



## Shaping luxury's future with AI

AI for prestige, personalization and precision

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The Deloitte AI Institute™ helps organizations connect the different dimensions of a robust, highly dynamic and rapidly evolving AI ecosystem. The AI Institute leads conversations on applied AI innovation across industries, with cutting-edge insights, to promote human-machine collaboration in the “Age of With.”

The Deloitte AI Institute aims to promote a dialogue and development of artificial intelligence, stimulate innovation, and examine challenges to AI implementation and ways to address them. The AI Institute collaborates with an ecosystem comprising academic research groups, startups, entrepreneurs, innovators, mature AI product leaders, and AI visionaries to explore key areas of artificial intelligence including risks, policies, ethics, future of work and talent, and applied AI use cases. Combined with Deloitte's deep knowledge and experience in artificial intelligence applications, the Institute helps make sense of this complex ecosystem, and as a result, deliver impactful perspectives to help organizations succeed by making informed AI decisions.

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## Key takeaways

- AI adoption in luxury goods must be **deeply aligned with core brand values and strategic objectives** to preserve prestige, exclusivity and authenticity.
- Luxury brands should use AI to **enhance personalization and operational precision**—while balancing innovation with the craftsmanship and service excellence that define the sector.
- Leaders must **proactively address the challenges of AI integration**, including ethical use, data governance and regulatory compliance to mitigate risk.
- Investing in **employee upskilling** and a culture of digital transformation is essential for effective AI implementation and sustainable growth.

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The luxury goods sector has reached a pivotal crossroads, where **heritage and innovation are converging at an unprecedented pace.**

# Redefining luxury goods in the age of innovation

**The rise of artificial intelligence (AI) and, in particular, Generative AI (GenAI) and agentic AI, is reshaping nearly every facet of the luxury goods value chain,** from product creation and personalized consumer experiences to supply chain optimization and after-sales service.

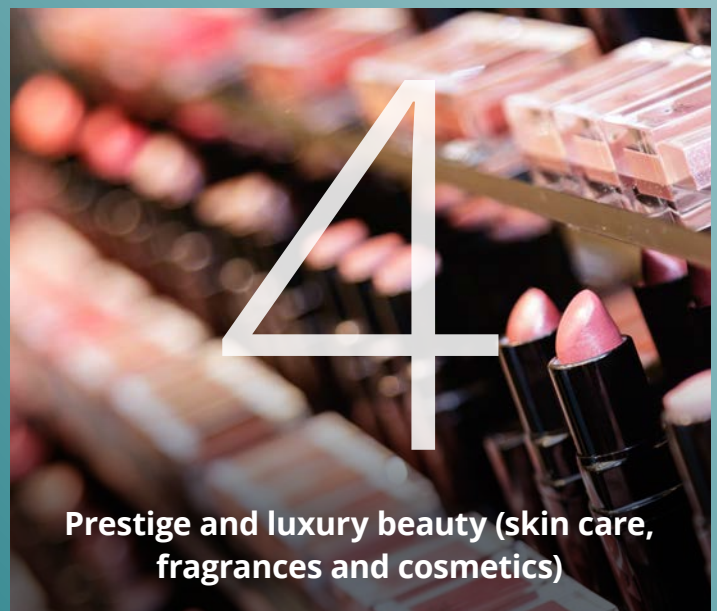
This technological shift brings forth both opportunities and challenges that may require luxury brands to adapt their strategies, embrace new tools, and reimagine how they deliver value while preserving the essence of luxury.

AI technology is a catalyst for change that is creating a new standard for the future of luxury, enabling brands to create truly remarkable experiences. New tools can ignite creativity and facilitate craftsmanship while enhancing, rather than replacing, the human experience, making each purchasing journey a magical moment that perpetuates brand allure. At Deloitte, we're invested in understanding the transformative potential of AI and how it can be used as an accelerator to help drive innovation and brand differentiation during a period of turbulence for the luxury goods sector. In this context, the brands shaping the luxury of tomorrow will likely be those that adopt today's emerging technologies to successfully navigate this ever-evolving landscape.



