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Solution Talk: Low Carbon Energy Systems & Eco-districts
PROF. RAOUL BUNSCHOTEN





- 2000¹
3,3 mln people
1,8 mln apartments

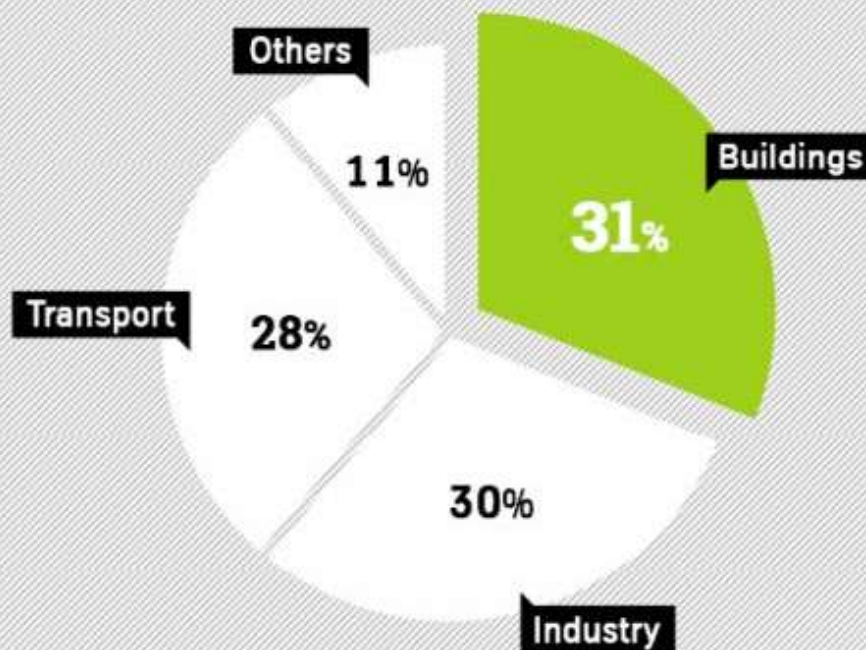
- 2015¹
3,6 mln people
1,9 mln apartments

