

Enabling circular B2B-textiles

panel discussion

Interdisciplinary Circular Economy Conference 2020

Dec 1 2020

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Institute for Ecological Economy Research (IÖW)

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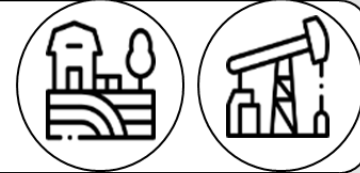


B2B: huge quantities of identical textiles

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Extraction/manufacture of raw fibres



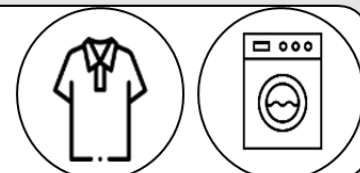
Production of the final product



Transport, Warehousing and Sale



Use



Disposal





B2B: huge quantities of identical textiles

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(How) is circular economy applicable to the B2B-textile sector?



Müller, R.; Vogel, C., Schmidt, S.; Rubik, F.; Rilling, H.; Nebel, K. (2020). Kreislauffähige Berufskleidung und Bettwäsche für Gewerbe, Gesundheitswesen und die öffentliche Hand – Anforderungen und Nachhaltigkeitseffekte - Vorbereitungspapier zum Fachgespräch. Download via: https://www.ditex-kreislaufwirtschaft.de/app/download/9016295714/DiTex_Vorbereitungspapier_Produktpraesentation.pdf?t=1601290793

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EINER RESSOURCENEFFIZIENTEN KREISLAUFFÄHIGEN B2B-TEXTILWIRTSCHAFT

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1 specific obstacles of the circular economy ... need specific response

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Lacking

- knowledge about recyclable product design
- return structures for textiles

no cooperation: design > return



Innovative fibre-to-fibre recycling processes only small-scale

 **Dibella**
longlife textiles

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Restraint transfer of innovative contract models to other applications
e.g. rent/leasing/contracting as in company car fleet, electricity supply, hygiene

2 Brief Introduction

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Ina Budde



circular.fashion

Sabrina Schmidt



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Fabian Takacs



University of St.Gallen

Martijn Witteveen



DIBELLA
LONGLIFE TEXTILES

Kai Nebel



Hochschule Reutlingen
Reutlingen University

3 Agenda

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Design for circularity enabling circular B2B-textiles

Key-Messages

Ina | circular.fashion

Brief Experiences

Martijn | Dibella & Kai | Reutlingen Research Institute

20' Discussion

Circular business models enabling circular B2B-textiles

Key-Messages

Sabrina | IÖW & Fabian | University of St. Gallen

Brief Experiences

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20' Discussion

Wrap-up learnings, final contributions and feedback

Farewell & close



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EINER RESSOURCENEFFIZIENTEN KREISLAUFFÄHIGEN B2B-TEXTILWIRTSCHAFT

„80% of the products impact is estimated
to be decided in the design stage“
Community Objective, 2019

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Circular Design - Status Quo

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Relevance of Circular Design

- <1% Fibre-to-fibre recycling
 - Specific **feedstock requirements**: Composition, dyes, colors, finishes
 - Recycling requirements mostly unknown, not designed accordingly
 - **Design decisions** and material data are **not communicated** to RSC
-
- **No identification** of recyclable products at sorting stage
 - Hence 12% of all textiles are mechanically **down-cycled**
 - Instead of being regenerated to new fibres
 - **Huge potential** of design for material cyclability and longevity

