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Luxury & Thematics

Luxury in the Metaverse

Metaverse gaming and NFTs could constitute 10% of the Luxury Goods addressable market by 2030, we estimate, a €50bn revenue opportunity and a c25% uplift to the industry's profit pool.

Today, revenue streams from digital mediums for luxury brands are negligible, even though most people in the developed world already spend more time interacting with their friends online rather than in the physical world. We think this is about to change. The Metaverse will likely take many years to develop; however, NFTs and social gaming (e.g., online games and concerts attended by people's avatars) present two nearer-term opportunities for Luxury Brands, allowing them to monetise their vast IP built over decades. We calculate that they could expand their revenue TAM by >10% by 2030 and industry EBIT by c25%.

- **Social gaming:** 1 in 5 Roblox gamers updates their avatar daily; image is everything in virtual experiences. Luxury brands are exploring a number of collaborations with gaming and Metaverse platforms. Revenue share deals are on the rise and music events have potential to reach vast audiences of young spenders. This could add \$10-20bn to the Luxury TAM. Balenciaga has a first-mover advantage here; others are following its lead.
- **NFTs:** Dolce & Gabbana sold 9 NFTs for \$5.7m. This is small in the context of the group's revenues but demonstrates the huge potential for virtual and hybrid luxury goods. We expect the NFT market to grow to c\$300bn by 2030; Luxury digital/hybrid collectibles could be a c\$25bn market in our blue-sky analysis. What excites us most is the potential for >75% drop-through to EBIT.

Profit skew: In our bull case bridges, each addressable market contributes a similar sales uplift to the overall TAM of the Luxury market. However, this belies the differing profit pools of the two. While gaming collaborations are, we argue, more advanced in their ability to generate revenue and a wider halo effect for the industry, NFTs present a more material EBIT upside opportunity over the remainder of the decade. Gaming collaborations constitute 40% of our Metaverse revenue bridge by 2030 but only 20% of our Luxury Metaverse profit bridge by 2030.

Best exposed companies: We expect the whole sector to benefit from the advent of the Metaverse, but see the soft luxury brands (ready-to-wear, leather goods, shoes, etc.) as particularly well positioned as opposed to hard luxury (jewellery and watches). Amongst the soft luxury participants, we see Kering (brands including Gucci and Balenciaga) as best placed given the group's brand demographics and given head start in innovative digital collaborations.

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Brands

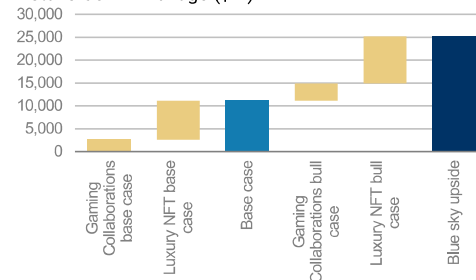
Europe IndustryView In-Line

Exhibit 1: Tweet: Metaverse x Luxury



Source: Twitter

Exhibit 2: 2030 base and bull case Luxury in the Metaverse EBIT bridge (\$m)



Source: Morgan Stanley Research estimates

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Executive Summary

Please see our work introducing this theme [here](#) and [here](#).

Increased evidence that demand for digital fashion and luxury products is building

Today, people spend more time interacting with their friends on social media and in gaming platforms than in real life (IRL) in the developed world: as per the US Bureau of Labour Statistics (July 2021) and Globalwebindex (January 2019), pre-COVID pandemic, adults in the US spent on average 6.5 hours per day online, of which ~2 hours interacting with others. This compares with ~65 minutes per day physically seeing friends. We can only assume that, post pandemic, the ratio has increased further in favour of virtual interactions.

As more aspects of people's lives move to the internet, demand for digital fashion and luxury goods is set to increase dramatically in the coming years. Web 1.0 was the internet that connected people to information, Web 2.0 is the social-media iteration, which connects people and started in the early 2000s. Web 3.0 (or the Metaverse), which we are now entering, is connecting people, places and things (see next page). In Web 3.0, an important role is reserved for personal avatars with which you can move through the Metaverse. This avatar can be styled (with 'skins', etc.) in games such as Fortnite, Roblox, Animal Crossing or The Sims. As per 'tech futurist' Cathy Hackl, "as millennials and Gen Z spend more time in virtual worlds and consider their avatar as an extension of themselves 1 in 5 Roblox gamers updates their avatar daily, it makes sense for them to represent themselves uniquely, buying branded goods and clothing". It offers a big opportunity for digital-only brands. But luxury brands, with their vast IP built over decades, are set to be amongst the main beneficiaries. As we discuss later, the Metaverse is not just some futuristic idea. Early versions already exist. For example, Fortnite has hosted huge virtual concerts with the likes of Marshmello (February 2021) and Travis Scott (April 2021) (respectively 10.7m and 12.3m attending live), where users attended as their digital avatars to enjoy the shared experience with others.

The number of luxury brands selling on gaming platforms is increasing fast. Today, some of the largest games or communities operate by mimicking the essentials of real life as closely as possible, which often includes the trading or purchasing of products through in-house currency. Gaming platforms such as Fortnite and the digital marketplace in Roblox already offer a glimpse at what Metaverse malls might resemble. And these platforms offer evidence that demand for fashion and luxury goods products is only getting stronger. For example, in September 2021, Balenciaga launched Fortnite 'skins' priced at 1,000 V-Bucks (Fortnite's currency), which equates to approximately \$8. Today, 50% of players are spending their time in Fortnite Creative Mode, exploring different virtual experiences and creating their own virtual world. In August 2021, Gucci released a digital version of the Dionysus bag on Roblox and the bag sold for 350,000 Robux (Roblox's own currency) or roughly \$4,115 – as per Jing Daily (June 2021). The same bag in real life costs \$3,400. This Roblox purse is not an NFT and thus has no value/use/transferability outside Roblox world – yet it is worth more than the physical

one.

Demand for NFT collectibles is set to create strong demand for luxury goods in the medium term

In the later section on [Luxury Goods as NFTs](#), we elaborate on what a non-fungible token (NFT) is. At a basic level, it is a digital asset that links ownership to unique physical or digital items, such as works of art, real estate, music or videos. Importantly for the luxury sector, NFTs allow digital goods to have scarcity, which is what gives physical goods their value. And for a number of market participants, the NFTs are likely to be the revenue model for the Metaverse.

Over the past 12 months, the NFT market has enjoyed explosive growth... The first NFTs appeared in 2017 (CryptoKitties) but the market remained relatively marginal (in value at least) up until the beginning of 2021. Over the past 12 months, the NFT market has soared, with a quarterly transaction value increasing from less than \$28m then to over \$10bn in 3Q21 (as per DappRadar, 1 October 2021).

Today, there are four main types of NFT (in value terms):

1. Collectibles tied to sports: NBA TopShots, Sorare's soccer cards, or Topp's MLB cards – for example, the most expensive NBA Top Shot digital card as of 5 November 2021 was Derrick Rose layup, worth \$1m.
2. Unique pieces of art, such as Beeple's *Everydays: the First 5,000 Days* sold in March 2021 for US\$69m, making Beeple the third most expensive living artist.
3. Generative art, often created algorithmically and usually issued in series with a cap on the total supply, such as CryptoPunks, CryptoKitties or Bored Ape Yacht Club. For example, Bored Ape NFT #8585 re-sold for \$2.7m in October, making it the most expensive in the Yacht Club collection. This category has gone the most viral – among other reasons because it confers status (e.g. Jay-Z put a CryptoPunk NFT as his Twitter profile picture). It gives the owners access to an exclusive community and theoretically allow them to receive commercial usage rights, meaning they can sell any sort of spin-off product based on the art.
4. Play-to-Earn platforms such as Axie Infinity, but also Gods Unchained or The Sandbox 3D (here, the value per virtually traded goods tends to be low but the volumes traded are [very significant](#), based on the Token Terminal data). User growth continues to grow at pace for these Metaverse gaming platforms ([Exhibit 45](#)).

...but luxury brands account for a minimal share of the market. On our estimates, luxury brands NFTs will account for less than 1% of the NFT transaction value in 2021. One of the main reasons, in our view, is that luxury is all about control and brand equity protection. So, as happened with the advent of eCommerce, luxury brands have so far adopted a conservative approach, only testing the waters. Unsurprisingly, the first to step in were the digital-only fashion brands: in 2019, Dutch fashion start-up The Fabricant sold the world's first digital-only dress 'Iridescence' on the blockchain for \$9,500. The item exists solely online.

The first luxury brand to sell an NFT was Swiss watchmaker Jacob & Co, which in April 2021 sold an NFT watch (a.k.a. a digital '*pièce unique*') at auction for \$100,000. The item exists solely online. More recently, the pace of launches has accelerated: Dolce & Gabbana partnered with luxury platform UNXD to launch a nine-piece collection of digital NFTs, alongside some actual couture for a total of 1,885 Ether (ethereum cryptocurrency), or the equivalent of nearly \$5.7 million. Of the nine pieces for sale, in total five were sold alongside a physical replica of the digital NFT.

We expect this to change over a relatively short time frame: even if the Metaverse takes some time to gain traction, the collectible market should take off anyway. NFTs are appealing for both luxury brands and consumers alike. As with other collectibles (such as CryptoPunks), they allow consumers to show off their social status. They allow collectors to make new friends (community aspect). Importantly, there is also an investment aspect (which barely exists in games today): these digital goods have a resale value.

For luxury brands, these NFTs can be highly profitable: as we discuss below, unit product costs are very low (unique products can be created/personalised by algorithms, for example) while distribution costs are minimal – the take-rate for generalist NFT platforms such as OpenSea is around 2.5%; this compares to 15-40% on 3P platforms such as TMall or Farfetch in the physical world. Furthermore, with smart contracts built in NFTs, luxury brands have the possibility to earn the IP at perpetuity (unlike in the real world with the first-sale rule). Smart contracts allow the creator of the NFT to capture a percentage of the sale price each time the NFT is sold on a marketplace. NFT royalties payments are perpetual and are executed automatically. (They are coded into the smart contract on the blockchain and there is no need for an external agent or any intermediary. The royalties payments are made immediately after the transaction is over.) The creator can set the royalty percentage at the time of minting the work.

Also, NFTs give luxury brands even closer connection with consumers (something they value highly): with NFTs they can provide additional perks. For example, a luxury brand can provide an NFT to its most loyal customers for special access to events. Lastly, NFTs give luxury brands the ability to offer customised product (at potentially an industrial scale): for example, customers will be able to create and/or customise their bag NFT (either themselves or have an algorithm do it for them) and then potentially have the physical version made. So a lot of products will have a digital existence before having a physical existence (as we discuss later, a number of digital native brands, such as RTFKT, are already operating this way).

Demand for luxury NFTs should then accelerate dramatically when they can be used in gaming/the Metaverse

Decentralised blockchain gaming platforms are taking off... In recent months, a number of virtual spaces offering entertainment destination where brands, IPs and celebrities can engage with fans through virtual experiences including games, live performances and social experiences have been attracting players (and investor) interest. Among the most important ones: Decentraland, Cryptovoxels, Somnium Space or The Sandbox. These platforms generally use their own cryptocurrency (Mana for Decentraland, Sand for Sandbox, AXS for Axie Infinity, etc.) and tend to be open Metaverses, where the content, economy, and even governance are in the hands of the players, creators and

users who contribute to this virtual world. On November 2nd, The Sandbox raised \$93m (in a Series B funding round led by Softbank – [Exhibit 64](#)). As we show in [Exhibit 59](#), the market value of NFTs in some of these platforms has now become material: \$9.2bn for Axie Infinity, \$4.5bn for Decentraland, \$2.3bn for The Sandbox, etc. (at the time of writing).

...and well established gaming companies have signalled their intention to get involved. On November 4th, Electronic Arts' chief executive, Andrew Wilson, told investors he believes FIFA players want to see NFTs in the franchise: "[Players] want more modalities at play inside the game, which go beyond just straight 11-on-11 football," he told an earnings call. "They want more digital experiences outside the game – eSports, NFTs, broader sports consumption and they want us to move really, really quickly."

The number of unique active wallets is still very small, indicating material upside for NFTs demand going forward. NFTs are typically purchased with cryptocurrencies and many see "a bubble within a bubble" as crypto investors, who have seen the value of their holdings soar (\$2.7 trillion at the time of writing), pile into the NFT space. So it is highly possible that the value of some of the individual NFTs transacted recently will come sharply down. However, we believe that the adoption of blockchain to transfer and store intellectual property is only going to go into one direction, and we find it quite encouraging that the number of market participants (buying NFTs using cryptocurrencies) remains very small in respect to the total number of active video gamers worldwide (about 2.8 billion, as per Newzoo, July 2021). As per DappRadar's 3Q 'Blockchain Game Report', there were only a total of 1.5 million daily unique active wallets, on average, over the three-month period to September 2021 (the unique active wallet metric refers to unique addresses that interact with a given smart contract, so it does not necessarily translate into daily active users).

Sizing the Potential Market

Growth in the Metaverse should allow luxury brands to grow their TAM even further.

Over the past decades, the addressable market for personal luxury goods has grown dramatically, driven by the combination of the 'democratisation' of demand (with the middle class now accounting for the bulk of the growth), as well as more nationalities being involved (e.g. Chinese nationals now account for one-third of global demand vs. less than 2% in 2000). The Metaverse will more than likely allow luxury brands to appeal to an even broader audience, as we discuss later: luxury brands will gain exposure to ever younger customers (e.g. Roblox's average user age at 13 today) and, more importantly, male customers (today, over 70% of industry sales are generated with women). Digital avatars, NFTs and gaming partnerships offer fertile ground to build relationships with these demographics and recruit new/future customers.

Sizing the market: As we discuss later in this report, social gaming and NFTs currently provide negligible revenue streams to brands relative to the total size of luxury goods industry. However, by 2030, we estimate that luxury brands could generate total sales of ~€11bn in NFTs/the Metaverse and social gaming ~€10bn in a base case (~€22bn and ~€25bn respectively in a bull case). This would compare to a personal luxury goods market expect to rise from ~€230bn in 2021 (we exclude cosmetics in the base) to ~€415bn by 2030 (we model a ~7% sales CAGR over the period, in line with Bain

Altagamma's historical market assumption); and would thus raise industry sales by 5% vs. current estimates in our base case (11% in our bull case).

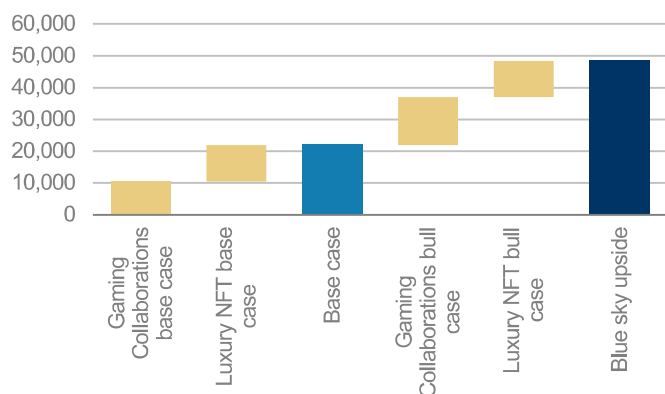
However, as we discuss in [Luxury Goods as NFTs](#) and [Luxury Goods in Social Gaming](#), the contribution to the industry's profit pool should be even greater given the inherent profitability of digital goods. In our base case, we model an ~€8.5bn (75% drop-through) and ~€2.6bn (25%) contribution to the industry profit pool by 2030, from the contribution of NFT and social gaming, respectively. In our bull case, the contribution would be ~€18.5bn (90% drop-through) and ~€6.3bn (25%), respectively. Given that we estimate the personal luxury goods industry profit pool to reach ~€95bn by 2030 (vs. ~€50bn in 2021), this implies ~12% potential upside in our base case (but 26% upside in our bull case). The key variables here will be not just the underlying growth in the market, but also to what extent gaming/social interaction is done on decentralised blockchain platforms rather than closed platforms (e.g., Fortnite) and to what extent NFTs move from their current collectibles usage to be used on people's avatar.

