

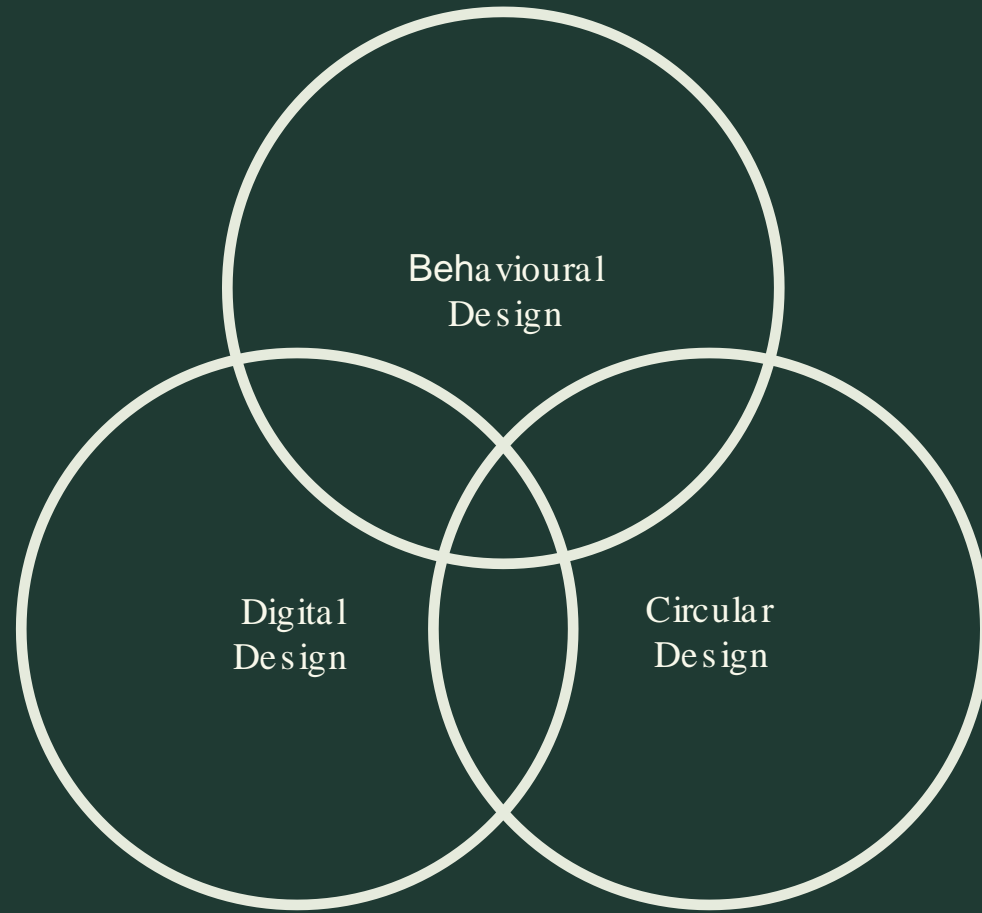
Circle House

— Circular Building in Practice

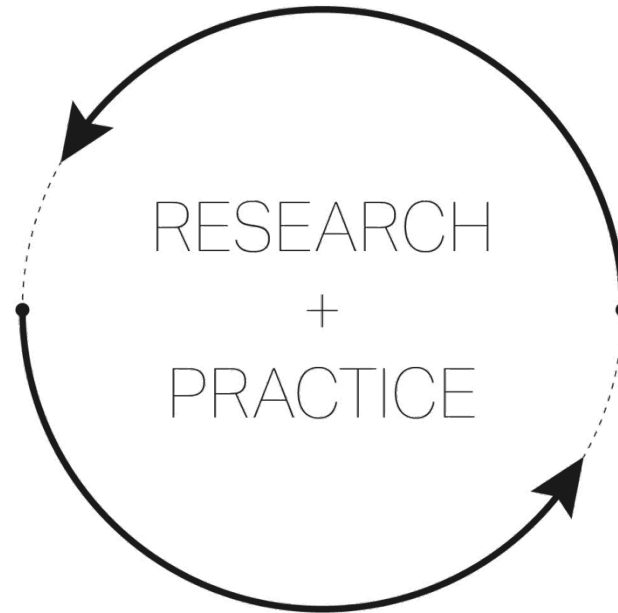
Expertenforum Beton, 06.10.2020
Casper Østergaard, architect, cac@3xn.dk

GXN

We turn best practice into better practice.



3XN
architects



GXN
innovation



We need to talk about value,
not only volume

89%



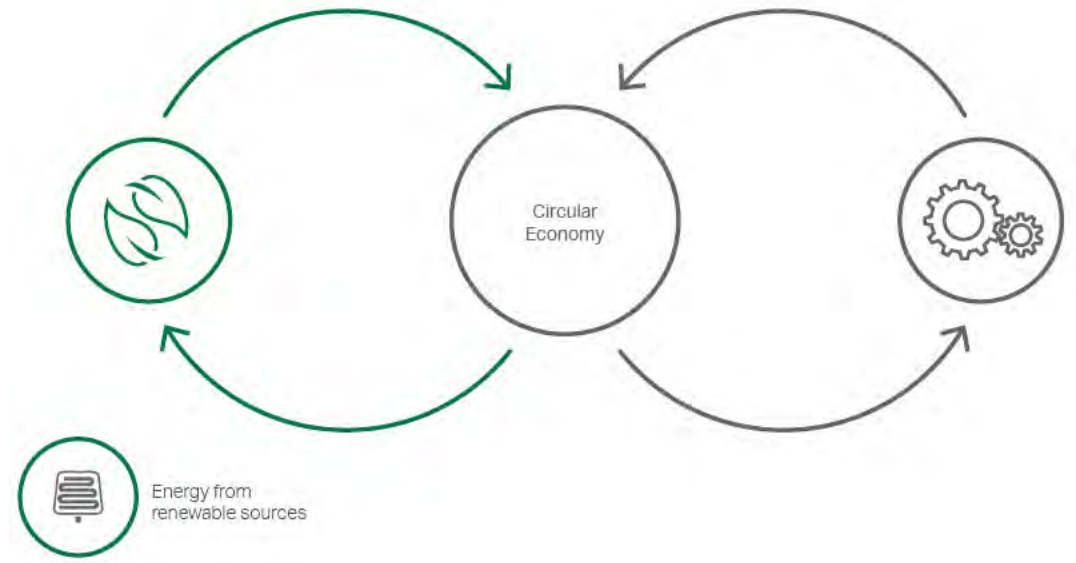
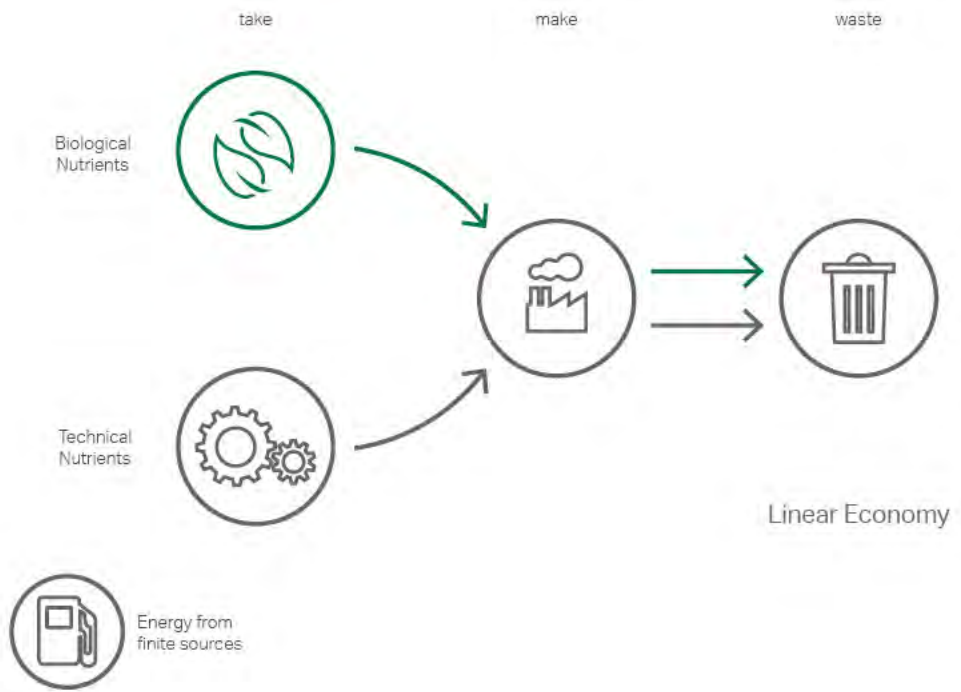



