

Circular construction



21-9-2021 - Cradle to cradle Café

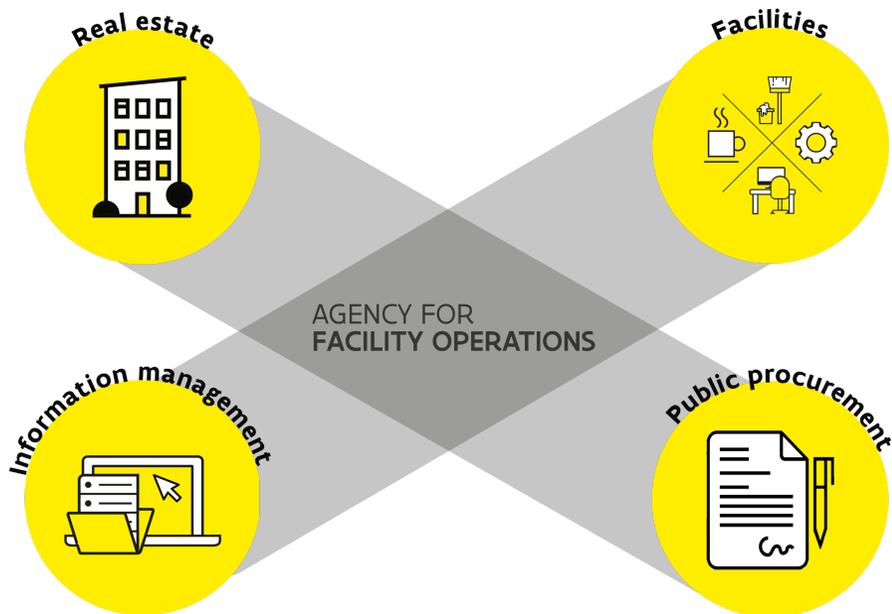
Frank Geets

Administrator general



What we do and where we go for

Het Facilitair Bedrijf (Eng: the Agency for Facility Operations) takes care of (almost) everything a civil servant of the Flemish administration needs to do his job.



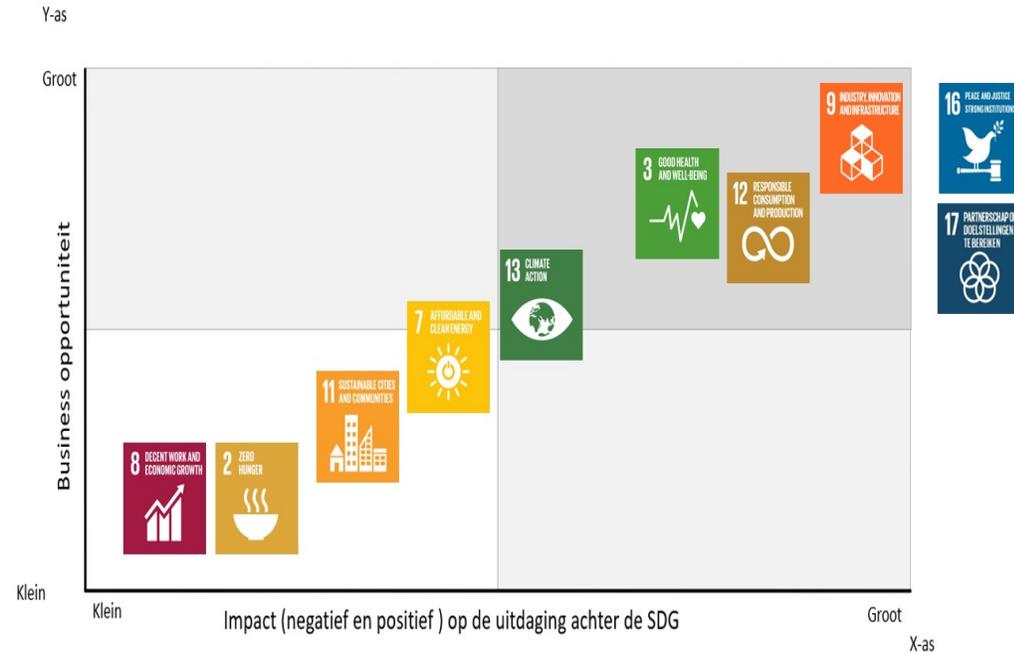
We want to create a **sustainable and inspiring work environment** so that our colleagues of the Flemish administration can excel.

