

## Beauty is in the AI of the beholder

**Summary:** The global beauty industry is changing. The effect of the Fourth Industrial Revolution has led to the development of '[Beauty 3.0](#)', with Artificial Intelligence (AI) and Augmented Reality (AR) transforming consumers' relationship with cosmetics.

Historically, international brands have dominated the market. Now, technological innovation is changing the industry, and social media is providing start-ups with new entry points.

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The proliferation of social media and technology has resulted in the beauty and cosmetic industry moving from a product-based model towards an [experience-based](#) model where consumers no longer just buy a product, instead they buy into 'the brand'. As a result, the industry is heavily reliant on social media channels, celebrity endorsements and glossy, fully-integrated marketing campaigns to attract and retain customers, and technology is increasingly becoming part of this marketing mix.

This shift has seen a number of major brands, such as L'Oréal, incorporate Fourth Industrial Revolution (4IR) technology such as Artificial Intelligence (AI) into their businesses, to help predict and forecast market-wide trends in order to develop desired products for their customers.

The [global cosmetic products market](#) was valued at \$532.43 billion in 2017, and is expected to reach a market value of \$805.61 billion by 2023. This represents a compound annual growth rate (CAGR) of 7.14% between 2018-2023. Much of this growth is expected to be driven by demand for new technological products that deliver significant and unprecedented results. This shift has become known as '[Beauty 3.0](#)', or 'the future of beauty tech and the next phase in the evolution of digital beauty', a term coined by Perfect Corp, the creators of the world's leading virtual beauty app, '[YouCam](#)'. Its founder and CEO [Alice Chang](#) has described the movement as 'redefining AI & AR innovation to create a personalised, proactive consumer beauty journey'.

For instance, an increasingly popular area of innovation is the virtual application of make-up. Total spending on [AR/VR products](#) is expected to increase from \$11.4 billion in 2017 to nearly \$215 billion by 2021. In the beauty industry, it is the ultimate 'up-selling' tool within cosmetics, as it enables customers to trial a product, which undoubtedly encourages them to sample other products at the same time. L'Oréal has invested in this space by buying [Modiface](#), an artificial-reality beauty company that maps an individual's face digitally then virtually applies products. Similarly, [Sephora's Virtual Artist app](#) provides a next-level 3D experience, as it allows consumers to try on a variety of beauty products virtually and be inspired by looks created by the Sephora team.

The personalisation trend has also been extremely popular across the fast-moving consumer goods (FMCG) industry, and it's set to continue. Using new technologies and AI-driven algorithms, start-ups are [personalising the beauty industry](#) by allowing customers to create products that suit their individual needs, such as [customisable hair care](#) products or a vegan body wash.

In addition to beauty, the hair industry is also investing heavily in new technologies. The [Kérastase Hair Coach](#) was launched in 2017 and is the world's first smart hair brush. It was developed by hair care brand Kérastase, L'Oréal's Research and Innovation Technology Incubator, and Withings, a leader in the connected health revolution. The hairbrush is equipped with signal analysis algorithms to assess the quality of hair and it monitors the effects of different hair care routines. It includes a mobile app that recommends customised products for improving hair care. Information from the smart brush is then uploaded on to the app, which also considers weather factors such as temperature, humidity, and wind when advising the consumer on their hair. The smart brush won the 2017 International CES

Innovation Award for outstanding product design and engineering in new customer technology products.

The emergence of 4IR-led innovation has also removed or reduced the barriers to entry in the beauty industry. The ability to design and create technological innovations within a small, yet scalable model within a start-up is creating new entry points into the industry. Where previously, major brands have dominated the market, social media and accessibility to technology have opened the door to start-ups allowing them to quickly developing an audience, brand, products and ultimately sales. Additionally, whilst many of the larger companies with big budgets are creating their own proprietary technology, smaller brands have been able to benefit from Apple and Google's advancements in the augmented reality (AR) space and have created AR-based apps much quicker than would have otherwise been possible. Through the likes of [ARKit](#) and [ARCore](#), AR technology is accessible to the masses, providing boundless opportunities for challenger retailers to create interactive experiences and redefine the concept of shopping.

Leaders in the cosmetics industry are also applying emerging technology to transform entire supply chains. For example, at the sale end of the chain, they are using AR and VR to develop sophisticated visualisation tools that allow them to monitor consumer shopping behaviours, as well as to analyse sales figures, identify trends and reassess strategies. At the beginning of the chain, beauty developers are also [streamlining manufacturing processes](#) by using AR to overlay instructions on the production line as a means of improving efficiency levels. Some are even using AR to transform the way factory workers find and pick products from their factory shelves, using projected lines on the floor to navigate the most efficient routes, supporting the ultimate aim of delivering products to consumers as quickly as possible.

Whilst technological advancements are helping to push the beauty and cosmetics industry forward, it is also acknowledged that they are only effective if the technology has a true purpose. Consumers in this market are unique shoppers in that they still enjoy visiting a beauty counter in a department store to peruse new products in order to gain the full experience, and often find it more satisfying than shopping online. Therefore, whilst new technologies have an important place in the future of beauty, they need to blend effectively with the physical in order to create the 'perfect look' for this market.