urban beta

BETAPORT

KREISLAUFFÄHIG BAUEN MIT ADAPTIVEN SYSTEMEN

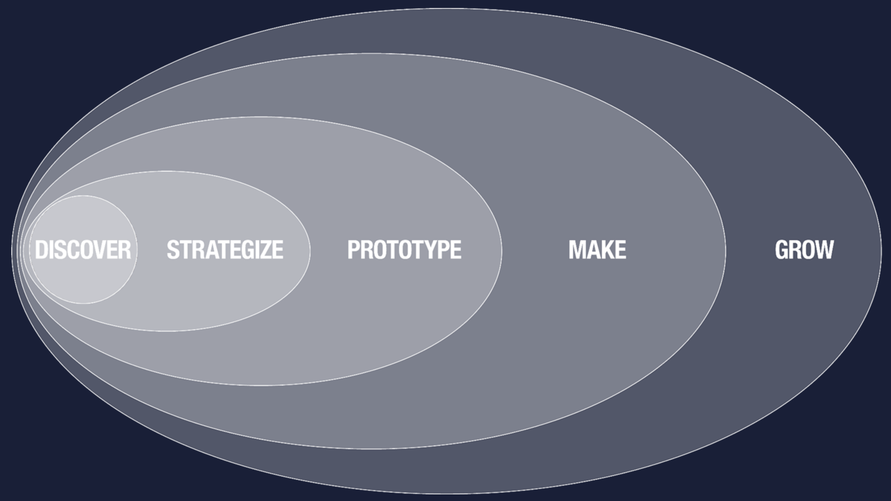
HOLZBAU DIGITAL SYMBOSIUM | 24.03.2022

WE ARE
URBAN BETA

Urban Beta is a spatial innovation studio creating inclusive, innovative and transformative spaces.

Our work deals with social justice, predictive planning, co-creation and the democratization of design. We are an interdisciplinary team of entrepreneurs, architects, urban planners and project developers, who aim for transformative projects.

Together, we develop future-proof concepts for sustainable urban planning, architecture, design, interiors and mobility.



Our participatory methodology

URBAN BETA
FOUNDING PARTNERS

ANKE PARSON

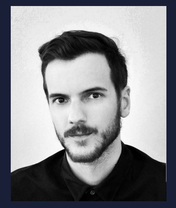
Managing Partner
Urbanism
Project Development

MARVIN BRATKE

Managing Partner
Creative Concept
Mobility Innovation

FLORIAN MICHAELIS

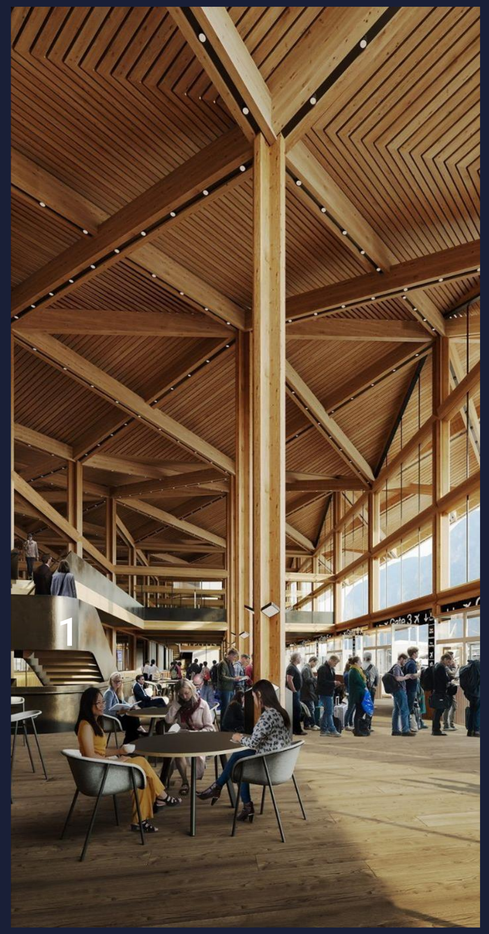
Managing Partner
Realization
Circular Economy



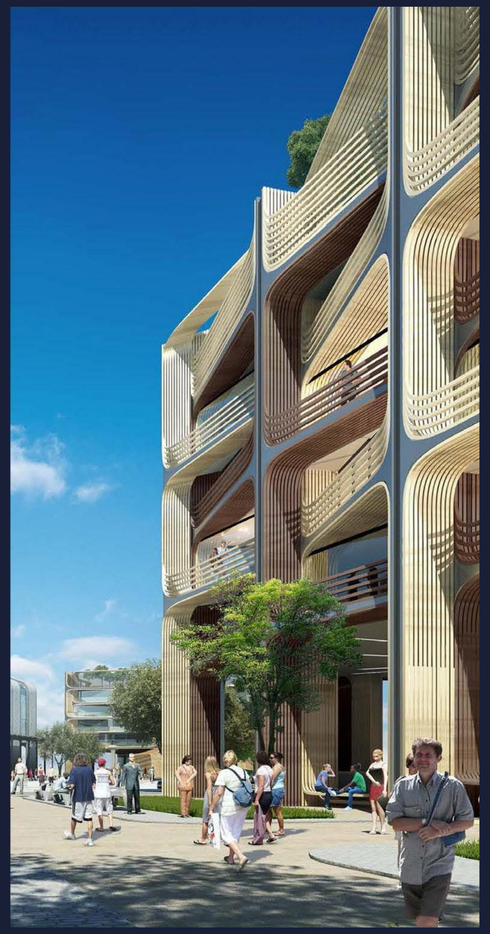
PAUL CLEMENS BART

Managing Partner
Creation
Foresight

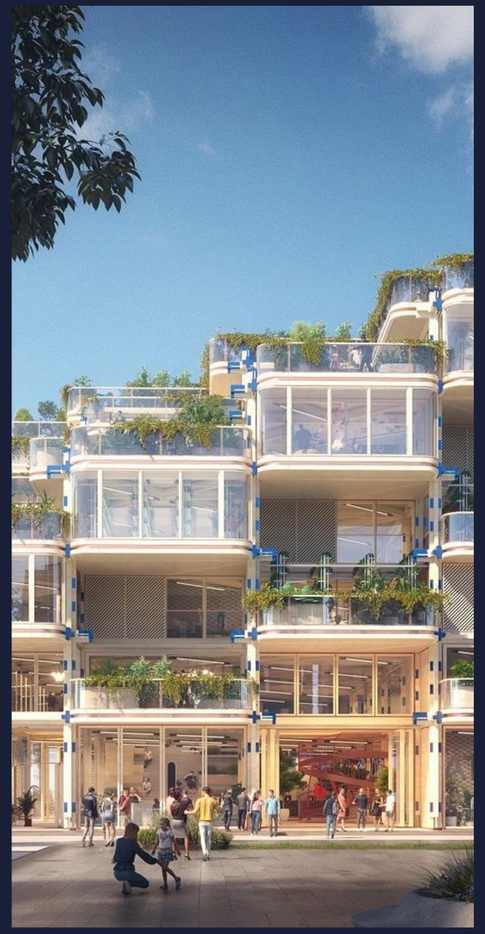
URBAN BETA – SPATIAL INNOVATION
OUR SERVICES



Sustainable Architecture and Urbanism



Project and Product Development



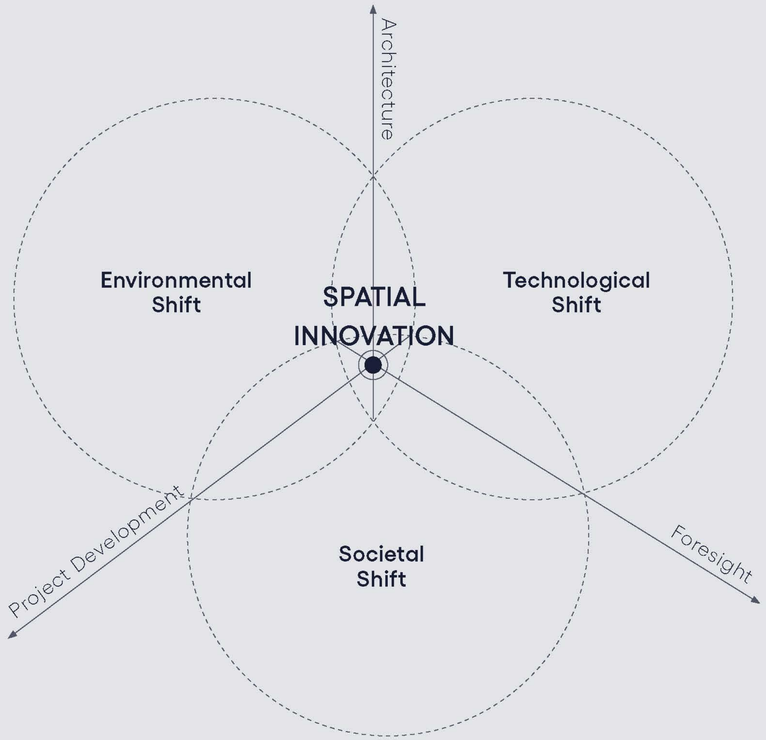
Ecologic Building Technology

Digital Strategies and Interactive Tools

Foresight and Consulting

SPATIAL INNOVATION

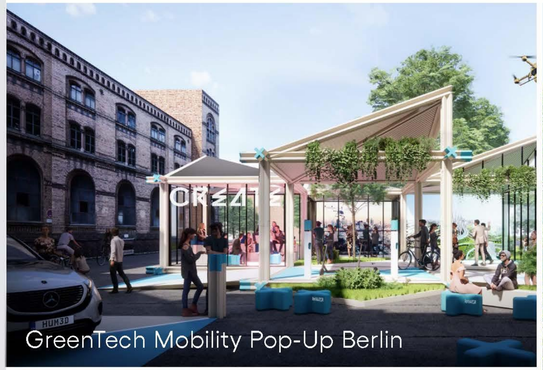
We act at the interface of societal, environmental and technological shifts.
As an interdisciplinary team of architects, urbanists, graphic designers and project developers, we are specialized in spatial projects with a positive footprint. With our network, we ensure the ecologic, economic, social and cultural sustainability of our project vision and their efficient realization.




BetaPort Mobility Hub Innsbruck Airport


Circular Daycare Berlin


AR Concept Sindalah Island


GreenTech Mobility Pop-Up Berlin

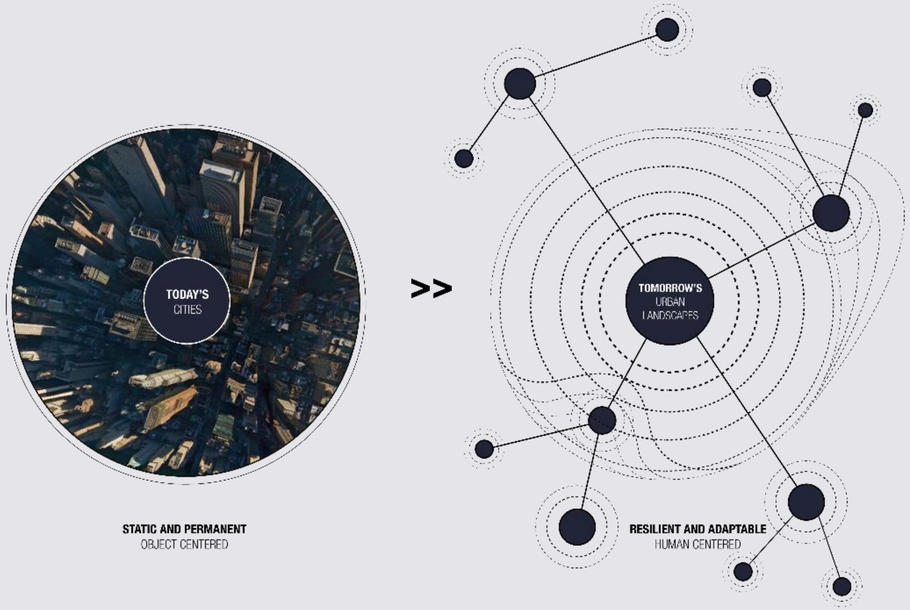

Foram Water Purification Vessel


BetaHood - Sustaible Neighborhoods On-Demand

BRINGING THE NEW INTO THE NOW

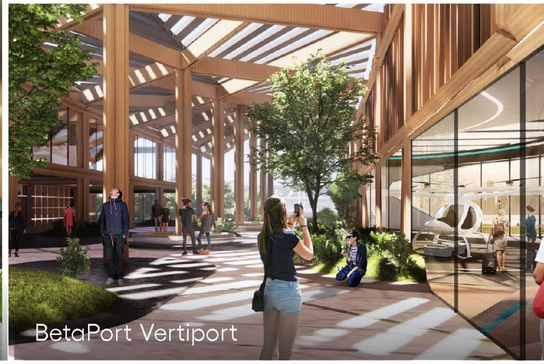
Tomorrow‘s spaces are designed around humans and can react to their changing needs. These spaces live, breathe and interact with us.

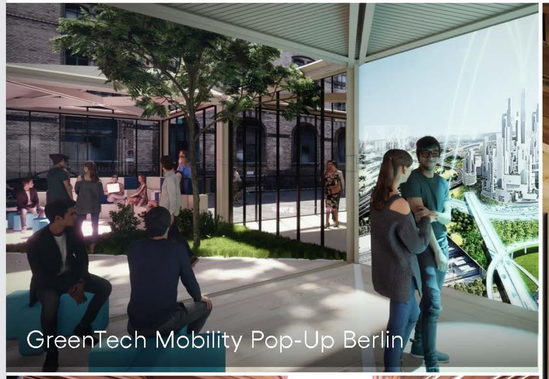
We create transformative spaces, that grow with us and can react to the changing streams of the information society. Our planning acts at the intersection of multiple disciplines and transforms dreams, vision and values into tangible spatial concepts with future-proof narratives.




Fenix - Creative Quarter Prague

Circular Daycare Berlin


BetaPort Vertiport

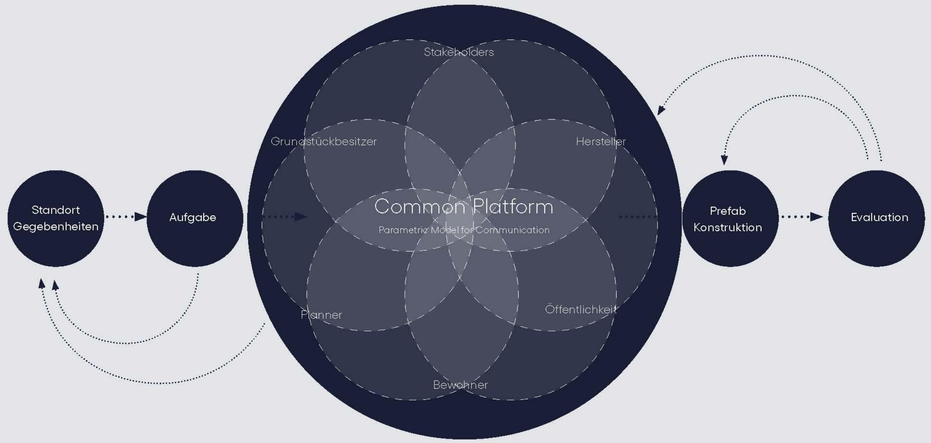

GreenTech Mobility Pop-Up Berlin


Neom Sindalah Island Village

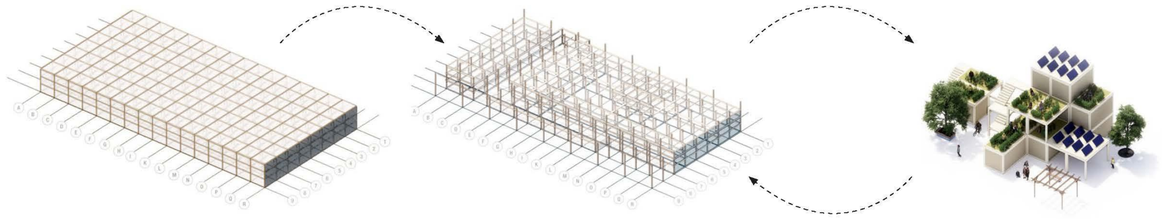

BetaPort Terminal Innsbruck

OUR WORKING METHODOLOGY

Our core principles are based on social inclusion and predictive planning. We see ourselves as an interface for spatial innovation. We develop predictive planning tools and create platforms for participatory co-creation processes and seamless transitions between physical and digital.



