

Session overview

14:00	1	Welcome address	LIST / LuxInnovation / NeoBuild	5 min
14:05	2	Introduction to HE program	Luxinnovation	10 min
		State of play in Luxembourg - main initiatives/policies/national strategy		
14:15	3		Ministère / Paul Schosseler	15 min
14:30	4	Testimonials	Differdange and R2M solution - DECAFF Project	10 min
14:40	5		Schroeder et associés - REGEN Project	10 min
14:50	6		WEO - RETIME Project	10 min
15:00	7	Pitches	LSC Engineering Groupe	5 min
15:05	8		Municipality of Schuttrange	5 min
15:10	9		Polaris Architects	5 min
15:15	10		Augment	5 min
15:20	11		Degotte	5 min
15:25	12		Terra Matters	5 min
15:30	13		Äerd Lab	5 min
		End of the session		

Participation dans des projets européens : retour d'expérience

25/09/2024

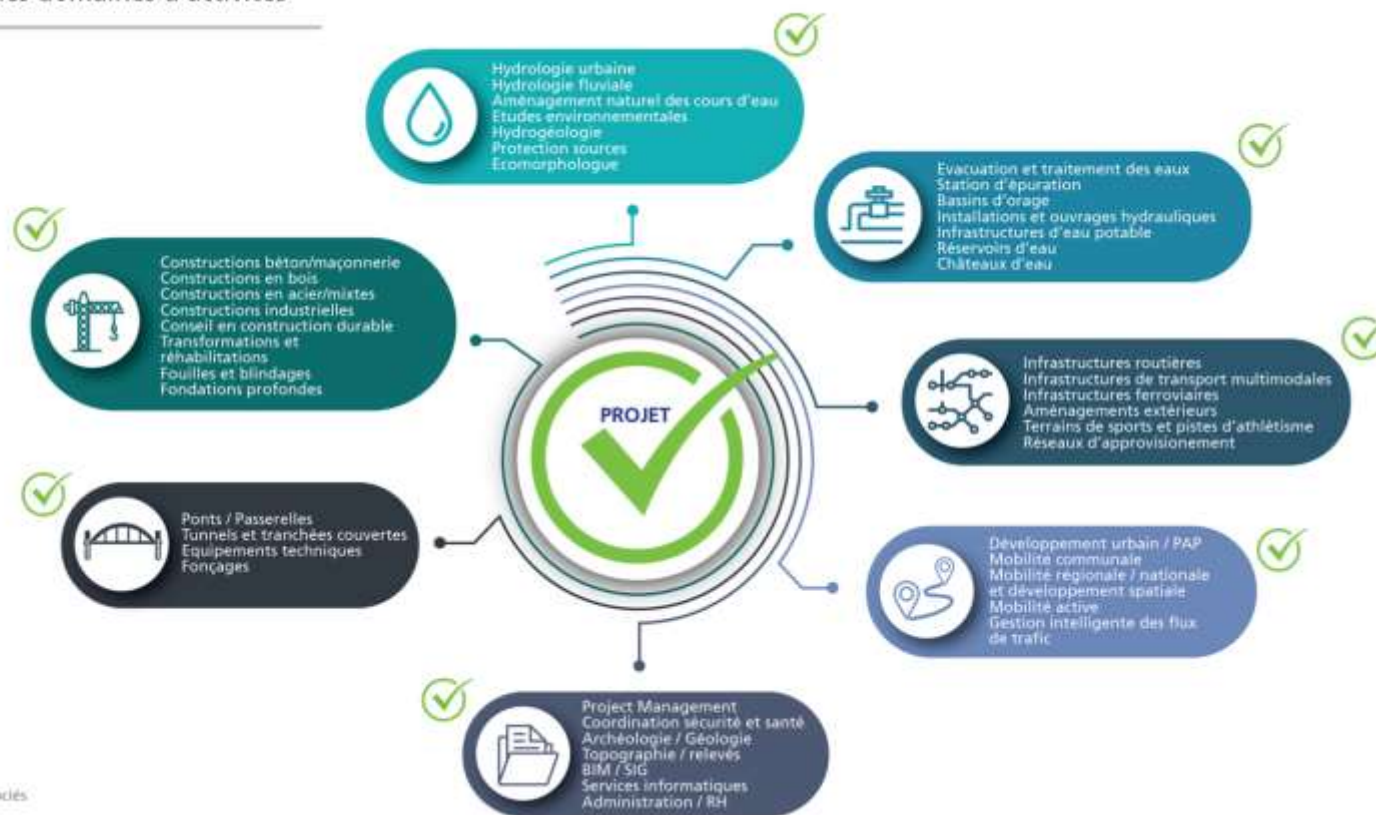
2030

- ✓ Excellence
- ✓ Prestations intégrées
- ✓ Durabilité



Comment atteindre nos objectifs de développement durable ?

Ensemble des domaines d'activités



© Schroeder & Associés

L'expérience.....

Interreg North-West Europe Digital DeConstruction



European Regional Development Fund

THEMATIC PRIORITY:

IMMEC: STAKEHOLDER WORKSHOP

IMMEC: Integrated Modelling of Material efficiency and Environmental impacts of building materials Cycles

27.03.2023

Belvaux, Luxembourg

Project Coordinators: Thomas Gibon (LIST), Prof. David Laner (Universität Kassel)

DFG Deutsche
Forschungsgemeinschaft

Fonds National de la
Recherche Luxembourg

UNIKASSEL
VERSITÄT

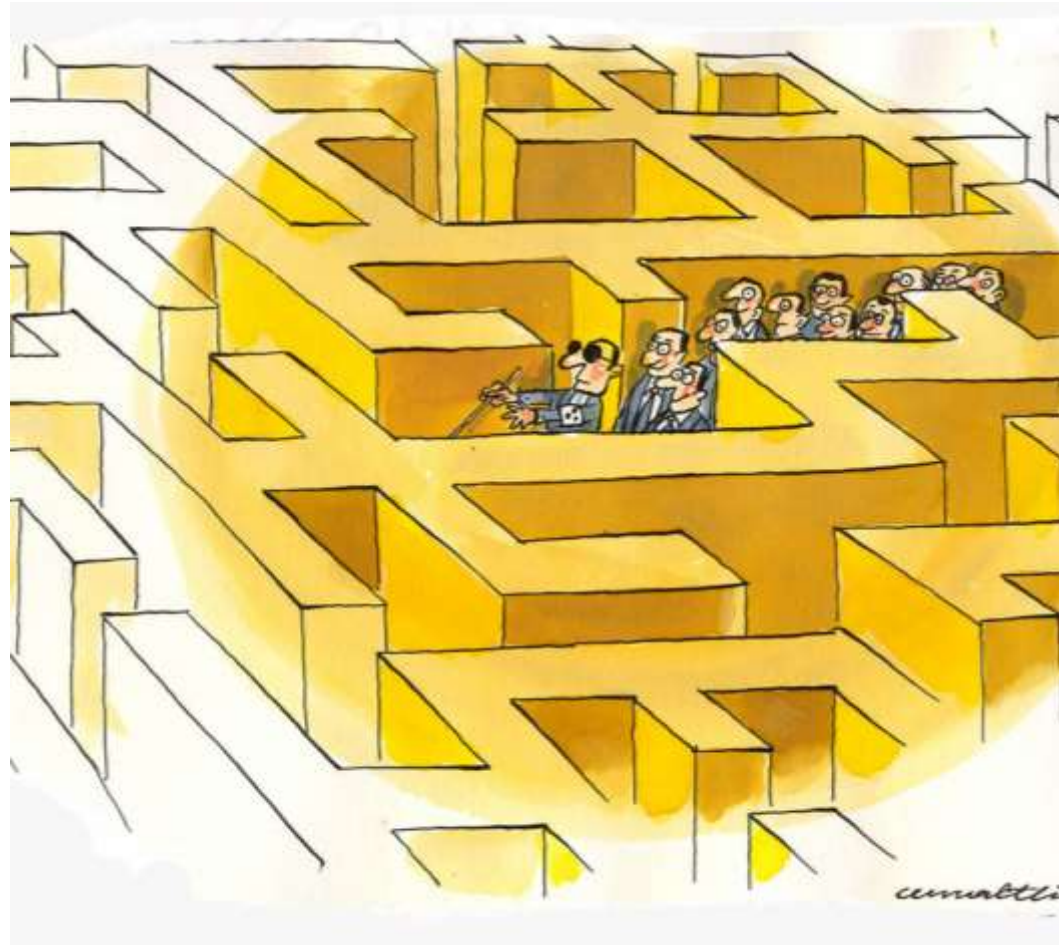
UNIVERSITÄT
KASSEL
UNIVERSITY OF APPLIED
SCIENCES AND TECHNOLOGY

LIST



1^{er} défi

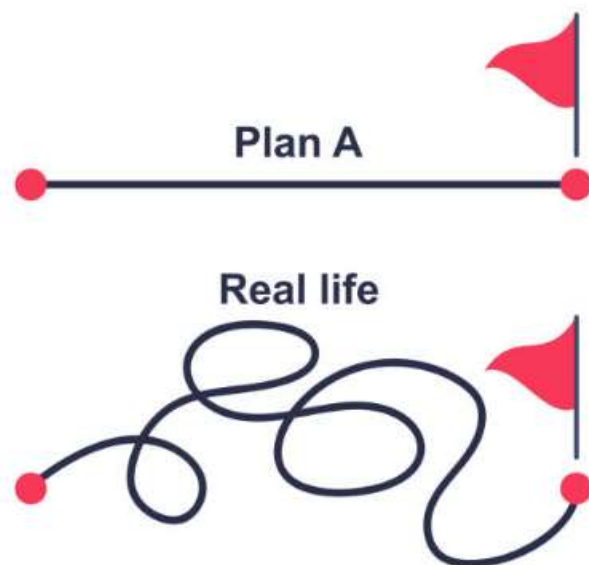
Le montage du dossier



2^{ème} défi : le déroulement du projet

1^{er} meeting.....2^{ème} meeting ;

Work packages.....



Des projets « farfelus »



Des partenaires de tous les horizons



Un état d'esprit

- Adaptabilité
- Polyvalence
- Ouverture d'esprit



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Société Anonyme
RC Luxembourg B 69336
TVA LU 17890818

Engineering the future together



Innovation in the Built Environment: from Luxembourg to Europe

Presenting HORIZON Europe Project



RETIME
Inclusive Urban Resilience

25.09.2024

European Convention Centre Luxembourg



Growing built environment



Populations vulnerable to disasters in short- and long-term



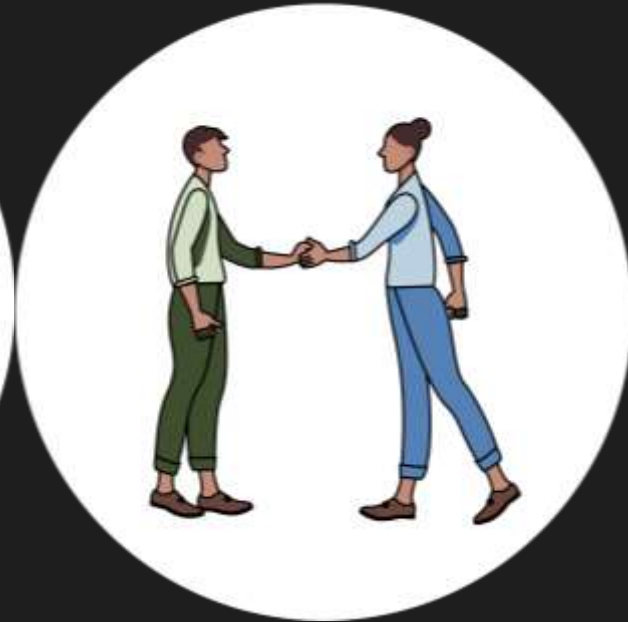
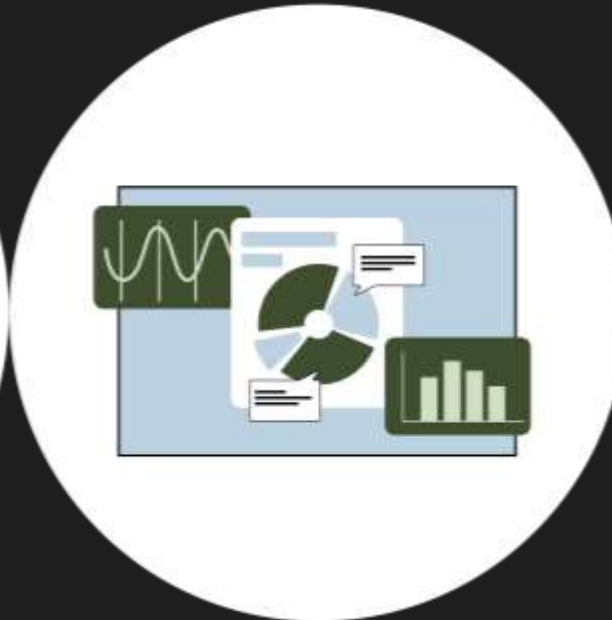
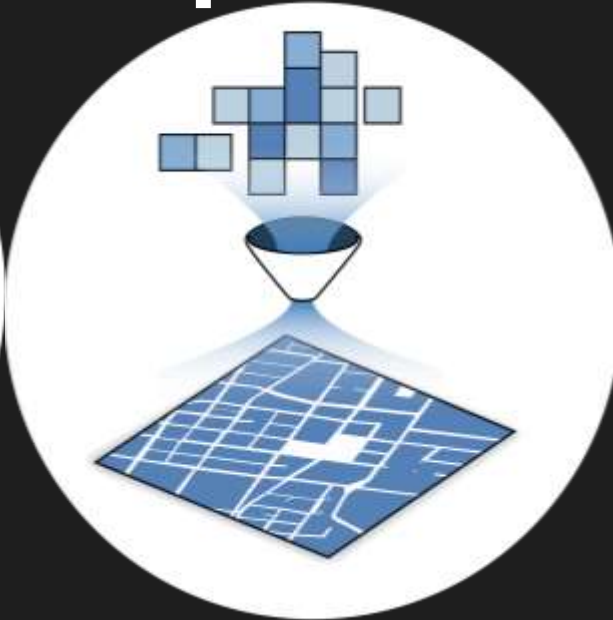
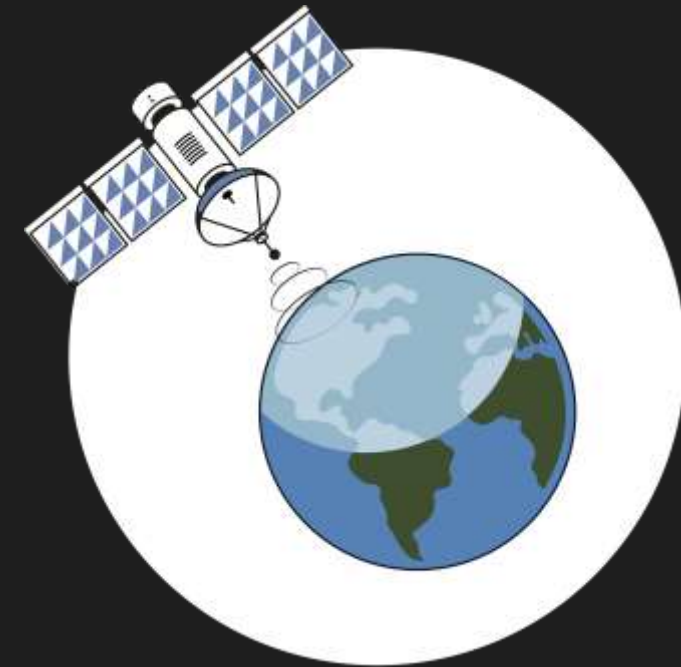
monitor +

How to boost Urban Resilience?



**data on risk
exposure**

**local
engagement**



"eyes in the sky"

**actionable
insights**



- Environmental Monitoring using Satellites
- Team has 10+ years in Earth Observation, Remote Sensing, ML/AI, Software
- **Product development**
- **Research & innovation**

Founded and incubated in Luxembourg since 2020



LUXINNOVATION
#MakingInnovationHappen



**FIT4
START**
Graduate

Luxembourg-City
Incubator





**Our deep learning technology unlocks valuable insights
from Sentinel satellite data**

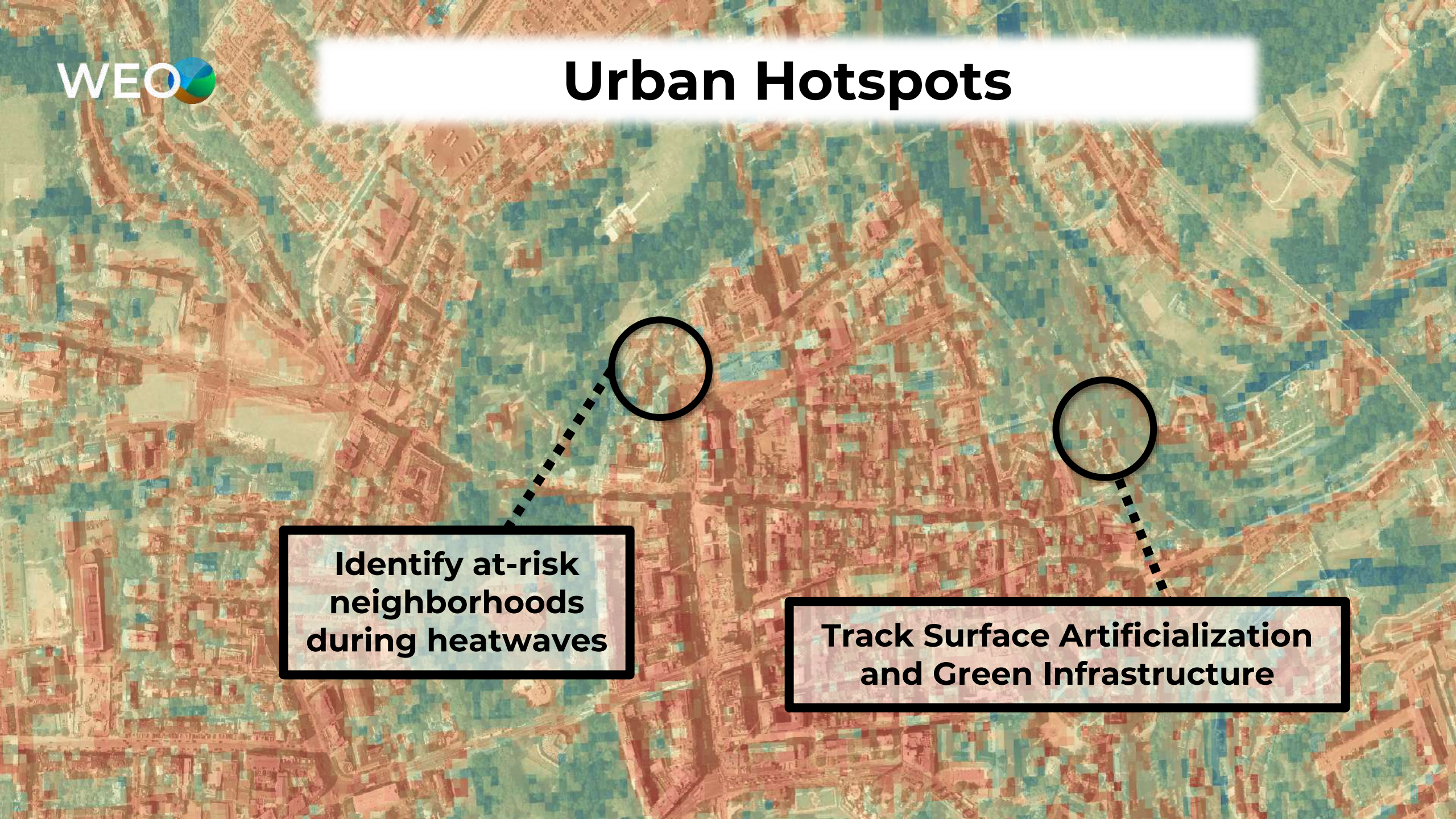


**Native
Resolution**

**10m Resolution:
WEO tech**

**1m Resolution:
WEO tech +**

Urban Hotspots



Identify at-risk
neighborhoods
during heatwaves

Track Surface Artificialization
and Green Infrastructure



Tree Health & Growth

**Locate trees
and see how
they grow**

.....
UPDATE TREE INVENTORIES
.....

HIGH FREQUENCY MONITORING
.....

PROACTIVE REMEDIATION
.....

Tree Health & Growth



**Identify water-stressed
and unhealthy trees**



.....
REDUCE TREE LOSSES
.....

.....
PRIORITISE FIELD MONITORING
.....

.....
STUDY CLIMATE IMPACTS
.....

Green Roof Analysis

**Green Roof
Detection**

**Identify Best Potential
Green Roof Sites**

.....
TRACK GREENING PROGRESS
.....

.....
PRIORITISE INCENTIVES
.....

.....
**ESTIMATE RUNOFF
POTENTIAL**
.....

Sealed Surfaces

.....
UNDERSTAND FLOOD RISK
.....

.....
**ENFORCE DEVELOPMENT
REGULATIONS**
.....

**Track new
impermeable areas**

**Identify possible
breaches in
development regulations**



Select a Section (one or multiple)

- ☐ Section
- ☐ Section
- ☐ Section

Reset Select all

Section Indicators

averaged over selected section(s)

Urban Heat (degC)

Selection required on one or more elements

Surface Sealed

Selection required on one or more elements

Canopy Cover 2022

Selection required on one or more elements

Tree Count

summed over selected section(s)

Selection required on one or more elements

Neighbourhood Indicators

averaged over selected hexagon(s) on map

Urban Heat (degC)

Selection required on one or more elements

Surface Sealed

Selection required on one or more elements

Tree Type

Selection required on one or more elements

Tree Count

summed over selected hexagon(s)

Selection required on one or more elements



Summary Report for Section

SUMMARY

This is a detailed report of the most important statistics about the selected section.

Indicators	Value	Target
Canopy Cover %	34	36
Urban Heat Temperatures Day	25	24
Urban Heat Temperatures Night	19	18
No. of Trees	14,323	15,232

Summary Solutions

Legend

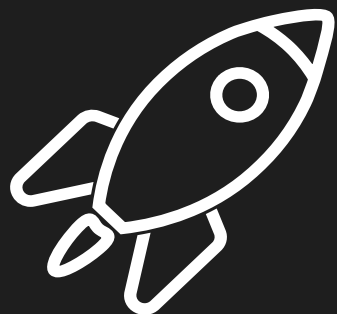
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Clients & Partners





How to Expand & Innovate?



