



Connected BIM

How technology is changing our industry

Thomas Gregersen

Sr. Technical Sales Specialist, Northern Europe





Introduction





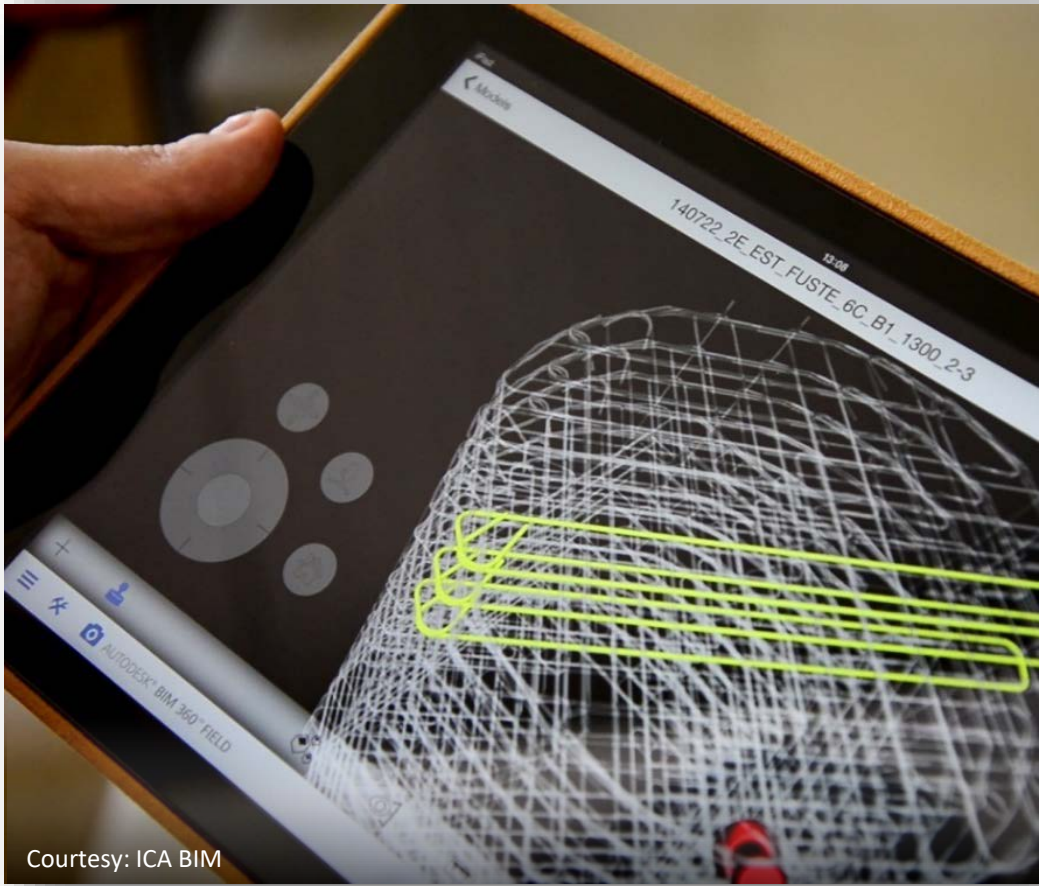


Ingenting gjør

Ingeniør



THE FUTURE OF MAKING THINGS




Courtesy: ICA BIM



Courtesy: Erik Mårtensson/NCC



Courtesy MX3D

The background is an aerial photograph of a city, showing various buildings, streets, and green spaces. Overlaid on this is a large, semi-transparent circular graphic. The circle is divided into three segments by a grey band. The top segment is labeled 'DESIGN', the bottom segment is labeled 'BUILD', and the left segment is labeled 'OPERATE'. In the center of the circle, the text 'Building Information Modeling' is written in a large, white, sans-serif font. The entire graphic is connected by a network of white lines and dots, suggesting a digital or interconnected theme.

