SCIRT

Innovation Action (IA)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003906

Start date : 2021-06-01 Duration : 42 Months
https://scirt-h2020.eu/

SCIRT.

Final report on User Board workshops

Authors : Mrs. Sara CHIBA (PI), Sara Chiba (PI), Carolyn Brand (PI), Emma Perez (PI)

SCIRT - Contract Number: 101003906

Project officer:

Document title	Final report on User Board workshops
Author(s)	Mrs. Sara CHIBA, Sara Chiba (PI), Carolyn Brand (PI), Emma Perez (PI)
Number of pages	77
Document type	Deliverable
Work Package	WP05
Document number	D5.3
Issued by	PI
Date of completion	2024-11-22 13:47:13
Dissemination level	Public

Summary

This deliverable is part of Task 5.2 User Boards of the SCIRT project. The SCIRT project?s User Boards engaged key stakeholders across the textile value chain to co-create a circular fashion system. These workshops bridged the gap between SCIRT?s technical solutions and the industry?s practical needs to provide valuable input to refine project results. Through regular workshops, User Board members helped identify challenges, validate technologies, and ensure the solutions align with evolving industry requirements. Through these workshops, the SCIRT User Boards managed to foster meaningful collaboration among a variety of stakeholders, generating actionable insights and advancing the project?s mission to enable circularity in textiles.

Approval

Date	By
2024-11-24 20:35:39	Mrs. Carolyn BRAND (PI)
2024-11-24 21:20:28	Mrs. Evelien DILS (VITO)

SCIRT.

Disclaimer

D5.3 Final report on User Board workshops

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Document information

Grant Agreement	n°101003906
Project Title	System Circularity & Innovative Recycling of Textiles
Project Acronym	SCIRT
Project Coordinator	Evelien Dils, VITO
Project Duration	1st June 2021 – 31st November 2024 (42 months)
Related Work Package	WP5
Related Task(s)	Task 5.3 Consumer behavioural flow intervention
Lead Organisation	Prospex Institute
Contributing Partner(s)	/
Due Date	30 November 2024
Submission Date	
Dissemination level	Public

History

Date	Version	Submitted by	Reviewed by	Comments
15/10/2024	1	Sara Chiba (PI)	Carolyn Brand (PI)	Initial version and PI´s internal quality check
19/11/2024	2	Sara Chiba (PI), Emma Perez (PI), Carolyn Brand (PI)	Evelien Dils (VITO)	Final version and project coordinator check

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Table of contents

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

List of figures

List of tables

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Executive Summary

This deliverable is part of Task 5.2 User Boards of the SCIRT project. The SCIRT project's User Boards engage key stakeholders across the textile value chain to co-create a circular fashion system. These workshops bridge the gap between SCIRT's technical solutions and the industry's practical needs to provide valuable input to refine project results. Through regular workshops, User Board members help identify challenges, validate technologies, and ensure the solutions align with evolving industry requirements.

The first User Board served as an introduction to the project and its objectives, engaging stakeholders from across the textile value chain. The workshop focused on business models, circular design, regulations, and waste collection and sorting. Participants demonstrated strong commitment, and the discussions emphasized scalable circular solutions, sustainable product design, and regulatory frameworks to support the transition to circularity.

The second and first physical User Board was held in Vienna in May 2022, focusing on the EU's 2030 vision for sustainable textiles. Participants explored fibre technology, waste collection and management, textile design, and retail and use, identifying key targets and policy measures. Discussions revolved around the importance of certifications, fibre-to-fibre recycling, and eco-design in fibre technology. Waste management strategies focused on high collection rates and the importance of harmonized EPR schemes. For textile design, participants prioritized durable and timeless products, in addition to standards for circularity to combat greenwashing. Repair services and consumer education were also highlighted.

The third User Board, held online in November 2022, delved into circular business models and circular design guidelines. Participants engaged in discussions on business models for durability, reuse, optimized product use, and recycling, identifying enablers and barriers across consumer behaviour, supply chains, financing, product design, and regulations. The feedback from participants emphasized the need for aligning business models with both consumer incentives and policy support. circular design discussions informed the development of a design tool, with breakout groups addressing materials, waste collection, and social impact.

The fourth User Board, held online in March 2023, focused on Extended Producer Responsibility (EPR) for textiles and highlighted six critical success factors: legislation, specific targets, clear responsibilities, PRO leadership, cost transparency, and impact monitoring. In plenary discussions, participants validated these factors and tended to prioritize good governance and stakeholder collaboration. This workshop underscored the importance of well-defined frameworks and multi-stakeholder engagement to implement effectively EPR schemes in the textile sector.

The fifth User Board was held online on March 6, 2024, and focused on addressing key challenges and needs related to design, recycling, and business models. Participants collaboratively built on these aspects and worked towards defining policy requirements, contributing to the development of a circular economy for textiles.

The sixth and last User Board was held in Berlin, Germany on May 2024. Building on the previous online workshop, this two-day event explored eco-design principles, circular business models, and advanced recycling solutions. Insights from the SCIRT project informed these discussions, with the goal of setting new industry benchmarks and enhancing transparency, ultimately promoting the practical adoption of circular practices in textile manufacturing.

Through these workshops, the SCIRT User Boards managed to foster meaningful collaboration among a variety of stakeholders, generating actionable insights and advancing the project's mission to enable circularity in textiles.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Keywords

Textile Industry, Circular Fashion System, Recycled Textiles, Policy Recommendations, Value Chain Stakeholders

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Abbreviations and acronyms

Acronym	Description
CQI	Criteria, Quotas, Individuals
D	Deliverable
GDPR	General Data Protection Regulation
UB	User Board
WP	Work Package
PI	Prospex Institute

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

1 Introduction

1.1 Introduction to User Boards

User Boards are a vital activity for engaging end-users, industry experts and stakeholders in innovative projects. Their purpose is to ensure that project outcomes are tailored to the practical needs of the industries and the communities they work in. Unlike traditional advisory boards, User Boards prioritise active co-creation, involving directly stakeholders in shaping solutions and providing continuous feedback throughout the project lifecycle. This approach not only enhances the relevance and usability of the outputs but also strengthens stakeholder commitment and supports their adoption in real-world contexts.

Through a combination of physical and online meetings, User Boards provide a platform for capturing diverse perspectives, addressing challenges, and validating solutions from industry experts. This iterative engagement ensures that critical industry needs, potential obstacles, and emerging opportunities are identified early, enabling projects to respond effectively and foster long-term impact as the needs of the industry evolve.

1.2 User Boards in SCIRT

In the SCIRT project, User Boards play a central role in engaging key actors across the textile value chain to enable contribution with the aim to co-create a circular fashion system. Their primary function is to bridge the gap between the technical development of SCIRT's solutions and the practical needs of the textile industry, thus ensuring alignment between project deliverables and the realities of industry implementation. By involving end-users and stakeholders throughout the project, the User Boards help identify specific needs, challenges, and opportunities while fostering a collaborative environment for addressing them.

The User Boards are designed to support SCIRT by focusing on identifying specific requirements from across different sectors related to circular fashion. These workshops provide validation for the project's new technologies and generate actionable feedback to guide its direction. Recognising and addressing these requirements early is crucial to integrate the output in SCIRT results. Even though the main goal is to support the project itself, the stakeholders involved in the User Boards also benefit from them, as they gain access to key exchanges and data, which enhances further the collaborative nature of the initiative.

The engagement process is structured into distinct phases. The first physical meeting served as a foundational event to define the main challenges and needs of the textile industry in relation to circular fashion. This meeting also established thematic sub-groups that focused on the key issues identified (EPR, recycling, circular design, etc…) and remained the same throughout the duration of the project. These sub-groups met regularly in online sessions, approximately every six months, to provide input aligned with specific work packages. These sessions enabled the project to adapt its solutions to evolving industry needs and ensured continuous progress.

The final physical meeting marked the culmination of the User Board activities, bringing together all participating stakeholders to refine and validate the SCIRT solutions. Drawing on feedback from earlier meetings and thematic sub-groups, this event aimed to ensure that the project's outcomes are practical, impactful, and ready for real-world application.

Table 1: SCIRT User Boards

User Board	Date	Format	Participants

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

UB 1	18 January 2022	online	31
UB 2	11-12 May 2022	in-person (Vienna)	25
UB 3	22-23 November 2022	online	26
UB 4	22 March 2023	online	34
UB 5	6 March 2024	online	9
UB 6	28-29 May 2024	in-person (Berlin)	21
Total			**146**

The insights gathered from User Board engagements served also as direct input for SCIRT's consortium partners, guiding them with practical feedback from key industry players, policymakers, and other relevant stakeholders. By combining strategic physical events and regular virtual interactions, the User Boards created a dynamic process for aligning SCIRT's solutions with the needs of the textile value chain while supporting its overarching goal of promoting a circular and sustainable fashion system.

1.2.1 Preparatory phase

During the preparatory phase of the User Boards, PI coordinated with the SCIRT project partners to connect their tasks and specific interest to Task 5.3 User Boards in line with the timeline of the developments.

An online workshop was held, where the partners highlighted what topics, at what time during the project, a specific User Board should uptake.

The topics brought forward by the partners and in line with which the objectives of all future User Boards were designed are showcased in the table below.

Table 2: Envisioned UB topics per WP

User Board	WP	Partner needs / envisioned UB topics
1 (in-person)	WP1 WP4 WP6	Validation of survey results and focus groups on dedicated topics to make roadmap with concrete targets and potential policy measures. Identify user needs for the True Cost Tool. Exploitation of the results.
2 & 3 (online)	WP2 WP3 WP4	Alternative materials, elastane removal, user needs. Market requirements for recycled materials – percent of recycled content, collection of post-consumer textiles to create valuable feedstock, separate collection, avoiding greenwashing, roles in reversed supply-chain. Improved sorting and dismantling. Use and definition of recycled materials in products.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

		Organisational development and business case validation – roles and responsibilities along the renewed value chain. Interactive design guidelines and user needs. The role of traceability in collection and dismantling, different traceability technologies and collection of traceability data.
4 (online)	WP5	EPR success factors
5 (online)	All WP´s	Most pertinent value chain gaps and needs to create policy recommendations.
6 (in-person)	All WP´s	Designing policy recommendations

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

2 SCIRT User Boards

2.1 User Board 1

The aim of the first User Board was, among other things, to give stakeholders an introduction to the project and the concept of User Boards. In addition, the meeting was set up to establish the commitment of stakeholders to become a member of one of the thematic subgroups. The groups were intended to gather online approximately every 6 months and discuss the 4 topics, chosen by the partners during the first SCIRT General Assembly. These main topics the subgroups were representing emerged from the voting by SCIRT partners: Business Models, Regulations, Circular Design and Waste Collection and Sorting.

In total, 31 stakeholders attended the initial User Board meeting, out of which 27 committed themselves to continue engagement in the SCIRT User Boards. Additionally, 11 partners who attended the meeting specified their interests in four thematic sub-groups under which SCIRT User Boards will be organised in the future.

2.1.1 Participants

The selection of participants for the first SCIRT User Board was based on the Prospex CQI-methodology and in close consultation with partners.

As per the main subgroups chosen by the SCIRT partners, Prospex Institute set quotas for each stakeholder category from the SCIRT stakeholder database, which then served as a primary source of contacts to select a group of relevant individuals who could contribute to the thematic sub-groups of future SCIRT User Boards. Prospex Institute conducted a targeted invitation process in an iterative way, to assure a balanced representation of each stakeholder category, including demographic factors, to follow the quotas.

As a result, 37 stakeholders registered to the User Board, out of which 31 attended the event, slightly above the KPI of 30 participants. The number of registered participants in relation to the quotas and the categories they represent have been summarised in the table below.

Table 3: User Board participants per stakeholder categories

Category	Number of stakeholders	% of registered participants
Business models/innovation actors	3	10%
Civil society and social actors	2	6%
Distribution, branding and retails of textiles	4	13%
Education and research	4	13%
Policy makers	6	19%
Product design	4	13%
Production and sourcing of fibres (and raw materials)	4	13%
Production of textiles	2	6%
Recyclers, waste management and reuse	2	6%
Total number of stakeholders	**31**	

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

The gender ratio of the participants who attend ed the User Board is 64,52% women to 35,48% men. This can be observed in the following graph.

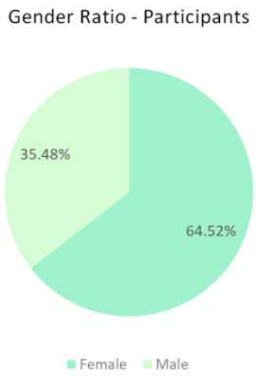

Figure 1: Gender ratio of the registered participants

Stakeholders who attended the SCIRT Introductory User Board came from different countries across the European Union and beyond. The following graph summarises this result.

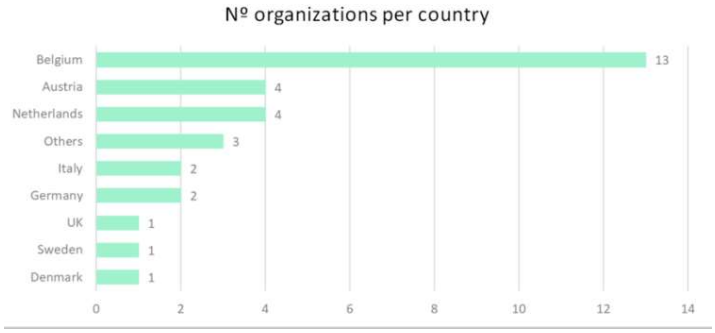

Figure 2: Stakeholder distribution per country

The age distribution of the stakeholders was divided in three categories: 30 years or younger, 31-49 years, and 50 years or older. Most stakeholders belonged to the second category, which can be observed in figure 3.

Figure 3: Number of stakeholders per age group

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

2.1.2 Commitment to join future SCIRT User Boards

During the first User Board, all attending participants (both partners and stakeholders) were invited to vote and indicate whether they would join one or more thematic subgroups' discussions organized in scope of the project in the future.

As a result, 38 participants, including 27 stakeholders and 11 project partners committed to be part of one or more of the four SCIRT thematic subgroups (Table 4). In some cases, participants voted to become engaged in all four thematic subgroups (Business models, Regulations, Circular design and Waste collection and sorting).

Table 4: Total of participants that committed to a thematic subgroup

Participant category	Number of participants committed to a thematic subgroup
Partners	11
Stakeholders	27
Total	**38**

Of all the thematic subgroups, Business models was the one with the most participants committed. The exact distribution of participants per thematic subgroup can be seen in Figure 5.

