

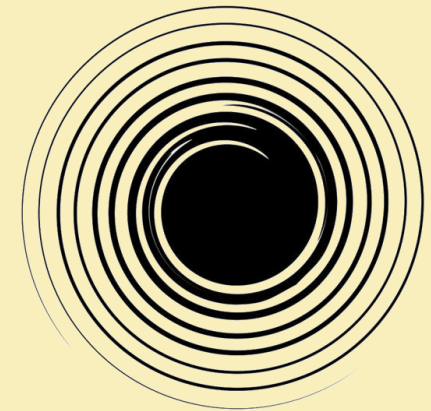
Circular City

A contribution of application-oriented building research
towards achieving Smart City goals



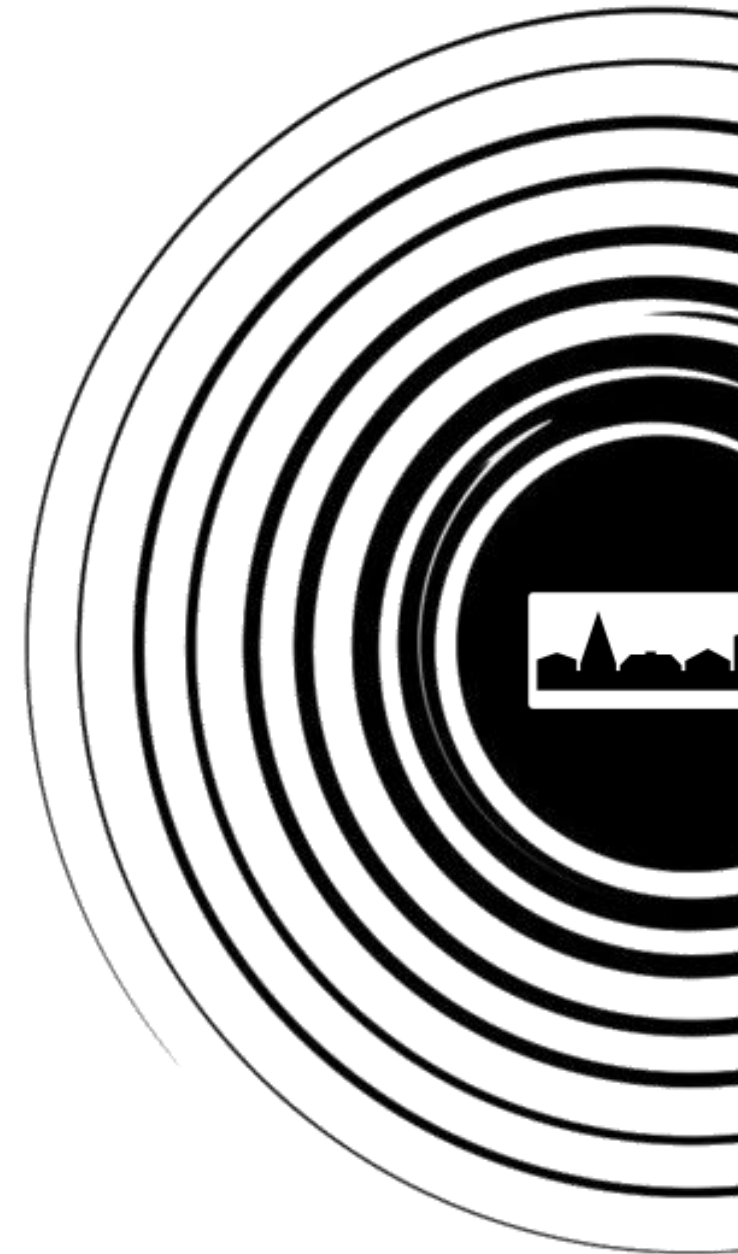
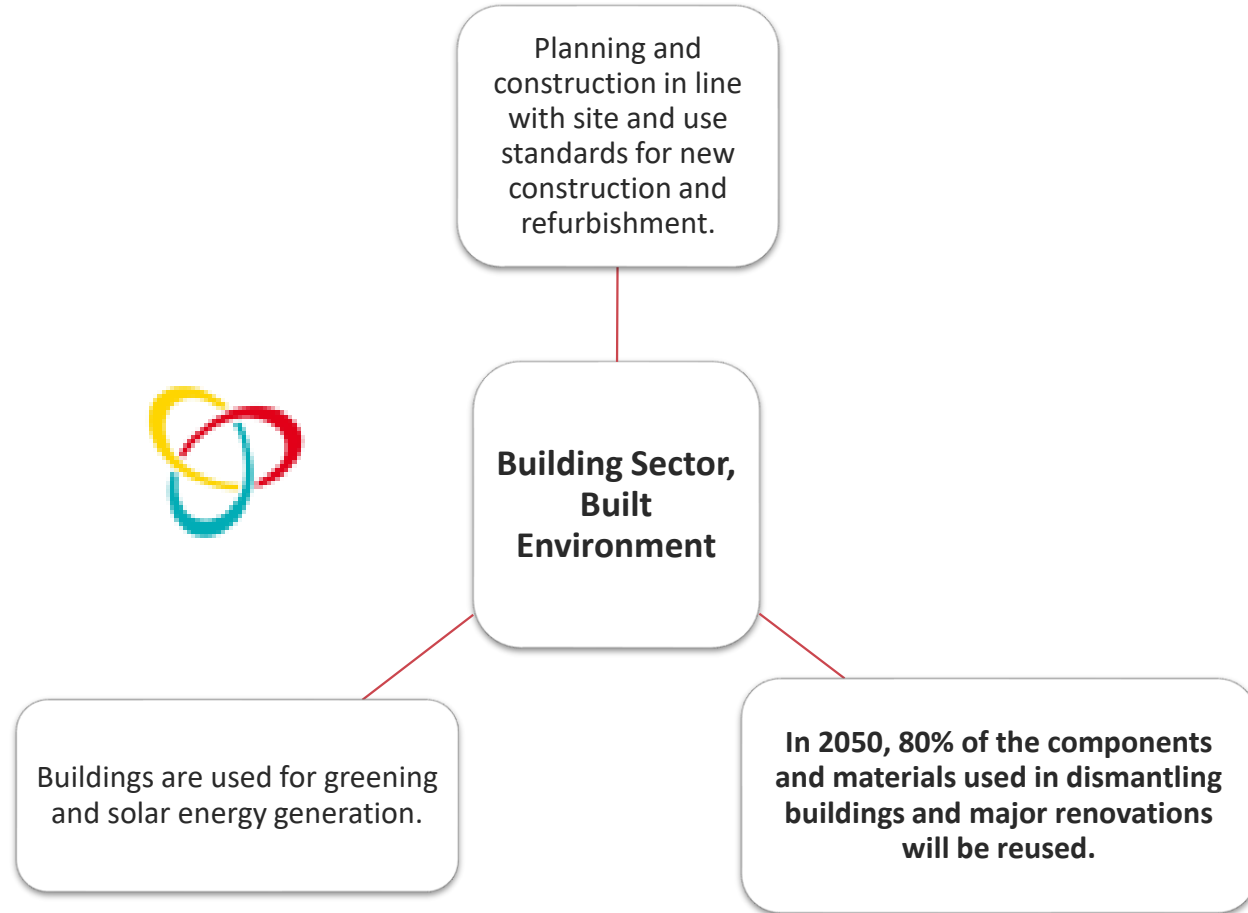
Agenda