**Pilot for different
use cases**



**Collaborate with different
data providers + stakeholders**



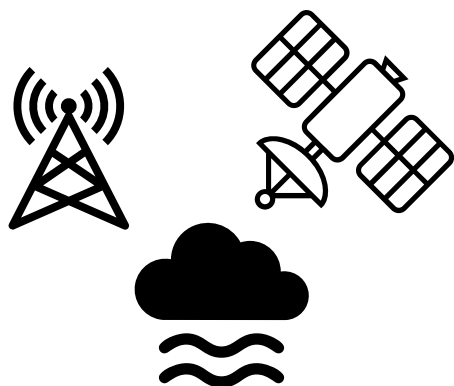
**Shift across different scales:
Neighbourhoods -> Individual Buildings**



Ensure continuity after pilots

...with HORIZON Europe Funding!

Urban Adaptation and Alert Solutions for a TIMeLy (re)Action



**vulnerability assessments, hazard maps,
building-scale alert systems, resilience knowledge hub,
decision support platform + more**



RETIME – Urban Adaptation and Alert Solutions for a TIMeLy (re)Action | HORIZON- CL-2023-D4-02

Co-funded by the European Union under grant agreement no. 101147113. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

3 Pilot Cities in Europe



Tartu, Estonia



Lisbon, Portugal



Žilina, Slovakia



18 Partners from 8 Countries (SMEs, Unis, Cities)

 iscte
— Conhecimento e Inovação UNIVERSITY
OF ŽILINA DTU WEC ICONS

Synergies in Luxembourg Ecosystem

 one team TUU FEUP
FACULDADE DE ENGENHARIA
UNIVERSIDADE DO PORTO LIST tecnalia
MEMBER OF BASQUE ENTERPRISE
& TECHNOLOGY ALLIANCE Deusto
Universidad de Deusto Technology
Arts Sciences
TH Köln ŽILINA
SELF-GOVERNING
REGION LISBOA Institute
of Baltic
Studies team
group | engineering
consulting VELTIS
First Real Estate Rating Agency

RETIME – Urban Adaptation and Alert Solutions for a TIMely (re)Action | HORIZON- CL-2023-D4-02

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RETIME
Inclusive Urban Resilience

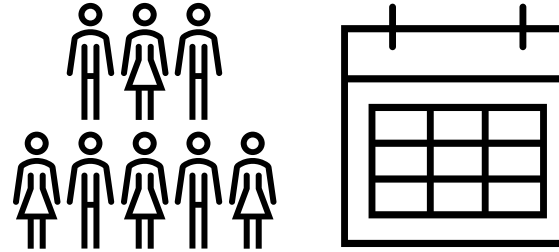


Contributor

Work Package Leader



Vulnerable hotspots in
3 pilot areas



Experience in products-to-market
Project Management expertise+time



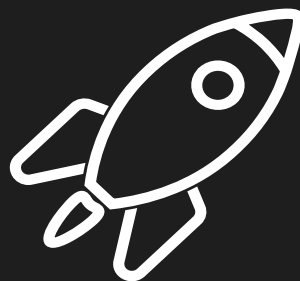
RETIME – Urban Adaptation and Alert Solutions for a TIMely (re)Action | HORIZON- CL-2023-D4-02

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Our HORIZON Europe Experience



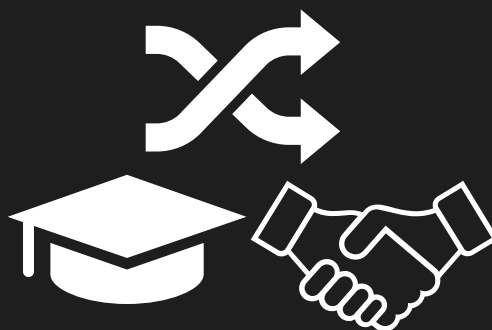
networks, close community



**strategic alignment:
expand & innovate**



updates + guidance



SME + Academic = Success

Innovations in the Built Environment

Europe

Luxembourg



RETIME
Inclusive Urban Resilience





Innovation in the Built Environment: from Luxembourg to Europe

Presenting HORIZON Europe Project



RETIME
Inclusive Urban Resilience

25.09.2024

European Convention Centre Luxembourg





Labelling resilience



LUXPLAN S.A.
Ingénieurs conseils



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The strength of a group



Simon-Christiansen & Associés
Ingénieurs-Conseils S.A.

zilmplan s.à r.l.
Urbanisme & Aménagement du Territoire



SC FRANCE S.à R.L.
Ingénieurs-Conseils



SC AFRIQUE S.à R.L.
Ingénieurs-Conseils



Our partners



The ISO 9001 certification reflects our quality policy where the client is at the center of our reflections.



Through the Corporate Social Responsibility approach, the group members commit to respect and put into practice ethical commitments in the conduct of their business.



It is important for our group and our people to have a clear strategy for managing our waste.



Set up in Luxembourg since over 40 years, the group highlights the origin of its know-how through the label "Made in Luxembourg".

Any building or infrastructure you want to build must first be designed and engineered.

And that's what we do.

- *Survey*
- *Infrastructure engineering*
- *Building*
- *Technics / HVAC*
- *Environmental engineering*
- *Hydraulics*
- *City planning*
- *Project management*
- *GIS*
- *Drones*
- *Landscape planning*



LSC Engineering Group

Designing and building sustainable projects

For several years, we have been using more and more labels to assess the resilience of our projects.

Labels commonly used in Luxembourg to assess sustainability and resilience

- *BREEAM (Building Research Establishment Environmental Assessment Method)*
- *LEED (Leadership in Energy and Environmental Design)*
- *WELL*
- *LENOZ (Lëtzebuerger Nohaltegkeets-Zertifizéierung)*
- *DGNB (Deutsches Gütesiegel für Nachhaltiges Bauen)*
- *(HQE) (Haute Qualité Environnementale)*

- *These labels are suitable for the most general cases and are therefore not adapted to the specific local context*
- *The specificities of the situation in Luxembourg do not necessarily stand out or are not appropriately weighted (land management, urban sprawl, building the city on top (or in) the city)*
- *Some labels are limited to the scale of the building*
- *Certain criteria are heavily weighted while the project developer has no influence on them*

Two major improvement axis

The scale : districts

The local situation and conditions : Luxembourg

Project **SERENE** / Luxembourg funded / 2025-2027

*Sustainable, Healthy, and **Resilient** Cities and **Neighbourhoods**, applicable in Luxembourg*

- *Voluntary label : for everyone to use*
- *District level: to act on resilience well upstream from any construction and building*
- *Adapted criteria: local context taken in account*
- *Local partners involved: promoters (public and private), cities, ministries as well as engineers, urbanists, researchers so that a greater number of actors adopt this label*
- *Tests on two study cases (real incoming projects)*
- *We are opened to EU collaborations, exchange of knowledge, sharing of results*



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Thank you for your attention

Le développement durable est une priorité !

Commune de Schuttrange

Sustainable places - 25 septembre 2024

Daniel Flies

Administration communale de Schuttrange

Chef du service du développement durable



Présentation de la commune de Schuttrange



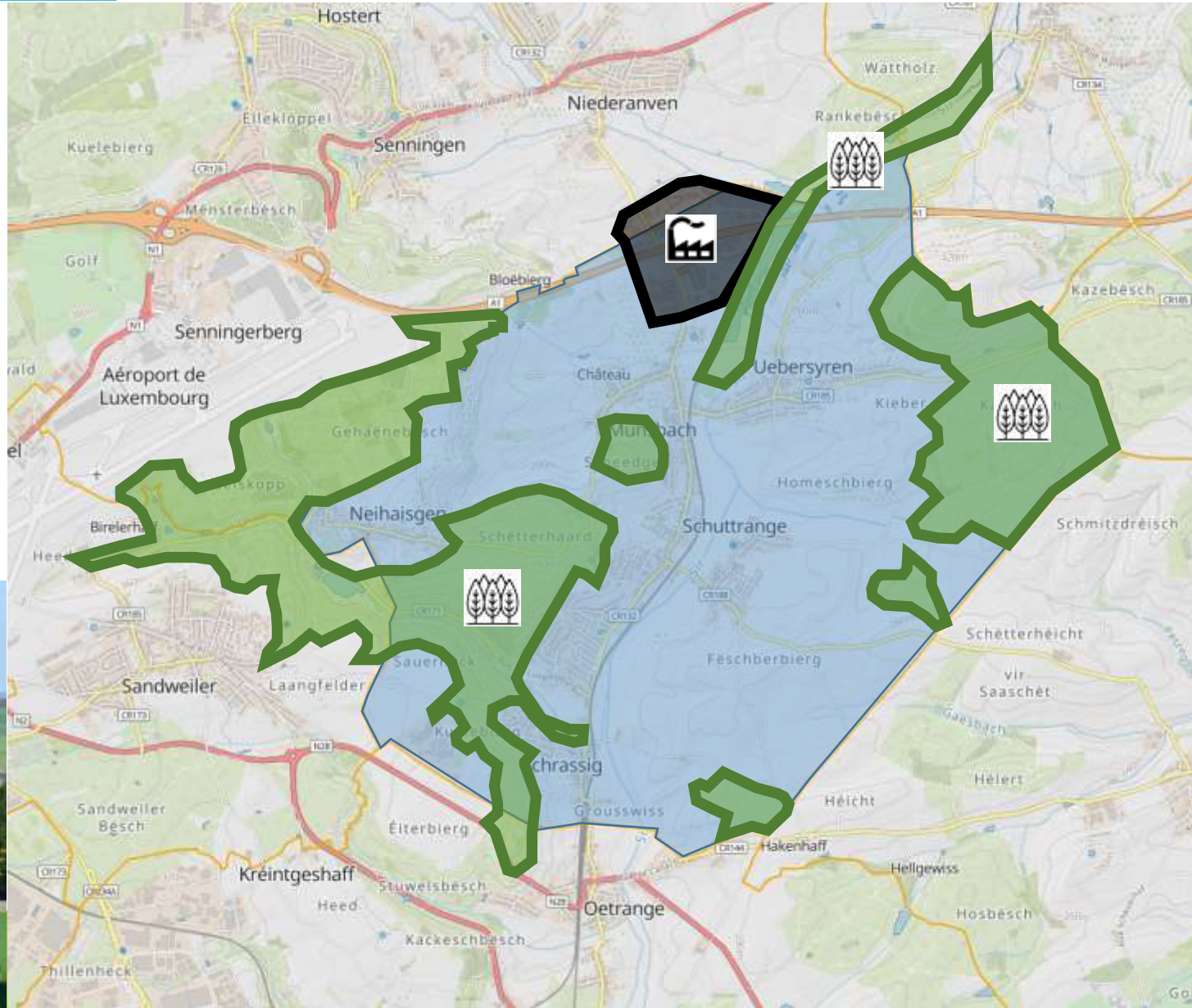
Présentation de la commune

- 5 localités avec 4.250 habitants de 87 nationalités et > 4.000 emplois
 - Schuttrange
 - Munsbach
 - Uebersyren
 - Schrassig
 - Neuhaeusgen



Présentation de la commune

- 5 localités avec 4.250 habitants de 87 nationalités et > 4.000 emplois
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 - Neuhaeusgen



Présentation de la commune

- Engagement pour le développement durable



Leitbild 2030 développement durable



Leitbild 2030 - Prozess



Leitbild 2030 - Principes

- Orientation à long terme dans le domaine du développement durable
 - Définition des objectifs quantitatifs et qualitatifs pour les thématiques suivantes:
- Santé
 - Mobilité
 - Energie
 - Eau
 - Construction
 - Achat
 - Adaptation au changement climatique
 - Processus



Concepts stratégiques



Concepts stratégiques

- Stratégie zéro déchets
- Concept de gestion des ressources



1.1. La feuille de ressources du cycle biologique



1.2. Le diamant de ressources du cycle technologique



3. Infrastructure, taxes, subventions et achats publics

3.1. Système de collecte

Objectif

- Optimisation de l'attractivité et de la logistique de collecte.

Recommandation et statut

Garantir une offre de collecte de déchets attractive et régulière pour les divers acteurs de la commune.	Planifié	En cours	Terminé
Mettre à disposition des acteurs de la commune un calendrier de collecte attractif et facile à utiliser.	Planifié	En cours	Terminé
Créer un service de rappel pour jour de collecte par notification push de l'application mobile.	Planifié	En cours	Terminé
Améliorer l'efficacité énergétique des véhicules de collecte.	Planifié	En cours	Terminé
Pour les nouvelles constructions, imposer la prévision de surfaces de stockage suffisantes dans le règlement sur les bâtisses.	Planifié	En cours	Terminé

Indicateur(s) recommandé(s) :

- Volume bio collecté sur base annuelle ;
- Volume PMC collecté sur base annuelle ;
- Volume verre collecté sur base annuelle ;
- Volume papier collecté sur base annuelle.

#fänkvirun

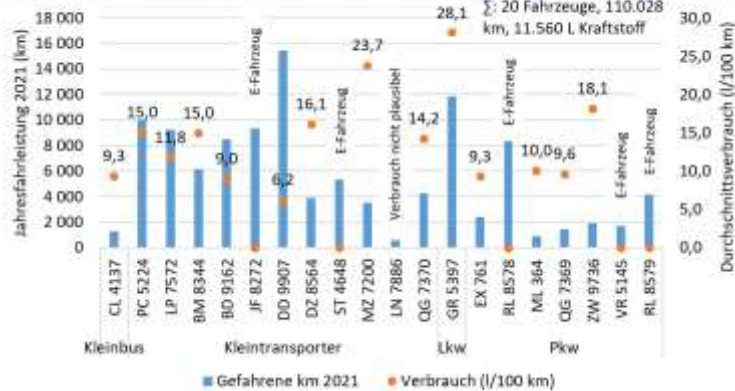
Null Offall Strategie
Gemeng Schëtter



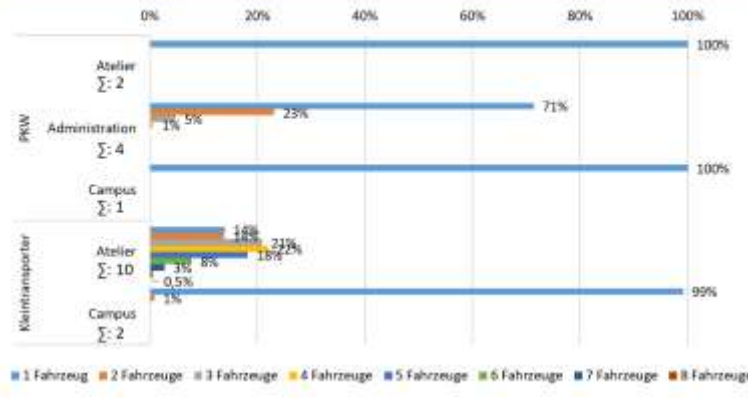
Concepts stratégiques

- Concept d'électrification de la flotte communale

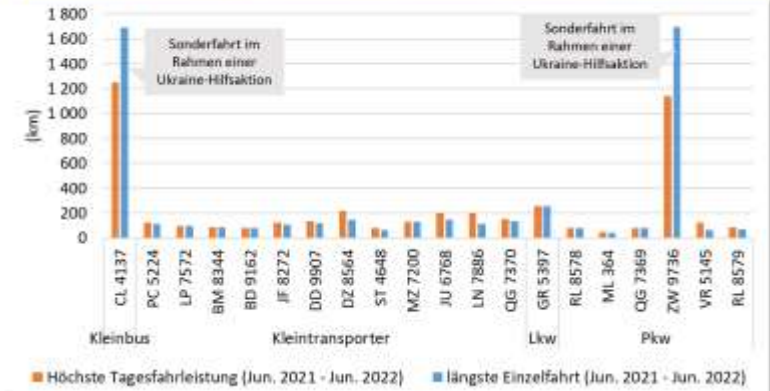
Jahresfahrleistung 2021 und Durchschnittsverbrauch je Fahrzeug



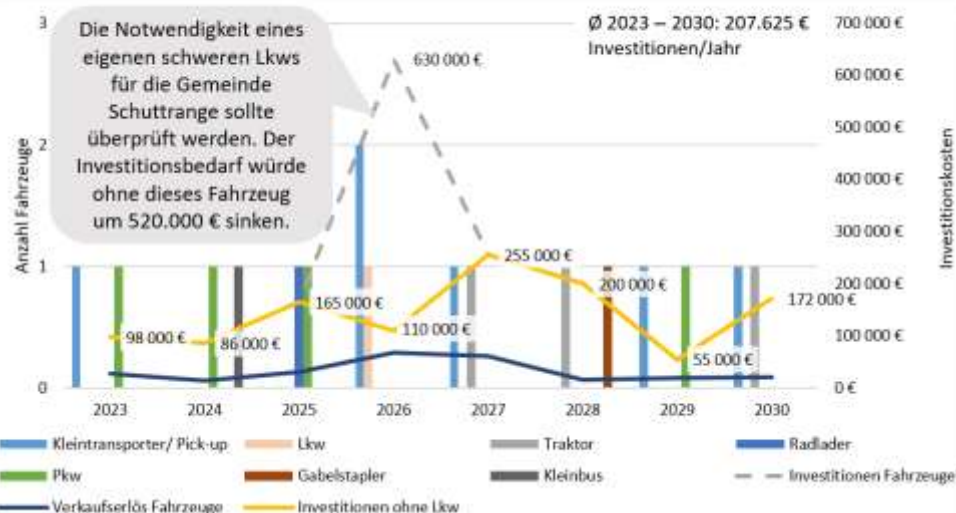
Anteil gleichzeitiger Einsatzzeiten (06/2021 – 06/2022)



Höchste Tagesfahrleistung & längste Einzelfahrt



Beschaffungsplan für elektrisch angetriebene Fahrzeuge



Entwicklung der Fuhrparkemissionen



Concepts stratégiques

- Concept d'adaptation au changement climatique
 - Processus participatif



Klimaanpassungskonzept der SIAS-Gemeinde Schüttringen

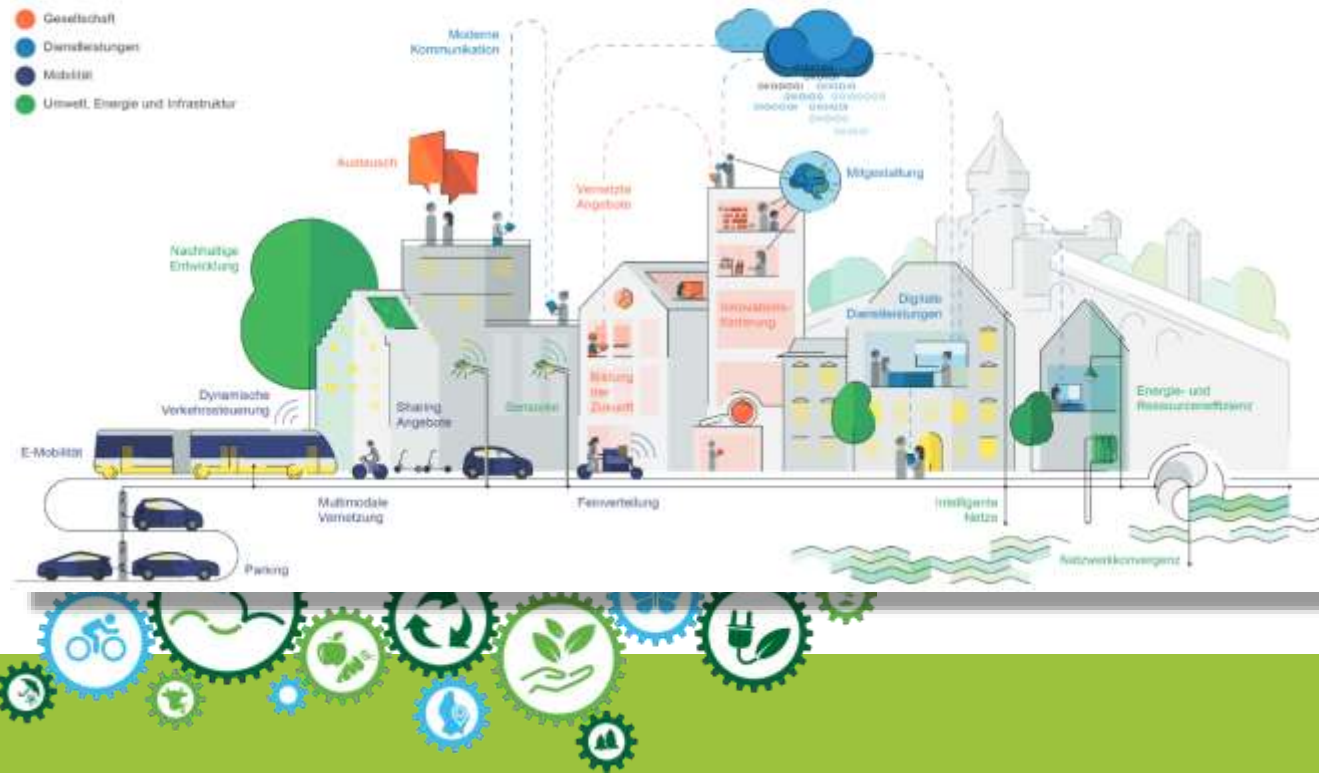


Concepts stratégiques

- Concept de digitalisation durable
 - Processus participatif

LEITSÄTZE: WO WIR AKTIV WERDEN

Mit der Smart City Strategie legt Schaffhausen den Fokus auf vier Schwerpunktthemen: «Gesellschaft», «Dienstleistungen», «Mobilität» und «Umwelt, Energie und Infrastruktur». Zu jedem Schwerpunkt werden Leitsätze festgehalten, die konkret aufzeigen, wie Schaffhausen noch lebenswerter werden kann.