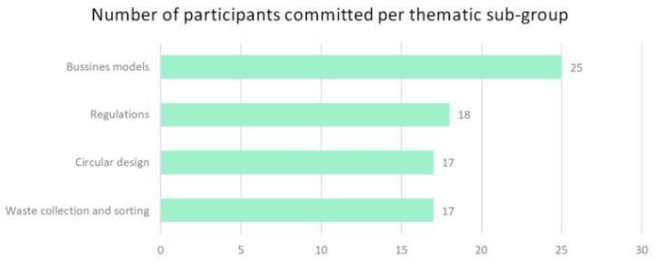

Figure 4: Number of participants per thematic subgroup

Business models attracted the highest number of committed participants, both among project partners and stakeholders. Regarding the other three thematic subgroups, there are slight differences, with Regulations being the second most voted group among stakeholders, compared to Waste collection and sorting among partners. Figures 5 and 6 show the exact numbers of committed participants per category of participant (stakeholders vs partners).

Figure 5: Number of stakeholders per thematic subgroup

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

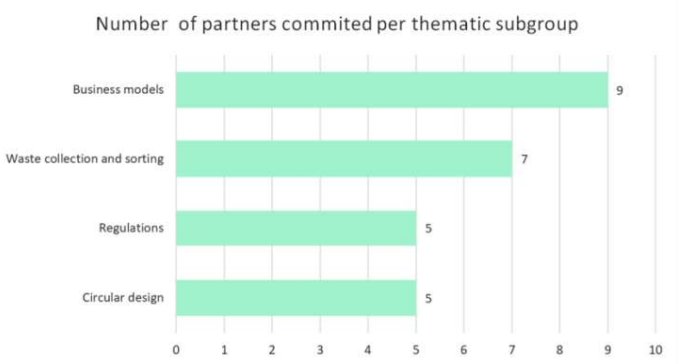

Figure 6: Number of partners per thematic subgroup

To conclude, interest in joining SCIRT User Boards was high, both among participants and partners, with most of them expressing an interest in being part of more than one thematic sub-group.

2.1.3SCIRT User Board´s thematic sub-groups

The introductory SCIRT User Board was an occasion to learn from the invited stakeholders about the expertise they can offer to share in the four thematic sub-groups, as well as topics they would like to cover during these cyclical meetings.

The outputs collected for each thematic sub-group were as summarised below, together with further details on distribution of stakeholders per each SCIRT thematic sub-group.

2.1.3.1 Business models

The expertise mentioned by stakeholders in this group included scalable business models, business models development, holistic view on the transition to circular economy, supply chain know-how. Participants also mentioned their willingness to share their network across business and investment community, financing, start-up experience and bringing innovation to the market. Among the topics they would like to discuss included customer behaviour, recycling concepts, making use of new technologies, regulations, and circular strategies.

During the initial User Board, 16 stakeholders committed to be part of this group, as showcased in the chart below.

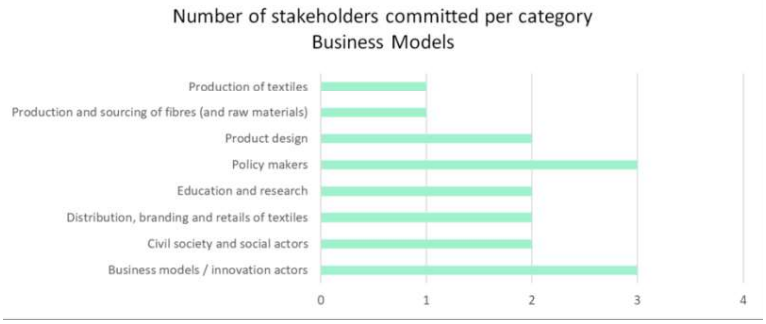

Figure 7: Number of committed stakeholder in Business models

2.1.3.2 Circular design

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Stakeholders in this thematic subgroup mentioned a variety of expertise they are willing to share, from sustainable chemistry, design methodology and research, viscose and thermoplastic fibre and design for easy recycling and disassembly.

For the topics, they were interested in, amongst others, solutions for chemical recycling, consumer perspective and guidelines for circular fashion design.

Twelve stakeholders expressed their willingness to be part of this thematic sub-group of the User Boards in the future as shown in the chart below.

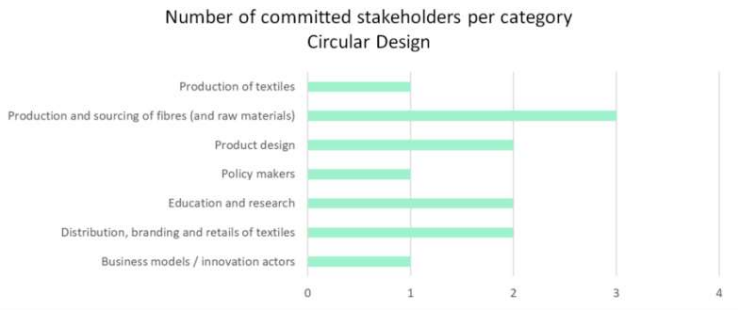

Figure 8: Number of committed stakeholders in Circular design

2.1.3.3 Regulations

In this thematic sub-group, stakeholders mentioned their expertise in policy making for textile, eco-design criteria, EPR, behavioural change insights, digital product passport and insights on EU and non-EU regulations and best practices as their main potential contribution.

They mentioned they would like to learn about upcoming EU regulations, the EPR concept, and discuss potential for private-public partnerships, filling gaps in policy, and consumer acceptance.

In total, 13 stakeholders committed to join User Boards in this sub-group.

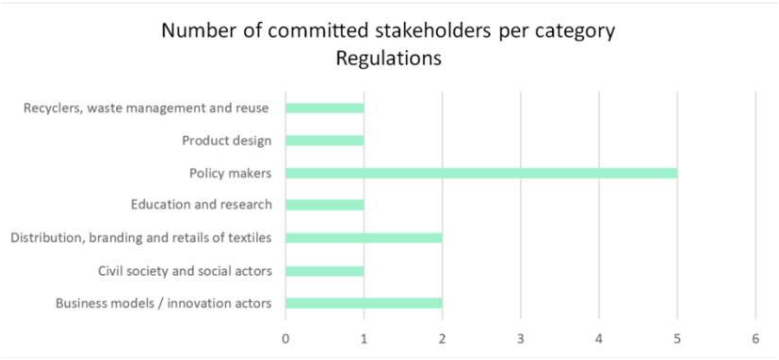

Figure 9: Number of committed stakeholders in Regulations

2.1.3.4 Waste collection and sorting

Despite this group not being numerous, a few pockets of expertise came up from stakeholders ready to take part in this group. These are logistics for separate collection, research on sorting technologies and experience in the waste management sector.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

The desired learning from this User Board included EU regulations for waste management, guidelines for design avoiding waste and potential cooperation on the EPR from the perspective of waste management and sorting.

Even though this sub-group was very small, many stakeholders who primarily joined other themes expressed their interest in being part of the Waste Collection and Sorting sub-group in the future, with ten people committing to attending it, as summarised in the chart below.

Figure 10: Number of committed stakeholders in Waste collection and Sorting

2.2 User Board 2

The first physical SCIRT User Board took place in Vienna on 11 – 12 May 2022. It was a participatory workshop engaging experts from across the European textile value chain, including research, design, retail, civil society, fibre production, recycling, waste management, finance and more. Their discussions focused on how the textile sector could move towards a more circular system.

Throughout the two-day User Board, participants were invited to discuss the EU vision for the transition of the textile sector, including setting realistic ambitions, identifying main barriers and pain points, and coming up with specific solutions that could help the whole industry shift towards sustainable textiles, considering both environmental and social aspects.

2.2.1 Participants

Altogether, 45 people, including invited participants and project partners joined the kick-off User Board in Vienna. The participating value chain experts, in total 25 people, represented all categories of stakeholders identified by SCIRT as important voices in the discussion on a circular fashion system. The aggregated data on the group composition is presented below.

Table 5: User Board participants per organisation, residence and value chain category

Organisation	Country of residence	EU region	Category	Participants per category
BV COUSY	Belgium	Central/Western	Production of textiles and product design	1
Eurotex	Belgium	Eastern		6

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Euro-Frip NV	Belgium	Central/Western	Recyclers, reuse and waste management	
Rester Ltd	Belgium	Northern		
OVAM	Belgium	Central/Western		
Belcotex BV	Belgium	Central/Western		
EuRIC	Belgium / EU	Central/Western		
International Wool Textile Organisation - representing Make the Label Count	UK	Outside EU	Civil society	2
Clean Clothes Campaign	Belgium / EU	Central/Western		
NABA, Nuova Accademia di Belle Arti MILANO	Italy	Southern	Education and research	3
University of Zagreb Faculty of Textile Technology	Croatia	Southern		
The Sustainable Fashion Academy	Sweden	Northern		
Acticell	Austria	Central/Western	Business models and innovation	3
Vienna Textile Lab	Austria	Central/Western		
CIRFS	Belgium / EU	Central/Western		
KOKOworld	Poland	Central/Western	Distribution, brands and retail	4
Zalando	Germany	Central/Western		
Filou Company	Belgium	Central/Western		
Van de Velde	Belgium	Central/Western		
OECD	France	Central/Western	Policy makers	2
EC	Belgium / EU	Central/Western		
Erema Group GmbH	Austria	Central/Western	Production and sourcing	2
Kelheim Fibrers GmbH	Germany	Central/Western		
Kloto VC, CFC Management	Russia	Outside EU	Finance	1
Swedish Trade Federation	Sweden	Northern	End-users and consumers	1
Total number of participants				**25**

In total, 6 out of 14 SCIRT Stakeholder Advisory Board (SAB)[1] members took part in the first physical User Board, with many more expressing their interest in active involvement in future online discussions.

[1] The Stakeholder Advisory Board members were chosen by the consortium during the stakeholder mapping process.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

2.2.2 Intro session

The first physical SCIRT User Board kicked off with a short presentation of the SCIRT project, followed by a summary of demo cases to be developed. Additionally, one of SCIRT´s first outputs was shared, a peer-reviewed publication identifying market demands for recycled fibres, including fibre sourcing, market for recycled fibres and economic boundary conditions.

Next, a presentation with a short Q&A session was held about what a potential future for circular fashion could look like and how it could be realised.

2.2.3 Group work and results: Feasible ambition level for the 2030 vision

After the plenary discussion, the participants joined four breakout groups, each facilitated by a Prospex Institute moderator and supported by a partner from VITO.

- Waste Collection and Management
- Retail and Use
- Fibre Technology
- Textile Design

Working in these groups, the participants were asked to consider the future of circular fashion, with the 2030 EU vision and provided two guiding questions to tackle in a group setting:

1. What is a feasible ambition level for the 2030 vision? What could be concrete targets?
2. What policy measures are most suited to support this transition to the vision?

2.2.3.1 Fibre technology

The specific comments made in this breakout group were:

Feasible Ambition Levels and Concrete Targets for the 2030 Vision:

- Introduce a qualified label/certification system, as current standards (e.g., GRS) are insufficient.
- Ensure transparency about production processes, technologies, and involved parties.
- Reduce synthetic dye usage and promote emerging technologies.
- Develop a digital product passport for traceability and consumer information.
- Prioritize fibre production and recycling within the EU to ensure self-sufficiency and minimize exports.
- Support fibre-to-fibre (closed-loop) recycling and industrial-scale post-consumer recycling.
- Expand bio-based materials and mandate the use of post-consumer waste for fibre production.
- Make yarns fully recycled and introduce polymer recycling technologies.
- Provide financial support for innovation.
- Create competitive rules for sustainable practices.
- Ensure access to end-of-life textiles for fibre recycling.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Policy Measures to Support the Transition:

- Prohibit hazardous chemicals in fibres.
- Make fibres traceable and identifiable.
- Enforce quality control on imported textiles.
- Impose obligations for production within the EU and include Extended Producer Responsibility (EPR) systems for all players.
- Apply export taxes on fibres/used textiles.
- Restrict sales, discounts, and over-purchasing incentives.
- Include the true cost of production, incorporating social costs.

2.2.3.2 Waste collection and management

In this group, participants agreed on the need to significantly reduce textile waste by prioritizing the recycling and reuse of end-of-life (EOL) garments. They emphasized the importance of mandatory textile collection, regulations holding end-users accountable for EOL disposal, and establishing distinct reuse and recycling targets for the industry. Transparency and traceability were highlighted as critical, with calls for Extended Producer Responsibility (EPR) schemes that include repairability and recyclability, alongside a mandatory digital product passport for future fashion collections. The group also stressed the value of circular design guidelines, tax incentives for companies actively involved in recycling, and educating consumers on sustainable practices. Additional points that were made by the group were:

Feasible Ambition Levels and Concrete Targets for the 2030 Vision:

- Engage the top 15 companies by revenue to implement take-back systems for polyester and cotton to accelerate recycling, supported by tax incentives to encourage broader industry adoption.
- Aim for a 90% collection rate through deposit/return schemes, similar to PET bottles, and ensure 75% of textile waste is collected separately, with targets increasing over time.
- Set reuse and recycling targets of at least 90% of collected material and ensure at least 10% recycling content in textiles.
- Promote blended materials (e.g., natural fiber/synthetic polyester) and circular design criteria with guidelines for circular products.
- Introduce a Digital Product Passport (DPP) integrated into sorting facilities and fashion design collections, prioritizing core collection countries.
- Decrease textile waste by reducing sorting residuals by 50% and limiting overall waste volumes, while motivating consumers to return clothes through systems like glass bottle collection schemes.
- Develop a larger renting system for textiles and encourage production on demand with fewer trends and more classic styles.
- Target 85–100% collection of end-of-life (EOL) textiles and expand cross-border collaboration with textile federations.

Policy Measures to Support the Transition:

- Implement EPR schemes harmonized at the EU level, featuring advanced Eco modulation (e.g., durability, repairability, recyclability), learning from previous systems in France and Germany.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Introduce high fees for non-recyclable textiles, low durability, and lack of transparency.
- Mandate full transparency (environmental, social, etc.) and enforce traceability at all stages.
- Oblige municipalities to regulate and organize textile collection and require mandatory eco-design for all new products and collections.
- Provide economic incentives such as tax reductions, lower interest rates, or public tenders to support recycled fibers, closed-loop solutions, and achieving collection and sorting KPIs.
- Set mandatory DPP implementation for new products and require certification to meet quality parameters.
- Promote sustainability education from a young age to encourage long-term behaviour change.

2.2.3.3 Textile design

This group discussed making products both fit to recycle and incorporating recycled materials, while also highlighting the need to increase product lifespans through higher quality and repair schemes. Reducing overproduction, consumption, and reliance on fashion trends was deemed critical, alongside exploring alternative materials. Proposed policy measures included financial incentives, clearer definitions of sustainability, greater awareness, enhanced transparency, and new trade regulations. The detailed suggestions were:

Feasible Ambition Levels and Concrete Targets for the 2030 Vision:

Recycling:

- Focus on **closed-loop recycling** within industries, avoiding the use of PET bottles for textiles.
- Prioritize applications for recycled materials based on their importance (e.g., food, textiles, construction).
- Ensure products are both **fit to recycle** and made of recycled materials, addressing both aspects simultaneously.

