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A vision for the future using Product Lifecycle Management (PLM) as a platform for operational excellence and business transformation

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# Product Lifecycle Management (PLM) as a Platform for Business Change

Leveraging technology to meet industry challenges

*University of*  
**HUDDERSFIELD**  
Inspiring tomorrow's professionals



Business-friendly Solutions



## **Jo Conlon FHEA, MCMI, C.Text.ATI**

- Textile Technology graduate with 18 years experience in the clothing industry
- Technical and Sourcing Manager
- Joined UoH 2009, Fellow of the Higher Education Academy, a member of the Chartered Management Institute and an Associate of the Textile Industry



## **Lakshmi Narayanaswamy – Lead Consultant**

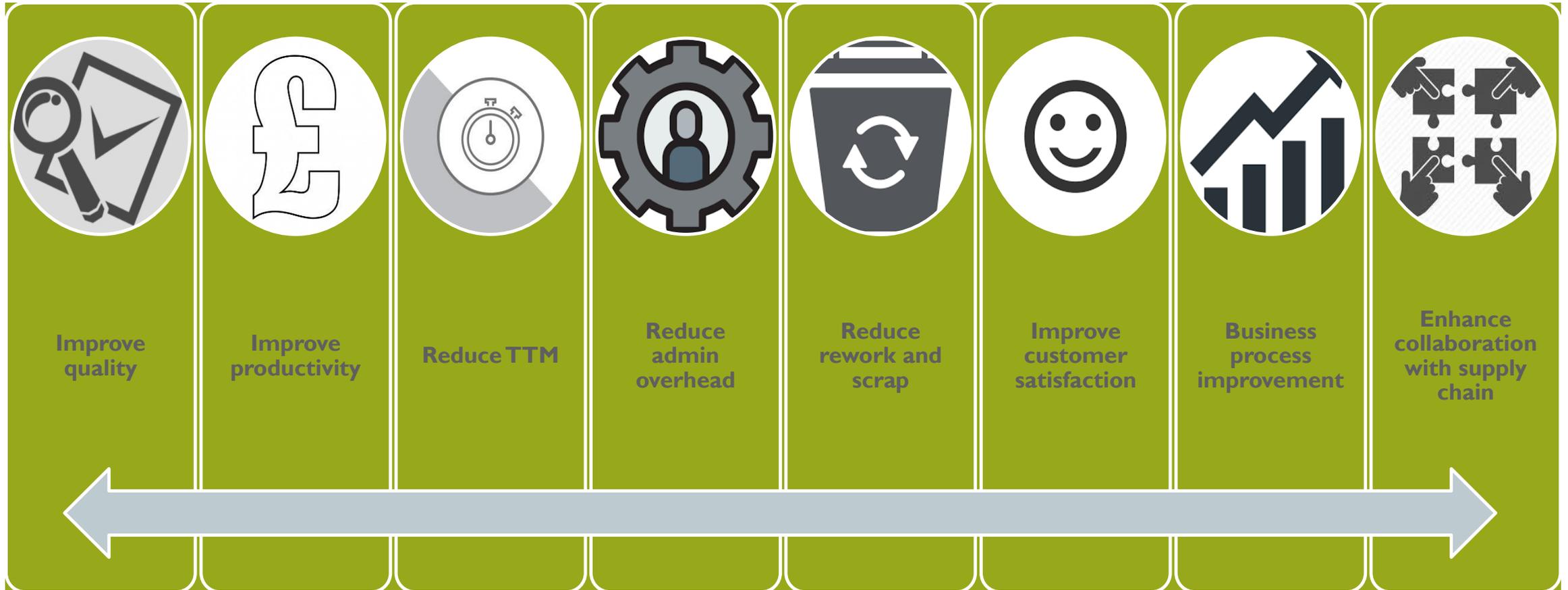
- An Engineering graduate (Textile technology) with 12 years of Experience. Played various roles in Apparel Industry including sourcing & vendor management
- Key PLM Engagements : George-Asda (U.K), Lacoste(France), LCWaikiki(Turkey)

- Future professionals as **change-agents**
- **A transformational mind-set** is required for strategic organizational efforts like PLM that are more complex than just a technology implementation
- **People**, product and processes





