

# The Definitive Guide to Visual Search

A comprehensive overview of visual search and the untapped potential of visual AI technology for brands and retailers.

**VISUAL SEARCH IS A BOON  
TO BRANDS & RETAILERS**

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# Introduction

## Seizing the Transformative Power of Visual AI

Visual AI is transforming retail. As eCommerce traffic explodes and brick-and-mortar stores strive to reinvent the in-store experience, visual search tools offer a more intuitive and personalized shopping experience than ever before. Now, brands and retailers in both the digital and physical spheres are looking to visual AI solutions to seize the momentum of growing demand.

This guide offers a deep dive into the fascinating and rapidly developing world of visual search technology and the online shopping experiences it powers. Its goal is to provide you with a thorough understanding of how to create inspiring and memorable customer experiences, and to demonstrate how visual AI technologies empower retailers to exceed consumers' rising expectations while boosting revenue and long-term loyalty.

# Visual Search 101

Not long ago, internet users had only one way to search for an image. That was by typing a text-based query into a search engine and selecting the option to view image results. But what if a user doesn't know what the object they want to find is called, or they suddenly forget the right word? What if a user inputs the wrong terminology into their search query?

**Traditional, text-based search queries automatically limit what we can discover to the words we use to describe what we're looking for. Visual search helps us overcome these obstacles by eliminating the guesswork while enabling precise search results.**

Instead of typing in a text-based query, users can simply upload a photo to a visual search engine. It may be a photo they saw on Instagram, a photo on the front page of their local newspaper, or one they snapped themselves.

The visual search engine analyzes each pixel within the image and uses this information to identify and interpret the objects within them. Based on this analysis, the visual search engine produces relevant results and introduces the user to a world of information that transcends language and knowledge barriers.

## Visual search technologies uplift retail and brand success

The retail industry has already vastly benefited from the rapid development of visual search technologies. Gartner forecasts that by 2021, early adopters of visual and voice search can expect a 30% increase in digital commerce revenue. That figure is expected to rise as visual search becomes mainstream and further development of its underlying technology continues. According to Deloitte, the Image Recognition Market is on track to hit nearly \$39 billion by 2021.

### Visual Search Gains a Foothold in Retail



# Breaking Down the Mechanics of Visual Search

**To understand how visual search works, we must first understand computer vision and image recognition.**

**Computer vision** is what enables your phone, tablet, or laptop to “see.” It is the visual AI that allows a QR code reader to decipher different marks or a barcode scanner to recognize stripes of varying widths. It’s also what tells your smartphone to unlock after identifying your face and not someone else’s. If your camera lens can be likened to your eyes, computer vision can be compared to the part of your brain that actually gives you the sense of sight.

But simply seeing an object doesn’t mean you understand it. For example, when we see the symbol “4,” we only know it represents the number “four” because we were taught to accept this. When we see “?” at the end of a sentence, we know the sentence that precedes it is a question. These are meanings that we’ve come to understand through human learning and reasoning, and this is where the power of image recognition comes into play.

**Image recognition** is what allows a computer to actually identify, understand, and categorize specific objects within an image. To do this accurately, visual AI requires training, just as a young child needs to be taught that “4” means “four” and “?” means “question.”

Researchers and engineers train a visual AI engine to interpret and identify specific elements within images by introducing them to as many categorized and labeled images as they can. The AI engine processes and learns from every pixel in each image so it can refine and expand its understanding of different objects over time.

For example, engineers can feed a visual AI engine thousands of images of sofas in different styles, sizes, and colors. Now, when you upload an image to the visual AI engine, it automatically compares each pixel to every sofa it’s ever seen. This means that when you input a photo of a room via computer vision, the AI engine can point to the sofa, know what it is, and identify its tiniest characteristics in an instant.

**Visual search combines the information input by computer vision with the intelligent processing capabilities of image recognition to interpret any image and identify specific objects as well as understand and categorize minute details within it.**



# Visual Search is a Boon to Brands & Retailers

**Innovative brands and retailers have quickly realized the potential for visual search technologies to boost sales and improve the customer experience by making product discovery as engaging and inspiring as possible.**



The product discovery process often forms a shopper’s first impression of your brand, and it influences the overall customer experience in each subsequent session. A product discovery solution that introduces shoppers to items that match their taste and inspires them to buy will contribute to a standout customer experience. On the other hand, a product discovery process that’s riddled with friction and surfaces irrelevant items will drive shoppers away.

