

Augmented Reality Meets Sustainability: A New Era for Fashion Innovation

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Abstract

Digital transformation in fashion is leading retailers to use AR to boost customer interest and ease the shopping process. Brands like Nike and Forever 21 are mixing real and digital worlds through metaverse stores, offering fun, interactive shopping experiences. With digital elements becoming part of fashion, the industry is evolving. This change aims to lower return rates and make personal style more unique. We're moving towards a future where tech and imagination merge in fashion. It's about the clothes and the experience. Together, our ideas and technology create a limitless fashion world.

Keywords: Fashion, Virtual try-ons, Digital Worlds, Augmented Reality.

Introduction:

The fashion industry stands at a critical juncture, endeavoring to find harmony between style and sustainability. With an increasing environmental consciousness among consumers, there's a growing demand for eco-friendly options within the fashion realm. One technology, in particular, is emerging as a transformative force with the potential to shape a sustainable future for fashion: virtual try-ons.

Virtual try-ons have ushered in a revolution in online shopping by allowing consumers to virtually try on clothing and accessories before making a purchase. This innovative technology employs augmented reality (AR) to overlay digital garments onto the user's body, offering a realistic preview of how the item would look and fit.



Key ways in which AR can contribute to sustainability in fashion:

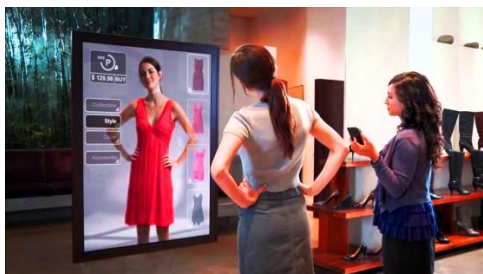
Sustainable fashion through augmented reality (AR) offers exciting opportunities to reshape how we engage with clothing and the fashion industry. Here are the key points of sustainable fashion through augmented reality (AR):

Lifecycle Visibility of Clothing: As the fashion industry moves toward a more sustainable future, Life Cycle Assessment (LCA) is proving to be the gold standard for measuring, managing, and communicating environmental impact. Life Cycle Assessment (LCA) is a rigorous scientific methodology used to evaluate the environmental impact of a product across its entire lifecycle from raw material extraction to production, distribution, use, and end-of-life disposal.

Virtual try-ons effectively address this issue by providing consumers with a more accurate understanding of how clothes will fit and look, resulting in fewer returns and a diminished environmental footprint.

A study conducted by 3D Look, a virtual try-on technology provider, revealed that implementing virtual try-ons can slash return rates by up to 80%. This reduction translates into a significant decrease in the environmental impact of returns, conserving resources, reducing waste, and minimizing carbon emissions.

Virtual Try-Ons to Reduce Returns: Because AR enables customers to virtually try on clothing prior to a purchase, this can give them a greater sense of confidence that the clothes suit their tastes and fits as intended. This can reduce return rates as customers make smarter decisions. Ultimately, this helps stores reduce return-related costs.



Brand Storytelling Through AR: Most great products have a history. A perfect place to grab the customers' attention and engage them with some interesting facts or trivia about the brand history is, naturally, the product packaging. However, today, brands no longer need to rely on physical media only. Augmented reality allows creating whole new three-dimensional spaces that can be as bright and animated as you want them to be. What is great about augmented reality is that it only needs a small marker, like a QR code, to work. You only point your smartphone at the marker – and a whole new universe pops up from it. By leveraging AR technology, brands can enhance engagement, build emotional connections, and stand out in a crowded marketplace.

Collaborations Between Tech and Fashion: In fashion retail, augmented reality is primarily applied in the form of Virtual Try-On (VTO). With virtual try-on, retail brands let customers virtually wear or



sample clothes, accessories, and makeup, among many other types of personal effects.

With VTO, the AR technology superimposes the virtual representation of a product over the customer's image so they can visualize how the items would fit or look on them. As popularized by social media platforms, they can also be deployed as filters acting as virtual clothing.

Examples of AR in fashion

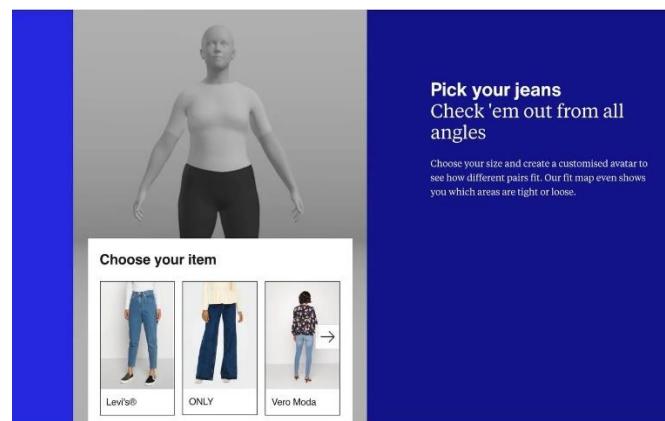
1. H&M: Get dressed in the metaverse: H&M introduced its inaugural virtual clothing line in January 2022 by organizing a competition that invited participants to submit creative and imaginative names for the featured looks.



2. Burberry: Elevating the brand experience with AR: Burberry is among the leading retailers in the

fashion industry bullish on augmented reality. They've integrated AR in various online channels and continue to experiment with it in their campaigns globally.

3. Zalando: Try On: Zalando, the leading online fashion retailer in Germany, introduced a new virtual dressing application called "Try On" on Snapchat. By utilizing AR technology through Snapchat's Lenses, users can virtually try on selected products from Zalando's own brands, including Even & Odd, Zign, and Your Turn.



4. Lily: Virtual fitting room in non-store locations: For a pop-up campaign, Lily, a womenswear brand in China, installed two smart mirrors powered by VTO at a Shanghai metro station. With these interactive screens, passing commuters could virtually try on the brand's clothes in real time.

5. Adidas: Highlighting sustainability with AR: Adidas is also one of the top fashion brands enthusiastic about using and experimenting with VTO. For example, in 2019, Adidas introduced a footwear try-on through their iOS app (and being available on Android later on), which let customers virtually wear some of their most iconic models and a select collection of running shoes.

Conclusion: The transformation of the fashion industry towards sustainability is not a one-size-fits-all solution. It requires collaboration between brands, consumers, and policymakers to create a sustainable fashion ecosystem. Virtual try-ons are a powerful tool that can drive this transformation, but their



success lies in their integration with broader sustainability efforts.

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