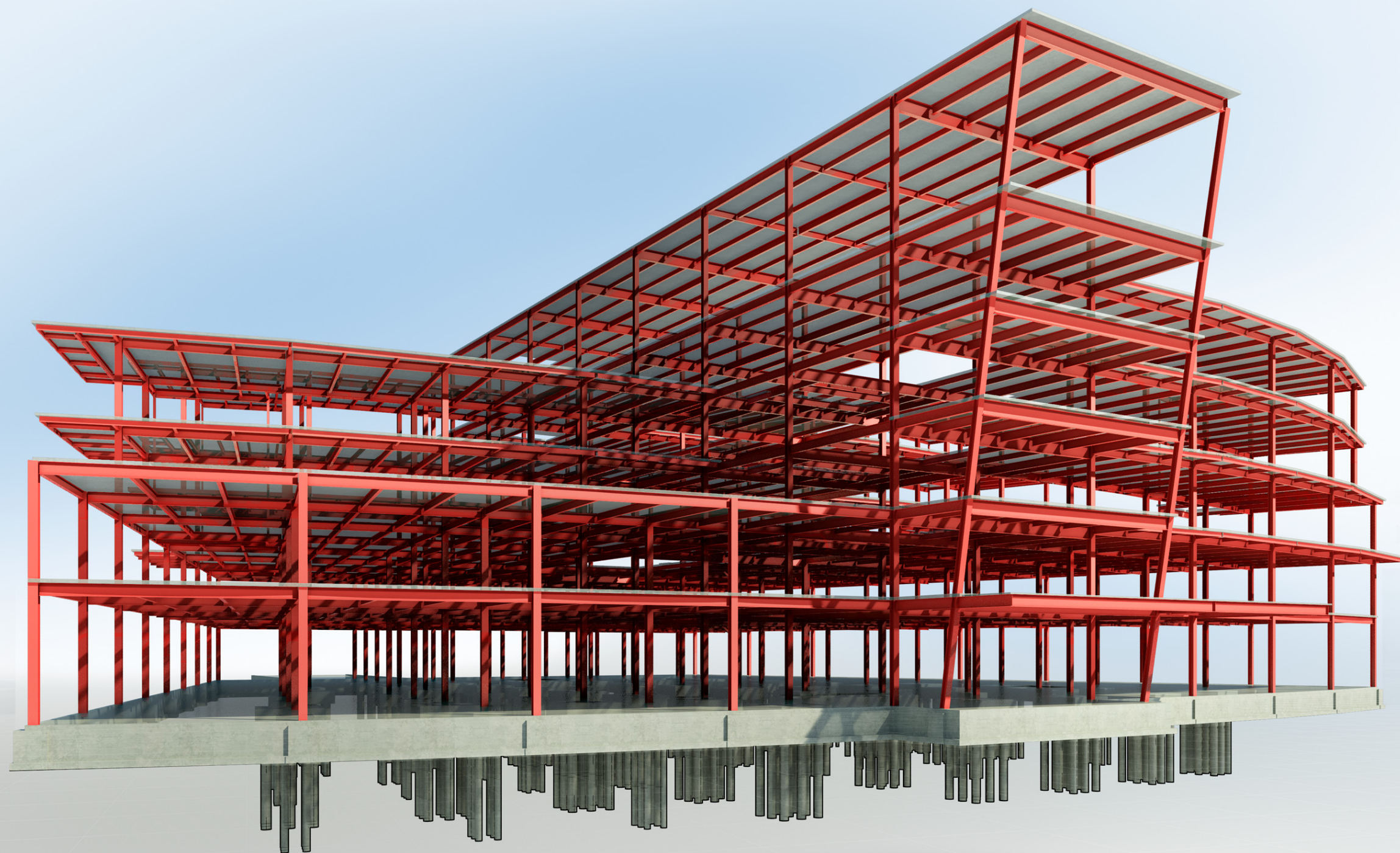
Building Information Modeling

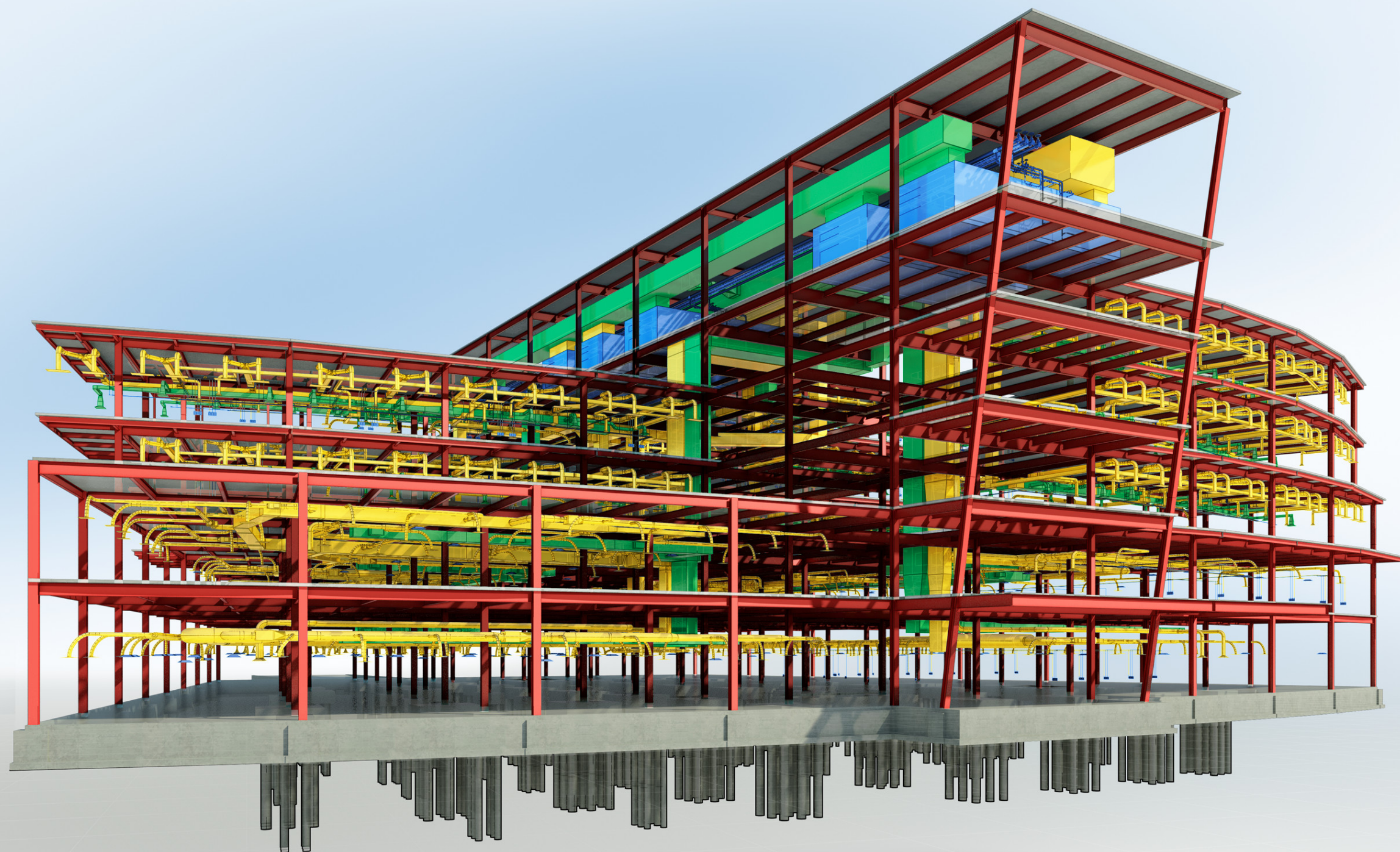
DESIGN

BUILD

OPERATE









Optimization: 2D to BIM & VDC

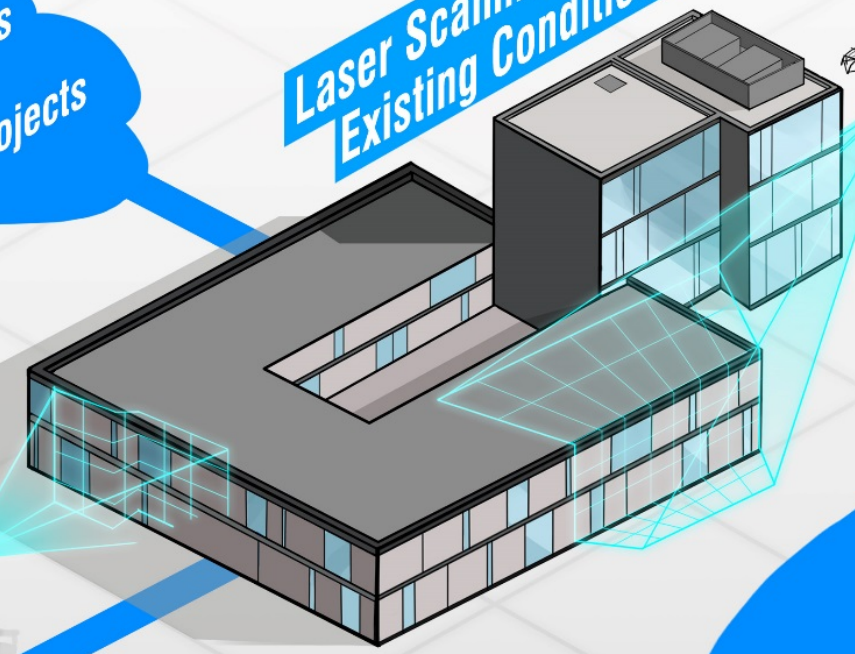




Connected BIM

Data insights collected from previous projects

