

Boosting circular transition and innovation with Nordic businesses

Through Nordic Circular Design
Programme.



Contents

Foreword and summary	3
1. Programme's Key Tips & Takeaways	5
Market Transition Towards a Circular Economy	5
Circular Products: Design Strategies	6
Creating Circular Customer Value	7
Circular Materials and Chemicals	8
Developing a Circular Value Chain	9
Life Cycle Analysis for Circular Design	9
Leading a Circular Change	10
Testing and Prototyping Circular Concepts	11
Circular Strategies and Concepts	11
2. Future Reflections & Call to Action	12
Joint Statement: Advancing Circularity in the Nordics	12
Key recommendations for the cross-Nordic collaboration	13
3. Programme structure	14
Overview of the Learning Path	16
Themes covered in the programme	17
4. Participant Cases & Feedback	18
Acknowledgements	22

Foreword and summary

This report outlines the objectives, aims and scope of the **Nordic Circular Design Programme**. It is also intended to share best practices, meaningful insights and useful tips with a wider audience, including companies and individuals working on the circular transition who wish to gain a better understanding of it from a business perspective.

The report is particularly relevant for businesses preparing for the upcoming EU Ecodesign regulation and for policymakers, such as public authorities, NGOs and industry associations, who are looking to support the private sector in transitioning to a circular economy. The first Nordic Circular Design Programme (NCDP) took place between October 2024 and May 2025, spanning Denmark, Finland, Sweden and Norway. It was designed and led by **Ethica** (FI), in collaboration with three national partners: **the Danish Design Centre** (DK), **Cradlenet** (SE), and the **Norwegian Centre for Circular Economy** (NO). The programme was co-funded by Nordic Innovation. It involved **over 150 participants from 30 companies** representing various industrial sectors, including furniture, lighting, electronics, machinery and textiles. It seeks to strengthen the strategic and practical capabilities of Nordic companies in integrating circular design into their product development processes and prepares them for upcoming policy requirements, such as the Ecodesign for Sustainable Products Regulation (ESPR).