Building **together** the government of the **future**.

Our values

- × Sustainable
- × Inspiring
- × Efficient
- × Professional

Sustainable Development Goals



Het Facilitair Bedrijf realizes future oriented, circular and fully accessible buildings (SDG 9.1) and stimulates innovation in its own activities and throughout the value chain (SDG 9.4, 9.5).



Het Facilitair Bedrijf strives for reduced materials use and maximally closed materials cycles, evolves towards zero waste (SDG 12.2, 12.5) and reduces food loss (SDG 12.3)

Agency for Facility Operations & circularity



INTEGRATION

- Understanding
- Creating awareness
- Impact assessment
- SDG Action plan
- Management
- SDG Charter

2018



TRANSITION

- Sustainable business case
- CIRCULAR economy
- Value chain
- Stakeholders
- Action plan +
- Charter +

2020



DUE DILIGENCE

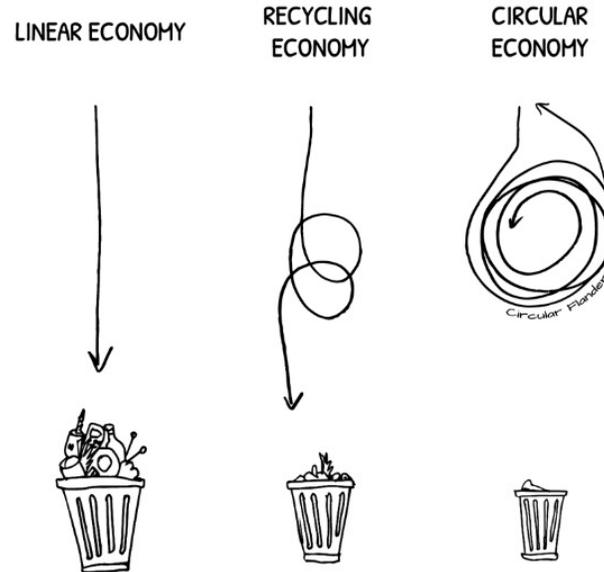
- Understanding human rights & due diligence
- Proclame
- Consolidate
- Development cooperation

2022



Sustainability > Circularity & Cradle to cradle

- ▶ 5P's:
People – Planet – Prosperity – Peace – Partnership
- ▶ Holistic
- ▶ Strong sustainability



C2C building

- ▶ Philosophy vs certification
- ▶ Perfect circularity
- ▶ A goal in the distance?



Circular building

- ▶ Closing material loops
- ▶ Systems thinking

Sustainable building





The agency's circular approach

Vision circular entrepreneurship (2018) – scope 2030

Het Facilitair Bedrijf strives to become the most circular facility services provider in Flanders.

We do this by focusing on those elements in the chains or cycles where we have the biggest impact.

By closing cycles and actively communicating about this we inspire our clients and we initiate new ways of collaboration between stakeholders, which leads to new business models.





Our focus on circularity

- ▶ Reuse & repair
- ▶ Circular public procurement
- ▶ Water
- ▶ Catering
- ▶ Waste
- ▶ Energy
- ▶ Green Deal
- ▶ Circular construction
- ▶ Pioneering projects

refurbishment furniture

waste contract, textile

audits, infiltration of rainwater...

minimise single use packaging and food waste

selective collecting & recycling

CO2 neutrality

ZIN project – Office2023

circular paper, ...