2%



The background is a dark, textured surface, possibly a wall or a piece of fabric, with a grid of vertical lines. Two rectangular boxes are positioned horizontally, one on the left and one on the right. Each box contains a bolt and nut. The text is centered between the two boxes.

Circular economy is about maintaining
the material value over time





Building a
Circular Future

*Read and download here:
buildingacircularfuture.com*

Design for disassembly



Material Passport



Circular Economy





From Theory To Practice

GXN

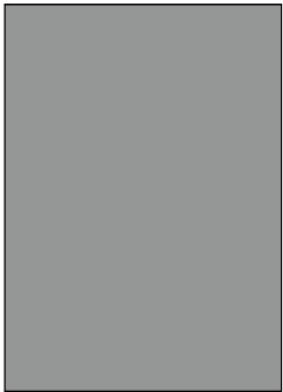
Circle House

— Danmarks første
cirkulære boligbyggeri



60 housing units
4 typologies

IN CIRCLE HOUSE 90% OF THE MATERIALS
SHOULD BE REUSABLE AT A HIGH VALUE



+



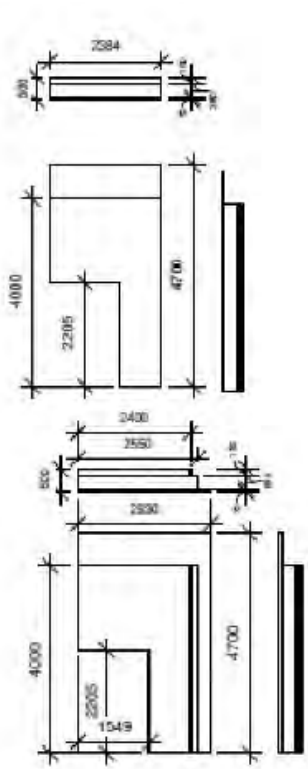
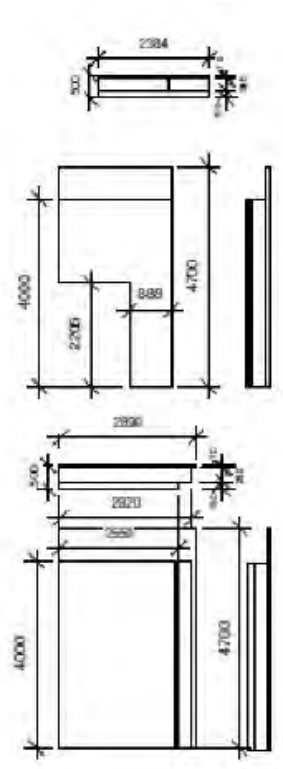
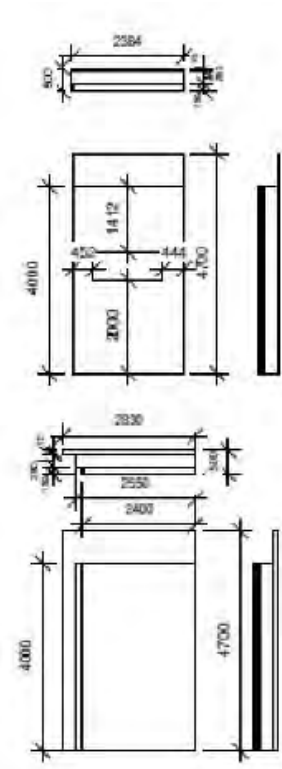
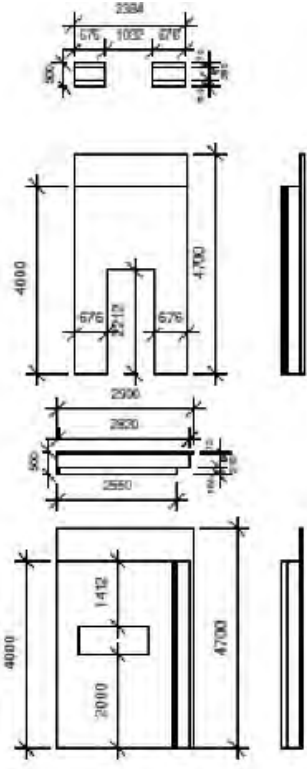
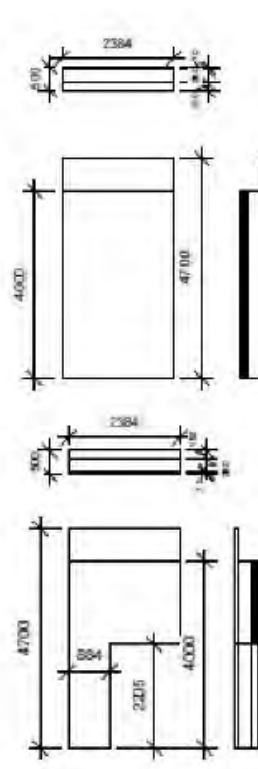
+