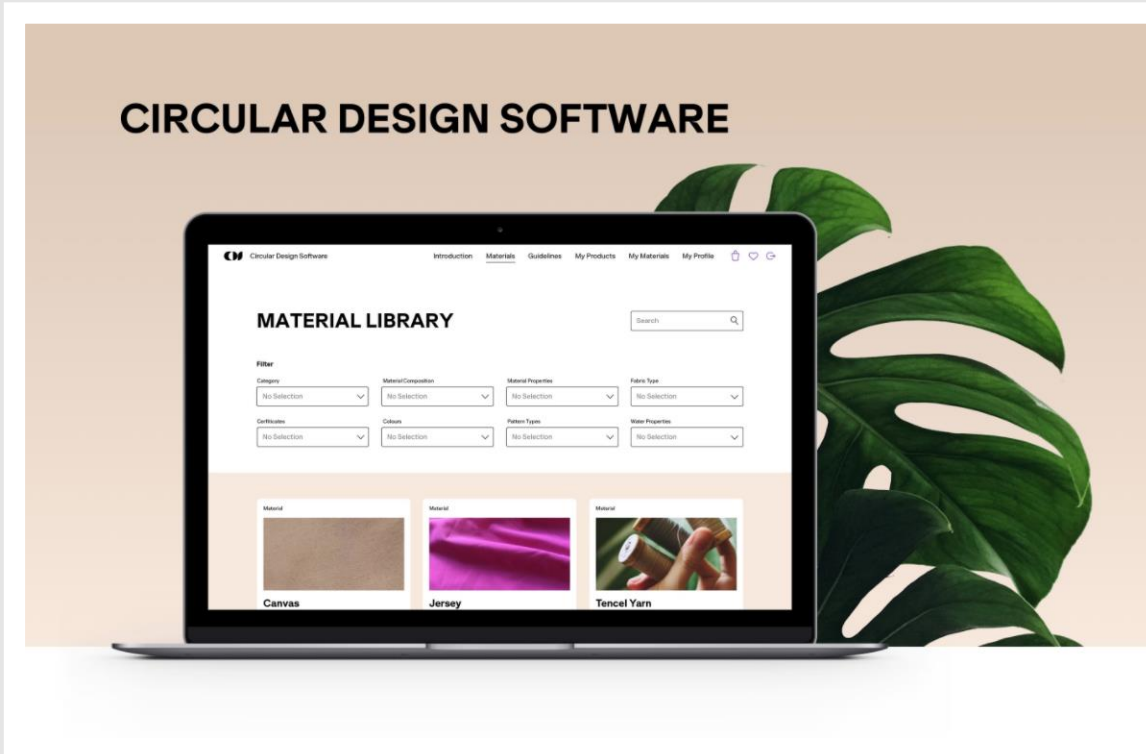


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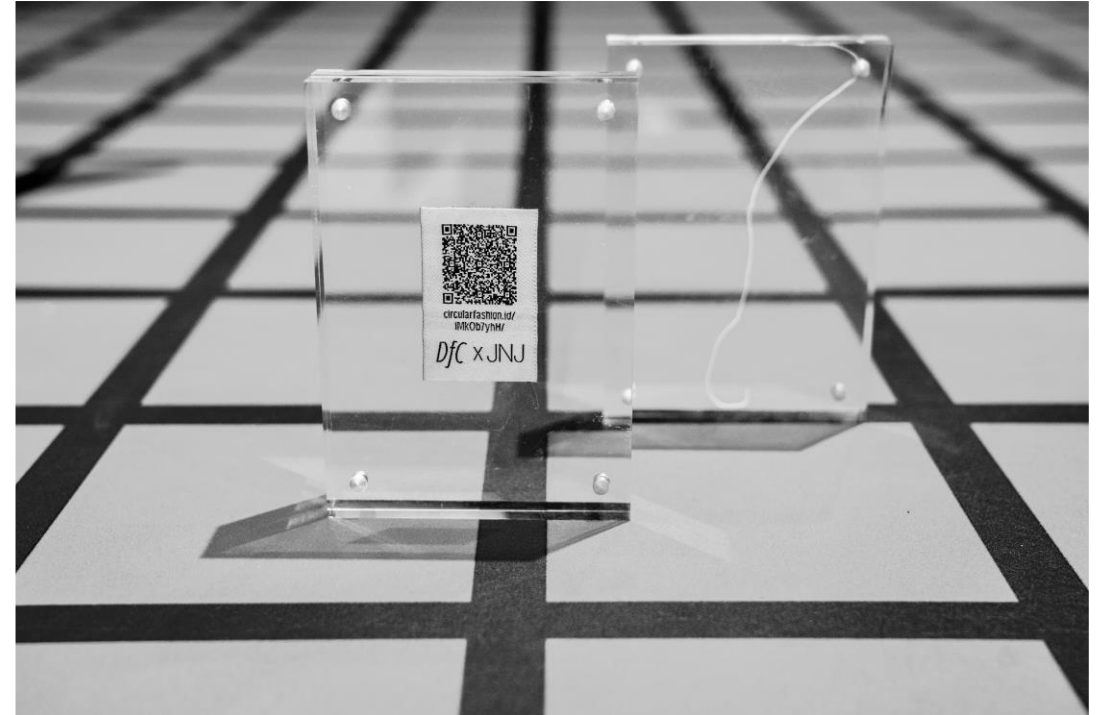
Circular Design - Opportunities