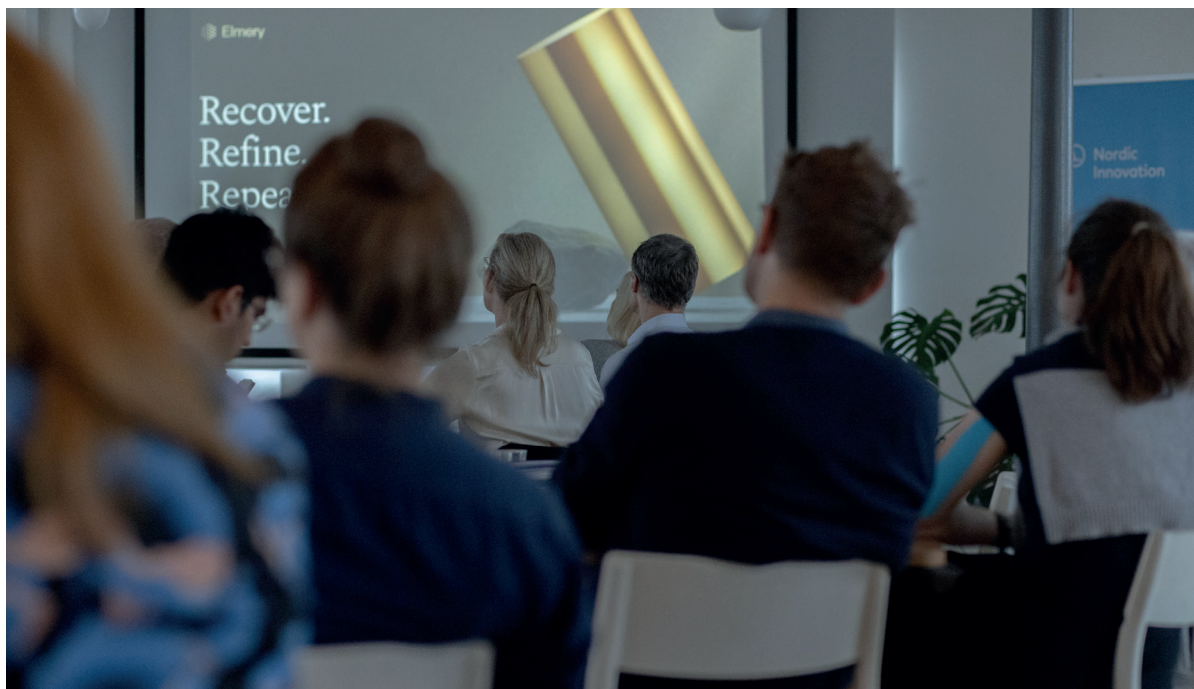


The programme concept is based on Finland's National Circular Design Programme funded and owned by Finland's Ministry of the Environment in 2021-2022, designed and led by Ethica and Design Forum Finland.

The programme is specifically designed to enable the parallel development of strategic management skills and technical circular design capabilities among executive and R&D teams within each company. The programme consists of five learning modules, supported by online sessions, podcasts and in-person workshops held in each of the participating countries. Each module is structured around a combination of design tools, expert lectures, collaborative exercises and applied project work within the companies. Throughout the process, companies receive peer support and feedback from programme experts and partners.

Key outcomes of the programme include the development of concrete new circular product or service concepts, and setting strategic goals for the circular transition in each of the participating companies. The companies also produce prototypes and/or action plans to develop their own product offerings towards enhanced circularity, based on their individual current state and business goals. Some of the company specific results are confidential, but some results have been shared by the programme participants to encourage and inspire other businesses to join the path of circular transition. Examples of these results are presented in the section **4: Participant Cases & Feedback of this report**.

The final module brought all participants together in Stockholm to present their concepts and strategies. As an important concrete outcome of the first programme, the companies also co-developed and endorsed a **Nordic Joint Statement**, outlining their shared commitment to accelerating the transition to a circular economy, and calling for coordinated policy support, harmonised regulation and increased collaboration across value chains to support the needed industry transformation. Based on participant feedback and evaluator observations, the first programme was considered highly effective in bridging the strategic and practical aspects of the circular transition.



1. Programme's key tips & takeaways

Why does circular design matter? For the Nordic companies, embedding circularity into design is a strategic imperative, not just a sustainability goal. With tightening regulations, increasing resource scarcity, and customer demand for future-fit solutions, circular design helps companies stay ahead of the curve, build resilience, and gain a competitive edge. This report summarises what the participating companies did during the programme and gives tips for how you can make similar shifts happen in your company or industries.

Market Transition Towards a Circular Economy

Understanding the regulatory landscape is a critical first step for any company wanting to harness the business opportunities of the circular economy. Monitoring and understanding the implications of EU regulations such as the Ecodesign for Sustainable Products Regulation, the Critical Raw Materials Act and the Right to Repair are important aspects of circular business planning. These regulations, alongside growing customer expectations and increasing investor interest in sustainability, are shaping the competitive environment and require a proactive strategic response.

Companies are encouraged to align their strategy with these emerging forces to ensure that circularity becomes an integral part of their core business activities and

organisational culture. Strategic tools such as the 'Ten Types of Innovation' framework can foster cross-functional knowledge exchange. These approaches help to identify opportunities for innovation, strengthen collaboration and embed circular thinking throughout the organisation.

Key takeaway:

- Circular design is a business opportunity, not just a compliance issue.

Key tips:

- Switch your mindset and examine your company's strategy through the lens of circular economy trends. How might you decouple your value creation from resource extraction?
- Get your team on the same page. Engage internal leadership in understanding market demands from a circular perspective.

Circular Products: Design Strategies

Circular design strategies refer to the adoption of various approaches to developing circular products, such as designing for reuse, repair and modularity. Using tools such as the Circular Strategies Wheel or the Circular Lifecycle Model helps teams to identify opportunities to incorporate circularity into existing products. Designers are encouraged to translate these insights into concrete action plans to ensure that any design improvements identified during the programme can be implemented immediately and in the long term. This approach facilitates a systematic transition towards circular design practices within R&D processes.