Visual search enables an entirely new approach to product discovery, in which shoppers no longer need to rely on knowledge or language to find what they’re looking for. Instead, they can easily find products

that fit their taste and goals in the same moment that they feel inspired – whether they are scrolling through social media, walking down the street, or already browsing your website.

Visual search capabilities belong to a family of visual-AI-powered product discovery technologies for eCommerce and retail. In addition to actually searching for products through image input, brands and retailers can integrate additional solutions that use visual AI to help customers find their ideal items easily at any point in their shopping journey -- whether they have an inspirational image in mind or not.

## Product Discovery Technologies Powered by Visual AI



### Visual Search

*An image search solution that allows users to upload or select images and see visually similar results for the items pictured.*



### Discovery Button

*Pinterest-like navigation that enables shoppers to click on any product image on product display and listing pages and to search for visually similar items to the ones shown.*



### Shop Similar

*A carousel of images that recommends visually similar items to the featured product on a product detail page.*



### Shop the Look

*A carousel of images that displays items from a product image other than the featured piece of clothing.*

Brands and retailers often combine two or more visual AI solutions to augment their existing product discovery process. For example, with Visual Search, a shopper that just saw their favorite fashion influencer post a blouse they love on Instagram can upload the photo to find similar tops on your website. If a shopper arrives at your site before knowing what they want, you can also provide them with inspirational images from social. With visual search tools like the Discovery Button, shoppers deeper in your website navigation can click on product images to find similar items, and then easily filter the results to fit their individual criteria. With recommendation engines like Shop Similar and Shop the Look, they can immediately explore visually similar and complementary items to those on product detail pages. Each of these technologies is underpinned by visual AI that understands your shoppers' unique visual tastes.

Today, leading visual AI platforms can recognize and recommend similar items with human-like accuracy.

Visual search also adds value to the in-store shopping experience. Shoppers who come in with a photo in mind can upload to an in-store tablet or screen display and easily be connected with similar items. Those who aren't sure what they are looking for can scroll through an interactive inspiration gallery, bringing the online experience in-store. This is particularly helpful for shoppers who are motivated to buy but don't have the patience for parsing through racks themselves, or for those who are concerned about hygiene and safety due to COVID-19, preferring to locate their desired item as quickly as possible



# Early Adopters of Visual Search Are Realizing Massive Revenue Gains

One of the most tangible benefits of visual search technologies for brands and retailers is increased conversion and revenue. Shoppers who engage with visual search on-site convert at a rate 177% higher and have an average order value nearly 10% higher than those who don't. In our recent report, [“The State of eCommerce Discovery in the New Normal”](#), we found that when combined with the other visual-AI-powered product discovery tools described earlier, the conversion rate on fashion sites is as much as 840.6% higher than it is for shoppers who don't use the tools. The shoppers who use on-site product discovery technology also spend on average 6.7x more per session, and bring in 451.2% higher average revenue per user than non-users.

Jewelry retailers experienced similar uplifts. According to our analysis, shoppers in the jewelry vertical who engaged with on-site visual product discovery technologies converted at a rate 689.6% higher and had an average order value 9.3% higher than shoppers who did not use the tools.

Visual search leads to greater sales because it makes the process of discovering new products as efficient and engaging as possible. Indeed, the easier it is for shoppers to find the products they love on your website, the more likely it is they'll buy them, even if it wasn't their initial intention.

By complementing the uplifting effect of visual search with additional visual AI technologies, you can embed product discovery throughout the entire customer journey instead of only at the beginning. For example, by placing tools such as the Discovery Button or Shop Similar carousel on product detail pages or even at checkout, suddenly you create the opportunity for authentic inspiration at every touchpoint. You'll foster greater on-screen engagement, introduce shoppers to items they may not have found on their own, and motivate them to buy more.

However, the benefits of visual search extend far beyond boosting revenue. Visual search also helps you create a more inspiring and personalized customer experience, which is essential to earning the trust and loyalty of today's consumers.



