

# Circular Textiles Ready to market

**European Clothing Action Plan**

Goodmorning and welcome!

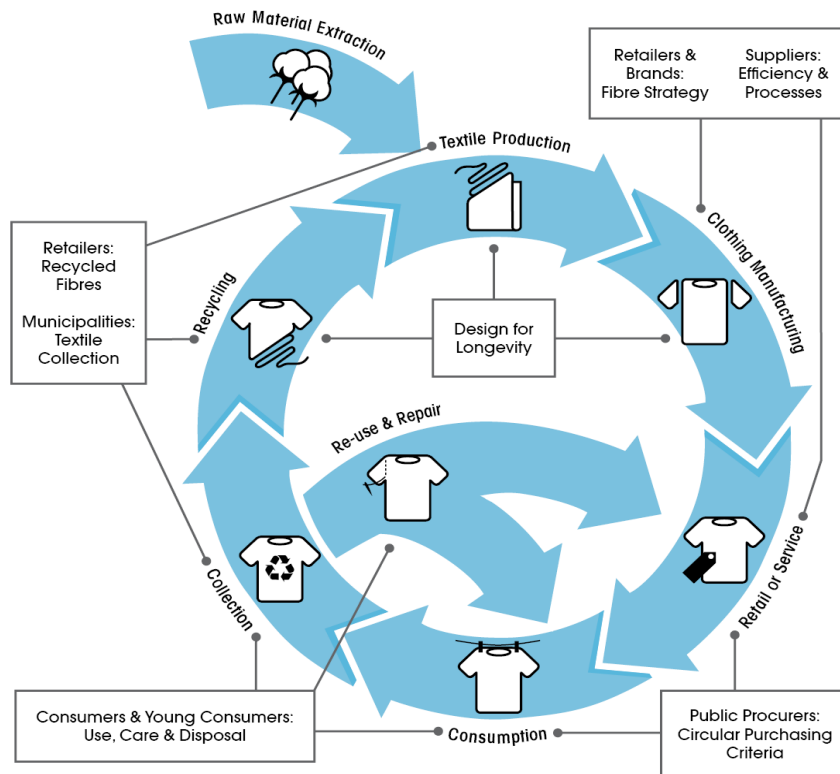
# Hanneke op den Brouw

## Rijkswaterstaat



Rijkswaterstaat  
*Ministry of Infrastructure  
and Water Management*

# ECAP holistic approach



# Fibre 2 Fibre Facts

Livstores	30%	recycled postconsumer cotton
Irma Borgsteede	280	grams textile waste saved
Enschede textiel stad	2000	liter water
	3.7	kWh energy 91 grs. CO2

**41.3%**  
Recycled Cotton

**20.5%**  
Viscose

**20.5%**  
Wool

**17.7%**  
Organic Cotton

% RECYCLED CONTENT:

**REMO** 

**41**  
/  
**C** 





# ABN AMRO

# Henk Hofstede

European Clothing Action Plan

15 february 2019

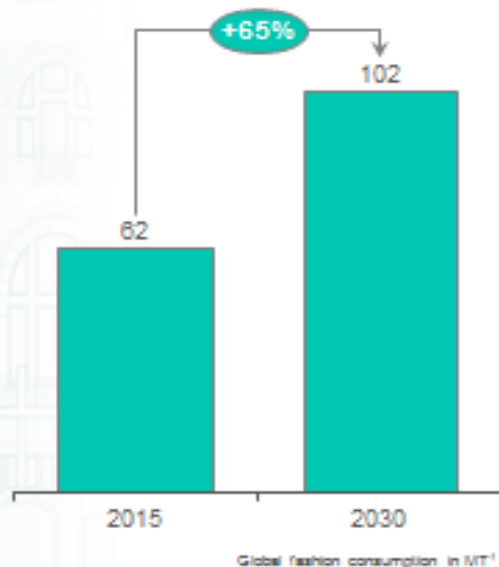
# Welcome ECAP







## AS FASHION CONSUMPTION GROWS BY 65% UNTIL 2030...



1. Fashion consumption of apparel and footwear  
Source: BCG Analysis

## ... ENVIRONMENTAL AND SOCIAL PRESSURE WILL INCREASE



### Water consumption

(In bn cubic meters)

+49%



### Emissions from energy

(In mn tonnes of CO<sub>2</sub>)

+63%



### Chemical usage

(Pulse Score in %)

+49%



### Waste creation

(In mn tonnes)

+61%



### Labour practices

(paid <120% of min. wage)

+50%



DESIGN FOR RE-USE

CIRCULAR MATERIALS

URBAN MINING

ENERGY NEUTRAL/POSITIVE

PAY PER USE

...

RIGHT-TO-[C]OPY





- SAVING MATERIALS
- EXPERIENCE INSTEAD OF PROPERTY
- DISTINGUISHING PROPOSITIONS WITH TECHNOLOGY
- FROM ANONYMOUS CUSTOMER TO A PERSONAL RELATION
- A HIGHER CUSTOMER VALUE ..

# FOCUS ON SDGS 8, 12 AND 13



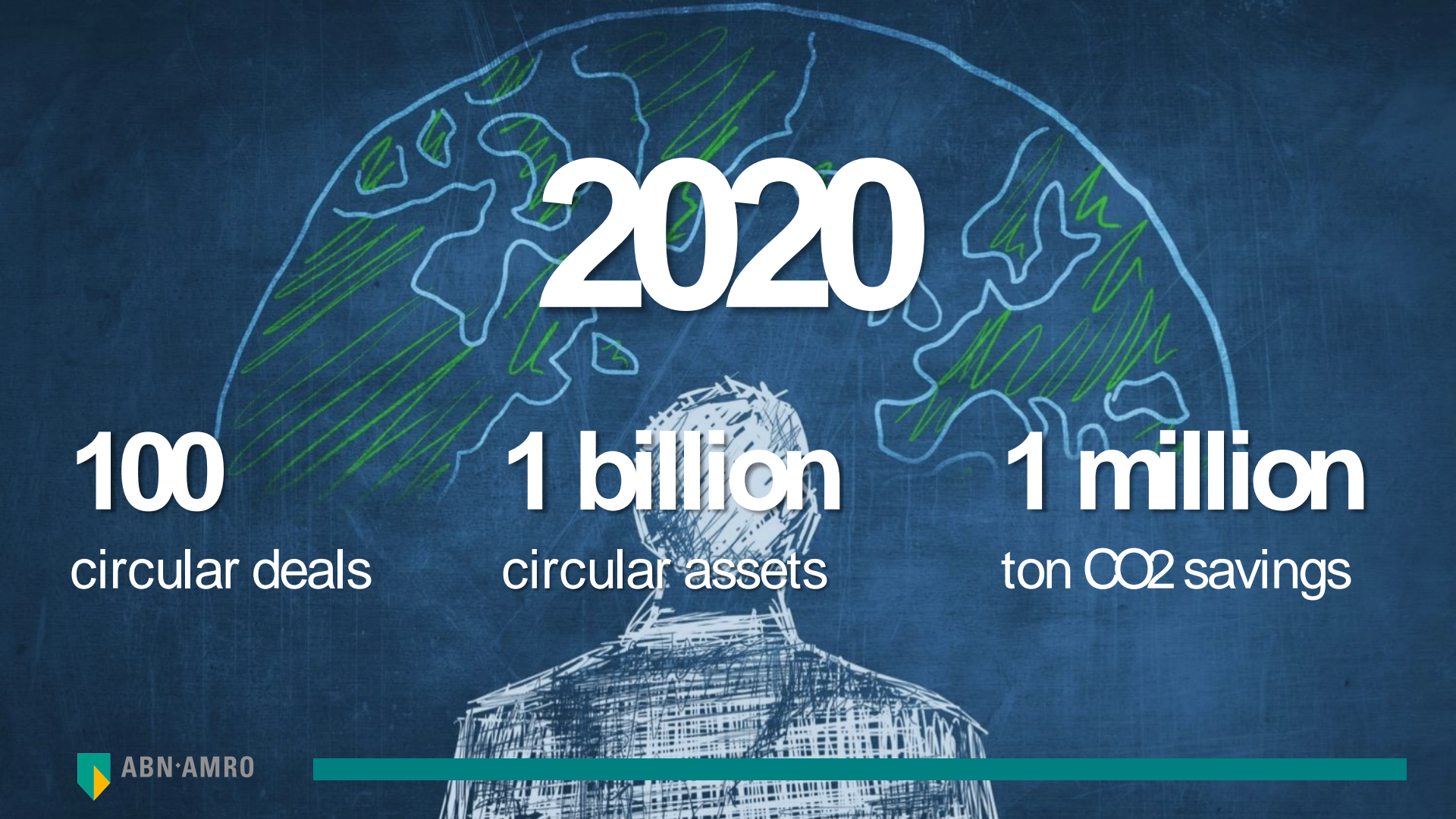
How do we contribute  
to this plan for the world?  
> ABN AMRO and the  
Sustainable Development  
Goals (SDGs)

SDG	Underlying targets
 13 CLIMATE ACTION	Integrate climate change measures into national policies, strategies and planning.
 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	By 2030, achieve the sustainable management and efficient use of natural resources.
 8 DECENT WORK AND ECONOMIC GROWTH	Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the growth of micro-, small- and medium-sized enterprises.



