How AI is reshaping fashion, design and the creative process

Francesco Barbato · Full Stack · Cybersecurity · AI

Published 13 March 2026 · 13 min read

ABSTRACT

AI didn't just speed up moodboards: it restructured the whole creative pipeline. From generative silhouettes to trend forecasting, what actually changed, what it means for designers and brands, and a clear-eyed look at an industry navigating a shift it never fully planned for.

Keywords: AI · Fashion · Design · Generative AI · Luxury · Trend forecasting · Sustainability

In 2021, a fashion designer's ideation process looked roughly like this: weeks of archive research, physical moodboards pinned to studio walls, hand sketches iterated through sample rounds, and months before a collection reached a runway. Today, studios of every size, from independent designers to global houses, can generate hundreds of visual concepts in an afternoon, simulate fabric behaviour without cutting a thread and spot microtrends before they go mainstream.

But the story of AI and fashion is not just a “creativity unlocked” graph. It is a more complicated, more interesting and in some ways more unsettling story, about what happens when one of the most personal creative arenas gets a powerful new instrument before the industry has developed the norms to use it wisely.

This article does two things. First, an honest account of what AI has actually changed across the fashion and design workflow. Second, a grounded look at how designers and brands are navigating the shift, with documented examples rather than speculation.

1 What actually changed

The conversation often starts with image generators like Midjourney or DALL·E. That's not wrong, but it undersells the shift. AI didn't just add a faster sketchpad: it changed the *nature* of several distinct activities across the design pipeline, from the first idea to the last unit shipped.

1.1 1. Sketching vs. directing

Before AI tooling, a designer's main early-stage activity was **drawing**: turning a mental aesthetic into form, one sketch at a time, which required a particular manual fluency. With generative AI, the

main early activity is shifting toward **directing**: composing a prompt precise enough for the model to produce useful visual output, then critically evaluating what comes back.

It is a genuinely different skill, rewarding clarity of aesthetic vision, precision of language and critical visual judgement over manual draftsmanship. It is not a lesser skill. It is arguably a harder one, because imprecise creative thinking is exposed immediately: if you can't say what you want, the model shows you.

1.2 2. The collapse of the blank canvas problem

One of the most consistent gains in studios is in **early ideation and moodboarding**. Assembling a visual direction for a collection (colours, textures, cultural references, silhouette language) used to take days of archive diving and image curation. AI tools can now produce dozens of coherent directions in minutes, each explorable and discardable at near-zero cost.

That is both valuable and risky. Fast ideation can hide the cultural research and historical knowledge behind truly original work, and designers who have only ever moodboarded with AI sometimes lack the depth of reference that gives a collection meaning.

1.3 3. The death of the physical sample, almost

3D simulation tools such as CLO and Browzwear can simulate how a garment behaves, how a bias-cut silk drapes, how a structured shoulder sits, how a pleated skirt moves, with increasing physical accuracy, and AI layers are being added to predict fabric behaviour from material properties. The renders are increasingly hard to tell from studio photography of real garments.

Every physical sample removed from development means a direct saving and less textile waste, which matters in an industry whose share of global greenhouse gas emissions is commonly put somewhere between 2% and 10%, depending on the method and the boundaries used.

1.4 4. What AI has not changed

It is equally important to name what AI has *not* changed, because the enthusiasm often glosses over it:

- **Cultural authorship**: AI can generate aesthetically coherent garments. It cannot generate garments with genuine cultural meaning, biographical weight or a point of view about the world.
- **Fit and construction judgement**: predicting how a garment fits a specific body in motion, and understanding why a technique produces a result, still takes deep human expertise.
- **Narrative and collection coherence**: deciding which pieces belong together, what story a collection tells and how it relates to the cultural moment remains a human judgement call.
- **Client and community relationships**: in luxury and bespoke contexts the relationship between designer and client is as much the product as the garment.

THE CORE TENSION

AI tools increase the speed at which design concepts are produced. They do not proportionally increase the depth at which those concepts are *understood, contextualised or owned*. This gap is where most AI-related creative problems in fashion currently live.

2 Adoption: what the numbers can and can't tell you

Market-size forecasts and adoption percentages for "AI in fashion" are published constantly, and they vary widely with how the market is defined, so treat any single figure with caution. What is consistent is the pattern: many brands are "experimenting" in fairly superficial ways, such as campaign imagery, social content and automated size recommendations, while the deeper integration, into the design process and the supply chain, is more selective and more significant. The numbers tell an adoption story, not a quality story.

3 Generative design: what designers are actually doing

The most visible AI integration in fashion has come through image generation, but how serious designers use it is more nuanced than the headlines.