Exhibit 3: 2030 Luxury Goods TAM and blue-sky upside scenario to revenue and EBIT from NFT and Metaverse gaming collaborations

	2019	2020	2021e	2025e	2030e	Blue Sky	
						NFT % TAM	Gaming % TAM
Personal luxury goods (total)	281	217	290	380	520		
Five-year CAGR				+12%	+6%		
Luxury cosmetics	60	48	60	79	104		
Penetration of cosmetics	21%	22%	21%	21%	20%		
Personal luxury goods (ex. Cosmetics)	221	169	230	301	415	5.5%	6.2%
Average EBIT margin of names covered	26%	24%	30%	31%	31%		
Avg. industry EBIT margin	21%	19%	22%	22%	23%		
Luxury EBIT pool	45	33	50	67	95	19.8%	6.7%

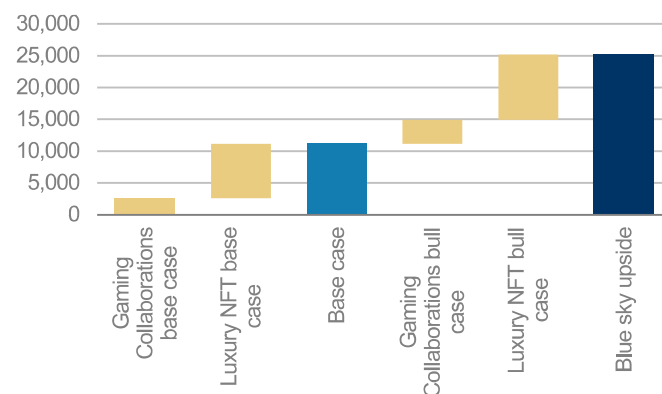
Source: Bain (blue), Company data, Morgan Stanley Research estimates (green)

Exhibit 4: 2030 NFT and Metaverse gaming collaborations revenue uplift (€m)



Source: Morgan Stanley Research estimates

Exhibit 5: 2030 NFT and Metaverse gaming collaborations EBIT uplift (€m)



Source: Morgan Stanley Research estimates

Risks

Disruption brings opportunities as well as risks. There are certainly new ones emerging with the development of NFTs/the Metaverse. In our view, the three main ones are:

1) IP issues. In many respects, the purpose of the blockchain is to ensure traceability and authenticity of the product. Nonetheless, it is possible that brands' intellectual property

could be exploited as third-parties create unsolicited NFTs. For example, in May 2021, artists Mason Rothschild and Eric Ramirez auctioned an animated *Baby Birkin* NFT for the equivalent of \$23,500 (i.e. higher than a leather Birkin); Hermès had no involvement with the creative process, nor did it earn any proceeds. User-generated content (UGC): people can freely experiment with shapes and identities in the Metaverse (the environment's ethos) and another key IP issue that will likely crop up for luxury brands will also relate to the ability of users to create their own version of existing luxury brands, for example by merging different logos on the same 'skin' (similar to Gucci's official 'hack' of Balenciaga this year). Given the anonymous and fragmented nature of the Metaverse, it will likely be very difficult for luxury brands to police. Thus there is a risk for brands not only of losing revenues, but also of their brand equity being damaged by potentially ubiquitous fakes.

2) Will barriers to entry be lowered? Digital native brands emerging and the Metaverse enables co-creation. For example, in March 2021, 18-year-old digital artist FEWOCIOUS partnered with London-based studio RTFKT to launch virtual sneakers. There were 600 virtual sneakers, and they sold out within 7 minutes, at a combined sales value of \$3m (today several are now trading north of \$40,000). In April 2021, Yuga Labs, whose Bored Ape Yacht Club avatars have popped up across Twitter and brought in \$24m at an auction in September, teamed up with community-based streetwear brand The Hundreds on physical T-shirts and hoodies.

3) Secondary market risk. Brands have the ability to tightly control their NFT drops – as in the case of D&G above. However, when the owners of these digital or hybrid products look to sell or trade their NFTs in the secondary markets, the question becomes how this can be achieved without degrading the value of the product. Using platforms like OpenSea (the equivalent of eBay for NFTs) – which at present consists of 98% of secondary NFT trading – would be the obvious marketplace to access liquidity. However, the early indication appears to be that – again as in the case of D&G – these collections will likely trade on a dedicated secondary marketplace platform, such as Exclusible, in order to (1) provide greater control and transparency to the brands and (2) create an additional sense of exclusivity – at least on the primary market.

The Metaverse for Generalist Investors

Please see our work introducing this theme [here](#) and [here](#).

Does it exist? Yes and no. Not in its purest form – this will take many years and cross-company collaboration to allow users to move seamlessly across millions of experiences and take their digital avatars and possessions around with them. However, individual Metaverse-type platforms already exist and are thriving. Every day, millions of people play on Metaverse platforms, which typically take the form of social gaming.

What is it? In a nutshell, Metaverse is a virtual world for immersive co-experiences, which is persistently available and where users can explore vast numbers of experiences concurrently. Within these experiences, people across the world can meet, play, watch, trade and learn across millions of experiences.

Who owns it, controls it, builds it? Companies – Roblox, Facebook, Naver – are building their own Metaverses within which there is access to millions of experiences that players can move in and out of (albeit currently only within the walled-garden of that company's platform). A 'true' Metaverse would allow for interoperability between experiences across all companies' Metaverse platforms.

What is interoperability? The ability to create a homogenous avatar for use across all Metaverses and experiences within them and simultaneously take virtual assets and wealth between one experience and another.

Who is it for? The target audience at present is young gamers, mostly those under 17, but the average age is rising steadily. Predominantly – in order of importance – the purpose is for gaming, socialising, entertainment, engaging with brands and education.

How can it be accessed? The (or each company's) Metaverse tends to be platform agnostic. It can be accessed over phone or PC gaming platforms. Beyond an internet connection and profile, there is no geographic constraint to access. The clear aim is for it to be virtual and embodied, meaning through virtual reality (VR) using an avatar of yourself that can engage in real time with others and wear or possess digital assets unique to the user.

How is a Metaverse built? Chips, cloud, telecoms, hardware, 3D engines, game developers, rendering and spatial computing are all required. On top of this, creating the vast number of experiences required relies on content (weapons, avatar fashion, etc.) made by creators, who are paid depending on their creations' popularity.

Why do we need it? It is not a case of 'need' so much as 'want'. Young consumers are looking for an array of experiences that cannot always be satiated by a single game – attention spans are short.

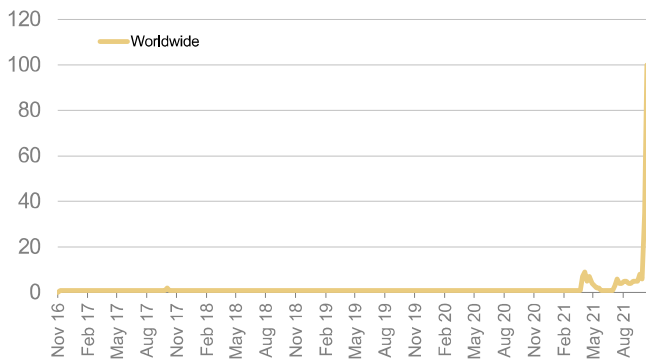
Why is it important? It can fundamentally change the medium through which we socialise with others, watch music performances, engage with fashion brands, learn and/or speculate on digital assets such as non-fungible tokens (NFTs) or in-game skins.

When will it happen? Several Metaverses already exist and a number of others are being designed and built. If or when these individual Metaverses will coalesce with homogenous back-end infrastructure remains a distant and huge challenge. Investors should not mistake the lack of one cohesive Metaverse with the absence of any Metaverses – of which there are many owned and developed by individual companies.

When will it move share prices? It is already doing so for gaming stocks – see Roblox (covered by Brian Nowak).

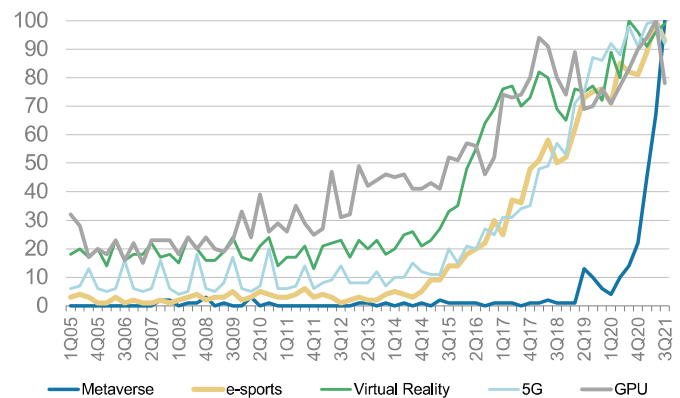
Why now? News flow around the Metaverse concept has been high and companies are embracing it in growing numbers. Of any major theme, the Metaverse is showing greater momentum of any we track.

Exhibit 6: Google search trend activity level for "Metaverse"



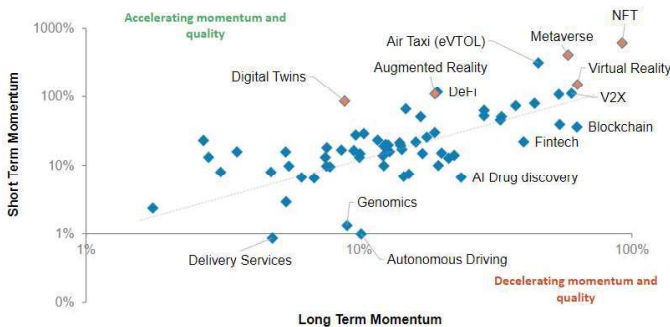
Source: Google Trends

Exhibit 7: Earnings transcript mentions by theme over time



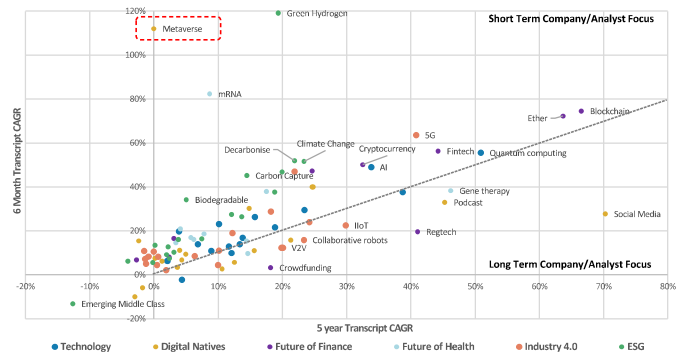
Source: AlphaSense, Morgan Stanley Research

Exhibit 8: 5-year vs 12-month Thematic Framework momentum



Source: Patentsight, AlphaSense, Pitchbook, Google Trends, Morgan Stanley Research

Exhibit 9: Theme acceleration/deceleration tracker – growth in 5-year transcript mentions versus 6-month transcript mention growth



Source: AlphaSense, Morgan Stanley Research

Luxury in the Metaverse

The next generation of spenders are spending an increasing amount of time absorbed in a variety of virtual worlds. Consequently, a number of fashion and luxury goods brands have been embracing and experimenting with how they can mesh the virtual and physical worlds. This takes a number of forms, from "try-before-you-buy" augmented reality applications to digital-only NFT clothing, which can be transported around and shown off in a variety of Metaverse experiences.

Terry Angelos, Visa's Global Head of Fintech:

"We see an emerging new category of commerce that we're calling NFT commerce. As this goes mainstream, there's a demand for consumers to be able to just use their credit card or their debit card to purchase an NFT. Most consumers don't need or want to host a digital wallet and own Ethereum. They just want to access a provably unique item that they can put on their avatar." 26th August 2021 – [Interview with Barron's](#)

The beneficiaries of this trend are the brands embracing NFT and Metaverse commerce, and those gaming platforms with whom they collaborate.

What Started with 'Vanilla' Digital AR Enhancement...

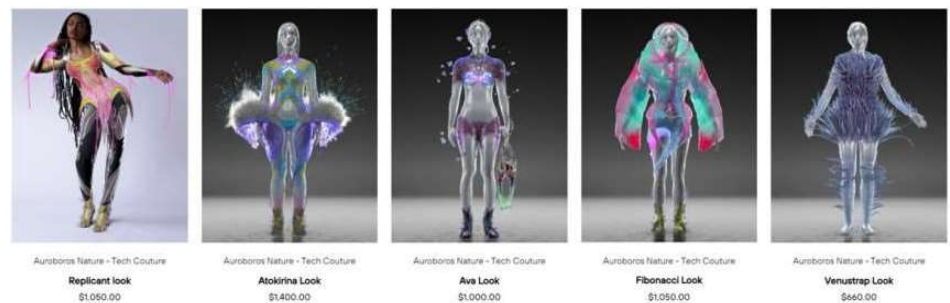
- In November 2019, **Tommy Hilfiger** committed to digital design. For both Tommy Hilfiger and Calvin Klein, parent company PVH Corp is trialling the ability to replace physical prototypes with digital prototypes, and replacing on-model photography with 3D garments digitally added to models.
- PVH went one further at Christmas in 2020: **Tommy Hilfiger's** virtual store had three colour-coded, themed rooms that looked and sounded like a store, including shoppable clothes.
- In June 2020, **Snapchat** partnered with **Wannaby**, which detects and maps the user's foot to digitally dress it in sneakers, to enable shoppable sneaker try-on within Snapchat.
- **Dior** CEO Pietro Beccari said in July 2021 that AR and virtual try-on were priorities. "This has proven an invaluable asset but only makes sense for us when it connects to real products, not solely virtual ones. At a time when things are happening remotely, and by phone, we find that clients appreciate getting to know a product a bit better before setting foot in a boutique."
- **Balenciaga** introduced its Autumn 2021 collection as a device-agnostic video game that brought viewers through a digital store, a street and then into nature, throughout which avatars wore the collection.

- **Farfetch** began testing Snapchat's apparel try-on tool with jackets from Virgil Abloh's Off-White collection.
- Digital-only fashion marketplace **DressX** recently introduced an app that lets people try on digital clothing using AR in real time instead of sending in photos to be digitally dressed.

...Moved to Digital-Only Speculative Assets...

- **DressX** – per its own website: *"We strongly believe that the amount of clothing produced today is way greater than humanity needs. We share the beauty and excitement that physical fashion creates, but we believe that there are ways to produce less, to produce more sustainably, and not to produce at all. At a current stage of DressX development, we aim to show that some clothes can exist only in their digital versions."* The company argues that not only do its clothes provide a unique digital token, but also the fact that they do not exist physically means the company is propelling forward the notion of sustainable fashion. Without the interoperability needed to take such clothes and other assets into gaming Metaverses, we are unconvinced that this form of fashion is the game-changer it claims to be.