The definition of "luxury goods" used in this paper comes from Deloitte's Global Powers of Luxury Goods Report,<sup>1</sup> and is **focused on luxury items for personal use**. Brands within the luxury goods sector are influenced by factors such as premium pricing, the quality and rarity of materials and craftsmanship, product authenticity and exclusivity, and exceptional service.

Our analysis is inclusive of the following four categories:



# The luxury goods sector under pressure

The basis for the challenges presented in this paper is primarily derived from research conducted by Deloitte on the social, economic and technological forces shaping the future of fashion and luxury goods.<sup>2</sup> By first **examining these challenges**, we intend to build a common understanding of the uncertainties faced by the luxury goods sector that can be mitigated by new and emerging technologies.

## 1 | Personalization for a fragmented consumer base

### CONTEXT

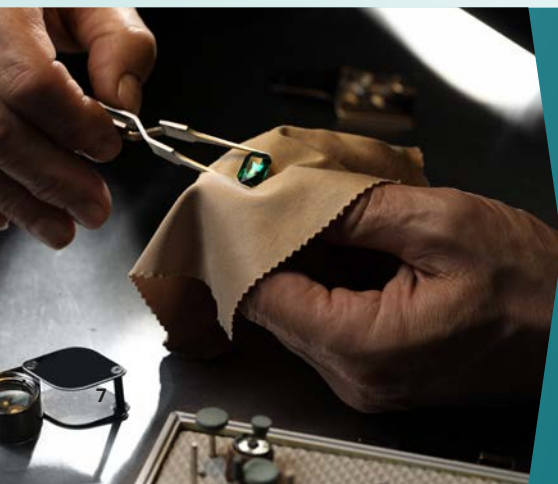
Luxury shoppers expect personalized, curated experiences across fragmented segments and fluid online/offline journeys – challenging traditional service models to provide bespoke experiences through a broader range of platforms.

### IMPLICATIONS

As luxury brands pursue efficiency and personalization through digital channels and GenAI, they must ensure these advances do not compromise the prestige and quality standards that define true luxury.



## 2 | Short relevance window with trend fluidity



### CONTEXT

The luxury goods sector's focus on craftsmanship and artistic heritage demands meticulous processes, which can limit agility in responding to fast-moving trends without risking brand identity and exclusivity. Balancing relevance with authenticity is especially complex when engaging first-time buyers who may resist traditional product categories.

### IMPLICATIONS

Luxury brands need to navigate the tension between relevance and creative identity, since missteps can alienate loyal customers or miss chances to engage new audiences. Every collaboration, partnership or product launch should be carefully assessed to reinforce core brand values.

### 3 | Up-and-coming markets, and economic volatility

#### CONTEXT

Emerging markets like India and Southeast Asia are reshaping global luxury with unique cultural preferences, while brands face the challenge of upholding quality and exclusivity amid complex sales channels and inflation driven cost pressures.

#### IMPLICATIONS

Luxury brands must adapt to economic shifts and regional trends while managing complex global supply chains and monitoring evolving tariffs to maintain supply integrity. GenAI can support this by providing real time visibility and predictive models to anticipate disruptions.



### 4 | The pursuit of longevity through new networks of influence



#### CONTEXT

Luxury brands face the challenge of staying relevant across generations, balancing influencer driven engagement with preserving core values and long term loyalty. Rapid micro trends driven by digital influencers demand quick adaptation, risking timeless appeal for short lived popularity.

#### IMPLICATIONS

Traditional top down forecasting is less effective as viral social media can instantly shift demand, requiring luxury brands to rapidly adapt operations. Preserving exclusivity for products where scarcity drives value remains essential for maintaining loyal clientele.

