

circular.fashion

Cirkulär Design

- metoder & strategier -

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17.11.20



Jonna Haeggbloom

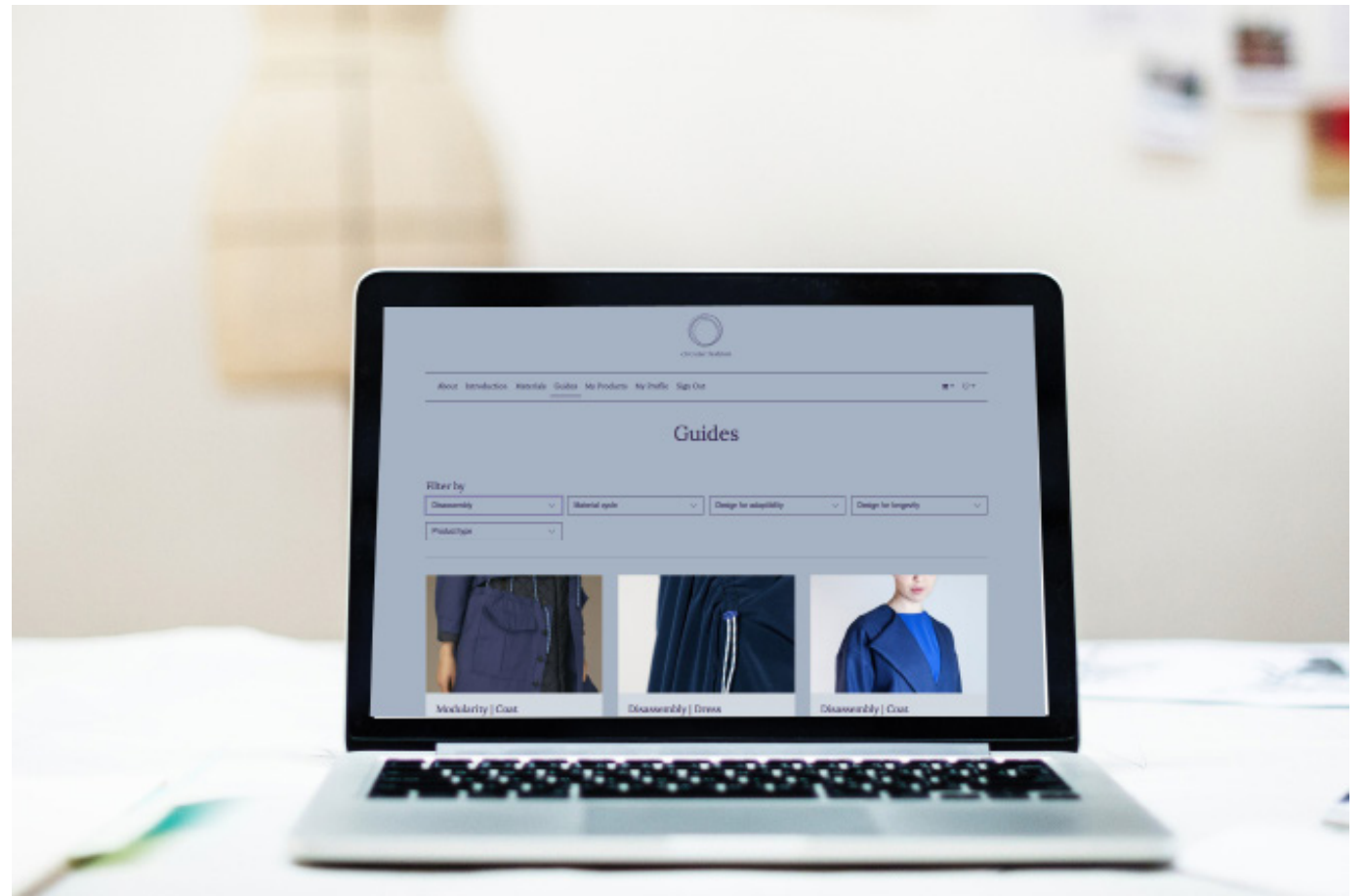
Circular Design Strategy Lead

circular.fashion - a sustainable design agency
creating product and system innovation for a
circular economy in fashion and textiles

WORKSHOPS & CONSULTING

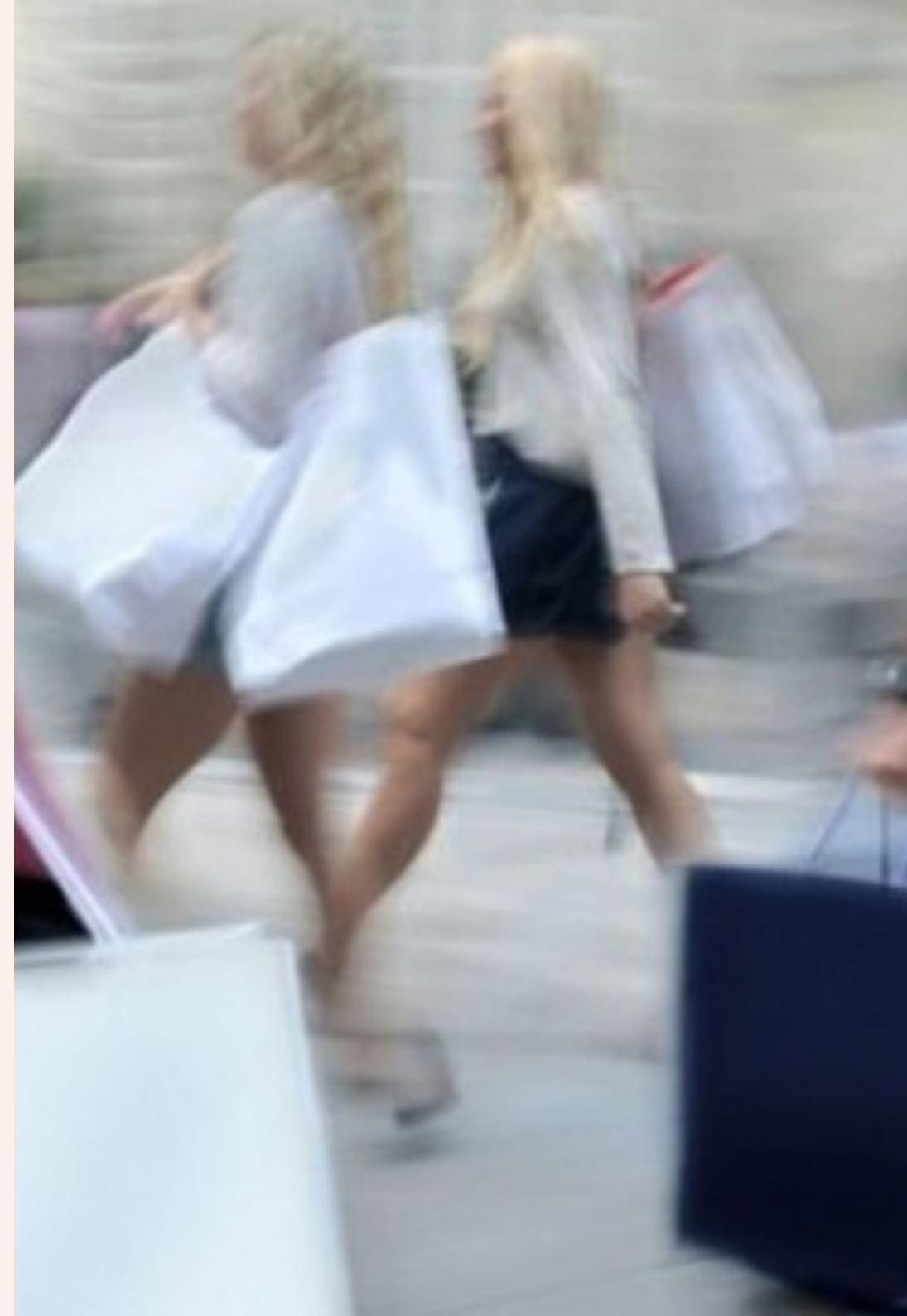


CIRCULAR DESIGN SOFTWARE



DESIRE FOR RAPID FASHION CHANGE

How many times is a garment worn on
average?



