ARTICLE

AI: REVOLUTIONIZING SUSTAINABILITY IN FASHION

Artificial intelligence (AI) has emerged as a transformative force in almost every sector, and the fashion industry is no exception. Although AI's energy consumption raises concerns, its role in helping fashion companies advance and innovate on their sustainability goals outweighs these impacts. From market trend analysis and material use to supply chain transparency, AI has emerged as a powerful ally in helping fashion companies **minimize their footprint** and **accelerate realization of sustainability goals**.

But why is AI such a game changer for sustainability? Data is the lifeblood of today's fashion industry. Fashion companies rely on big data for trend analysis, process optimization, supply chain management, and consumer insights. **AI algorithms can analyze these vast quantities of data** at unprecedented speed, enabling companies to extract valuable insights that are crucial for advancing sustainability initiatives.

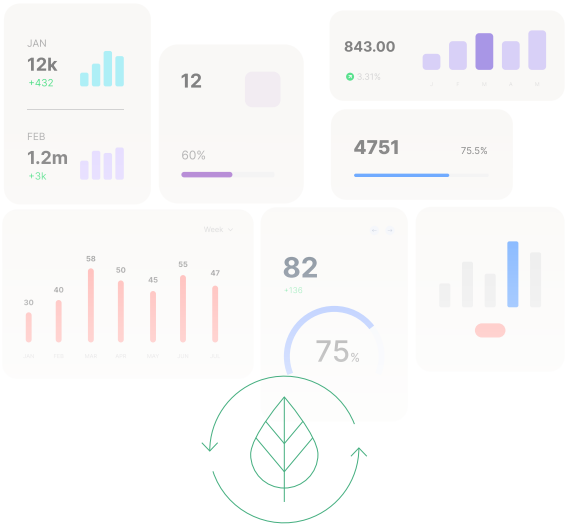
⟶ Read more

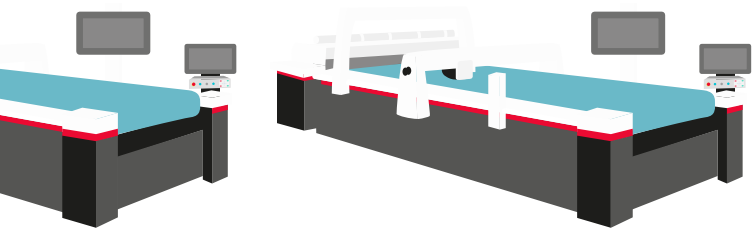
Lectra

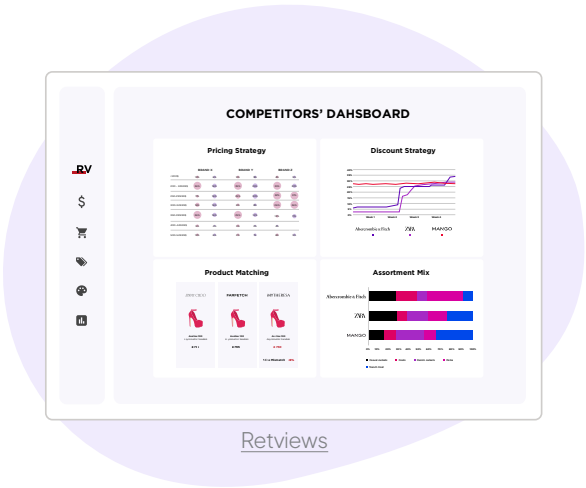
Pioneering new solutions for a more sustainable future

Lectra has been ahead of the curve in harnessing AI's potential to revolutionize the fashion industry, especially in its approach to sustainability. **Since 2007, Lectra has heavily invested in Industry 4.0 technologies, including AI, to help companies reduce their environmental impact while increasing operational efficiency.** With over 8,000 connected pieces of equipment globally, Lectra captures new data at the source and extracts meaningful insights from that data.

Lectra's dedication to developing and helping fashion companies leverage the power of AI continues with the creation of fashion-specific AI-powered solutions. These solutions are revolutionizing how fashion brands understand market dynamics, minimize material waste and comply with the latest sustainability regulations.