Laser Scanning Existing Conditions



ARCHITECT

MEP

STRUCTURAL

OPTIMIZATION

AR/VR

SIMULATION

Meets Efficiency Standards

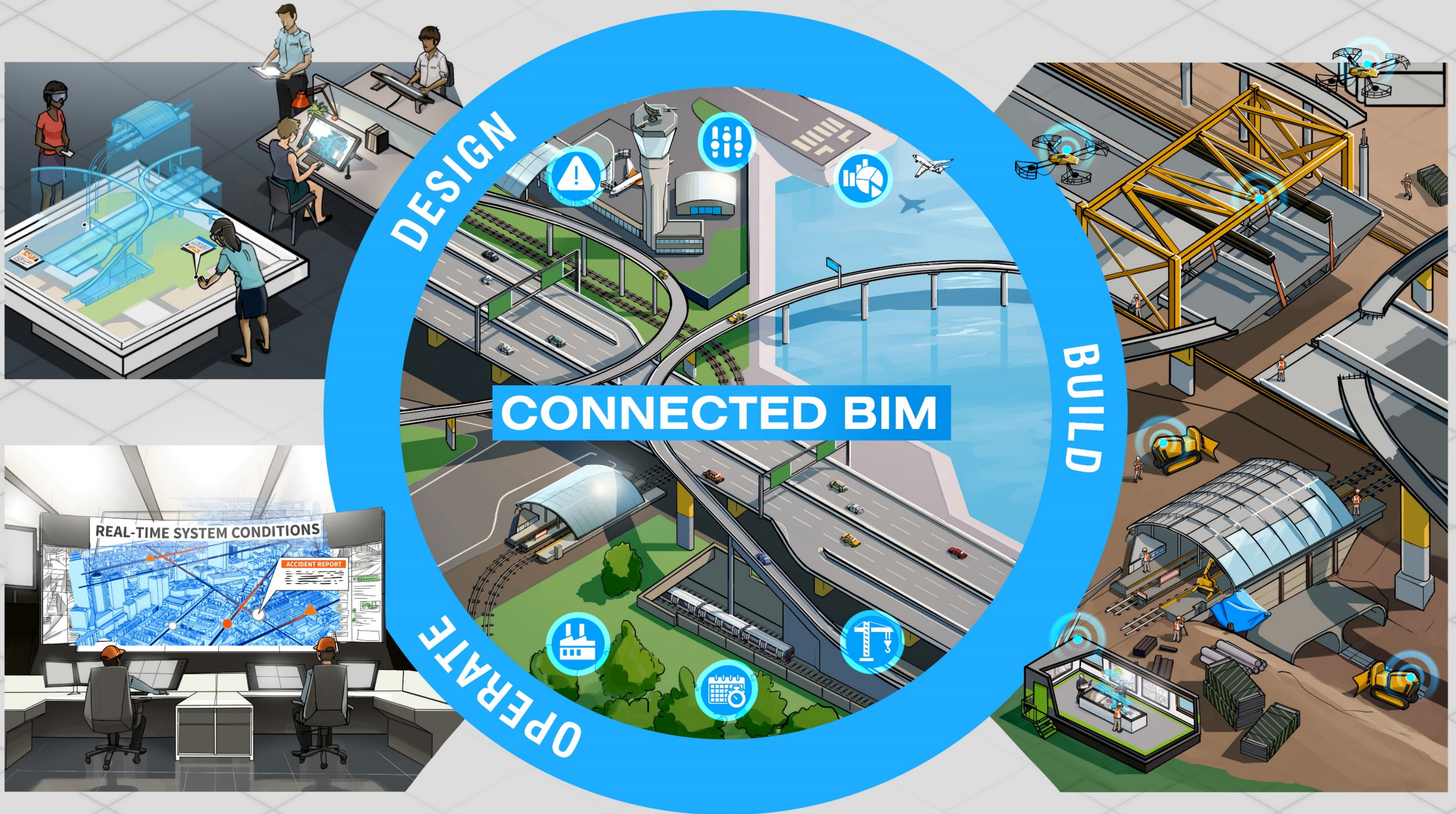
Consolidated Design Assets in the Cloud

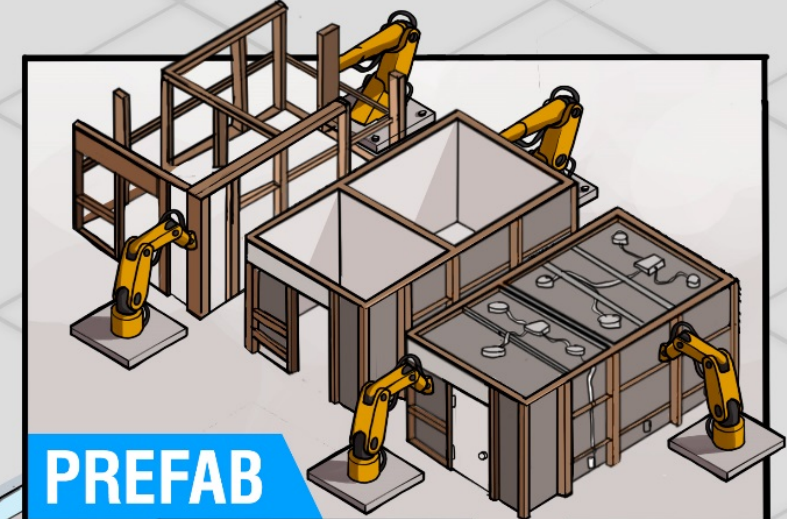
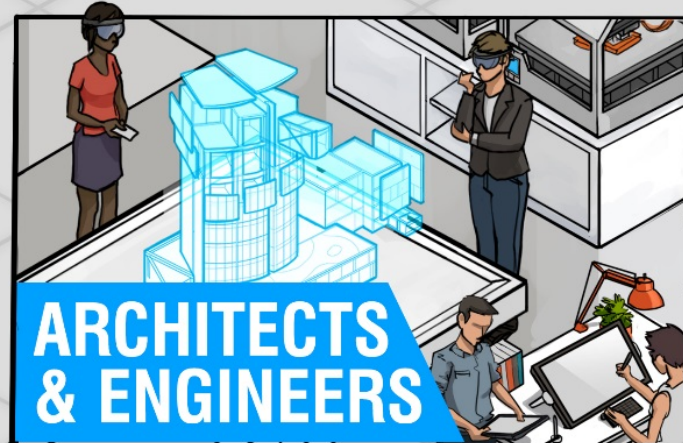
CONNECTED BIM