- I. Strategic Framework
- II. Status Quo, Starting Point
- III. Vision, Realization towards a Circular City



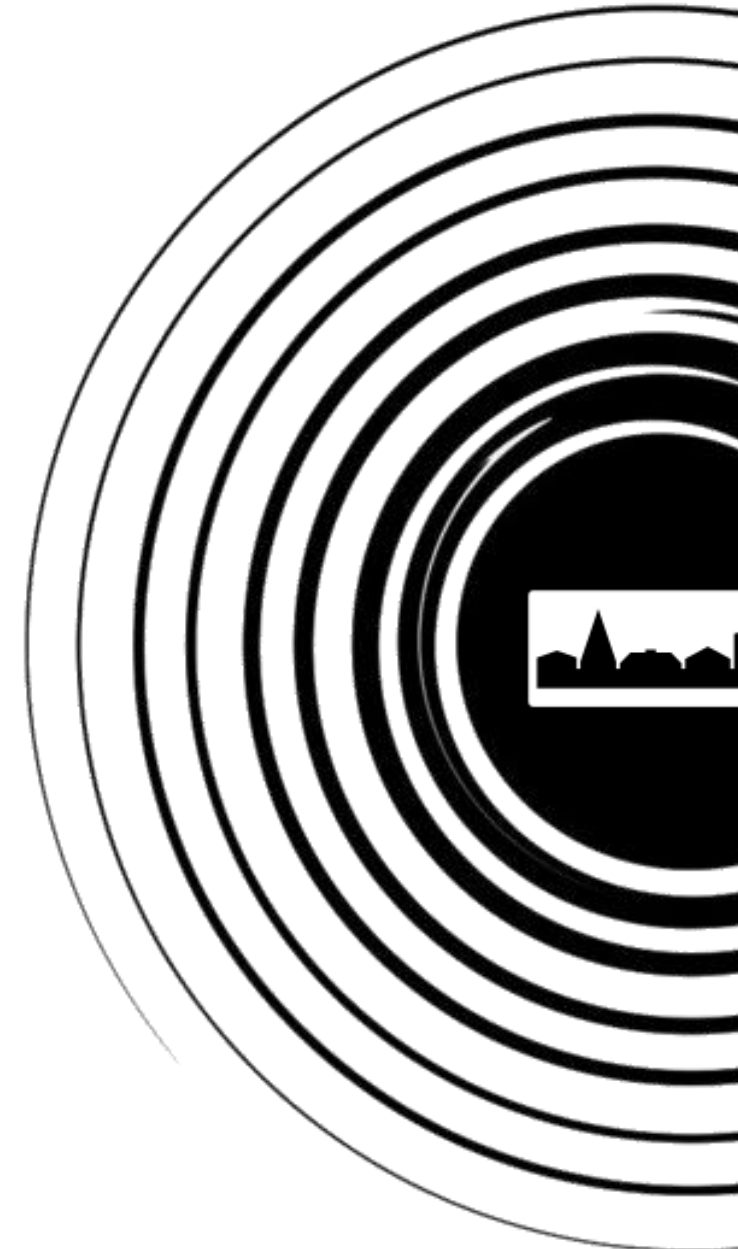
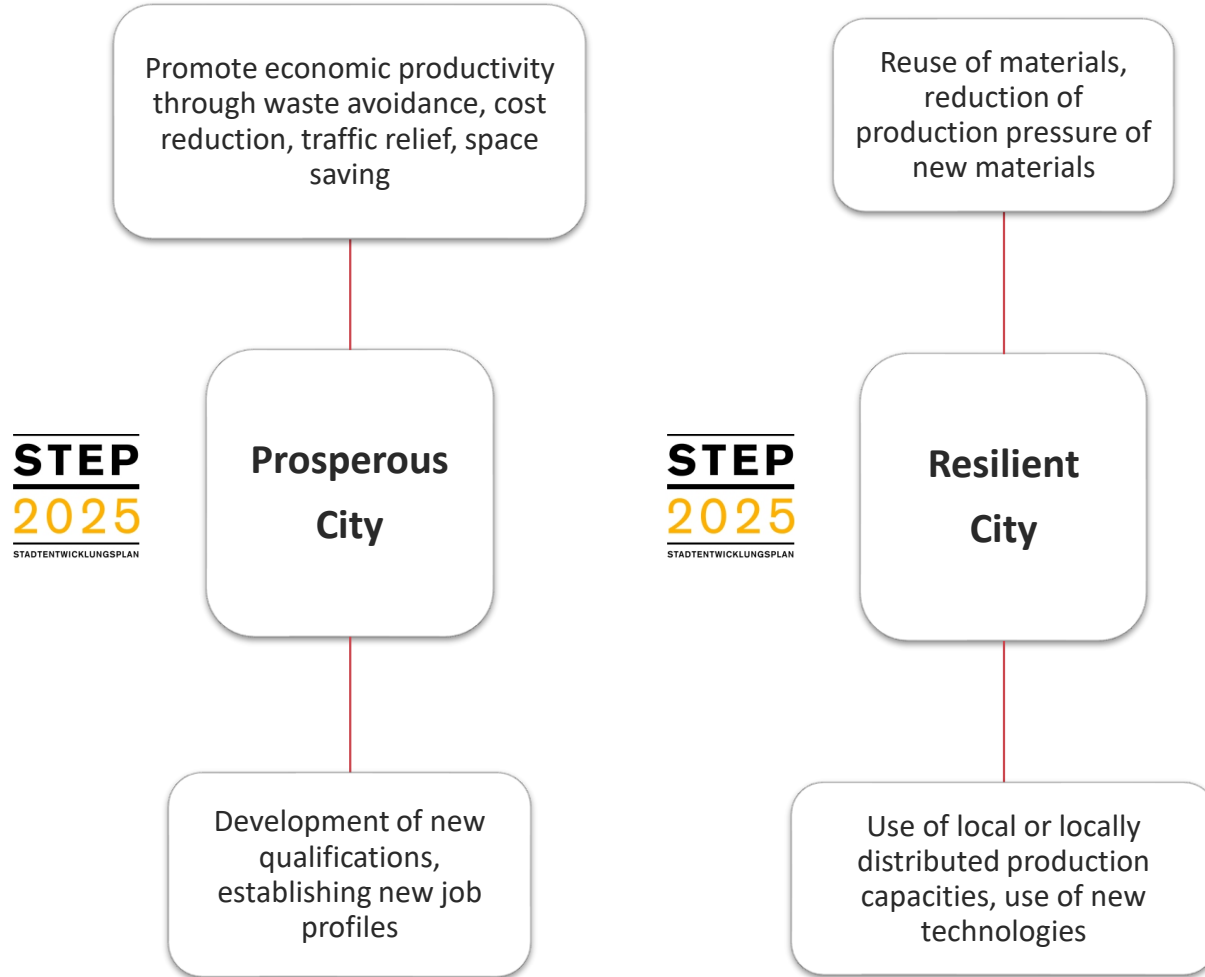
I. Strategic Framework