# TRANSITION AND INNOVATION NEED FINANCING



A stylized illustration of a person from the chest up, facing forward. Their head is replaced by a globe with green landmasses and blue oceans. The person's body is drawn with dense, overlapping white lines, giving it a textured, almost architectural appearance. The entire scene is set against a dark blue background.

# 2020

**100**

circular deals

**1 billion**

circular assets

**1 million**

ton CO<sub>2</sub> savings



# Inspiration and energy



# uaL London Rebecca Early

European Clothing Action Plan

A woman in a dark coat and plaid scarf walks from right to left, carrying a shopping bag. In the background, a large, brightly lit 'SALE' sign is visible, with the word 'ONLINE' partially visible below it. The scene is set at night with a dark sky and a wet pavement reflecting the lights.

# SALE

ONLINE

## MAGIC CIRCLES: MAKING FASHION CHANGE, TOGETHER

Professor Rebecca Earley

Keynote, ECAP, Amsterdam | 15.02.19



















**IPCC report, 8 October 2018.**

*Global Warming of 1.5°C, an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.*



***“The next few years are probably the most important in our history”***

**We all need to change.  
We need to innovate to change.  
We have so many changes to make.  
We need to work together.  
We need to redesign the way we do everything.**



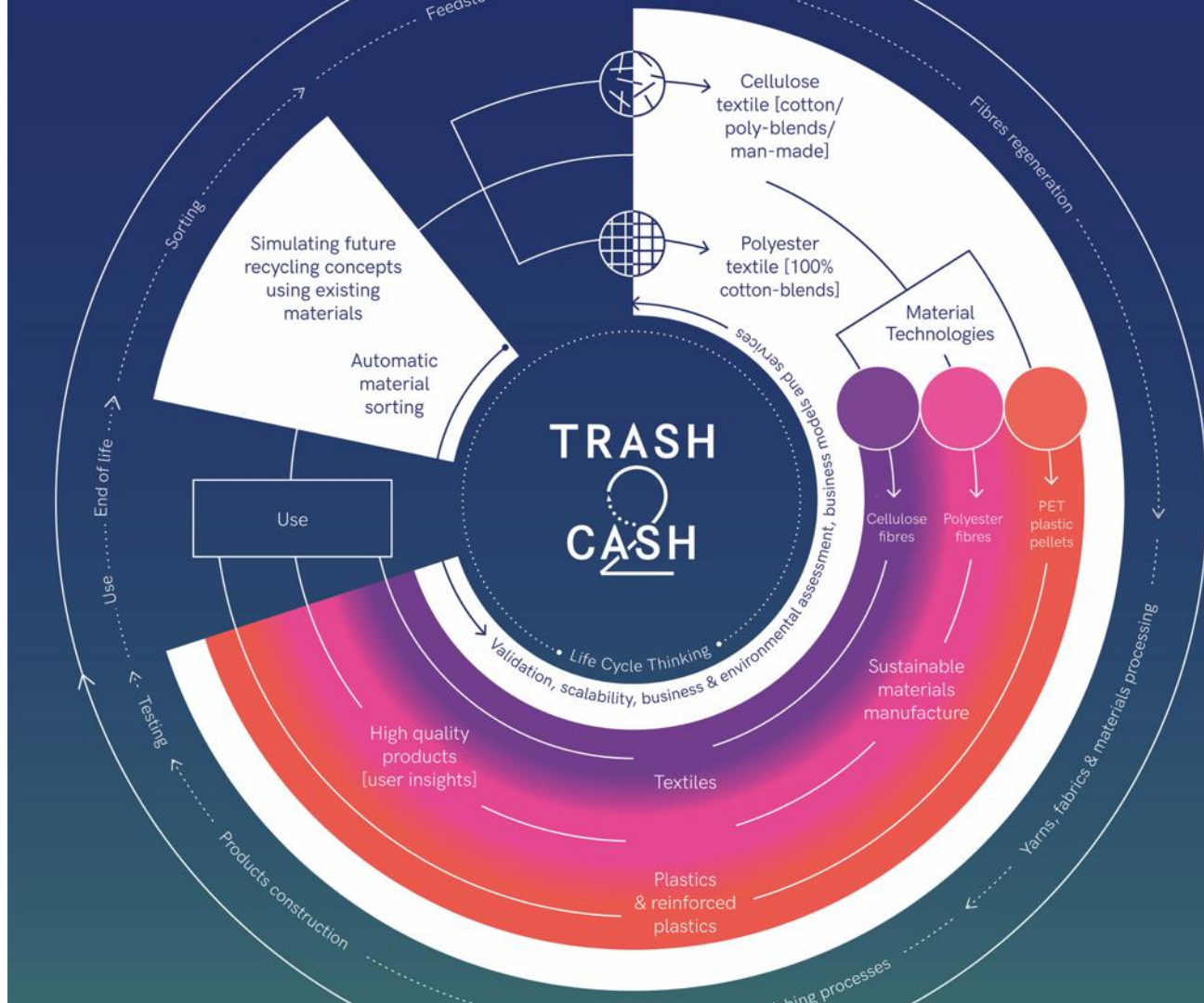














4  
recycling



1  
design



ff  
mistra  
future  
fashion



3  
user

2  
supply





...to have new ways to acquire fashion. The way will require staff that can service and sort the back system is integrated. FK solve staff will to work beyond the norm here - users helped to make decisions about buying or renting.

AB  
n  
the shirt to  
the FK-  
reprinted'  
and, and  
at arms. The  
Overpassing  
is that are in  
ing. After  
overpassing,  
new shirt,  
experience.

cycles  
fashion  
other  
potential

...in the  
...and  
...the



**FK-DESIGN LAB**  
Black Lined Jacket

To make the transformation to a jacket, FK-DESIGN LAB collaborates with artisanal studios & small production units in London. Long-life products have runways to EOL worked out in advance, so partnerships begin at the start of the product cycle. EOL supply chain managers are needed - these work independently of the brand and are experts in building bespoke circular supply chains. At this stage the new jacket can be ordered by the first customer, as part of the original sale conditions. They can keep the jacket up to 10 yrs if they wish.

How can designers  
create clusters of multiple,  
interdependent businesses?

How can designers  
create clusters of multiple,  
interdependent businesses?

**ual** centre for circular design

**ff** mistra future fashion

FK-DESIGN LAB  
Circular and legacy members  
Rapid access

# fashion can be super-slow



and ultra-  
fast...



Professor Kay Politowicz  
& Dr Kate Goldsworthy

**ual:** centre for  
circular design



mistra  
future  
fashion






bright  
colour can be  
natural

old cotton clothing  
can become new,  
coloured, lyocell





old polyester  
clothing can  
be new  
performance  
plastics

repair  
can be  
beautiful



Bridget Harvey

**ual:** centre for  
circular design



...personal



Bridget Harvey

**ual:** centre for  
circular design



...and  
political





talk more



speake  
loudly







and louder still.