DOMAINS



Concepts stratégiques

- Twin4Resilience

Interreg Co-funded by the European Union
North-West Europe

Twin4Resilience

Resilient Territorial Planning with Local Digital Twins



Innovation and resilience

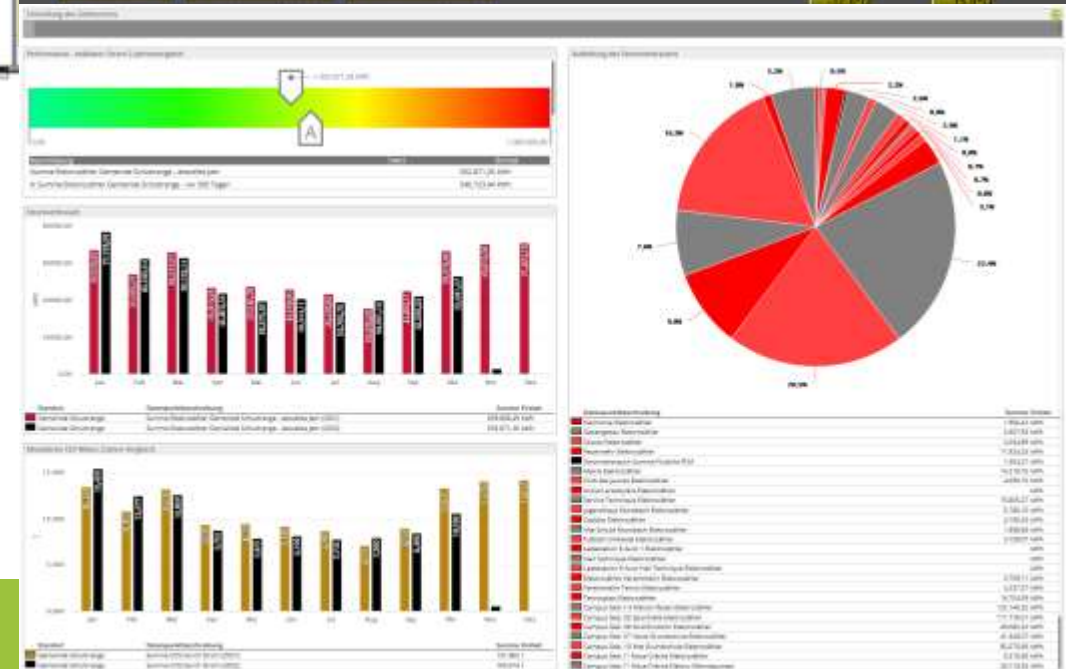
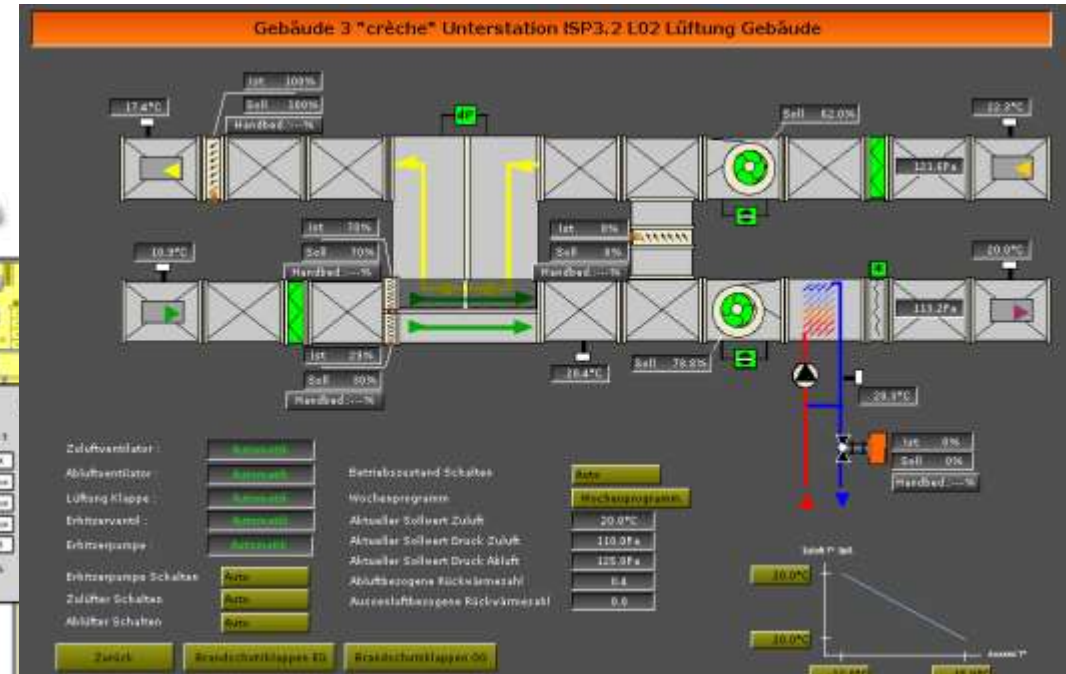
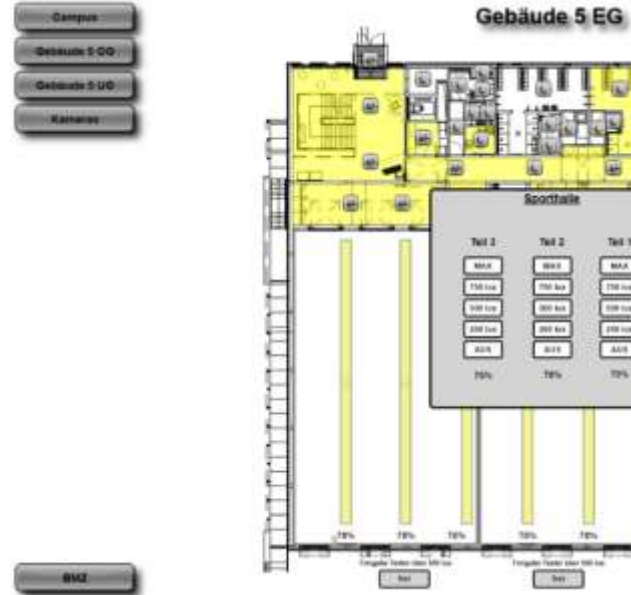
14 partners from NL, BE, DE, FR, IE, LU
Cooperating from 2024 - 2027

EU funding
€ 5,02 million

Total project budget
€ 8,38 million

Objectives

T4R enhances LDT understanding and usage among stakeholders while democratically deploying them in decision-making. T4R aims to bridge the LDT adoption gap, developing strategies, pilots, and training for inclusive planning.

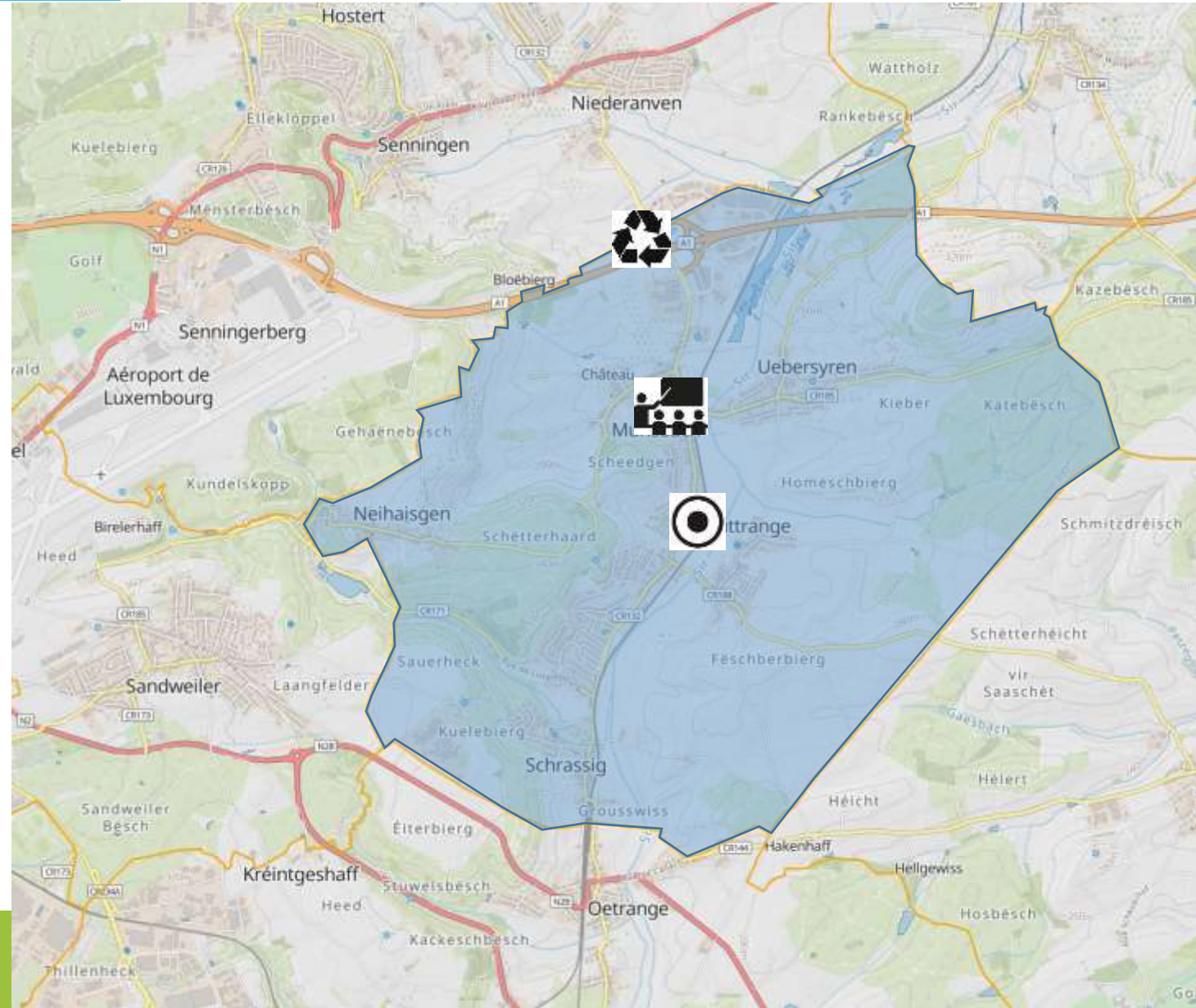


Projets futurs



Projets futurs

- 3 grands projets futurs
 - Neien Duerfkär
 - Complexe multifonctionnel
 - Extension campus scolaire



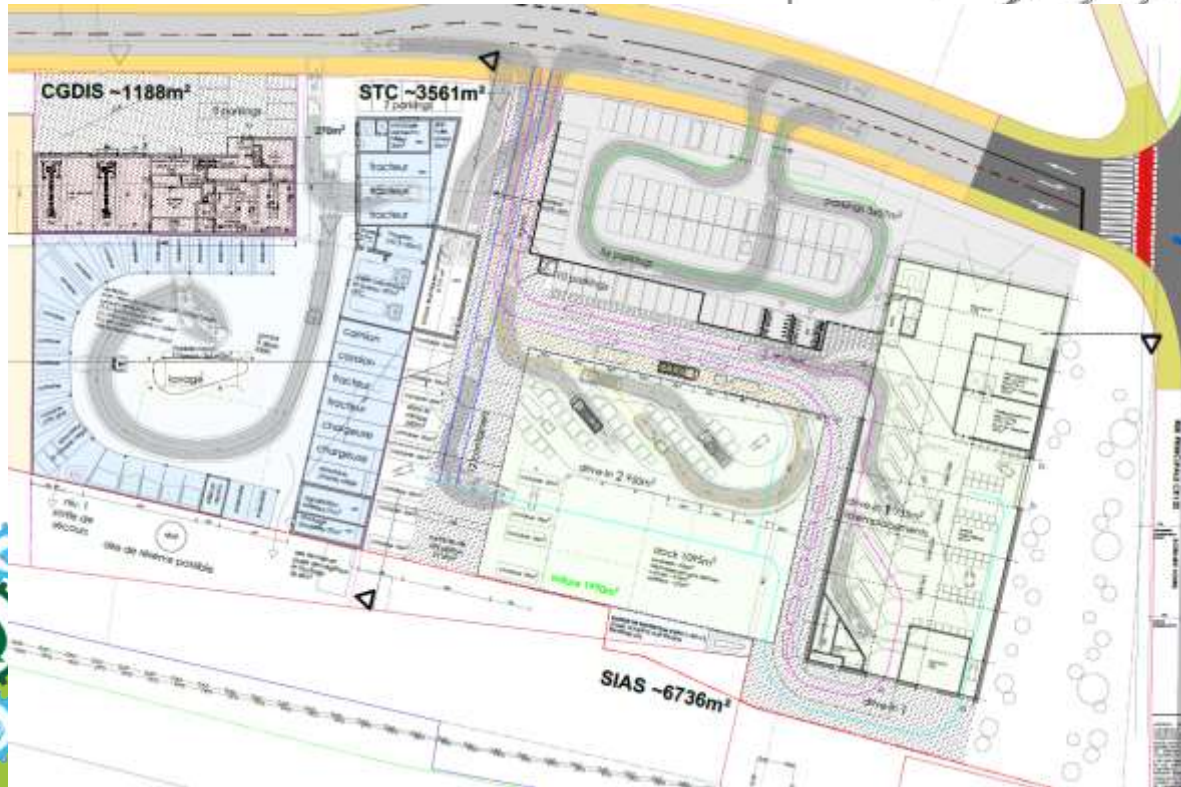
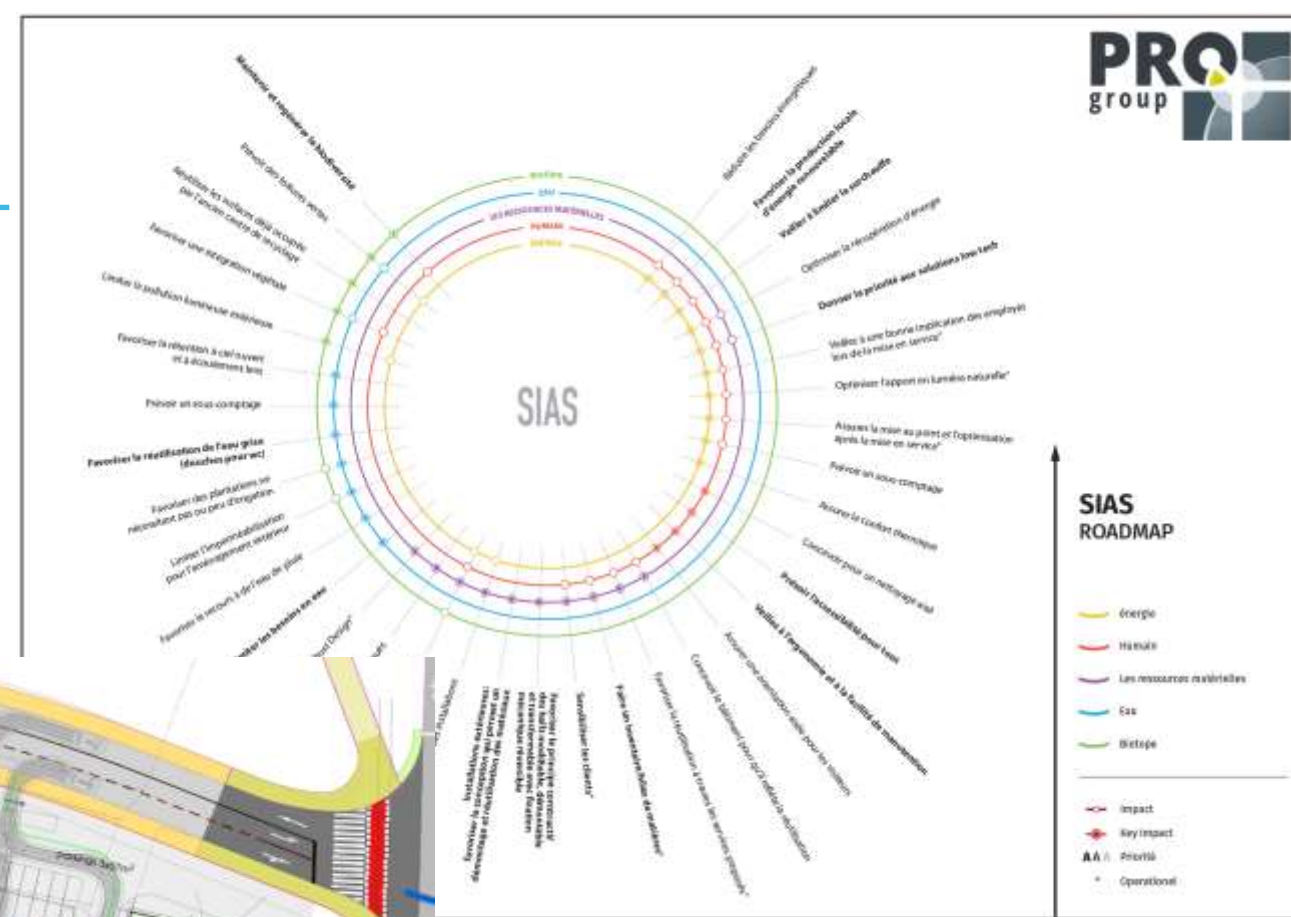
Projets futurs

- 3 grands projets futurs
 - **Neien Duerfkär**
 - Complexe multifonctionnel
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Projets futurs

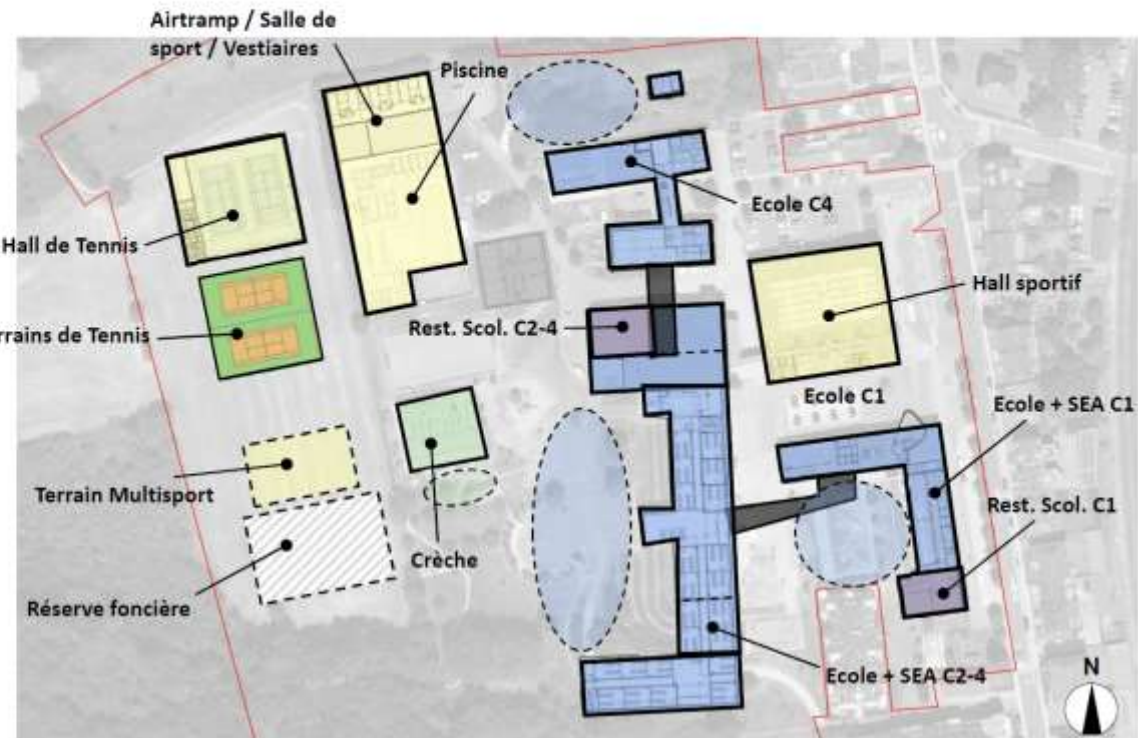
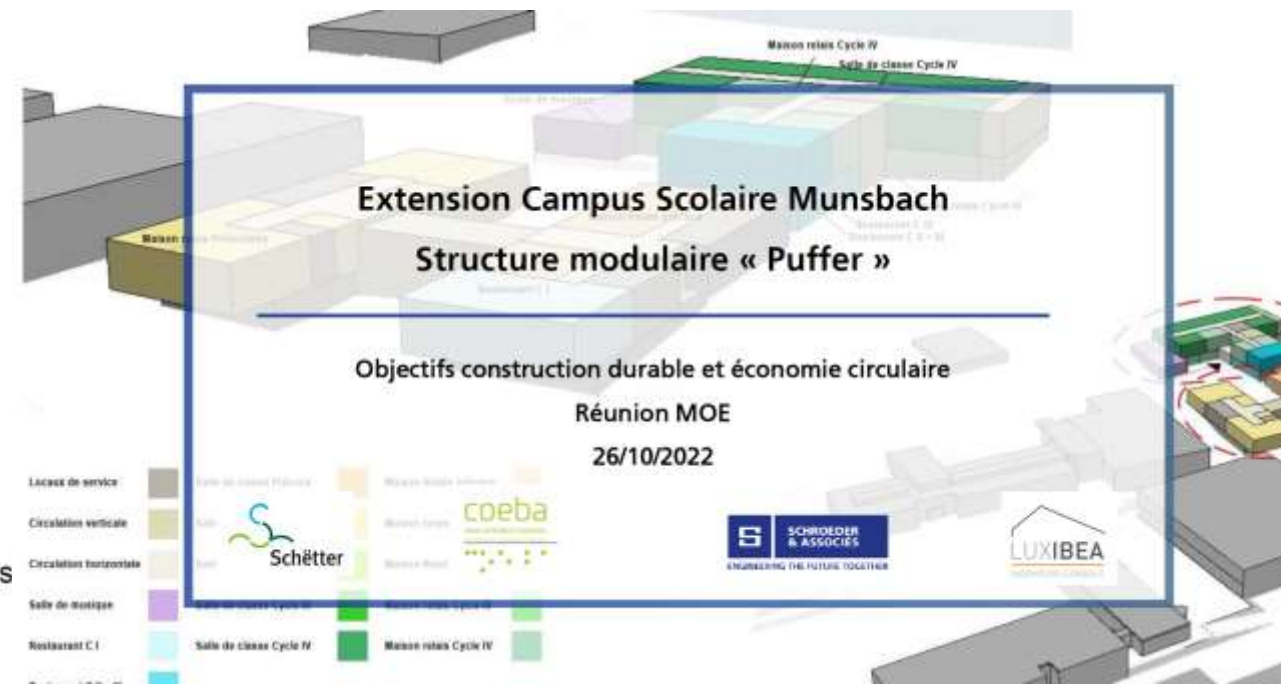
- 3 grands projets futurs
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Projets futurs

- 3 grands projets futurs
 - Neien Duerfkär
 - Complexe multifonctionnel
 - **Extension campus scolaire**

Masterplan infras
Plan d'ensemble





architectures réutilisables

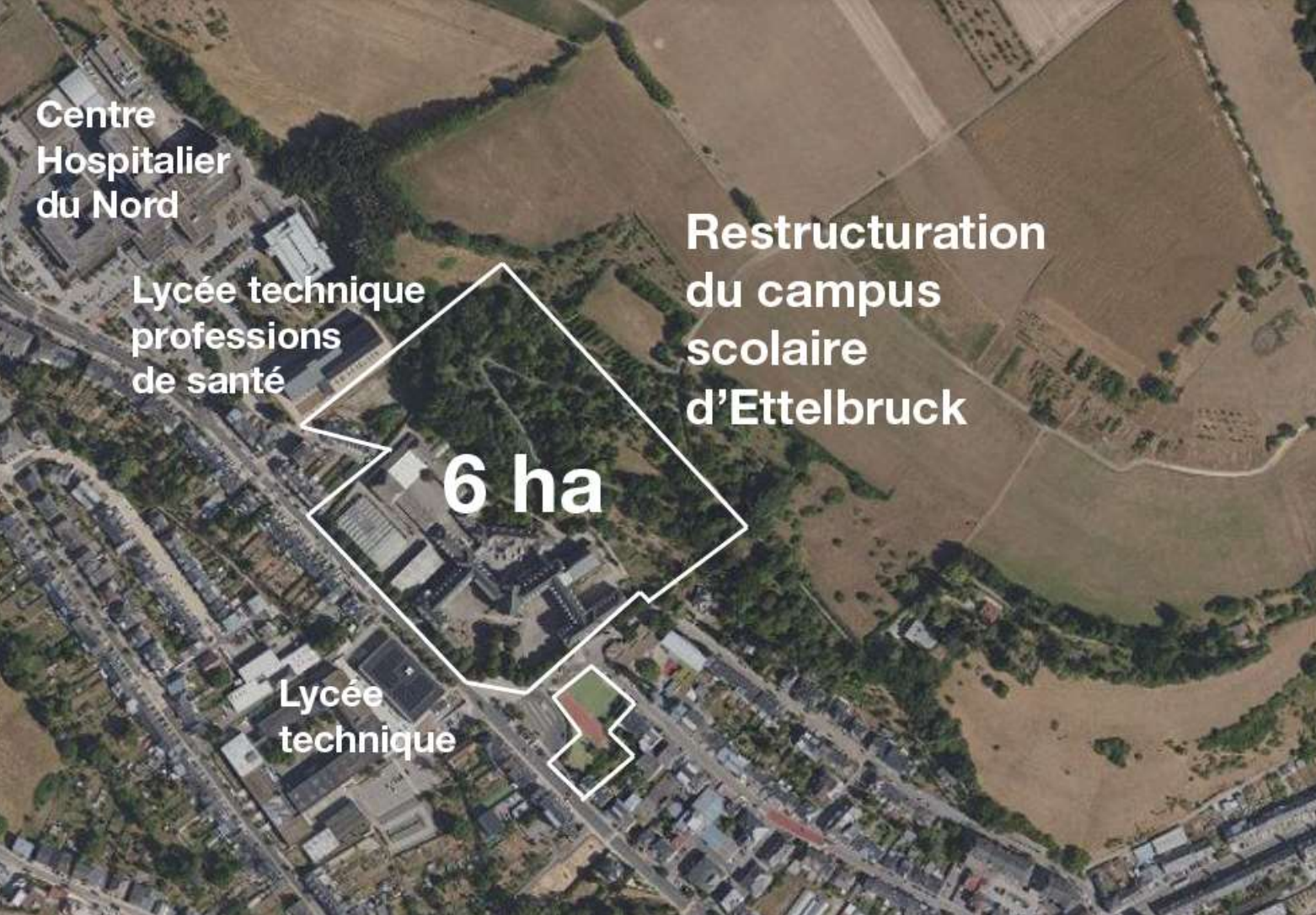
Carole Schmit

POLARIS

comment réutiliser les espaces et les matériaux?

comment réduire les déchets dans la construction ?

comment revaloriser l'architecture contemporaine ?