# PLM 1.0 Driving Operational Excellence



# PLM 2.0 LANDSCAPE

## Enablement

A strong PLM core is an enabling platform for change

## Differentiation

Emerging technologies and Solutions can provide data and improve decision making

## Transformation

PLM operates at cutting edge of information and technology, to transform enterprise's business model



# What's being done today?



## INNOVATION IN MATERIALS

Fly knit - produces 60% less waste than traditional cut-and-sew methods. Since 2012, the technology has reduced nearly 3.5M pounds of waste



## RECYCLE

Used Tee shirts to new jeans

Plastic Bottles to Performance Products



## RE WEAR & REUSE

Second hand clothes

Turn into Other Products, like industrial rag, insulation, running tracks etc.



## RENEWABLE ENERGY

Move towards using renewable energy sources



## REPAIR

Empowering customers by making quality products that can be repaired and encouraging the same

# Sustainable Apparel coalition



Generates standardized performance **scores**



**Measure** Environmental and Social impacts on Sustainability



**Online self-assessment** tool for Apparel and Footwear Industry



Gives an overview of the **sustainability performance of a product** and a company





## BRAND

- Allow Brands to benchmark their performance and discover where they stand compared to other Brands.
- Can share score with other SAC members, which can lead to sharing best practices and new partnerships



## FACILITY

- Benchmarking by facility type allows facility managers to compare their performance against their peers.
- Can identify areas for improvement and outline the current best practices in the field

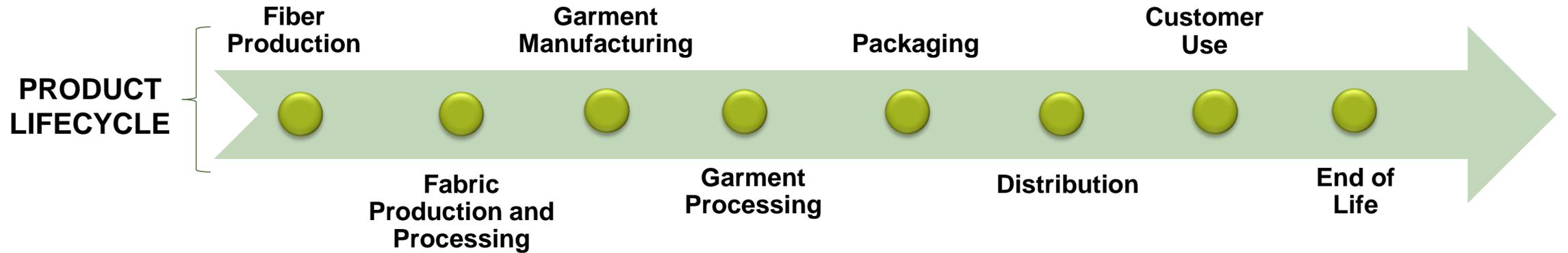


## PRODUCT

- Helps to measure environmental impact of the product at different stages of Product Life Cycle
- Engage designers and developers in making sustainable choices at the very earliest stage of prototype design