- 2030²
3,8 mln people

1. Der Berliner Wohnungsmarktbericht 2003, Senatverwaltung für Stadtentwicklung;

2. Bericht Bevölkerungsprognose für Berlin und die Bezirke 2015-2030, Senatverwaltung für Stadtentwicklung und Umwelt;

**Buildings will be the largest consumers
of global final energy in 2030**





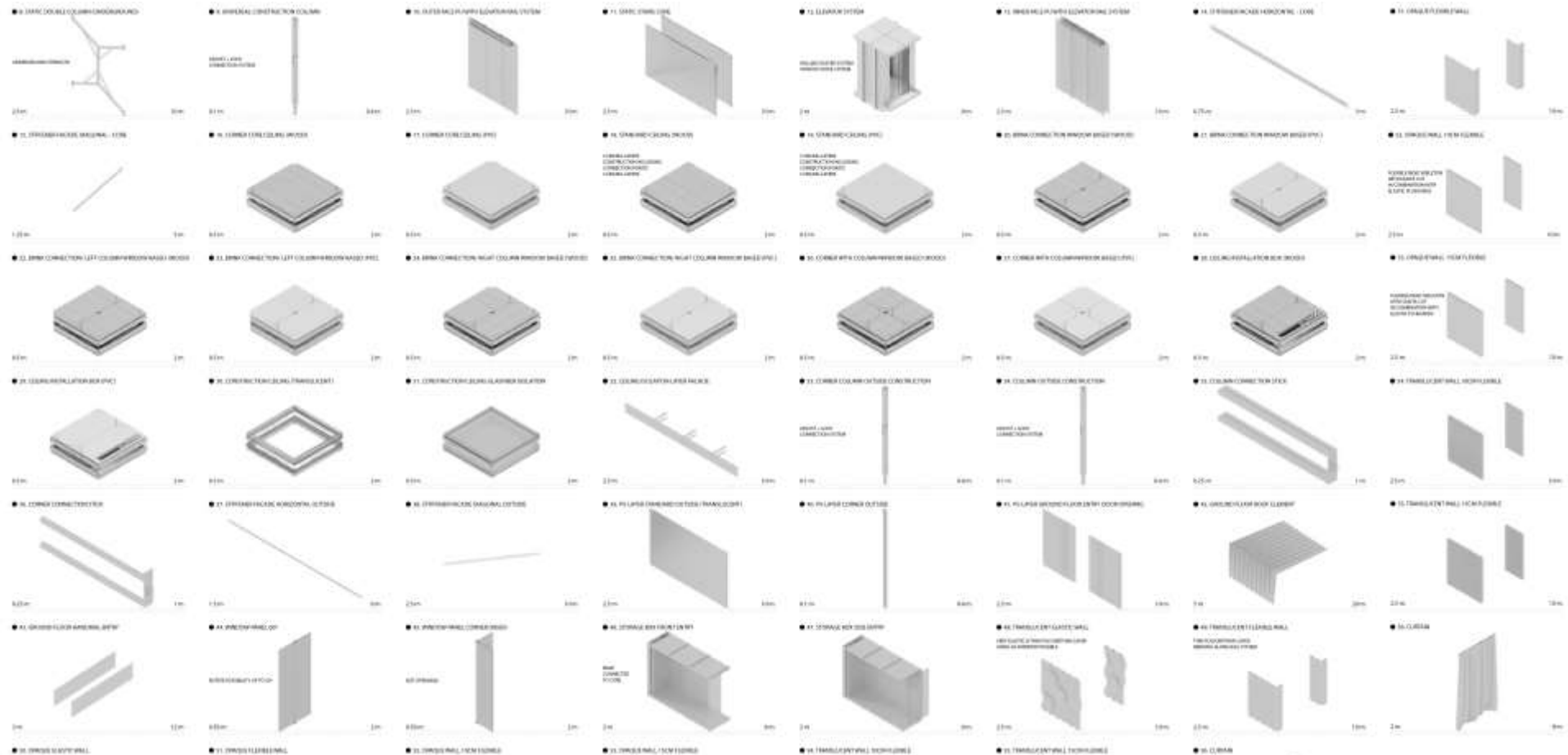


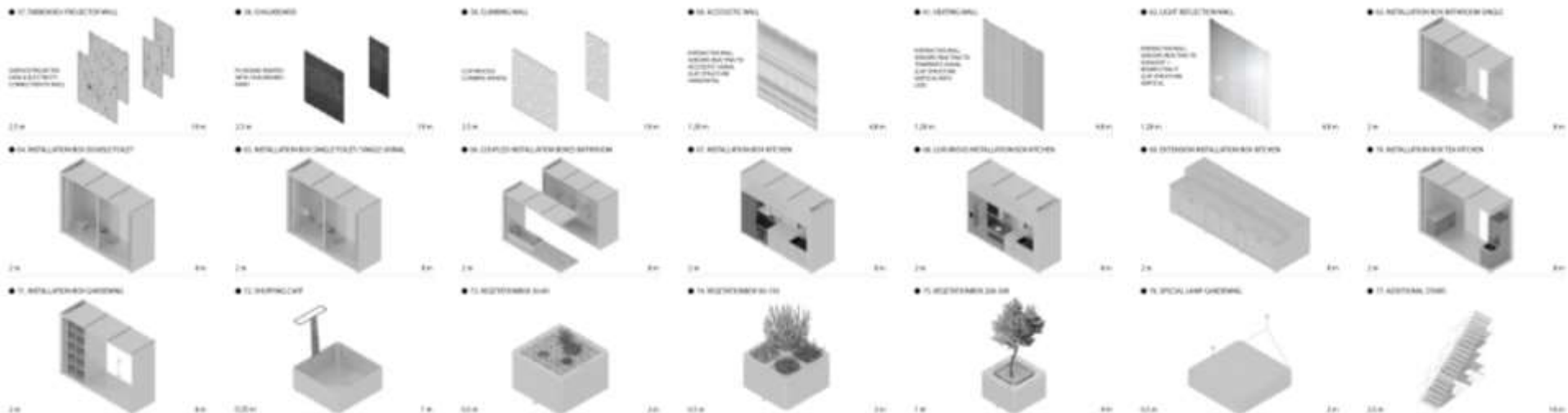
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TOWER BASE/ GF