Ettelbruck

Lycée technique Ettelbruck, Réaménagement et extension de l'ancien Lycée agricole 2020-2030

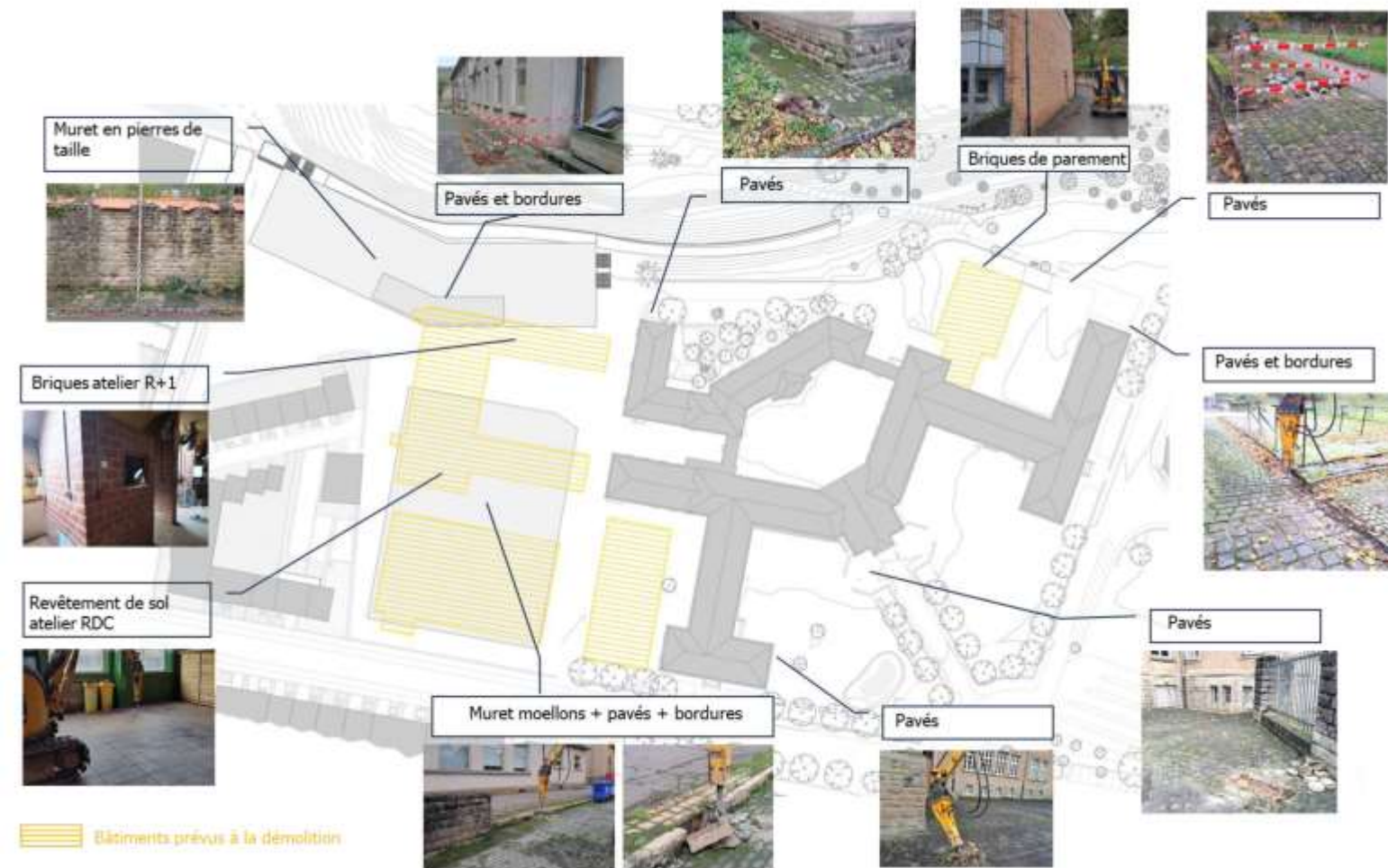
réaménager



repérer



POLARIS

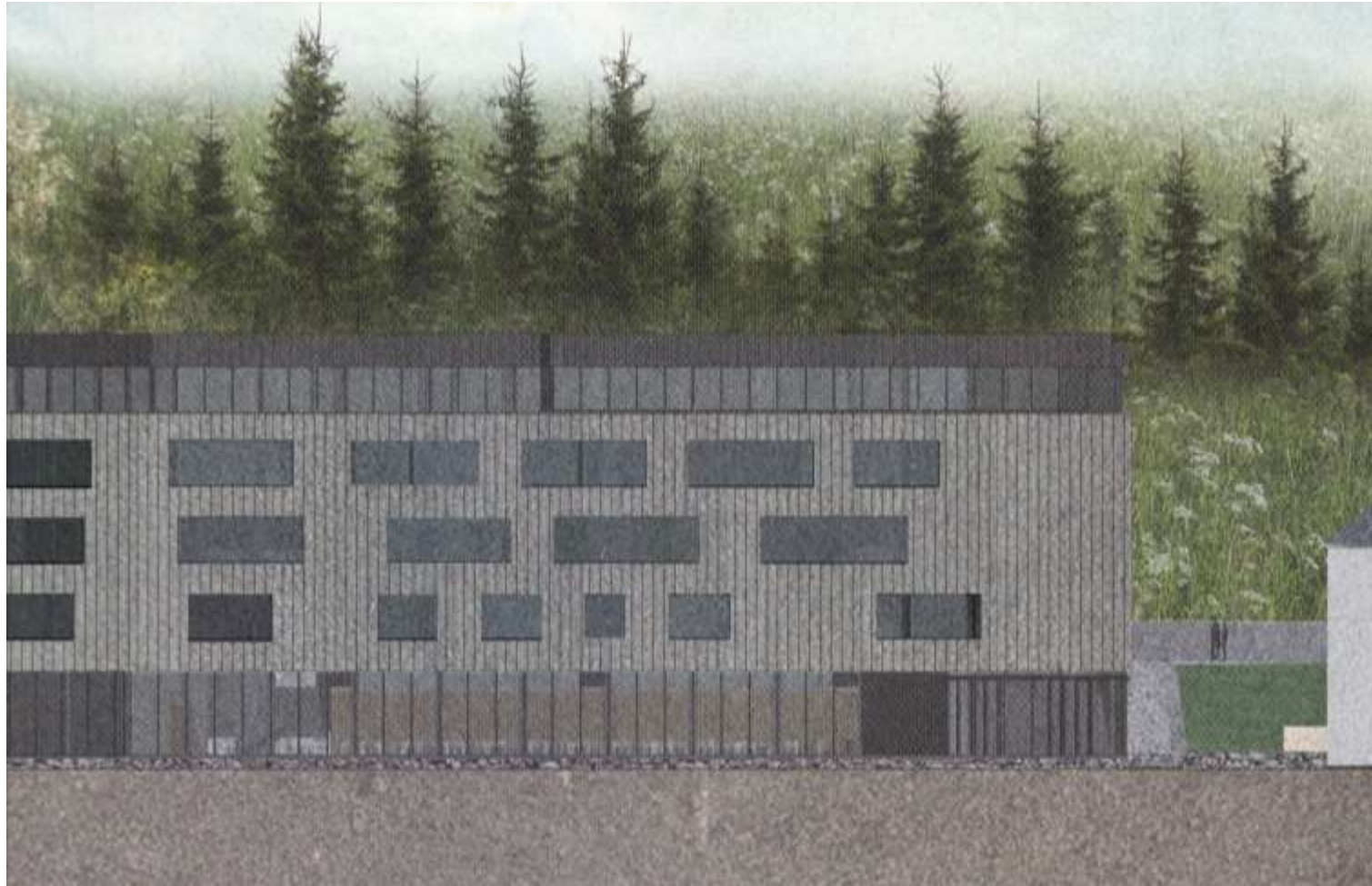
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relever



Ecole Agricole de l'Etat - Staatsackerbauschule
Ettelbruck (Grd.D. de Luxbg.)
:—: Inaugurée le 23 octobre 1932 :—:

rénover
restaurer



**reconstruire
replanter**

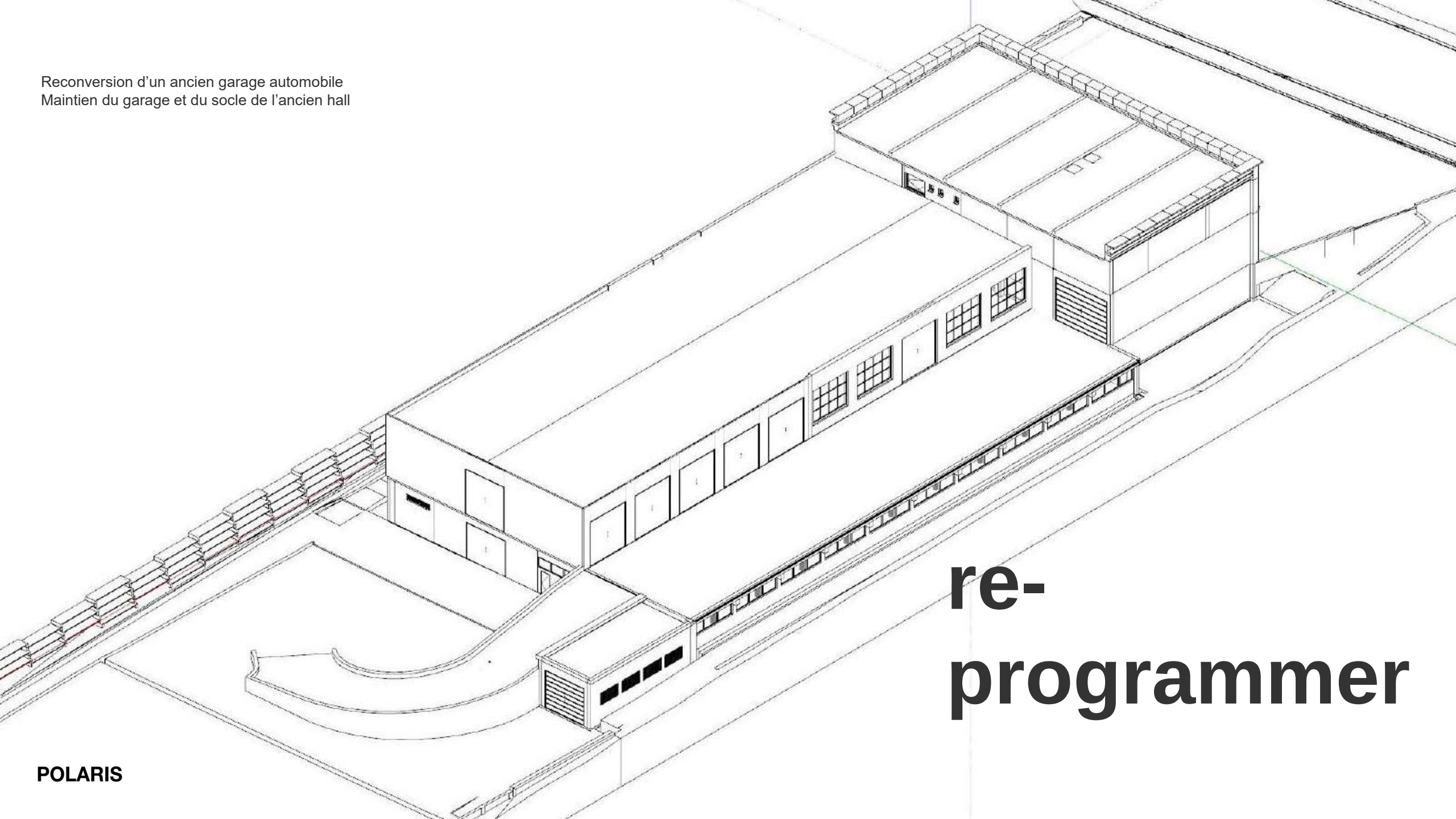
Luxembourg



DPI – centre d'hébergement pour demandeurs de protection internationale
Stratégie : Maintien de la bâtisse et introduction de volumes
2018-2020

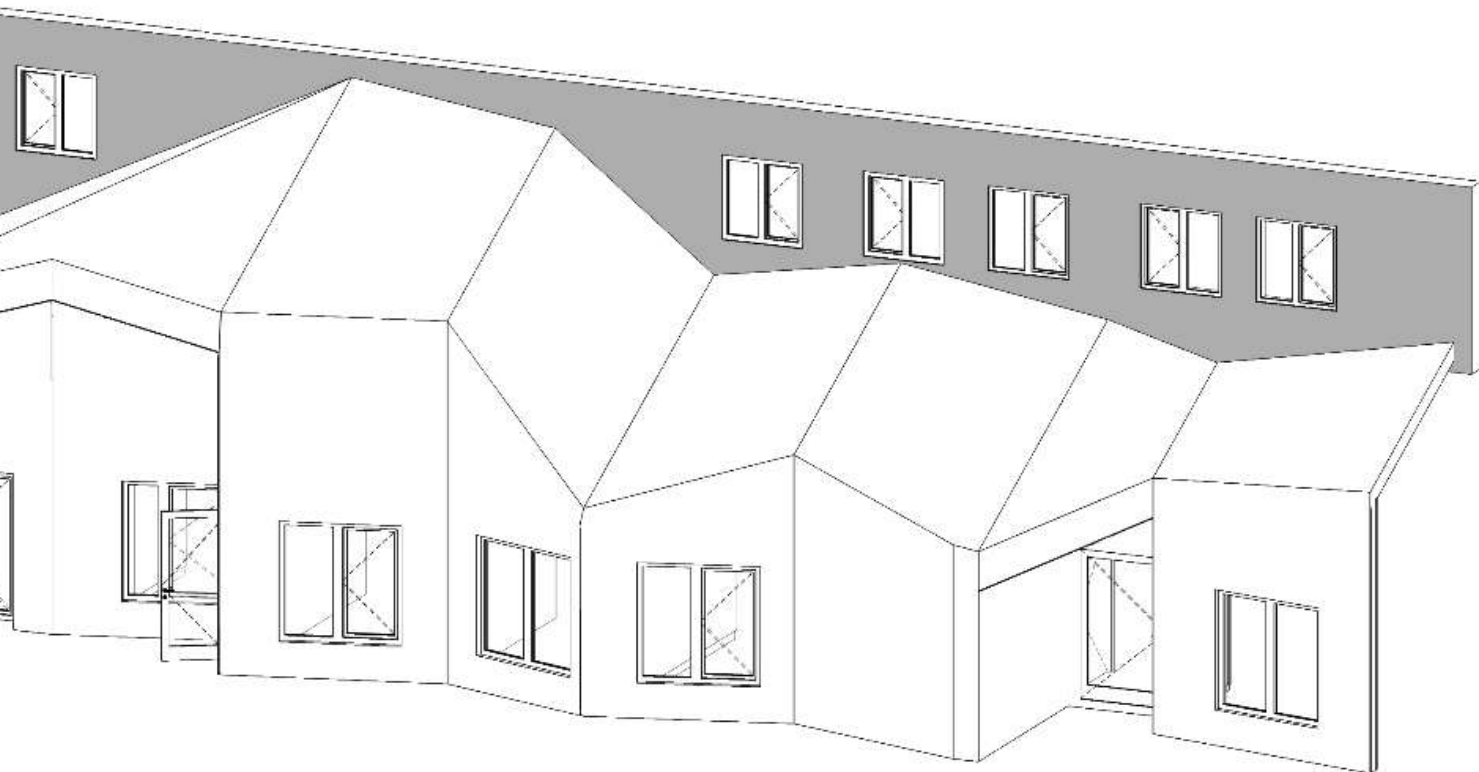
réaffecter

Reconversion d'un ancien garage automobile
Maintien du garage et du socle de l'ancien hall

An architectural line drawing showing a perspective view of a building conversion. The main structure is a long, rectangular building with a flat roof. It features a series of windows along its side, some of which are multi-paned. A smaller, lower section is attached to the main building. In the foreground, there is a curved, low wall or ramp. The drawing is rendered in black lines on a white background, with some green lines indicating a site plan or boundary.

**re-
programmer**

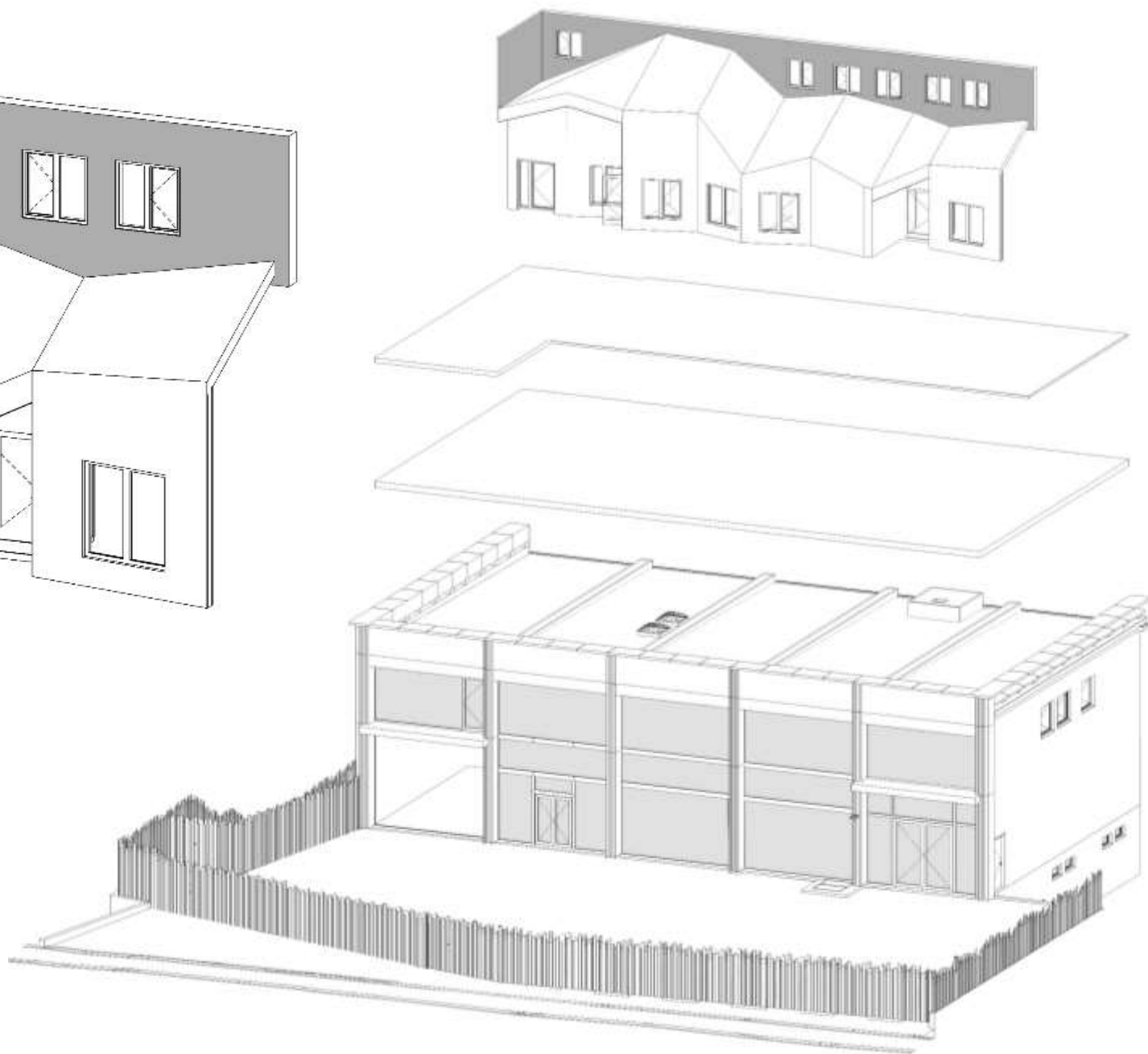
POLARIS



Compléter par un village du monde protégé derrière une ancienne vitrine

ré- interpréter

POLARIS





Création d'une nouvelle adresse, qui valorise le voisinage et l'espace urbain

revaloriser

POLARIS



Luxembourg



Maison uni-familiale
Transformation d'une maison des années 50 en une
maison des années 2020, par un style de vie qui est
centrée sur la communication



restructurer

Un rez-de-chaussée qui se déroule en suivant la pente naturelle du terrain

Un squelette métallique dans lequel se pose les dalles et murs en bois massif de façon flexible.



récupérer

La déconstruction a permis de réserver des matériaux
de l'ancienne maison
Par exemple la pierre en marbre



repositionner

Les grosses pierres en gré typiques du quartier sont réservées pour une réutilisation



reposer

Les planchers en bois sont recouverts par un parquet en chêne massif seconde main, en provenance d'une usine située dans le nord de la France



réinventer

Le pignon est décapé, tout en maintenant des traces des décennies précédentes.