The Herman Teirlinck Building

(in use sept 2017)





BROODJESBAR

URANT

TRAP A

Circular projects: refurbishment, circular paper

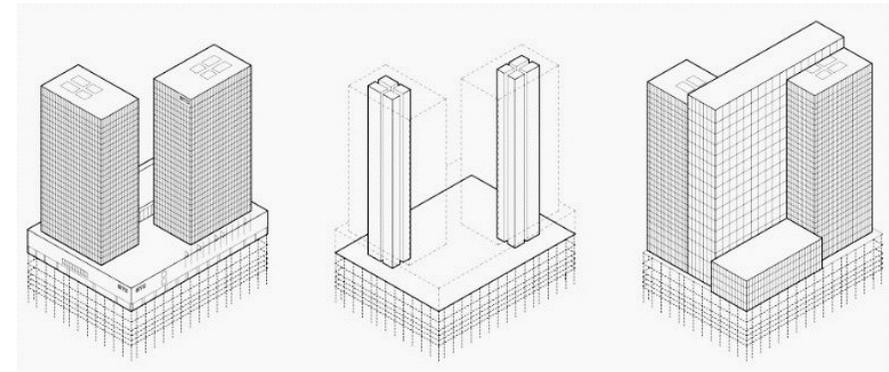


The ZIN Building – Office 2023

(under construction)



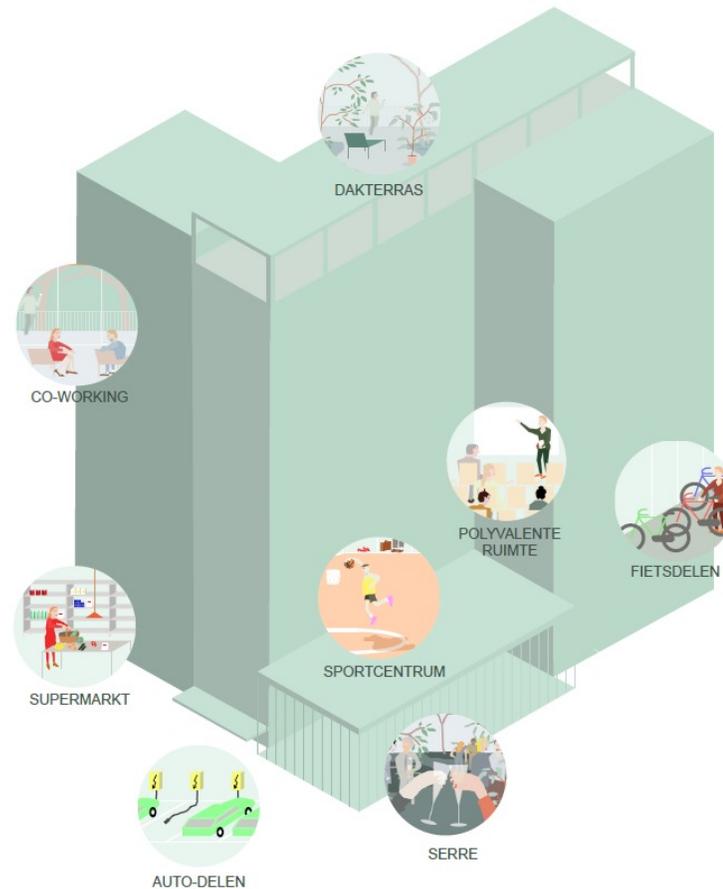
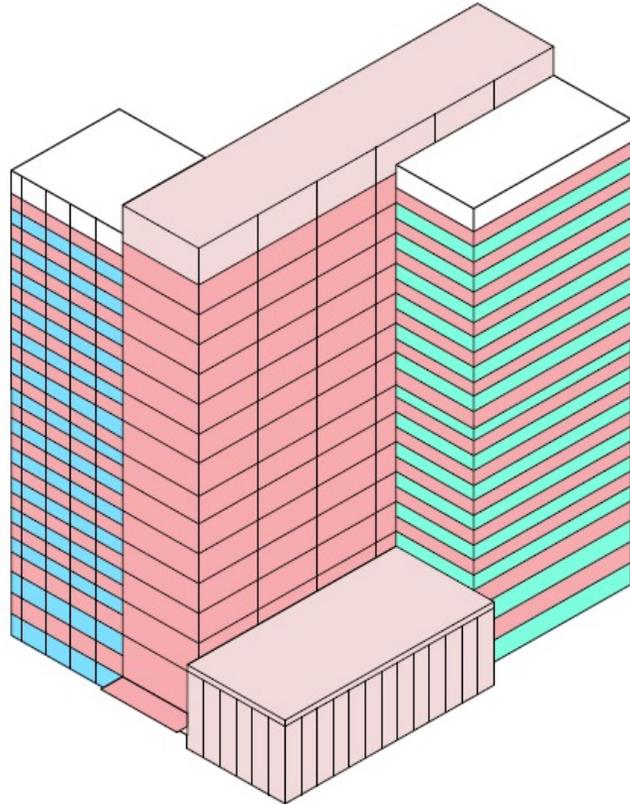
ZIN: a multifunctional building project