Exhibit 10: A selection of digital-only clothing on the DressX store

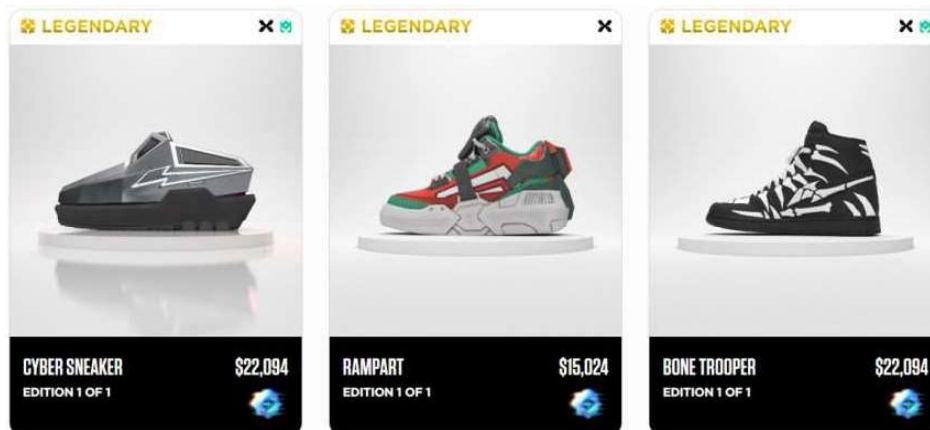


Source: DressX

- Designer **Patrick McDowell**, for a [fashion show in July 2020](#), designed virtual items based on Vatican City garments; viewers could pre-order physical clothing, or claim a limited edition digital garment, which could be "dressed" on the customer's picture or used in virtual spaces.
- In July 2020, London designer **Damara Inglès** presented an entirely virtual show as part of The Fabric of Reality VR
- **Carlings**: In November 2018, Scandinavian retailer Carlings sold out of a digital clothing collection in a week.
- **The Fabricant**: In May 2019, Dapper Labs auctioned an NFT dress designed by Dutch digital fashion studio The Fabricant. The winning bid was \$9,500 (in cryptocurrency), and the winner was digitally fitted in the garment.
- **Auroboros**, made up of Paula Sello and Alissa Aulbekova, was the first to show a digital-only ready-to-wear collection at a major global fashion week in June 2021.

- **RTFKT:** In March 2021, an RTFKT digital sneaker drop sold \$3.1 million worth of product. As with the DressX digital clothing above, the RTFKT line of footwear is digital-only.

Exhibit 11: RTFKT sneaker digital collection



Source: RTFKT

RTFKT (pronounced "artifact") case study

Benoit Pagotto, co-founder of RTFKT – which raised \$8 million in a funding round led by VC firm Andreessen Horowitz in May 2021 – said of the craze: "At the core this is all about community". The community is a network of like-minded creators experimenting with NFTs. They use Discord as their communication platform of choice, which has helped to grow the community and fuel the rise in popularity.

RTFKT's initial aim, Mr. Pagotto states, was to merge streetwear and gaming using NFTs as a medium. In his view, companies cannot simply buy their way in. Their involvement has to feel "authentic". This explains the rationale behind the collaboration with [established PC manufacturer NZXT](#).

As measured by average sale price of RTFKT digital goods on OpenSea, the collection has made over \$16.4m in sales since inception (at today's Ether price), with a high but volatile sale price of c20 Ether over the past month – \$94,000 equivalent per sale on average.

Exhibit 12: ETH price and volume over the past 90 days for RTFKT NFTs



Source: OpenSea

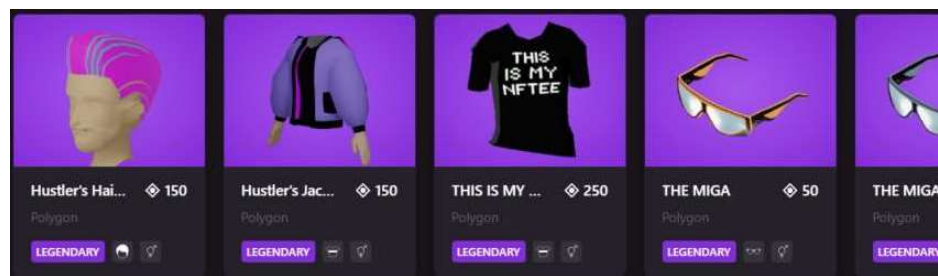
Exhibit 13: RTFKT and NZXT collaboration



Source: RTFKT

While the above lack interoperability, the below (albeit possibly less glamorous) can be transported with your avatar from one gaming ecosystem to another. This critical difference of interoperability gives the clothing and accessory items show-off value in blockchain-based gaming ecosystems like Decentraland and Cryptovoxels. Established luxury brands are attempting to find the best way of achieving both glamour and interoperability.

Exhibit 14: NFT market for Decentraland avatar accessories



Source: Decentraland, OpenSea

One could argue that, as art, these (above) digital-only clothing assets are tradeable commodities. Indeed, much like the rest of the NFT world, there is a high degree of speculation in the markets for digital-only footwear. Nevertheless, without interoperability to other parts of the Metaverse – gaming application, concerts or otherwise – the actual utility of such products is negligible without the ability to show them off. That is not to say the assets are not valuable to certain buyers in anticipation of true interoperability in the future; the timing is simply challenging to determine.

...Finally Ushering in Established Luxury Brands

The hope and hype of the current NFT enthusiasm and speculation have drawn the interest of larger, more established brands. This is being done in two ways: (1) NFT 'drops' and (2) gaming collaborations.

(1) Luxury Goods and non-fungible tokens (NFTs):

- **Gucci:** NFT called "Aria", a three-channel video playing on a loop, inspired by its autumn/winter 2021 collection, sold in a Christie's online auction last spring for \$25,000.
- **D&G:** "Collezione Genesi" NFTs, featuring items personally designed by Dolce & Gabbana co-founders Domenico Dolce and Stefano Gabbana, sold in September 2021 for \$5.7m.
- **Burberry:** Introduced its first NFTs through a collaboration with the Blankos Block Party game in August 2021, selling characters and accessories that are NFTs.
- **Louis Vuitton:** Introduced a new game in August 2021 as part of its 200th anniversary celebration, including branded avatars; players could enter to win one of 30 free NFT postcards.
- **DKNY:** In September 2021, introduced its new logo as an NFT, which it auctioned to benefit the American Nurses Foundation.
- A "Baby Birkin" NFT animation, created by Los Angeles-based creatives Mason Rothschild and Eric Ramirez, sold in a summer 2021 Basic.Space auction for the equivalent of \$23,500. **Hermès**, creator of the original *Birkin* bag, had no affiliation with the sale.

The NFT market holds major potential for limited-edition digital products. They could trade on secondary markets such as OpenSea but with irrefutable proof of ownership via the blockchain. This route to digital fashion provides near-term monetisation potential for brands.

(2) Luxury Goods and Metaverse gaming collaborations:

- **Gucci:** opened a "Gucci Villa" on Zepeto (a Metaverse platform popular in South Korea where users create avatars and socialise) in February 2021. Gucci has embarked on a broad strategy to create and occasionally sell digital clothing and accessories for avatars and games.
- **Balenciaga:** Within the Fortnite ecosystem, the company developed in September 2021 an in-game Balenciaga-themed hub, a real-world clothing line that gamers can buy and an in-game billboard advertising the store – which was also replicated in the real world.
- **Gucci:** In May 2021, the company opened a first-of-its-kind experience for two weeks in Roblox. Avatars absorbed visual elements of the space, and people could buy digital items
- **Ralph Lauren:** In August 2021, opened a virtual "map" on Zepeto. The brand is selling 50 digital items based on both vintage and current designs. Ralph Lauren has previously created virtual stores and partnered with Bitmoji.
- **Vans:** While demonstrably not a luxury goods brand, in September 2021 it opened a virtual space in Roblox, where people can socialise, skate, and create and wear custom shoes, which correspond with physical versions.

Gaming collaborations are a longer-term undertaking, but with the potential for less volatile and more structural growth than the NFT space, with new and younger audiences. Luxury companies appear to be amongst the most innovative of any industry when it comes to partnerships with social gaming Metaverse platforms (i.e. Roblox).

Where to From Here?

NFTs and Metaverse gaming act as an accelerant and an entirely new audience for Luxury Brands to tap into. Brands are in proof of concept stage for both NFTs and Metaverse gaming, and the evidence to date is that each concept works. Next comes monetisation.

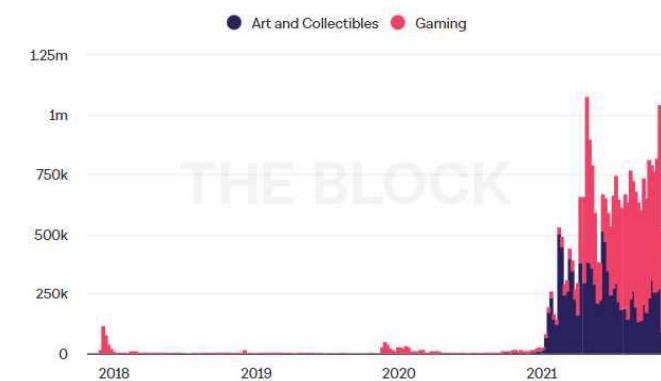
For now, we view the gaming and NFT market as separate discrete marketplaces for the Luxury companies to explore. In time, however, if the builders of a more cohesive Metaverse are able to create standardisation across platforms, which allows for interoperability – i.e., the ability to take your avatar and its NFTs from one experience to another – then we could begin to start thinking about a single Metaverse Luxury TAM. For the moment, however, interoperability is still several years away and thus investors would be best advised to compartmentalise the two, albeit driven by many of the same underlying structural drivers. We explain each of the two markets below and our estimate of the total addressable market in each case.

Luxury Goods as NFTs

Luxury goods are at the crossroads of two of the most important NFT markets: collectibles and gaming (discussed in greater detail below). For the moment, however, while gaming NFTs are more actively traded each week (4 to 5 times more), there is no comparison between the average selling price between gaming NFTs and collectible NFTs. The latter is where the Luxury brands are exploring how they can integrate their products with these new sales channels and demographic.

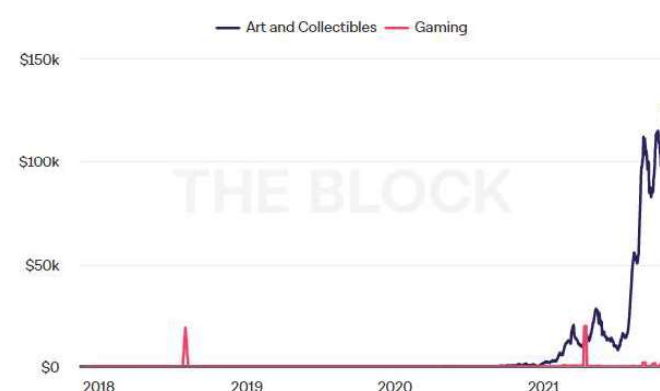
At its peak in August 2021, weekly traded volume of Art and Collectibles NFTs surpassed \$800m in value transacted. So far this year, c\$13bn in aggregate value has changed hands as NFT trading velocity and volatility has increased (source: The Block, a digital asset data aggregator). Most of the NFT value traded within this Art and Collectibles category include well known NFT names like CryptoPunks and Bored Ape Yacht Club. However, an increasing volume and value of traded items are coming from more established fashion brands.

Exhibit 15: NFT trading volume by week (Art & Collectibles and Gaming categories)



Source: The Block

Exhibit 16: Average NFT sale price by week (Art & Collectibles and Gaming categories)



Source: The Block

While the breadth and quantity of NFTs continues to grow, the number being released in aggregate by Luxury Goods brands is still relatively small. The proof of authenticity provided by blockchain technology allows for a high scarcity value if supply of NFTs from Luxury brands remains disciplined.

Proof of concept: D&G

There are a growing number of Luxury companies exploring this new channel of brand promotion, ultimately with the aim of selling supply-constrained Luxury Goods items that will be treated as "collectibles" or as items that can be sold on secondary markets such as OpenSea or, in the case of luxury NFTs and in order to create a heightened sense of exclusivity, in dedicated secondary luxury marketplaces, such as Exclusible or UNXD, or the brands' own secondary marketplaces (e.g., champagne brand Dom Perignon, part of luxury conglomerate LVMH, launching a limited edition collaboration with Lady Gaga in October 2021).

This is something that Dolce & Gabbana demonstrated recently. The company sold at auction a nine-piece collection of NFTs for c1,900 Ether – at the time of sale an equivalent price of c\$6m. The virtual-only "Golden Impossible" jacket was sold for 99.99 Ether. Similarly, the virtual-only "Impossible Tiara" sold for 99.99 Ether. While virtual only, their eventual worth may lie in the interoperability, which will allow such NFTs to be worn by gaming or virtual world avatars.

Exhibit 17: The Lion Crown – 292 Ether (\$1,200,000)



Source: UNXD

Hybrid items such as the "Dress from a Dream: Silver", which is both a digital and physical piece, fetched 188.1 Ether. Finally, "The Dress from a Dream: Gold", again in digital and physical form, sold for 225.5 Ether (c\$1m at the time of writing). Of the nine pieces for sale, in total five were sold alongside a physical replica of the digital NFT, two of which are shown below.

Exhibit 18: The Gold Glass Dress NFT – 225.5 Ether (\$940,000)



Source: UNXD

Exhibit 19: Glass Suit NFT – 351 Ether (\$1,450,000)



Source: UNXD

While there is no secondary marketplace yet for owners of the D&G NFT collection to trade to other NFT collectors, this is "coming soon", according to the UNXD website – the studio behind the digital creations. It is not yet clear whether the NFT and physical product would need to be traded to a new owner as a set or whether the two could be separated. Clearly, though, given the ability to dress virtual-world avatars with digital items and NFTs such as those above, the value to owners is likely to be in the combined ownership of digital and physical.

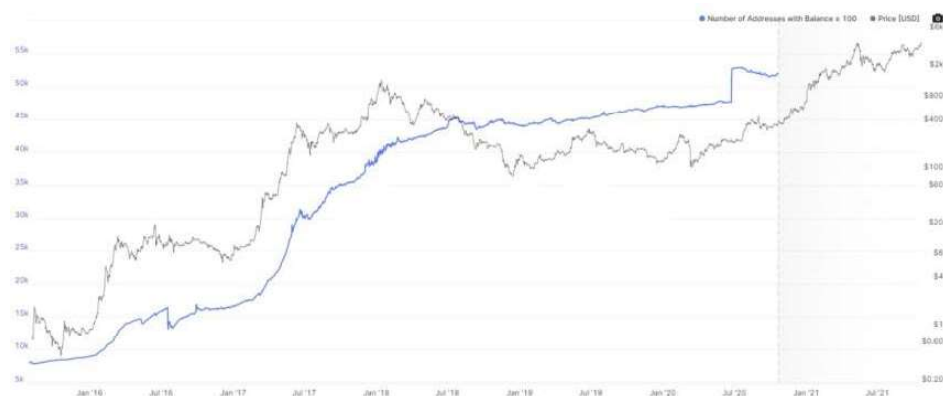
While digital-only products clearly limited real-world utility, the market for hybrid physical and NFT products has promise, in our view – further exemplified in gaming collaborations, as we go on to discuss in more detail below.

With NFT drops (i.e., digital product launches where the inventory of digital products is made available on the blockchain and trading platforms) occurring in limited quantity for the time being, their financial value to a Luxury brand is minimal for the time being. This could change rapidly, as there are minimal costs associated with registering an NFT equivalent of a piece of real-world clothing on a blockchain. The cost is anywhere between \$50 and \$200 for the administrative costs of 'minting' an NFT. For the Luxury brands, the return on this investment – as shown by the example above – can be large and immediate. We wouldn't be surprised to see more hybrid product launches coming to market over the coming years.

