

RECONFIGURING VALUE CHAINS

ENABLING
SYSTEMIC
CIRCULARITY
IN
FASHION

PROJECT REPORT

**FORUM
FOR THE
FUTURE**

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ACKNOWLEDGEMENTS

A COLLECTIVE EFFORT TO IDENTIFY AND BETTER UNDERSTAND THE ENABLING CONDITIONS AND SYSTEMIC BARRIERS IN THE SECTOR

The urgency of the climate, ecological and social challenges we face today demand that circular innovations scale and achieve their full potential. Yet, despite the heavy investments into new technologies, many innovations fail or do not scale.

This project is the collective effort of a group of textile and apparel stakeholders who share an interest in identifying and better understanding the enabling conditions and systemic barriers that support or hinder the successful scaling of circular innovations in the fashion industry. The project has also demonstrated new ways of collaboration through the hands-on ideation of prototypes that can be further developed into unique opportunities that address systemic challenges within the sector. We are grateful for the partners' contributions and infectious enthusiasm for making this project such a fruitful and inspiring effort.

The project team is led by Forum for the Future ('Forum') with the support of VDE Consultancy, Clarice Garcia and Fashion for Good. During our investigative research, we held interviews with more than 10 stakeholders including brands, suppliers, recyclers and innovators from across the globe. We are grateful to these contributors for their time and valuable insights. We worked collaboratively with our designer ABV on developing the visual stimulus for the prototypes and deeply value their input.

Finally, we acknowledge the steadfast support of the Flotilla Foundation and Spronck Foundation that has made this project possible, providing us with the opportunity to demonstrate the importance of systems thinking in transforming the sector.

Supported by:

Flotilla
FOUNDATION

SPRONCK
A PLASTIC FREE WORLD



PARTNERS

ACCELERATE THE SHIFT TOWARDS A JUST AND REGENERATIVE FUTURE

ABOUT FORUM FOR THE FUTURE

Forum for the Future is a leading international sustainability organisation. For more than 25 years we've been working in partnership with business, governments and civil society to accelerate the shift towards a just and regenerative future in which both people and the planet thrive. As our environmental, social and economic crises intensify, the world is rapidly changing, with multiple transitions already reshaping how we all live and work. But will we go far enough, and fast enough?

Forum is focused on enabling deep transformation in three game-changing areas: how we think about, produce, consume and value both food and energy, and the purpose of business in society and the economy.

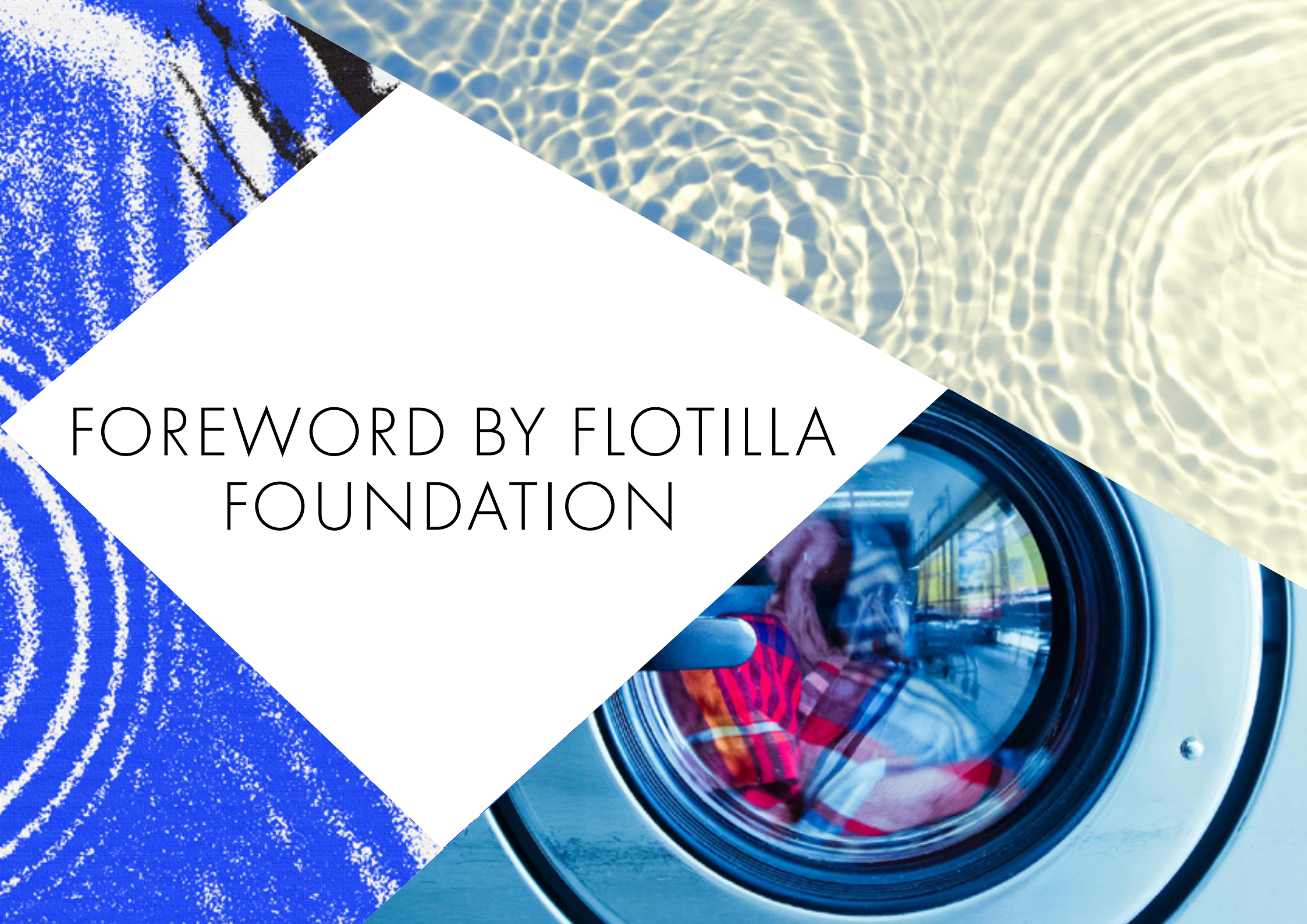
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PARTNERS OF ENABLING SYSTEMIC CIRCULARITY IN FASHION.

PARTNERS





FOREWORD BY FLOTILLA
FOUNDATION

TRANSITIONING THE FASHION INDUSTRY TO ONE THAT CONTRIBUTES TO THE REGENERATION OF OUR NATURAL ECOSYSTEMS

Our natural environment is under threat from overlapping and cascading impacts. Urgently, we need to think differently about the industries contributing to rising levels of pollutants, waste and emissions that are causing ocean and planetary health breakdown. For fashion, the impacts are stark: between 16-35% of microplastics released to oceans globally are from synthetic textiles; fibre production (natural or synthetic) consumes and pollutes billions of cubic metres of water annually. Limiting these impacts and transitioning the fashion industry to one that contributes to the regeneration of our natural ecosystems requires recognising the structural factors of the industry itself and changing the ambition in our actions and mindsets.

Circularity is becoming mainstream as a vehicle that can support this transition. An increasing number of Institutions, companies and governments identify the potential in applying circular principles to raw material production, product design, pre- and post-consumer waste, and business models to solve the impacts of fashion. It is no surprise, therefore, that investment is flowing into circular innovations like new technologies, consumer engagement campaigns, and new models for sale and consumption.

However, despite this increasing focus, the reality is we are far from seeing reconfigured fashion value chains that embody circular principles and deliver social and environmental outcomes. Forum for the Future and their partners have collaborated to explore the deeper questions of why this gap in realised impact exists, applying systems

change analysis and going beyond the events and norms the industry experiences to identify the systemic factors that are blocking the industry while highlighting the enablers that can be platforms to create change. Doing so is an important step in leading to transformation for fashion.

My hope and invitation is to use insights and recommendations, as well as the genuinely innovative approaches to collaboration, value creation and sharing, to get inspired and broaden the appreciation of what is possible. The fashion industry has always been creative and inspirational. Adopting these mindsets is fundamental to delivering a transition to an industry that delivers people, planet, and prosperity.

Tamar Matalon

Programme Director & Board Member
Flotilla Foundation



**IDENTIFY
THE SYSTEMIC
FACTORS** THAT ARE
BLOCKING THE INDUSTRY
WHILE **HIGHLIGHTING THE
ENABLERS** THAT CAN
BE PLATFORMS
TO CREATE
CHANGE



JOINT
STATEMENT FROM
PARTNERS

WE AIM TO IDENTIFY AND IDEATE THE OPPORTUNITIES FOR SYSTEMIC CHANGE NEEDED

Through this initiative, we, as a core group of industry actors, have explored the complexities our industry faces to achieve circularity on a wider systemic level. As a multistakeholder group, we jointly identified and worked on key barriers and opportunities for a more sustainable, circular and equitable future that can be summarised as four key challenges:

1. **Misaligned strategic goals:** A lack of shared understanding and alignment among stakeholders hinders progress towards a circular economy.
2. **Uneven distribution of risk:** Industry stakeholders beyond brands can unevenly bear risks in developing and implementing innovative solutions.
3. **Limited stakeholder engagement:** Policymakers and financiers often overlook the perspectives and raw realities of key value chain actors, leading to ineffective policies and financing mechanisms.
4. **Consumer behavior and perception:** Consumers' aesthetic and performance expectations of products can be a barrier to the adoption of circular solutions. Circular solutions may not always go hand-in-hand with these expectations or with typical narratives of how consumers can drive change.

However, these challenges can be overcome. We aim to identify and ideate the opportunities for systemic change needed, and to pilot and test them for our industry's sake. We see these as four areas for action:

1. **Pre-competitive collaboration and partnership:** Strong relationships between brands, producers, innovators and other stakeholders to facilitate knowledge sharing, risk mitigation and the development of trial-and-error cycles of innovative solutions.
2. **Policy and regulation:** Co-designed and co-created policies and regulations that can create a conducive environment for circularity, by incentivising sustainable practices and reducing barriers to entry.
3. **Innovation and technology:** We, as an industry, co-invest in research and development that can lead to breakthroughs in materials, processes, systems and cutting-edge business models for a truly circular era.
4. **Consumer education and engagement:** Raising clear and simplified awareness about the environmental and social impacts of fashion, while promoting sustainable and circular consumption, behaviors and habits to drive demand for circular products and models.

Our working groups were formed to address the ongoing challenges by transforming these opportunities into actionable prototypes that imagine the strategies, and next moves to overcome the challenges and achieve social and environmental outcomes. We invite you to explore and be inspired by these innovative ideas and join us in [Enabling Systemic Circularity in Fashion](#) to build a platform together, co-design and co-develop these opportunities further, and catalyse a systemic circular fashion industry.



OUR
WORKING
GROUPS WERE
FORMED TO **ADDRESS THE
ONGOING CHALLENGES** BY
TRANSFORMING THESE
OPPORTUNITIES INTO
**ACTIONABLE
PROTOTYPES**



EXECUTIVE SUMMARY

THE INDUSTRY REMAINS ONLY 0.3% CIRCULAR, WITH INNOVATIONS NEITHER SCALING NOR ACHIEVING THEIR INTENDED IMPACT

Circularity represents an enormous opportunity for the fashion and textiles industry.

Despite this opportunity and the increasing attention and investment paid to circularity, the industry remains only 0.3% circular, with innovations neither scaling nor achieving their intended impact.

Launched in 2023, *Enabling Systemic Circularity in Fashion* (ESCF) explores how systemic factors—such as power dynamics and uneven relationships between actors within the supply chain—are currently blocking progress, and how to develop new approaches to overcome these factors in order to unlock circularity's potential.

