SaaS platform for the textile industry to redefine waste as resource

Global Change Award
AN INNOVATION CHALLENGE BY H&M FOUNDATION
Winner 2015

FASHION FOR GOOD

eit Climate-KIC

P4G Partnering for Green Growth and the Global Goals 2030

GFA GLOBAL FASHION AGENDA

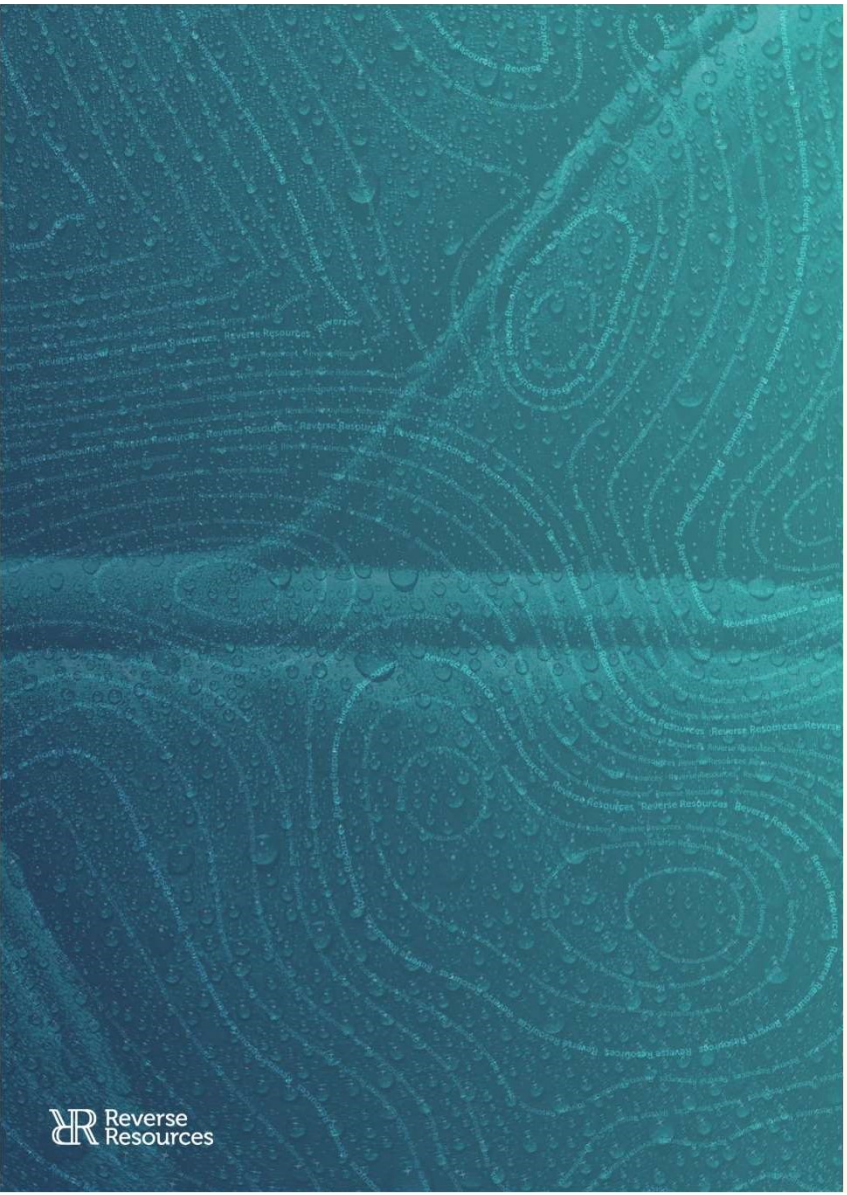
BGMEA

STICHTING DOEN

POSTCODE LOTTERY GREEN CHALLENGE

LEVI STRAUSS & CO. THE COLLABORATORY

Google Cloud | SAP



ACCELERATING CIRCULARITY

54 BRANDS
focus on **Europe**

Circular Fashion Partnership

21 BRANDS
focus on **Bangladesh & Indonesia**

FASHION FOR GOOD

4 BRANDS
focus on **India**

switchmed

6 BRANDS
focus on **Morocco, Tunisia & Egypt**

Accelerators

focus on **India**

CL2B
CLOSED LOOP TO BALANCE

7 CORPORATE PARTICIPANTS
focus on **Vietnam**

RR mission:
help fashion brands reduce the use of virgin materials with recycled ones from fashion own waste.

