



DIGITAL FASHION THE METAVVERSE

DIGITAL FASHION IN THE METAVERSE



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ABSTRACT

Ever since the pandemic started, we have witnessed a revolution towards a new digital era that comes under the name of Metaverse. In this matter, the fashion field has surprisingly arisen as one of the most inclined to adopt digitalization and virtual realities to transform its business model, motivated by the apparent plethora of options and advantages that they have to offer.

The aim of this paper is to analyze the different opportunities that the Metaverse can bring to the fashion industry and provide some general guidelines on how brands can approach it. However, considering that the Metaverse is still on an early stage, it can be hard to define its concept and opportunities. In order to provide a clearer idea, this paper is divided into three main sections, each of which is meant to answer a different implied question.

The first part focuses on a general view of the Metaverse, starting with its origins during the 80s and 90s, and finalizing with some concrete concepts that are meant to answer the question, What is the Metaverse exactly? The second part targets the opportunities that the Metaverse is bringing to the fashion industry, supported by different study cases from recognized fashion

brands as an answer to the question, Why is the Metaverse relevant for the Fashion industry? Finally the third part aims to provide an initial guideline for fashion brands that would like to approach the Metaverse, in order to understand, how can fashion brands approach the Metaverse and what should they consider, based on characteristics such as brand's size, target and goals.

ESTRATTO

Fin dall'inizio della pandemia, abbiamo assistito a una rivoluzione verso una nuova era digitale che passa sotto il nome di Metaverso. Sul argomento, il settore della moda è stato sorprendentemente uno dei più inclini ad adottare digitalizzazione e realtà virtuali per trasformare il suo modello di business, motivato dalla apparente molteplicità di opzioni e vantaggi che offrono.

L'obiettivo di questo articolo è analizzare le diverse opportunità che il Metaverse può offrire all'industria della moda e fornire alcune linee guida generali su come i brand possono avvicinarsi ad esso. Tuttavia, considerando che il Metaverso è ancora in una fase iniziale, può essere difficile definire chiaramente il suo concetto e le opportunità che esso offre. Al fine di fornire un'idea più chiara, questo documento è diviso in tre sezioni principali, ognuna delle quali ha lo scopo di rispondere a una domanda implicita diversa.

La prima parte si concentra su una visione generale del Metaverso, partendo dalle sue origini negli anni '80 e '90, per poi focalizzarsi su alcuni aspetti che hanno lo scopo di rispondere alla domanda, Cos'è esattamente il Metaverso? La seconda parte indaga le opportunità che il Metaverse offre

all'industria della moda, tramite l'analisi di alcuni casi studio di marchi riconosciuti, che ci aiuteranno a rispondere alla domanda: perché il Metaverso è rilevante per l'industria della moda? Infine la terza parte si propone di fornire una prima linea guida per i brand di moda che desiderino avvicinarsi al Metaverso, gli aspetti che dovrebbero considerare in base alle caratteristiche del brand come le dimensioni, consumatori e obiettivi.

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1.



INTRODUCTION

1. INTRODUCTION

Over the past couple of years, we have witnessed an acceleration in digitalization with no precedents, being the Covid 19 pandemic the main catalyst. In the seeming blink of an eye, this completely improvised situation forced economies and all industries to look for fast and alternative ways to adapt their businesses within the limitations that governments and lockdown brought along. "The world shut down and everything was forced to adapt," says MJ Johnson.¹

For Fashion, an industry that has always relied on physical interactions, facing the consequences of the pandemic has been one of the biggest challenges that it has had so far. In a matter of weeks, manufacturing plants were closed, followed by physical stores; both luxury and fast fashion companies were forced lay off employees, and cancel fashion shows and other related events, just to mention a few. These severe restrictions brought as a consequence a considerable decline on the retail sales.

Another challenge that came along for Fashion has been adapting to the fast changing consuming behaviors. During these years of social distancing, consumers -younger generations in particular- developed a whole new approach on how they

want to engage with fashion. This is due to the fact that lockdown has shown how we can replicate our daily lives and routines in digital worlds. Almost every activity that we perform daily, from studying and working, to sports and even socializing can now be performed digitally. This matter is quite relevant because it gave online spaces a completely new meaning for consumers, changing their shopping behaviors and expectations.

At the same time, Covid has raised a new level of awareness over health, safety and the fragility of the planet. Sustainability has now become an important priority in the mind of the consumer who is now demanding purpose driven brands that care not only about climate change, but for social issues as well. Younger generations such as Gen Z -probably the most engaged one with sustainability- are showing a willingness to rethink how, when and what they buy.

Finally, as people return to their normal lives, workplaces and formal events are reinstated, consumers are taking back the formalwear business but there is also a demand for newness that matches with more social freedoms outside the home. This also translates with an appetite for ex-

perimentation and self expression as consumers seek for more playful and energetic ways of dressing with more adventurous styles.²

NEW CHALLENGES, NEW OPPORTUNITIES

On the other hand, we cannot deny how the pandemic has contributed to the evolution of an industry that has always been quite reluctant to digital innovation (especially high fashion brands that rely heavily on heritage and craftsmanship).

Prior to Covid technologies such as AI and 3D prototyping were already proving to solve many of the issues traditional fashion industry faces in relation to transparency and sustainability, optimizing the value chain, reducing waste, time production and costs. At the same time, blockchain technologies were being incorporated in order to overcome the complexity of supply chains and to improve traceability.

In this post pandemic era however, the digitalization and the accelerated rise of virtual communities with interactive gaming worlds and mixed reality activations-, are pushing the fashion industry to a whole new level of innovation. The new developments in digital social experiences are lay-

ing the groundwork for the next phase of online life: the metaverse. This real-time virtual environment not only will offer huge opportunities for fashion brands to engage with high-value younger cohorts, but also fresh routes to creativity, community building and commerce.³

2



DEFINING THE METaverse

2. DEFINING THE METAVERSE

2.1. THE FUTURE OF INTERNET?

From a couple of years now, it seems that the word 'Metaverse' is everywhere and news about big companies investing in it keep coming out. Microsoft cited the metaverse as a reason for acquiring the game developer Activision Blizzard for \$68.7 billion, saying the deal would provide "building blocks for the metaverse." Facebook's founder, Mark Zuckerberg, has also bet on the metaverse and renamed his social networking company Meta⁴

Trying to define the metaverse can be quite complicated; there is no global or universal definition for it because it is still in the process of being developed. Many describe it as the future of the Internet; an immersive next-generation version of it, rendered by different technologies.⁵ Some of the technologies that make up the metaverse can include virtual reality -VR- and augmented reality -AR-, however, the metaverse can also be accessed through PCs, game consoles, and even phones. The word metaverse can also be referred to as virtual environments where you have an avatar that represents yourself and you can walk around and interact with others.

These virtual worlds are full-scale digital realities with their own currencies and economies. This means that in the metaverse,

you can make money selling digital products as cryptocurrencies or NFTs. This has created whole new business opportunities for different industries that, now more than ever, are collaborating with each other to capture new markets and expand their profits.

“The metaverse is an embodied internet that you’re inside of instead of just looking at”

Mark Zuckerberg⁶



2.2. THE METAVERSE IS NOT REALLY NEW

If we consider that the Metaverse is an immersive virtual worlds where people gather to socialize, play, and work, then it could be said that it is not really a novelty. Social and immersive virtual worlds have been around us for at least two decades, powered by the film and gaming industries.

This following section briefly goes through the first attempts of virtual worlds that appeared first in the 80s and then in the 90s, followed by a winter period of several years before virtual realities were a 'thing' again. The aim is to identify the differences in order to understand whether the Metaverse today could really become the Internet of the future, or if it will follow the same path as it did 20 years ago, when society also considered it as the next 'big thing'.

2.2.1. FIRST VIRTUAL WORLDS

The word Metaverse comes from science fiction and it was first coined by Neal Stephenson famously in his 1992 novel *Snow Crash*, where it referred to a 3D virtual world inhabited by avatars of real people.⁷

However, virtual worlds and other online environments popped up even before, during the 70s and 80s, with text-based multiuser dungeons or MUDs. These text-

based role-playing games prefigured the explosion of imaginative word-built worlds and avatars. In the mid 80s, there was an increasing tendency to recreate visual versions and experiences of the real world. During the 80s and 90s, as computing and graphics continued developing, digital virtual worlds experienced a burst of diversity with the offspring of many genres: shooting games, fantasy role-playing games, simulators, social virtual worlds⁸, which are the basis of what the Metaverse is today.

MAZE WAR

The first use of avatars came during the period of 1973-74, when the computer game 'Maze War' was introduced. It was funded by the United States Department of Defense for the use in university and research laboratories and the first software to fill the niche of the first-person shooter (users travelled around a 3D maze shooting at each other) but it also set the stage for many of the innovations that would later come to define the virtual world's medium: instant messaging, non-player robot characters, levels, and in-world building.

HABITAT

With the arrival of colour graphics and affordable personal computers such as the Commodore 64, the stage was set for the

first graphical, social virtual world Habitat created in the mid 80s. Habitat allowed users (for the first time referred to as "avatars") to interact through text chat and moving around a built environment that could change through time. At the same time, users could barter objects and eventually created self-government independent of the server operators.⁹



FIG 3



FIG 2

FIG 2: Habitat (1986), https://web.stanford.edu/class/history34q/readings/Virtual_Worlds/LucasfilmHabitat.html
FIG 3: Worlds Chat (1995), <https://www.digitalspace.com/avatars/book/fullbook/chwc/chwc1.htm>

2.2.2. THE METAVERSE OF THE 90S

By the late 80s and early 90s there was a lot of hype around VR an emerging industry accompanied with VR tradeshows, VR conferences and VR magazines.¹⁰ Before Second Life and Roblox hit the scene, many companies were trying to create virtual worlds and true cyberspaces that would host multiple users.



FIG 4: VR World Magazine from May 1995, <https://medium.com/predict/the-metaverse-of-the-1990s-d7d6ac9c3de2>

WORLDS CHAT

As CPU and system performance increased through the early 1990s, it became possible to run realtime, textured 3D graphics on a consumer PC. In 1995, a company called Worlds Incorporated launched Worlds Chat, a 3D space station where users “teleported” in and could navigate in a rich sound and spatial experience and, of course, exchange text chat.¹¹

The idea behind WorldsChat was to make shared space station-themed virtual space that was designed for social interaction and personal creativity. This early virtual world also allowed players to customize their own avatars and zip around like in Doom to see what others “looked” like.