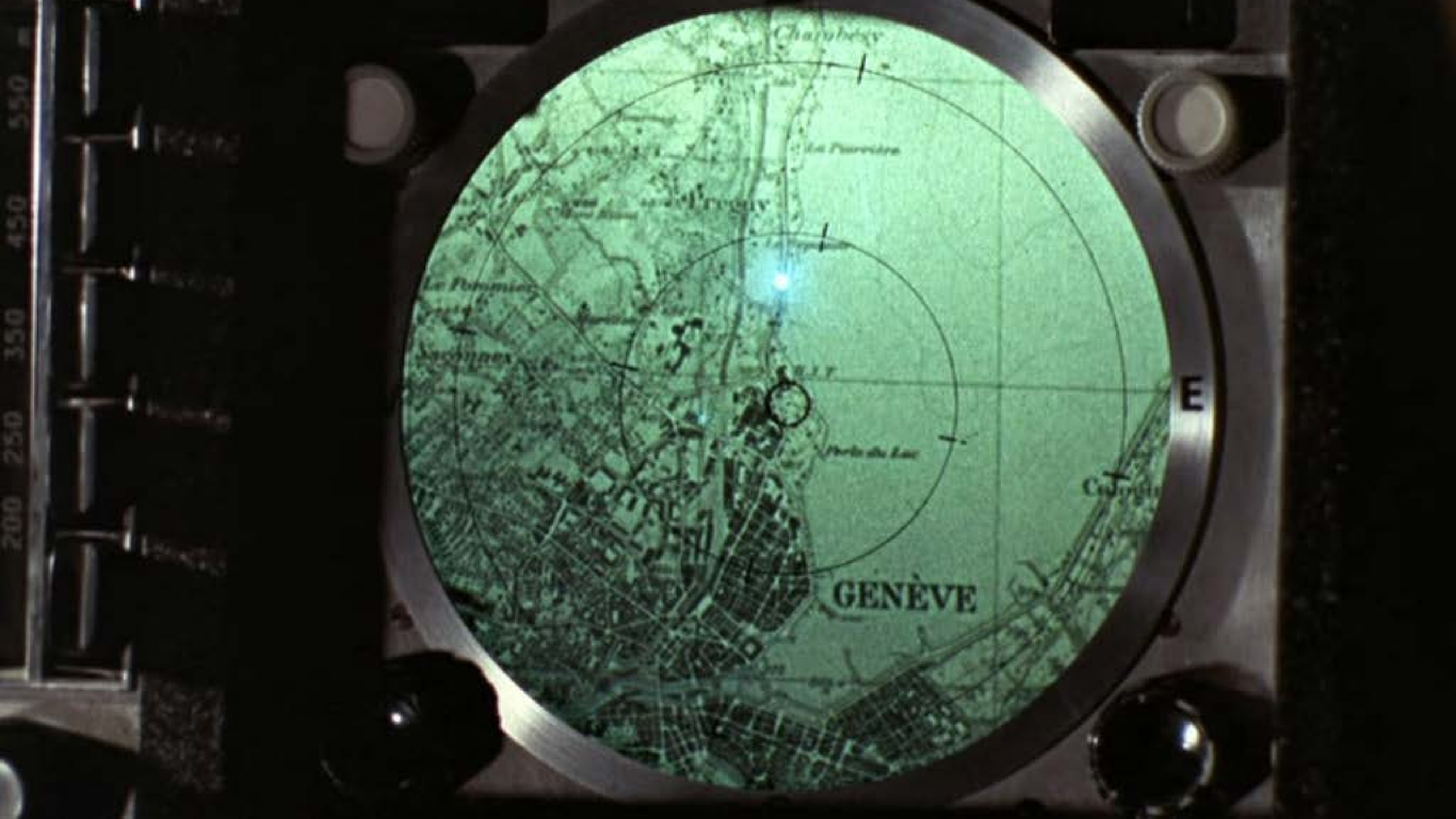
Multi-Team Collaboration

Design to Fabrication

Modular Construction

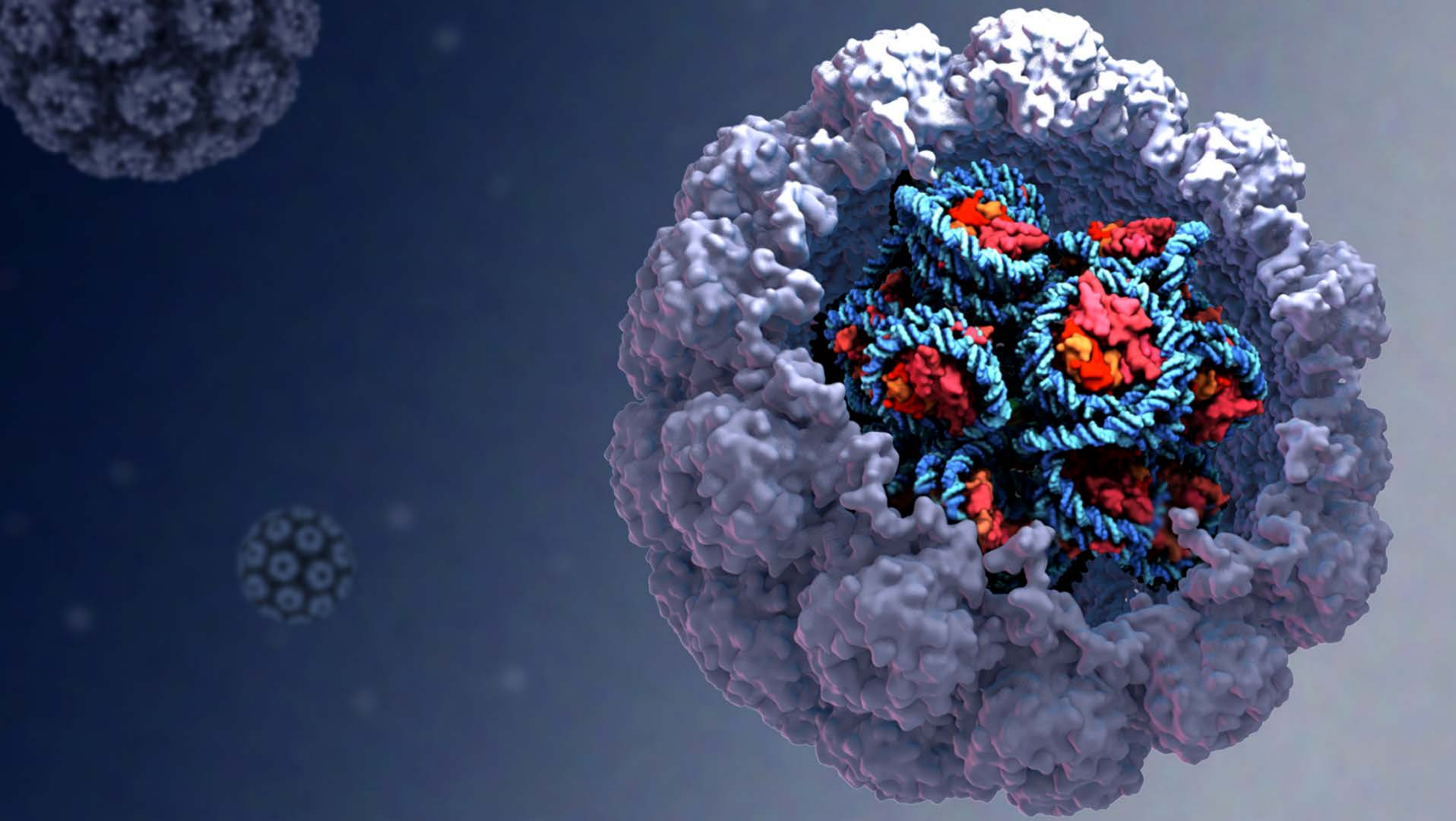


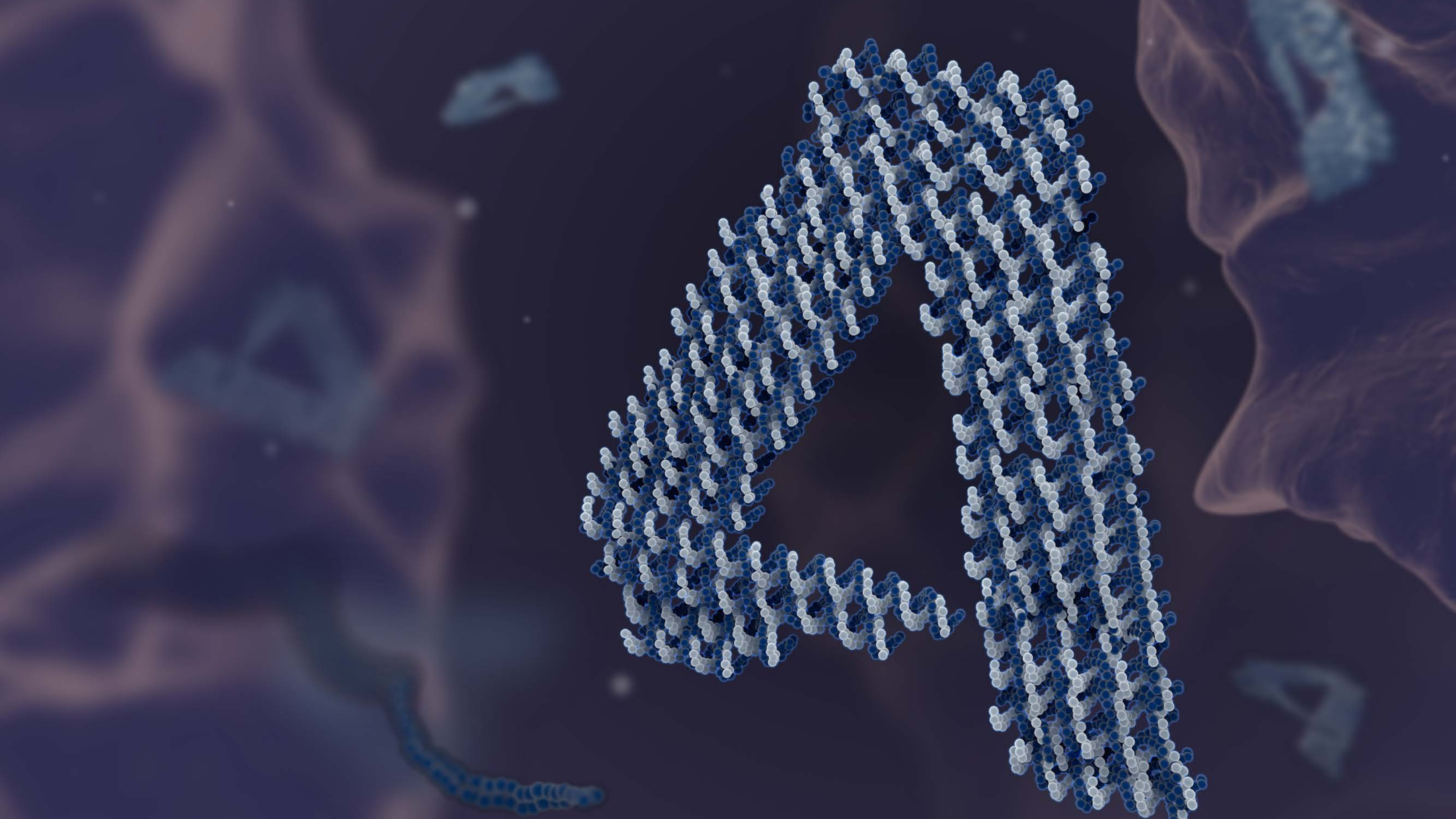






Advanced materials





3D Printing



WARNING
KEEP HANDS
CLEAR OF
MOVING PARTS

CAUTION
HOT SURFACE
DO NOT TOUCH

<https://www.youtube.com/watch?v=v2moJF8kqlg>

Build Finished!
Build Time 01h29m



FUELED BY
AUTODESK®
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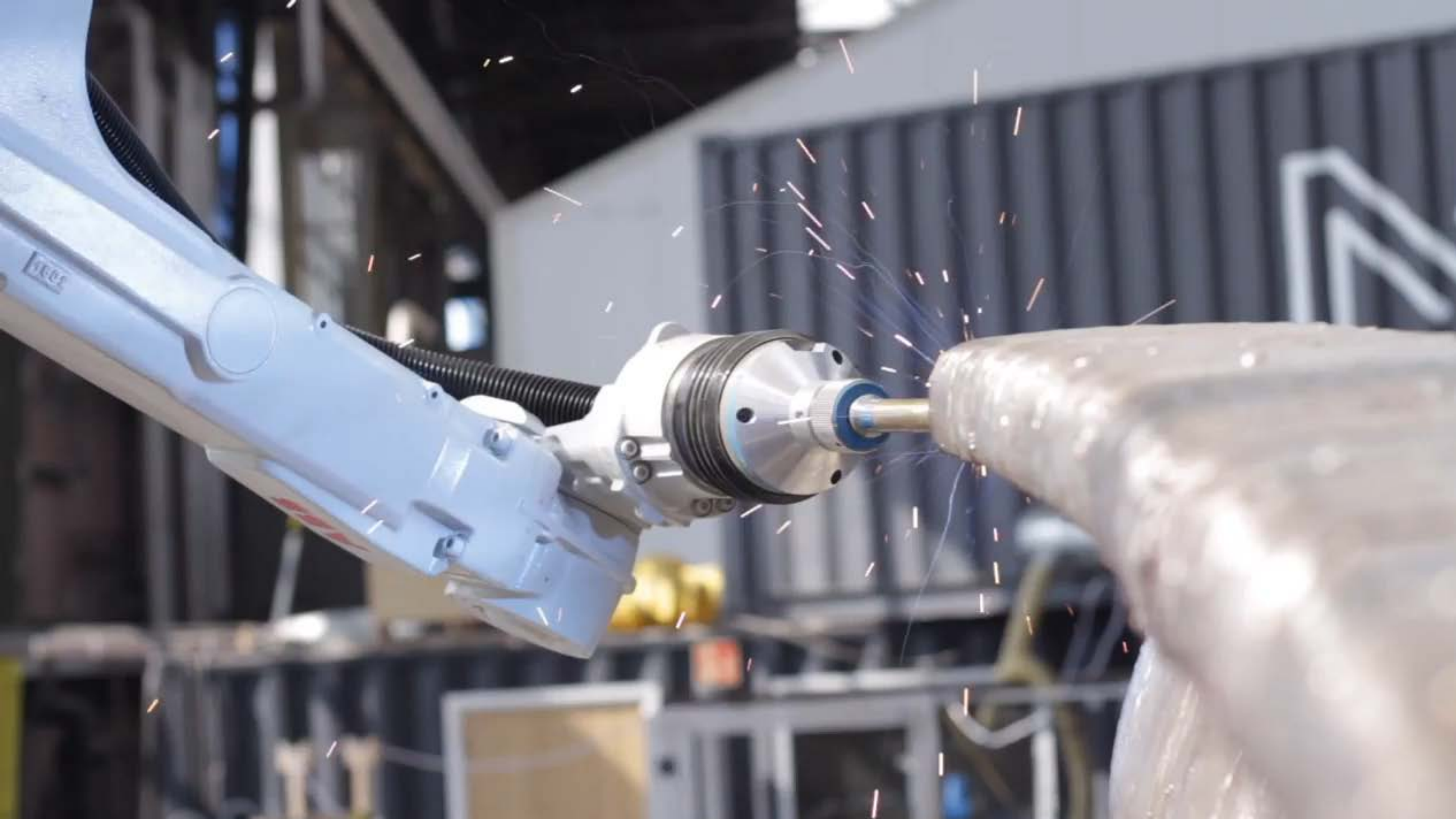
MakerBot Replicator 2
DESKTOP 3D PRINTER





SNØHETTA
DESIGN





Mobile internet





Automation of knowledge work







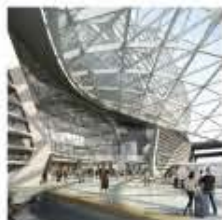


Internet of things





[illegible]



United Construction

Bayfront Arena

Project Dates: Aug 16, 2016 – Jun 12, 2018



PROJECT RISK