Dr Clara Vuletich

**ual:** centre for  
circular design

fashion can  
make change



### LUNCHBOX SP

Fast, fresh and healthy  
Orders welcome by phone

#### MONDAY

Moroccan chickpea patty and  
+ Your choice of Zlabia (African

#### TUESDAY

Red lentil, spinach and fetta l  
+ Your choice of Zlabia (African

#### WEDNESDAY

Burmese Rice Noodle Sal  
+ Your choice of Zlabia (African

ready - to go  
+ Your choice of Zlabia (African

and avocado roll (cold re  
+ Your choice of Zlabia (African

Open Mon-Fri 8am-5pm, Sat 10am-5pm Africa Night: Sat 1



# social circles



# 10-12 april 19

[WELCOME](#)[CONFERENCE](#)[PARTICIPATE](#)[TRACKS](#)[DESTINATION](#)[REGISTER](#)[SPONSORSHIP](#)[EAD](#)[CONNECT](#)



# Global Change Award

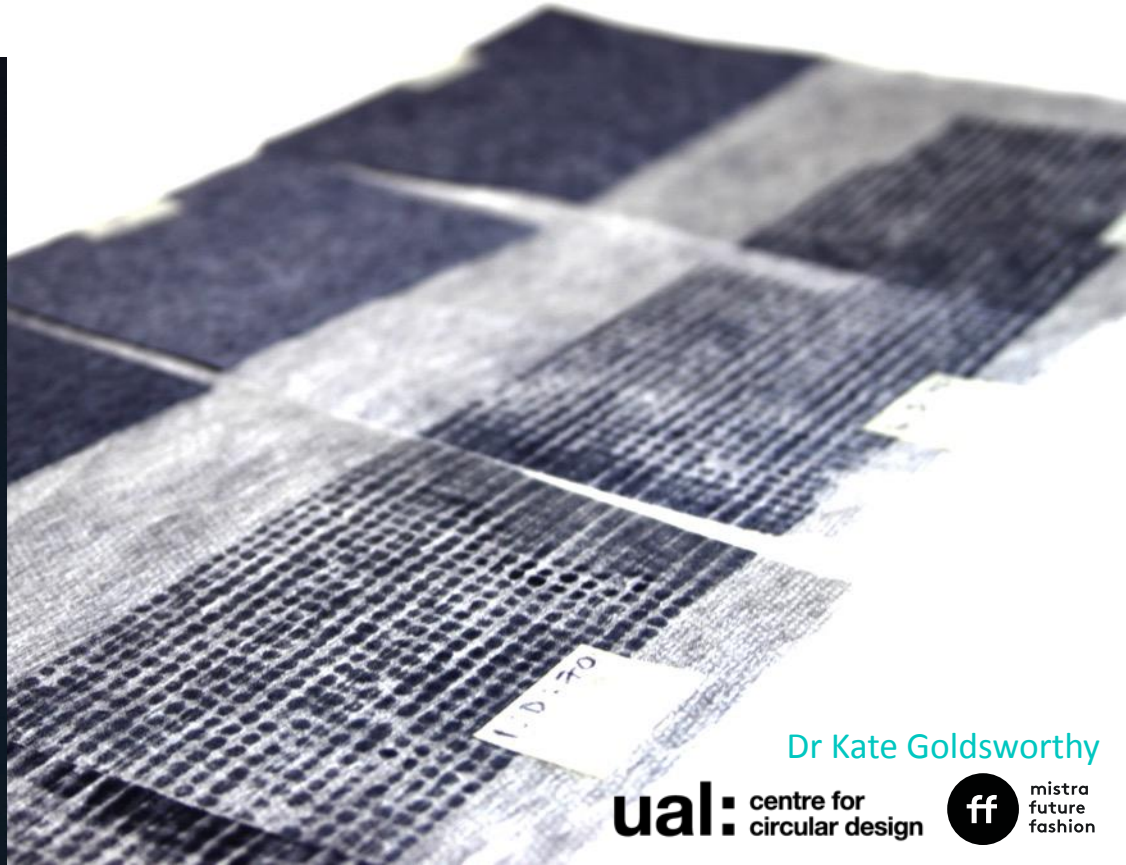
AN INNOVATION CHALLENGE BY H&M FOUNDATION



# materials are changing



# production is changing



Dr Kate Goldsworthy

**ual:** centre for  
circular design





# design is changing



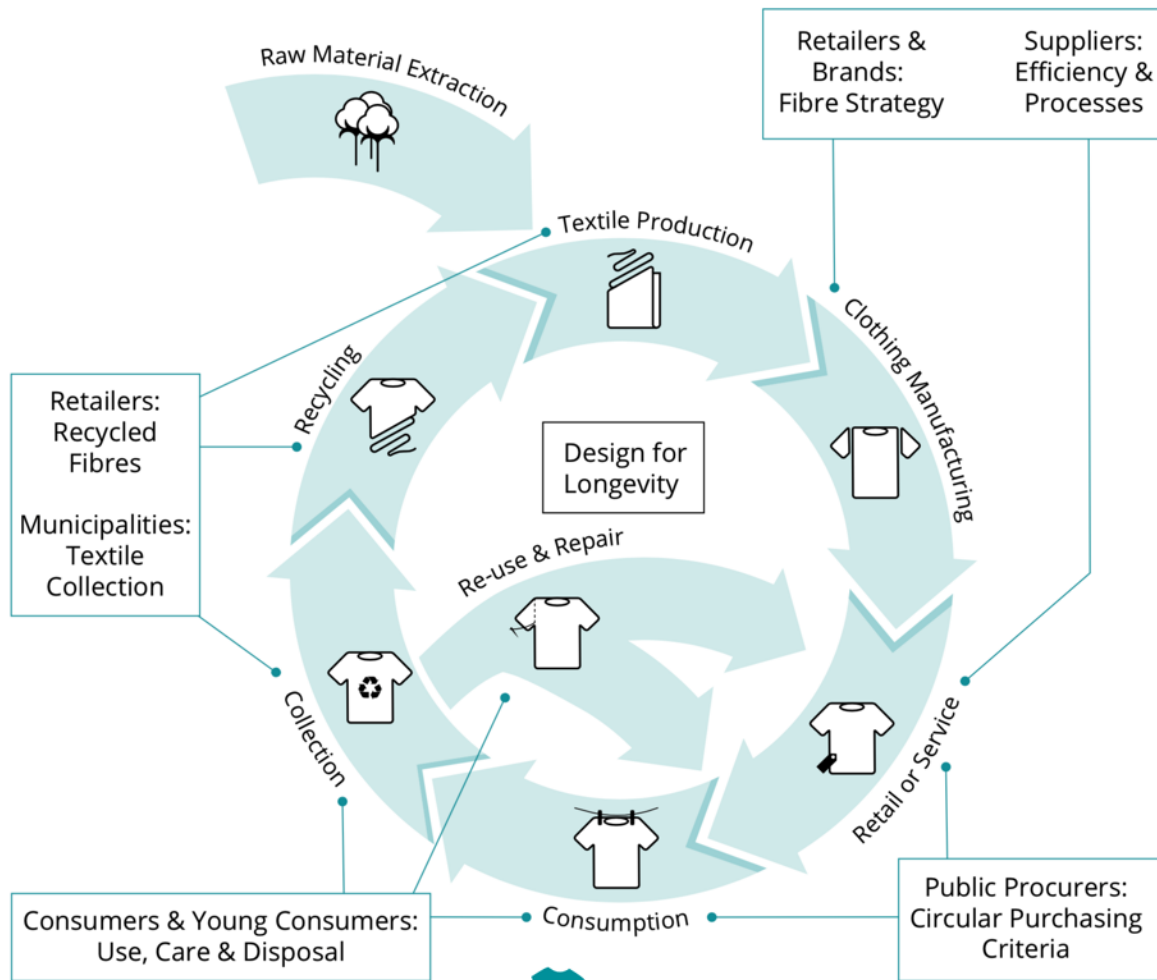
Laetitia Forst

**ual:** centre for  
circular design

fashion habits can change







# Circular Textiles Ready to market

# Ellen van den Adel & Marieke Koemans

European Clothing Action Plan



## ECAP Program 'Circular Textiles Ready to Market'



- 09.00 Arrival participants
- 09.30 Welcome to ECAP, the European Clothing Action Plan, and welcome to CIRCL
- 09.45 Keynote speech by Rebecca Earley, Professor of Sustainable Fashion Textile Design and Co-Director, Centre for Circular Design (CCD)
- 10.10 Fibre to Fibre pilots part 1: fashion show with dancers followed by spotlight sessions
- 11.00 Break: Lost and Found
- 11.30 Plenary presentation of 'Design for Longevity and Circularity' with showcases
- 12.00 Fibre to Fibre pilots part 2
- 12.30 Lunch break
- 13.30 Fibre to Fibre pilots part 3
- 14.00 Sustainable fibre strategies