50% INCREASED CLOTHING SALES

while 1/3 less clothing
utilisation since 2000



OVER 100 BILLION GARMENTS YEARLY

produced in 2015

Ellen Macarthur Foundation, A new Textiles Economy (2017)



87% INCINERATED OR LANDFILLED

worldwide



12% DOWNCYCLING

to insulation material or wiping cloth



<1% FIBRE TO FIBRE RECYCLING

regenerates fibres to virgin quality



12% OF THE FASHION MARKET COMMITTED TO BECOME CIRCULAR BY 2020

90 leading fashion brands





How can we transform the fashion industry to circular practices?

1. FASHION MUST BE DESIGNED FOR CIRCULARITY



2. ENGAGE CUSTOMERS IN USING, REUSING AND RETURNING CLOTHING

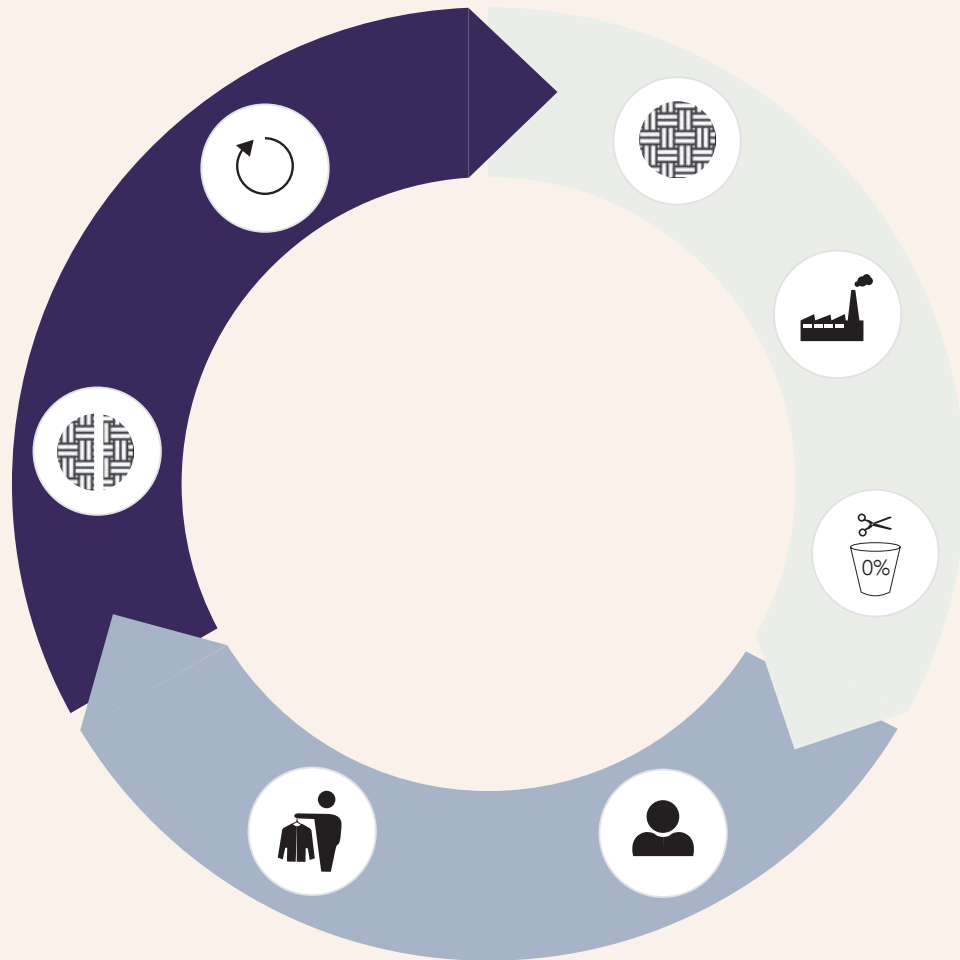


3. MAKE MATERIAL INFORMATION ACCESSIBLE FOR SORTERS AND RECYCLERS



CIRCULARITY

along the whole life cycle



(1) Circular materials
Biobased & biodegradable
Recycled & recyclable



(2) Design for cyclability
Recyclable material combinations
Monomaterial & disassembly



(3) Design for longevity
Long-lasting and adaptable design
Services for repair, reuse, redye

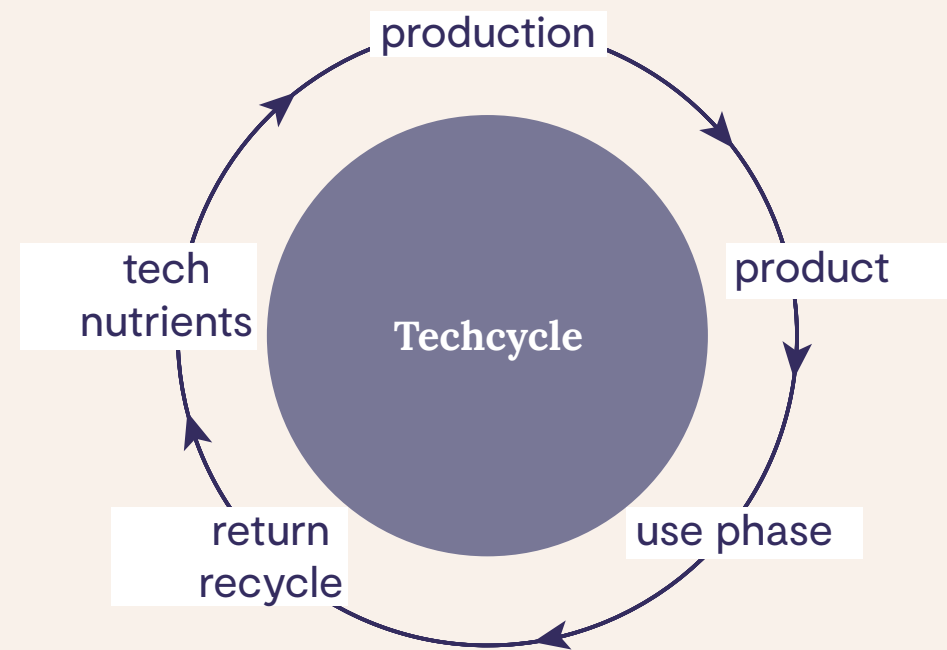
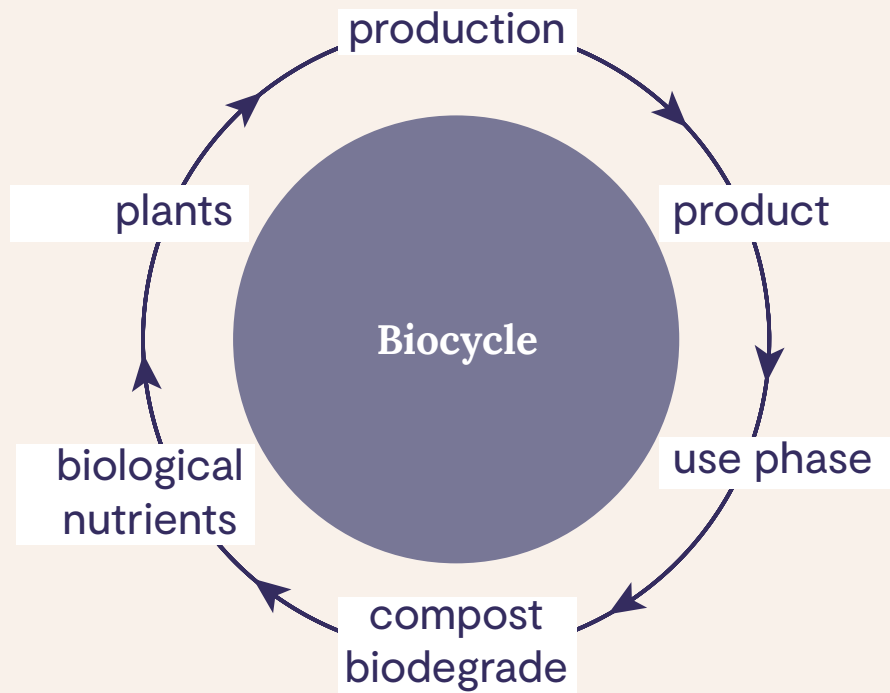


(4) Ensure Reuse & Recycling
Provide detailed material information
Create partnerships & infrastructure

