

Nordic Green Growth Research and Innovation programme



CIRCit: Systems to promote circular manufacturing in the Nordics

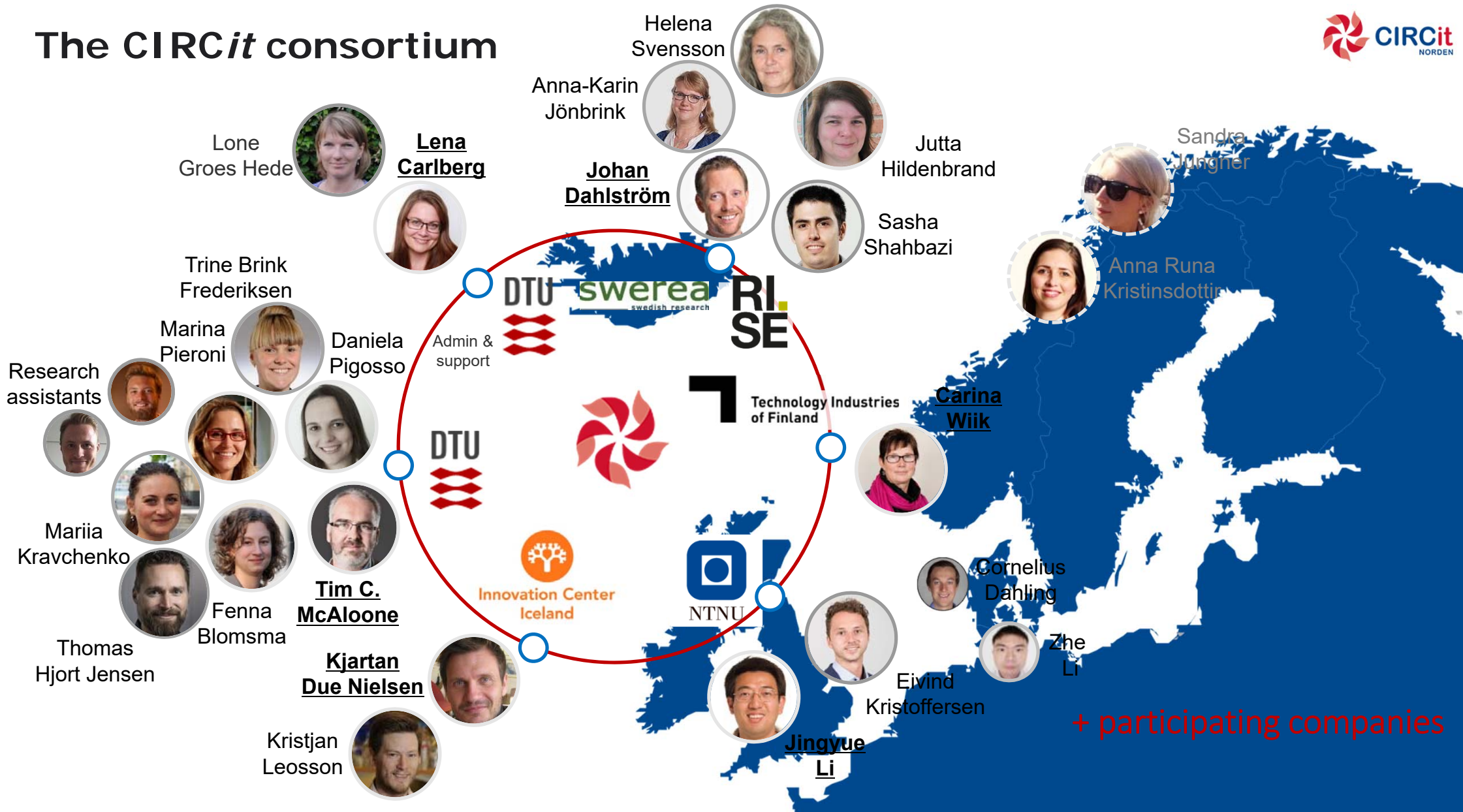
Prof. Tim C. McAloone
Principal Investigator



Circular Economy Integration in the Nordic Industry
for enhanced sustainability and competitiveness