Key takeaway:

- The best benefits of circular economy come from closing loops at high value, before products become waste to be recycled. Look beyond recycling and design for reuse, repair, remanufacturing, and business model change.

Key tips:

- Make circularity part of your processes: Integrate tools like the Circular Strategies Wheel into your design practices.
- Start small and scale up: Choose one product line and test a design change for circularity, then work up towards application across your whole portfolio.



Creating Circular Customer Value

What makes a circular product or service successful, is understanding the customer perspective in designing circular business models. A central lesson is that value creation in a circular context extends beyond economic and material benefits to include systemic, environmental, social, emotional, and psychological dimensions. Neglecting these broader aspects, or failing to address real customer needs, often leads to underperforming solutions regardless of their circular potential. Common pitfalls identified include: **launching pilots without sufficient scale, creating unnecessary complexity for the user, delivering poor user experiences, slow delivery times, inadequate branding, and the influence of cognitive biases.**

Discussions emphasise that improving the uptake of circular solutions requires bridging behavioural gaps through deeper customer insight. Tools like the Jobs-To-Be-Done framework support executive teams in identifying genuine customer needs and developing value propositions that resonate more effectively in the market.

Key takeaway: For circular products and services to be desirable by customers, those need to provide superior value through actively solving the customer's needs.

Key tips:

- Engage customers early: Design solutions that respond to real customer behaviour and unmet needs.
- Look beyond technical product design: Consider service-based offerings or sharing models.

Circular Materials and Chemicals

The role of material and chemical transparency is critical enabling safe and effective circular systems. R&D practitioners need to adopt robust approaches and frameworks for monitoring, certifying, and redesigning material compositions to support the safe closure of material loops. Mapping the journey of materials helps identify knowledge gaps and risks in current choices, revealing where harmful substances may hinder reuse or recycling. Addressing these hotspots requires clear strategies for substituting problematic materials and chemicals with safer alternatives, ensuring products are designed for both performance and long-term circularity.

Key takeaway: Safe material choices made during the design stage affect the potential for circularity throughout the product life cycle.

Key tips:

- Substitute harmful and/or hard-to-recycle materials: Review your Bill of Materials (BoM) and Restricted Substance List (RSL) and substitute hazardous and/or non-recyclable substances early in the design process. Choose durable materials designed for multiple lifecycles.
- Engage with suppliers early on: Work together to source safer, recyclable and/or renewable materials.
- Stay ahead of regulations: Track REACH and other advanced chemical safety ini-

Developing a Circular Value Chain

The importance of a circular value chain can be understood by mapping product journeys and identifying critical intervention points. Business developers learn that overcoming barriers, including those relating to regulatory complexity, supply chain misalignment, cost and feasibility issues, limited data and traceability, and reverse logistics and take-back challenges, is crucial for advancing circularity.

Key takeaway:

- Circular design often requires redesigning the business model and rebuilding the value chain.

Key tips:

- Engage value chain actors early: Invite the key value chain actors into your circular vision from the start.
- Leverage your business ecosystem: Co-develop circular loops with industry peers and customers.

Life Cycle Analysis for Circular Design

Life Cycle Assessment (LCA) plays an important role in circular design, both as a tool for evaluating environmental and social impacts and as a guide for informed design decisions. Design teams need to address the common methods of LCA, its challenges and opportunities, and how to effectively integrate it into design processes.

Key takeaway:

- Start LCA work with clear definition of the goals you want to achieve and let that guide the analysis and keep it in the right scope. Use the results critically to identify hotspots and address those through design.

Key tips:

- Start with a pilot case: Apply LCA on one product to uncover hotspots.
- Make LCA part of your processes: Use LCA to guide material, design, and process choices.

Leading a Circular Change

The importance of leading internal organisational transformation towards circularity by applying change management principles and culture-building practices cannot be overstated. Company management is encouraged to use a structured, nine-step method, for example, to engage teams, align departments and overcome resistance effectively.

Key takeaway:

- Circularity requires cross-functional engagement across the organisation. Everyone needs to understand circular economy principles and opportunities and have the space, time, and resources to interact and work together to make a systemic shift in the company.