1. CHOOSE HEALTHY MATERIALS THAT HAVE THE POSSIBILITY OF ENDLESS CYCLES



ENDLESS CYCLES IN A BIOLOGICAL OR TECHNICAL CYCLE



Input Biobased

Renewable rawmaterial

Biobased polymers

Not necessarily biodegradable

e.g. due to harmful finishes



Product Recyclable

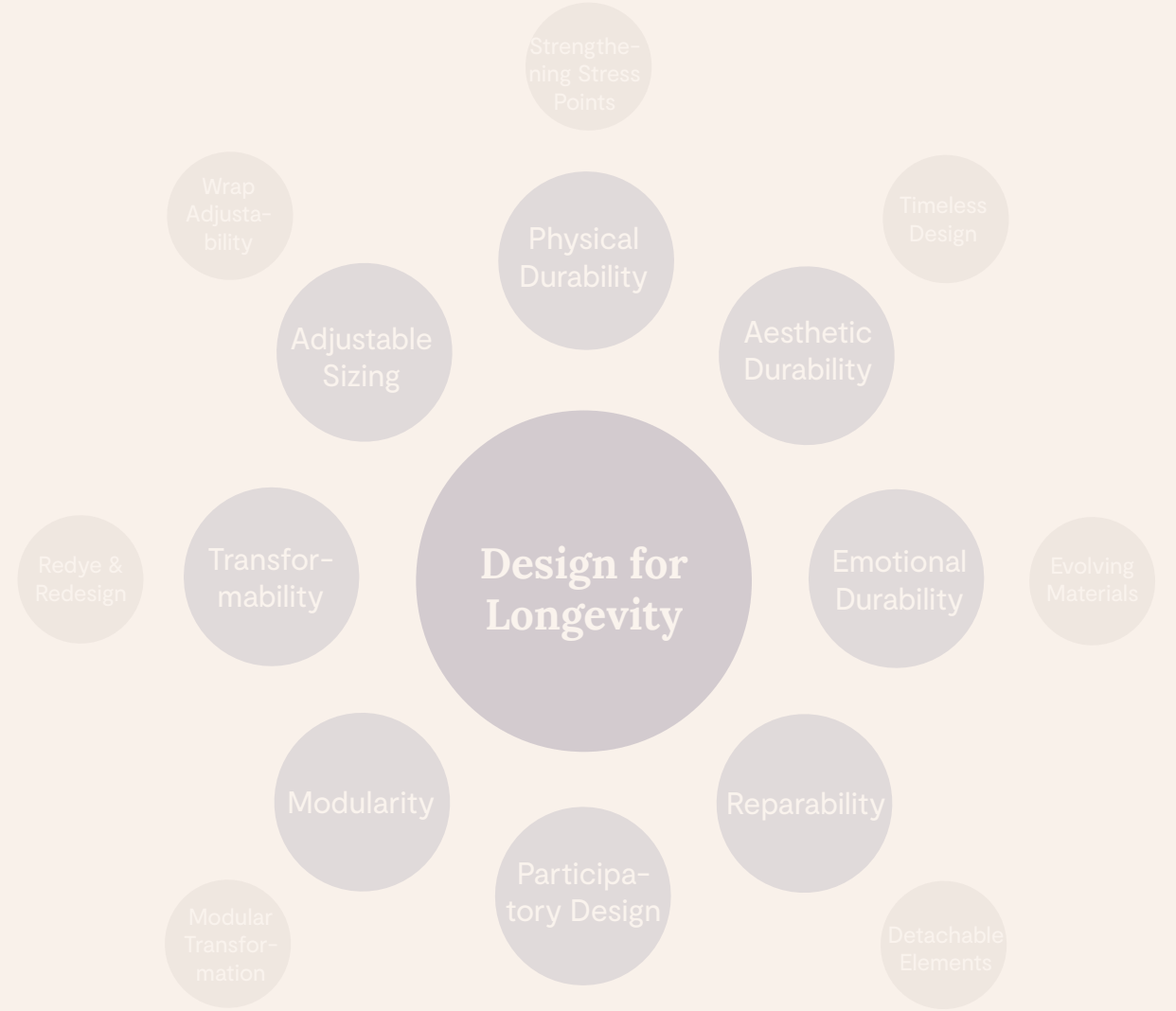
Clear input and future destiny
Input fulfills recyclers criteria
Exclude harmful chemicals

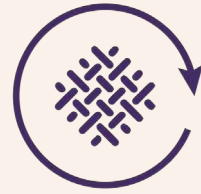


2. DESIGN FOR MATERIAL CYCLABILITY

by mono-material or disassembly







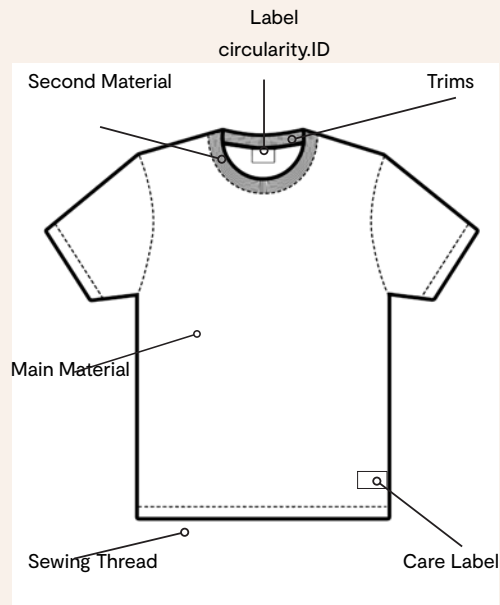
Design for Cyclability

Mono-Cycle



Material Cyclability

Mono-cycle material combination




- » Combine materials suitable for either the bio or tech-cycle
- » Match all components with the main material's cycle, incl. lining, sewing thread, labels etc so that the entire piece can be recycled
- » Reduce complexity, reduce the nr. of components and trims