The CIRCit consortium



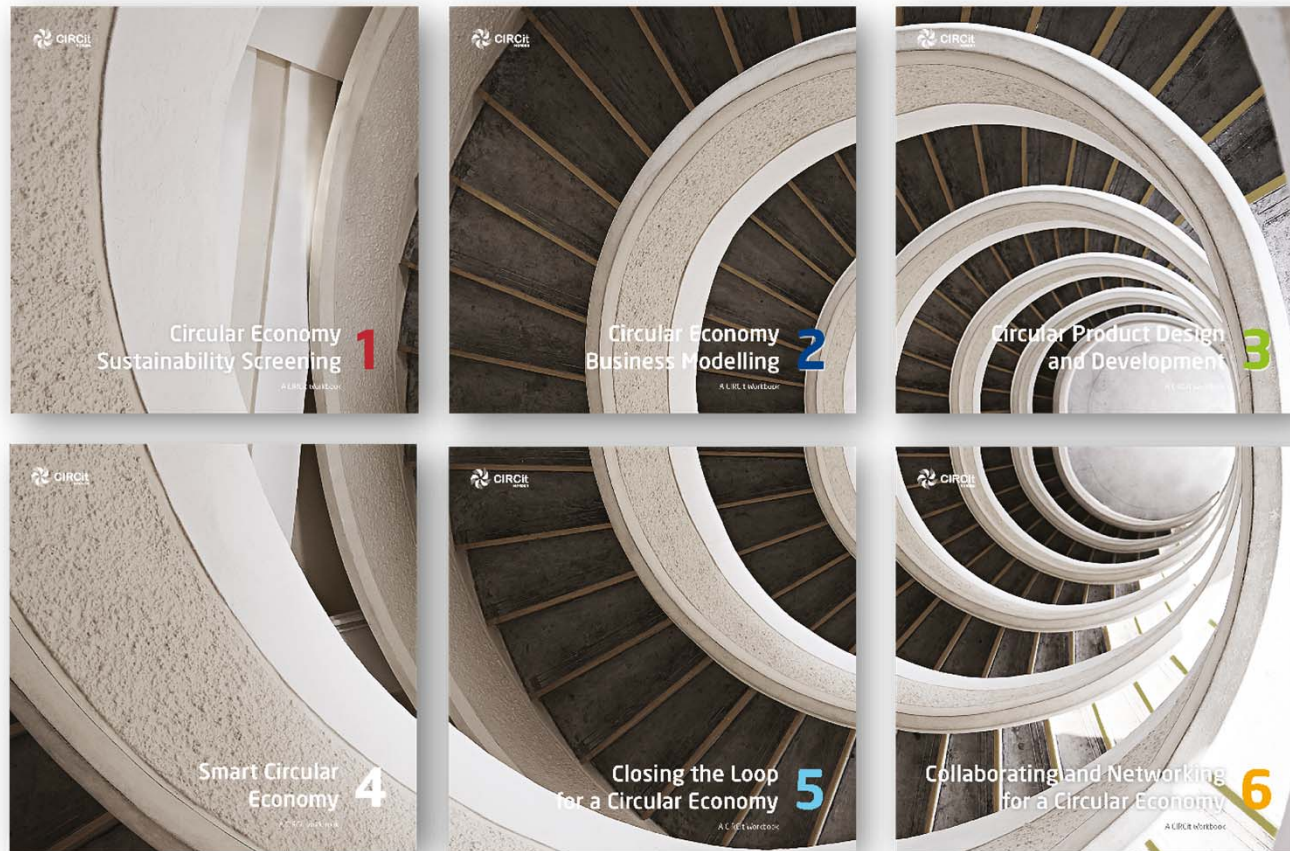
+ participating companies

What's it all about?