The risk level for this project is poor, and has been trending down for the past week.

[About Risk](#)

SUBCONTRACTOR RISK

Today

Overall



CC Concrete	High
NextGen Panels	High
Majestic Steel	Medium
Joe's Plumbing	Medium
Rebar Masters	Medium

HIGH RISK ISSUES

Water Rework Key Activity Inspection Uncategorized



- #22244 - Open penetrations in concrete...** To: CC Concrete, Inc. Open 24 days
 Open penetrations in the concrete framing are not sealed and water is leaking after the recent weather event. There is damage to the finishes. Detailing of the penetration is in progress.
- #22116 - The waterproofing barrier...** To: NextGen Panels Open 14 days
 The waterproofing barrier installed does not meet the required standards. These needs to rectified and QC verified before the external walls are closed out.
- #22105 - The EIFS installed...** To: NextGen Panels Open 7 days
 The EIFS installed is not per manufacturers documents. There is no flashing and moisture is seen inside the enclosure. The whole enclosure needs to be made weatherproof.
- #21984 - The concrete treads...** To: CC Concrete, Inc. Open 7 days
 The concrete treads on the South side of Arena stairs are sloped incorrect!! Ponding of water noticed after a weather event. This has to be fixed ASAP. And the slope on all treads needs to be checked. There might be a potential RFI to the architect.
- #21966 - Fireproofing incomplete at...** To: Majestic Steel Open 6 days
 Fireproofing incomplete at steel members. Needs to be completed before the scheduled external inspection
- #21898 - Repair concrete at base...** To: CC Concrete, Inc. Open 5 days