The expanding target audience

Investors struggling to understand who would be willing to spend >\$1m on a piece of digital or hybrid fashion need to consider this in the context of a broadening market size of wallets containing substantial amounts of Ether. If we take the cut off of wallets containing >100 ETH and thus theoretically able to participate in the above D&G NFT drop, this figure stands at over 50,000 wallets/potential buyers. Moreover, this figure has increased from fewer than 10,000 in 2016, (according to data from GlassNode, a crypto data aggregation website) who would have been able to participate (albeit the price of ETH was substantially lower then). If the number of wallets containing >100 ETH were to maintain its 3-year CAGR trajectory of 12%, the number of potential buyers in a similar luxury NFT drop in 2025 and 2030 would be 81,000 and 144,000 respectively.

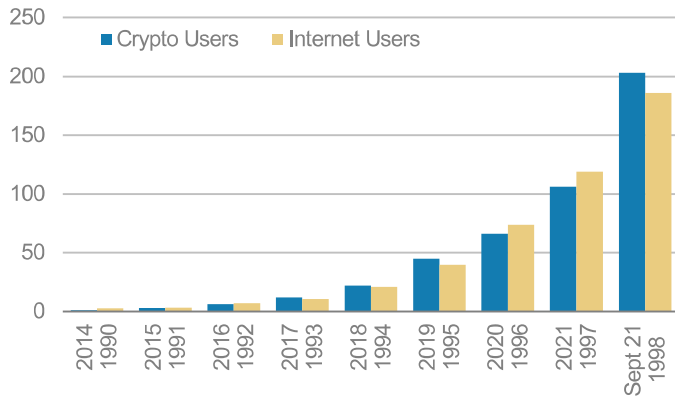
Exhibit 20: Ethereum wallets containing more than 100ETH



Source: GlassNode

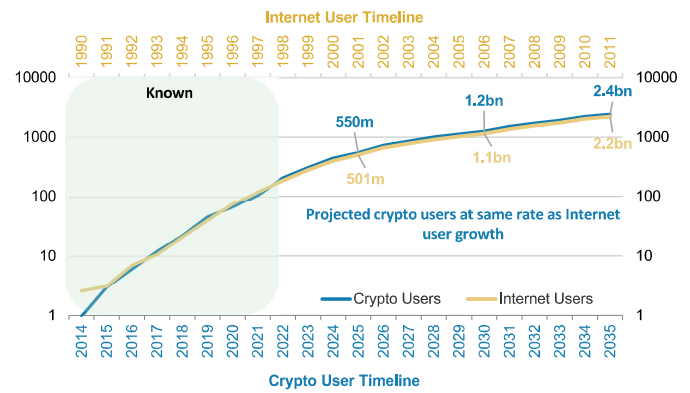
As we have pointed out in [prior research](#), there is a comparison to be made between crypto-user growth today and internet-user growth of the late 1990s. There are a number of reasons why crypto-user growth could or should be faster still. Nonetheless, the comparison provides a neat basis from which to estimate where crypto-user growth could in theory get to over the coming decades. [Please see our launch on the cryptocurrency landscape here.](#)

Exhibit 21: Known crypto-user growth and internet user growth trends overlaid



Source: Crypto.com, Morgan Stanley Research

Exhibit 22: Crypto-user growth extrapolated based on historical internet user growth trends



Source: Crypto.com, Morgan Stanley Research

The Financial Opportunity

As our colleague Omar Sheikh recently laid out in his [initiation of Universal Music Group](#), the collaboration with digital platforms is adding multiple new TAM expansion opportunities for consumer-facing sectors. By his estimates, the Metaverse – comprising both music concerts and NFT spending – could expand the music industry TAM by >\$3bn, with Universal Music set to take c\$1bn of this uplift based on c30% market share estimates. Indeed, the size of the potential Metaverse audience and likely increase in spending per user over the coming decade could result in a comparable end result to Universal Music as can be achieved via a major social media platform like Facebook or TikTok, in his view.

Exhibit 23: Digital Platform potential upside for Universal Music Group (base case)

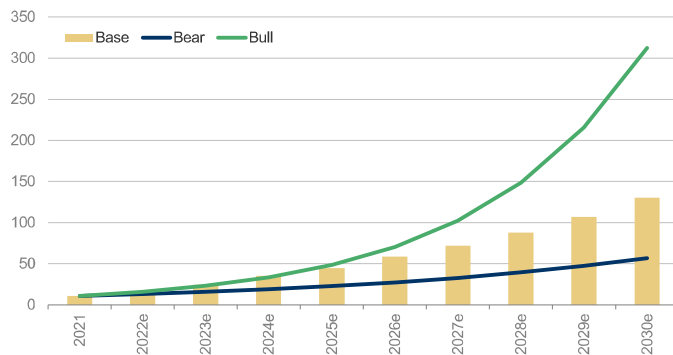
	TikTok	Facebook	Snap	Peloton	Other Fitness	Video Games	Metaverse Concerts	Other Metaverse	Sub-total	YouTube	TOTAL
MAUs (m)	2,500	3,841	545	20	20	3,000	200	100	9,926	2,700	12,626
x % of MAUs consuming licensed music	70%	30%	20%	100%	100%	20%	n/a	n/a	37%	60%	42%
= MAUs consuming music (m)	1,750	1,152	109	20	20	600	n/a	n/a	3,651	1,620	5,271
x # of streams per user per month (m)	300	300	300	200	200	200	n/a	n/a	1,500	525	2,025
= # of music streams per year (m)	6,300,000	4,148,280	392,400	48,000	48,000	1,440,000	n/a	n/a	12,376,680	10,206,000	22,582,680
x Revenue per stream (cents)	0.05	0.06	0.06	3.75	2.63	0.06	n/a	n/a	0.10	0.11	0.11
as % of revenue per paid stream	8.0%	10%	10%	616%	431%	9%	n/a	n/a	17%	18%	18%
= Music rights owners revenue (\$m)	3,070	2,527	239	1,800	1,260	818	600	2,500	12,814	11,435	24,248
x Universal Music share (%)	20%	30%	30%	30%	30%	30%	30%	30%	28%	10%	19%
= Universal Music revenue (\$m)	614	758	72	540	378	245	180	750	3,537	1,143	4,681
+ 1.17 = Universal Music revenue (€m)	525	648	61	462	323	210	154	641	3,023	977	4,000

Source: Morgan Stanley Research estimates. Note: Facebook, Snap and Alphabet are covered by Brian Nowak.

We take a slightly different approach using the above history and crypto-user extrapolations (Exhibit 22) as a foundation for our view on where the NFT market place could conceivably grow in the coming years. The NFT market is clearly highly volatile; nonetheless, it is expected – in simple 'value transacted' terms – to be worth close to \$15bn in 2021 (according to DappRadar). If we extrapolate forward this market size using the above growth estimates and with a +/- 20% CAGR variance, we generate a potential NFT base case market size of c\$150bn by 2030 and a blue-sky scenario of >\$300bn by 2030.

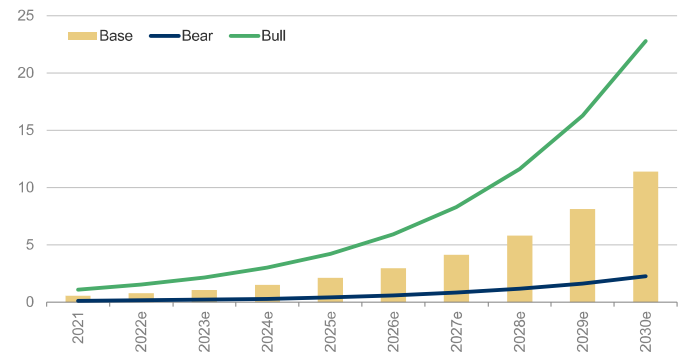
Within this overall NFT market estimate, we then need to deduce the Luxury share. Luxury NFT transactions are likely to remain negligible for some time (<1% of total), we believe, given the high-volume/low-value NFT activity in gaming applications particularly. However, the transaction value could be substantially higher – as evidenced by the recent activity in the low-volume/high-value collectibles market of late. Consequently, if we ascribe 1%/5%/10% bear/base/bull assumptions for the Luxury share of the total NFT market transaction value, we generate a €10bn and €20bn base and bull case Luxury NFT TAM, respectively.

Exhibit 24: NFT market size forecast ranges (\$m)



Source: Morgan Stanley Research estimates

Exhibit 25: Luxury collectibles NFT transaction market size forecast ranges (€m)

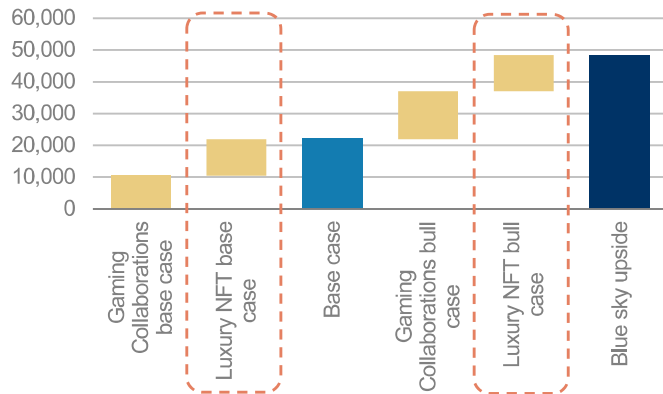


Source: Morgan Stanley Research estimates

Drop-through is the real opportunity

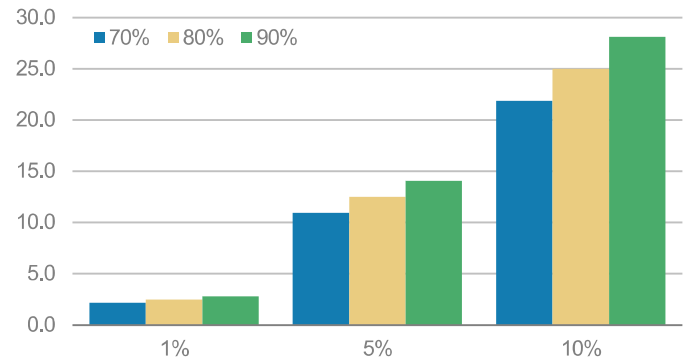
While Luxury Goods will likely constitute less than 1% of all NFT transaction volume for the foreseeable future (based on OpenSea data of gaming vs collectibles volumes traded), if the category were to account for 5% of NFT value transacted in 2030 – which we believe is possible – at a 90% drop-through to profit, the uplift to industry EBITA could be €15bn annually. This compares to an industry EBITA profit pool of c€95bn (forecast by Bain in 2030), albeit this would change as underlying token values fluctuated.

Exhibit 26: Base and bull case Luxury in the Metaverse revenue bridge



Source: Morgan Stanley Research estimates

Exhibit 27: NFT uplift to Luxury industry EBIT €m at various drop-through rates (x-axis = Luxury portion of NFT transaction value)



Source: Morgan Stanley Research estimates

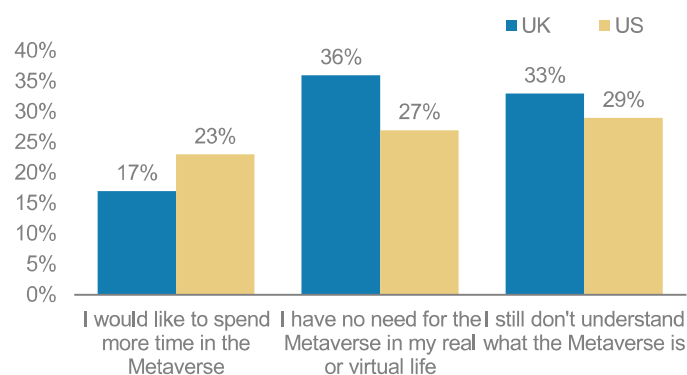
Luxury Goods in Social Gaming

In its current state, Metaverse applications provide ideal exploratory sandboxes for fashion brands looking to:

- Demonstrate first-mover innovations (many of which we describe below);
- Explore through trial and error which games, experiences and demographics respond best to varying forms of investment; and
- Reach a subset of Gen Z, younger Millennials and in due course Generation Alpha.

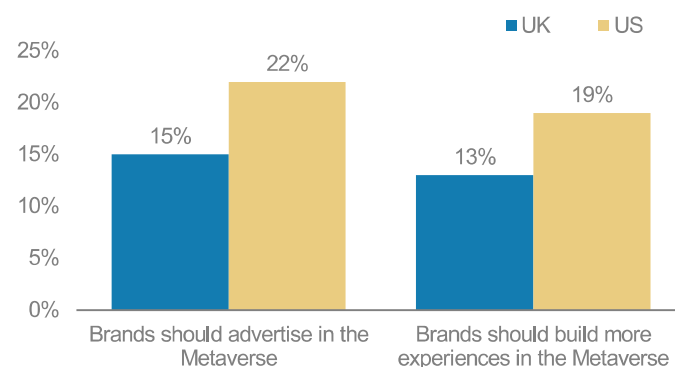
According to a [September 2021 Forrester survey](#), a large proportion of consumers are not aware of what the Metaverse is – albeit Google search volumes suggest this is rapidly changing, led by South Korea and the US. Despite this lack of knowledge about what the Metaverse is or whether it is needed, there is nonetheless a growing belief that brands should not only advertise in these virtual worlds but also to build their own dedicated experiences on Metaverse platforms such as Roblox, as we go on to explain.

Exhibit 28: Awareness of UK and US population to the Metaverse



Source: Forrester, Morgan Stanley Research

Exhibit 29: Demand for brand presence in the Metaverse



Source: Forrester, Morgan Stanley Research

Gaming Collaborations Are Proliferating

We are not typically referring to AAA games here, whose top priority is winning or achieving objectives. Rather, what excites us is the emergence of social gaming as a sales channel. The aim on these platforms is to socialise and display brands and unique items (including NFTs) in the same way that one might on traditional social media platforms.

In essence, we see two major benefits to expanding fashion and luxury brands' reach beyond social media and into the gaming and Metaverse arena.

1. Brands able to advertise during music and gaming events to tens of millions of virtually immersed gamers who are also potential future customers.
2. Users – via their avatars – are able to wear their digital designer clothes, accessories and NFTs as a means of differentiating themselves from the crowd, in much the

same way as is achieved through Instagram, but to a much larger concurrent audience.

The result is that fashion labels are expanding at pace into the entertainment and gaming spaces. We note a few examples:

- **Balenciaga (collaboration):** Balenciaga recently announced a partnership for in-game merchandise. There will also be an in-game Balenciaga-themed hub, a real-world clothing line that gamers can buy and an in-game billboard advertising the store – this billboard also appeared concurrently in the real world in New York, London (below), Tokyo and Seoul. The billboard in itself was a groundbreaking 3D advertising experience in London's Piccadilly Circus in keeping with the digital virtual world in which the collaboration is taking place.

Exhibit 30: Balenciaga gaming collaboration



Source: Kering

Exhibit 31: Balenciaga 3D advertising in London coinciding with in-game billboard advertising



Source: Morgan Stanley Research

- **Balenciaga Afterworld (own brand):** Balenciaga released its Fall 2021 fashion collection in the form of a video game. Players travel through a wonderland-style dystopia, passing avatars dressed in ripped jeans and elaborate boots. The "Afterworld: The Age of Tomorrow" video game is structured in five different levels, or "zones", which the player simply has to walk through, following a predetermined path of glowing arrows. It is a basic but immersive experience to engage with a new more virtual audience.
- **Burberry and Honor of Kings (collaboration):** Burberry has unveiled two exclusive designs for Honor of Kings, which marks the mobile game's first co-creation with a luxury brand on its "Legend" skin offering. Riccardo Tisci, Burberry's chief creative officer, has exclusively designed two skins for the mobile game's popular heroine, Yao.

