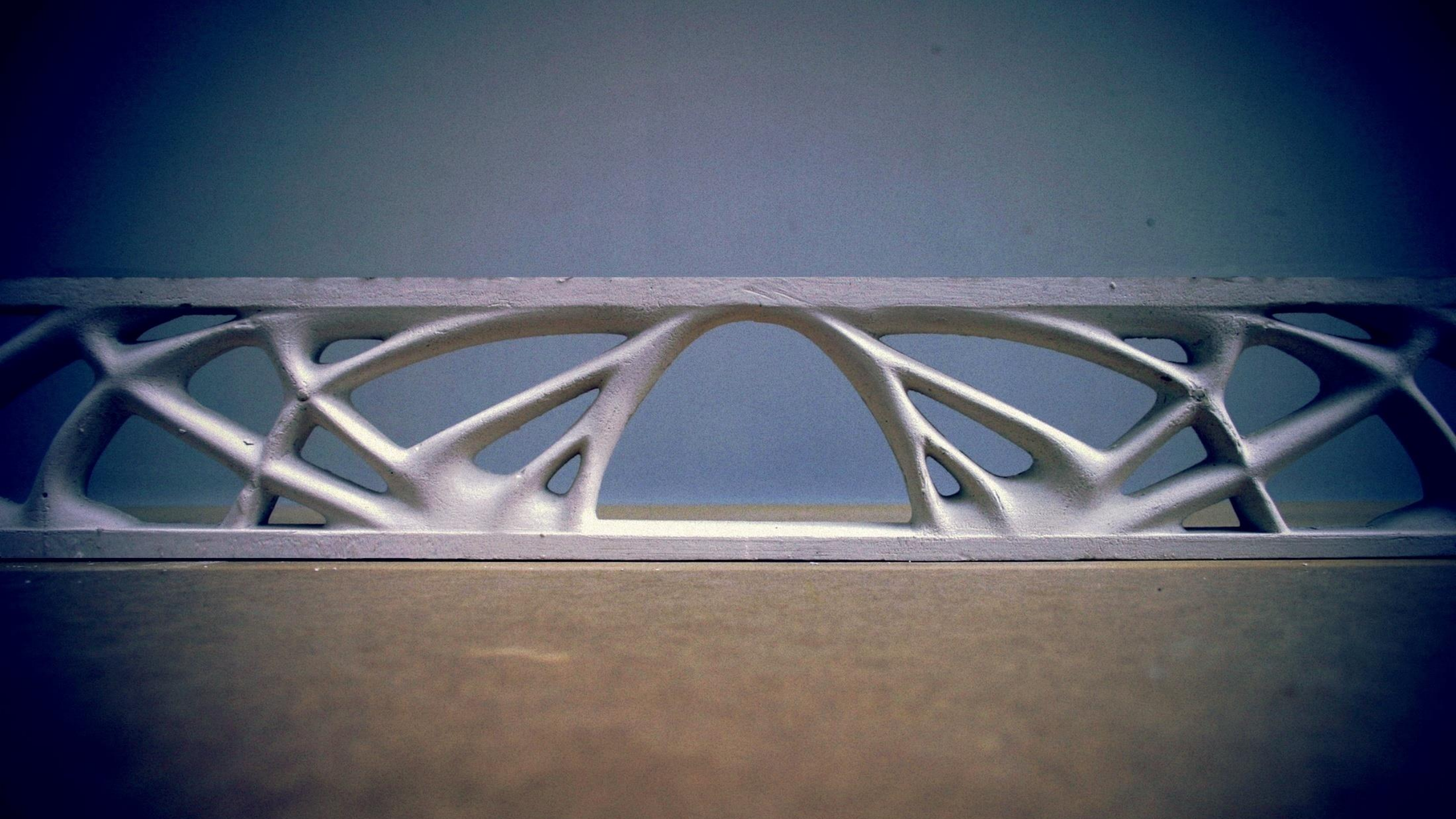

AARSLEFF
ARDS Stilladser

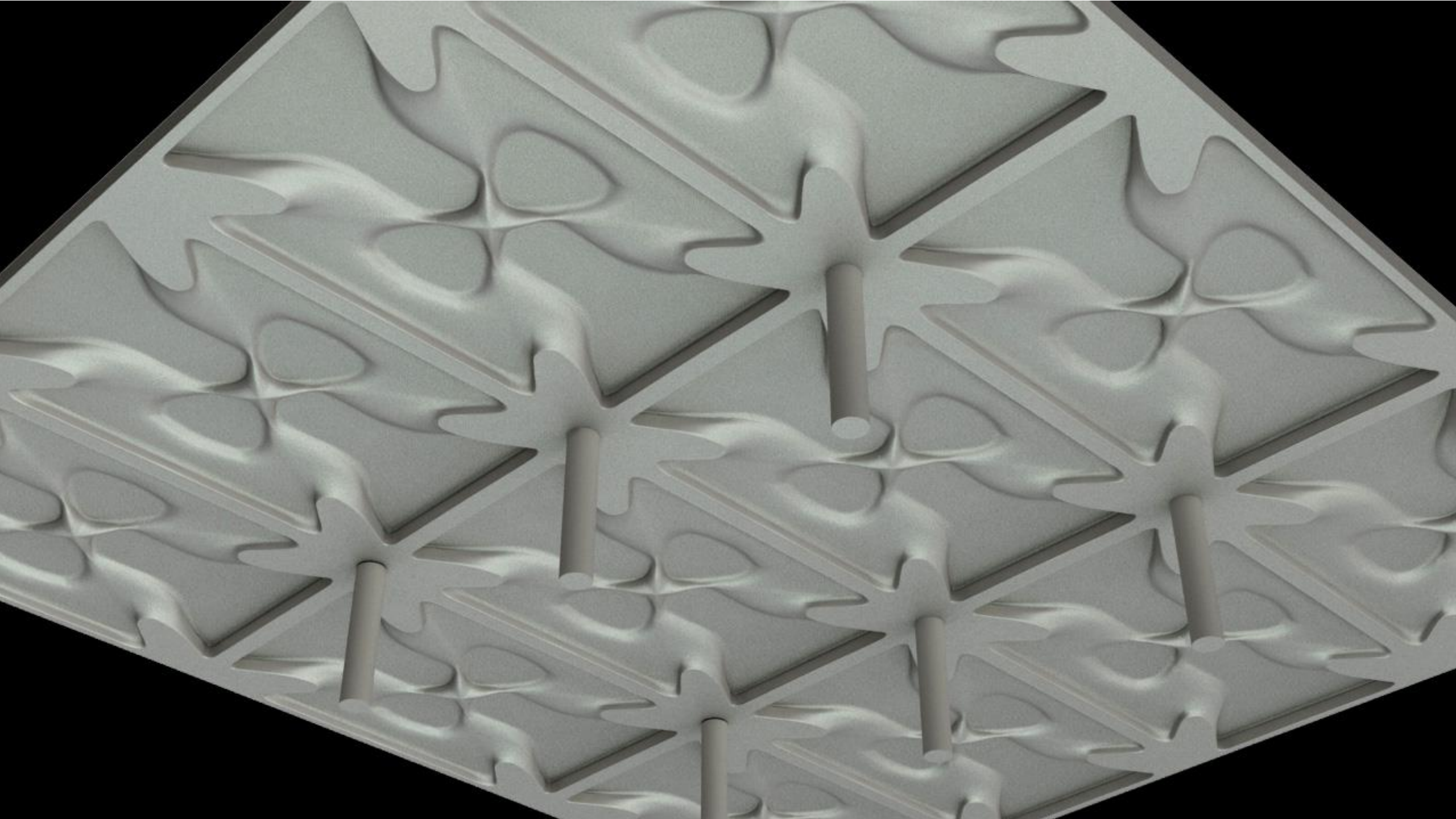
ODICO
FORMWORK ROBOTICS

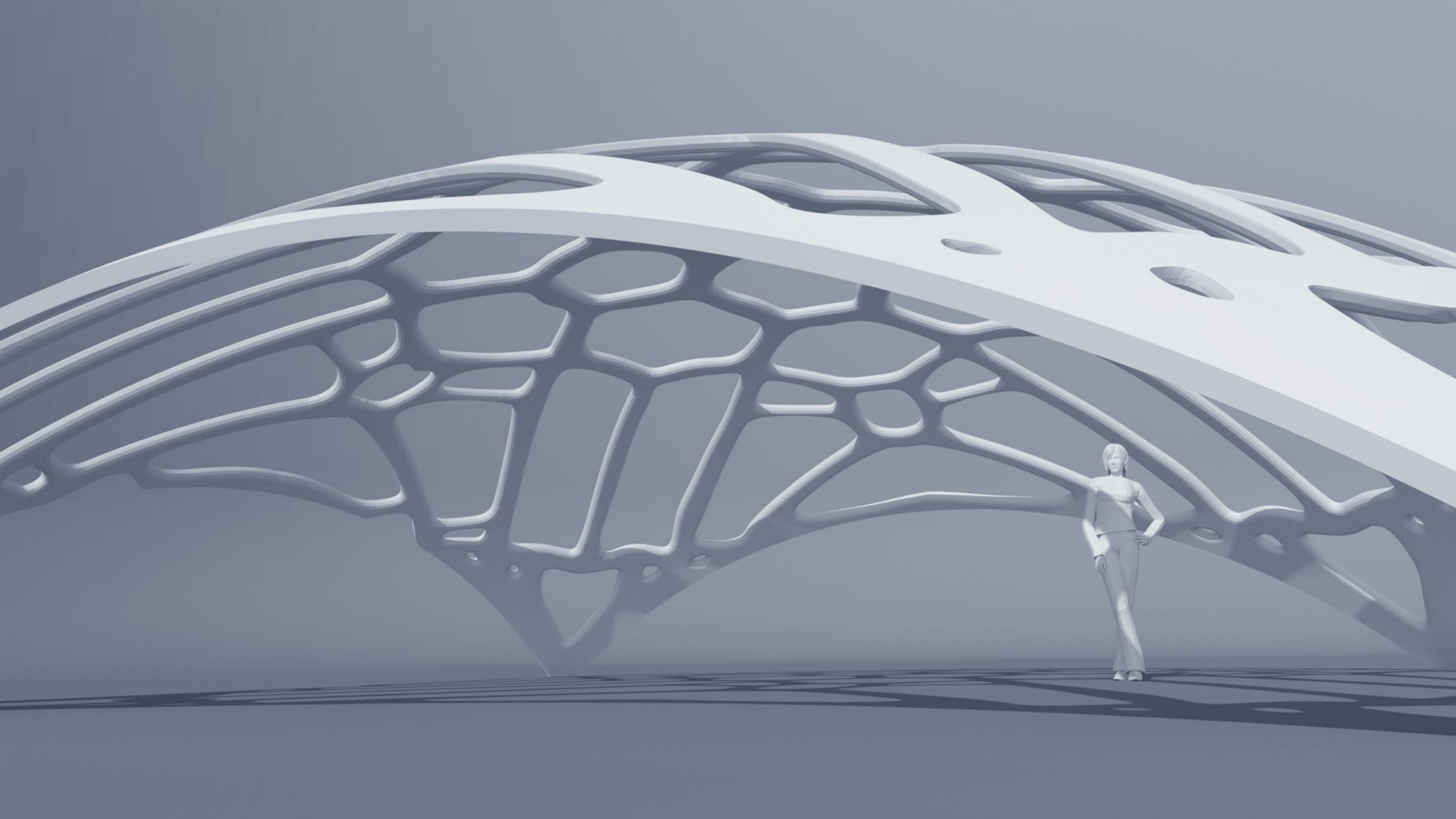


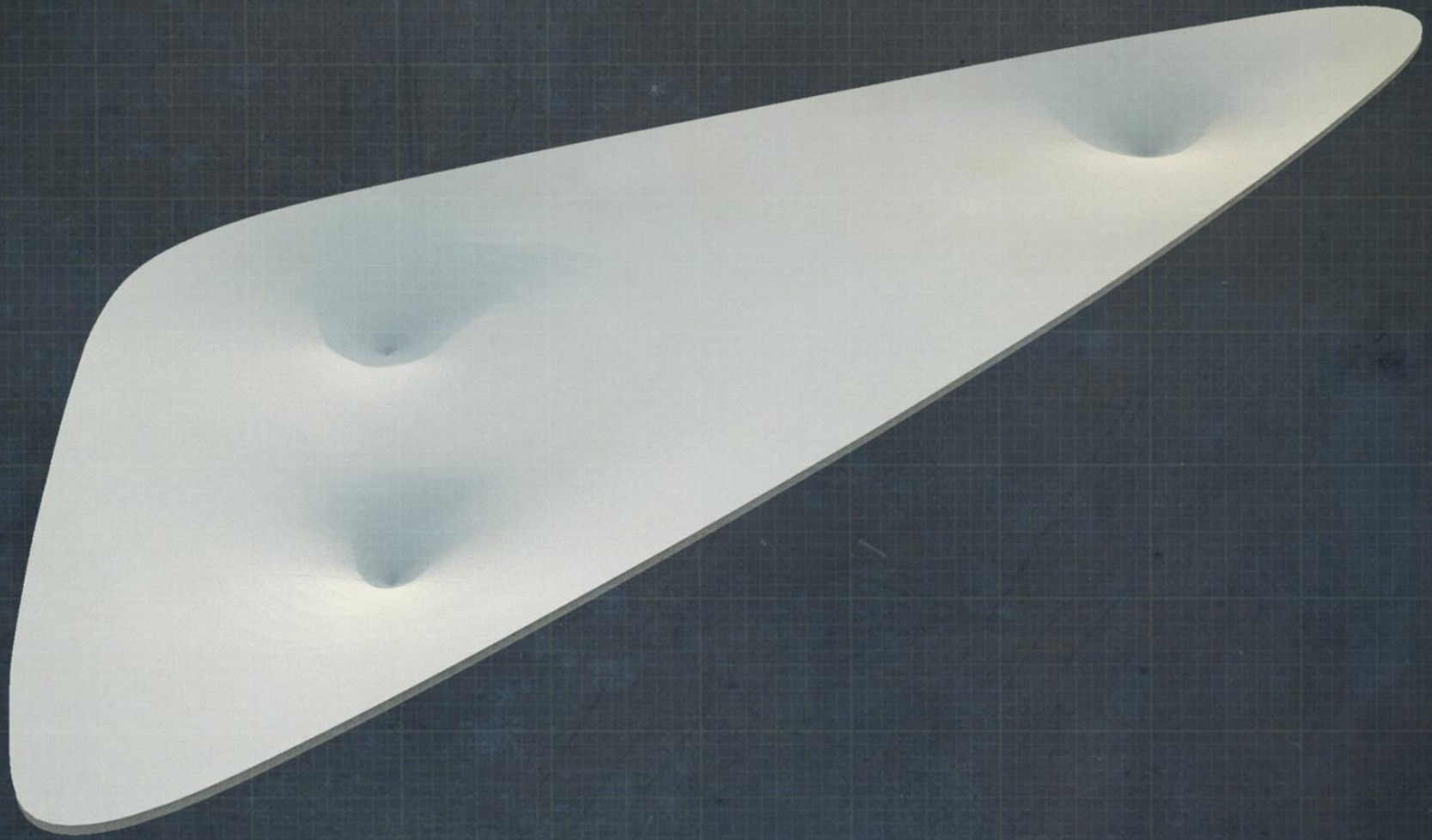
Per Dombernowsky & Asbjørn Søndergaard

Topology optimization of post-tensioned, simply supported concrete beam





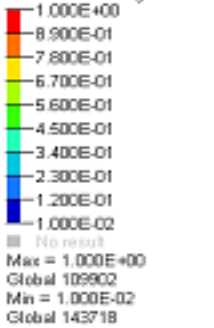


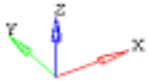


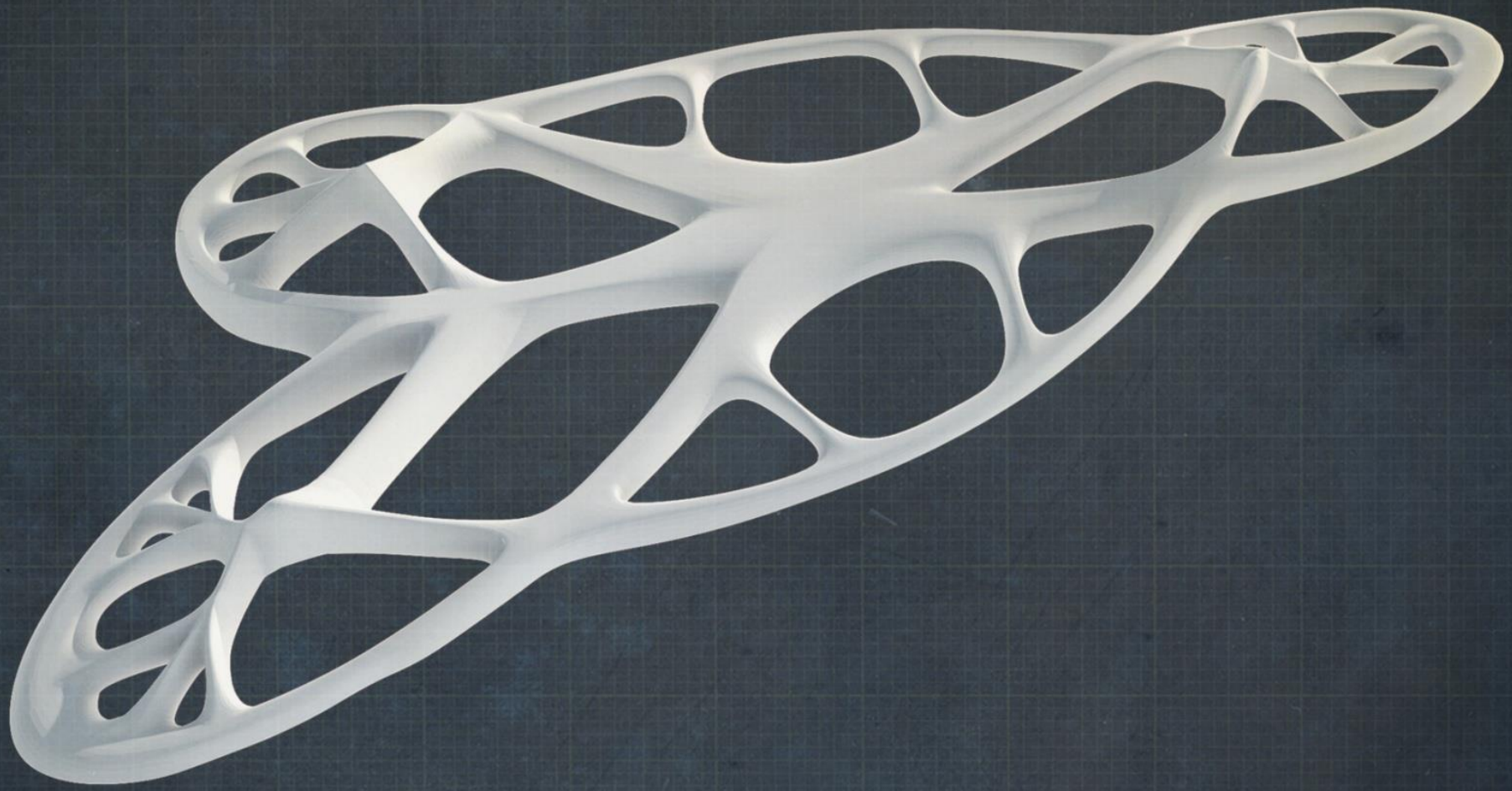
Contour Plot
Element Densities (Density)
Advanced Average