ESCF is a collaborative undertaking led by Forum for the Future in partnership with a committed cohort of brands, retailers and manufacturers from four continents, covering multiple supply chain tiers. This report breaks down the insights, innovative ways of working and the next steps for ESCF. Progress can be found through a 'how' that will not come about on its own and depends on sustained intention

to shape a fashion sector that can thrive within the potential of circular resource systems.

KEY FINDINGS

Through our collective research and systemic analysis, ESCF identified eight insights that we believe are critical for the industry's transformation to a regenerative and circular one:

- 1. Despite the urgency for change, stakeholders are not aligned on critical goals or the actions to achieve them.** Misalignment and a lack of clarity concerning overarching goals between actors and value chain tiers hinders collaboration.
- 2. The interconnecting costs of the transition towards a low-impact and ultimately regenerative sector are unevenly distributed across the value chain.** The unequal spread of risk slows the pace of innovation, leads to defensive mindsets and frustrates progress.

3. Finance and policymakers need to ensure that dialogue with critical value chain actors is inclusive and effective. Large brands and retailers are often well represented. However, the voices of Tier 2, 3 and 4 suppliers or other stakeholders like recyclers are less heard and included.

4. There is unexplored value in 'safe' spaces for challenging conversations among different value chain actors. Creating 'safe' spaces that allow such critical discussions to be held and builds up trust, respect and understanding and unlocks genuinely inclusive creativity.

5. The industry needs to rethink engagement with consumers as key actors in the value chain. The sector cannot wait for market demand for sustainable products to grow if the sector is to transform to a circular one with the urgency required.

6. There is a hunger within the sector for creativity, imagination and collaboration with one another—particularly among progressive manufacturers. Business-as-

usual approaches, including how value chains collaborate and communicate with each other, will not deliver the requisite shift for a just and regenerative value chain.

7. Achieving circularity means going beyond technology and business models. Intangible innovations, such as those that shift relationships, ways of working, and behaviours will play a key part in unlocking change.

8. The innovation process benefits from systems thinking. Without improving our understanding of systemic factors, we risk shallow or piecemeal changes that can achieve short-term gains but produce unintended negative consequences or do not produce the long-term impact needed.

To illustrate how these insights can be used as platforms for greater change, recommendations for each are provided. In addition, three 'prototype' innovations were developed through in-person sessions with the partner cohort. Each innovation has been developed according to a commonly held vision

for what a truly circular future may look like and what change it will require. We are pleased to introduce these innovations, hoping they will provoke and inspire:

1. Cross-Functional Regulatory Alliance:

Reconceptualising industry coalitions and initiatives to embed inclusivity and challenge norms, ensuring all voices are heard and regulation is stronger for it.

2. Value Material Royalties: A radical approach in recognising value in fibres and materials, bringing consumers closer to circularity and how we might conceive of ensuring every stakeholder benefits from circular models.

3. Circular Fashion Hub: A geographically proximate closed-loop fashion system, enabling the rapid development, iteration and piloting of innovation, and an eco-system that incubates and grows new entrants while achieving regional and business sustainability goals.

NEXT STEPS

The next phase of ESCF welcomes new stakeholders/partners to come onboard, and will:

- Offer a platform modelling the 'how' of collaboration with stakeholders in the value chain coming together to co-create and develop not just technological but also process, business model and system innovations
- Work with project partners to further develop and progress the innovations
- Continue to provide a platform that can serve as a 'safe' and open space for cross-sectoral dialogue and collaboration.



INTRODUCTION

1

A FUTURE WHERE BUSINESSES ENABLE SOCIAL JUSTICE AND REGENERATE NATURE AND COMMUNITIES

E *nabling Systemic Circularity in Fashion* (ESCF) is a multistakeholder, pre-competitive industry initiative led by Forum for the Future ('Forum'). This report details the work done and insights and concepts developed throughout the enquiry's first phase from 2023–2024 into enabling systemic circularity in fashion supply chains. A key area of Forum's work is to support businesses to foster new mindsets around their value chains, resulting in new approaches that enable business to be just and regenerative. We envision a future where businesses are thriving and delivering goods and services within their networks that enable social justice and regenerate nature and communities.

Circularity is recognised as one such route through which businesses can achieve this high ambition. With participation from 12 partner organisations and two knowledge partners (not all named): Alpine Group/Paradise Textiles, Crystal International Group, Epic Group, Fashion for Good, GAP Inc., Lenzing, MAS Holdings, Piping Hot, Shahi Exports, TESCO, Textile Exchange, Reformation, and Yee Chain, we explored the opportunities and barriers in the sector's advancement towards circularity. While our project partners are located globally, we retained a greater focus on Asia given that a large majority of textile and fashion production is situated in Asia, as reflected in our partnership base.

Forum has been working with stakeholders in value chains ranging from regenerative agriculture routes to market in India, UK and the US, trialling market mechanisms, and one-to-one work with globally leading businesses. Within

textiles and fashion value chains, our programmes *Cotton 2040* (2015–2023), *Circular Leap Asia* (2018–2019) and *Tackling Microfibres at Source* (2020–2022) provide a unique understanding of the sector and the networks to explore the dynamics at play in scaling circularity in fashion.

1.1 GOALS AND OBJECTIVES

The overarching goal of the project is to support the reconfiguring of textile and fashion value chains away from the current linear, extractive model to one that is fair, responsible, and socially and ecologically regenerative. Value chains are complex systems, with multiple levels embedded within each other. Our goal is to support businesses to navigate this complexity and recognise their own capacity to lead, or contribute to the change required, and to support businesses and other stakeholders to work together in a more just, fairer and collaborative manner.

The project has three primary objectives:

1. IDENTIFY AND DEEPEN UNDERSTANDING OF THE SYSTEMIC FACTORS THAT EITHER SUPPORT THE SUCCESS OF CIRCULAR INNOVATIONS OR HINDER THEM FROM SCALING AND MAINSTREAMING.

Under pressure to tackle its significant ecological and social footprint, the textile and apparel industry is introducing various innovations to reduce resources, waste and overall environmental impact. Significant resources are being spent on researching and implementing technological solutions. However, it is not clear if these innovations are driving a deep transition towards a just and regenerative circular economy; far less is invested in truly understanding the systemic challenges that stand in the way of an urgent and long-lasting transition to circularity in the sector. There is a risk that at an intrinsic level,

extractive and socially unjust means of manufacturing and consumption are still in place despite these efforts..

ESCF focuses on identifying the non-technical—yet critically important—factors that enable or hinder innovations from reaching their full potential. For instance, unequal power dynamics between value chain actors during the innovation process prevent the implementation and scaling of deeply transformative innovations. While brands and retailers face

public and regulatory pressure to make their products more sustainable, manufacturers bear a disproportionate level of risk and responsibility to invest in the requisite capabilities and machinery to deliver this change.

The first half of the project sought to contribute to this understanding of barriers and enablers through research and diagnosis, before applying the insights to the innovation process.

OUR
GOAL IS TO SUPPORT
THE **RECONFIGURING
OF TEXTILE AND FASHION
VALUE CHAINS** AWAY
FROM THE CURRENT LINEAR,
EXTRACTIVE MODEL



2. CONCEPTUALISE THREE INNOVATIONS WITH THE POTENTIAL TO UNLOCK SYSTEMIC BARRIERS WITHIN THE VALUE CHAIN.

The second half of the project shifted towards the ideation of non-technical innovations with potential take off in the industry. These innovations are unique in their development, coming after partners have examined and prioritised the systemic barriers and enabling factors, and decided to develop interventions to address them. This process enables ideas that are not just innovative but, critically, have also integrated the principles, values and perspectives that tackle systemic barriers.

The development of these innovations assists us in integrating the understanding of systemic barriers and enablers into the first instances of action, if only on a small scale. Guided by a set of principles that project partners have co-created, these innovations are the tangible result of when we ask ourselves: “What ideas could we create and develop with the awareness and understanding of systemic barriers and enablers?”, “How do we ensure the principles of inclusivity, nature and people-centred remain integral to the innovations?” and, “How do we ensure that we build innovations that best address the root causes of systemic barriers?”.

We believe that these innovations, while nascent, can be the beginning of a unique process of ideation that takes innovators first through an understanding of systems change.



ESCF
PROVIDED
A **NEUTRAL,
INCLUSIVE AND
PLAYFUL SPACE FOR
PARTNERS TO EXPLORE
COMPLEX AND SENSITIVE
ISSUES**

3. MODEL NEW WAYS OF COLLABORATION WITHIN VALUE CHAIN PARTNERS

Despite a proliferation of conferences covering or focusing broadly on circularity and sustainability, participants spoke of the need for a productive, action-focused platform for cross-value chain collaboration.

We can make significant progress in shifting or removing many of the systemic barriers if stakeholders are open to mutually respectful dialogue on these complex issues and finding new ways to collaborate. Through the ideation process, partners coming from different parts of the industry shared a common goal to create innovations that held the potential for transformational change. Guided by a jointly developed charter, ESCF provided a neutral, inclusive and playful space for partners to explore complex and sensitive issues in a way that allowed all voices and opinions to be heard. In doing so, partners demonstrated that it is

possible and beneficial for value chain partners to collaborate in new, more open and inclusive ways.

We hope that the positive momentum, genuine connections between partners and the progressive innovation ideas generated within the project will inspire other stakeholders to start fresh conversations with their peers or value chain collaborators on the challenges they face in innovating or scaling innovations.

A NOTE ON THE SCOPE OF THE PROJECT

ESCF was intentionally kept small in alignment with the scope of the funding and to provide a conducive space for open dialogue. This first phase is comprised of a small number of motivated companies and non-profit organisations. Consequently, we acknowledge that the insights and research presented do not include all viewpoints within the fashion industry.



METHODOLOGY

2

CONVENING
FACILITATION
MIXED-METHOD
QUALITATIVE RESEARCH
SYSTEMS CHANGE
FRAMEWORKS
APPLIED FUTURES
DESIGN THINKING

2.1 INTRODUCTION

The objectives of the project were to identify the barriers and enablers to value chain circularity, support industry stakeholders in analysing and prioritising these factors, and create new models for value chain action. The first stage of the project included convening the partners and conducting research and analysis on innovation case studies, later validated by industry experts. The second stage moved the project from research to action, primarily as a series of workshops and engagements with the cohort.

OUR JOURNEY

PREVIOUS FORUM PROJECTS
2015-2023



COTTON 2040



CIRCULAR LEAP ASIA



TACKLING MICROFIBRES AT SOURCE



ESCF GOVERNANCE

SEP '23

SYSTEMIC DIAGNOSIS AND ANALYSIS

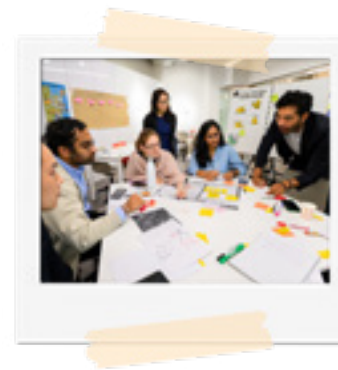
NOV '23 – MAR '24

VISION DEVELOPMENT

MAY – AUG '24

PROTOTYPING

AUG – NOV '24



Forum leverages multiple methodologies and disciplines within our projects and programme design, depending on their scope. ESCF's design utilised convening and facilitation, mixed-method qualitative research, systems change frameworks, applied futures techniques and design thinking.