TOMMY HILFIGER: THE DIGITAL DEVELOPMENT PIPELINE

In 2019 Tommy Hilfiger (part of PVH Corp.) committed to moving all of its apparel design into 3D digital tools, with a target of 2022, presenting collections in photorealistic 3D before any physical garment is made. It is 3D design rather than generative AI in the strict sense, but it shows the same logic: for a brand with hundreds of products per season, moving the design-to-sample workflow into virtual environments is a structural change in how a product is born, and in how much physical waste is produced on the way.

IRIS VAN HERPEN: A CAUTIOUS, CRAFT-FIRST APPROACH

Iris van Herpen, whose couture has long worked at the border between science and art, is a revealing case. Her studio has experimented with AI imagery (a campaign for her FW23 collection was presented as her debut in the technology), but in interviews she has been explicit that she doesn't want to be "the AI's assistant". The machine provides visual stimulus; the sensibility and the technical knowledge that turn it into construction remain the designer's. That is the model of AI as raw material, not endpoint.

THE FABRICANT: FASHION THAT NEVER GETS MADE

The Fabricant is an Amsterdam digital fashion house whose garments exist only as digital files, never manufactured or worn on a physical body, animated with physics simulations for realistic fabric movement. In 2019 it sold a digital dress, *Iridescence*, for $9,500, one of the first digital fashion pieces ever auctioned. What looked like a curiosity then has become a business category, with several luxury brands developing digital-only lines alongside physical ones.

4 Trend forecasting: from intuition to intelligence

For decades trend forecasting was a craft blending cultural analysis, anthropological observation and cultivated instinct. Agencies employed coolhunters who travelled the world and distilled observations into seasonal reports that the industry bought at considerable expense.

AI hasn't eliminated that profession, but it has changed the epistemic basis on which it works. Machine learning models trained on social media imagery, search behaviour, sales velocity and visual patterns can detect emerging aesthetic signals weeks or months before they surface in mainstream culture.

HEURITECH: READING THE VISUAL WEB AT SCALE

Heuritech, a Paris-based AI company, analyses large volumes of fashion images from social media, identifying attributes such as silhouettes, colours, patterns and textures and tracking how they evolve over time and across regions. Fashion and sportswear brands use these insights for production planning: how many units of a style to make, when to introduce colours, which markets are most receptive. It is trend forecasting turned into quantitative supply chain intelligence, in an industry that used to run almost entirely on experience and instinct.

WGSN: AN AI LAYER ON TOP OF HUMAN ANALYSIS

WGSN, one of the best-known trend forecasting agencies, has added machine learning to its methodology, processing data from runway imagery to retail sell-through and social engagement and surfacing signals for human analysts to interpret. The positioning is an amplification layer rather than a replacement: the forecasts that reach clients still have human editorial judgement at their centre, but the raw material for that judgement is far richer.

THE FORECASTING SHIFT

Moving from intuition-based to data-augmented forecasting doesn't make trends more predictable: cultural emergence is still fundamentally non-linear. What it does is reduce the cost of being wrong, because brands can notice sooner that a trend isn't moving as forecast and adjust production before the excess inventory exists.

5 Personalisation and fit: the body problem

One of fashion's oldest problems is the gap between standardised sizing and the infinite diversity of human bodies. Standard sizes were designed around an average that statistically describes almost no one, and they have governed clothing production for over a century because manufacturing at scale required standardisation. AI is starting to offer a structural way beyond that constraint.

> **ZALANDO: PREDICTING FIT BEFORE THE PURCHASE**
>
> Zalando, one of Europe's largest online fashion platforms, uses machine learning to combine customer data, purchase and return history and product attributes to recommend sizes and anticipate fit problems. The commercial logic is clear: returns cost the industry billions and carry a significant environmental footprint. The deeper ambition is more interesting: a system that, over time, builds a precise picture of each customer's body and preferences, approaching the tailoring experience historically available only to the wealthy.

6 The AI toolkit: what the industry is actually using

The landscape moves quickly, but a few platforms have established themselves as real workflow tools rather than demonstrations.

Table 1

Tool	What it is used for
Midjourney	Generative images for ideation and moodboarding, valued for aesthetic quality and responsiveness to nuanced style prompts
Adobe Firefly / Photoshop	Generative fill, texture exploration and pattern development inside existing design workflows
CLO and Browzwear	3D garment simulation with physics-based fabric behaviour, widely adopted for virtual sampling
Heuritech	Visual trend intelligence: analysis of fashion imagery at scale to identify emerging micro-trends across markets
Stable Diffusion	Open-source generation, used by technical teams that fine-tune models on their own design archives for brand-consistent output
Lectra and similar	Pattern design, grading and fit optimisation in technical production development

7 The new risk landscape for brands and designers

AI adoption has introduced risks that most of the industry's governance frameworks haven't caught up with. They deserve to be named clearly.