Addressed goals Smart City Vienna Framework Strategy



I. Strategic Framework

Addressed goals STEP 2025 (urban development plan 2025)



II. Status Quo, Starting Point

mass balancing across building sites

Viennese Model

Urban-Mining-Design

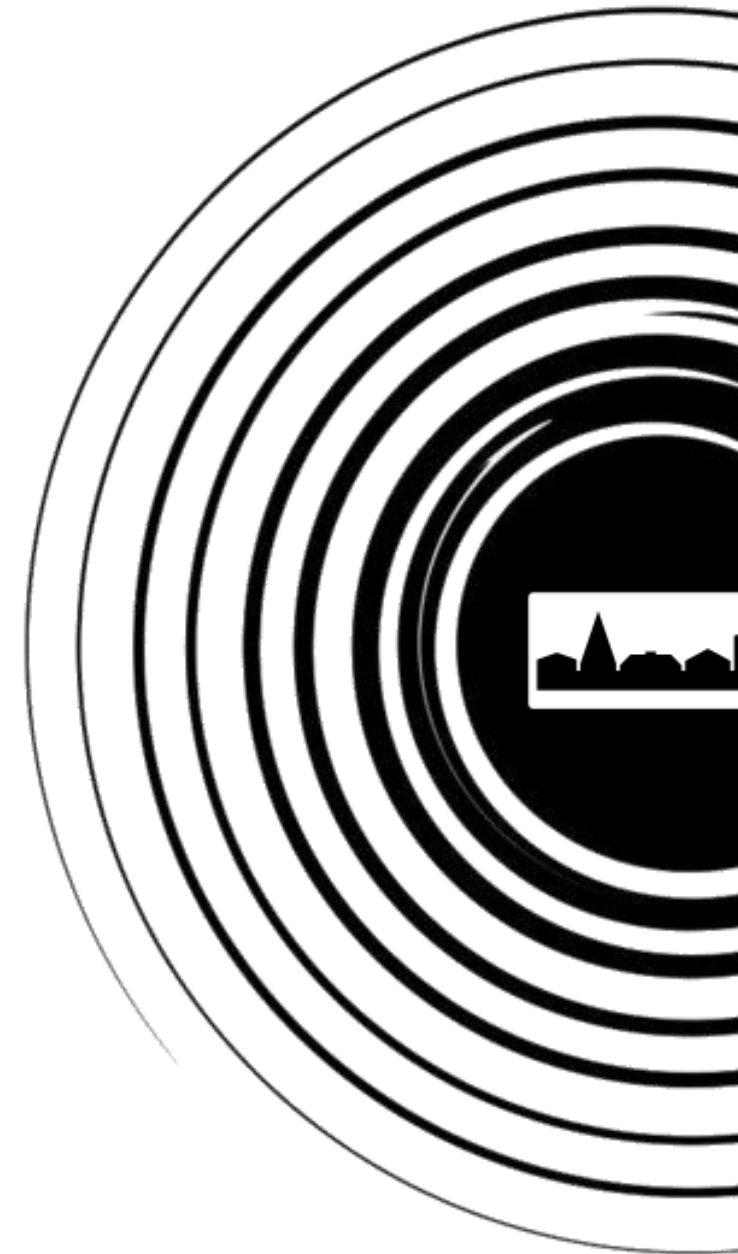
- construction site as anthropogenic deposit
- maximization of the recycling rate in the construction project
- large construction sites: Wiener Hauptbahnhof (Vienna Main Station), Seestadt Aspern