INTERACTIVE AND PARTICIPATORY PLANNING TOOLS

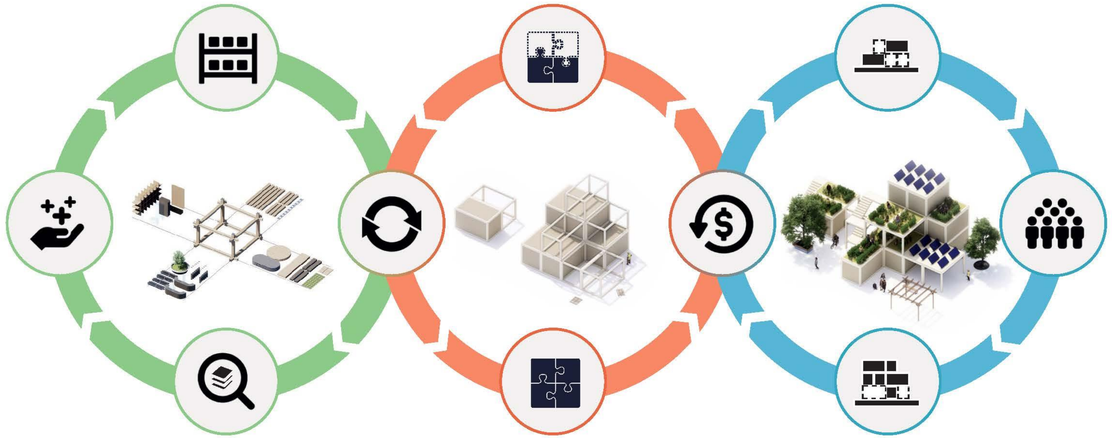


3D Voxel Setup
Definition der bebaubaren Fläche

Konstruktionsraster
Generieren der Stützen und Konstruktion

Individuelle Details
Identifikation und lokale Faktoren

DEVELOPING CIRCULAR BUSINESS MODELS

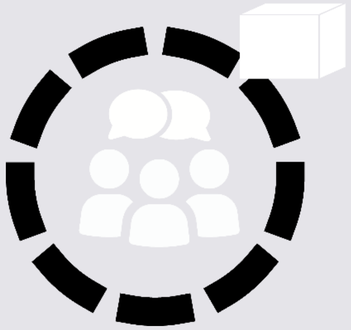


Materialkreislauf

Konstruktionskreislauf

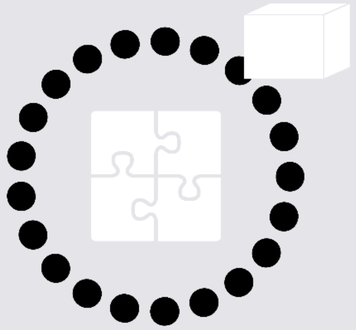
Nutzungskreislauf

OUR PURPOSE AND VALUES



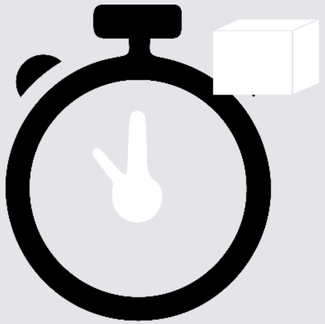
Impact through Empathy

Social inclusion with human centered design is at the core of all our projects. We develop our spatial projects with a participatory approach to provide social infrastructure. Our work deals with social justice including co-creation processes, platforms and circular economy.



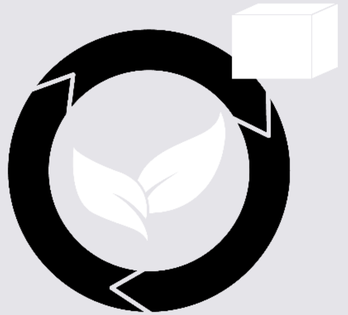
Foresight By Design

We combine academia with applied research to integrate emerging technologies, innovation, computational models and predictive planning into one combined, holistic approach. Our work aims to enable greater democratization of technology for spatial planning.



Space On-Demand

We create spatial systems, that are scalable and adaptable and can grow with their users over time. Our spatial solutions are flexible and work towards an economy of scale. We design for the future of co-living, co-working, connected infrastructure and their digital twins.



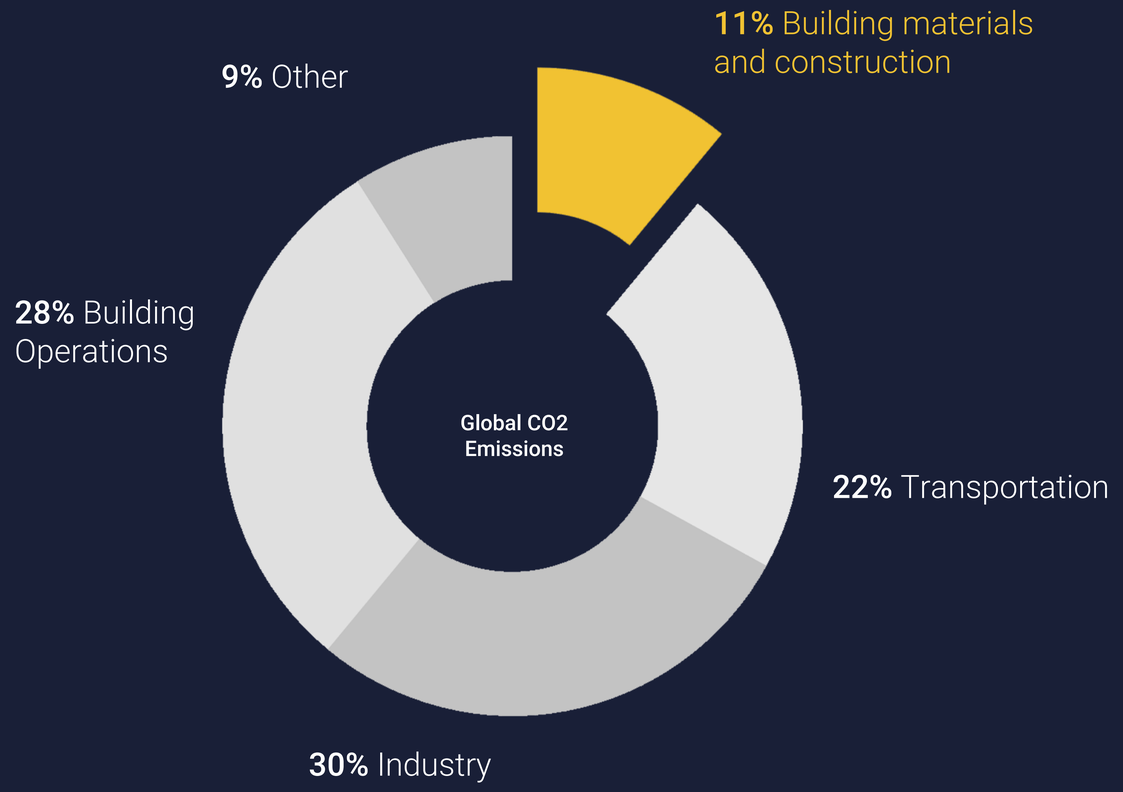
Circular Realization

Our architectures, spatial solutions and products are brought to life through an integrative planning process. We foster circular design approaches, material innovation combined with efficient digital planning and local, ecological manufacturing.

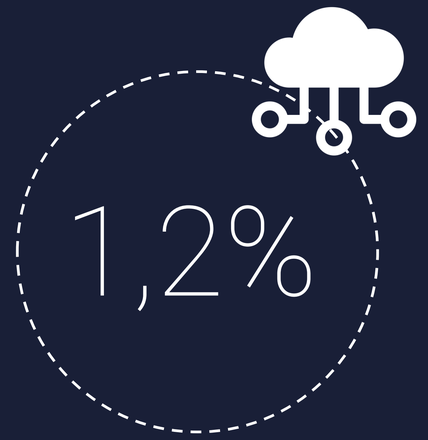
FUTURE CONSTRUCTION CHALLENGES IN THE AGE OF CLIMATE CHANGE

Source: Architecture 2030; World GBC; McKinsey Global Institute - Reinventing construction - A route to higher productivity

urban beta



The building and construction sector accounts for 39% of global CO2 emissions.



IT spending as of revenue (least digitized as of all industries)

FUTURE CONSTRUCTION CHALLENGES

REBUILD, REUSE AND RECONFIGURE TO PREVENT FUTURE CONSTRUCTION WASTE.

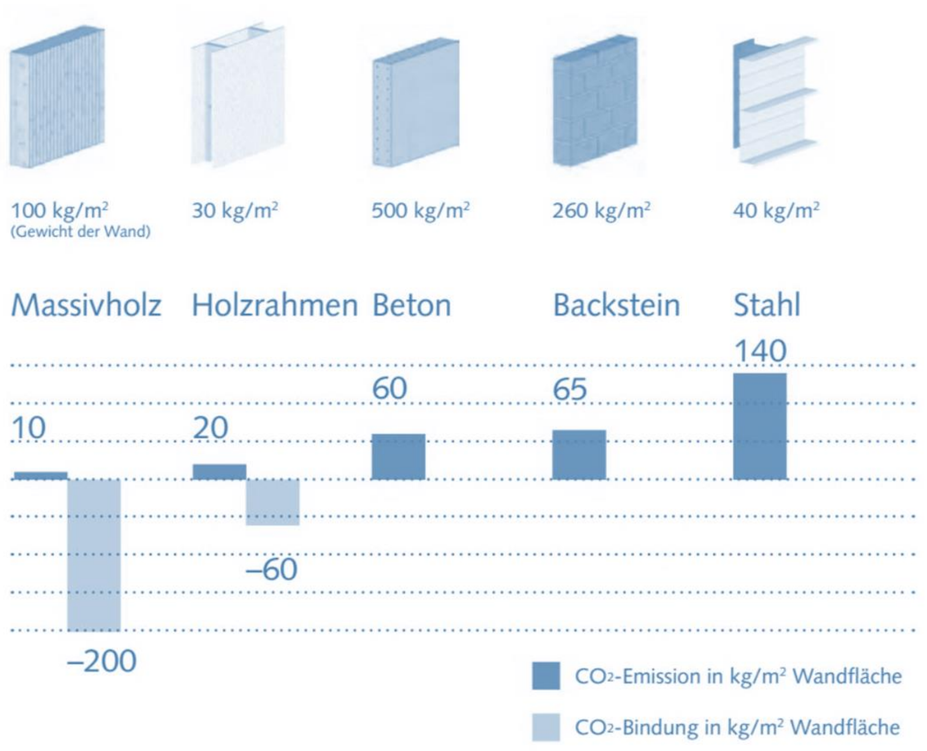
Construction and demolition waste comprises the largest waste stream in the EU. (850 Mio. t per year - 30-35% of total waste in the EU)

FUTURE CONSTRUCTION CHALLENGES

BUILDINGS NEED NEW WAYS OF CONSTRUCTION TO TACKLE THE CHALLENGES OF CLIMATE CHANGE.

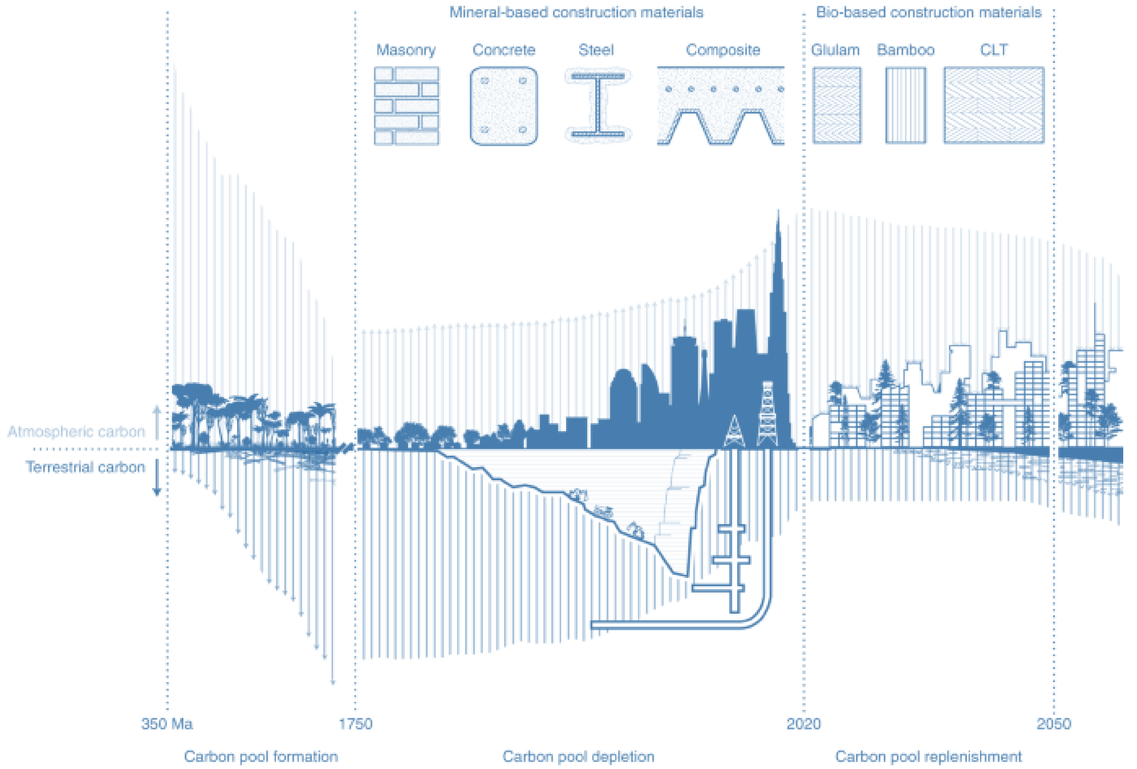
It is not enough to create green envelopes, we must tackle core challenges to transform the linear economy.

FUTURE CONSTRUCTION



Carbon Emissions by Material

From: “Bauen mit Holz – Wohnbauten. Umbauen – erneuern – erweitern“ , Lignum



Engineering a Global Carbon Sink

From: Churkina, G., Organschi, A., Reyer, C.P.O. et al. « Buildings as a global carbon sink ». N"at Sustain 3, 269–276, 2020

FUTURE CONSTRUCTION CHALLENGES

MULTIFUNCTIONAL AND FLEXIBLE BUILDINGS THAT ARE EASY TO UNDERSTAND AND CAN GROW WITH US.

Tomorrow’s buildings are not monofunctional, but facilitate many purposes.