## Afternoon program



- 14.30 Brainworks (parallel workshops)
  - A. Love your Clothes
  - B. Love not Landfill
  - C. Circular Business Models
  - D. Re-commerce & Rental concepts
  - E. Circular Logistics
  - F. Little Fashion Dragon
- 16.00 Break
- 16.15 Stand-up comedian BOOM Chicago
- 16.55 Official opening of market place with 10+ circularity boosts and shop till you drop products to buy
- 17.00 Visiting market place and network drink
- 18.30 End of Program



# Fibre 2 Fibre pilots

European Clothing Action Plan

# HAVEP

# Els de Ridder

European Clothing Action Plan





HAVEP® FENIX

X

ECAP

REMO<sup>key</sup>  
THE RECYCLE MOVEMENT

HAVEP  
You'll never work alone

HAVEP® FENIX X ECAP

# THE PROJECT



PRODUCT:

WORKWEAR FABRIC



MARKETS:

NL - BE - GER



COMPOSITION:

65% REC PET / 10% REC COT / 25% COT



RECYCLD.MATERIALS:

65% REC PET / 10% REC COT

REMO<sup>key</sup>  
THE RECYCLE MOVEMENT

HAVEP  
You'll never work alone



HAVEP\* FENIX X ECAP



# HAVEP® FENIX

SAVINGS PER 1KG FABRIC:

REMO<sup>key</sup>  
75/  
C



697  
LITERS



0.59  
CO<sub>2</sub>/KG



4.15  
kWh



**3485**  
Cups of Coffee



**138 days**  
Using your Phone

REMO<sup>key</sup>  
THE RECYCLE MOVEMENT

**HAVEP**  
You'll never work alone

HAVEP® FENIX X ECAP

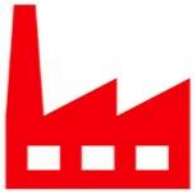
# HIGHLIGHTS



1<sup>ST</sup> ORDER FROM DUTCH GOVERNMENT!



SHARED CIRCULAR VISION WITH REMO



ENTIRE EUROPEAN PRODUCTION ON 1 KM<sup>2</sup>



REMO<sup>key</sup>  
THE RECYCLE MOVEMENT

HAVEP  
You'll never work alone

HAVEP\* FENIX X ECAP



# KEY INSIGHTS AND LEARNINGS

## CHALLENGE:

QUALITY REQUIREMENTS FOR WORKWEAR



## CHALLENGE:

CONTINUOUS STREAM OF THE RIGHT RAW MATERIALS



OPPORTUNITIES TO ACCESS NEW MARKETS



REMOkey  
THE RECYCLE MOVEMENT

HAVEP  
You'll never work alone

HAVEP\* FENIX X ECAP

# NEXT STEPS

USE THE YARNS IN NEW PRODUCTS

EXPLORE FURTHER OPPORTUNITIES FOR EUROPEAN PRODUCTION

OPPORTUNITIES TO ACCESS NEW MARKETS





# Blycolin

# Jacqueline Mommer

## European Clothing Action Plan

# REBORN<sup>®</sup>

by Blycolin

Nicolet Keetelaar  
Jacqueline Mommer  
Ron van de Wiel



Blue**LOOP**  
ORIGINALS





# WHO ARE WE?

Blycolin is the leading international specialist and partner in linen services for the hospitality branch. Our enthusiastic employees believe quality is very important and endorse our corporate social responsibility. In an inspiring and efficient way, we proudly achieve in a sustainable total solution that contribute to the maximum quality perception (Q-perception) of hospitality guests.





WASTE

**350.000 kilo  
waste per Year.**





I have a dream!



A wide-angle, high-angle photograph of a multi-lane highway stretching into the distance. The road is flanked by green fields on the left and brown, harvested fields on the right. A small pond is visible on the left side. The sky is filled with large, dark clouds. Several vehicles, including cars and trucks, are visible on the road, with some showing motion blur. The text "A LONG WAY FROM 2011-2019" is overlaid in the center of the image.

A LONG WAY  
FROM 2011-2019



# COMEBACK

FROM STORIES TO BEDWEAR

Powered by Blycolin & Blue LOOP Originals

## THE FORERUNNER

90% RECYCLED MATERIAL:

45% post consumer jeans,  
30% recycled Cotton,  
15% recycled PET and  
10% virgin Polyester



# THE CHALLENGE

- Same quality & lifecycle
- Production in Europe
- Our preferred supplier connect to new supply chain
- Sorting waste
- Partnership
- The right yarns
- The market





# 2017/2018

- Sheets 160/310
- Ca. 175 gr/m<sup>2</sup>
- Plain Weave 1/1
- Open end yarns
- Yarnnr. Warp: Ne 16/1
- Thread/inch Warp:61
- Yarnnr. Weft: Ne 16/1
- Thread/inch weft:61
- Colour plain white



# RESULT

- 15 % post-consumer (old sheets)
- 35 % pre-consumer (confection waste sheets)
- 30 % Cotton
- 20 % Polyester



# MEI 2018, HIGHLIGHT

**CUSTOMER**

Weidumerhout

**124**

Sheets Reborn  
Made in Spain

**TEST**

Wash in Practice







Met de nieuwste innovatie Reborn zorgt ze ervoor dat een oud laken als herboren terugkeert op het bed.

"Ze vertelden ons dat het maken van nieuwe lakens uit oude lakens technisch onmogelijk was. En kijk eens waar we nu staan."

**Jacqueline Mommer**  
Marketing- en communicatiemanager Blyscin

### Zoeken naar tweede levens

Reborn is de nieuwste, duurzame innovatie van Blycon, maar niet de eerste. Al eerder werd de bekende zeep van Atlantic, een handdoek gemaakt van vrijwel 100% Enk en ook de Cornieback, een denim bedopler die 90% uitwikkelt. Reborn is dus ook gesteld op niet afgaan: we hebben waardevol materiaal van Blycon en langrijke daarvan is Blue LOOP Originals: een Enk met een sterk net voor circulaire producten en projecten met te veranderen. [SACN van de Europese European Clothing Action Plan] Samen van de Europese European Clothing project gericht op het verminderen van textielafval en lang krijn dagen van de kams om een circulaire aanpak te ontwikkelen. De kleding- en textielafval van Europa te verminderen."

Zowel de wasserij, die het linnengoed inspecteert, als hotel WeidumerHout zijn positief. Jacqueline: "Gasten geven aan het goed te vinden slapen. Daarnaast zijn ze positief over de informatie en het verhaal dat het hotel de gasten over de Reborn geeft."

"Reb  
bele

**Wel ver**  
Weidume  
waarmee  
Denk aa  
gerecycl  
informa  
verdiep  
Textiële  
ontstaa  
te infor  
Dat is

### Kwaliteitstest bij WeldumerHout

Niet als gasten hebben ook hotels, wellness centra, recreatieparks en vakantieparken een hoge kwaliteitseisen. We testen ieder nieuw product dat ook soms vier jaar. Het is wel stellen dat het binnen meer dan 100 wasserij. De Reborn wordt sinds Leowarden. Geen vreemde keuze in Weidum, onder schijn hard to find, op de markt als de gebruik van het Fairtrade Pure Eco beer. De teksten van een eigen als een zonnecollector en groene strik. Een water- en energiebesparende. Beer! Maatschappelijk verantwoord vinden we belangrijk. We willen van verbetering van onze bedrijfsvoering duurzaamheid gaat." zijn binnen.

en dan het proces  
innovatie als de Reborn brengt  
mee. Niet alleen als het gaat om  
maar ook bij het in gebruik nemen ervan  
ing de productie binnen Europa te  
zoeken naar hoe we het aantal  
mogelijk houden. Een  
soorten vezels, in de  
voor komen zodat  
beoordeeld.  
de juiste  
kennis blijven



[Linen management](#) | [Laundries](#) | [Collections](#) | [References](#) | [Menu](#) 

"In the Reborn recycling process, machines unravel the old sheets and turn them into new fibers. Those fibers are spun into yarn, from which we make new bed sheets."