Wall

Beam

Deck









0002/001
0002/001

0051/001
0051/001

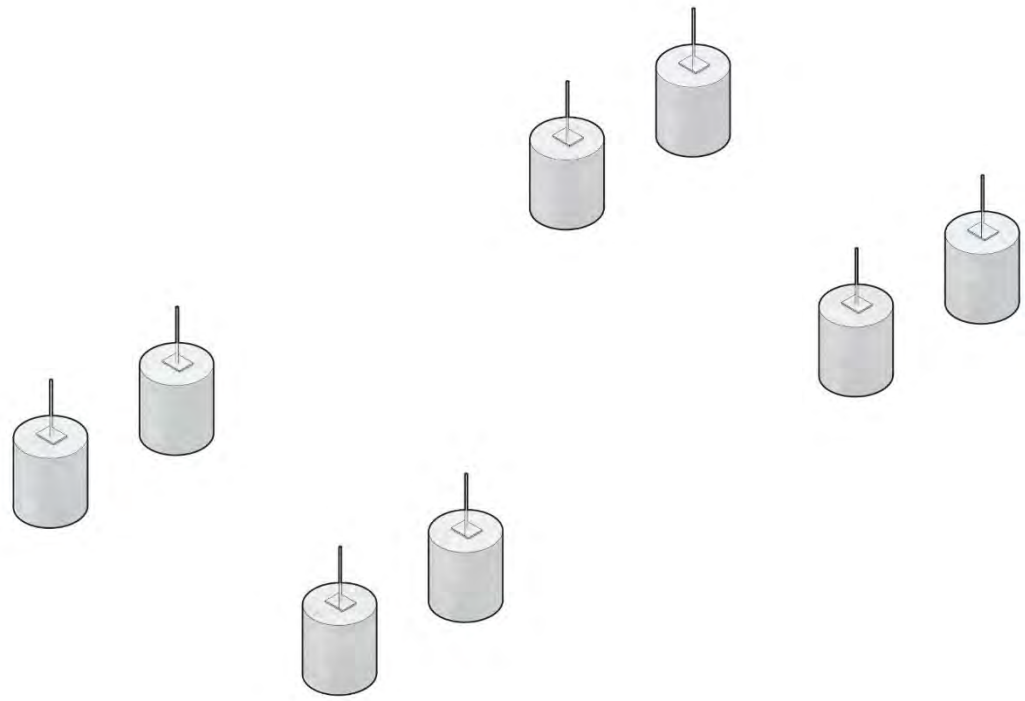
0002/001
0002/001

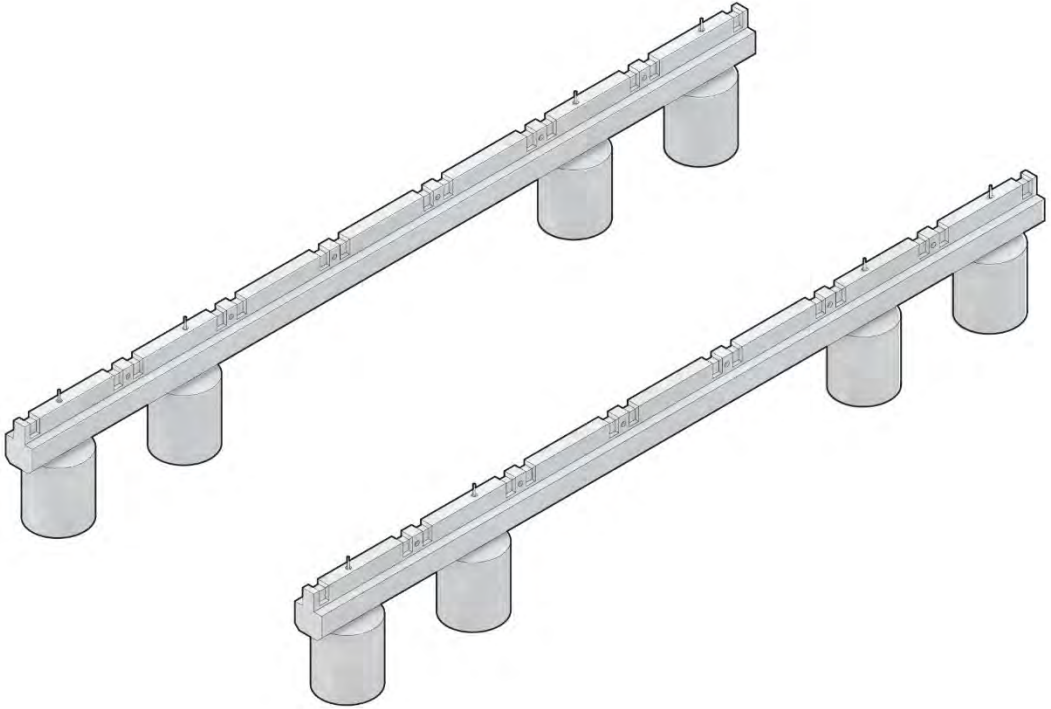
0002/001

10/1000
7-4-17

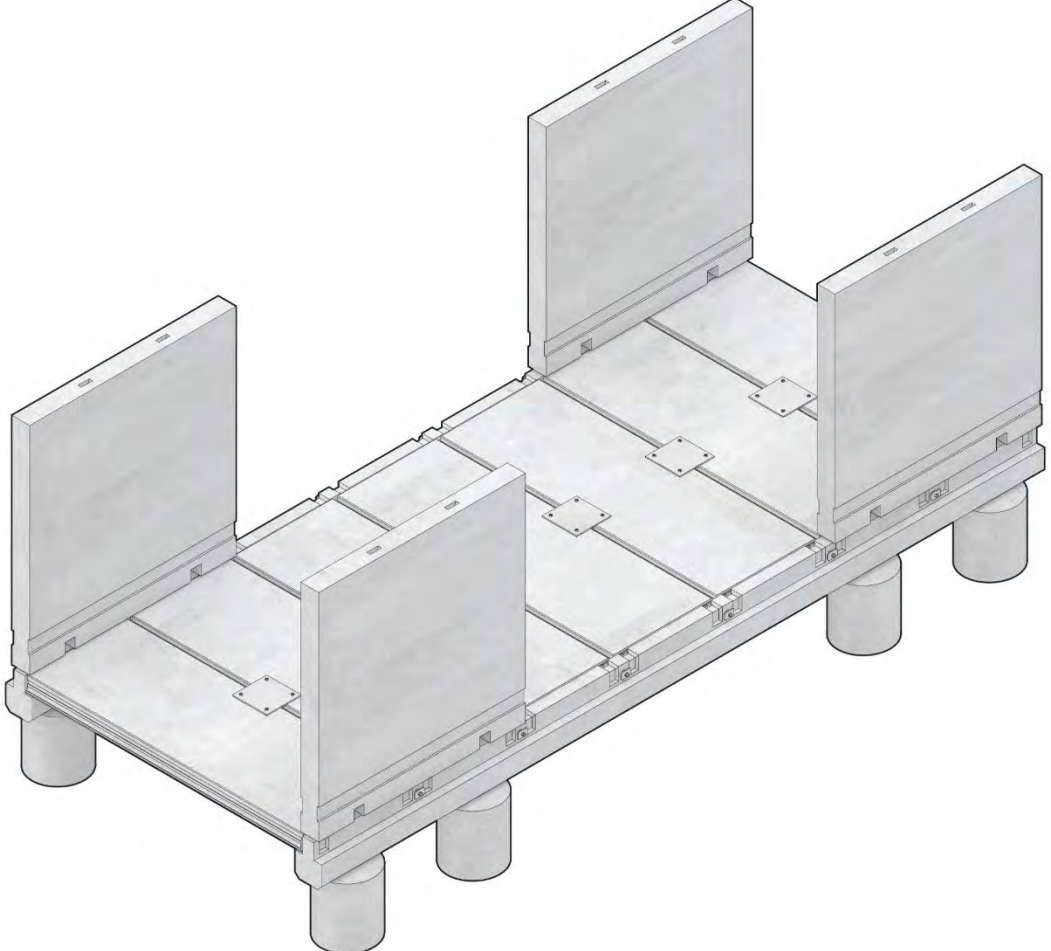
100/1500
7-4-17

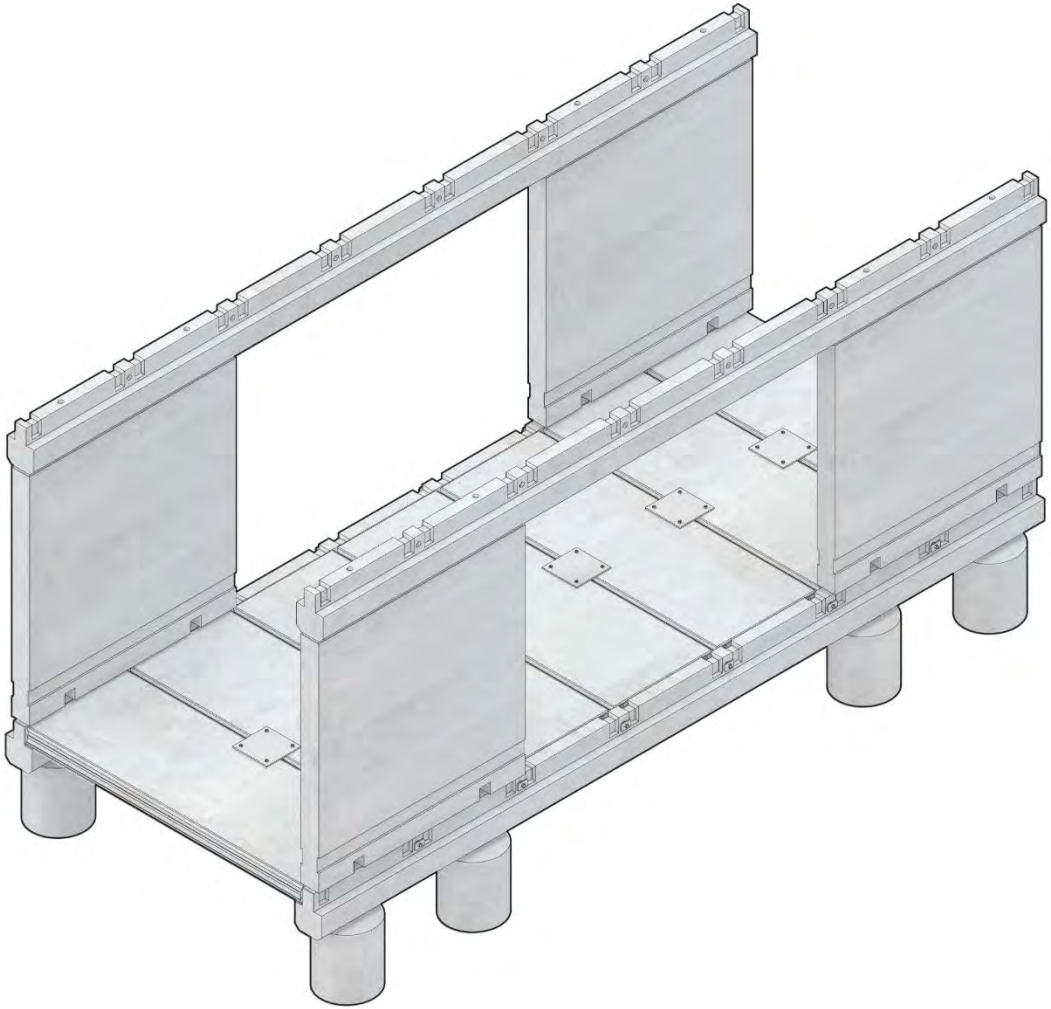
100/2000
7-4-17

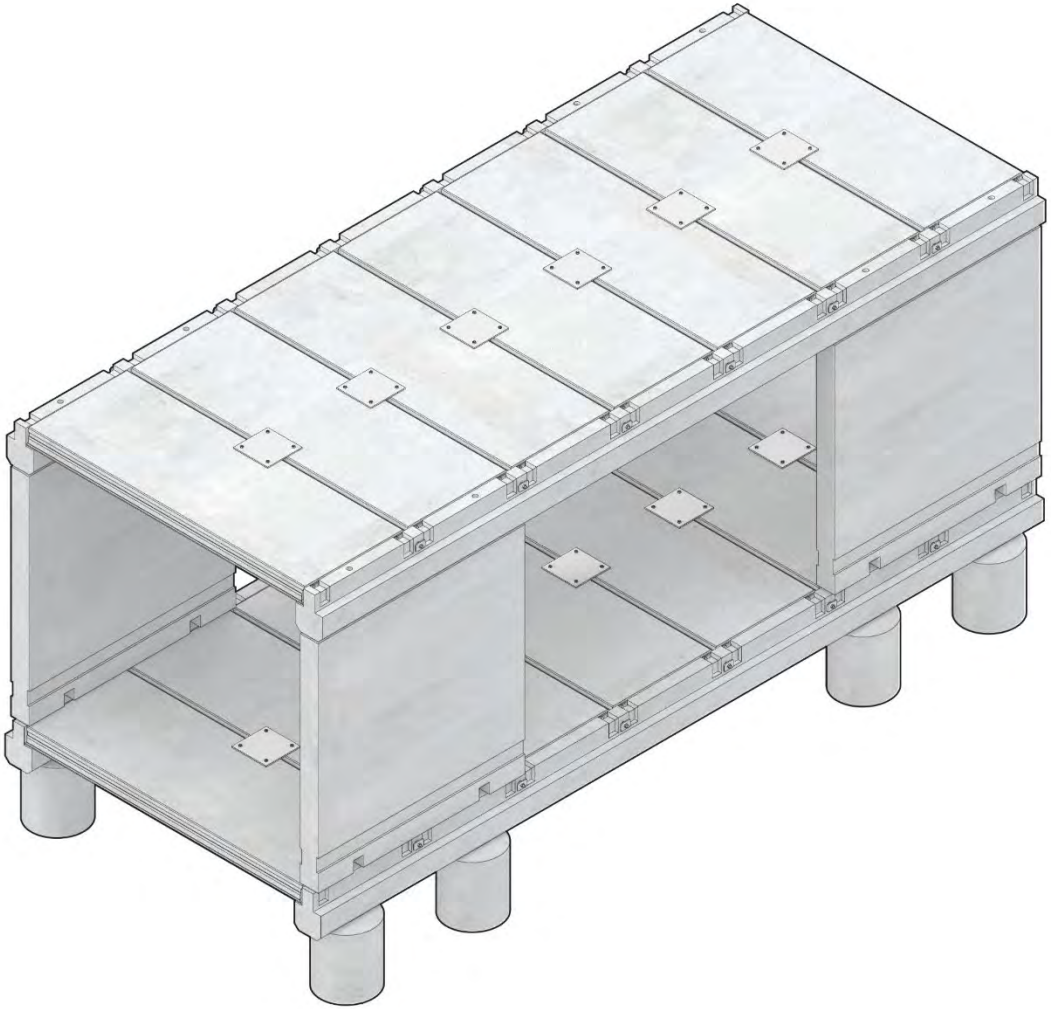














Circle House