ALPHAWORLD

After creating Worlds Chat, Worlds Inc. created a new and improved virtual universe called AlphaWorld. AlphaWorld was the first to have 700 themed realms that would be collectively known as Active Worlds. AlphaWorld was vastly larger than its predecessor and offered players 12 avatar appearances.¹²

It allowed users to build their own environments by picking and placing prebuilt objects it led to a series of other experiments

and virtual events. It also offered greater interaction with the world, letting players move around pre-made objects and start to shape the world. On May 8th, 1996, an AlphaWorld couple was married for the first time in a 3-D online virtual world. Friends created a wedding pavilion.¹³ This shows how mixing RL events and VR that we see on the Metaverse today, was already happening in the 90s.

AVATARS 98

Alphaworld led to a series of other experiments and virtual events. In 1998, The Contact Consortium, a not-for-profit organization based in Northern California held a

full-scale convention within the medium of Virtual worlds. “Avatars98”, for 4000 attendees dialing in over slow modem connections into a single shared 3D space.¹⁴ It’s success was followed by subsequent annual Avatars cyberconferences, each with a different theme and we different layouts of virtual space. The Avatars events showed that the medium of user-built, socially inhabited virtual worlds could have life as large-scale event and performance spaces.



FIG 5: Virtual Wedding on AlphaWorld, <https://massivelyop.com/2020/06/21/the-game-archaeologist-the-virtual-worlds-of-the-1990s/>

2.2.3. VR WINTER PERIOD

By the mid-90's the enthusiasm had peaked and the industry fell into what can only be described as a VR Winter from about 1997 to 2012.¹⁵

The technology available at the time wasn't able to handle all of the player activity and construction and slower computers and connections suffered significantly. Hardware was too expensive and fidelity wasn't high enough. Eventually companies and investors who were financing these virtual worlds ran out of cash and patience, resulting in VR companies going bankrupt and disappearing.

Another important fact that highly contributed to the disappearing of virtual realities at that time was the rise of the Internet. In the late 80s and early 90s, virtual reality was the 'next big thing' in Silicon Valley, but in 1995 the Internet suddenly took off taking all the hype from VR.¹⁶

However, it was during this winter period when important companies such as Linden Lab, (who would create Second Life), emerged, along side with the rise of social networking software (MySpace, Facebook, Orkut, Tribe.net, LinkedIn), texting and graphics on mobile devices (SMS, DoCoMo, Cyworld), voice and video, a whole

new awareness and acceptance of multiple forms of identity online was created.¹⁷

Second Life is an example that shows how these early virtual worlds evolved into what the Metaverse is today. Launched in 2003, the game was built on two key concepts from the first-generation virtual world platforms of the 1990s: the user-empowering in-world building techniques of AlphaWorld and the object economy of Habitat/WorldsAway with its own currency called Linden Dollars.¹⁸

2.3.THE METAVERSE TODAY

What has changed?

After going through some of the examples mentioned before, we can see that many of the 'phenomena' that the Metaverse is claiming to bring today has existed for several years.

Second Life is not the only example during the 2000s that could be stated as a social 3d space. We can as well consider games such as Club Penguin or The Sims 2. With Club Penguin, users could decorate their 'houses' or igloos, socialize with friends or play online games for coins, all through a penguin avatar. The earlier versions of The Sims already users could create avatars, houses and communities and create a par-

allel virtual life. Even though these games already allowed to experience in-game currency, avatars and worlds, there are some relevant topics worth mentioning that can explain why the Metaverse is again on everyone's mouth.

Meagan Loyst; a 24 year old Gen Zer who is a full-time investor at Lerer Hippeau and Founder of Gen Z VCs, highlights 3 key-points related to market timing (in which I believe is important to speak about gaming as well), technology advancements and generational readiness.¹⁹



FIG 6: The Sims 2, <https://www.gamepressure.com/download.asp?ID=35861>



FIG 7: Club Penguin Game, <https://club-penguin.de.uptodown.com/android>

2.3.1 MARKET-TIMING

Society has been relying on technology for many years now, but we cannot ignore how much the pandemic has contributed to peoples' increasing reliance on it. For almost 2 years straight with lockdowns people had had to learn to live almost their entire days through digital devices.

Such a high level of digital activity has led to an increased dependance of consumers' on technology. This is not only perceived by younger generations such as Gen Z and Millenias, but across all of them (Figure 8).

More than three-quarters (76%) of global consumers say their everyday lives and activities depend on technology, rising to 79% of gen Z (ages 16-26) and 80% of millennials (ages 27-41). And this dependence is informing every aspect of daily life: 64% of global consumers say their social life depends on technology, 61% say their livelihood depends on technology, 56% say their creativity depends on technology, 52% say their happiness depends on technology, and 50% say their wellbeing depends on technology.²⁰

Companies are very aware of this matter and are competing and investing to develop the next 360 digital experience; immersive experiences powered with AR and

VR. This very relevant because it means that, unlike the 90s, when VR was being financed by smaller stakeholders, today we see social giants such as Facebook trying to take the leadership in this matter. Facebook now has 10,000 people—almost a fifth of all Facebook employees—working on AR and VR under the Reality Labs division.²¹

The word “metaverse” on Google Trends over the past year had a major peak in October, when Facebook announced that the company was going to be rebranded with the name ‘Meta’.

GAMING

During the pandemic games became the new meeting point for people to spend time and socialize. Other forms of entertainment cannot provide that social aspect, reason why online games have become the preferred format of entertainment. Nearly two-thirds (61%) of UK adults played games with friends and family to stay in touch during lockdown, according to a May 2021 survey from Xbox.²²

Games have been propulsing the development of VR since the 80s, and today they are a major influence once again.

My everyday life and activities depend on technology

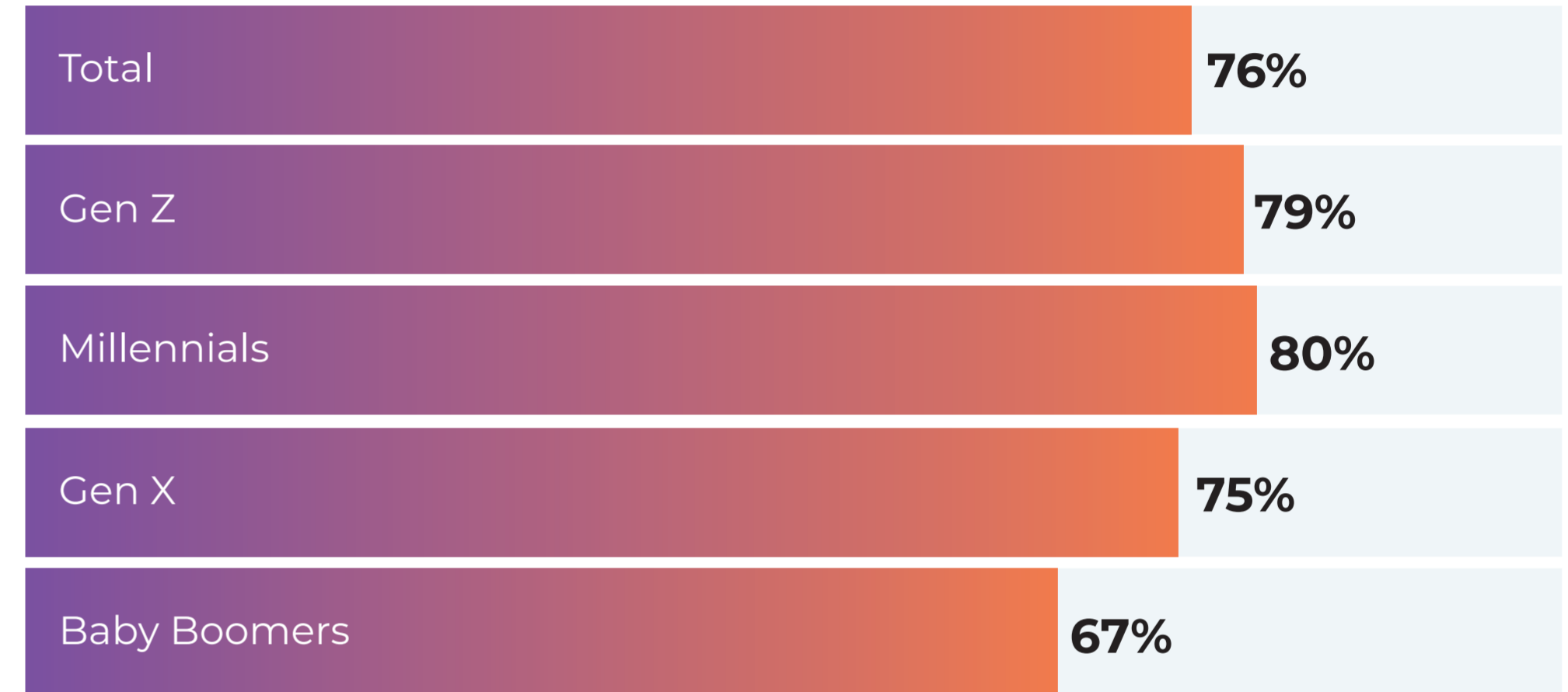


FIG 8: 'My everyday life and activities depend on technology' chart, Into The Metaverse PDF file.