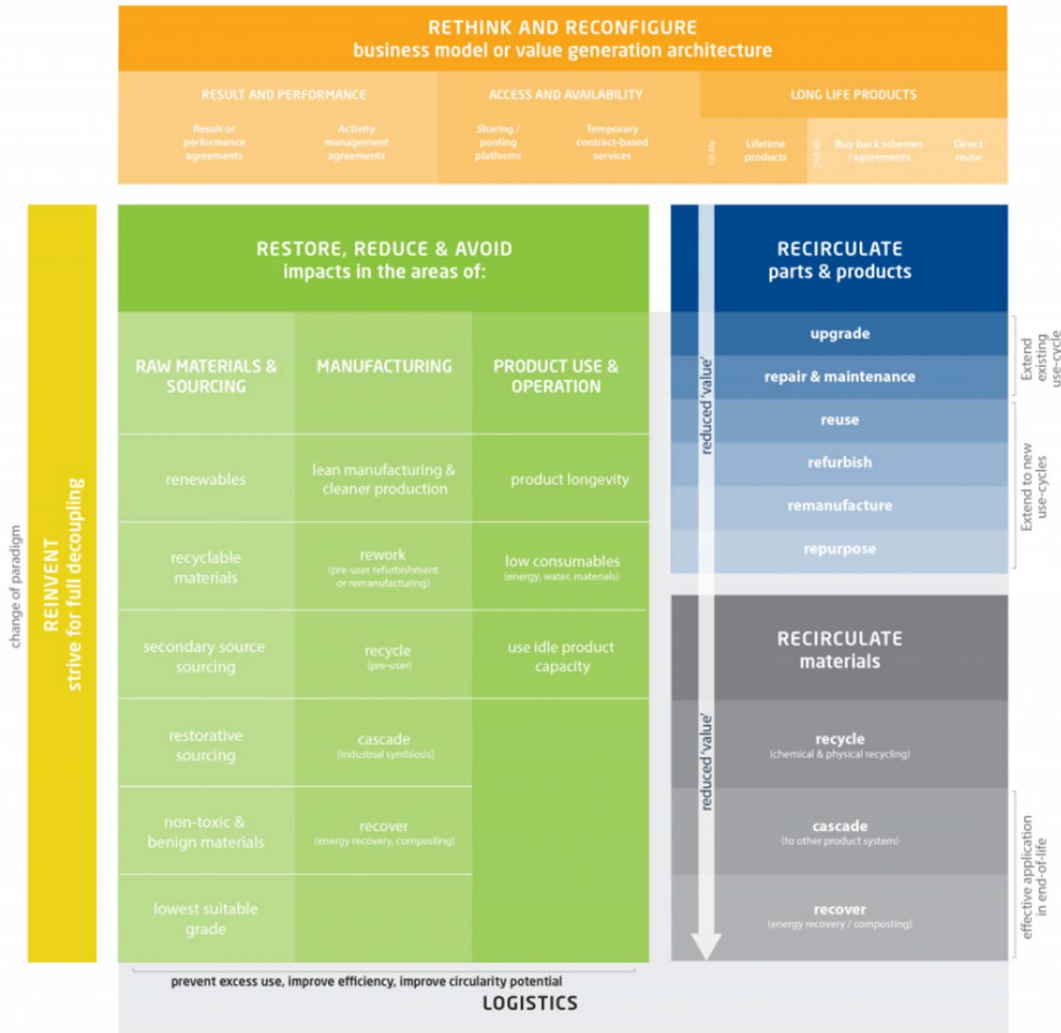
- THE METHODOLOGY OF THE CIRCit PROJECT

How can CIRCit help companies on their journey towards solutions that fit into a circular economy?

Six research-based focus areas



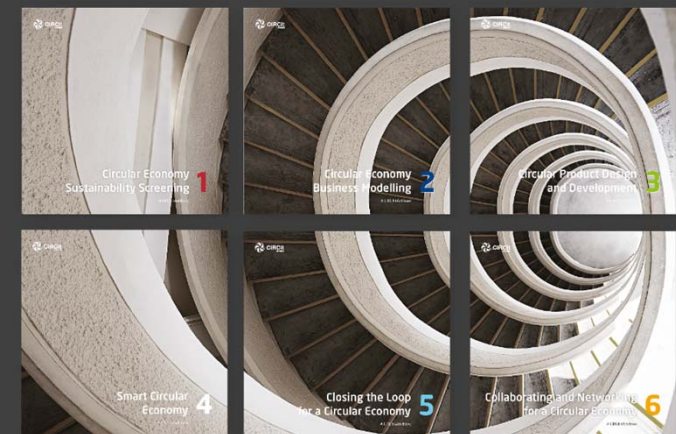
The CIRCit Circular Strategies Scanner



[Common reference model, created by CIRCit]