1

Design : Iteration 0
Frame 1

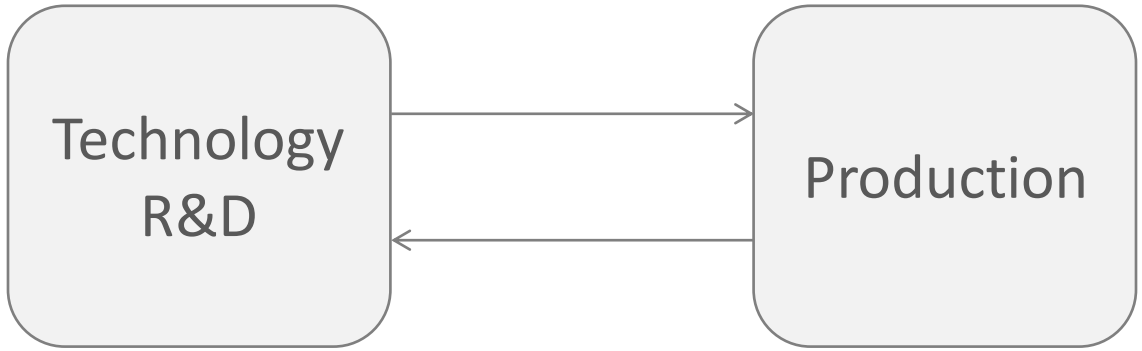




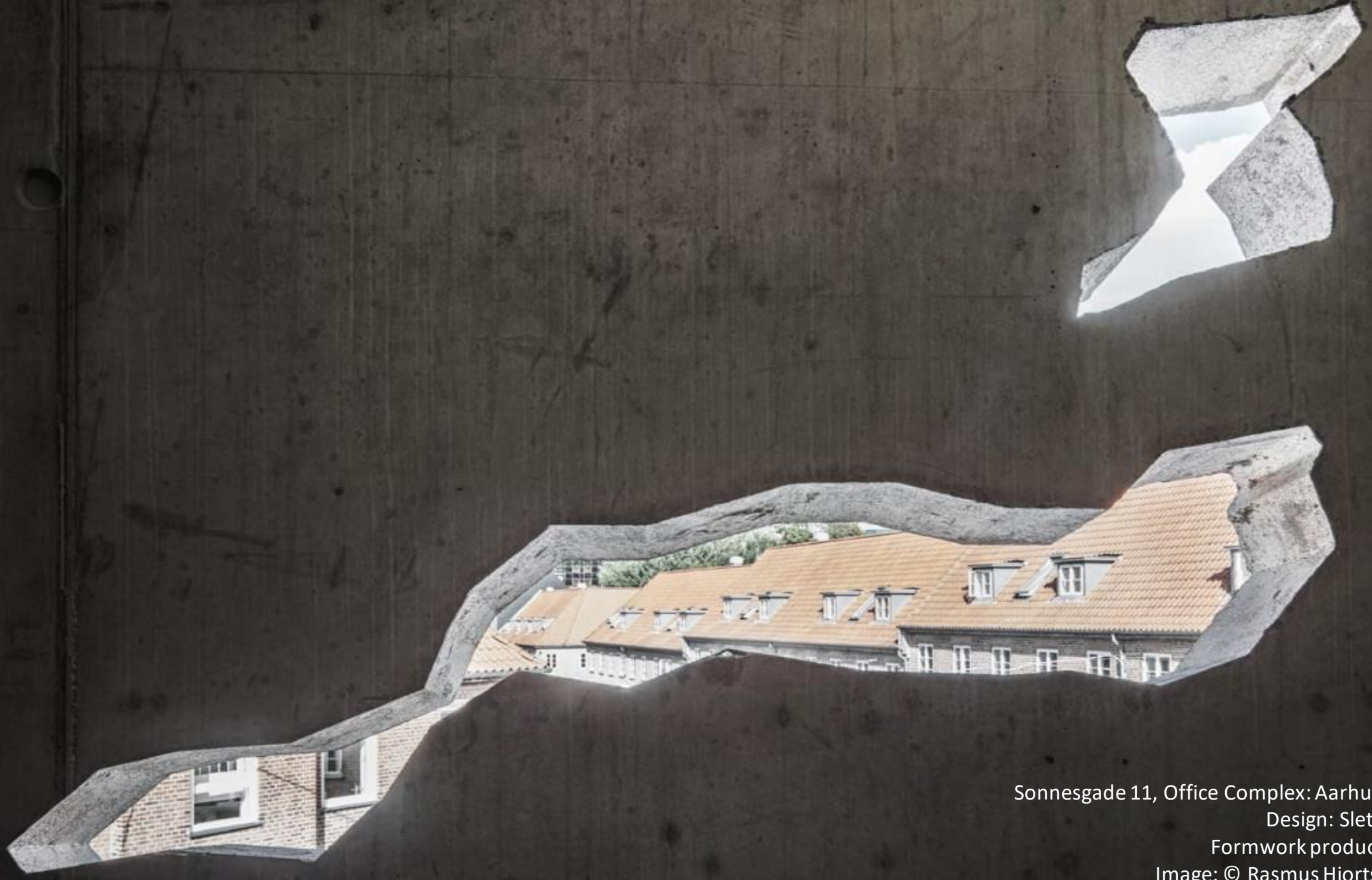



FANUC Robot R-2000iB
UNIKABETON
Højteknologifonden
TEKNOLOGISK
INSTITUT


IVECO


Technology
R&D
Production

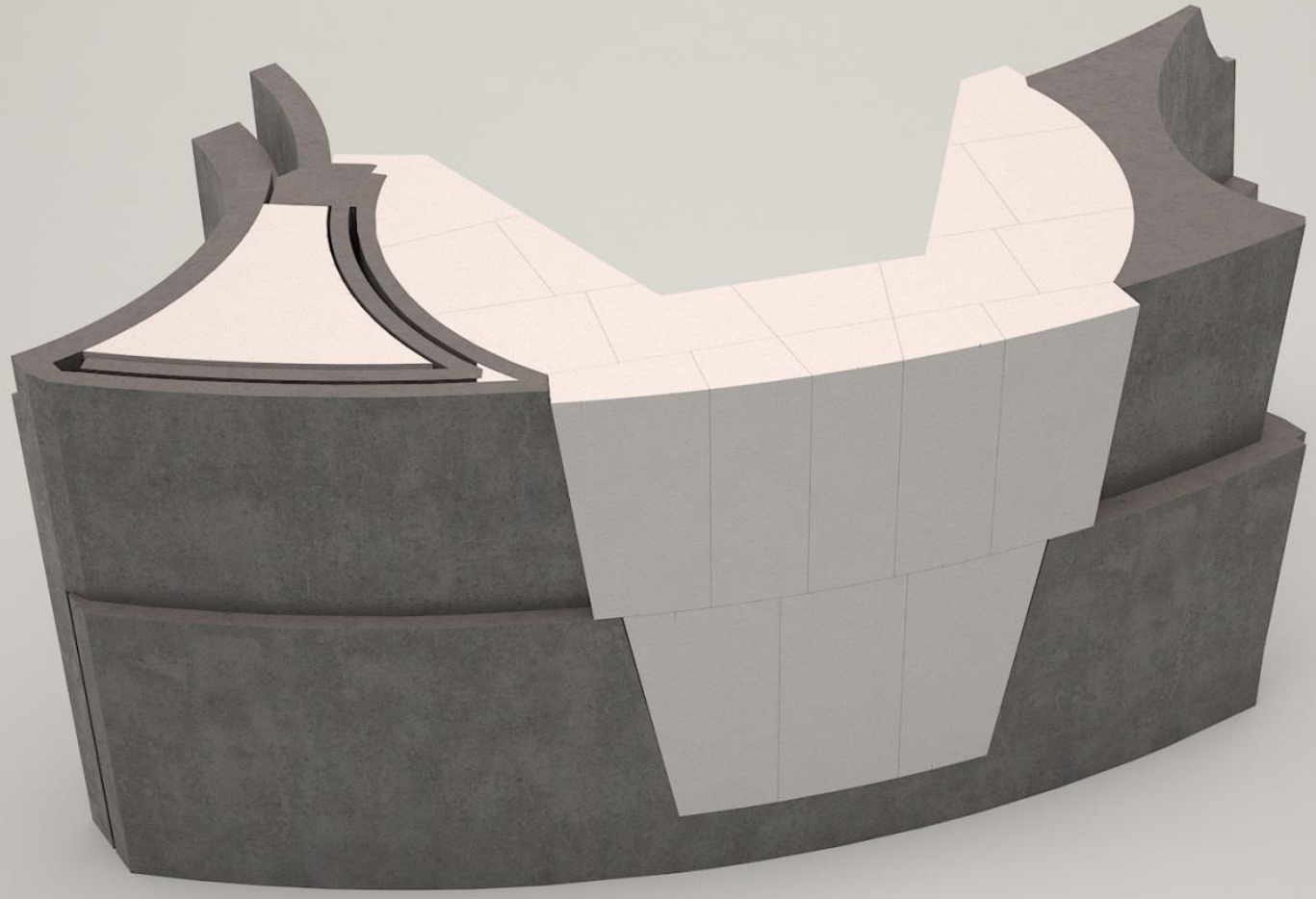
Nordhavn Picnic: Copenhagen, Denmark.
Design: Sleth Architects A/S
Formwork production: Odico.

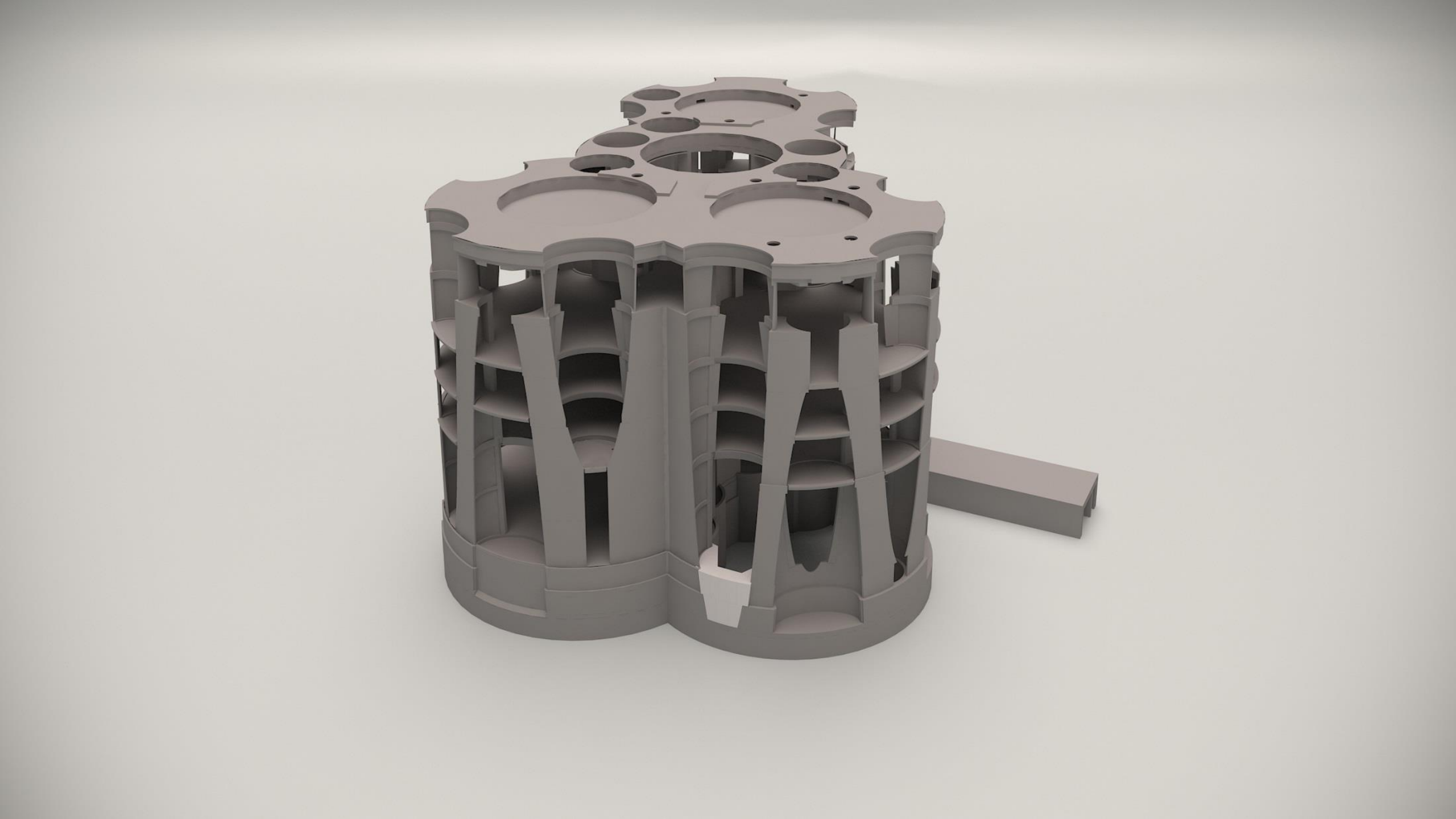


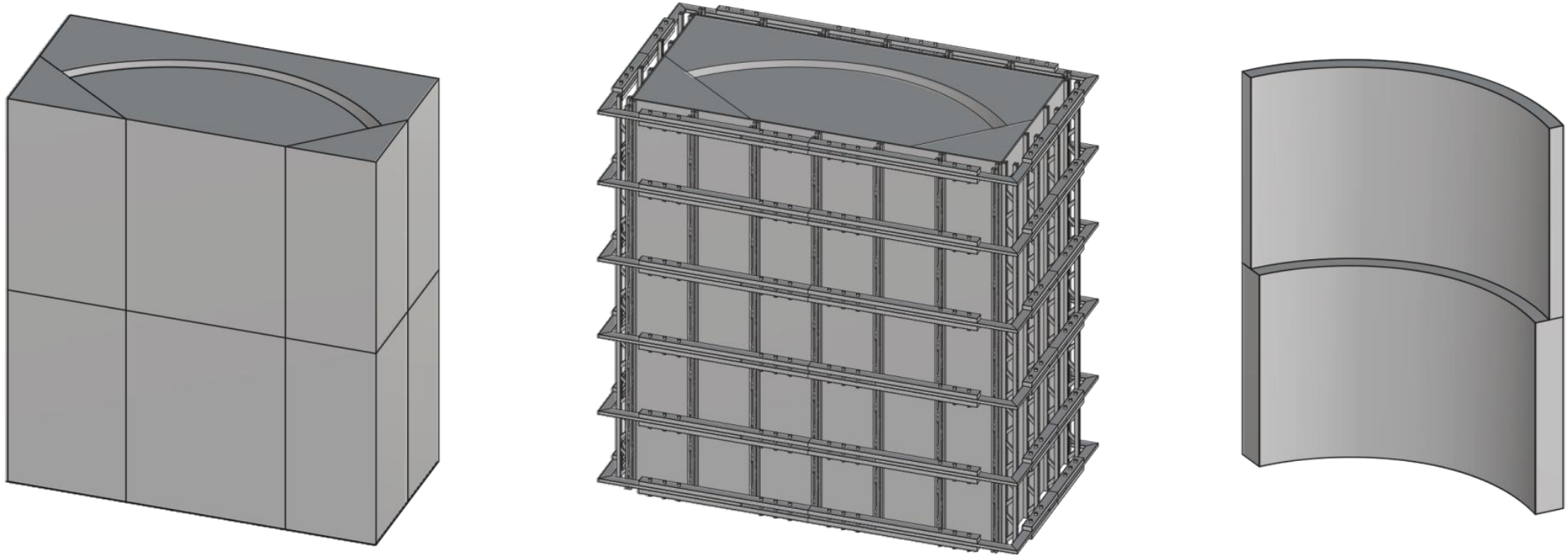
Sonnesgade 11, Office Complex: Aarhus, Denmark.
Design: Sleth Architects
Formwork production: Odico.
Image: © Rasmus Hjortshøj, COAST

