

The logo consists of the letters 'BB' in a bold, white, sans-serif font, centered within a solid red square.

Bureau
Bouwtechniek

CIRCULARITY IN BELGIUM

15.05.2024

Nadja Van Houten



BUREAU BOUWTECHNIEK



BUREAU BOUWTECHNIEK

Figures

BB employs **95 architects and engineers**.

BB works on average about **300 projects** every year.

- 70% of these are high-quality **architectural projects** in which we act as representative and partner of the designing architect.
- 30% is filled by **technical renovation** files, specialized technical energy and building physics studies.

In addition to its headquarters in **Antwerp**, BB has branches in **Brussels** and **Ghent**.



BUREAU BOUWTECHNIEK

A self-managing organisation

5 Teams **Architecture**

Team **Renovation, Restoration & Maintenance**

Team **Sustainability, Energy & Comfort**

Team **Safety** Coördination

Team **Fire Safety** engineering

Team **Façade** engineering

Team **Computer Aided Design & BIM**

Team **Knowledge, Innovation & Technology**

Team **Lowie** - Team **Data & ICT**

Academic staff (Ugent – VUB)

BUREAU BOUWTECHNIEK - Projects



Content

Introduction

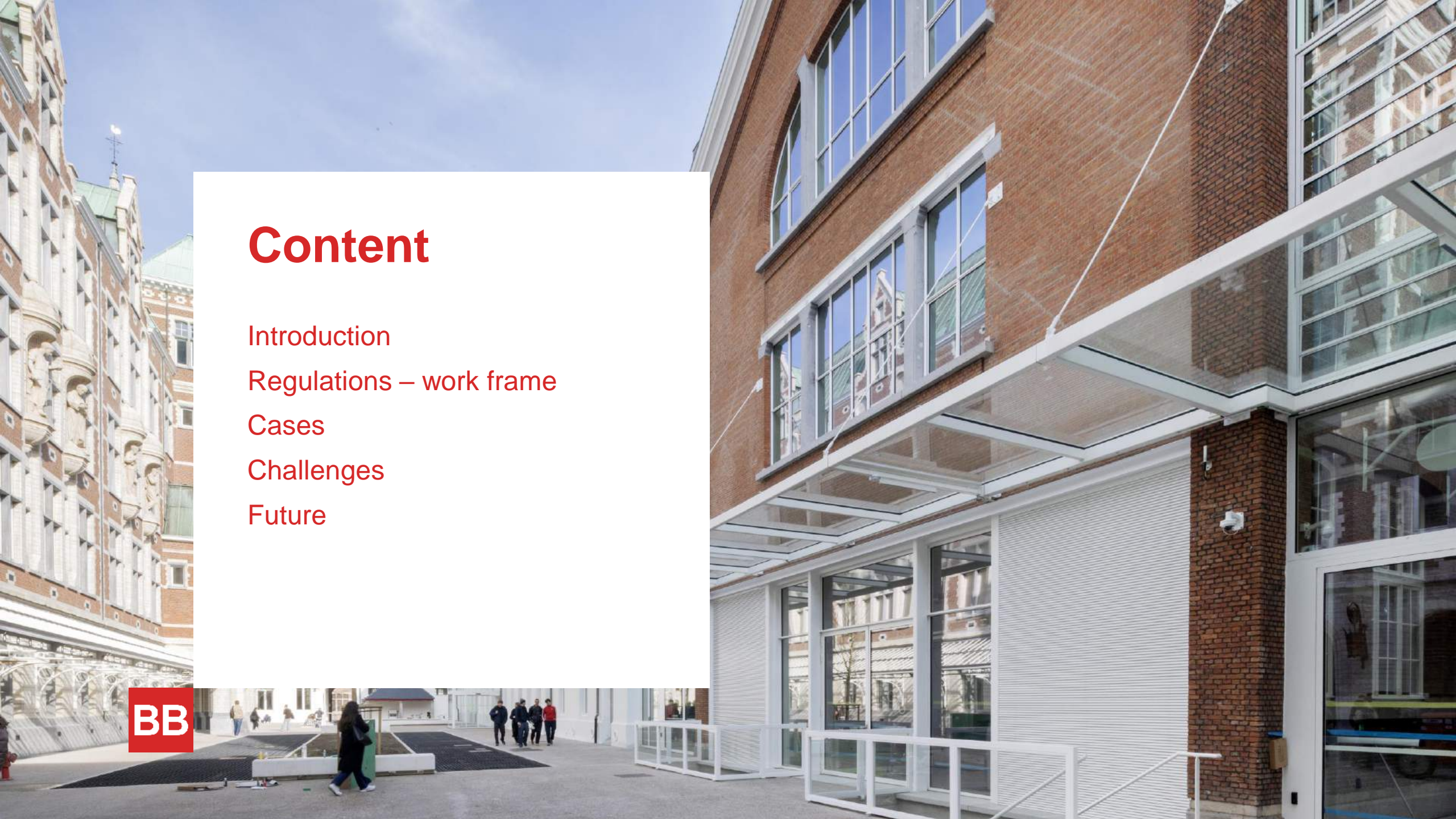
Regulations – work frame

Cases

Challenges

Future

BB



INTRODUCTION

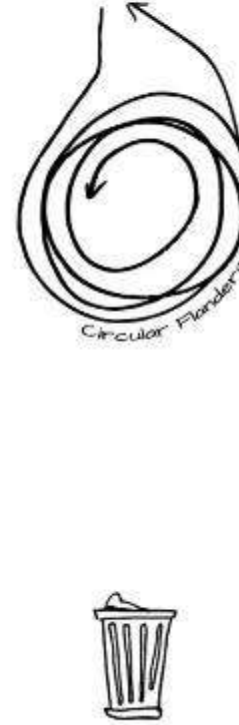
LINEAR ECONOMY



RECYCLING ECONOMY

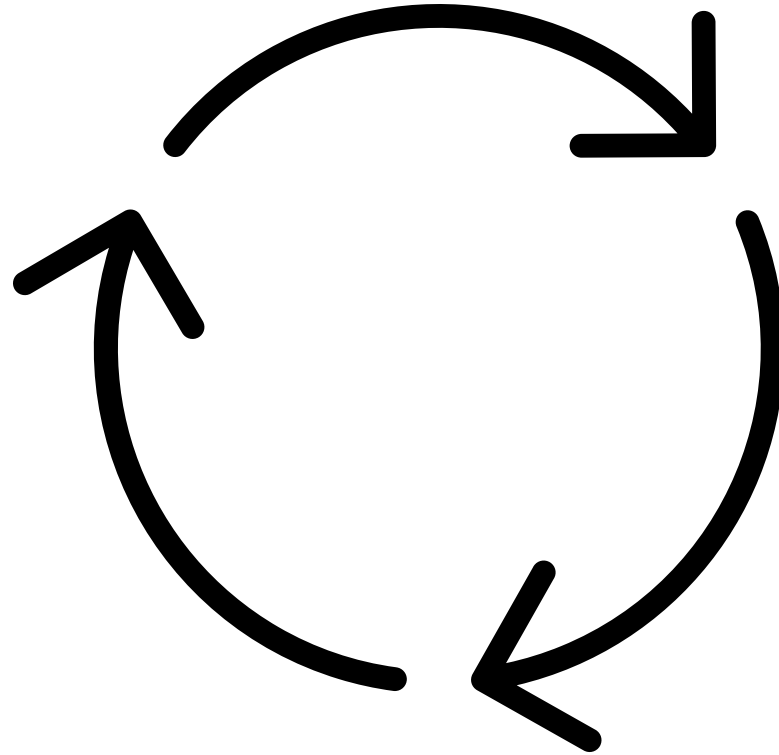


CIRCULAR ECONOMY



Circular Flanders

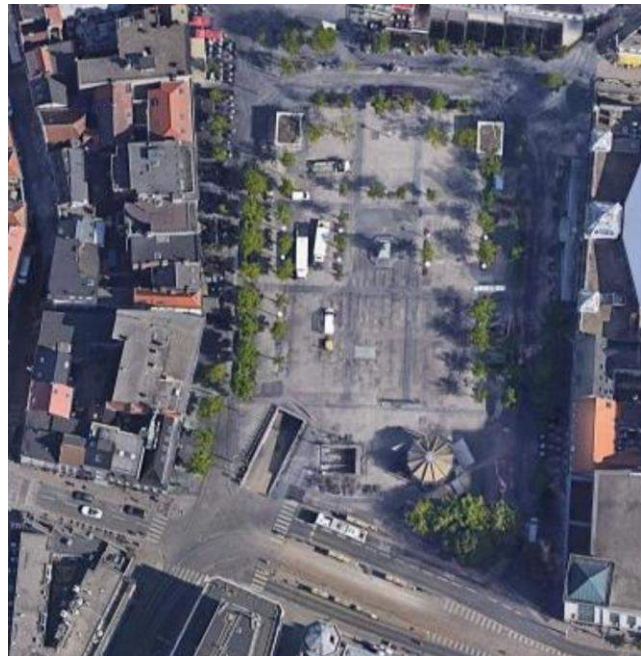
INTRODUCTION



INTRODUCTION



INTRODUCTION



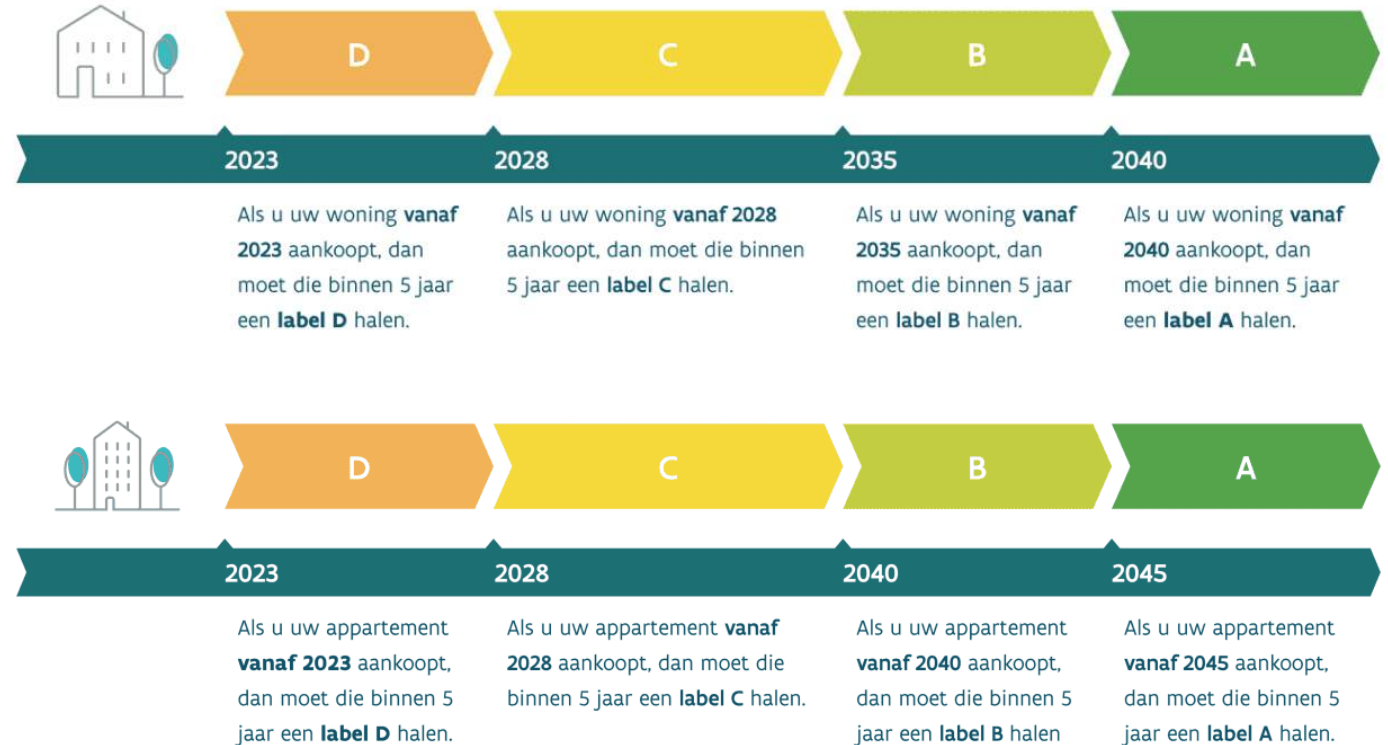
WHERE ARE WE TODAY?

Regulations
Work Frame



WHAT DID WE DO?