FÆLLESTEGNESTUEN
3XN - Vandkunsten - Lendager

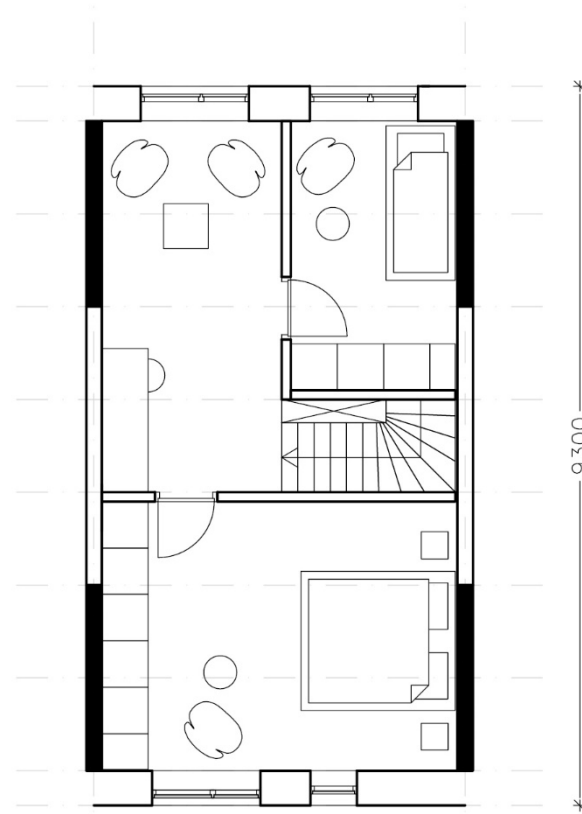
Bygherre: Lejerbo

Punkthus, vest
Plan 1.-3. sal

2017.07.14



4800
Plan, stuen



4800
Plan, 1. sal





Install during fabrication
RFID chips costs between
1-3 € per chip to install



In-situ product information
the dormant chip links to
information when activated