Cloud technology







Advanced robotics





nLINK



Autonomous & near autonomous vehicles



MILE 76
LOS ANGELES TO SAN FRANCISCO

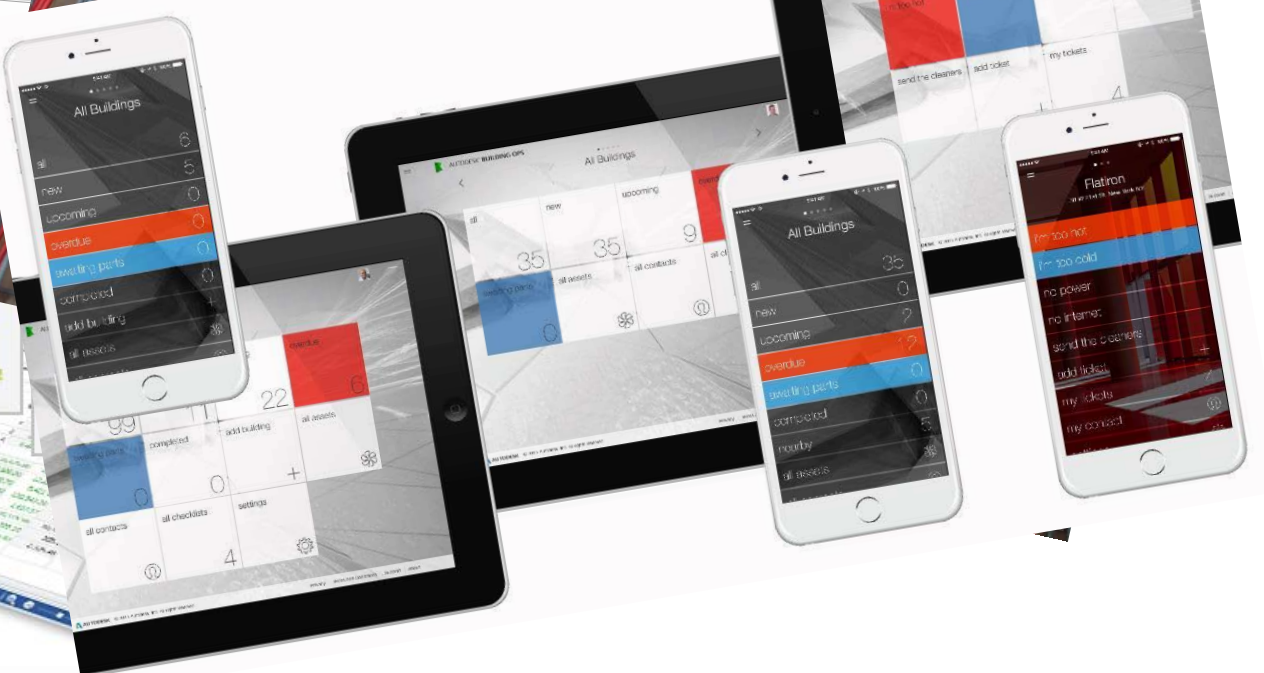
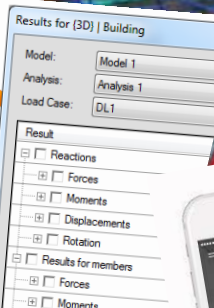
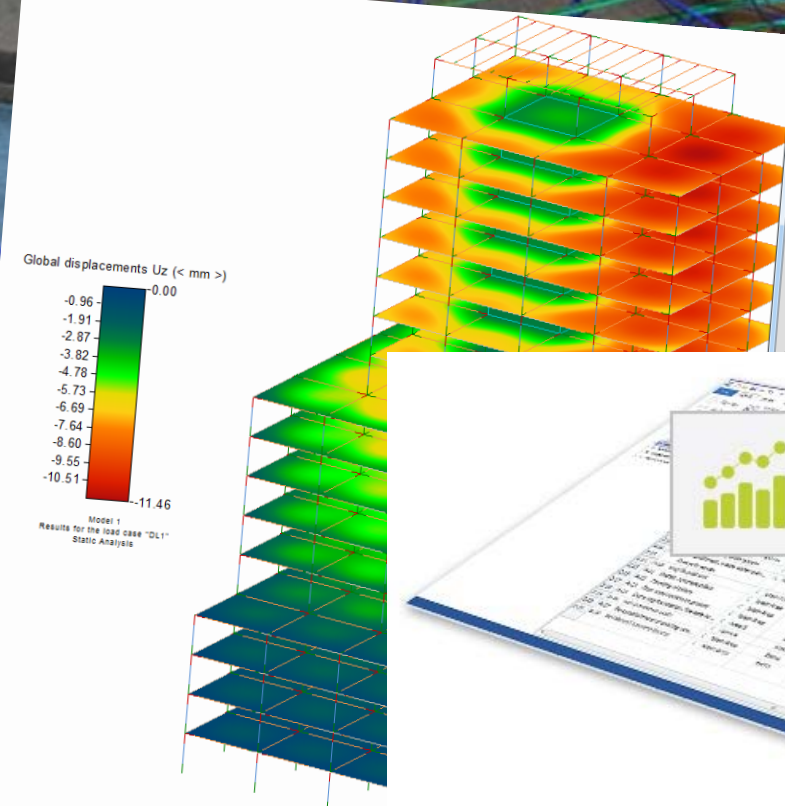