# Visual Product Discovery Elevates the Customer Experience

The eCommerce universe is saturated with competition, which means the traditional points of comparison – price, quality, and speed of delivery – have become table stakes for brands and retailers. Today, consumers assess businesses and make purchasing decisions based on the quality of the customer experience.

47%

of consumers say they would be willing to pay more for a shopping experience that consistently exceeds their expectations.

80%

of shoppers say innovative eCommerce technologies improved their online experience.

47%

of shoppers say they would avoid doing business with a retailer after a frustrating experience.



## Visual Product Discovery Elevates the Customer Experience

Visual search empowers brands and retailers to achieve far more than simply introducing shoppers to more of their inventory. They contribute to a more distinctive, personalized, and engaging customer experience by creating a journey that feels tailored to the individual tastes of each shopper.

With a visual approach to product discovery, brands and retailers can transform routine shopping activities into immersive and memorable experiences. They allow each shopper to feel like a millionaire who has just walked into a fancy department store, in which they get all of the attention and care of the sales reps.

This is the type of experience that enables brands and retailers to stand out against the competition while delighting shoppers. Furthermore, visual search tools help support an efficient and seamless experience, from the moment of inspiration to checkout.

Investing in the customer experience is one of the most strategic and necessary business moves brands and retailers can make. Today's consumers have high standards and little patience for friction or frustration — creating a compelling experience is more vital than ever before. By focusing on product discovery, brands can simultaneously increase revenue while fostering a community of engaged shoppers and brand advocates.

**According to Salesforce Research and Harris Poll, 78% of consumers say easy product search is one of the most important factors for online shopping.**



# Thriving in the Age of Inspiration Overdrive

The use of social media platforms such as Instagram, Facebook, and TikTok have become ubiquitous. The apps and their endless flow of posts have thrust us into the era of inspiration overdrive, in which we constantly consume content that is designed to inspire us to buy. But more often than not, the path from inspiration to purchase is riddled with hurdles or is completely broken.

**Today, it's more crucial than ever for brands and retailers to be able to transform inspired scrollers into loyal buyers.**

This becomes even truer as the rate of mobile commerce continues to rise. As of 2019, mobile commerce contributed \$2.32 trillion in sales and accounted for 67.2% of total eCommerce purchases. By 2021, mobile commerce spending is expected to reach \$3.5 trillion and account for nearly three-quarters (72.9%) of total online spending.

Modern consumers expect to do everything from their phones. Moreover, shoppers who are used to the instant gratification of same-day shipping and on-demand services desire a seamless and quick shopping experience that begins the moment they feel inspired.

The gap that currently exists between what consumers desire and what most retailers offer creates a huge opportunity for eCommerce businesses that choose to innovate their customer journeys by adopting visual AI. With technology that's designed to seize and expand upon user inspiration, retailers and brands that implement visual search tools into their customer experience will:

## **Shorten the path from product search to**

**conversion** — With visual AI solutions, retailers, marketplaces, and brands can more easily connect shoppers with the products that inspire them.

## **Improve customer acquisition and unlock loyalty** —

Visual search offers unprecedented access to highly motivated, purchase-ready traffic that will be more inclined to buy -- and visit again -- when presented with a compelling shopping experience.

## **Encourage spontaneous purchases and increase**

**basket size** — If they're inspired enough, shoppers may be motivated to purchase products they didn't plan on buying, and even stretch their budgets.

Accenture found that younger shoppers — especially Gen Z — are more likely to make purchasing decisions based on impulse. Compared to millennials, nearly 60% more Gen Z'ers have bought something after randomly seeing an item they liked.

# What is Driving This Shift?

Consumers' penchant for digital and specifically, mobile shopping has been steadily rising for years, but the disruption introduced by the Covid-19 pandemic has catalyzed a rapid shift in customer behavior. Global consulting firm [McKinsey](#) has gone so far as to call it a 10-year leap forward in consumer and business digital adoption.

In the new normal, consumers have reset their expectations and preferences. They now demand immediacy, convenience, availability, and safety, forcing retailers to alter their priorities, customer experience strategies, and in some cases, their entire operating model.