Durability, Lifespan, and Quality:

- Increase product lifespan and emphasize higher-quality, **fit-for-purpose** products tailored to specific uses (e.g., different standards for different garments).
- Establish and test **durability standards**, considering both physical and psychological durability.
- Promote **design-for-repair** practices, as current garments are not repair-friendly, learning from examples like Austria's government-subsidized electronics repair program.

Overproduction:

- Slow down the fashion industry's pace, limiting the number of collections per year and capping product ranges to avoid overproduction.
- Encourage **pre-order systems** and **on-demand production** to reduce waste.
- Decouple economic growth from resource consumption, addressing the overproduction cycle driven by capitalism.

Consumption:

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Shift responsibility away from consumers and focus on systemic changes to reduce overall consumption.

Fashion Trends:

- Rethink fashion's paradigm by prioritizing **timeless, high-quality designs** over short-lived trends, focusing less on self-expression through constant newness.

Alternative Fibres:

- Reduce the use of fossil fuel-based fibres but acknowledge the challenges with natural fibres, which may weaken during recycling or require chemical treatment.
- Adopt a **balanced approach** to sustainable fibres, considering Cradle-to-Gate and biodegradable options over complete Cradle-to-Cradle solutions.
- Set a specific percentage target for biofibres while recognizing the impact of all fibres, even sustainable ones.

Policy Measures to Support the Transition:
Financial Incentives:

- Provide rewards for developing **timeless products** through government grants and performance-based support for retailers and manufacturers.
- Offer tax breaks or other benefits for sustainable practices, as seen in examples like China (e.g., tax reductions and free land for green initiatives).
- Implement **eco-modulated EPR schemes** with financial incentives and penalties, using a "carrot and stick" approach to encourage compliance.
- Penalize overproduction and unsold stock to discourage wasteful practices.

Clear Definitions:

- Establish a uniform industry framework defining **circularity** and **sustainability** in textiles, addressing challenges for both businesses and consumers.
- Combat greenwashing with precise definitions and accountability measures.

Education and Awareness:

- Promote education on sustainable fashion, emphasizing craftsmanship and fostering understanding of the true costs of fully sustainable textiles.

Transparency and Communication:

- Require product labels indicating the percentage of recycled content to inform consumers and build trust.

Trade Policy:

- Regulate production to reduce overproduction by **30%** and implement measures to protect EU manufacturers from unsustainable imports.

2.2.3.4 Retail and use

The overall group discussion in the retail and use group focused on durability, transparency and reuse aspects, the potential of digital product passports (DPP) as well as circular business models profitability and improving end-users' education and awareness. The overarching theme was examined not only through environmental and business lenses, but also from a social perspective.

Feasible Ambition Levels and Concrete Measures for the 2030 Vision:

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- **Product Passport**
  - Launch a mandatory, EU-wide product passport by 2030 with 100% transparent information on fibres, chemicals, production location, and working conditions. Challenges include cost, data collection, and supply chain transparency.

- **Circular Business Models (CBMs)**
  - Encourage 20% of garments to be traded through CBMs by 2030, aligned with EU commitments to reduce CO2 emissions, supported by tax incentives and reductions.
  - Target 50% recycled materials in all fibres produced or at least in those used by major fashion brands by 2030.
  - Aim for product pricing to reflect social compliance and true costs by 2030.
  - Require garments on the EU market to last at least five years without significant damage, balancing this with the use of durability-enhancing chemicals.

- **Repair Services and Skills**
  - Require fashion retailers to offer repair services and further develop end-user manual repair skills.
  - Integrate sustainability into national curriculums in EU schools by 2030, including repair skills, though concerns were raised about making it mandatory and the feasibility of the timeline.

- **Consumer Awareness and Behaviour**
  - Raise awareness of the environmental and social impact of fashion, addressing the attitude-behaviour gap (ABG) to encourage sustainable consumption.
  - Study and work to reduce the ABG through transparency, education, and awareness campaigns.

Policy Measures to support the Transition:

- **Mandatory Measures**:
  - Introduce obligatory repair services for fashion retailers, with considerations for SMEs' capacity.
  - Implement an EU-wide, uniform product passport, initially including basic information to ensure uptake.
  - Require mandatory financial deposits for new clothing purchases, refundable upon returning clothes for recycling.

- **Fiscal Incentives**:
  - Offer a 10% VAT reduction for enterprises adopting circular business models.
  - Provide tax incentives for electric vehicle logistics operators to counteract increased transport operations in circular systems.
  - Reduce taxes for companies demonstrating over 10% of their turnover from re-commerce activities.

- **EPR and HREDD Incentives**:

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

  - Propose benefits for companies adopting Extended Producer Responsibility schemes or voluntary Human Rights and Environmental Due Diligence measures, leveraging transparency as a CSR tool.

- **Research and Innovation Funding**:
  - Increase EU funding for R&I initiatives to support innovations in durability, reuse, and high-quality textile recycling.

2.2.4 Group work and results: Barriers and solutions for a circular fashion system

The participants were invited to look at four major obstacles and provide their more in-depth comments on each of these barriers. Four guiding questions were provided to start the discussions.

2.2.4.1 Barrier 1: Customer demand

How does customer demand pose a barrier to the implementation of circular fashion?

The following comments were made by the participants:

- Brands need to provide real facts, not just marketing, to guide consumers toward sustainable choices.
- There is a gap between customer attitudes and actions, partly due to lack of accessibility, fun, and education in sustainability.
- The discount-based business model devalues garments, making sustainability harder to implement.
- While customers care about prices, they will adapt to higher prices for sustainable options if presented as rewarding.
- Customer demand varies by demographic, with different needs and behaviors between teenagers, older consumers, and B2B buyers, such as those making procurement decisions for uniforms.
- Sustainable options can be more expensive, but this is not always the case, especially regarding recycled fibers.
- Affording sustainability is harder in less wealthy countries.
- Small-scale retailers struggle with fabric sourcing requirements that lead to overproduction.
- Civil society actors lack funding and human capacity.
- CBMs face limited profitability, presenting challenges for widespread adoption.

2.2.4.2 Barrier 2: Fast fashion

What stands in the way of rethinking the concept of fashion in order to encourage longer use?

The following comments were made by the participants:

- Fast fashion is perceived as constantly changing and driven by powerful lobbies, making it profitable and hard to shift.
- The dominant narrative from big brands is that fast fashion democratizes fashion by making it affordable, which needs to be changed.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- A significant portion of consumers (42%) is willing to pay more for sustainable fashion, with education and facts helping to shift behavior, similar to how the "slow food" movement transformed food habits.
- Fast fashion is driven by price pressure on retailers and overstocking, which leads to ultra-fast fashion, with garments often sold for minimal or no price to clear stock.
- There is a need to relieve price pressure on retailers and find solutions to overstocking.
- The misconception that fashion requires constant change needs to be challenged; many bestsellers are timeless classics.
- Social media influencers play a key role in shifting the mindset from fast to slow fashion.
- Consumers are not ready for a "planned economy" in fashion and still want the freedom to buy clothes whenever they choose. Regulatory change is necessary to support a shift toward sustainable fashion.

2.2.4.3 Barrier 3: Lack of regulations

Where are mandatory regulations a necessary condition for. Acircular transition?

The participants univocally expressed a strong wish for mandatory regulations, without which the transition to a circular fashion system will not be possible, in their view.

The following comments were made:

- Mandatory regulations require clear objectives and political will to address environmental and social challenges.
- Past textile regulations focused on safety, but the shift toward sustainability lacks clear definitions that need to be established.
- Consumers need transparent, regulated information about their purchases.
- Human rights and environmental due diligence should be mandatory with clear guidance for implementation.
- Ecodesign regulations must be specific and mandatory to support the uptake of recycled fibers.
- Urgent action is needed due to the climate crisis and resource disparities, requiring all stakeholders to align on sustainable goals.
- Regulations should be accessible, straightforward, and avoid excessive bureaucracy (e.g., not overly complex like GDPR).
- Uniform standards across the textile industry are crucial but challenging to implement.
- Companies using recycled textiles should receive tax incentives to encourage investment in recycling technologies.
- Consumer confusion highlights the need for a systemic overhaul to make fashion truly sustainable.

2.2.4.4 Barrier 4: Lack of textile reuse and recycling

What are major obstacles to facilitate textile reuse and high-quality recycling?

Comments made by the participants:

- Stop exporting textile waste and prioritize local recycling; e.g., France currently exports 90% of its textile waste.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- End-of-life textiles lack sorting, reducing available material for recycling; mandatory sorting in 2025 will help.
- Recycling technologies are underdeveloped and need improvement for higher-quality results.
- Many end-of-life products lack durability and quality, making them unusable for recycling or reuse.
- Current recycling business models are flawed; sorters rely on second-hand sales, but there's insufficient quality material.
- Poor-quality second-hand clothes often end up as waste exported to Africa.
- Legal frameworks need updates to permit transporting unsorted textiles for recycling, as current laws hinder such shipments.
- The waste hierarchy prioritizes reuse over recycling, creating competition; recycling must be elevated in value.
- Companies should be obligated to replace broken items, incentivizing higher-quality production.

2.2.4.5 Other barriers

In the final round, the participants were asked to reflect on other major barriers, and these were their answers:

- There is an urgent need to define sustainable textiles due to their complexity.
- Recycling technology is still in early development and needs scaling up for readiness.
- Transparency and traceability in the production chain remain major challenges.
- Media and social media play a key role in shaping the sustainability narrative.
- Environmental and social impacts of textiles are currently treated separately but should be unified in sustainability definitions.
- Economic pressures, like discount-based models, hinder industry competitiveness and sustainability.
- Geo-political interests create divisions, preventing unified approaches to sustainability.
- Transitioning to sustainable textile production may impact job opportunities in production countries.
- Economic incentives for circular business models are lacking.
- Textiles' complexity (fiber blends, dyes, chemicals) requires advanced recycling technologies.
- Clear design guidelines for sustainable textiles are missing.
- Education and decision-makers' willingness to address sustainability remain insufficient.
- Accurate supply chain data is not readily accessible.

2.2.5 Pain points and solutions

For this session, the participants zoomed in at their concrete pain points and collectively suggested solutions to overcome these problems.

2.2.5.1 Fibre technology

Pain points:

- Complex material mix

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Mixed feedstock for recycling (separation technology is not fully developed)
- Access to dismantled products
- Asian competition
- Transparency of claims (many levels of information (production route, location, use of CoC, etc.)
- Customer B2B or B2C expectations on looks, quality, etc. (meeting virgin quality standards)

Solutions:

- Traceability (sorting)
- Further develop (product) ID, separation + robust recycling technology
- Having a maximum of three fibre materials in textiles (WFD for brands)
- Mechanical recycling of mixes (e.g. input polycotton, then output is also polycotton)
- Clear eco-design guidelines
- Change EPR system
- Applying EPR and this way gaining control over material flow
- Transparency of whole supply chain
- Introduction of customs or other barriers
- Industrial capacity to scale up
- LCA for mechanical recycling is only positive if local(?)
- Criteria list (to ensure standardised information)
- Information should also go into a type of product passport system
- Explaining benefits to client for usage

2.2.5.2 Waste collection and management

Pain points:

- Current regulations (transport issues; Waste shipment regulations)
- Market uncertainty (hard to invest into recycling equipment without being sure of the market)
- Technology (maturity of sorting technologies and prices)
- Funding (funding research, investments in most promising and reliable technologies)
- Value chain (the market is not ready)
- Collaboration between brands and recyclers (steady flow is missing)
- EPR (value reuse)
- No control of the in-stream of collected goods, not in quality, nor in volume
- Missing labels (from clothes that need to be recycled)

Solutions:

- Regulations about minimum percentage of recycled fibre content from post-consumer textile waste.
- Assess the state of the art with scientists and set-up deadlines to get the technology ready. Set mandatory date to introduce recycling based on it.
- Calculate and make evaluation of funding needed
- Create consortium/allies of investors
- Positive case studies to see how an effective circular value chain works
- Introduction of QR codes for all garments (not incorporated on labels)
- Support markets for recycled fibres
- Extend EPR to mitigate unintended incentives against reuse

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Create a legal platform providing strong incentives to subject to full value chain projects
- Fast scanners that detect the composition of the material
- Transparent and reliable labelling (QR codes)
- Consumer friendly labels and technology

2.2.5.3 Textile design

Pain points:

- Profit and growth (many costs in R&D and compliance, sales will drop)
- Profitability and margins
- Dysfunctional textile rating schemes (better measuring methods for sustainability are needed. HIGG index in industry should be adapted to better reflect actual impacts and be more neutral)
- Lack of education on sustainability
- Overconsumption (the fashion industry relies on a business model with seasonal collections, complemented by sales periods)
- Complexity of the product

Solutions:

- Financial incentives/support, grants, lower VAT, lower tax on profit, loans
- Impose tariffs on cheap textile imports
- Minimum price for clothing (True cost, quality)
- Less profit margin
- Decide where the three minimal parameters are to describe recycled fabric quality (or sustainability in general)
- Government-led framework for rating
- A new definition of durable
- EU/global – one system is mandatory
- Educate younger people (behaviour – impact)
- Tax paid by producer on textile waste
- Budget dedicated to innovation coming from tax on overconsumption
- Introduce minimum quality requirements
- EU campaigns (similar to anti-tobacco campaign)
- Recycle into different applications, as in construction

2.2.5.4 Retail and use

Pain points:

- Lack of availability of recycled technologies (many SMEs are considered too small to be interesting to recyclers for collection of their EOB textiles – small quantities)
- Too little pressure or incentives from regulators and consumers for companies to see the necessity to become circular
- No national regulations on how to collect and sort EOL for recycling purposes
- Small-scale retailers have problems with minimum quantities required to be purchased when sourcing fabrics, which leads to overproduction
- Lack of human capacity and funding for civil society actors
- Limited profitability of circular business models

Solutions:

- Launch collaboration with start-up recyclers who are looking for small quantities

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Partner up with sorters instead of recyclers
- Puch from the authorities is needed by introducing new regulations
- Educate and raise awareness among consumers to pressure the industry
- Create opportunities for small retailers to connect with producers (match making apps, events, social media groups etc.)
- Incorporate true cost
- Educate and raise awareness among consumers to create demand for sustainable fashion

2.2.6 True Cost Tool

The concept of the SCIRT True Cost Model was presented in a plenary setting and the final session of the in-person User Board was related to discussions on its relevance regarding general needs, its usability and potential challenges and boundary conditions.

The participants were again asked to answer a set of guiding questions in a group setting.