Key tips:

- Switch your mindset: From product to service to system-level thinking. From physical production volume mindset to value creation mindset for all stakeholders.
- Get your team on the same page: Drive alignment across leadership and departments.



Testing and Prototyping Circular Concepts

It is clear that translating circular design concepts into detailed prototype plans is essential for turning ideas into actionable solutions. Robust methods for user testing and careful analysis of customer journeys help to identify barriers and opportunities for encouraging circular behaviour. Clear design specifications established early on ensure focused and effective prototyping. This structured approach enables teams to create concrete plans that increase the likelihood of their circular solutions being successfully validated and adopted in the real world.

Key takeaway:

Circular solutions only have an impact if their circular features work in practice. Before scaling up, it is essential to validate the circularity, feasibility, viability and desirability of the solution.

Key tips:

- Prototyping makes circularity tangible: Prototypes translate abstract circular economy concepts into tangible models, facilitating clearer communication and engagement with stakeholders.
- Avoid 'prototype fixation': While prototypes validate circular concepts, becoming overly attached to a single iteration may stifle broader system-level innovations or alternative approaches.
- Early co-creation is key: Engaging supply chain actors and stakeholders early in the prototyping process ensures shared learning, aligned expectations, and a clearer vision for implementation.

For more information on prototyping Circular Concepts, read the blog post at Ethica's website: <https://www.ethica.fi/prototyping-for-circularity-designing-for-systemic-impact/>

Circular Strategies and Concepts

Finally, more advanced topics such as pricing based on circular value and ongoing challenges like scaling and ecosystem engagement help circular business developers and designers deepen their understanding and focus future efforts. It is crucially important, that the circular product-service concepts are supported by aligned strategic targets and business goals. Scaling circular design from pilots and prototypes to successful business requires seamless collaboration between the different functions of the organization. The success of the first programme, which led to a joint statement of public commitment to circular transition, highlights the power of such reflection and collaboration in driving meaningful change.

Key takeaway:

Other companies on a similar journey can be a valuable support in your transition – sometimes across very different industrial sectors.

Key tips:

- **Structure your organisation behind circularity:** Cement your learnings into long-term strategy. Allocate sufficient resources to carry out the interventions you've identified. Set incentives for staff to prioritise circular value creation.
- **Build your network:** Leverage your partnerships and connections for collaboration and support.

2. Future Reflections and Call to Action

Joint Statement: Advancing Circularity in the Nordics

At the conclusion of the programme, participants co-authored a Joint Statement calling for stronger cross-border collaboration, harmonised regulation, and better incentives for circular innovation in the Nordics.

It outlines five concrete asks to policymakers, value chain actors, and public funders. The message is clear: circular design is a strategic opportunity for Nordic industry - and collective action is needed to unlock its full potential.

We encourage all readers to read and sign the Joint Statement here:

circulardesignprogramme.com/nordic/jointstatement

Key recommendations for the cross-Nordic collaboration:

- **Establish a Nordic Circular Design Network.** This would provide a permanent platform for design practitioners, businesses, researchers and policymakers from across the Nordic countries to exchange knowledge, coordinate actions and drive systemic circular innovation across borders.
- **Enable joint prototyping and circular pilots.** Facilitate cross-border prototyping and experimentation through shared laboratories, repair hubs and pilot projects. These spaces should support the early-stage testing and real-world validation of circular products and services.

- **Connect and activate regional value chains.** Promote collaboration across Nordic supply chains, particularly in sectors such as textiles, electronics, and furniture. Mapping and connecting actors at all stages of the value chain is critical to enabling closed-loop systems.
- **Invest in joint education and talent development.** Coordinate efforts to integrate circular design into higher education and professional training programmes across the Nordics. Joint course development, student mobility and educator exchanges can help to build a skilled regional workforce.



Join us for the next round of the programme, or reach out to our expert team for tailored support in circular design.

Circular Business Design is about paradigm shift. It can not be given to the responsibility of one single person within the organization, whether in sustainability team, supply chain or R&D department. The circular transition extends the responsibility of a company for their products to cover it's entire life cycle. It requires a system level change with new types of collaborations. It affects the whole organization and beyond.