Reverse Resources

GLOBAL FASHION AGENDA

Circular Fashion Partnership

UNITED NATIONS

OVS

BGMEA

BESTSELLER

C&A

PULL&BEAR

Bershka

H&M Group

M&S

ginatricot

Target

Kmart

pimkie

Grey State

KIABI

PRIMARK

PeakPerformance

THE VERY GROUP

> 45% textiles lost from supply chain

Where brands are heading

- ❑ EPR
- ❑ Recycled content in textiles by 2025 / 2030
- ❑ Various projects being initiated

Current Industry Scenario

NO SUPPLY CHAIN
+
NO DATA
=
NO ACCESS

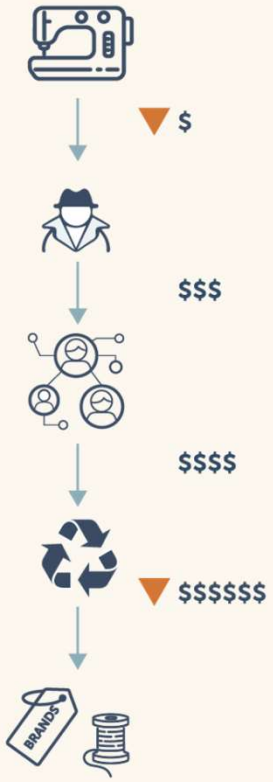
Waste collection is scattered, there's no central standard or system for data & statistics, no common categorisation, lack of at-source sorting

A large network of middle-men providing little to no transparency of the overall textile waste flows.

Recyclers have no source of data and lack access to such textile waste that meets their specific requirements. They overspend >30% on accurate sourcing and quality checking.

Brands fully depend on that supply chain and have no transparency or tools how to guide their waste to recycling or lower the cost of recycling

Problem: inefficient supply chain of waste



Factories mix up waste, quality of waste drops (80% of waste). They have no market insight what is worth to segregate by composition to maintain the value.

Waste moves through 4-5 middle-men who manually sort and trade it, each adding a % to the price. 90% of the total money stays with middle-men.

Recyclers face problems with quality of waste, low lead times, high prices, no background data. They pay >30% extra for better sources of waste. 15,000+ tonnes/month demand from recyclers mapped out for cleaner and transparent waste flow

Reverse Resources

What does Reverse Resources do?

CURRENT REALITY

CHALLENGES

$↓

1. #cutting scraps are unsegregated
   #highly contaminated
   #lowest value
   #zero visibility

$$$

2. #no value addition
   #raising the cost

$$$$

3. #primitive method of segregation
   #up to 40% process loss
   #moderate level of contamination
   #multiple stakeholders further increases cost

$$$$$$↑

4. INPUT
   #high price, low quality, high risk
   (zero traceability)
   #high operation cost
   (lab testing, further cleaning & segregation)

   OUTPUT
   #poor to moderate quality material
   #high price

5. #no overview
   #low quality
   #high price

REVERSE RESOURCE SOLUTION

OPPORTUNITY

$$$↑

1. #segregated at source
   #contamination free
   #higher value
   #trace to recycling
   #buy back opportunity

$$$$

2. #1-stop solution for
   collection, storage and shipping
   #high value increase for
   moderate price increase
   #part of a transparent supply chain