### 5 | AI disrupting the business of luxury

#### CONTEXT

AI driven technological change challenges luxury brands, as gaps in data quality and accessibility hinder effective adoption and value creation. Tailored solutions are needed, especially for brands relying on artisanal processes, where integrating new technology can disrupt demand planning and fulfillment.

#### IMPLICATIONS

AI can transform nearly every aspect of the luxury goods value chain, but success depends on more than just technology it requires building in house expertise and clear decision making structures to overcome data and production limitations. Developing these capabilities is key to fully realizing GenAI s benefits.



# The emerging role of AI in the luxury goods consumer journey

Although the luxury goods sector is facing headwinds, these **challenges bring forth potential opportunities** to adopt AI solutions that can help overcome obstacles created by shifting consumer preferences, fast-moving trends, and global supply chain complexities.

We're starting to see new technologies, particularly GenAI, move from pilot to scale, with real-world applications that are sparking excitement, making an impact, and highlighting how AI can help luxury brands elevate their businesses while connecting with consumers in new and meaningful ways.

## AI-powered inventory optimization: Driving sales and consumer satisfaction

A leading fashion and lifestyle brand has made significant strides by introducing AI-powered inventory technology in 25% of its direct-to-consumer channels.<sup>3</sup> This new system uses advanced data analytics and machine learning to predict which sizes and products will likely be in high demand, so stores can keep bestsellers in stock and avoid running out. By ensuring consumers can always find what they want, the brand aims to drive more sales, increase conversion rates, and deliver a better shopping experience.<sup>4</sup>

This pilot is part of a larger push to strengthen the brand's direct-to-consumer strategy. **By accurately matching inventory to consumer demand, the brand can cut down on both stockouts and overages, making its supply chain more efficient and responsive.**

Deloitte took a similar approach to help a premium athleticwear company optimize its inventory by developing machine learning models that cluster stores, improve forecasting accuracy, and enhance line breadth and depth. This enabled the company to send the right product mix to the right location in a new way that deepens the connection between its strategy and its consumers.