2.2.6.1 Regulations

Relevance and needs:

- Establish clear criteria for fees in EPR and economic incentives to balance market pricing.
- Compare products and align with regulatory targets.
- Enhance value chain transparency and visibility of environmental and social impacts.
- Address funding responsibility (consumer, producer, or both) and geographical challenges (e.g., data integration from resistant countries like China).
- Stimulate the creation of open-source databases to improve data sharing and intelligence.

Usability:

- Enable detailed cost breakdowns for communication and decision-making.
- Link with mandatory initiatives like product passports to improve data accuracy.
- Ensure regular updates and transparent, proven methodologies to maintain reliability.
- Act as a decision-making tool to identify efficient circular loops and drive continuous improvement.
- Focus on full pipeline transparency rather than becoming just another certification scheme.

Challenges and boundary conditions:

- Cost and funding: Implementation, auditing, and updates require sustainable financial models.
- Trust and transparency: Robust, validated methodologies are critical to user confidence.
- Inclusivity: Ensure accessibility for SMEs and large companies alike to avoid a "pay-to-play" system.
- Social impact gaps: Consider production practices and business models when assessing risks, not just production locations.
- Industry uptake: Provide clear benchmarks and incentives for participation to ensure widespread adoption.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Competitiveness: Address confidentiality concerns to prevent disadvantages for companies sharing data.

2.2.6.2 Business models

Relevance and needs:

- Applicable at product and company levels, supporting design, ESG metrics, and emissions reduction plans.
- Serves as a visualization tool to assess trade-offs between environmental and social aspects.
- Can aid in communication, product development, and target integration.

Usability:

- Tracks progress compares garment origins and measures alignment with goals.
- Acts as a dynamic "learning tool" with automatic updates to maintain data relevance.
- Supports circular business models (CBMs), sales, and procurement through offtake agreements or selective distribution based on compliance.
- Offers TC database integration at fabric and higher levels.

Challenges and boundary conditions:

- Confidentiality: Ensuring data privacy while fostering industry collaboration through mutual agreements.
- Data availability: Regulations (e.g., PEF) will soon require data sharing. Open-source options may facilitate access.
- Interpretation: Usability must prioritize clarity, efficiency, and regular updates to remain user-friendly and effective.

2.2.6.3 Waste collection and recycling

Relevance and needs:

- Applicable at both product and company levels, supporting product design and ESG initiatives.
- Can guide emissions reduction action plans and enhance communication.
- Serves as a visualization tool for assessing trade-offs between environmental and social impacts.

Usability:

- Enables progress tracking (e.g., garment origins) and product development.
- Supports management by integrating with company targets and acting as a boundary condition for decisions.
- Includes a TC database at fabric and higher levels.
- Functions as a dynamic "learning tool" with automatic updates to ensure data relevance.
- Facilitates circular business models (CBMs) and procurement through compliance-based distribution agreements.

Challenges and boundary conditions:

- Confidentiality: Requires balancing data privacy and industry collaboration; shared data could be a condition for platform participation.
- Data availability: Anticipated regulatory requirements (e.g., PEF) will necessitate data sharing. Open-source models could improve access.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Data interpretation: Usability must prioritize clarity, timeliness, and efficiency to ensure practical application.

2.2.6.4 Circular design

Relevance and Needs:

- Applies at the product level, supporting design and action plans for improvement.
- Enhances communication, e.g., via product passports, and visualizes trade-offs between environmental and social aspects.
- Links profit and loss (P&L) with environmental, social, and governance (ESG) metrics.

Usability:

- Compares garment pieces and fabric types, supported by a higher-level TCM database.
- Functions as a "learning tool," continuously updated with the latest data.
- Assists management by integrating with company targets and serving as a boundary condition for decisions.
- Supports circular business models, resale/re-commerce, and sales through features like offtake agreements.

Challenges and Boundary Conditions:

- Collaboration: Industry cooperation is essential, potentially requiring platform participation.
- Data availability: Regulatory requirements (e.g., PEF) will drive data sharing.
- Confidentiality: Balancing open-source access with data privacy.
- Interpretation: Clear guidance needed on care instructions, true cost calculations, and accounting for the use phase.
- Combines costs of goods with true cost for comprehensive evaluation.

2.3 User Board 3

The third SCIRT User Board was a organised online, from 22 – 23 November 2022, encompassing two smaller two-hour workshops on the topics of Circular business models and Circular design guidelines.

The User Boards took place online in Zoom, one the first day from 14:00 – 16:00 and on the second day, 9:00 – 11:00. Discussions were held in smaller breakout sessions. During the sessions, the interactive whiteboard Mural was used to collect input from the experts.

2.3.1 Circular business models

The topic of the first day of the workshop was Circular business models with a focus on SCIRT Task 4.3 Organizational model development and business case validation.

The workshop zoomed in on opportunities, risks, enablers and barriers of four different, but to a large extend complimentary, business models:

- Business model for longevity and durability
- Business model for collection and reuse
- Business model for optimised product use
- Business model for recycling and material reuse

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

The workshop started with the introduction to the four business models, and after that, discussions in the breakout groups followed.
In each breakout group, a moderator from Prospex Institute was guiding the discussion, together with the technical expert from VITO. For each session, discussing a different business model, the moderators asked what could influence, positively or negatively, the roll-out of the presented business model in different categories:

1. **Consumer behaviour:** how could consumers influence the roll-out of this business model?
2. **Supply chain/ operations:** which aspects of the supply chain or operations might influence the roll- out this business model?
3. **Financial aspects / value chain:** which aspects of financing or value chain could influence the roll-out of this business model?
4. **Product design:** how can product design influence the roll-out of this business model?
5. **Regulations:** how can regulations (national or EU- wide) influence the roll-out of this business model?

2.3.1.1 Participants

From the 23 registered participants, 14 people took part in the online workshop out of which 7 participants were women and 7 men. The participants represented a broad number of stakeholder categories, and they were distributed evenly across the breakout brainstorming groups. The group composition and the stakeholder categories represented can be seen in the table below.

Table 6: SCIRT UB 3 participating organisations per stakeholder categories

Organisation	Country of residence	Category	Participants per category
Acticell GmbH	Austria	Production and sourcing of fibres (raw materials)	2
Van de Velde	Belgium		
OVAM	Belgium	Policy maker	4
OECD	France		
CIRFS	Belgium		
IWTO - International Wool Textile Organisation	Belgium		
Eurotex Ltd/ TexCycle	Bulgaria	Collection and sorting	3
Belcotex BV	Belgium		
Eurofrip nv	Belgium		
NABA, Nuova Accademia di Belle Arti	Italy	Education & Research	1
Zalando	Germany	Distribution, branding and retails of textiles	1
Mulliez-Flory	France		2

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Bellerose	Belgium	Production of textiles and Product Design	
Van de Velde	Belgium	Production of textiles (Tier 1&2)	1
Total number of participants			14

2.3.1.2 Results of breakout session 1: Business model longevity and durability

The below table is a summary of discussions of breakout group 1:

Table 7: Group 1 key takeaways on Business model 1

Consumer behaviour	**Barrier:** • Improper disposal (residual waste) • The consumer must see the benefit of purchasing something longer/more durable • Consumer behaviour is hard to predict **Enabler** • Proper product care • Emotional connection with the product **Opportunity:** • Increased 2nd hand sales/purchases • Potential for more connection with the customer: closer communication, providing more info about the product • Bigger potential for resale/rental • Educating customers on the value of more durable clothing (mindset switch)
Supply chain/operations	**Enabler** • Quality tests • Adapt quality criteria for source material **Opportunity** • New businesses can provide these services (job creation)
Financial aspects/ value chain	**Risk** • Higher production cost • Lower use = lower recurrent sales • Sales prices will have to match gross margin + communicate customer benefit • There needs to be an enabler. For this part of the process **Enabler** • Investment in internal team education
Product design	**Barrier** • Not easy for SMEs to adhere to • Timeless design is at odds sometimes **Risk** • Not one standard for how longevity looks like – it can be a differentiator for the brand **Enabler** • Technical design requirements

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Increase fabric weight • Timeless design
Regulations	**Enabler** • Eco-design requirements • Economic instruments (taxes) • Quality criteria for certain articles

The below table is a summary of discussions of breakout group 2:

Table 8: Group 2 key takeaways on Business model 1

Consumer behaviour	**Barrier** • Improper disposal (residual waste) • Long-time use of clothing is not compatible with the concept of 'fashion' **Enabler** • Proper product care • Emotional connection with the product • Visibility e.g. through Digital Passport • Timeless design • Tips and tricks for combinations **Opportunity** • Increased 2nd hand sales/purchases **Not categorised** • Loyalty/longevity system
Supply chain/operations	**Enabler** • Quality tests • Certificates **Not categorised** • The fabrics must be tested by industrial laundries to validate that they will endure the washing processes • The suppliers must be tested by industrial laundries to validate that they will endure the washing processes (buttons, zippers, etc.) • Continuity in relations • Do tests on the fabrics (resistance, tearing, friction, etc.) • Synthetic fibres perform best • We carry out 'wearer tests' in real conditions • We work on fabrics and components that we know
Financial aspects/ value chain	**Risk** • Higher production cost • Lower use = lower recurrent sales
Product design	**Enabler** • Technical design requirements • Careful selection of materials • Timeless design **Not categorised**

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Slow movers? • Work with customers on the use of their products and design products that meet their uses
Regulations	**Enabler** • Eco-design requirements • Economic instruments (taxes) **Not categorised** • Warranty: make rules on warranty clear to consumers so they can claim refunds/free repairs • Specification

The below table is a summary of discussions of breakout group 3:

Table 9: Group 3 key takeaways on Business model 1

Consumer behaviour	**Risk:** • Improper disposal (residual waste) **Enabler** • Proper product care • Emotional connection with the product **Opportunity:** • Increased 2nd hand sales/purchases **Not categorised** • Circularity awareness for textiles • Extended wash instructions • Awareness about the impact of non-durable textiles • Alignment with consumer preferences (comfort, easy to combine, changing outfits) • Customization of products • Customer-centered • Increasing second-hand garments events • More collection points for old garments • Use of eco-labels to guide consumers
Supply chain/operations	**Enabler** • Quality tests **Not categorised** • Clear standards about longevity/durability • Quality tests on both materials and construction
Financial aspects/ value chain	**Risk** • Profitability for recycling business model **Barrier** • Higher production cost • Longer use= lower recurrent sales **Not categorised** • Work with a leasing program • Direct sales to consumers • Facilitate second hand sales via own platform

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Higher value as a second-hand product
Product design	**Risk** • Timeless design could be risky **Barrier** • Durability vs. recyclability/recycled content **Enabler** • Careful selection of materials • Technical design requirements • Timeless design **Not categorised** • Ensure durable fasteners • Possibility to adapt to one's needs (e.g. size) • Understanding your consumer/ audience in product design
Regulations	**Enabler** • Eco-design requirements • Economic instruments (taxes) **Not categorised** • EPR scheme • Standardisation of recycling impact • Make care labels/ information mandatory • Explore behavioural insights to promote more sustainable consumption choices (to complement economic incentives)

2.3.1.3 Results of breakout session 2: Business model collection and reuse

The below table is a summary of discussions of breakout group 1:

Table 10: Group 1 key takeaways on Business model 2

Consumer behaviour	**Risk** • More consumption **Enabler** • Information about proper disposal • Education about what happens to clothes now at the end of their life (customers are not aware that clothes end up in landfill) • It must be easy for people to find the disposal points (work with deposits on your clothes) = also risk
Supply chain/operations	**Enabler** • Availability of spare parts • Instructions for repairing
Financial aspects/ value chain	**Risk** • Conflicting interests between high collection targets versus longevity • Natural conflict between different activities (waste streams) • Growing number of items decreasing in quality **Opportunity** • Tap into new customer segment

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	Question • Who is responsible for the collection of textiles? Is it open to discussion
Product design	**Barrier** • Dependent on product type (e.g. baby clothing) **Enabler** • Digital product passport with required data • Style of the product/brand/image
Regulations	**Risk** • Regulation on textile waste transportation is quite strict **Enabler** • EPR • Regulation on transport trade • Handyman bonus by governments (e.g. Austria 'Handwerkerbonus')

The below table is a summary of discussions of breakout group 2:

Table 11: Group 2 key takeaways on Business model 2

Consumer behaviour	**Risk** • More consumption **Enabler** • Information about proper disposal **Not categorised** • Level of (rest) quality? • Withholding Tax for third life? • Buy-back from brands to resell/refurbish (see Patagonia Trade in program) • Buying second hand clothes should be as easy as buying new ones
Supply chain/operations	**Enabler** • Availability of spare parts **Not categorised** • Cleaning? • Point of resales? • Textiles expertise? Cut & sew. • Automated sorting technology to reduce cost and increase capacity
Financial aspects/ value chain	**Barrier** • Cost of logistics (collection, reception, quality control, entry into stock, preparation, packaging, delivery) **Opportunity** • Tap into new customer segment **Question** • Cost of handling? **Not categorised**

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Cost of collection • Cost of complexity #of stock keeping unit stock keeping units • Cost of sorting
Product design	**Barrier** • Dependent on product type (e.g baby clothing) **Enabler** • Style of the product/brand/image **Not categorised** • Work with customers on the use of their products and design products that meet their uses
Regulations	**Enabler** • Regulation on transport trade **Not categorised** • EPR goals for collection and local reuse • Oblige selective collection • Audit sorting plans • Funding schemes to boost business required • Regulations like EPR and involvement of municipal authorities

The below table is a summary of discussions of breakout group 3:

Table 12: Group 3 key takeaways onn Business model 2

Consumer behaviour	**Risk** • More consumption **Enabler** • Information about proper disposal **Opportunity:** • Second hand shopping as a modern choice • Separated disposal (pre-sorting)
Supply chain/operations	**Enabler** • Availability of spare parts **Not categorised** • Business models based on leasing (for reuse) – risk of focus on low quality clothing, higher waste generation
Financial aspects/ value chain	**Opportunity** • Tap into new customer segment **Not categorised** • Deposit and value increase as user benefit
Product design	**Barrier** • Dependent on product type (e.g. baby clothing) • Complexity of the product **Enabler** • Style of the product/brand/image **Not categorised** • Designing garments no mixing many fibres together • Education and awareness

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Regulations	**Enabler** • Regulation on transport trade • Incentives to render repair more accessible, awareness measures **Not categorised** • Textile waste and second-hand clothing definition • Requirements about disinfection, bans of selling of second-hand garments such as baby clothing, shoes • VAT reduction for second hand

2.3.1.4 Results of breakout session 3: Business model optimised product use

The below table is a summary of discussions of breakout group 1:

Table 13: Group 1 key takeaways on Business model 3

Consumer behaviour	**Risk** • More consumption • Customers may take less care during use (not their own clothes) **Enabler** • More self-awareness on how customers consume and use items (e.g. realise that some items would be better to rent than to buy) **Opportunity** • Pay a premium for 'new' leased and less for 'used' leased?
Supply chain/operations	**Barrier** • More transport/intermediate cleaning **Risk** • Outsourcing versus vertical integration **Enabler** • Depending on product: big repetitive orders (e.g. blankets) to limit search and transaction costs **Opportunity** • New infrastructure needed (reverse logistics & new providers/ new warehouse capacity etc.
Financial aspects/ value chain	**Barrier** • Revenue spread over time **Opportunity** • Potential to decouple revenue from virgin resource use • Plannable revenue, repetitive income
Product design	**Enabler** • Durable product/ easy maintenance • Tracking of product is possible (condition)
Regulations	**Enabler** • Regulation about ownership • Regulations may be defined by area of use (e.g. medical)

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Regulations about damage (both regulatory policies and contractual blueprints)

The below table is a summary of discussions of breakout group 2:

Table 14: Group 2 key takeaways on Business model 3

Consumer behaviour	**Risk** • More consumption **Not categorised** • Leasing and returning clothes should be as easy as buying new clothing • Cleanness besides optics important • Criteria to keep quality optimal • Responsibility of the consumer to take care of the products
Supply chain/operations	**Barrier** • More transport/intermediate cleaning **Not categorised** • Intermediate stock keeping • Laundries have experience see hotels,… • Logistics is key
Financial aspects/ value chain	**Barrier** • Revenue is spread over time **Not categorised** • Cleaning etc cost
Product design	**Enabler** • Durable product/ easy maintenance • Work with customers on the use of their products and design products that meet their uses
Regulations	**Enabler** • Regulation about ownership

The below table is a summary of discussions of breakout group 3:

Table 15: Group 3 key takeaways on Business model 3

Consumer behaviour	**Risk** • More consumption **Not categorised** • Keeping your wardrobe up to date becomes a task • Maybe it is more proper for specific items, not for everyday use articles • Create a different understanding of 'ownership' • Wider audience is reachable – stage of life transparency
Supply chain/operations	**Barrier** • More transport/intermediate cleaning **Not categorised**

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• More complex administration (follow-up of orders, shipments, invoicing,….) • How to make sure there is enough availability? • Track and trace options
Financial aspects/ value chain	**Barrier** • Revenue is spread over time **Not categorised** • It may have a negative effect on the second-hand sector that already exists • How much will a customer pay for something they don't own
Product design	**Enabler** • Durable product/ easy maintenance **Not categorised** • Recyclability of the product to prevent/reduce costs at end of life
Regulations	**Enabler** • Regulation about ownership **Not categorised** • Stage of life transparency vs. cost

2.3.1.5 Results of breakout session 4: Business model recycling and material use

The below table is a summary of discussions of breakout group 1:

Table 16: Group 1 key takeaways on Business model 4

Consumer behaviour	**Barrier** • Consumer ideas about 'second hand is dirty' **Enabler** • Information about proper disposal • Proper maintenance (e.g. washing temperature) • Information about recyclability of clothes (e.g. try to buy mono-materials; less blends)
Supply chain/operations	**Barrier** • Limited availability of recycled material (+ ensure access to SMEs) • Some material cannot be recycled more than one time **Risk** • Investments needed in high-quality textile recycling (to reach a sufficient large scale beyond pilot scales) = also an opportunity • New supply chain partnerships needed to reach scale of post-consumer textile recycling • Quality problems may occur (e.g. tensile strength) when using more recycled content (natural fibres) **Opportunity**

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Use of recycled materials
Financial aspects/ value chain	**Risk** • Costs of recycled material may be higher (e.g. rPET) • Recycled content used as marketing tool (but no legislation on it) – risk of greenwashing **Opportunity** • Less dependent on the market
Product design	**Barrier** • Elastane • Non-removable buttons, zippers • Material blends • Mono-materials preferred **Risk** • Hazardous chemicals circulating • Use of materials where recycling strategies already exist **Enabler** • Implementing design for recycling is key • Clearer differentiation between pre- and post- consumer is needed • First step: start to talk about it internally + engage in talks with recycling company **Opportunity** • If a product design has been done carefully this would improve the bargaining position of brands with recycling companies
Regulations	**Risk** • Mandatory recycling could risk material being created just to be recycled (e.g. recycling of water bottles) **Enabler** • Mandatory recycled content • EPR system • Phase out critical materials (hard to recycle) • One binding RSL for all stakeholders (in the whole value chain)

The below table is a summary of discussions of breakout group 2:

Table 17: Group 2 key takeaways on Business model 4

Consumer behaviour	**Enabler** • Information about proper disposal • Proper maintenance (e.g. washing temperature) **Not categorised** • Change user habits by asking them to pre-sort clothes • Change consumer habits by explaining to them the interest of designing clothes that are simpler in number of fabrics, to anticipate recycling
Supply chain/operations	**Enabler**

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Network platform to connect different players in the value chain (see Ellie.connect) **Opportunity** • Use of recycled materials **Not categorised** • Automated sorting technology to reduce cost and increase capacity • Facilities to make fibres are not in Europe • Complex blends/technological state • Transparency • Collect/dismantling: responsibility
Financial aspects/ value chain	**Opportunity** • Less dependent on the market **Not categorised** • Cost of collection • Cost of sorting • 'True cost' • Cost of manual dismantling • Feasibility only with bigger facilities
Product design	**Risk** • Hazardous chemicals circulating **Barrier** • Elastane • Non-removable buttons, zippers,… • Material blends **Enabler** • (digital) product label **Not categorised** • Number of different fabrics or colors, number of layers
Regulations	**Enabler** • Mandatory recycled content • EPR system **Not categorised** • Create EU-wide standardized categories for sorted clothes to enable trade for recycling • Large investments need to be attracted to be able to recycle the large volumes into new fibers • Transparency and identification

The below table is a summary of discussions of breakout group 3:

Table 18: Group 3 key takeaways on Business model 4

Consumer behaviour	**Enabler** • Information about proper disposal • Proper maintenance (e.g. washing temperature) **Not categorised**

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Pre-EOL user guidance / impact of end-of-life use • Buying more because it's 'sustainable' • Customer awareness about recycled fibers
Supply chain/operations	**Opportunity** • Use of recycled materials **Not categorised** • Pre-sorted collection of recyclable and non-recyclable textiles • Create critical mass to optimise logistics & recycling
Financial aspects/ value chain	**Opportunity** • Less dependent on the market **Not categorised** • There are actors that don't know each other • Value chain is different • Certainly, about the source of textiles to be recycled • Transparency of the yarn: transportation, lack of information
Product design	**Risk** • Hazardous chemicals circulating **Barrier** • Elastane • Material blends • Non-removable buttons, zippers,….. **Enabler** • (digital) product label **Not categorised** • Inferior product quality • Include information on materials for recycling, product passport • Integrate chemical or mechanical degradability in design
Regulations	**Enabler** • Mandatory recycled content • EPR system **Not categorised** • Education, pros and cons of material reuse • Incentives for eco-recycling improvements • Incentives for eco-recycling improvements • Clear distinction between pre-and post-consumer recycled fibres / transparency

2.3.2Circular design guidelines

The topic of the second day of the workshop was Circular Design, and the interactive exercises focused specifically on informing the development of the circular design tool which was being developed as part of the SCIRT project.

The main objective of the second day of the User Board was to gain input from key experts across the textile value chain, to gather input and suggestions that can be used to create the circular design tool.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

After the initial plenary welcome, the participants were invited to join smaller breakout sessions. The groups were divided per topic as follows:

1. Circular Materials and Design
2. Waste Collection and Regulations
3. Social Impact

In each breakout group, a moderator from Prospex Institute was guiding the discussion, while a technical expert from project partners circular.fashion or Flanders DC were answering any specific questions and providing additional guidance. Due to many last-minute cancellations, groups one and two were merged before the start of the session to ensure large enough participant numbers in each group.

2.3.2.1 Participants

From the 20 registered participants, 12 people took part in the online workshop. The participants represented a broad number of stakeholder categories, hence contributing to multifaceted discussions around the topics of the workshop. The group composition and the stakeholder categories represented can be seen in the table below.

Organisation	Country of residence	Category	Participants per category
Acticell GmbH	Austria	Production and sourcing of fibres (raw materials)	2
Kelheim Fibers	Germany		
Van de Velde	Belgium	Production of textiles	1
Swedish Trade Federation - Svensk Handel	Sweden	Civil society and social actors	2
EuRIC	Belgium		
Sustainable Fashion Academy	Sweden	Education & Research	2
NABA, Nuova Accademia di Belle Arti	Italy		
OECD	France	Policy maker	3
IWTO - International Wool Textile Organisation	Belgium		
European Environmental Bureau	Belgium		
Zalando	Germany	Distribution, branding and retails of textiles	1
The Fashion Retailer	Spain	Media, communication and marketing	1
Total number of participants			12

2.3.2.2 Results of breakout session 1: Pain points and needs

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

The participants were asked to think of the biggest pain points they face with regards to Circular Design.

Group 1 results:

Table 19: Group 1 pain points and needs

Pain points
Acceptance within the value chain
Raw material purity
Availability of 'alternatives' (keeping the USP standards)
Innovations and ambiguity
Affordable circular material
Supply
Traceability of the content in the products
Common 'focus areas' and strategy from a brand to another
Speed and scaling at suppliers
Lack of empowerment from ExCo
Lack of people/ talent specialising in sustainability (from design to supply chain)
ROI?
1 'bible' to calculate the right impact
Might connect with traceability solutions + product passport
Common language
Data collection
Education and understanding
Compliance and greenwashing
Targets
Competitiveness as EU producer
Lack of links between products designed for circularity and circular business models
What are the right KPIs?
Tool will not be about calculations
The complexity of the specific product (fashion) regarding material as well as social.
Bring economies of scale, linking to business
Longevity - can be addressed by giving recommendation son how to increase it
Tracking progress
What kind of data?
Difficulties with CO2 calculations
Criteria on CO2-efficient solution
Add regional criteria - guidance, but not calculate CO2
Pain points that the tool could partially address
1 'bible' to calculate the right impact
Might connect with traceability solutions + product passport

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Pain points that the tool could address
Common language
Data collection
Education and understanding
Compliance and greenwashing
Targets
Competitiveness as EU producer
Lack of links between products designed for circularity and circular business models
What are the right KPIs?
Tool will not be abt calculations
The complexity of the specific product (fashion) regarding material as well as social.
Bring economies of scale, linking to business
Longevity - can be addressed by giving recommendation son how to increase it
Tracking progress
What kind of data?
Difficulties with CO2 calculations
Criteria on CO2-efficient solution
Add regional criteria - guidance, but not calculate CO2

Group 2 results:

Table 20: Group 2 pain points and needs

Pain points
Costs need to stay within certain limits
Interpretation difficulties: what are decent living wages in other countries?
What are the minimum requirements
Insight in working conditions 'here' (in Western countries) > on a psychological level (burnouts, ...)
Hard to control: how can you check claims by your suppliers (fact checking)
There is a lot of 'half information', rumours, ... > designers need valid, quality rationales
Insight in working conditions in manufacturing countries
Insight in likelihood of my produced clothes to end up on a landfill > has social impact in those countries (waste in other countries - some countries don't want our second hand clothes anymore!
Uniform definitions (what is fair? Social impact?)
Designers are not educated enough
More general for the tool: we also need to to look at up cycling, recycling,....not only new clothes
Transparency in the value chain (who are the producers? Circumstances of the building?)
Pain points that the tool could address
Costs need to stay within certain limits > the tool can give an idea of cost of certain choices (cost / percentage)
Interpretation difficulties: what are decent living wages in other countries?

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

What are the minimum requirements
Insight in working conditions in manufacturing countries > list of countries risks/ by neutral organisations?
Hard to control: how can you check claims by your suppliers
There's a lot of 'half information', rumours, ... > designers need valid, quality rationales
Designers are not educated enough
Uniform definitions
Transparency in the value chain

2.3.2.3 Results of breakout session 2: Designing the tool

After the collection of the pain points that circular design tools need to address, the participants were asked to consider who would be the ideal users at the different stages of both the production and the reverse supply chain.

Group 1 results:

Table 21: Group 1 considerations of ideal users

Who would use it and at which stage
Fibre Producers
Labelling
Designers - look up available resources
Product developers
Buyers/Sourcing
Supply Chain / Quality Control
Sorters, recyclers
Design department
Purchase (sourcing)
Strategic level / holistic
Consumers (buying/ shopping)
Regulations/ Trading directives
Head of sustainability at a company
Translating design into product - finding KPIs for the product to understand what to use
Reversed supply chain
Supplier - advertising

Group 2 results:

Table 22: Group 2 considerations of ideal users

Who would use it and at which stage
Educators, students & universities (they should have access)

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Sustainability manager
Marketing team
Buyers
Designers
Higher management
Consumers (to make fashion more transparent)

2.3.2.4 Results of breakout session 3: Important features

Next, the participants were asked which features they think are important to support and facilitate the work of the identified ideal users.

Group 1 results:

Table 23: Group 1 results of features to consider

Which features would the tool have
Support how to prioritise. What is most important for the different stakeholders
Market potential
Sorting according to targets
Materials availability and cost
Current quantities on recycled raw material
To stir the market the right direction - what materials to use for recyclability, etc.
Track progress and results of departments using the tool
Platform for suppliers to inform about their offering
Targets & Progress
Sourcing Support
Connected to digital product passport

Group 2 results:

Table 24: Group 2 results of features to consider

Which features would the tool have
Marketing team
Report generation (like GA): monthly overview of charts etc eg % of the collection made socially responsible
Neutral data resources
Minimum wage requirements
Insight in where your products end up post-consumer
Insight in positive consequences of foreign cooperations (eg # of kids that can go to school thanks to jobs created)
Overall: being able to publish and review the 'positive' impact of what the company is doing
Buyers

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Social requirements next to the technical requirements for the products/services they are going to purchase)
Designers
Give information about social impact per fabric choice / colour choice / .... (per design decision)
Digital design aid - connection to design tool
Maybe work in different stages to filter: overview with colour, fabric,...
Consumers
Very easy information, easily accessible when buying
Different way to open the information for consumers than for professionals
Part of their education
Must have features
Tailored overview for consumers (easy visuals)
All information easily delivered for marketing teams (progress)
Tailored to your choices as a brand

2.3.2.5 Results of breakout session 4

In the final session in the breakout groups, participants were asked to think about the long-term success of the tool, and answer the following question:

How would the tool need to work and look like to be widely used and bring great value to all its users?