2.2 KEY ELEMENTS OF OUR METHODOLOGY

1. GOVERNANCE

Establishing appropriate governance of the cohort was fundamental to the project, given our hypothesis which names the dynamics between brands and manufacturers as a key lever in value chain transformation. Between August to October 2023, 12 partners—five brands/retailers and seven manufacturers—and two knowledge

partners (non-profit organisations with aligned objectives) joined the cohort, held a kick-off meeting and co-developed a project charter. Fundamental aspects of the agreed-upon charter include principles of inclusive collaboration and **consent-based principles of decision-making**, which was employed to facilitate more efficient decision making among this diverse group. The charter acted as the core document of the project's approach to governance, although the approach itself was also an ongoing practice. Principles of collaboration included:

- Mutual respect
- Recognition that all voices are equal and all opinions are valued and valid
- Curiosity to listen and learn, and
- Being inclusive and aware of when minority voices need to be acknowledged or amplified

The principles of collaboration served as a guide that allowed for a safe and inclusive space to have open and authentic discussions on a range of topics and were critical (if subtle) guardrails throughout the project's interactions.

ORGANISATION	VALUE CHAIN ROLE	HEADQUARTERS LOCATION	MANUFACTURING/OPERATIONAL FOOTPRINT
ALPINE GROUP/PARADISE TEXTILES	Manufacturer (tier 1)	UAE	China, Dubai, Egypt, Jordan, Taiwan and Vietnam.
CRYSTAL INTERNATIONAL GROUP	Manufacturer (tier 1)	Hong Kong	Bangladesh, China, Cambodia, Sri Lanka and Vietnam.
EPIC GROUP	Manufacturer (tier 1)	Hong Kong	Bangladesh, Ethiopia and Jordan.
LENZING	Manufacturer (tier 2/3)	Austria	Majority of their facilities are in Asia, primarily China, but also Indonesia and Thailand. In Europe, they are in Austria, Czech Republic and the UK. In the Americas, they are in the US (Alabama) and Brazil.
MAS HOLDINGS	Manufacturer (tier 1)	Sri Lanka	Primarily Sri Lanka. The other key locations are Bangladesh, Haiti, India, Indonesia, Jordan and Vietnam.
SHAHI EXPORTS	Manufacturer (tier 1)	India	India.
YEE CHAIN	Manufacturer (tier 2)	Taiwan	Operating in Taiwan, Vietnam, Indonesia, and China.
GAP INC.	Brand (multinational)	USA	Majority of their facilities are in Indonesia and Vietnam, but they also produce in 25 countries, mostly outside the US.
PIPING HOT	Brand/wholesale	Australia	Its retail footprint is primarily in Australia, with a presence in Canada, China and Japan. Production facilities are mainly based in Bangladesh and China.
REFORMATION	Brand	USA	Brazil, Bulgaria, China, India, Indonesia, Mexico, Morocco, Pakistan, Portugal, Turkey and the US (California).
TESCO	Retailer	United Kingdom	Bangladesh, China, India, Sri Lanka, followed by Eastern Europe and Turkey. They also have a small footprint in Cambodia and Vietnam.
FASHION FOR GOOD	Non-profit	Netherlands	Runs initiatives in South Asia due to the strategic importance of the region to the apparel sector.
TEXTILE EXCHANGE	Non-profit	USA	N/A.




2. SYSTEMIC DIAGNOSIS AND ANALYSIS

Our research focused on three innovation categories relevant to circularity:

1. Materials
2. Waste
3. Business models

The three categories of innovations were decided by consensus following facilitated discussions on the areas that are most relevant and critical for efforts towards circularity in the sector. A fourth innovation category, product innovation, was discussed but not chosen for further research. Partners chose the category most pertinent to their interests and organisational goals and formed working groups.

Several existing innovations were proposed in each working group, and we considered them against the following assessment criteria. Each working group chose the innovation they wanted to explore guided by the criteria.

 <p>1. MATERIALS INNOVATION</p>	<p>The development of a new material offer or product, or improvement of an existing design and its production in appreciation of customer needs. Variables include; investment and testing at scale, iteration, implementation, customer and consumer adoption, etc.</p>
 <p>2. INNOVATIONS IN WASTE REDUCTION AND WASTE MANAGEMENT</p>	<p>Pre-consumer: The application of technology, machinery, and infrastructure investment to improve efficacy in product and process management, implementation, scale and commercialisation.</p> <p>Post-consumer: Take-back measures, collaboration with stakeholders that facilitate these processes e.g. recyclers, sorting facilities.</p>
 <p>3. BUSINESS MODEL INNOVATION</p>	<p>Rethinks the purpose, goals and outcomes of models of operations, production, and consumption, and considers developments in the fashion value chain, such as digitalisation. A starting reference could be our types of models: rental, resale, repair and remaking.</p>

CRITERIA	THE INNOVATION SHOULD...
1. MATURITY OF INNOVATION	Have demonstrated proof of concept and is looking for ways to scale.
2. RELEVANCE TO ADDRESSING GLOBAL CHALLENGES	Show potential to meaningfully address global challenges around climate, social, ecological and environmental impacts, while demonstrating a business case.
3. RELEVANCE TO THE INDUSTRY	Have the potential to bring positive impacts for the industry on a whole, rather than just one group of stakeholders.
4. ACCESSIBILITY OF INFORMATION	Provide reasonable access to information for the cohort, either through partners or other existing networks.
5. STAKEHOLDERS INVOLVED	Provide the opportunity for several stakeholder groups to collaborate in bringing the innovation to scale.
6. GEOGRAPHICAL TRAJECTORY OF DEVELOPMENT OR IMPACT	Have geographical relevance to Asia, given the project's focus on the region.

Our primary form of research was interviews with relevant stakeholders, including those involved in the case studies. Contacts were made directly through the project cohort’s network or outreach. The semi-structured interviews included questions focusing on the challenges, opportunities and value of implementing the innovation. This opens opportunities for discussions into areas that the team did not previously consider.

A systemic analysis allows less or non-visible factors that may limit or enable change to surface. Often, interventions or actions focus on obvious issues and events, reacting to circumstances. While still important, this can be insufficient to shift a system. For example, the growth of fast fashion was not due to one company announcing a new, cheaper line, but a complex combination of the transfer of labour to low-labour cost regions, the growth of credit-based Western economies and a linear economy of take-make-waste that was new to the late 20th century, among countless other subtle and less-visible shifts.

Breaking down research to make these conditions visible can help us identify which conditions can shift systems and understand which interventions to apply. The Forum team mapped research data against **FSG’s Six Conditions of Systems Change framework**. The framework breaks down conditions for change into three levels. The first level is *explicit conditions*, such as resource flows, practices and policies; the second level is *semi-implicit* and includes relationships and power dynamics; the third level is *implicit*, the non-visible condition of mindsets.

Besides its strengths in enabling deep analysis, the framework was also selected due to its simplicity, supporting the cohort in contributing to the analysis and use of the tool themselves. The second stage of sensemaking translated the findings into enablers, barriers, risks, opportunities, and emerging questions, which was presented to all partners for validation.

The barriers and enablers were grouped as:

- Policy and regulation
- Finance
- The role of consumers
- Value chain complexity

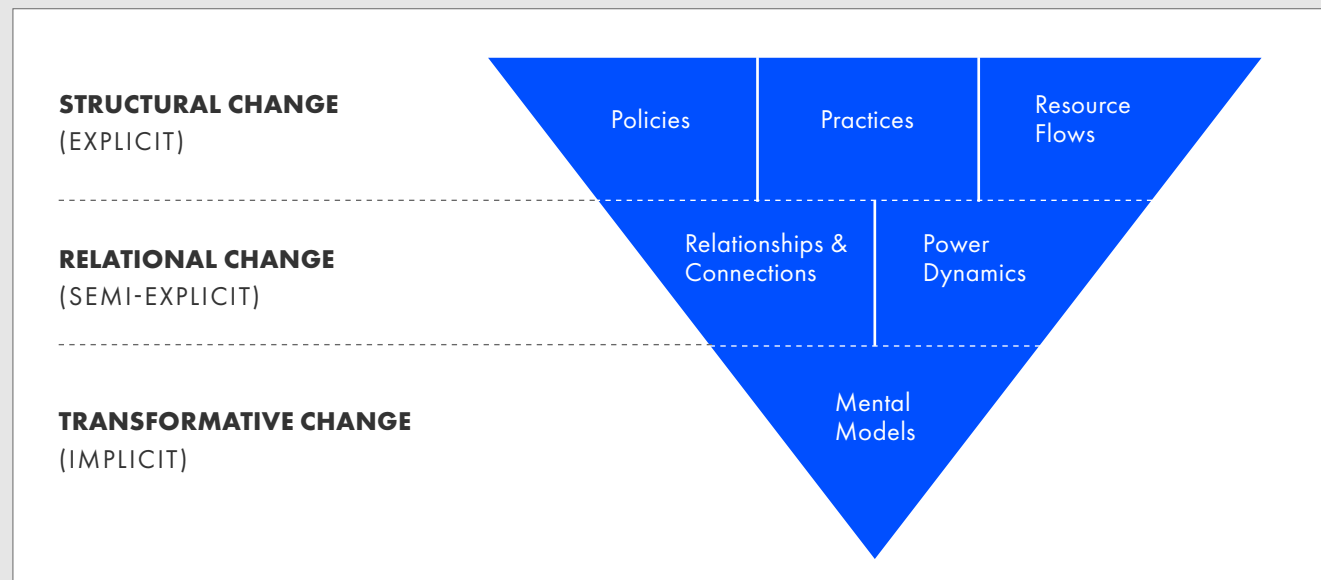


FIGURE 1: FSG'S SIX CONDITIONS OF SYSTEMS CHANGE FRAMEWORK

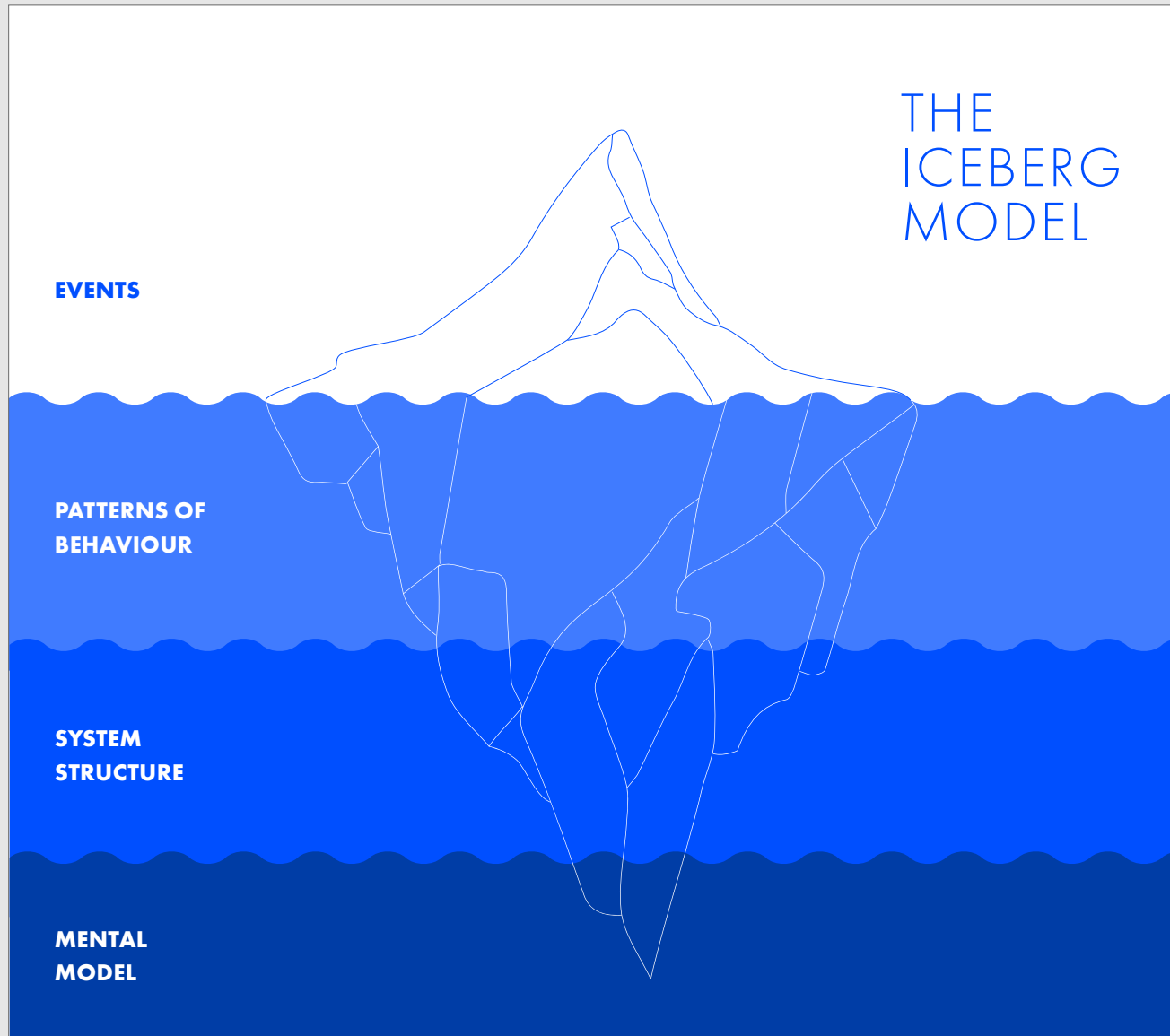


FIGURE 2: ICEBERG MODEL

The final stage of diagnosis and sensemaking supported the workshop activities. The team employed the Iceberg model—a simple and effective tool used to identify the systemic barriers to change. As described by organisational change specialist James Freeman-Gray:

“The Iceberg Model is a powerful tool in the field of system thinking that allows individuals and organisations to gain a deeper understanding of complex systems and situations. The model is based on the analogy of an iceberg, where the majority of its mass lies below the surface of the water. In the same way, the majority of the causes and drivers of a complex issue are often not immediately visible or apparent. By employing the Iceberg Model, we can begin to uncover and address the underlying causes of a problem, rather than simply reacting to the visible symptoms or events.”

The model is particularly useful in the context of understanding and addressing complex, interconnected issues. By exploring the various layers of the Iceberg Model, we can start to reveal the hidden factors that contribute to a problem, allowing for more effective and lasting solutions to be developed.”

3. VISIONING USING FUTURES

Co-creating a vision acts as a way for stakeholders to develop an imagined, positive state of the system in the future, and use that act of co-creation to align on the principles, values and aspects of the future they wish to see. A well-developed and facilitated futures process supports coherence, empathy and trust in diverse groups of stakeholders.

This project conducted two visioning exercises. The first was held in December 2023 with all partners as an introductory exercise to build familiarity with applied futures techniques such as the three horizons and trajectories. The second instance was two workshops conducted online in April 2024, using exercises such as 'the thing from the future.'

These processes led to the development of '*Fashion Visions*', a series of short vignettes and images depicting a speculative future for circularity. *Fashion Visions* captures the values and principles of a future state of the fashion industry and society, set up based on the design criteria used in the workshop.

FASHION
VISIONS CAPTURES
THE **VALUES AND
PRINCIPLES OF A
FUTURE STATE OF
FASHION AND
SOCIETY**

Fashion
visions



4. PROTOTYPING

To fulfil the project objective of developing tangible concepts of action for stakeholders to enable circularity, we took a multi-disciplinary approach to in-person sessions held in Singapore in September 2024. The workshop's

agenda took participants from systemic diagnosis to rapid ideation to prioritisation of ideas, and finally to development. The workshop agenda was designed to be immersive, multi-sensory and provocative, to create imaginative solutions and build momentum from the partners. Each activity had a purpose to support these goals.

GOAL	ACTIVITY
<p>1. CREATING A CREATIVE SPACE AND INCREASING INNOVATION QUALITY</p>	<p>Partners engaged with physical inputs and materials to stimulate and provoke imagination, creating a dynamic and immersive experience. Examples of this include:</p> <ol style="list-style-type: none"> 1. Participants were provided with old clothing, Lego, and other materials to be used to represent their ideas. 2. Visual notetakers were on hand to depict ideas simultaneously to their development. These were shaped by participants. Additionally, materials and stimulus were placed around the workshop walls to further inspire. 3. The workshop was held at The Cocoon Space by the Singapore Fashion Council. Designers and entrepreneurs develop new ideas and products in the co-working space, providing inspiration and creating an atmosphere of creativity for the participants. 4. A “crazy 8” ideation session, with participants drawing or writing their ideas as quickly as possible in a short time frame. 5. Participants were invited to reflect on the co-developed vision document and suggest design criteria that was mapped onto a board that remained prominent throughout the workshop. The agreed upon criteria guided the partners to be holistic and systemic.

GOAL	ACTIVITY
<p>2. CREATING A COLLABORATIVE SPACE SPEAKING TO RELATIONAL DYNAMICS BETWEEN ACTORS</p>	<p>Informal exchanges and chance encounters can contribute to breakthroughs in innovation, and as a core aspect of the project is the dynamics between brands, suppliers and others in the value chain, creating a collaborative space was critical. Examples of this include:</p> <ol style="list-style-type: none"> 1. Reiterating collaboration principles. The workshops were the culmination of an approach to collaboration which centres inclusivity, curiosity and respect. 2. A pre-workshop dinner with all participants. The dinner was held in the Singapore Botanic Gardens, during which participants debated the developed vision and design criteria. 3. Participants were encouraged to stay together throughout in the same hotel and sharing meals, providing informal but critical opportunities to build trust, learn different perspectives, and share challenges. 4. Exercises through the sessions were used to encourage a collaborative space, including the "marshmallow challenge".

GOAL	ACTIVITY
<p>3. CREATING MOMENTUM FOR ACTION AND CARRYING THE PROJECT FORWARD</p>	<p>Building cohesion and momentum with the partners is essential for the project’s learnings to be applied throughout and outside of the project, and be carried forward by each partner individually in their organisations. Often, workshop participants may feel that they are there to validate or be informed of an idea and discuss. Our alternative approach included:</p> <ol style="list-style-type: none"> 1. Creating a 'golden thread' from diagnosis to ideation to prototyping and beyond. By intentionally building the process in this way, participants can see and articulate the rationale of the barrier and the innovation 'solution', supporting thinking systemically and act as an effective champion for the project. 2. Creating a sense of ownership of their ideas. During the workshop, participants prioritised a barrier from the Iceberg model diagnosis, self-selected the idea to develop further, and pitched their innovation to the room. This, combined with the creative exercises described in Goal 1, created a clear sense of excitement and attachment to specific ideas that led the groups to actively feedback on their development post-workshop. 3. Inviting 'validators' to attend, question and provide feedback on the ideas. The three representatives supported momentum by providing their expert insights, encouraging participants to think creatively and provide a sounding board for the relevance and importance of the innovations.



KEY INSIGHTS

3

THE MINDSETS, RELATIONAL AND POWER DYNAMICS, AND OTHER LESS EXPLICIT STRUCTURAL FACTORS AT PLAY

This section details the key insights generated from the project. The insights are intended to highlight the mindsets, relational and power dynamics, and other less explicit structural factors at play between actors in value chains. The intention is not only to define the challenges and barriers but also to highlight the opportunities for collaborating and acting in new ways. Several insights provided direct inspiration for the innovations introduced in section 4 of this report.

Our intention is to use these insights across our ongoing efforts to accelerate the Purpose of Business transition, to communicate them broadly through our network, and to leverage them as a platform for further action in ensuing phases of work for ESCF.

3.1 INSIGHTS FOR THE TEXTILE AND FASHION VALUE CHAIN

The following insights are not directly or solely focused on achieving circularity in textile value chains. Instead, they are conditions that limit or enable success within sustainability interventions that are applicable to other value chains and social and environmental outcomes (besides circularity).

INSIGHT 1: Despite the urgency for change, stakeholders are not aligned on critical goals or the actions to achieve them.

Recommendation: Stakeholders across the sector need to come together to align on the goals, priorities and dependencies of the future sector. This includes having a deeper consideration of the diversity of (sometimes competing) priorities and the needs of various value chain actors to achieve those goals. Influential and leading brands and manufacturers can drive this change initially, collaborating to deploy the resources needed to include others in the process. Investing the effort to have a deeper understanding of the full value chain and the role that each stakeholder plays is equally crucial as a foundational step. While this might appear to be 'going backwards'—defining basic goals—, it would provide the clarity for all stakeholders to move forward with greater unison.

What it is: We observed misalignment on two key priorities for the sector:

1. **Circularity** is conventionally understood as 'closing the loop' in material consumption and creation. It is a theme that dominates almost every sectoral conference, usually focused on 'closing the loop' materially. However, many stakeholders we have engaged with do not see circularity as sufficient as a goal for the sector. For example, the conventional definition of circularity often fails to include social aspects and inclusivity within the value chain—the just transition. Research led by Lis Suarez-Visbal found that many circular economy jobs—such as those in repair, resale, remanufacturing, and recycling—are still characterised by low wages, gender-pay gaps and job insecurity.

“True circularity requires a radical shift in how value chains currently operate, including relational dynamics, a just transition what is valued (product vs fibre), and how power is used. A circular

value chain would mean genuine, powerful collaboration, with shared responsibilities, risks and a deep respect. Policy should be serving this future value chain, ensuring the operating environment necessary for a level playing field.”

—Insight shared from a group discussion on circularity

2. **Climate action** is often understood solely as the need to decarbonise, which omits the reinforcing positive feedback that strong climate action can have on society and nature. In conferences, sectoral events and discussions—especially those with a strong presence of brands and retailers—decarbonisation is often a core theme. However, for a manufacturer or producer, climate action may more clearly be an interdependent, interconnected issue that necessitates adaptation strategies, such as managing the effects of a changing climate on

yield, heat stress among workers and building climate resilience.

“We all want climate action. But since when has climate action only been about decarbonisation? Brands go on about decarbonisation in their supply chain, but for manufacturers, climate action is just as much about climate adaptation and resilience.”

—Project partner

Why it matters: The two examples demonstrate how misalignment and lack of clarity concerning overarching goals between actors and value chain tiers hinders collaboration, innovation and transformation when what is needed is concerted effort towards common targets and challenges. Without equitable processes for dialogue and empathetic buy-in from all stakeholders of what the goal of the system should be, fragmentation will frustrate progress.

INSIGHT 2: The interconnecting costs of the transition towards a low-impact, ultimately regenerative, sector via circularity are unevenly distributed across the value chain.

Recommendation: Development of new innovations of any nature should be inclusive and collaborative. In addition to sharing and mitigating risks, they should integrate a diversity of perspectives from across the value chain to uncover or substantiate opportunities for impact and business benefit.

What it is: A lack of alignment on the direction and goals of the value chain leads to is the uneven burden of the costs and risks of transitioning to a low-impact sector, in this case through circularity. Due to this unequal distribution of stakeholders (even if they are supply chain partners), it may act as a resisting force on positive action and progress due to perceived or real concerns over feasibility, short-term profitability and long-term viability. Operational risk in the innovation process should not fall on any specific group of stakeholders but be distributed along the value chain and within each tier.

Circularity must begin with circular design. If brands and retailers working collaboratively with their manufacturing partners to conceptualise and experiment with circular solutions, with shared priorities enabled by recommendations from Insight 1, collaboration from the get-go would mean a higher degree of risk-sharing and distribution, which would make the cost of solutions more equitable and fairer.

“There needs to be a mindset shift towards viewing suppliers as equal stakeholders that hold technical skillsets and unique insights and are in the position to enact change.”

—Project partner

While we are aware that some brands and retailers do engage with equal and collaborative efforts with their supply chain, what has been shared with us by manufacturers



appears to be largely the existing dynamic.

Why it matters: Stakeholders do not fully understand nor appreciate the different expectations and challenges held by each value chain actor, limiting appetite for experimentation and learning. The unequal spread of

risk also slows the pace of innovation, as manufacturers necessarily take on a risk mitigation mindset and/or are unwilling/unable to take the financial or resource burden, especially as most of the value generated by the innovation is captured at the brand level and not equally shared.