This realization, based on over decade of practical work with businesses in different sectors, was the starting point for creating the Nordic Circular Design Programme. That is why Nordic Circular Design Programme is not just a training programme, but a

true development programme for leadership and cross-functional teams – for companies who want to secure their competitive advantage and success in this market transition, which has already started. We invite many more companies to join this journey, and explore the new opportunities together with other Nordic front-runners.

Let's make Nordic industry a global leader in circular innovation!

www.circulardesignprogramme.com

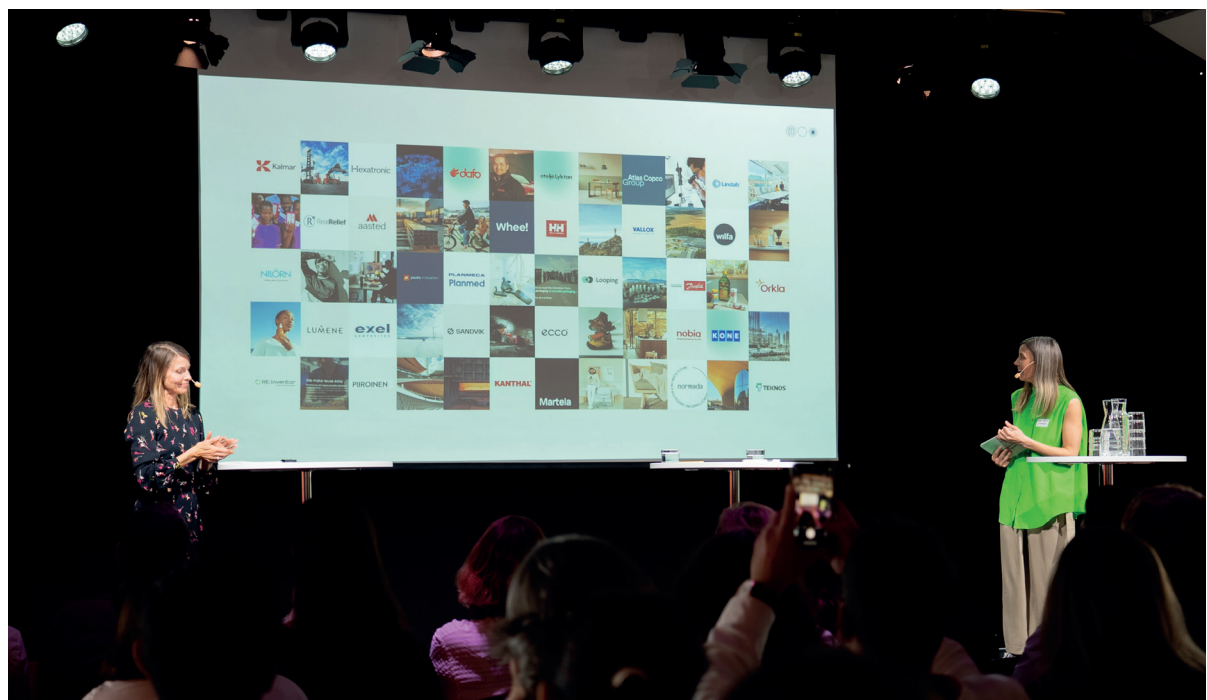
www.nordicinnovation.org

www.ethica.fi

www.cradlenet.se

www.ddc.dk

www.ncce.no/en



3. Programme structure

The Nordic Circular Design Programme is an eight-month development programme aimed at accelerating the shift toward circular design among Nordic manufacturing companies. The programme brings together leading experts, practical tools, and peer-learning opportunities to help companies future-proof their products, business models, and value chains.

Targeted at management and product development teams, the programme supports companies in identifying opportunities for circularity, aligning with upcoming regulations, and responding to growing market demand for circular solutions. Through workshops, online learning environment and resources, participants not only learn about circular design but also develop their own strategy and concrete product-service concepts to take advantage of circular business opportunities.

