

Passen Technology Impact Report

December, 2018

- Passen is a digital measurement technology that captures and uses data to deliver great fit for consumers when buying clothes on-line. This data is also used to reduce retail returns while enhancing upstream processes for the textile industry including production efficiencies and environmental sustainability.

Know the customer better

- Detailed FIT information on target groups
- Correlation of body information to demographic target groups
- Drive sales and customer loyalty by improving fit for both on-line and brick & mortar clothing purchases

Improve product design

- Improve and update size tables
- Adapt fit philosophy
- Sizing tool
- Integration into CAD, 3D as sizes table or 3D avatar
- Compatibility to industry standards

Improve decision making

- Knowledge about size & fit market potential and identification of profitable new markets
- Understand target market measurement trends from Passen data

Gain a competitive advantage

- Advertising effect of size & fit projected to customer
- Increase ecommerce sales by addressing FIT challenge
- Decrease return costs including discounting by improving customer experience
- Increase and retain customer loyalty from improved FIT from ecommerce sales

Lower market risks & contribute to environmental sustainability

- Know the market potential of garment collections in advance
- International comparison of size & fit data
- Compare and validate supplier size accuracy

- Modify purchasing strategies to match market size and fit preferences
- Significant contribution to environmental sustainability

Approximate weight of goods - PARCL Education center; December 2018

MEN'S CLOTHES

Item Weight in grams Item Weight in grams:

Underpants 70 - 100 / Jacket 1000 - 1200 / Sports shirt, T-shirt 220 - 300 / Coat, duster 900 - 1500 /
 Underpants 70 - 100 / Jacket 1000 - 1200 / Sports shirt, T-shirt 220 - 300 / Coat, duster 900 - 1500 /
 Sports suit 1000 - 1300 / Winter jacket 1400 - 1800 / Pants 600 – 700 / Fur coat 3000 - 8000 / Jeans 650
 – 800 / Hat 60 - 150 / Shorts 250 - 350 / Scarf 90 - 250 / Underpants 70 - 100 / Jacket 1000 - 1200 /
 Sports shirt, T-shirt 220 – 300 / Coat, duster 900 - 1500

WOMEN'S CLOTHES

Item Weight in grams Item Weight in grams:

Underpants 15 - 30 / Shorts 150 – 250 / Bra 40 - 70 / Skirt 200 - 300 / Swimming suit 90 – 120 / Sweater
 300 - 400 / Tube top 70 - 85 / Hoodie 400 - 500 / T-shirt 100 - 140 / Jacket 230 - 400 / Shirt 100 – 250 /
 Coat 600 - 900 / Dress 120 - 350 / Wind-breaker 400 – 600 / Evening dress 120 – 500 / Autumn jacket
 600 - 800 / Wedding dress 800 - 2000 / Winter jacket 800 - 1000 / Business suit 800 - 950 / Fur coat 3000
 - 4000 / Sports suit 650 – 750 / Hat 60 – 120 / Pants 300 - 400 / Scarf 90 - 150 / Leggings 260 - 300 /
 Gloves 40 - 100

Landfill Impact

The data below are from 1960 to 2015, relating to the *total number of tons of textiles generated, recycled, composted, combusted with energy recovery and landfilled.*

1960-2015 Data on Textiles in MSW by Weight (in thousands of U.S. tons)

Management Pathway	1960	1970	1980	1990	2000	2005	2010	2014	2015
Generation	1,760	2,040	2,530	5,810	9,480	11,510	13,220	15,240	16,030
Recycled	50	60	160	660	1,320	1,830	2,050	2,260	2,450
Composted	-	-	-	-	-	-	-	-	-
Combustion with Energy Recovery	-	10	50	880	1,880	2,110	2,270	3,020	3,050
<u>Landfilled</u>	<u>1,710</u>	<u>1,970</u>	<u>2,320</u>	<u>4,270</u>	<u>6,280</u>	<u>7,570</u>	<u>8,900</u>	<u>9,960</u>	<u>10,530</u>

Financial Impact on reducing returns

Annual North American fashion sales		\$386B
Annual North American on-line sales (10%+)		\$38.6B
Annual volumes of returns resulting from poor fit: 35% +/-		\$12.9B

	<u>Reduction</u>	
Passen's impact on reducing returns:	5%	\$645M
(resulting from poor fit)	10%	\$1.29B
	20%	\$2.58B
	40%	\$5.16B

Sustainability Impact on reducing returns

North American textile going to landfill annually	25,500,000,00 lbs (12.75M tons)	(billion pounds)
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An average American throws away approximately 80 pounds of used clothing per person. .
On average, nationally, it costs cities \$45 per ton to dispose of old clothing as defined by Municipal Solid Waste (MSW)

	<u>Reduction</u>	
Passen's impact on landfill and sustainability contribution:	5%	325 M lbs
	10%	2.550 B lbs
	20%	5.1 B lbs
	40%	10.0 B lbs

Data Contribution Impact

Data will impact global production and logistics strategies including: Value?

1. Supporting Sustainability Development Goals
2. Assessing preferred materials
3. Circularity
4. Climate actions
5. Sustainability technology
6. Water Stewardship
7. Investor awareness