Exhibit 32: Afterworld: The Age of Tomorrow

Source: Kering

Exhibit 33: Burberry collaboration with Honor of Kings

Source: Honor of Kings – Tencent company presentation

- Gucci and Roblox (collaboration):** While platforms such as Roblox make money from in-game purchases, they also offer brands a route to tap new audiences. Roblox has more than 42 million daily active users, with its fastest growing demographic 17- to 24-year-olds. Roblox makes it easy and relatively low cost for creators to develop content, meaning the barrier to entry is low and a useful forum to test the waters with a number of avenues for engaging with customers of younger ages. In The Gucci Garden, Roblox players were able to purchase several virtual Gucci products ranging in price from free to the equivalent of approximately \$10. There was such an excitement to buy these exclusive add-ons that one of the "purses" re-sold in the game's marketplace went for more money than the purse costs in real-life.
- Gucci and Animal Crossing (collaboration):** With the game's surge in popularity, many brands have taken the initiative to build their own islands to host and reconnect with consumers inside Animal Crossing. The latest to do so is Gucci Beauty, which has collaborated with three gamers – LexPlay, Kang Gaming and Canton.Crossing – to design GG Island, inspired by the iconic elements of the #ForeverGuilty campaign film for the Gucci Guilty scents.

Exhibit 34: Gucci Garden in Roblox

Source: Roblox Capital Markets Day

Exhibit 35: Gucci Store in Animal Crossing

Source: Animal Crossing

Social Gaming Meets Music Meets Luxury

Gaming is simply one vertical through which Luxury Goods companies can reach digital audiences. Equally relevant are virtual music concerts. Gaming is still a critical enabler because these concerts are tending, for the most part, to occur within gaming ecosystems like Roblox and others.

These virtual music events are interesting for Luxury for two reasons: (1) they are theoretically limitless in their scope, imagination, physics and attendance. Attendees at the events are able to socialise wearing designer in-game avatar accessories from brands that have partnered with the platform – a natural extension of the above Balenciaga gaming collaboration. (2) They are growing both in attendance and frequency. This is a major structural growth opportunity for brands who are looking to collaborate with certain musicians and their fans. Our channel checks suggest this point about music audiences is a major contributing factor as to why Luxury Brand collaborations are more prevalent than generic fashion company collaborations.

- **DJ Marshmello (February 2019):** By joining Showtime mode, **c11 million** concurrent viewers saw a large concert stage featuring a Marshmello avatar. As the music played, Marshmello was being broadcast to players, urging them to make their avatars dance along to the music. The show was c10 minutes long and filled with interactive elements.
- **Weezer (March 2019):** Perhaps a more novel approach than the aforementioned artist was Weezer's in 2019. The band "made" an island that features songs from their new record, The Black Album. Players can visit "Weezer World" by jumping into the game's Minecraft-style Creative mode. The island is based on a theme-park but with the intention of marketing the new songs to a young demographic.
- **Travis Scott (April 2020):** This event broke records for concurrent players in the battle royale gaming platform. More than **12 million** concurrent viewers (and 27 million unique viewers) were recorded for the performance, which featured an elaborately produced set that lasted around 10 minutes. The official Twitch stream reached an average audience of 2.3 million people. The YouTube replay has been watched >170 million times at the time of writing.
- **Ava Max (October 2020):** More than a million people showed up to an album launch party inside the virtual world of Roblox. American pop star Ava Max held a "virtual fan meetup" in the game to celebrate the launch of her new album, Heaven & Hell. Despite its more simple purpose, 1.156 million unique players nonetheless showed up for the event, with a peak concurrent total of 166,620 people.
- **Lil Nas X (November 2020):** The singer performed to an audience of millions across two days and four shows. While the company has not given comparable concurrent viewer figures, the audience numbered 33 million total viewers (albeit this included repeat viewers so is not comparable to those reported by other gaming platforms).
- **Zara Larsson (May 2021):** The event was sponsored by the pop singer to promote the deluxe version of her recent album Poster Girl. The event game opened on May 18th and included a variety of activities for players to do before the show started, including a trivia quiz and a scavenger hunt.

- **Ariana Grande (August 2021):** The latest major event was Ariana Grande's event held across multiple days and had 5 shows to cater to different time zones around the world. While equally bold in its creation and physics, the more psychedelic event followed the artist through space and time and allowed for continuous costume changes of her avatar. Viewing figures have not been released by the company; however, the YouTube replays were watched nearly **5 million** times in the subsequent month.
- **Muse (September 2021):** In an update of the band's 2019 Simulation Theory tour, the group took to a relatively new VR platform, Stageverse, to perform an immersive 2-hour set. The concert could be viewed over VR and Mobile devices and doubled as a means of friends meeting up in avatar form to socialise.

Exhibit 36: Ariana Grande – Rift Tour



Source: YouTube

Exhibit 37: Lil Nas X – Old Town Road



Source: Roblox

Other Opportunities: Product Placement and Festivals

One final, more minor consideration for Luxury brands is in other digital marketing. Many of the examples above involve gaming collaborations that are overtly trying to sell in-game or digital-only products to gamers from dedicated and branded in-game stores, for example. There is an emerging trend of in-game product placement; a more subtle means of influencing gamers' spending patterns in the real world.

Hamilton Watches' product integration in Ubisoft's (covered by Omar Sheikh) game "Far Cry 6" will see a lead character wearing its product upon its release in October 2021. It is worth putting this form of collaboration in context. Hamilton Watches was founded in 1892 and now as a subsidiary of the Swatch group. It is making strides to reach a new audience through innovative product placements. We await the game launch to see what the brand impact from such a partnership could be.

Boson Protocol is another company using billboards in the Metaverse. Boson paid \$700k for a plot of virtual land in Decentraland and has started a recruitment campaign for the real world using this piece of virtual real estate. It also has a number of billboards in Cryptovoxels attempting to normalise the concept of virtual-only advertising.

The newest innovations through which partnerships may emerge are virtual festivals.

While not dissimilar to the music examples above, multi-day festival events are now occurring with no gaming element to them. These are purely social occasions in which people's avatars meet and interact, providing yet more experiences through which companies will in time be able to access an increasingly virtual audience.

Exhibit 38: Billboard advertising in Cryptovoxels



Source: Cryptovoxels

Exhibit 39: Virtual BurningMan event



Source: BurningMan (Kindling)

The Financial Opportunity

We are, of course, early in this market's development. Consequently the structure of deals between fashion companies and luxury goods brands will continue to evolve. However, the symbiotic benefits for both parties are already evident and the potential for lucrative deals is clear.

Our channel checks suggest that a number of these gaming and fashion collaborations to date have been done on a break-even basis – i.e., the fashion brand pays to cover the costs of design and integration in the game. There is a mutual halo effect benefit to both parties, but revenue generation has so far been a secondary consideration to simply proof-of-concept. In time, however, the agreements are likely to look increasingly like those struck between general retailers and Metaverse gaming platforms (the example of Hasbro and Roblox below). The revenue-sharing agreements will relate particularly to (1) sales of in-game branded luxury goods skins [such as Balenciaga's](#) and (2) how revenue is divided in the event that a luxury company has a dedicated in-game store.

A non-Luxury monetisation example: Hasbro x Roblox

The announcement: In April this year, Roblox and Hasbro announced they would collaborate across in-game experiences and physical toys. The deal highlights another example of in-game spend, sponsorship and advertising opportunities that Brian Nowak estimates could add over \$1bn to Roblox's base case long-term EBITDA.

The collaboration: NERF blasters based on some of the most popular experiences on the Roblox platform (including Adopt Me!, Arsenal, Jailbreak, Murder Mystery 2, and others) and a Roblox-inspired version of Hasbro's Monopoly board game are part of the collaboration. The NERF blasters will be available for purchase in the US this autumn (with other markets to follow) and will include a code that Roblox users can redeem for a matching avatar virtual blaster. Clearly, this collaboration makes most sense given Roblox's younger audience. NERF will also be launching its own NERF-branded experience on Roblox.

Impact on numbers: Existing partnerships include Nike, Gucci, NFL, DC Comics, and others. Morgan Stanley does not expect any one of these partnerships alone to materially move estimates, but these growing partnerships (and brands' increasing willingness to experiment within Roblox) are important in building larger long-term in-game spend, as well as advertising and sponsorship revenue streams. On the NERF deal specifically, Roblox is expected by MS analyst Brian Nowak to take a mid-teens licence revenue share on any Roblox branded physical items (NERF blasters, Monopoly games), in addition to its standard 70% share of any Roblox spent on NERF branded items in the avatar marketplace. See Brian Nowak's [full report here](#).

Assumptions

Given we are still at an early stage in how these revenue-sharing agreements are being structured between gaming and luxury goods companies, we opt instead for a revenue-per-user approach to sizing the total addressable market. The assumptions we make are as follows:

- The gaming user base expands by a 6% CAGR to 2030 and, within this, the number of users/gamers engaging in Metaverse experiences grows at double the pace.
- In-game spending rises by a 10% CAGR to over €100 per user per year, of which, the share spent on Luxury in-game items doubles to over 5% from a negligible portion today.
- We know that the Personal Luxury TAM today is just over €200bn, according to Bain. We assume this compounds at c8% to 2030, similar to its trajectory of the past decade.

The blue-sky implication of this is that 5-10% of the Personal Luxury TAM could be driven by in-game spending over the coming decade.

Exhibit 40: Metaverse gamers and in-game spending

	2020	CAGR	2030
Gaming (Millions)			
Gamers	3,000	6%	5,373
Metaverse Gamers	500	15%	2,023
% Total Gamers	17%		38%
Luxury Goods			
Average spend per player (€)	40	10%	104
In-game spending (€m)	20,000		209,863
% spending on Luxury Goods	2%		5%
Luxury Goods Games Spending (€m)	400		10,493
Personal Luxury TAM (€m)	230,000	6%	415,797
Metaverse % total Luxury TAM	0.2%		2.5%

2030 Market Size Forecasts	Bear	Base	Bull
2020 Gamers		3000	
2020 Metaverse Users		500	
% Metaverse		17%	
Growth in Metaverse Users	12%	15%	17%
2030 Metaverse Users	1387	2023	2054
Average spend per player	52	104	124
In-game spending	71,927	209,863	255,747
% spending on luxury items	2%	5%	10%
Luxury Goods & Gaming market (€m)	1,439	10,493	25,575
Luxury TAM		230,000	
Metaverse % Personal Luxury TAM	0.6%	4.6%	11.1%

Source: Morgan Stanley Research estimates

Given a wide range of unknowns, we flex these inputs further to allow investors to understand the potential upside to the Luxury industry's TAM in the event that our expectations prove too conservative over the longer term.

Exhibit 41: 2030 market size potential for in-game Metaverse Luxury Goods spending (€bn)

	% Spent on Luxury Goods											
	2%	3%	5%	8%	10%	12%	14%	15%	18%	20%	22%	24%
Spend per player												
25	1.0	1.5	2.5	4.0	5.1	6.1	7.1	7.6	9.1	10.1	11.1	12.1
45	1.8	2.7	4.6	7.3	9.1	10.9	12.7	13.7	16.4	18.2	20.0	21.8
65	2.6	3.9	6.6	10.5	13.1	15.8	18.4	19.7	23.7	26.3	28.9	31.6
85	3.4	5.2	8.6	13.8	17.2	20.6	24.1	25.8	30.9	34.4	37.8	41.3
105	4.2	6.4	10.6	17.0	21.2	25.5	29.7	31.9	38.2	42.5	46.7	51.0
130	5.3	7.9	13.1	21.0	26.3	31.6	36.8	39.4	47.3	52.6	57.9	63.1
150	6.1	9.1	15.2	24.3	30.3	36.4	42.5	45.5	54.6	60.7	66.8	72.8
170	6.9	10.3	17.2	27.5	34.4	41.3	48.1	51.6	61.9	68.8	75.7	82.5
190	7.7	11.5	19.2	30.7	38.4	46.1	53.8	57.6	69.2	76.9	84.6	92.2

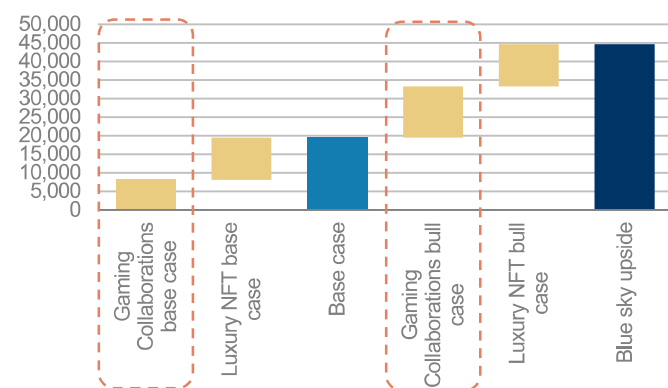
Source: Morgan Stanley Research estimates

Profit calculations are more complex for the Luxury collaborations in the Metaverse gaming space than they are for the NFT. The cost of minting NFTs is small and relatively well documented: typically less than \$200. Our base case assumption is that an NFT EBIT drop-through of 75-80% is achievable.

By contrast, the gaming industry's collaborations with brands are new and relatively opaque. As we have mentioned, gaming collaborations have to date operated on a break-even partnership in many cases. However, our channel checks suggest that these gaming collaborations could converge on a c25% EBIT drop-through for the Luxury companies over the long term.

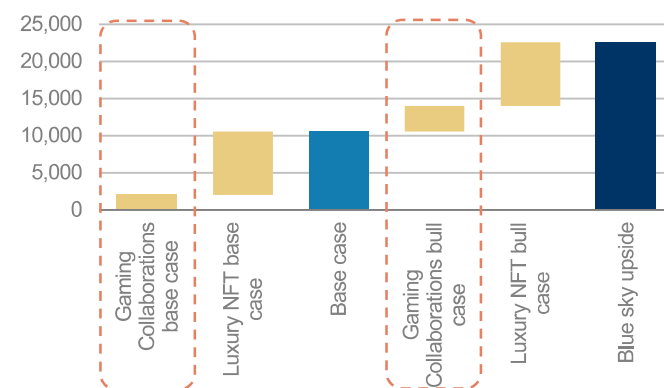
The reason for the markedly lower contribution to EBITA is a combination of design and implementation costs as well as profit-share licensing agreements favouring the gaming companies over the longer term. The result is that where gaming collaborations constitute 40% of our revenue by 2030, they account for only 20% of our Luxury Metaverse profit bridge by 2030.

Exhibit 42: 2030 base and bull case Luxury in the Metaverse revenue bridge (€m)



Source: Morgan Stanley Research estimates

Exhibit 43: 2030 base and bull case Luxury in the Metaverse EBIT bridge (€m)



Source: Morgan Stanley Research estimates

Conclusion

What's in it for the gaming companies?

- Engagement: As in the example of Roblox above, an increased number of experiences leads to increased attention, engagement and in-game spending. If brands can keep users in the ecosystem for more minutes per day, this is in their mutual interest.

What's in it for brands?