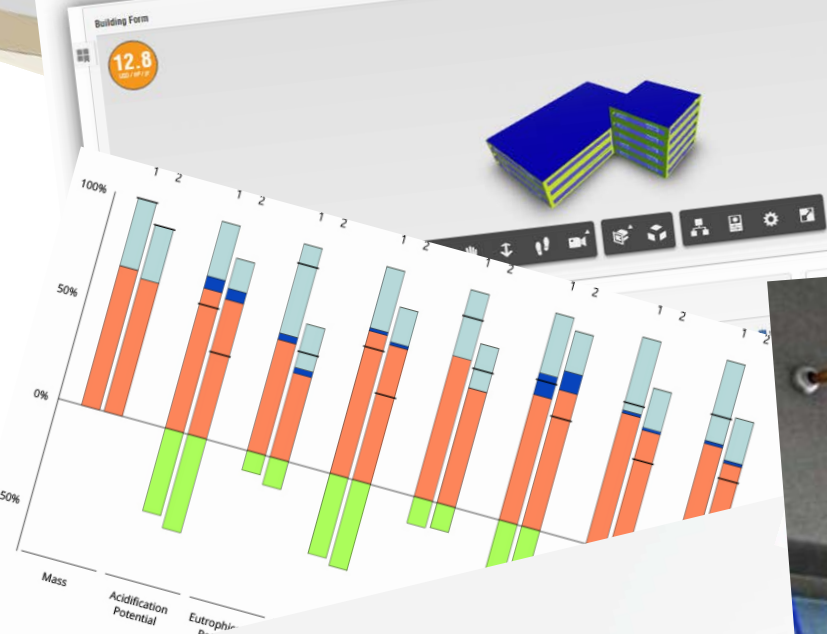
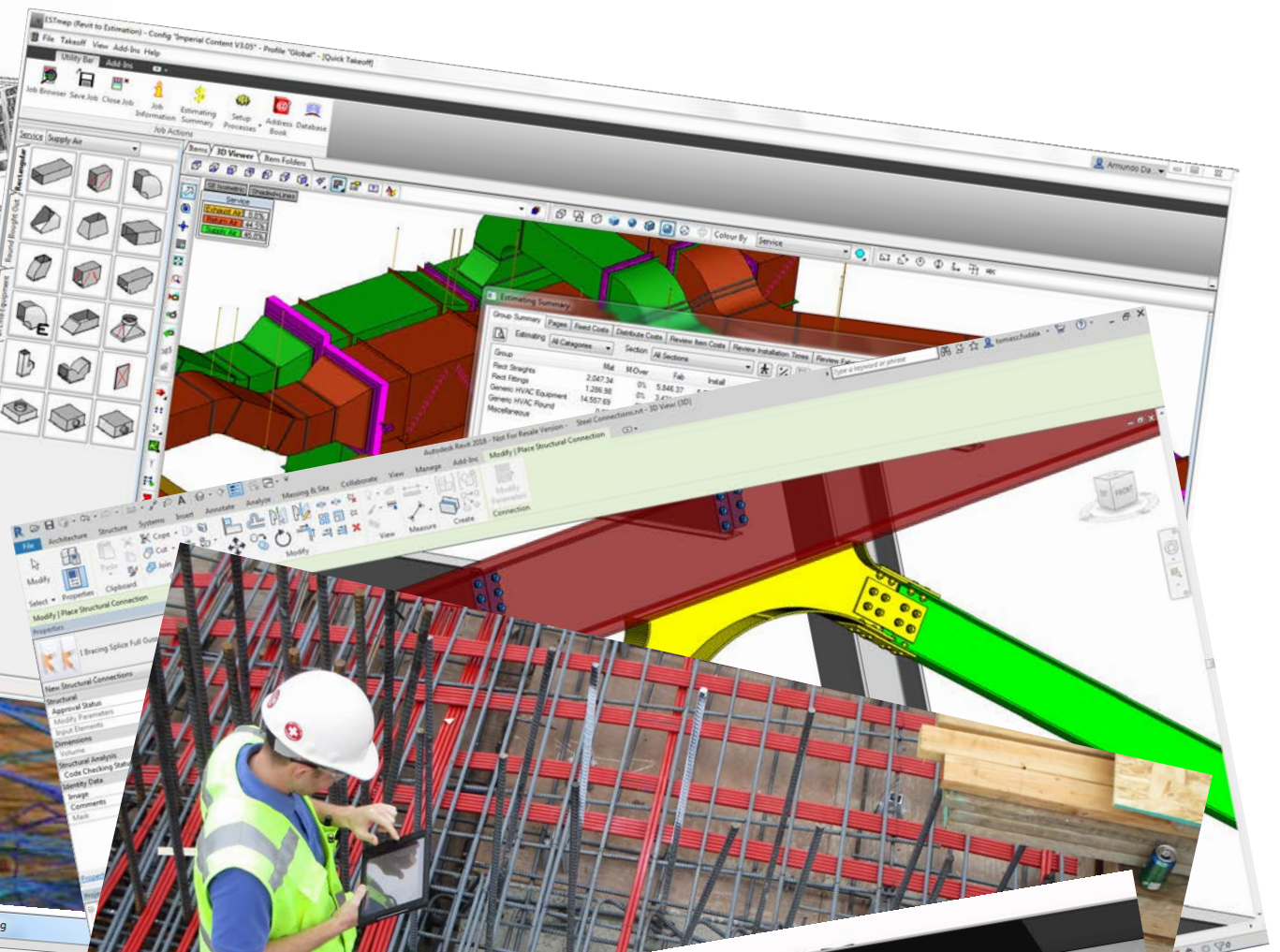
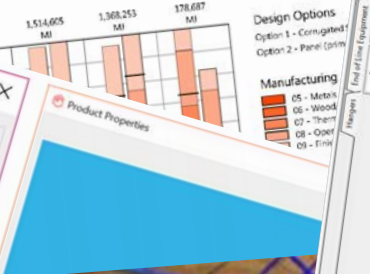
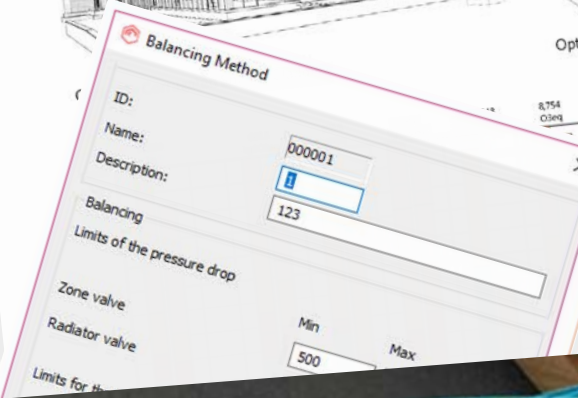


74
MPH





But!





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