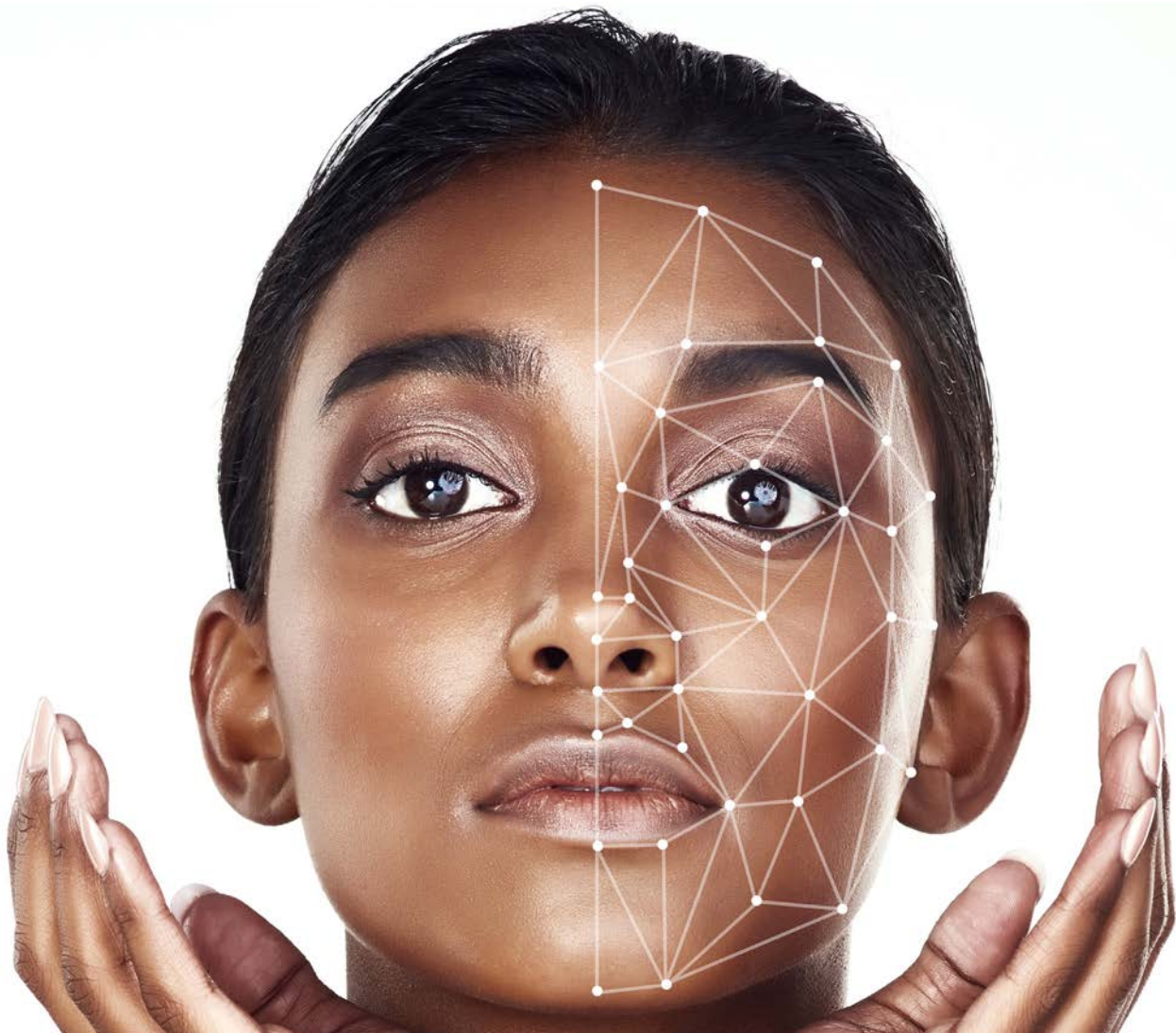


**AI-enabled personalization:  
Elevating in-store and digital consumer interactions**

An example of a brand leveraging AI to improve in-store experiences is **SmartSKN**, which has introduced AI-driven “skincare robots” into physical retail locations, personalizing the shopping experience in a different way. SmartSKN's robots conduct an AI-enabled analysis of a customer's skin and develop a custom product on the spot—all within three minutes. The AI is trained on over 156,000 data points from dermatologists, so the robots are able to detect a range of skin conditions to support the formula designs.<sup>5</sup> This level of hyperindividualization means that the consumer can have a new product created for them every time their skin care needs change, encouraging a life-long relationship with the brand.

Online, there are no sales advisers or robots to select the best items for a consumer, products are instead shared through content curated by algorithms built on personal preferences. AI tools and agents are driving personalization for consumers in the digital space.