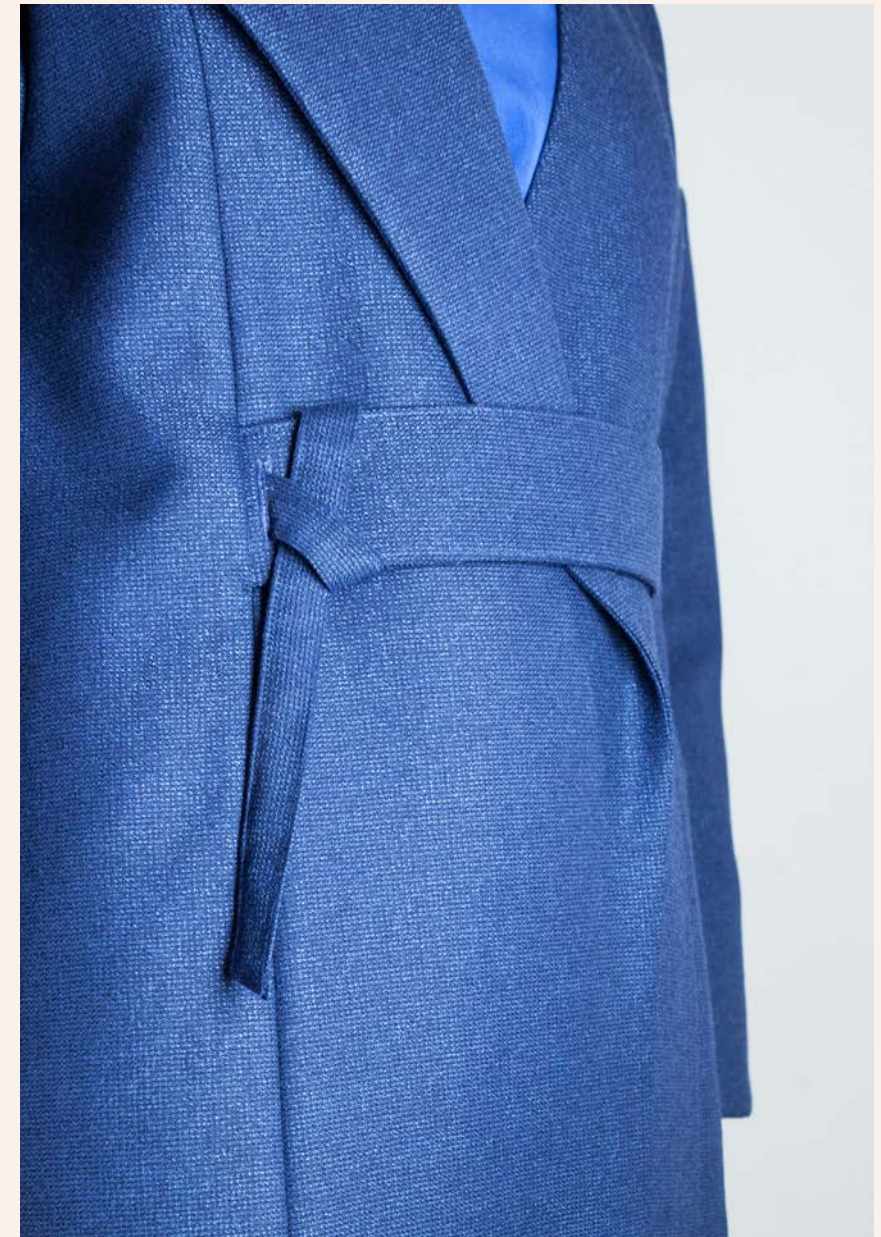
Material Cyclability

Mono-cycle closure mechanism



 POLYESTER RECYCLING

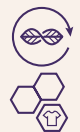
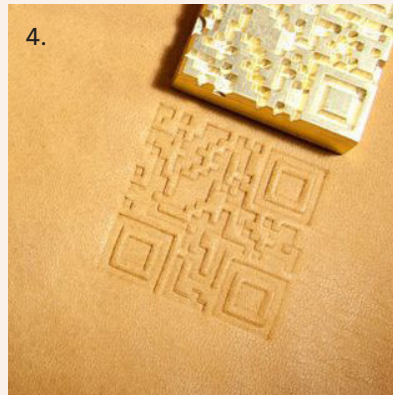
 INDUSTRIAL BIODEGRADATION





Mono-Cycle

Leather closure mechanism



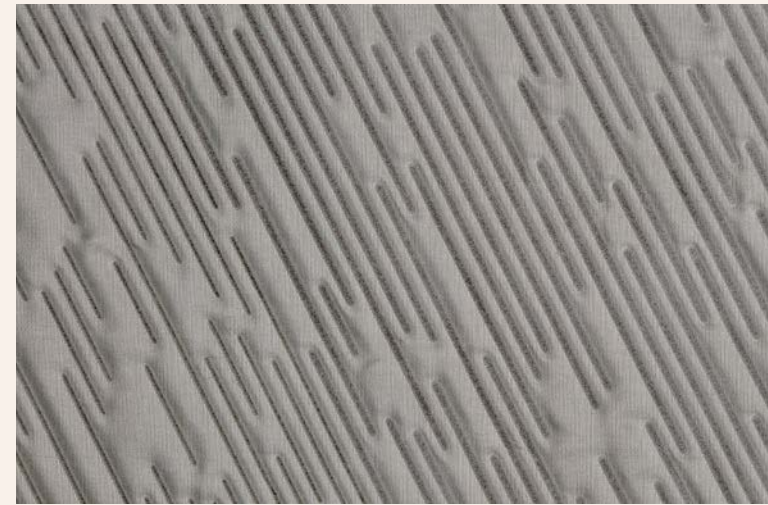
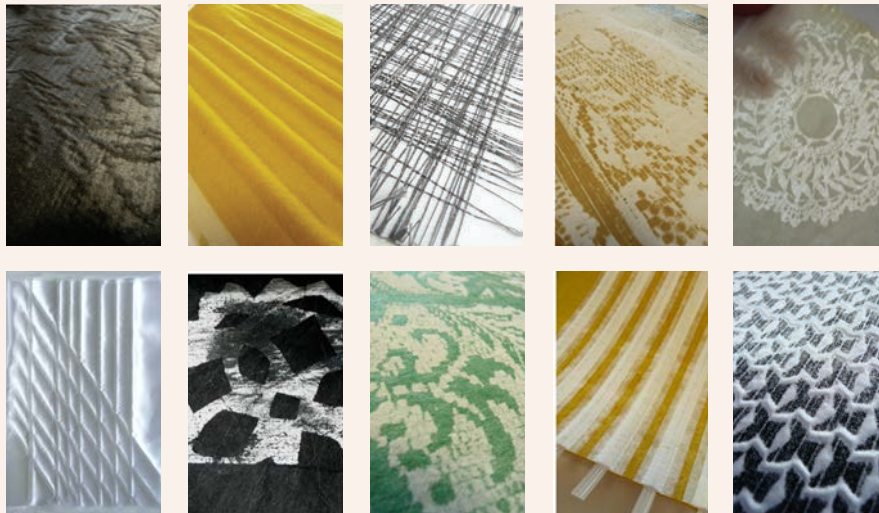
INDUSTRIAL BIODEGRADATION

DESIGN FOR ADAPTABILITY





Material Cyclability

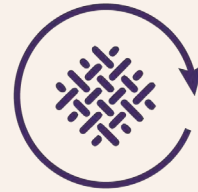
Recyclable Textile Manipulation



- » Manipulate fabrics and create decorative textiles without the use of chemicals or prints by using e.g laser engraving and cutting, embroidery playing with thickness of thread and various styles of stitching
- » Use pleating and folding techniques to create ‚movements‘ on the textile

 POLYESTER RECYCLING

 CELLULOSIC RECYCLING



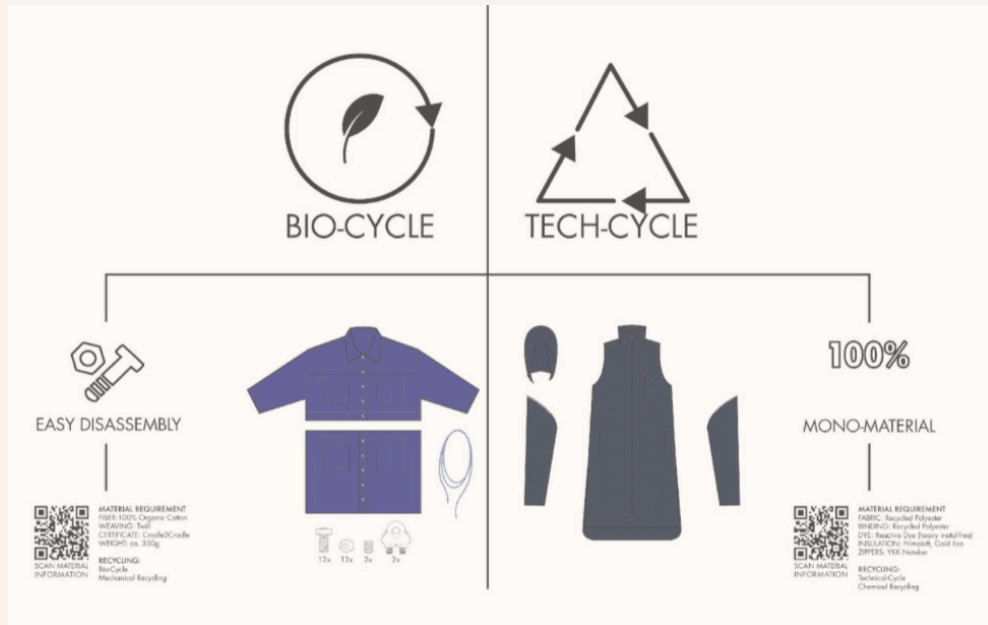
Design for Cyclability

Disassembly



Material Cyclability

Design for disassembly



- » For products that need material suited for different cycles, design in a way so that the parts can be recovered separately to either be recycled in the technical cycle or biodegraded in the biological cycle
- » Design for disassembly opens up possibilities for multi-functional use