TRANSFORMATIVE SPACES

>>

STATIC AND PERMANENT
Object Oriented

DYNAMIC AND TRANSFORMATIVE
Human Centered

ARCHITECTURE AND AUTOMATION

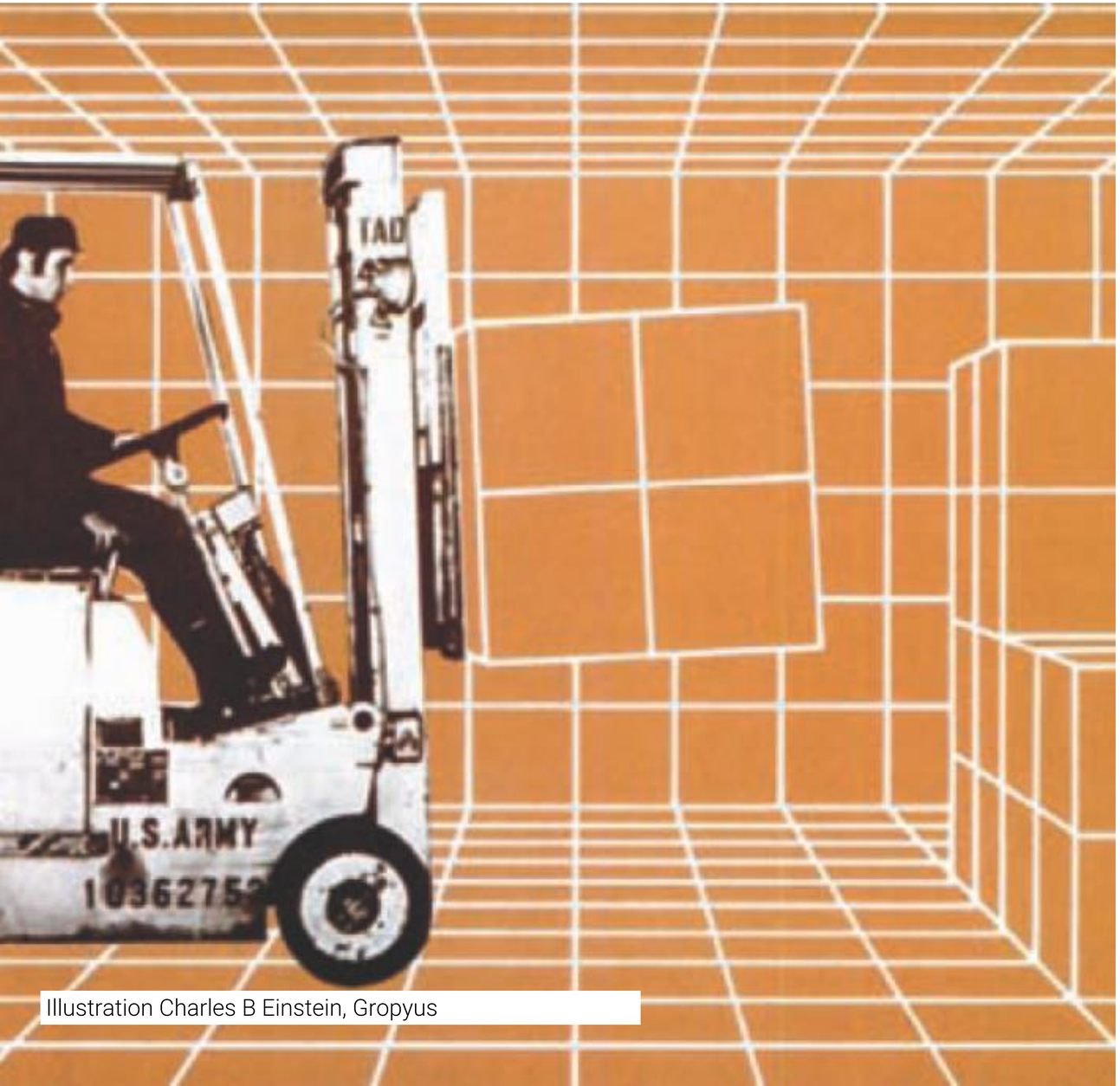
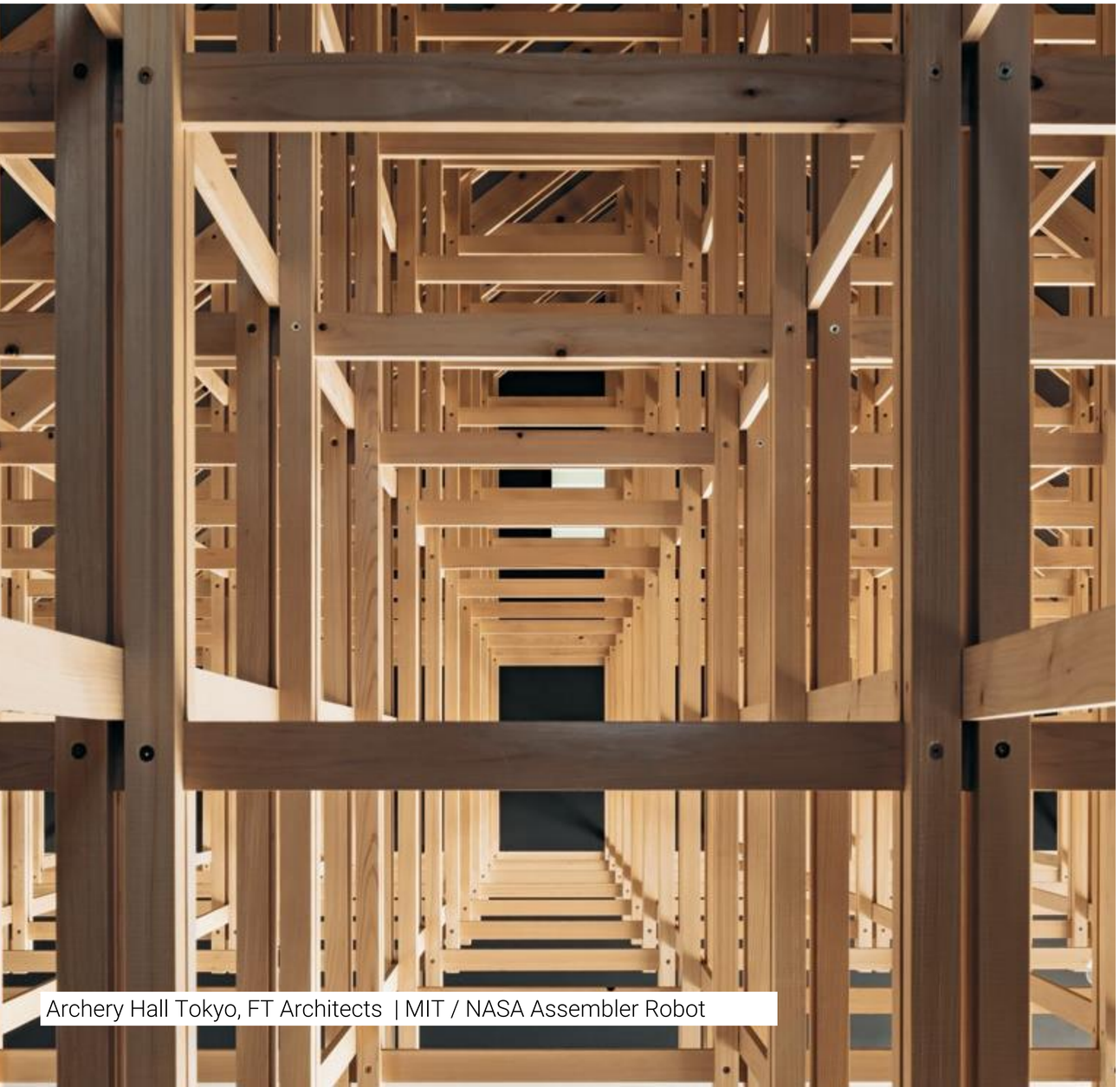
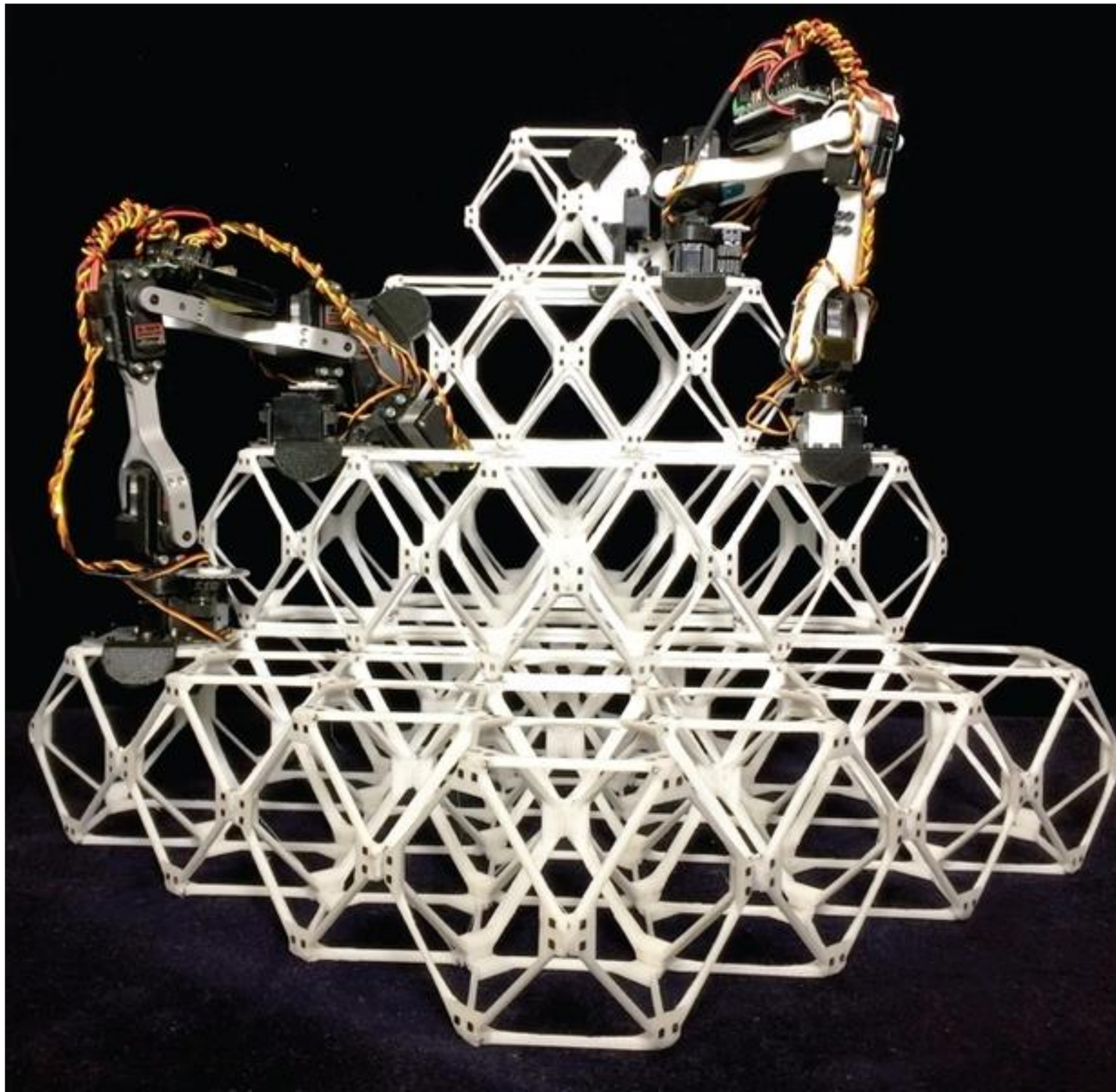


Illustration Charles B Einstein, Gropyus

FRAMEWORK AND ASSEMBLY

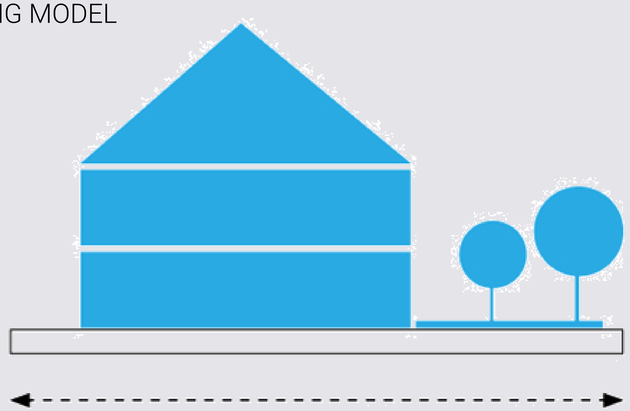


Archery Hall Tokyo, FT Architects | MIT / NASA Assembler Robot



ARCHITECTURE AS MOBILE SYSTEM

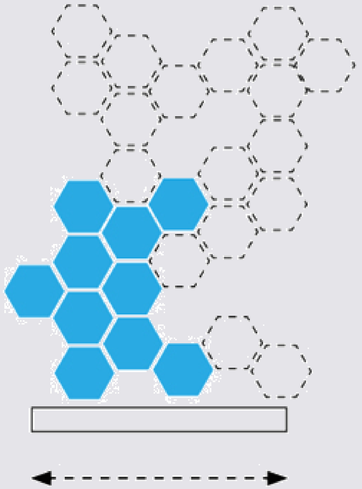
SUBURBAN HOUSING MODEL



LARGE AMOUNT OF SPACE-PER-PERSON

Suburbian residential models, influenced by the rise of personal mobility.

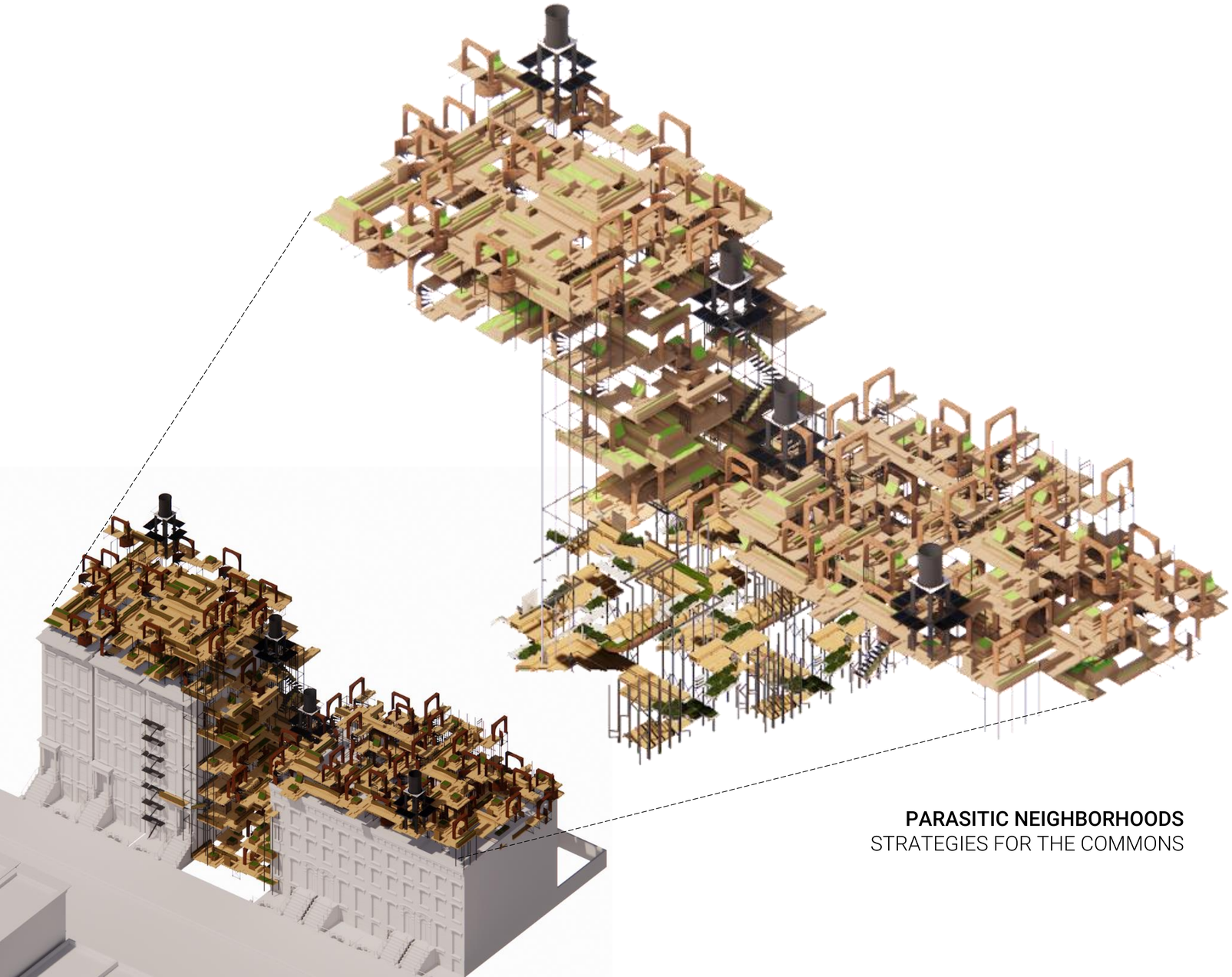
SPATIAL SYSTEMS



FLEXIBLE AMOUNT OF 3D SPACE

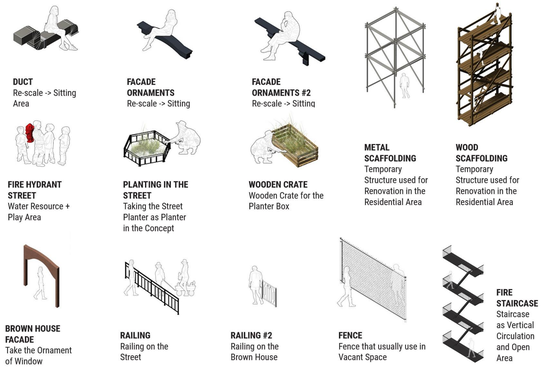
Influenced by rising population, autonomous systems, urbanization and the need for densification.

