



**VTT**

# Circular Design - Solutions for a Sustainable Future

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13/04/2022 VTT – beyond the obvious

# Why do we need a systemic circular transition?

We reuse only 12.8 %\* of all our materials in the EU. Thus, we are currently **wasting almost 90 %** of our material resources.

With the accelerating demand for materials, this practice is leading to increased extraction of natural resources, pollution, global warming, waste accumulation, and accelerated loss of biodiversity.

We need to fight these consequences, but in addition, we need to repair the root cause: we need to implement circular, sustainable practices and operations.

\*[https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Circular\\_economy\\_-\\_material\\_flows](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Circular_economy_-_material_flows) Dec 2021

We need to shift to **solutions** that solve the **systemic challenges**.

# Why do we need circular design?

Up to 80% of a product's environmental footprint is pre-determined at the design board.\*

This is why the next paradigm needs to be circular and sustainable design.

\*Source: Circular Economy Action Plan  
[https://ec.europa.eu/environment/circular-economy/pdf/new\\_circular\\_economy\\_action\\_plan.pdf](https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf)

We need to develop **solutions** and **value chains** that are circular, **by design**.

## ELECTRIC CARS – FULLY CIRCULAR?



Photo by Dominik Vanyi on Unsplash



Photo by sergio souza on Unsplash

## What would it take to create and run a fully circular car?



### Business

Circular business models

Circular value chains

Circular partnerships