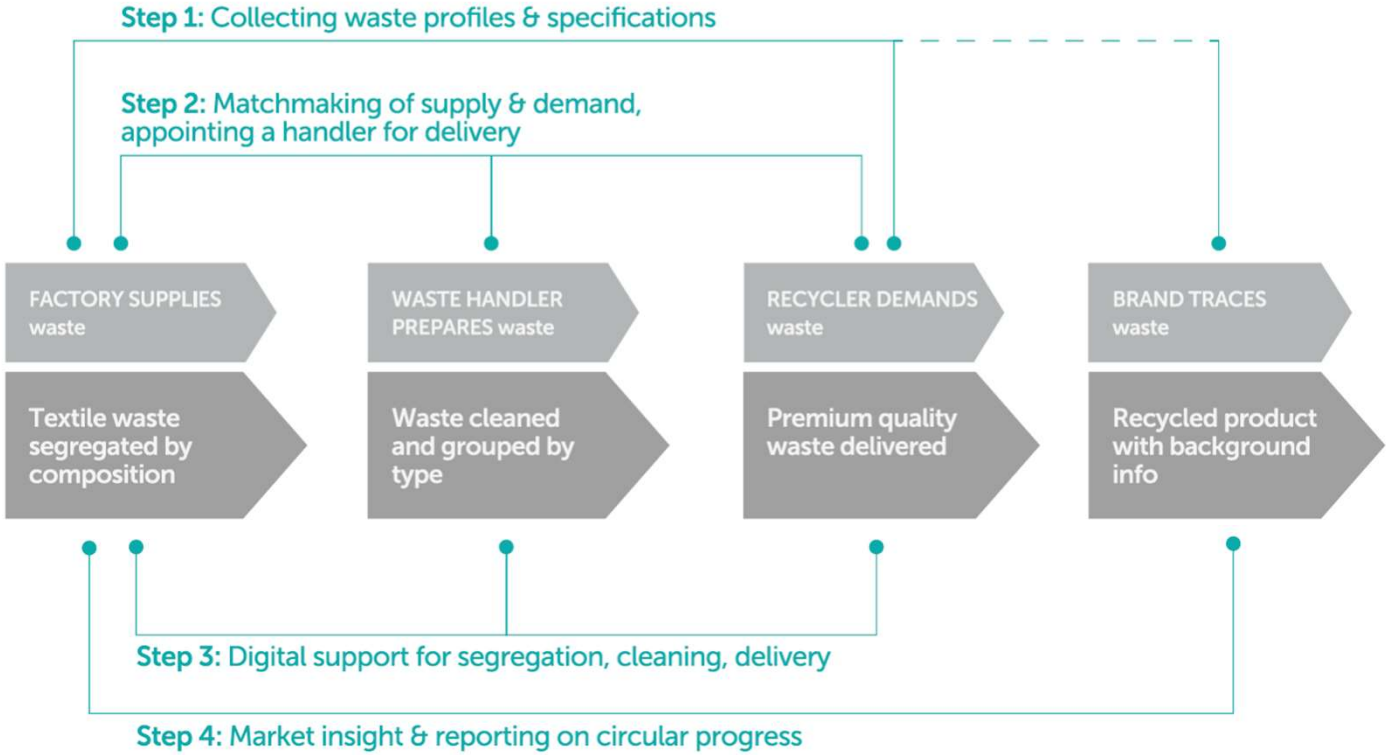
$$$$$↓

3. INPUT
   #moderate price
   #high quality
   #full traceability
   #minimum operation cost

   OUTPUT
   #high quality material
   #moderate price