AAVSNY 2021 – COMMON GROUNDS

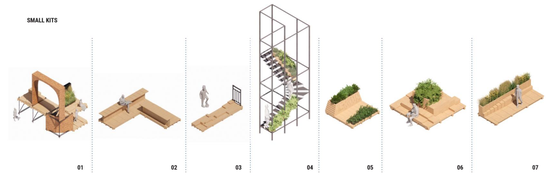


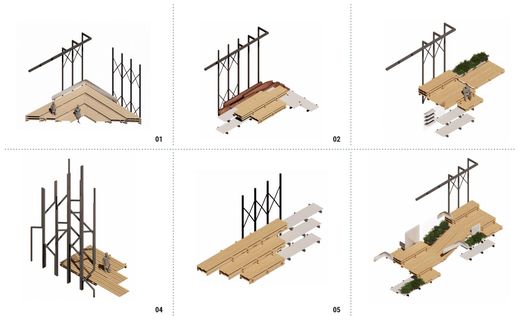
PARASITIC NEIGHBORHOODS
STRATEGIES FOR THE COMMONS

1 CATALOGUE SECONDARY MATERIALS

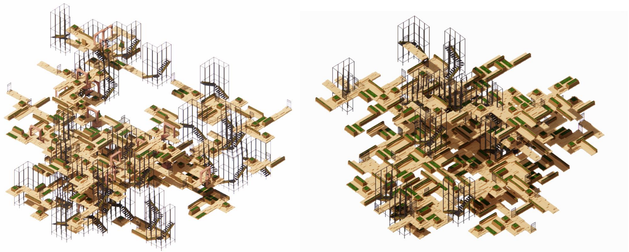


2 KIT OF PARTS COMPUTATIONA ASSEMBLLY

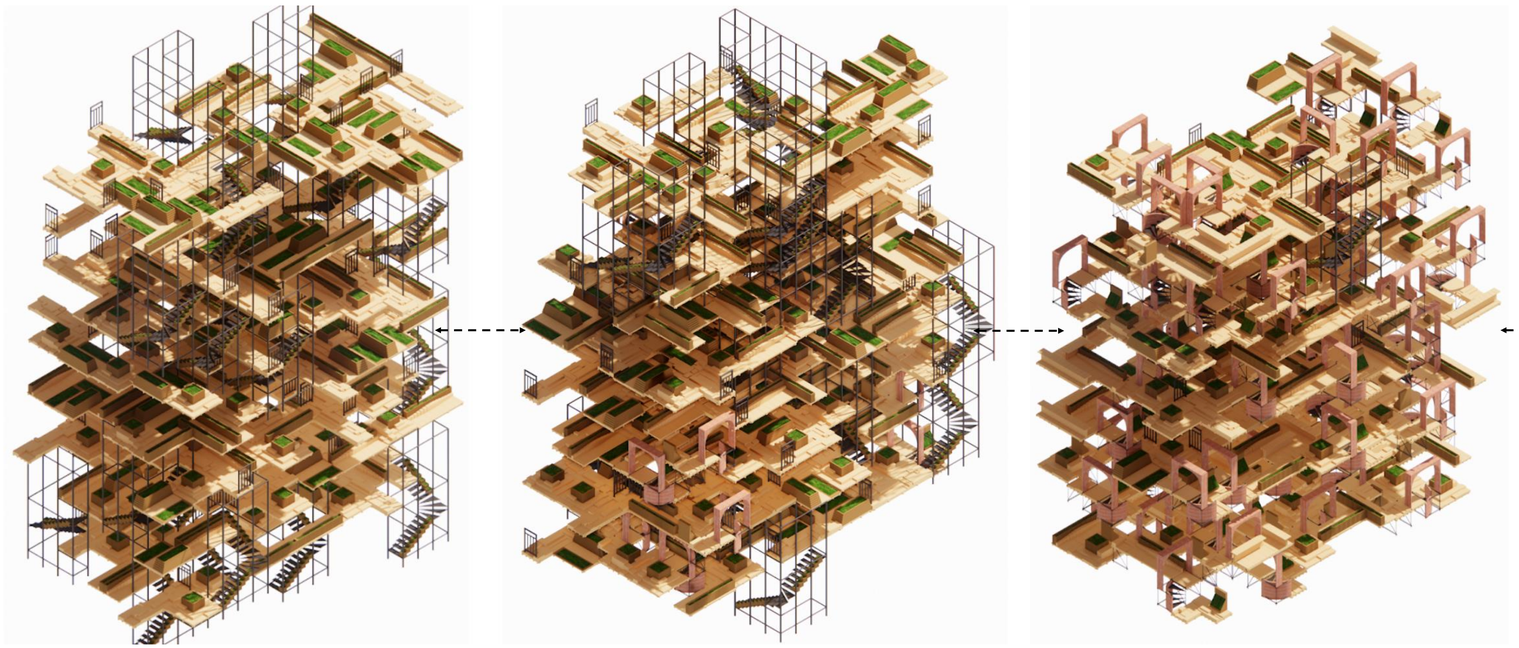




3 CHUNKS AGGREGATED EVALUATED

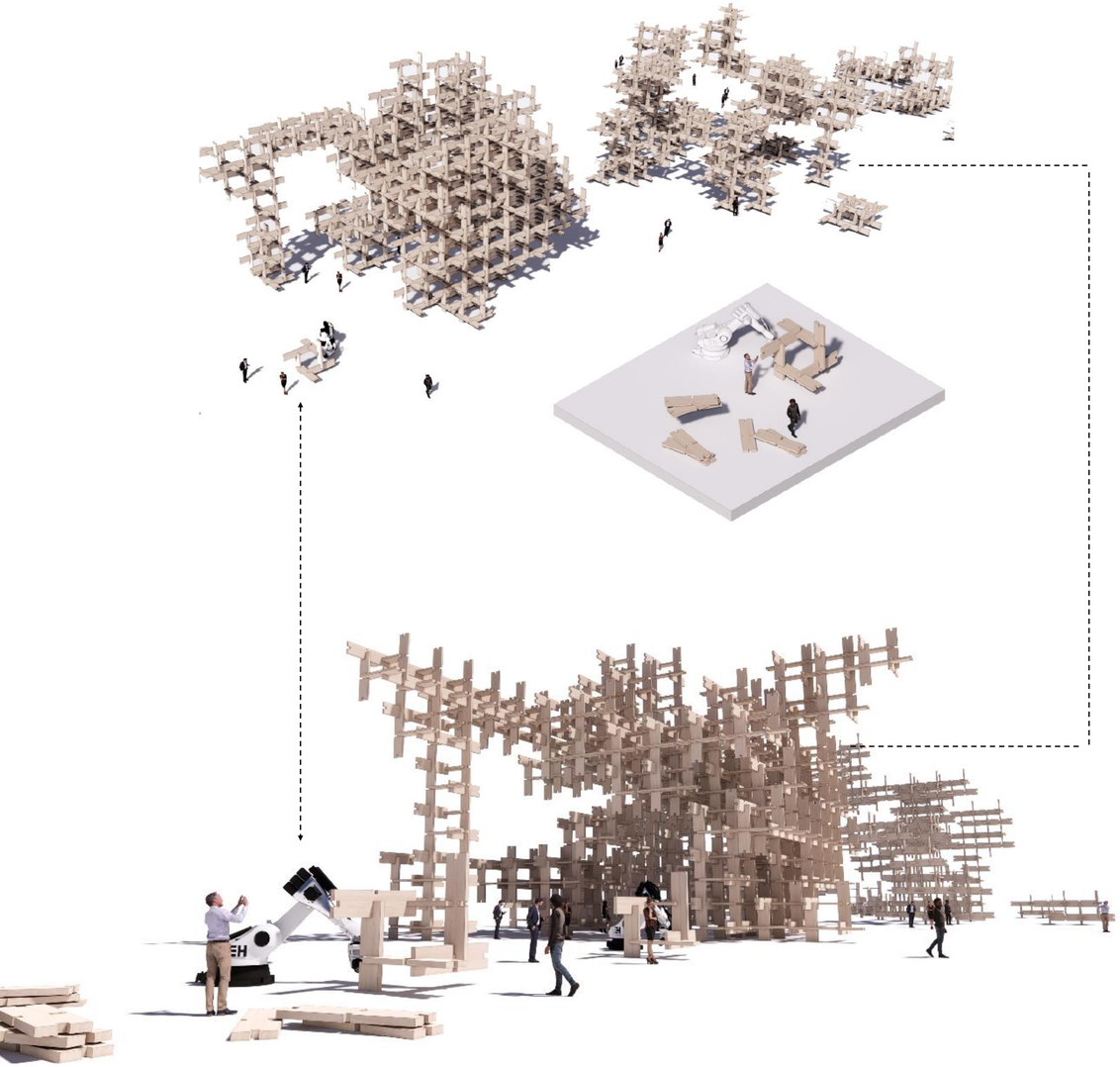


AAVSNY 2021 – COMMON GROUNDS

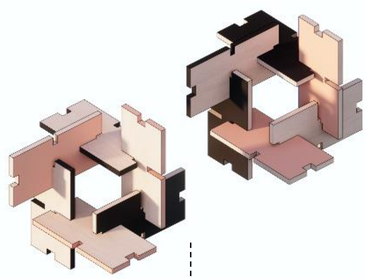


COMPUTATIONAL MODEL EVALUATION
AUTOMATING DESIGN OPTIONS ALONG FITNESS CRITERIA

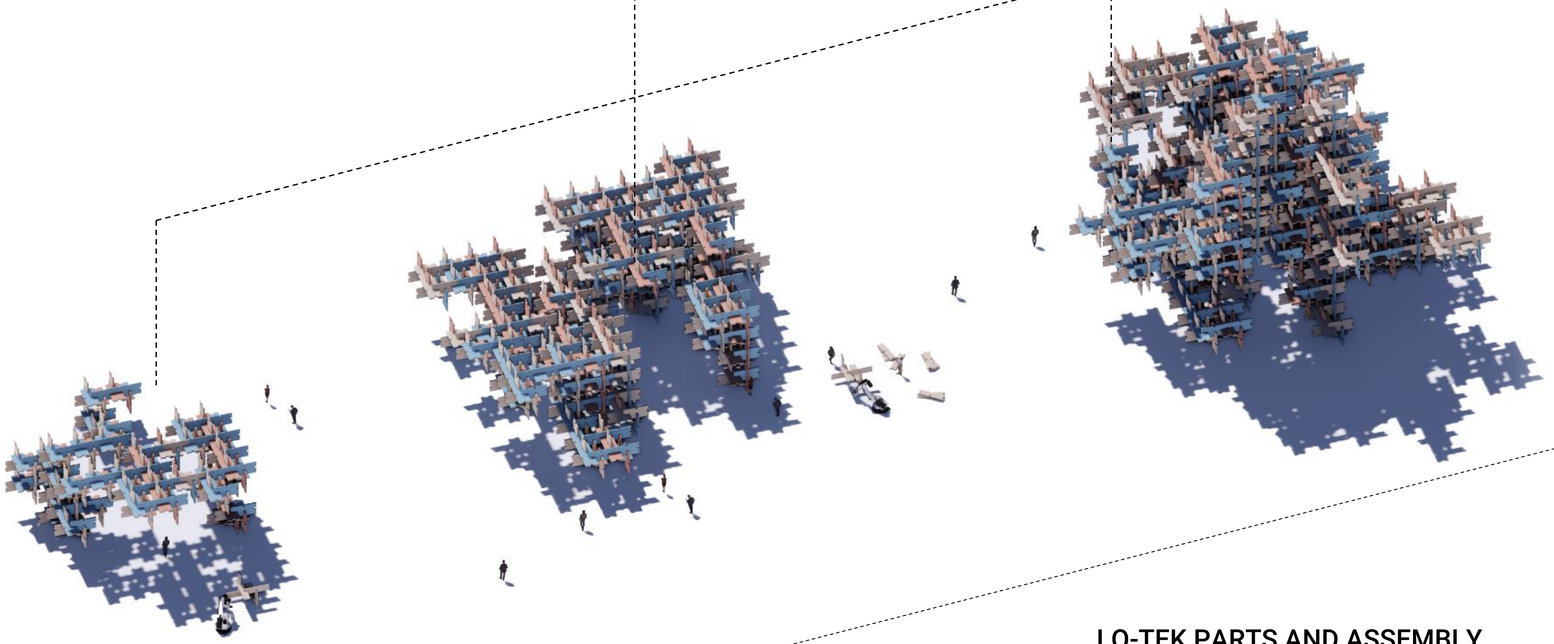
BARTLETT B-PRO
COMPUTATIONAL TIMBER

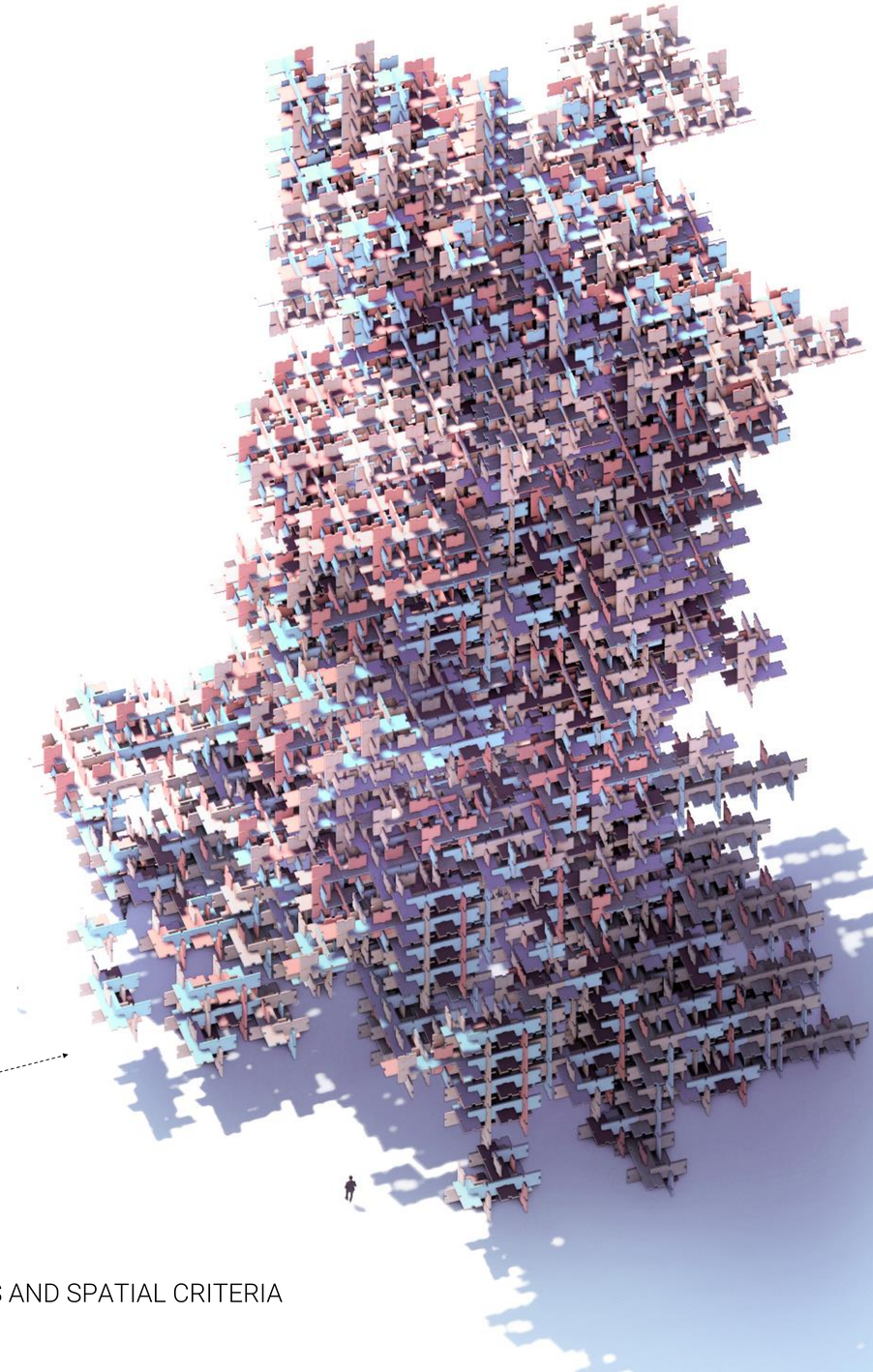


BARTLETT B-PRO
COMPUTATIONAL TIMBER



TIMBER JOINERYY
DEMOCRATIC BUILDING PRINCIPLES





LO-TEK PARTS AND ASSEMBLY
AUTOMATION IN EVALUATING OPTIONS AND SPATIAL CRITERIA

NEW EUROPEAN BAUHAUS STUDIO

NEW EUROPEAN BAUHAUS STUDIO

KIT FROM PARTS LOGIC

DESIGNED FOR RE-ASSEMBLY

BETAHOOD
NOMADIC QUARTERS

urban beta

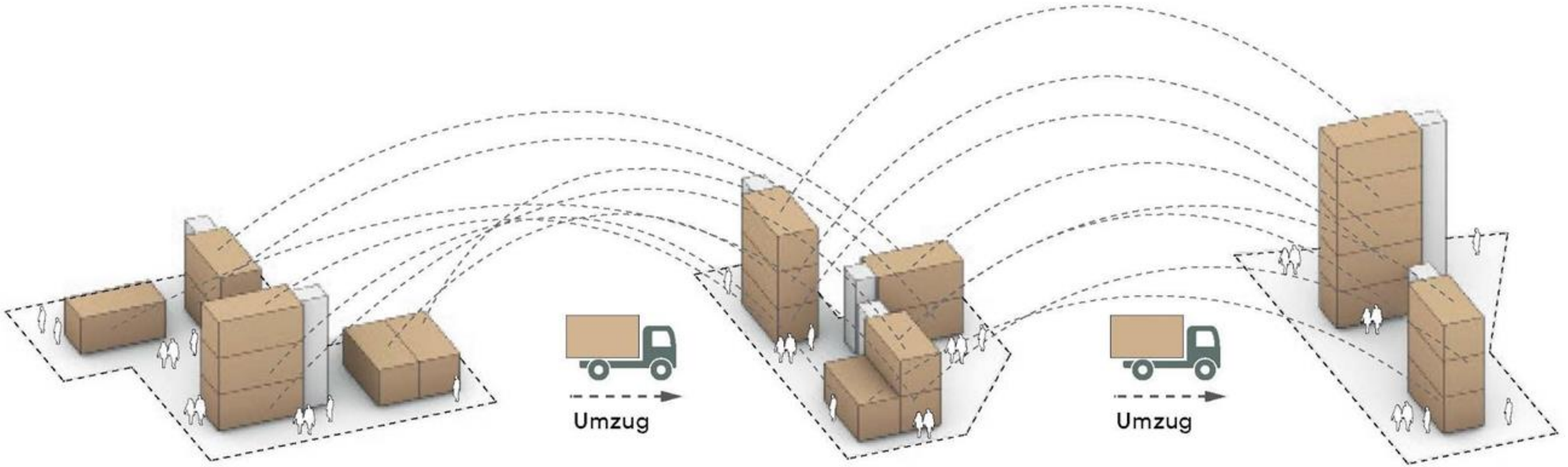
GEFÖRDERT DURCH

ZUKUNFT BAU
FÖRDERN FORSCHEN ENTWICKELN

INITIALPROJEKT

New European Bauhaus
beautiful, sustainable, together

CORE CONCEPT
NOMADIC NEIGHBORHOOD



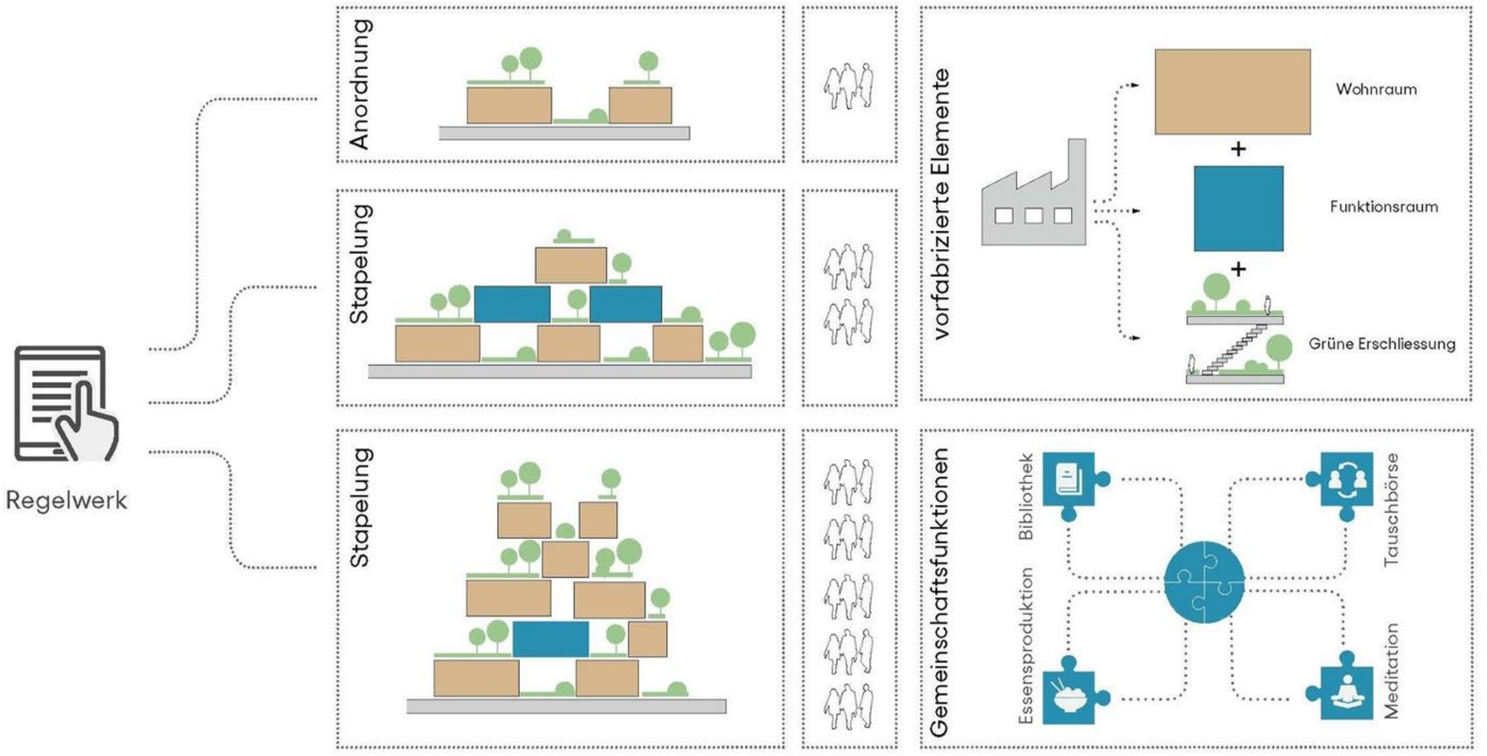
Baufeld A
max. 5 Jahre

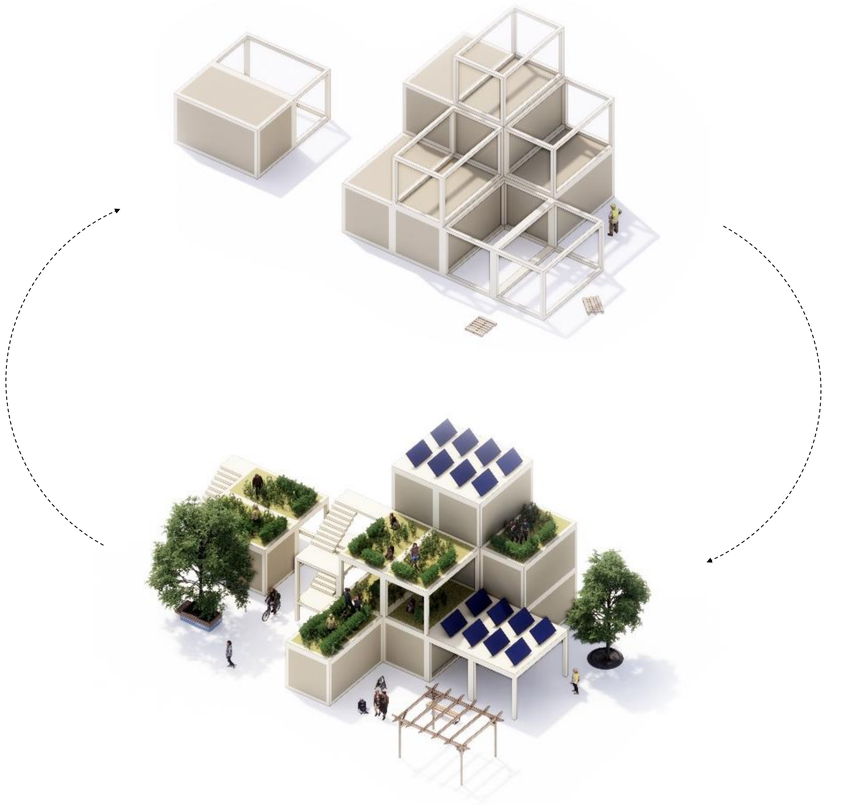
Baufeld B
max. 5 Jahre

Baufeld C
max. 5 Jahre

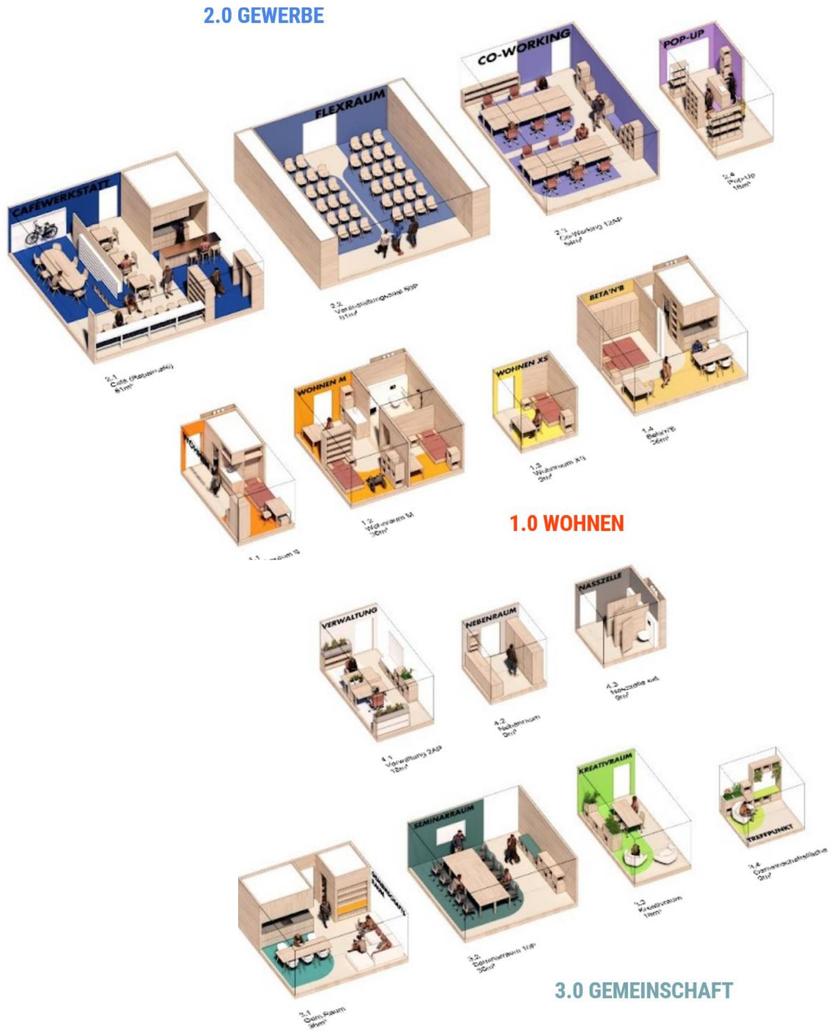
AUTOMATING POTENTIAL SITES

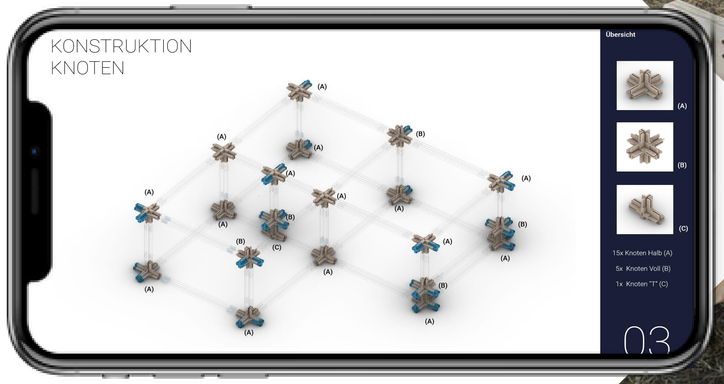
AN INTERACTIVE MANUAL FOR NOMADIC NEIGHBORHOODS