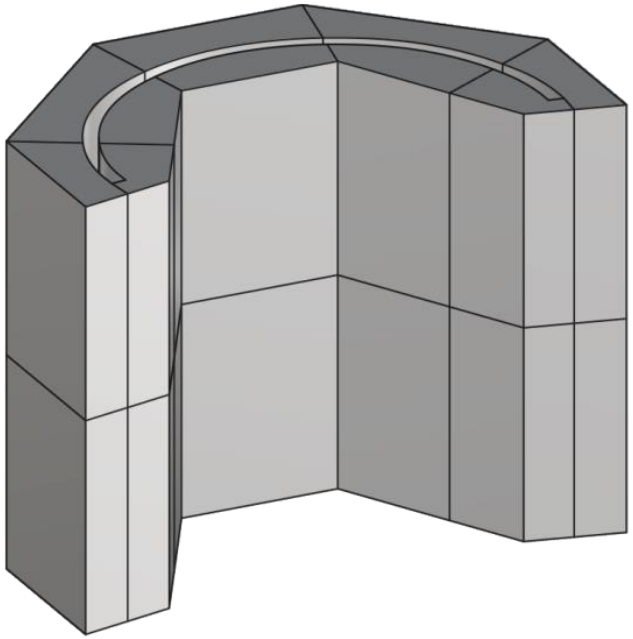
Kirk Kapital Headquarters: Vejle Denmark.
Design: Studio Olafur Eliasson
Robotic formwork production: Odico.