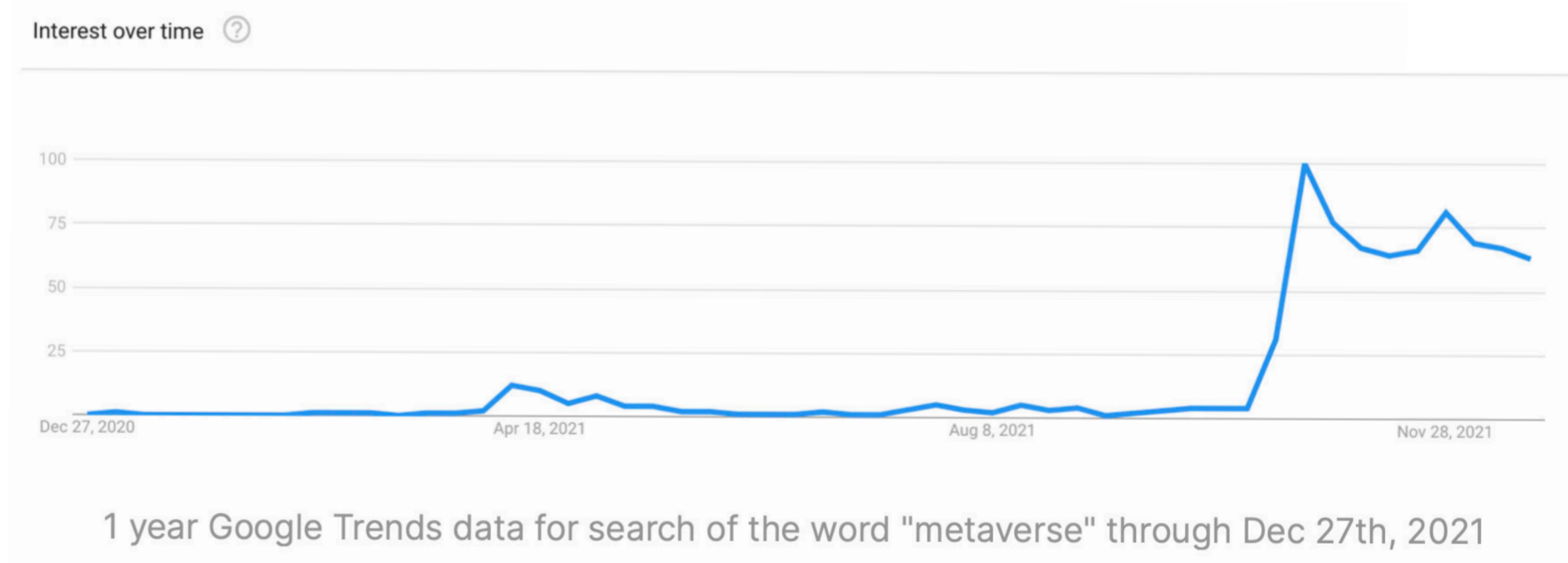


FIG 9: Interest over time for the word 'Metaverse' through December 2021, Google Trends

2.3.2. GENERATIONAL READINESS

As we can see from Figure 8, the dependence on technology is transgenerational; but it is still worth highlighting Generation Z in this matter and its influence in the development of the Metaverse.

Around the world and in real life Gen z are hyperconnected, niche-influenced and socially informed. Gen Zs and young millennials have grown up in between reality and fantasy reason why this generation is Digi-savvy, environmentally conscious collaborative beings. They are both trendsetters and trend chasers, and early adopters of any form of technology that upgrades and frees up their existence. These Digi-sapiens form the market for all things avant-garde.²³

In this new era of digital relationships, Gen Z are the trendsetters. This generation is the best example of how new users and operators will adapt to the Metaverse-creating technologies as they develop.

As the lines between our physical and virtual worlds continue to blur there is more flexibility for brands to create compelling stories and bring them to life in futuristic ways online.

The Metaverse is at the moment mostly driven by video games, because video games are at the moment the platforms that gather most of the characteristics that defines the metaverse (see Fig. 14, pg 33).

But looking at the largest web-based virtual worlds or metaverses by their user bases (e.g. Roblox, Fortnite, Minecraft), the vast majority are Gen Z. We're already so used to living digitally, that the metaverse truly isn't a new concept. And younger generations are embracing the monetization opportunities that come with these types of resale economies that didn't quite exist for us in Club Penguin or Webkinz. Gen Z is all about the side hustle and being entrepreneurial, and these platforms allow us to both be creative and build/create, and also earn via ownership.

As Gen Z ages out of Roblox into other metaverse platforms overtime, there creates real opportunity for metaverses like The Sandbox, Decentraland, and others to own this audience and monetize accordingly, or other blockchain-based games to win the hearts of younger audiences who are eager to both play and earn.

2.2.5. TECHNOLOGY

As mentioned previously, one of the main reasons why the development of virtual realities suffered a period of inactivity, was due to the fact that technologies supporting it were extremely expensive and non available for the common user. For this reason it is important to mention some particular technologies that appeared in the 2000s that made a major contribution to VR being reborn, and most of all being accessible.

One of them was the first iPhone in 2007. It was the launch of the iPhone and the many smartphones that followed that brought the cost of small, lightweight, high-quality screens down to a level that finally made VR viable for consumer markets. Smartphones also drove down the cost of motion sensors, processors and other components needed for VR hardware.²⁴

Another important significant product was the first VR headset, the Oculus Rift which allowed an immersive virtual reality experience designed for video games, supported by a very successful Kickstarter campaign that allowed the company to raise \$2.4 million.²⁵



FIG 10: Iphone 1st Generation, <https://gizmobo.com/es/producto/apple-iphone-1st-generation/>



FIG 11: Oculus Rift VR Headset 2007, https://en.wikipedia.org/wiki/Oculus_Rift

CRYPTOCURRENCIES & NFTs

When speaking about technologies that are defining the success of this new wave of virtual realities, one should consider the development of cryptocurrencies, blockchains and NFTs.

A cryptocurrency is a medium of exchange that is digital, encrypted and decentralized. Unlike traditional currencies, there is no central authority that manages and maintains the value of a cryptocurrency. Instead, these tasks are broadly distributed among a cryptocurrency's users via the internet.²⁶ A Blockchain is a shared, immutable ledger that records transactions and tracks both, tangible and intangible assets in a business network. Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved.²⁷ Finally an NFT -Non-fungible token- is a one of a kind digital asset, meaning it's unique and can't be replaced with something else.²⁸

The Metaverse may have started with gaming and still rely heavily on it, but the key difference between games from the 80s & 90s and the metaverse is then the extent of real-world economic value that today's games can bring, through these virtual currencies. What is actually keeping custom-

ers engaged in the present, is the possibility to monetize. Having an economy that supports the activities that people do in online worlds will make the Metaverse sustain in time.

With games such as Axie Infinity (a virtual world full of pets called Axies, that can be battled, collected, and used to earn cryptocurrencies with real value),²⁹ people can support themselves financially. In August 2021, Axie Infinity recorded 800,000 average daily users, with its daily trading volume surpassing \$33 million.³⁰ NFTs are not only found on gaming platforms. Websites such Crypto.com offer a NFT marketplace where people can find, buy and trade many digital collectibles from brands, celebrities and artists like Snoop Dogg, Aston Martin and UFC.

NFT's are valuable for three reasons:

1) They provide indisputable proof of who created a digital asset - the moment an asset is 'minted' (created on the blockchain) it is permanently sealed, attaching an immutable record of provenance.

2) They provide indisputable proof of who owns a digital asset - every time an NFT based digital asset changes hands it is

logged unalterably on the blockchain.

3) They provide creators with the ability to generate revenue from resale - when minting an asset sellers can program in a percentage of the resale price to be automatically deposited into their accounts every time the item changes hands.³¹

Another important characteristic behind the increasing interest and success over cryptocurrencies and NFTs has to do with their accessibility. Basically anyone with a computer can start their own business online, acquire, trade or sell different digital assets. These new technologies are contributing to less centralized virtual worlds. In a decentralized world there is no third-party intervention; exchanges and funds are stored on the blockchain, unlike with centralized worlds that are regulated and follow compliance. They require a license from the authorities.³² There are several other differences between the two worlds (see Figure X).

In the past, however, there have been attempts to create digital money, but they have always failed because of trust issues; this is where the blockchain comes in. The development of Blockchain technology Bitcoin was designed to solve this problem by using a specific type of database. Nor-

mal databases, such as an SQL database, have someone in charge who can change the entries (e.g. giving themselves a million X dollars). Blockchain is different because nobody is in charge; it's run by the people who use it. What's more, bitcoins can't be faked, hacked or double spent - so people that own this money can trust that it has some value.

SECOND LIFE

Second Life is an example that shows how those early virtual worlds evolved into what the Metaverse is today. Launched in 2003, the game was built on two key concepts from the first-generation virtual world platforms of the 1990s: the user-empowering in-world building techniques of AlphaWorld and the object economy of Habitat/WorldsAway with its own currency called Linden Dollars.³³

But Second Life also showcases how important the differences just mentioned are for the Metaverse being reborn, in particular the one related with generational readiness. The game offered many of the virtual activities found on contemporary games but it still failed to keep users engaged. The reason is that the average user age on Second Life was 32, so it was naturally an older demographic and the use cases were inherently different from that of Roblox/Fortnite— even Second Life’s former Chief Architect claims “the reason why it didn’t [work], and this reason is still very true today, is simply that most adults are not yet comfortable engaging with new people, or engaging socially, in a multi-player context online.”³⁴

User-generated content also wasn’t valued by VCs in the same way it is today in

the post-YouTube era, and Second Life’s platform was supposedly difficult to create/build within which created friction. In contrast with Roblox, developers are highly incentivized to create new games on the platform, receiving 24.5% of all revenue generated within their games, earning \$250m in 2020 and \$500m in 2021 payouts.³⁵



FIG 12: Second Life May 2007, Meeting in the Ether: A Brief History of Virtual Worlds as a Medium for User-Created Events [PDF file]

2.4. THE EVOLUTION OF THE METAVERSE

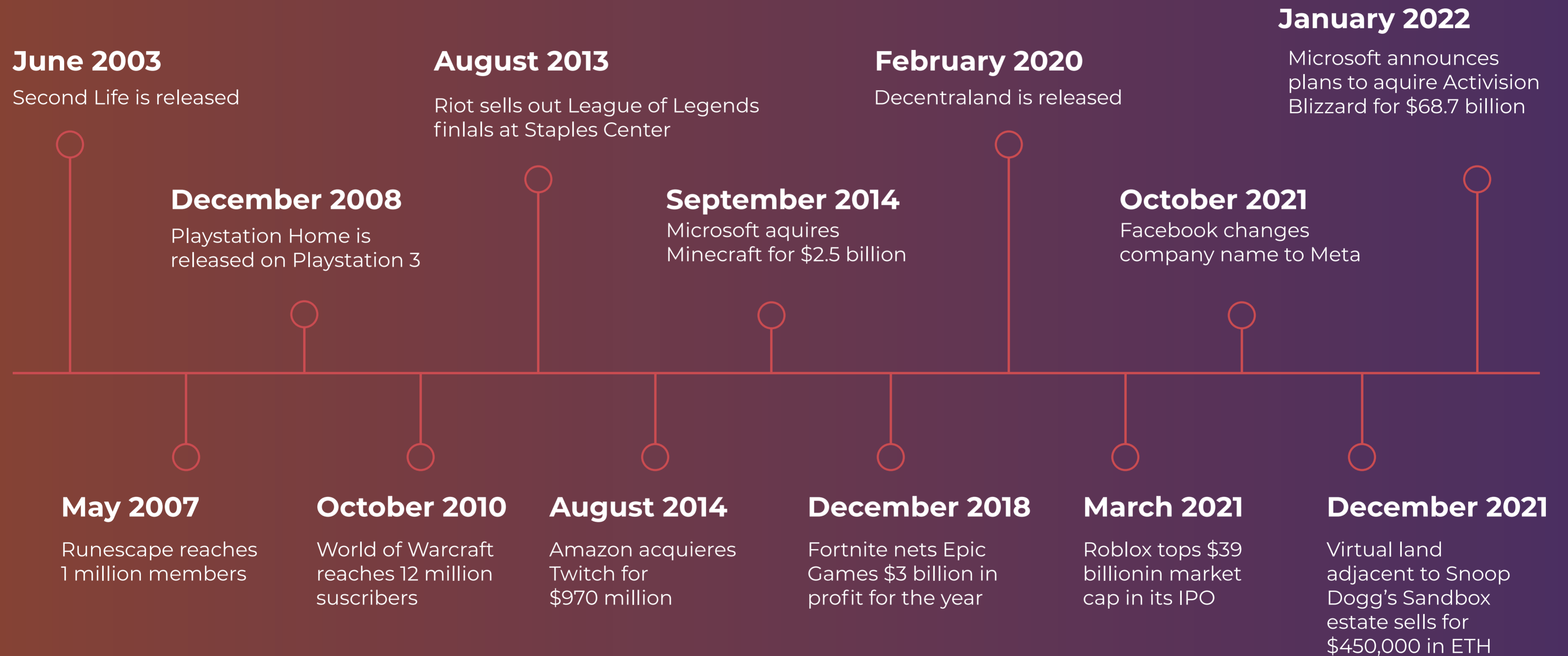


FIG 13: Evolution of the metaverse graphic, <https://www.jpmorgan.com/content/dam/jpm/treasury-services/documents/opportunities-in-the-metaverse.pdf>