AN INTERACTIVE MANUAL FOR DEMOCRATIC CONSTRUCTION






BETAPORT
CIRCULAR BUILDING TECHNOLOGY ON-DEMAND

CIRCULAR STRATEGY

BETAPORT
MOBILITY HUB SYSTEM

UB
urban beta

ADAPTABLE PRODUCT LINE

XS
Parklet

From 5 sqm
BetaPort One System
From 2022

S
Pop-Up

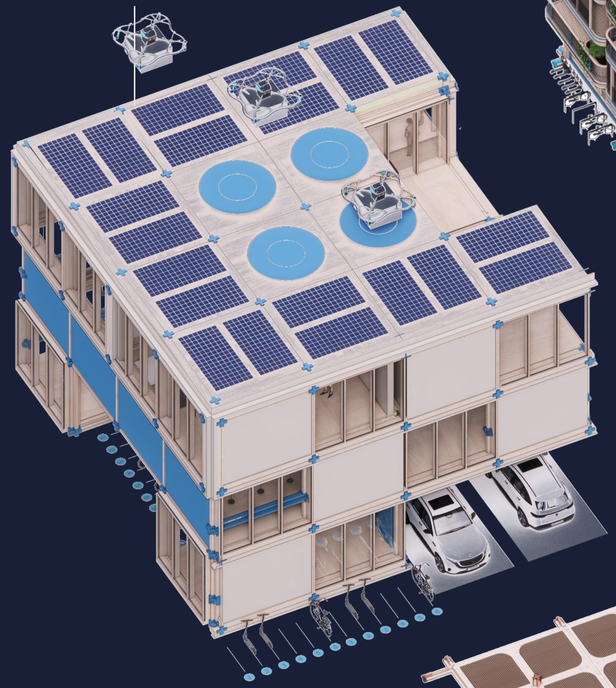
From 50 sqm
BetaPort One System
From 2021

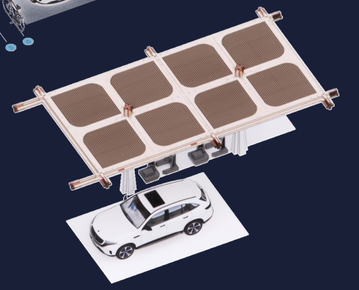
M
Smart Mobility Hub

From 100 sqm
BetaPort Next System
From 2022

L
Mobility Centre

From 1.000 sqm
BetaPort Next System
From 2023





S
Charger

From 12 sqm
BetaPort Next System
From 2023

XL
Mixed Use

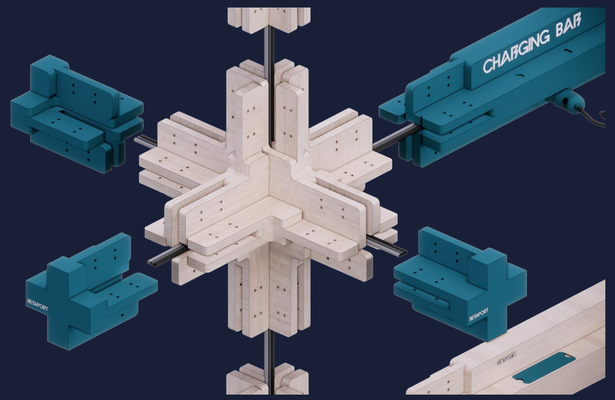
From 5.000 sqm
BetaPort System
From 2025

HOW IT WORKS

urban beta

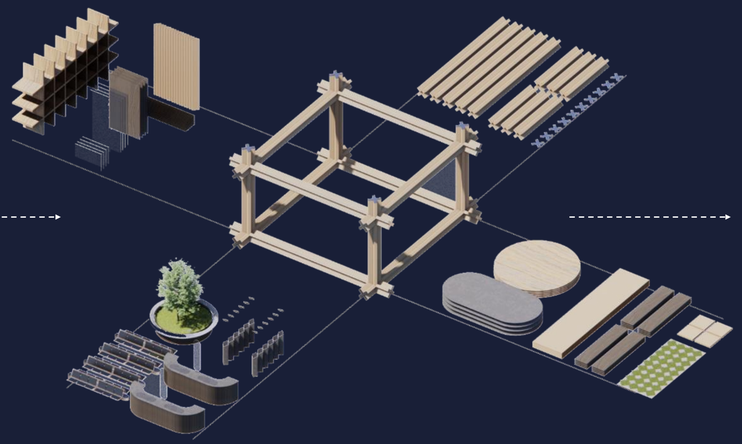
The Knot

Adaptive building block with integrated electrical charging infrastructure.



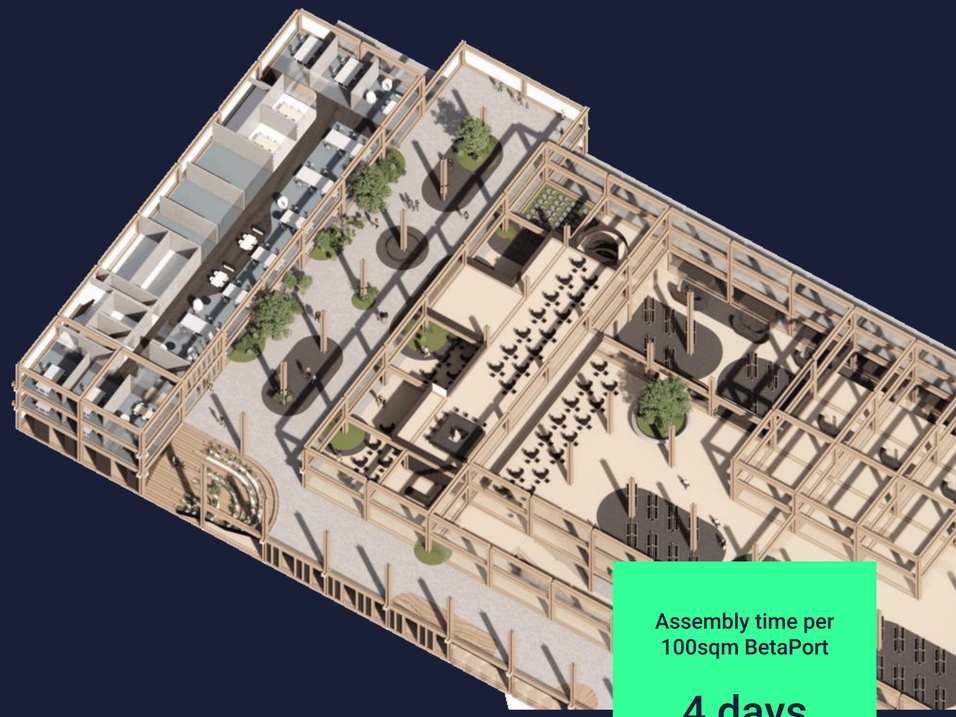
The Voxel

Open system,
flexible and customizable.



A Beta Building

Flexible buildings that can change and adapt over time.

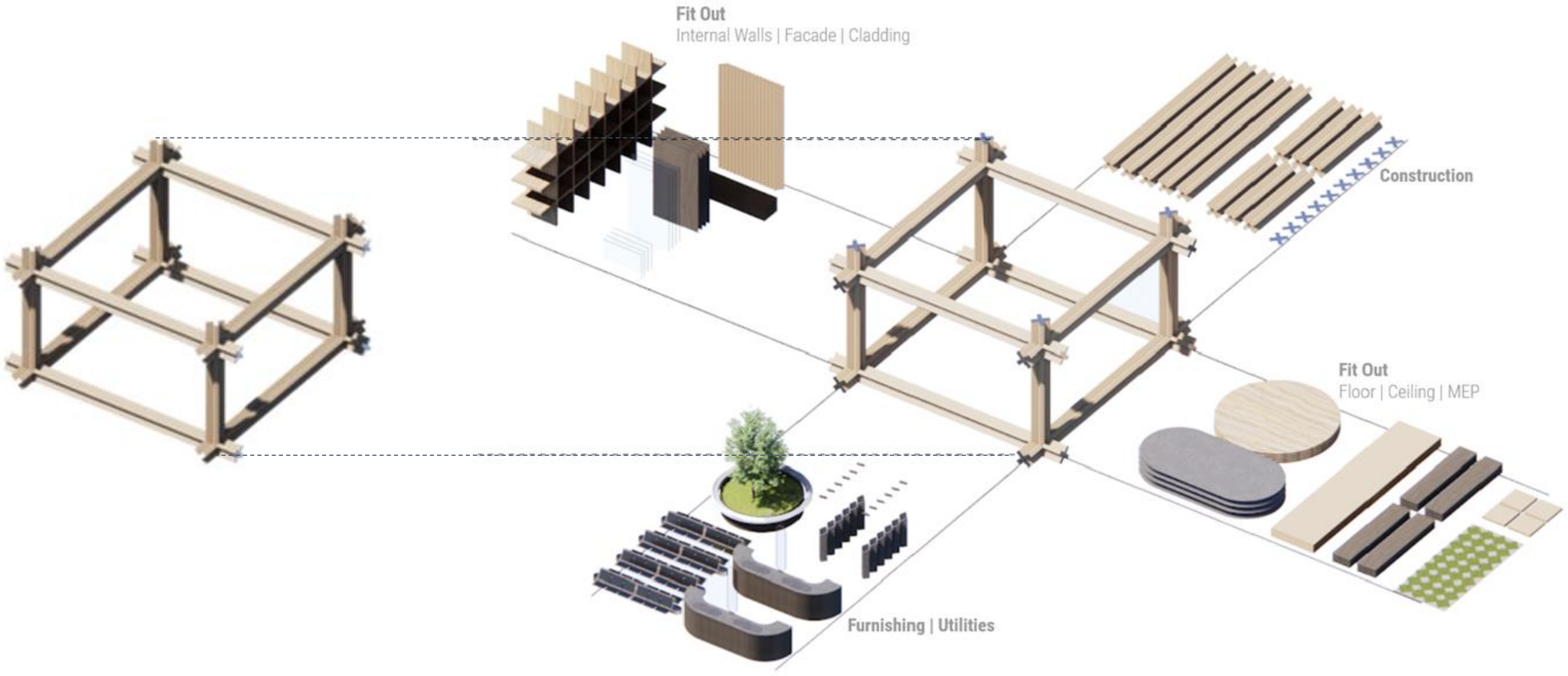


Assembly time per 100sqm BetaPort

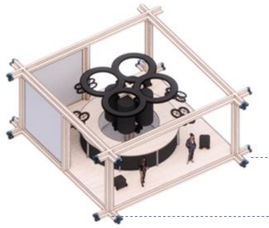
4 days

(DIsmounting 1 day)

DESIGNED FOR DISASSEMBLY



MODULAR BUILDING KIT FOR MAXIMUM FLEXIBILITY



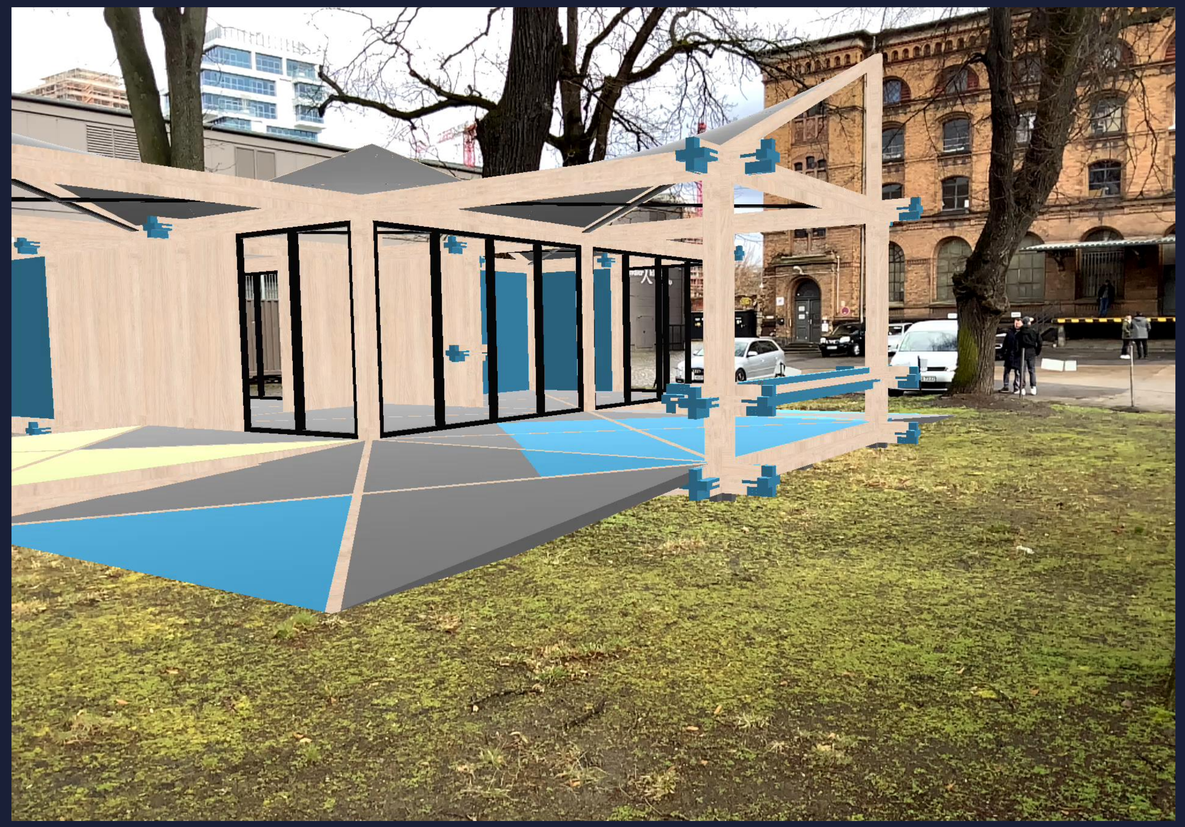
A modular toolkit of elements allows for scalability and adaptability in planning and over time.
We are developing an interactive configurator that makes access to future mobility ports easy and creates awareness for mobility streams.