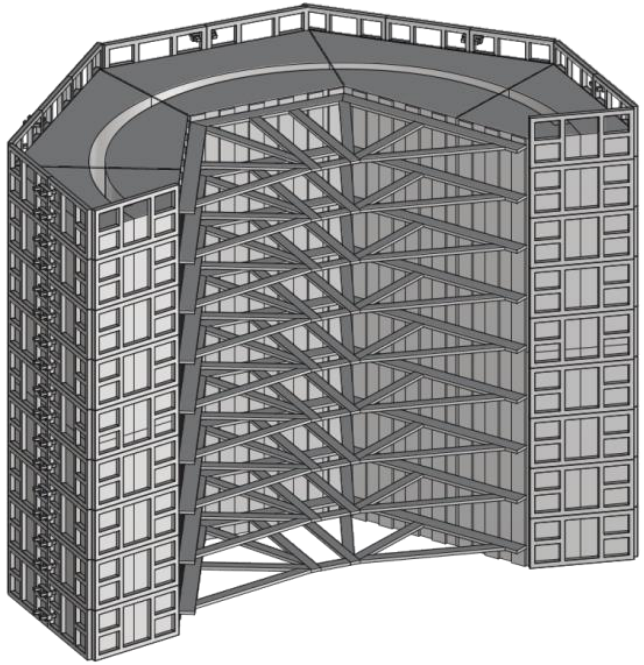

JORTON
JORTON

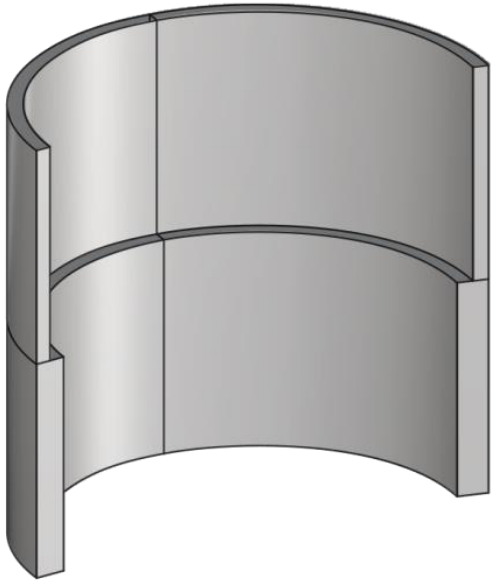


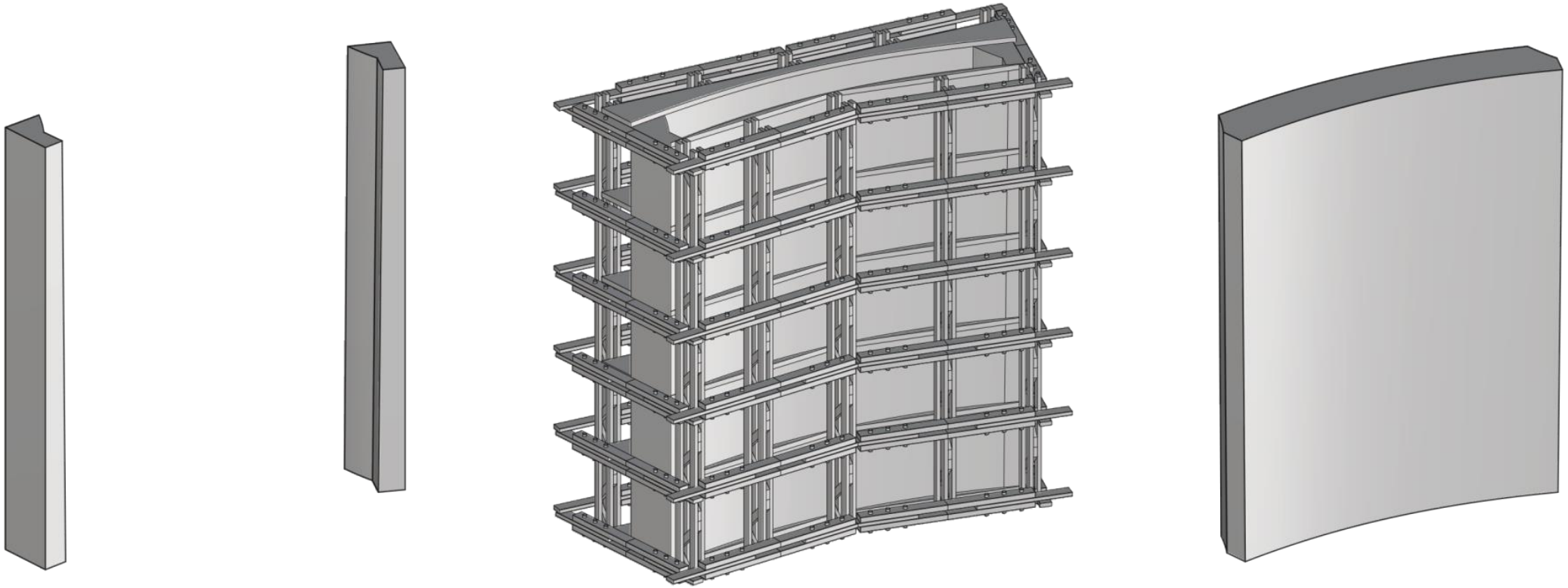


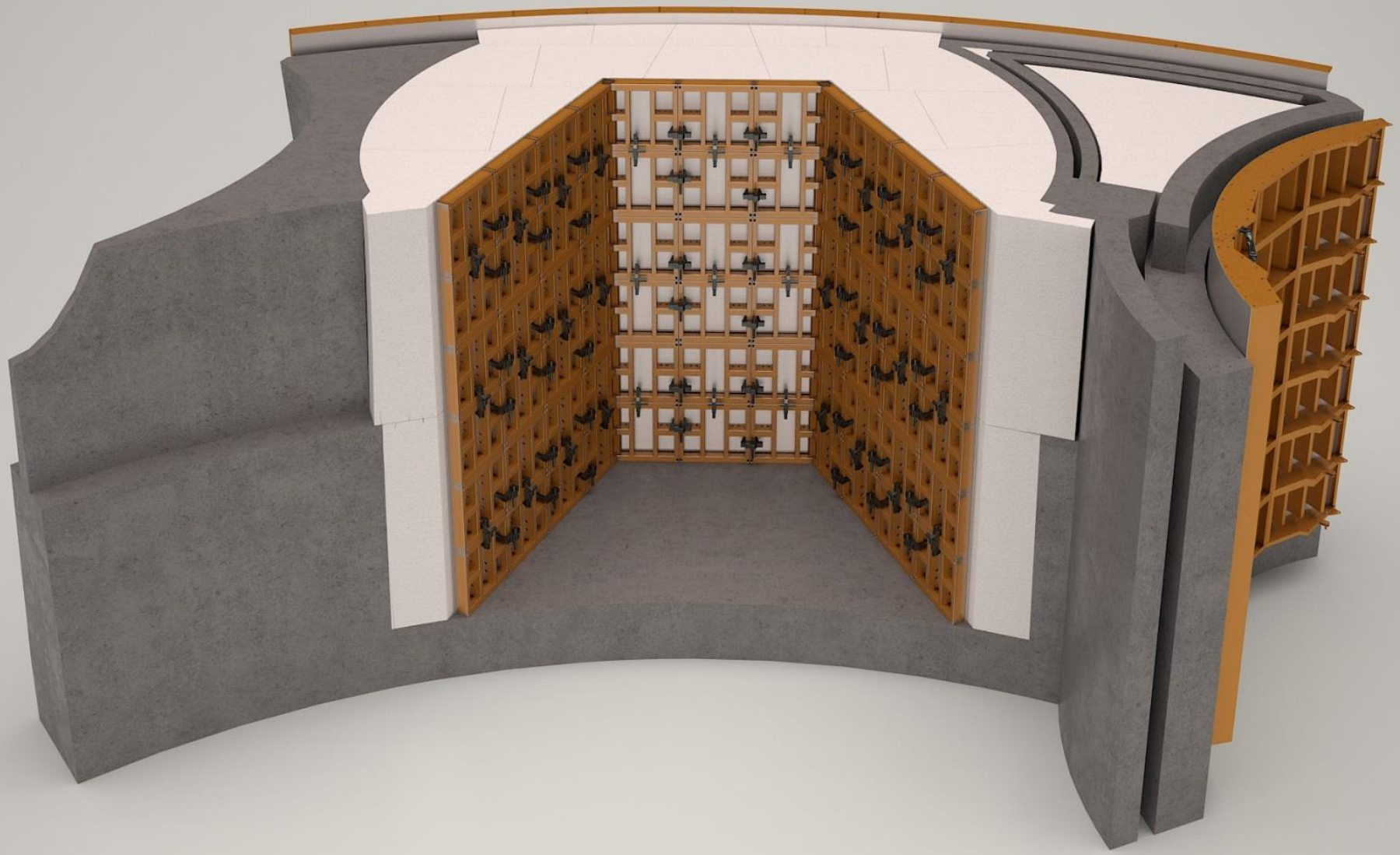


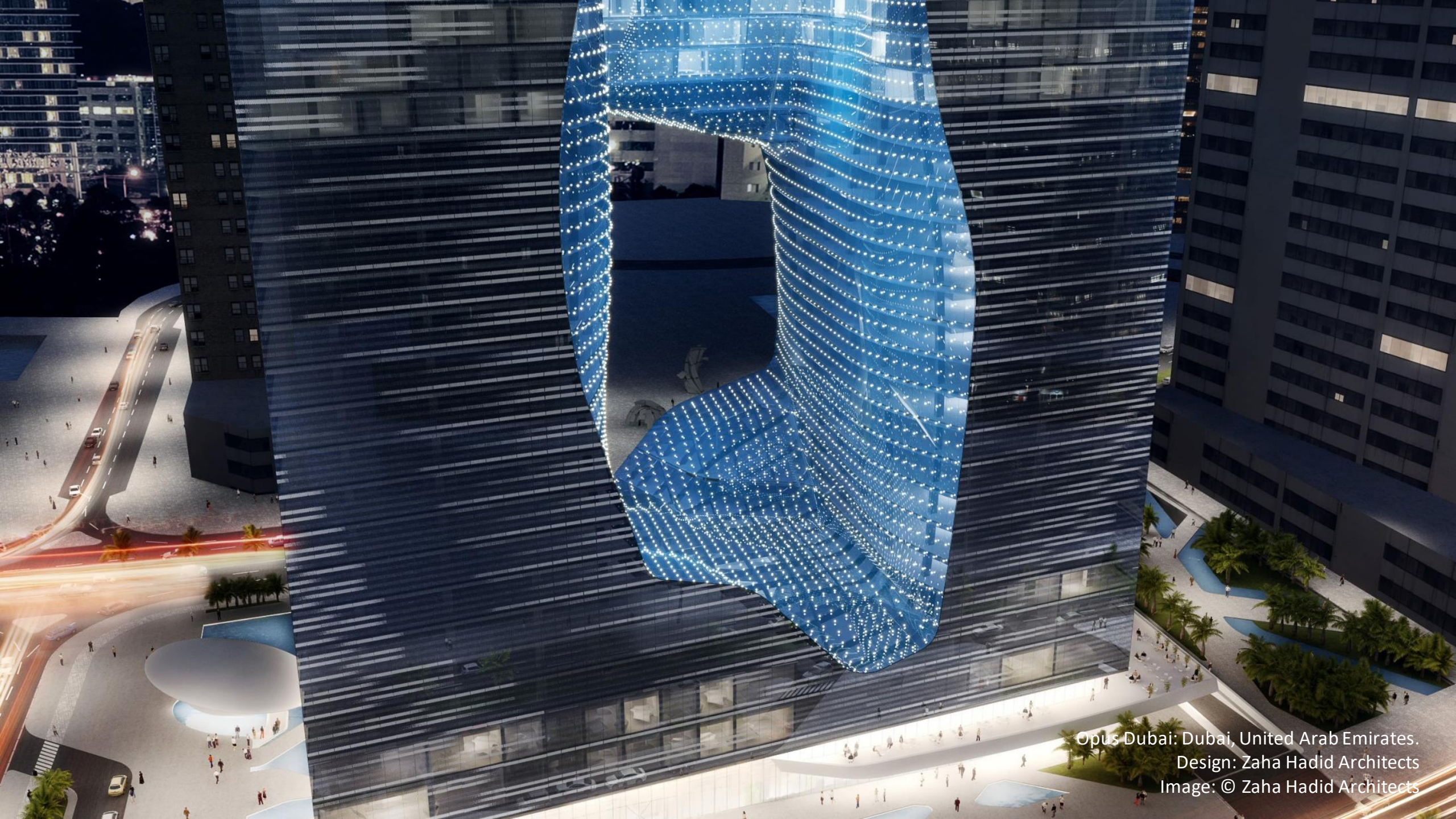






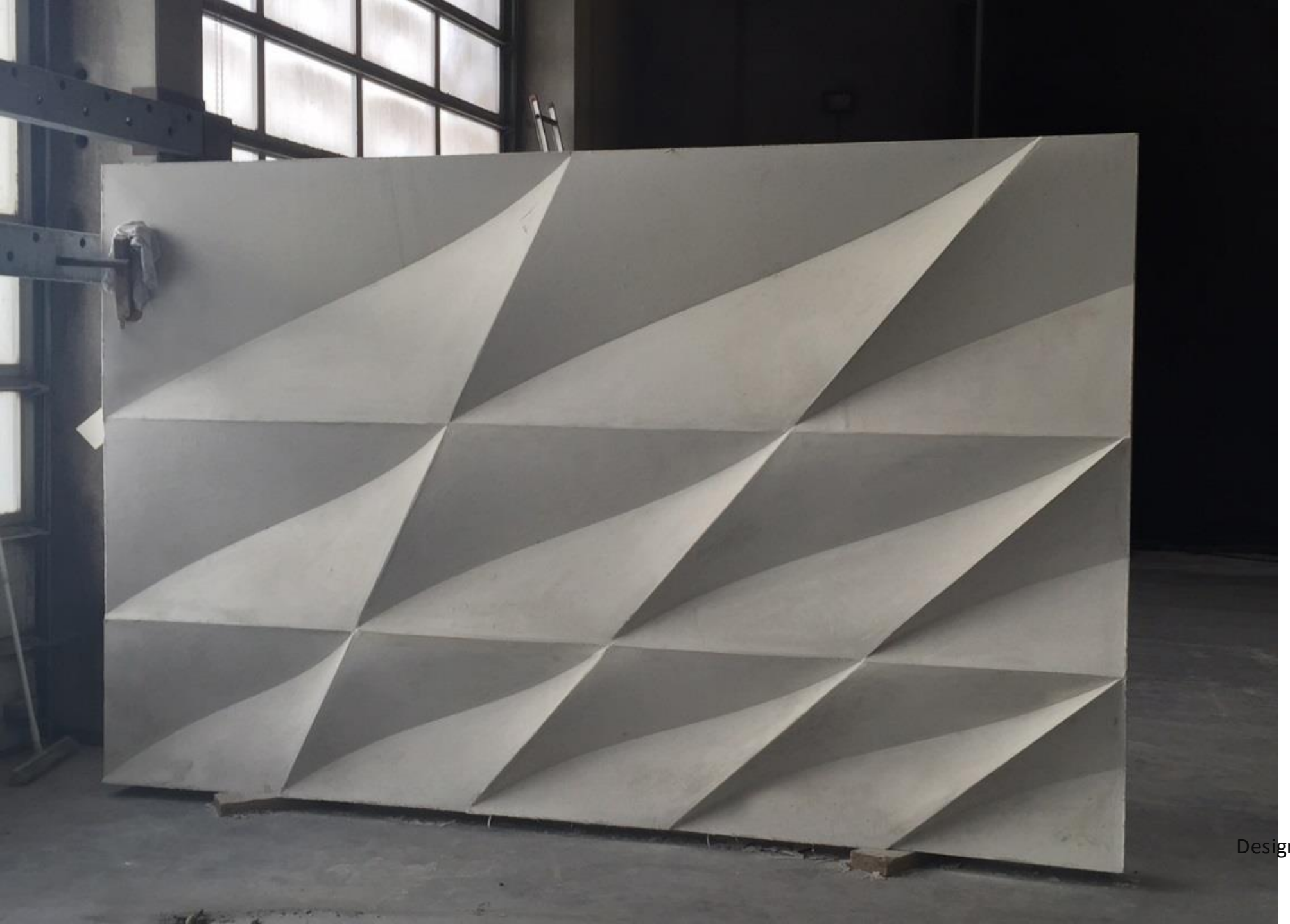






Opus Dubai: Dubai, United Arab Emirates.
Design: Zaha Hadid Architects
Image: © Zaha Hadid Architects

Opus Dubai: Dubai, United Arab Emirates.
Design: Zaha Hadid Architects
Image: © Koltay Facades



BladeRunner Prototype Panel