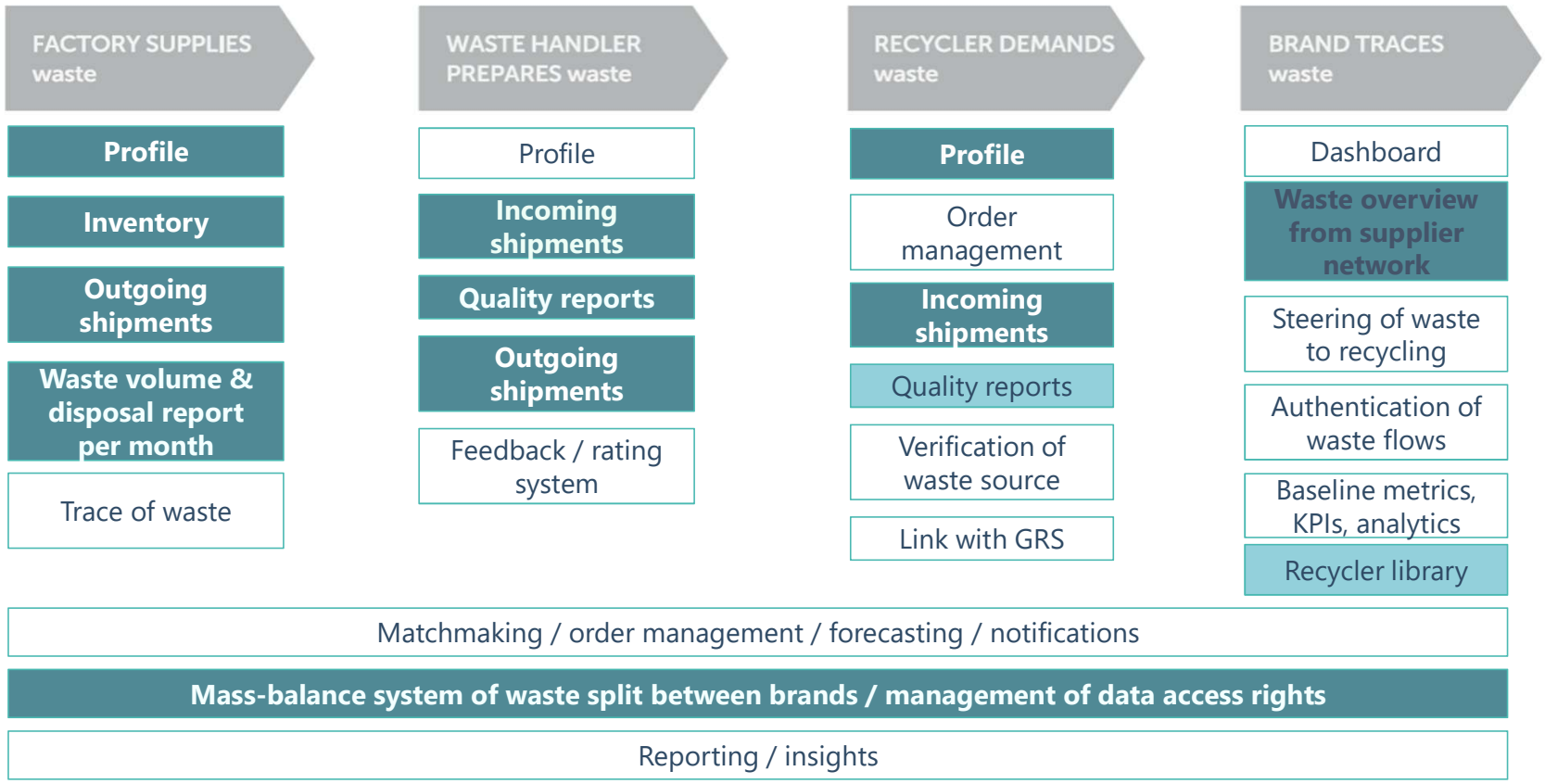
4. #scalable highest quality raw material
   #cost not exceeding virgin material
   #full traceability – minimum risk
   #huge environmental footprint reductions