BETA BUILDER - AUTOMATION IN PLANNING AND PRODUCTION

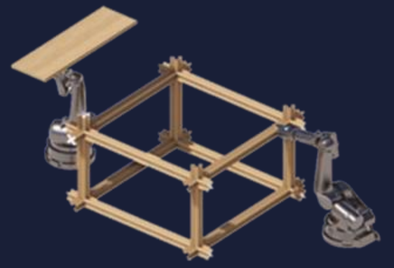
urban beta

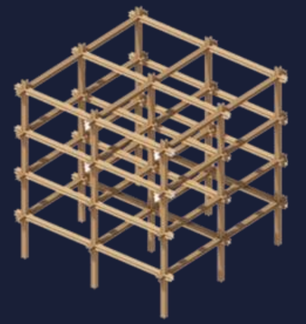
Our configurator makes designing BetaPorts easy and cost-efficient.

AR AS A PARTICIPATOR PLANNING TOOL



CONFIGURATOR AND AUTOMATION CHAIN





CONFIGURATOR
Digital planning tool
Individualization, cost control
and user anticipation

SOURCING
Renewables, locally sourced
and recycled materials
Soureced from other BetaPorts

CONSTRUCTION
Automated file-to-factory process
Minimizing production errors

(RE)ASSEMBLY
On-site with little or no heavy machines
Democratic building system
Allows for change over time

PROTOTYPING

PROTOTYPE MACH1

Kerto Timber Joints
Kerto Beams and Columns

PROTOTYPE MACH2

Kerto Timber Joints Optimized
BSH Beams and Columns

PRODUCTION SAMPLE

Kerto Timber Joints Optimized
BSH Beams and Columns

AUTOMATED PRODUCTION PROCESSES

CNC MILLING

File-to-factory controlled
Digital production chain
Production files from BIM Model

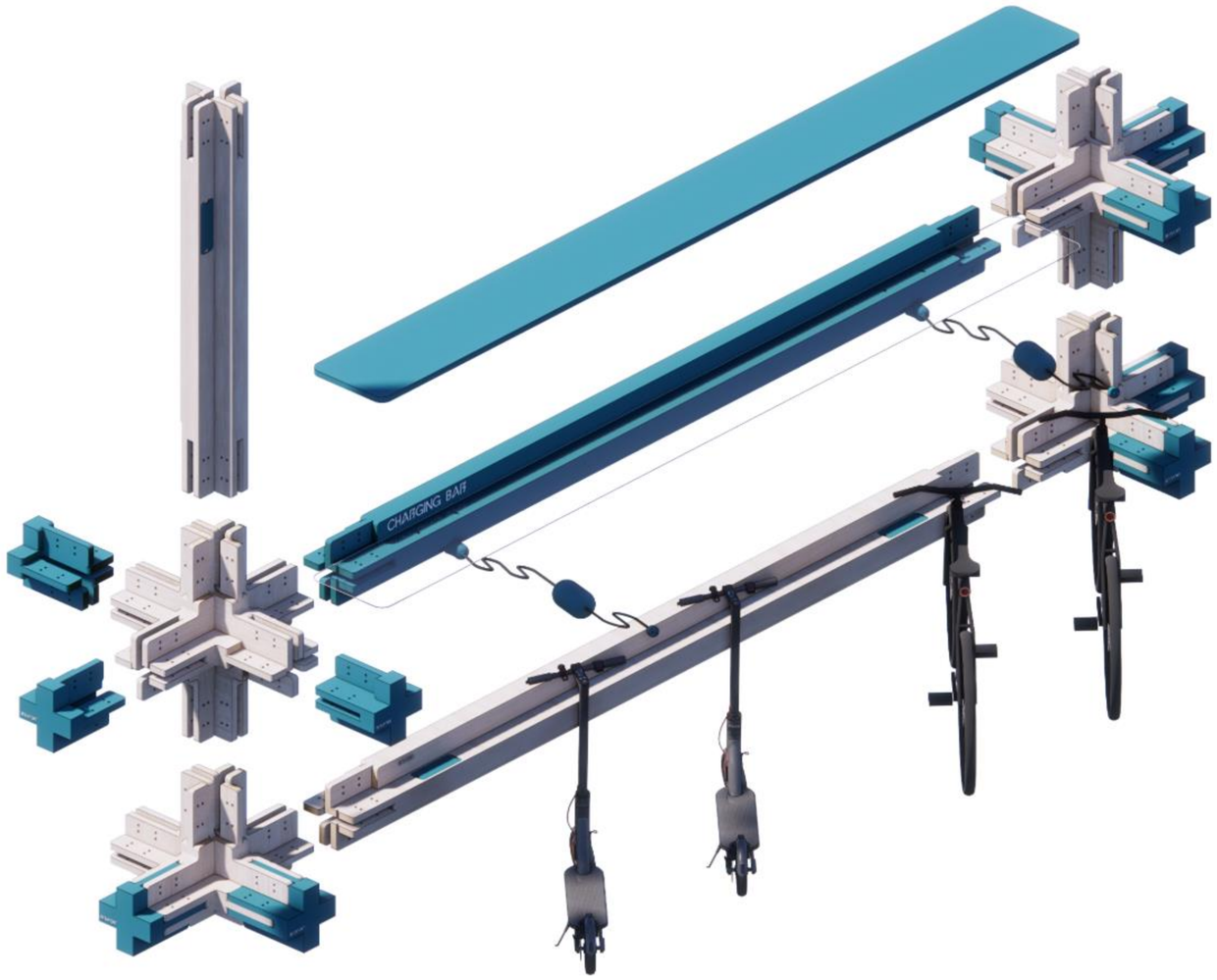
ROBOTIC FABRICATION

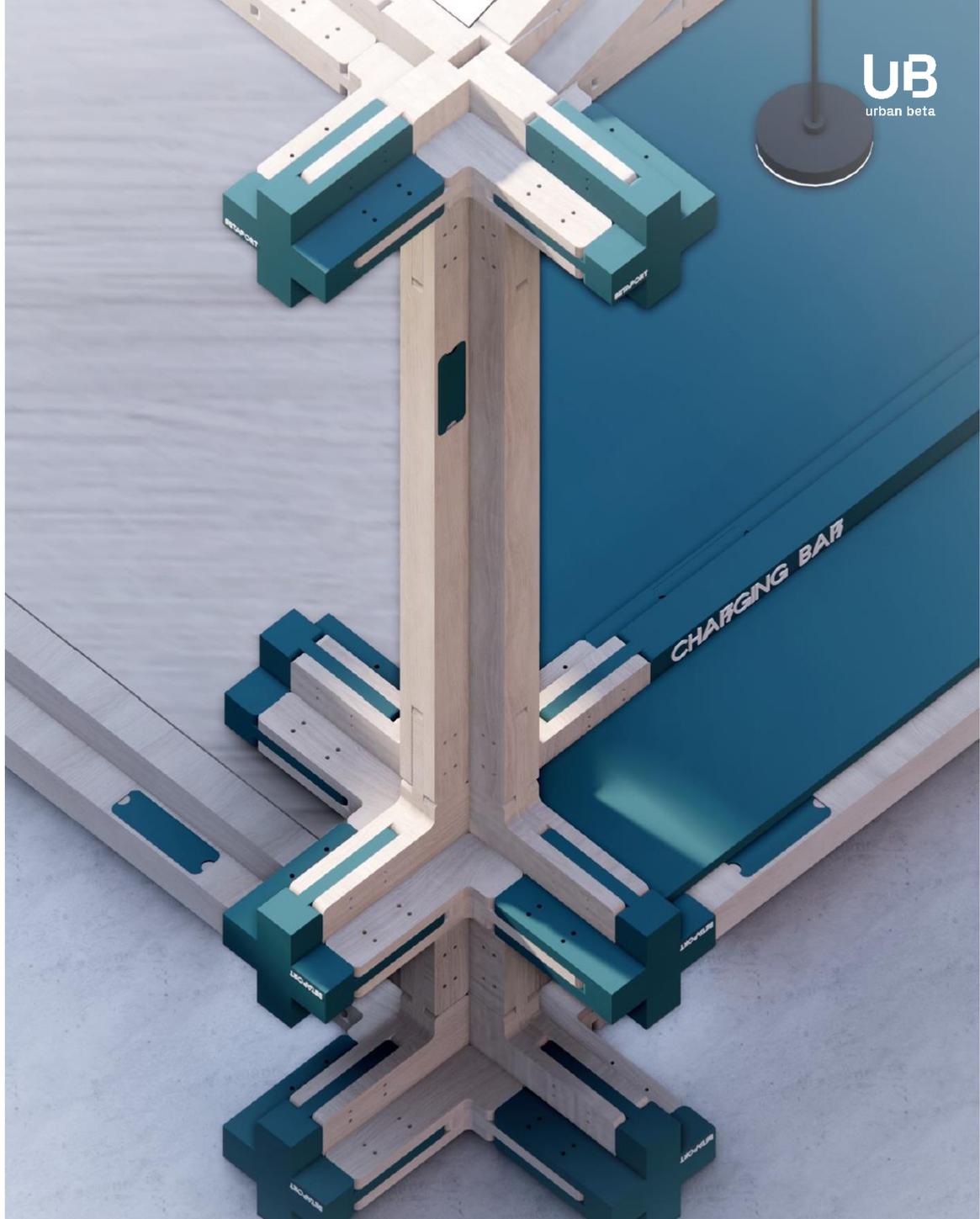
Micro Factory approach
Production and assembly of complex parts

VOXEL TEST ASSEMBLY

Robotic assembly of chunks possible
Quality control and detail check at 1:1 building block
Last check up before packing and shipping

INTEGRATED SYSTEMS





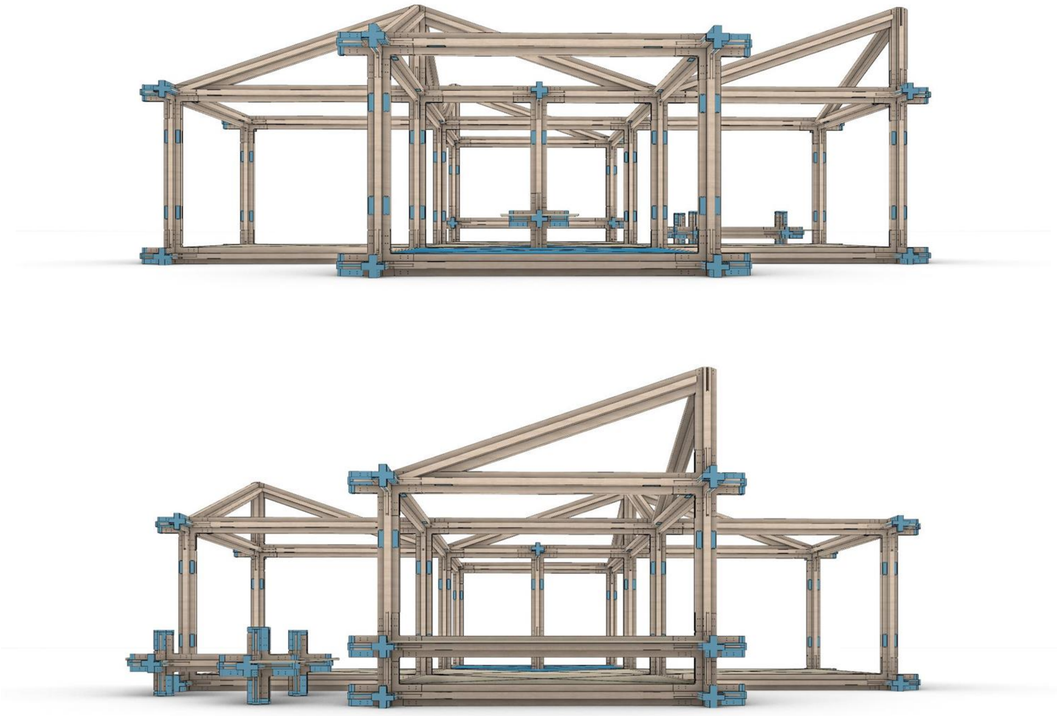
BETAPORT ONE
INFO SHEET

Size
100 sqm Hub On-Demand

Features
- Seamless Integration for technical infrastructure
- Integration for new mobility
- Digitally planned using automation
- Sustainable materials, locally sourced
- Designed as adaptive kit of parts

PARTICIPATION IN CONSTRUCTION

EASY ASSEMBLY ON SITE



BetaPort can be assembled on site without the need of heavy material or construction machinery. The parts are designed to be lifted by one person and assembled by a minimum of two. This enables participation and DIY construction.

UNIVERSAL KNOTS
MODULAR AND ADAPTIVE

BETAPORT ON AT GTF 2021

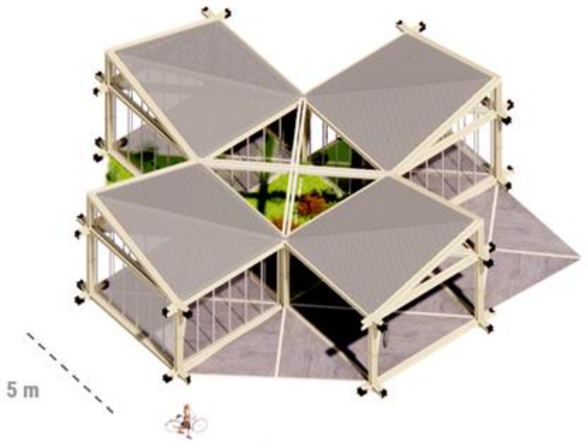
SCALABLE OPEN SYSTEM ARCHITECTURE

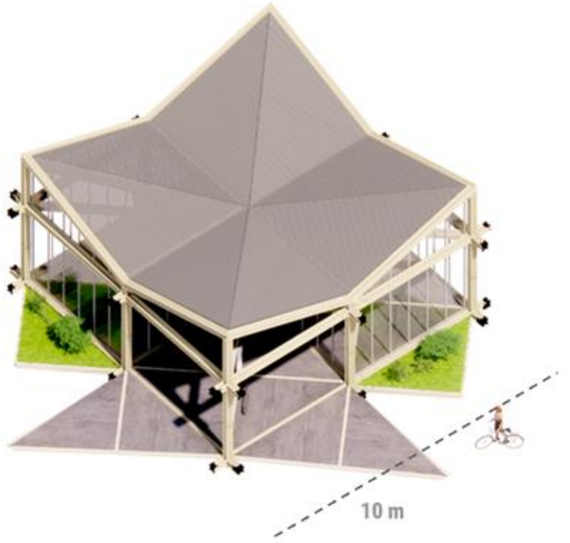
VERSATILE AND HEALTHY INTERIORS

OPEN AND FLEXIBLE SPACES ON-DEMAND

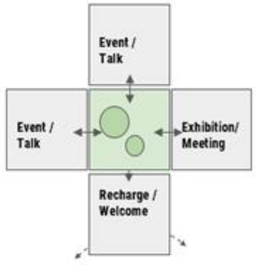
BETAPORT SYSTEM

SPATIAL FLEXIBILITY AND (RE)CONFIGURATION



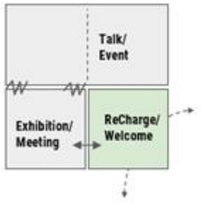


Social Courtyard |
Heeresbaeckerei, Berlin



Linear Frontage |
Interim Usage

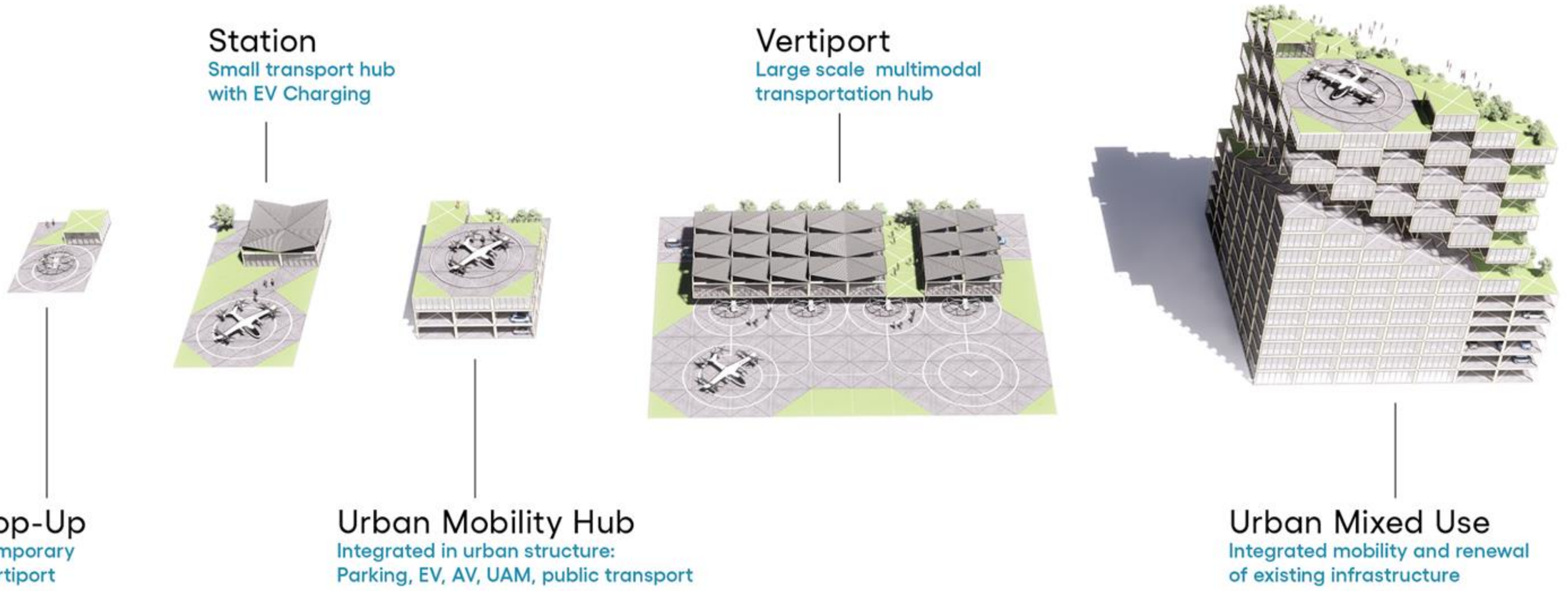
Compact Hub |
Brooklyn Navy Yards, NYC



BETAPORT
MOBILITY HUB KIEL

BETAPORT
EXPO REAL

READY TO SCALE



Pop-Up
Temporary
Vertiport

Station
Small transport hub
with EV Charging

Urban Mobility Hub
Integrated in urban structure:
Parking, EV, AV, UAM, public transport