Design: 3XN Architects / GXN Innovation
Formwork production: Odico

Science Museum Winton Gallery of Mathematics: London, United Kingdom.
Design: Zaha Hadid Computation and Design Group
Robotic formwork production: Odico.
Image © Luke Hayes

Science Museum Winton Gallery of Mathematics: London, United Kingdom.
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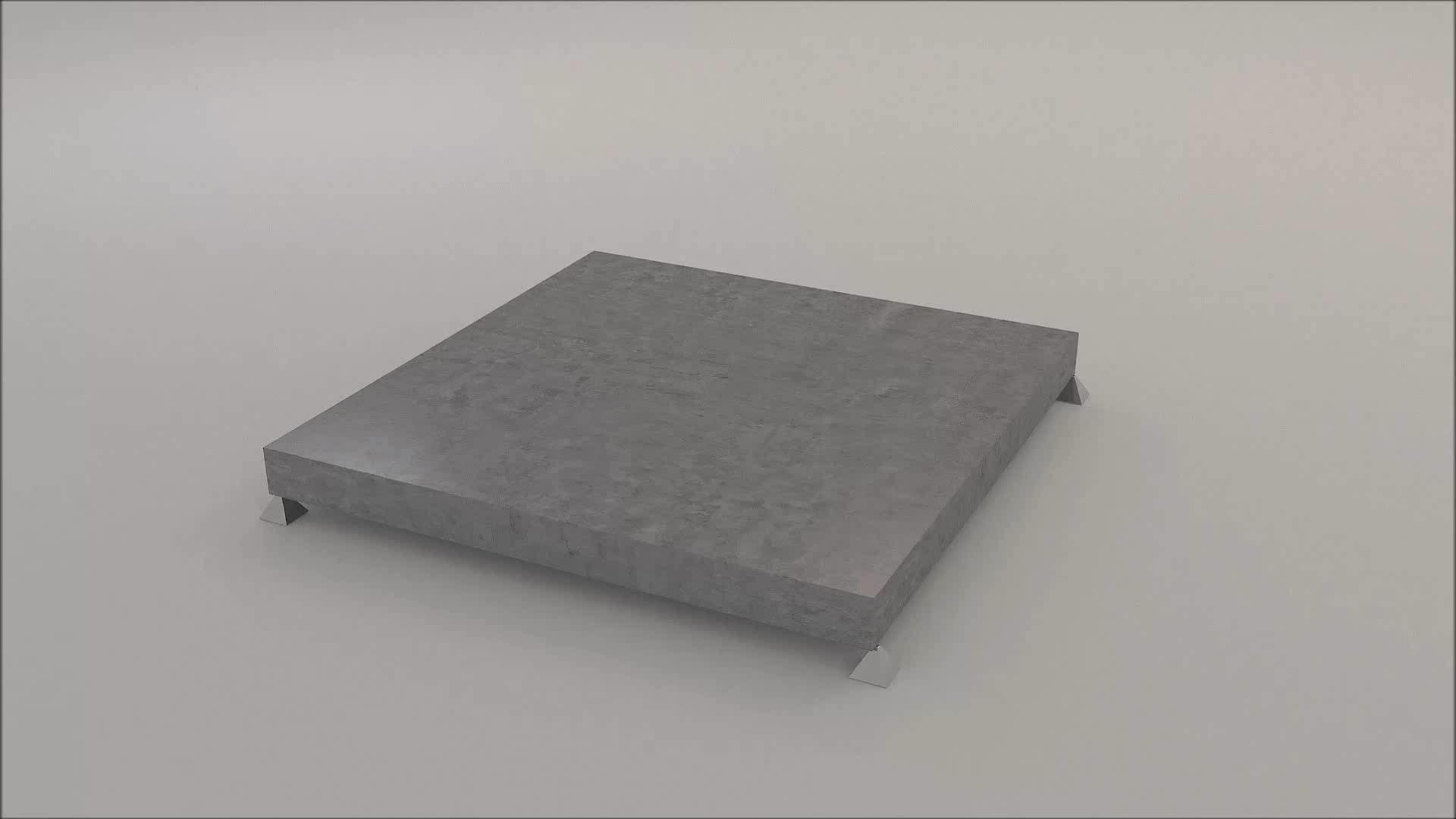
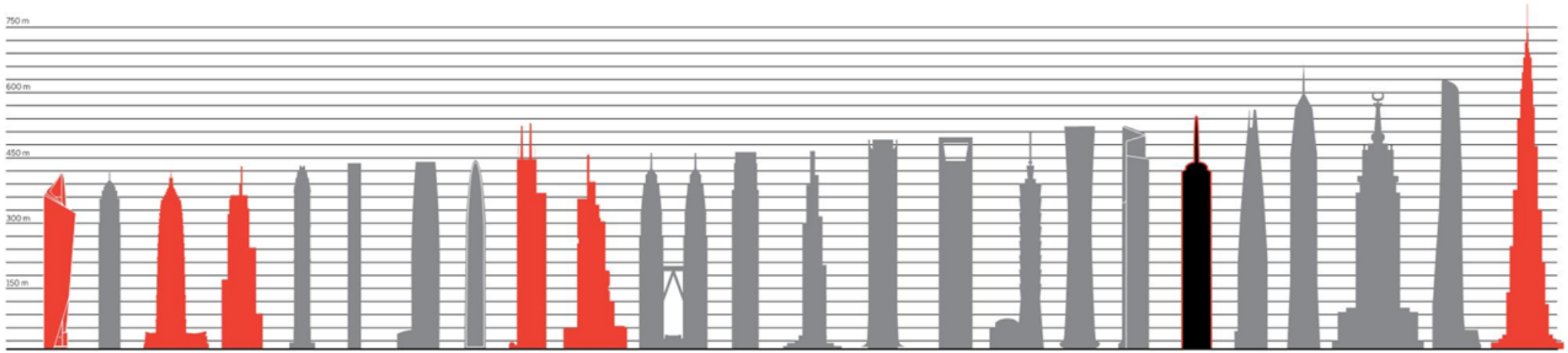
Robotic formwork production: Odico.
Image © Luke Hayes