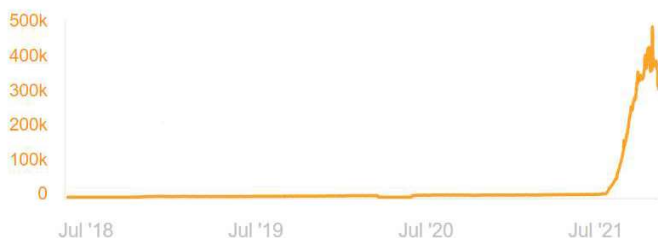
- A halo effect: Beyond the eventual financial implications, perception is arguably of greater importance at this stage. Brand presence and a general halo effect surrounding a brand as it tries more novel approaches of reaching younger audiences earlier should be rewarded with greater virtual and real-world engagement.

Demographics Are Key

A Captive Audience

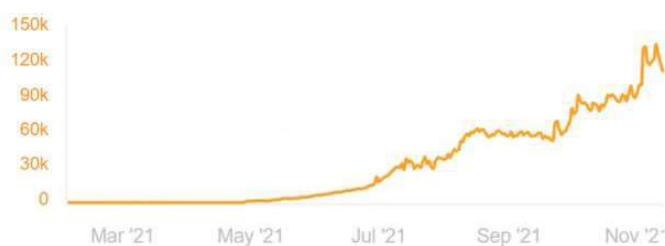
Gaming is no longer purely about winning nor about achieving objectives necessarily. Increasingly, games are a means through which younger generations can socialise. This also acts as a gateway for brands to access a hard-to-reach demographic: Gen Z. If consumers are to spend a significant amount of time on platforms in the Metaverse – particularly Metaverse and rapidly growing play-to-earn gaming platforms (below) – it is inevitable that this time will be monetised through the use of advertisements in the virtual world.

Exhibit 44: Number of unique wallet addresses playing Splinterlands daily



Source: DappRadar

Exhibit 45: Number of unique wallet addresses playing Axie Infinity daily

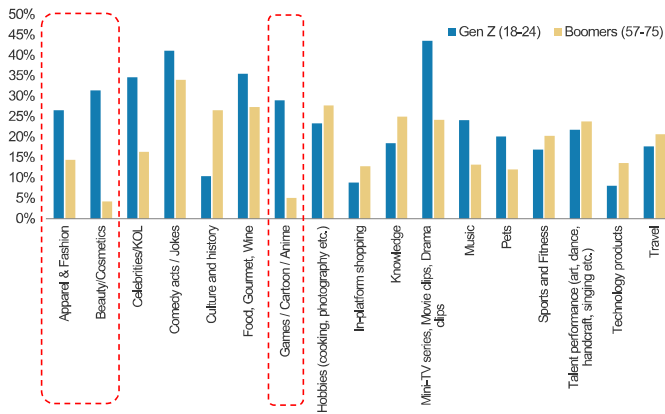


Source: DappRadar

There are a number of reasons why games and Metaverse experiences are an attractive and logical medium for brands to grow their presence with over the coming years:

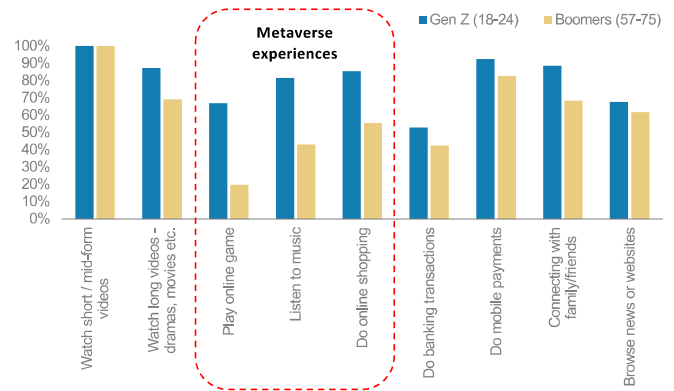
(1) Gen Z vs Boomers: Gen Z are engaging with technology in a profoundly different way to previous generations. This is best exemplified in China. Short-form video is the most popular use for all age cohorts in China and, if we look at which content Gen Z is engaging in relative to Baby Boomers, it is clearly fashion, consumer goods and gaming content. If we look beyond short-form video at the uses of smartphones over the past month, the difference in smartphone use cases by generation is still pronounced: the categories with the greatest inter-generational delta are gaming, music and online shopping. This triumvirate is consequently a logical path for fashion collaborations too.

Exhibit 46: Types of video content viewed on Douyin



Source: AlphaWise, Morgan Stanley Research. See [here](#) for the original research.

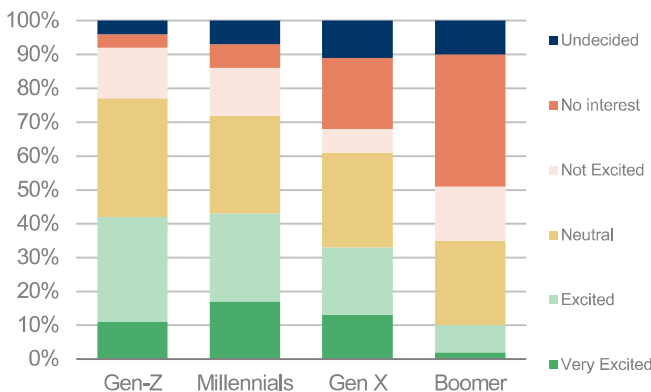
Exhibit 47: Uses of smartphone over the past month by generation



Source: AlphaWise, Morgan Stanley Research. See [here](#) for the original research.

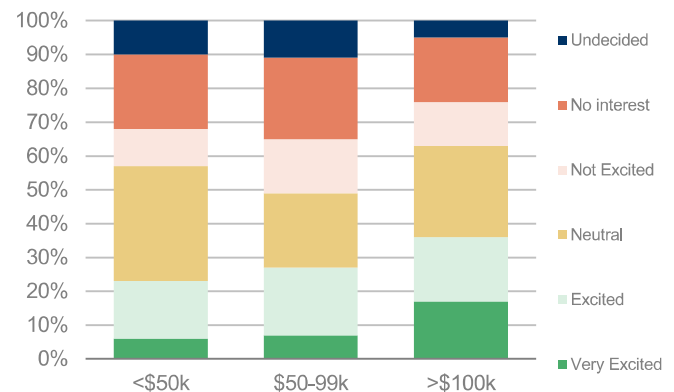
It is no surprise that gaming tends to be a past-time for younger consumers and likely always will be. The transition to fully immersive virtual reality (VR) Metaverse experiences also naturally lends itself to the same younger cohorts. VR is not a prerequisite for Metaverse experiences, nor gaming platforms; yet it adds to the immersive experience, encouraging longer game time. Most Metaverse platforms – like Roblox and others – can be accessed across 7 other mediums from PC to mobile. Nonetheless, increasingly cheap headsets, particularly driven by Oculus Quest's market-leading prices (c\$300-400), is allowing the technology to be more accessible to consumers of all income levels.

Exhibit 48: US population excited to try AR/VR headsets by age group



Source: Harris Poll (June 2021), sample size = 2010

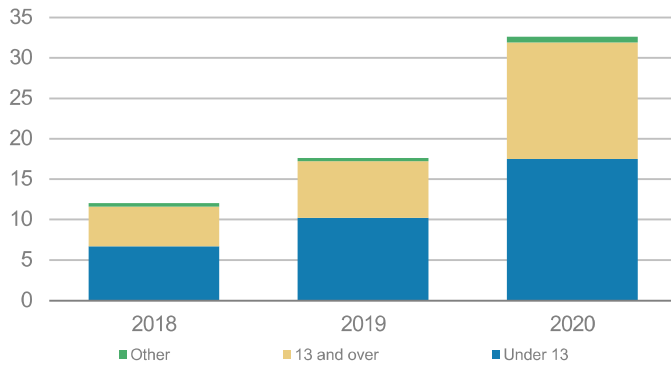
Exhibit 49: US population excited to try AR/VR headsets by wealth group



Source: Harris Poll (June 2021), sample size = 2010

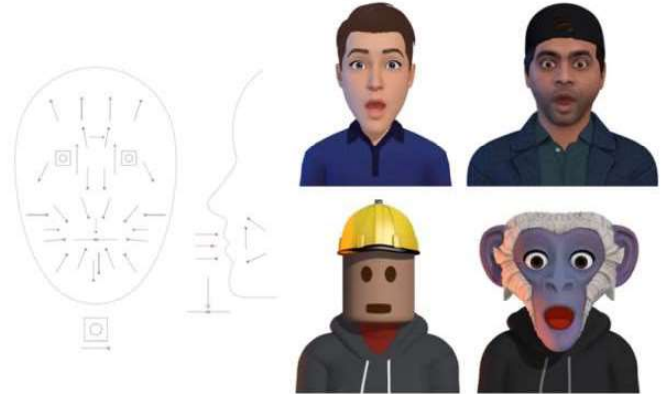
(2) Age mix blending higher with more human avatars: Two years ago, the majority of Roblox's users were under the age of 13. Despite this younger cohort generating strong 62% CAGR in daily active user statistics, the user base over the age of 13 saw a 71% CAGR over the same time – 17-24 is the highest-growth cohort for the company (reinforcing the company's "age-up" strategy). Roblox attributes this success in diversified growth to its investment in broadening its avatars and creation tools to allow for substantially more lifelike avatars. While younger users tend to prefer more esoteric avatars, older users of the platform tend to prefer those with a greater likeness to themselves. This serves a dual purpose of also increasing the ability to wear or exhibit digital fashion and take it from one experience to another.

Exhibit 50: Roblox daily active users by age



Source: Company data, Morgan Stanley Research

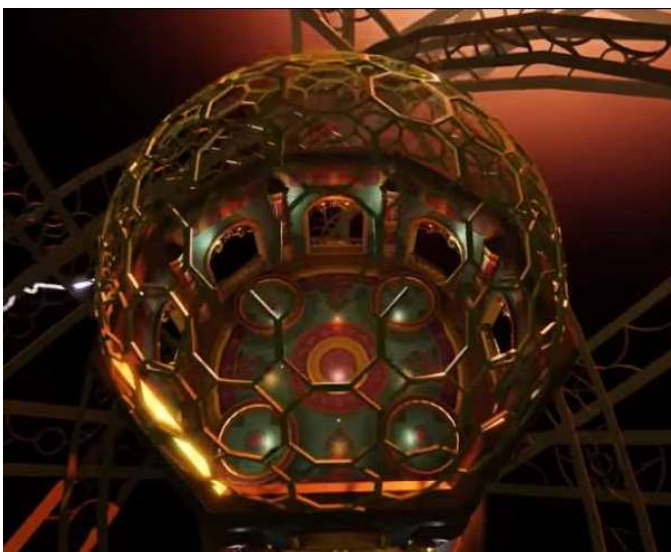
Exhibit 51: Roblox's increasingly anthropomorphic avatar offering



Source: Roblox Capital Markets Day

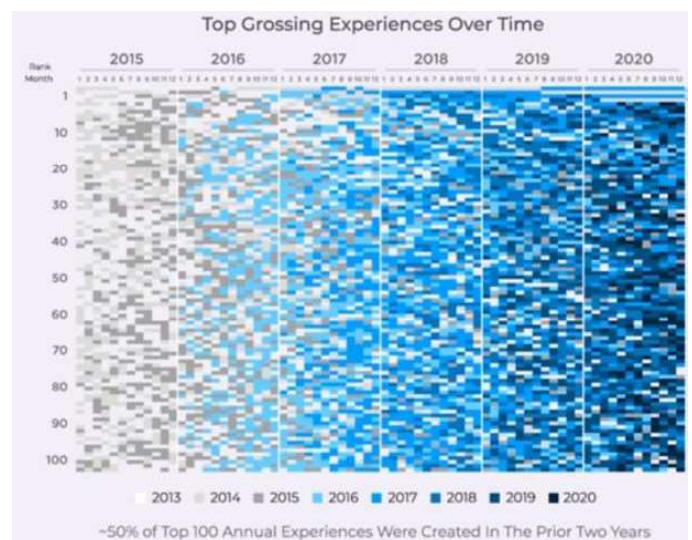
(3) Rendering and variety: Again, similar to the avatar point above, younger gamers are generally either ambivalent to or prefer more pixelated game-scapes. By contrast, older users have tended to prefer more lifelike renderings of virtual worlds, which enhance the immersive experience. Improved rendering of realistic landscapes – but crucially also items, NFTs and avatar accessories – has the potential to encourage greater demand for in-game items and thus improved structural growth potential between brands and gaming companies. Moreover, interoperability between in-game experiences is rising. Thus, ownership of a luxury 'skin' or NFT could – at least within the Roblox Metaverse – be transferred instantaneously between over 20 millions experiences. This substantially increases the utility and 'worth' of digitally owned objects such as luxury goods.

Exhibit 52: 2020 Roblox rendering



Source: Roblox Capital Markets Day

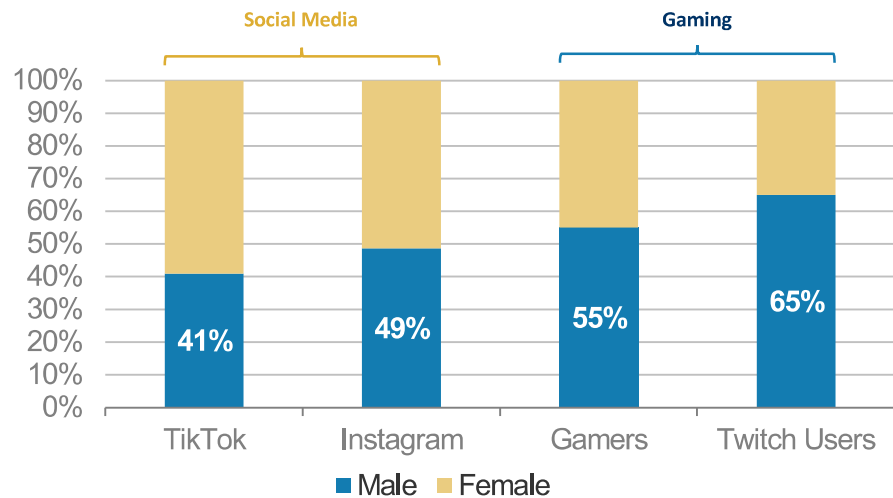
Exhibit 53: Top grossing Roblox experiences over time by year of creation



Source: Roblox Capital Markets Day

(4) Gender re-balance: As we will go on to explain in greater detail below, Luxury brands are not only looking to access younger demographics; they are also exploring ways to balance their gender sales distribution. This is – simply by looking at the high-level demographic splits – more achievable through an expansion into the gaming ecosystem than can be achieved simply through strong social media strategy execution.