Group 1 results:

Table 25: Group 1 considerations on what would make the tool successful

What would make the tool successful
Always updated
PLM (Centric, Lectra...)
UX
Customization
Integrations
User friendly (eg customised for own business)
Implementation in the supply chain
Interoperable, standardized and rely on open data
Link with ERP (BOM/BOW)

Group 2 results:

Table 26: Group 2 considerations on what would make the tool successful

What would make the tool successful
Interactive

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Team cooperation should be possible
Different options per user profile, based on functionalities per user
App for consumers

2.4 User Board 4

The User Board took place online on Zoom on the 22 March 2023, from 14.00 until 16.00. Discussions were held both in plenary and in smaller breakout sessions. During the sessions, the interactive whiteboard Mural was used to collect input from the experts.

The topic of this workshop was Extended Producer Responsibility Scheme and the factors that determine the successful implementation of EPR for textiles, with the focus on SCIRT WP4 and the objectives of this online User Board were to understand the perspective of UB participants on different success factors that were prior identified within SCIRT, to explore enablers and barriers for each of the success factors and to validate the most important success factors.

In the interactive sessions of this online User Board the following six success factors were discussed and barriers and enablers of each of them were identified:

- Legislation
- Specific targets
- Clear responsibilities
- PRO in the driver seat
- Transparent cost calculation
- Reliable and accurate monitoring of impacts

2.4.1 Participants

The User Board on EPR for textiles was of great interest to the textile value chain experts as 42 persons registered, out of which 32 joined the online event. 10 were men and 22 were women. Persons interested in the topic of EPR for textiles came from the companies and organisations listed in the table below:

Table 27: User Board on EPR participants

	Collection/Textile/Government	Country
1	Rijkswaterstaat	The Netherlands
2	DG Environment	International
3	EPA, Naturvårdsverket	Sweden
4	EEB	International
5	ACR+	International
6	Muncipal Waste Europe	International
7	Clean Clothes Campaign	International
8	Make the Label Count	International
9	OVAM	International
10	Denuo	Belgium

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

11	Texaid	International
12	Modint	The Netherlands
13	Creamoda/Circletex	Belgium
14	Kelheim Fibres	Germany
15	The Woody Group	Belgium
16	Bellerose	Belgium
17	Freyzein	Austria
18	Eurotex	Bulgaria
19	Global Fashion Agenda	International
20	OECD	International
21	Swedish Trade Federation	Sweden
22	ADEME	France
23	Policy Hub	International
24	Zalando	Germany
25	Re-Fresh.Global	Germany/International
26	RREUSE	Belgium
27	FEAD	Belgium/International
28	Lipor	Portugal
29	LSJH	Finland
30	The Danish Waste Association	Denmark
32	City of Vienna - Waste management	Austria
33	Avfall Sverige	Sweden
34	Xandres	Belgium

2.4.2 Results of the plenary session

During the opening plenary session, after the initial presentations, an interactive exercise was carried out where the participants were jointly discussing the prior identified success factors, namely:

- Legislation
- Specific targets
- Clear responsibilities
- PRO in the driver seat
- Transparent cost calculation
- Reliable and accurate monitoring of impacts

Participants were asked to identify any missing success factors, but they unanimously agreed that the six factors mentioned above are the most important. Good governance, clear definition of activities and cooperation and involvement of all actors were prioritized by all the participants.

2.4.3 Results of the breakout sessions

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

As the idea behind this User Board was to look at the success factors from the perspective of industry, government and collection, the participants were therefore preassigned into one of the three groups, namely Industry, Government and Collection, based on their companies and organisations.

2.4.3.1 Barriers and enablers of success factors for EPR

Key take aways from group 1: Industry

Table 28: Group 1 results

Legislation	**Barrier:** • Political hobby horses • Stakeholders that are left out • Lack of harmonisation • Different systems (scope and administrative) in the EU • Non-transparent **Enabler** • Stakeholder dialogue • Shared ambitions • use CEN /ISO standard CE language (under development) • Converging interests • EU-harmonization • Clarity and predictability in the legal framework • practical guidelines on implementation
Specific targets	**Barrier:** • Insufficient knowledge of impacts • not using verified real market data, thus setting unrealistic targets • Wanting to go too quick and too far • Lack of prioritisation **Enabler** • Impact assessment • use real verified market data, via a duty of sharing what you put on the market as an economic operator • Demand for the circular products • creating a realistic roadmap which specifies the required developments and stages • harmonised and clear definitions and methods for calculation
Clear responsibilities	**Barrier** • Stakeholders blocking solutions • maybe more matter of roles than responsibilities, the producers are made legally responsible **Enabler** • Financial incentives in line with the targets • clear agreements with stakeholders • solid service contracts with solution providers • agreements with the government, Belgium ISA accord

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

PRO in the driver seat	**Barrier** • Weak level of organisation of the industry • pro not representing all stakeholders • High costs • if not, difficult to get all producers connected to the PRO • they have to take responsibility so let them prove it **Enabler** • Strong leadership of market leaders • led by industry and federations representing all SME's as textiles is 90% SME and stakeholder forums • Prosperity through implementation • all stakeholders are grouped, and structures are foreseen for feedback
Transparent cost calculation	**Barrier** • Transparent cost calculation methods • True cost calculation • shared ambition agreements, no single stake attitude • cost check and balances **Enabler** • Eco-design requirements • Economic instruments (taxes) • Quality criteria for certain articles
Reliable and accurate monitoring of impacts	**Barrier** • Unclear definitions and concepts in legislation • not applying the EPR to all type of textile products • Online (direct) sales • not applying the EPR to all EU and non-EU companies • lack of capacity • Proper data management tools **Enabler** • Agreements on monitoring and reporting • Ensure that the cost burden of verification is applicable to all EU and non-EU companies • Register (or other enforcement tool)

Key takeaways from group 2: Government

Table 29: Group 2 results

Legislation	**Barrier:** • Different political priorities in EU member states • Same definitions in directives (for instance in Waste Framework Directive, Waste Shipment Directive) • Same scope in different EPR systems. France includes shoes, but no workwear NL no shoes, but workwear is included. • Lack of technological availability for textile-textile recycling at scale (EU wide) • Dealing with e-platforms from outside EU

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	Enabler • Stakeholder dialogue • Coherent legislation, EU directives etc. Also, possibility to cooperate between companies • Converging interests • EPR legislation should relate to not only Waste Directive but also to for instance ESPR • Clear EU-policy on textiles recycling. If we collect more by 2025 what plans are there for treatment, recycling, use of recycled fibres • EU Harmonisation • EU Directives can force action in MS
Specific targets	**Barrier:** • Insufficient knowledge of impacts • Wanting to go too quick and too far • Political barriers to regular revision of targets **Enabler** • Impact assessment • Available infrastructure to scale reuse and repair models • Demand for the circular products • Not only focus on recycling but also on waste hierarchy and higher R-strategies (such as reuse, repair or reduce) • Allowing a transition period before the introduction of targets, so that industry has time to adjust • Engaging with industry early on • The setting of progressively more ambitious targets • Communication of EPR to consumers. What are they required to do?
Clear responsibilities	**Barrier** • Stakeholders blocking solutions • In some cases, producers do not have the required expertise to reduce EoL impacts or to find the most cost-efficient solutions • Difficulty in assigning responsibility along the value chain (e.g., externalities before the EoL phase) • Data limitations hinder the assignment of responsibility to specific producers • Lack of sector-specific definitions **Enabler** • Financial incentives in line with the targets • Independent innovation organisation paid by EPR funding with a clear agenda • Regular consulting of all stakeholders
PRO in the driver seat	**Barrier** • Weak level of organisation of the industry • High costs • Different industry organizations for sub sectors, such as textiles and shoes, not willing to really cooperate in one PRO

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	Enabler • Strong leadership of market leaders • Prosperity through implementation
Transparent cost calculation	**Barrier** • Hidden cost agendas • Free riding • Threshold in cost allocation • Observable EoL costs alone may not fully capture externality costs (e.g., mismanaged and littered waste) • Identifying a methodology for fee sett. that is fair, accepted and considered transparent, but also operational / not too costly • Fee is too low, so eco modulation is also too low, so no need to change • Producers trying to cut costs of EPR by paying less to workers in producing countries • Consumers buy online. How to deal with e-platforms outside of EU? **Enabler** • Transparent cost calculation methods • True cost calculation • Common evidence-based methodology around the eco-modulation criteria and fees
Reliable and accurate monitoring of impacts	**Barrier** • Unclear definitions and concepts in legislation • Online (direct) sales **Enabler** • Agreements on monitoring and reporting • Using same measurement units. Waste is measured in kg, sales in turnover or pieces. In circular economy we need to start using kg. • At what point do you measure for instance recycling? • Register (or other enforcement tool)

Key takeaways from group 3: Collection

Table 30: Group 3 results

Legislation	**Barrier:** • EU: Differences in national waste frameworks (e.g end of waste criteria) • Multiple regions within one country need to agree (BE) • There already exists a collection and sorting industry for textiles (BE) • Political hobby horses (1x 1st priority) • Stakeholders that are left out • Lack of governance framework for the EPR (EU or national) - government • a non-harmonized System

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Working with contracts instead of 'accreditation' - Government - national **Enabler** • Stakeholder dialogue • Harmonized System • EU: Harmonisation on EPR's objectives: waste prevention, prioritisation of reuse • Converging interests • EU Policy with harmonizing rules • European framework - Textiles is an EU market
Specific targets	**Barrier:** • Insufficient knowledge of impacts • Little data of current state (POM, collection, recycling...) (BE) • Local reuse outlets are often outside scope • What is achievable in terms of collection and recycling is dependent on the type and source of textile • Equal targets for each country (the reusable part in the countries with lower standard like Bulgaria is not the same like in those with higher) • Wanting to go too quick and too far • not taking into consideration how long and how much products are used prior to discarding as waste • when in Franks' presentation he said that costumers should be informed that they are also paying for sustainability, this raised a concern, that EPR should never be used as for any kind of greenwashing. • EU: lack of political willingness • unrealistic targets and timeline compared to current recycling technologies and separate collection rates (EU) • Lack of legal penalty when not meeting targets **Enabler** • Impact assessment • including assessments/data on the use-phase of products. This could be provided through waste-analysis e.g. performed by collectors. This should inform modulation • sticks and carrots financial tax incentives on MS level • Targets on reuse and recycling • Demand for the circular products • Setting separate targets for reuse, preparation for reuse and recycling • Have phased targets, becoming more ambitious over time • clear, understandable and transparent end of waste criteria (EU) • Targets on Uptake on recycled fibres • Qualitative/soft as well as quantitative goals • Use pull incentives to meet targets (e.g., fees for sperate collection, demand of recycled content in new products)

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• Targets on sustainable and circular produced products free from harmful chemicals • Looking at successful targets already implemented in specific MS and replicate (French new EPR agreement)
Clear responsibilities	**Barrier:** • Stakeholders blocking solutions • market disturbance due to the EPR entering as operator • Conflict of interest between stakeholders (e.g., Producers: lowest cost, collectors and recyclers: highest cost) • uneven playing field between different actors **Enabler:** • Financial incentives in line with the targets • social enterprises/municipalities to carefully assess the impact of EPR schemes on the reuse and preparing for re-use sector • Mandatory involvement of social economy companies in collection, sorting and re-use (EU) • Implementation of separate collection under the responsibility of the municipalities (EU) • Minimum requirements/ standards for the processing of the waste according to the hierarchy • give ownership of the collection to social enterprises • and private collectors • Implementation of relevant stakeholders into the executive board of the EPR • Not excluding private actors • Clear definitions and Roles • Who needs to pay when targets are not achieved?
PRO in the driver seat	**Barrier** • Weak level of organisation of the industry • lack of room for innovation and development due to PRO maximizing cost reduction • Market disturbances • High costs • Administrative burden • PRO and EPR fund managed by producers • Not balanced representation of the stakeholders in the management of PRO **Enabler** • Strong leadership of market leaders • Decision making power to all actors (social enterprises, municipalities) • commitment from producers (reducing waste generation, tackling overproduction, complying with eco-design requirements • involvement and decision-making power also for private collectors • Central governance of EPR for the industry. Avoid free riders • Prosperity through implementation

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• producers should not be able to manage the fund • Balanced governance • the EPR fund should be managed by a neutral public entity • PRO needs to be organized to take decisions quickly and effectively, not too many cooks in the kitchen • The fund solution should be combined with incentive models (e.g., eco-modulated license fees) to promote waste prevention, reuse and high-quality recycling
Transparent cost calculation	**Barrier** • Hidden cost agendas • EPR fees are in FR and NL only few cents, not enough to incentivize customer • Threshold in cost allocation • Administrative burden for producers to prove they are eligible for lower EPR fees • Limited differentiation to incentivise eco-design • eco-modulated fees are not high enough • France: no difference between reusability and recyclability criteria for eco-modulation of fees **Enabler** • Transparent cost calculation methods • the EPR fee should compensate for the cost of the non-reusable fraction • Question: should the EPR also compensate for EoL costs in import countries? • Earmarked costs for prevention, innovation and reuse • True cost calculation • differentiation based on upcoming ESPR criteria (long-term) • Eco-modulation linked to quality on EU level • eco-modulation should follow the waste hierarchy • France: 5% of the collected fees support the reuse activities of social enterprises • eco-modulated fees should tackle overproduction
Reliable and accurate monitoring of impacts	**Barrier** • Unclear definitions and concepts in legislation • Doing the treatment only "on papers" because of low control of the actors • Reuse happens (partly) outside EPR scope • Online (direct) sales • how can textile waste meeting the end of waste criteria be monitored? • lack of incentives to do reporting • Lack of up-to-date transport codes **Enabler** • Agreements on monitoring and reporting • Auditing of actual reuse (locally and abroad), actual recycling etc • Register (or other enforcement tool)

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

	• uniform reporting framework (EU or national) • Obligation for producers to disclose the number of goods they place on the market each year

2.5 User Board 5

The fifth User Board was organised online, on 6 March 2024 and its aim was to zoom in on certain focal problems that have been raised multiple times during the previous User Boards.

In preparation for this User Board, PI collated all of the needs expressed by the value chain experts and the project partners throughout the project and distilled them accordingly to create a list of most pertinent needs in the field of Recycling & Business models and Recycling & Design

2.5.1 Participants

Out of 15 registered participants, 9 joined the online User Board. The participating organisations can be seen in the table below.