Link to web-portal
the chip embeds a variety of
info depending on software

CONSOLIS

**Stanton
Bonna**

Potential providers
RFID tagging of
precast concrete

Circle House

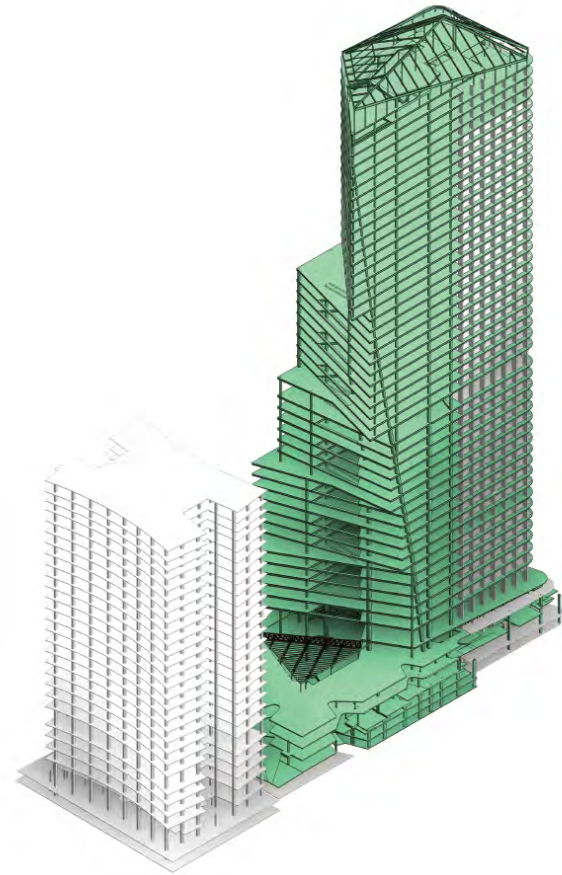
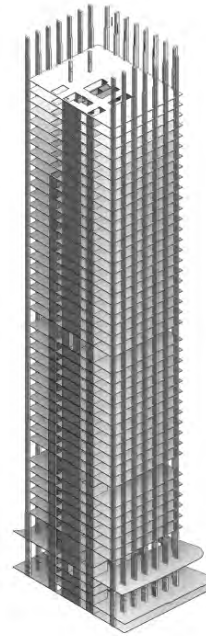
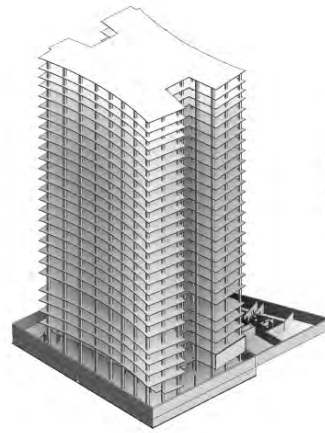
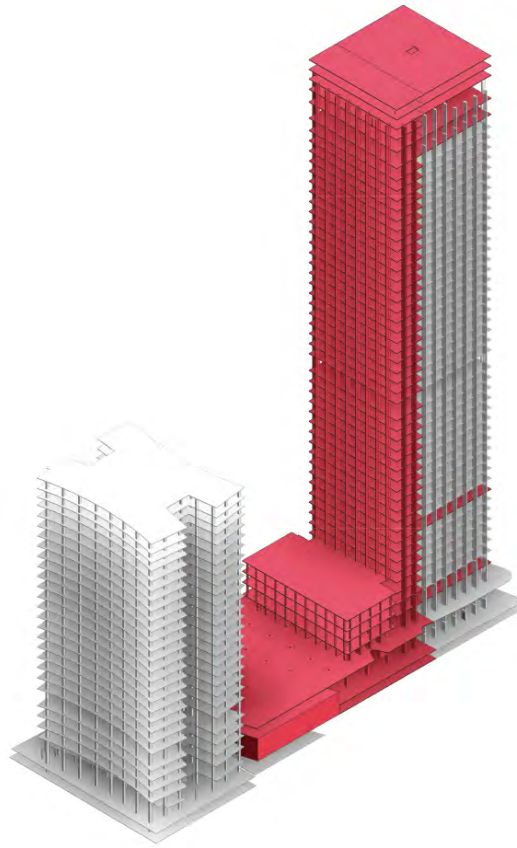
— Danmarks første
cirkulære boligbyggeri