Focus area by focus area

- SOME SHORT INSIGHTS FROM OUR SIX FOCUS AREAS





Circular Economy Sustainability Screening

1

A CIRCit Workbook

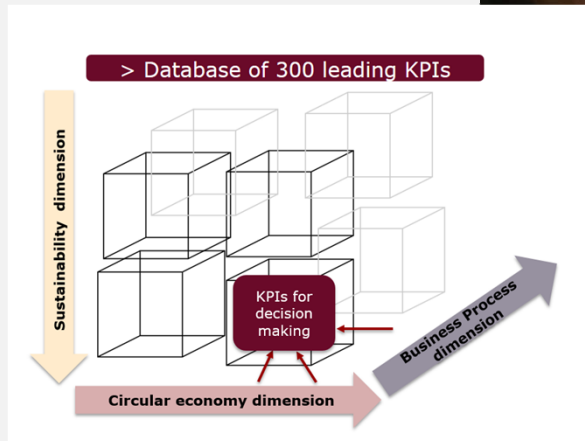


The focus area supports decision-making by supporting sustainability screening of alternative circular solutions in terms of environmental, social and business potential.



Sustainability Screening

Quantitative measurement of potential economic, social and environmental performance of CE initiative



The background of the cover features a close-up, low-angle view of a spiral staircase. The wooden treads and balustrade create a series of concentric, curved lines that lead the eye towards the center. The lighting is dramatic, with strong highlights and deep shadows, emphasizing the texture of the wood and the architectural details.