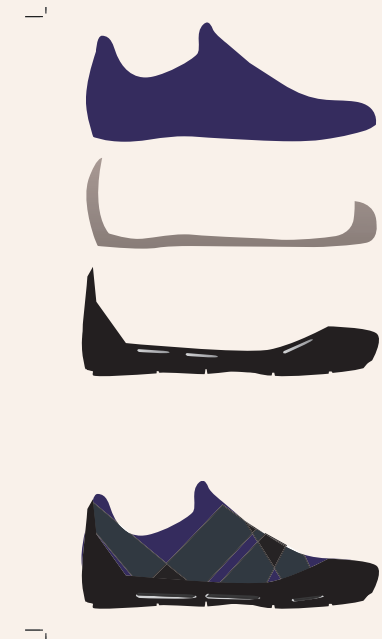
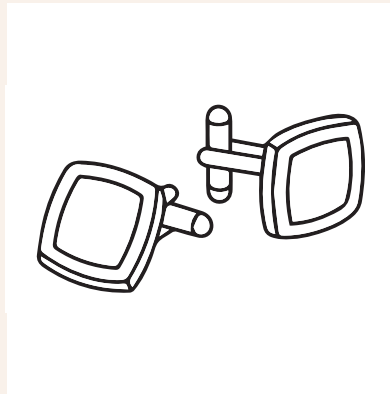
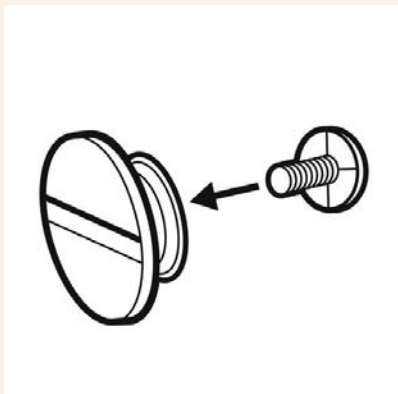
POLYESTER RECYCLING

CELLULOSIC RECYCLING



Material Cyclability

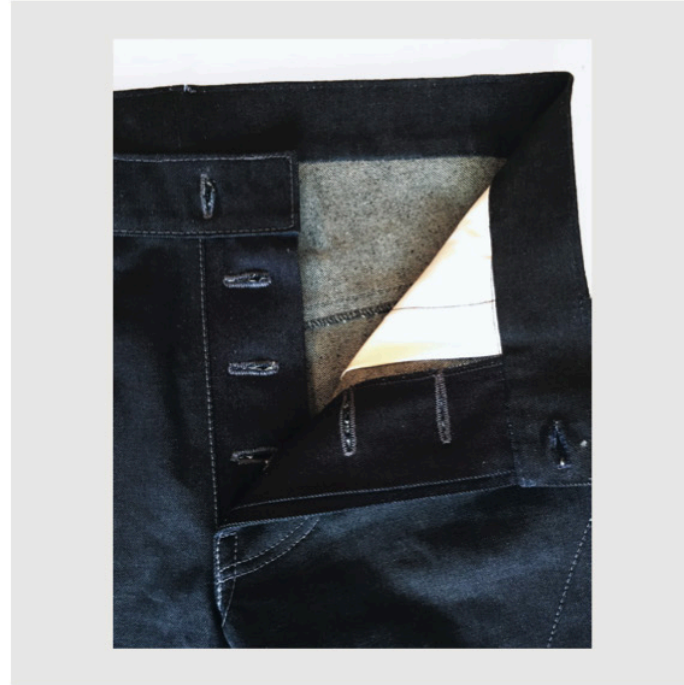
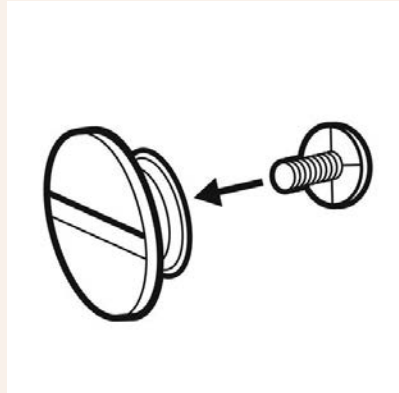
Detachable elements





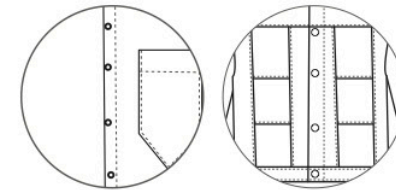
Material Cyclability

Detachable buttons



Double Buttonhole System

Design for Circularity



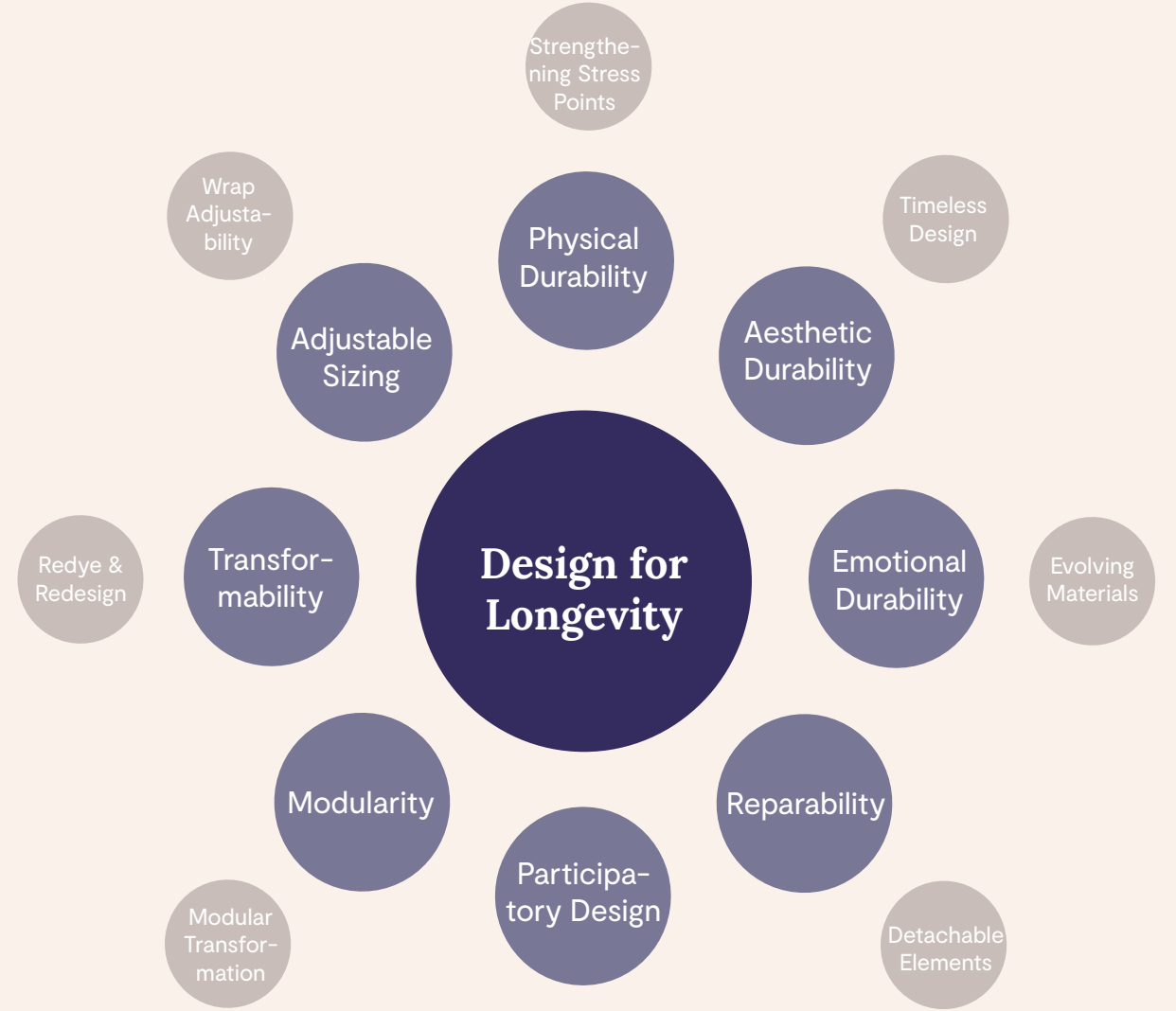
Removable Buttons

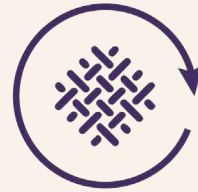
Design for Circularity:
Enables the Recycling Process

3. DESIGN FOR LONGEVITY

made to last in function and aesthetics,
to update and modify for changing
needs and desires