EDUCATION

EXHIBITION

GARDENING

GASTRONOMY

LIVING

SHOP

SPORTS

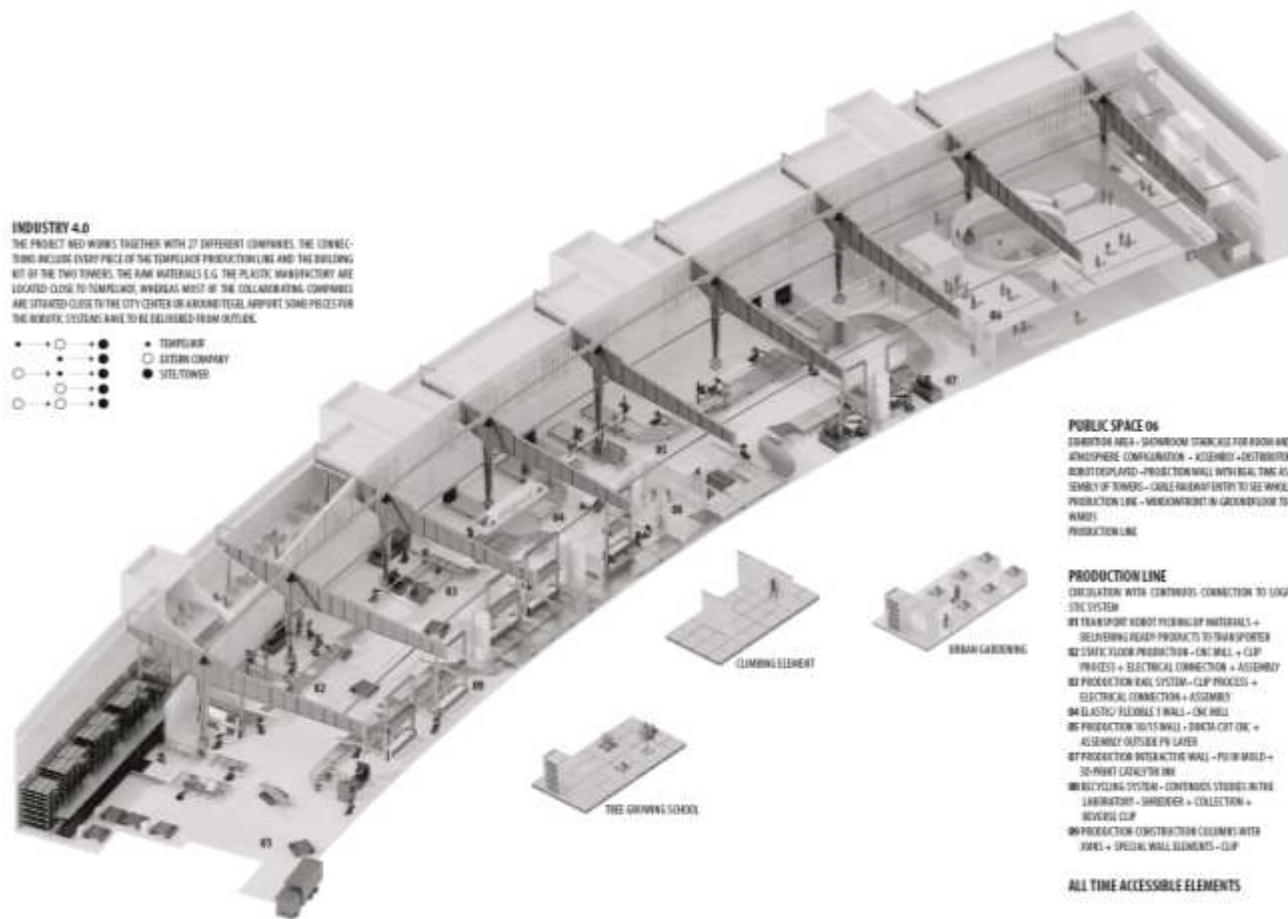
OFFICE



INDUSTRY 4.0

THE PROJECT WEAVES TOGETHER WITH 17 DIFFERENT COMPANIES, THE CONNECTING INCLUDES EVERY PIECE OF THE TEMPORARY PRODUCTION LINE AND THE BUILDING KIT OF THE TWO TOWERS. THE RAW MATERIALS E.G. THE PLASTIC MANUFACTURE ARE LOCATED CLOSE TO TEMPORARY, WHEREAS MOST OF THE COLLABORATING COMPANIES ARE SITUATED CLOSE TO THE CITY CENTER OR AROUND THE AIRPORT. SOME PIECES FOR THE ROBOTIC SYSTEMS HAVE TO BE DELIVERED FROM OUTSIDE.

- TEMPORARY
- EXTERIOR COMPANY
- SITE/TOWER



CLIMBING ELEMENT

URBAN GARDENING

TREE GROWING SCHOOL

PUBLIC SPACE 06

EXHIBITION AREA + SHOWROOM STRUCKS FOR ROOM AND ATMOSPHERE CONFIGURATION + ASSEMBLY + DISTRIBUTION ROBOT DISPLAYED - PRODUCTION WALL WITH REAL TIME ASSEMBLY OF TOWERS - CABLE RAILWAY ENTRY TO SEE WHOLE PRODUCTION LINE - VISION POINT IN GARDEN FOR LOOK TOWARDS PRODUCTION LINE

PRODUCTION LINE

- 01 CONNECTION WITH CONTINUOUS CONNECTION TO LOGISTIC SYSTEM
- 02 TRANSPORT ROBOT PICKUP MATERIALS + DELIVERING READY PRODUCTS TO TRANSPORT
- 03 STATIC FLOOR PRODUCTION - CNC MILL + CLIP PROCESS + ELECTRICAL CONNECTION + ASSEMBLY
- 04 PRODUCTION RAIL SYSTEM - CLIP PROCESS + ELECTRICAL CONNECTION + ASSEMBLY
- 05 ELASTIC FLEXIBLE WALL - CNC MILL
- 06 PRODUCTION TOWERS WALL - BOKA CITY ONE + ASSEMBLY OUTSIDE PU LAYER
- 07 PRODUCTION INTERACTIVE WALL - PU FILM - 3D-PRINT CATALYTIC INK
- 08 RECYCLING SYSTEM - CONTINUOUS STORAGE IN THE LABORATORY - SHREDDER + COLLECTION + RECYCLING CLIP
- 09 PRODUCTION CONSTRUCTION COLUMNS WITH XPS + SPECIAL WALL ELEMENTS - CLIP