Circular Economy Business Modelling

2

A CIRCit Workbook



Photo Workshop with Lillehammer management team



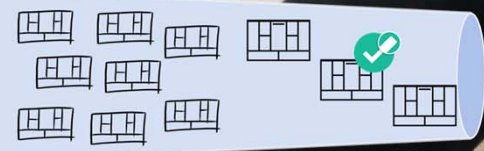
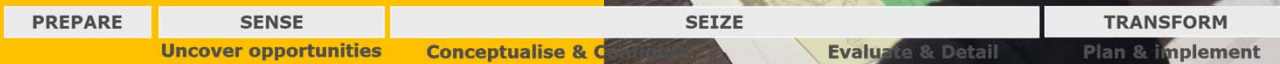
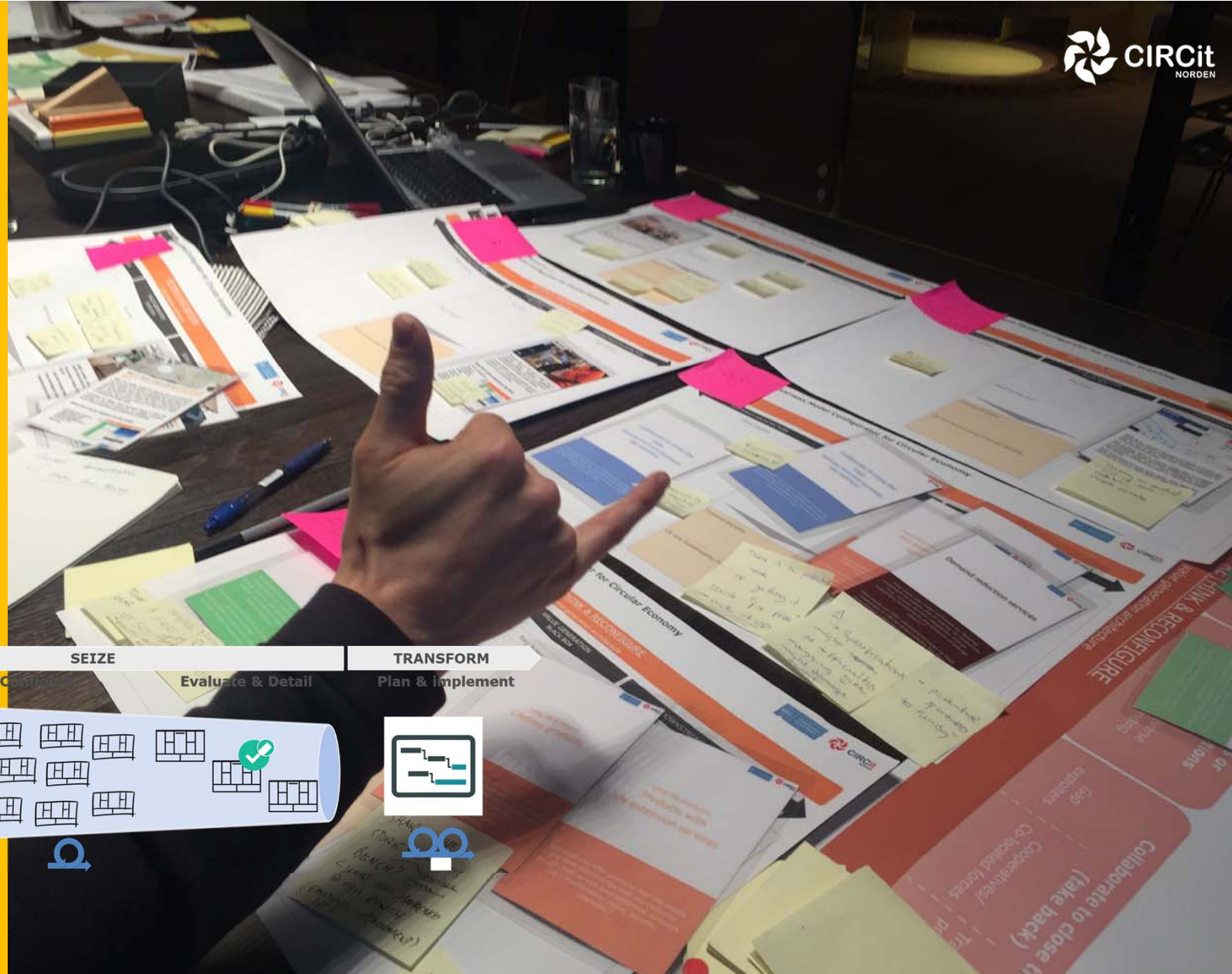
Photo Workshop with Danish Larian management team

The focus area supports the creation of circular business models, based on a step-by-step approach, best practice and success cases



Circular Business Models

Charting the path of innovation and business model development for the creation of new circular business models



Collaborate to close the loop (take back)

RETHINK & RECONFIGURE



Circular Product Design and Development

A CIRCit Workbook

3



Modular office
furniture by Ope



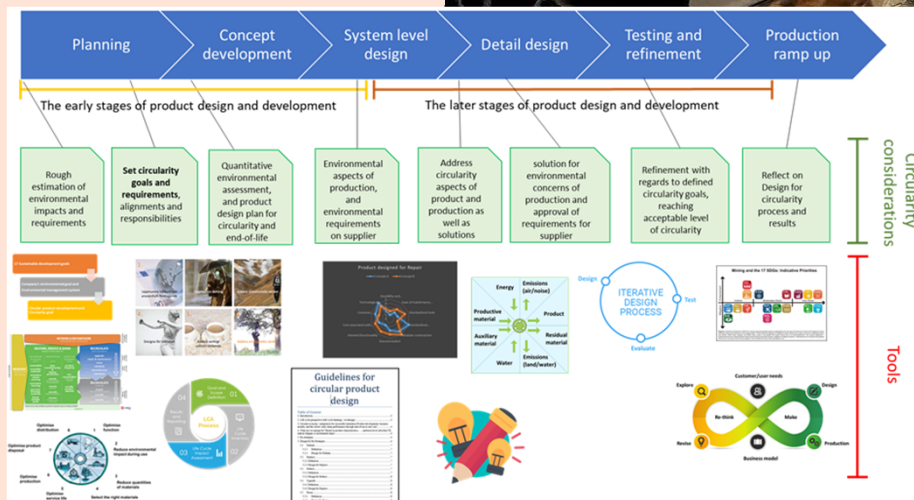
Urban furniture
by Vestre

The focus area presents an approach for assessing product circularity in the conceptual design stage and practical design guidelines to support early product development decisions.