Genius Loci

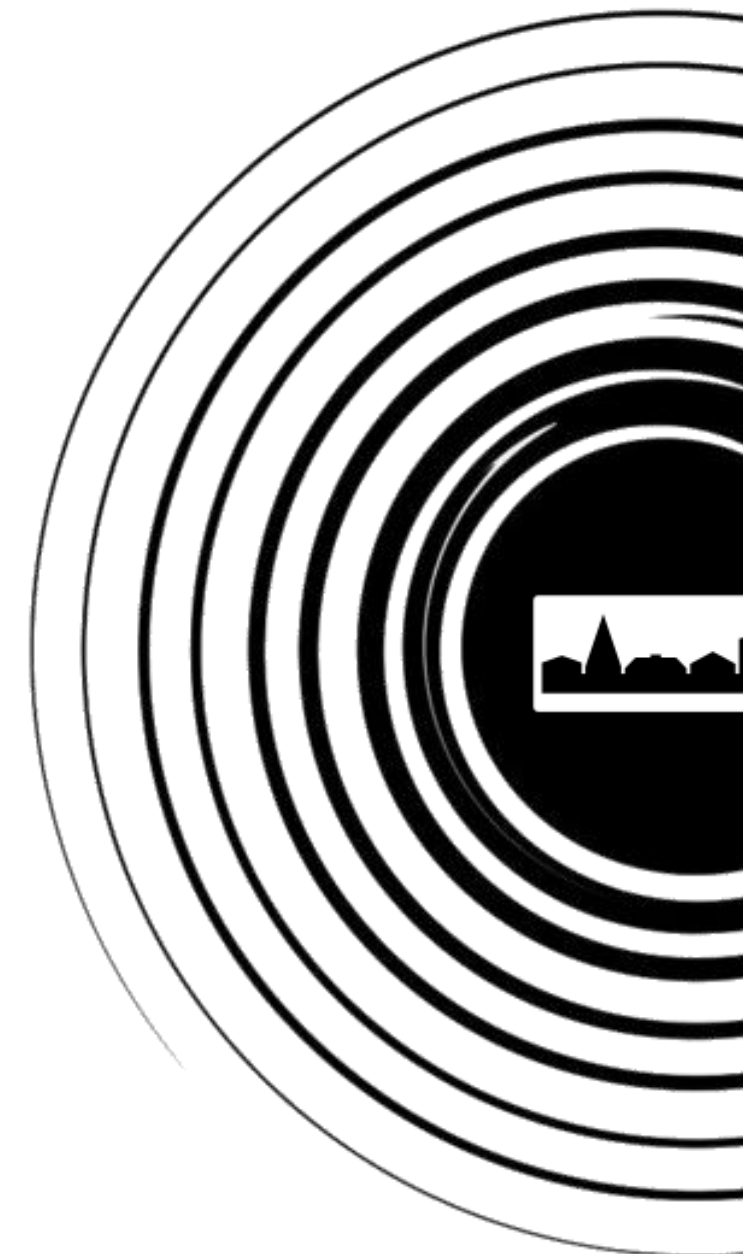
- systematic approach
- cost-effective constructing for affordable living/working spaces in a sustainable city
- quality assurance – saving resources, avoiding waste