Ecodesign for Sustainable Products Regulation (ESPR) and Digital Product Passport (DPP)

The Ecodesign for Sustainable Products Regulation (EU) 2024/1781, which came into effect on 18th of July 2024, is a bold EU initiative designed to make sustainable products the norm across Europe and strengthen the EU's resource independence. The Regulation applies to almost all products placed on the EU market or put into service, going beyond consumer goods. Only a few categories, such as food, feed, pharmaceuticals and certain vehicles covered by harmonised type-approval systems, are excluded.

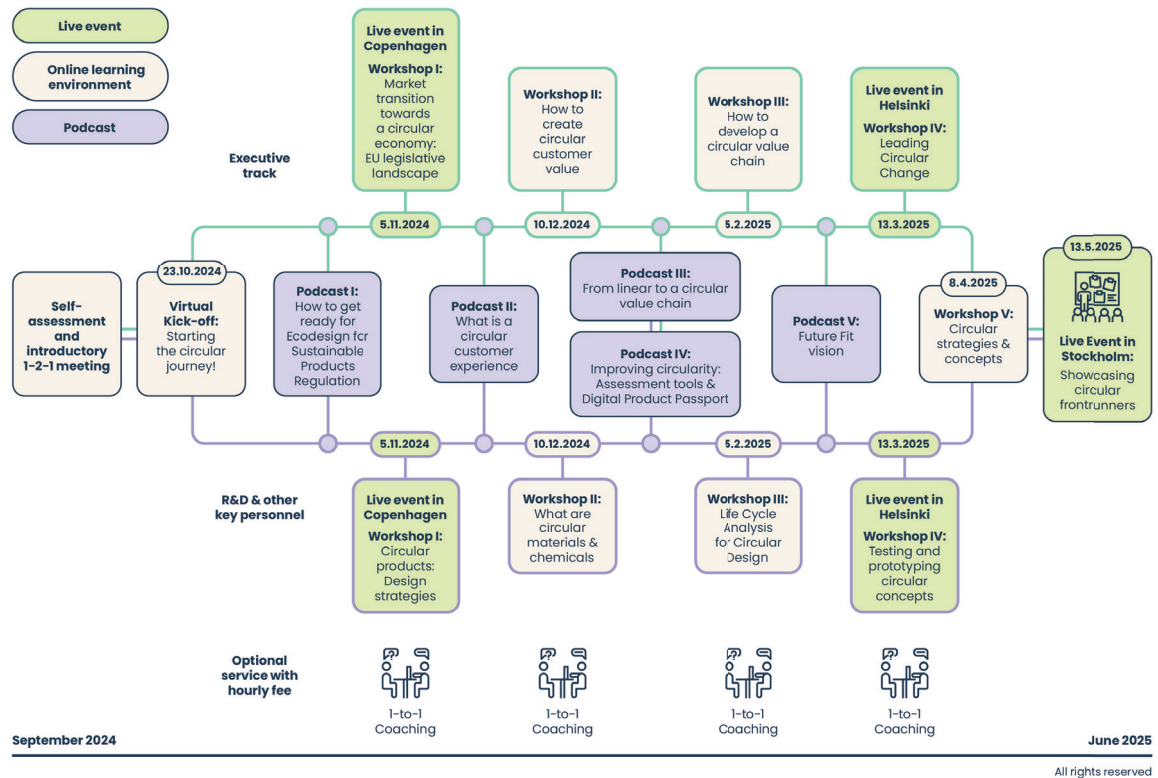
The priority products for Ecodesign and energy labelling requirements are steel and aluminium, textiles (with a focus on apparel), furniture, tyres and mattresses. These were selected based on their potential to deliver on the circular economy. In addition, the Commission will introduce horizontal measures to requirements on repairability for products such as consumer electronics and small household appliances.

The required information is made available through the Digital Product Passport (DPP), a digital identity card for products, components, and materials.

Read more about the Regulation: https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/ecodesign-sustainable-products-regulation_en

Overview of the Learning Path

The first Nordic Circular Design Programme ran from October 2024 to May 2025 and consisted of a blend of live workshops, self-paced online learning, coaching sessions, podcasts, and peer exchange.