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Translate recycling requirements into
Circular Design Guidelines and material criteria
Circular Material Library with textiles and trims



Make design decisions transparent and available
for the reverse supply chain
circularity.ID Open Data Standard

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Our Approach - Participative Design

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1. Market Dialogue on Requirements

2. Circular Design Workshop

3. Recycling Workshop

4. Circular Material Checks

5. Circular Product Checks

6. Prototype Development






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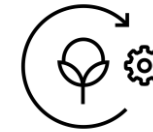
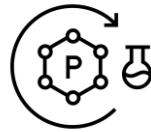
Circular Product Check

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CIRCULAR PRODUCT CHECK

 <p>circularity.ID QR label The circularity.ID transparently holds the full story of the garment from raw materials to finished product, to identify recycling possibilities.</p> <p>Colours: black, white Construction: twill</p> <p>100 % Polyester , recycled from PET bottles Country of production of raw material: Italy</p> <p>Country of production: Netherlands</p>	 <p>Organic cotton sweat Brushed Sweat, OCS certified.</p> <p>Certificates: OCS certified</p> <p>Colour: black Construction: sweat</p> <p>100 % Organic cotton Country of production of raw material: Turkey</p> <p>Country of production: Turkey</p>	 <p>Elastic cord It meets the standards of Oeko-Tex® Standard 100.</p> <p>Certificates: Oeko-Tex® Standard 100</p> <p>Colour: black</p> <p>100 % Polyester Country of production of raw material: Turkey</p> <p>Country of production: Turkey</p>	 <p>Sewing thread It meets the standards of Oeko-Tex® Standard 100.</p> <p>Certificates: Oeko-Tex® Standard 100</p> <p>Colour: black</p> <p>100 % Polyester Country of production of raw material: Turkey</p> <p>Country of production: Turkey</p>	 <p>Stopper, Eyelet, Cord End</p> <p>Certificates: None</p> <p>Colour: gunmetal</p> <p>Country of production of raw material: Turkey</p> <p>Country of production: Turkey</p>
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Verified Recycler Match: Products suitable for chemical polyester recycling and mechanical cotton recycling

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Key Insights & Outlook

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- Higher **quality demand** for recycled B2B textiles than for fashion
- Availability of circular textiles and **need for innovation** identified



- Recycling of pilot products - **fibre-to-fibre** vs. bottle-to-fibre
- **Chemical recycling** as opportunity, **infrastructures to be established**
- B2B as enabler for economically **viable volumes** as recycling input



- Enhancing **tracking IDs** beyond laundry function for efficient sorting
- Using **circularity.ID Open Data Standard** and enriching with lifecycle data

Discussing ... Design for circularity

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Requirements to develop full B2B-market potential:

How to realize the B2B-market potential of fully recycled virgin equivalent textiles? ... concerning

Product Specifications

How to guarantee ...

- that products meet quality demands in textile services (rental/leasing)?
- an appropriate timeline for a fully recycled virgin equivalent textile?
- that also the recycled materials meet high quality demands?