### Design

No-waste designs

Circular materials

Design for circular cycles

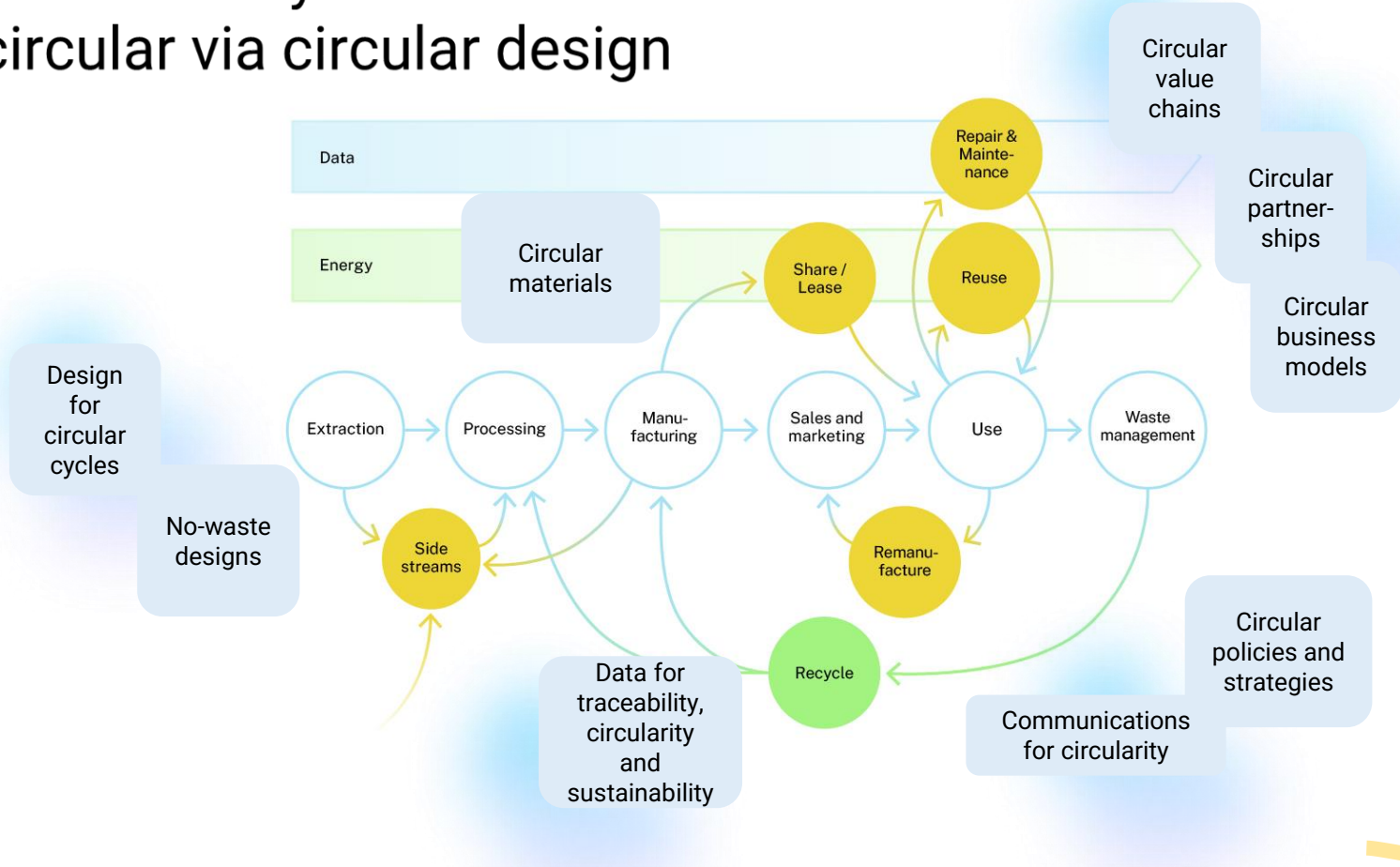
### Enablers

Communications for circularity

Data for traceability, circularity and sustainability

Circular policies and strategies

# Our mission: systemic transition from linear to circular via circular design

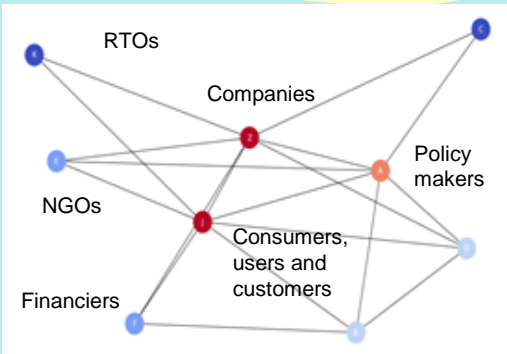


# Circular Design Innovation Community

*We bring together the right elements and right parties for sustainable, circular design. We promote circularity and sustainability in value chains and disseminate the best available approaches.*

*We combine expertise for circular concept creation and innovation from the community network.*

*We co-innovate, develop and pilot practical approaches for the market and society.*



Material, product and process design for circular and safe cycles

Business models design for circular value chains

System design for 100% resource efficiency



Sustainability-geared design

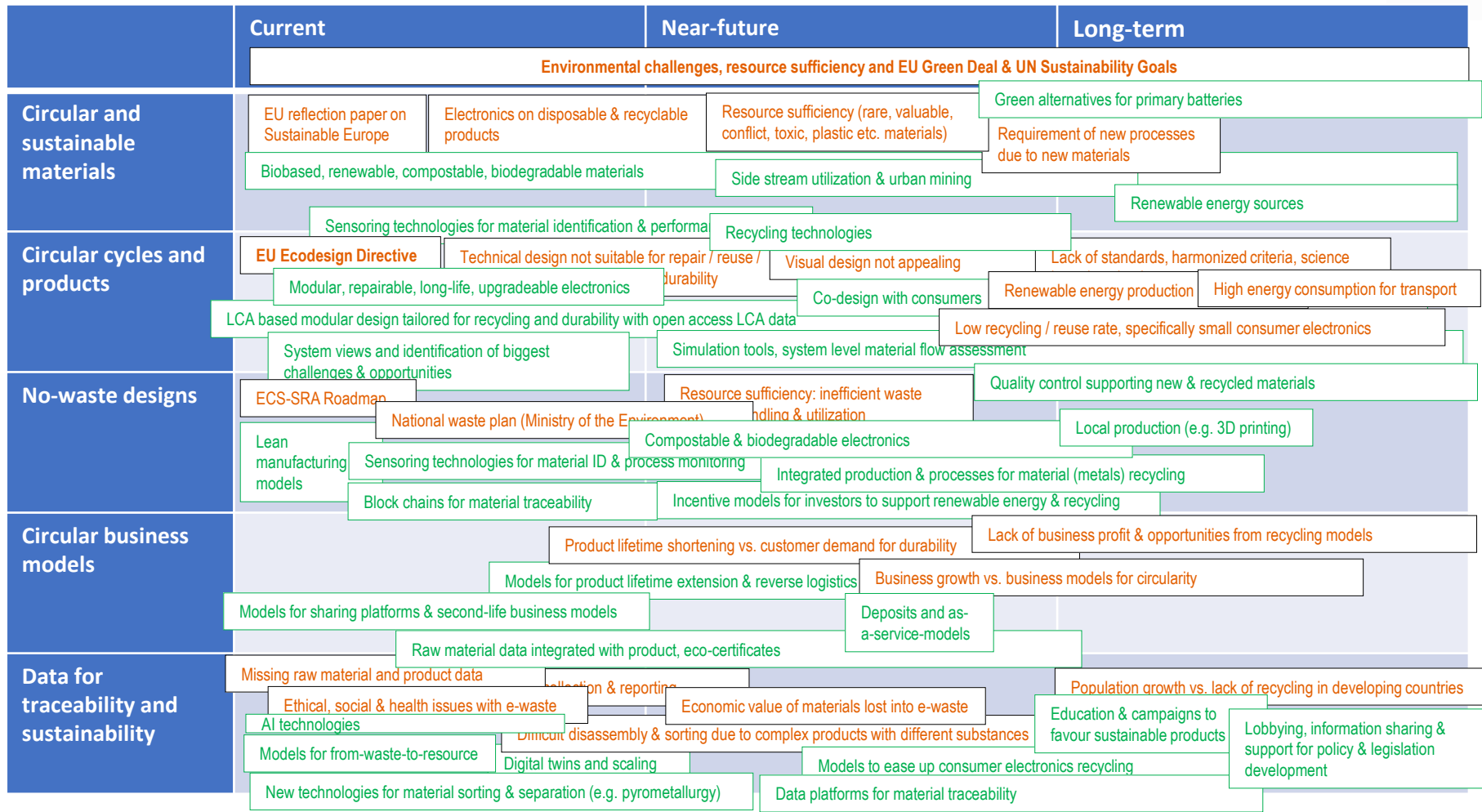
Communications and promoting circular policies

System views and value network development

Data valorization for circularity

[Circinnovation.com](http://Circinnovation.com)

# Research, development and innovation needs for circular design implementation in electronics industry





## Open invitation to co-development

We invite you to join our work to co-develop the concepts for eco and circular design.

- repairable modular structures
- recyclable materials and recycling
- lifetime extension models and supporting technologies

Thanks!

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# bey<sup>0</sup>nd

## the obvious

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