2.5.KEY ELEMENTS OF THE METaverse

The Metaverse has come a long way from those first attempts of the 80s, 90s and early 00s. The key changes mentioned before are enabling the way for this new digital era, but it still important to highlight that is in a development stage. This means that there are a lot of different speculations around the idea of the Metaverse and what the future holds for it. Despite having such a wide perspective there are many properties that are to define the Metaverse in a fully-realized stage. (Figure 14).

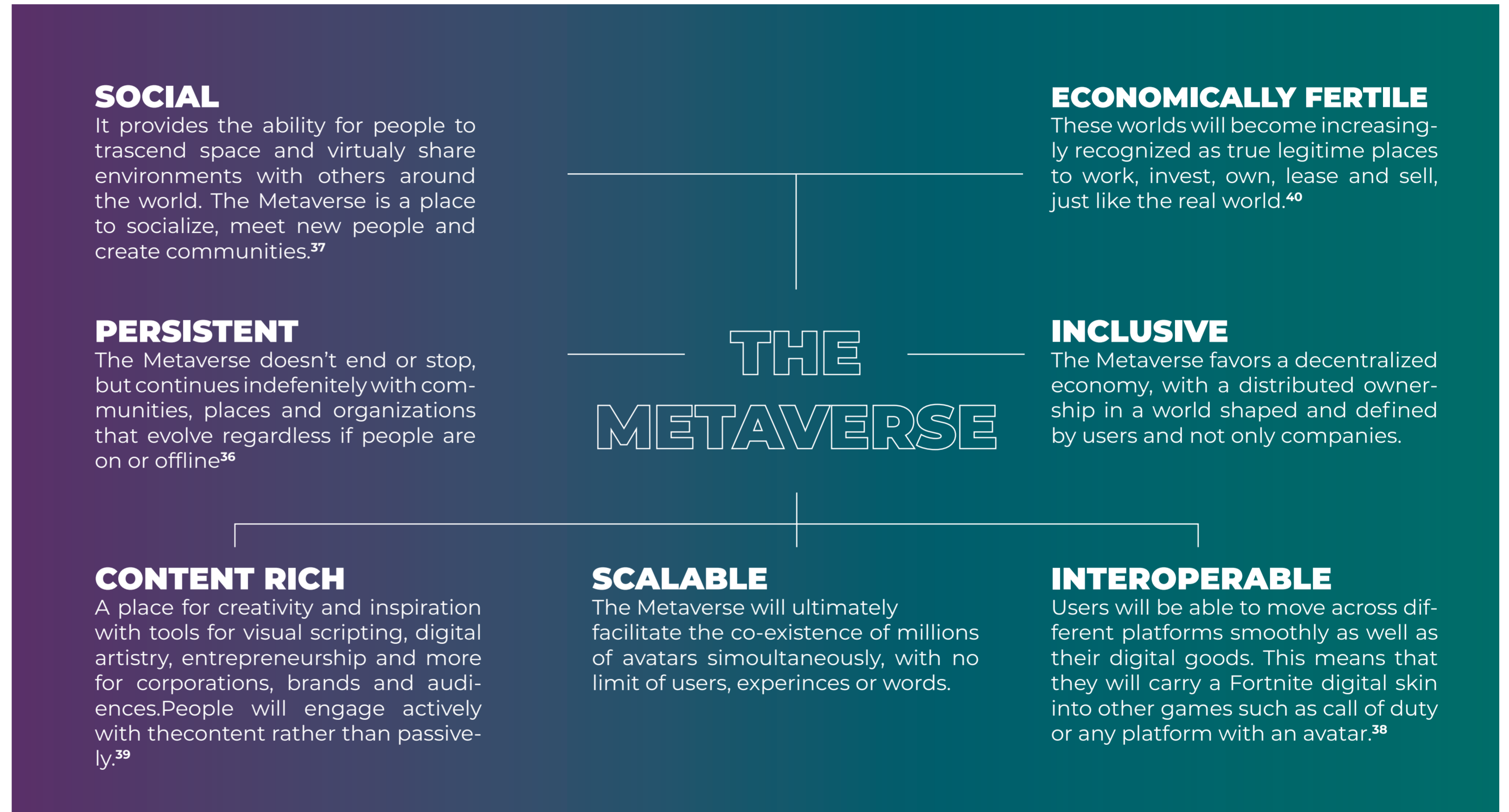


FIG 14: Map of the Metaverse, Own elaboration

GLOSSARY OF TERMS

As mentioned before, the Metaverse is a convergence of different technologies that make it possible. It is usual to find many different acronyms that refer to these, as well as different terms that are part of these

digital worlds. The purpose of what follows is to give a brief definition of them before going deeper into the Metaverse.

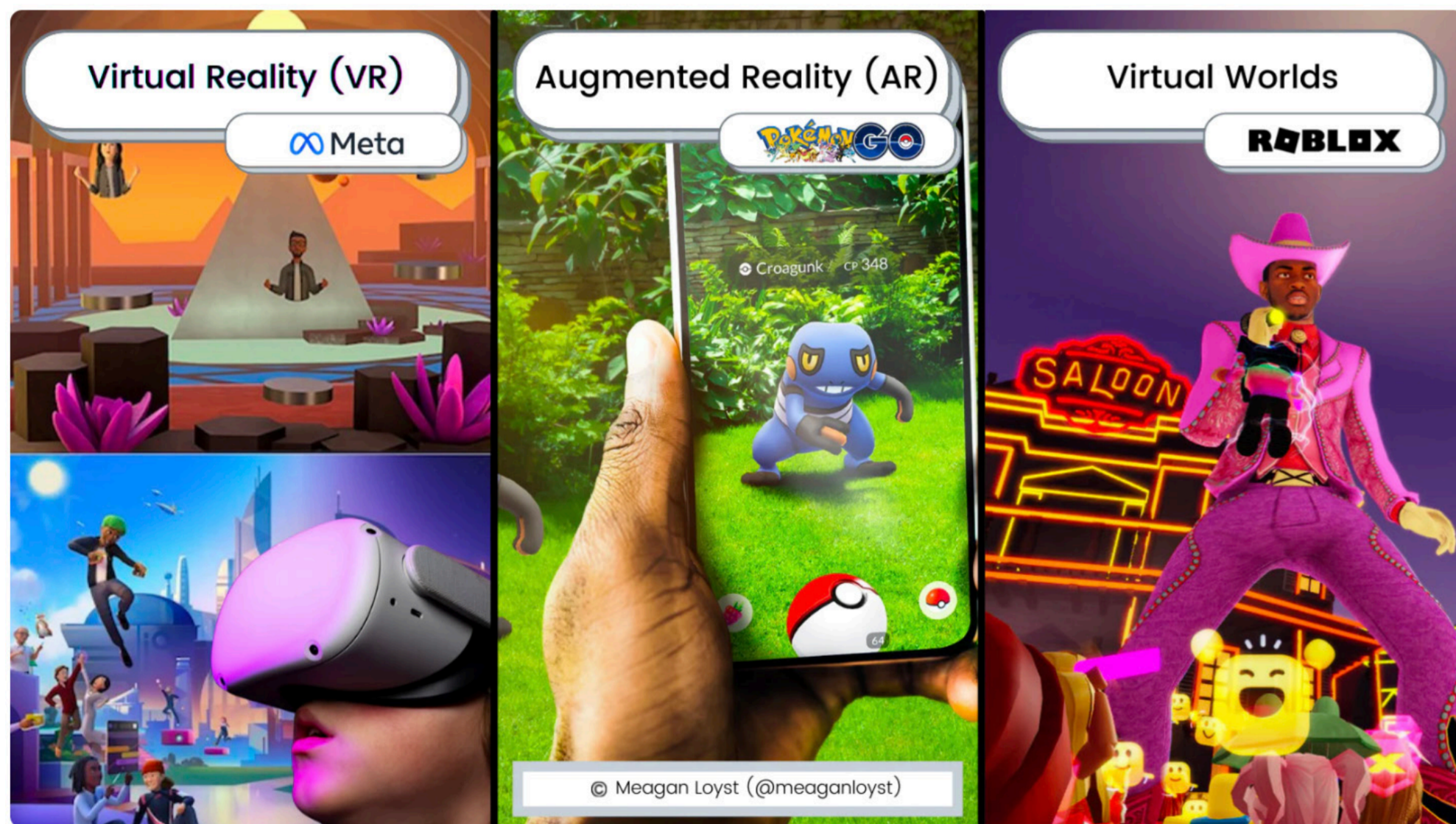


FIG 15: The segmentation of the metaverse: Virtual Reality, Augmented Reality, and Virtual Worlds, Meagan Loyst, @meaganloyst

VIRTUAL REALITY

VR encompasses all virtually immersive experiences. These could be created using purely real-world content (360 Video), purely synthetic content (Computer Generated), or a hybrid of both. VR currently uses full headsets, immersing the user in a 360° virtual world that they can move around in—as long as they don't bump into physical walls.⁴¹

MIXED REALITY

Mixed reality incorporates elements of VR and AR, but the exact definition is murky. A person can interact with virtual and real-world objects, and virtual objects can interact with real-world ones. For example, the Snapchat hot dog can dance across a table without falling off the edges.⁴³