INSIGHT 3: Finance and policymakers are falling short of inclusive and effective dialogue with critical value chain actors.

Recommendation: Progressive policy and ESG-focused finance must work with industry groups, leaders and associations to ensure that perspectives on, and implications of, policy or financial norms are sensitive to the realities and challenges faced by many value chain actors.

What it is: Through our investigative research, the project highlights a lack of engagement and dialogue—two groups of key stakeholders—financiers and regulators—with a broad spectrum of value chain actors.

1. **Regulators:** At present, advancing policies in some parts of the world like the EU are driving change and innovation in the system, yet in many ways these policies also limit or hinder the capacity to change. While the entire value chain will have to bear increased costs, to many stakeholders, it appeared that key benefactors of the regulations would be brands and retailers while other stakeholders receive fewer

benefits. Progressive policies are generally welcomed as a sign of changing trends favouring a more sustainable industry; however, there is a sense that *informed* political will is still lacking such that both the burden and benefits of increased compliance are shared fairly. Informed political will can also better support financial mechanisms that enable premium investments, such as preferred fibres.

“Regulators don't see the global supply chain—they put in regulations but it's the production hubs in Asia that will feel the 'heat' most. We don't just need political will; we need informed political will.”

—Project partner

2. **Financiers:** Incumbent business models that maximise profit making and hold short-term metrics for investment and short-time horizons for returns are a systemic barrier to moving

towards circularity specifically and achieving sustainability goals more broadly.

Why it matters: Inclusion of voices and perspectives from various value chain actors in cross-sectoral discussions has an outsized impact on the resilience of the sector and must be seen as a critical factor towards building a just, fair and regenerative system. Large brands and retailers are often well represented in conferences there is also an increasing number of events that showcase innovators and their innovations. However, the voices of Tier 2, 3 and 4 suppliers or other stakeholders like recyclers are less heard and included.

To ensure that policies benefit multiple actors, account for a fair distribution of risk, responsibility and value sharing along the value chain, regulations need to be anchored by a clear understanding of the functions and roles within the textile

A SHIFT TOWARDS
**VIEWING SUPPLIERS
AS EQUAL
STAKEHOLDERS THAT
HOLD TECHNICAL
SKILLSETS AND
UNIQUE INSIGHTS**

value chain, not just the desired outcomes. The lack of technical clarity within such regulations can hamper investments in riskier but potentially high-impact innovations. Stimulating and creating access to different forms of financing can catalyse support for new types of market models and enable risk-taking in pursuit of long-term priorities and goals.

INSIGHT 4: There is unexplored value in platforms that can serve as ‘safe’ spaces for challenging conversations among different value chain actors.



SECTORAL INITIATIVES SHOULD CONSIDER **CREATING SPACES FOR SENSITIVE ISSUES TO BE DISCUSSED AND DEBATED**

Recommendation: Existing sectoral initiatives should consider intentionally creating spaces for sensitive issues to be discussed and debated between stakeholders of different supply chain tiers and within those tiers. The growing consensus on the need for change is not yet yielding opportunities to break down both legal and commercial sensitivities, which are crucial for exploring the causes for failure in initiatives to avoid them being repeated, and to scale/share highly impactful interventions. Given the existing norms and constraints in the sector and supply chains broadly, it is unlikely that such spaces will organically form or develop in this manner if not by careful and deliberate intention.

What it is: Many existing sectoral initiatives today convene multi-stakeholders in the textile and fashion value chain to drive a more sustainable and circular sector, all of which are

well-intentioned. Yet, to our knowledge, few are presently offering—or perceived to offer—opportunities that are perceived as ‘safe’, open spaces that encourage tricky, sensitive cross-sectoral issues to be discussed, debated, and for collaboration.

“When we started looking at the barriers, it was one thing, but getting stakeholders in the room already began to solve a lot of those problems.”

—Project partner, post-prototyping workshop

Why it matters: Although on a smaller scale, ESCF demonstrates that creating ‘safe’ spaces that allow such critical discussions to be held and to build up trust, respect and understanding unlocks genuinely inclusive creativity. Ultimately, to shift the sector to become more just, fair, inclusive, regenerative and circular, it is necessary to do so.

INSIGHT 5: The industry needs to rethink engagement with consumers as key actors in the value chain.

Recommendation: Brands, retailers, policymakers and manufacturers need to work together to rethink ways of engaging consumers towards accepting sustainable products and the possible price premium for products that are produced with cutting edge innovation for sustainability, and not consider it the sole responsibility of any one group of stakeholders. Collaboration in doing so would also ensure that costs, risks and opportunities are shared equally.

What it is: Speak with any brand or retailer and it is highly likely that consumer preference—seen as one of the most powerful drivers of change in this industry—will be brought up as a factor for refusing or delaying more sustainable solutions. For example, hesitation towards or refusal of materials, fabrics or products (including recycled) if they have a different hand feel; if they look different (such as printed vs conventionally coloured); if their

composition is mono material instead of blended; if they cost more than conventionally produced but less sustainable products.

“Consumers need to be OK to pay a premium for recycled garments. There are so many stakeholders involved in bringing the product to the consumer. Can brands and suppliers work together to engage consumers? We want to do it, but no one wants to do it alone.”

—Project partner

Why it matters: Others in the value chain consider it the responsibility of the consumer-facing businesses to shift market demand or sentiment to new products or models. Yet, most stakeholders would agree that the sector cannot wait for market demand for sustainable products to grow if the sector is to transform to a circular one with the urgency required. Demand must be created. Conventionally, consumers sit at



the end of the value chain as end-users of products. With circular models, the role that consumers play cannot be understated and industry stakeholders must consider

evolved ways of engagement with consumers to change deeply entrenched mindsets, behaviours and preferences.

INSIGHT 6: There is a hunger within the sector for creativity, imagination and collaboration with one another—particularly among progressive manufacturers.

Recommendation: Companies from across the value chain should explore collaborating through different methods and disciplines to unlock creativity and imagination. For example, this could mean recalibrating lead-supplier conferences to include hackathon elements, significant time to learn and play with new frameworks, facilitation techniques and exercises.

“When our own company thinks of innovations, we think of what we would do in Year 1 and then Year 2... In this workshop we imagined the future then traced backwards; it helped us to think about what the industry can do, not just what our own company could do.”

—Project partner, post-prototyping workshop

What it is: Sustainability professionals, procurement, finance and executive teams within the industry have been challenged by headwinds impacting profitability and disrupting business models. Inflation, crisis and regulatory pressure dampen the capacity and appetite to be courageous, to imagine and to be creative. In contrast, this project utilised a variety of techniques to build trust and encourage creativity with partners, with partners responding with considerable enthusiasm for that type of engagement.

“I got great insights into systemic change, design thinking and reminder on how cross-industry networks with all parties at the table in a safe space can make magic happen.”

—Project partner, post-prototyping workshop

Why it matters: In an environment of overlapping, complex and

entrenched challenges, business-as-usual approaches, including in how value chains collaborate and communicate with each other, will not deliver the requisite shift for a just and regenerative value chain. Shifting a system requires creativity, imagination and more. Within every organisation, individuals lack opportunities to engage, consider and tackle the challenges their company and the industry face. How might we bring together like-minded stakeholders to harness this energy for innovation and collaboration?

“This workshop has reminded me of the need for imagination and creativity in what we do. So often in my role I can be sucked into the day-to-day, budgets and restrictive conditions, but we will need imagination to overcome these challenges.”

—Project partner, post-visioning workshop



3.2 CIRCULARITY AND INNOVATION

The project explored circular innovations as case studies, yielding specific learnings relevant for accelerating the transition to circularity in apparel. These insights are useful for all value chains transforming towards circularity.

INSIGHT 7: Achieving circularity means going beyond technology and business models.

Recommendation: Within the industry, the reality of a circular economy must be considered holistically. This requires going beyond a financial (or other forms) of investment into certain technologies or business, to include

how partnerships or ways of working must change. When approaching innovation with a systemic lens, opportunities for development and improvement with the most impact often come from parts of the system that are less visible.

What it is: With the push for circularity in fashion new and improved technology is coming hard and fast, whether in new materials, ways of processing or ways of ensuring better traceability. Yet, beyond technological improvements, innovation can also mean new ways of working with our partners, partnerships with new actors in the value chain, and new ways of approaching old challenges/new mindsets.

Why it matters: For a sectoral shift such as that posed by circularity, tangible innovations operate at critical yet shallow levels at the system. The example of the advent of fast fashion in the 20th century drew on technological advances, but was predicated on a changing system of relationships, values and

finance, both at consumer level and throughout the value chain. Less tangible innovations bring great shifts and play a key part in unlocking barriers in the system.

INSIGHT 8: The innovation process benefits from systems thinking.


Recommendation: Include the use of systems thinking tools and frameworks at the start of the innovation process and throughout critical points.

What it is: The Iceberg model, introduced during the in-person workshops with the project partners, made visible the root causes of key events and intuitively linked them to the systemic barriers keeping circularity from its potential. Participants found it powerful and highly useful to see the issues thus defined and communicated,

and it opened prioritisation and development of new ideas in a much more focused manner.

Why it matters: Sectors and value chains are highly complex and dynamic systems, with highly diverse connections between stakeholders that can frustrate progress through its complexity. Without improving our understanding of these forces, we risk shallow or piecemeal changes that can achieve short-term gains but produce unintended negative consequences or do not produce the long-term impact needed.

Systems change approaches aim to make clear these connections to support identifying highly influential elements within a system, exposing sources of core issues such as structural factors or behavioural norms. Doing so can help create interventions that go beyond typical approaches based on risk, superficial value for money or short-term gain.



VISIONING AND PROTOTYPING

4

HYPOTHETICAL BUT TANGIBLE INTERVENTIONS THAT STAKEHOLDERS ACROSS THE FASHION VALUE CHAIN CAN WORK ON

This section dives into the prototype interventions identified and developed in the prototyping workshop detailed above. Focusing on barriers identified using the Iceberg model, the prototypes represent (currently) hypothetical but tangible interventions that stakeholders across the fashion value chain can work on to enable a systemic, circular value chain.

4.1 DESIGN CRITERIA

The prototypes were developed and assessed according to the following criteria. You can read more about the rationale for each prototype in our Miro board displaying them [here](#). We will discuss each prototype in further detail further in this section.

CRITERIA	INDICATORS
<p>ACTIONABLE, VIABLE, FEASIBLE</p>	<ul style="list-style-type: none"> • Can the prototype be realistically developed and implemented with reasonable levels of support and resources, and within a reasonable timeframe? What level of support is required? How much would it cost? How will it be financed? • How does it balance innovation, ambition and practicality for implementation? • What is the strength of a business case for the prototype? How does it address existing or near-future needs? What is its potential for commercial viability? • What is the potential for bringing together stakeholders from various departments/teams within an organisation to support its implementation? • What is the potential for bringing stakeholders within the sector to support its implementation?
<p>LEVEL OF AMBITION: DARE TO THINK BIG!</p>	<ul style="list-style-type: none"> • Does the prototype push boundaries or challenge the status quo within the sector? In what ways? • What additionality does the prototype or innovation bring? Are there existing initiatives or innovations like this one? What is/are its unique qualities? • Does the prototype aim for transformational change within the sector or system or incremental change? In what ways? • How does it promote a shift in mindsets or attitudes in the long-term?