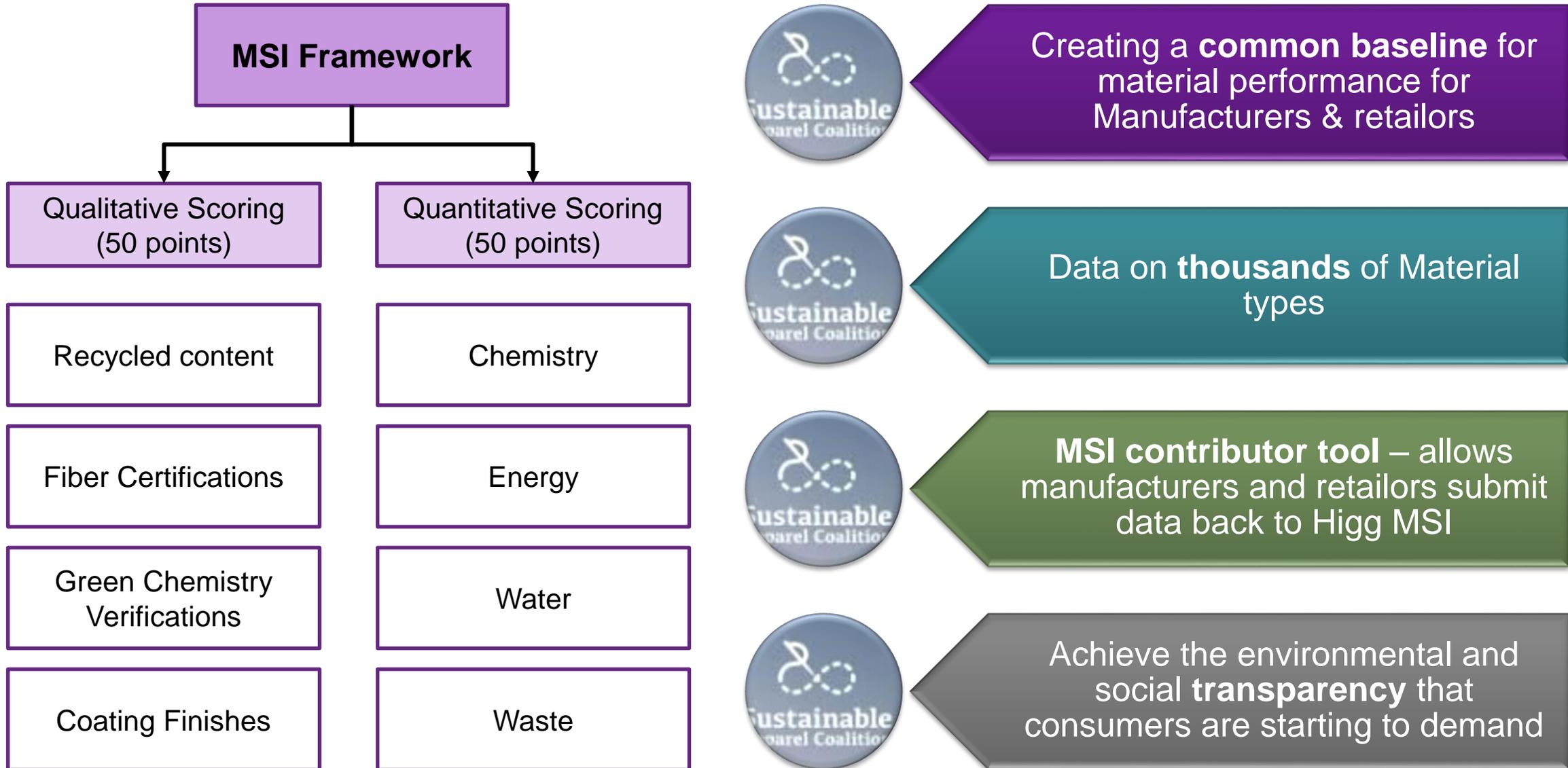
# Environmental Impacts at every stage product lifecycle