MIRRORWORLD

A digitally rendered version of the real world where there are virtual counterparts of real-life people, places, and things. The metaverse could be a mirror-world designed to precisely reflect the physical world, or could resemble an entirely invented world one might encounter in a video game.⁴⁵

AUGMENTED REALITY

Augmented Reality (AR) is an overlay of computer generated content on the real world. With AR the augmented content doesn't recognize the physical objects within a real-world environment, the CG (computer graphics) content and the real-world content are not able to respond to one another. Niantic's Pokémon Go, Snapchat's dancing hot dog, or even wearables like Google Glass.⁴²

EXTENDED REALITY

Extended reality is a catch-all term for VR, AR, and MR, concepts that often overlap. Eventually, the lines between VR, AR, and MR might blur as the metaverse becomes a reality—making XR a more appropriate term.⁴⁴

DIGITAL TWIN

A digital twin is a virtual version of a real-life object or structure. The term essentially means that virtual objects will be made to closely resemble real world ones. The metaverse could resemble the physical world, in that it will often appear tethered to the physics and designs of our reality, but it doesn't have to be identical to it.⁴⁶

CRYPTOCURRENCY

A cryptocurrency is any form of currency that exists digitally or virtually and uses cryptography to secure transactions. Cryptocurrencies don't have a central issuing or regulating authority, instead using a decentralized system to record transactions and issue new units.⁴⁹

BLOCKCHAIN

A digitally rendered version of the real world where there are virtual counterparts of real-life people, places, and things. The metaverse could be a mirror-world designed to precisely reflect the physical world, or could resemble an entirely invented world one might encounter in a video game.⁵⁰

AVATAR

An avatar is your persona in a virtual world. This digital rendering of your appearance may look like you, resemble a cartoon (as popularized by Snapchat's Bitmoji and Apple's Memoji), or appear as fantastical as Fortnite's "skins."⁴⁷

NFT

NON FUNGIBLE TOKEN. An NFT is a digital asset that represents real-world objects like art, music, in-game items and videos. They are bought and sold online, frequently with cryptocurrency, and they are generally encoded with the same underlying software as many cryptos. NFTs are also generally one of a kind, or at least one of a very limited run, and have unique identifying codes.⁴⁸

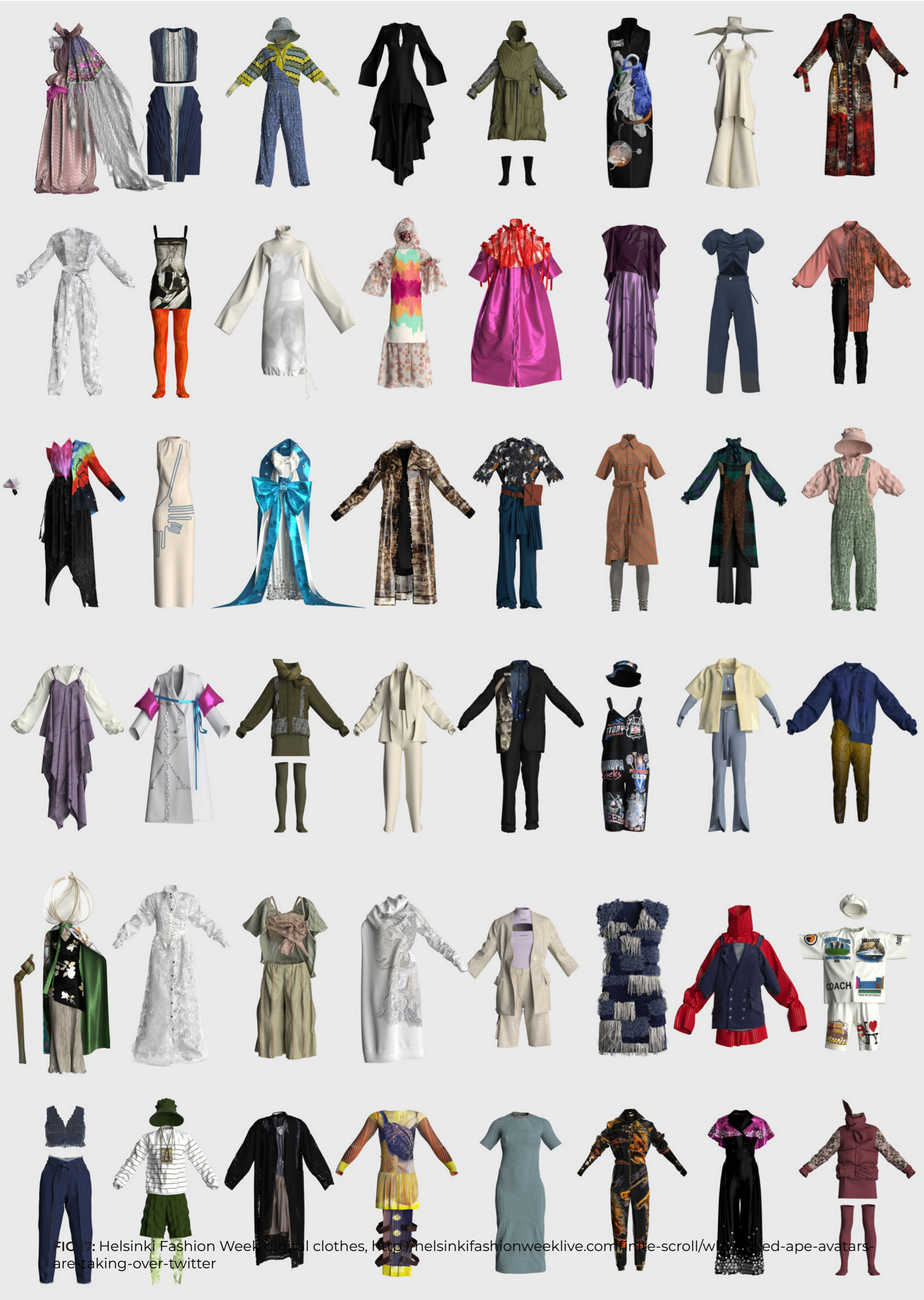


FIG 16: Bored Ape Yacht NFTs, <https://www.newyorker.com/culture/infinite-scroll/why-bored-ape-avatars-are-taking-over-twitter>

3



METTAVERSE FASHION



3. METaverse FASHION

3.1. Fashion Bets on the Metaverse

As seen on the previous chapter, the efforts to recreate real life on virtual spaces have been taking place for decades. As years passed by, we have been finding ourselves living in an increased digital reality, affecting every area of our lives, including the way in which we consume Fashion.

With a global pandemic that has significantly increased our relationship with virtual realities, the Metaverse has turned into Fashion's next goldmine. In this new world, virtual fashion is being sold in a variety of ways: from gaming platforms and digital photos, to videos that use augmented reality and even NFTs; representing an interesting opportunity for the industry to reach new cohorts and increase its revenue.

The apparent amount of advantages the Metaverse has, is turning an industry that has always relied heavily on physical interactions, into one of the most interested and ready to bridge the gap between the digital and physical world.

For fashion designers and brands, learning to blend the real with the unreal is going to become a necessary skill in order to transition into the future. Similarly, digital design will likely entice a flood of creative output, so designers and brands must understand how to reach their customer base while mastering digital tools.

Fashion has been a core industry for thousands of years and provides a distinct method and channel of communication. Enabling hyper-realistic 3D digital-only fashion through both technical and distributive means will unlock enormous new value and opportunities. This will make commonplace truly enriched digital world interactions and help in the creation and building of more realistic digital universes where brands and designers will be able to shift directly into immersive & interactive environments, opening opportunities to serve new customers and markets.⁵¹

The following chapter aims to explain the different ways in which the Metaverse is affecting Fashion, considering the opportunities and disadvantages across different sectors, as well as the main drivers in order to get a final output on what a fashion brand should consider if it decided to take a step into the Metaverse.

FIGURE 7: Helsinki Fashion Week digital clothes, <https://helsinki.fashionweeklive.com/> <https://www.fine-scroll.com/> <https://www.red-ape-avatars.com/> are taking-over-twitter

3.2. Thrusters of Metaverse Fashion.

3.2.1. THE FABRICANT'S IRIDESCENT DRESS

A year before the pandemic, some brands were exploring the idea of going fully digital. In 2019, The Fabricant, an only digital fashion brand, unveiled the world's first-ever digital blockchain dress titled "Iridescence." The piece was sold for \$9,500 USD existed solely online and was created in collaboration with Dapper Labs and artist Johanna Jaskowska.⁵² The Iridescent dress opened the way towards the NFTs fashion, by demonstrating the high level of value digital assets have for the contemporary consumer.

3.2.2 LIL MIQUELA

The CGI -computer generated imagery- instagram influencer was created in 2016 by Trevor McFedries and Sara DeCou and up to date counts with an impressive amount of three million follows. Ever since her creation, she has taken part in several important fashion campaigns such as Calvin Klein, (for with she posed with the supermodel Bella Hadid) and in 2018, she was named one of Time's 25 Most Influential People on the Internet.⁵³ Miquela hallmarked the rise of digital avatars and proved how powerful they can be in terms of influence, especially with younger consumers, that consider them to have the same influence as real people.



FIG 18: Iridescence dress by The Fabricant, <https://www.thefabricant.com/iridescence>



FIG 19: Digital Influencer Lil Miquela, <https://www.wired.com/story/lil-miquela-digital-humans/>

3.2.3. COVID 19

As mentioned before, Covid has been a real turning point for the Fashion industry. Prior to the pandemic, Fashion was already on its way towards digitalization by incorporating different technologies such as 3D softwares for design and prototyping (Clo3D) to AI for data-integrated supply chains in order to optimize the entire design process. However, the road towards a digitally integrated industry was predicted to occur at a really slow pace, and here is where the pandemic really made the difference. Not only it accelerated the process enormously -with advancements predicted to take a decade happening in a lapse of a year, it also forced a very traditional in-

dustry to push the boundaries of virtuality which brought many tangible benefits. Covid normalized and democratized the idea of going digital.