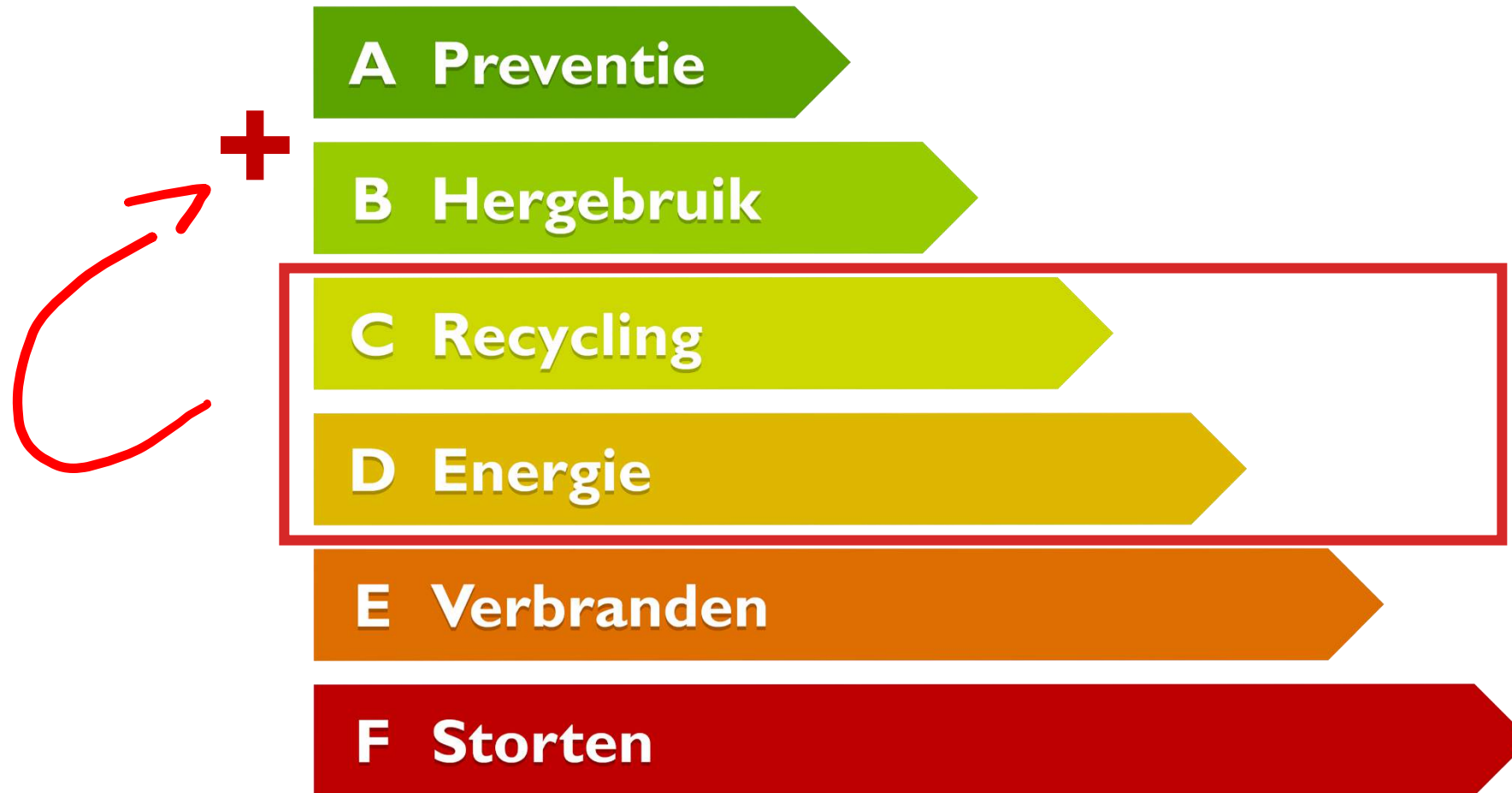
Frame of reference / regulations



Architects & engineers
with a purpose

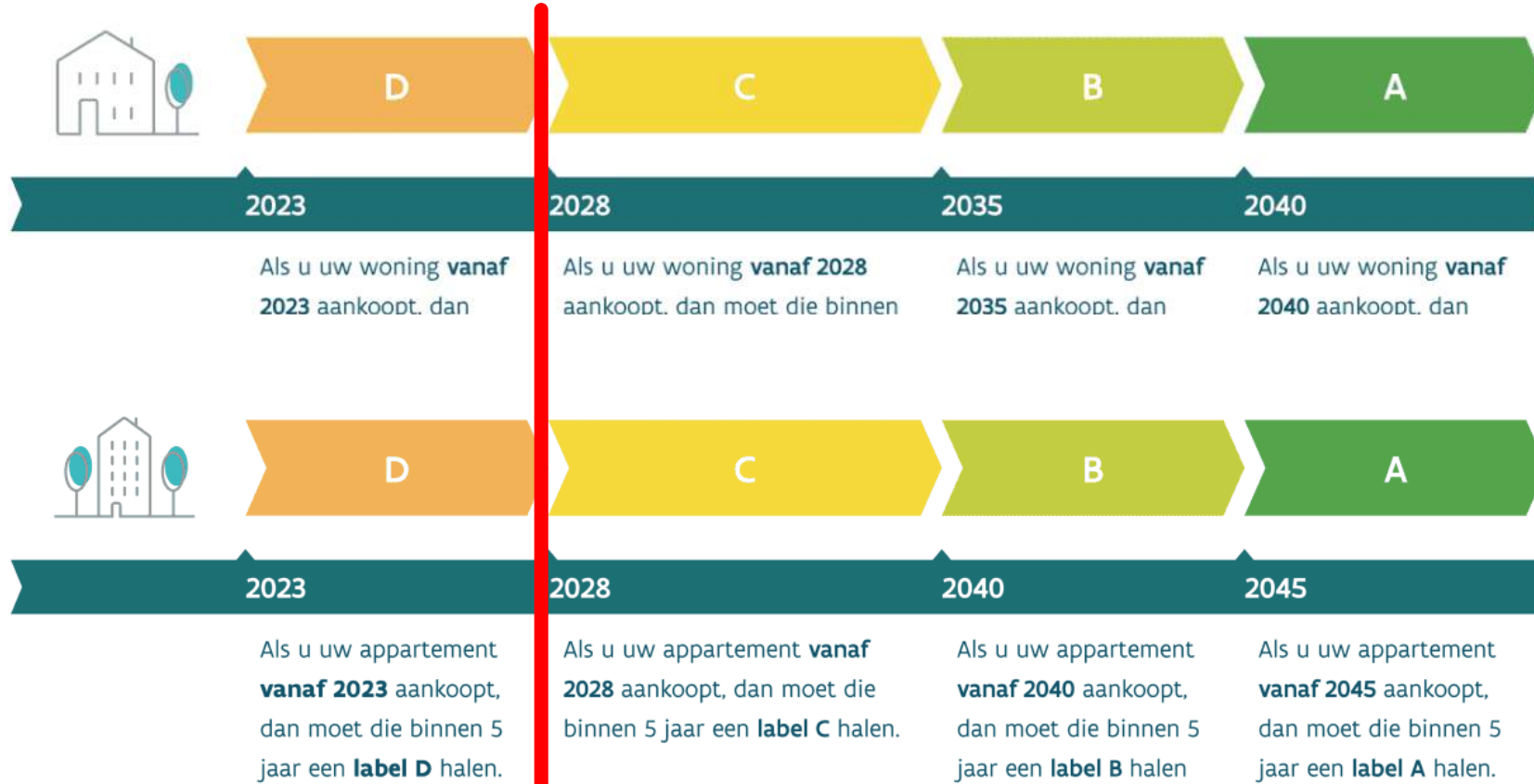
WHAT DID WE DO?

Frame of reference / regulations



WHAT DID WE DO?

Frame of reference / regulations



Met A
Met B

Afvalpreventie
Hergebruik

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WHAT DID WE DO?

Frame of reference

In early 2019, Flanders Circular, OVAM and the Flemish Confederation of Construction launched the Green Deal Circular Building.

Through this joint commitment, 320 organizations are working together to make circular building a daily reality in Flanders in the future

320 ORGANIZATIONS TAKE THE CHALLENGE TO BUILD DIFFERENTLY

WHAT DID WE DO?

Frame of reference – Green Deal Circulair bouwen



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WHAT DID WE DO?

Gouvernance support



22 feb 2022

Subsidies circulaire economie: vraag aan in partnerschap

Binnen deze oproepen willen we nieuwe, brede samenwerkingsverbanden ondersteunen. Daarom kan enkel een partnerschap een aanvraag indienen. [Lees meer](#)

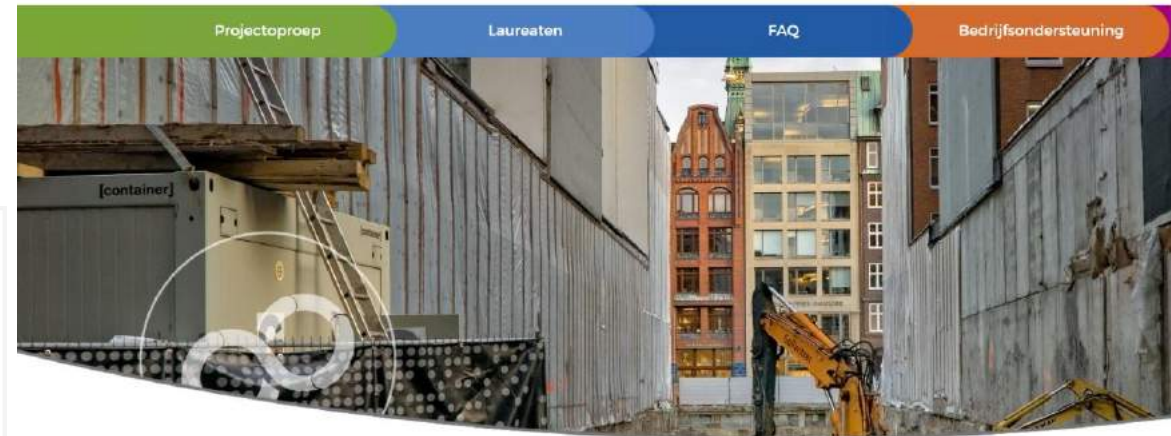


7 jan 2022

€ 1,92 miljoen voor drie COOCK-projecten circulair bouwen en circulaire maakindustrie

Via het COOCK-instrument steunt Vlaanderen ondernemers die de circulaire omslag willen maken. Maak kennis met drie nieuw gesteunde projecten.

[Lees meer](#)



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WHAT DO WE DO?

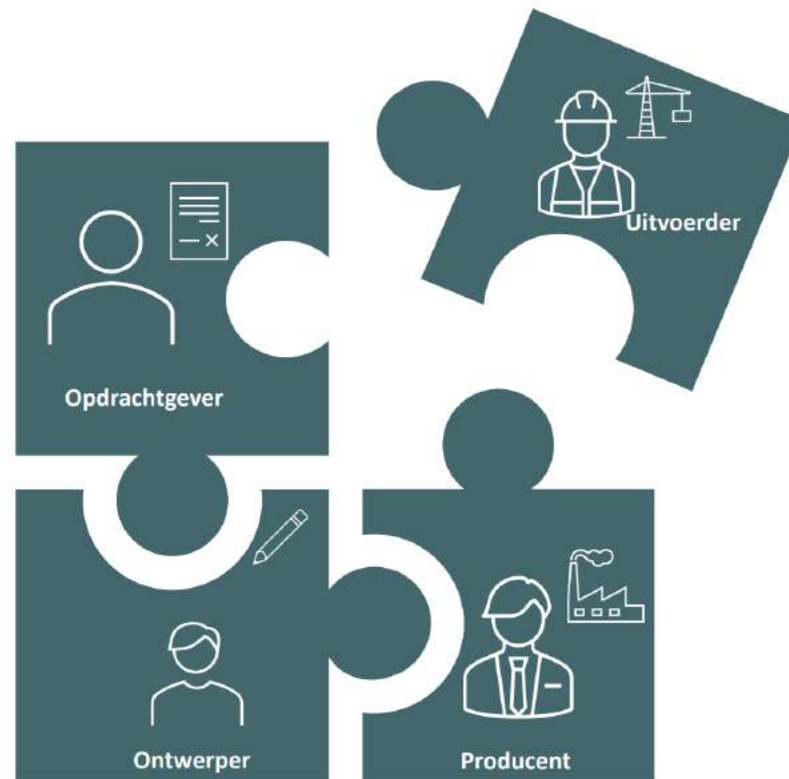
Frame of reference



**Architects & engineers
with a purpose**

WHAT DID WE DO?

Frame of references



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WHAT DID WE DO?