Vertiport
Large scale multimodal
transportation hub

Urban Mixed Use
Integrated mobility and renewal
of existing infrastructure

BETAPORT SYSTEM

UB
urban beta

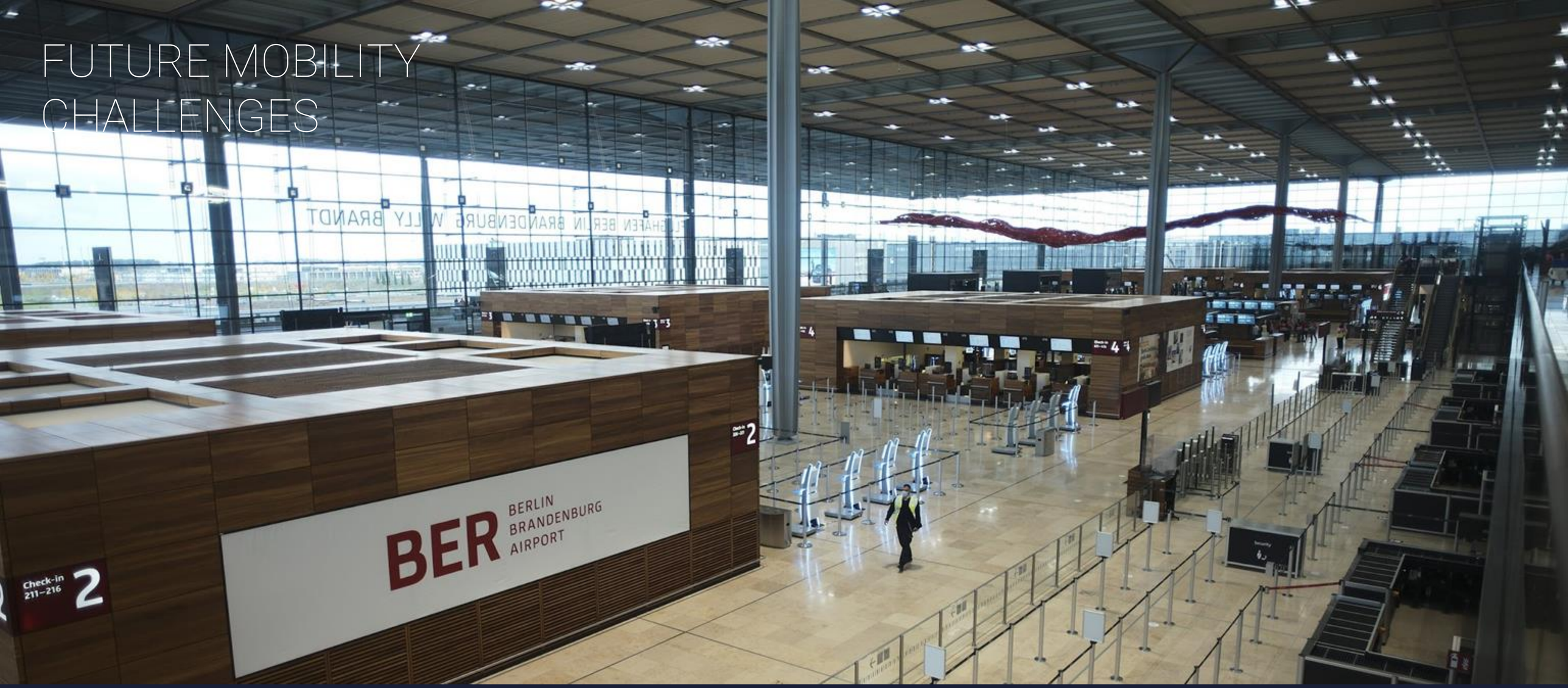
- Designed as adaptive kit of parts.

FUTURE MOBILITY CHALLENGES

MOBILITY IS ON THE FLY. WE NEED TO RETHINK OUR URBAN INFRASTRUCTURE.

Tomorrow’s spatial systems must be flexible and adapt to future mobility’s demands.

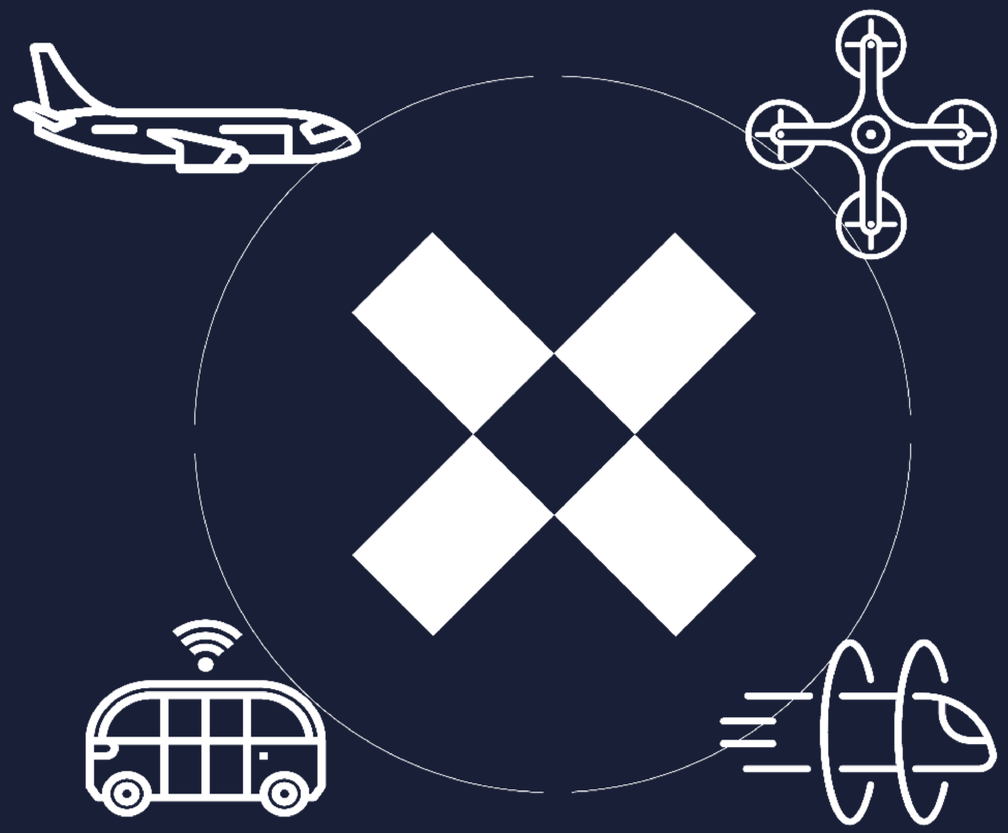
FUTURE MOBILITY CHALLENGES



FUTURE HUBS ARE NOT MONOFUNCTIONAL, BUT FACILITATE MANY PURPOSES.

Today’s logistic and travel infrastructure lacks in functional mix and social values.

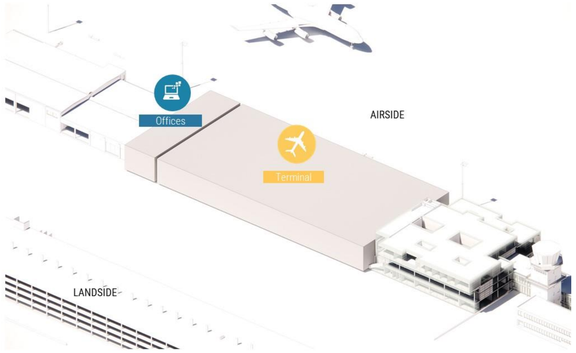
BETAPORT
MOBILITY HUBS ON-DEMAND



NEW MOBILITY
NEEDS
BETTER BUILDINGS

BETAPORT TYROL

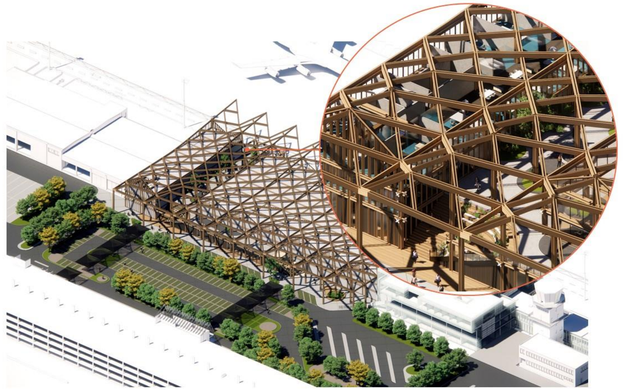
DESIGN CONCEPT



UNIFYING PUBLIC AND PRIVATE

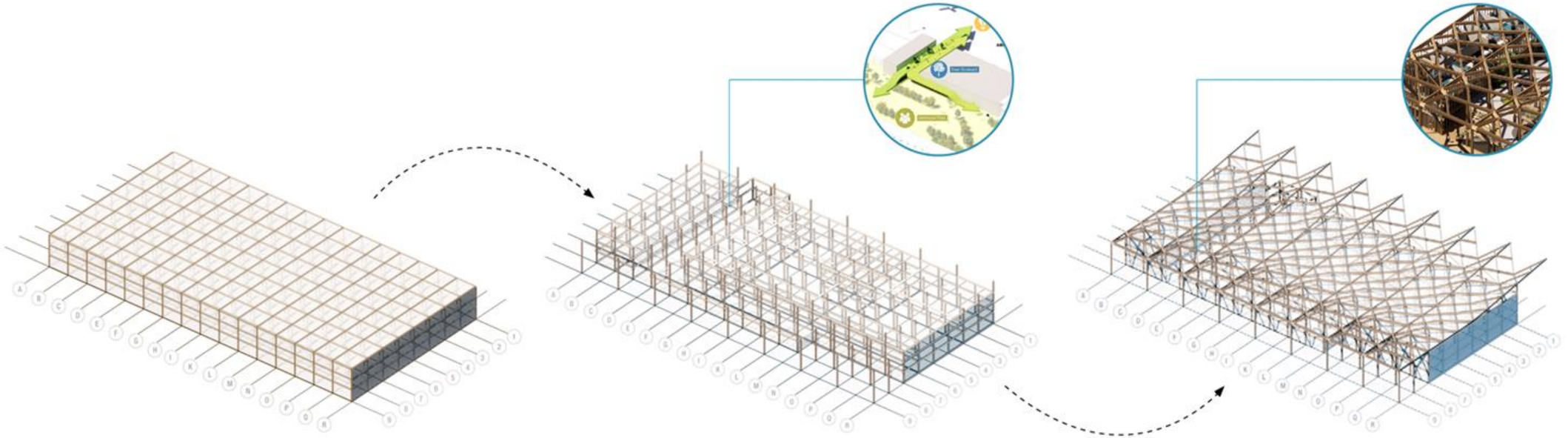
PUBLIC ENGAGEMENT

BETAPORT VOXEL STRATEGY



A HEALTHY ENVIRONMENT

AUTOMATED PLANNING PLATFORM



3D Voxel Setup
Defining maximum built area

Construction Grid
Column and structure distribution

Individual Detailing
Identification and local factors

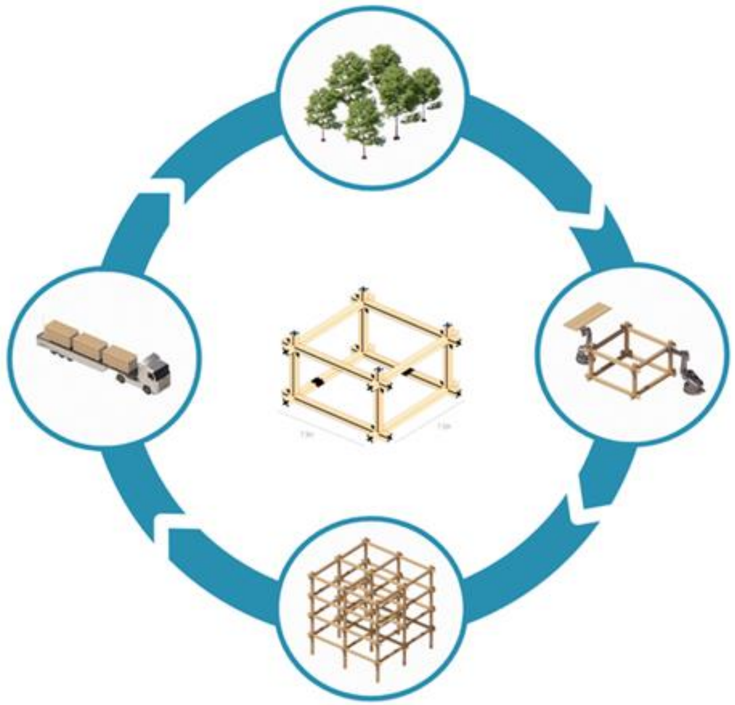
A voxel-based spatial strategy, allows to react to newly arising challenges of the post pandemic the - conceived using newest computational technologies to anticipate visitor streams as well as creating a highly flexible interior layout, based on modular building blocks.

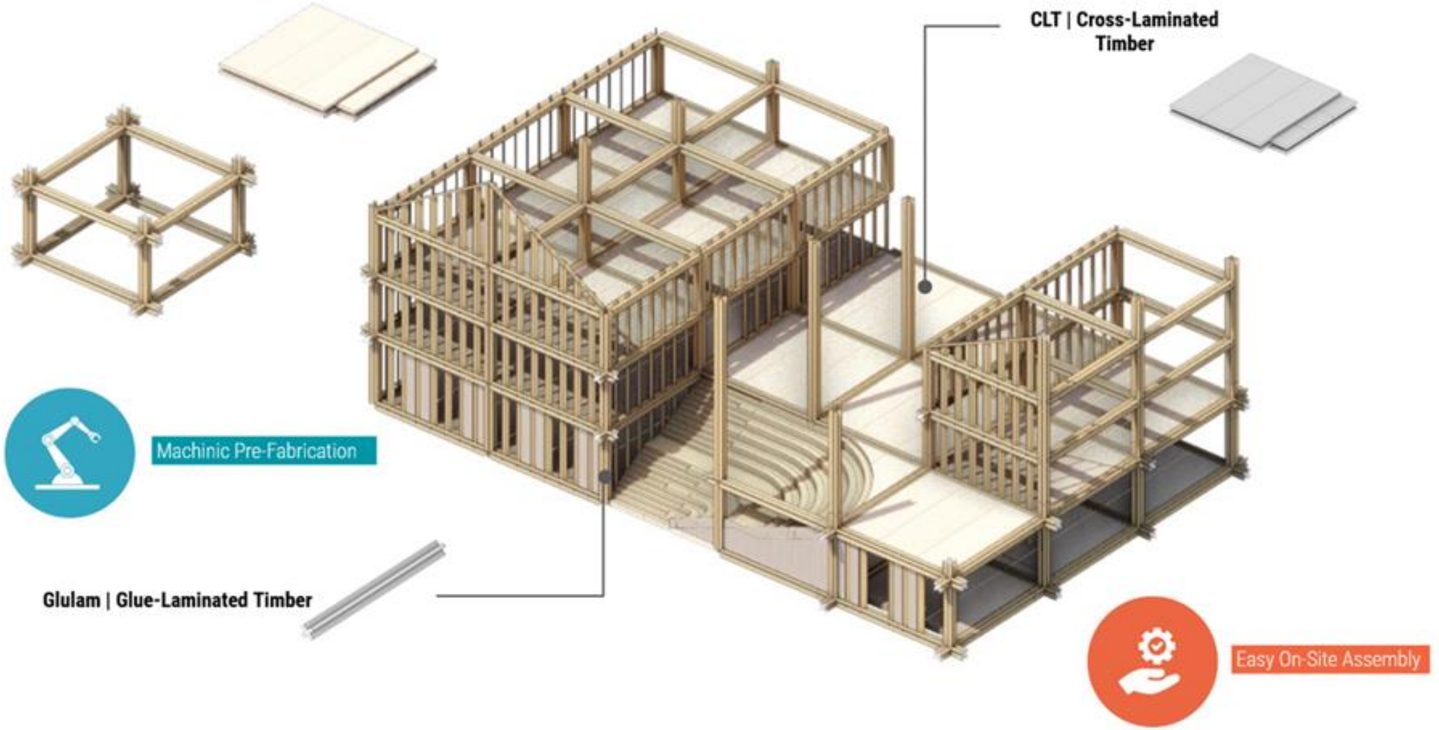
BETAPORT TYROL

PROGRAMMATIC FLEXIBILITY

A flexible building model allows for spatial flexibility over the life of the airport, adapting to new conditions as safety regulations, potential expansions and post-pandemic air travel policies on the fly.