Table 31: Participating organisation

Organisation	Country
NABA	Italy
TexCycle	Bulgaria
RREUSE	Belgium
Decathlon (SCIRT brand partner)	France
HERW!N (2 representatives)	Belgium
Eurofrip	Belgium
TEXAID	Germany
Van de Velde	Belgium

2.5.2 Recycling & Business models group results

This group focused on two focal overarching problems which encompassed several expressed needs:

1. **Transparency and traceability throughout the whole value chain**
    - Transparency about the production and recycling processes is needed (data, environmental and social impact)
    - Good quality recycled yarn, respecting the environment and ensuring circularity (with potential info on fabric endurance)
    - Traceability of feedstock of recycled clothes and guaranty the feedstock availability (standardised and consistent tracing system throughout EU)
    - A guarantee that the textiles are collected and recycled locally (high EPR goals for collection and local reuse)
    - Digital Product Passport deployment
    - Transparency in sorting and reselling
    - Clear disposal requirements for customers

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Clarity on collection responsibilities

2. **Fostering textile recycling business and a viable value chain**
    - More communication throughout the value chain facilitated through transparency, but also through competitive collaboration (standardisation for all players)
    - Need for a uniformed EOW criteria, at least throughout EU with uniformed regulations on shipment of waste
    - Need to keep waste streams separate and to speed up the implementation of sorting technology
    - A better alignment of the true cost with the real economic costs of clothing production
    - Need for and industrially closed loop
    - Need for a good price for recycled yarn accepted on the market
    - Harmonised and strict waste transportation regulation
    - Pricing of recycled clothes and consumer willingness to pay
    - Emphasis on fostering textile recycling core business and plants

Tackling the first overarching problem:

First, the group was asked to consider what would be the benefits of solving the first overarching problem. The following points were made:

- Standardisation and all actors using the same terminology
- More efficient post-consumer sorting
- Local job creation
- Enhanced accountability of polluters
- Transparency in regard to recycling (sorting requirements)
- Neutral test lab for support in research
- Better control of labour and environmental conditions throughout the value chain
- Higher scale production of recycled goods
- Easier recycling processes
- Greenwashing avoidance

Then a question was posed on what would be the solutions to the above overarching problem and how to achieve them. The participants suggestions are visible in the table below.

Table 32: Transparency and traceability throughout the whole value chain solutions

Policy solutions (measures)	Actions to achieve it
Create effective collection and sorting mechanisms	Create EU-wide standardised categories for sorted clothes to enable trade for recycling
More collection points/easy and clear disposal of old garments	EPR to finance collection and communication campaigns addressed to consumers
Research programme for non-chemical alternatives to CoC or sustainable (bio-based and bio-degradable) chemical alternatives. EU programme for long-term chemical monitoring	/

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

EU programme on more proactive (precautionary principle) way forward. Chemical residue (important for recyclers)	/
Policy makers to explore how to promote sustainable consumption choices among customers so they choose more durable garments	/
Security in investment: companies (i.e. enablers of reuse, recyclers) need to experience an implemented and working system for generating projectable feedstock	It needs to be clarified on the EU level who will be the contractor for separate collection and sorting and re-selling to textile recyclers and brands (this is not clear within the EU Member states, even though separate collection will be mandatory in 2025)
QR code included on the label for consumers to get more information	DPP
Reduce the overall volumes of textiles placed on the market	Progressive EPR fees based on the number of goods produced
Prioritise local reuse	Set mandatory preparation for reuse and reuse targets
Mandatory recycling instructions (for sorting and recycling) during the design phase of the garment	Recyclability index – the garment should achieve a minimal level
Pre-sorting of recyclable and non-recyclable textiles. Develop standards for post-consumer sorting	Correct sorting of garments based on materials. Proper collection of garments from brands.
	Collection campaigns (company responsibility) targeted to certain products that have been selected because of their high recyclability (economic incentives)
	Investing in take-back systems (physical spaces, reverse logistics)
	Engaging consumers to participate in collection
Establish list of materials to be used	Minimum requirements for used fabrics, so the quality is sufficient for recycling, for example: min length of cotton fibres, avoid complex composition blends, no more that 3% elastane
	Keep the list updated considering the variability of designs and the rapid recycling technology evolution
Promote circular textiles via public procurement	Set mandatory green criteria in public procurement
Enhance the availability of circular skills	Develop training focused on circular textiles
	Skills are missing in the repair sector (including the lack of recognition)
	Convince companies and public institutions to invest in these skills (i.e. tax benefit)
Have a standardised and consistent tracing and identification system throughout the EU accelerate on DPP deployment	RFID integration – standard data formatting. Get into an agreement on the formatting/data shared and integrating the tag in a place that won´t be easy to cut by the consumer and therefore won´t harm the recycling process
One binding RSL (restricted substance list) for all stakeholders in the value chain	List from policy what can be and can´t be used throughout the value chain

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Other solutions	Actions
Education that returning clothes/recycling means less waste-	Inform customers how to pre-sort (separate those that cannot be resold and those that are damage). More containers available.
Use skills from untapped expertise outside of EU	Re-evaluate the skillset and expertise of e-g-sewers/tailors. Part of integration strategy within EU.

Tackling the second overarching problem:

After finishing the discussions on the first overarching problem, the group was asked to consider what would be the benefits of solving the second overarching problem. The following points were made:

- Local job creation
- Avoid export of waste
- Avoid extraction of virgin resources – self-sufficiency (feedstock from within the EU)
- Fair wages
- Avoid downcycling – using textile value at its best
- Wide adoption of recycling by companies and consumers

Following that the question was posed on what would be the solutions to the above overarching problem and how to achieve them. The proposed solutions are showcased in the table below.

Table 33: Fostering textile recycling business and a viable value chain solution

Policy solutions (measures)	Actions to achieve it
There should be EU funding dedicated exclusively to textile reuse and in particular the implementation of the recycling of textile (multi-) materials	Taxes paid by companies (EPR) to finance this funding
Ensure consistency and a common understanding on how to classify essential feedstock, including pre-sorted textiles intended for recycling and those for reuse to ensure circularity	Develop EOW criteria
Harmonise recyclable waste transportation regulation in EU to make it easier to send the feedstock to good recyclers	/
Regulate exportation (outside EU)	Set up criteria for re-wearable, forbid unsorted post-consumer exportation
Implementation of a standard recyclability index	Creation of a standard methodology to circulate the index – example: repairability index on EEE (France)
Subventions for research on sorting and recycling technologies	Partnerships, companies, universities – public, private
Tax incentives	
Other solutions	**Actions**
Technological framework exercising best practices and the how-to regarding possible	Should be established at to level, maybe in a form of a handbook and available as part of the textile strategy, free of charge (or minimum

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

approaches for recycling businesses to know what is feasible to be implemented	charge) for new businesses engaging in this area
Competitive price of recycled clothes. Financial compensation when returning clothes to be recycled	Establish a business framework (criteria) for brand and design for the use of materials that brands and designers use. I.e. Criteria that if they choose to use material from outside EU, virgin material that is sustainable but outside EU, etc – this can be used as an index and associated with the recyclability and repairability index

The last question posed to the group revolved around the identification of stakeholders to be impacted by the proposed above solution. The comments from the participants were:

- Collectors will have to collect reusable and recyclable textiles (mandatory separate collection as of 2025). They should receive financial support for their collection activities.
- Engineers and designers who will need to integrate new dimensions in the product concept.
- Sorting companies - easier processes.
- Consumers - easier to know what they buy.

2.5.3Recycling & Design group results

This group also focused on two focal overarching problems which encompassed several expressed needs:

1. **Lack of eco-design criteria**
    - Brands need clear environmental commitments that are not just marketing
    - Need for minimal requirements for eco-design criteria
    - Need for technical design criteria to be set
    - Need to educate the internal team and designers
    - EU label for sustainable fashion
    - Use and simplification of eco-labels to guide the consumers
    - Mandatory care labels
    - Use of mono-materials and education of consumers to buy garments with less blends

During the presentation of the first overarching problem, the participant added a few more concerns to be considered, namely what happens during the transition period if the brands are not compliant (before deployment of DPP), and if they would be subject to penalty, what kind of penalty that would be. Additionally, a comment was noted that apart from setting eco-design criteria, also the timings and the transition period need to be set.

2. **Availability and quality of recycled materials**
    - Enable textile industry transfer to more circular business models
    - EU-targets for amount pf recycled content is needed
    - Technical data sheets to make sure that recycled yarn meets the requirements (ensure process and product quality)
    - Need availability of recycled materials and spare parts
    - Recycled yarn production (ensure quality, and availability of feedstock)

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- A need for a good price for the recycled yarn accepted on the market
- Ensure feedstock quality before any recycling processes (sorting and process adaptation)
- Proper audit of recycling lines (facility visits)

Tackling the first overarching problem:

The group was first asked to consider what would be the benefits of solving the first overarching problem. They comments were:

- More purity of material going to recycling companies which would result in higher quality of recycled materials
- More mono materials mean more feedstock for recycling and less incineration (e.g. jackets with multilayers are difficult to disassemble nowadays)
- Easier mechanical recycling, less need for (expensive) chemical recycling
- Quantity of homogeneous feedstock for recycling, which can make the recycling more efficient
- Harmonisation of Eco modulation of tariffs in EPR systems

Following the initial discussion, the group was asked to consider what would be the solutions to the first overarching problem and how to achieve them.

Table 34: Lack of eco-design criteria solutions

Policy solution (measure)	**Actions to achieve it**
Clear timings and knowing guidelines in the transition period	Clarify what happens if products on the market are not compliant, what to do with those products – do we have to take them out of stock, relabel them, is this needed and worth it – what would be the penalty if this is not done
	A clear roadmap is needed
Enabling flow of data that the whole industry can work with. The choices that the companies need to make should be science based.	/
Updating the curriculum	Primary school education and education throughout university (impact of textile industry and how to change it)
Setting standards for recycled fibres	/
Set guidelines on circular design	Translate the EU vision on circular fashion in a concrete set of actions, targets and design requirements
Provide a competitive advantage to products specially designed to be recycled	Through Eco modulation and EPR
Other solutions	**Actions**
More attention to customer behaviour and awareness	Education on proper product care
	Make educational plans and campaigns about recycled clothes for customers

After suggesting solutions, the participants were requested to highlight potential barriers and challenges for implementing these solutions and these were their comments:

- Labels not providing the right/enough information that the recyclers would need

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Companies/brands that will use loopholes (asian brands). A strong regulation would be needed for imported products and a strong enforcement of regulations
- Material limitations, because not all products can be made of mono-materials. A mitigation measure would be easy and fast disassembly already done by brands/suppliers of post-consumer material
- The rules to only apply for EU
- Contradiction between durability and recyclability. More needs to be invested in innovation/research for projects to solve this problem
- EU regulations might not apply to all textile products (there is mainly a focus on apparel, but not on household textiles, technical textiles or even shoes)

Finally, the question on stakeholders being impacted by these solutions was posed, and the participants agreed that the brands will be most impacted by implementing the proposed solutions, especially in having higher production costs.

Tackling the second overarching problem:

Again, the group was asked to consider what would be the benefits of solving the second overarching problem. The following points were made:

- Reaching sustainability goals
- Be able ti sell for higher prices (green premium that certain people are willing to pay for greener products)
- Comply with EU regulations
- Faster introduction and adaptation at fabric suppliers and own creation department, less doubt during decision-making process
- Allow the recycling business to be financially stable

Following the discussion on benefits, a question was posed on what would be the solutions to the above overarching problem and how to achieve them. The participants comments are gathered in the table below.

Table 35: Availability and quality of recycled materials solutions

Policy solution (measure)	Actions to achieve it
Quality criteria for source materials to be adapted	/
Certainty about the source of textiles to be recycled	Tracking the whole supply chain
Mandatory quality/wearer tests	/
Investments to improve machines (fraying, spinning)	/
Proper audit of recycling line	Required technical data sheets for requirements check
Follow-up on the industrials for any recycling process issues	/
Improve EU strategy of recycling	/
Investment needed in high quality recycling to reach large scale beyond pilots.	Incentives for recycling improvements
Raise awareness of the consumer and what information is missing	Be transparent so the consumers know the effort
Other solutions	

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Feedstock traceability	Database on feedstock flow
Training of the industry to ensure a good industry transfer	/
Textile to textile recycling in closed loop	Research and development

At the end of solving the second overarching problem the group also found time to identify the stakeholders to be impacted by the proposed solutions. The comments from the participants were:

- Sorters and recyclers will be impacted positively
- Consumers will be impacted positively due to more traceability of garments
- Brands will have higher production costs

2.6 User Board 6

The final in-person SCIRT User Board was organised in Berlin from 28 – 29 May 2024. Throughout the duration of the SCIRT project, Prospex Institute has organised several workshops with textile value chain actors[2], as well as the general public[3]. As showcased in this deliverable and Deliverable 5.3, several needs and requirements were expressed that the actors are facing during the transition to a more circular textile industry.

All these workshops provided the SCIRT consortium guidance on what works well and what needs to change to enable a circular textile system. These needs and requirements suggested by different actors from across Europe were gathered, matched on the basis of similarity and compared to the input received from the SCIRT consortium, to understand the overlap of expressed needs and SCIRT results, which resulted in a list of potential policy recommendations that were then brought into the Berlin User Board for the experts to work on during the two-day workshop.

The SCIRT workshop was dedicated to devising and achieving consensus on transformative policy changes by leveraging the insights and outcomes of the SCIRT project, which includes the integration of eco-design principles, the advancement of circular business models, the innovation of fibre-to-fibre design systems, and the enhancement of textile recycling solutions. The objectives of the final SCIRT User Board were:

1. **Crafting Sustainable Designs:** Establish guidelines that incorporate eco-design criteria to promote sustainable practices within the textile and fashion industry.
2. **Developing Circular Business Models:** Formulate policies that support the adoption of circular economy principles, focusing on longevity, reuse, and resource efficiency in business operations.
3. **Advancing Recycling Processes:** Innovate and refine textile recycling technologies and processes to increase material recovery and reduce waste.

2.6.1 Participants

[2] User Boards as described in this deliverable
[3] Citizen Labs, Deliverable 5.3

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

The User Board participants came from 21 different organisations from 12 different countries.

Table 36: Participants of the final in-person User Board

Organisation	Country
e5 Fashion	Belgium
Viminacium Capital	Switzerland, France, Italy, Central Europe
Atelier Noterman / Circle of Circularity	Belgium
JRC ReSTex / University of Applied Sciences Wiener Neustadt	Austria
VRG	Poland
RUTMAN	Germany
Humana People to People	Danmark
Re-Fresh Global	Germany
De Kringwinkel Antwerpen	Belgium
OECD	France
University of Zagreb Faculty of Textile Technology	Croatia
Dries Van Noten	Belgium
Dobrote z.b.o.	Slovenia
JBC n.v.	Belgium
Thomas More University of Applied Sciences	Belgium
ReBlend	The Netherlands
The Sustainable Fashion Academy	Sweden
Van de Velde	Belgium
Studio AMA	Belgium
European Recycling Industries' Confederation (EuRIC)	Belgium
NABA "Nuova Accademia di Belle Arti" - Milano	Italy

The first day started with two introductory sessions. The opening session focused on textile industry related policy interventions, and upcoming EU regulations, taking a closer look at the Digital Product Passport (DPP) and Extended Producer Responsibility (EPR) for textiles and the second session covered different SCIRT results that are expected to contribute profoundly to potential policy changes and help the actors of the textile value chain in the transition to a more circular industry. The SCIRT results the session focused on were:

- True Cost Model
- Guidelines for Brands to Enable Circulation
- Guidelines for Brands for DPP
- Fibre to Fibre Concept
- Sorting & Recycling technology

The second day of the workshop was reserved to finalise the work done during the first day. It started with a short plenary presentation on how a viable policy recommendation should be designed and continued in a group setting.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

2.6.2Group work results

In the beginning of the group work on the first day, the participants were preassigned intro three groups, and they remained in the same groups throughout the duration of the User Board:

- Eco-design
- Business models
- Collection and recycling

The intention of the group work was for the three groups to tackle the specific needs and requirements that were selected by the SCIRT consortium from the long list of needs that were put forward during previous SCIRT events by the textile value chain actors, the general public and SCIRT partners.