Belval Petite Maison

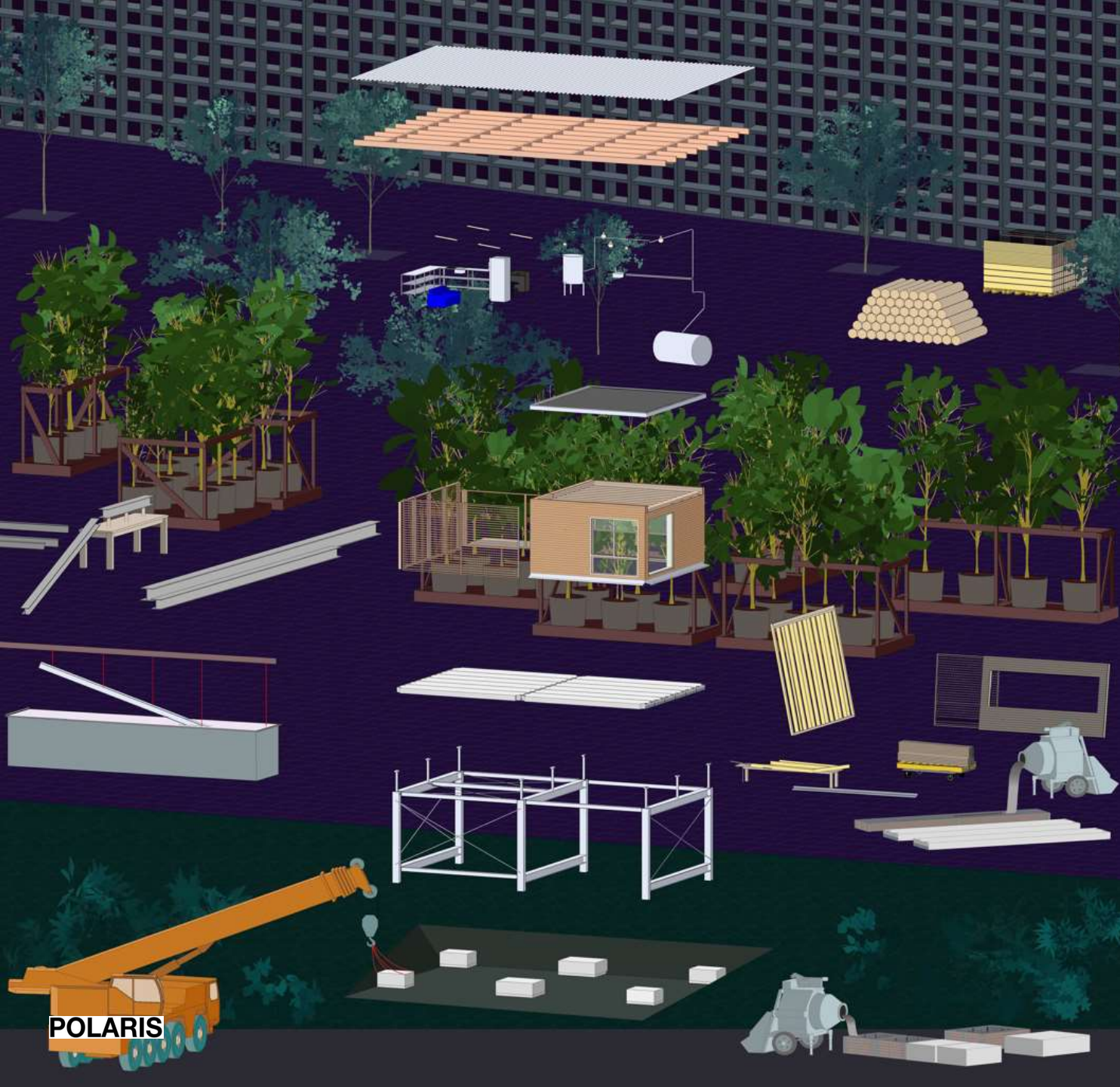
Projet de recherche et d'exposition
pour l'Université de Luxembourg
en tant que professeure invitée
pour Esch 2022 capitale culturelle
Place de l'Université, Belval





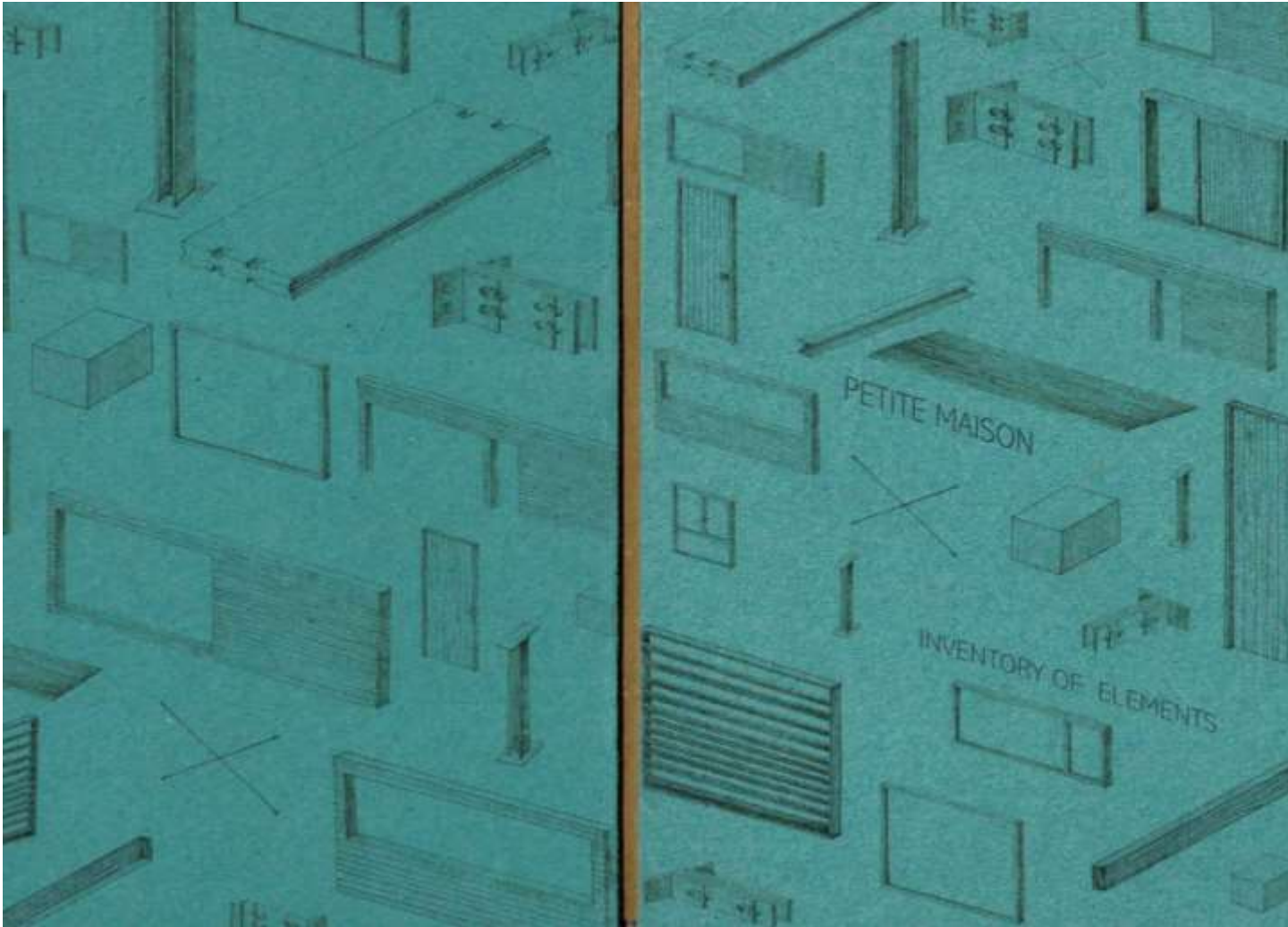
rayonner

Le projet contraste par sa taille modeste et se pose devant les bâtiments de la cité universitaire. Il sera présent de façon bienveillante pendant une durée limitée et servira de différentes façons : Cantine scolaire, exposition, réunions thématiques, fêtes



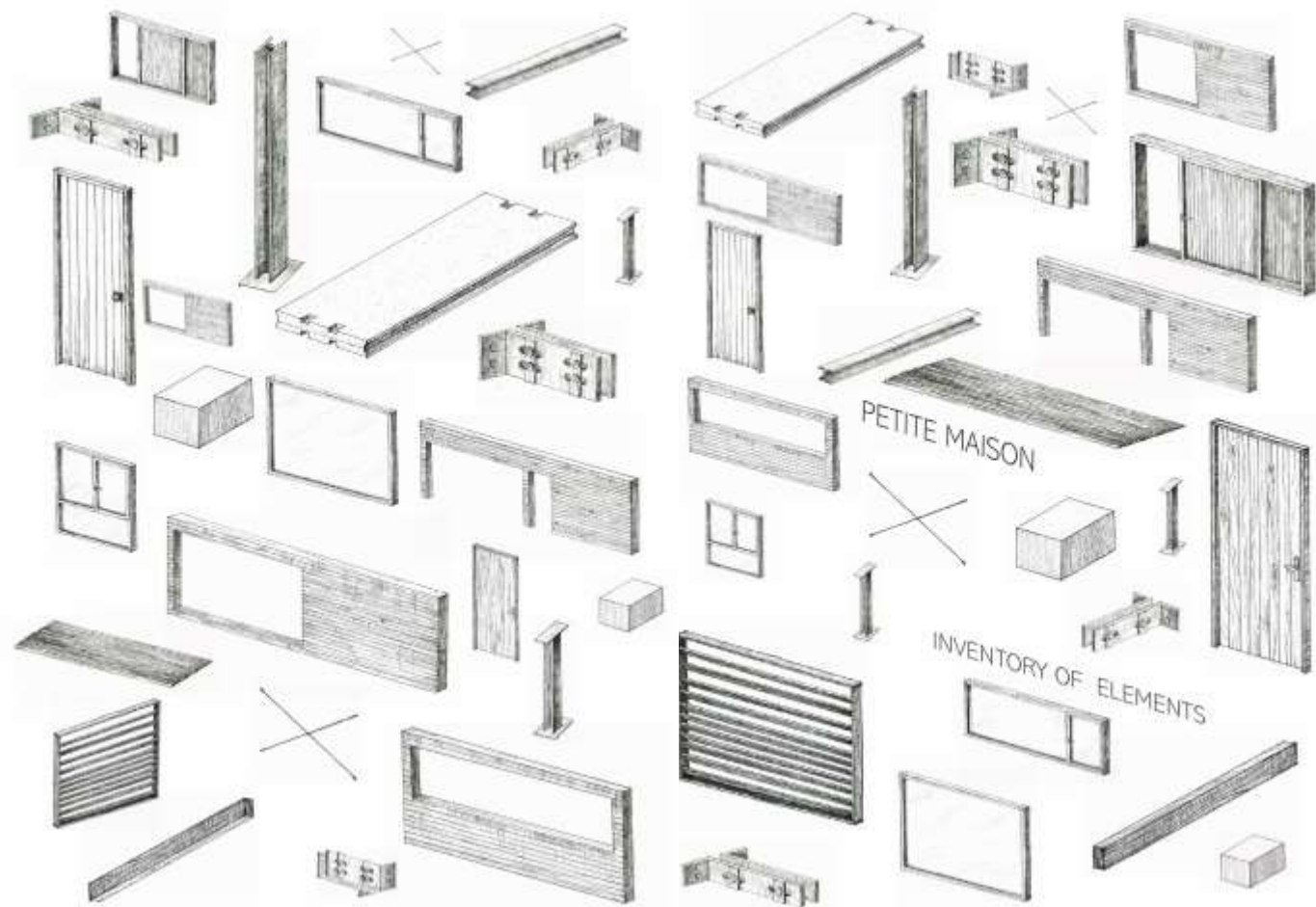
répartir

Concevoir un espace par des éléments de construction en préservant les qualités intrinsèques de chaque élément et en réduisant la quantité de matière au strict nécessaire.



répertoire

Inventaire des éléments de construction

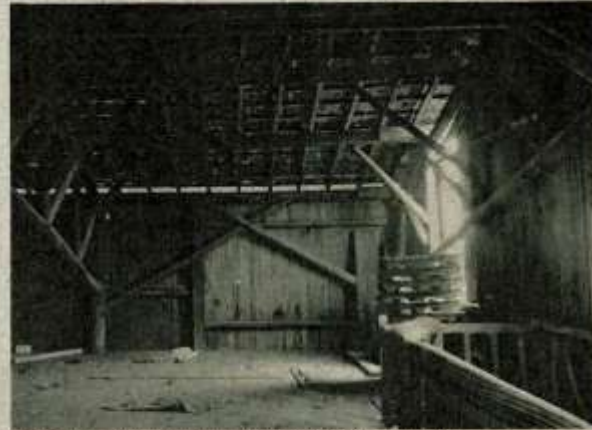
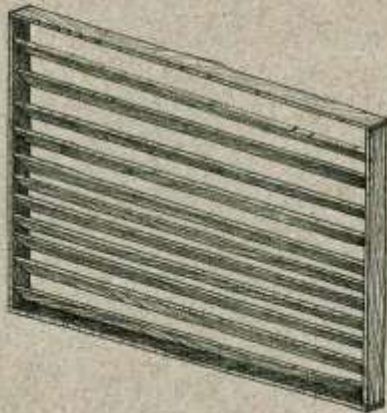


répertoire

Inventaire des éléments de construction

cataloguer

WOODEN PANEL		PETITE MAISON			
Material	Re-used pine wood cladding				
Specs	The wood was recovered from a barn near Nantes and assembled on site.				
Use 1	location	Animal Barn, Nantes (FR)			
	duration				
	function	Wooden Cladding			
Use 2	location	Petite Maison (Belval, Esch-sur-Alzette, Luxembourg)			
	duration	05.2022-12.2022			
	function	Non-structural terrace partition wall			
Producers/ Constructors	Wood provided by Actis (FR), assembled by Pretalux (LU)				
Class					
Code	Name	Qty	L (mm)	I (mm)	H (mm)
	PANN-TR2 Exterior Wooden Panel	5	265	15	189



05.2022 - Previous use of the wood (animal barn, Nantes region)



23.06.2022 - Petite Maison (Belval, Luxembourg)

