Circular Economy
for the Data Centre Industry

Interreg
North-West Europe
CEDaCI

Curving the Line – Circularity in the Data Centre Industry

Dr Beth Whitehead
Associate Sustainability Engineer, Operational Intelligence
Dr Deborah Andrews
Associate Professor of Design, London South Bank University

Katrin Bienge Wuppertal Institute for Climate, Environment & Energy, **Julie Chenadec** GreenIT Amsterdam,
Naeem Adibi WeLOOP, **Kristina Kerwin** CEDaCI/LSBU

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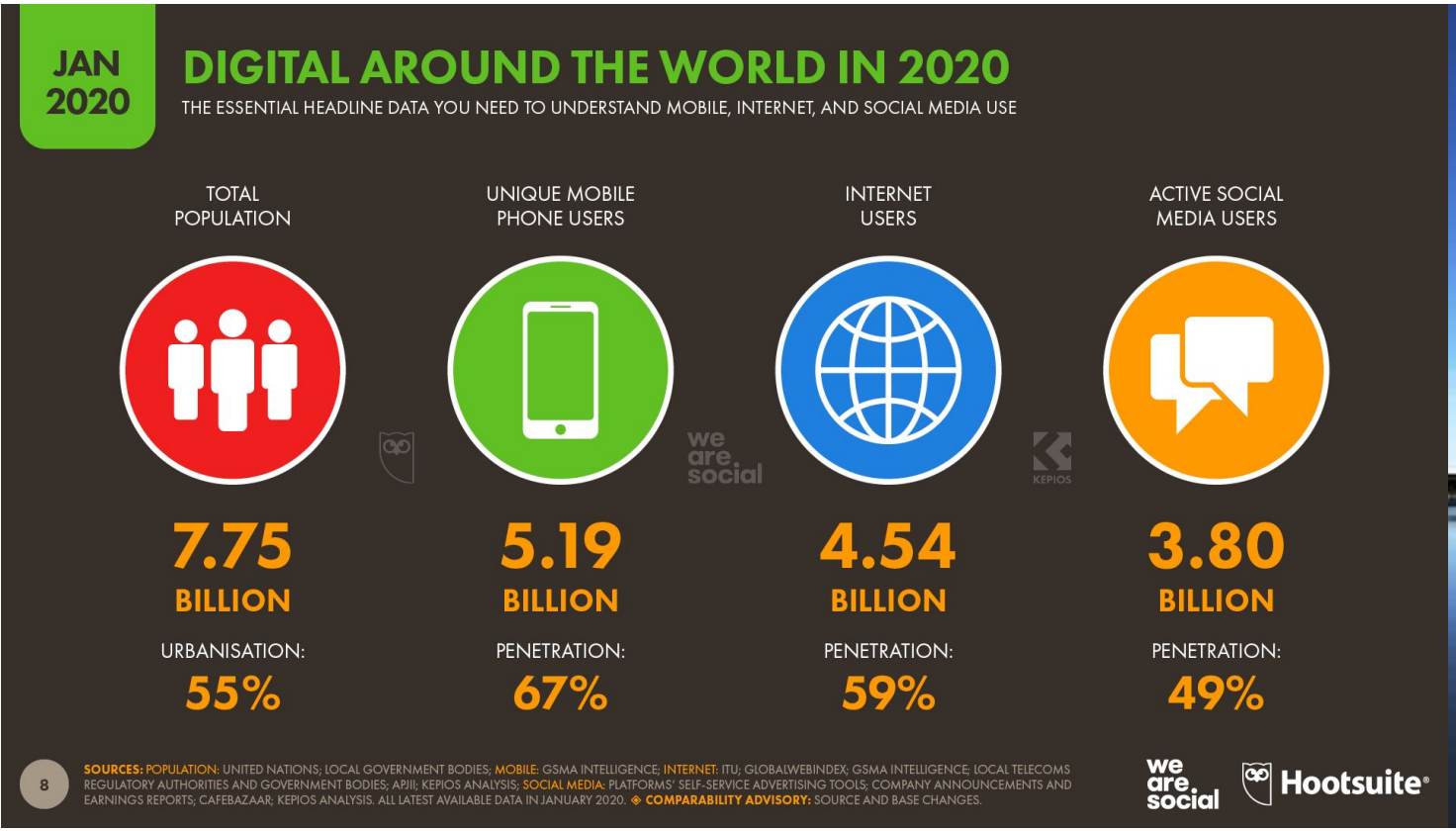
operational® Intelligence