Frame of reference

Van uitdagingen naar ...(deel)werven

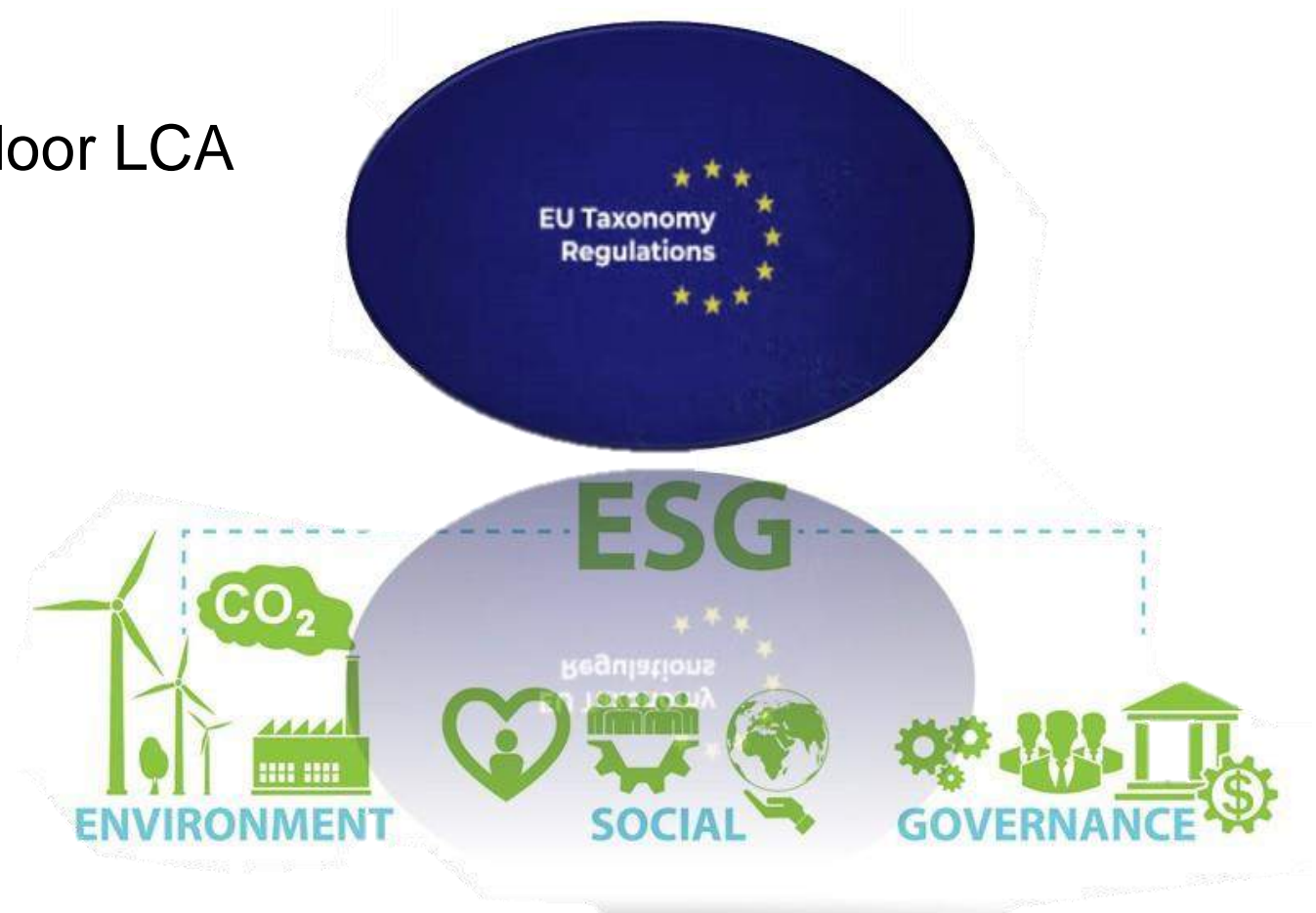
Op weg...
... naar het beleidsprogramma



WHERE ARE WE GOING TO?

Regulations

- Brussel: sloop ontmoedigen door LCA
- ESG's – EU taxonomy
 - LCA
 - Biobased
 - Recyclage
 - ...



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WHERE ARE WE GOING TO?

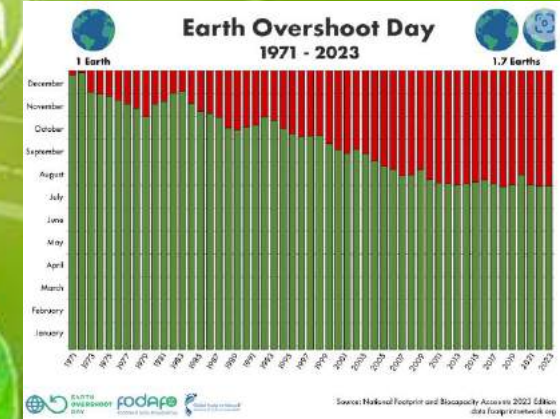
Regulations

POPULATION DEMANDS:

- climate-neutral society
- sustainable and climate-neutral living and working environment

ANSWERS May 2024 :

1. PRIVATE MARKET:
Providing answers to question taking group
2. GOVERNMENT
Report listed companies = 1st step
3. FINANCIAL
ESG requirements for financing and credit



Fracties en hun gemiddelde samenstelling over twee campagnes in Vlaanderen

| | |
|-------------------------|--------|
| Samengestelde producten | 29,50% |
| Huisvuil | 25,50% |
| Bouw- & sloofafval | 22,20% |
| Hout | 7,00% |
| Overige kunststoffen | 5,50% |
| Textiel | 3,30% |
| Harde kunststoffen | 2,50% |
| Papier/karton | 1,70% |
| Groenafval | 1,00% |
| Metaal | 0,50% |
| AEEA | 0,50% |
| Glas | 0,40% |
| PMD | 0,10% |
| KGA | 0,10% |
| Autobanden | 0,10% |
| Overig | 0,10% |
| Asbest | 0,00% |

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CASES

- Inspiration
- Gare Maritime
- Campus Paardenmarkt
- Royal Belge
- ...



Royale Belge

2018 -> 2024 -> ...

Reinventing reuse and circular construction

WHAT DID WE DO?

Frame of reference



[Woonhuis Oostvleteren | Bokrijk](#) – Afbeelding website Openluchtmuseum Bokrijk

BOKRIJK:

Demolition and
reconstruction with bio-
based materials

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WHAT DID WE DO?

Frame of reference



Abdij van Villers

Abdij Villers:

French Revolution 1796,
vacancy due to departure
of monks

Materials sold by building
materials dealer

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WHAT DID WE DO?

Frame of reference



Vlaams Architectuurinstituut – Exhibition 6 September 2023 - 17 March 2024

House Kelchtermans :

Marcel Raeymakers
(1970) in Heusden-Zolder

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WHAT DO WE DO?

Frame of reference



ISE JINGU - JAPAN:
construction method
as cultural heritage

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WHAT DO WE DO?

Frame of reference



KIRUNA:

Move entire city
Subsidence due to iron ore
mining
LAPLAND SWEDEN

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CASES

Gare Maritime



DESIGN TEAM

Neutelings Riedijk Architects
Jan de Moffarts (Altstadt)
Bureau Bouwtechniek
Ney & Partners
Boydens

TOUR & TAXIS – GARE MARITIME THE DEVELOPMENT

Nextensa

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CASES

Gare Maritime



160 — BRUXELLES - L'intérieur de la Gare Maritime

GARE MARITIME 1907
Engineer Frédéric Bruneel

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CASES

Gare Maritime



EXISTING SITUATION 2016

START PHASE 1

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CASES

Gare Maritime



DISMANTLING FACADES
PHASE 1 CONSERVATION WORKS

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CASES

Gare Maritime



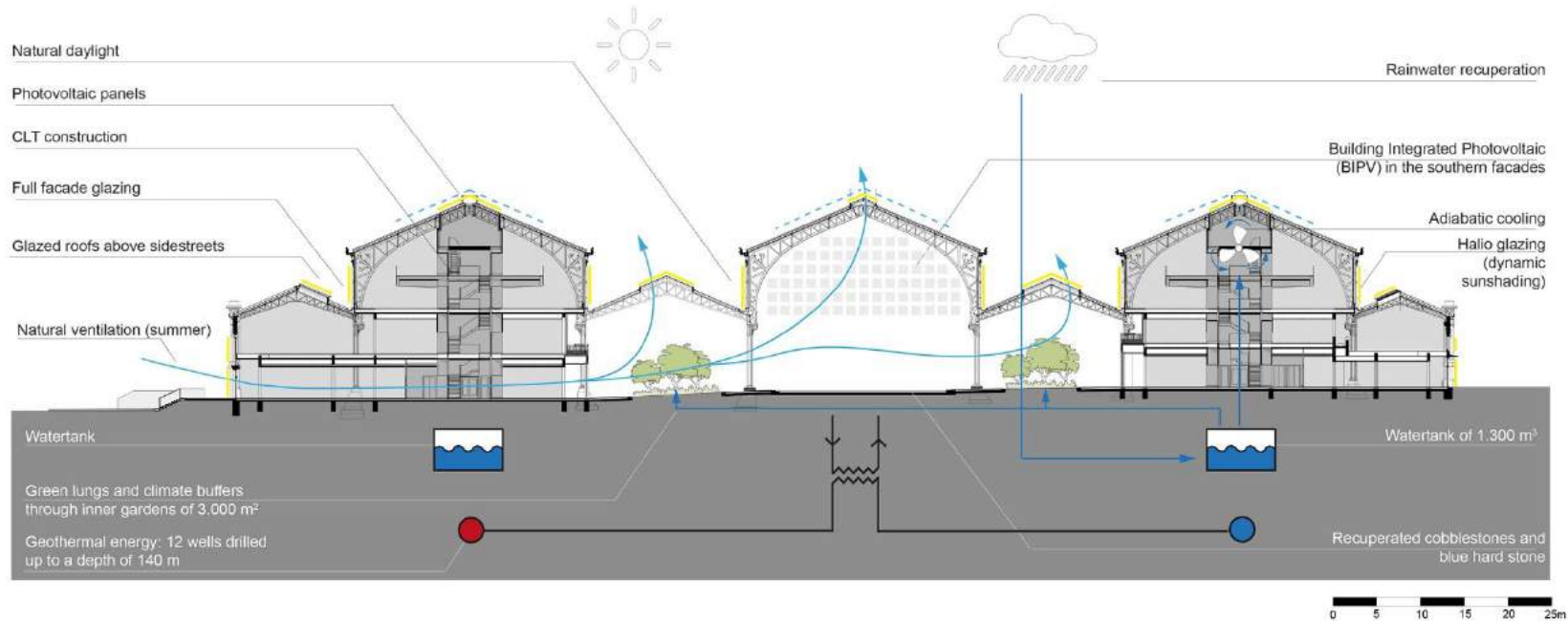
COMPLETION 2022

**A SUSTAINABLE
AND
CO2-NEUTRAL
RECONVERSION**

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CASES

Gare Maritime



**BREEAM
Outstanding**

88,7 %

**Energy
Positive**

Historic renovation

Flame retardant treatment of steel columns

Historic wooden roof was sand-blasted and restored locally

Integrated openable skylights

7.500 m² of historic cobblestones are removed and then flattened to smooth patina pavers

350 m² of blue hard stone from historic quays are recovered and reused

Sustainable construction

10.000 m³ of wood for the construction

Mechanically anchored CLT elements

Finishings of the internal facades in oak (EU origin)

Avoiding the emission of 3.500 tons CO₂ through the use of wood

Certified wood (FSC quality mark)

Natural climate

In closed spaces:
 · Heat and cold generated through geothermal energy
 · Adiabatic cooling: evaporation of water to cool the air
 · Air-conditioned ceilings

In the halls:
 · Natural ventilation (summer)

Solar-energy

10.000 photovoltaic panels on an area of 17.000 m²

Production of 3.000 MWh/year = consumption of 650 households

Building Integrated Photovoltaic (BIPV) in the southern facades

Watercirculation

200.000 tons of soil removed by ship

2 rainwater reservoirs of 1.300 m³, 2 m wide and 200 m used for:
 · Flushing of toilets
 · Watering of green spaces
 · Adiabatic cooling

Intended certificate

BREEAM Excellent

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CASES

Gare Maritime



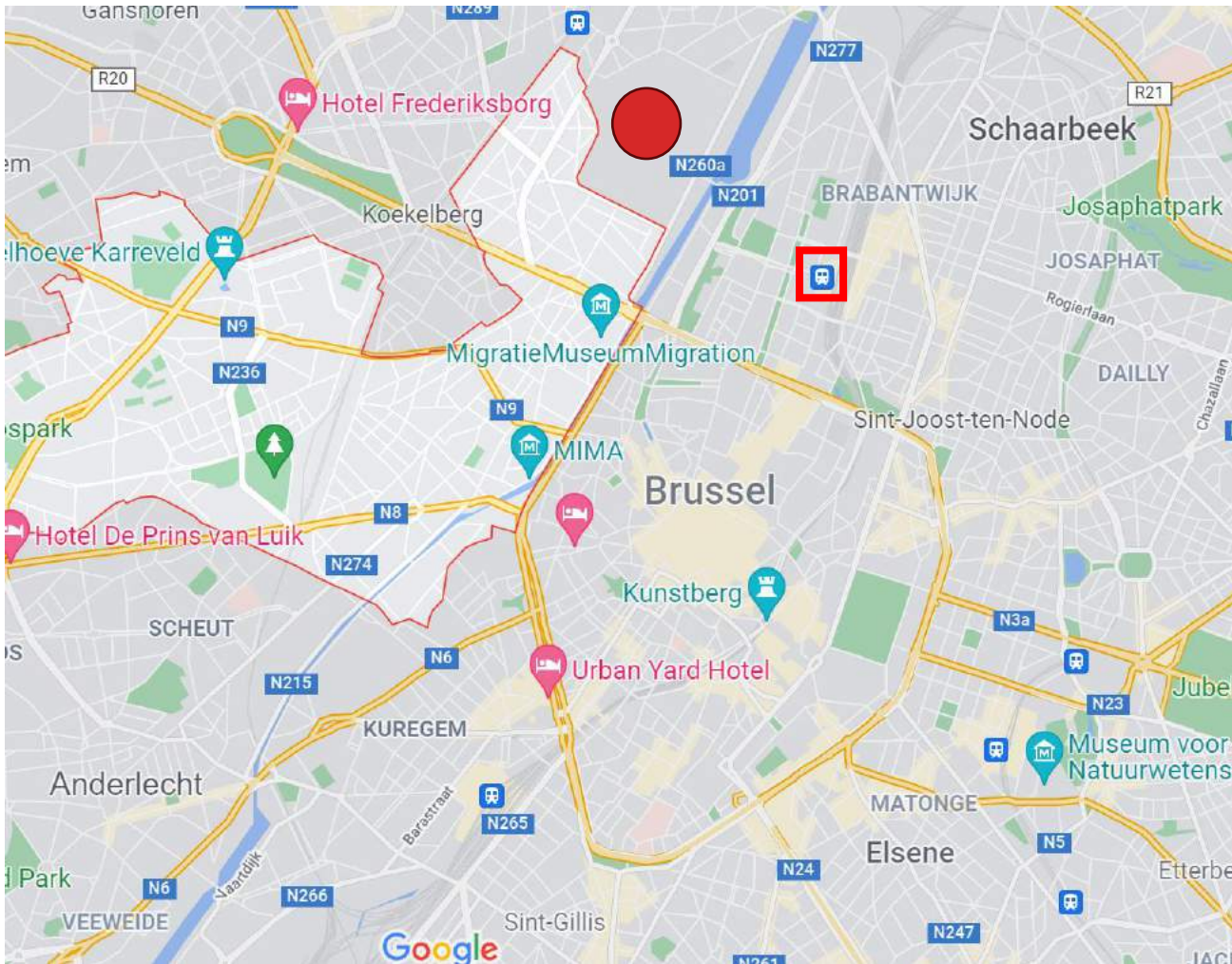
STEP 1 FEASIBILITY STUDY 2016

LISTING BUILDING OPPORTUNITIES

Legislation and regulations
Energy ambitions / opportunities
Visual valorisation of materials