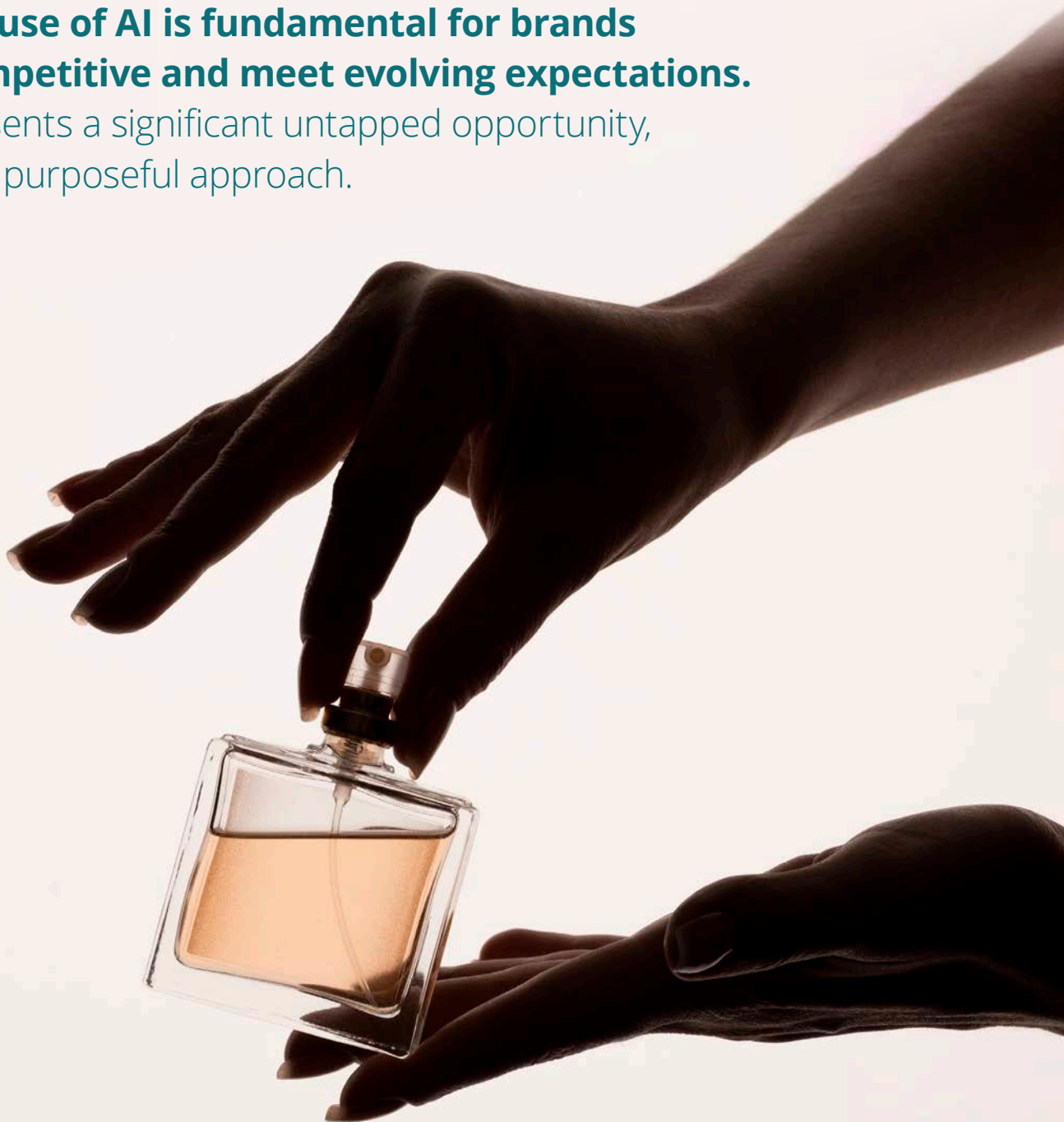
**Versace** is one such brand currently using AI to innovate its digital strategy. The brand partnered with influencer marketing agency Billion Dollar Boy to co-develop AI-generated content with popular creators to promote products. Compared to its typical social media content, Versace's AI-generated social media videos had an increase in play rate of 1,460 percent.<sup>6</sup> This dramatic rise in viewership underscores the way in which AI-driven content strategies are transforming digital engagement and offering brands novel opportunities to amplify reach in an increasingly competitive online environment.



# The art of the possible is now the art of the inevitable

**Today, the use of AI is fundamental for brands to stay competitive and meet evolving expectations.**

While it presents a significant untapped opportunity, it requires a purposeful approach.



**Prestige-driven brands could face reputational consequences if they embrace AI capabilities that don't meet the standards consumers have come to expect from their organizations.** The following value drivers can guide the decision-making process for implementing new AI technologies and can help maintain alignment to a brand's overall strategy and positive returns.