ALL TIME ACCESSIBLE ELEMENTS



MULTISHUTTLE SYSTEM

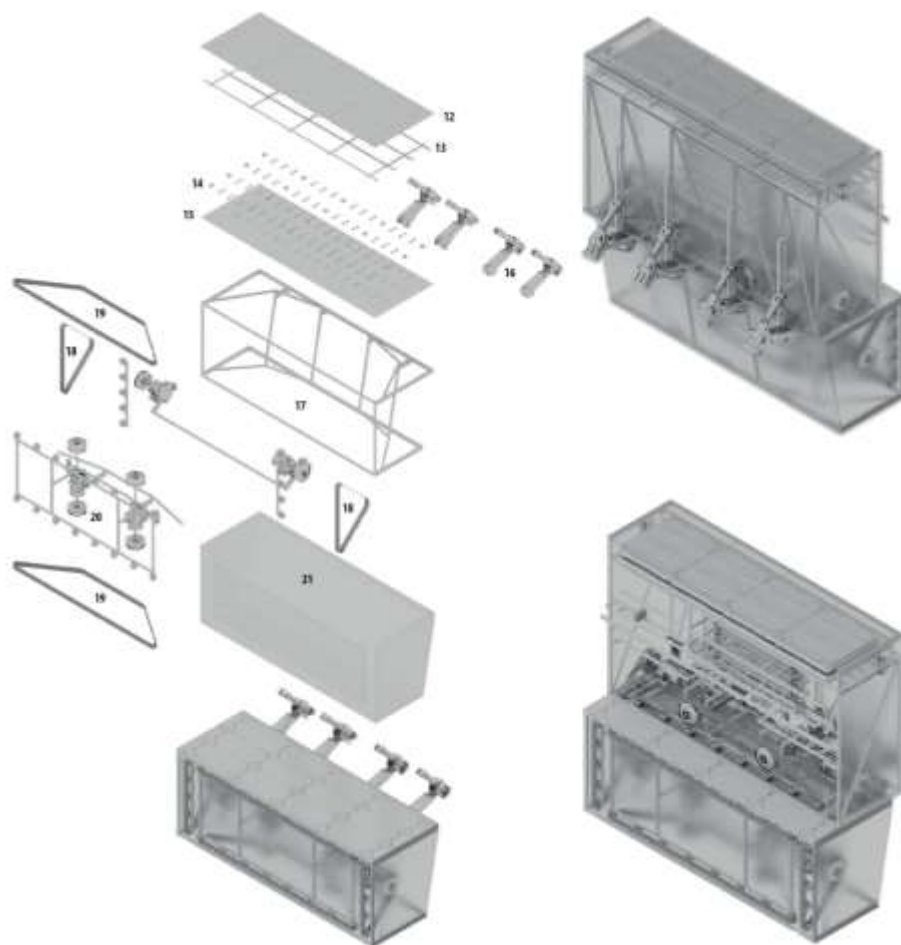
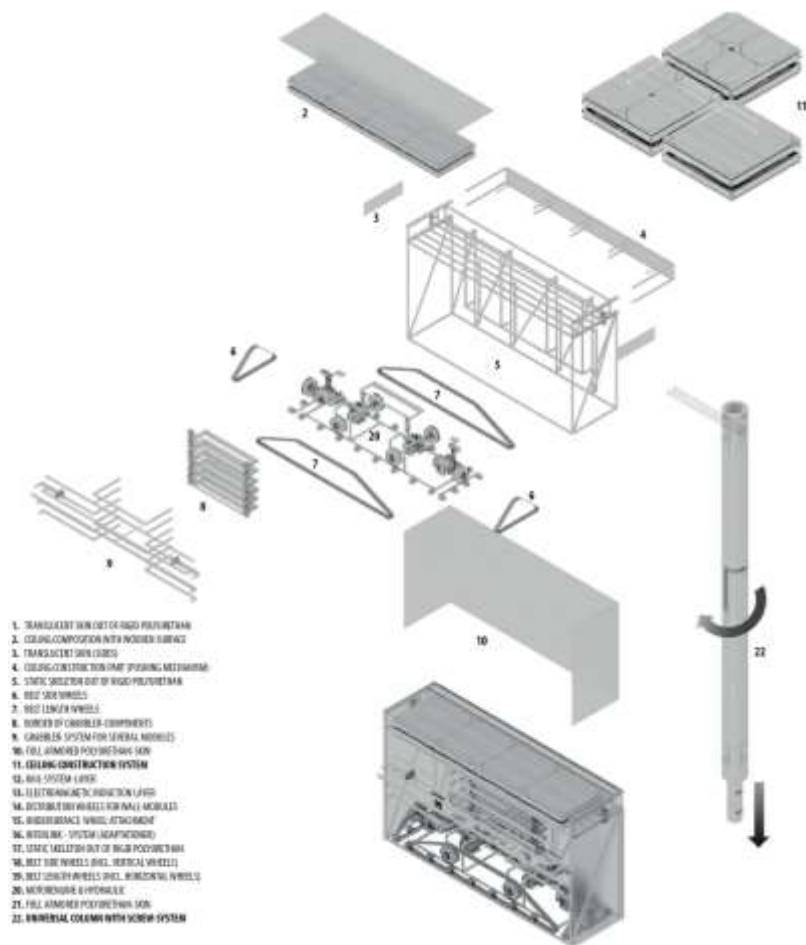


