

Rethinking regional material flows - from databases to construction sites //

[A narrative that illustrates the idea of a circular urban landscape]

context_

society is built on a linear consumption model > system exploits our planet's finite resources and puts pressure on our cities

Building sector plays major role > **Need for changing** the way we build and shape our environment

Eurodelta region: dynamic, densely populated and closely interconnected area - cross-border cooperation, economic power, well-developed transportation infrastructure

the idea_

characteristics of living systems: adaptability, self-renewal, and interdependence

resilient organism is not static, it **evolves and learns**, responding to external changes and solving intern imbalances

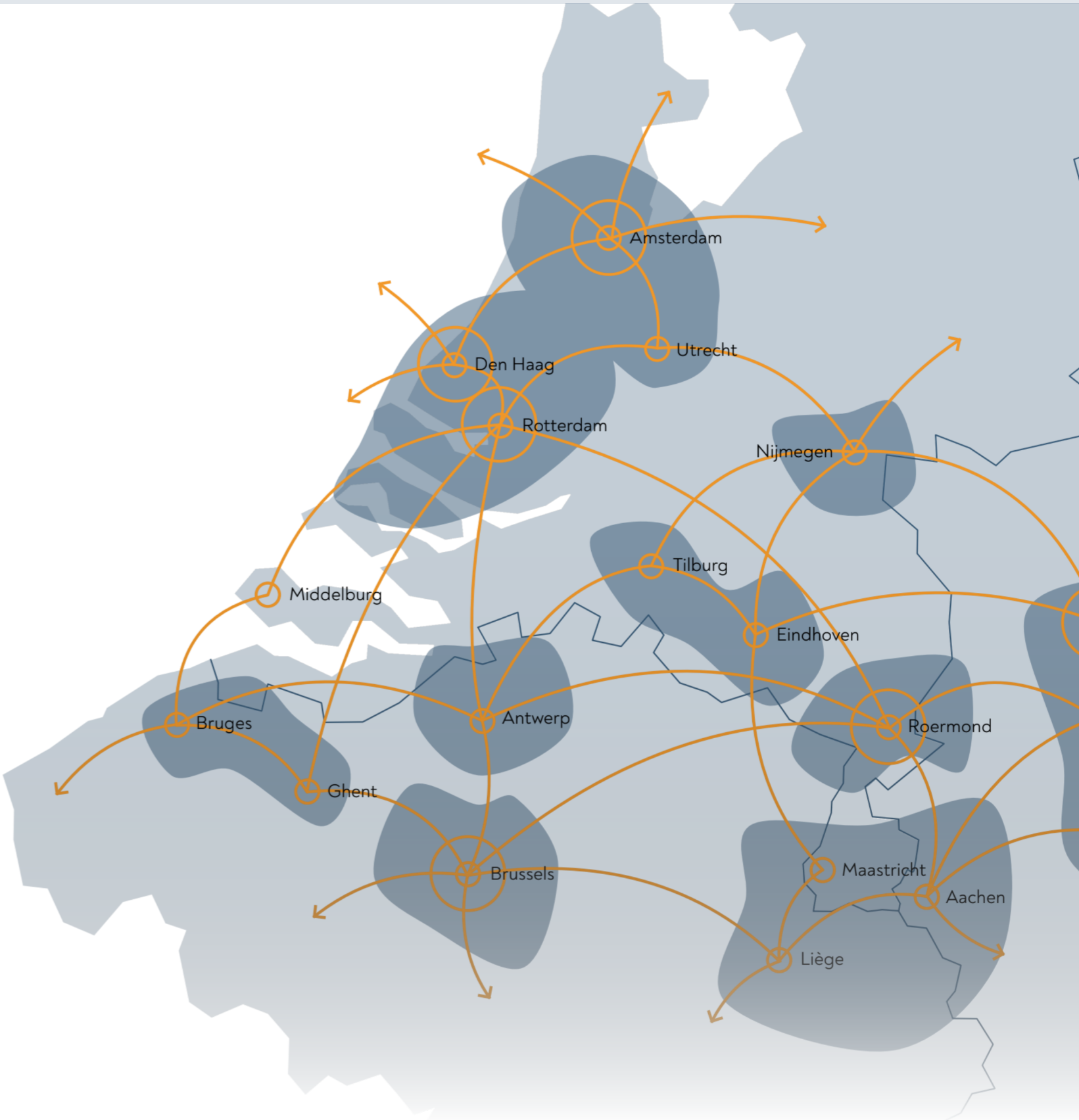
= an urban network has to embody these qualities: It must adapt to shifting environmental, economic, and social conditions while ensuring its structures and functions remain sustainable over time

central to this idea is the understanding that systems must evolve

organisms grow = cities must adapt their infrastructures and policies to meet future challenges and requirements

urban resilience depends on this **idea of adaptability**: welcoming innovations, trying out new ideas and reorganising networks as demands can shift

system requires constant care and maintenance! Enable long-term health and vitality of urban organism by ensuring an ongoing commitment to renewal and care



Transportation of data and products across the Eurodelta region

WHAT IF ...