Circular Product Design

Providing product developers with a circular design process and a Circularity Index





Smart Circular Economy 4

A CIRCit Workbook



Photo: Zaptec

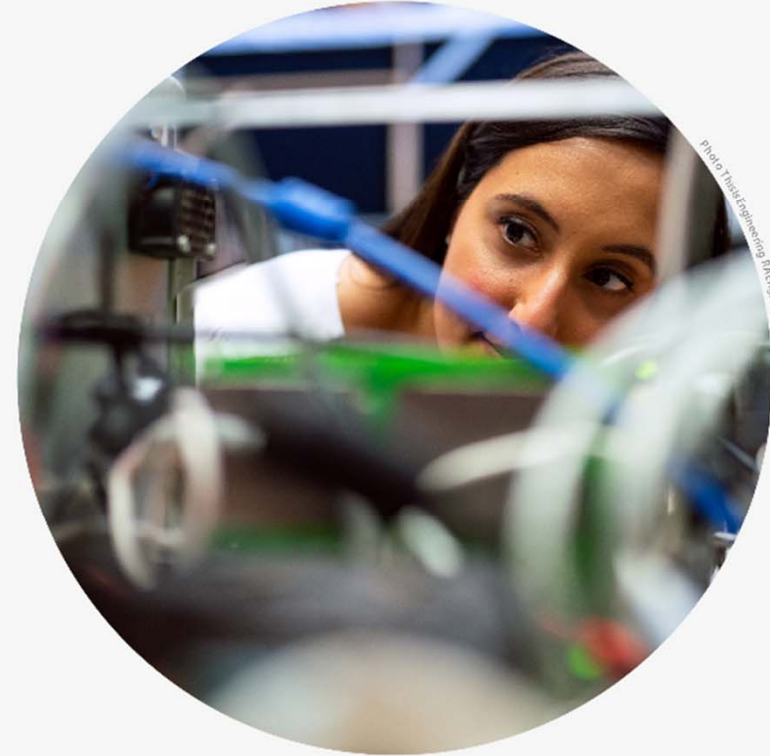


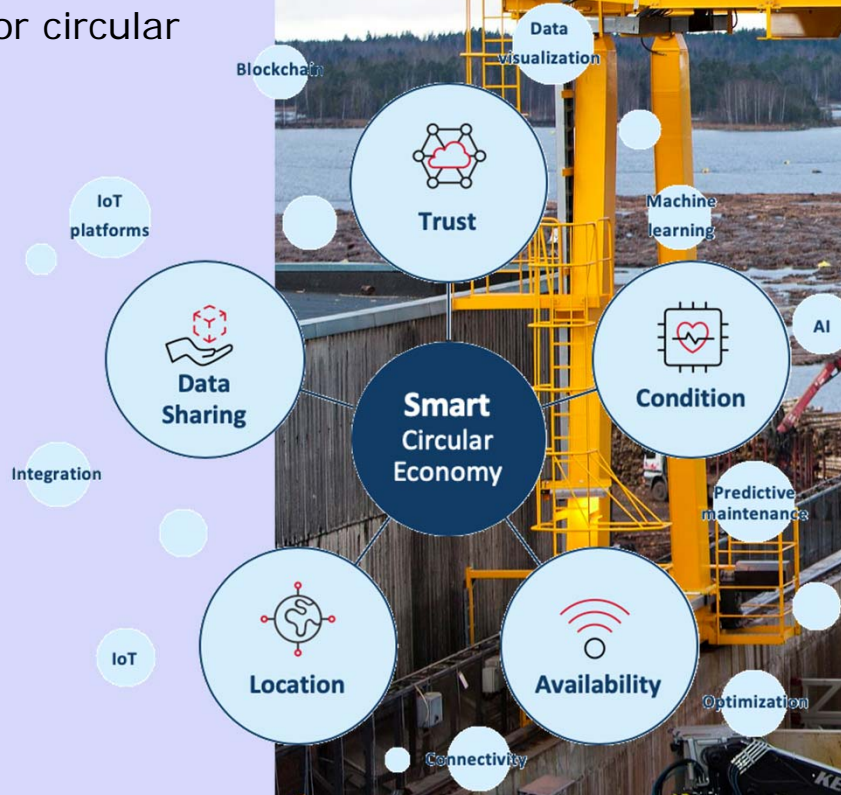
Photo: Think Engineering, RAES, Inc., for Flash