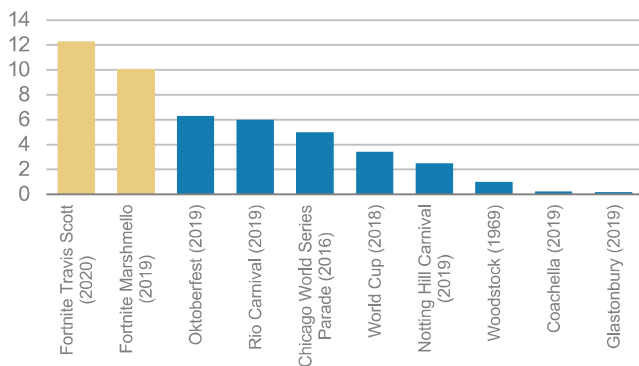
Exhibit 54: Global gender split by platform users



Source: Statista, Morgan Stanley Research

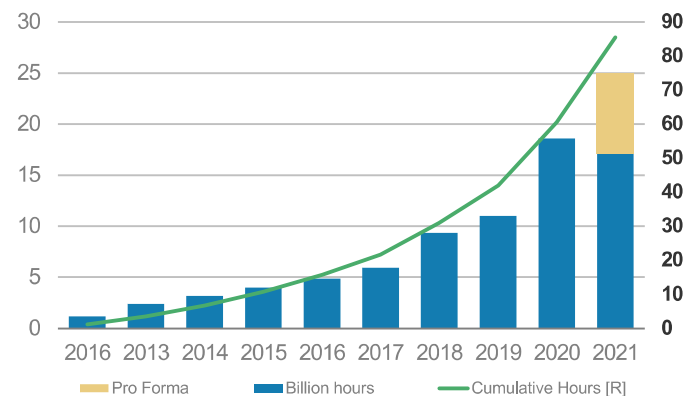
(5) Concurrent viewers: The benefit of the ever-expanding Metaverse platforms – such as Roblox and others – is that they provide both (1) interoperability of assets and 'skins' allowing users/gamers to show off their digital possessions to an audience around them in much the same way that Instagram is used as a platform for displaying similar physical world possessions; and (2) the reach of the audience is vast. Travis Scott and Marshmello's performances were watched or attended by over 22 million people (and subsequently re-watched by tens of millions more). The separate but equally important growth in third-party viewership of games and e-Sports – as measured by concurrent viewers on platforms such as Twitch – make for a lucrative and rapidly growing audience who are not immersed in a game using an avatar, but who are watching as onlookers and thus are still a target audience for fashion brands to cater to.

Exhibit 55: Attendees for traditional and virtual entertainment events (yellow = virtual)



Source: Event websites, Morgan Stanley Research

Exhibit 56: Twitch gaming streaming hours watched (billion)

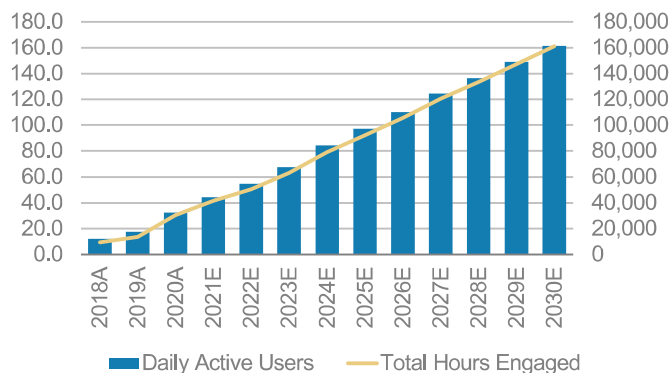


Source: Twitch, Morgan Stanley Research

6) Structural long-term user growth: Brian Nowak forecasts Roblox to grow steadily over the remainder of the decade: he projects the compound growth in hours, daily active users and in-game spending to rise at a mid-teen CAGR to 2030, irrespective of the age of the user on the platform. This forward visibility of users provides brands and advertisers a clear indication as to the capital that should be deployed to access the

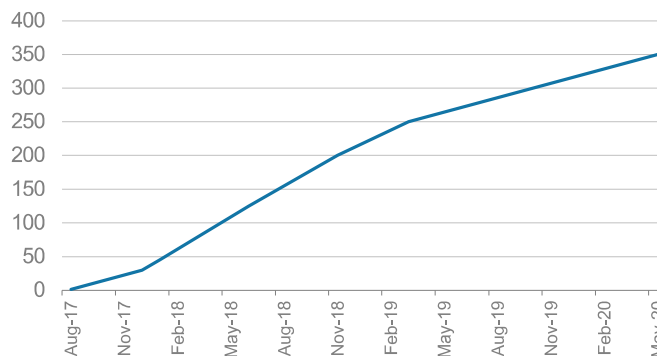
Gen Z market. Roblox is not the only platform – Naver's Zepeto, other battle royale platforms and increasingly Facebook – are all aligning themselves with this structural growth in Metaverse activities.

Exhibit 57: Roblox daily active users and hours (millions)



Source: Roblox, Morgan Stanley Research estimates (E)

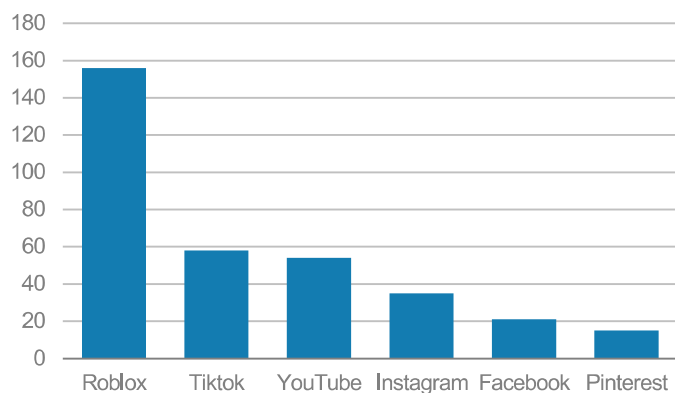
Exhibit 58: Fortnite registered users



Source: Statista, Morgan Stanley Research

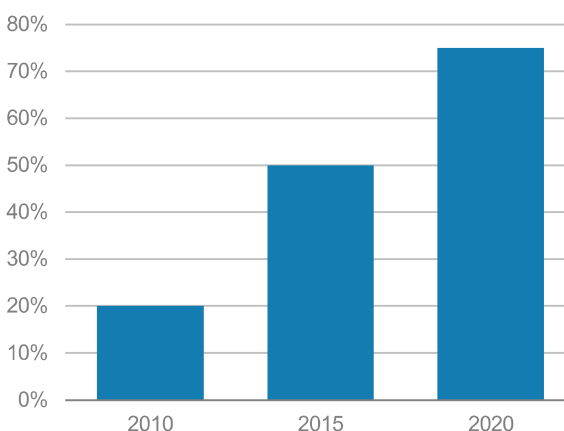
(7) Time spent = increased spending: Instagram and other social media platforms used, in part, to display fashion and luxury goods are valuable for their broad user base, but also for the time spent by users on the platform engaging in the content. While Metaverse applications such as Roblox currently lag the likes of Instagram in overall user figures, this is in part made up for by the fact that Roblox users spend substantially more time engaged in Metaverse experiences each day than comparable users do on any other traditional social media platform. This level of immersion makes these gaming platforms highly lucrative ecosystems within which fashion and luxury brands can experiment and ultimately sell their products – a trend where we expected to see structural growth.

Exhibit 59: Average time spent per platform (minutes per day)



Source: Company data, Morgan Stanley Research

Exhibit 60: Proportion of game revenues from in-game virtual items



Source: ARK, Morgan Stanley Research

(8) A robust economy: The ability for users to create, buy and sell their own creations within the Metaverse ecosystem allows for monetisation – not typically achievable in generic gaming ecosystems. This in turn draws an older audience as spending figures grow and digital currencies generated from sales of content can be transferred back into physical fiat currencies if users so wish.

Appendix

Exhibit 61: Luxury and fashion brands venturing into NFTs

Luxury /Fashion	Date	Facts	Comments
Gucci	Jun-21	Four-minute video clip sold at a Christie's auction for \$25,000	First established luxury brand to venture into the NFT design realm. Surprisingly, the Italian <i>maison</i> 's debut NFT offering was not a fashion item, but a film inspired by its Aria collection, co-directed by Gucci's creative director Alessandro Michele and award-winning photographer Floria Sigismondi.
Jacob & Co	Apr-21	First Luxury Watch NFT sold for \$100,000	The Jacob & Co. SF24 Tourbillon timepiece, a digital <i>pièce unique</i> , reached the impressive amount in a 24-hour auction.
AURA (Cartier, LVMH and Prada)	Apr-21	Cartier together with LVMH and the Prada Group announced the creation of the #AuraBlockchain Consortium, supporting the first global blockchain solution dedicated to the luxury industry.	The consortium will promote the use of a single global blockchain solution open to all luxury brands worldwide to provide consumers with additional transparency and traceability. Essentially, this is a single solution to address the shared challenges of communicating authenticity, responsible sourcing and sustainability in a secure digital format.
RTFKT	Feb-21	An augmented reality NFT Metajacket Sale of virtual hypebeast sneakers; design three new styles of virtual shoes that bidders can "try on" via Snapchat	Fetches a price of \$57,323. In under seven minutes, 600 pairs were sold, earning RTFKT \$3.1m.
D&G	Aug-21	Collezione Genesi	NFTs included <i>haute couture</i> pieces with virtual components designed personally by Domenico Dolce and Stefano Gabbana.
D&G	Sep-21	Nine-piece collection of digital NFTs for around \$5.7m (1,885.719 Ether) sold at auction	The collection was hosted by luxury marketplace UNXD, which functions on the Polygon platform that facilitates the building and connecting of blockchains.
Burberry	Aug-21	\$395,000 worth of Burberry NFTs were sold on Mythical Games' Blankos Block Party, priced between \$24.99 and \$299.99 with limited quantities	Burberry receives proceeds from every sale and secondary sale among players of Blanko Block party, at whatever price. The company is entering the space by pricing and selling NFTs through a platform that has a built-in audience and is inherently designed around the concept of buying and trading NFTs. Attaching value to items risks seeing that value deteriorate and implicitly assumes that players will pay for Burberry-designed wares.
Louis Vuitton	Aug-21	30 free NFTs, as 10 editions of 3 design each awarded to players of its newly developed game entitled "Louis the game"	Wenew created NFT minted with LV ethereum wallet. By designing its own game, Louis Vuitton has more control of the environment but must convince people to download another app. By giving away only a limited supply of free NFTs, it doesn't risk price sensitivity, but essentially relies only hype as a measure of success. For the 30 people who win a Louis Vuitton NFT, the NFTs cannot be withdrawn until January 2022, so the brand misses out on the potential for immediate secondary market sales that often come with soaring values.
Karl Lagerfeld	Sep-21	Limited edition of animated caricature Karl Lagerfeld sold as an NFT on The Dematerialised; priced at €77 and available to 777 buyers. The second version, sold at €177 in an edition of 77, is considered a premium version	According to the Lagerfeld company, collectors will be able to update the figurine's look and wardrobe through subsequent digital drops.
Balenciaga	Nov-20	Balenciaga x Fortnite last year's fall 2021 collection was presented in a closed gaming environment called "Afterworld: The Age of Tomorrow"	-
Clinique	Oct-21	Launched its first NFT with a social media campaign competition, allowing entrants to win one of three NFTs inspired by the brand's most iconic products, Black Honey and Moisture Surge	Instead of selling NFTs, EL gave shoppers who have signed up to its rewards scheme the chance to receive free products for 10 years, along with one of three editions of an NFT artwork. Called "Meta Optimist", the NFT is a conceptual "molecule" that changes colours based on two of its most popular products.
Givenchy	Jun-21	Givenchy Parfums launched its first NFT in support of LGBTQIA+ causes; offers a digital work with limited edition of 1,952 copies in aid of the Le MAG Jeunes association	

Source: Company data, Vogue, WWD, Highsnobity; Morgan Stanley Research

Exhibit 62: NFTs funding details

Name of company	Company description	Location	Controlling shareholder/Founders	Date of latest funding round	Series	Money raised	Implied valuation	Lead VC of latest round	Comments
Sandbox	Blockchain gaming platform	Hong Kong	Animoca Brands	Nov-21	B	\$93m	-	SoftBank	Similar to video game Minecraft, Sandbox allows players to build a virtual world from creating their own avatars to buying digital plots of land. Players can monetise all in-game items, from the virtual real estate they developed to the weapons they created for the character. These items can be traded on the platform's marketplace as NFTs (i.e. digital assets stored on a blockchain that determines the ownership of objects). As an NFT-based open Metaverse, Sandbox is known for its partnerships with over 165 brands – including Snoop Dogg, The Walking Dead, The Smurfs, Care Bears, Atari and CryptoKitties – "to create voxelized versions of their worlds and characters on the platform". Binance, Bored Ape Yacht Club, Socios, the Winklevoss twins and CoinMarketCap have all bought digital land in this Metaverse. Sandbox said the capital raised would enable the company to scale its growth as a digital entertainment destination where brands and celebrities can engage virtually with their fans. The blockchain gaming platform so far has amassed 12,000 digital land owners, according to its statement. The company said it had generated a gross merchandise value of more than \$144m as of November 2.
Decentraland	Ethereum-powered virtual reality platform	Argentina	Esteban Ordano and Ariel Mellich founders	Jan-20	Venture-Series unknown	\$25.5m	-	Digital Currency Group	Decentraland (MANA) is a virtual reality platform powered by the ethereum (ETH) blockchain. It allows users to create, experience and monetise content and applications. Users can buy plots of land that they can navigate, build upon and monetise. MANA is an ethereum-based token that is burned to acquire NFTs in the platform's Metaverse. It can also be used to buy avatars, wearables, names, and more.
CryptoVoxels	Virtual world built on the ethereum block chain. The world consists of a city called Origin City	New Zealand	Ben Nolan	-	-	-	-	-	Origin City has streets that are owned by The Corporation, and parcels that are owned by individual people. If you have an ethereum wallet, you can buy a parcel. Land prices quadrupled from \$821 per parcel last year to \$3,895 in the first two and half months of 2021.
Somnium Space	VR world built on the ethereum blockchain	London, UK	Artur Sychov	May-19	Seed	\$1m	-	-	Users can buy digital land, homes, buildings, and myriad in-game assets of value in its online multiverse. Each land parcel is a NFT(ERC 721). Anybody can buy or sell land at any time, peer-to-peer via the OpenSea marketplace. All transactions are stored on the ethereum blockchain as true proof of ownership, so when you buy and own that land token, you officially and unquestionably own that piece of land. Every Somnium Space land token has unique co-ordinates, which represent a specific location on the Somnium Space map.
Exclusible	Platform for digital goods that allow customers to buy, trade and showcase exclusive branded NFTs	Paris, France	Tioga Capital, White Star Capital and Indico Capital Partners	Aug-21	Seed	\$2.5m	-	Exclusible is funded by 5 investors. APEX Capital and António Félix da Costa are the most recent investors	The company plans to launch a global luxury NFT platform where users will be incentivised with gamification and social elements. Users will also be allowed to share their NFTs and build a community around brands. Exclusible has signed letters of intent with high-end designers and aims to launch later this year with a number of luxury brands, the company said in a statement.
Genies	An avatar technology company	California, US	Funded by 60 investors	May-21	B	\$65m	Post-money valuation range \$100-500m as of May 3, 2021, according to PrivCo	Bond, Malex Enterprises and Gaingels are the most recent investors	Genies is the virtual identity for people to express themselves in the digital world. It started with celebrities to capture moments for events such as album releases, song drops and guest appearances, and it saw greater use over the pandemic. That has helped celebrities generate revenue even when they can't go somewhere in person. Genies is now expanding this to wider consumer groups in beta form. It offers tools that enable a 6- to 16-year-old teenager to create their own digital wearable and goods collection and then release it in the marketplace and sell to the masses as well.
RTFKT	Creators of virtual sneakers and collectibles, merging realities in fashion and gaming	Utah, US	Funded by 6 investors	May-21	Seed	\$8m	-	Andressen Horowitz and NahCC03 are the most recent investors	RTFKT creates limited edition custom sneakers, along with a unique digital copy stored on the blockchain that the customer can trade, sell or gift immediately, enabling customers and custom apparel fans to enjoy wearing their shoes both in real life and in their online avatars. The company made history this February selling \$3.1m worth of NFT sneakers in just seven minutes. It has achieved \$4.5m in revenue this year alone, far exceeding the \$600,000 seen in 2020.
Dapper Labs	Consumer-focused flow blockchain product made for fun and games. Supports digital collectibles	Canada	Funded by 92 investors	Sep-21	D	\$250m latest round (total funding till date \$607m)	\$7.6bn valuation	Coatue is leading the new investment	Famous for NBA Top Shot, it has 1.1 million registered users, who together have traded more than \$780m. The capital will be used to enhance the fan experience, develop new IP and expand the Flow blockchain, which Dapper Labs describes as a "fast, decentralised, and developer-friendly blockchain" for a new generation of games, apps, and the digital assets that power them.