... we would treat urban development like the **metabolism** of an ecosystem?

> functions autonomously, self-sufficient

> characterised by adaptability and self-renewal

> organic model emphasizes interconnectedness, resource efficiency, and circularity: Principles that can redefine the way cities and regions collaborate and grow with one another

Aim: create a more resilient and **resource-conscious** way of living and building



strategies_

Need for clear strategies, innovative tools and a society that wants to change the way we build, plan and design our daily routines

Creation of a **TOOLBOX** :

... HOW ?

> Dimensions of the TOOLBOX:

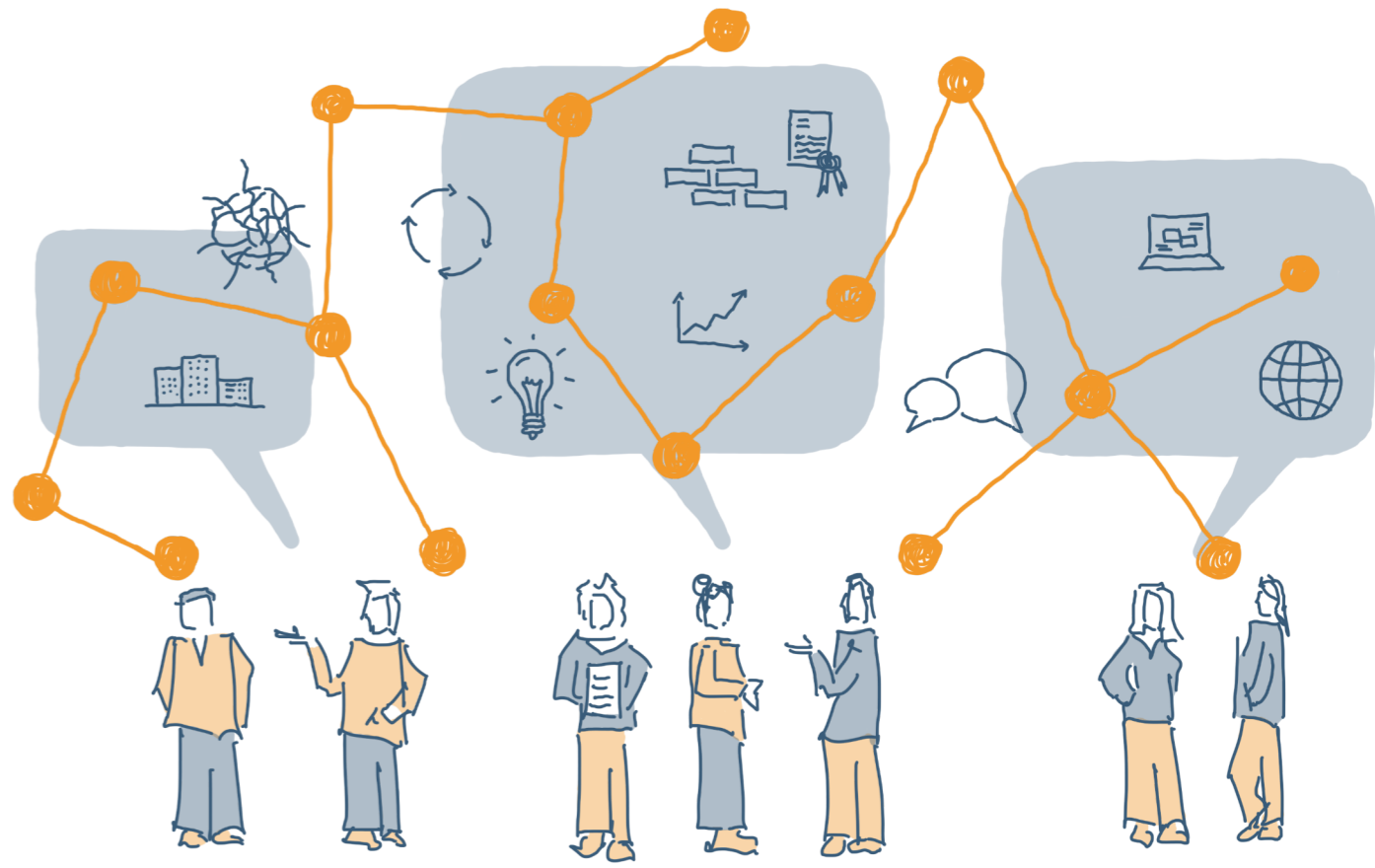
[material]

[digitalisation]

[logistics]

[planning]

> What needs to be done on these levels?
How can we implement change?