CASES

Gare Maritime



STEP 2

DETAILED ANALYSIS:

Programme analysis
+ political and social support
Economic balance

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STEP 2 DETAILED ANALYSIS:

Stability analysis
Condition check of materials

**Preparation of materials database
for design new infill**

Plotting urgent interventions +
maintenance timeline

Financial plan work

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RECYCLED MATERIALS

- *Steel structure*
- *Wooden roof structure, beams*
- *Wooden boarding (roof external)*
- *Wooden planking (roof internal)*
- *GuttersCobblestones*
- *Blue stone (site T&T)*
-

CASES

Gare Maritime



WHO

Engineers and engineering consultants
Architects

Main contractor

Subcontractor
Main contractor
Engineering consultants
Architects

“STANDARD”

ACTION

- Analysis of materials
- Repair study
- Preparation of execution file, plan of works to be carried out...

- Implementation file analysis
- Notification site...

- Implementation file analysis
- Preparation of implementation plans
- Implementation
- ...

RESTORATION
PROCES
BELGIUM

PRACTICE



- ...



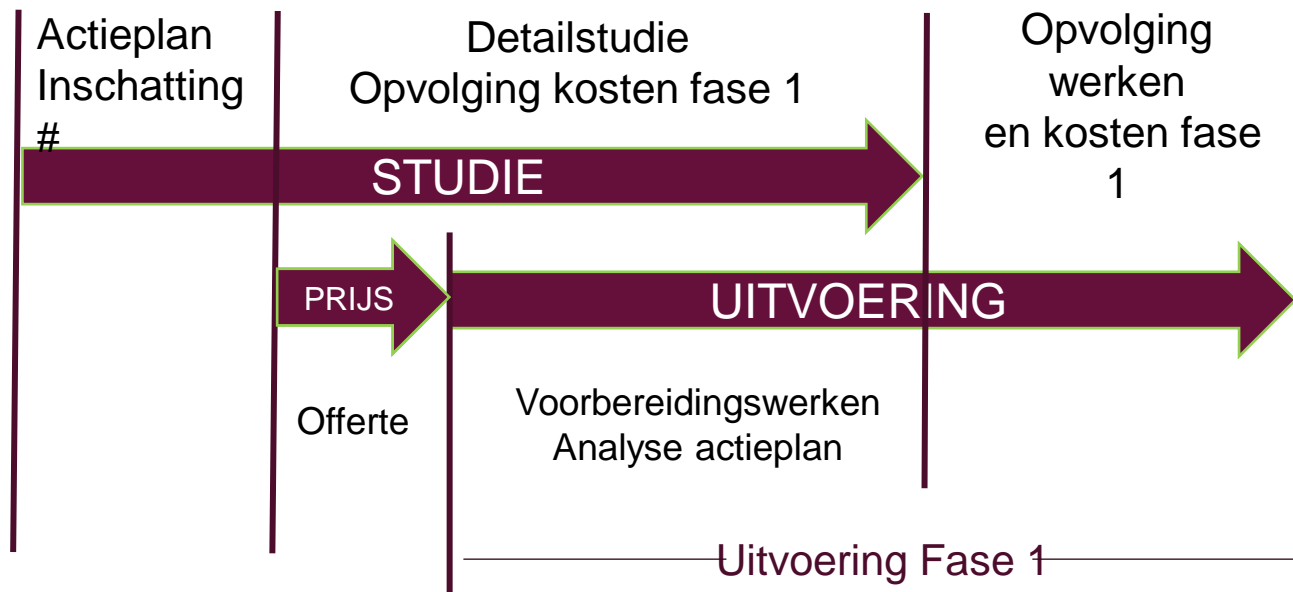
- ...

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CASES

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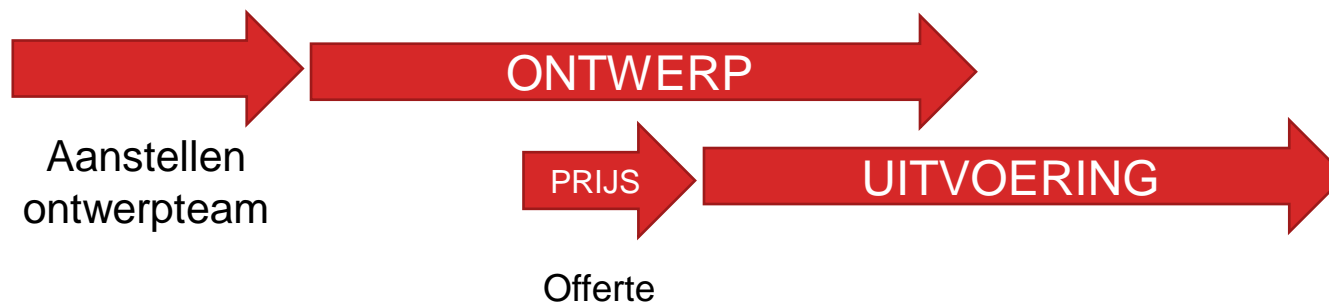
FASE 1



**AFGESTEMDE
SAMENWERKING**

**RESTAURATIE
GARE MARITIME**

FASE 2



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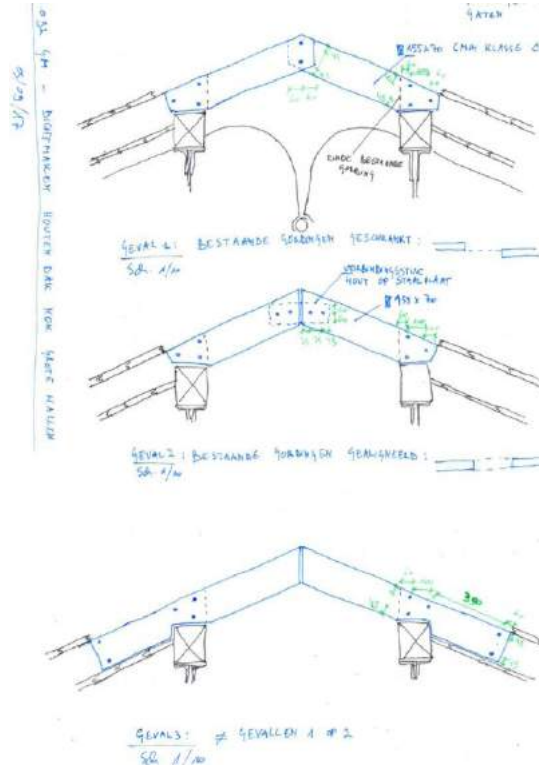
| A | B | C | D | E | F | G | H | I | |
|-----|---------------------------------|--|-------------------------------------|----------------------------|---|---------------------------------|--|---------------------|--|
| 1 | MBG | TOUR & TAXIS - GARE MARITIME - RENOVATIE BUITENSCHIL | BUGETOPVOLGINGSFICHE - STATUSDATUM: | | | | 2/07/2018 | | |
| 1 | Volgnr | Omschrijving | Resultaat | VOORZIEN BUDGET zonder fee | niet meer op te nemen in fase 1 cfr overzicht | BEDRAG VORIGE VERSIE 27/04/2018 | PROGNOSE EXTRA KOSTEN (MEER & MIN) MITS AFTROK FASE 1BIS | RAMING EXTRA KOSTEN | GOEDGEKEURDE BESTELLINGEN / EXTRA KOSTEN |
| 3 | 0. Eigen werk MBG | | | | | | | | |
| 70 | Resultaat | 0. Eigen werk MBG | € -400.000,00 | € 3.500.000,00 | € 14.000,00 | € 100.000,00 | € 100.000,00 | | |
| 72 | 1. STRAAL- SCHILDERWERKEN | | | | | | | | |
| 167 | Resultaat | 1. STRAAL- SCHILDERWERKEN | € 250.000,00 | € 3.000.000,00 | € 750.933,76 | € 3.279.538,67 | € 3.238.974,67 | | |
| 169 | 2. VOORBEREIDENDE AFBRAAKWERKEN | | | | | | | | |
| 190 | Resultaat | 2. VOORBEREIDENDE AFBRAAKWERKEN | € -2.000,00 | € 50.000,00 | | € 40.000,00 | € 45.000,00 | | |
| 192 | 3. AFBRAAK | | | | | | | | |
| 235 | Resultaat | 3. AFBRAAK | € 130.000,00 | € 750.000,00 | € 2.500,00 | € 620.000,00 | € 682.161,66 | | |
| 237 | 4. AANPASSEN STAALSTRUCTUUR | | | | | | | | |
| 306 | Resultaat | 4. AANPASSEN STAALSTRUCTUUR | € -210.000,00 | € 900.000,00 | € 180.000,00 | € 1.500.000,00 | € 1.350.000,00 | | |
| 308 | 5. LICHTSTRATEN | | | | | | | | |

BUDGETOPVOLGING BOUWTEAM

Gezamenlijke opvolging
offertes en contracten

CASES

Gare Maritime



TECHNICAL CHALLENGE COOPERATION

Shared responsibility

Collaboration



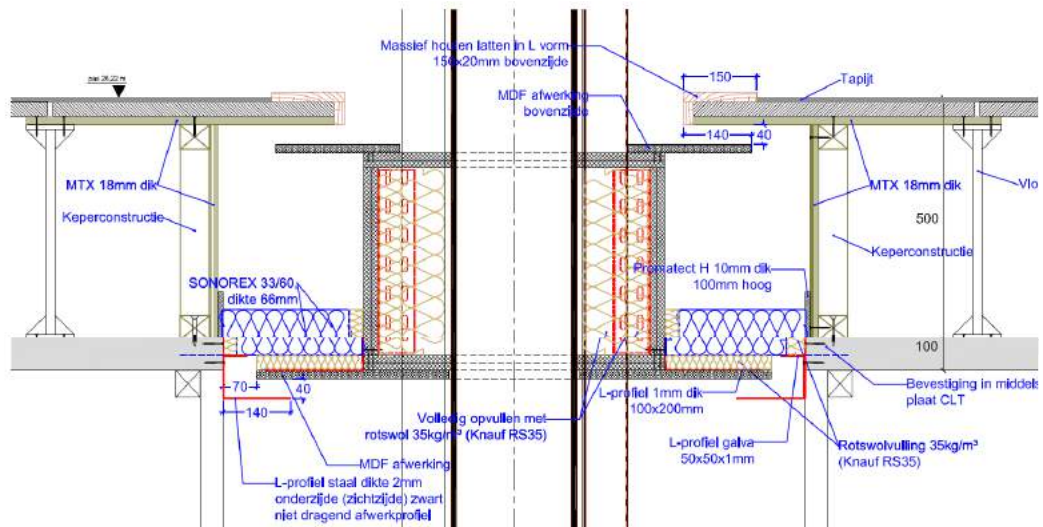
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CASES

Gare Maritime



**TECHNICAL
CHALLENGES
REUSE**



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CHALLENGE REUSE: ATTESTATION and PERMISSION

Almost no technical
data known
Working from
experience adhv
references and ism
knowledge centers

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ATTESTATION and PERMISSION.

Fire safety - committee on deviations (Interior)

Attestation centers (ISIB, ...)

Knowledge centers construction companies
(WTCB, ...)

Studies research centers sustainable construction
(VITO, PIXII, UNIV, ...)

Wood.be, Infosteel, Fireforum, ...