CRITERIA	INDICATORS
<p>IMPACTFUL AND INTERCONNECTED</p>	<ul style="list-style-type: none"> • How does the prototype address existing or entrenched systemic issues? Which ones? • How well does it leverage existing resources, networks, or systems to achieve maximum impact without duplicating efforts? • Is there evidence of a synergistic effect, where impact in one area could result in positive benefits to other areas?
<p>INCLUSIVE: BENEFITS MANY</p>	<ul style="list-style-type: none"> • Does the prototype include the active participation of multiple stakeholders in the system? Does it genuinely integrate diverse perspectives and input from these stakeholders? In what ways? • How are the benefits of the prototype available to multiple stakeholders? • How effectively does it demonstrate empathy and address a deep understanding of varied needs, backgrounds and contexts?
<p>CLARITY OF FOCUS</p>	<ul style="list-style-type: none"> • Is the prototype clear on what it hopes to build and achieve? How is its purpose and communicated? • Does the prototype have well-defined objectives and priorities, avoiding unnecessary complexity? • How clearly does it communicate its purpose and desired outcomes?

CRITERIA	INDICATORS
REPLICABILITY	<ul style="list-style-type: none"> • What is the potential for replicating the prototype within the sector? • What steps have been considered for replication, scaling and refining the prototype?
INSPIRING	<ul style="list-style-type: none"> • How is the innovation able to motivate or spur others to take positive action or do things differently?
EDUCATES AND BUILDS AWARENESS	<ul style="list-style-type: none"> • How is the innovation able to teach or deepen understanding and awareness of how the industry works or how products are made? • How is the innovation able to spark an interest in different stakeholders including consumers to further engage with the industry and find out more about it?
LIFE-CENTRED DESIGN	<ul style="list-style-type: none"> • How does the innovation consider or include nature and ecosystems in its impacts or outcomes? • How does the innovation promote co-benefits for both humans and nature?



4.2 THE ICEBERG MODEL

The Iceberg model below mapped the barriers and enablers identified in the diagnosis and analysis stage of ESCF. Mapping these barriers and enablers onto the framework allowed partners to clearly understand the systemic impact of the barrier which they chose to ideate on in the prototyping stage, and how they might be creating systemic efficiencies through the prototypes' development.

THE ICEBERG MODEL

FASHION INDUSTRY

EVENTS

Bankruptcy of Renewcell

Zara starts up **US resale platform**

Companies in nearly all sectors going **silent on green goals**

Recycling and upcycling of garments and apparel **increasingly popular**

Fashion companies **called out for greenwashing** in 2022/2023

H&M and Inditex invest in **lab-grown cotton** in the US

SHEIN products found with **hazardous levels of chemicals**

Nike's **difficult 2024 layoffs**, shrinking revenue, lawsuits

SHEIN is the most popular brand on **TikTok** for fashion hauls

Increasing regulations around the world, notably from the EU

PATTERNS OF BEHAVIOUR

Fashion brands are **not transparent enough about the sustainability** of their products

Civil society **campaigns**, on fashion sector, **with images of garment waste** piling up

Lack of clarity around **changing regulations**

Engagement between value chain actors and policymakers **is not inclusive**

Increasing scale up of new business models

Greater consumer awareness and media attention

Low appetite for risk

Value chain actors need to **engage consumers more** but don't know how. Suppliers look to brands to lead, but no one wants to do it alone

SYSTEM STRUCTURE

Supply chain doesn't have enough visibility, therefore **consumers are not aware of the true cost** of making products

Value is not evenly distributed among the value chain

Stakeholders **do not work in tandem towards similar goals**

Companies 'hide' their unsustainable practices through **opacity in the value chain**

Lack of open dialogue on what an equitable system should look like

Regulators do not understand the functionalities and roles within a **textile value chain**

MENTAL MODEL

Consumers don't care about how their clothes are made

Nobody wants to take the risk or a greater share of it

Brands can and should drive the transition to a regenerative approach

Transparency in the system **creates more risk** for stakeholders

Business models that maximise profits and short-term investment

PARTNERS AT THE ESCF PROTOTYPING WORKSHOPS
IN SEPTEMBER 2024, SINGAPORE

4.3 THE PROTOTYPES

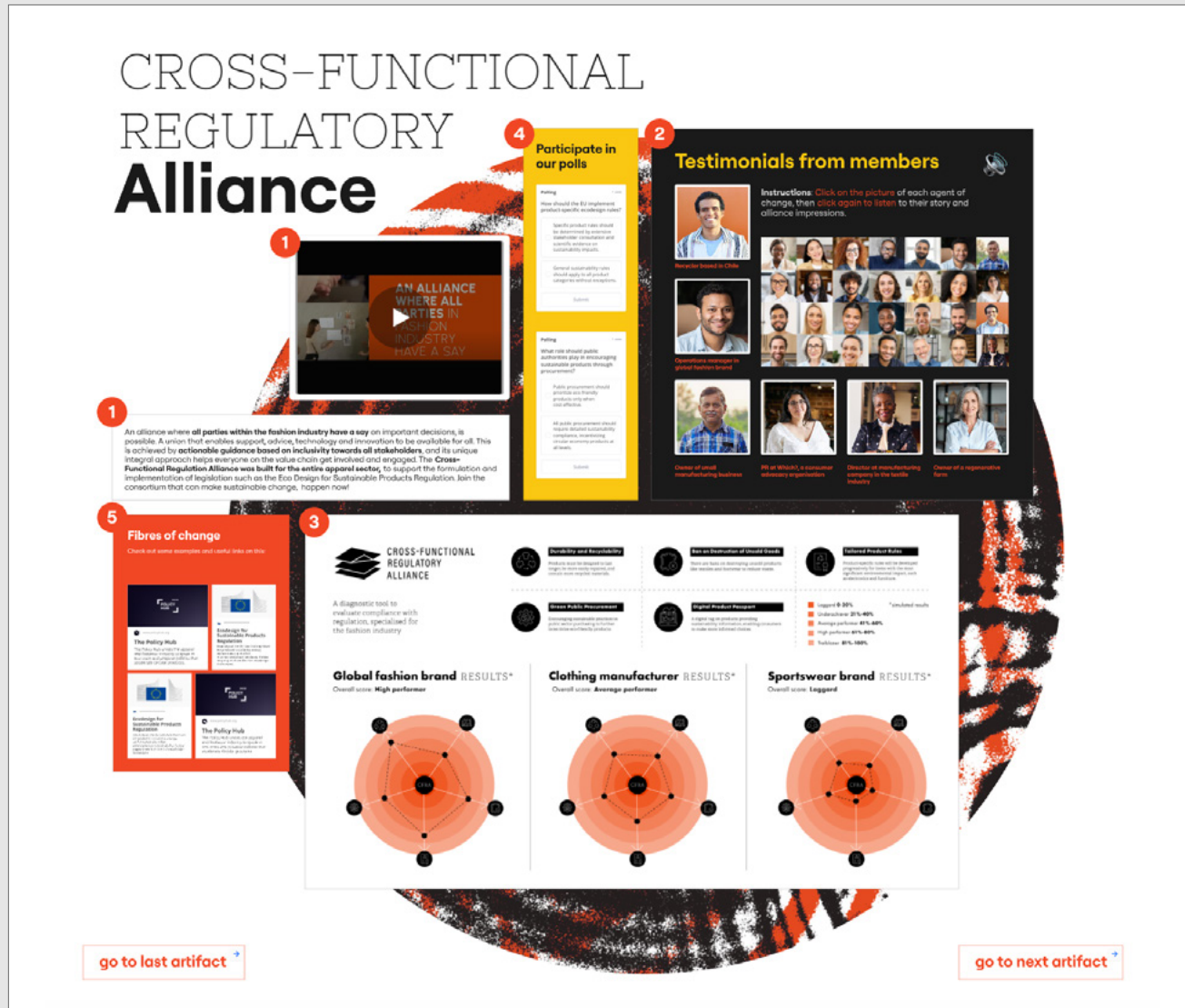
By materialising ideas with the potential to impact the industry's future, these prototypes encourage a critical examination of how we can innovate and achieve true circularity. They are not developed with commercial priorities as key drivers, but intend to provoke debate, spark actionable insights and expose the multifaceted relationships between fashion, technology, circularity, and social and environmental issues.

Rather than representing a fixed product or idea of the future, the prototypes open dialogue around what the solution might hold, enabling us to question and prepare for emerging challenges in these areas and find answers together.

Provocative prototypes such as those described below have a well-documented history of inspiring change. Research from organisations like Nesta has shown that speculative prototyping allows industries to explore long-term, sustainable solutions by shifting mindsets and preparing for potential disruptions.

For our partners and the broader fashion industry, these prototypes serve not only as thought experiments but as assets, pushing boundaries to debate, refine, and serve as the basis for further development into tangible innovations that can help us navigate future challenges more effectively and sustainably.





PROTOTYPE 1: Cross-Functional Regulatory Alliance

PRIORITY BARRIERS

- How to communicate as an industry for regulation
- Overcoming power imbalance in dynamics

DESCRIPTION

Acknowledging the burden of growing reporting, this alliance shifts the conversation towards how regulation can better support the industry to shift to more sustainable practices. It is done by creating an open channel of communication where policymakers can test and iterate policy development, with an understanding of navigating nuances in different geographies.

The alliance is led, financed and governed by its members—a clear sign of commitment towards systemic change. Unlike any peer in the industry today, it mandates an equal representation of every supply chain tier, sharing decision-making responsibilities and providing space for discussion and innovation. For every year of its existence, it seeks to grow the number of apparel businesses achieving social and environmental goals and accelerate the industry's transition to circularity.

“After connecting brands and retailers with Tier 1 Finished Product Manufacturers, the idea of forming a [Cross-Functional Regulatory Alliance] is solid. The alliance could approach more Tier 2–4 (fabric and trims mills, yarn mills, and even cotton and raw material producers) to work together. As different tiers are separated from each other due to geographic constraint, what we lack are opportunities to talk and cooperate. Gathering different voices could better represent the apparel industry’s supply chain.”

—Project partner

RATIONALE AND IMPLICATIONS

As regulation grows more ambitious in tackling unsustainable business practices, it is critical that all stakeholders throughout the supply chain are engaged and have an investment in the regulation so that the transition to a sustainable value chain is cohesive and moves in a way that creates value for all.

Stakeholders further up the value chain are not getting consulted on their barriers to unlocking sustainable practices, and without this consultation are finding it challenging to manage the burden of responsibility of the newer regulations. Reasons for the omission of their consultation include geographical location (the stakeholders are not based in the regulatory environment in question) and simply that there is no existing communication channel between policy drafters and these stakeholders.

To meet this challenge, the Cross-Functional Regulatory Alliance acts as the voice of diverse stakeholders in the chain, which can advocate for their needs in actualising requirements for regulation and supporting each other to develop cutting edge sustainable business practices.