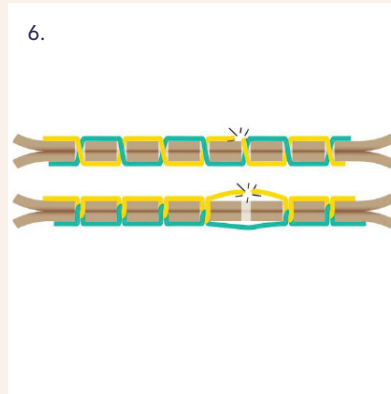
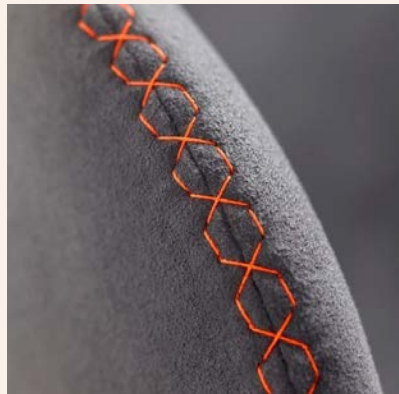
Design for Longevity

Functional Durability



Longevity

Functional Durability



- » Reinforce parts that are more liable to tear by wear and use, such as the crotch or innerthighs on denim
- » Studying the use pattern of a product can be helpful to understand where strategies for increasing the functional durability need to take place
- » Reinforcement can be done by double stitching, double layers of fabric or fixing stitches with a thick thread



EXTEND FIRST USE



CELLULOSIC RECYCLING



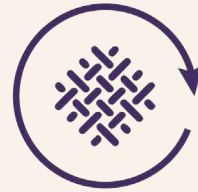
Longevity

Repairability, detachable elements



- » To already at the outset design a product in a way that it easily can be repaired or reused in parts is an efficient way to make sure that it is kept in use
- » Accompany design for repairability with DIY-kits, care instructions or an in-store repair shop
- » Promoting repairability might strengthen brand loyalty as it build's on the brand's reputation to create products designed to truly last





Design for Longevity

Emotional Durability



Longevity

Emotional Durability



- » Add elements which makes the user want to wear the piece for longer
- » Use materials or textiles that age and evolve over time, e.g denim or leather, which ,marks‘ personal wear and tear
- » Storytelling and transparency of the design and production might build on a garment’s narrative and increase the emotional durability



DESIGN FOR ADAPTABILITY

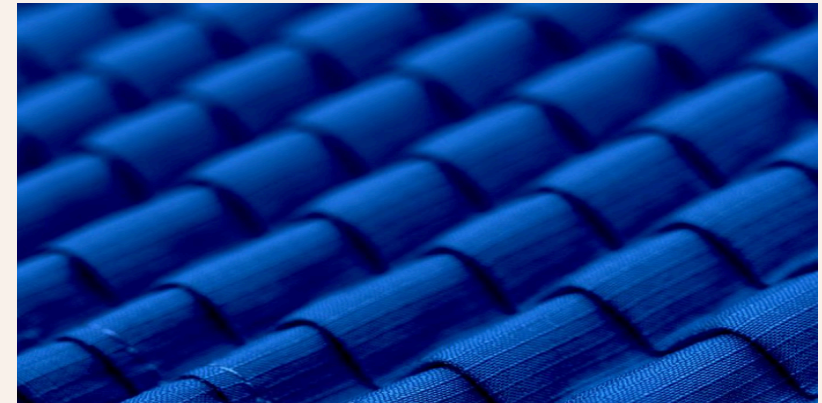


EXTEND FIRST USE



Longevity

Adjustable sizing



- » Incorporate size adjustability in the design by having generous seam allowance at side seam and hem, or by using strategic fastenings, drawstrings, buttons and elastic
- » Particularly suitable for clothing where the user grows e.g kidsclothing or maternitywear



DESIGN FOR ADAPTABILITY



EXTEND FIRST USE



Longevity

Transformability



DESIGN FOR ADAPTABILITY

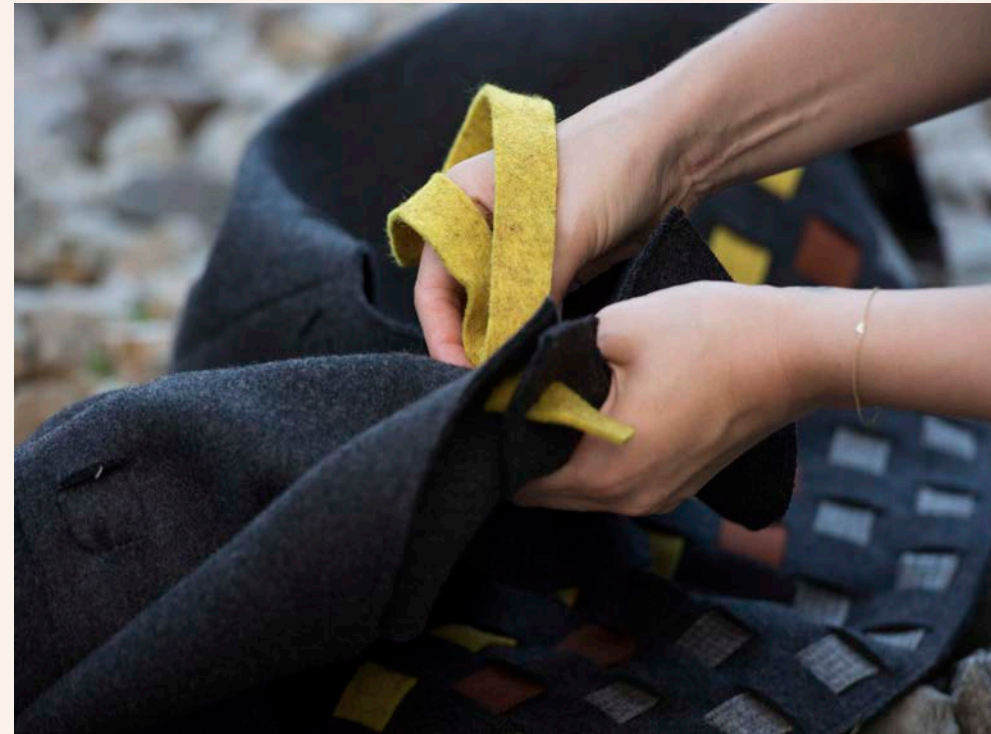


EXTEND FIRST USE



Longevity

Participatory design



- » Engage the user to be part of the design and/or making process of a product
- » Ways to include a user is e.g via do-it-yourself kits and guides, open source design of patterns or co-creating processes