Every group received their own list of needs and requirements based on their group topic and a matrix with the selected topic-based needs already incorporated.

2.6.2.1 Eco-design group results

The Eco-design group mainly focused on tackling two requirements:

1. Harmonised requirements for recycled content
2. Harmonised principles for Eco modulation

The results of the discussions were as follows:

1. **Harmonized Requirements for Recycled Content**

Key Points:

- Local sourcing & production: Prioritize locally collected, recycled, and produced garments through a hierarchy system ranking local over non-local fibres.
- Modular recycled content system: Companies choose their approach, e.g., high recycled content in a few products or low content across all products.
- Science-based targets for textiles: Set long-term goals (e.g., 2050) to guide the industry with a baseline for improvement.
- Monitoring: Ensure recycled content use in garment production is traceable and verified.
- Reuse compatibility: Avoid conflicts between recycled content targets and reuse/repairability.

Challenges:

- Material blending: Limit blends to enhance recyclability.
- Standardization: Establish EU-wide requirements (e.g., minimum 5% recycled content) for consistency.
- Priorities for recycling: Focus on post-consumer textiles for the biggest industry impact.
- Baseline alignment: Start with an EU-level framework before extending to products and companies.

Future considerations:

- Different material recycling challenges (e.g., cotton vs. polyester).
- Ensure recycled content is EU-sourced for maximum benefit.
- Require innovation, technology development, and clear monitoring systems.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

2. **Harmonized principles for Eco modulation**

Definition and Purpose:

- Eco modulation involves economic incentives to drive positive environmental and social impacts.
- Focuses on material composition, durability, repairability, and recyclability, aiming to combat fast fashion and encourage sustainability.

Key Elements:

- Transparency: Clear principles and goals, including true cost considerations (e.g., environmental and total costs).
- Affordability: Tailor requirements to company size, with simpler compliance paths for smaller businesses.
- Monitoring: Independent parties verify claims and run analyses to ensure proper implementation.
- Durability indicators: Labels should provide wearability and repairability scores, educating consumers on product quality.

Challenges:

- Social aspects: Include social metrics alongside environmental measures.
- Cost management: Eco modulation must balance affordability for companies and premium pricing for consumers.
- Vertical integration: Address the lack of transparency and control across supply chains, particularly for larger brands.

Recommendations:

- Support smaller companies with financial incentives and easier certification processes.
- Broaden the EPR budget to cover environmental and total costs, not just recycling.
- Align non-EU imports with EU standards to prevent market disadvantages.
- Promote lifetime extension through resale, repair, and eco-design regulations.

Starting Framework:

- Define categories for Ecomodulation:
    - Material composition: Focus on recycled content and net positive environmental impact.
    - Recyclability: Ensure products support circular economy goals.
    - Durability: Repairability, warranties, and wearability periods.
- Gradually evolve standards with flexibility for industry adaptation.

Ecomodulation conclusions:

Ecomodulation uses economic incentives to promote positive environmental and social impacts, targeting fast fashion and encouraging durability.

- True Cost Model: Determines fees by including recycling, environmental, and total costs.
- Company-Level Focus: Ecomodulation should apply to companies rather than individual products for easier reporting.
- Key Categories:
    1. Material Composition: Prioritize recycled content with a positive environmental impact.
    2. Biodiversity: Aim for net positive effects.
    3. Recyclability: Support circular economy goals.
    4. Durability: Include repairability, warranties, and wearability.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

Monitoring:
Independent parties must verify claims, analyse data, and conduct field checks to ensure compliance and credibility.

2.6.2.2 Business models group results

This group focused on discussing the ways that the DPP or in general the provision of information could support the adoption of circular business models. Based on this discussion, the group also suggested some policy recommendations to be considered.

1. **Adoption of circular business models**

Data and transparency:
- The industry needs more detailed and accessible data for legislation and consumer awareness.
    - Existing data includes origin and basic manufacturing details.
    - Additional information could support traceability and quality recognition.
- Separate tools for B2B and B2C (DPP):
    - B2B: Detailed data for reuse, repair, resale, and recycling.
    - B2C: Simplified, comparable data for informed purchasing (e.g., ABCD labelling).

Product traceability:
- Item-level data helps track product lifecycle, aiding resale and durability evaluation, but is costlier.
- Batch-level data is more feasible for resale and circular models but less precise.
- Traceability could improve pricing for resale and emphasize product value over its lifecycle.

Education of consumers to battle overconsumption:
- Marketing and communication play key roles in promoting sustainable practices:
    - Avoid greenwashing with transparent sustainability practices.
    - Implement simple and standardized impact metrics across labels and certificates.
    - Investigate overproduction (e.g., excessive styles or sales launches) to reduce unsustainable consumption.
- Pricing should reflect quality: prohibit extremely low-quality garments, as they often signal poor working conditions and unsustainable practices.

2. **Potential policy recommendations**
- Mandate clear, comparable certifications and labelling to promote sustainability.
    - Include recyclability, durability, recycled content, and environmental footprint.
    - Establish harmonized, limited certification schemes to reduce consumer confusion.
- Require companies to provide mandatory product information for certification, incentivized by reduced fees for EPR compliance.
- Ensure minimum product quality standards and enforce penalties for non-compliance.

Challenges:
- Certification costs are high, especially for smaller brands, and resources like organic cotton are limited.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Minimum certification requirements should be free and accessible.
- Lower EPR fees for eco-compliant brands.
- Avoid setting impractical requirements, such as exclusive reliance on organic materials.

Proposed instruments:

- Use the True Cost Model and align with the Green Deal to ensure certifications account for environmental, social, and economic impacts.
- Create a mandated certification system with clear metrics and benefits for compliant brands.

2.6.2.3 Collection and recycling group results

1. **EPR in textiles**

Virgin vs. recycled materials:

- Key Challenge: Virgin materials dominate due to low production costs and offshore manufacturing in low-cost regions.
- Solution: Shift recycling processes back to Europe and integrate them into the EU supply chain.

Valu chain profit distribution:

- Current profits in the value chain are unevenly distributed, destabilizing the system.
- Profits and incentives need to flow through all tiers, ensuring fair distribution and long-term sustainability.

Producer responsibility in EPR:

- Ambiguity around who is the "producer" complicates Extended Producer Responsibility (EPR):
  - Who owns materials at various stages (e.g., zipper in jeans)?
  - Responsibility should cascade through the value chain, like the automotive industry.
- A clear system is needed to assign responsibility at each stage to ensure accountability across the supply chain.

PRO´s:

- EPR implementation will require supply chain adjustments:
  - PROs need leverage throughout the chain, from production to recycling.
  - Retailers and producers should meet specific collection and recycling quotas.
- Flexible targets (e.g., like the Kyoto Protocol) can accommodate varying capabilities across brands and regions.

Global and EU-level harmonization:

- Imported feedstock, particularly from non-EU countries like China, raises sustainability concerns.
- Harmonizing EPR legislation across EU countries is critical to avoid fragmentation but challenging due to existing diverse systems (e.g., France vs. Netherlands).
  - Suggestion: Develop a baseline EU framework with flexibility for country-specific conditions.
  - Avoid a single EU-wide PRO (Producer Responsibility Organization) to prevent monopolistic issues but ensure standardization.

Textile collection:

- Defining ownership of collected textiles is vital to prevent disruption of existing systems, such as those managed by municipalities and social enterprises.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Municipalities should maintain control of Ecomodulation fees and collaborate with social enterprises for sorting and recycling.

Country-conditions:

- Initial conditions in each country vary greatly (e.g., Germany's 64% collection rate vs. Italy's 11%).
    - Goals should account for these differences, with harmonization over time.

Recycling:

- Recycling is not yet economically viable at scale due to a lack of markets for recycled fibers.
    - Subsidies funded by EPR fees are necessary to support sorting and recycling.
    - Mandating recycled fiber quotas can create a competitive market for recycled materials.
- Recycling rates and infrastructure vary widely across countries; EU-level base rates should allow gradual improvement (e.g., 20–30% harmonized targets).

Reuse vs. recycling:

- Reuse markets face challenges from competition with recycling incentives (e.g., in France, EPR favours recycling over reuse).
    - Policies must prioritize repairable items for reuse before recycling.
    - Retailers should be incentivized to sell a percentage of pre-owned goods to foster reuse markets.

Recommendations

1. Introduce minimum recycled fibre quotas and gradually increase them.
2. Define clear EPR responsibilities at every supply chain tier.
3. Mandate flexible yet ambitious EU-wide targets for collection and recycling.
4. Use EPR fees to subsidize sorting, recycling, and municipal programs.
5. Protect and integrate existing municipal and social enterprise systems into EPR frameworks.
6. Incentivize repair and reuse over recycling when viable.

2.6.2.4 Key results across all groups

The final in person User Board was a stepping stone for the value chain experts to validate the most important findings of SCIRT, to identify the remaining gaps and expand the requirements into most pivotal policy recommendations to be put forward by the SCIRT project.

The below table is a summary of key elements that need to be taken into consideration when designing future policy actions.

Table 37: Key results of the final SCIRT UB

Emphasis on harmonising requirements for recycled content across Europe
• Need to clearly define "recycled content" including local sourcing and types (post-consumer, pre-consumer). • Hierarchical incentives proposed for the best recycling practices (locally sourced and produced fiber-to-fiber recycling).
Hierarchies and Modular Systems
• Discussions on whether recycling standards should apply to individual garments, product groups, or companies.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

- Debate on creating a modular system allowing companies flexibility in meeting recycled content requirements.

Monitoring and Verification

- Call for a robust monitoring system to verify recycled content.
- Proposals for science-based targets for CO2 reduction to be adapted for recycled content in textiles.

Ecomodulation

- Need for clear principles and harmonised standards for ecomodulation (economic incentives for sustainable practices).
- Discussions on the potential cost implications for consumers and the necessity of consumer education on these costs.

Eco-design and Overproduction

- Eco-design should include product usage intensity and overstock limitation.
- Financial and regulatory support needed for smaller companies to comply with eco-design standards.

Standardised Materials and Blending Restrictions

- Importance of standardising materials to facilitate recycling and reduce complexity.
- Restrictions on material blends to improve recyclability.

Extended Producer Responsibility (EPR)

- Need for harmonised EPR schemes across the EU to ensure consistent recycling efforts.
- The importance of defining producer responsibility within the supply chain and ensuring that non-EU imports comply with EU standards.

Business Models and Consumer Engagement

- Exploration of data provision to support circular business models and enhance product traceability.
- Discussion on limiting marketing to reduce overconsumption and enforcing transparency in sustainability claims.

Social and Environmental Impact

- Inclusion of social aspects in sustainability standards and ecomodulation.
- Emphasis on the true cost model to reflect environmental and social impacts in economic terms.

Financial Support and Incentives

- Proposals for subsidies and financial support to build recycling capacities and support smaller companies.
- Encouraging local reuse and resale to reduce dependency on virgin fibers and imports.

Consumer Education and Transparency

- Need for clear, harmonised labels and certifications to inform consumers about sustainability.
- Potential for mandatory certifications to ensure minimum sustainability standards across the industry.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

These key areas of the value chain were collated after the workshop by PI and validated by the SCIRT consortium.

Furthermore, they were compared with the relevant SCIRT results and in case they were able to be underpinned by a relevant result, they were taken further to D5.4 Set of Guidelines and recommendations on Key Policy Interventions to be developed into a full set of SCIRT policy recommendations.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.

3 Conclusion

The SCIRT User Board workshops aimed to engage stakeholders and project partners in shaping the future of a circular European textile system. These workshops served as a platform for high-level discussions, fostering collaboration and generating valuable insights to address key challenges in transitioning to circularity. Topics covered included Extended Producer Responsibility (EPR) schemes, the True Cost Model (TCM) tool, eco-design principles, circular business models, waste collection systems and many more.

A recurring theme throughout the workshops was the importance of robust regulatory frameworks to drive systemic change. Stakeholders emphasized the need for clear and enforceable EU-wide policies, including mandatory EPR schemes and Digital Product Passports (DPPs), to improve traceability and transparency across the textiles value chain. While these tools hold potential, challenges such as data complexity, cost, and trustworthiness were identified as critical barriers to widespread adoption.

The SCIRT True Cost Model (TCM) tool emerged as a promising solution to enhance transparency and accountability in the industry. Participants highlighted its potential for comparing environmental and social impacts, nudging companies toward better practices, and encouraging data sharing. However, there were some concerns about data confidentiality, accuracy, and the cost of developing and implementing the tool for a large-scale use.

Eco-design principles and sustainable business models were central to the discussions. Stakeholders stressed the importance of designing garments that prioritize durability, repairability, and recyclability to extend product lifespans and reduce waste. Transitioning from discount-driven models to sustainability-focused approaches was seen as essential for aligning profitability with circularity. Financial incentives were proposed to support businesses adopting circular models, alongside educational campaigns to influence consumer behaviour toward sustainable purchasing habits.

The workshops also tackled issues related to textile waste and collection systems. Participants called for enhanced collection infrastructure and efficient sorting technologies to improve recycling rates and close the loop in the textiles-to-textiles value chain. Clear definitions and guidelines for sustainable textiles were identified as essential to ensure consistency and compliance across stakeholders.

The outcomes of these workshops informed SCIRT's developments, such as the TCM tool, the EPR framework, Circular Design Guidelines and crucial input for the SCIRT policy recommendations. The recommendations address regulatory gaps, propose financial incentives, and provide actionable measures to support the transition.

The SCIRT consortium refined these inputs in collaboration with the Advisory Board to ensure alignment with industry needs and practical implementation pathways.

The SCIRT workshops showcased the collective commitment of stakeholders to transforming the European textile industry. By tackling systemic challenges and harnessing collaborative insights, the project is working to establish a strong framework for circularity, delivering environmental, social, and economic benefits to the sector.

This project has received funding from the Horizon 2020 Programme under grant agreement n°101003906.