Market incentives

Which policy mix suits – from voluntary actions to legal regulations?

Customer acceptance/
willingness to buy.

Measuring/tracking/
reporting of
sustainability effects

- Will proved LCA for each product (range) be applicable?
- Does LCA necessarily include logistics and recycling processes?



Short Break

See you back in a few minutes.

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Agenda

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Circular Business Models

... enabling circular B2B-textiles

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Interdisciplinary Circular Economy
Conference 2020

Fabian Takacs (University of St.Gallen)
Sabrina Schmidt (IÖW)



University of St.Gallen



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Thinking in ecosystems and business models

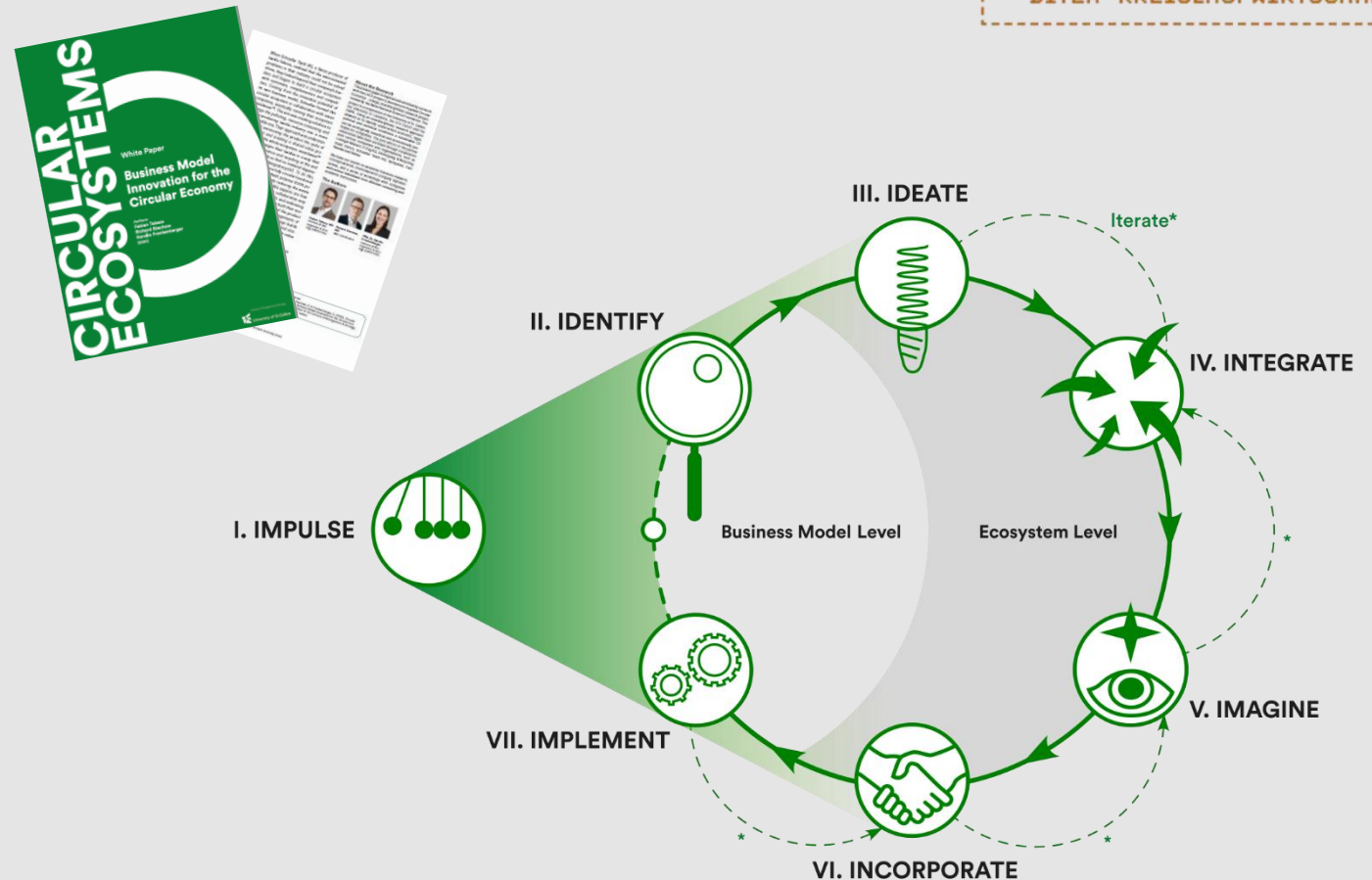
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Navigator process for step-by-step implementation of circular economy in the corporate context