London South Bank University

Connectivity and the Data Centre



IEEE

What is the **Fourth Industrial Revolution?**

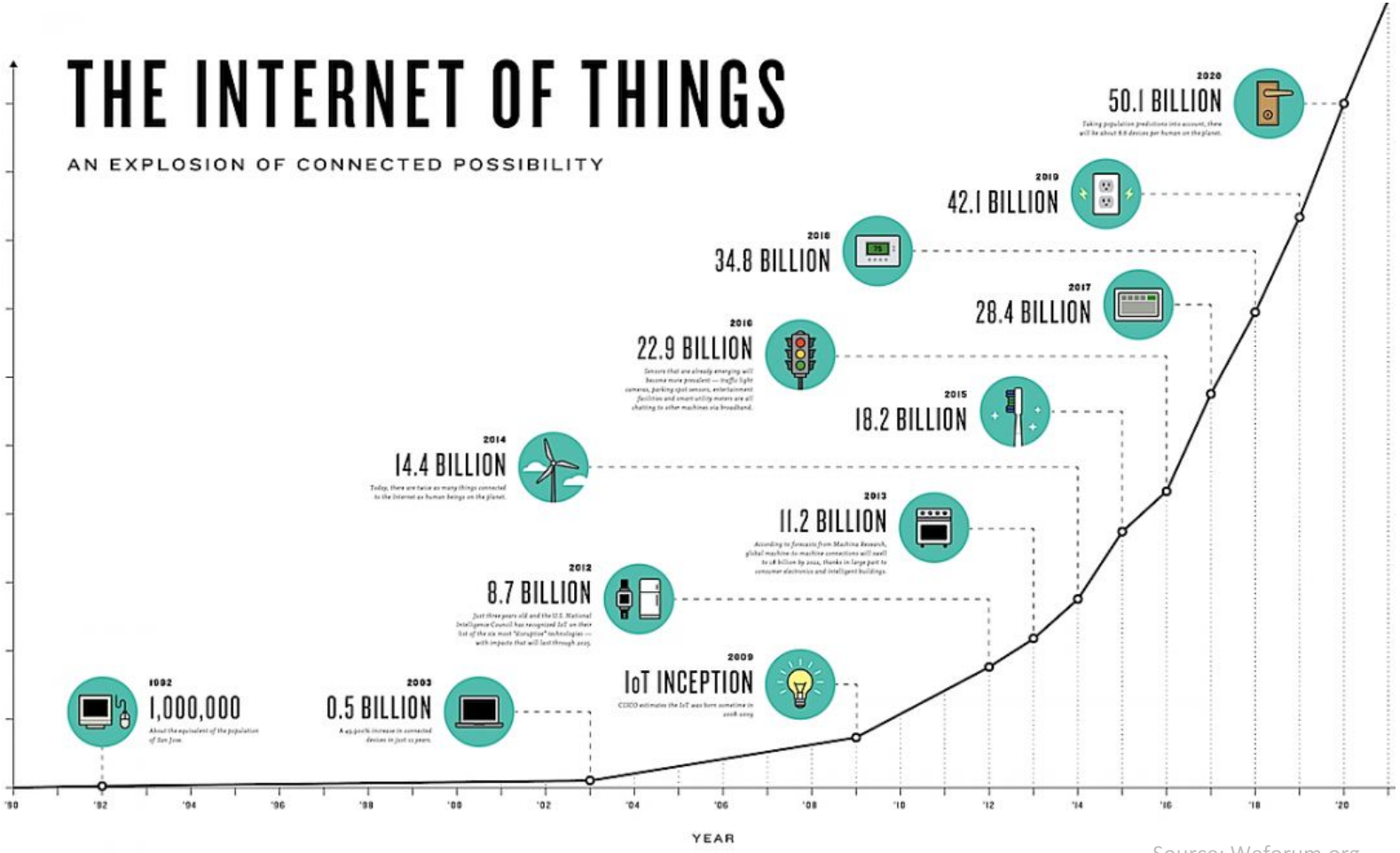
Industry 1.0
Steam

Industry 2.0
Electricity

Industry 3.0
Computing

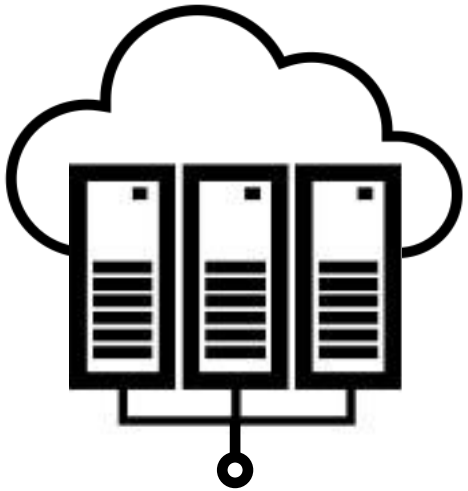
Industry 4.0
Cyber-Physical Systems

DC growth – 300% in EU by 2025 / 500% global 2030



Source: Weforum.org

Reliance and Energy Consumption

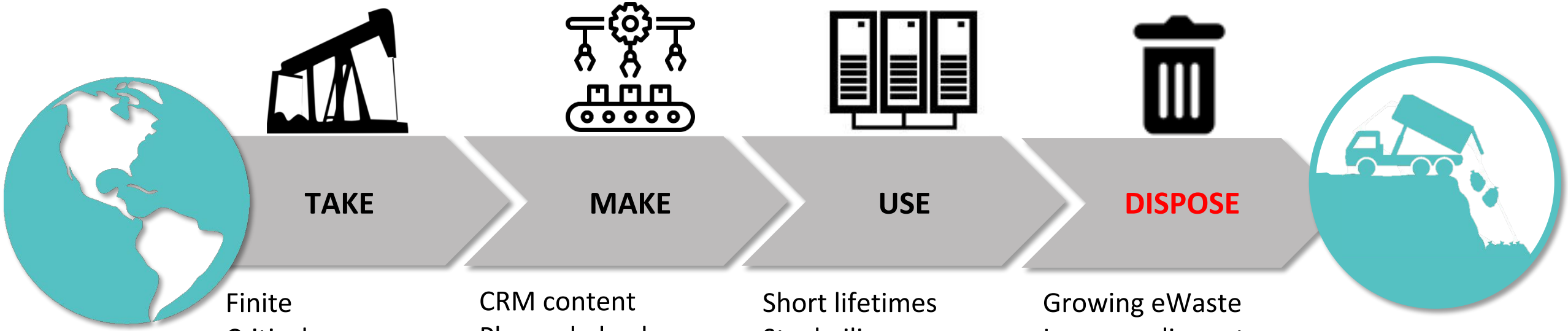


Virtualisation

Cloud

Power demand

Linear Model of Consumption



TAKE	MAKE	USE	DISPOSE
Finite Critical (Nd, Co, Si) CRM 0.2% by mass	CRM content Planned obsolescence Reuse/refurbishment hard by design	Short lifetimes Stockpiling Procurement barriers	Growing eWaste Low recycling rates Underdeveloped infrastructure