Analysis

- “digital building twin” with BIM (Building Information Modelling)
- material analysis, exploration of harmful and noxious substances > deconstruction/dismantling concept provides a quantity structure



III. Vision, Realization towards a Circular City



III. Vision, Realization towards a Circular City

From mass balancing across building sites to circular construction materials

Buildings as Material Banks

3 Steps in a loop

2nd. Innovation

- **Supporting** clients/companies in the development/integration of **circular processes** (interdisciplinary construction process management)
- Establishing cooperations for value creation
- Provide training / further education
- Develop state-of-the-art funding frameworks

1st. Collaboration

- **Bundling the construction industry** - integral approach with regard to circulation-capable buildings / urban development projects
- **Identifying barriers and opportunities** to promote sustainable planning
- **Allocation of responsibilities** for wisely distributing skills and finding solutions
- **Integrating companies** to create opportunities for new business cases

3rd. Initiating / Scaling

- **Initiate and support pilot** projects; derive **necessary adjustments in the regulations** on this basis
- Combining integral/circulation-capable urban development and construction projects

III. Vision, Realization towards a Circular City

From mass balancing across building sites to circular construction materials

Buildings as Material Banks

Big Buyers Initiative

Working group

Circular construction materials

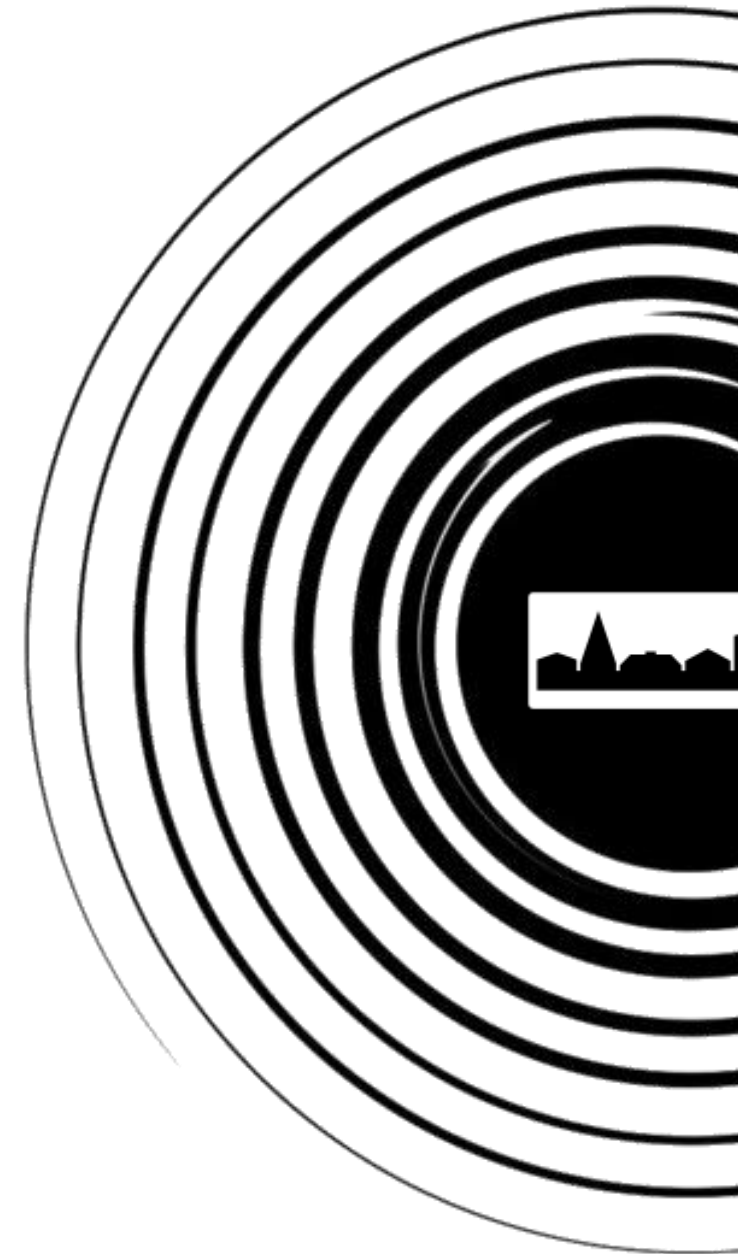
- Lead: Vienna
- Smart cities need smarter procurement