EMB3D PRINTED CATALYTIC INK



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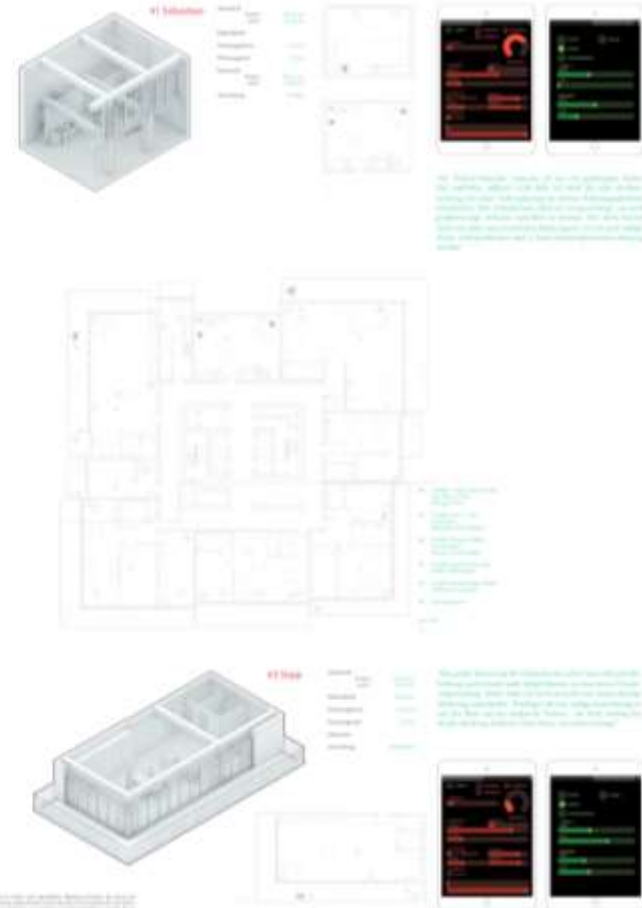
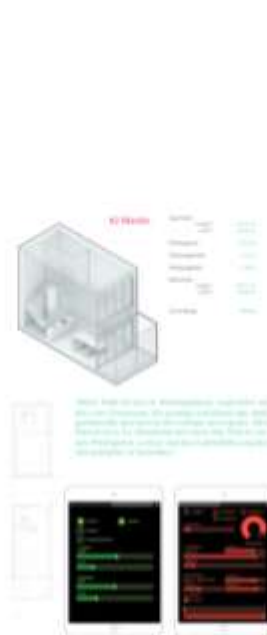
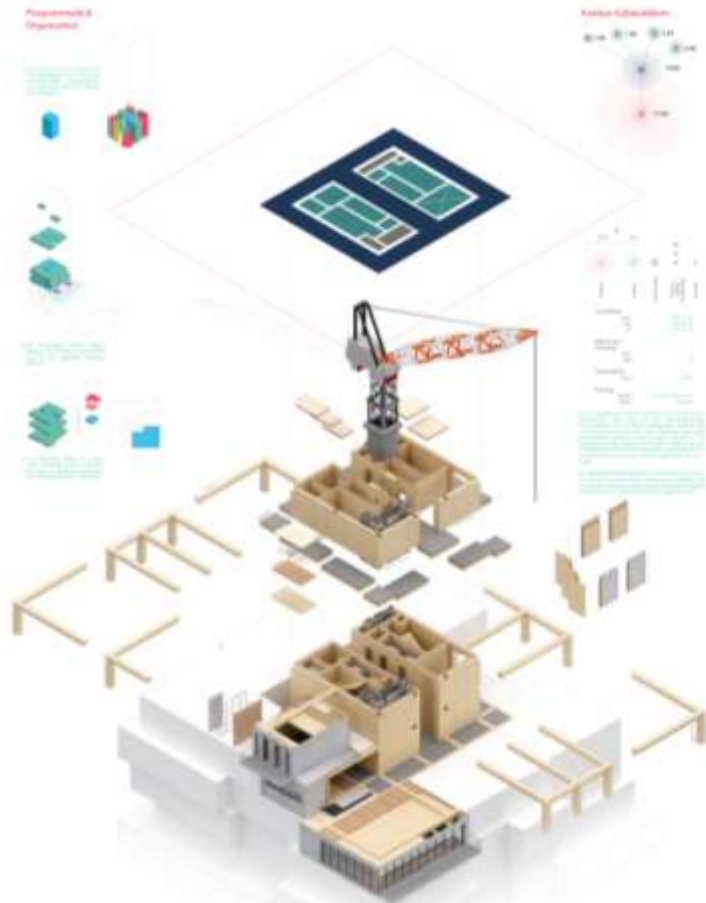