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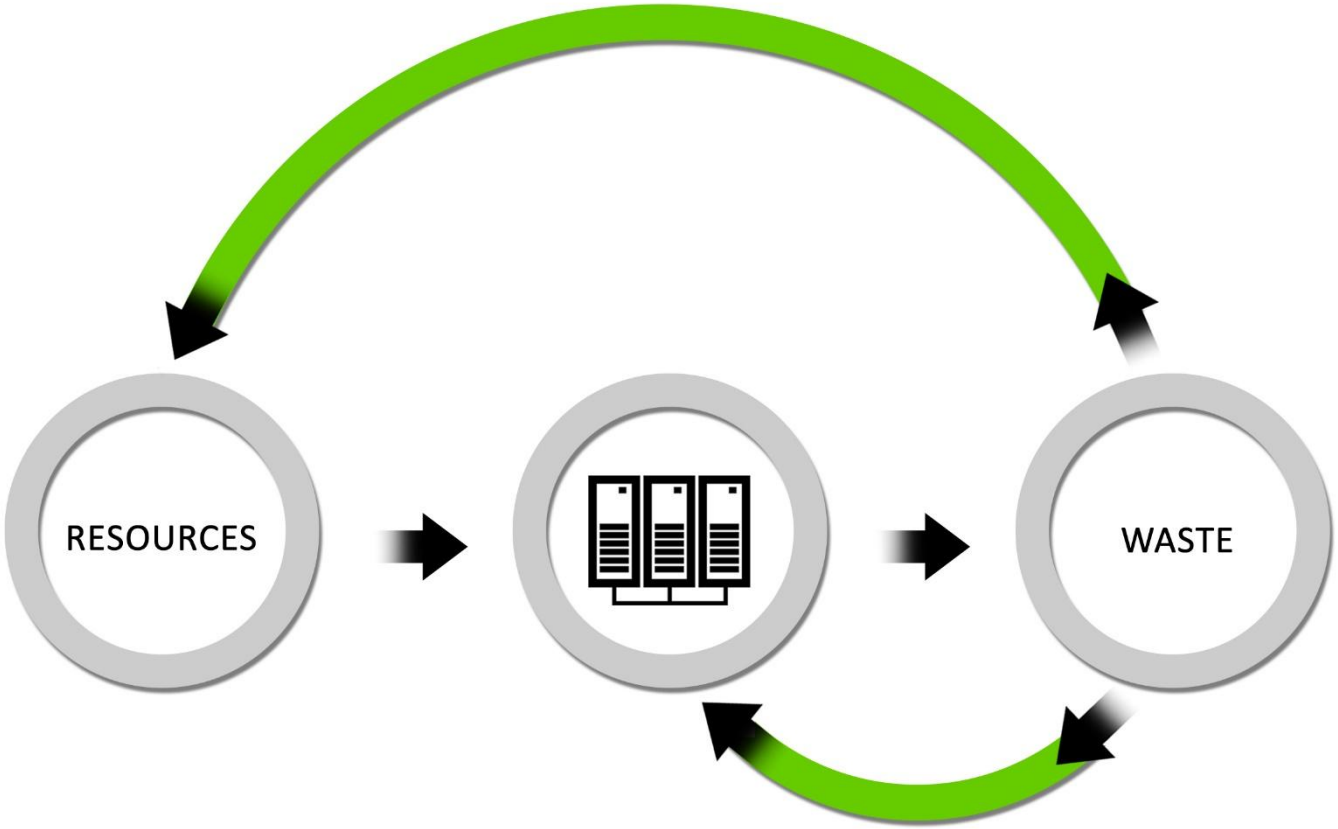
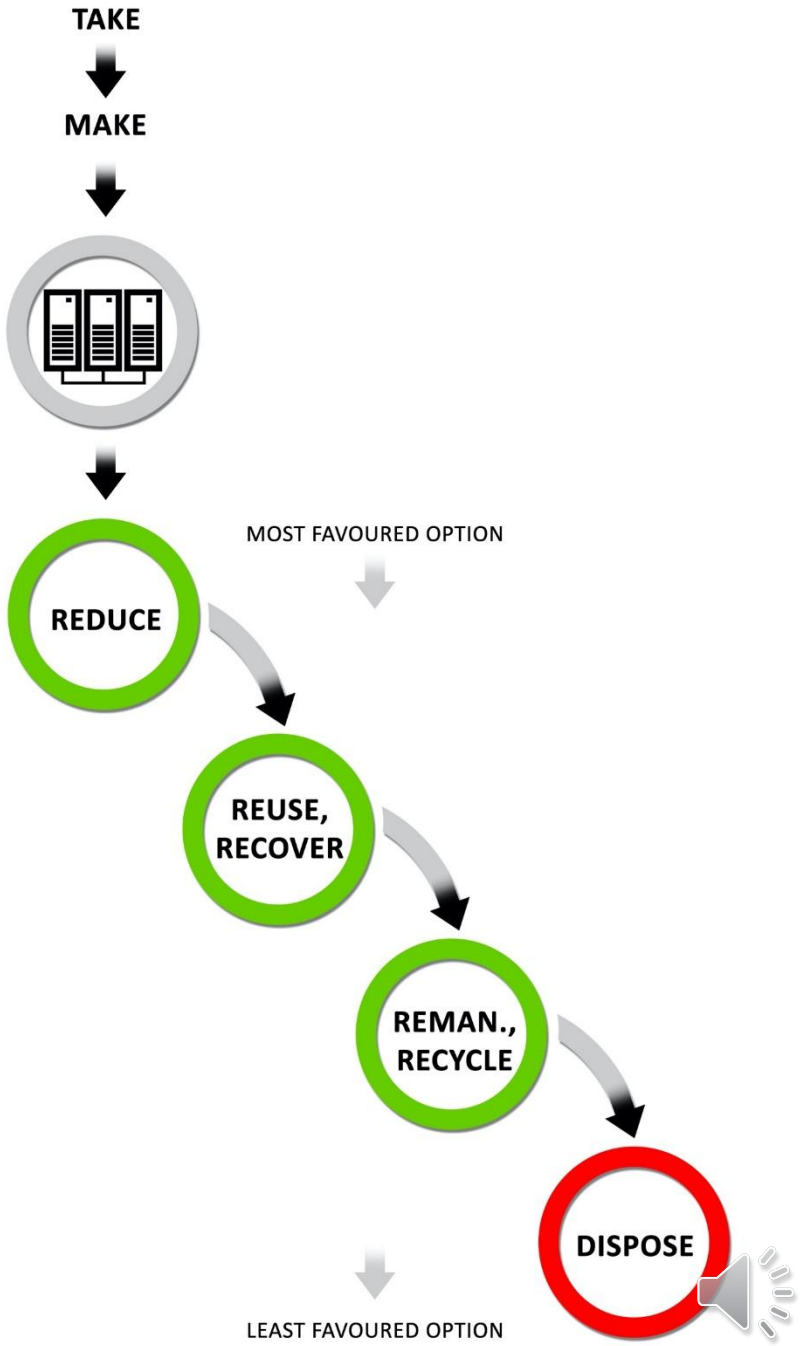
Curving the Line



TAKE ➡ MAKE ⟷ USE ⟷ RETAIN



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A Circular Economy Post-COVID 19