RR SaaS SOLUTION
Creating 360° transparency



Reverse Resources

Functionality on RR platform



Circularity Report

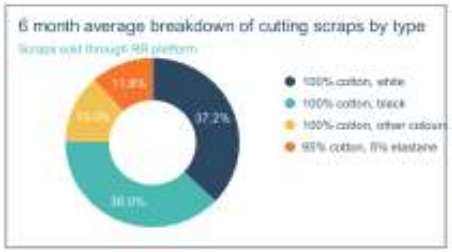
Reverse Resources

CIRCULARITY REPORT - Q3 2020

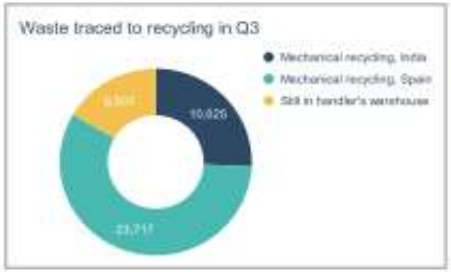
Fakir Knitwear

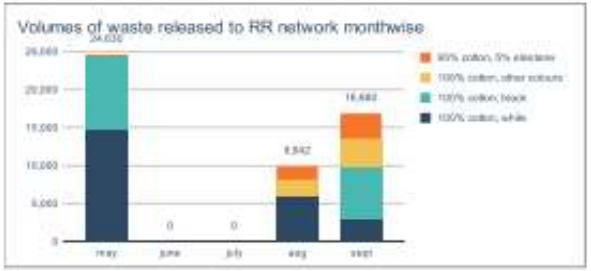
Total earned from sales of scraps: 707,128 BDT

Average per kg: 26.4 BDT/kg



July - September 2020	Total given to handler (kg)	Sent to recycling (kg)	Still in handler's warehouse	Contamination with other fibers	Process loss	% of contamination
100% cotton, white	24,207			435	55	2.02%
100% cotton, black	6,807	6,807	6,807			0.00%
100% cotton, other colours	5,645		0		67	1.19%
95% cotton, 5% elastane	5,102		0	37	18	1.07%
Total	**41,761**	**6,807**	**6,807**	**472**	**140**	**1.46%**





www.reverseresources.net
info@reverseresources.net

Certificate

CIRCULAR NETWORK

Congratulations Cute Dress Industry Ltd!

Thank you for signing up with Reverse Resources. We would like to congratulate you with your official **Reverse Resources Network Membership**.

You have successfully met the membership's criteria:

- signed the MOU for the Circular Fashion Partnership
- successfully concluded the Reverse Resources SOP training
- started registering your segregated waste on our platform

Congratulations! We look forward to working with you.

With kind regards,

Place and date of issue: **August 17, 2021**

Stamp of the issuing body:

Signature of the authorized person of the verifier:

Name: **Ann Runnel**

REVERSE RESOURCES OÜ

Reverse Resources

Organisation My Account

Dashboard: Brand X

Total network
February 2021

CURRENT WASTE IN STOCK	FACILITIES	TOTAL WASTE LAST MONTH	TRACED
43,978 kg	11	62,714 kg	41,420 t

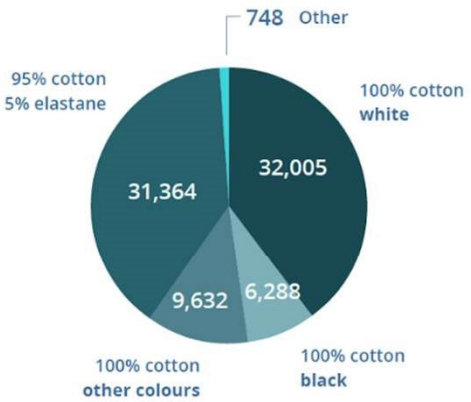
Stock

Reports

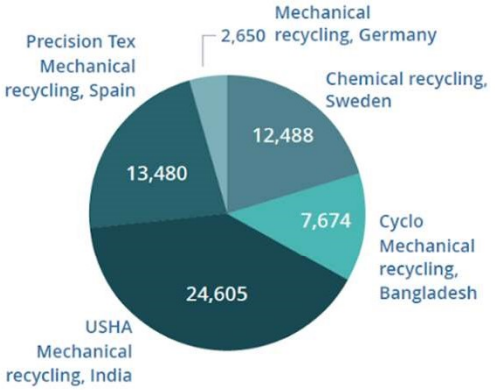
Verifications

Network

Average breakdown of cutting scraps by type



Waste traced to recycling in February 2021



Tracing map
February 2021

Baseline for KPIs:

Monthly overview of waste volumes & disposal methods

Monthly waste volume & disposal report

March 2021

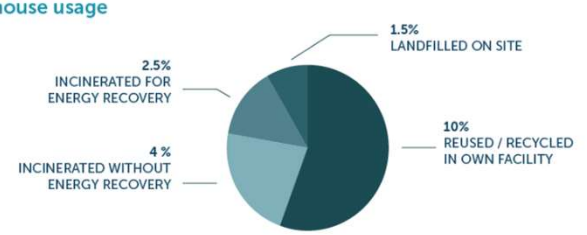
Bangladesh

data of 312 facilities aggregated

COMPOSITION	TOTAL WASTE GENERATED (balance)
100% cotton	484,511
97% cotton /up to 3% elastane	98,103
95% cotton / up to 5% elastane	97,972
80% cotton / up to 20% elastane or other fibers	48,449
CVC - 65% cotton, 35% polyester	452,383
TC - 65% polyester, 35% cotton	202,111
PC - other combination of poly-cotton, no elastane	190,720
Other cotton-Poly-Elastane mix	179,329
100% Polyester	167,938
80% polyester / up to 20% elastane or other fibers	156,548
100% Nylon / Polyamide (PA)	145,157
50% Nylon / Polyamide cotton mixes	133,766
100% Viscose / Tencel / Modal	122,375
65% Viscose / 35% Cotton	110,984
100% Cellulosic blend	99,593
100% Wool / Cashmere	88,202
100% Linen	65,421
100% Lycra	54,030
100% Polypropylene (PP)	42,639

