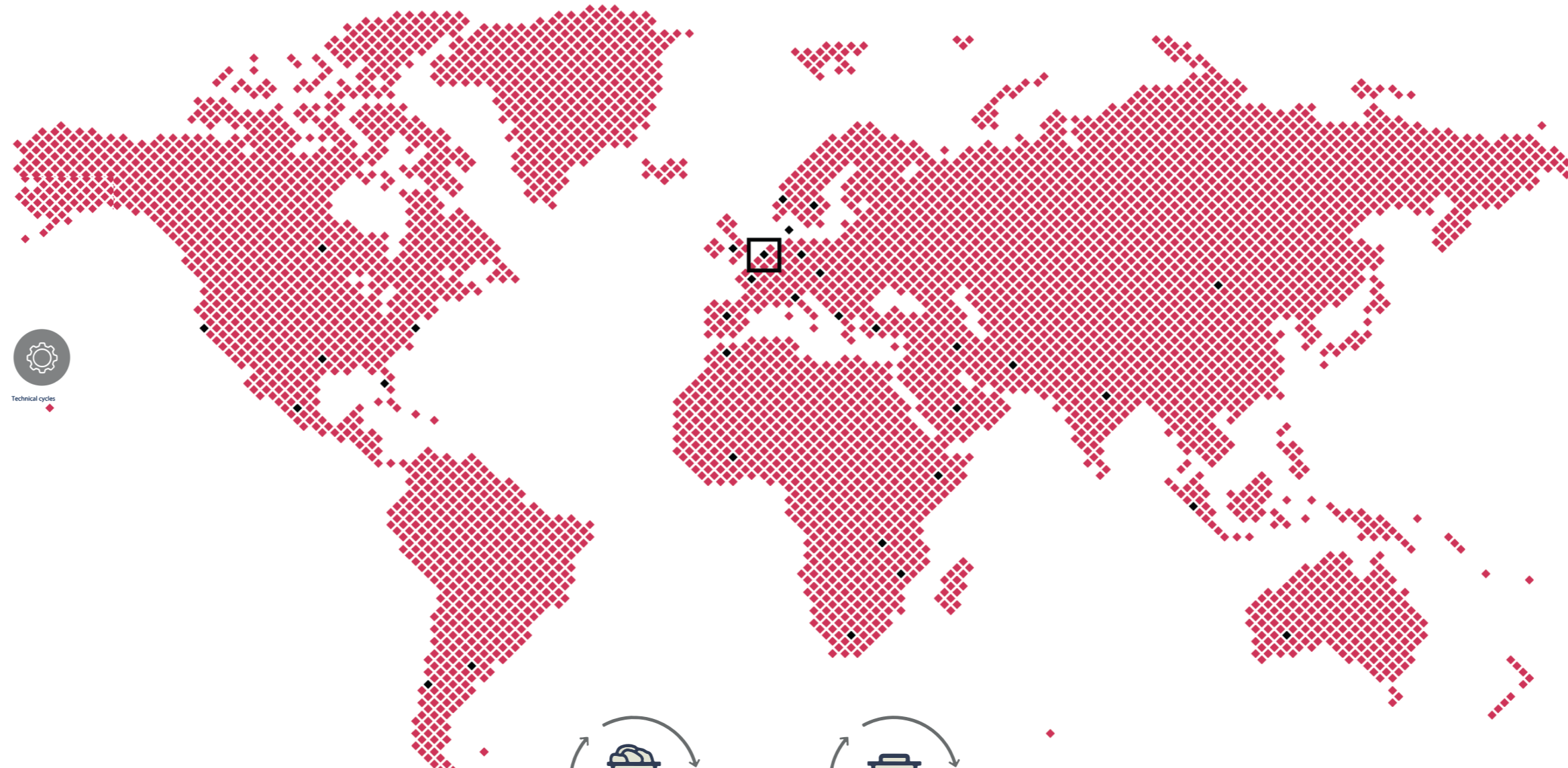


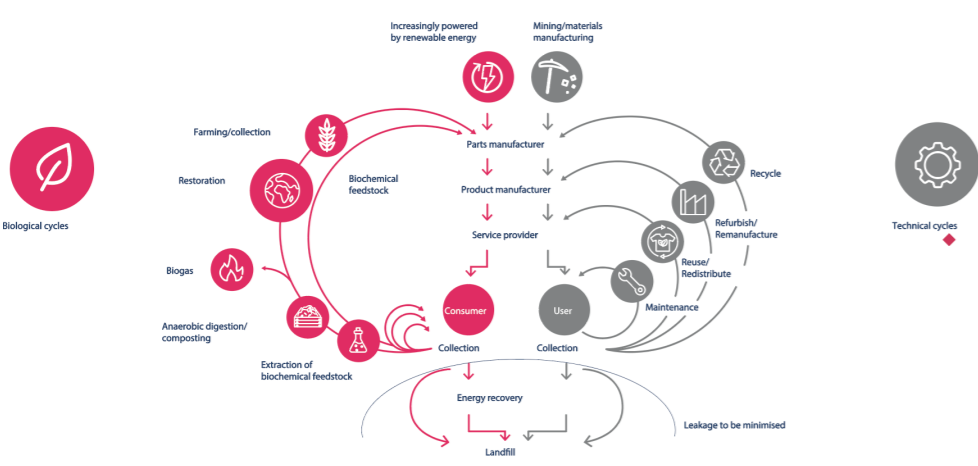
# ZWITSAL CIRCULARITY HUB - APELDOORN

## A LOCAL VENTURE FOR LOCALS GLOBALLY

### Global waste upcycling network

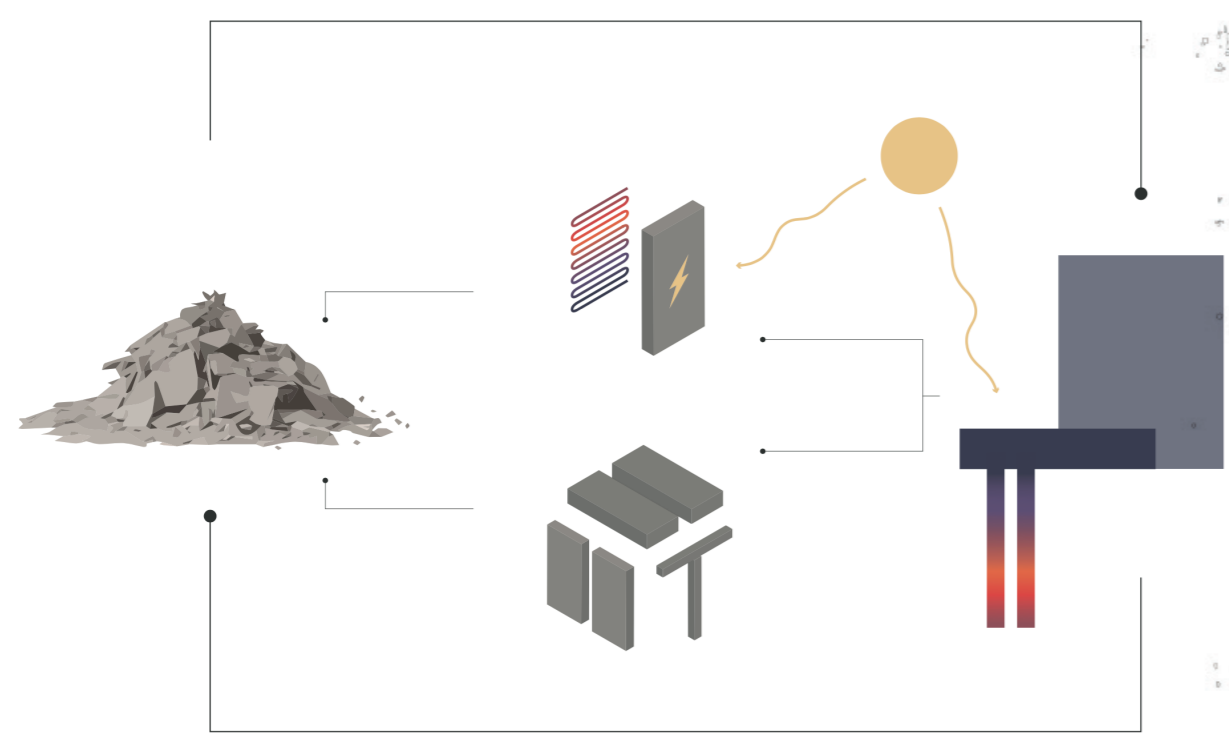
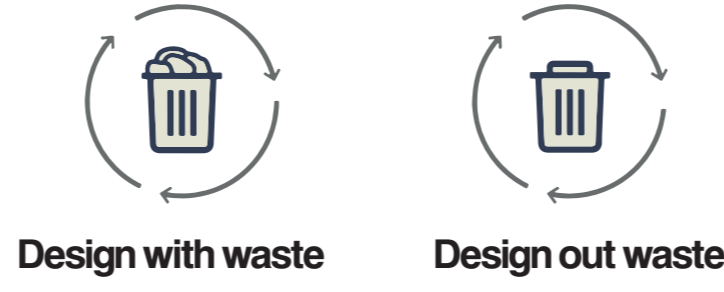