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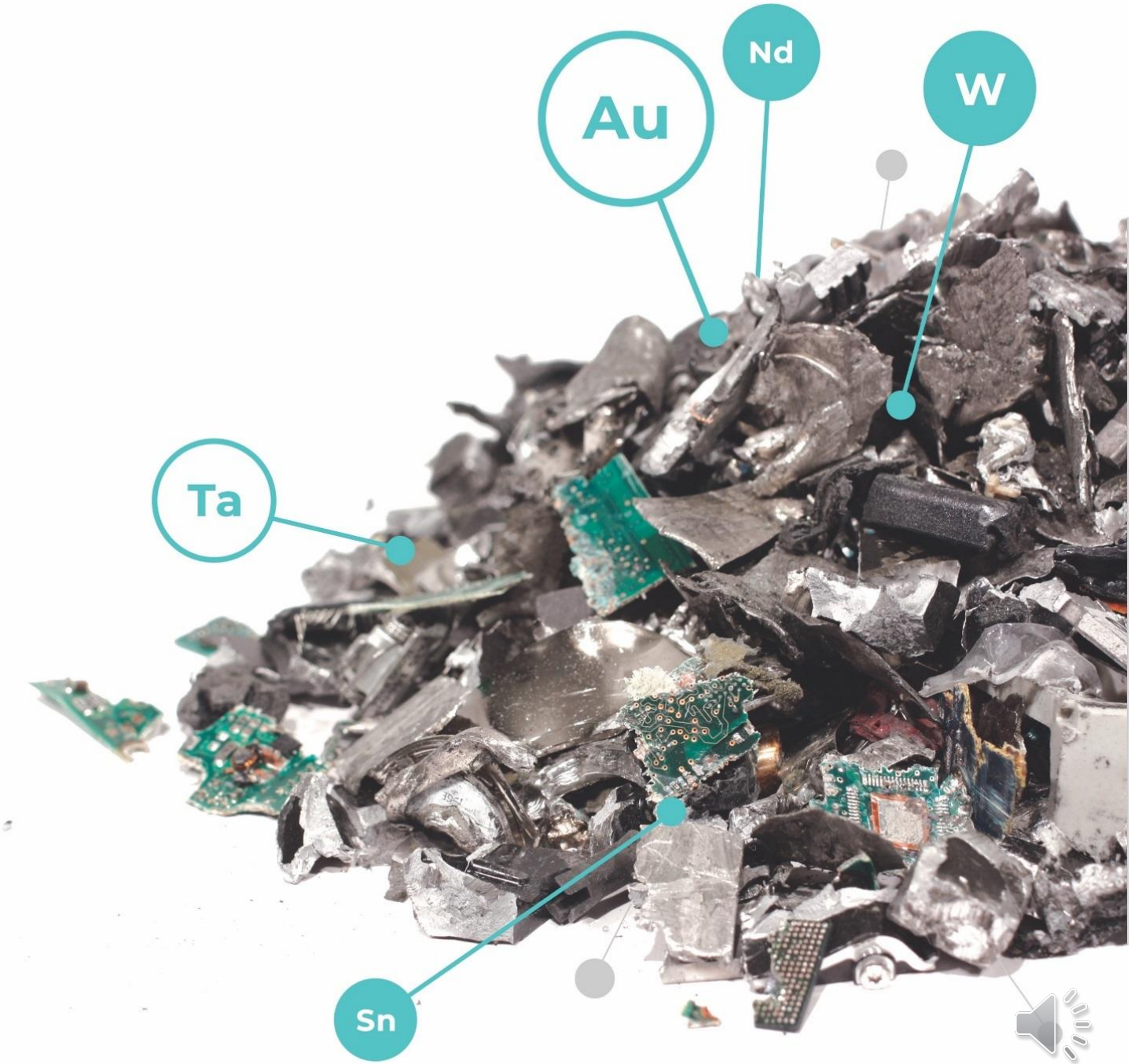

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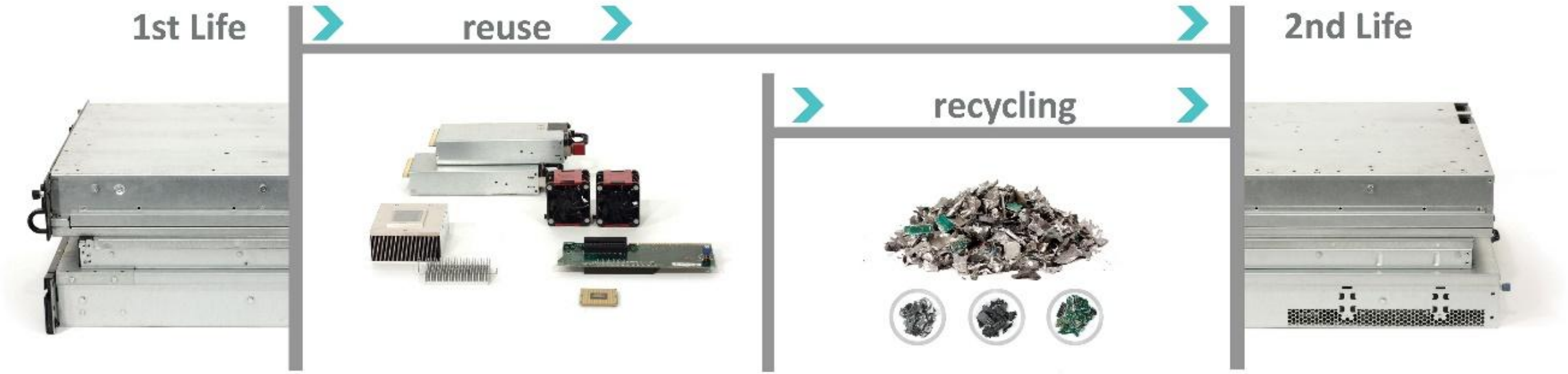
1st Life
reuse
recycling
2nd Life

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Vision

CEDaCI is a unique, interdisciplinary, ground-breaking, multi-output initiative that uses whole-life thinking and brings together representatives from all DCI sub-sectors to share knowledge and accelerate development of a sectoral Circular Economy. **It will reduce waste and prevent supply chain problems to secure uninterrupted DC operation and service in the future.**