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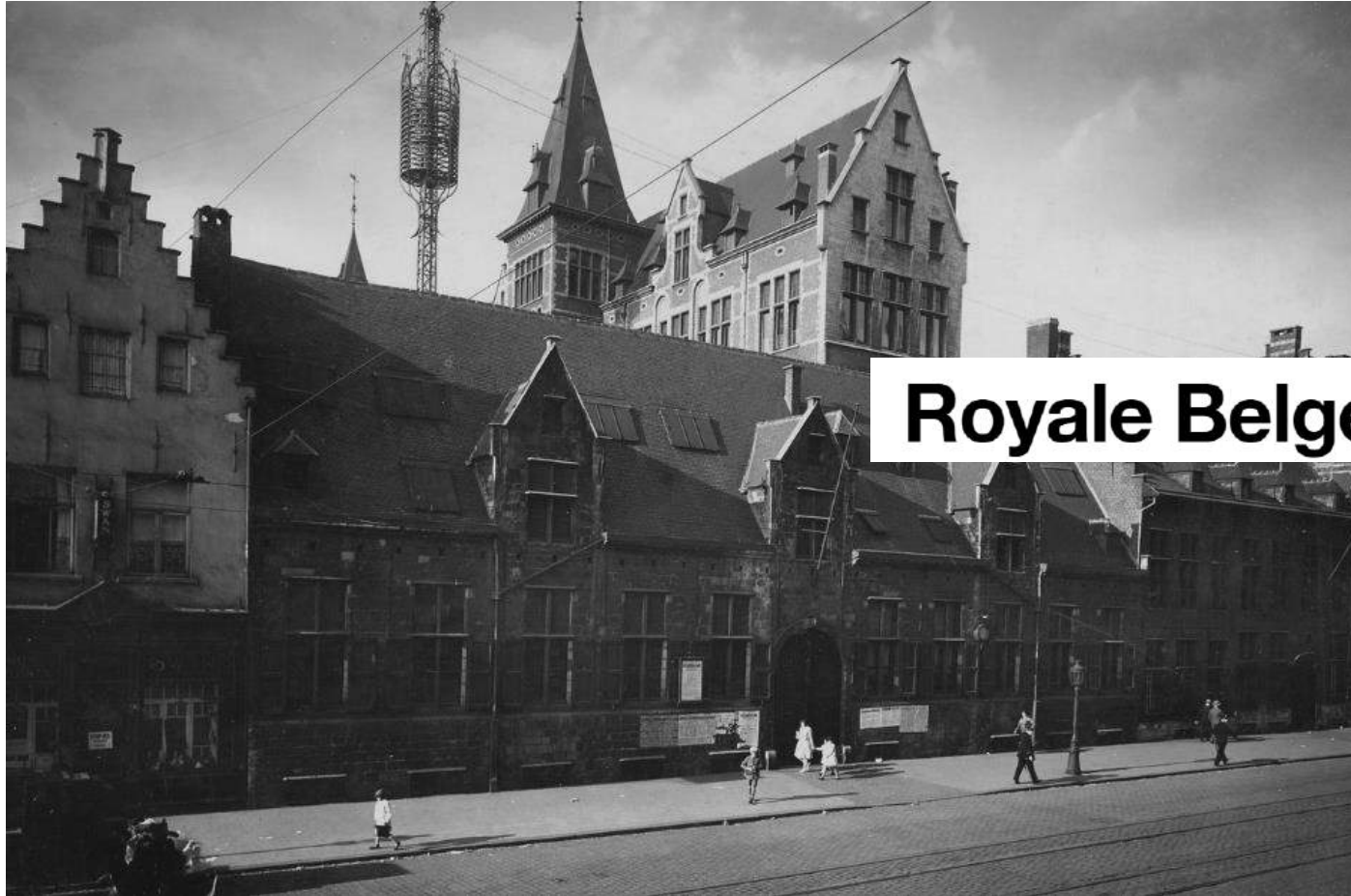


AWARDS GARE MARITIME

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CASES

Campus Paardenmarkt, Antwerp



Royale Belge

Campus Paardenmarkt, 19^e century

DESIGN TEAM

DMT Architecten

MAAT_WERK

Bureau Bouwtechniek

Macobo-Stabo

Botec

CLIENT

Univercity Antwerp

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Campus Paardenmarkt, Antwerp



Campus Paardenmarkt, 2023



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EXISTING CAMPUS

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Campus Paardenmarkt, Antwerp



**ACCENT:
MATERIAL REPURPOSING**



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Campus Paardenmarkt, Antwerp

B0.01 **CIRCULAIR BOUWEN**

B1.01 **VOORAFGAANDE WERKEN EN SLOOPWERKEN**

B1.01.04 **SLOOPWERKEN**

B1.01.04.30 **Slopen van gewapende betonelementen**

B1.01.04.31 Slopen van gewapend betonelement

B1.01.04.31#05 Slopen van gewapend betonelement trappen |FH|st

B1.01.04.40 **Slopen van metselwerkelementen**

B1.01.04.41 Slopen van metselwerkelementen

*B1.01.04.41#01 Slopen van metselwerkelementen: gemetselde wanden – realiseren
ruwbouwopeningen |FH|m3*

B1.01.04.41#02 Slopen van metselwerkelementen: gemetste wanden – volledig |FH|m3

B1.01.04.41#03 Slopen van metselwerkelementen: gemetste rook- en verluchtingskanalen |FH|m3..

B1.01.04.60 **Slopen van metalen elementen**.....

B1.01.04.61 Slopen van metalen element

B1.01.04.61#01 Slopen van metalen element: duplexvloeren incl. afwerking |FH|m2.....

B1.01.04.61#06 Slopen van metalen element: trappen |FH|st

INVENTARISATION

CASES

Campus Paardenmarkt, Antwerp

B1.01.04 SLOOPWERKEN.....

B1.01.04.30 Slopen van gewapende betonelementen

B1.01.04.31 Slopen van gewapend betonelement

B1.01.04.31#05 Slopen van gewapend betonelement trappen |FH|st

B1.01.04.40 Slopen van metselwerkelementen

B1.01.04.41 Slopen van metselwerkelementen

*B1.01.04.41#01 Slopen van metselwerkelementen: gemetselde wanden – realiseren
ruwbouwopeningen |FH|m3*

B1.01.04.41#02 Slopen van metselwerkelementen: gemetselde wanden – volledig |FH|m3.....

*B1.01.04.41#03 Slopen van metselwerkelementen: gemetselde rook- en ventilatiekanalen
|FH|m3.....*

B1.01.04.60 Slopen van metalen elementen.....

B1.01.04.61 Slopen van metalen element

B1.01.04.61#01 Slopen van metalen element: duplexvloeren incl. afwerking |FH|m2.....

B1.01.04.61#06 Slopen van metalen element: trappen |FH|st

B1.01.05 VERWIJDEREN VAN DAKELEMENTEN

B1.01.05.10 Verwijderen van bijhorigheden voor daken |PM

B1.01.05.20 Verwijderen van dakbedekking van hellende daken

B1.01.05.25 Verwijderen van dakbedekking met metaalbanen

B1.01.05.25#01 Verwijderen van dakbedekking met zinken banen |FH|m2

B1.01.05.30 Verwijderen van dakbedekkingen op platte daken

B1.01.05.32 Verwijderen van dakbedekking op platte daken: volledige dakopbouw |FH|m2...

B1.01.05.40 Verwijderen van daklichtelementen en daktoegangen.....

B1.01.05.42 Verwijderen van dakkoepel |PM.....

B1.01.05.50 Verwijderen van dakwaterafvoerelementen

B1.01.05.56 Verwijderen van regenafvoerbuizen |FH|m

B1.01.05.57 Verwijderen van hulpstukken voor regenwaterafvoer

B1.01.05.57#01 Verwijderen van ingewerkte dakkolk – dakvlak of dakopstand |PM

B1.01.05.57#02 Verwijderen van ingewerkte spuwer |PM

B1.01.05.57#03 Verwijderen van ingewerkte overloop |PM.....

DISMANTLING WORKS

CASES

Campus Paardenmarkt, Antwerp

| | | | | | | | |
|-----------------|--|-----------|-----------|--------------|--|--|--|
| 01.04 | Sloopwerken | PM | PM | 0 | | | |
| 01.04.40 | Slopen van metselwerkelementen | PM | PM | 0 | | | |
| 01.04.41 | Slopen van metselwerkelementen | PM | PM | 0 | | | |
| 01.04.41#2 | Slopen van metselwerkelementen: gemetselde wanden FH m3 | FH | m3 | 184,26 | | | |
| 01.04.60 | Slopen van metalen elementen | PM | PM | 0 | | | |
| 01.04.61 | Slopen van metalen element FH m2 | FH | m2 | 339 | | | |
| 01.05 | Verwijderen van dakelementen | 0 | 0 | 0 | | | |
| 01.05.30 | Verwijderen van dakbedekkingen op platte daken | 0 | 0 | 0 | | | |
| 01.05.32 | Verwijderen van dakbedekking op platte daken: volledige dakopbouw FH m2 | FH | m2 | 76,7 | | | |
| 01.06 | Uitbreken van rioleringen | 0 | 0 | 0 | | | |
| 01.06.10 | Uitbreken van buitendienst gestelde rioleringselementen | FH | GP | 1 | | | |
| 01.06.20 | Ledigen en reinigen bestaande riolering | 0 | 0 | 0 | | | |
| 01.06.21 | Ledigen en reinigen bestaande septische put | FH | GP | 1 | | | |
| 01.06.22 | Ledigen en reinigen bestaande rioleringleidingen | FH | m | 45 | | | |
| 01.09 | Slopen van vloerbedekkingen en dekvloeren | 0 | 0 | 0 | | | |
| 01.09.10 | Verwijderen van plinten | 0 | 0 | 0 | | | |
| 01.09.11 | Verwijderen van plinten PM | PM | PM | 0 | | | |
| 01.09.20 | Verwijderen van tussendorpels en bijhorigheden voor vloeren | 0 | 0 | 0 | | | |
| 01.09.21 | Verwijderen van tussendorpel PM | PM | PM | 0 | | | |
| 01.09.30 | Verwijderen van soepele vloerbedekkingen | 0 | 0 | 0 | | | |
| 01.10 | SLOPEN VAN BINNENELEMENTEN | 0 | 0 | 0 | | | |
| 01.10.20 | Uitnemen en uitbreken van binnendeuren, -ramen, -bekledingen en -omlijstingen | 0 | 0 | 0 | | | |
| 01.10.21 | Uitnemen van binnendeur | 0 | 0 | 0 | | | |
| 01.10.21#1 | Uitnemen van binnendeur uit hout voor recuperatie FH st | 0 | 0 | 1 | | | |
| 01.10.21#2 | Uitnemen van binnendeur uit hout PM | FH | st | 0 | | | |
| 01.10.40 | Uitbreken van lichte scheidingswanden | PM | PM | 0 | | | |
| 01.10.41 | Uitbreken van lichte scheidingswand FH m2 | 0 | 0 | 23,03 | | | |
| 01.11 | VERWIJDEREN VAN PLAFONDS | FH | m2 | 0 | | | |
| 01.11.30 | Uitbreken van verlaagde plafonds | 0 | 0 | 71,45 | | | |
| 01.11.31 | Uitbreken van verlaagd plafond FH m2 | FH | m2 | 279,27 | | | |
| 01.11.40 | Uitnemen van verlaagde plafonds voor recuperatie | 0 | 0 | 0 | | | |
| 01.11.41 | Tijdelijk uitnemen van verlaagd plafond – metalen lamellen - RECUPERATIE PM | PM | PM | 0 | | | |

**PRICING
REPURPOSING**

CASES

Campus Paardenmarkt, Antwerp



DEMONTAGE

**MATERIAL
COLLECTION**

**Architects & engineers
with a purpose**

CASES

Campus Paardenmarkt, Antwerpen



Gwen Verlinden – TEKEN architectuur



Gwen Verlinden – TEKEN architectuur

REVISED

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CASES

Campus Paardenmarkt, Antwerp

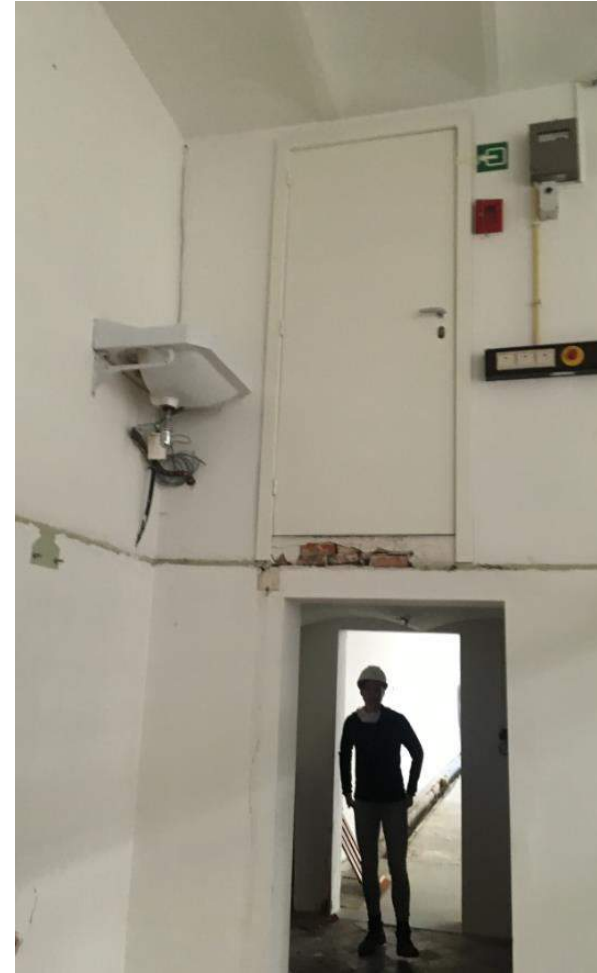


POINTS OF INTEREST

Architects & engineers
with a purpose

CASES

Campus Paardenmarkt, Antwerp



POINTS OF INTEREST

**Architects & engineers
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CASES

Royal Belge, Brussels



MIX, e1960s modern castle, designed by René Stapels and Pierre Dufau

DESIGN TEAM

Bovenbouw Architecten
Caruso St John
DDS+

FEASIBILITY STUDY
FIRE SAFETY
EPR

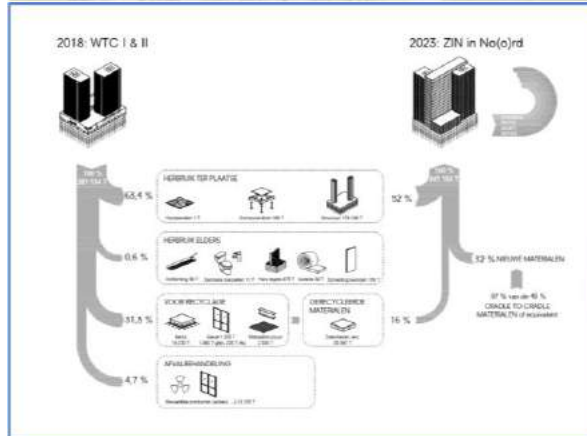
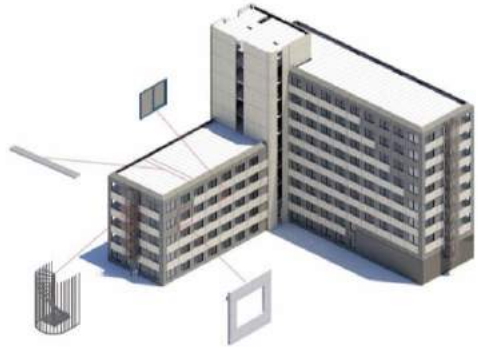
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CASES a sampling of non BB projects