Brands and retailers that have been quick to respond are poised to fare best, not just in the thick of the pandemic, but in the long-term. In prior recessions, businesses that reconstructed their customer experience to cater to shifts in consumer behavior performed [3x better](#) than those that were slow to change, according to McKinsey.

Early adopters of visual search technologies will readily seize this rising demand. By allowing users to intuitively search for and find the items that inspire them, you won't just meet consumers' rising standards for a faster and more efficient customer experience. You'll be positioned to seize the power of inspiration overdrive by shortening the path from social media inspiration to online purchasing.



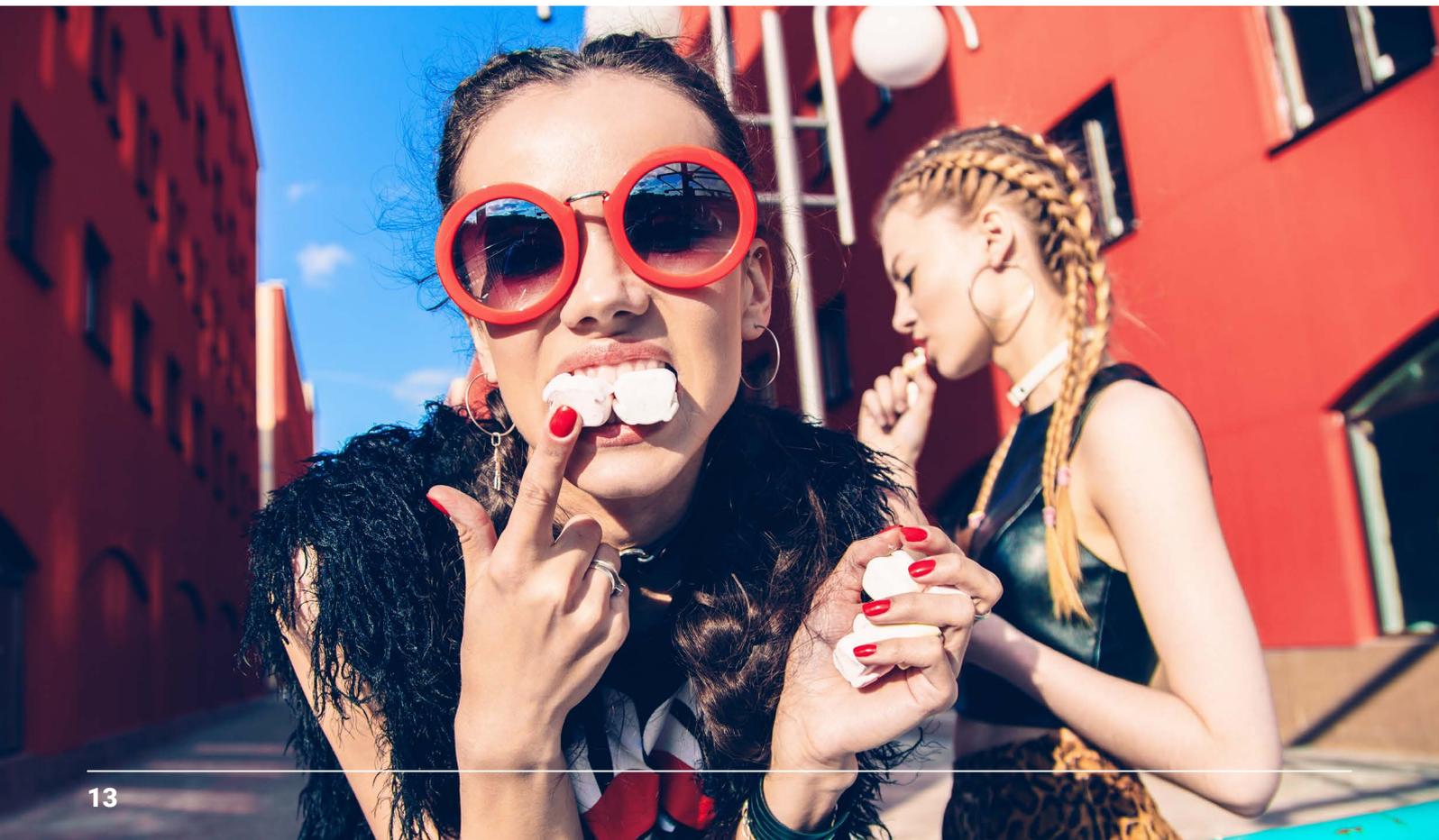
# Capturing The Purchasing Power of Millennials & Gen Z