STAKEHOLDERS INVOLVED

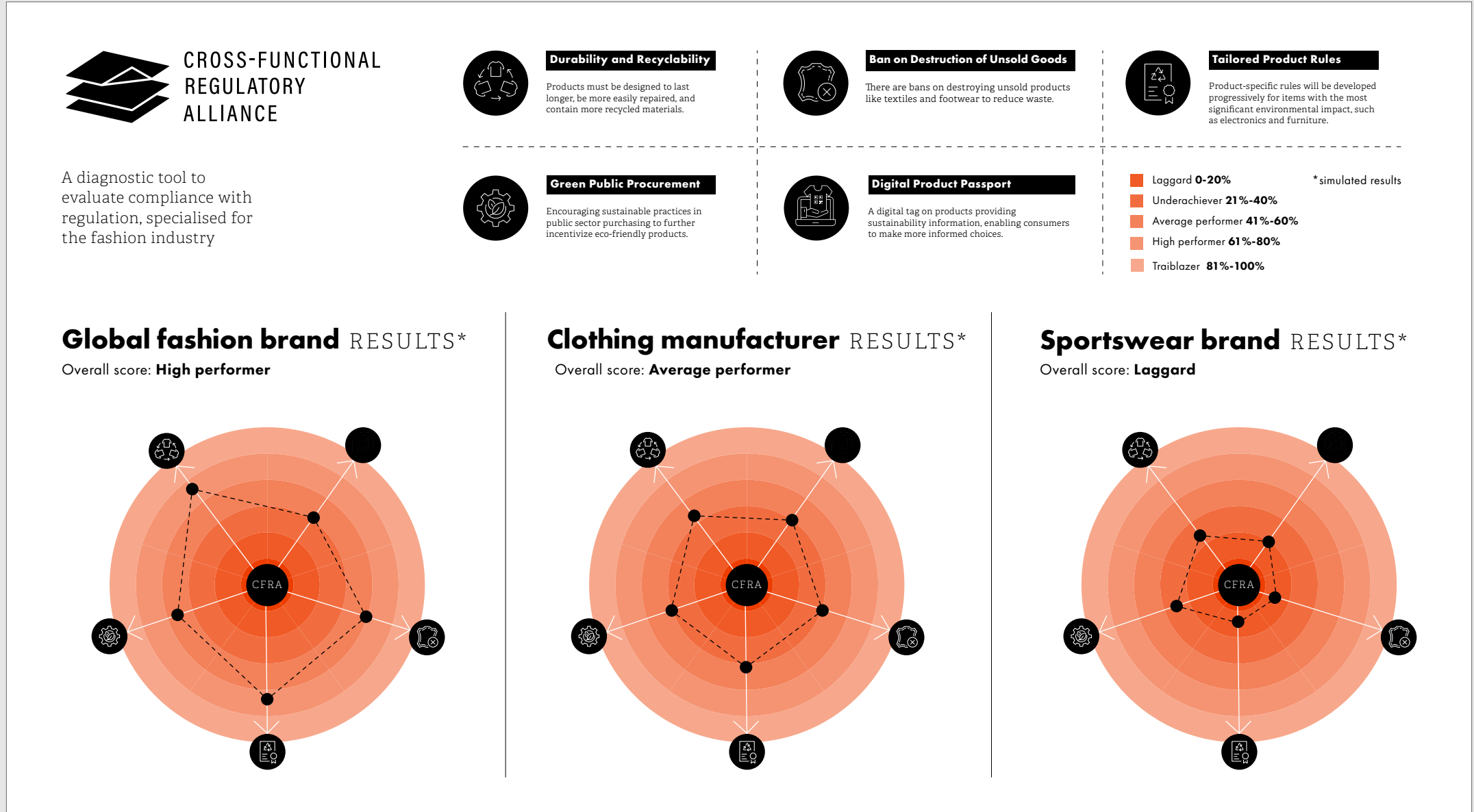
Tier 4 farmers/synthetic producers, innovators, industry leaders, Tier 3 yarn/component suppliers, manufacturers.

GATHERING
DIFFERENT VOICES
COULD BETTER
REPRESENT THE
APPAREL INDUSTRY’S
SUPPLY CHAIN

BUSINESS VALUE GENERATED

- Shared resources for navigating regulatory changes
- Cost-saving opportunities through unified lobbying efforts
- Improved alignment leading to smoother operations across geographies
- First mover advantage
- Labour rights formalisation
- Carbon reduction
- Brand buying commitment
- Wide geographical reach
- Be prepared and have a voice in regulation
- Funding for innovations

FIG.4 PROTOTYPE DIAGRAMS OF A DIAGNOSTIC TOOL POWERED BY THE CROSS-FUNCTIONAL REGULATORY ALLIANCE



PROTOTYPE 2: Value Material Royalties

PRIORITY BARRIERS TACKLED

- Growth mindset leading to over-production
- Desire for new products leading to waste
- Inequitable distribution of risk and value
- Lack of incentives to change for each actor
- Narrow perception of value not accounting for externalities

DESCRIPTION

A deep dive into the philosophy of style and quality. The team produced multiple possible workstreams to test how we can shift consumer mindsets toward prioritising the quality of the resource.

What if it isn't about take, make, waste. What if instead it's about how we source and how we design? What if it isn't about toxic materials, competition, winners and losers?

This approach can include iterative consumer tests to see how changing the framing of value, ownership and quality can make the most impact, and a digital royalty associated to a unit quantity of fibre in the garment that would provide dividends to their owners (of whom some of course

CLICK TO EXPLORE THE INTERACTIVE PROTOTYPE CONCEPT

**WHAT IF
SELLING VALUES
CAN GENERATE
HIGHER PROFITS
THAN SELLING MASS
PRODUCED CLOTHING?**

would be the garment producers and growers) for however long they remain in use in the system.

“Frankly, this topic of value over product will continue to be in the back of mind[...] What if...selling values can generate higher profits than selling mass produced clothing...

Despite all challenges we must stop promoting/designing into

synthetics and instead offer/push natural fibres/cellulosics with added functional properties!”

—Project partner

RATIONALE AND IMPLICATIONS

Outside of luxury brands, fashion supply chains largely respond to rapidly changing trends and

consumer preferences. placing style as a key driver of value and demoting the value of the resources needed to create the style. This sits at odds with the reality of fashion supply chains where a large proportion of the value of a garment is generated from the quality of the material and the skill and craft of those constructing the garment.

Without understanding of the value contributed by the various tiers of the supply chain and stages of garment creation, the incentive of fashion consumers is to maximise value by keeping up with trends and replacing and throwing away garments which no longer hold the same stylistic value, despite the embedded value that that garment still holds in its material and craft. Value Material Royalties act to rebalance what is seen to be valuable about garments and fashion, incentivising products of high quality that can stay in circulation for longer without wearing out and can be easily recycled into another product at end of life.

Going beyond ‘value’ in the traditional sense, exposing the costs and impact of materials can shed light on those materials that are low impact, beneficial or even regenerative for the environment and people, which are currently externalised away from the price and consumption of a product.

STAKEHOLDERS INVOLVED

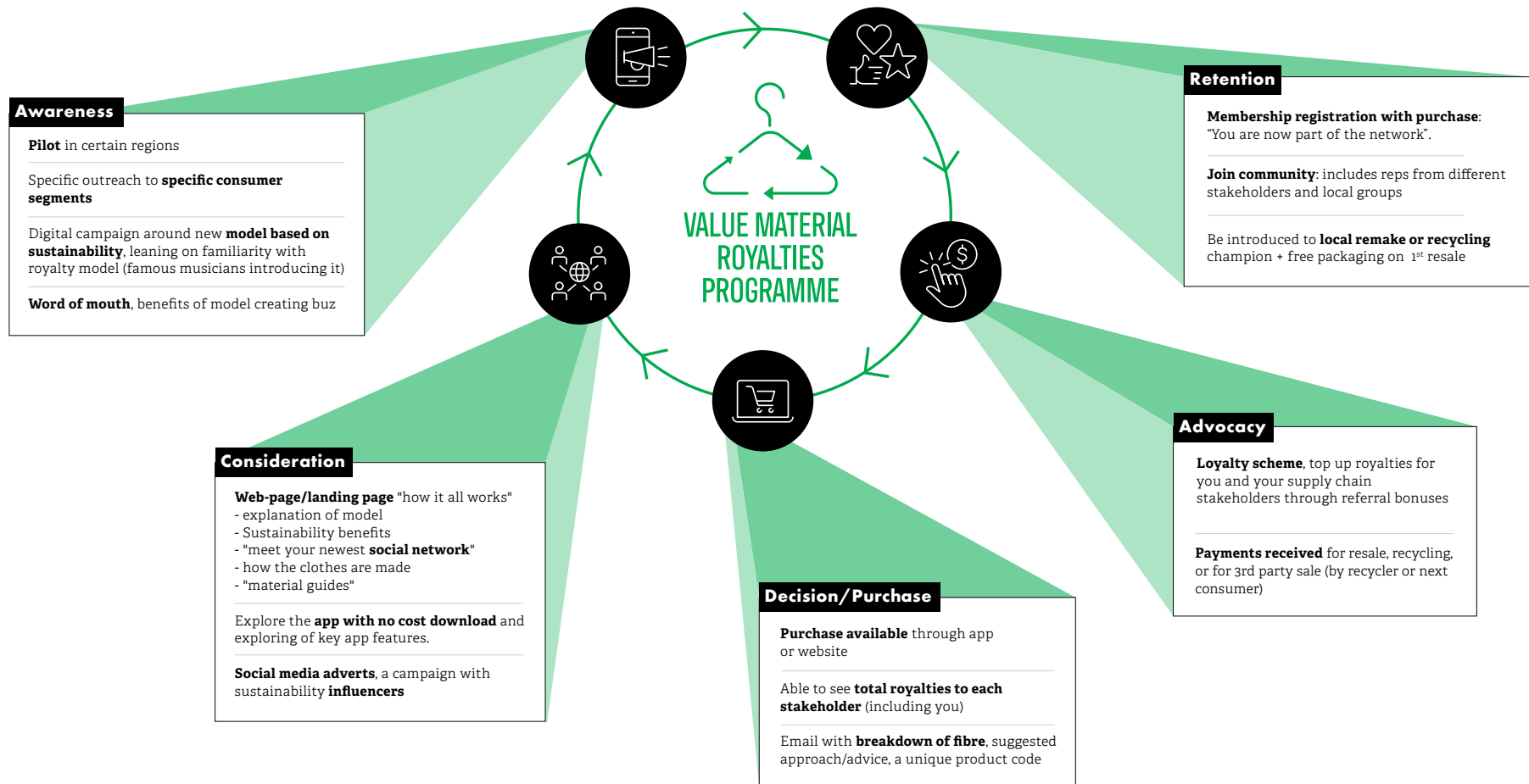
Brands and retailers, fibre producers, spinners, apparel manufacturers, end of life processors, consumers, culture-makers, tech solution providers.

BUSINESS VALUE GENERATED

- Growth mindset leading to over-production
- Desire for new products leading to waste
- Inequitable distribution of risk and value
- Lack of incentives to change for each actor
- Narrow perception of value not accounting for externalities

FIG.5 PROTOTYPE DIAGRAM OF THE VALUE MATERIAL CUSTOMER JOURNEY

THE VALUE MATERIAL **customer journey**



CIRCULAR FASHION Hub

1 Imagine living in a city where your products do not ever go to landfill! They would either only be reawm, repaired, recycled, or downcycled to other industries. This city has your favourite brands connecting to circular ecosystems within the region, offering you beautiful products. As consumers, we feel as good as we look! Imagine if all the capabilities needed for a circular system are in a close radius to your home centred around a world class innovation centre

2 **Participate in our polls**

3 **Impact stories**
What people are saying over social media

4 **Material Flow Analysis**

5 **Participate in our polls**

6 **Fibres of change**
Check out some examples and useful links on this

go to previous artifact →

go to first artifact →

PROTOTYPE 3: Circular Fashion Hub

PRIORITY BARRIERS

- Value chain complexities, opacity and dynamics
- Brands play a determining role
- Bringing financial actors into closer dialogue with supply chain actors
- Creating demand

DESCRIPTION

Get ready to experience a closed-loop life. The Circular Fashion Hub/region is a physical space localised in regions that host all the stakeholders necessary to keep materials circulating in supply chains with as little waste as possible, while working with the region's specific context. Research and development in sustainable fashion supply chains is immediately piloted in the hub, allowing key stakeholders like waste collectors and sorters to develop in an established ecosystem, with all stakeholders working together to develop each innovation.

The governance of this hub directly challenges linear models of take-make-use-throw, as solutions to waste become more diversified with each passing day in the circular urban centre of the future. Taking a fresh

look at what success looks like, the hub would move away from profit as an indicator toward KPIs that support the hub to grow in its mission. Moving beyond value in the traditional sense of material/quality/style/craft, this model can also open the visibility of hidden values that are highly beneficial for the environment and human symbiosis.

“Low-hanging fruit is really to start from our already existing cut-waste, specifically the 90% and above blends prior to moving into post-consumer waste. Fun fact there is enough cut-waste currently to make circular material for the capacity available till 2030... and there are many startups that are looking at scaling up in the next two years that will exponentially push circular material production forward.”