ICLEI – Local Governments for Sustainability

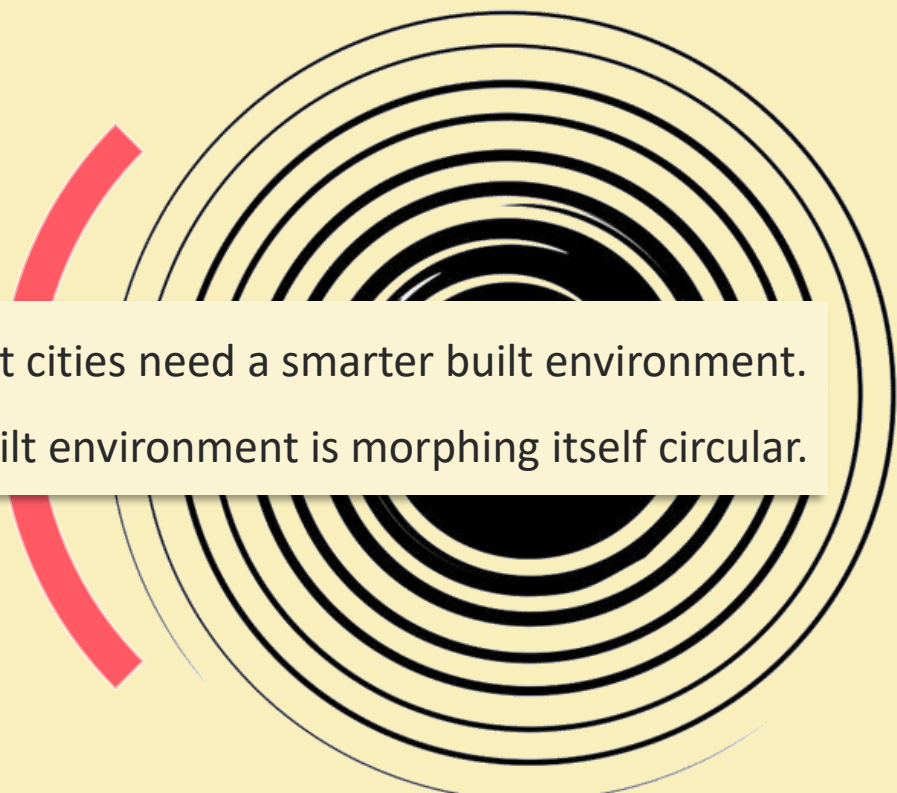
- global network of local and regional governments
- committed to sustainable urban development
- influence sustainability policy
- drive local actions for low emission, equitable, resilient and circular development
- systemic change for urban sustainability

Key Challenges

- How are public institutions leveraging on public procurement to support a Circular City?
- How can infrastructure effectively support inclusive growth, productivity and well-being?
- How to align human capacities, strategies and procurement outcomes in a changing world?



Conclusio

A decorative graphic on the right side of the slide. It features a series of concentric black circles of varying thicknesses, creating a ripple effect. A thick red arc is positioned to the left of the circles, partially overlapping them. A white rectangular box with a thin black border is centered over the circles, containing the main text of the slide.

Smart cities need a smarter built environment.
A smarter built environment is morphing itself circular.