### Testing for quality: Hotel WeidumerHout

Hotels, holiday parks and wellness centers can rent the bed sheets after the product has been tested in real life. This test is in full flow at WeidumerHout, a hotel with its own waste water purification, solar panels and green power. Owner Eddy de Boer: "Corporate social responsibility is very important to us. We want to continually improve our operations when it comes to

SAVINGS PER 1 KG:

		
3485 LITERS	1.58 CO2 EQ.	6.32 KWH

katoen, waarvan 15% val, 20% van virgin en recycleproces energie en wat het proces on track & trace is. Aan de hand van en berekent ze de Reborn, in ssen, per kilo 3,31 minder - 1,68 kilogram

**REBORN**  
by Blycolin  
**FROM BEDSHEET  
TO BEDSHEET**



# 2019, NEXT STEP

- (Washing) test again
- 2<sup>e</sup> test customer
- Problems supply chain and pricing
- Preferred supplier
- Time

My dream  
came true!

# Moodstreet

# Evelien Vlasblom

## European Clothing Action Plan



# from Waste to Wonderful



FROM **WASTE** TO **WONDERFUL**



FROM **WASTE** TO **WONDERFUL**



# Project overview

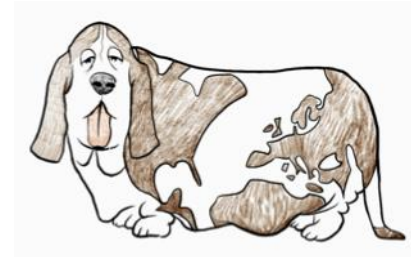
- Jersey collection for girls (Darlin) and boys (Fellow), denims and jackets
- Production jackets 100% polyester
- International markets; retail customers mainly online and boutiques
- 43% post-consumer and 57% virgin material
- 2320 pieces
- Sales prices between € 79,95 and € 89,95





# Highlights of the project

1. Market introduction of two styles jackets
2. Our sister companies, LC Kidswear took over the initiative
3. Learning about each step in the process
4. Small volumes is difficult, but we made it happen
5. Educational film  
'from Waste to Wonderful'



# Key insights and learnings

1. It takes much more time
2. Customers (retailers) find idea about sustainability interesting
3. Sustainability is not key at moment of placing orders
4. Sales force finds it difficult to sell sustainability
5. Recycled fabric in production country China speeds up the process
6. We still need to find recycled jersey and denim fabric in China



# Next steps

- Sale up use of recycled polyester for jacket and padding
- Find recycled jersey fabric in China. Who can help us?
- Research fully sustainable children's brand within JOLO Fashion Group





# Lost and Found

European Clothing Action Plan

# Where are you from ?

UK, Denmark, Sweden, Estonia, Italy, Spain, France, Belgium,  
Finland, Switzerland, the Netherlands.....

# What line of business are you in?

Brand, Retailer, NGO, University, Producer, Spinner, Expert, Service Provider, Recycler, Logistics.....



# Danish Fashion Institute Chloe van Barthold

European Clothing Action Plan



# DESIGN

for Longevity

The Higg MSI is a free tool by SAC that allows designers and brands to... \*

☐ A Calculate pattern cutting efficiency

☐ B Estimate how long a product's lifetime is

☐ C Calculate and compare fabrics' environmental impacts



A group of Pennsylvania State University researchers managed to develop which innovation for textiles, using squid teeth protein? \*

**A** Biodegradable glue.

**B** Sustainable washing liquid.

**C** Self-healing coating technology.

A Preferred Fibre List is a helpful tool for designers because... \*

**A** It gives an easy overview over which sustainable fibres to choose from

**B** It lists fibres according to price-point, giving an easy indication of product cost

**C** It lists materials according to what consumers generally buy

Which of these are characteristics of the Tencel material? \*

☐ A Thermal retention, wrinkle resistance and resilience

☐ B Water resistance, biodegradability and antibacterial

☐ C Durability, softness and breathability



Which of these is not a solution to avoid microplastic pollution? \*

☐ A Ultra sound cutting.

☐ B Tight knitting.

☐ C Reducing fabric brushing.



## MAIN INTERESTS

---

To present you with articles recommended for you, please select the sections that interests you the most. Hover each section to read more.

SYSTEM



MINDSET



AESTHETICS



CYCLES



BUSINESS MODELS



MATERIALS



MAKING



LIFESPAN



TECHNOLOGY



UPDATE



## MY FEED

## Navigate

## MY FEED

LATEST

SYSTEM

MINDSET

AESTHETICS

CYCLES

BUSINESS MODELS

MATERIALS

MAKING

LIFESPAN

TECHNOLOGY



## MAKING

## Ready to Wear and Ready to be Aged

Video · 0 comments

Visvim shoes have replaceable soles, in order to encourage the wearers to care for them in the long term.



## COMMUNITY

**Jessica Antonio**  
on [Upcycling](#)

I do agree that's not considered upcycling, but it definitely is a sustainable use of it. In many cases if deadstock wouldn't get sold it would be thrown onto landfills and burn just like many brands' overstock.

**susannaschick**  
on [Remade, Reduced, Recycled and Reeburn](#)

Very cool!! It's so great to see more designers getting into upcycling. My favorite is Burning Torch, a really cool line out of LA. She's been doing this since she started her line over a decade ago. You should see some of the designs she comes up with from artfully cut military surplus. You have to search "upcycled" on her site to find it all, but it's worth it.

**susannaschick**  
on [Upcycling](#)

cool! but using deadstock fabric cannot be considered upcycling. It's "using fabric that would most likely eventually have been sold to someone". Upcycling is taking something that would otherwise be thrown out or recycled, and turning it into something more valuable. And you missed my fave, who's been upcycling for over a decade- Burning Torch: <https://www.burningtorchinc...>

**susannaschick**  
on [Scandinavian Designs Made in Prison](#)

That's great! I hope they earn more than the prisoners who sew clothes in prisons here in the US. Our government has kept slavery alive by making it legal to employ prisoners at wages far below the

CYCLES

# Self Healing Fabric

Video · 0 comments

[SHARE](#) [TWITTER](#) [FACEBOOK](#) [PINTEREST](#) [LINKEDIN](#)[SAVE POST](#)

Often, in destinations by the Mediterranean coast, small port markets are selling natural sponges from the sea. These sponges are multi-cellular, and when the cells are separated, they join up together to become whole new sponges. If they were to be torn apart and placed back in the sea, they would heal themselves, as they would gradually regroup and become one. What if our favourite damaged shirt could similarly heal itself magically?

Today, a group of Pennsylvania State University researchers are looking to introduce self healing properties in the textile industry. In fact, they have successfully developed a small scale coating technology that enables textiles to heal when placed in water.

Often, in destinations by the Mediterranean coast, small port markets are selling natural sponges from the sea. These sponges are multi-cellular, and when the cells are separated, they join up together to become whole new sponges. If they were to be torn apart and placed back in the sea, they would heal themselves, as they would gradually regroup and become one. What if our favourite damaged shirt could similarly heal itself magically?

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---

Fashion designers use natural fibres made of proteins like wool or silk that are expensive and they are not self-healing. We were looking for a way to make fabrics self-healing using conventional textiles. So we came up with this coating technology.

Melik C. Demirel, professor of engineering science and mechanics.

---

To obtain the self healing property, materials are dipped into squid teeth proteins, which were turned into a liquid form using yeast and bacteria. This coating process can be applied to a finished garment or to the threads first, before manufacturing. This simple procedure has a large impact on garment repair. When torn, one can simply put the edges of the coated material together and apply warm water to it, and watch as the fabric heals itself. In fact, the tiniest of defects can even be repaired whilst the garments are being laundered, considering that water is the enabling factor for the self healing.