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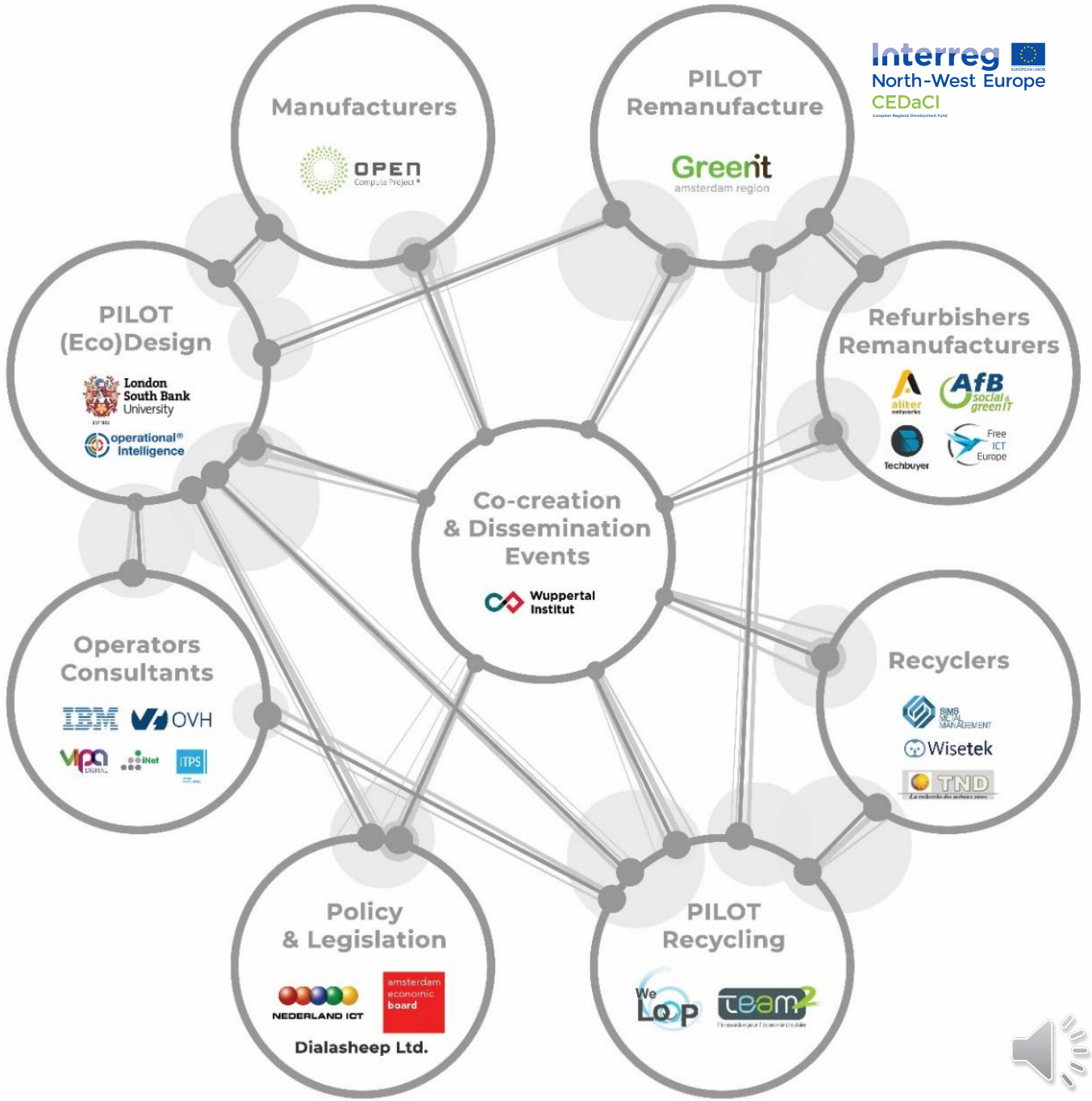

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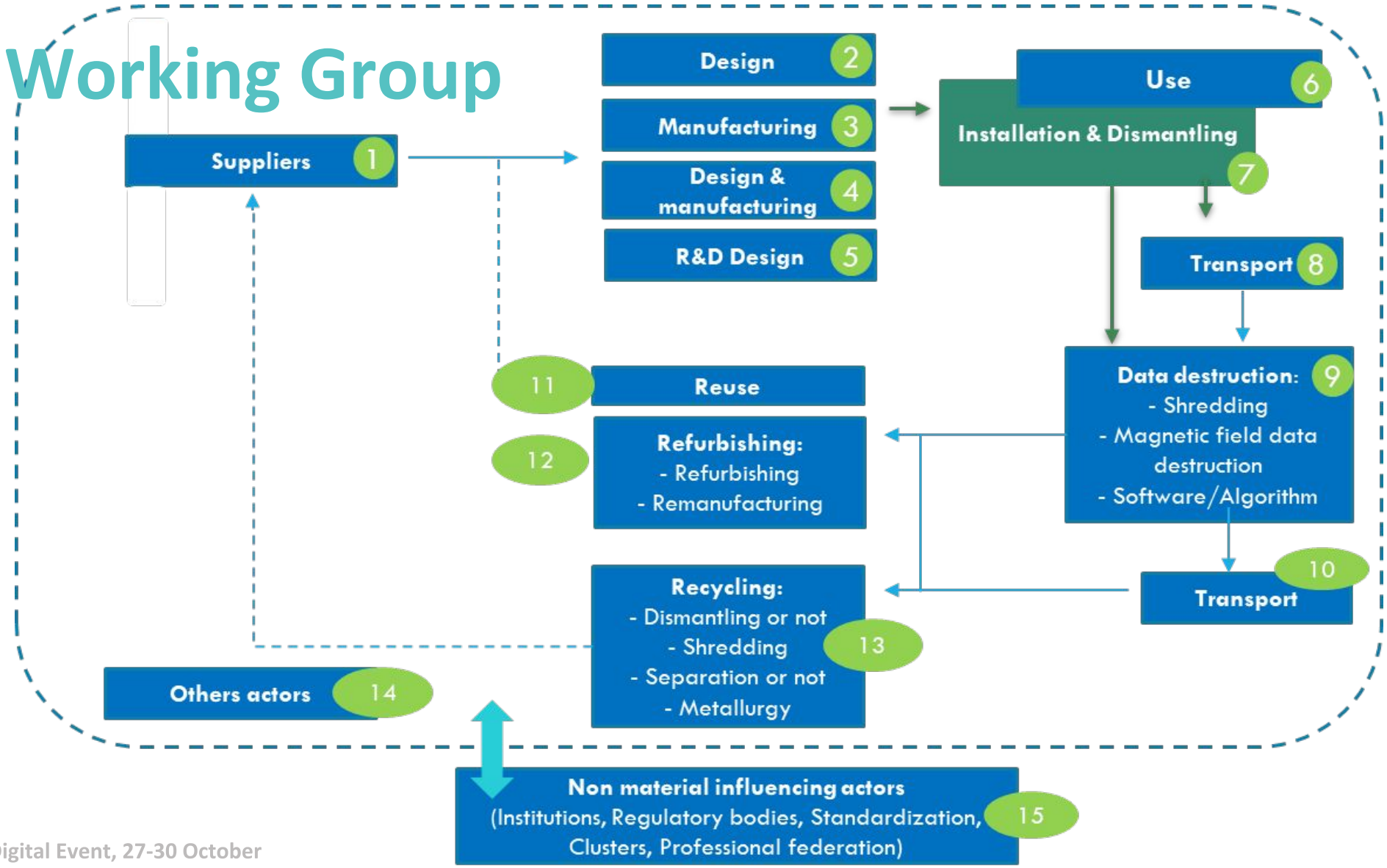
CEDaCI Working Group