Retviews

Retviews

The key to curbing overproduction

Overproduction remains a critical challenge in the fashion industry, with estimates indicating that **between 10% and 40% of clothing produced each year goes unsold**. In 2023 alone, the industry generated an estimated 2.5 to 5 billion items of excess stock, primarily due to a forecast-based business models. **To combat overproduction, brands must accurately determine what to produce, in what quantities, and at what costs.**

Retviews, Lectra's competitive intelligence platform, harnesses the power of AI to provide real-time monitoring and analysis of retail market data and the competitive landscape. AI's capabilities in analyzing image data are particularly transformative, as it can process vast quantities of images with remarkable speed and accuracy as well as ensure consistency in image categorization and labeling.

By identifying market trends and consumer preferences through AI-driven analysis, companies can optimize their production strategies and align their offerings with actual demand. This real-time insight into competitor strategies and market dynamics empowers brands to make informed decisions, ultimately reducing unsold inventory and fostering a more competitive edge in the fashion market.

Valia Fashion

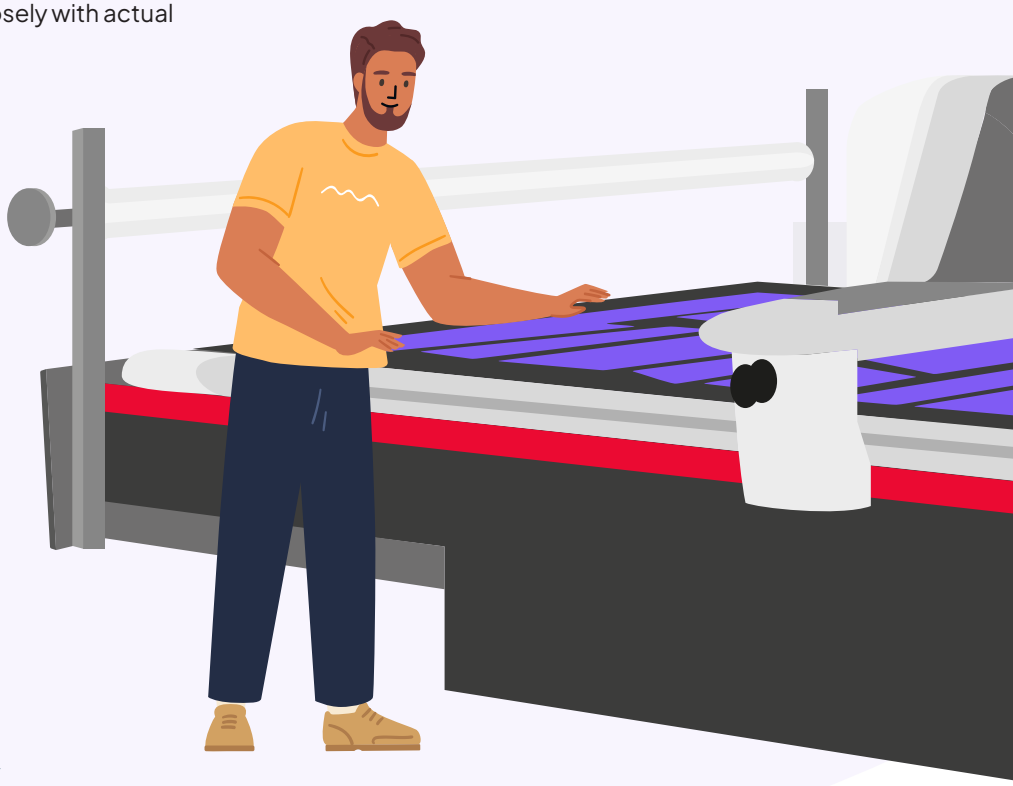
An innovative approach to material waste reduction

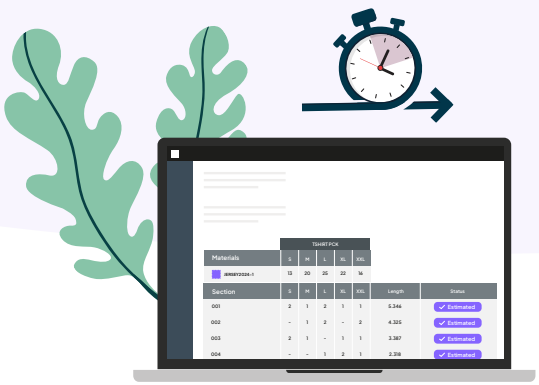
In addition to the material waste associated with unsold products, garment production itself contributes significantly to the waste problem, with **manufacturers often ordering 3–10% more material than necessary**. Valia Fashion addresses this issue by leveraging artificial intelligence and advanced algorithms to help brands make informed fabric purchasing decisions, thereby minimizing waste while ensuring cost-effectiveness.