Inventaire des éléments de construction



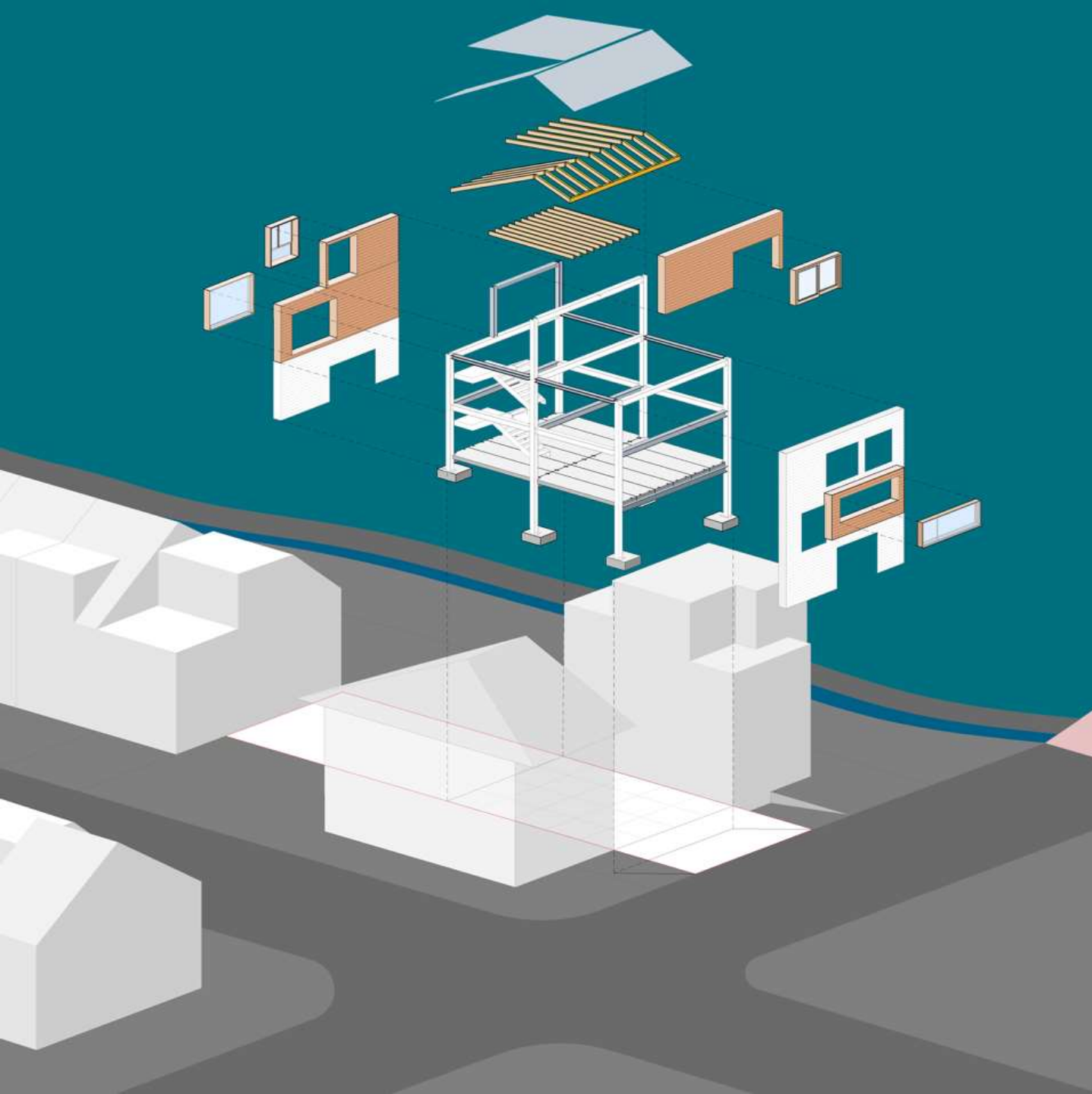
exposer



fêter



manger

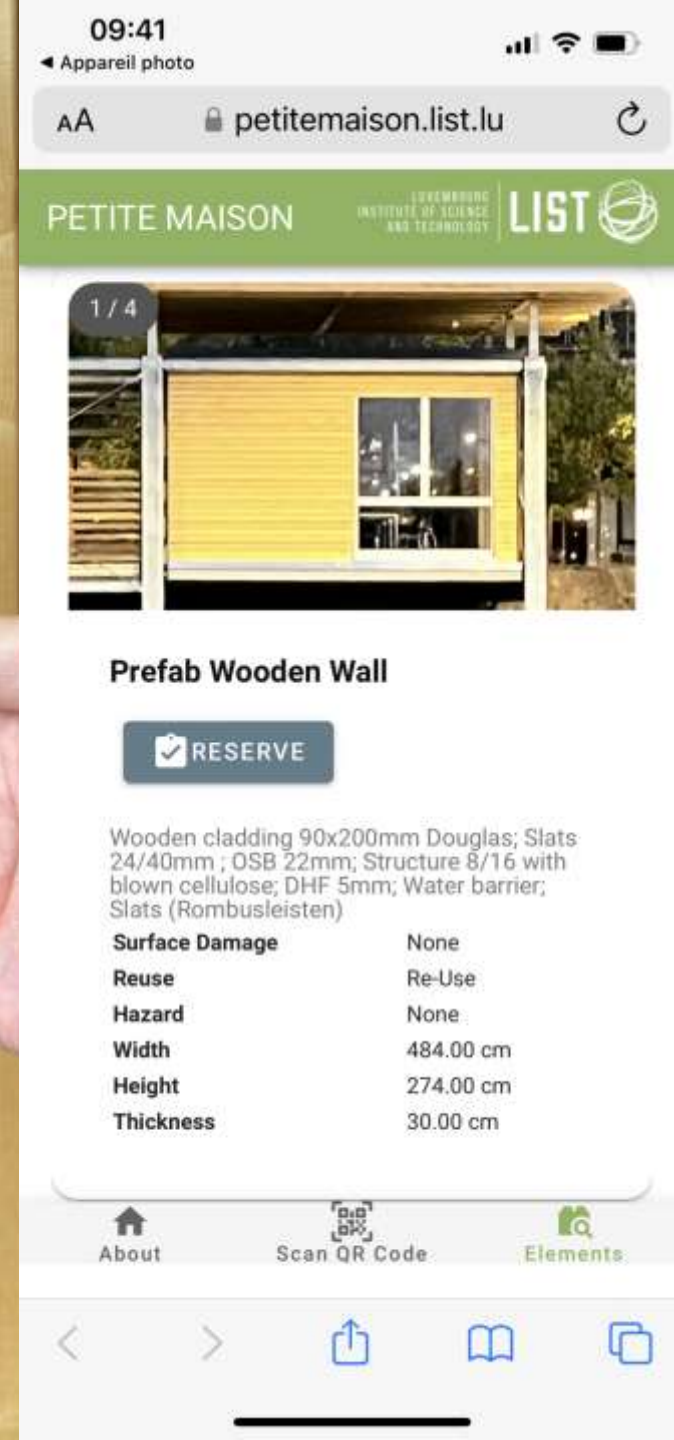


reconfigurer

Introduire des éléments de construction
récupérés pour transformer



POLARIS

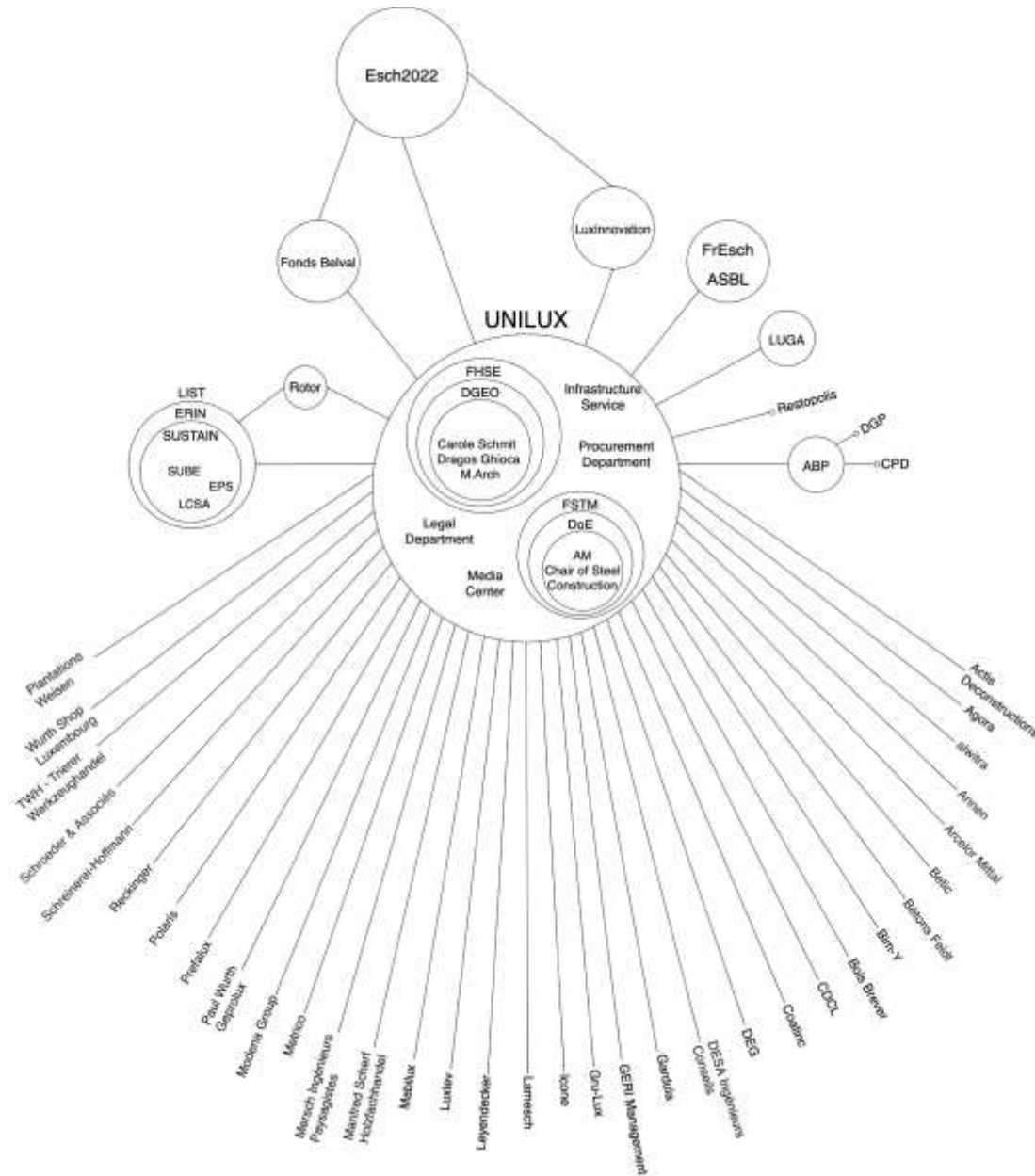




déconstruire



déposer



remercier



AUGMENT

DIGITAL FACILITIES SERVICES

Digitizing Real Estate & Facility Management

Rida Klink
Founder & CEO





AUGMENT

DIGITAL FACILITIES SERVICES

DIGITIZING REAL ESTATE & FACILITIES MANAGEMENT



Hosted at
LCI



Industry
PropTech



60 % of R&D financed
through RDI Grant

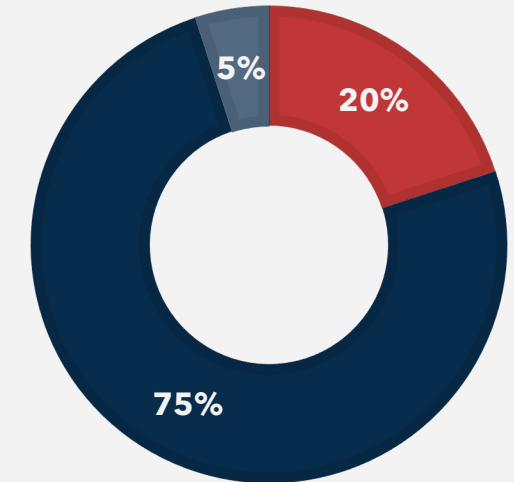


Winner & Graduate

THE FACILITY LIFECYCLE



FACILITY LIFECYCLE COSTS



40 M€

140 M€

9 M€

1

Design + Construction
[Approx. 5 years]

2

Facility Management
Occupancy + Use
[Approx. 100 years]

3

Decommission + Recommission
[Approx. 2 years]



Urban areas are responsible for **70 percent** of global CO2 emissions, with transport and buildings being among the largest contributors.

(UNEP, 2024)



WHAT WE DO

We can

Digitize your facilities & their **Management**; with one interface, using the highest standards.



The background of the slide features a dark blue, almost black, space filled with abstract digital elements. On the left side, there are several 3D wireframe cubes and rectangular blocks, some of which are illuminated from within, creating a glowing effect. Thin, white lines and dots, resembling data points or network connections, are scattered throughout the scene. The overall aesthetic is high-tech and futuristic, suggesting a digital or data-driven environment.

WIRETWIN

The only software you'll need

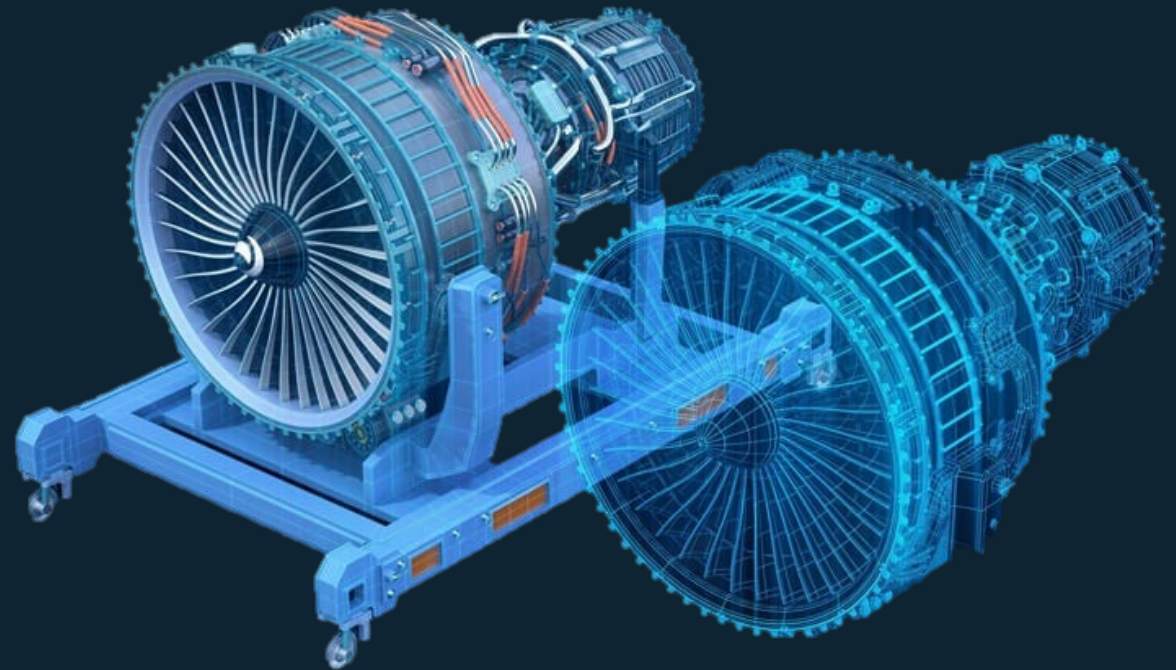
A software that gives you complete control and visibility over your facility, using **digital twin** technology in **BIM** format.

Works for Planned & Existing facilities & infrastructure.



What is a **DIGITAL TWIN?**

A **digital twin** is a virtual model designed to accurately reflect a physical object.

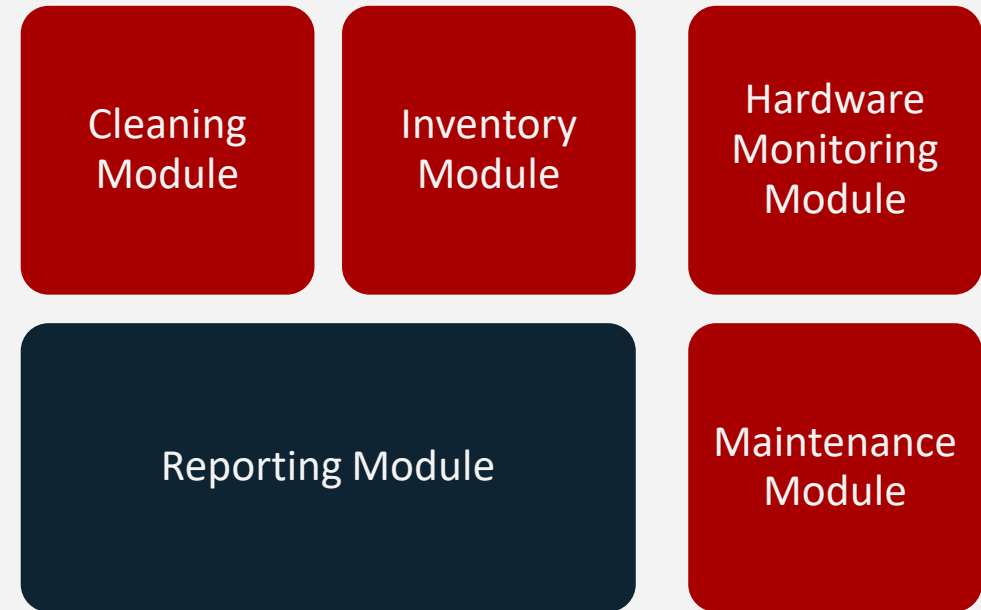


SOFTWARE



WIRETWIN – SAAS

Connect all your software to a single platform. Automatically update all your data. Easily share information with all stakeholders. Benefit from AI-powered data services. Digital Twin for Operations & Maintenance, in BIM format.



MODULES – SAAS

Activated at the click of a button, our Modules allow you to manage, monitor, inspect, or report on different aspects of your facility. Modules are optional.



Our Clients



Giga-Concept Office

📍 Avrainville, France

🏠 2,200 m²

👤 Giga-Concept SA

Private office needing utilities monitoring, IoT management, Air quality management, and reporting.

#IoT



Schroeder & Associates Office

📍 Kokelchauer, Luxembourg

🏠 20,400 m²

👤 Schroeder & Associates SA

Office space requiring maintenance & cleaning management, O&M BIM data, SLA monitoring & data room.

#WIRETWIN



City of Beirut

📍 Beirut, Lebanon

🏠 4,200,000 m²

👤 Lebanese Government/ Open Source

City-wide mapping using drones for blast modeling, remote damage assessment, and NGO coordination.

#Digitization





Environmental Social & Governance (ESG)

ESG (environmental, social, governance) is used as a framework to assess how a commercial real estate portfolio manages risks and opportunities.

Global acceptance of climate change has driven investment in green buildings and clean energy, prompting regulators around the globe to enact strict policies and standards. Consequently, ESG has become essential for portfolios, and ESG reporting will soon become mandatory.

Portfolio ESG Rating Distribution



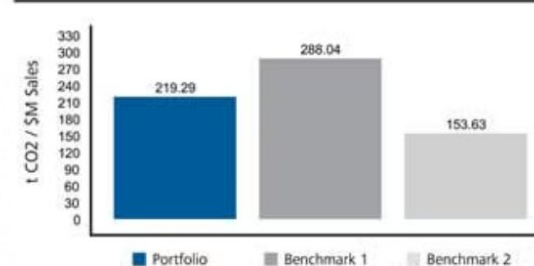
Benchmark 1 ESG Rating Distribution



Coverage ESG/CO2

	Portfolio		Benchmark 1		Benchmark 2	
% ESG Coverage	97.48%		94.55%		99.98%	
% CO2 Coverage	97.75%		94.85%		99.81%	
Absolute Pillar Scores	Score	Weight	Score	Weight	Score	Weight
Environment	5.96	22.15%	5.73	24.25%	5.90	22.56%
Social	4.72	44.18%	4.69	42.97%	5.20	44.74%
Governance	4.95	32.52%	5.12	31.55%	5.56	32.70%

CO2 Intensity Portfolio vs. Benchmarks



UN Sustainable Development Goals (SDG)

The United Nations' Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice.

With Wiretwin, you can aim to target up to 8 SDGs:

#3 Good Health and Well Being

#6 Clean Water and Sanitation

#7 Affordable and Clean Energy

#8 Decent Work and Economic Growth

#9 Industry, Innovation and Infrastructure

#11 Sustainable Cities and Communities

#12 Responsible Consumption and Production

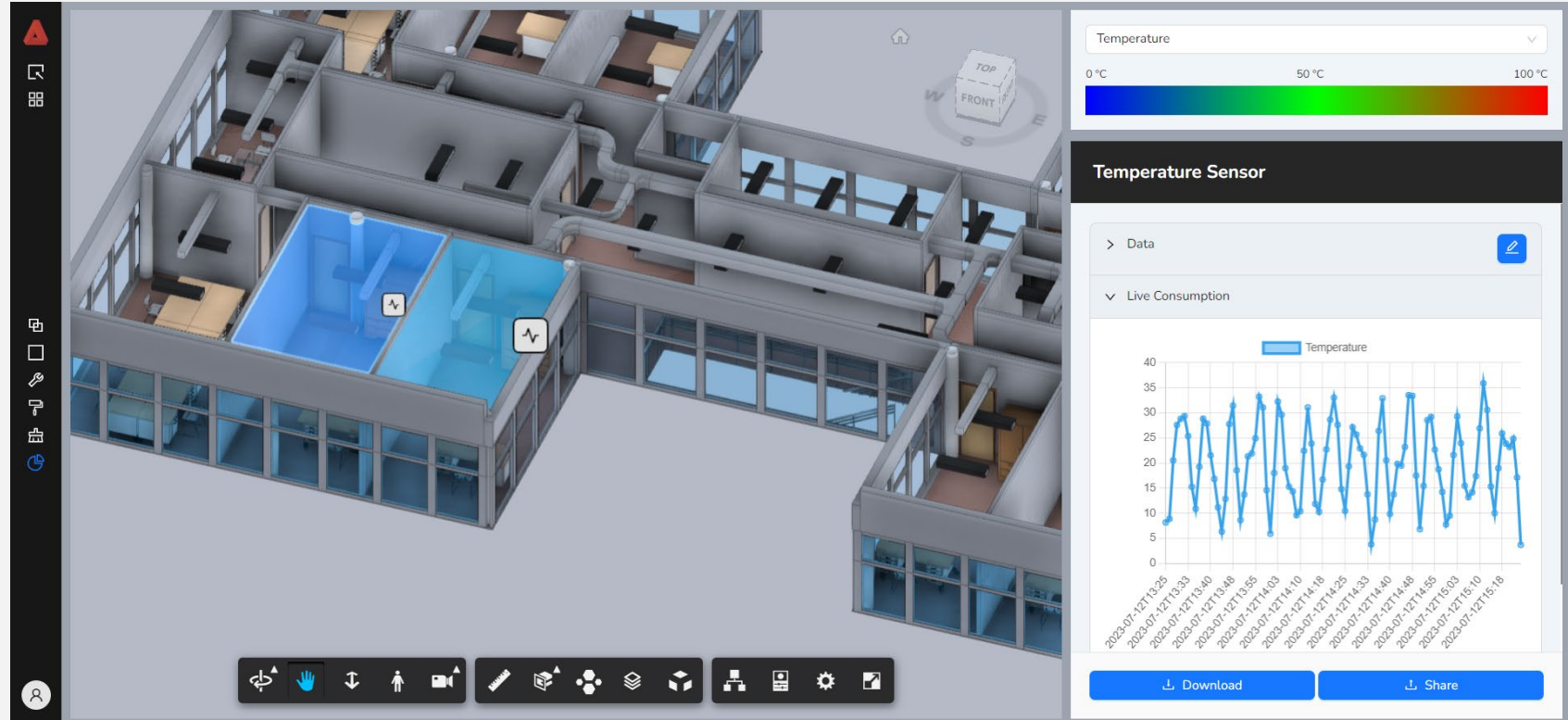
#13 Climate Action



SDG #3

Good Health and Wellbeing

Wiretwin can promote good health and well-being by helping to control Volatile Organic Compound (VOC) emissions from building materials through proper modeling and easy data access, which can affect indoor air quality and consequently, the health of building occupants



Industry, Innovation, and Infrastructure

The infographic displays the 17 Sustainable Development Goals (SDGs) in a circular arrangement. Each goal is represented by a colored segment with a number, a title, and an icon. The central logo reads "SUSTAINABLE DEVELOPMENT GOALS".

Goal Number	Goal Title	Icon Description
1	NO POVERTY	Three people holding hands
2	ZERO HUNGER	Fork and spoon
3	BETTER HEALTH	Heart with pulse line
4	QUALITY EDUCATION	Open book
5	GENDER EQUALITY	Male and female symbols
6	CLEAN WATER	Water drop
7	AFFORDABLE AND CLEAN ENERGY	Lightbulb
8	DECENT WORK AND ECONOMIC GROWTH	Bar chart with upward arrow
9	INDUSTRIAL INNOVATION AND INFRASTRUCTURE	Gears and factory
10	REDUCED INEQUALITIES	Three people with different heights
11	SUSTAINABLE CITIES AND COMMUNITIES	City skyline
12	RESPONSIBLE CONSUMPTION AND PRODUCTION	Recycling symbol
13	CLIMATE ACTION	Globe with temperature gauge
14	LIFE BELOW WATER	Fish
15	LAND, LIFE AND ECOSYSTEMS	Tree
16	PEACE, JUSTICE AND STRONG INSTITUTIONS	Scales of justice
17	PARTNERSHIPS FOR THE GOALS	Three hands shaking



SDG #11

Sustainable Cities and Communities

Wiretwin can help build sustainable cities and environments by getting maximum value out of scarce funds. It can lead to cost savings in the engineering, construction, and operational phases of building projects, which can then be invested in other critical infrastructure projects



Inventory Management

Resources						...	Add Resources
Name	Description	Total Quantity	Cutoff Quantity	Unit Price	Action		
Alignment Indicator	R.89 Alignment Indicator				 		
Antifreeze - Glycol Base	R.70 Anti-freeze	4	 1	24€	 		
Bearing Grase	R.3 Generator Bearing Grease	3	 1	45€	 		
Cleaning Set	R.2 Cleaning Equipment and Materials	3	 4		 		
Fin Comb	R.80 Fin Comb	2			 		
Gloves	R.38 Glooves	4			 		
Hand Vacuum	R.19 Hand Vacuum	2			 		
High Pressure Washer	R.82 High Pressure Washer				 		
Hydrometer	R34. Hydrometer	2			 		
Ladder	R.5 Ladder	3			 		

< 1 2 >

Spares									...	Add Spares
Name	Description	Total Quantity	Cutoff Quantity	Unit Price	Material Cost	Shipping Cost	Associated Types	Action		
Aust Filter	S.15 Replacement Filter Cartridge	4	 6	50€	40€	10€	Water_Softener_System_19363 (1)	  		
Cal Light	S17. Replacement Lamp	3	 10	20€	15€	5€	Cal Lighting Light Fixture Recessed Can 12V MR-16	  		
GE Starter	S.18 Replacement Starter	5	 3	100€	100€	0	Kichler Light Fixture 9234BK Wall Cylinder Cal Lighting Light Fixture Recessed Can 12V MR-16	  		
Kichler Light	S17. Replacement Lamp	10	 4	30€	25€	5€	Kichler Light Fixture 9234BK Wall Cylinder	  		
Phillips Ballast	S.19 Replacement Ballast	10	 5	40€	40€	0	Kichler Light Fixture 9234BK Wall Cylinder Cal Lighting Light Fixture Recessed Can 12V MR-16	  		
Sprinkler Head	Spare Sprinkler Head	10	 3	60€	50€	10€	Fire Sprinkler LP II Residential TY9934	  		
Standard O Ring	S.30 Replacement "O Ring"	12	 8	16€	12€	4€	Water_Softener_System_19363 (1)	  		





RIDA KLINK, Founder & CEO

rida.klink@augment.lu

+352 661 955 130

www.augment.lu



Off-Site 3D construction
www.degotte.com

Adriano Bersanelli, Managing Director

DEGOTTE in a nutshell



Established 65 years ago, 40 years experience in modular business
New shareholders since 2015

Part of GESLEASE Group:

- DEGOTTE SA, Liège, Belgium:
Sales + customized production + after sales
- JOTUNN SRL, Liège Belgium:
Mass production
- DEGOTTE SARL, Bettembourg, Luxembourg:
R&D and Engineering
- METAL 174, Liège Belgium:
Steel work

Off-site 3D architectural construction

Hybrid: steel structure , concrete floor , wood walls



DEGOTTE in a nutshell

Both SALES and RENTAL

Main business sectors:

- EDUCATION: mainly schools (new, extension)
- HEALTHCARE: hospitals extension, entrance hall, children's nursery, elderly home
- INDUSTRY: mainly offices, meeting rooms
- Present and active in BELGIUM and LUXEMBOURG
- Leader in Walloon region for hybrid solutions



- New facilities to be built in Bastogne, Belgium by 06/2026
12000 m2 for modules assembly , 2500 m2 for steel work

Technical roadmap:several projects on going



- ‘Modularity’ of modular solutions,e.g, quick connections of wood walls
- Reverse engineering ,e.g, bolted vs welded structure
- Use of bio-sourced materials
- Improve re-usability of materials (insulation materials, steel, ...)
- Reduction of material per sq.meter produced
- Material waste reduction thru production optimization



Example of a project in Luxembourg

Project scope:

- Customer: city of DIFFERDANGE
- Project: construction of a temporary school (90 modules, 3 levels, 2000sq. meters)
- Content: 23 classrooms + sanitarines + teachers rooms + technical rooms
- Off-site 3D construction, with possibility to be dismantled and rebuilt at another location
- On-site installation: 4 months