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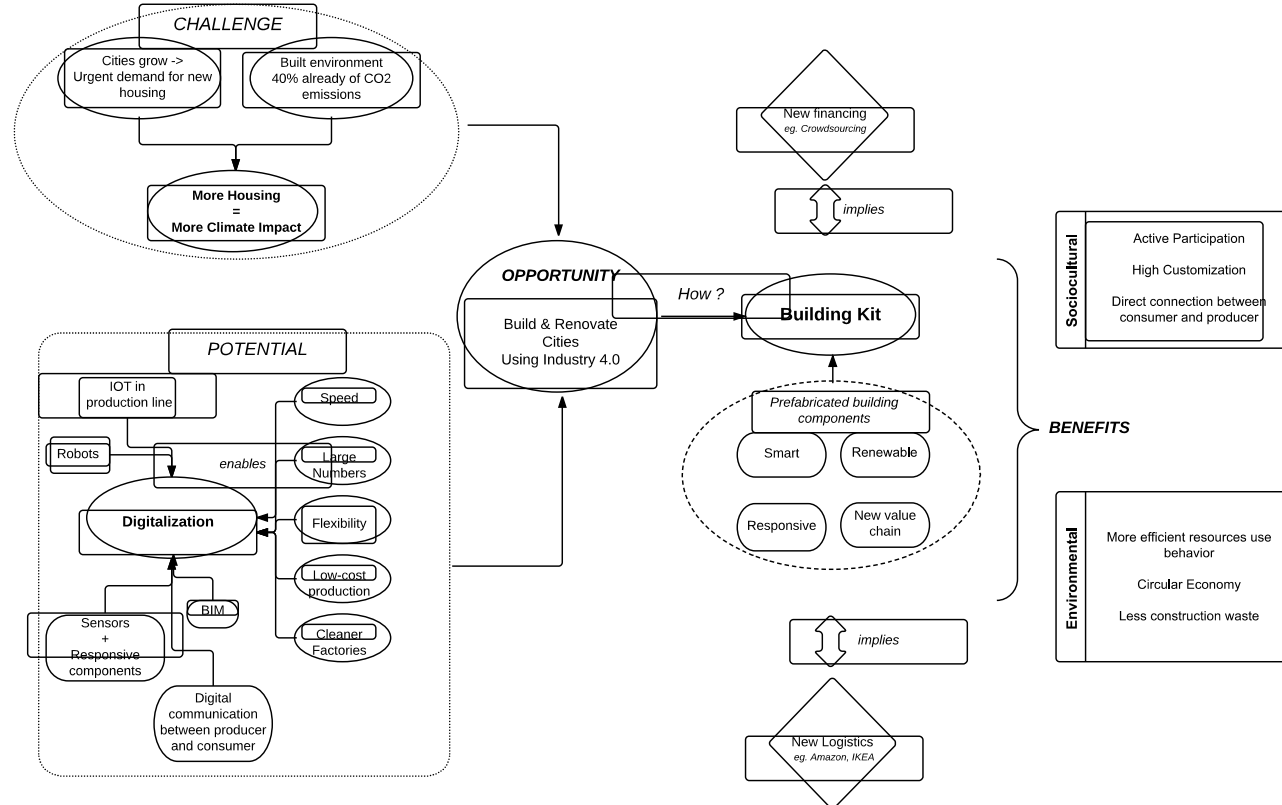




Intelligent Prefabrication...

or else how the development of Industry 4.0 and Digitalization could allow for the construction of prefabricated buildings which are smart, responsive, greatly flexible and modular, highly energy and resource efficient, yet low-cost and with a highly reduced construction time.