## Value drivers for luxury goods organizations



### GROWTH

AI has the potential to drive growth for luxury goods brands by enabling them to **expand their presence in hard to reach markets** and adapt to evolving consumer landscapes.



### PROFITABILITY

AI's ability to **optimize operations and reduce costs, while simultaneously enhancing product quality**, could lead to increased profitability and improved margins for luxury brands.



### CONSUMER ENGAGEMENT

Delivering **personalized and immersive experiences** through the use of AI could significantly enhance the number of touchpoints consumers have with luxury brands, driving higher engagement and satisfaction across digital and physical channels.



### STRENGTHENED WORKFORCE

AI can augment the capabilities of a brand's workforce and **amplify employees' productivity and creativity**, while preserving the craftsmanship and expertise that most luxury goods are known for.



### The transformative potential of AI

The luxury goods value chain transforms vision into reality, bringing exceptional products and experiences to life. At every stage, from design to after-sales service, there are opportunities for AI to play a vital role in delivering the quality and personalization that luxury goods consumers expect.

As luxury goods brands navigate the transformative potential of AI, focus is shifting from experimental use cases to scalable, fully integrated solutions that build the foundation for new processes. **What was once considered the art of the possible has evolved into the art of the inevitable, where select AI use cases are now virtually indispensable for luxury goods brands working to preserve their competitiveness, relevance and service excellence in a rapidly evolving global market.**



**AI adoption across the luxury goods value chain** should follow a structured path, from foundational imperatives to forward-looking innovation. This journey could unfold in three clear tiers:



#### Inevitable

In our experience, use cases in this category are **no longer optional**. Having demonstrated clear commercial and operational impact across the luxury goods sector, these use cases represent the new baseline. They are table stakes for maintaining consumer loyalty, operational precision and market credibility.



#### Expanding

These use cases offer **measured, yet meaningful, improvements in value** beyond the inevitable ones. They may not be universally adopted yet, but they are gaining traction across leading luxury brands. These use cases could enhance brands' core capabilities including improving decision making, personalization, or merchandising with measurable return on investment (ROI).



#### Aspirational

This category represents **the horizon defining use cases and initiatives** that are experimental, boundary pushing applications of AI that could fundamentally reshape the luxury experience for consumers. While these visionary use cases could offer high strategic differentiation, they also require advanced technical ecosystems, a risk tolerant culture, and a long term innovation mindset.

To move from experimentation to scale, brands should identify synergistic use cases and develop a strategy for clustered implementation rather than deploying AI initiatives in silos. By creating a strategy around complementary use cases, brands can reshape processes across their organizations and focus investment on internal data and technology systems that support the scaling of these integrated AI solutions.

## 1 | AI VALUE CHAIN

### Production creation and craftsmanship



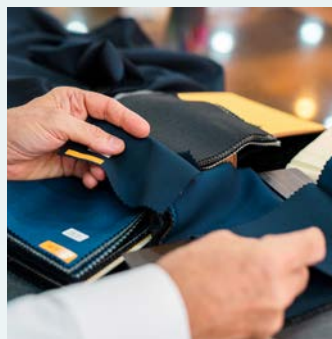
#### Creative conceptualizing and brand vision

Envisioning and conceptualizing, often rooted in heritage, art and culture



#### Product design and development

Designing with a focus on quality and distinctiveness, aligned to brand vision, with minimal emphasis on speed to market



#### Material sourcing

Sourcing the finest materials, prioritizing integrity over cost



#### Manufacturing and craftsmanship

Crafting products through expert manual techniques, emphasizing precision and detail over scale, with most items produced in limited quantities

## AI USE CASE ADOPTION



### Inevitable

- Trend forecasting
- Predictive forecasting and planning
- Product creation/design prototyping
- Sourcing and supplier negotiations
- Transportation and logistics