Insights:

1. Common **vision** among the partners
2. **Design** as a key
3. **Time horizon** of planning is crucial
4. **Orchestrator** – a group of people who feel committed
5. Circular **ecosystem** – from competitor to partner
6. **State pressure** facilitates transition

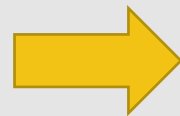


1 Four steps to a circular solution

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- The interplay of *different Circular Economy Patterns* enables the construction of a circular ecosystem
- Important: bringing together the sustainable closing of the loop and the business management context



CLOSE THE LOOP	IMPROVE THE LOOP	MONETISE THE LOOP	EXCITE THE LOOP
Product-Reuse	Increased Longevity	Pay-per-Use	Solution Provider
Part-Reuse	Maintenance & Repair	Rent Instead of Buy	Mass Customisation
Recycling	Smart Assets	Performance-Based Contracting	Circu-Luxury
Circular Design	Eco-Efficiency	Subscription	Experience Selling
Biodegradability	De-Materialisation	Fractionalised Ownership	Marketplace
Waste as Input	Eco-Materials & Sustainable Sourcing	Dynamic Pricing	Prosumer
Reverse Logistics	Increased Functionality	Revenue Sharing	Eco Lock-in
	Localisation	Crowd- and Public Funding	Signalling and Transparency
	Produce-to-Demand	Incentivised Take-Back	Sharing
	Detox	Licensing & White Labeling	Eco Robin Hood
	Energy Recovery		
	Renewable Energy		
	Virtualisation		

2 The textile service can close the loop for workwear and flat linen.

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Müller, R.; Vogel, C., Schmidt, S.; Rubik, F.; Rilling, H.; Nebel, K. (2020). Kreislauffähige Berufskleidung und Bettwäsche für Gewerbe, Gesundheitswesen und die öffentliche Hand – Anforderungen und Nachhaltigkeitseffekte - Vorbereitungspapier zum Fachgespräch. Download via: https://www.ditex-kreislaufwirtschaft.de/app/download/9016295714/DiTex_Vorbereitungspapier_Produktpraesentation.pdf?t=1601290793