7.1 Aesthetic homogenisation

When many designers use the same generative tools, trained on the same scraped visual data, the outputs tend to converge on the same palettes, the same silhouette gestures, the same surface textures. The risk is not that fashion becomes ugly. The risk is that it becomes **efficiently, convincingly, beautifully the same.**

7.2 Intellectual property uncertainty

If a system is trained on the archives of living designers without their consent and produces outputs that carry the imprint of their aesthetic decisions, who owns the result? The question isn't theoretical: litigation over training data is already under way in adjacent creative fields, and fashion is unlikely to be far behind.

7.3 Skill atrophy

Design teams that lean heavily on AI for ideation risk losing the depth of cultural research, historical knowledge and manual craft that give fashion work meaning and longevity. It doesn't show up in a quarterly productivity dashboard. It shows up in collections that feel technically impressive but say nothing.

> **THE AUTHENTICITY QUESTION**
>
> Fashion has always been a site of human negotiation: between tradition and rupture, identity and aspiration, the personal and the political. A garment is a proposition about what it means to be human at a particular moment. When AI generates that proposition, something in the chain of meaning breaks, and audiences notice: recent AI-generated advertising from well-known luxury houses has met open public backlash. It is not yet clear how that chain gets repaired.

8 Supply chain and sustainability: the less glamorous revolution

Outside the creative studio, AI is driving changes that are less visible but arguably more consequential for the industry's long-term viability. The impact figures in this area come mostly from vendors and early adopters and vary a lot, so the table describes the mechanisms, not guaranteed results.

Table 2

Application	How AI helps	Expected impact
Demand forecasting	Models trained on sales, social signals, weather and economic indicators predict demand per SKU more precisely	Less overproduction
3D virtual sampling	Physics-based simulation replaces physical prototypes for most development rounds	Less sample waste and shorter development timelines
Inventory optimisation	Real-time sales velocity drives production and distribution adjustments dynamically	Lower end-of-season markdowns and unsold stock
Material sourcing	Tools match design specifications to supplier databases, flagging sustainable alternatives	Faster sustainable sourcing at lower procurement cost

Returns reduction	Fit prediction and size recommendation reduce mismatched purchases	Fewer returns on platforms with mature fit tools

INDITEX (ZARA): DATA-DRIVEN INVENTORY AT GLOBAL SCALE

Inditex is known for a supply chain built around fast, data-driven decisions, and it has been adding machine learning on top, analysing sales at store level to adjust production and distribution in near real time. A collar detail catching on in one city, a colour shift in another market: the system can react faster than any human planning process. The same capability that makes fast fashion faster can also enable smarter production volumes and less waste. The technology is agnostic; its sustainability impact depends entirely on how brands choose to use it.

9 What comes next: agents and autonomous design

The frontier is moving toward AI systems that don't just assist designers but carry out multi-step creative and production tasks on their own: analysing trend data, generating proposals, simulating fit and presenting options for human approval at checkpoints instead of at every step.

For most fashion companies today these systems aren't ready for unsupervised work on core creative tasks. But the direction is clear: it is plausible that within a few years a meaningful share of routine design development will be run by AI agents with human oversight at key decision points rather than at every output.

WHAT THIS MEANS FOR DESIGNERS

The governance, creative review processes and cultural standards that studios build now (how AI output is evaluated, what human authorship requires, what gets credited and how) are what will decide whether AI-augmented fashion stays genuinely creative or becomes a very fast machine for producing the aesthetically adequate.

KEY TAKEAWAY

AI did not replace fashion design. It replaced the parts of design that didn't require genuine creative thinking, and made the parts that do more exposed, more important and more differentiating. The designers and brands that will navigate this best invest in the irreducibly human skills (cultural depth, aesthetic judgement, narrative intelligence) while using the tools to work at a pace and scale that wasn't possible before.

10 Conclusion

The shift AI has brought to fashion is real, substantial and still accelerating. Ignoring it is not a viable strategy for any studio or brand at scale. Neither is adopting it without creative and ethical structure. The middle path, deliberate adoption with clear human ownership of creative decisions, honest evaluation of what is gained and risked, and real investment in the craft that gives fashion meaning, is harder than either extreme. It is also the only one that captures the upside without piling up the creative debt that unstructured AI use creates.

If you take one thing away: the question isn't whether your studio or your suppliers are using AI. They almost certainly are. The question is whether the humans involved still genuinely own what those tools produce, and whether the work still means something.

This article reflects the state of AI adoption in fashion and design as of early 2026. The landscape moves quickly; tools and case details should be re-evaluated as the field develops.

HOW TO CITE THIS ARTICLE

Francesco Barbato (2026). How AI is reshaping fashion, design and the creative process. localhost:3000.

Online version: http://localhost:3000/en/blog/ai-reshaping-fashion-design-creative-process