*Read and download here:
buildingacircularfuture.com*

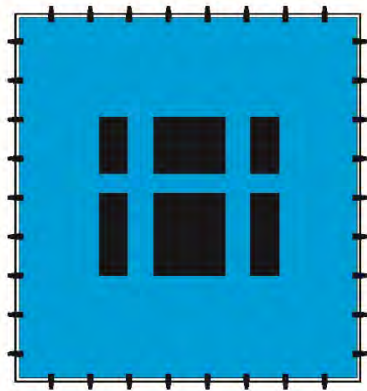
A close-up photograph of a reinforced concrete structure. Several vertical rebar rods are visible, each secured with a nut and washer. The concrete surface is textured and shows some signs of wear or construction marks. The lighting is somewhat dim, highlighting the metallic sheen of the rebar and the texture of the concrete.

Upcycling of existing buildings

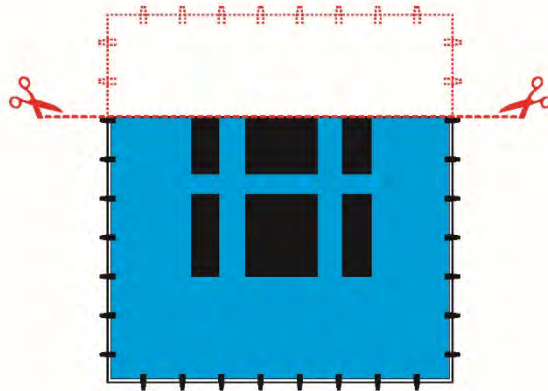




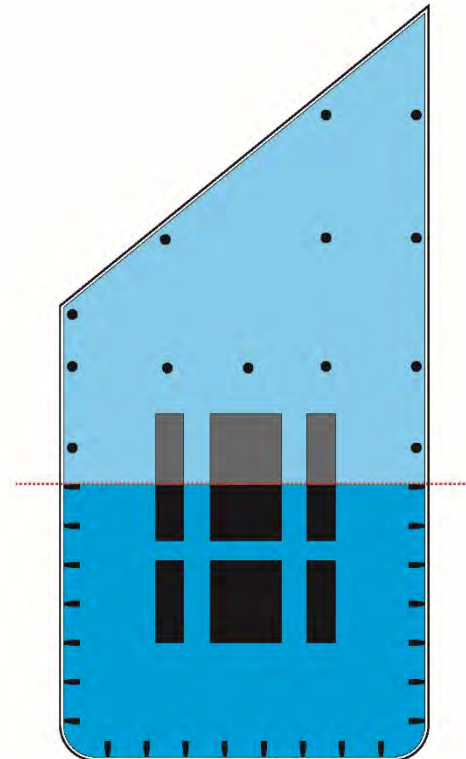
RETAINING 98%
STRUCTURAL WALLS



Existing

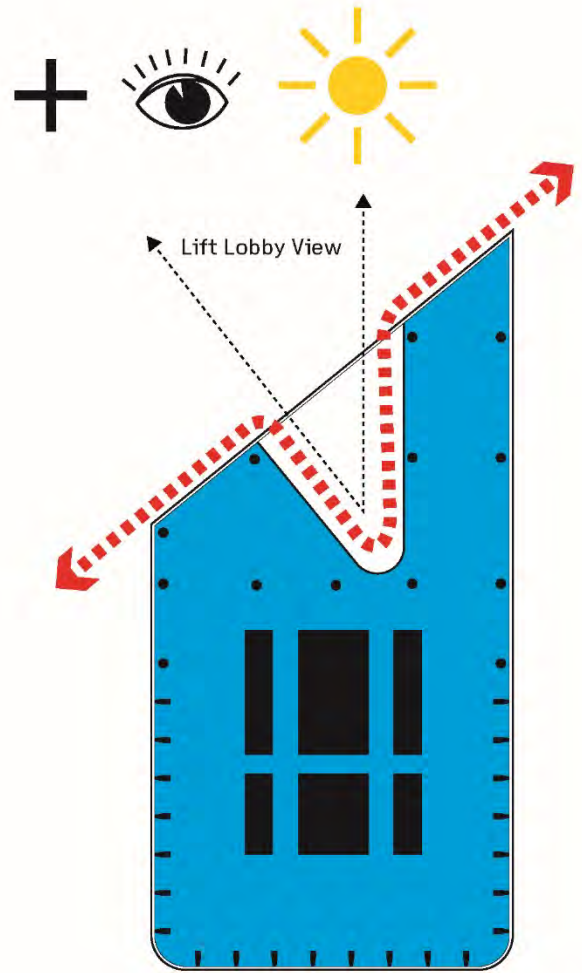


Remaining



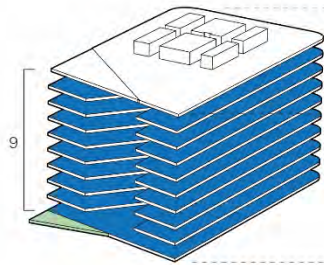
Existing / New

\$130,000,000 
MATERIAL + TIME SAVED

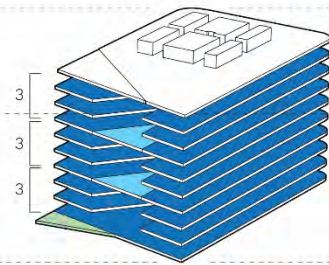


Increased Views / Daylighting

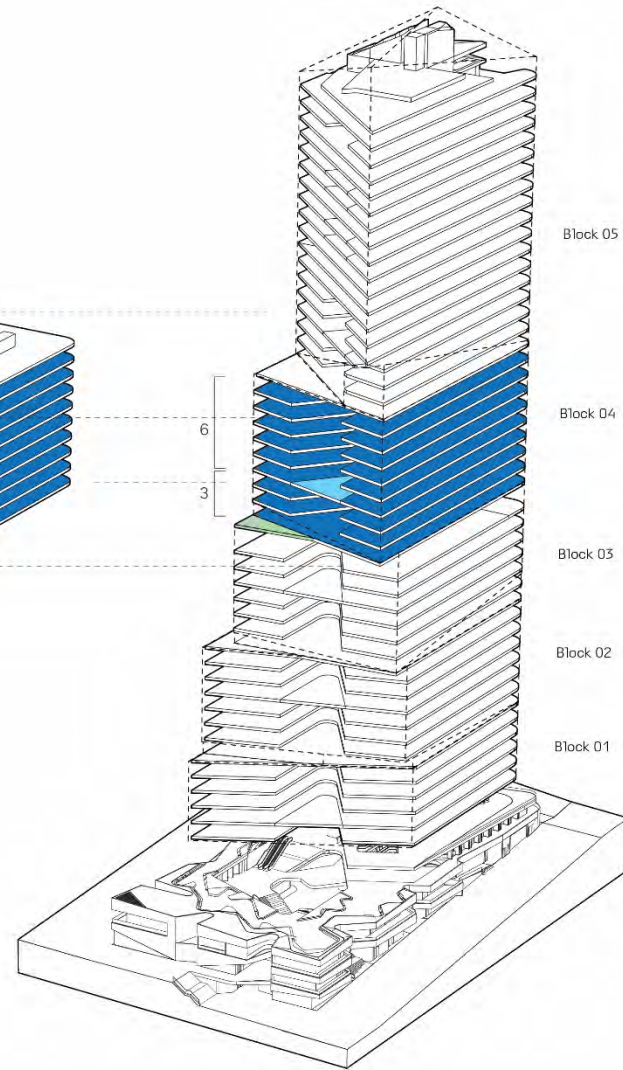
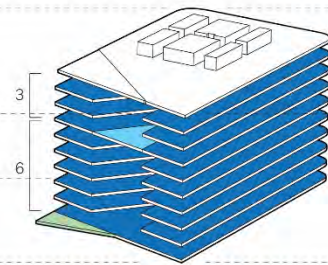
1 Atrium