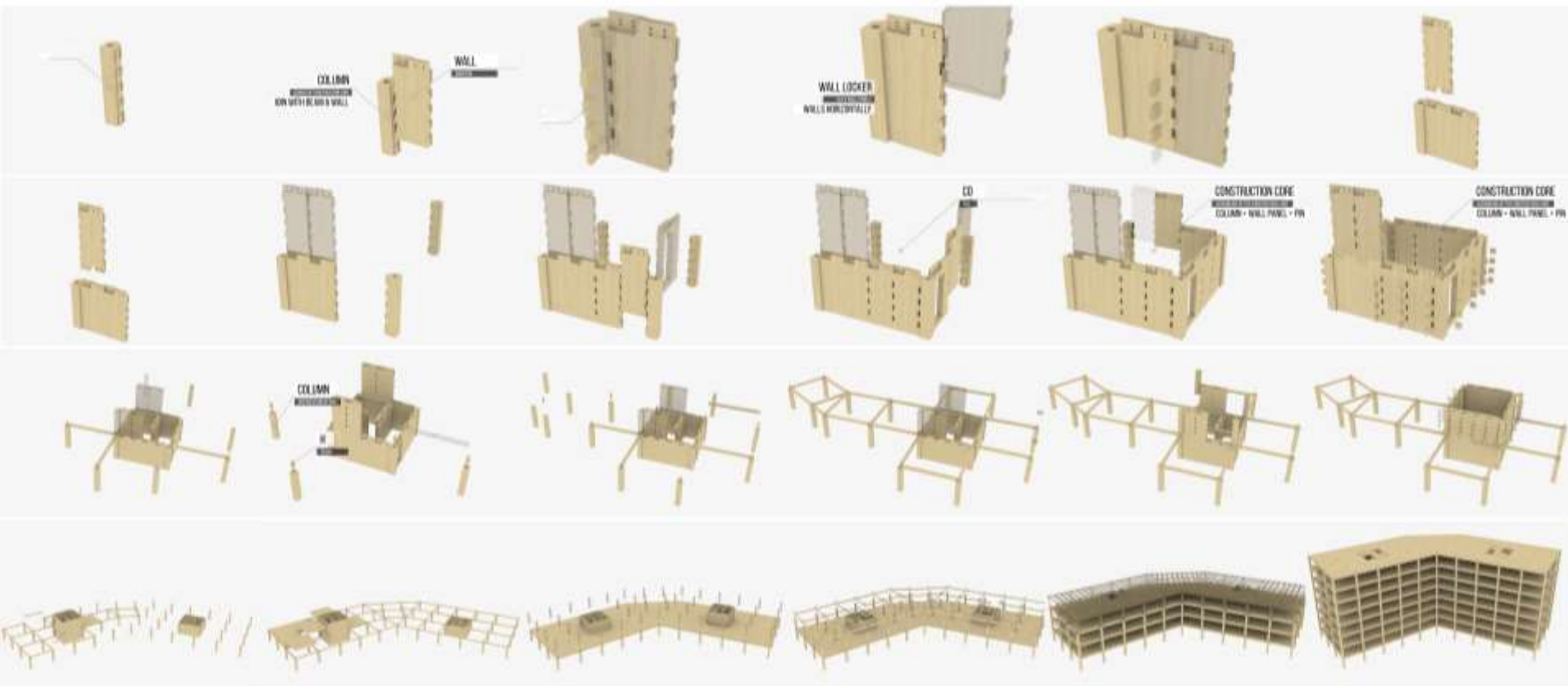
INTELLIGENT PREFABRICATION

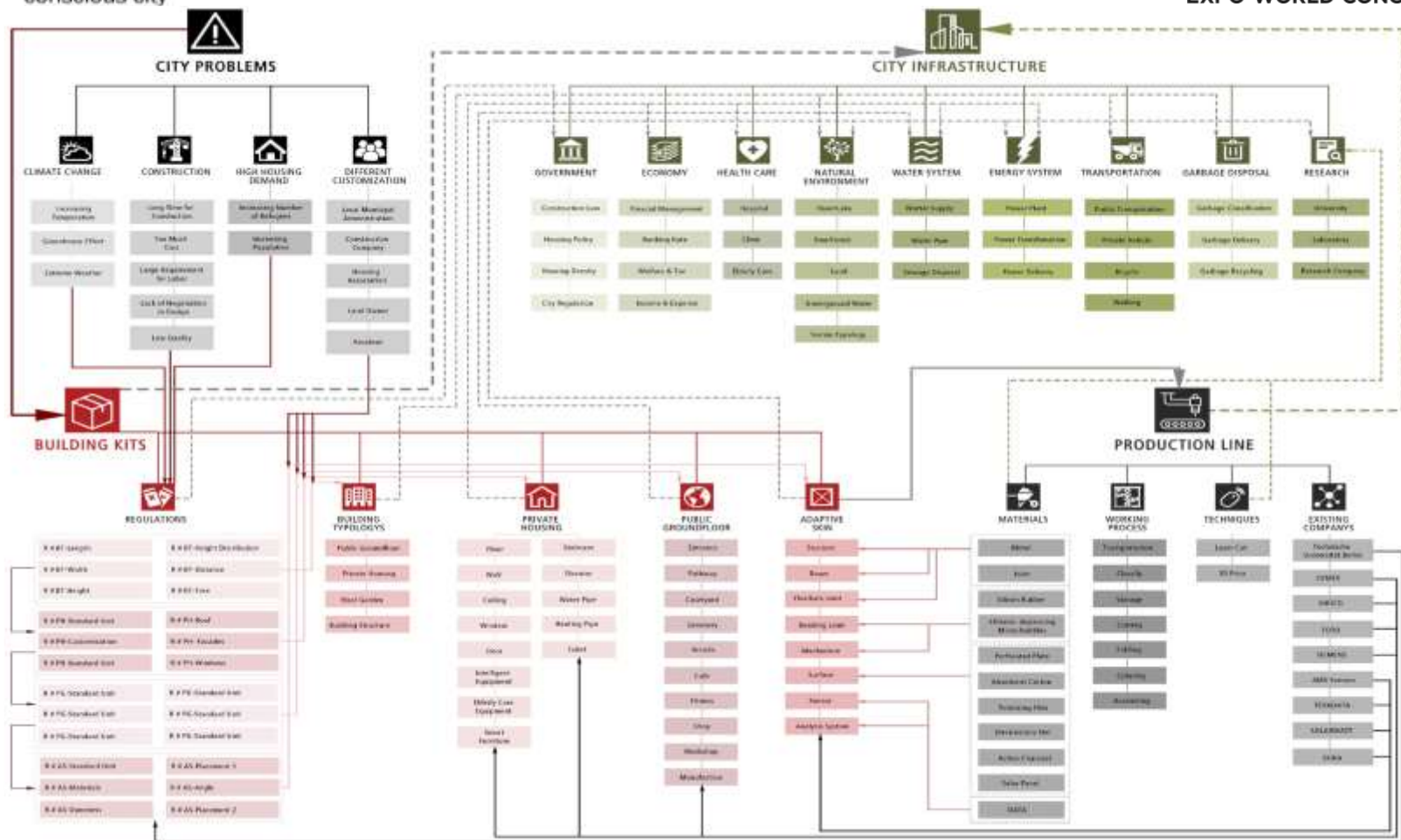


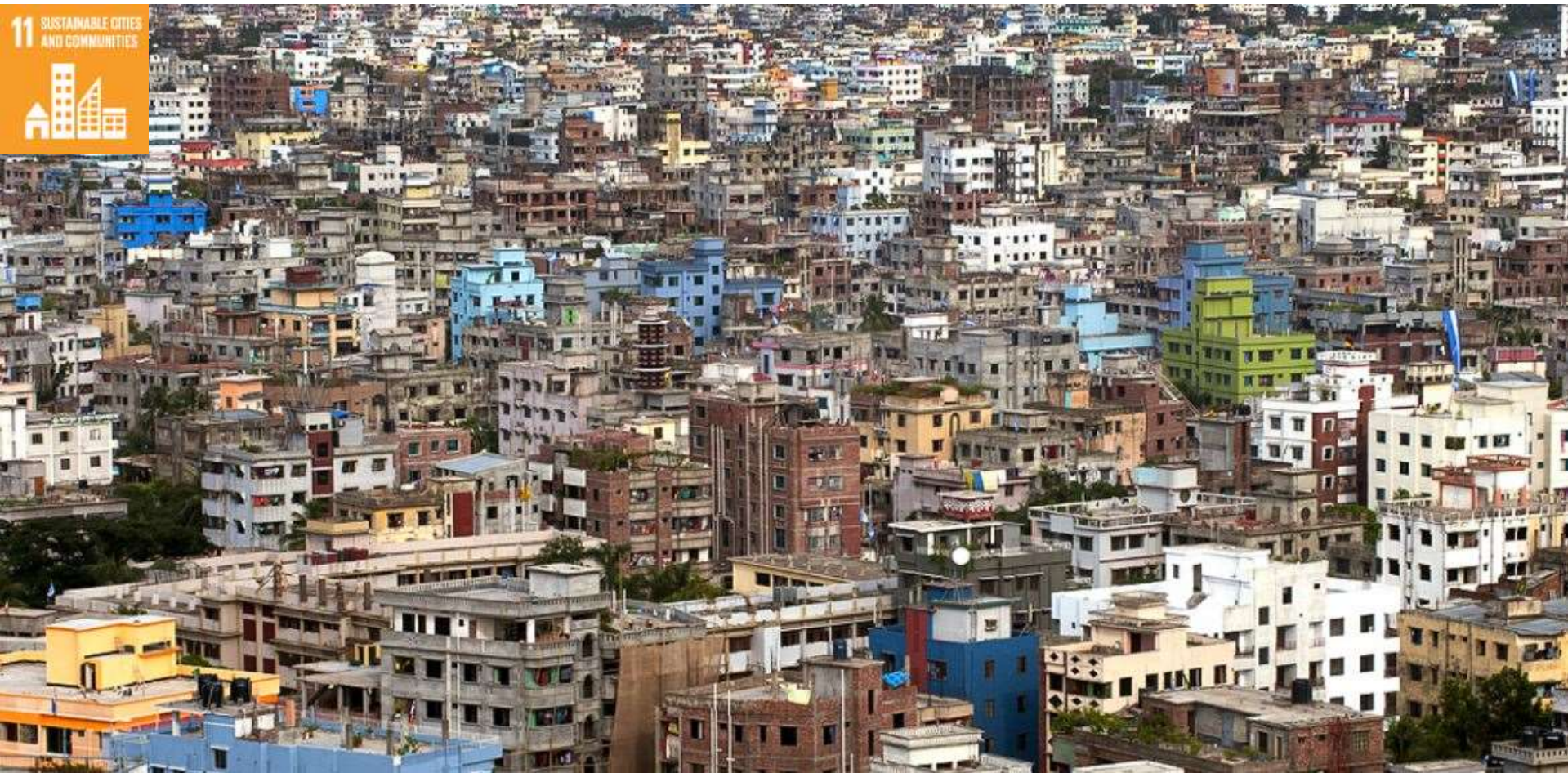


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3.5 billion

3.5 billion people, half of the world's population, live in cities. By 2050, the urban population is expected to reach 6.5 billion

3%

Cities occupy just 3 percent of the Earth's land but account for 60 to 80 percent of energy consumption and 75 percent of carbon emissions.

828 million

Currently 828 million people live in slums, and the number is rising.

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Fira Barcelona