Provinciehuis, Arnhem
Lagemaat (demoniteur)



Zin in No(o)rd, Brussel
L'AUC – Jaspers-Eyers – 51N4E



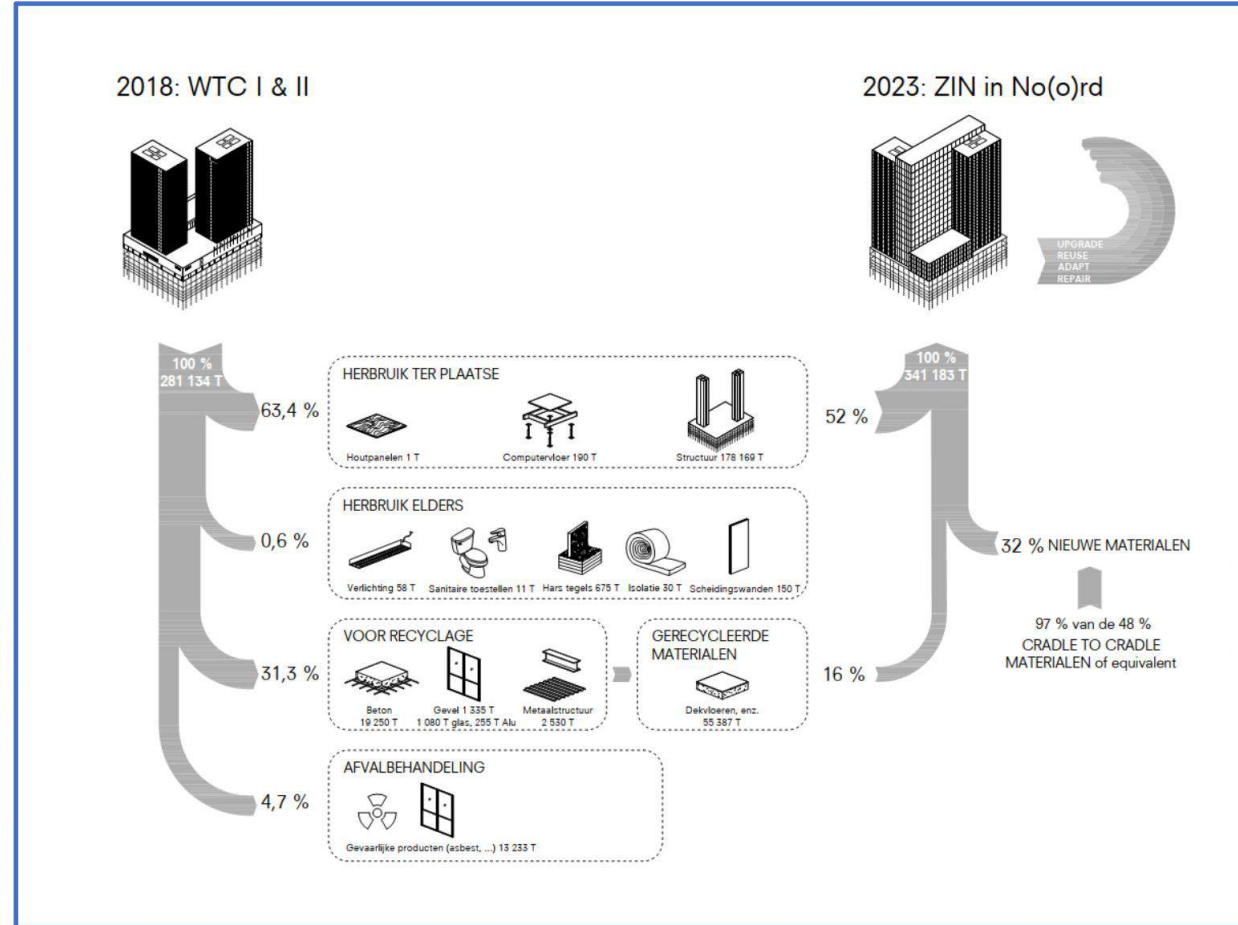
Dorpschool, Vremde
Cuypers & Q



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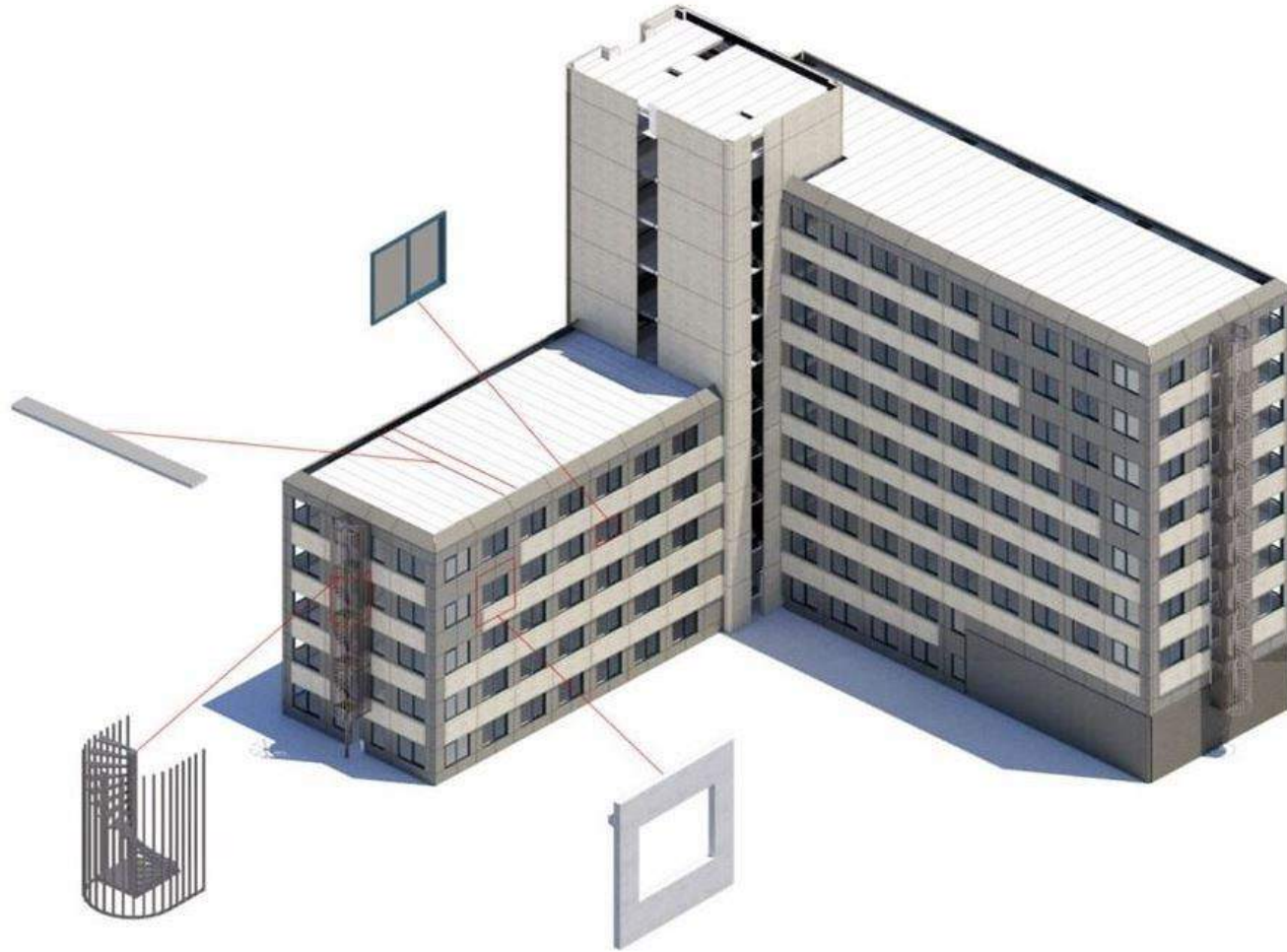
CASES

Zin in No(o)rd, L'AUC – Jaspers-Eyers – 51N4E



CASES

City Hall Arnhem, Cepezed



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CASES

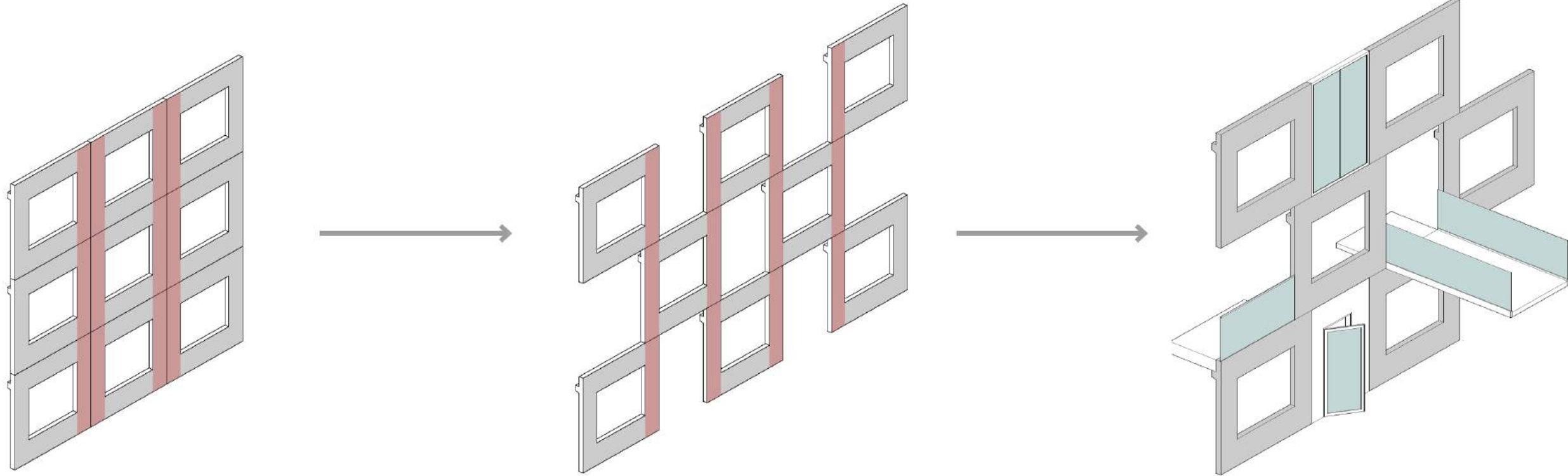
City Hall Arnhem, Cepezed



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CASES

City Hall Arnhem, Cepezed



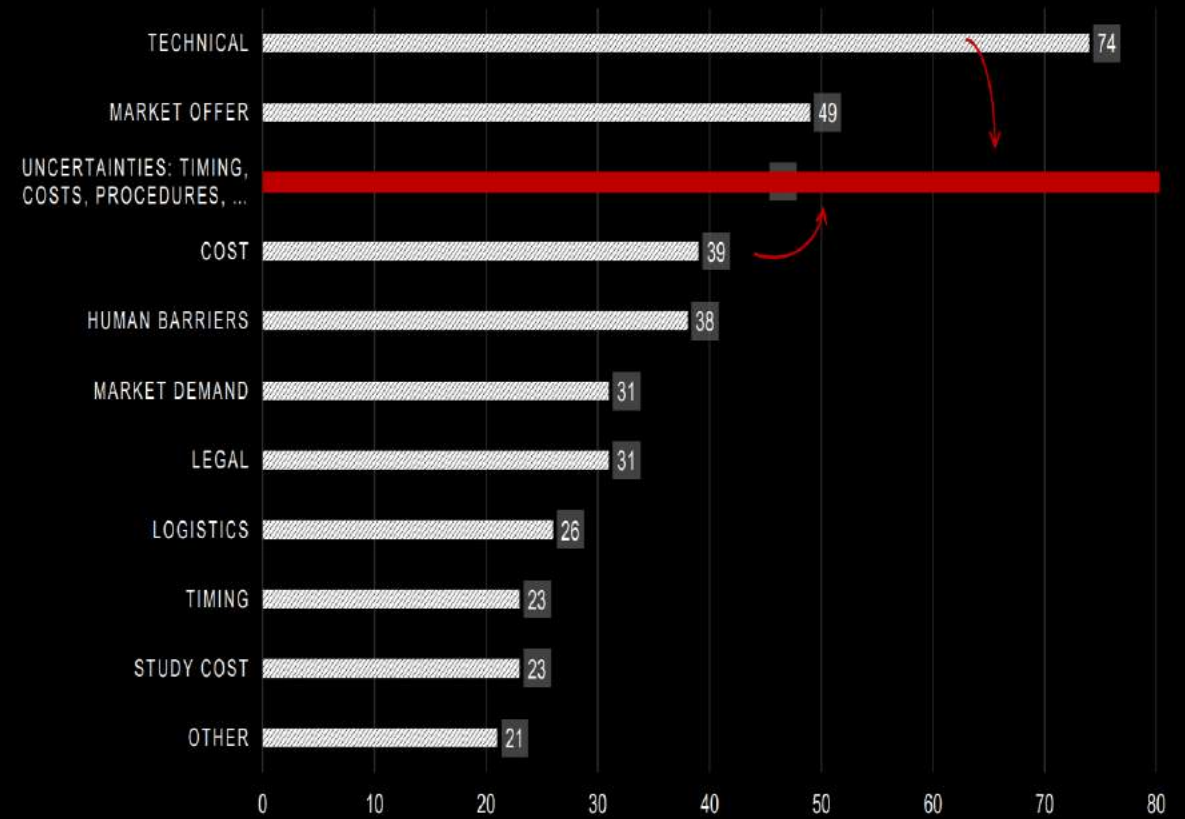
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CHALLENGES

perceived barriers

≠

actual barriers



Results of a survey on valorisation of existing façade components. (2022)