LOCALLY SOURCED COMPONENTS





HYBRID CLT & GLULAM CONSTRUCTION

A hybrid system of CLT floors and glulam beams and columns is used to achieve greater spans and more interior flexibility without requiring thick timber slab. This allows maximum open plan and adaptable spaces.

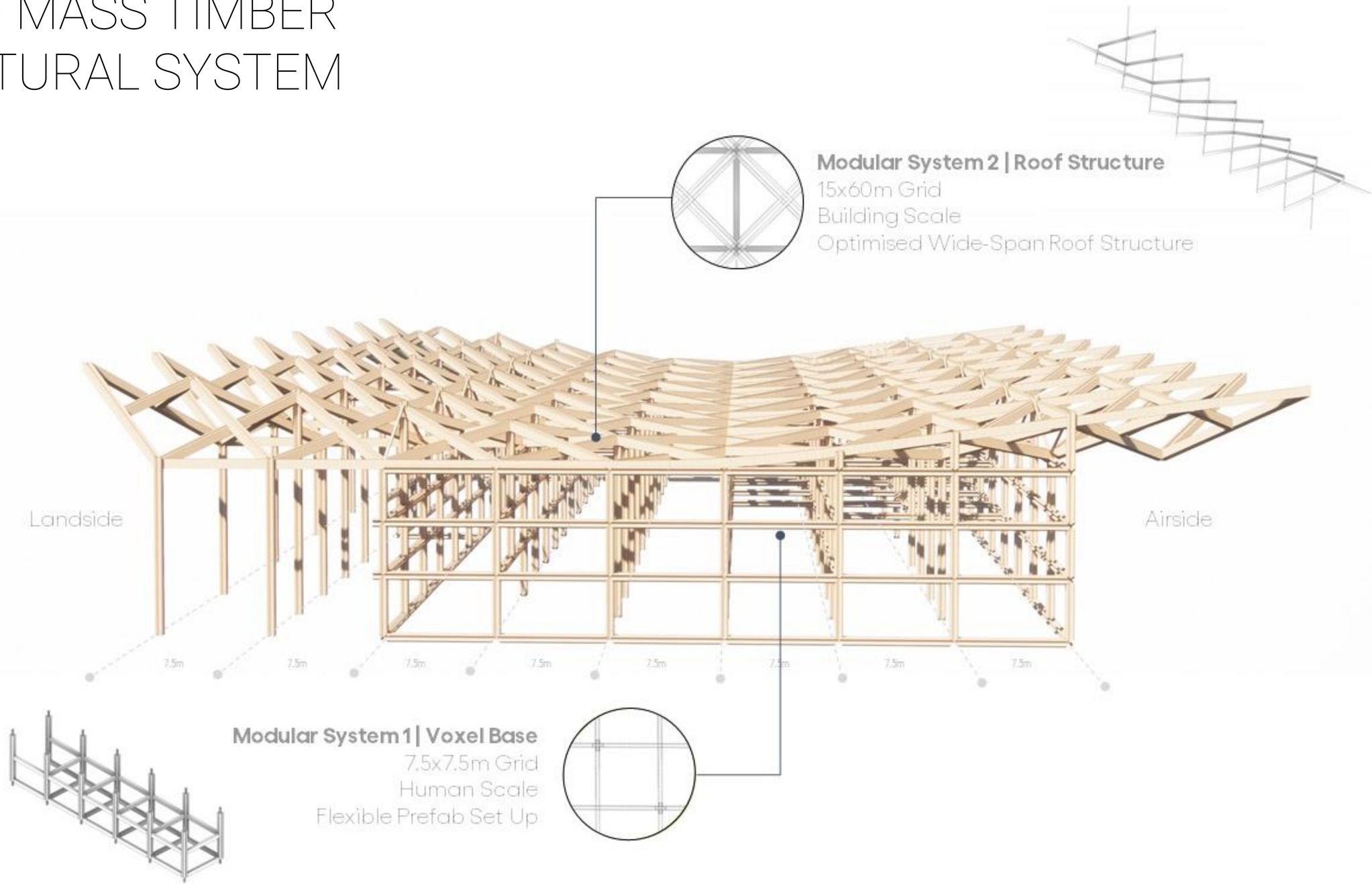
ADAPTIVE SYSTEMS FOR LONG LASTING BUILDINGS

PROGRAMMATIC FLEXIBILITY

A flexible building model allows for spatial flexibility over the life of the airport, adapting to new conditions as safety regulations, potential expansions and post-pandemic air travel policies on the fly

BETAPORT TYROL

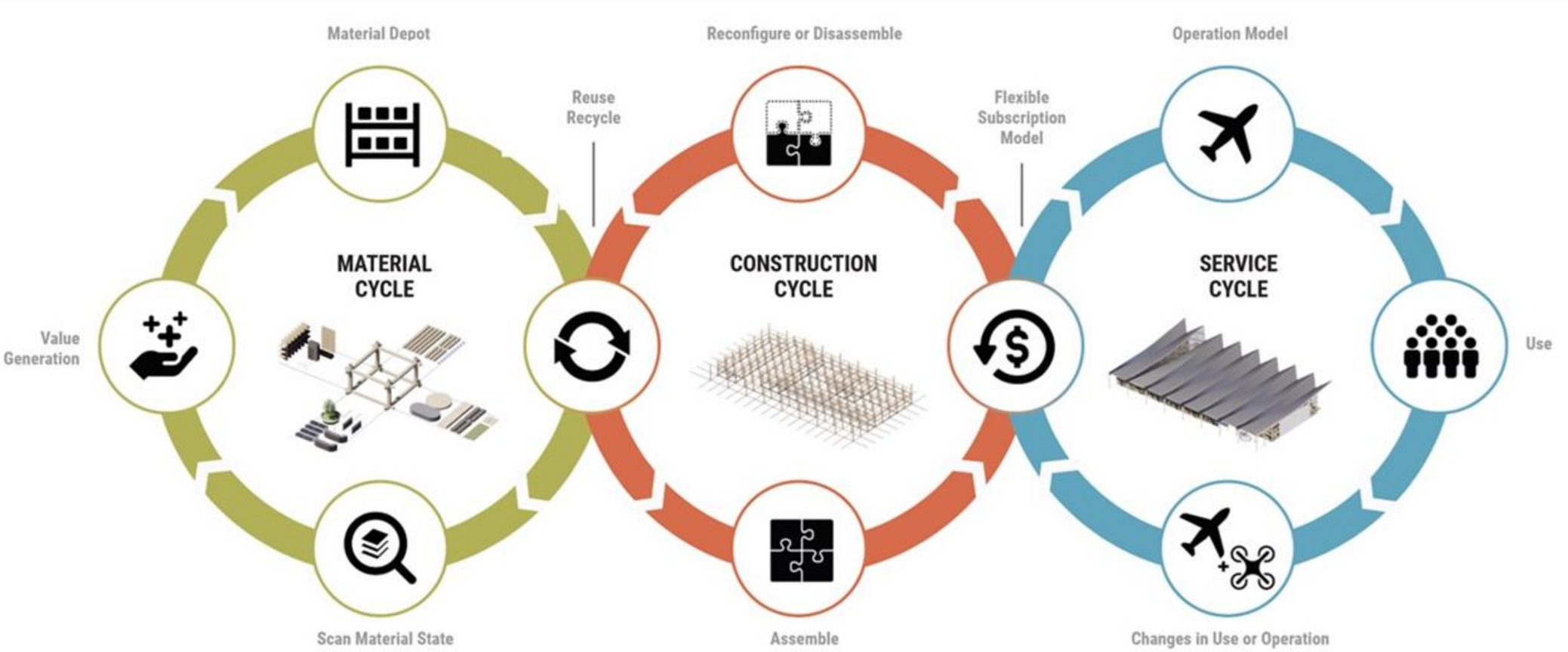
HYBRID MASS TIMBER STRUCTURAL SYSTEM



BETAPORT TYROL

UB
urban beta

A NEW CIRCULAR ECOSYSTEM



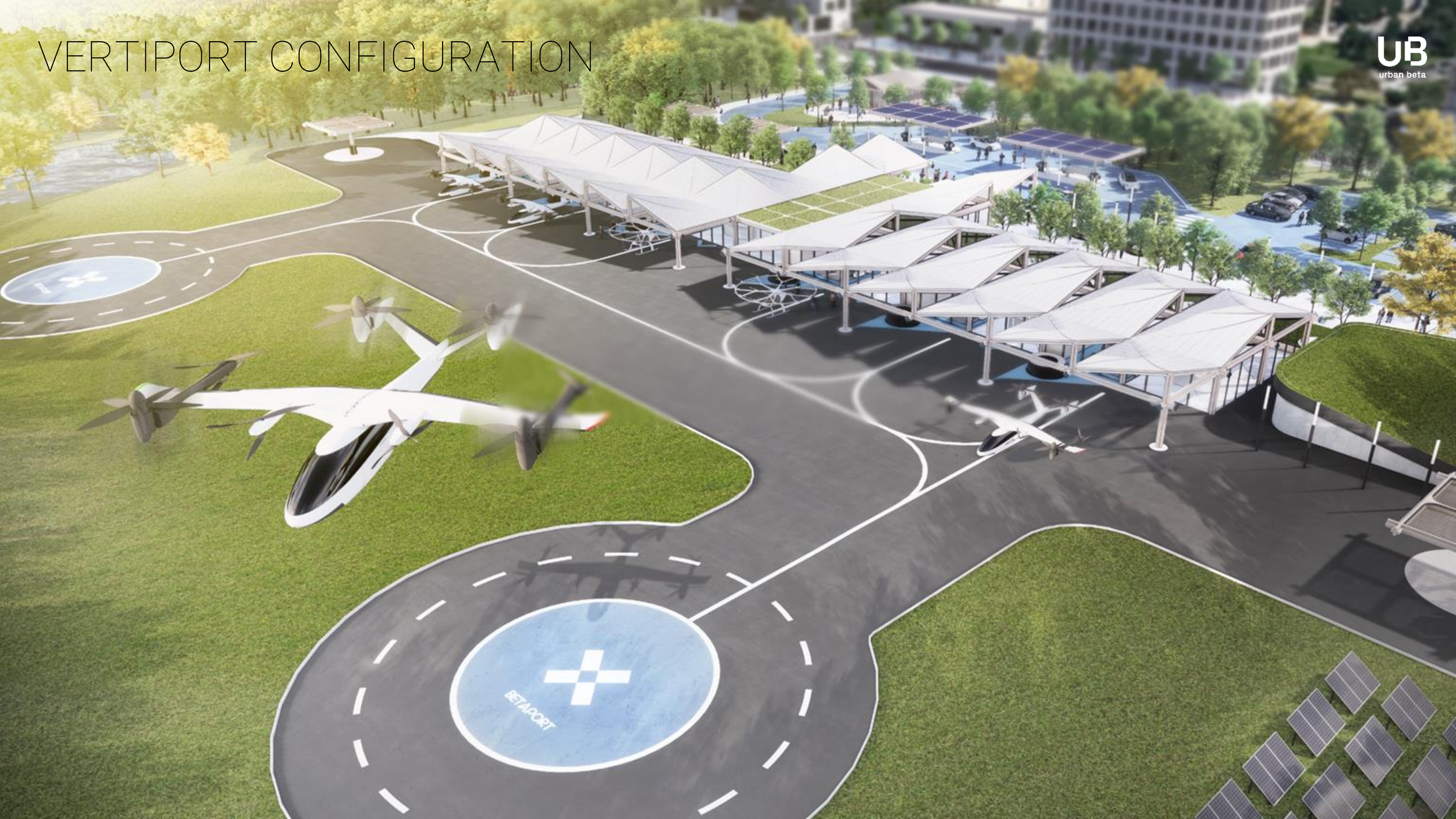
CREATING SERVICE-BASED BUSINESS MODELS

The circular design approach is the basis to turning every mobility hub into a sustainable material depot. A flexible subscription model opens the building system up for new service-based business models.

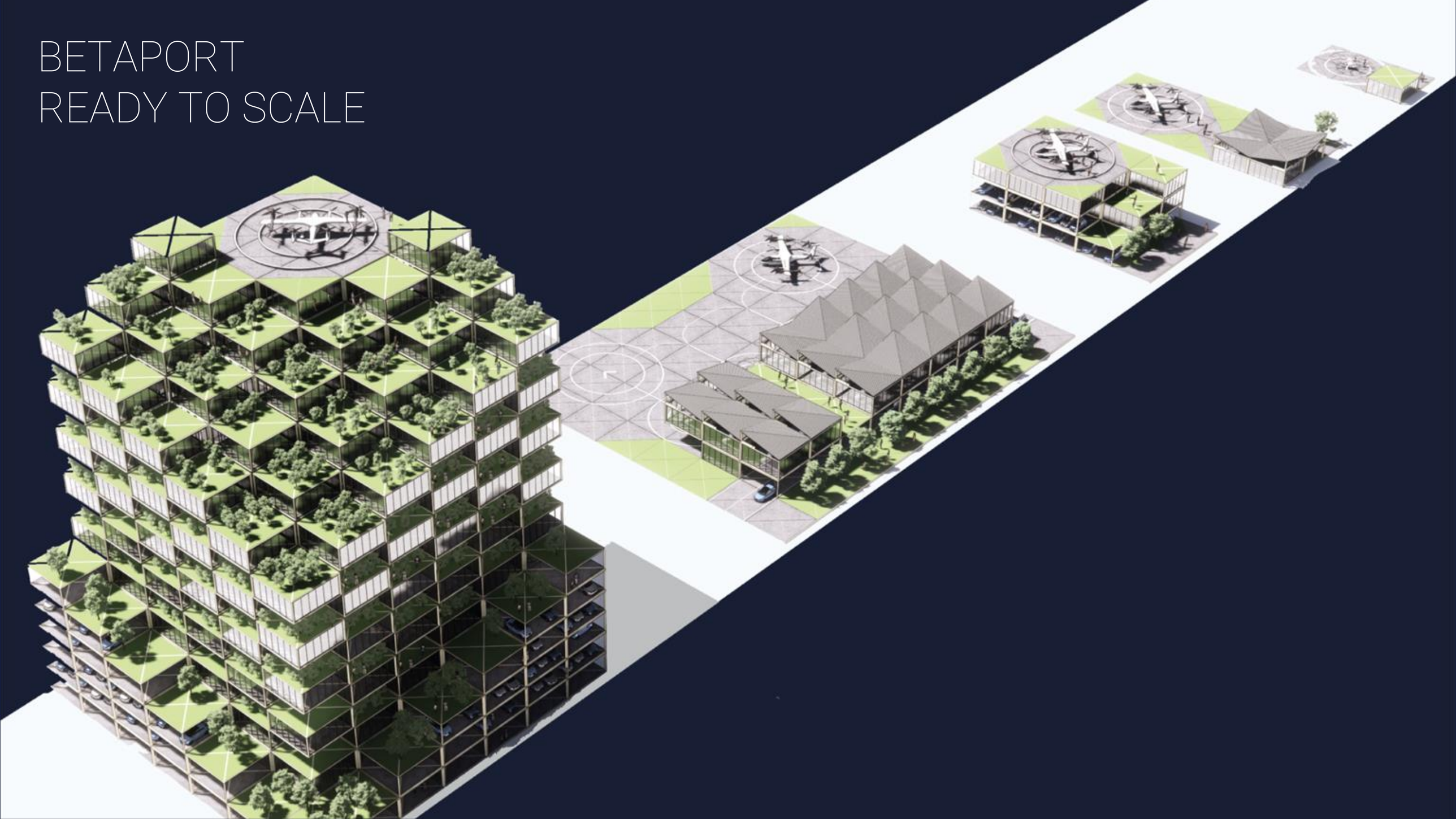
BETAPORT
READY TO SCALE

FULLY INTEGRATED INFRASTRUCTURE KNOTS

VERTIPORT CONFIGURATION



BETAPORT
READY TO SCALE



zzz

BETAPORT NEXT

WORLD PREMIERE

GREENTECH FESTIVAL

22 | 06 | 22 Berlin TXL

urban beta

GREEN
TECH
FESTIVAL

BETAPORT NEXT

- Live Showcase of the next BetaPort generation
- 100 sqm mobility hub on two floors
- Seamless mobility connection to land, water & air
- Multi-storey mobility hub in building class 3
- Integration of sustainable energy generation and charging infrastructure
- Large exhibition areas and integration of New Mobility
- Flexible design in size and facade possible

Next Level Mobility at Greentech Festival 2022

PREVIEW GTF 2022
JUNE 22 - 24

FUTURE MOBILITY

E-Mobility, Sharing, Hubs, E-Bike, Scooter, Smart Air Mobility, Logistics, Charging, Infrastructure

SMART CITY PLAZA

CIRCULAR BUILDING

Real Estate, Architecture, Building Kits, Circular Economy, ConTech, Cradle2Cradle, Recycling

DIGITALIZATION

Prop-Tech, Automatomation Software Solutions, Foresight, Digital Toolkits

BETAPORT SMART CITY PLAZA

Design Sketch
not final

THX.

We are looking for partners
and collaborators.

Contact us under:

project@urban-beta.de
www.urban-beta.de

URBAN BETA