—Project partner

STAKEHOLDERS INVOLVED

Brands, re-wear services, repair, recyclers, ginners and farmers,

consumers, innovation and R&D centres, fabric and apparel manufacturers.

BUSINESS VALUE GENERATED

- Co-existing value levers accessed (creating ecosystem resilience)
- Social media and comms inspiration
- Reporting
- Transparency
- Social and environmental compliance/license to operate
- Innovation acceleration

RATIONALE AND IMPLICATIONS

Efforts to scale up recycling of textiles suffer from a lack of critical inputs: feedstock, R&D, and investment. To support the incubation stage of recycling technologies, waste collection and sorting models, and financing options, this hub brings all stakeholders together in a life-sized experimentation on circularity. By removing the traditional barriers to growth such as logistics and market

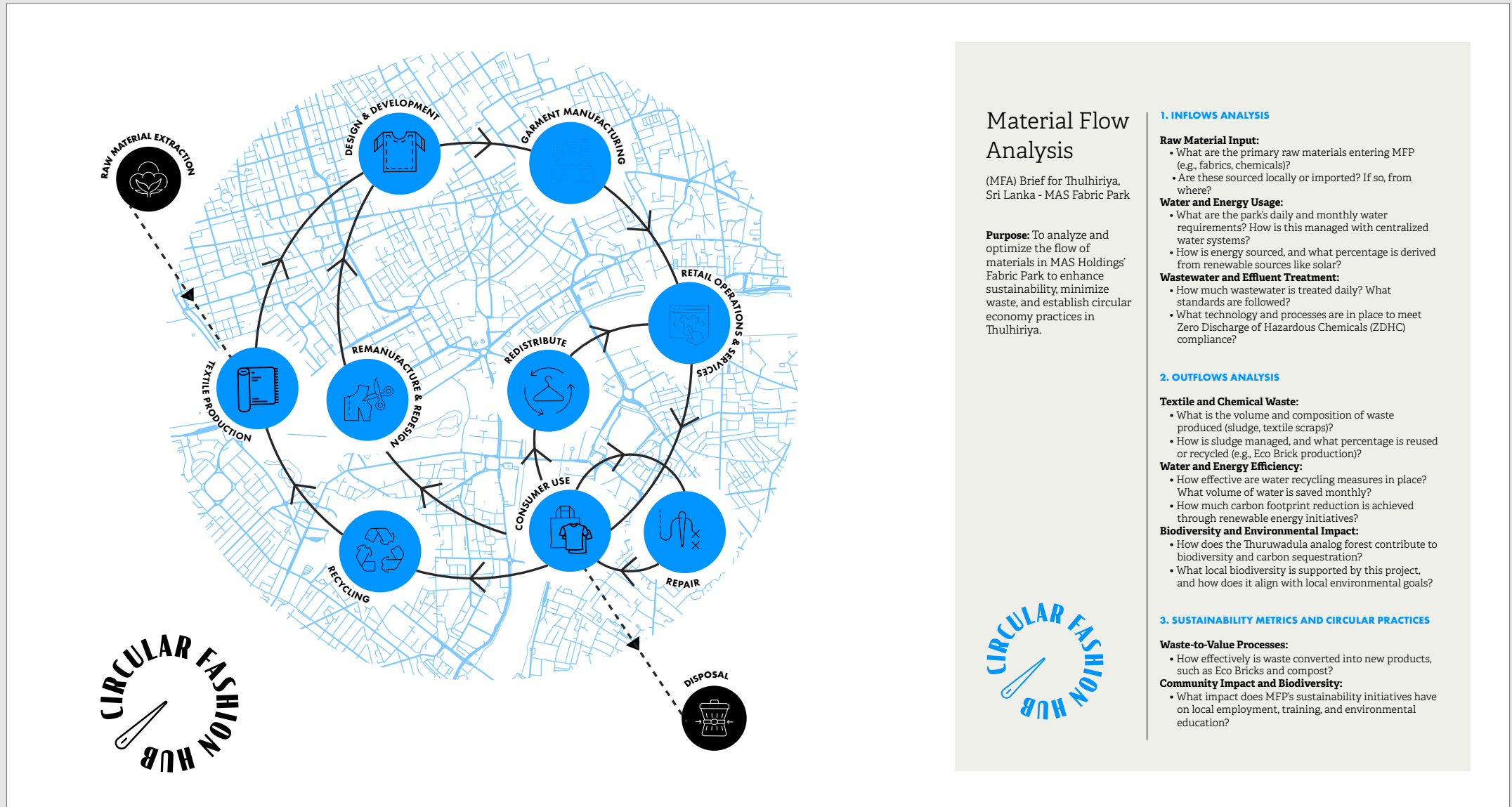
penetration, the much-needed development of the waste stream sector can catalyse pilot-to-scale circularity innovations.

Financing the hub would be a shared endeavour between the larger participating actors and local authorities who recognise the potential for economic, social and environmental impact. The region or

geography that a hub would be located in could accelerate progress toward goals including waste and emissions reduction, as well as growing long-term, high-quality jobs. For participating organisations, the approach yields opportunities for carbon and nature insetting, waste reduction and reduction of supply chain risks through a clear improvement in visibility over each process.



FIG.6 PROTOTYPE DIAGRAM OF THE CIRCULAR FASHION HUB



Material Flow Analysis

(MFA) Brief for Thulhiriya, Sri Lanka - MAS Fabric Park

Purpose: To analyze and optimize the flow of materials in MAS Holdings' Fabric Park to enhance sustainability, minimize waste, and establish circular economy practices in Thulhiriya.

1. INFLOWS ANALYSIS

Raw Material Input:

- What are the primary raw materials entering MFP (e.g., fabrics, chemicals)?
- Are these sourced locally or imported? If so, from where?

Water and Energy Usage:

- What are the park's daily and monthly water requirements? How is this managed with centralized water systems?
- How is energy sourced, and what percentage is derived from renewable sources like solar?

Wastewater and Effluent Treatment:

- How much wastewater is treated daily? What standards are followed?
- What technology and processes are in place to meet Zero Discharge of Hazardous Chemicals (ZDHC) compliance?

2. OUTFLOWS ANALYSIS

Textile and Chemical Waste:

- What is the volume and composition of waste produced (sludge, textile scraps)?
- How is sludge managed, and what percentage is reused or recycled (e.g., Eco Brick production)?

Water and Energy Efficiency:

- How effective are water recycling measures in place? What volume of water is saved monthly?
- How much carbon footprint reduction is achieved through renewable energy initiatives?

Biodiversity and Environmental Impact:

- How does the Thuruwadula analog forest contribute to biodiversity and carbon sequestration?
- What local biodiversity is supported by this project, and how does it align with local environmental goals?

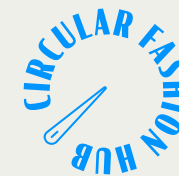
3. SUSTAINABILITY METRICS AND CIRCULAR PRACTICES

Waste-to-Value Processes:

- How effectively is waste converted into new products, such as Eco Bricks and compost?

Community Impact and Biodiversity:

- What impact does MFP's sustainability initiatives have on local employment, training, and environmental education?





CONCLUSION AND NEXT STEPS

5

THE POTENTIAL TO SOW THE SEEDS OF CHANGE IN SHIFTING BARRIERS IN THE SECTOR

AN INVITATION

This report covers the first phase of work of Enabling Systemic Circularity in Fashion. This first phase has focused mainly on the diagnosis of systemic barriers and enablers within the sector in the shift towards circularity and a more just, fair and regenerative system. We have also begun to develop three promising prototypes of innovations that—if fully developed with intention to be systemic, inclusive and ambitious—have the potential to sow the seeds of change in shifting barriers in the sector.

In subsequent phases of the project, we intend to:

- 1. Offer a platform modelling the “how” of collaboration with stakeholders in the value chain coming together to co-create and develop not just technological but also process, business model and system innovations.** To do so, we will broaden the project cohort to include new partners from already represented stakeholder groups (brands, retailers and manufacturers) and bring in a greater diversity of value chain actors such as innovators, recyclers, sorters, financiers and regulators. The enlarged cohort provides further opportunities to implement and explore new ways of working and governance, adapting to the realities and expectations of each stakeholder and stakeholder group, as well as sharing the project’s learnings and capacity building with a greater number of people and organisations.



WE
INVITE ALL
INTERESTED PARTIES
TO **JOIN THE PARTNER
COHORT TO SUPPORT
PROJECT GOALS** AND
ADVANCE THEIR OWN
LEARNING IN THIS AREA

2. **Work with project partners to further develop and progress the innovations** listed in section 4 from raw prototypes to market-ready interventions, doing so collaboratively and continuing to incorporate our collective diagnosis of the system.
3. **Continue to provide a platform that can serve as a 'safe' and open space for cross-sectoral dialogue and collaboration** (see [Insight 4](#) on page 37). Barriers in the system are often entrenched and deeply embedded over a long time. These are also challenging and often sensitive issues that may require a mutually respectful, inclusive and neutral platform with clear guidelines for engagement.

We invite all interested parties to join the partner cohort to support project goals and advance their own learning in this area. To do so, please reach out to business@forumforthefuture.org.



APPENDIX:
RESEARCH CASE
STUDIES

INNOVATION GROUP 1 (MATERIALS)

ALTMAT

AltMat is an India-based alternative materials science that converts agricultural residue into natural cellulosic fibres using a mix of chemical, mechanical and enzymatic processes to be made into yarns for knitting and weaving. The process has undergone a preliminary LCA testing. Shahi Exports, India's largest apparel manufacturer and exporter, has conducted extensive testing and evaluation of the yarn.

The Innovation Group focused on understanding the lack of take up from brands despite the high levels of interest indicated. Another focus is to explore the potential of this innovation to scale in India, building on its pilot successes with Shahi and supply chain partners located in Europe.

INNOVATION GROUP 2 (WASTE)

SORTING FOR CIRCULARITY IN INDIA

Sorting for Circularity in India (SFC) is a multistakeholder initiative run by Fashion for Good (FFG) to organise textile waste infrastructure and drive forward textile-to-textile (T2T) recycling in India. This 26-month long project from October 2021–December 2023 aimed to enable access to post and pre-consumer feedstock that meets the quality parameters required by the advanced recycling technologies, giving these technologies an incentive to scale in India. SFC included an extensive textile waste landscape study of India, pre-consumer pilot with reverse resources from June 2022–August 2023, and a post-consumer pilot with recycling technology companies Matoha and Picvisa between January–November 2023.

SFC was selected due to the strong alignment of the project goals with ESCF's own objectives and theory of change, given the potential for it to gain deeper learnings from various touchpoints within the circular waste management process to understand the collaboration approaches and relational dynamics among different value chain actors. It also held the potential for learnings to be shared in the form of a toolkit across the industry and applied to other geographies in Asia.

INNOVATION GROUP 3 (BUSINESS MODELS)

WE PLAY CIRCULAR

French sporting good retailer Decathlon has kicked-off a pilot in Belgium offering consumers to become 'users' who can access a certain value of the retailer's 40,000+ catalogue through a

regular monthly subscription. The subscription amount is variable, with a corresponding cap on the value of goods that can be accessed. The We Play Circular model is in pilot stage, with Decathlon indicating its interest in the potential for the model at scale, and others in the sector interested in its results.

The model holds potential to drive value in different ways—by increasing the profitability of each good for the business; by giving consumers a flexibility in options and an easy process to dispose of goods, and by incentivising the production of higher quality and more durable goods.

We Play Circular generated a significant amount of energy and interest, with the model seen as holding significant potential and attractive to the retail sector but its impacts on the industry (e.g. suppliers) still very uncertain. There was also a curiosity to explore how the model would work for products which are more challenging to 'loop'.



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