### Expanding

- Color and material innovation
- Co-creation model (with consumer)
- Fit and wear testing (AI-driven simulation)
- Quality control of manufacturing
- AI meets mechanics for manufacturing



### Aspirational

- Heritage preservation
- Ephemeral design engine
- AI-powered fit personalization

2

AI VALUE CHAIN

Brand experience and consumer engagement



Marketing and branding

Curating aspirational campaigns that tell compelling stories, establish influence, and foster emotional connections



Distribution and retail

Selling products through exclusive environments—such as appointment-only boutiques and flagship stores—while adapting to the growing importance of digital shopping



After-sales service

Maintaining loyalty through personalized, one-on-one relationships and ongoing care and services

AI USE CASE ADOPTION



Inevitable

- Hyper-personalization
- Virtual assistant
- Clienteling and customer relationship management optimization
- Transaction security
- Inventory optimization



Expanding

- Elevated digital experiences
- Counterfeit detection/AI authentication
- Ad spend optimization and matchmaking
- Sentient storefronts/emotional environments
- Reverse logistics management



Aspirational

- In-store humanoid assistants
- Immersive virtual worlds
- Digital luxury companions

3

AI VALUE CHAIN

Cross-organizational solutions



Accounting

Creating processes to maintain vendor integrity, optimize tax planning, and deliver financial accountability



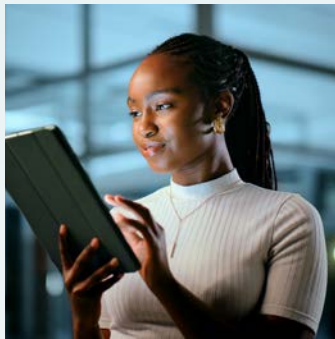
Human resources

Recruiting the best and most innovative candidates, automating onboarding, and offering accessible training opportunities



Legal

Ensuring regulatory compliance, data privacy and adherence to robust governance guardrails



Information technology

Providing the latest and most appropriate technology to boost employee productivity and consumer engagement, while advancing cybersecurity and model management

AI USE CASE ADOPTION



Inevitable

- Regulatory compliance
- Cybersecurity threat detection
- AI-powered recruiting
- AI-driven fraud detection and prevention
- AI-enabled data privacy compliance



Expanding

- Brand protection
- Optimized tax planning
- Intellectual property management
- Secure AI model management



Aspirational

- Financial risk modeling
- End-of-life management
- Virtual enterprise assistants

# Enterprise-level considerations to get started on the AI journey

To set the stage for a successful AI implementation, there are **specific enterprise-level considerations** for luxury organizations once they are ready to embrace change.

Ensuring alignment across enterprise strategy, operations and workforce; measuring technical readiness and addressing gaps; and preparing for regulatory, compliance, cybersecurity and risk management are necessary first steps to **enable a smooth transition into value realization** for the use cases outlined above.