**Brands and retailers that are ready to transform product discovery and the overall customer experience must consider the behaviors and priorities of all shoppers, but they would be remiss not to focus their strategies on how to cater to the younger generations.**

Millennials started the disruption of the retail industry with their digital savviness and greater disposable income. With the entire retail sector vying for their purchasing power, the first cadre of “digital natives” raised the bar for what constitutes

a satisfactory shopping experience, both online and offline. Now, the entrance of Gen Z into the workforce has ushered in an entirely new set of challenges and opportunities for retailers.

Gen Z will soon represent more than one-third of the global population, and by 2022 they could make up as many as 25% of the global workforce. As Gen Z’ers account for a rising share of consumers, brands and retailers that want to capture their buying power must quickly pivot their customer experience strategies to meet an entirely new set of consumer criteria.



# Capturing The Purchasing Power of Millennials & Gen Z

## Social media dominates all other channels.

For the generation that has had access to smartphones since childhood, social media consumption is habitual. Platforms such as Instagram and Pinterest are often the origin of shopping journeys for young consumers, with 44% of Gen Z'ers citing social media as a popular source for inspiration. The vast majority of Gen Z shoppers (80%) and 74% of millennials report that social media influences their purchasing decisions. Brands and retailers that wish to remain relevant under the influence of Gen Z need to meet shoppers where they already are – on Instagram feeds, Facebook, Pinterest, and TikTok. Moreover, they must build a bridge – or better yet, a moving walkway – that effortlessly shuttles inspired shoppers from social feeds through the customer journey in a seamless and engaging manner.

## Visual search has become a standard expectation.

Young shoppers are particularly eager for an advanced digital shopping experience. For many Gen Z'ers, access to sophisticated eCommerce tools is a primary distinguishing factor when deciding where to spend their money. More than half of young shoppers (62%) want visual search over any other technologies to enhance their online shopping experience. As visual search technology becomes more common in the retail industry, “laggards” will lose out to more forward-thinking brands and retailers.

## Individuality trumps everything.

Gen Z likes to be seen as unique individuals, and they expect the brands they shop from to recognize that. Nearly half (49%) think unique products are very important, and 51% say they are more creative than previous generations. Brands and retailers that use technology to understand Gen Z shoppers' unique aesthetic taste and style will provide the personalized experiences that entice them to buy.



**Gen Z is the next big consumer market and purchasing powerhouse. Retailers need to invest in the digital tools that will enable them to speak to Gen Z through visuals [...] Customization and hyper-personalization are a must-have capability for reaching a generation that is shaping and commanding today's digital retail landscape.**