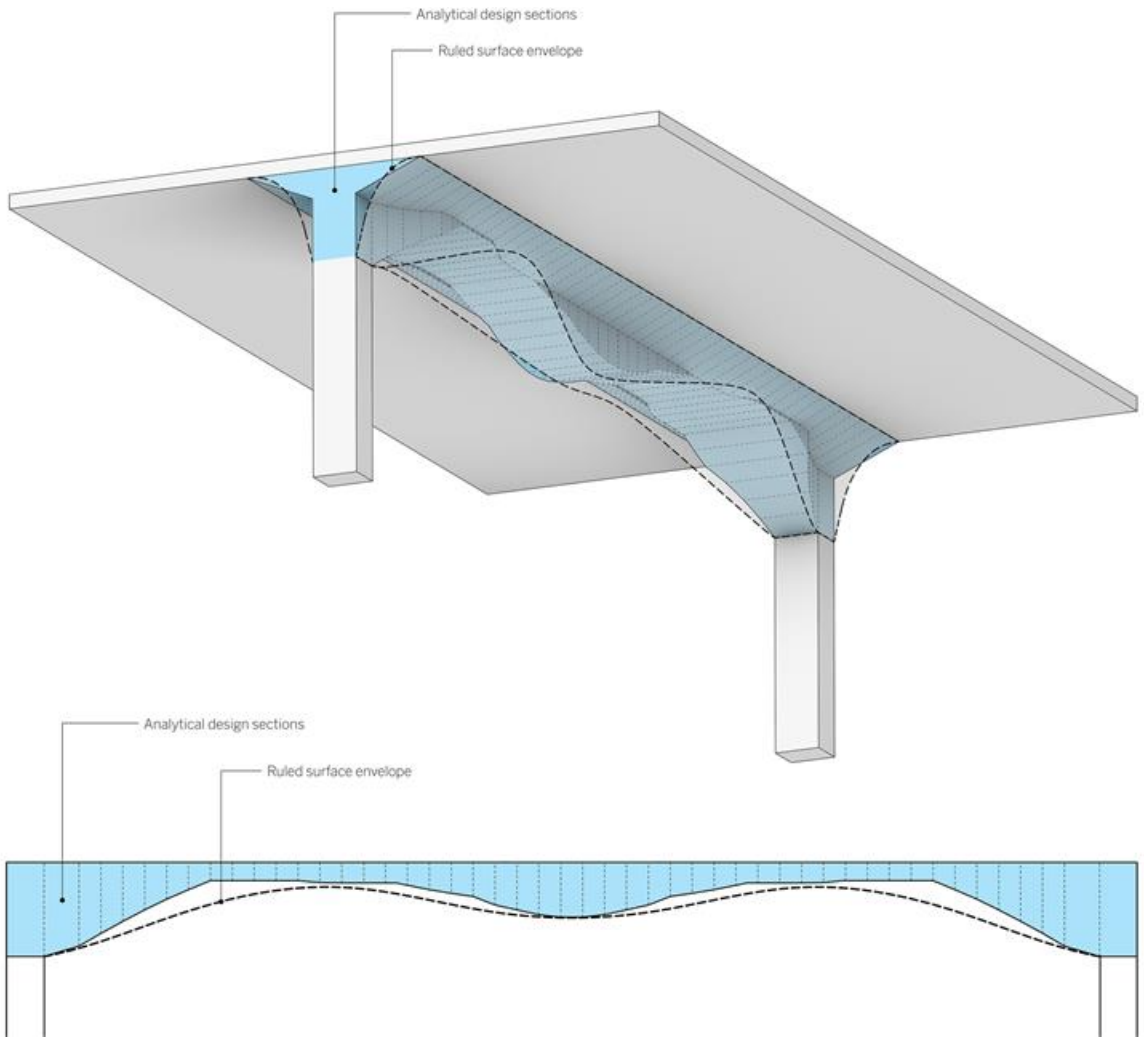
	AL HAMRA TOWER	PRINCESS TOWER	JIN MAO BUILDING	TRUMP INT'L. HOTEL & TOWER	MARIANA 101	432 PARK AVENUE	GUANGZHOU INT'L. FINANCE CENTER	KK 100	WILLIS TOWER	ZIFENG TOWER	PETRONAS TOWER 1 & 2	CHANGSHA IFS TOWER T1	VINCOM LANDMARK 81	INTERNATIONAL COMMERCE CENTRE	SHANGHAI WORLD FINANCIAL CENTRE	TAIPEI 101	CITIC TOWER	GUANGZHOU CTF FINANCE CENTER	ONE WORLD TRADE CENTER	LOTTE WORLD TOWER	PING AN FINANCE CENTER	MAKKAH ROYAL CLOCK TOWER HOTEL	SHANGHAI TOWER	BURJ KHALIFA
	Kuwait City	Dubai	Shanghai	Chicago	Dubai	New York City	Guangzhou	Shenzhen	Chicago	Nanjing	Kuala Lumpur	Changsha	Ho Chi Minh City	Hong Kong	Shanghai	Taipei	Beijing	Guangzhou	New York City	Seoul	Shenzhen	Mecca	Shanghai	Dubai
	2011	2012	1999	2009	2017	2015	2010	2011	1974	2010	1998	2018	2018	2010	2008	2004	2018	2016	2014	2017	2017	2012	2015	2010
	412.6 M	413.4 M	420.5 M	423.2 M	425 M	425.5 M	438.6 M	441.8 M	*442.1 M	450 M	451.9 M	452.1 M	527.7 M	484 M	492 M	508 M	527.7 M	530 M	541.3 M	556 M	599 M*	601 M	632 M	828 M