The focus area helps to evaluate how digitalisation and smart products can play a role in facilitating the transition to a Circular Economy



Circular Intelligent Assets

Understanding the opportunities and the responsibilities with intelligent assets for circular economy





Closing the Loop for a Circular Economy

5

A CIRCit Workbook



Photo Courtesy of CMA Village

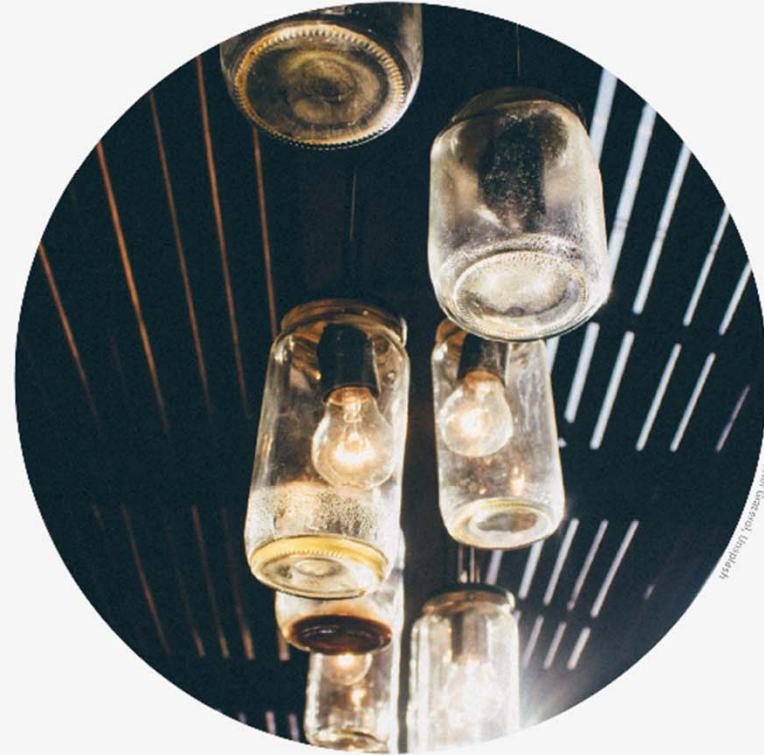


Photo by Justin Gerard, Unsplash

The focus area provides an assessment tool and guidelines to support the identification of the best circular strategy for products, taken back at the end of use.



Closing the Product Cycle

Enabling the evaluation of end-of-life strategies for take-back products (such as remanufacturing, reuse, recover)



Feasibility – is there a technical process available to close the loop?

Viability – what is the effort to implement a recirculation?

Technical process

Organisation and networks – which actors are needed to establish a recirculation?

Legal and frameworks – is the recirculation compliant and are civil liabilities covered ?