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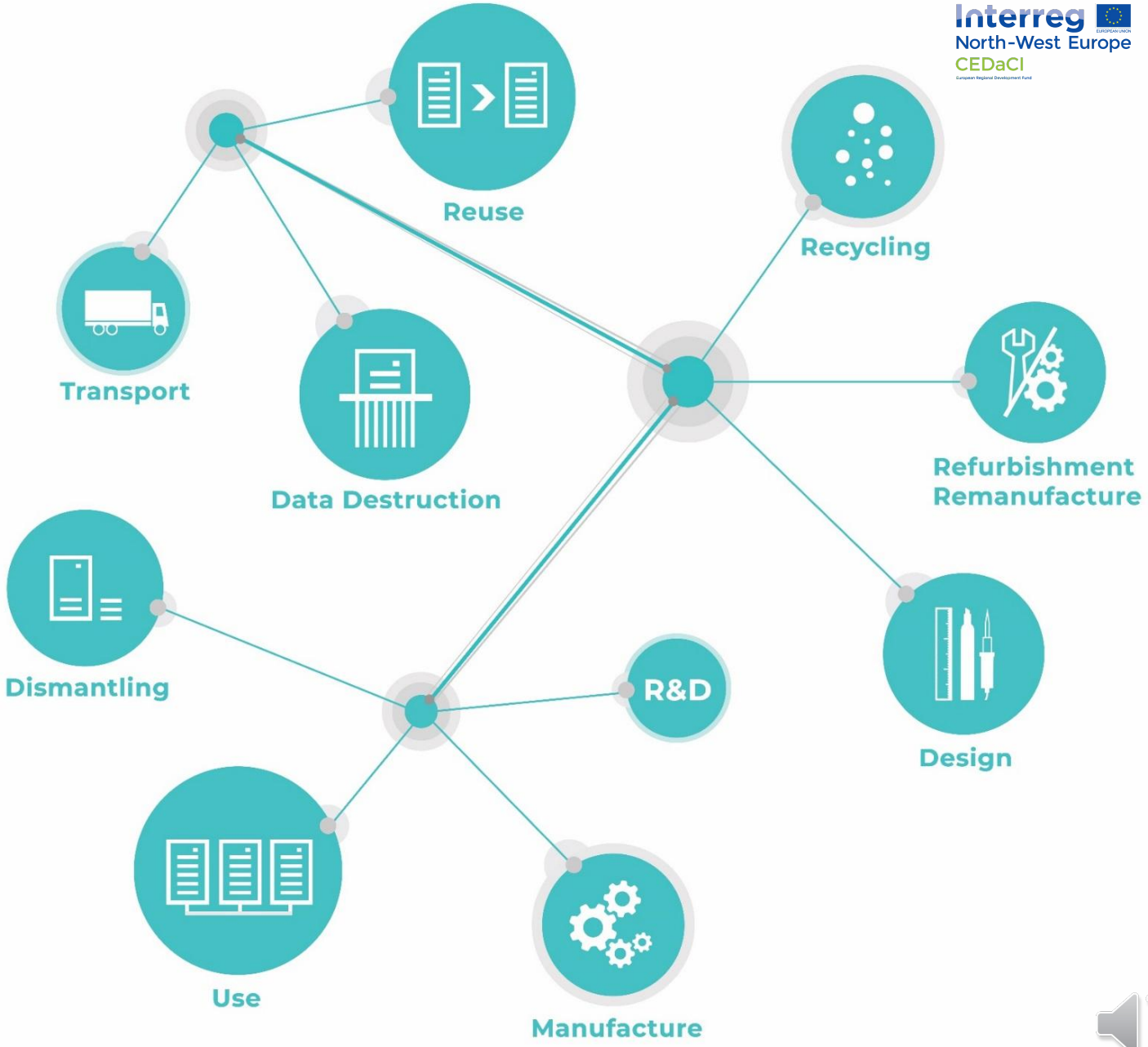
CEDaCI Network

To join:
https://www.cedaci.org/

Trans-national knowledge-sharing network encompassing representatives from all data centre industry life cycle stages



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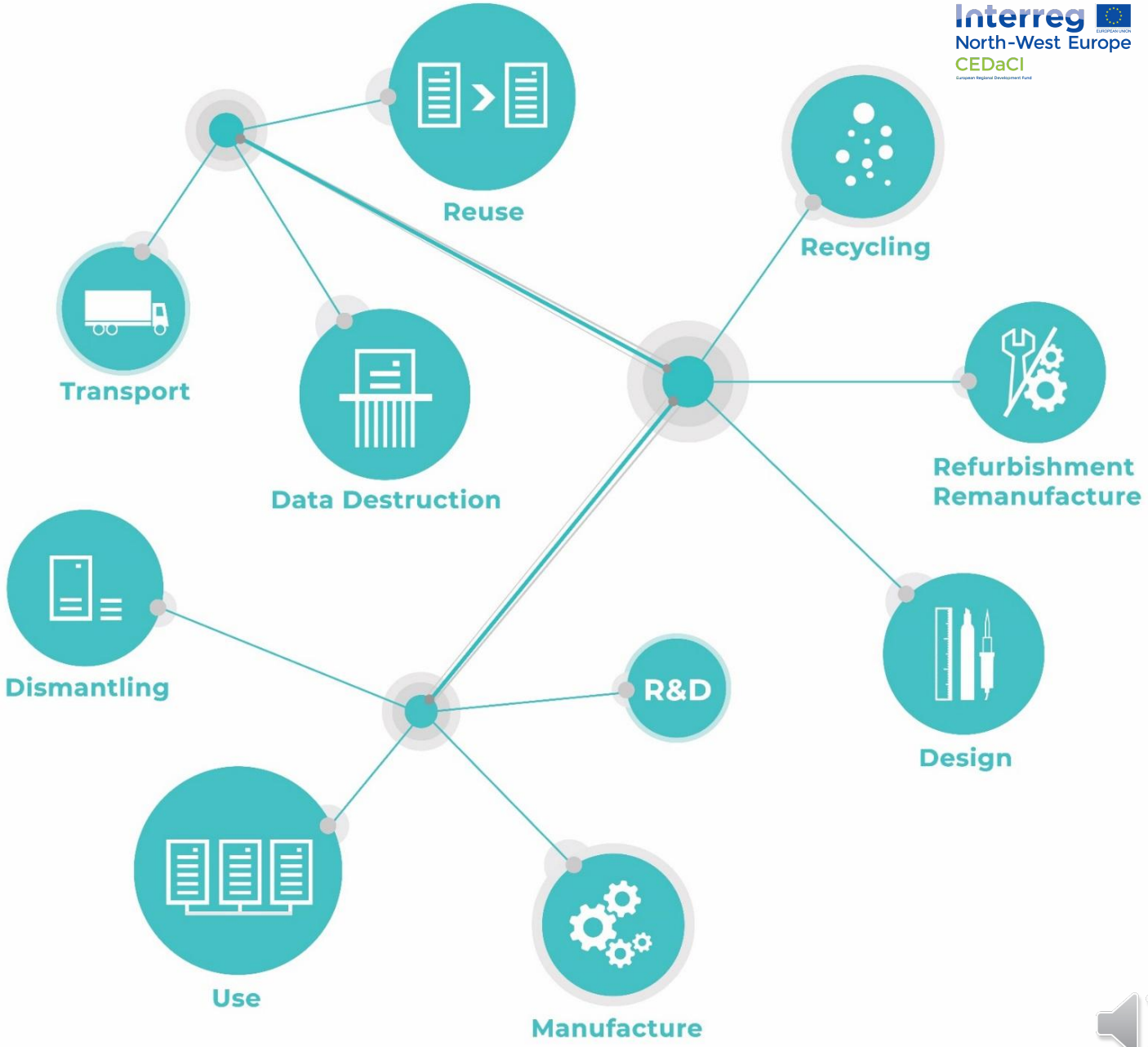
CEDaCI Network

Maximise transfer of expertise between stakeholders and the project, demonstrate the feasibility and benefits of CE practice, and boost sectoral uptake.