DESIGN FOR ADAPTABILITY



EXTEND FIRST USE



Longevity

Transformability, re-dyeing



CELLULOSIC RECYCLING



ENABLE SECOND LIFE

I. Original design

SS17

Sales price: €180

II. First re-dye

AW17

Cost: €30

III. Re-design

SS18

Cost: €40

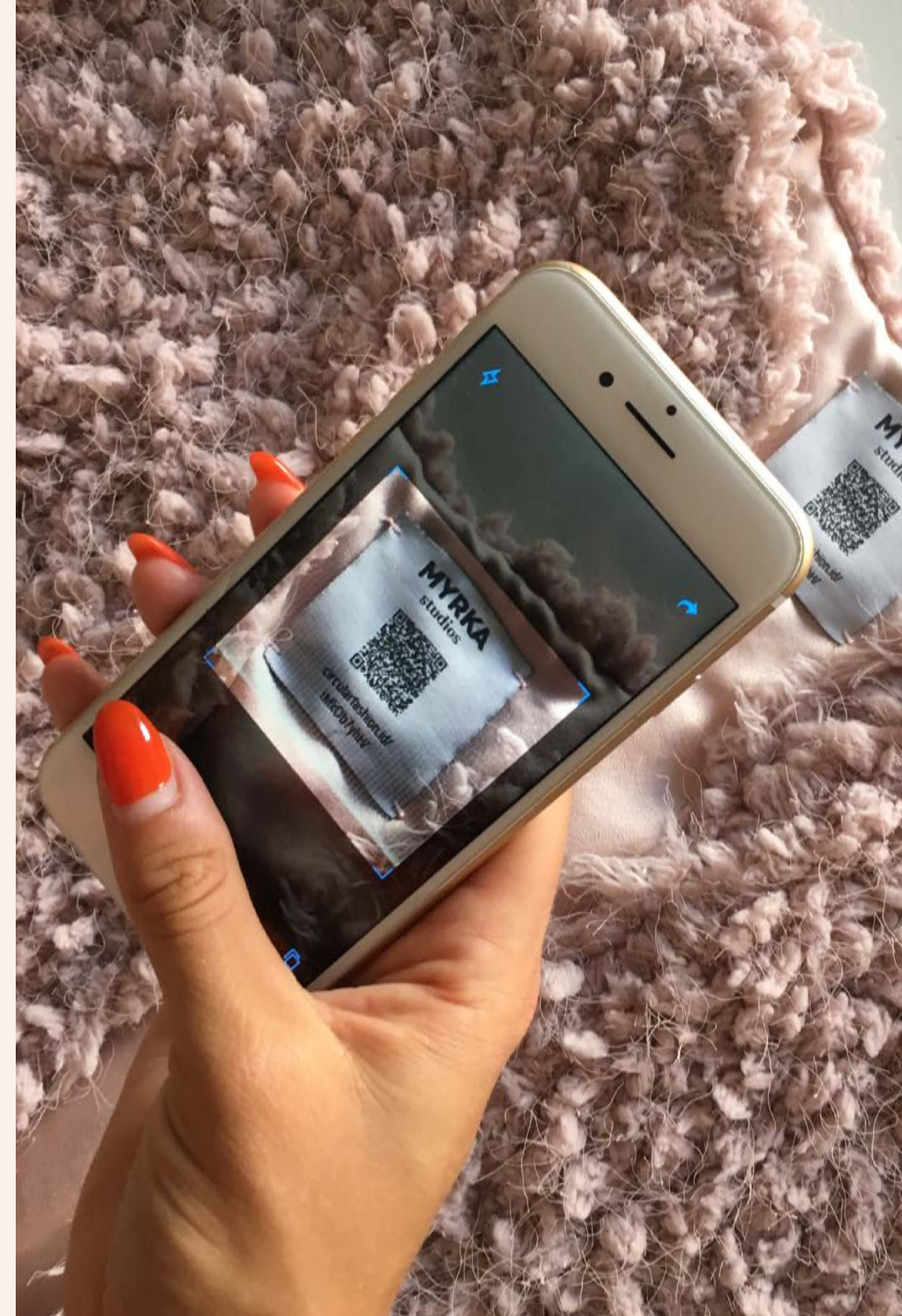
IV. Second re-dye

AW18

Cost: €30

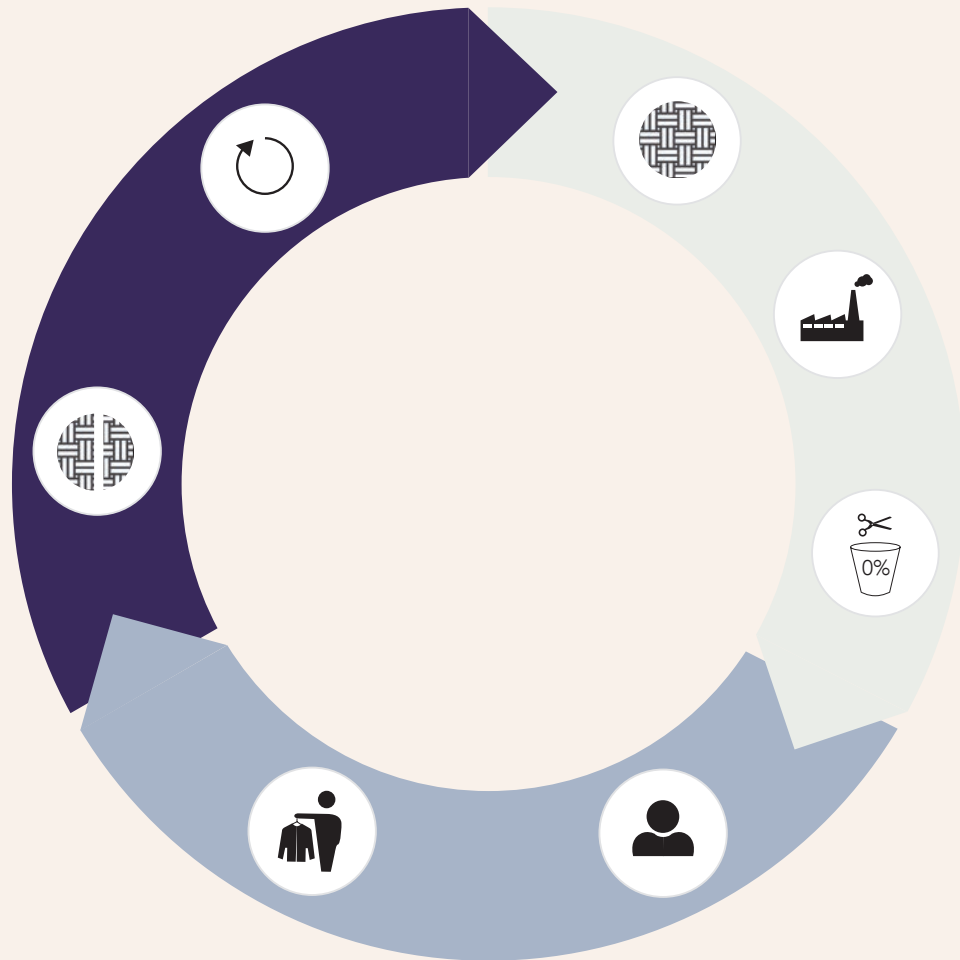


4. SET UP SYSTEMS AND PARTNERSHIPS FOR REUSE AND RECYCLING



CIRCULARITY

along the whole life cycle



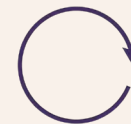
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Provide detailed material information
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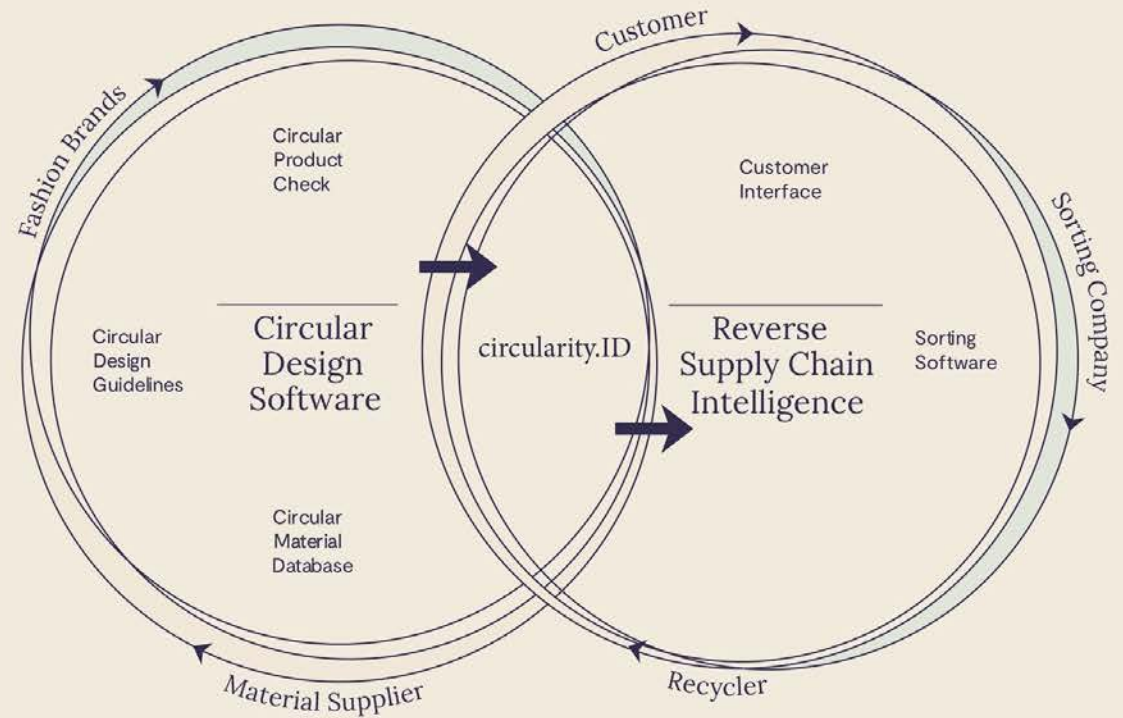
80%