* BUILDING HEIGHT DOES NOT INCLUDE BROADCAST ANTENNAS

- SOM Design & Structural Engineering
- SOM Design Only
- Non SOM

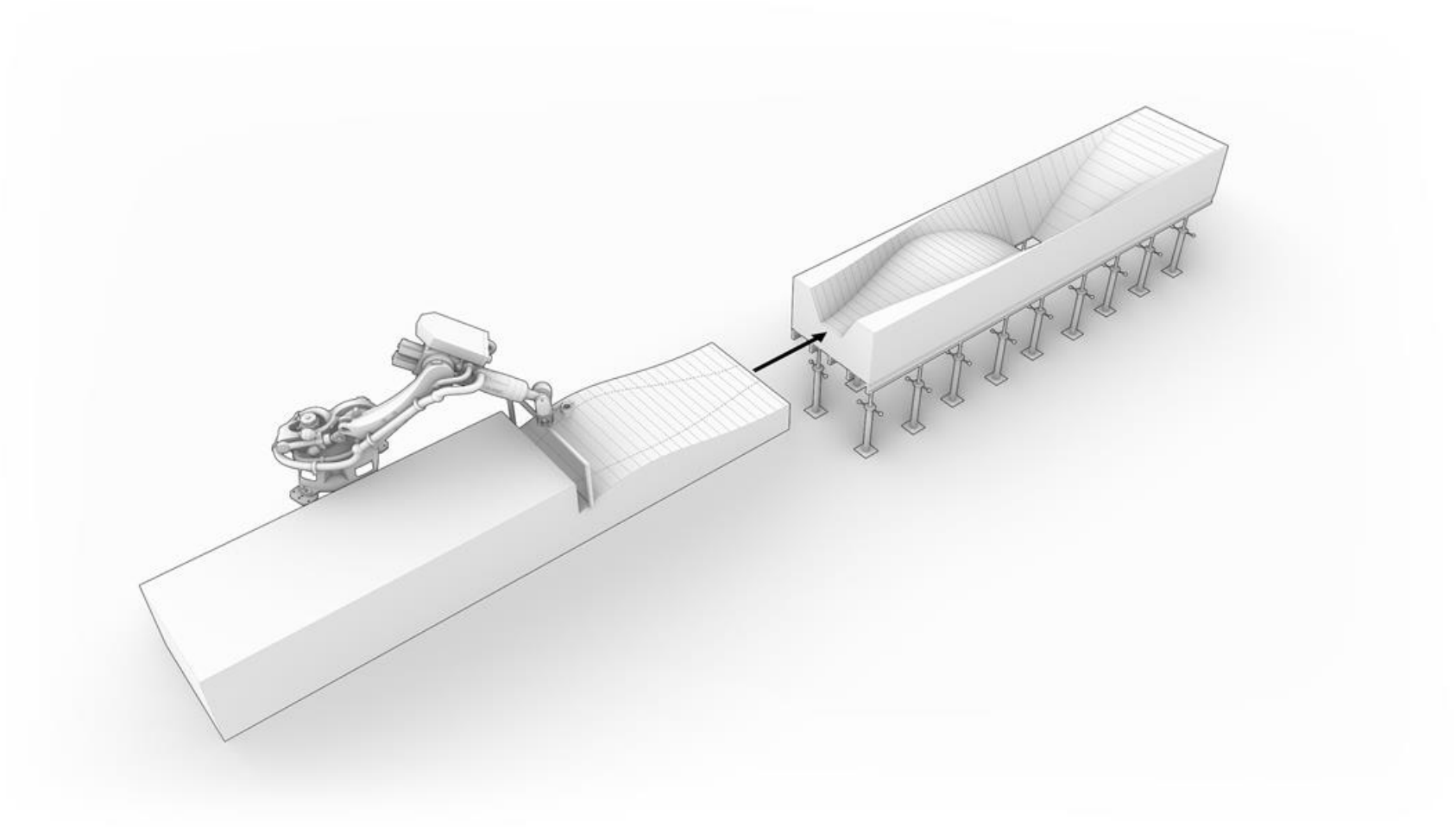
The World's Tallest Buildings

SOM DESIGNED AND ENGINEERED 7 OF THE 25 TALLEST BUILDINGS IN THE WORLD



Optimal Structure vs Optimal Fabrication

SOM + Odico



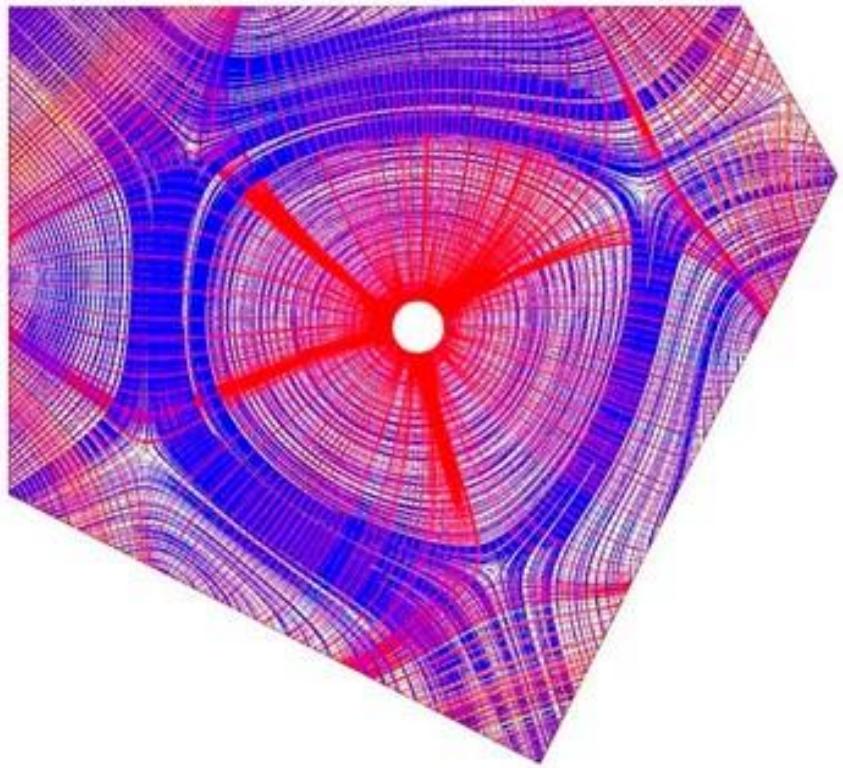
Hot-Wire Fabrication

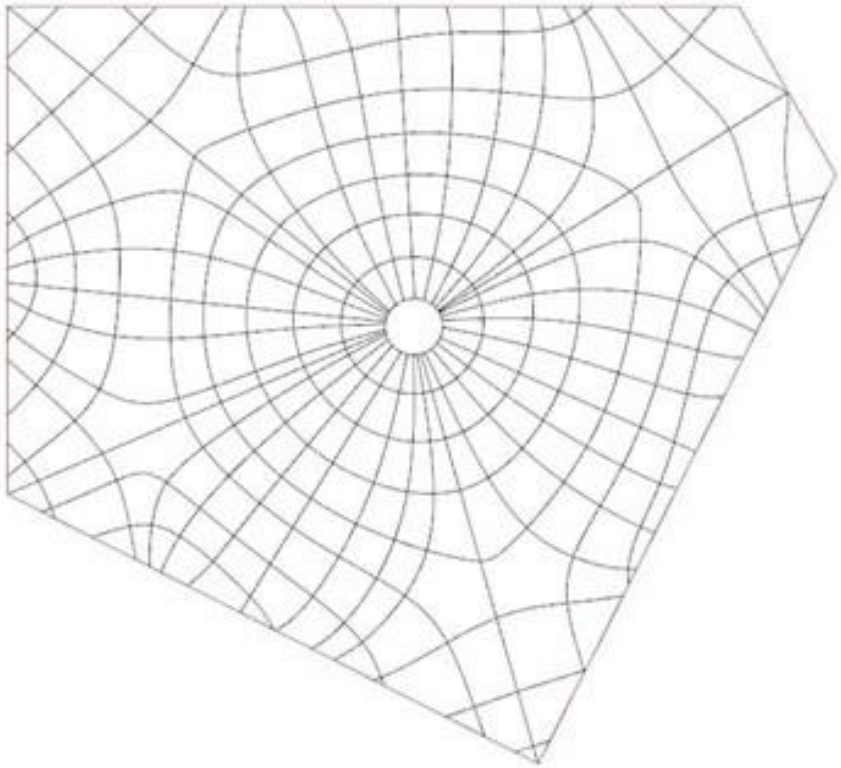
Odico + SOM


THE FEDERAL SAVINGS BANK
CENTRAL

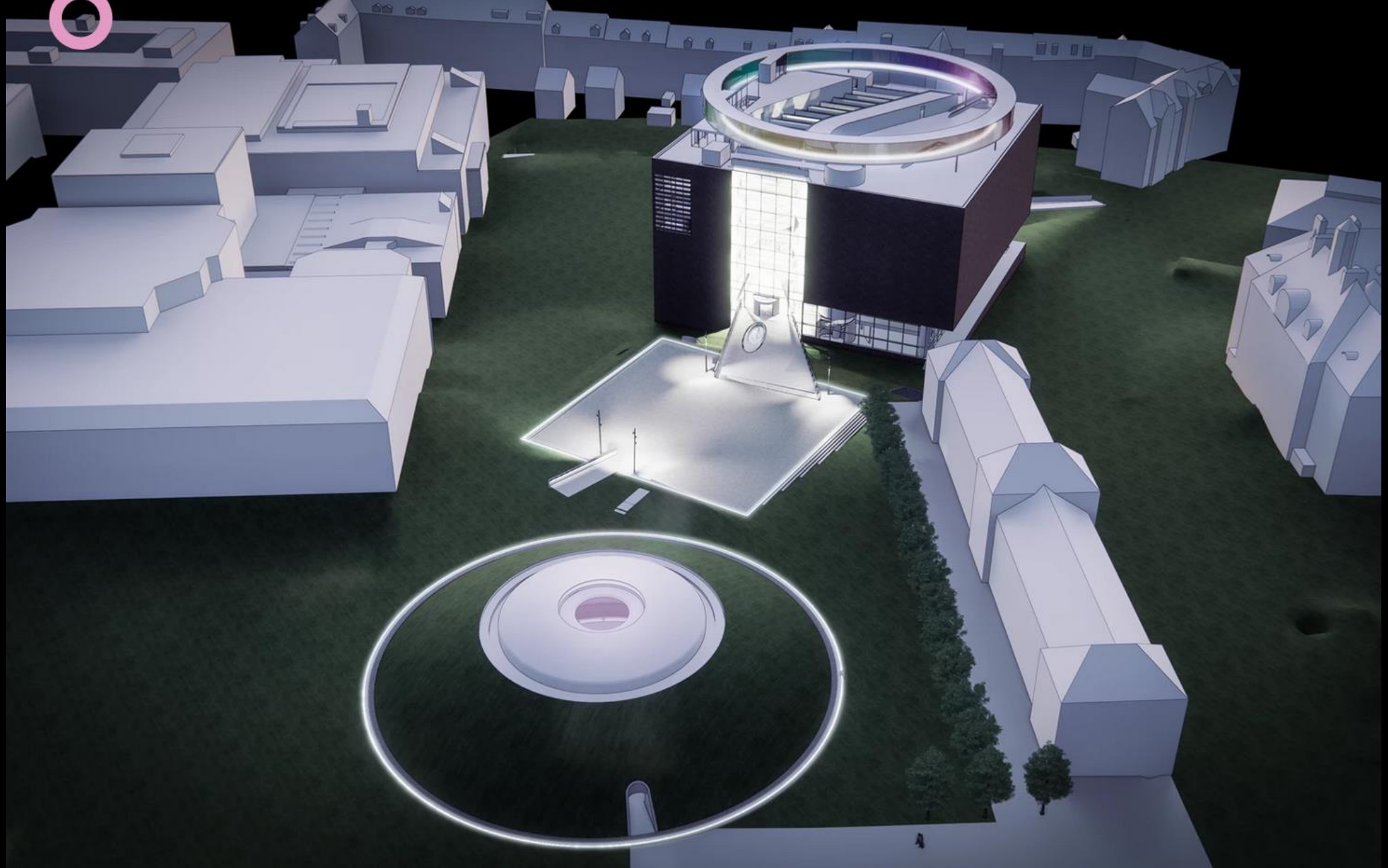

CENTRAL

Stereoform Slab



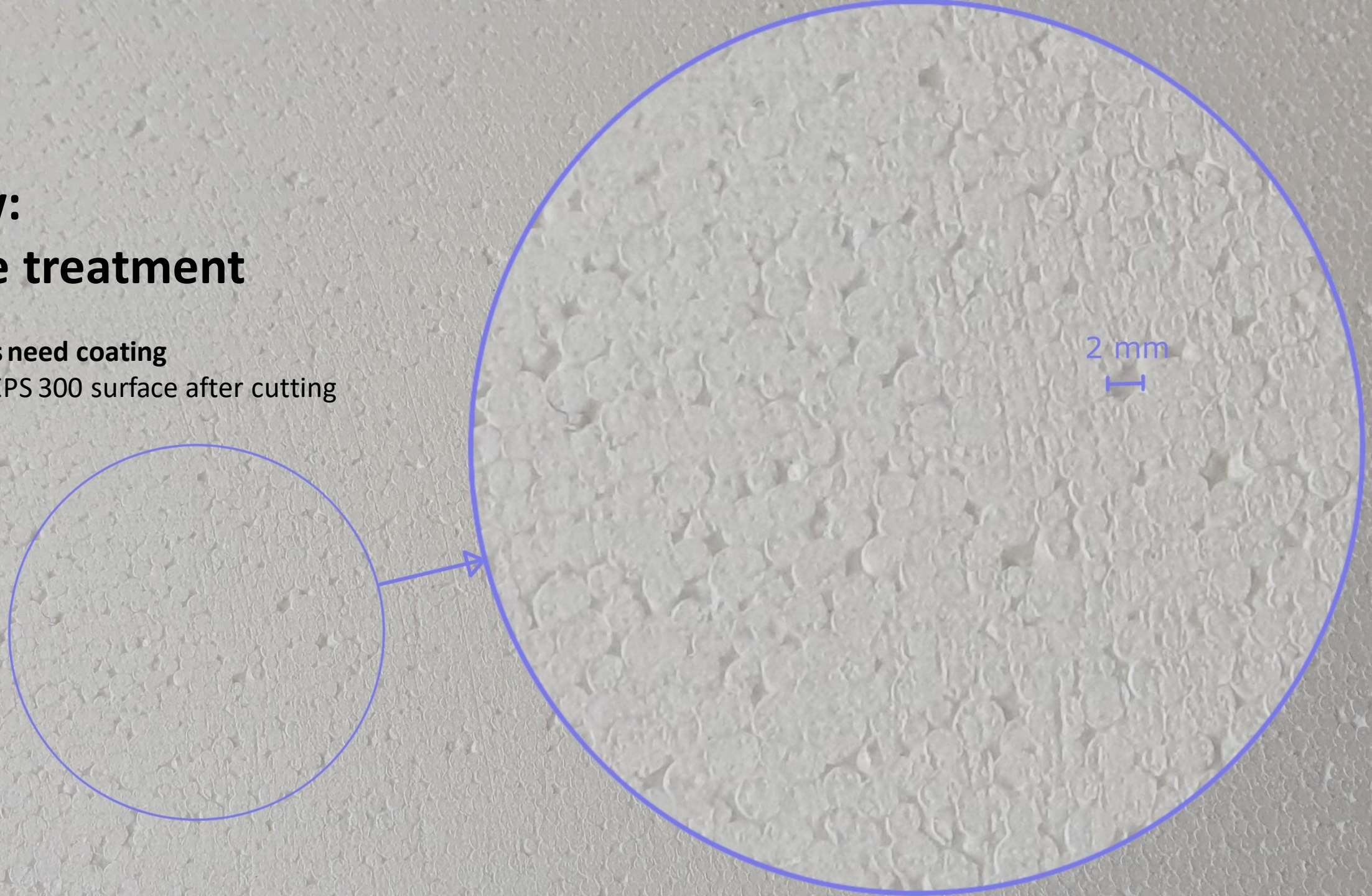



MAX.50 K



Review:
Surface treatment

EPS surfaces need coating
High-grade EPS 300 surface after cutting



Surface treatment

EPS surfaces need coating

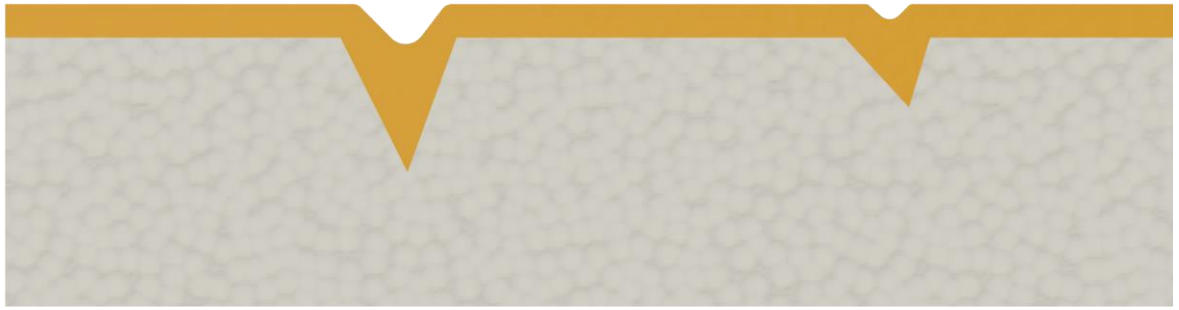
- Staircases are extremely demanding