Participants were asked to rank the aspects that proved to be the 5 main barriers in their project.

Reuse of façade products

Dealing with uncertainties between ambition statement & implementation

PHD Ruben Van Vooren | 19/04/2024

Supervisors VUB: Waldo Galle & Niels De Temmerman

Supervisors BB: Nadja Van Houten & Arno Van Hulle



CHALLENGES

for closing material cycles

- Applying reuse in new projects □ role architects:
 - How to motivate?
 - How to design?
 - How to tender?
 - How to guarantee quality?
 - How to organize?
- Small residential ↔ large projects
- Changing mindset, linear economy
- Holistic approach energy + materials
- Reporting (CO₂, environmental footprint)

FUTURE

- BioBased
- Digitalisation /
documenting
- Co-creation
-> Harvest Bay



CHALLENGE IN BIOBASED

For closing material cycles in the construction industry

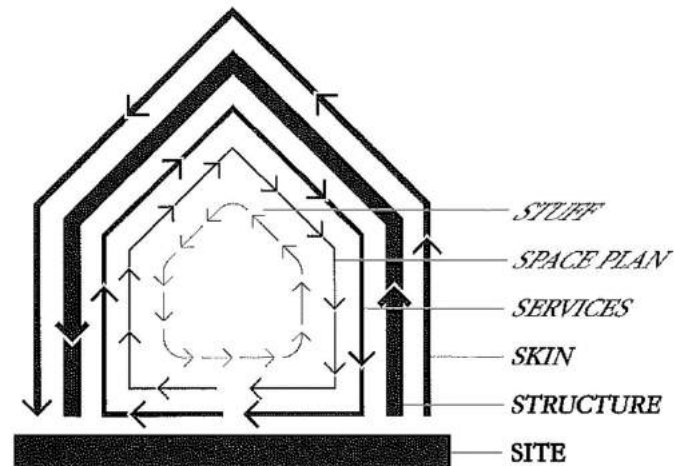


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CHALLENGE IN DOCUMENTING

For closing material cycles in the construction industry

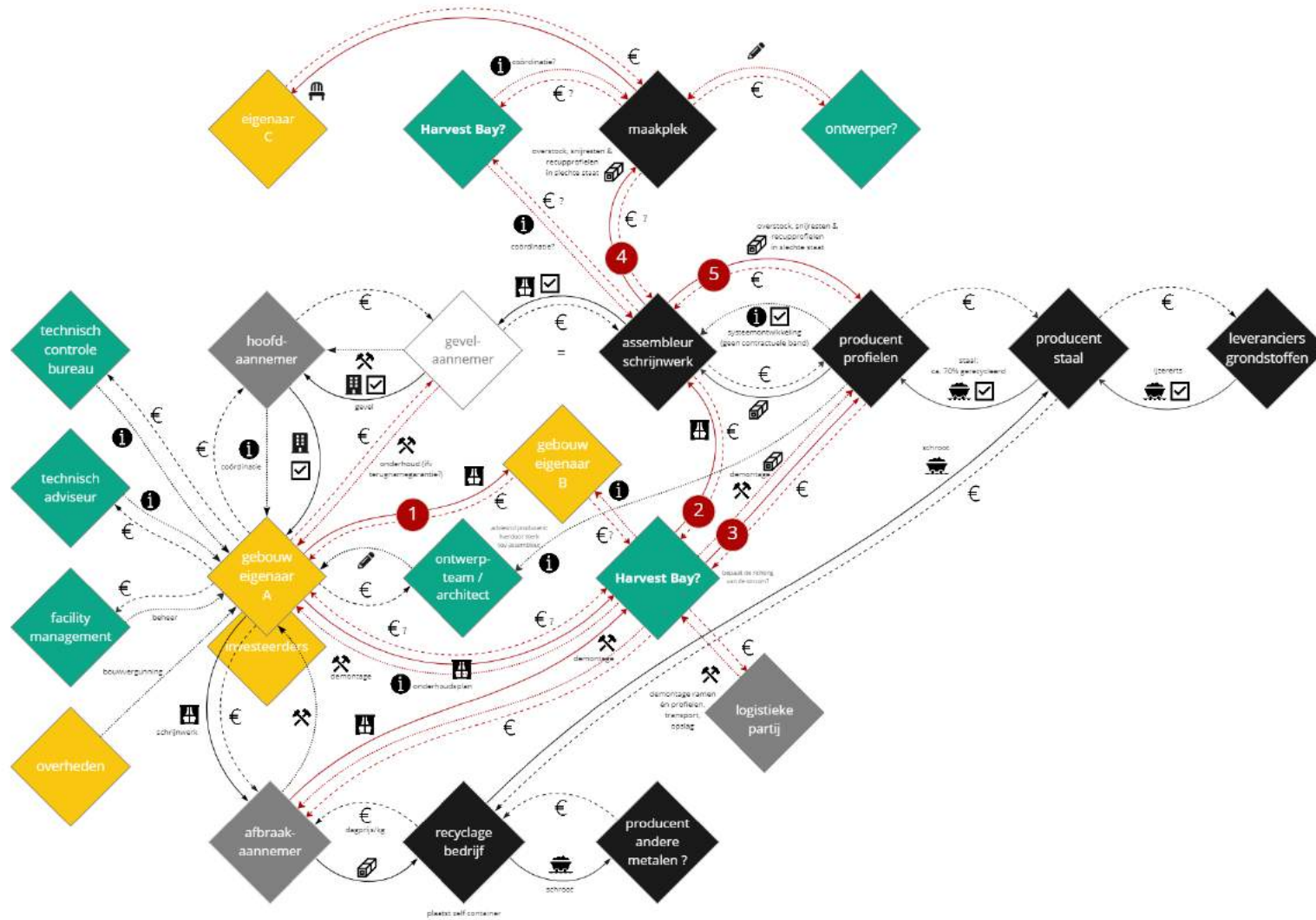
- Demountable construction
- Documentation:
 - ✓ *life spans (both building and materials),*
 - ✓ *take-back*
 - ✓ *guarantees,*
 - ✓ *comptability*
 - ✓ ...



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CHALLENGE IN CO-CREATION

For closing material cycles in the construction industry



Collaboration in the value chain

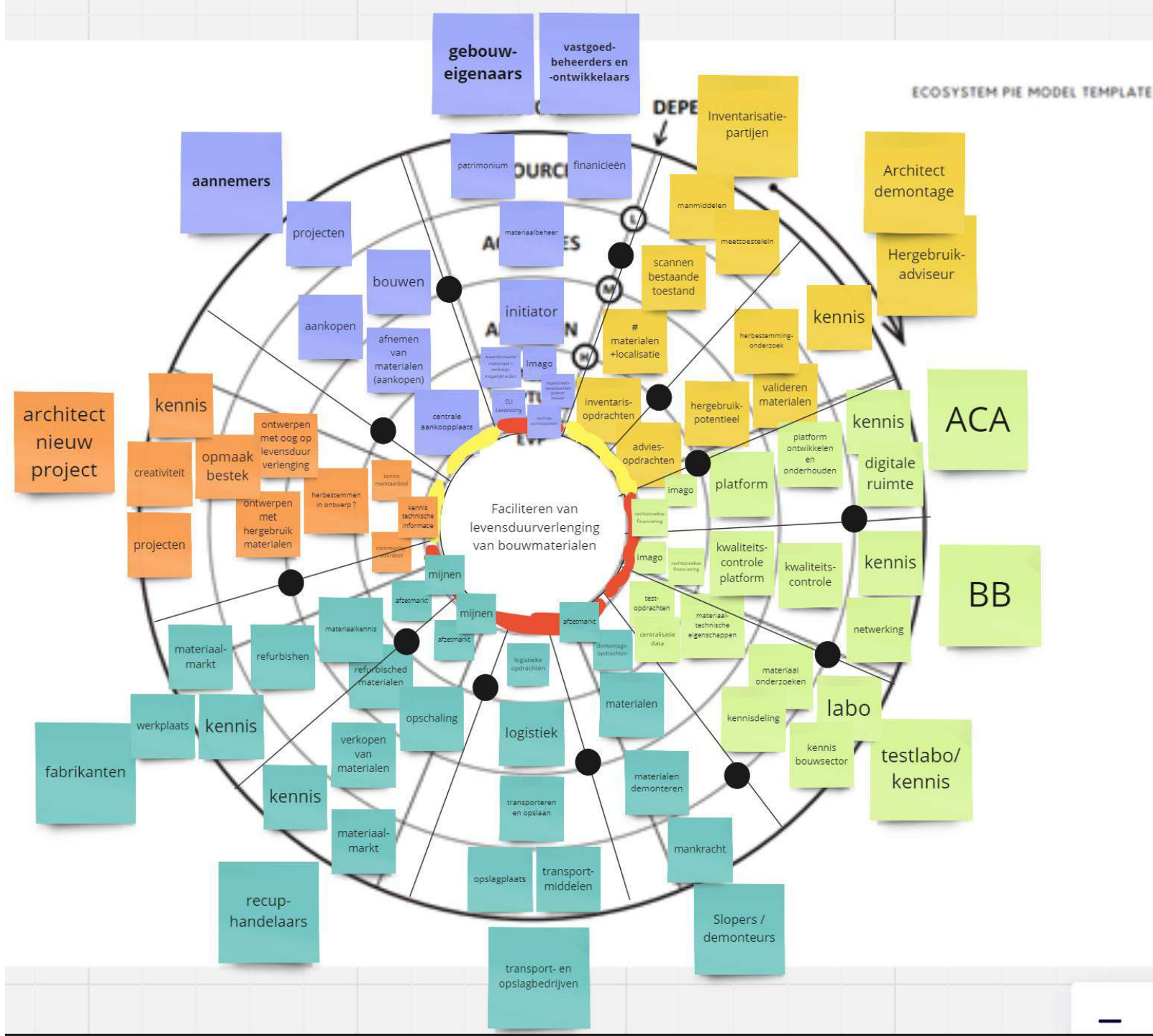
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HARVEST BAY

GOAL FOUNDERS:
Facilitate life extension of
building materials

by
CENTRALIZING KNOWLEDGE
& DATA

BB & ACA



Legal form

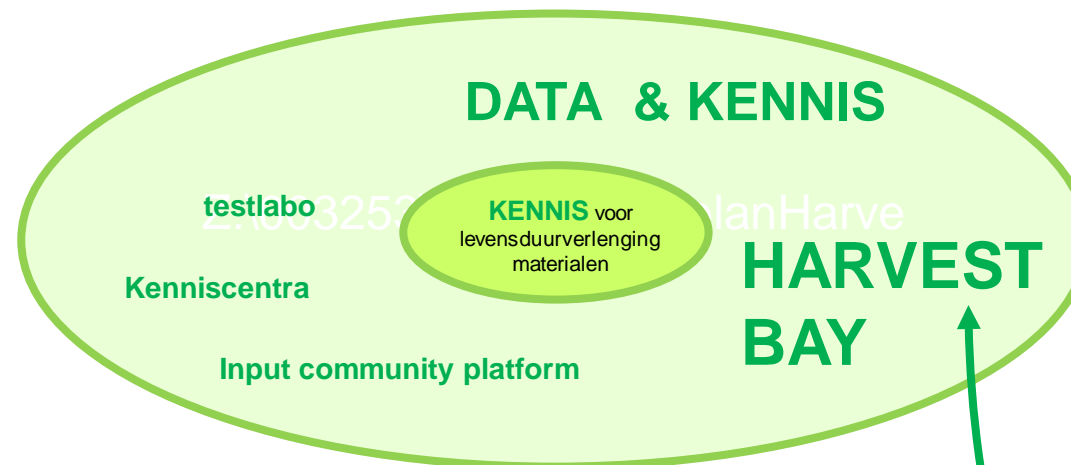
HARVEST BAY = BB + ACA

2 legal entities:

- Ecosystem platform
= n.t.b.
- Knowledge community
= a foundation



ECOSYSTEEM PLATFORM
= Harvest Bay

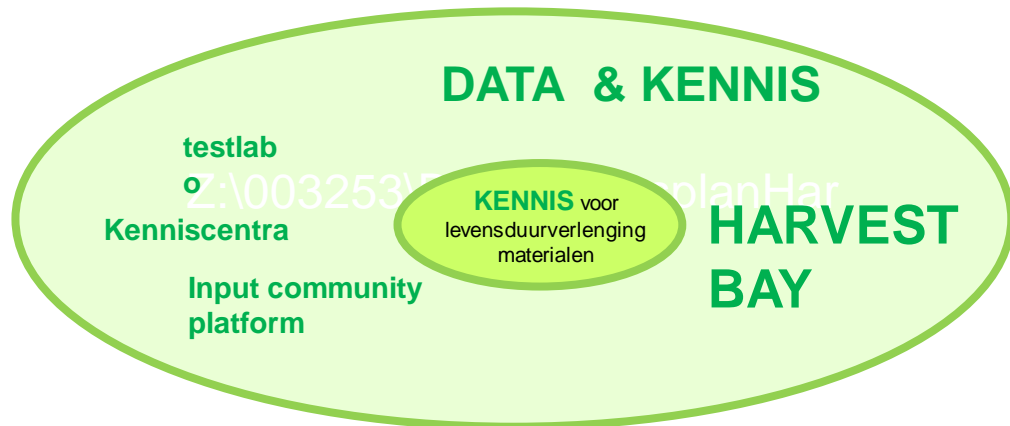


KENNIS COMMUNITY
= Stichting Harvest Bay

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DIGITAL INFORMATION

HARVEST BAY



h harvestbay Start Offer Favourites How-to Extra Bewerken

+ Nieuw

07.02_Curtain fa

Name

Profiles for

03.01_Floor layers and thermal insulat...
03.02_Masonry substructure
03.03_Elements made of cast-in-place...
03.04_Waterproofing of elements in c...
03.05_Elements made of architectural...
03.06_Elements made of composite st...
03.07_Elements made of natural stone
03.09_Masonry work superstructure
03.10_Jointworks

05_Roofing works and roof wat...
05.01_Construction for sloping roof
05.02_Roof coverings for sloping roofs
05.03_Finishings on sloping roofs
05.04_Grade layers and preparation o...
05.05_Roof seals for flat roofs
05.06_Thermal insulation of flat roofs
05.07_Roof terraces, green roofs and ...
05.08_Roof water drainage
05.09_Skylight openings and roof acc...
and cornices

06_Sewerage
06.01_Sewer elements
06.02_Drainage pipes
06.03_Separation devices
06.04_Inspection pits and receiving d...
06.05_Put edges with lids and grids
06.06_Purification of domestic waste ...
06.07_Rainwater treatment
06.08_Sewer connections

07_Facade closure
07.01_Profile systems for windows an...
07.02_Curtain facades
07.03_Automatic door assemblies
07.04_Accessories for exterior joinery
07.05_Hinges and locks for exterior jo...
07.06_Glazing for outdoor applications
07.07_Special glass constructions
07.09_Ports
07.10_Light facade cladding
07.11_Facade cladding with metal strips
07.12_ETICS
07.13_Facade plastering
07.14_Outdoor grilles
07.15_Accessories for light facade cla...
07.16_Exterior stairs and parapets
07.18_Claddings for outdoor ceilings
07.19_Various accessories for facade c...
07.20_Green facades

11_Ceilings
11.01_Failed ceilings
11.02_Ceiling coverings

13_Fixed equipment
13.01_Custom furniture in general
13.02_Custom kitchen furniture

Project: Voormalige Bibliotheek Mechelen
Opdrachtgever: CAAAP – Mevr. Yana De Meuter
Aannemer (sloop): ArtesProeiers – Dhr. Bert Van Roey
Datum: 13 juni 2022

Harvest Scan

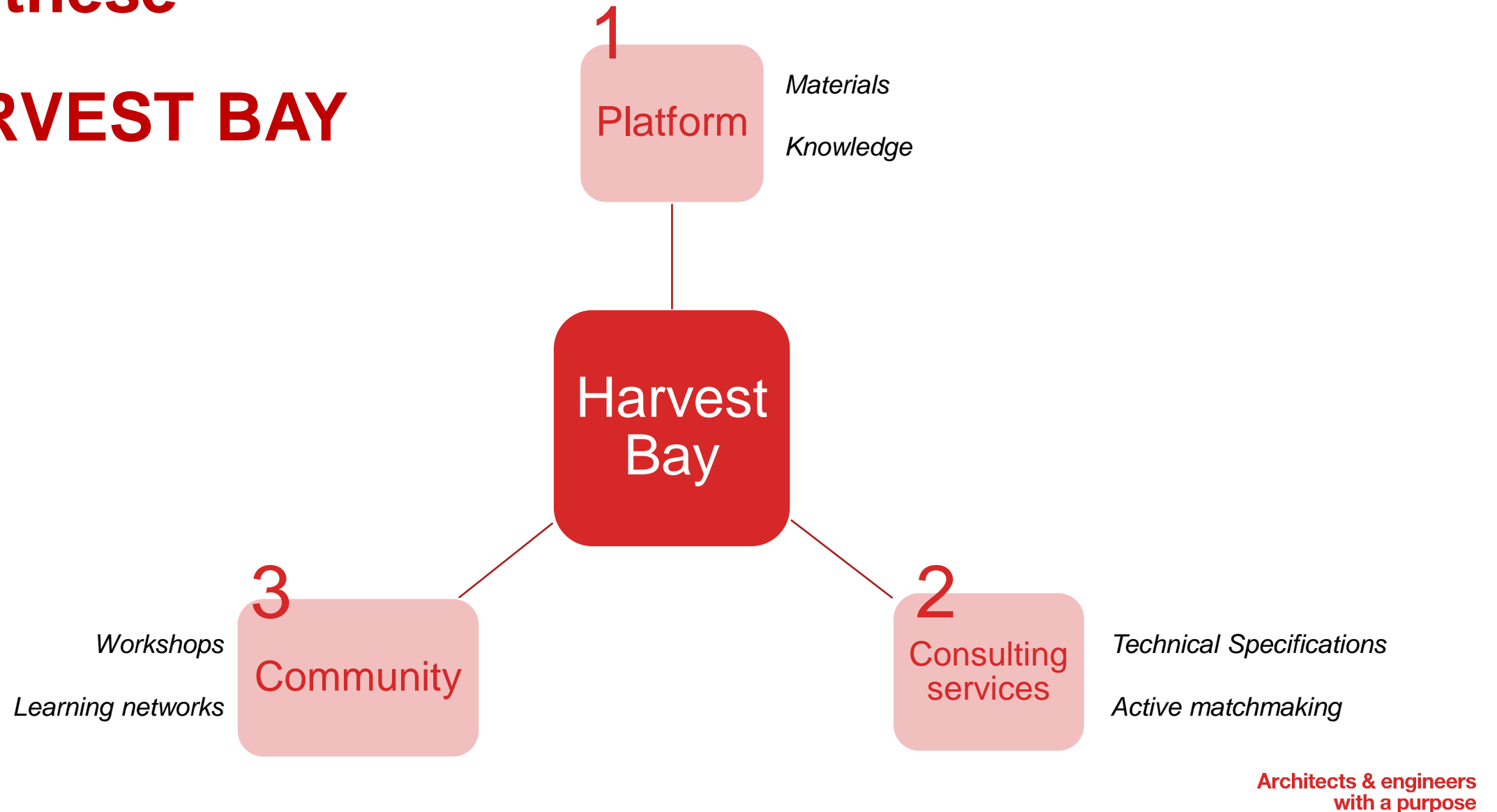
JANSEN
HARVEST BAY

| Projectonderdeel | Types | Beschrijving - Opmerking: | Actie: |
|-------------------|-------|--|--------|
| Gevel Moensstraat | | 6 Stuks vaste ramen met ventilatierooster Serie: Jansol Afmeting: 1360 x 1620 mm (BxH) | |
| | | 5 Stuks vaste ramen met valraam Serie: Jansol Afmeting: 1360 x 2090 mm (BxH) | |
| | | 3 Stuks vaste ramen Serie: Jansen Viss NV Afmeting: 1200 x 1200 mm (BxH) | |
| | | 3 Stuks vaste bandramen met verticale stroken Serie: Jansen Viss NV Afmeting: 4000 x 2400 mm (BxH) | |
| | | 2 Stuks vaste ramen met valraam Serie: Jansol Afmeting: 1360 x 2290 mm (BxH) Bij benadering (niet opgenomen) | |
| | | Deur met 2 Stuks vaste ramen Serie: Jansol Afmeting: ... x ... mm (BxH) Deurvleugel zwaar beschadigd (niet opgenomen) | |

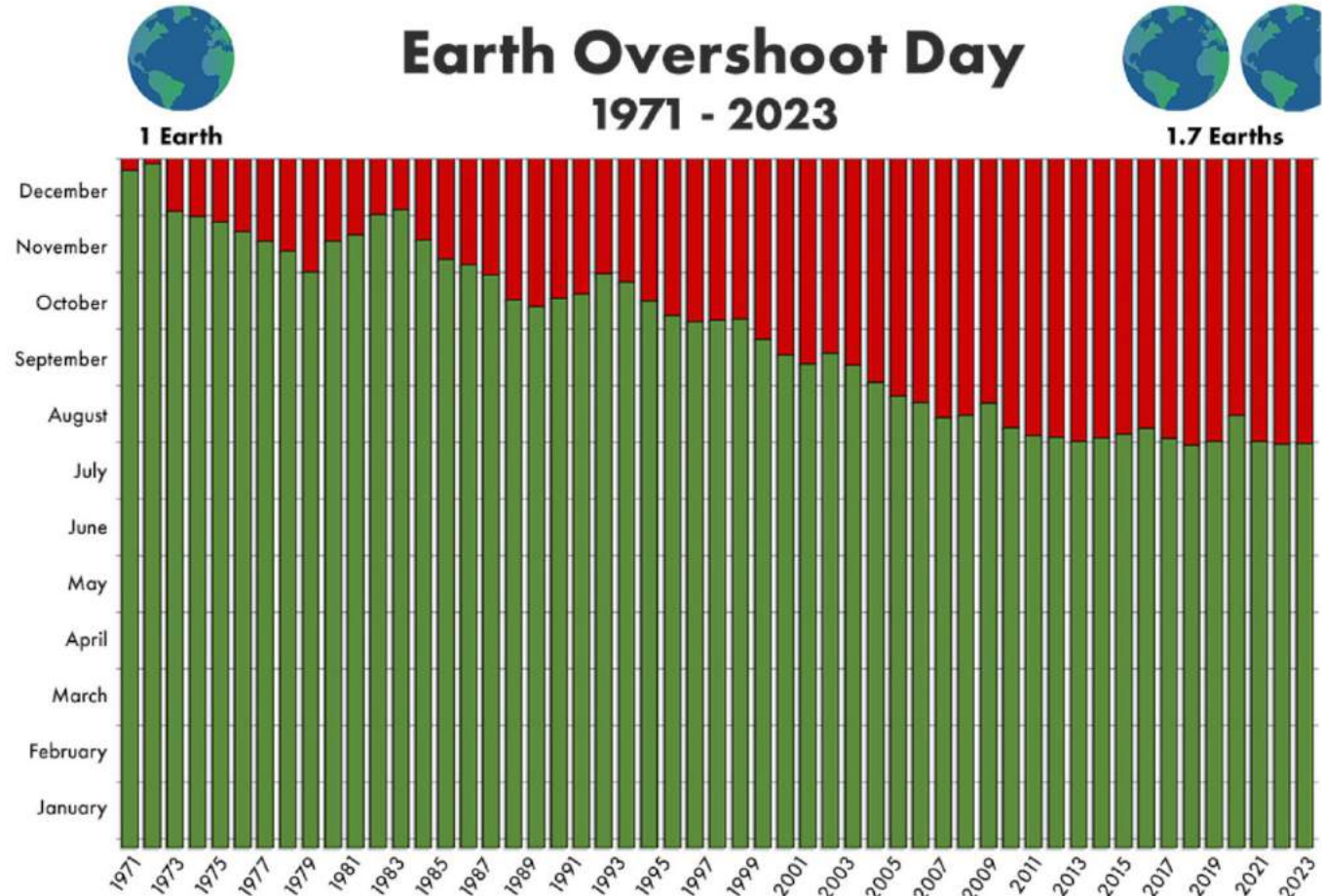
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Synthese

HARVEST BAY



And now it is up to us....



Source: National Footprint and Biocapacity Accounts 2023 Edition
data.footprintnetwork.org

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**Meaning
in every
square meter**

Bureau Bouwtechniek nv
T + 32 3 231 53 95
info@b-b.be

BB

**Bureau
Bouwtechniek**

THANKS FOR YOUR ATTENTION

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