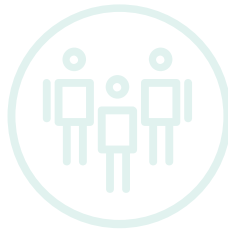


## 1 Strategic alignment

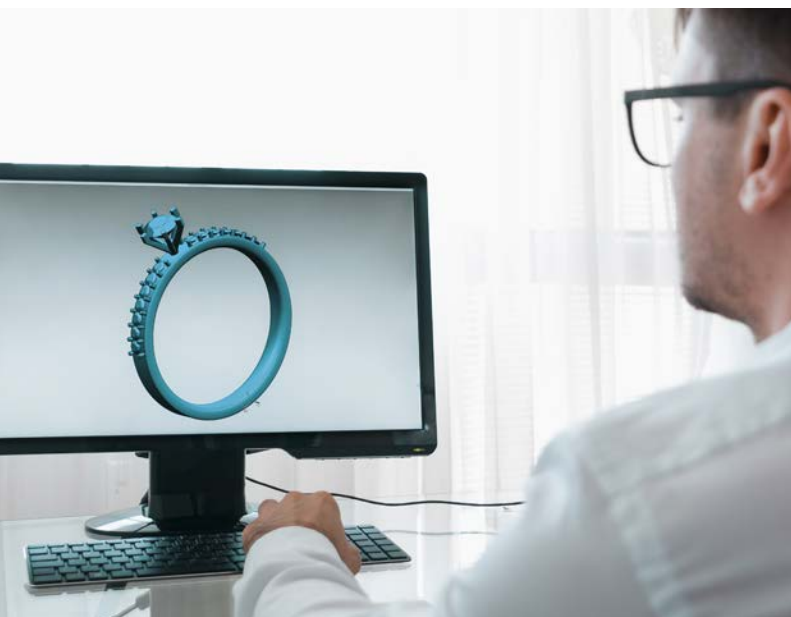
- **Business objectives alignment:** Ensure AI initiatives align with the overall business strategy and objectives.
- **Leadership and sponsorship:** Secure executive sponsorship and leadership commitment to drive AI initiatives and foster a culture of innovation.
- **Budgeting and ROI:** Develop a clear budget for AI initiatives and establish clear and quantifiable metrics to measure return on investment (ROI).



## 2 Operational and workforce alignment



- **Work reimagination:** Focus on reimagining work with an AI-first mindset rather than mere automation of existing work and processes that were designed for manual execution. Luxury brands are built on exceptional human skills that enhance craftsmanship and personalized client services. AI tools should complement and amplify these strengths rather than replace them.
- **Talent and skills:** Assess the current talent pool, identify gaps, and invest in training, hiring and/or third-party collaboration for key AI roles. The goal of organizations should be to create a workforce where human expertise works in concert with digital capabilities to deliver exceptional results.
- **Cultural shift and change management:** Promote a culture that embraces AI and digital transformation by encouraging employees to accept new technologies as beneficial tools for enabling craft and client service excellence, addressing resistance effectively, offering proactive support and training, and regularly measuring adoption and employee sentiment through well-established feedback channels.



## 3 Technical readiness



- **Data infrastructure and governance:** Confirm you have the necessary data infrastructure and robust data governance to enable AI capabilities.
- **Technology stack:** Choose AI tools and platforms that integrate well with existing systems and support scalability.
- **Business partners:** Ensure that all existing and new business partners, such as manufacturing partners, are equipped and prepared to actively participate and contribute to the AI capabilities journey.

## 4 Regulatory, compliance and risk management

- **Regulations and guidelines:** Keep abreast of and adhere to evolving AI regulations, guidelines and frameworks such as the EU AI Act, which regulates the use of artificial intelligence.<sup>7</sup> This is especially important considering the global presence of luxury organizations, where regulations may vary significantly across geographies.
- **Intellectual property:** Protect intellectual property related to AI developments to ensure proprietary technologies and innovations are safeguarded.
- **Risk assessment:** Identify potential risks associated with AI (e.g., technical, operational, reputational and brand identity risks) and embed mitigating strategies. Integrate cyber resilience to enable safeguarding both brand reputation and customer trust.<sup>8</sup>



As AI continues to rapidly transform the luxury goods sector, now is the time to act. **Leading brands are embracing AI and investment in cutting-edge initiatives is essential to stay ahead. Brands stuck in current ways of working risk getting left behind, so it is essential that you take the first step and reflect on your organization's AI roadmap.**

Look out for more leading insights from Deloitte on AI in the luxury goods sector and contact us today to learn more about how we can help you navigate this evolving technological landscape and create a lasting competitive advantage.



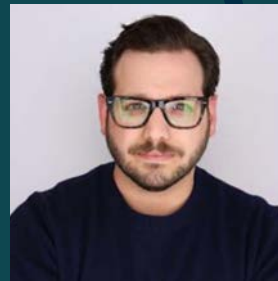
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## Endnotes

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