The procedure remains simple and inexpensive, and marks a significant turning point in garment care. If this were to be scaled up, it would increase the use phase of garments. In fact, Demirel explained to CNN that his team is looking into developing a liquid that could be poured into a washing machine, so that any garment – coated or not – could be repaired during a clothes wash. Sometimes, innovations such as self healing fabrics can seem futuristic and alien to us. The concept has often been explored in science fiction. However, as illustrated by the self healing sea sponges, such science can be found in nature, and may have been around for centuries. As designers, we can observe such natural marvels with a new set of eyes, and bring our designs one step closer to nature.

Resources: [Fibre 2 Fashion](#) // [Futurism](#) // [Sea Sponge Company](#) // [Phva.org](#)

#CIRCULARITY



# HNST



# HOUDI





# DESIGN

for Longevity



# Fibre 2 Fibre pilots part 2

European Clothing Action Plan

# Schijvens Shirley Schijvens

European Clothing Action Plan

# Schijvens corporate fashion sinds 1863

**schijvens**  
CORPORATE FASHION

since 1863





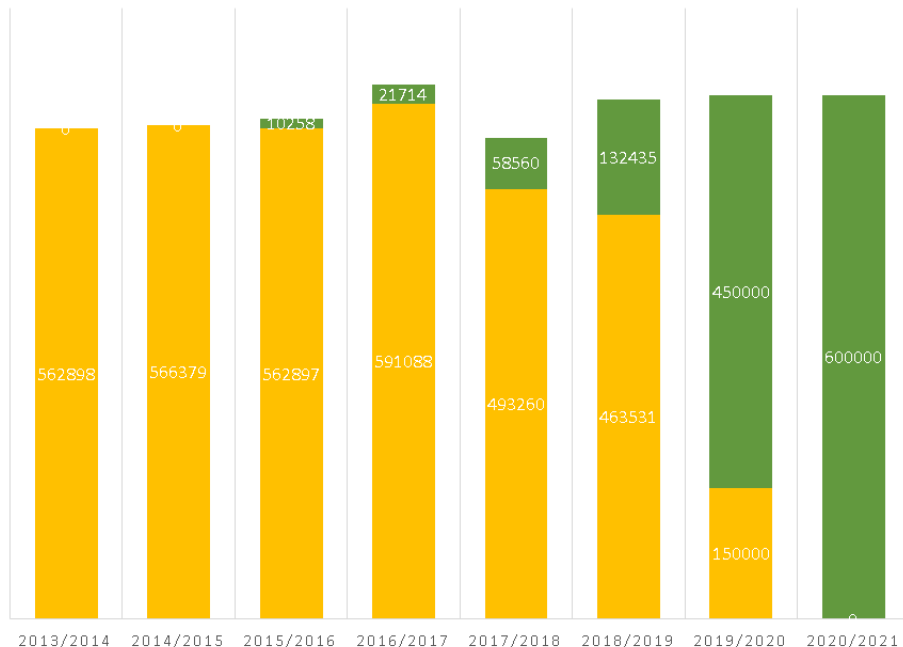


**Monitoring 100%, score 86**  
**Category LEADER**  
**Winner Best Practice Award 2017**  
**LIVING WAGE**



## SCHIJVENS CIRCULAR PRODUCTION

■ virgin ■ circular



## Recycled items for the circular proces

Schijvens 9-1-19:

Collected at client

107.304

Delivered in rec.

120.842

In production rec.

134.357



**Collect old uniforms**



**Shredder them to fibres**

30% post-consumer  
20% pre-consumer



**Mix with pet fibres**

50% post-consumer



**From recycled yarn:  
Make new garments**



**schijvens**  
CORPORATE FASHION

since 1863



Circulair concept

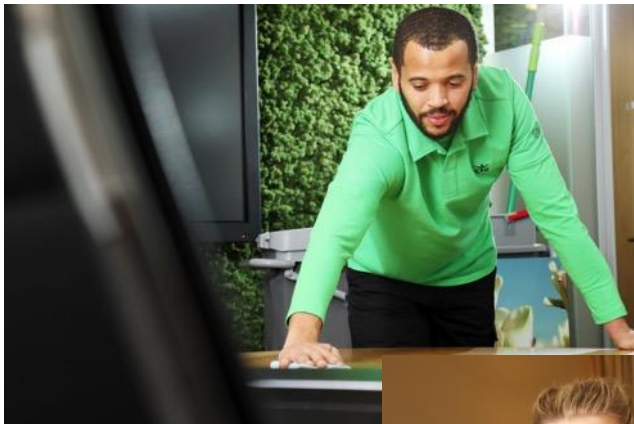






Circulair concept





**40.000  
garment  
s  
produced**



# Highlights of the project

1. Adding this customer (27.000 employees) to our portfolio!

2. Savings for environment calculated for CSU:

<b>Water</b>	<b>33.943.900 liter</b>
<b>CO2</b>	<b>18.967 kilo</b>
<b>Energy</b>	<b>95.889 Kwh</b>



3. Winner of Dutch Sustainable Corporate Fashion Award (and a lot of media attention)





# Key insights and learnings

1. You need good knowledge of **customs** and HS codes for recycling
2. **Return logistics** in the Netherlands is not a common business and therefor hard to find for a good price
3. Customers are easy to find, people are really **enthusiastic** on recycling!



# WE Fashion

## Marijke Willemssen

European Clothing Action Plan

# F2F

# Recycled Sweater Project

WE Fashion

Marijke Willemsen



# Project overview

- 2 yarns used for knitwear
- Project with Texperium (project management) and ESG (spinning)
- All cotton used was regenerated from post-consumer recycled cotton, 50% PC recycled cotton, 50% Tencel
- In store in October 2018, sold in NL, D, CH, B, F and Lux
- 6000 pcs with a retail price of 49.99 euro



# Highlights of the project

1. Two beautiful yarns developed
  - white yarn of post-consumer T'shirts (50%) and Tencel (50%)
  - Blue/green yarn of post-consumer jeans (50%) and Tencel (50%)
  - The yarns are further developed by ESG in other colors, without dyeing the yarns, but by mixing with dope-dyed viscose.
  - These colors will have less sustainable material content (Tencel vs viscose) but will have a lower use of water, chemicals and energy.
2. Proof that the development of yarns is possible in our buying system, without having to make exceptions.
3. We achieved considerable environmental savings, specifically on water (92%), but less on chemicals (8%) and energy (12%). This is mainly due to the fact that we made the choice to dye the blue and the green yarns.

White yarn

- post-consumer T'shirts (50%)
- Tencel (50%)

The yarn is twisted to create a fashionable look.







### Blue/green yarn

- post-consumer jeans (50%)
- Tencel (50%)

The yarn has contrasting nappies to create a fashionable look.









THIS GARMENT  
IS MADE FROM  
POST-CONSUMER  
RECYCLED COTTON.  
WE HAVE ADDED  
TENCEL TO MAKE  
THE YARN STRONGER.  
BY OPTING FOR  
THIS MATERIAL,  
WE USE LESS WATER,  
CHEMICALS AND  
ENERGY.

---



**92%**  
WATER SAVINGS  
PER PRODUCT



**12%**  
CHEMICALS SAVINGS  
PER PRODUCT



**8%**  
ENERGY SAVINGS  
PER PRODUCT

**RECYCLED COTTON**



# Key insights and learnings

1. The yarns needed to be dyed to create a commercial product, that fitted in the collection. We did not have enough time for research & development to look for other options on how to achieve the desired colours without dyeing.
2. Developing a better understanding between brand and recycling expert is indispensable. There was not enough understanding between parties, and communication failed.
3. Planning was difficult. The yarns were delivered late, what caused a delay in production. In the end the sweaters were sold in a week with a promotion (2<sup>nd</sup> sweater for half price).

## Next steps

- WE Fashion is exploring an expansion of the use of recycled materials in products in the Winter 2019
  - Recycled merino
  - Recycled jeans
  - Recycled wool
- No current project running with the ESG yarns, the reality is that the yarns developed are too expensive for our products.