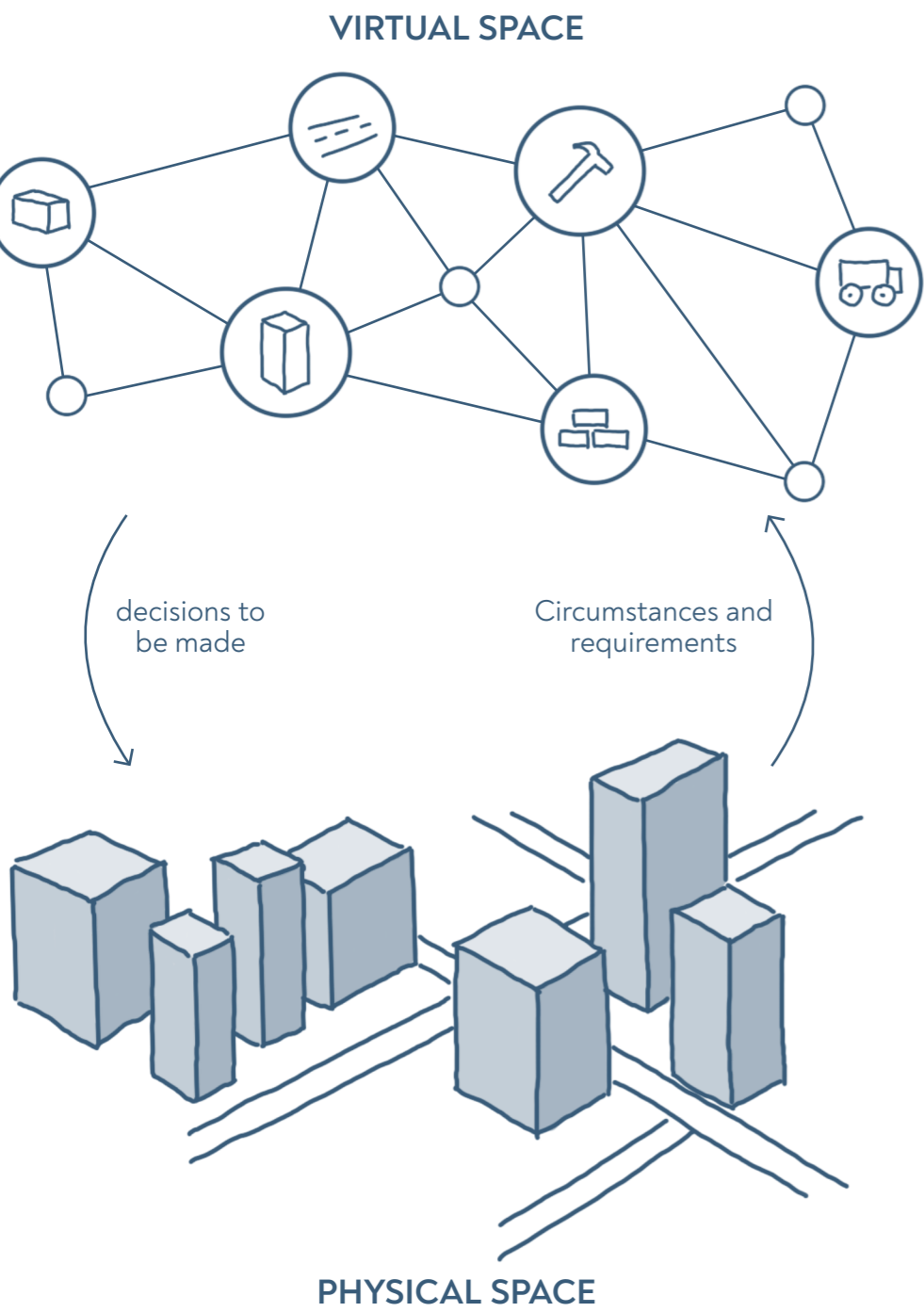
[material]

Implementation of automated **sorting plants**: separate and sort construction waste > give building materials a second life

Local scale: **construction hubs** > collect and redistribute products and tools within neighbourhood

Regional scale: sorting plants for the entire region > focal point between cities

They require space for sorting and storage - possible location in industrial brownfield areas



[planning]

Engaging Stakeholders Through Collaboration:

Stakeholders with a key role in the development of an interdisciplinary network: urban planners, policymakers, architects and community leaders

Achieve progress through: Exchange of knowledge and practices on a regular basis e.g. conferences, workshops and **collaborative platforms** > can serve as spaces for such exchange, encouraging innovation, new ideas and mutual learning

Bringing different perspectives together; interactions create opportunities to share successful models, identify challenges for future planning and obstacles and develop solutions to specific needs in the urban building sector

[digitalisation]

Implementation of **data pools**: function as material database - new possibilities in planning

online catalogue : centralized platform, documenting the availability and condition of building components

Giving all planners access to this catalogue enables the **real-time integration** in the design of a BIM process > reducing dependence on natural resources

[logistics]

Optimizing the distribution of materials over the shortest possible distance - reducing CO2 emissions

Cooperation between logistics companies, policy makers and construction companies

Digital platforms can **match supply and demand** in real-time and distribute resources to where they are needed

Digital tools can learn and adapt - analogy organism - track resource consumption and predict future demands

>> Centralized logistics zones are the physical manifestation of a material database <<