**Jill Standish**

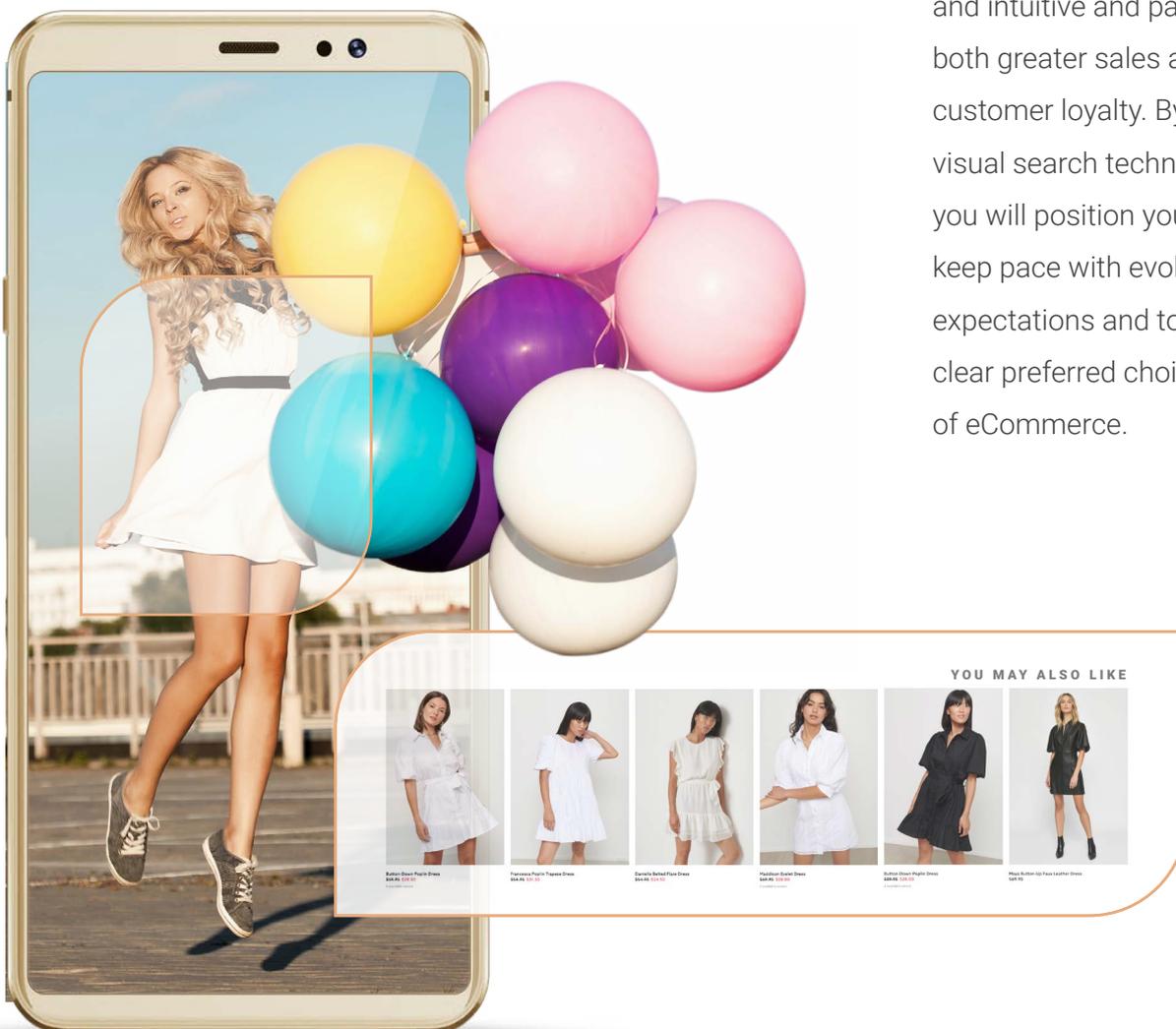
Senior Managing Director  
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# Early Adopters Will Reap The Greatest Benefits

Today, brands and retailers face myriad challenges.

They must stand out in a competitive digital market, appeal to a new generation of shoppers with entirely different motivations, and provide a customer experience that is memorable and engaging enough to secure long-term loyalty. Staying relevant requires ongoing work for retail companies, but one thing is clear: visual technology is king.

Visual search and other visual-AI-powered technologies empower retailers to tackle each of these challenges while establishing their brands as advanced, innovative, and committed to providing the best possible customer experience. They make product discovery effortless and intuitive and pave the way to both greater sales and stronger customer loyalty. By adopting visual search technologies now, you will position your business to keep pace with evolving consumer expectations and to stand out as a clear preferred choice in the new era of eCommerce.



# About Syte

Syte is the world's first product discovery platform. Powered by visual AI, we're spearheading the evolution of eCommerce by enabling brands and retailers to seamlessly connect shoppers with products they love.

Our solutions, including camera search, augmented site search, personalization engines, and smart in-store tools, empower shoppers to discover and purchase products in the same way they live their lives -- instant, intuitive, visual.

Leading brands and retailers, like Farfetch, PrettyLittleThing, Conforama, Shane Co., and Zozo, partner with Syte to provide on-demand, hyper-personalized experiences that drive conversion, increase average order value, and spark lifelong loyalty.

To learn more about Syte's solutions, products, technology, patents, and trademarks, [visit syte.ai](https://www.syte.ai)