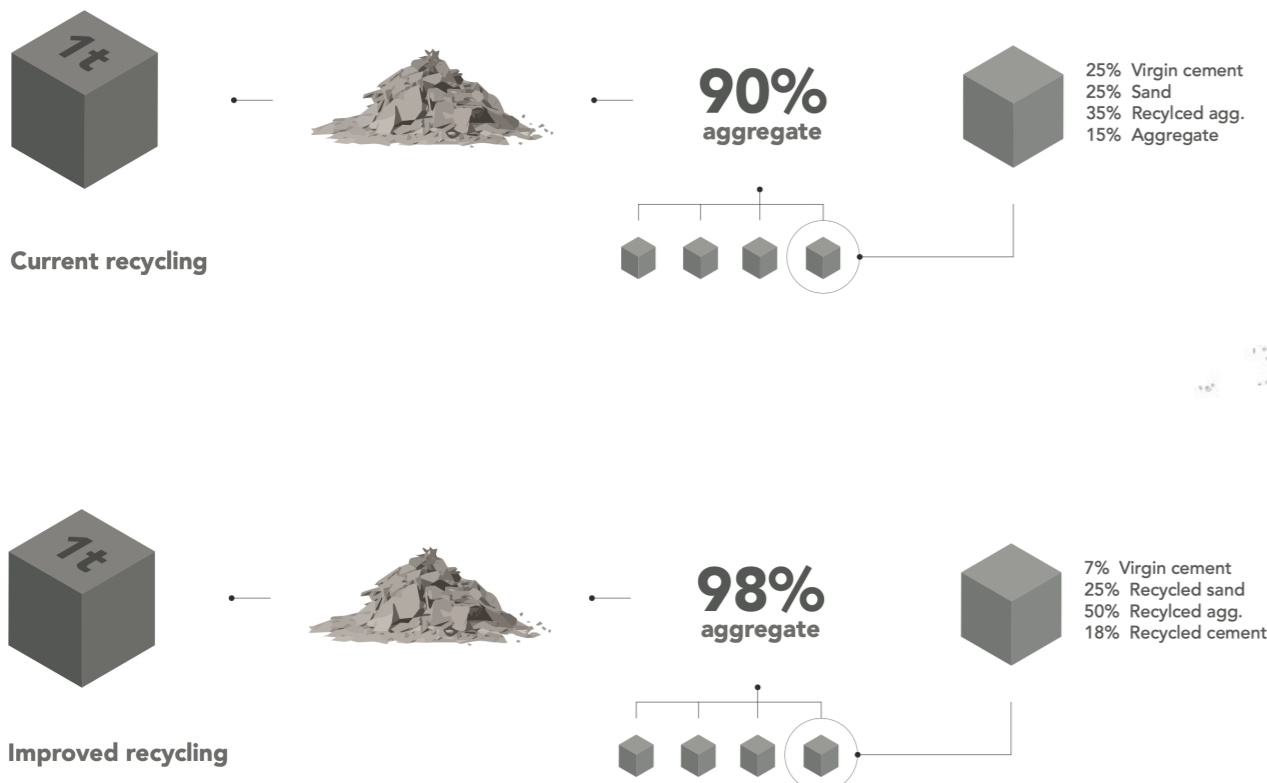


### Circular Economy



### Levels of circularity 10 R's

- Order of priority
- High
  - 1. Refuse prevent raw materials use
  - 2. Reduce decrease raw materials use
  - 3. Reuse redesign product to give of circularity
  - 4. Repair use product again (second hand)
  - 5. Reuse maintain and reuse product
  - 6. Refurbish reuse product
  - 7. Remanufacture make new product from second hand
  - 8. Re-purpose do use product but with other function
  - 9. Recover value material streams with highest possible value
  - Low
  - 10. Recover incinerate waste with energy recovery