Members can:

- Share knowledge and ideas
- Access innovative CE case studies
- Access CE business models
- Access CE decision making tools
- Enlarge their business network



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Methodology and Outputs

3 integrated pilots that focus on:

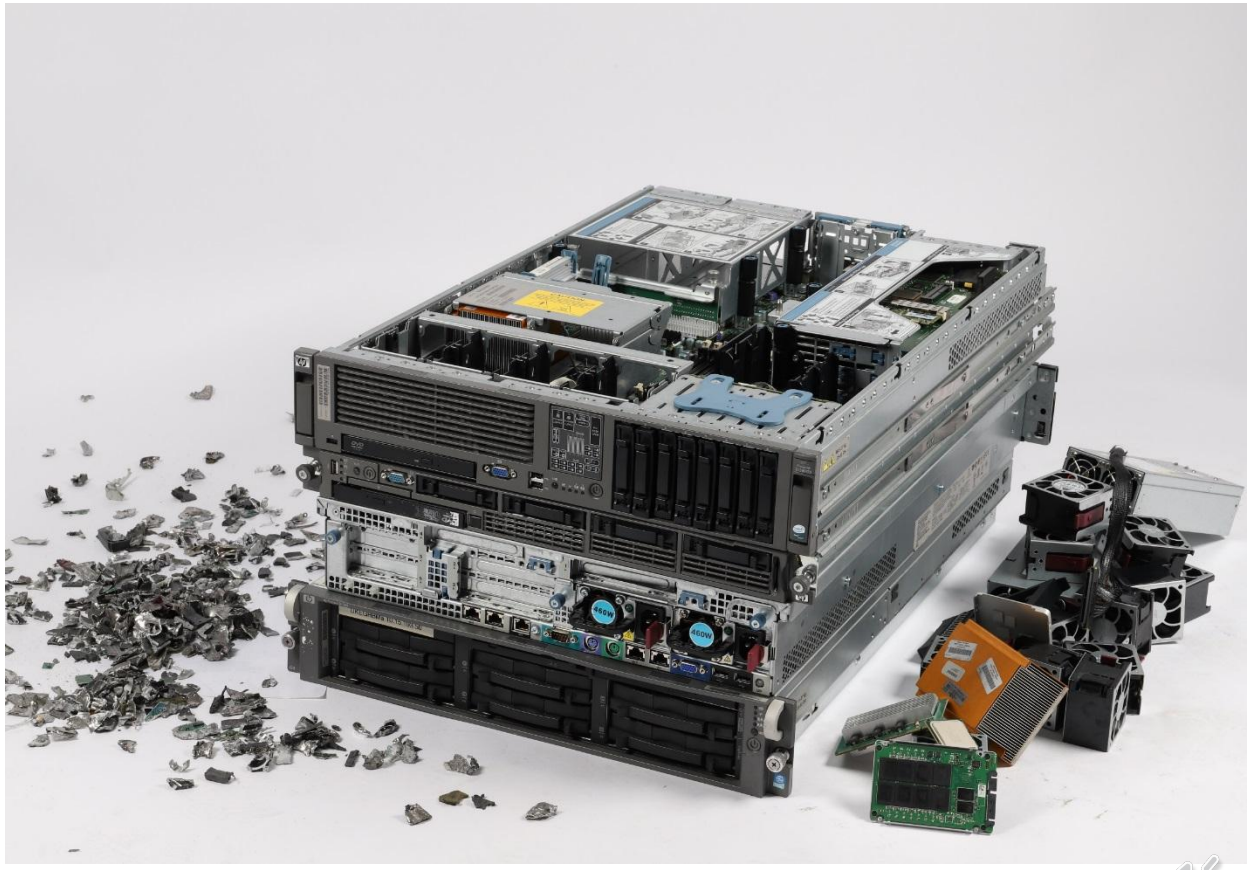
1. Design and manufacture
2. Life extension – second use & refurbishment
3. End-of-life – recycling

OUTPUTS:

- EcoDesign/Design for CE Guidelines;
- LCA methods and database;
- CDCC – the Circular Data Centre Compass; and
- improved refurbishment, recycling and reclamation strategies.

FEED INTO:

- bespoke 1-2-1 technical assistance for 50 SMEs;
- advice and guidance for policy-influencers and makers;
- Ecodesign guidelines for Circular Economy
- a physical and virtual demonstrator; and
- development of a Circular Economy for the DCI.