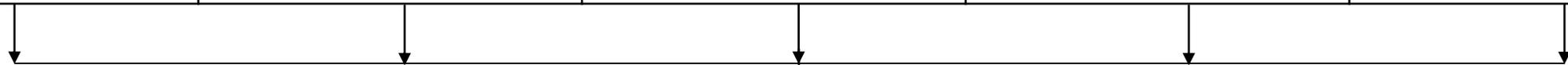
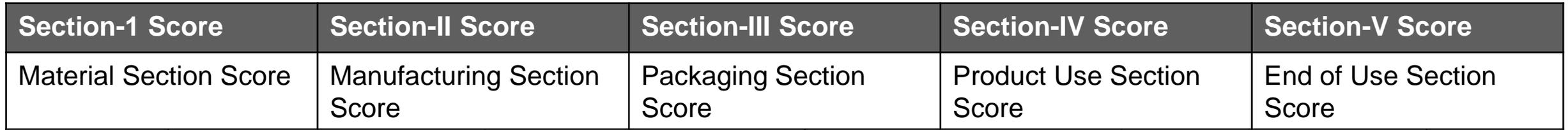
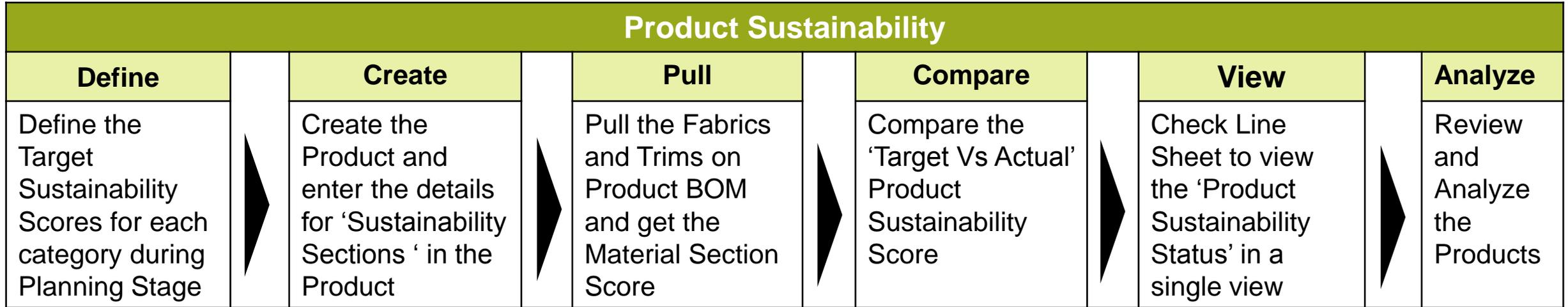
 Energy Used and Green Houses Gas Emissions	✓	✓	✓	✓	✓	✓	✓	✓
 Water Used	✓	✓		✓			✓	
 Chemicals Used	✓	✓		✓	✓		✓	
 Waste Generation	✓	✓	✓		✓		✓	✓

Lets set one common standard which can be used globally

# MSI (Material Sustainability Index) Framework



# Solution Approach



**Final Product Score**

# Screenshots – Fabrics & Bill of Materials

**Material Fabric:**

**Material:** Edit | View

Material Composition	Material Percent	Standard Material Name	Standard Material Score	Recycled Percentage	Recycled Percentage Value	Organic Percentage	Organic Percentage Value	Other Certifications	Other Certifications Value
Cotton	50	Cotton Fabric, Knit	26						
Linen	50	Linen Fabric	22						

**Material Sustainability Details:**

**Material**

Fabric Content Score	41	Coating and Laminate Applied Value	4
Coating and Laminate Applied	No	Dyeing Method Value	10
Dyeing Method	Not Dyed	Reduced Chemical Impact Value	9
Reduced Chemical Impact	Yes		
Material Score	64		

**BOM Details** Add New BOM

**Bill of Materials:** 001 : Wrapper Style Skirt BOM Update

**Header Attributes** Views: Sustainability View Pricing Date: 06/12/2017  Run

Placement	Mark Up	Material	Supplier	Material Status	Color	Size	Finish	BOM UOM	Price	Price OVR	Loss %	Consumption	Total	Weights %	Material Score
<b>Fabrics</b>															
Main Fabric	New	10853 Knit 50% Cotton, 50% Linen	A & E CONNOCK LTD.	In Development	Absinthe Green	26, 28, 30, 32, 34	Enzyme	sqyd	\$1.90	\$0.00	0.00	1.50	\$2.85	80	64
													<b>\$2.85</b>		
<b>Trims</b>															
Waist Band	New	10832 Button Metal 4 hole metal button	A & E CONNOCK LTD.	In Development	African Violet	12L	Metal	each	\$0.08	\$0.00	0.00	4.00	\$0.32	15	65
													<b>\$0.32</b>		
<b>Labels</b>															
Waist	New	10534 Hang Tag UPC Europe Paper	BARCODES WEST	Active	Red	1*2	Normal	each	\$0.05	\$0.00	0.00	1.00	\$0.05	1	48
													<b>\$0.05</b>		
<b>Packaging</b>															
	New	10836 Boxes Carton	AMERICAN & EFIRD	In Development		60*40	Normal	each	\$0.65	\$0.00	0.00	0.01	\$0.01	2	58
	New	10838 Poly bag Individual poly bag	BARCODES WEST	In Development		5*8	Normal	each	\$0.04	\$0.00	0.00	1.00	\$0.04	2	44

