From Sketch to Shelf: How Technology Enables Sustainable Fashion

1. Design

"The clothing industry is ranked the **4th highest** for its negative impact on the environment and climate change, and the **3rd highest** for water and land use."
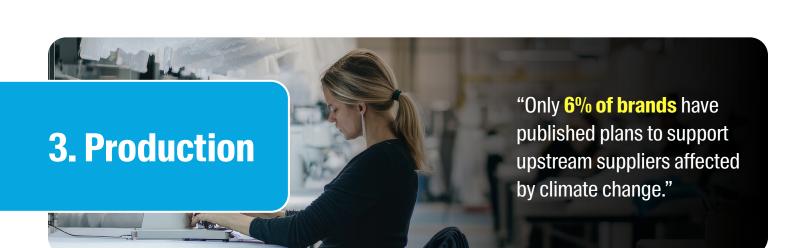
Product Lifecycle Management (PLM)

» Reduce physical samples with digital sampling & 3D prototyping

» Enable sustainable design by taking a design-for-circularity approach

» Promote responsible design choices by building a sustainable material library

2. Sourcing

"Up to **80%** of a product's environmental impact is determined at the design phase — mostly through materials and dyes."

PLM + Enterprise Resource Planning (ERP)

» Partner with ethical suppliers using a preferred supplier database

» Validate material source with end-to-end traceability

» Reduce emissions with optimized, sustainable transportation planning

3. Production

"Only **6% of brands** have published plans to support upstream suppliers affected by climate change."

ERP + Shop Floor Control (SFC)

» Reduce energy usage with labor and machine-level efficiency tracking

» Minimize waste and rework with real-time quality control and alerts

» Prevent overproduction with right-sized batches and accurate WIP monitoring

4. Distribution

"The textile industry today accounts for up to **10% of global CO_2e emissions**."

ERP + Transport Management System (TMS)

» Lower emissions with optimized routes and carrier selection

» Prevent over/understocking with real-time inventory visibility

» Maximize shipping efficiency through load optimization and consolidation

"Returns and overstock are a **growing environmental cost** in eCommerce, prompting a push for smarter inventory management and route optimization."

Move Your Sustainability Goals Forward with Aptean's Industry-Specific Solutions

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