197
2

2020

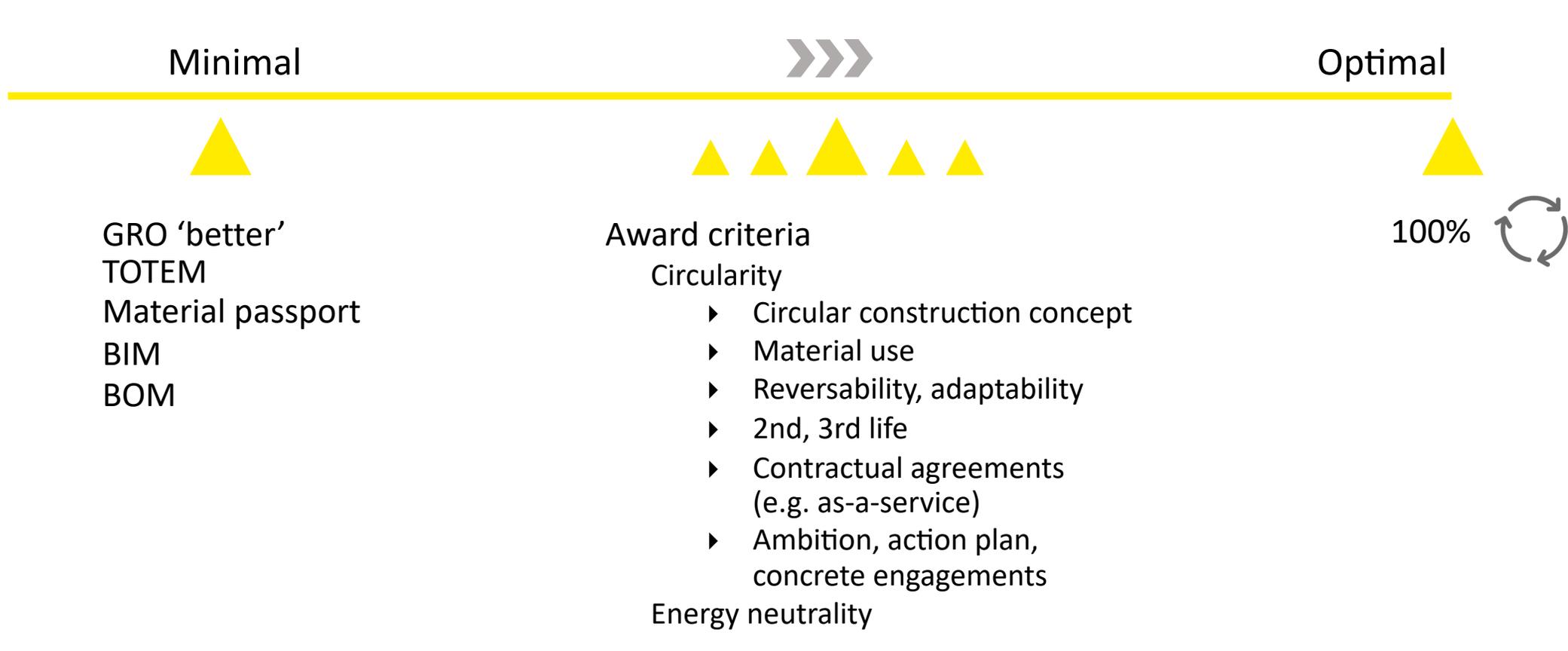
2023



Meer info

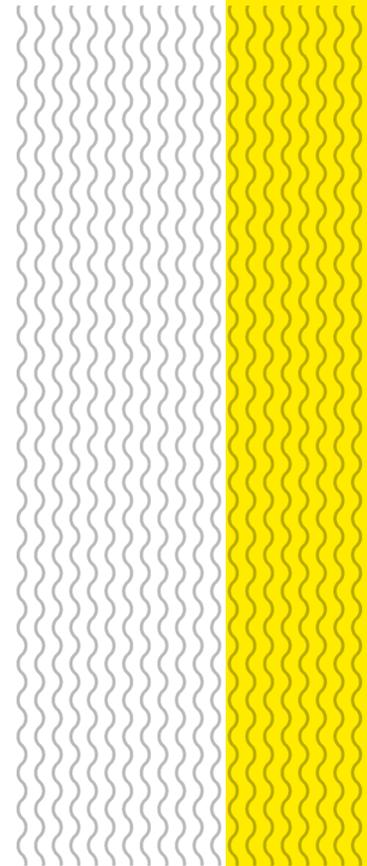
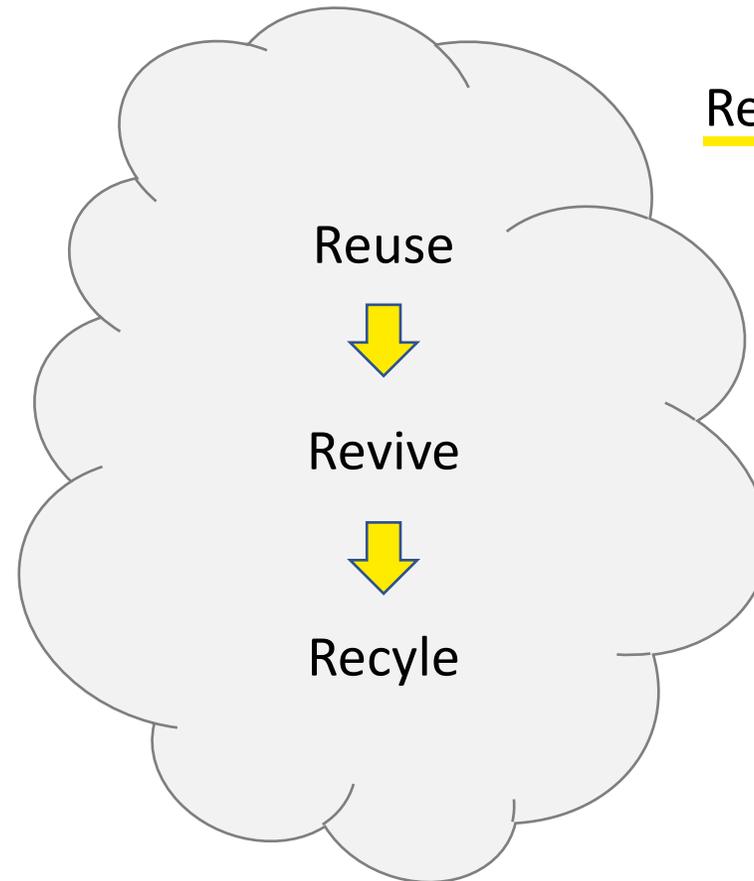
- ▶ [Film Befimmo](#)
- ▶ [51N4E](#)
- ▶ [Jaspers-Eyers](#)
- ▶ [Vlaamse overheid](#)

Evaluation of circularity



Circularity: ZIN (Office 2023)

- ▶ Circular concept on the level of
 - × neighbourhood
 - × site
 - × building
 - × interior design
- ▶ Material flows
 - × urban mining
 - × C2C
- ▶ Other flows
 - × energy, water, ...
- ▶ Healthy and high user comfort
- ▶ Reinforcing biodiversity

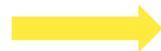


Urban mining

Analysis & inventory

- ▶ What is there? Where is it?
- ▶ Condition and quantity?
- ▶ Reuse potential:

× To preserve



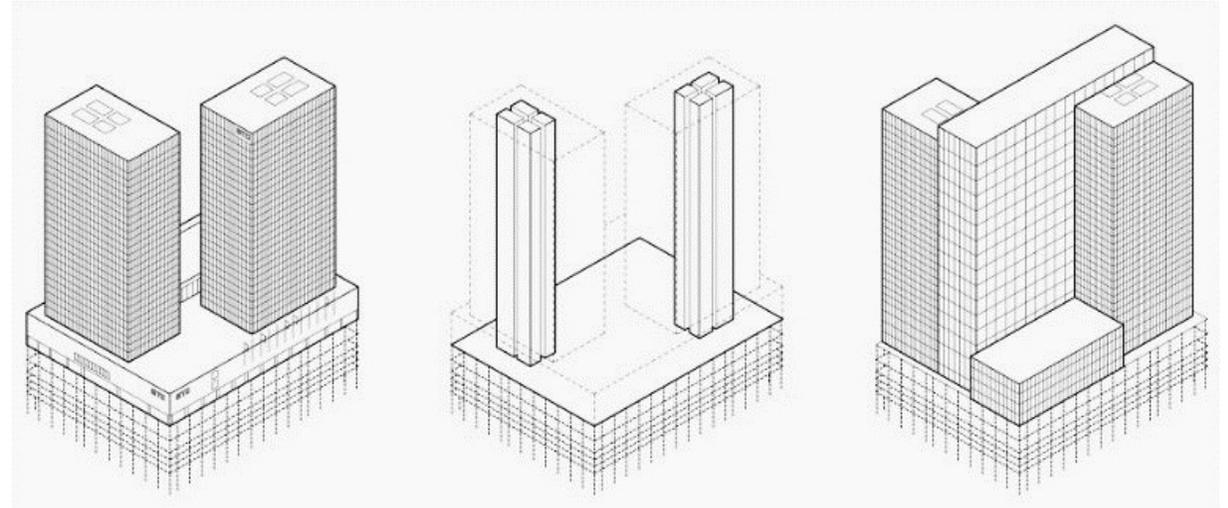
Demolition vs. preservation

× To reuse

× To recycle



Selective demolition



Insulation (20.000 m²), 66 ton



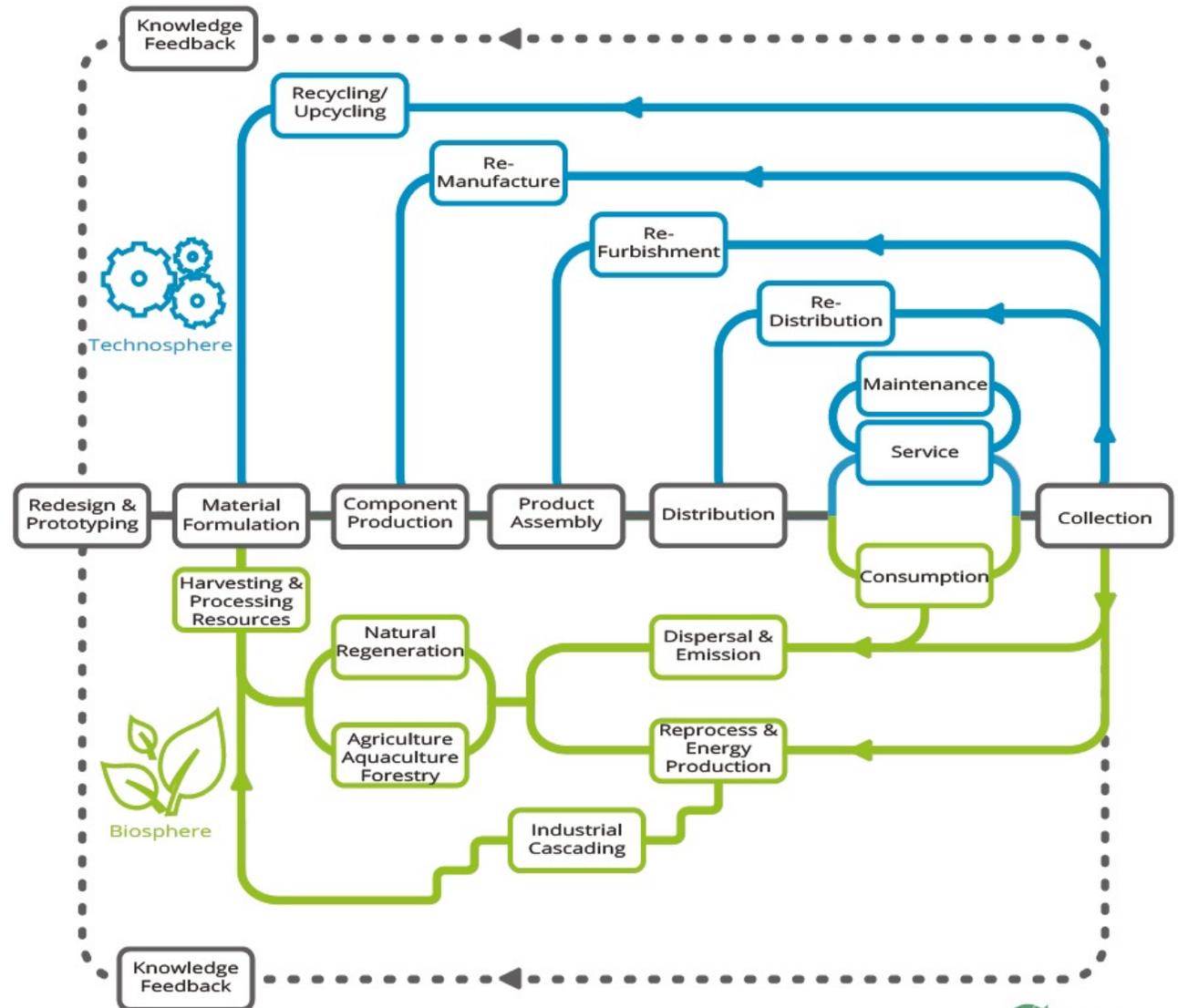
Raised Floors (6.800m²), 240 ton



Furniture 59 ton

Use of circular materials

- ▶ New materials
 - × safe and sustainable (C2C)
 - × collaboration with EPEA
 - × guide of materials used
- ▶ Stimulate the market
 - × to start up certification proces
 - × take back guarantee



Cradle to Cradle concrete

- ▶ Concrete =
 - × most used construction material, big environmental impact
 - × sand + gravel + water (granules, ~75%) + cement (binder)
 - × other added material influence the quality of the concrete