3.2.4. BURBERRY & SHANGHAI'S FW

In order to face the social distancing and cancelled events, fashion brands had to turn to social media and explore a different range of resources in order to present their collections. Fashion evolved by broadcasting shows online, mixing realities on short videos or incorporating avatars and other 3d animations. Burberry was one of the first brands to hallmark the new wave of virtual shows, when the brand partnered with Twitch in 2020. In a groundbreaking collaboration, Amazon-owned Twitch streamed the Burberry Spring/Summer 2021 show from London Fashion Week, gathering approximately 42,000 concurrent views.⁵⁴

Another example with major relevance was Shanghai's Fashion Week, when it went fully digital in 2020. For the event, a special platform was created where designers and brands could live stream their fall collections and sell them directly to consumers. According to the New York Fashion Week, Shanghai Fashion Week drew in 11 million viewers and sold \$2.75 million worth of clothing and accessories.⁵⁵

3.3. Main Drivers

3.3.1 GENERATION Z

Generation Z refers to people aged between 6-24, born between 1997 and 2015 and in 2021. This is a generation that in the next coming years will constitute almost the 30% of the world's population.⁵⁶

Gen Zs have always been surrounded by technology. We are speaking about the first generation that has never experienced a life without a smartphone and that has always relied heavily on social media for their interactions. The fact that they are so used to seeing reality and fantasy mixing, makes them early adopters if any form of new technology. For this reason, they are defined as digisavvy and collaborative beings that are both trend chasers and setters. An example that shows this is the Scandinavian brand Carlings, which launched its first entire digital collection in 2018, and that got sold within a week.

François-Henri Pinault from Kering states that in this new world of luxury, the share of young generations in the total business is increasing. What younger generations expect from luxury brands is very different that what older generations do in terms of commitments and sense of purpose. Is not just about making a beautiful product, but also about human connections.⁵⁷

But why is Gen Z so relevant to fashion and the Metaverse? To begin with, they represent a high portion of luxury's consumers. [Figure 20]. Kerry Murphy, founder of the previously mentioned fashion brand, The Fabricant states that they comprise around 3.5 billion individuals globally, with more than 55% of the total spending power. Furthermore, 90% of Gen Z classify themselves as gamers⁵⁸, which also explains the sudden obsession of luxury brands in games, trying to reach this target by offering seamless and personalised and immersive experiences through gaming such as personalised online and offline retail journeys.

TOMORROW'S LUXURY CONSUMER

SHARE OF GLOBAL PERSONAL LUXURY GOODS SALES BY GENERATION

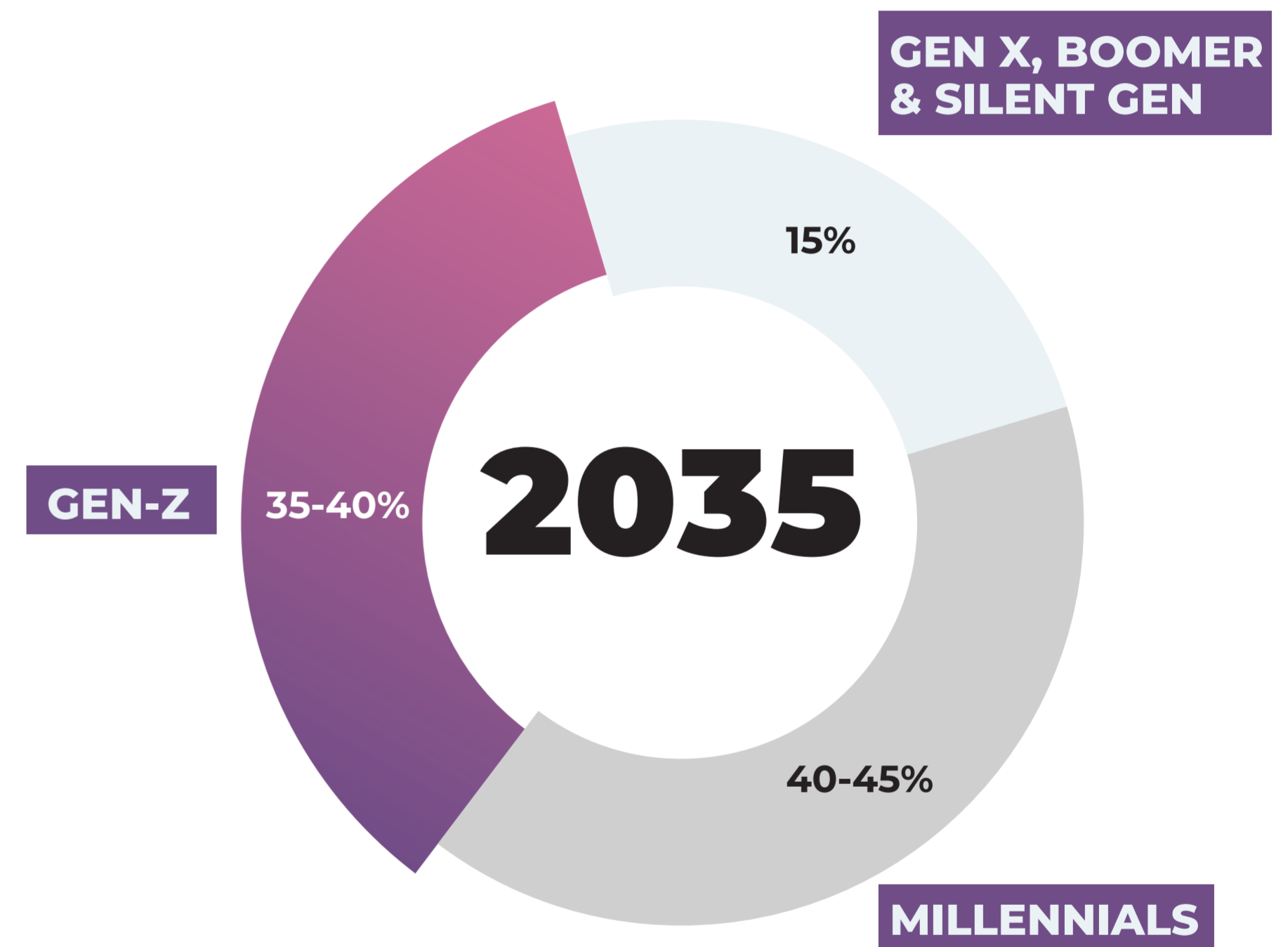


FIG 20: Graphic of Tomorrow's Luxury Consumer, Source: BoF Insights via Limelight Networks, Newzoo, Statista, Motion Picture Association

3.3.2 GAMING

Gaming has become the absolute preferred entertainment format globally across all ages (Figure 22). Around the world, 3 billion people (more than a third of the world's population) regularly play video games, being 46% women, and players already spend over 100 billion dollars on virtual goods. Video games are even preferred over movies and tv shows across generations, making gaming the world's leading form of entertainment.⁵⁹

These reasons explain Fashion's increasing interest in gaming platforms. Games have turned into an attractive channel to reach and advertise younger consumers. At the same time, games offer fashion brands the possibility of creating new and unique experiences and connect more deeply its consumers.

The way in which video games are changing the Fashion industry, is a phenomenon that is impossible to miss. At this point, almost every fashion house has made a play such as Marc Jacobs, Burberry, Dior, Guerlain, to mention a few. Some of these fashion houses are now unveiling their new collections within video games, while some others are collaborating directly with industry giants to allow gamers to dress their avatars in looks from the latest on-

trend collections. Some of these examples are stated on the following pages, whose success suggests that the trend will continue to spread at high speed in the world of ready-to-wear.

Kids growing up learning and socializing via games through avatars have that experience as part of life. Like kids of the past chatting on phones, to instant meddasing, those habits have not faded. They evolved as the technology allowed to instant connection with people in more natural ways, and that at the moment is gaming.



FIG 21

GAMING IS THE PREFERRED ENTERTAINMENT FORMAT GLOBALLY ACROSS ALL AGES

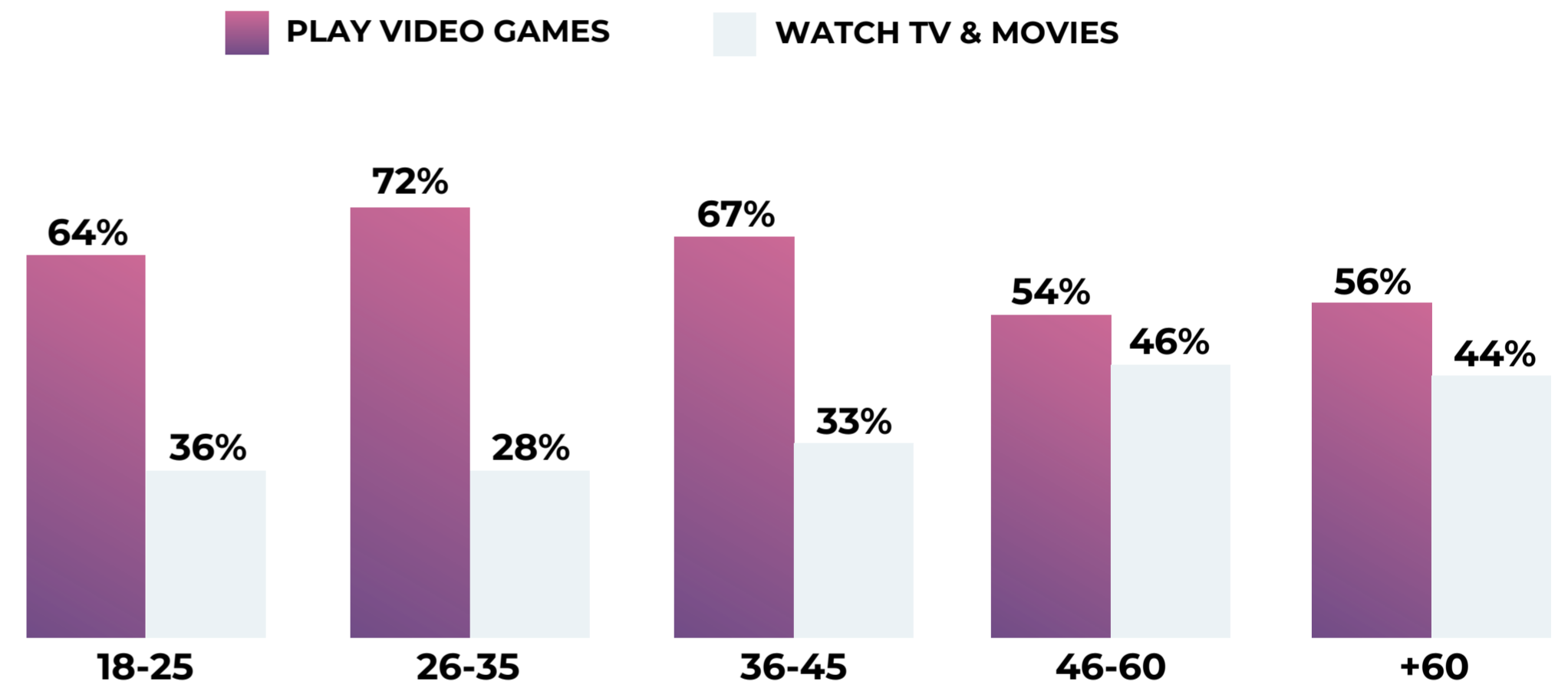


FIG 22: Gaming Across All Ages chart, Source: BoF Insights via Limelight Networks, Newzoo, Statista, Motion Picture Association

Skin Market

The global market size for fashion is currently estimated at almost USD\$3 trillion, and although digital fashion is still a relatively new market segment, it is already growing in share, with games like Fortnite making sizable chunks of their \$2.4 billion revenues on Avatar skins.⁶⁰ Luxury and mass retailers should care about the metaverse because one of the largest opportunities for in-game monetization is through skins, aka customizable add-ons that let you change the appearance of your avatar (think clothing, accessories, etc.).

