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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
Introductions and Agenda

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
What is product lifecycle management (PLM)?

PLM 1.0
- Operational Excellence

PLM 2.0
- Digital Industry

PLM 1.0 Driving Operational Excellence

- Improve quality
- Improve productivity
- Reduce TTM
- Reduce admin overhead
- Reduce rework and scrap
- Improve customer satisfaction
- Business process improvement
- Enhance collaboration with supply chain
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
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
Higg index

- 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.
- 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.
- 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

PRODUCT LIFECYCLE

Fiber Production | Garment Manufacturing | Packaging | Customer Use

Fabric Production and Processing | Garment Processing | Distribution | End of Life

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

MSI Framework

Qualitative Scoring (50 points)
- Recycled content
- Fiber Certifications
- Green Chemistry Verifications
- Coating Finishes

Quantitative Scoring (50 points)
- Chemistry
- Energy
- Water
- Waste

Creating a common baseline for material performance for Manufacturers & retailers

Data on thousands of Material types

MSI contributor tool – allows manufacturers and retailers submit data back to Higg MSI

Achieve the environmental and social transparency that consumers are starting to demand
Solution Approach

Product Sustainability

<table>
<thead>
<tr>
<th>Define</th>
<th>Create</th>
<th>Pull</th>
<th>Compare</th>
<th>View</th>
<th>Analyze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define the Target Sustainability Scores for each category during Planning Stage</td>
<td>Create the Product and enter the details for ‘Sustainability Sections’ in the Product</td>
<td>Pull the Fabrics and Trims on Product BOM and get the Material Section Score</td>
<td>Compare the ‘Target Vs Actual’ Product Sustainability Score</td>
<td>Check Line Sheet to view the ‘Product Sustainability Status’ in a single view</td>
<td>Review and Analyze the Products</td>
</tr>
</tbody>
</table>

Section-1 Score | Section-II Score | Section-III Score | Section-IV Score | Section-V Score |
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Section Score</td>
<td>Manufacturing Section Score</td>
<td>Packaging Section Score</td>
<td>Product Use Section Score</td>
<td>End of Use Section Score</td>
</tr>
</tbody>
</table>

Final Product Score
## Screenshots – Fabrics & Bill of Materials

### Material Fabric:

<table>
<thead>
<tr>
<th>Material Composition</th>
<th>Material Percent</th>
<th>Standard Material Name</th>
<th>Standard Material Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>50</td>
<td>Cotton Fabric, Knit</td>
<td>26</td>
</tr>
<tr>
<td>Linen</td>
<td>50</td>
<td>Linen Fabric</td>
<td>22</td>
</tr>
</tbody>
</table>

### Material Sustainability Details:

- **Material Content Score**: 41
- **Coating and Laminate Applied**: No
- **Dyeing Method**: Not Dyed
- **Reduced Chemical Impact**: Yes
- **Material Score**: 64

### Bill of Materials

#### Placement

<table>
<thead>
<tr>
<th>Mark Up</th>
<th>Material</th>
<th>Supplier</th>
<th>Material Status</th>
<th>Color</th>
<th>Size</th>
<th>Finish</th>
<th>BOM UOM</th>
<th>Price</th>
<th>Price OVR</th>
<th>Loss %</th>
<th>Consumption</th>
<th>Total</th>
<th>Weights %</th>
<th>Material Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>10853 Knit 50% Cotton, 50% Linen</td>
<td>A &amp; E CONNOCK LTD.</td>
<td>In Development</td>
<td>Anthea Green</td>
<td>26, 28, 30, 32, 34</td>
<td>Enzyme</td>
<td>sqyd</td>
<td>$1.90</td>
<td>$0.00</td>
<td>0.00</td>
<td>1.50</td>
<td>$2.85</td>
<td>80</td>
<td>64</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>$2.85</td>
<td></td>
<td></td>
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<tr>
<td>New</td>
<td>10832 Button Metal 4 hole metal button</td>
<td>A &amp; E CONNOCK LTD.</td>
<td>In Development</td>
<td>African Violet</td>
<td>12L</td>
<td>Metal</td>
<td>each</td>
<td>$0.08</td>
<td>$0.00</td>
<td>0.00</td>
<td>4.00</td>
<td>$0.32</td>
<td>15</td>
<td>65</td>
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<td></td>
<td></td>
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<td>$0.32</td>
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<tr>
<td>New</td>
<td>10534 Hang Tag UPC Europe Paper</td>
<td>BARCODES WEST</td>
<td>Active</td>
<td>Red</td>
<td>12</td>
<td>Normal</td>
<td>each</td>
<td>$0.05</td>
<td>$0.00</td>
<td>0.00</td>
<td>1.00</td>
<td>$0.05</td>
<td>1</td>
<td>48</td>
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<td></td>
<td></td>
<td>$0.05</td>
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</tr>
</tbody>
</table>

### Packaging

- New 10836 Boxes Carton: AMERICAN & EFIRD, In Development, 60*40 Normal each, $0.65 $0.00 0.00 0.01 0.01 2 59
- New 10838 Poly bag Individual poly bag: BARCODES WEST, In Development, 518 Normal each, $0.04 $0.00 0.00 0.04 0.04 2 44
Screenshots product score
**Impact / Benefits**

**PLM**

- Stream-lined Processes
- Speed-to-Market
- Well Defined Roles & Responsibilities
- Re-usability
- Single-Version of Truth

**SUSTAINABILITY SOLUTION**

- 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

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

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