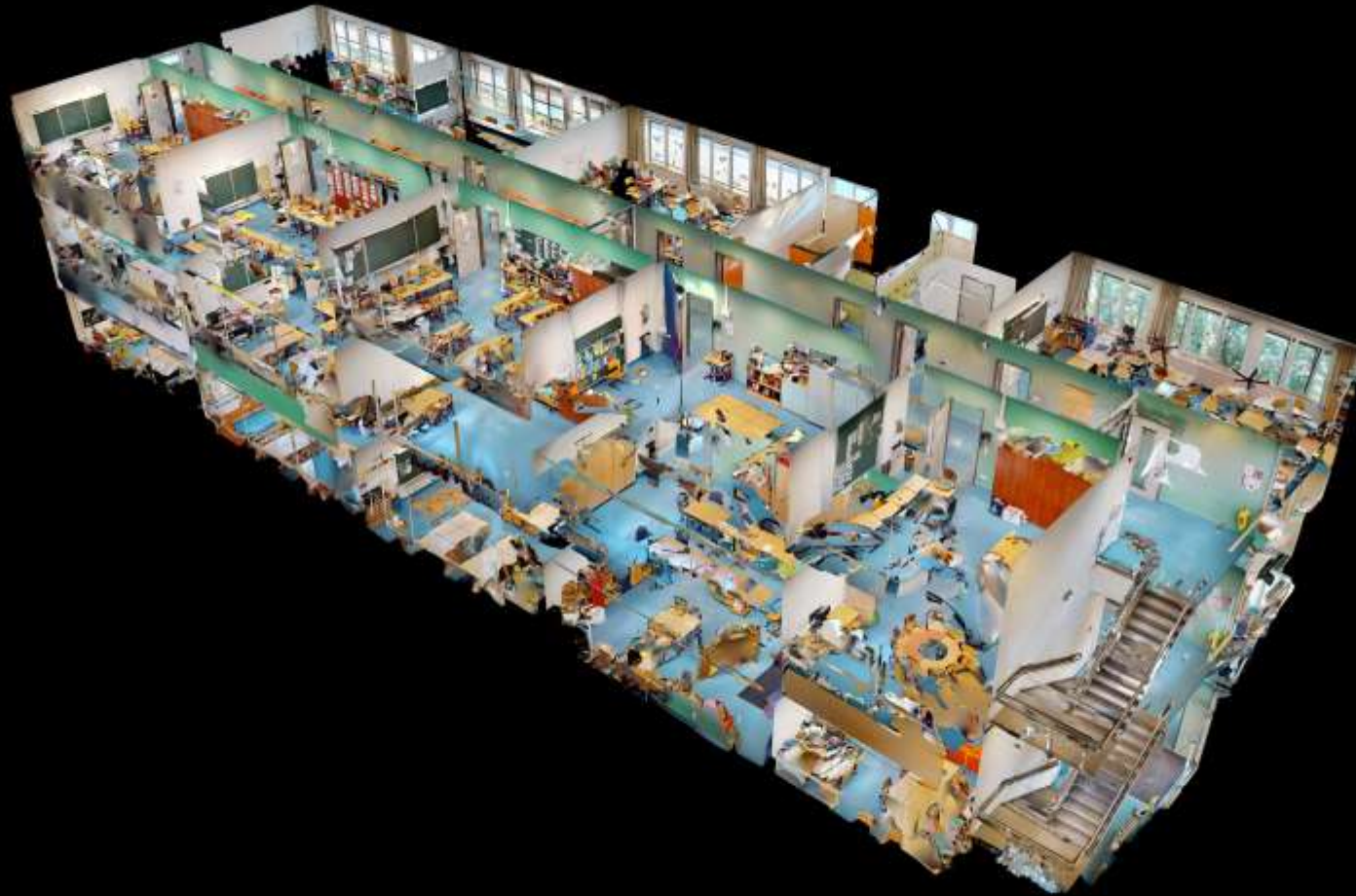
Differdange project



Differdange project



DIFFERDANGE Project



Differdange project



Differdange project



Differdange project



Differdange project



Off-side production (@ DEGOTTE factory)



Site preparation & transport to site



Differdange project: next step

SCOPE :

- Decision from the customer to move the building to another location
- Modules transformation to cope with a potential different usage (another school or 'maison de relais' or ...)
- Majority of material will be re-used
- Project phases:
New site preparation – dismanteling – rebuilding
- Project to start early 2025
- Expected to be completed before the next school year



Advantages of off-site construction



- Land footprint is 33x less than traditional construction
- 100% reversability of land use
- Removable – relocation possible
- Transformable
- On-site leadtime up to 4x shorter





Off-Site 3D construction
www.degotte.com

Adriano Bersanelli, Managing Director

Introduction to Terra Matters

PCDS: Elevate the circular value of products

terramatters.net

Sep
2024

- **Company creation**
12.2022
- **First employee**
07.2023
- **Beta platform**
06.2024
- **Official launch**
11.2024



Who is Terra Matters?

Created by the Ministry of the Economy and the Chamber of Commerce, Terra Matters is an Economic Interest Group created following a 2018 initiative regarding the standardization of circular economy data.



TerraMatters

Reliable Data

Is hard to get and to share
across actors in the value chain for:



The challenge of circularity data

Communication

Clients want transparent,
trustworthy information



Certifications

Are expected and must
be backed up by verifiable data



Regulations

Are piling up and require more
efficiency in reporting.



TerraMatters

PCDS made easy: Going deep on circularity, in a straight-forward format



✓ True/False Statements

Simply tick 'true' or 'false' to questions. If you don't know, leave it as false and you can revise it later.

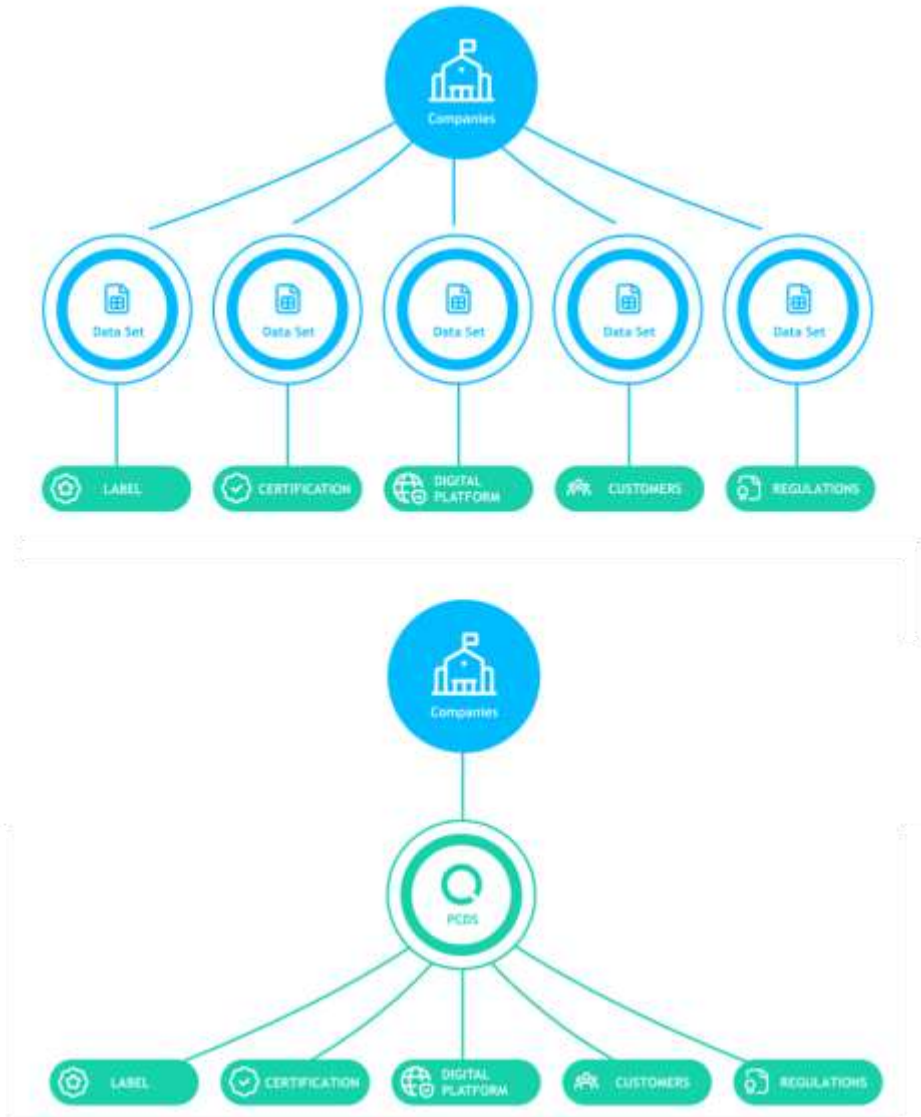
↔ Ranges

No need to provide exact percentages, only % intervals are asked, preserving your IP.

+ Link to evidence

If you have publicly available evidence to back up your claim, simply add a link to it.

Our pillars to solve this challenge



Neutrality

The PCDS is a data carrier. It doesn't give circularity scoring or advice but serves as input to providers doing so.



Credibility

The PCDS is based on ISO 59040 and is checked to ensure its validity.



Auditability

The PCDS statements will be auditable to comply with requirements (EPDs, DPPs, Certifications, Regulations).



Affordability

We are not profit-driven and aim to make it accessible so that it is widely adopted.

The solution: Terra Matters' PCDS Platform



Compliant
With ISO 59040



Easy
Standardised
template, guidance,
smart checks



Secure
Digitally verified,
decentralised data



TerraMatters

Get in touch with us to learn more or to create your PCDS.

Carole HENRY
Business Developer

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Carole.henry@terramatters.net

terramatters.net



TerraMatters

Äerd Lab

Printing Future Living



Angelika Bocian-Jaworska

Founder & CEO

ciao@aerdlab.com

how to
live
better?



64%



11%

11%



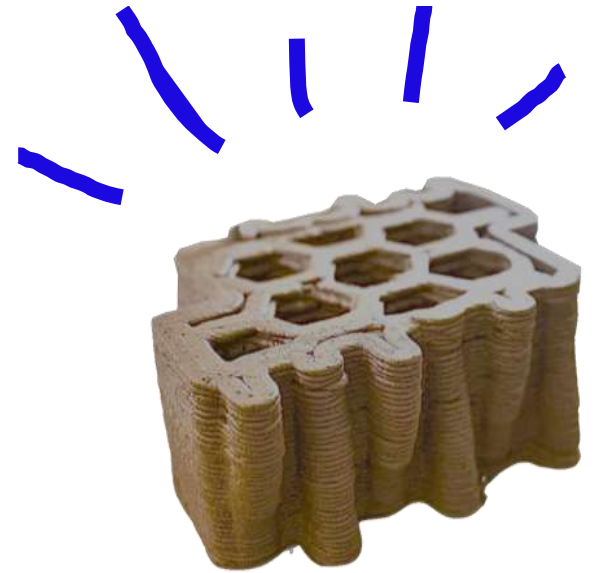
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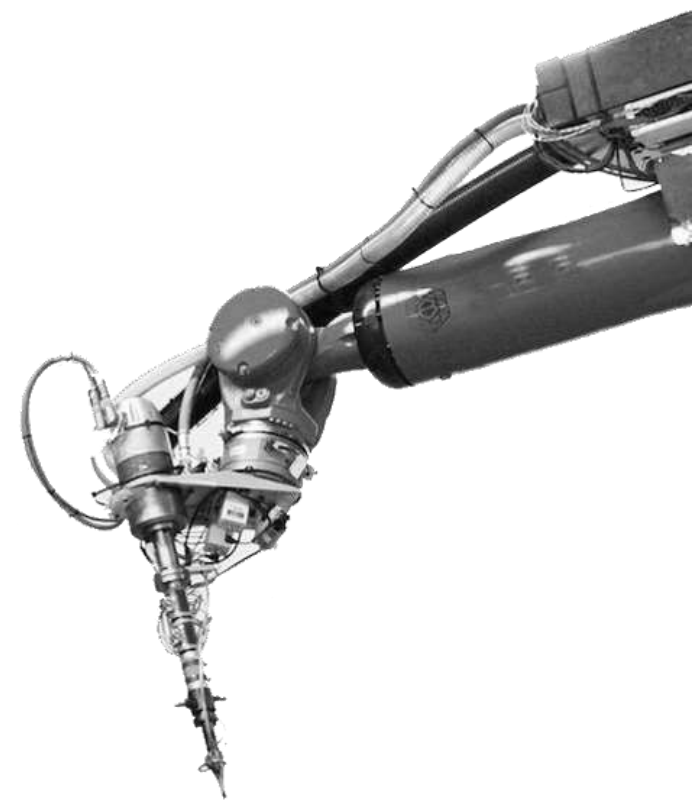
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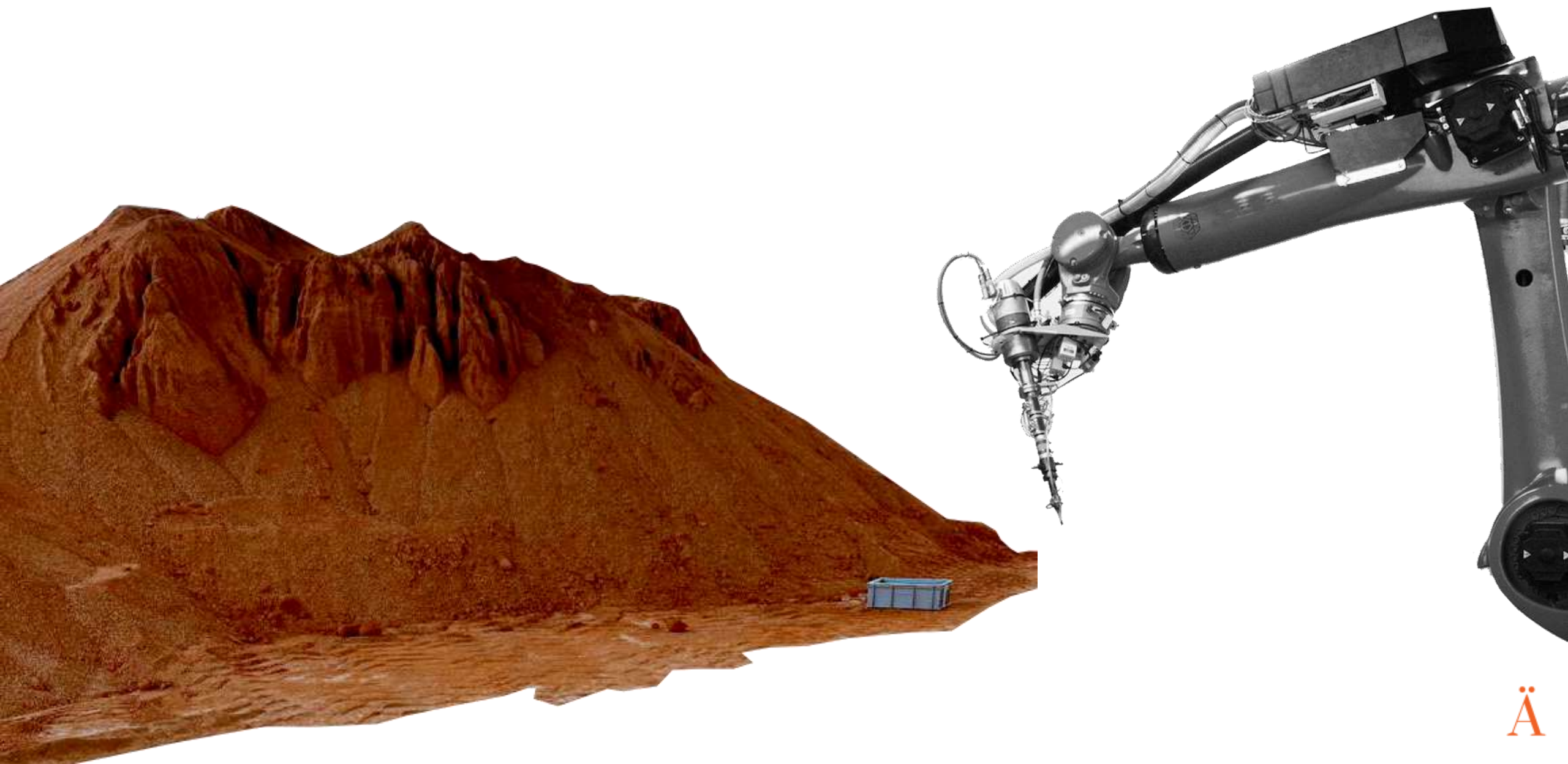


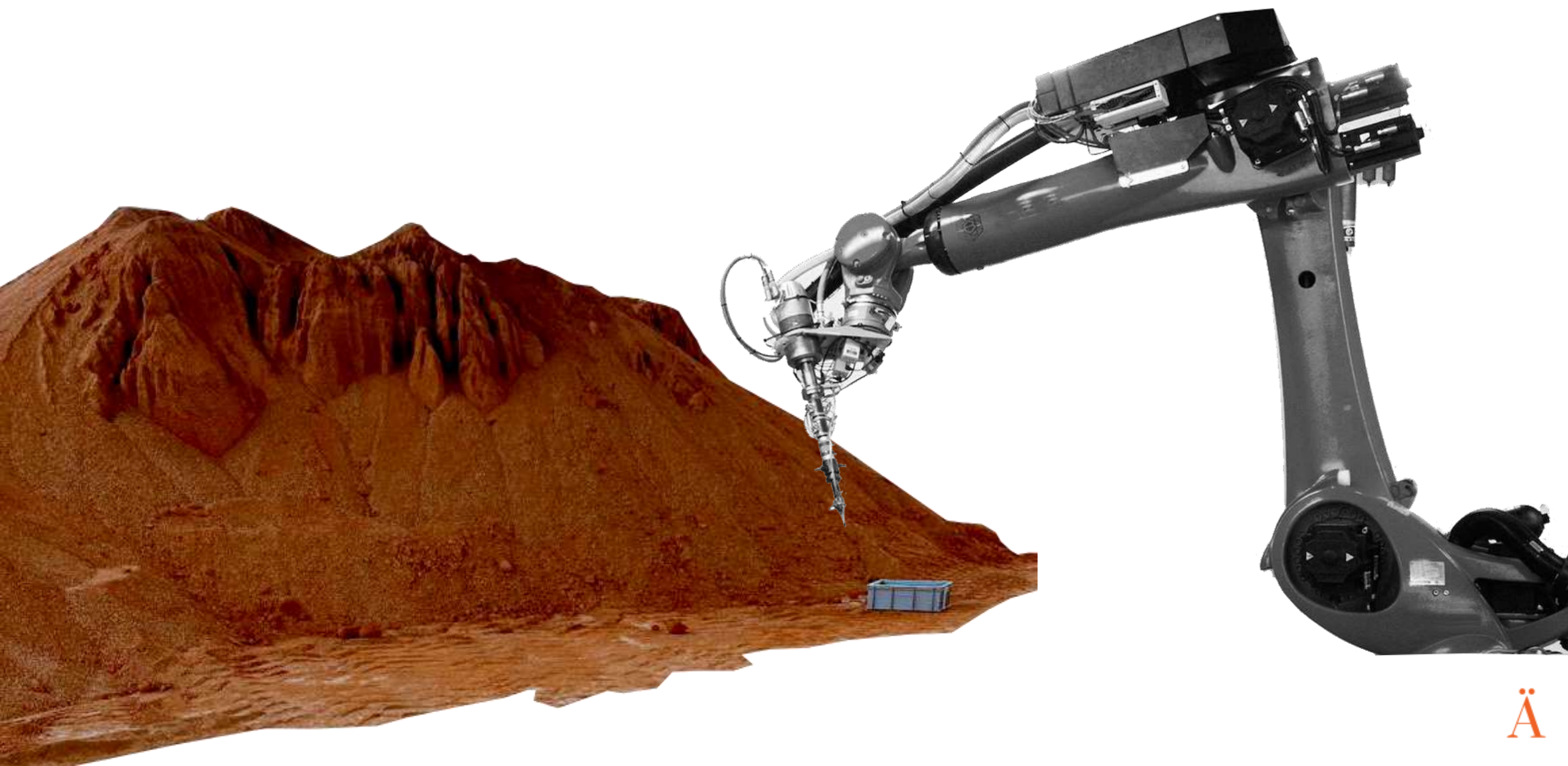
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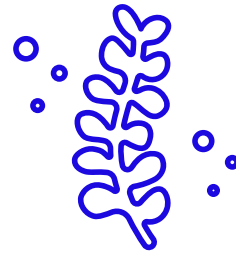
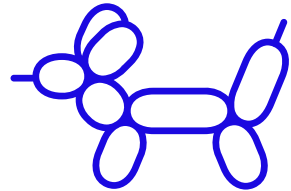
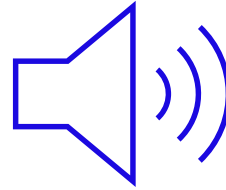
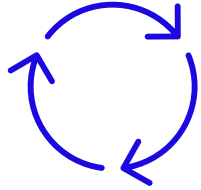