# Suitsupply

# Joy Roeterdink

European Clothing Action Plan



RE-SUIT



FOR US ITS ABOUT KEEPING AND  
RETAINING VALUE, TO CREATE CHANGE  
BEYOND OUR OWN PRACTISES & DEEPER  
INTO OUR VALUE CHAINS, WITH  
ENGAGEMENT OF SUPPLIERS,  
EMPLOYEES AND CUSTOMERS



# RE-SUIT, the project





# RE-SUIT pilot overview

Goal:

Tailored men's jacket half canvas in blue or grey

Combed flannel S100 carded yarns

Quality requirement of 100% mono material

Aim: 1 style 150-300 pieces in SS20

Post-spinning merino wool&

Post -consumer merino wool

(10% vs 90% virgin)

Local European/ Italian fabric supply chain based on  
own reverse logistic networks to keep emissions  
down



SUITSUPPLY







# RE-SUIT

Pilot key insights so far





# Key insights and learnings

Product complexity & fiber contamination

Customer take-back

Quality of recovered wool is high but yield is low

Wool recycling in Biella- under the radar, but a lot of knowledge present

Strong relationships and supplier leverage are vital

So what's next?



**SUITSUPPLY**

# Lunch break & Little Fashion Dragon

European Clothing Action Plan



# Fibre 2 Fibre pilots part 3

European Clothing Action Plan

# Tricorp

## Jasper van den Dungen

European Clothing Action Plan

# Tricorp Circular



Jasper van den Dungen



Ministerie van Defensie



Gemeente Breda





- T-shirts and polo's
- 70% Post Industrial Cotton
- 30% Post Consumer Polyester
- 750 pcs in 2017
- 750 pcs in 2018
- New order to be placed in 2019





Ministerie van Defensie



KPU is going circular.

- 1. Polo-shirts
  - Comfort
  - Compulsory safety norms
  - From recycled content



2. New Life with Cliff products





Gemeente Breda



- Wearing test for jeans
- Infinity cloth less appreciated at first (300gr)
- Concordia cloth (200gr) appreciated
- Now opting for 300gr winter jeans and 200gr summer jeans.
- Production planned in Q2





# Highlights

1. Military clothing presented in March 2019!
2. Collaboration with Dutch aWEARness
3. Circularity throughout Tricorp







# Insights

1. Circular product possibilities from clothing
2. Gained insights from circular concepts
3. Widespread willingness to go circular -> collaboration is key



# What's next?!

## 1) Working towards circularity

## November 2019 (A&A fair tangible products)

100% cotton / polyester

Details all fully circular (zipper, labels, prints, yarn)

## 2) Working towards a 'leasing concept'

Tricorp will own the whole process.



# TRICORP

# CIRCULAIR



# JBC

# Valerie Geluykens

European Clothing Action Plan



# I AM Green

Organization JBC nv  
Presenter Valerie Geluykens



..jbc



I AM, because I love our planet,

I AM denim, made out of recycled post consumer denim.



I believe in a better world, therefore I buy conscious.

this denim is made out of recycled denims.

I am proud to participate on this green journey



# I AM ... Presents

- 20% Post-Consumer Waste + 79% Bio Cotton + 1% Elasthan
- Trousers & skirts
- Women, Men, Boys & Girls
- Prices 29,99 euro - 49,99 euro
- Belgium, Luxemburg & Nord-Rhein Westfalen



# Highlights

- Acceptable price, nice product
- Positive vibe amongst colleagues
- Limit Footprint of our production :



Used 20% recycled  
content, saved  
virgin cotton



Water saved : 1  
year drinking  
water for 1 person



Saved enough  
energy to charge  
your phone for 1,5  
years



More than 20% of this garment are fibres that were regained from old, used, thrown away denims. These fibers are blended with virgin cotton, resulting in a beautiful, strong new garment. All details like zippers, rivets, patches and stitching are made in a sustainable way.

**SUSTAINABLE - TRACEABLE - FAIR**

Exclusively designed by I AM for JBC  
[www.iam.eu](http://www.iam.eu)

# Key insights and learnings

- More recycled content
- Good communication is essential
- Good relation with fabric supplier





# What's next?

- More Post- & pre-consumer waste
- Information, communication!
- Close our own loop ...



# I AM ... A Green Journey

..jbc



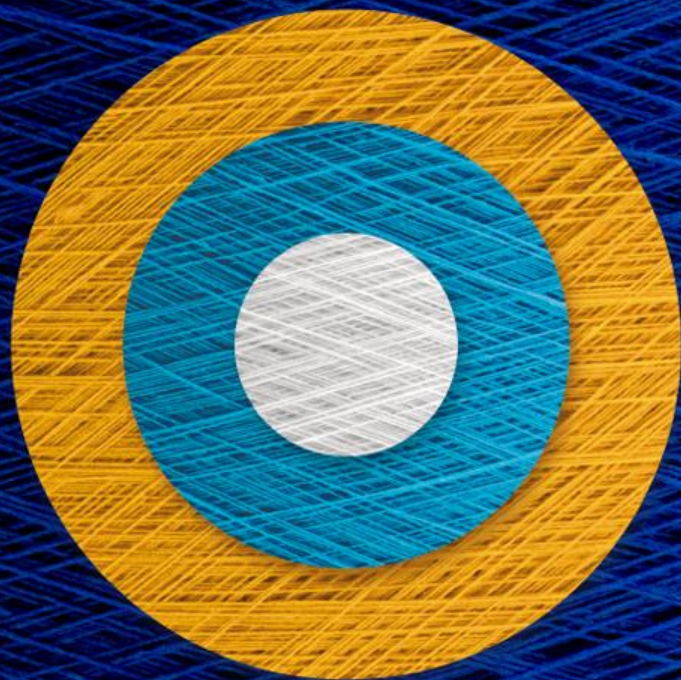
# Sustainable fibre strategies

European Clothing Action Plan

# Recover Hélène Smits

European Clothing Action Plan





**recover**<sup>®</sup>  
UPCYCLED TEXTILE SYSTEM

by  **HILATURAS  
FERRE**



Hélène Smits

Global Business Development Manager

[helene@recoververtex.com](mailto:helene@recoververtex.com)







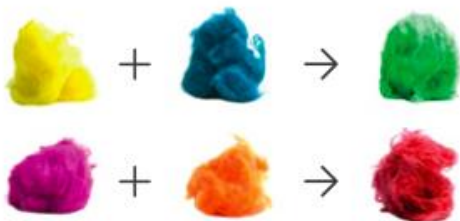
**A resource too precious to waste.**



## recover<sup>®</sup> Fiber Upcycling.



## ColorBlend<sup>®</sup> Process.



**2 resource-efficient  
processes combined  
to create accurate  
and unique colors  
with no dye or water  
applied to recover<sup>®</sup>  
upcycled cotton fibers.**







Is the first family of **Recover Upcycled Cotton** yarns blended with virgin fibers for specific performance, comfort and value.



Is a classic blend of **Recover Upcycled Cotton** and **RPET bottles**, designed for comfort and all types of fashion applications.



Is a super soft and sheer tri-blend of **Recover Upcycled Cotton**, **RPET bottles** and **Tencel®**, for fashion specific applications.



Is a natural blend of **Recover Upcycled Cotton** and **Organic Cotton** for comfort and durability.



Is an **Upcycled Blend** of post-industrial **wool cutting scraps**, **PET bottles**, and **Nylon 6.6**, designed for maximum strength and softness.



Is the state of the art in **garments recycling**. Natural blend of **Recover Upcycled Cotton** from **denim garments** and **organic cotton**.



> Scores are related to impacts.



> The lower ↓ the score, less environmental impact.



Higg Index



8

recover®

100% upcycled  
cotton yarns



76,5

Dyed  
coventional  
cotton yarns



**recover<sup>®</sup>** IS IT **CIRCULAR??**

**recover<sup>®</sup>**

**WHAT ABOUT THE QUALITY?**







**recover<sup>®</sup>**

**IS IT COST COMPETITIVE?**



**recover<sup>®</sup>**

**CAN WE CONTROL THE CHEMICALS?**

An aerial photograph of a rowing team on a body of water. The rowers are in a scull, and their oars are visible in the water. The recover logo is overlaid on the image.