OF A PRODUCT'S IMPACT

IS DECIDED IN THE

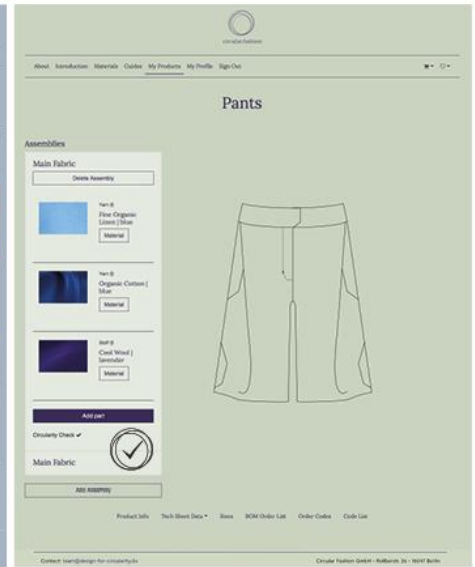
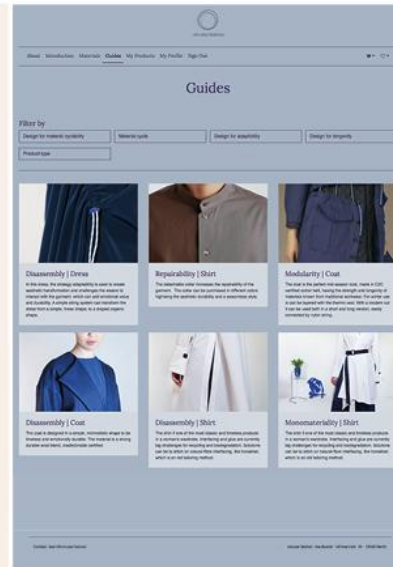
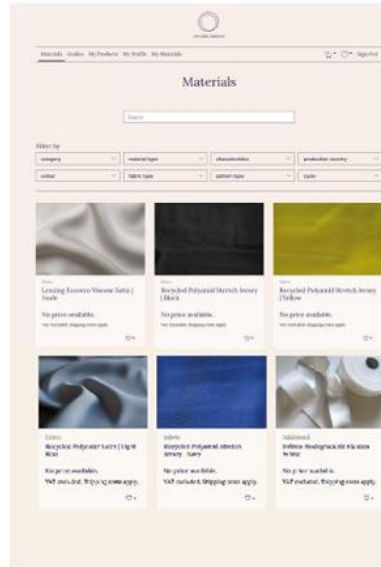
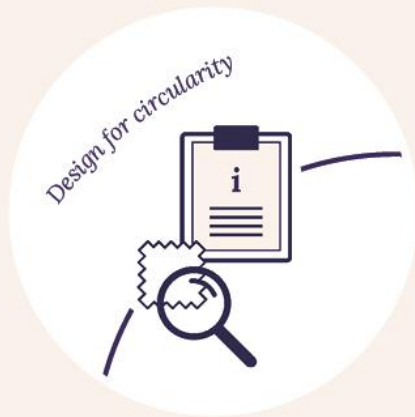
DESIGN PHASE

The circular.fashion system



1

Circular Design Software



Circular Material Database

Circular Design Guidelines

Circular Product Check

2

circularity.ID Consumer Interface



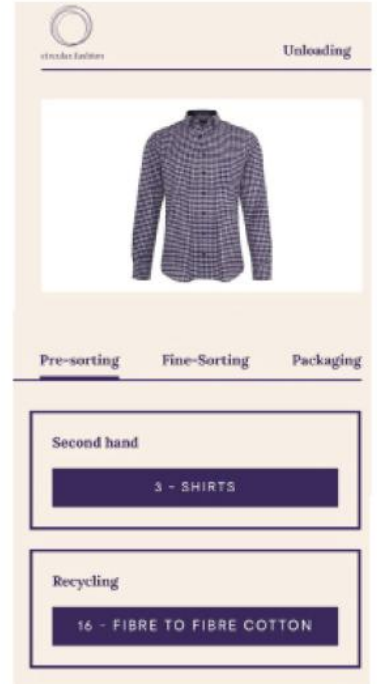
circularity.ID

Customer Interface

Collection Channels

3

circularity.ID Sorting Interface



circularity.ID

Smart Workspace

Sorting Software



2nd hand marketplace

Recycling



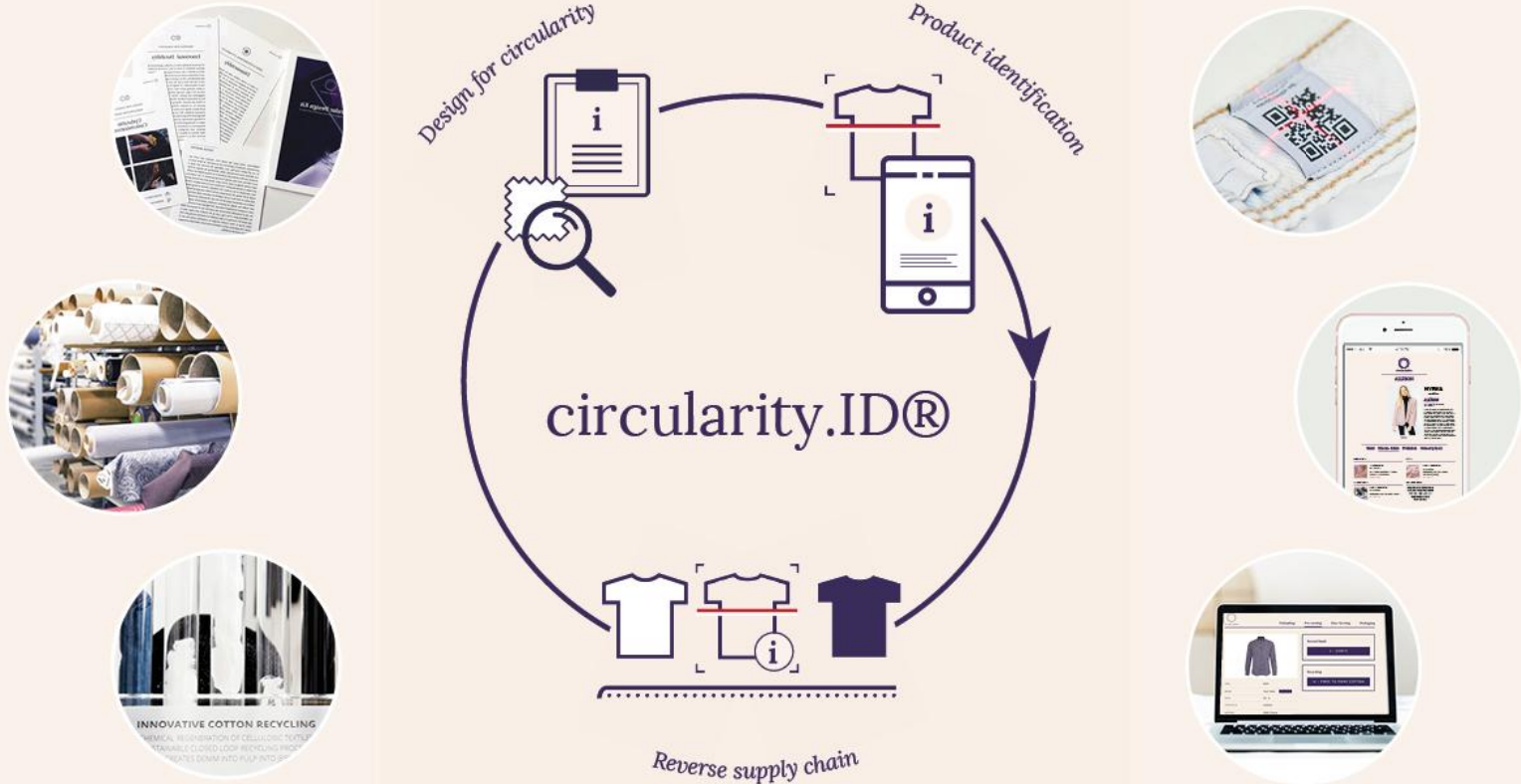
Partnerships for Sorting Recommerce & Recycling

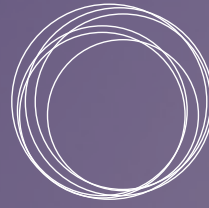


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Opportunities for fashion brands





circular.fashion

Let's join forces for a circular future of fashion



Global Change Award

AN INNOVATION CHALLENGE
BY H&M FOUNDATION

**FASHION
FOR
D**

PLUGANDPLAY



german federal award
ecodesign
young talent 2017



LAUNCHNORDIC



**NEXT
ECONOMY
AWARD**