- ▶ Concrete granules
 - × recycled concrete granules A+ for floors
 - × from the existing building
 - × 30.000 tons concrete will be reused
- ▶ Binder
 - × CEM III where possible



Grondstof Cement



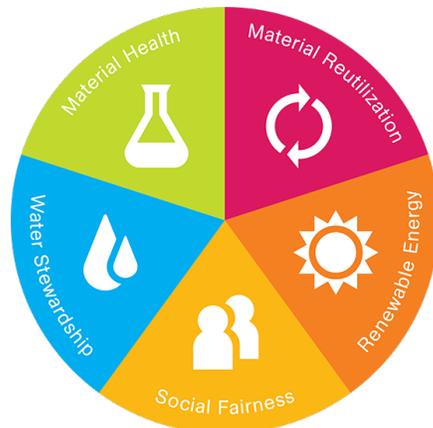
Grondstof Zand



Grondstof Grind



Grondstof Water



- ▶ Scoop for Benelux: concrete poured on the site by CCB
 - × Cradle to Cradle - Silver
- ▶ Prefab beton
 - × Cradle to Cradle - Silver



What the future brings...

- ▶ Climate change & biodiversity collapse
 - × Growing consciousness and consent
 - × Resource efficiency as a moral obligation
- ▶ COVID crisis → hybrid working
 - × Need for adaptability of buildings will only grows

... The ZIN project & our Agency will be ready