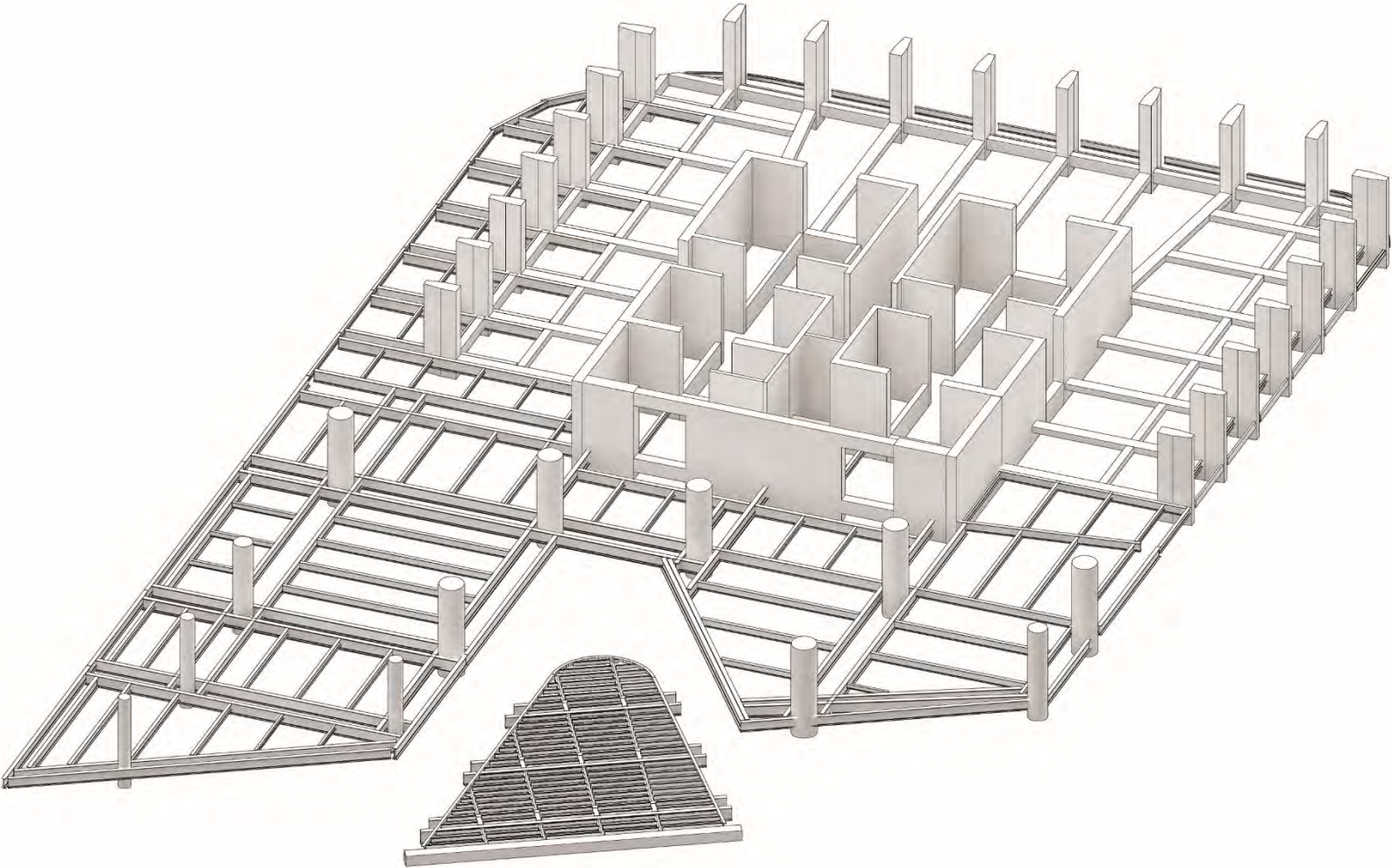


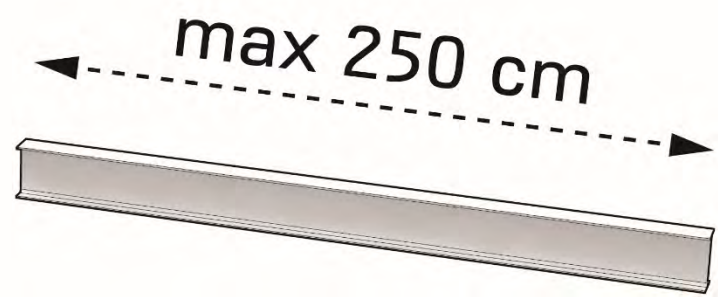
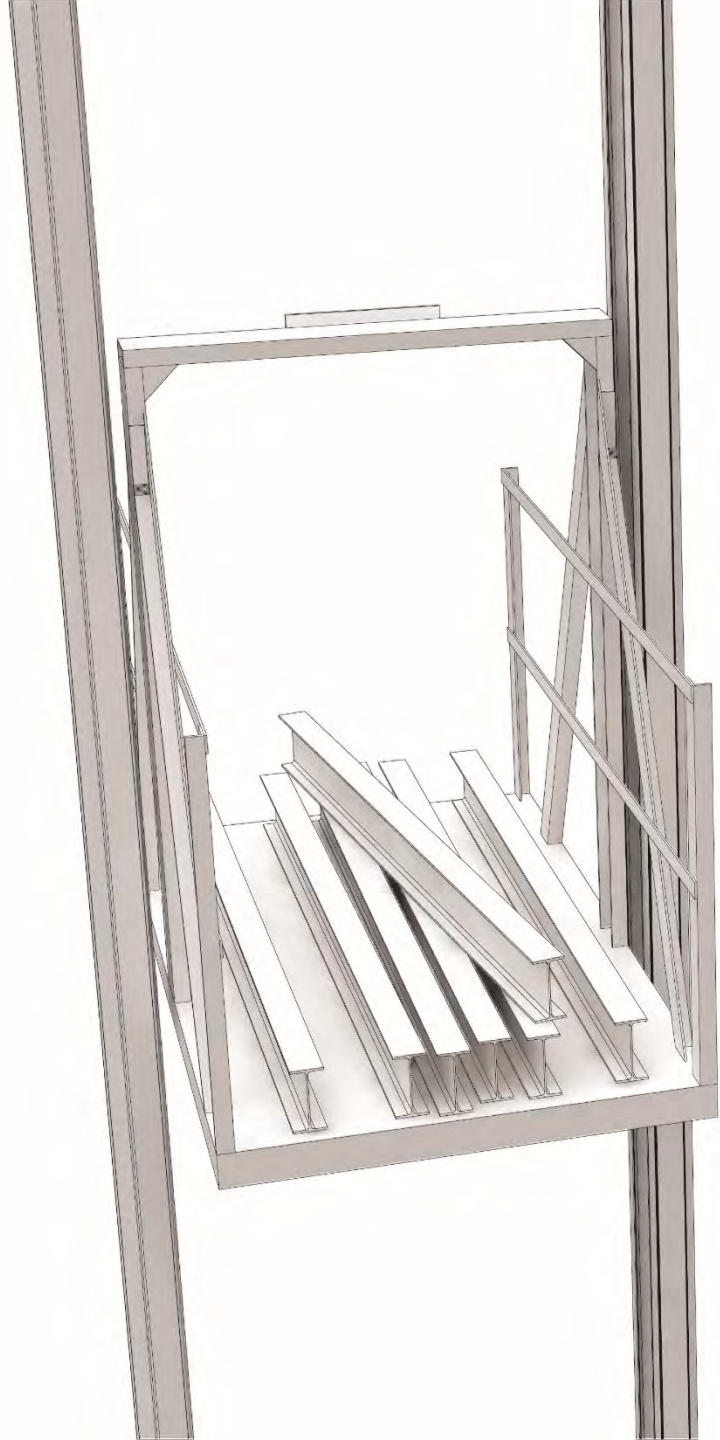
3 Atria



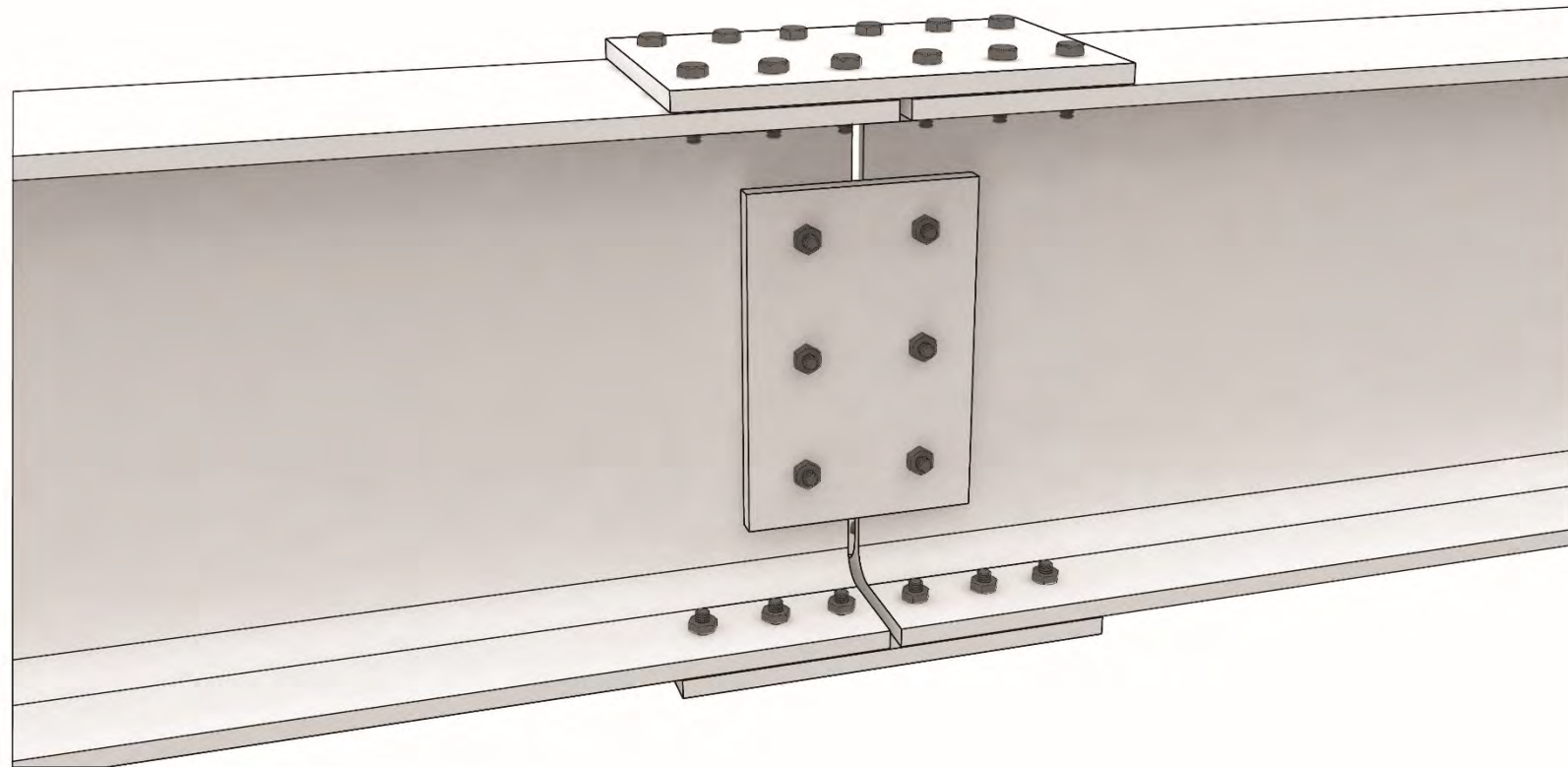
2 Atria







TYPICAL SPLICE DETAIL FOR ATRIUM INFILL PANEL AND DECON FLOOR





Circle House

— Circular Building in Practice

Expertenforum Beton, 06.10.2020
Casper Østergaard, architect, cac@3xn.dk