# Screenshots product score

**Apparel 2017 Holiday Womens > 10341 Printed Blouse > Details**

Summary **Details** Specifications Sourcing Product Planning Appro

**10341 Printed Blouse**



Style ID: 10341 Pr  
Season: Apparel.2  
Placeholder: Placeholder  
Source: 002: CAR  
Specification: 002: Prin  
Colorway: Angel

**General Attributes:**

**Sustainability - Material Section:**

**Sustainability - Manufacturing Section:**

Product  
Garment Finishing: Best in Class Garment Finish  
Garment Finishing List: High Efficiency Dye Treatment  
Garment Finishing Value: 30  
Marker Efficiency: 90  
Marker Efficiency Value: 40

**Sustainability - Packaging Section:**

Product  
Does the Product Use Packaging?:  
Product Packaging Used Value:  
If the product uses packaging, is your organization pursuing efforts and str  
If Yes, Please Specify:  
Sustainable Packaging Value

**Sustainability - Product Use Section:**

Product  
What is the level of care required for the garment? Low Impact Care  
Level of Care Required For the Garment Value: 40  
Does garment have low impact care label instructions? No  
Low Impact Care Label Instructions Value: 0

**Sustainability - End Use Section:**

Product  
Can the individual material types be accurately identified by end of use facilities or processe  
Material type be identified by end use process value  
Is this product made of a single material type or can it be easily separated into individual ma  
Product made of single material type or easily separated value  
Can these individual material types be recycled via existing infrastructure or processes?  
Recycling individual material types via existing processes value  
Can the materials be used in closed-loop recycling processes?  
Closed loop material recycling value

**Sustainability Group:**

Product  
Material Score: 2  
Manufacturing Score: 18  
Packaging Score: 0  
Product Use Score: 8  
End Use Score: 9  
Actual Sustainability Score: 35  
Target Sustainability Score: 50

**Apparel 2017 Holiday Womens > Development > Line Sheet**

Planning **Line Sheet** Line Boards Calendar Dashboards

**Apparel 2017 Holiday Womens : Line Sheet Viewer** Actions: Views: Sustainability View

Results 1-10 of 10 in 0.047 Seconds Hide Images

Filters Options Run Edit Line Sheet

Hide/Show columns Sort Options Expand Selected

	All			Style ID	Style Category	Material Section Score	Manufacturing Score	Packaging Score	Product Use Score	End Use Score	Actual Sustainability Score	Target Sustainability Score	Product Sustainability Status
		Actions		10341 Printed Blouse	Tops	18	18	10	20	15	81	85	<span style="background-color: yellow;"> </span>
		Actions		10342 Polo T-Shirt	Tops	16	15	9	14	15	69	50	<span style="background-color: green;"> </span>
		Actions		10343 Flower Print T-Shirt	Tops	0	18	10	10	15	53	80	<span style="background-color: red;"> </span>
		Actions		10344 Crew Neck Top	Tops	0	18	5	20	15	58	65	<span style="background-color: yellow;"> </span>
		Actions		10345 V Neck knitted top	Tops	0	19	10	20	15	64	90	<span style="background-color: red;"> </span>
		Actions		10346 Animal Print T-Shirt	Tops	0	19	9	18	15	61	80	<span style="background-color: red;"> </span>

Product Sustainability Status

## PLM

## SUSTAINABILITY SOLUTION

Stream-lined Processes

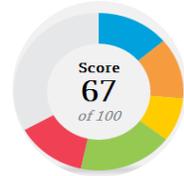
Speed-to-Market

Well Defined Roles & Responsibilities

Enhance Adoption Rate

Re-usability

Single-Version of Truth



### Plan Collection with Sustainability Target

- Set a direction for the designers to plan collection accordingly
- Can export the data in excel/pdf format



### Generate Reports

- Generate a consolidated report for each Season
- Can identify areas for improvement
- Can track how much % of Sustainability Target has been achieved



### Dashboards

- Can get a Snapshot of Sustainability score for each Product in a Season

# Thank you

Connect with us to understand how  
ITC Infotech can help your business.

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