Valia Fashion employs sophisticated AI algorithms to analyze fabric characteristics and simulate consumption and costs accurately. By refining material estimates based on historical data, Valia Fashion enhances the precision of its calculations. Using realistic cutting room scenarios facilitates purchasing decisions that align closely with actual production needs.

During production, Valia Fashion's automated nesting capabilities maximize material use by generating optimized nesting plans that consider various fabric constraints and production variables. Alongside the generated nesting plan, Valia Fashion also displays the material efficiency for that order. The operator can then decide to relaunch the nesting if the material efficiency level is not high enough.

> Manufacturers often ordering 3–10% more material than necessary





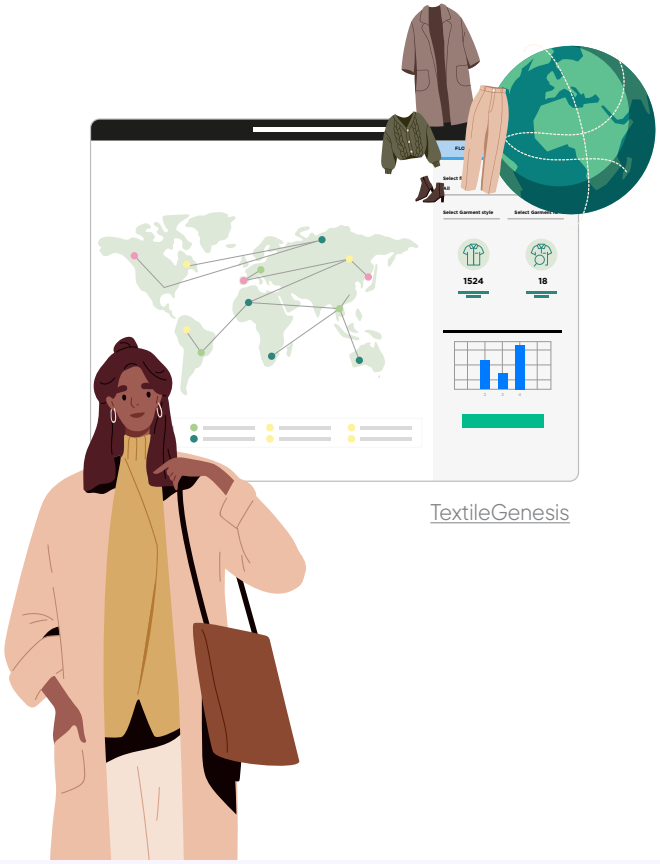
Valia Fashion Manufacturing

TextileGenesis

Bridging the traceability gap

As sustainability regulations tighten and consumers increasingly demand concrete proof of a company's sustainability commitments, supply chain traceability has become indispensable for fashion brands. The complexity of the fashion supply chain, often involving numerous tiers and a diversity of materials, presents significant challenges in reaching the required level of transparency. **TextileGenesis is a pioneering traceability platform that ensures a reliable, secure, and digital mapping of a textile throughout the supply chain, from fiber to retail.**

TextileGenesis verifies the authenticity and sustainability of materials using AI-driven tokenization. Each token, which represents a physical material in the supply chain, acts as a digital certificate, containing important information about the material's origin and journey. As the fiber moves through the supply chain—from producers to mills, dyers, manufacturers, and retailers—the tokens mirror these transactions in real time, ensuring every stage is accurately documented.



TextileGenesis

As fashion companies face an increasingly complex web of sustainability regulations, **Lectra is committed to continuing to provide innovative, AI-powered solutions** that enable brands to meet and exceed these evolving standards.

A prime example of this commitment is Lectra's strategic partnership with AQC, a pioneering French company specializing in AI-driven textile defect recognition. This collaboration is just one of many initiatives that reinforce Lectra's mission to help fashion companies minimize waste, optimize resource use, and create more sustainable supply chains.

Moving forward, Lectra will continue leveraging artificial intelligence, automation, and data-driven insights to help brands achieve sustainability with greater precision and efficiency.