- Five thematic modules provided structure and deep dives into critical circular design topics, each divided into two tracks featuring content for management and R&D teams.
- Interactive workshops both in person and online helped participants apply learnings to their real-life business challenges through concrete tools and processes.
- Virtual kick-off and live final stage event oriented the participants to the topic and showcased their results publicly.
- Coaching support offered tailored advice from circular design experts.
- Supplementary podcasts and online learning material deepened the learning and supported reflection between sessions.

Programme offering to the participating companies

Practical knowledge and tools

Learning how to design better products and systems for a circular economy and explore new business opportunities along the way.

A clear path to circular design

Integrating circular thinking into the company's everyday work - from strategy to operations.

Concrete results

Creating hands-on circular product or service ideas and set clear goals and action plans for moving forward.

Themes covered in the programme

The programme consisted of five thematic modules providing deep dives into critical circular design topics, each module divided into two tracks featuring content for management and R&D teams. This section of the report introduces the key themes covered throughout the 5 modules, and shares some of the key learnings, insights and tips relevant for all companies who want to develop successful circular business.

	Module 1	Module 2	Module 3	Module 4	Module 5
Executive track	Market Transition Towards a Circular Economy	Creating Circular Customer Value	Developing a Circular Value Chain	Leading a Circular Change	Joint Track: Circular Strategies and Concepts
R&D track	Circular Products: Design Strategies	Circular Materials and Chemicals	Life Cycle Analysis for Circular Design	Testing and Prototyping Circular Concepts	

4. Participant Cases & Feedback

Diverse circularity concepts developed during the programme are presented in the Final Showcasing Event, which is open for any companies and individuals interested in circular economy and circular business development. The final event also includes sharing experiences and key learnings for example in insightful panel discussions.

For example the following selected case examples developed during the first Nordic Circular Design Programme were presented in the final event:



ECCO'S PROGRAMME FEEDBACK

"NCDP is the first program combining the executive and developments level which is key to walk the talk on circularity. Can't wait to see where that lead us, as a company, as a Nordic region and ultimately as humans on planet earth".

LUMENE – Waterless face cleaning tablets

Facial cleansing products often contain high amounts of water resulting in the need for larger packaging. Recycling these packs is not always easy, and for example, in the Nordics only about 30% of plastics are recycled and reused.

Solid, waterless tablets as a refill option was developed to address this issue.

These tablets dissolve when in contact with water, creating the same look and feel as the original product allowing consumers to refill their favourite products at home – and without creating unnecessary packaging waste.

KEY ACHIEVEMENTS:

- Deeper understanding of Lumene's value chain to consider more circular business models beyond products.
- Verifying the relevance of the CTI framework within Lumene's new product development process.

KEY LEARNINGS:

- Deepening understanding of the core principles of circular economy.
- Further integrating sustainability into the design process, from material selection to product lifecycle management.

HEXATRONIC - Hexatronic Go

A multi-step evolutionary closed-loop marketplace to maximize the reuse of fiber optic cables and ducts and minimize waste and transport.

Enable the direct purchase of leftover and odd lengths from Hexatronic via a webshop – Buy only precisely what you need. Hexatronic is investigating at future concepts to make it easier for customers to make climate-smart choices.

KEY ACHIEVEMENTS:

- Aligning Hexatronic's strategy – including key functions in product management and R&D – towards a common goal of embedding circularity in everything it does.

KEY LEARNINGS:

Circular Design Principles - Regenerative design

Intention-Behavior Gap - Crucial for designing circular customer value.

Emotional and Logical Engagement - Combining emotional connections with logical reasoning motivates and reinforces sustainable choices.

Challenges and Barriers - Hexatronic has identified several barriers to achieving a circular economy

-Addressing all of these requires a comprehensive approach

NILÖRN - Selected concepts

Nilörn Design Collection - Comeback

Beyond client projects, we create design collections presenting innovative materials and technologies. Our range Comeback focuses on circularity. After Comeback 1 and Comeback 2, we are now developing Comeback 3 to showcase our progress and inspire our clients.

Digital labelling - Nilörn:CONNECT™

Nilörn:CONNECT™ is our digital services platform that supports brands in meeting transparency and traceability demands. It can provide product-related information, thereby enhancing circularity during use and at end-of-life.