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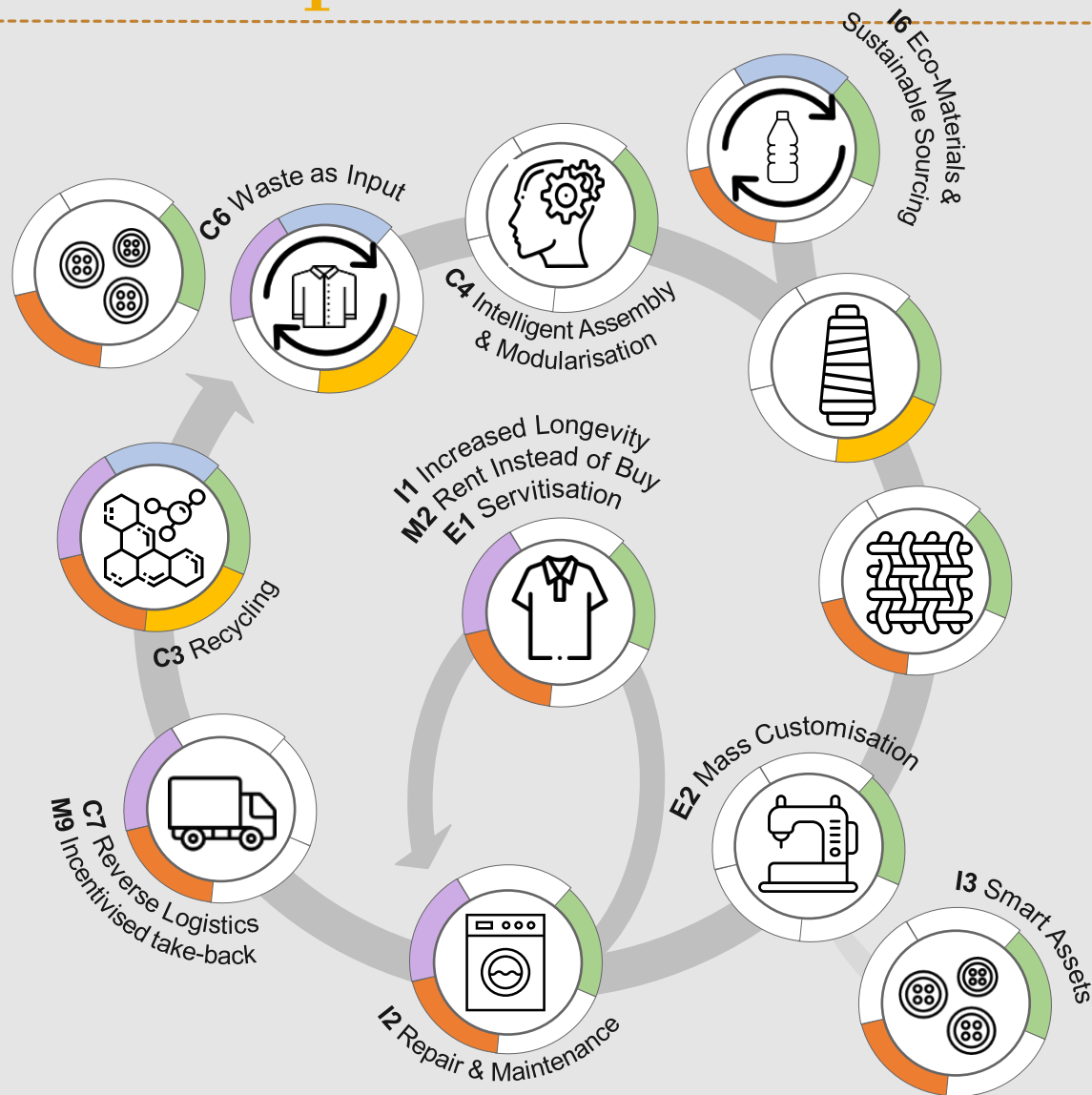
Legend

- Use of recycled materials
- Use of durable components as a contribution to product life cycle extension
- High-quality chemical fiber-to-fiber recycling
- Tracking solution
- Innovative Circular Business Models

2 The textile service can close the loop for workwear and flat linen.

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Legend

- Use of recycled materials
- Use of durable components as a contribution to product life cycle extension
- High-quality chemical fiber-to-fiber recycling
- "Smart label" as digital tracking solution
- Innovative Circular Business Models

Discussing ... Circular business models and digital tracking ... knowledge transfer into B2C-applications

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digital tracking requirements

Transfer & application of project findings from B2B > B2C [textile samples, business modell findings etc. from wear2wear and DiTex]

- What can the fashion industry learn from B2B systems?
Where are the differences and how to tackle them?
- What are the most significant barriers to the introduction of sustainable, circular solutions?
- With regard to a macro-level-perspective on circular economy:
 - Do you consider the development of more technical options rather as a solution or a problem?
 - How to introduce the concept of “sufficiency” as a reasonable B2C-approach, meaning to the textile industry and to private consumers?

Wrap-up

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Learnings?

Final contributions from our panelists

Your feedback



Vielen Dank.

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