- EPS surfaces are not durable and smooth due to the porous nature of the material

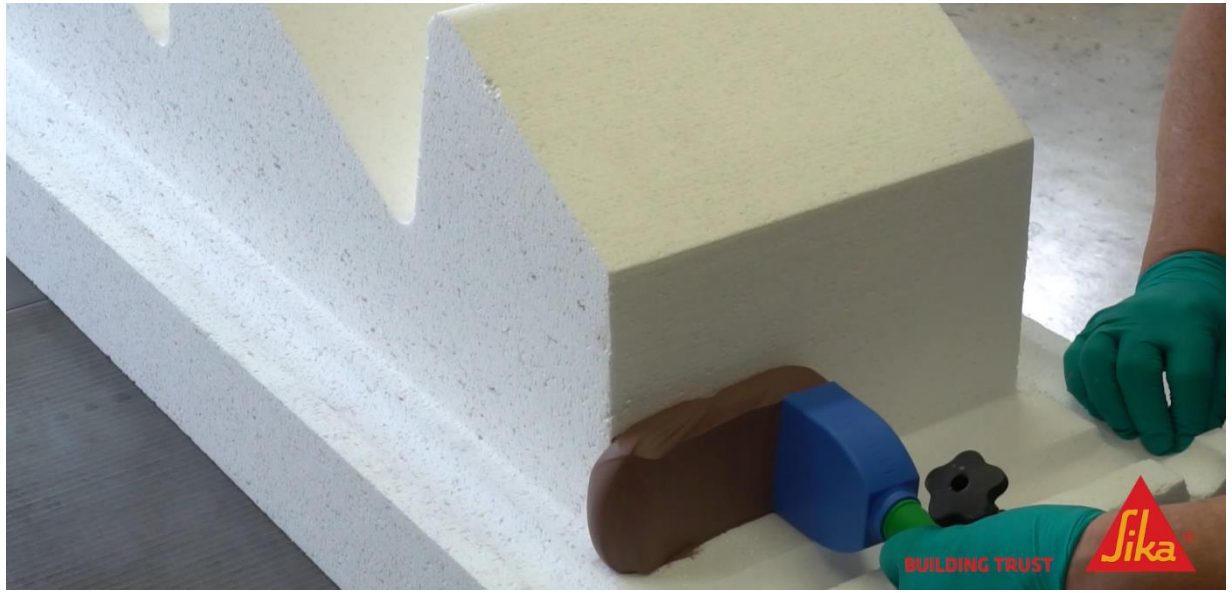
Surface treatment

Spray coating

Wet

Solidified




BUILDING TRUST
Sika


BUILDING TRUST
Sika


BUILDING TRUST
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BUILDING TRUST
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BUILDING TRUST
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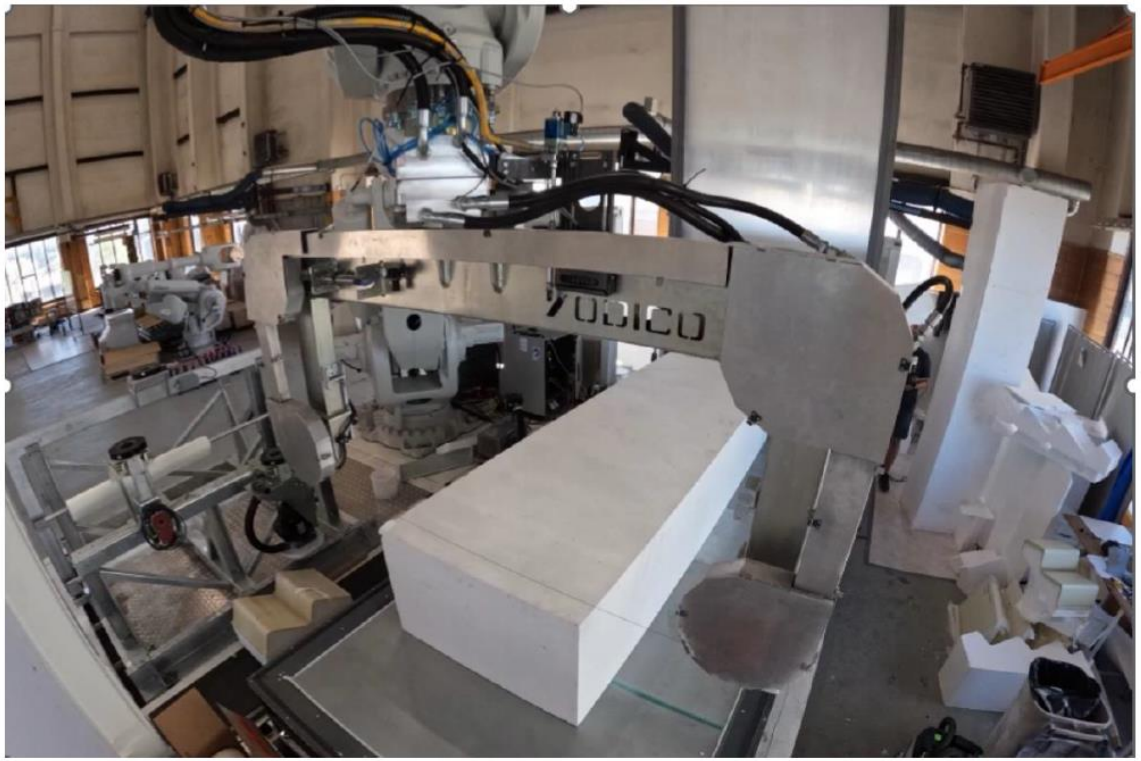
ODICO
CONSTRUCTION ROBOTICS

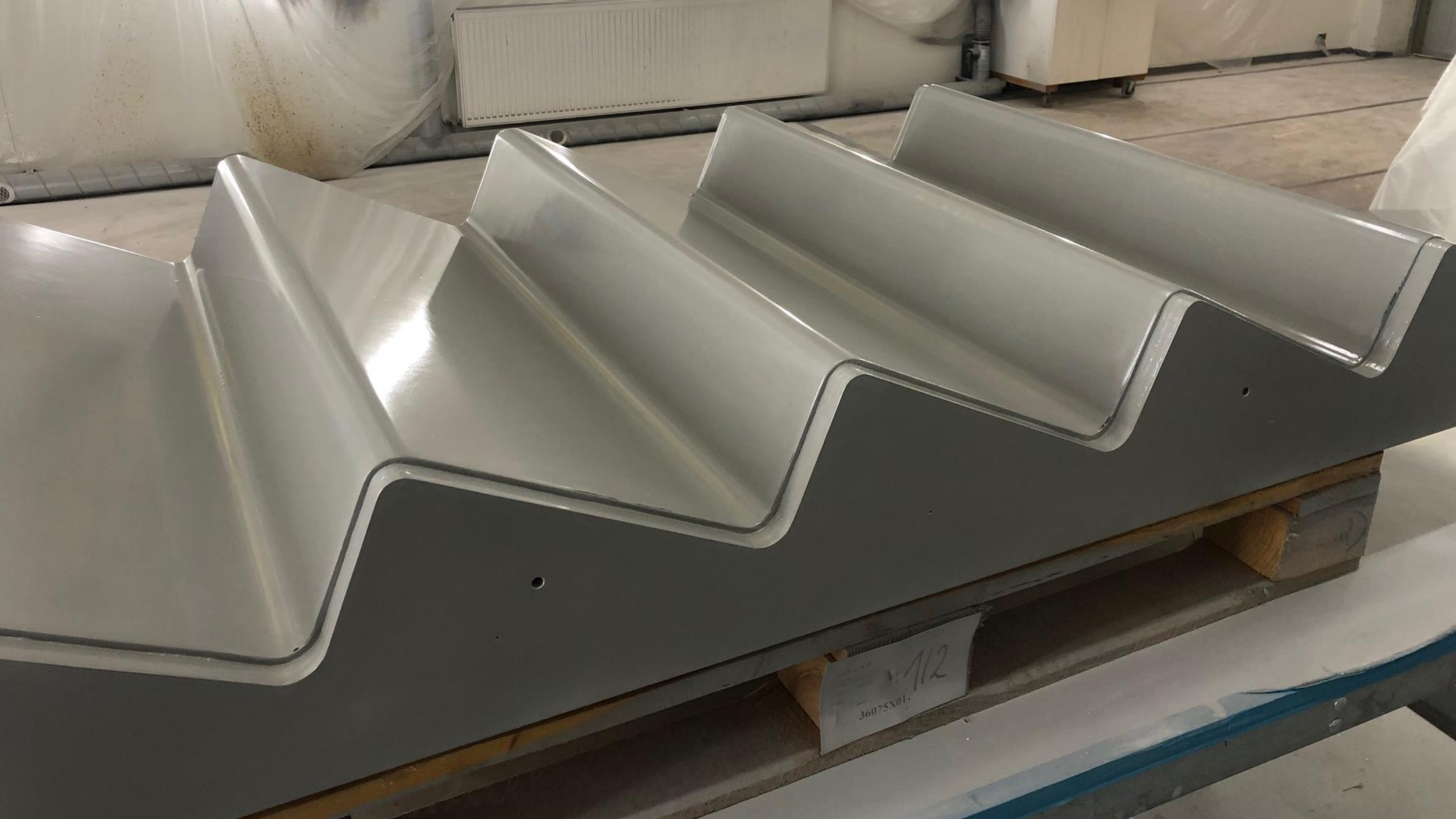
Example

SmartStair

Traditional wood form work



SmartStair – robotic / digital form work system
https://www.youtube.com/watch?v=Phc4wleYYJM


112
36075N01.

Maker

Aditi Chauhan

Smart Stair

Smart Stair is designed to make it easy to customize brick arch templates for use in renovation, or establishing new brickwork construction.

Configure >