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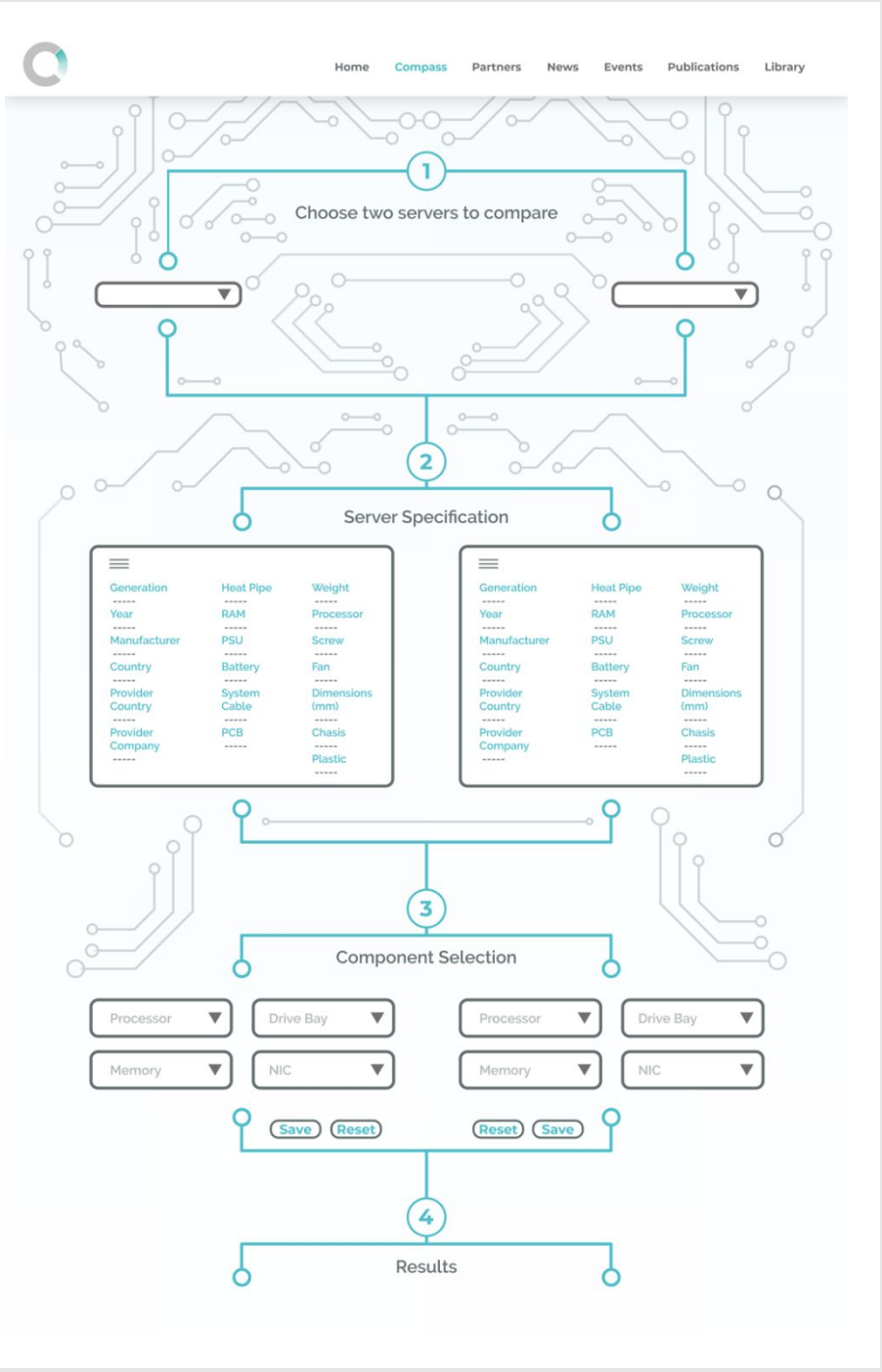
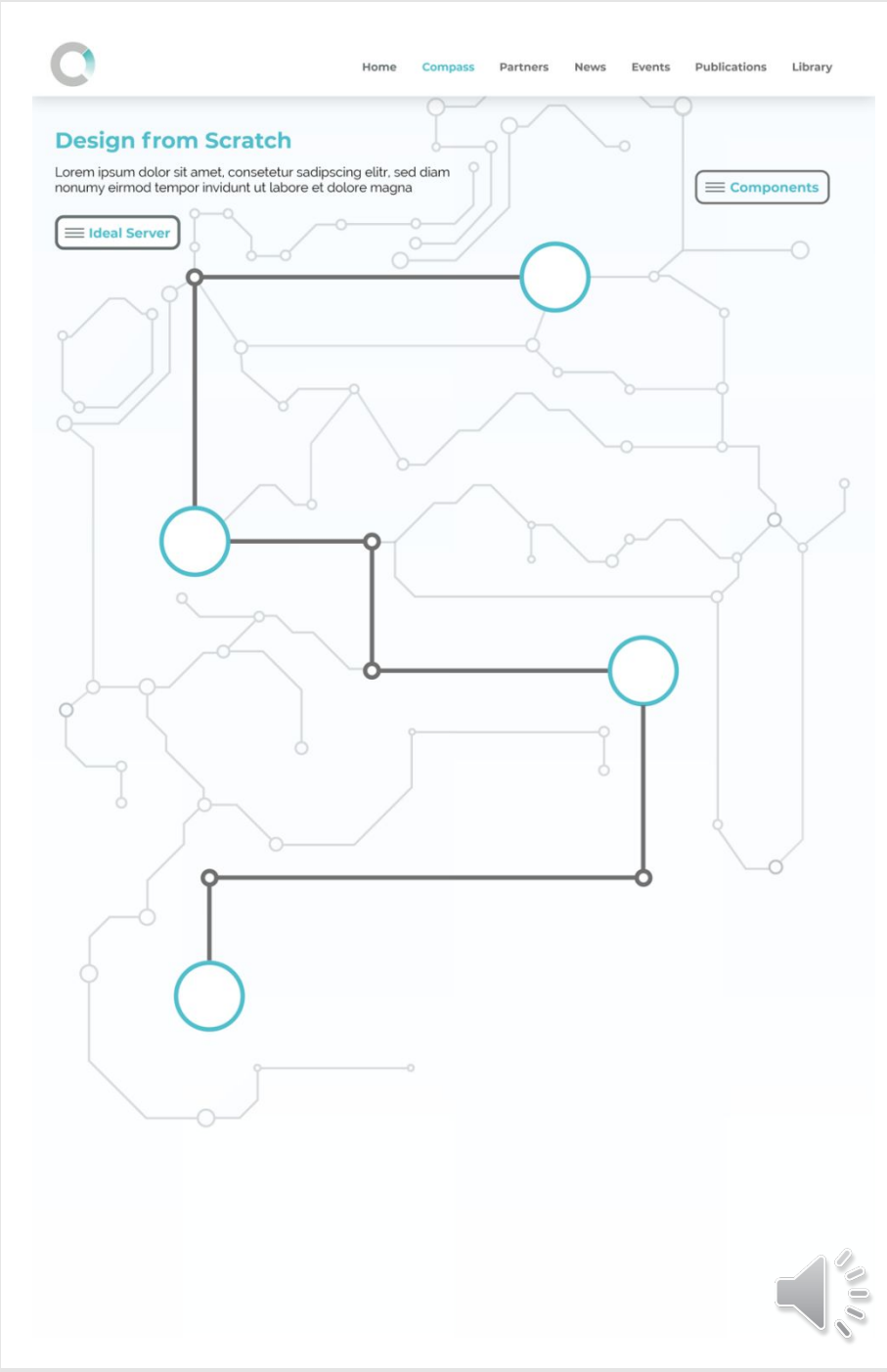
CDCC – Circular Data Centre Compass





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Thank you – any questions?

Beth Whitehead – bethwhitehead@dc-oi.com
Deborah Andrews – deborah.andrews@lsbu.ac.uk / hello@cedaci.org

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