**recover<sup>®</sup>**

**WHO IS ALREADY USING RECYCLED  
COTTON?**

A model with long dark hair stands against a dark, textured background. She is wearing a dark blue denim crop top with a collar and two chest pockets, paired with matching dark blue denim cargo pants. She is also wearing olive green socks and brown lace-up boots. To her left, there is a large, crumpled piece of clear plastic or a shiny material.

**WEEKDAY®**

**Weekday**  
**100% recycled collection**  
**Recovered denim. Reformed fashion.**

In partnership with Recover©.







# RECYCLING PILOTS



MAKE RECYCLING OF  
POST-CONSUMER TEXTILES  
A REALITY

**Together  
we can  
make  
fashion  
circular.**



[recoververtex.com](https://recoververtex.com)



# Starsock

## Eric Roosen

# European Clothing Action Plan



SUPPORTING  
HEALTHY SEAS®



## HOW TO CREATE A BETTER TOMORROW?

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- What are you going to do to create a better tomorrow?



## WHAT WE DO TO CREATE A BETTER TOMORROW ?

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- Joining the ECAP programme
- Make our most important materials more sustainable
  - Cotton
    - BCI
    - GOTS
    - RECYCLED
  - Polyester
    - RECYCLED
  - Polyamide
    - REGENERATED
  - Elasthan
    - BIO-BASED new materials



ALONE YOU CAN DO SO LITTLE BUT TOGETHER YOU CAN DO SO MUCH!

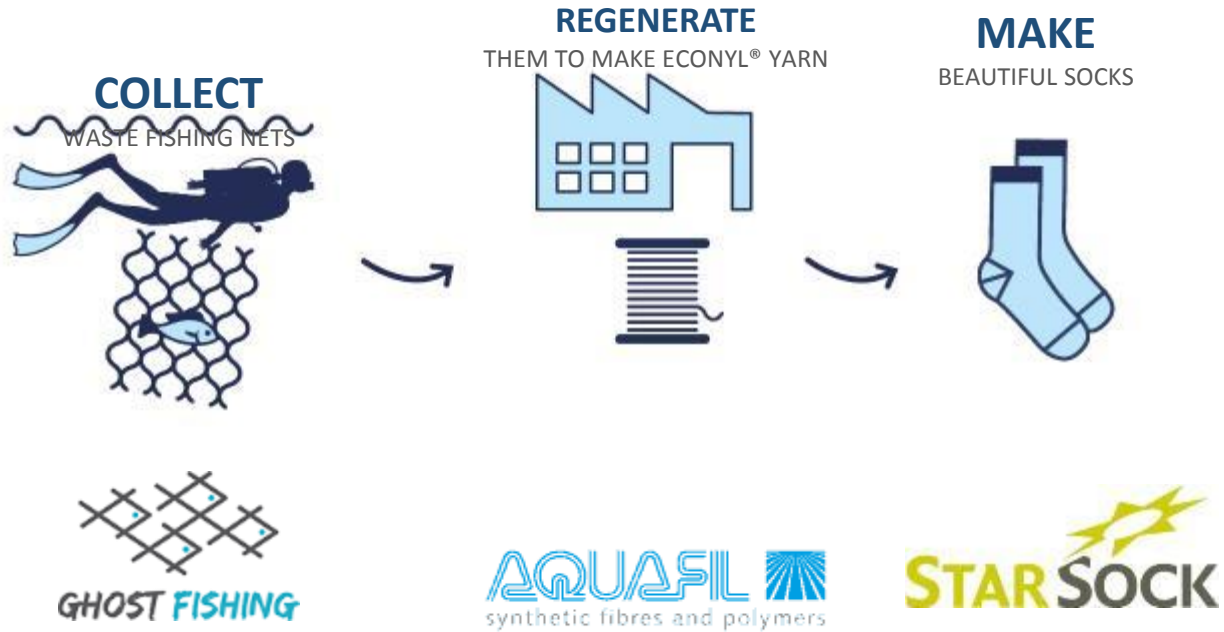
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- We believe strongly in trust and cooperation throughout the whole supply chain!



## WHO DOES WHAT?

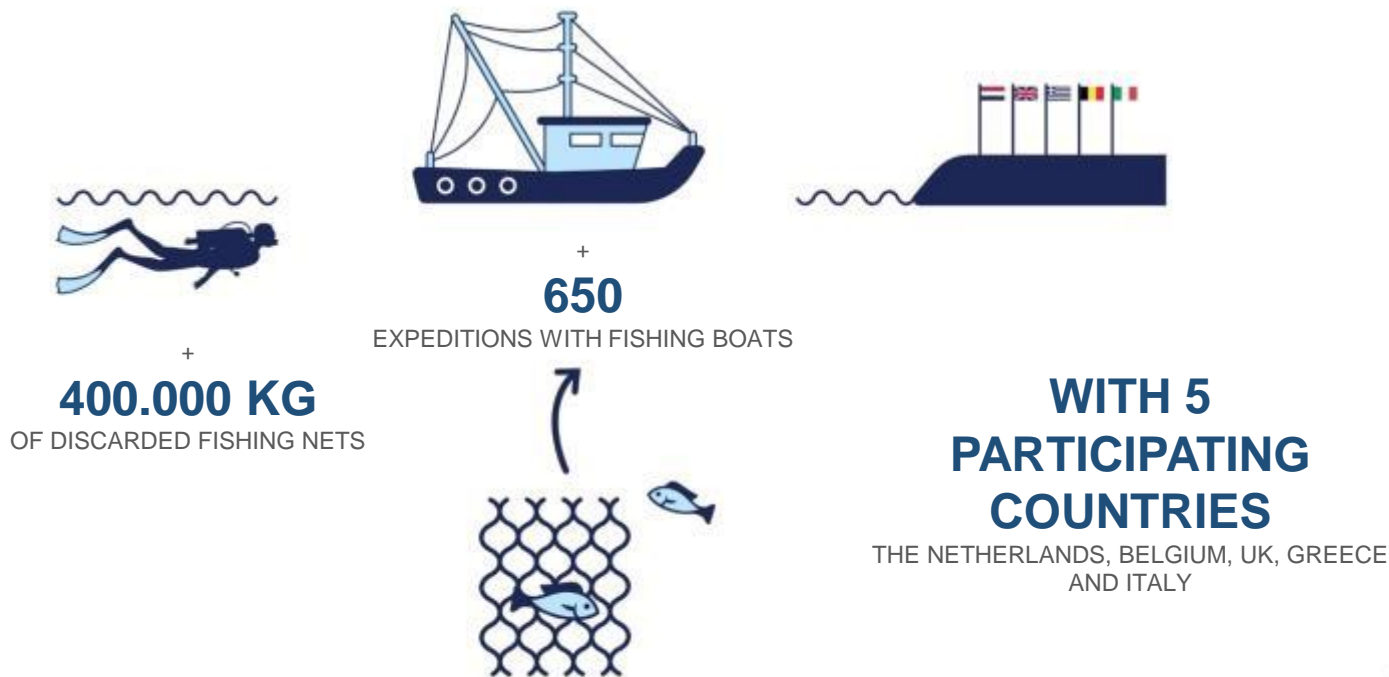
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## FISHING NET RECOVERY 2013 - 2018

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## ACT TODAY FOR A BETTER TOMORROW

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- Everybody in this room can make the difference by changing their behaviour NOW!
- Walk around the stands and start buying sustainable items!





# Brainworks !

Love your Clothes

Love not Landfill

Circular Business Models

Re-commerce & Rental Concepts

Circular Logistics

Little Fashion Dragon



# Short break!!

## European Clothing Action Plan

**BOOM**  
**CHICAGO**  
FOR BUSINESS

**BOOM**  
**CHICAGO**  
FOR BUSINESS

# Welcome Deputy Mayor Marieke van Doorninck

European Clothing Action Plan

ASOS



Blycolin

Blue LOOP  
ORIGINALS

moodstreet



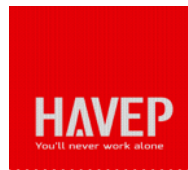
Rijkswaterstaat  
Ministry of Infrastructure  
and Water Management



LWARB  
London Waste and Recycling Board



DUTCH  
AWARENESS  
pioneer in circular chain management



SUITSUPPLY

WORKONPROGRESS



Danish Fashion Institute

**Circular Textiles** Ready to market