In theory, the potential is limitless for brands to monetize in the metaverse. And for consumers, there presents real upside potential in the value of skins/collectibles acquired overtime – the metaverse has created a real and tangible resale economy where any user regardless of age can monetize. An example is the digital Gucci bag on Roblox which resold for over \$4,000⁶¹ (more than the IRL version) after the Gucci Garden experience.

Although it might not make sense spending money on luxuries clothes that could never be worn in real life, gamers have long used clothes to proudly establish their online identity, just as people do in the real world. Called “skins,” these outfits or shells

are bought by players to customize their appearance in an online game. And executives in the fashion industry are taking the trend seriously, especially after Facebook’s rebrand as Meta Platforms Inc. refocused it on creating a simulated digital world where users can interact as if in a real physical space. Suddenly this niche practice has the potential to get very big.

“Avatars will be as common as profile pictures today, but instead of a static image, they’re going to be living 3D representations of you, your expressions, your gestures,” Zuckerberg explained. “You’re going to have a wardrobe of virtual clothes for different occasions designed by different creators and from different apps and experiences.”⁶²

2021 Games & Brands Collabs

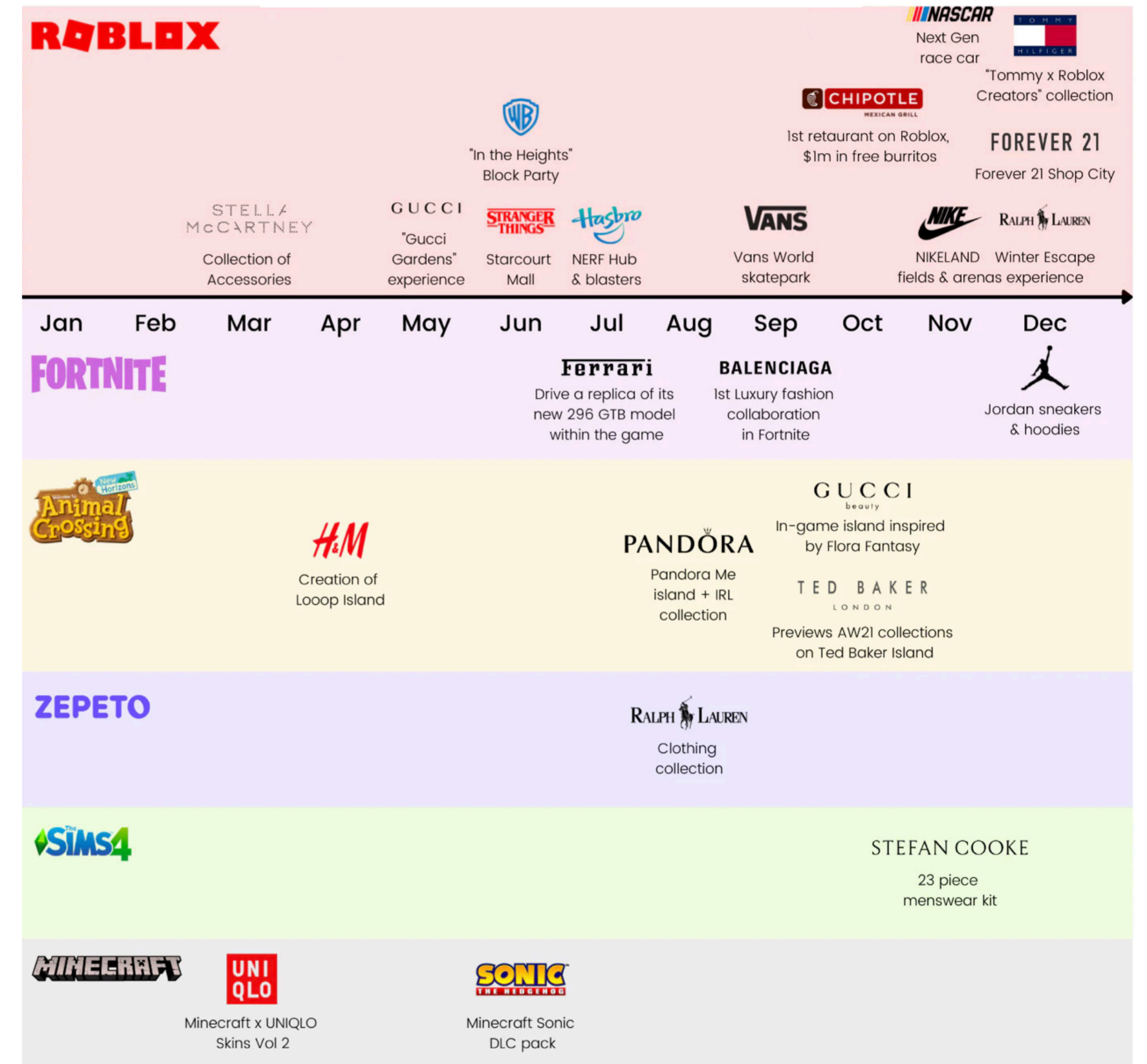


FIG 23: Prominent brand collaborations of 2021 across major metaverse platforms, https://meagan.mirror.xyz/kUmuLvRKFs6CimhFGVm-IP7kBHPKCswPra_U05Clwncw

FINAL FANTASY

Final Fantasy is one of the first and most influential video game to introduce fashion. First through Yoshitaka Amano's unique take on costuming that laid the foundations of Japanese role playing games (JRPG) fashion. Later -from FF VII onwards- with Tetsuya Nomura, who infused 90s Japanese streetwear trends with traditional Japanese cultural fashion, which at the time were highly influenced by fashion designers such as Vivienne Westwood and Yohji Yamamoto and subcultures such as the Lolita schoolgirl of Body-con.⁶³

But Final Fantasy is also an example of the reciprocal relationship that fashion and the gaming industry have had over this past decades and how game design has also influenced fashion. In 2012 Prada's SS12 menswear collection was modelled by characters from Final Fantasy XIII-2. Later in 2016, the Louis Vuitton's SS womenswear collection had the character Lightning as the face of the campaign, showcasing the latest pieces.

For Final Fantasy XV, Hiromu Takahara, creative director for Japanese fashion brand Roen designed the clothing. With industrial details, sleek tailoring and textured layering the designs had a distinct aesthetic. In addition, Lunafreya's in-game wedding dress was designed by Vivienne Westwood.



FIG 24: Character from Final Fantasy XIII-2 wearing Prada's SS12 Collection, <https://www.per-spex.com/articles/2020/5/5/final-fantasy-and-the-history-of-video-game-fashion>



FIG 25: Final Fantasy's Lightning, dresses up in a Louis Vuitton monogram detailed leather jacket for the Series 4 campaign. <https://www.pinterest.com/pin/355925176781631716/>

Gaming is the new social network and marketing space

Online gaming has evolved considerably over the years and one of the most remarkable aspects is how it is turning into a new social space. As opposed to the traditional stereotype that gaming is solitary and antisocial, multiplayer games like Fortnite or Roblox are highly social environments that encourage collaboration, conversation and real-life connections that even transcend the gaming environment.

Epic games, the studio behind Fortnite, has released Party Royale, a new anti-violence, non-combat mode in Fortnite introduced specifically for having fun times with friends. Party Royale mode was made available during the pandemic when actual physical gathering was not an option to socialise, allowing players to hold get-togethers, hang out with friends, play minigames, mix and mingle around with the community and attend big events while staying indoors.

In 2020 for example, Travis Scott partnered with Fortnite for a concert that drew an audience of 27.7 million.⁶⁴ Later on, they partnered with Ariana Grande for a multi-day live experience that topped the amount of attendants previous in-game concerts had. The enormous popularity of these events shows only proves how games can be ver-

satile environments for playing and socialising. Rather than isolating people; virtual worlds give players a new, diverse community to engage with.

The rise of e-sports, competitive video gaming, has also attracted plenty of players and high viewership numbers. In 2020, Super Bowl viewership clocked in at 99.9 million while in 2019, e-sports viewership reached 454 million, with projections topping 518 million for 2020. When you combine the number of gamers, 2.7 billion, with e-sports fans and the 15 million people who watch daily on Twitch, a live streaming platform for players, you get a sizable, captive audience that's hard to rival.⁶⁵

From a marketing and advertising perspective, this represents an enormous opportunity to connect with new audiences, one that's much bigger than the current ones of social media marketing, Facebook and Instagram (which have audiences of billions of people respectively). These social events, with famous artists as the main attraction are as well an incredible chance for brands to get involved in the virtual communities and market their collections while doing it in an original way, which is what young consumers are demanding.