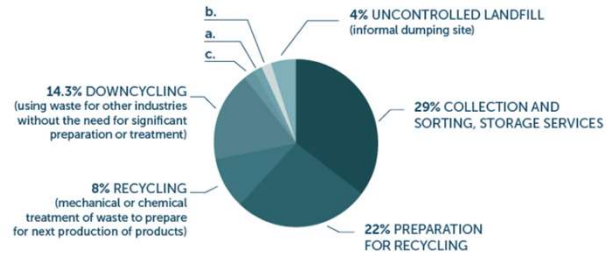
18%

Inhouse usage



82%

Passed over to 3rd party

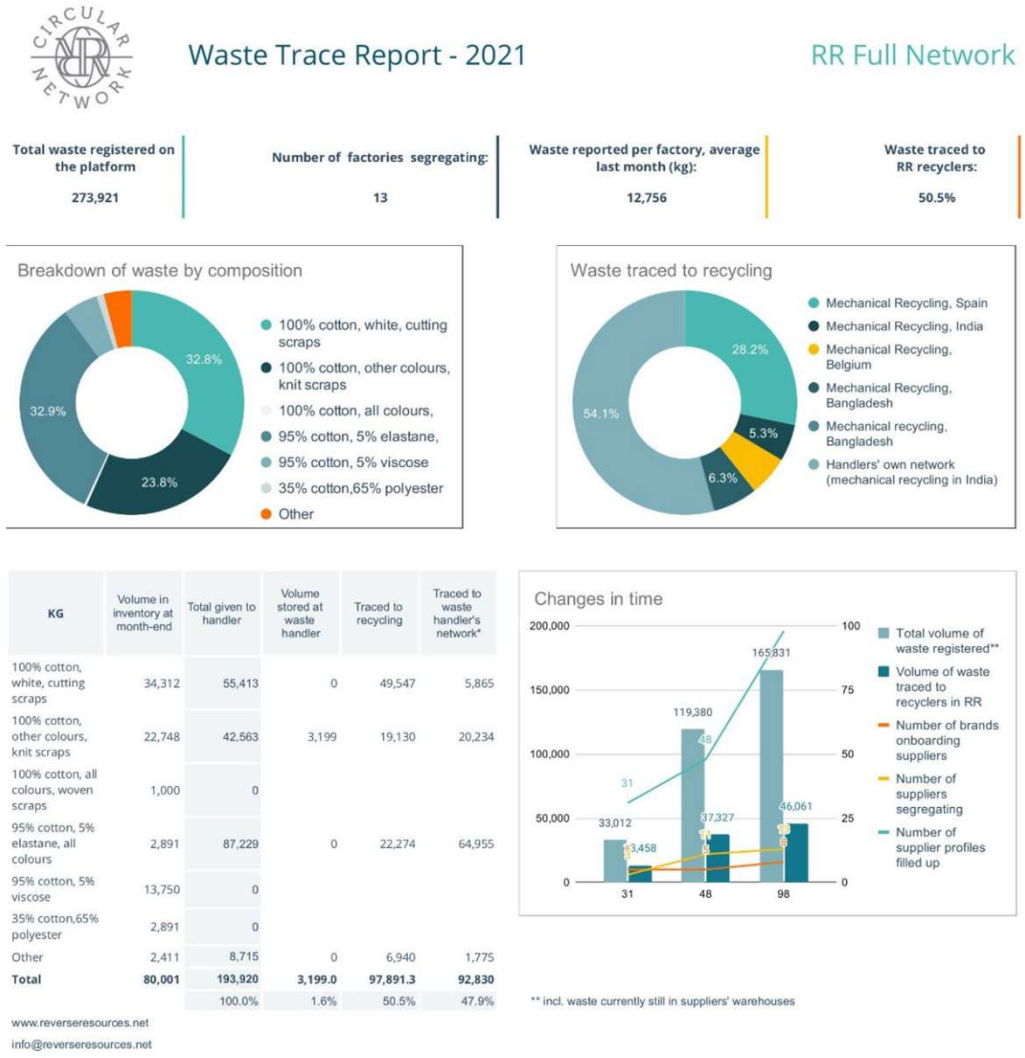


a. 1.4% INCINERATION WITHOUT ENERGY RECOVERY

b. 1.5% CONTROLLED LANDFILL (controlled leakage of chemicals to land / emissions to air)

c. 1.8% INCINERATION FOR ENERGY RECOVERY

Waste trace report:
tracking movement of waste from source to recycling



KG	Volume in inventory at month-end	Total given to handler	Volume stored at waste handler	Traced to recycling	Traced to waste handler's network*
100% cotton, white, cutting scraps	34,312	55,413	0	49,547	5,865
100% cotton, other colours, knit scraps	22,748	42,563	3,199	19,130	20,234
100% cotton, all colours, woven scraps	1,000	0			
95% cotton, 5% elastane, all colours	2,891	87,229	0	22,274	64,955
95% cotton, 5% viscose	13,750	0			
35% cotton,65% polyester	2,891	0			
Other	2,411	8,715	0	6,940	1,775
Total	**80,001**	**193,920**	**3,199.0**	**97,891.3**	**92,830**
		100.0%	1.6%	50.5%	47.9%

Steering of waste flows :

Factory status updates, live inventory overview, recyclers' orders overview, etc.

Waste traced from facilities: Brand x

February 2021

		Profile filled up	Shortlisted & onboarded	Total waste registered last month (kg)	Volume of waste traced out of factories (kg)	Volume in inventory at month-end
1	Meditex Ind Ltd	x				
2	ODESSA FASHION LTD	x				
3	SPACE SWEATER LTD	x				
4	TITAS SWEATER IND LTD	x				
5	SIRAJGONJ FASHIONS LTD	x				
6	Ratul Knitwears Ltd.	x	x	4,525	0	4,525
7	Ratul Fabrics Ltd.	x	x	3,385	0	3,385
8	ASROTEX LTD	x				
9	SAKURA DYEING AND GARMENTS LTD	x	x	6,748	4,546	2,202
10	SB Style	x	x	7,329	3,260	4,069
11	Impress	x	x	4,877	0	4,877
	Other facilities producing for the brand, but not listed among monitored facilities	15	4	14,351	11,235	9,412
	Total	**26**	**9**	**26,864**	**7,806**	**19,058**