### Recycled concrete volume in design

External walls	384 m3
Floor slabs	785 m3
Core	136 m3
Columns	10 m3
Ramp	100 m3
<b>Total</b>	<b>1415 m3</b>

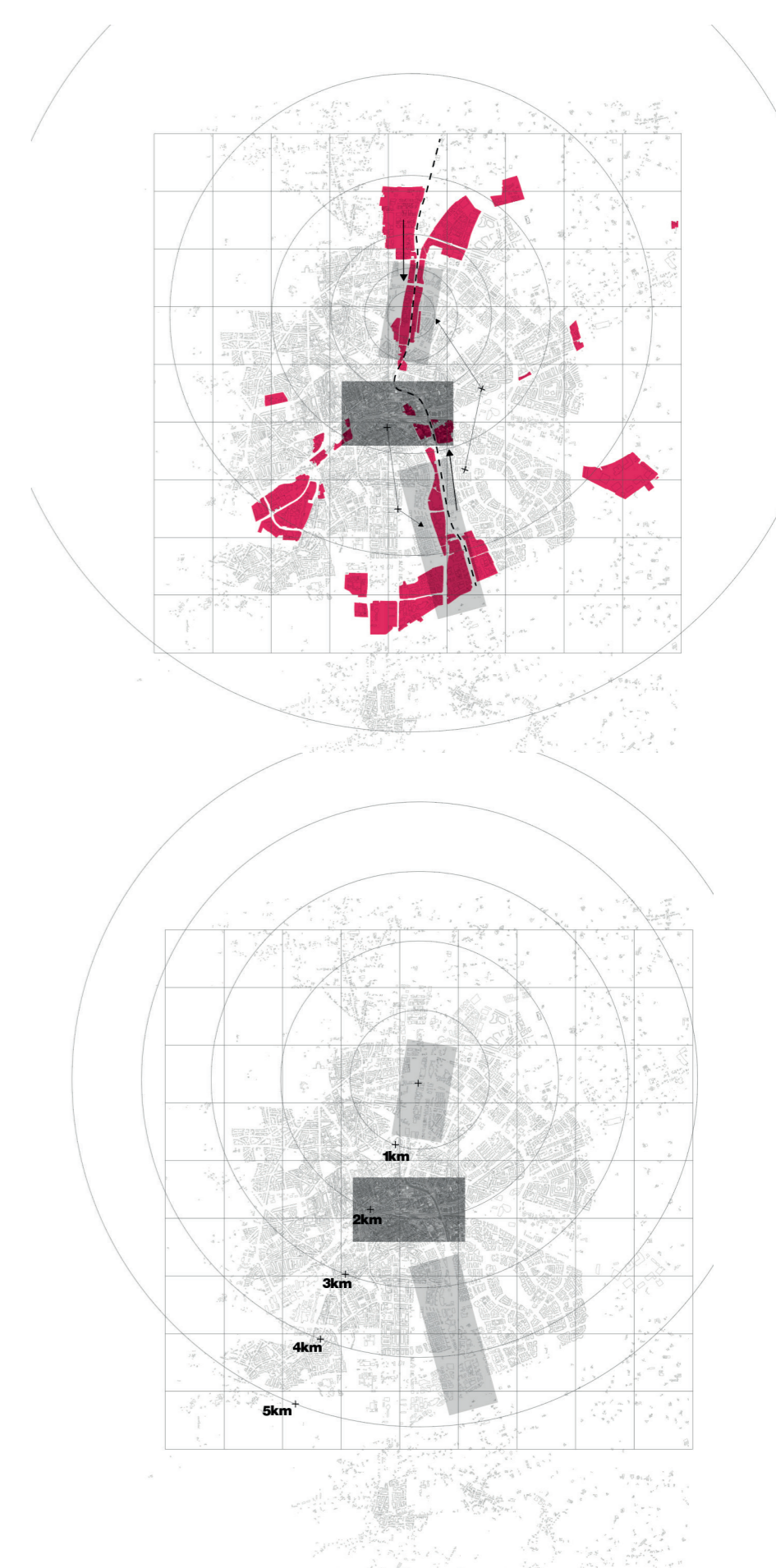
1415 m3 = 3400 t

### CO2 production for 3400t

Virgin concrete	3060 t CO2	- 25%
Current recycling	2295 t CO2	
Improved recycling	643 t CO2	

1t of virgin concrete = 900 kg of CO2

72% CO2 reduction compared to current recycling



2022

2028

2034

2040