Source: Company data, Vogue, WWD, Highsnobity; Morgan Stanley Research

Exhibit 63: NFT prices

Artist/Company	Name of NFT	Category	Date highest price sold	Highest price paid	Description of product	How many NFTs in circulation	Initial launch date	Comments
Dapper Labs	CryptoKitties	Collectible (image)	Sep-18	600 ETH (\$170,000)	Digital Pet	-	Nov-17	CryptoKitties is the world's first game built on the ethereum network. Users can collect and breed digital cats called CryptoKitties. Most of the game's appeal comes from its breeding system and the unique offspring that can emerge from it. When two CryptoKitties breed, their offspring's appearance, biography and traits result from each parent's 256-bit genome, leading to 4-billion possible genetic variations. (50,000 Gen 0 Kittens).
Yuga Labs	Bored Ape	Collectible (image)	Oct-21	\$3.4m	Bored Ape Yacht Club #8817	10,000	Apr-21	Bored Ape Yacht Club sells profile pictures of disinterested-looking apes with randomly generated traits (fur, eyes, mouth, background colour) and accessories (clothes, earrings, hats).
Larva Labs	CryptoPunk	Collectible (image)	Jun-21	\$11.7m	Alien punk	10,000	Jun-17	There are only 10,000 unique CryptoPunks (6,039 males and 3,840 females), all of which are made digitally scarce through the use of blockchain technology. Each one was algorithmically generated through computer code and thus no two characters are exactly alike, but some traits are rarer than others. They were originally released for free and could be claimed by anyone with an ethereum wallet.
Beeple	Everydays: The First 5000 Days	Art (painting)	Apr-21	\$69m	Digital work/image	1	Feb-21	Everydays: the First 5000 Days is a digital work of art created by Mike Winkelmann, known professionally as Beeple. The work is a collage of 5,000 digital images created by Winkelmann for his Everydays series.
Grimes	Death of the Old	Art (music)	Mar-21	\$6m (highest NFT 'Death of Old' was \$389,000)	Video	10	Mar-21	A series of 10 pieces: the bulk of the sales came from two pieces with thousands of copies available that sold for \$7,500 each. The works, titled "Earth" and "Mars" are both short videos featuring their titular planet with a giant cherub over it holding a weapon, also set to original music. Nearly 700 copies were sold for a total of \$5.18m before sales closed.
Dapper Labs	Top Shot	Sport collectible	Feb-21	\$1m	Digital asset	-	-	NBA Top Shot is an online exchange that sells NFTs of NBA highlights, and is licensed by the NBA. Top Shot users "own" the NFT, but the NFT is subject to a licence that allows them to do a small number of things, such as buying, holding and selling the digital highlight in personal, non-commercial settings.
Dolce & Gabbana	Nine-piece collection	Luxury	Sep-21	\$6m	Nine-piece virtual/physical collection	9	Sep-21	This nine-piece collection of digital NFTs, sold at auction (alongside some actual couture) for a total of 1,885.719 Ether, equivalent to nearly \$5.7mn.
Mason Rothschild and Eric Ramire	Baby Birkin	Luxury	May-21	\$23,500	Digital image	1	May-21	3D animations of Hermès Birkin Bags 40 weeks pregnant with a child.
Jacob & Co	SF24 Tourbillon	Luxury	Apr-21	\$100,000	SF24 Tourbillon	1	Apr-21	Jacob & Co. turned its SF24 Tourbillon timepiece into an NFT and sold the digital watch for \$100,000 at a 24-hour auction on the ArtGrails NFT platform. The anonymous bidder paid in cryptocurrency. The timepiece is based on the Jacob & Co. Epic SF24 model, a travel watch with a world time-zone display, similar to that of a traditional split-flap timetable listing 24 cities around the world. This digital version stands out from the physical SF24 with a functioning tourbillon and a working split-flap system that, rather than international cities, displays 10 different cryptocurrencies such as bitcoin, ethereum and fantom. The SF24 NFT also comes with a specially designed box and certificate, welcoming the Jacob & Co. luxury experience to the digital world.

Source: Company data, Reuters, crunchbase, Vogue, Highsnobity, Morgan Stanley Research

Exhibit 64: Notable recent Metaverse, AR and VR venture capital activity

Date	Company	Raise (\$m)	Company Description	Country HQ
10/11/2021	Sandbox VR	37	VR social immersive social experience using full body motion capture	US
02/11/2021	Sandbox Open NFT	93	Open Metaverse platform, buy land, own NFTs, play-to-earn	US
03/11/2021	Gather	50	Metaverse platform	US
02/11/2021	Threedium	2	3D and AR democratization platform with a no code engine	UK
01/11/2021	DGene	20	Virtual production and immersive entertainment platform	China
26/10/2021	Trilite	9	Small projection display be mounted on glasses for AR use	Austria
21/10/2021	Mojito	20	NFT metaverse for users to sell physical products	US
20/10/2021	Superplastic	20	Immereive world with wacky characters	US
19/10/2021	Echo3D	4	Cloud platform for 3D/AR/VR	US
13/10/2021	Stage11	6	Immersive Music Experience Startup	France
12/10/2021	DeHorizon	9	Community-Powered Metaverse Game	US
11/10/2021	Playdough	2	Blockchain Gaming Platform	UK
05/10/2021	Sky Mavis	152	Blockchain-Based Games (Axie Infinity)	Singapore
01/10/2021	Supersocial	5	Developer And Publisher Of Experiences For The Metaverse	US
27/09/2021	3i	24	Immersive Experience Company Specializing In Metaverse Technology	South Korea
23/09/2021	Bloktopia	4	Virtual Reality Metaverse For Crypto	UK
23/09/2021	Dapper Labs	250	Nba Top Shot And The Flow Blockchain	Canada
21/09/2021	Sorare	680	Fantasy Soccer Platform	France
19/08/2021	Highstreet	5	Commerce-Centric Metaverse Accessible On Browsers And Native PC VR	Canada
27/07/2021	DataRobot	300	Enterpie AR Platform	US
30/06/2021	Multinarity	28	Stealth Mixed Reality Platform	Israel
24/06/2021	VRChat	80	Social VR Platform	US
23/06/2021	Moth+Flame	3	Virtual Reality Training Technology	US
16/06/2021	Otherworld	4	Out-Of-Home Virtual Reality Experience With Immersion Pods	UK
14/06/2021	XYZ Reality	28	Engineering-Grade AR Platform	UK
04/06/2021	XRHealth	9	VR Extended Reality And Therapeutic Applications	US
03/06/2021	Help Lightning	3	Remote Visual Assistance Software	US
01/06/2021	Red 6	30	AR Synthetic Air Combat Training	US
19/05/2021	Avatour	3	Remote Collaboration Platform For Site Meetings	US
11/05/2021	SightCall	42	AR-Based Visual Assistance Platform	US
22/04/2021	holoride	12	Immersive XR In-Vehicle Media Platform	Sweden
09/04/2021	AmazeVR	10	VR Concert Platform	US
27/03/2021	Virtuix	19	VR Entertainment System	US
23/03/2021	Blippar	5	AR Content Creation Platform For Web And Mobile Apps	UK
23/03/2021	AppliedVR	29	Virtual Reality-Based Treatments Aimed At Treating Chronic Pain	US
11/03/2021	Pico	37	Virtual Reality And Enterprise Solutions	US
18/02/2021	YBVR	2	360-Degree Streaming To Provide A Video Platform	US
17/02/2021	EdgyBees	10	AR Aerial Video Streams With Geoteags - First Responders And Military	Israel
17/02/2021	Interplay	18	3D And Virtual Reality Platform For Trade Workers	US
09/02/2021	Nanome	3	VR Platform To Study New Molecules	US
28/12/2020	Threedy	2	Instant3Dhub Platform For AR/VR Development	Germany
19/11/2020	Transfr VR	12	VR-Based One The Job Training Platform	US
29/10/2020	PORTL Hologram	3	Hologram-Based Communication Platform	US
28/10/2020	Tilt Five	8	AR-Based Entertainment System Provider	US
27/10/2020	Shoppable	3	VR Shopping Platform	US
20/10/2020	Vectary	7	3D/AR Design Platform	Slovakia
15/10/2020	Avataar.me	7	VR-Based Immersive Shopping Experiences	India
08/10/2020	Envisics	50	AR Holographic Display	US
24/09/2020	Camera IQ	14	AR Platform For Camera Marketing	US
21/09/2020	Osso VR	14	Virtual Reality Distribution Platform	US
07/09/2020	Nreal	40	Portable AR Headsets	China
21/08/2020	Fabric	1	Social And Immersive Augmented Reality Experiences	US
12/08/2020	Varjo	54	Virtual And Mixed Reality Headset For Enterprise Use	Finland

Increased focus within the VC space on Metaverse platforms rather than AR/VR

Metaverse	
VR	
AR	

Source: The above is based on third-party data from Finsmes, Techcrunch, Livemint and press reports in Reuters and Yahoo. Data are not confirmed and the companies have not commented.
Source: Morgan Stanley Research

Valuation Methodology and Risks

Kering (PRTP.PA, current share price €681.5 as at 11 November 2021)

We use a DCF-based valuation methodology, as we think this best reflects Kering's margin potential and cash flow generation. We assume a WACC of 7.4% & long-term growth rate of 2.5%.

Risks to Upside

We may be underestimating both the top line and margin progression at Gucci brand, which could lead to earnings upgrades and a further re-rating. We may be underestimating the growth potential at YSL & recovery potential at BV.

Risks to Downside

Acceleration at Gucci brand is largely attributed to the success of Creative Director Alessandro Michele. If key talent leaves, it could jeopardize growth.

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STOCK RATING CATEGORY	COVERAGE UNIVERSE		INVESTMENT BANKING CLIENTS (IBC)			OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC)	
	COUNT	% OF TOTAL	COUNT	% OF TOTAL IBC	% OF RATING CATEGORY	COUNT	% OF TOTAL OTHER MISC
Overweight/Buy	1501	43%	411	47%	27%	670	43%
Equal-weight/Hold	1515	43%	392	45%	26%	682	44%
Not-Rated/Hold	0	0%	0	0%	0%	0	0%
Underweight/Sell	510	14%	77	9%	15%	197	13%
TOTAL	3,526		880			1549	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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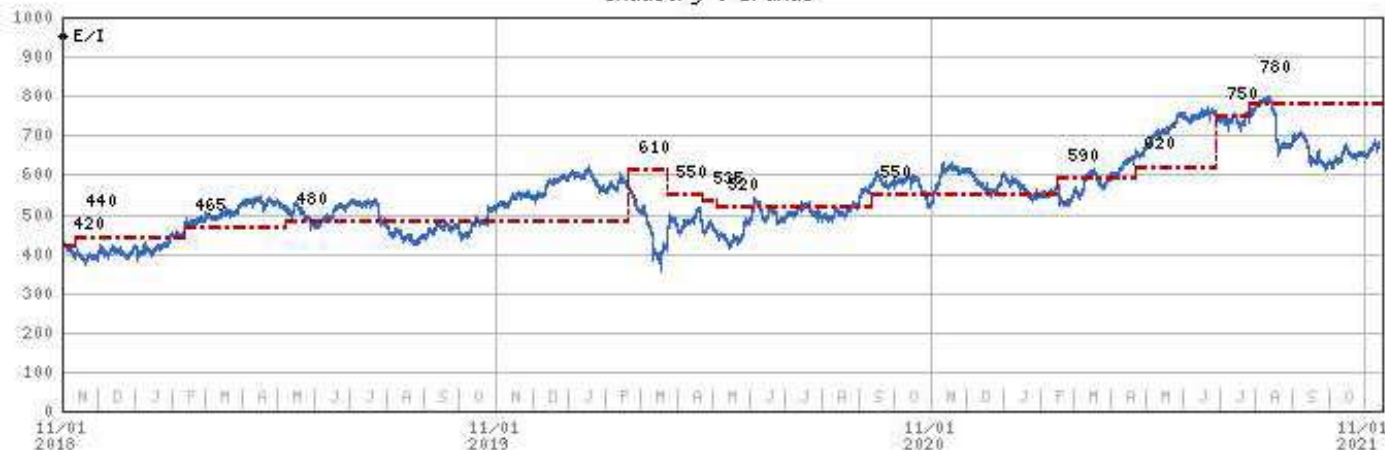
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Stock Price, Price Target and Rating History (See Rating Definitions)

Kering (PRTP.PA) - As of 11/14/21 in EUR
Industry : Brands

Stock Rating History: 11/1/16 : O/I; 5/19/17 : E/I

Price Target History: 10/27/16 : 193.85; 3/22/17 : 240.92; 4/26/17 : 264.92; 5/19/17 : 295.38; 9/19/17 : 309.23; 10/25/17 : 350.77; 5/10/18 : 443.08; 7/31/18 : 460; 10/19/18 : 420; 11/12/18 : 440; 2/12/19 : 465; 5/8/19 : 480; 2/20/20 : 610; 3/23/20 : 550; 4/23/20 : 535; 5/5/20 : 520; 9/11/20 : 550; 2/15/21 : 590; 4/21/21 : 620; 6/29/21 : 750; 7/27/21 : 780

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target — No Price Target Assigned (NA)

Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —

Stock and Industry Ratings (abbreviations below) appear as + Stock Rating/Industry View

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

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INDUSTRY COVERAGE: Brands

COMPANY (TICKER)	RATING (AS OF)	PRICE* (11/12/2021)
Edouard Aubin		
Dr. Martens Plc (DOCS.L)	E (03/11/2021)	390p
Dufry AG (DUFN.S)	E (08/12/2021)	SFr 51.88
Hermes International S.C.A. (HRMS.PA)	E (08/07/2018)	€1,478.50
Kering (PRTP.PA)	E (05/19/2017)	€677.80
LVMH Mbet Hennessy Louis Vuitton SA (LVMH.PA)	O (01/17/2018)	€722.90
PUMA SE (PUMG.DE)	O (05/18/2021)	€111.30
Richemont SA (CFR.S)	O (12/11/2020)	SFr 136.00
Swatch (UHR.S)	E (05/08/2019)	SFr 284.20
Elena Mariani		
Adidas (ADSGn.DE)	E (05/18/2021)	€280.60
Burberry (BRBY.L)	E (10/16/2015)	1,937p
EssilorLuxottica SA (ESLX.PA)	O (09/23/2019)	€183.10
GrandVision NV (GVNV.AS)	E (09/01/2017)	€28.40
Hugo Boss AG (BOSSn.DE)	O (07/15/2021)	€58.00
Moncler SpA (MONC.MI)	E (06/24/2020)	€67.66
Pandora AS (PNDORA.CO)	E (01/25/2018)	DKr 937.20
Prada SpA (1913.HK)	E (02/15/2021)	HK\$52.70
Salvatore Ferragamo SpA (SFER.MI)	E (05/10/2019)	€19.41
Tod's SPA (TOD.MI)	E (06/24/2020)	€52.70

Stock Ratings are subject to change. Please see latest research for each company.

* Historical prices are not split adjusted.