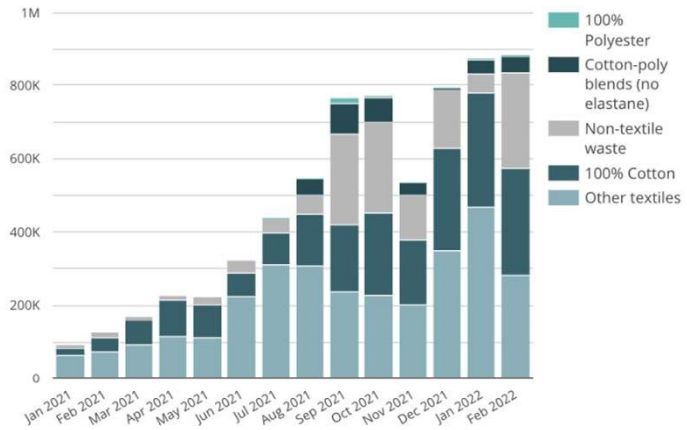
Example report from RR platform for brands:
monthly overview of waste volumes & disposal methods across all supplier network

From: Jan 2021 | To: Feb 2022 | Brand: All facilities | Country | Supplier

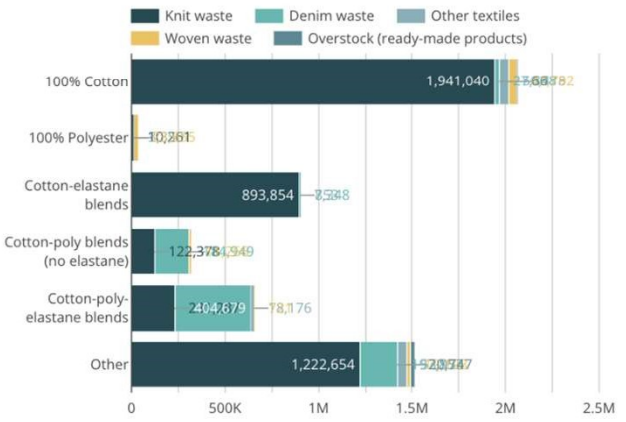
Waste volumes and compositions

Total waste registered on the platform during the period (kg)	Brand share of the waste	Share of textile waste from total waste volume	Volume in inventory by end of the report period (kg)	Number of suppliers*
6,780,621	No data	81%	1,287,240	106

Compositions of all waste registered on RR platform



Key compositions & materials types of textile waste

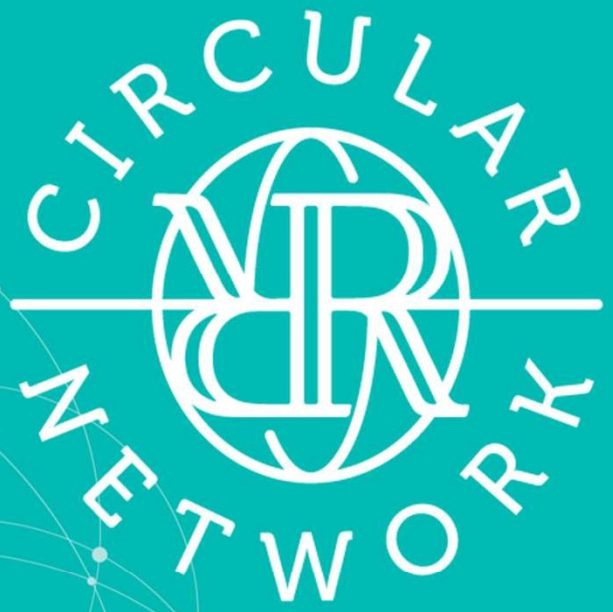


Waste composition ▲	Waste inventory at the beginning of the period (kg)	Inventory added during the period (kg)	Moved out of factories during the period (kg)	Inventory at the end of period (kg)	Share of textile waste
100% Acrylic (PMMA)	0	0	78	0	100%
100% Lycra / Elastane	0	0	2,520	0	100%
100% Nylon / Polyamide (PA)	0	533	895	533	100%
100% Polyester	0	29,337	7,929	29,337	100%

Reverse Resources

Your benefits

- ❑ Understanding of waste generation in your supply chain
- ❑ Visibility of waste movement - Traceability
- ❑ Part of the circularity story
- ❑ USP to showcase to brands
- ❑ Circularity report for environmental and HIGG audits
- ❑ Be counted as a sustainable organisation
- ❑ Buy back possibility



Let’s turn fashion circular together!

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