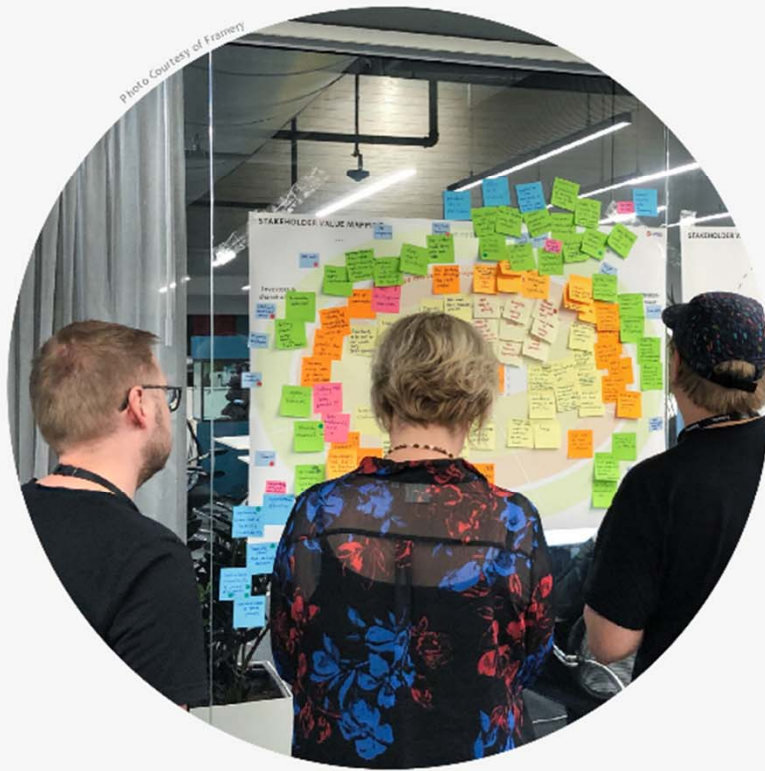
peripheral requirements



Collaborating and Networking for a Circular Economy

6

A CIRCit Workbook

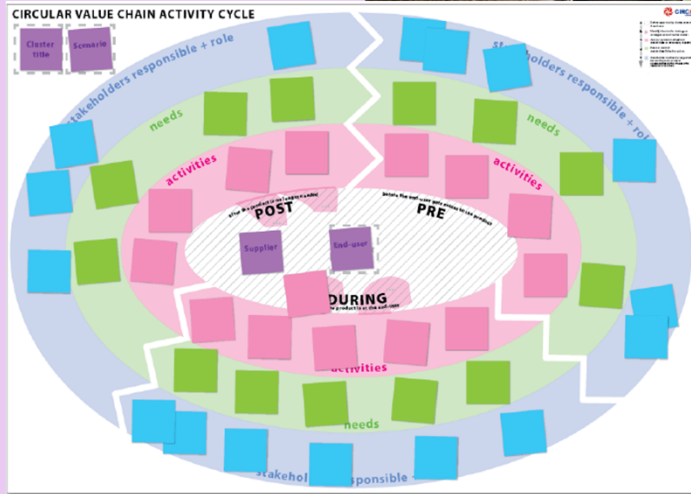


The focus area presents an approach to support various circular value chain configurations, seeking innovation through stakeholder collaboration.



Circular Value Chains

Exploring and developing synergies within the value chain and across other value chains



CIRCit take-aways

- **WHAT ARE WE PREPARING FOR YOU, THE NORDIC INDUSTRY?**

100+ engaged companies, including:



SECTORS COVERED:

- Electronics
- Fast moving consumer goods
- Heavy machinery and transport equipment
- Textile, fashion and fibre
- Built environment and furniture
- Medical equipment
- Agri-food

"The CIRCit tools give the opportunity to calculate complexity that we have not had before. The arguments are already there in the decision, but the tools make it possible to implement."

[Sustainability Manager, Heavy machinery manufacturer]

"The collaboration gave us a highly valuable and efficient introduction to a powerful tool."

[Co-founder, Street furniture company]

"We had a shift in our way of thinking. The use of the tools and the outcomes worked as an engine to change. Now we are much more certain about what and which effort such a processes and project would require."

[Business Developer, Medical company]

**One nice
measure of success**

Thanks for your attention!
Let's collaborate



SUSTAINABLE AND COMPETITIVE NORDIC INDUSTRY



Curious to start working with circular economy?

CIRCit focuses on the development of tools and approach support the Nordic industry towards greater circularity. You can choose to engage with us on a range of topics:

- Business model development
- Circular product innovation
- Supply chain development
- Tracking of materials, products and usage
- Sustainability evaluation and enhancement
- IT solutions towards product and business

More information, tools and publications available at circitnord.com

Contact us to learn more about the project, opportunities for collaboration and potential engagement models!

Follow us on Twitter and LinkedIn:
@circitnord | [linkedin.com/company/circitnord](https://www.linkedin.com/company/circitnord)

DTU Technical University of Denmark | NTNU Technology Industries of Finland

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