KEY ACHIEVEMENTS:

- By joining the programme, the company discovered a systematic approach to identifying and mapping existing circularity initiatives.
- It developed an inventory of ongoing efforts within Nilörn to identify strengths and areas for further development.
- The company has now begun effectively communicating these initiatives across departments to foster a shared commitment to circularity.

KEY LEARNINGS:

- Circularity extends beyond our sustainability team and requires collaboration across all functions.
- We identified how Nilörn can actively contribute to and accelerate circular transformation, thereby also supporting our clients' circularity agendas.
- Working with components and packaging for garments, for example, our impact is most significant in the initial phase of our products' life cycle.
- Our digital labelling solution, Nilörn:CONNECT can support circularity during garment use and at end-of-life.

LUMENE' PROGRAMME FEEDBACK:

"We gained insights and were able to benchmark against different industry leaders on circular design and in overcoming challenges."

NILÖRN'S PROGRAMME FEEDBACK:

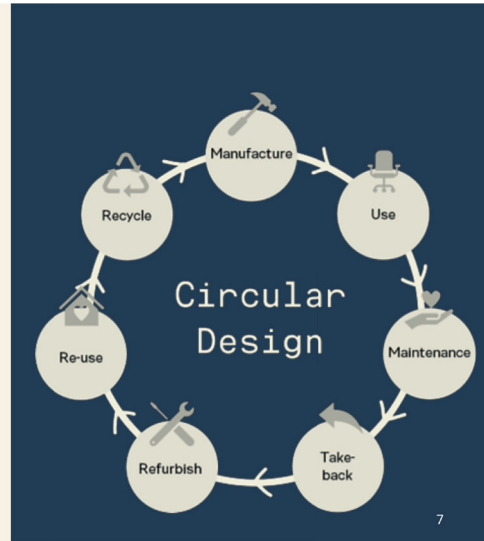
"The Nordic Circular Design Programme has provided invaluable guidance on our circularity journey, helping us shape and refine our strategy."

Martela Lifecycle

Circular Design at the heart of Martela Lifecycle

Martela's timeless design, ease of use and repairability creates the basis for a long furniture lifecycle.

- With our services, customers can extend the life of products
- Maintenance services extend the lifetime of the furniture
 - Take-back service allows unnecessary furniture to find a new life in a new location – from customer to another
 - Our refurbish and repair services enables you to repair broken products easily and professionally
 - Martela outlet channel ensures that your furniture is sold to next customer after refurbishment if needed
 - When a product or its parts reach the end of their useful life, we recycle them in a sustainable way



KEY ACHIEVEMENTS:

- Circular design at the heart of Martela Lifecycle strategy & business development
- Circular co-creation with customers, partners and other stakeholders across industry boundaries

KEY LEARNINGS:

- How to get ready for Ecodesign Regulation
- The importance of circular prototyping
- The impact of communicating the value and benefits of circular business solutions

SANDVIK – Piloting Remanufacturing Concept

Piloting Remanufacturing Concept

Concept Development

Collaborating closely with our supplier to ensure shared vision and execution

Single Location Pilot

Implementing at one site to manage risk and control variables

Strategic Data Collection

Gathering key insights to evaluate feasibility, performance, and scalability

Goals



In-depth understanding of the remanufacturing process



Developing and implementing the value creation model with stakeholders and customers.



Knowledge and measurement of sustainability and circularity impacts.



Supports Sandvik Circular Economy Green Deal goals



Insights into integrating remanufacturing into the new product development (NPD) process.

PROGRAMME FEEDBACK:

"NCDP is a catalyst for sustainable innovation, fostering cross-industry collaboration and enabling the creation of long-term value."

Acknowledgements

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Our thanks also go to the participating companies, whose active involvement and insights have been central to the programme's success in promoting the circular economy. Finally, we would like to thank Anne Raudaskoski at Ethica, Saija Malila at Design Forum Finland, and the Finnish Ministry of the Environment for the original concept of the Finnish National Circular Design Programme, which has now been adapted for use across the Nordic region.