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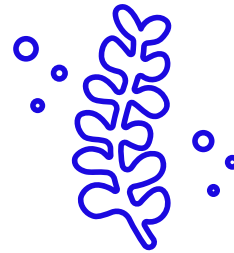
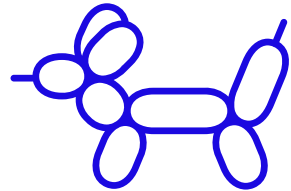
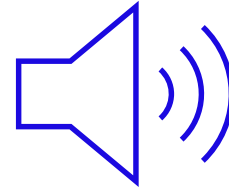
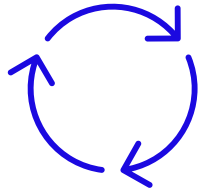
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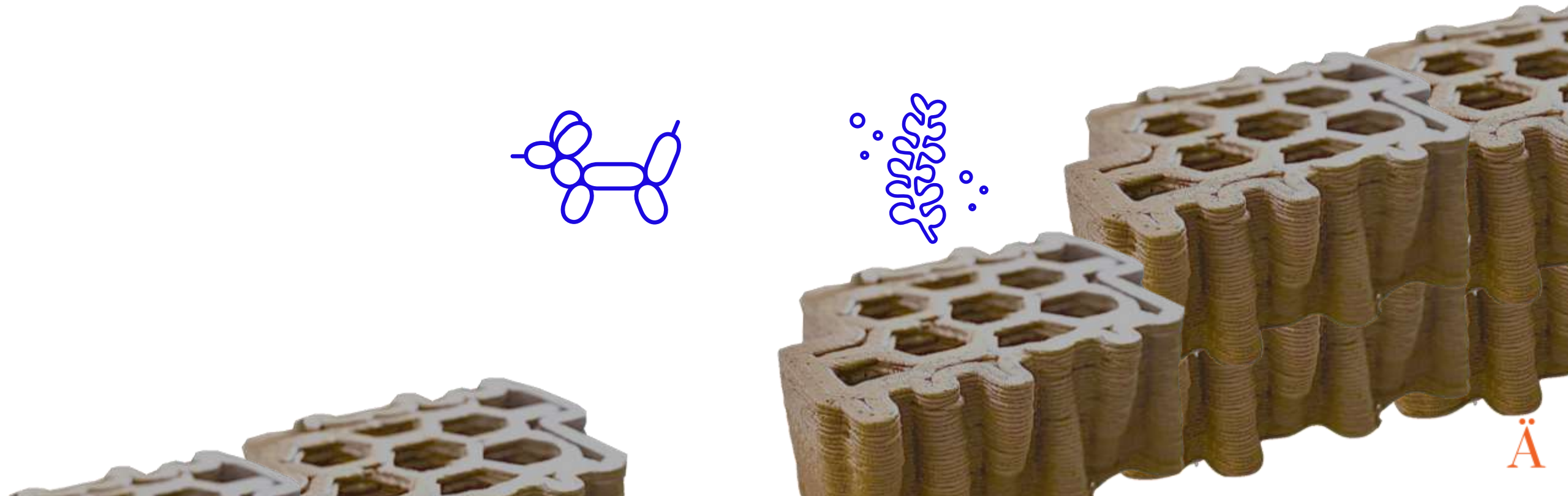
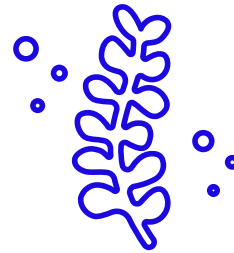
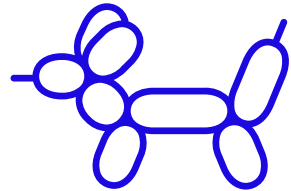
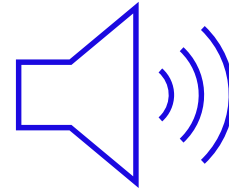
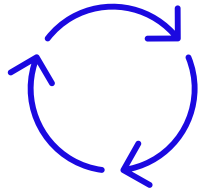
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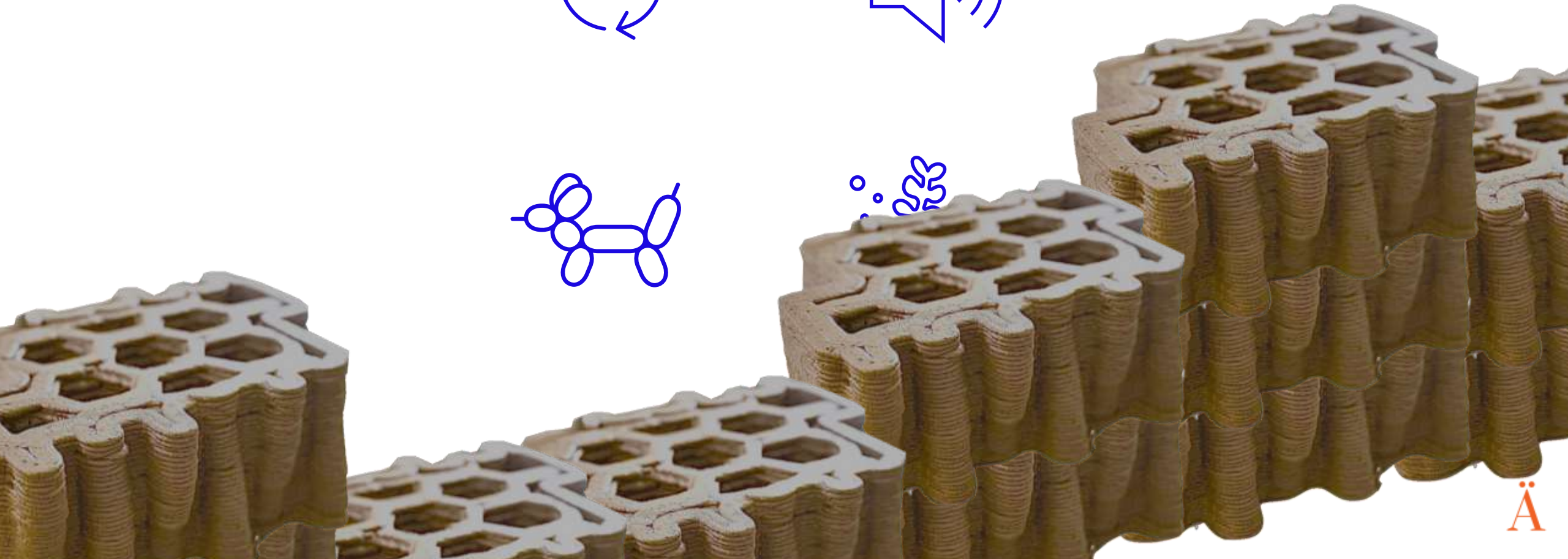
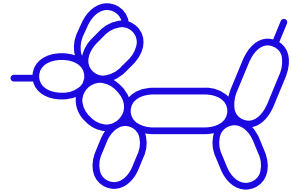
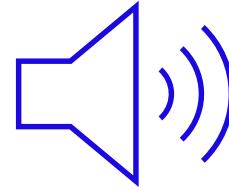
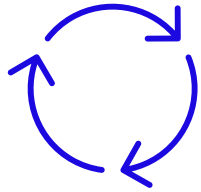
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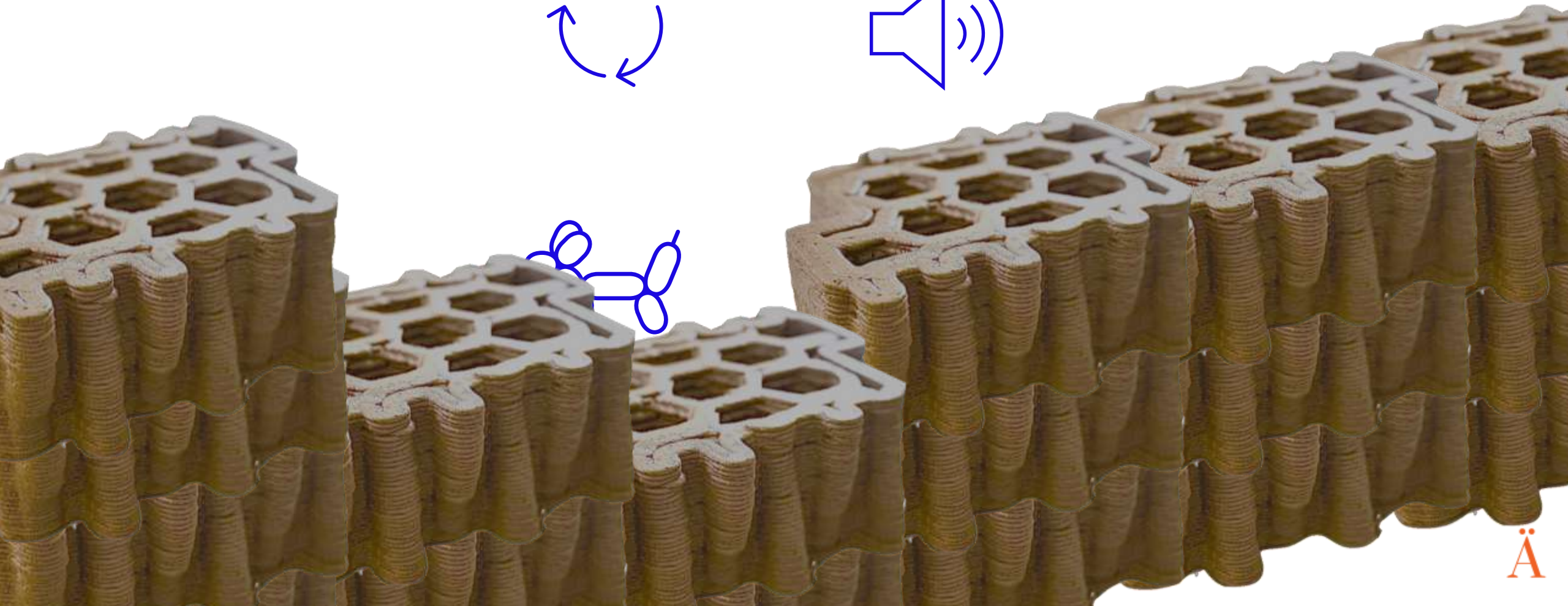
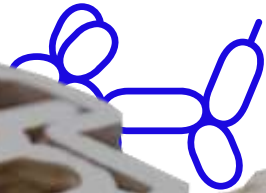
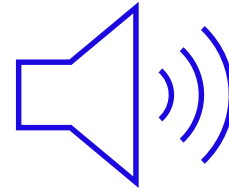
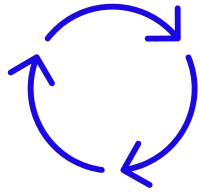


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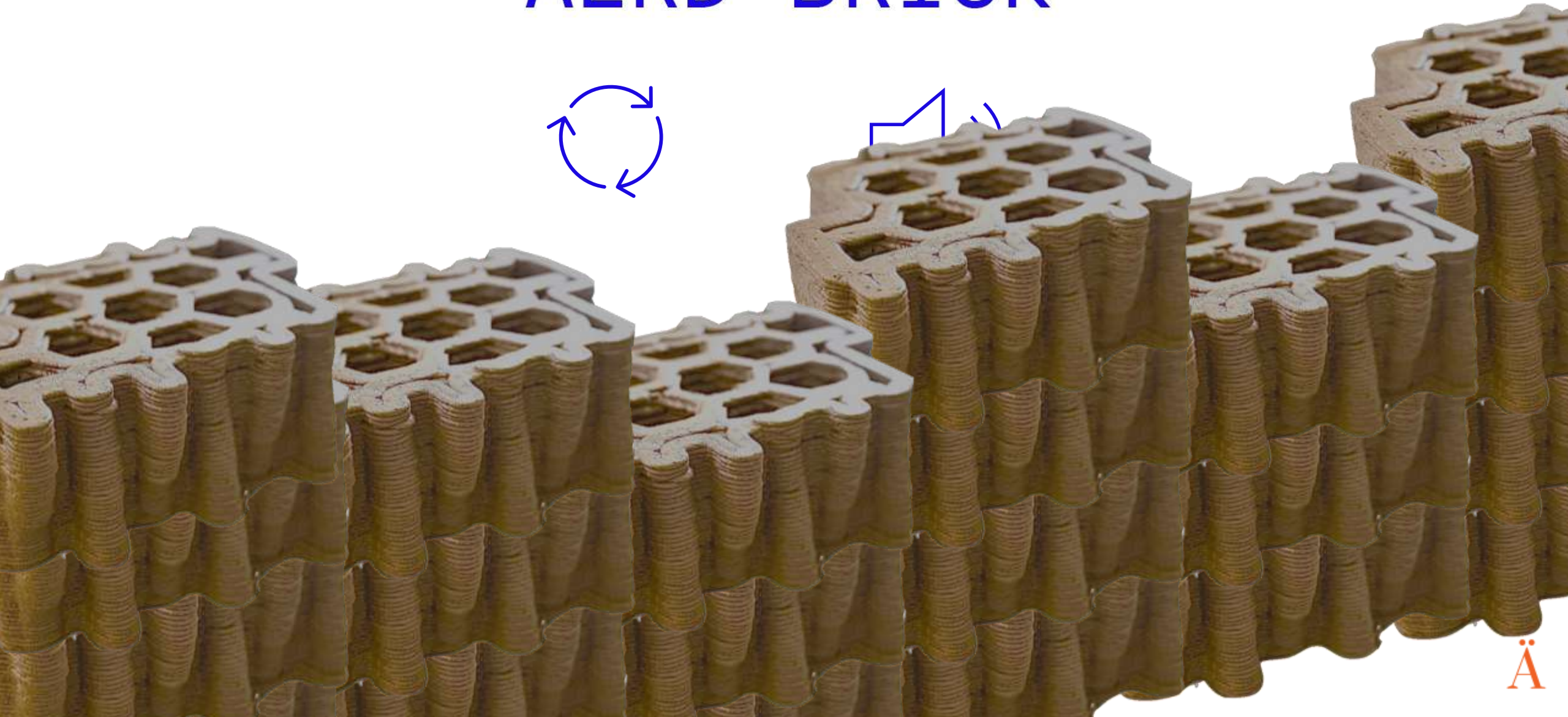
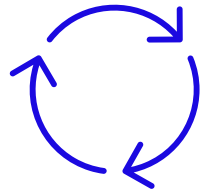
ÄERD BRICK

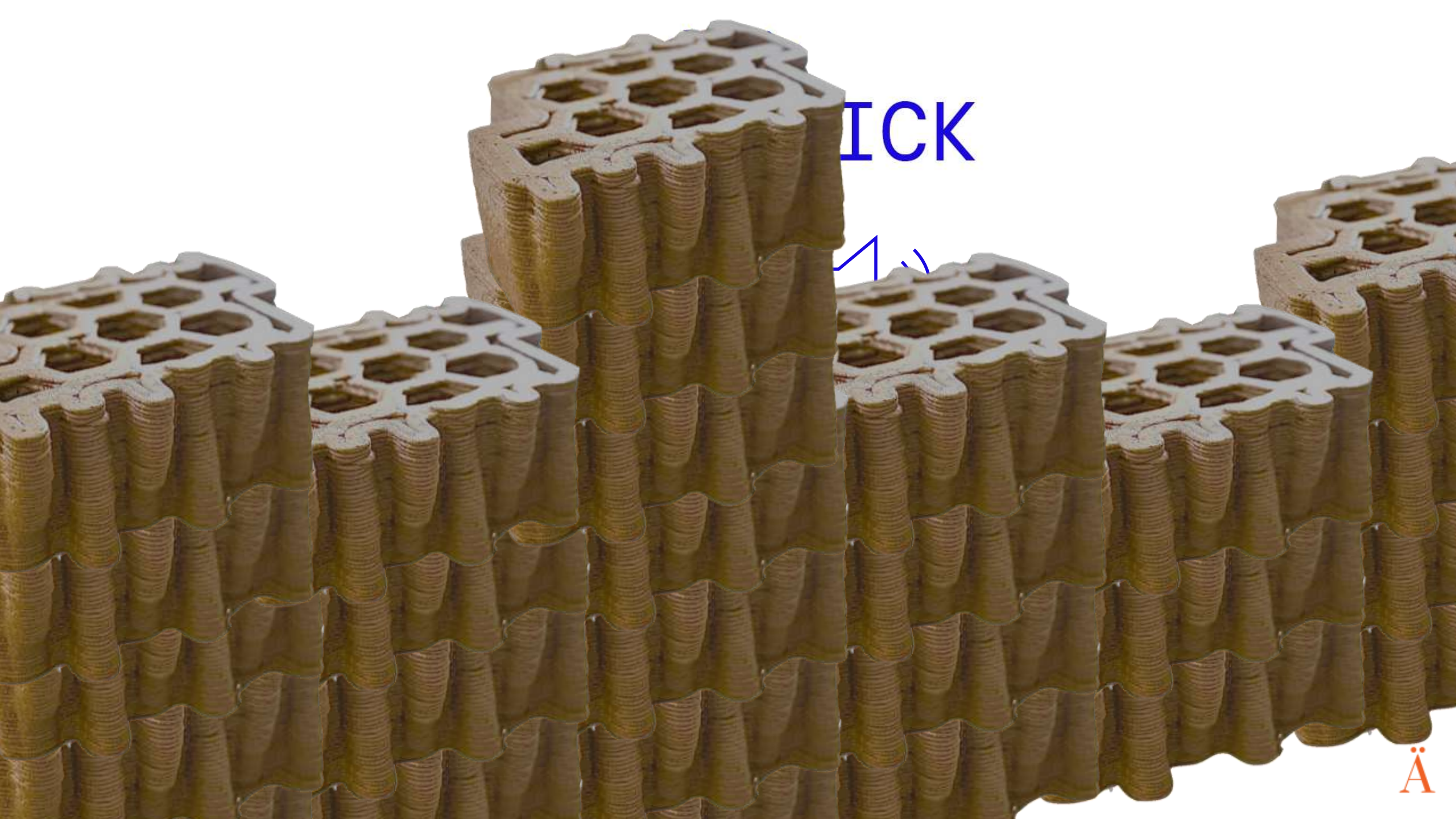


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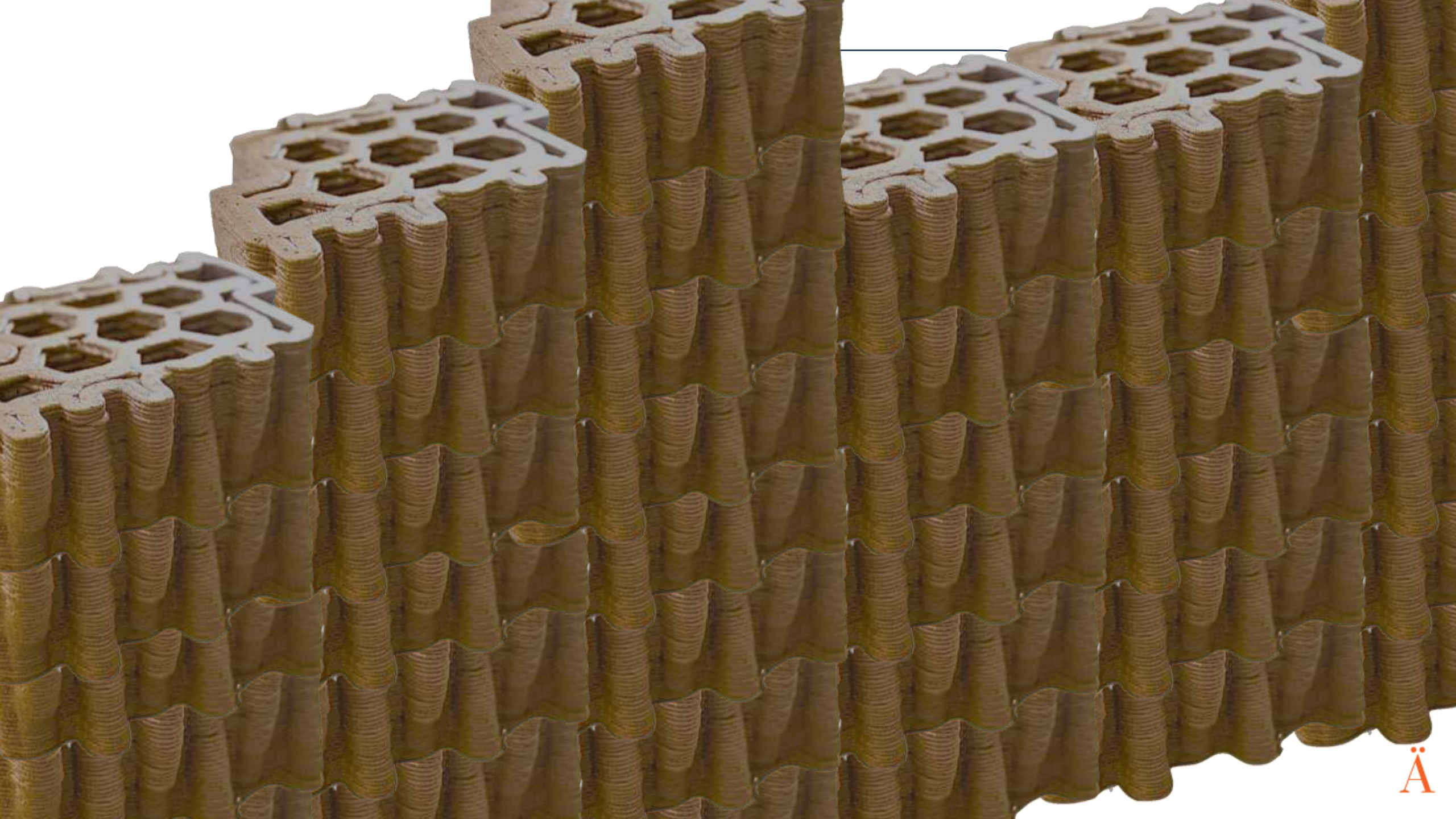


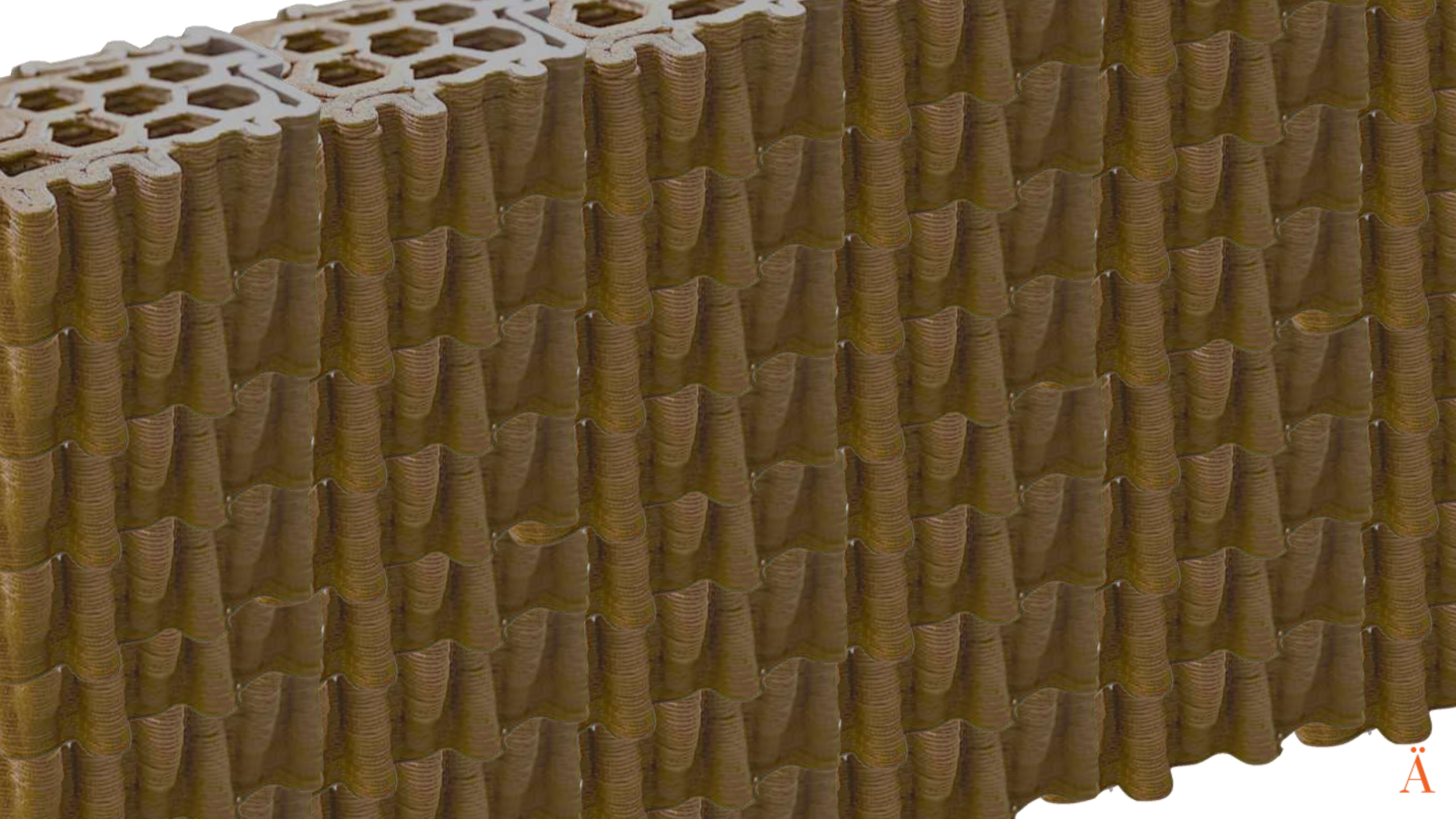
this is
ÄERD BRICK





THICK





this can
be your
home



this can
be your
office



this can
be your
school





70%

[pre-seed]

awards



 **gener8tor**



30k EUR



150k EUR



100k EUR



50k EUR







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