FIG 26: Party Royale in Fortnite, <https://www.forbes.com/sites/erik-kain/2020/04/29/party-royale-is-coming-to-fortnite---when-to-play-free-rewards-new-map-and-more/?sh=16f40c3b73a6>

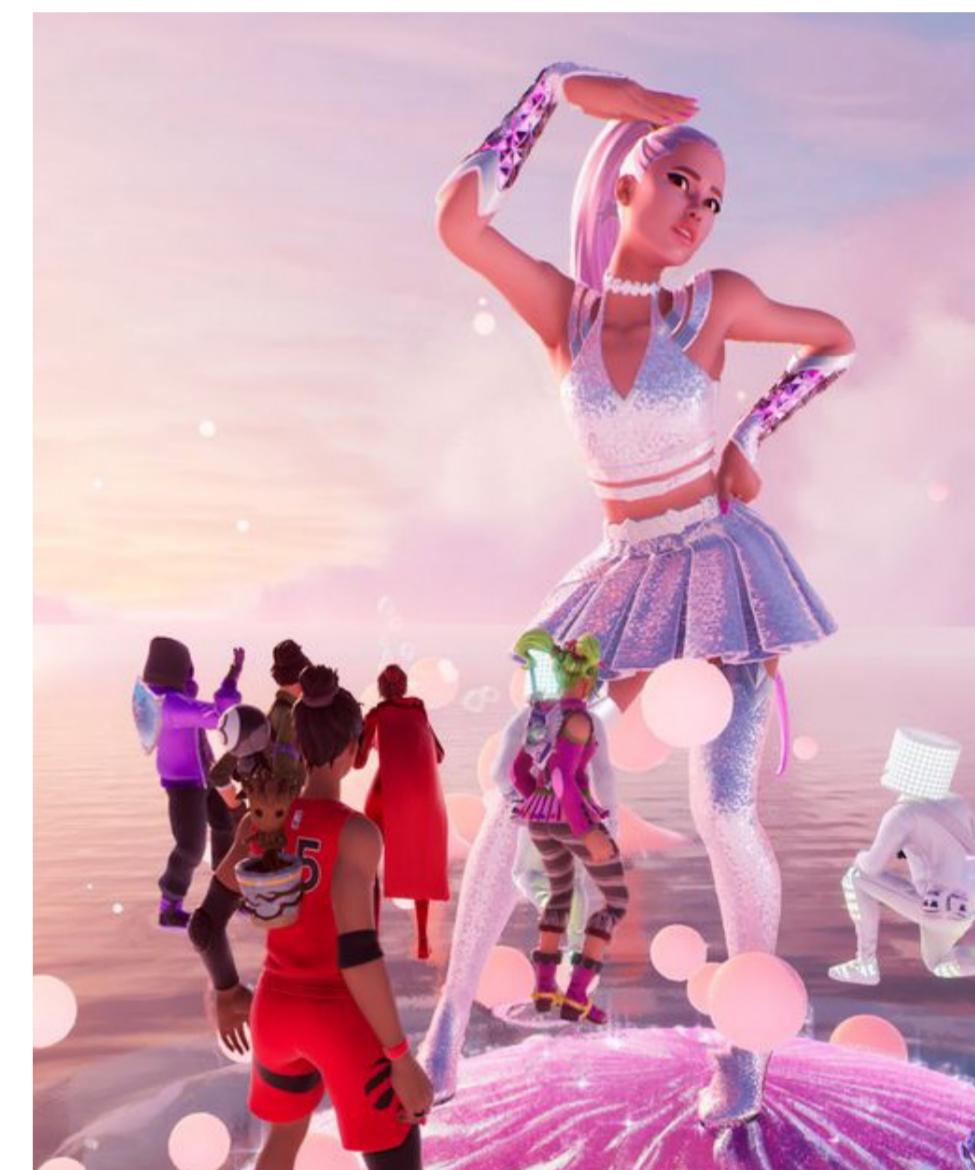


FIG 27: Ariana Grande's Rift Tour on Fortnite, <https://www.theverge.com/2021/8/9/22616664/ariana-grande-fortnite-rift-tour-worldbuilding-storytelling>

3.2.1.3. Gamevertising

Social media advertising has been a game-changer for brands because it allowed them to target users with a high level of precision based on demographics and behaviours. The ability to track and measure campaign results has enabled advertisers to determine which campaigns are most effective and drive the best results.

Social media has also proven itself as an excellent way for brands to capture the attention of new, potential customers. Many users end up discovering new products on these platforms. Once discovered, social media becomes an easy way for brands to increase awareness and recognition, staying at the top of consumers' minds by continually showing up in their feeds with ads.

With the increasingly amount of people and time spent on online, video games are becoming a new social media and the most appealing media for brands to display their merchandising, know as gamevertising.

Gamevertising is the act of advertising product(s) within a video game.⁶⁶ Gamevertising is not only offers the same advantages as social media -targeting, measurement and brand awareness-, but adds as well the possibility to create more appealing campaigns for marketers due to the lack of

constraints. While on social media ads are two-dimensional with quite simple graphics, in-game ads has endless possibilities. Brands can place their ads in 3d objects like cars, jerseys and billboards. Getty Museum for example, partnered with Animal Crossing so players could add pieces of art to their virtual homes.⁶⁷

Incorporating into existing games banners, merchandising or whichever product is desired to be promoted is a much friendlier way for brands to advertise. Unlike traditional websites and social media, where advertisements 'attack' the viewer, ads displayed in games are not intrusive and do not interrupt gamers activities, while still being effective, since products are become an integrated part of the game.

There is also another important advantage regarding effectiveness that games have over social media, related with customers' attention and awareness. On social media people scroll through a lot of different content per day, which means that most ads get passed over, especially because most users check their feed while doing other activities like watching TV. In-game ads on the other hand, have a much higher level of awareness, not only because the ads appear in 'real life' but also because users are

hyper-focused while playing and ads don't have to compete for attention.

Digital natives are driving the move to digital marketing channels. A reason for this has to do with how much gaming has grown over the past years and how it will continue to do so over the years. The in-game advertising market size is expected to grow by \$10.97 billion between 2020 and 2024 according to a 2021 report by research company Technavio.⁶⁸ Another reason is that online games are the best platform to reach digital natives such as Gen Z. Keith Stuart, games editor at the Guardian states "Gen Z is a generation that is nightmarishly difficult to reach through traditional platforms and pipelines. They're not watching terrestrial television, they're not listening to radio, they're not reading magazines—. Gaming is where they are."⁶⁹

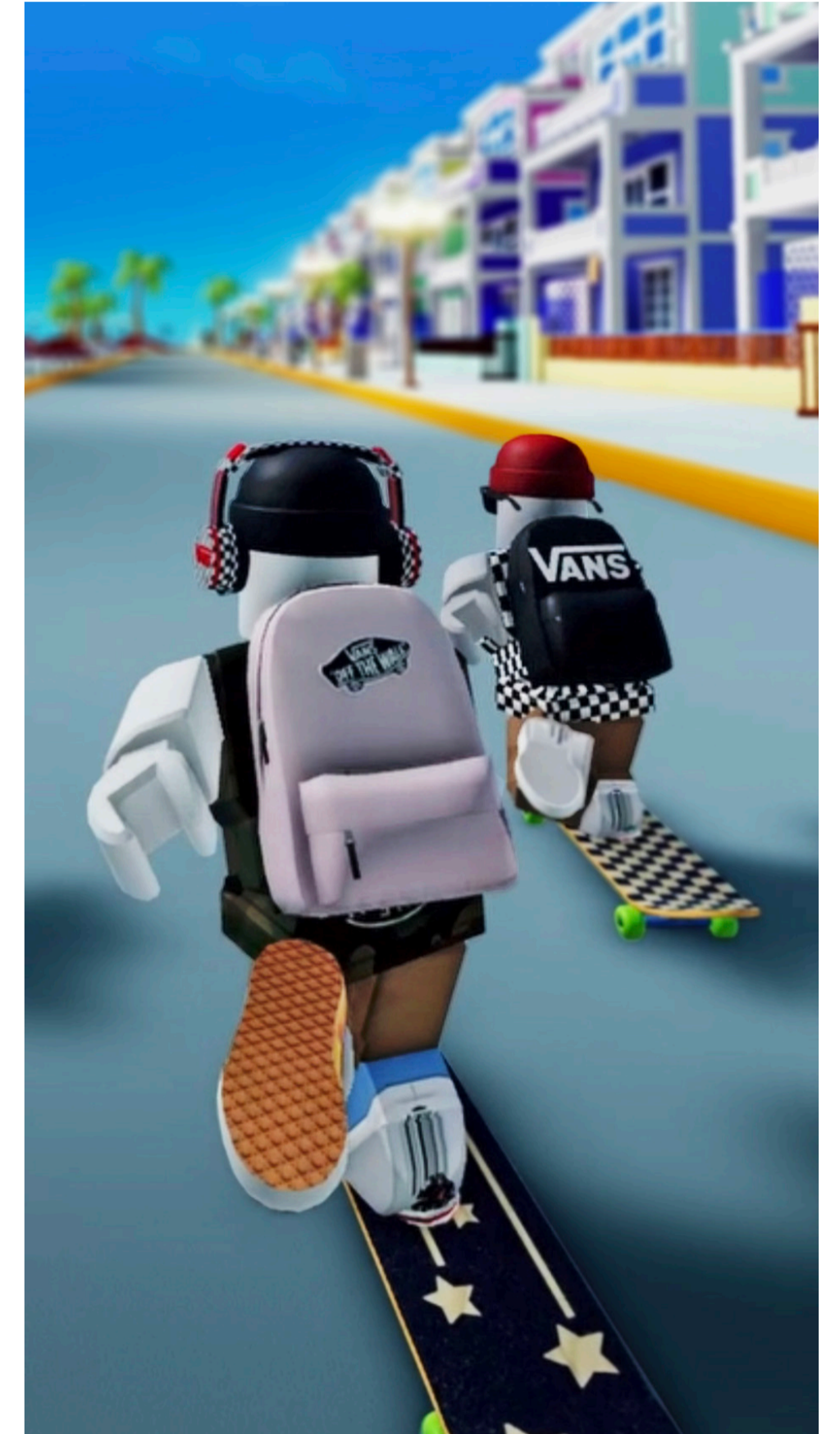


FIG 28: Vans World on Roblox, <https://www.vans.com.sg/news/post/roblox-metaverse-vans-world.html>

GEORGIE



FIG 29: Balenciaga's game Afterworld, <https://hackernoon.com/balenciagas-afterworld-the-age-of-tomorrow-could-be-the-fu->



FIG 30: Balenciaga's game Afterworld, <https://www.dezeen.com/2020/12/09/balenciaga-afterworld-the-age-of-tomorrow-vid->

BALENCIAGA

Balenciaga can be considered as one of the most forward thinking brands when it comes to integrating digital technologies. For the Fall collection of 2021, the brand created its own game called Afterworld: The Age of Tomorrow to showcase the entire collection.

Afterworld not only was an innovative way to market the clothes, but it also hallmarked an entire era for the fashion industry. The game is an example of how virtual technologies and immersive experiences can transform the online commerce. An immersive adventure set in a city in the near future of 2031, the game enables players to pick from a range of characters before exploring different zones, passing models and pieces from Balenciaga's Fall 2021 collection along the way.⁷⁰

Afterworld: The Age of Tomorrow is not Balenciaga's only experience with this digital universe either, as it collaborated with video game Epic Games to release exclusive Balenciaga merch for the avatars in Fortnite, as well as physical wear. Balenciaga became the first high fashion label to drop in Fortnite, allowing players to buy digital clothes inspired by real-life Balenciaga pieces. The brand also released a real-life Fortnite x Balenciaga series will in

select Balenciaga stores and the brand's website. Fans that would purchase the real life garments, could also unlock Balenciaga outfits in Fortnite. who purchase the real-life apparel will unlock the Balenciaga outfits in Fortnite.⁷¹

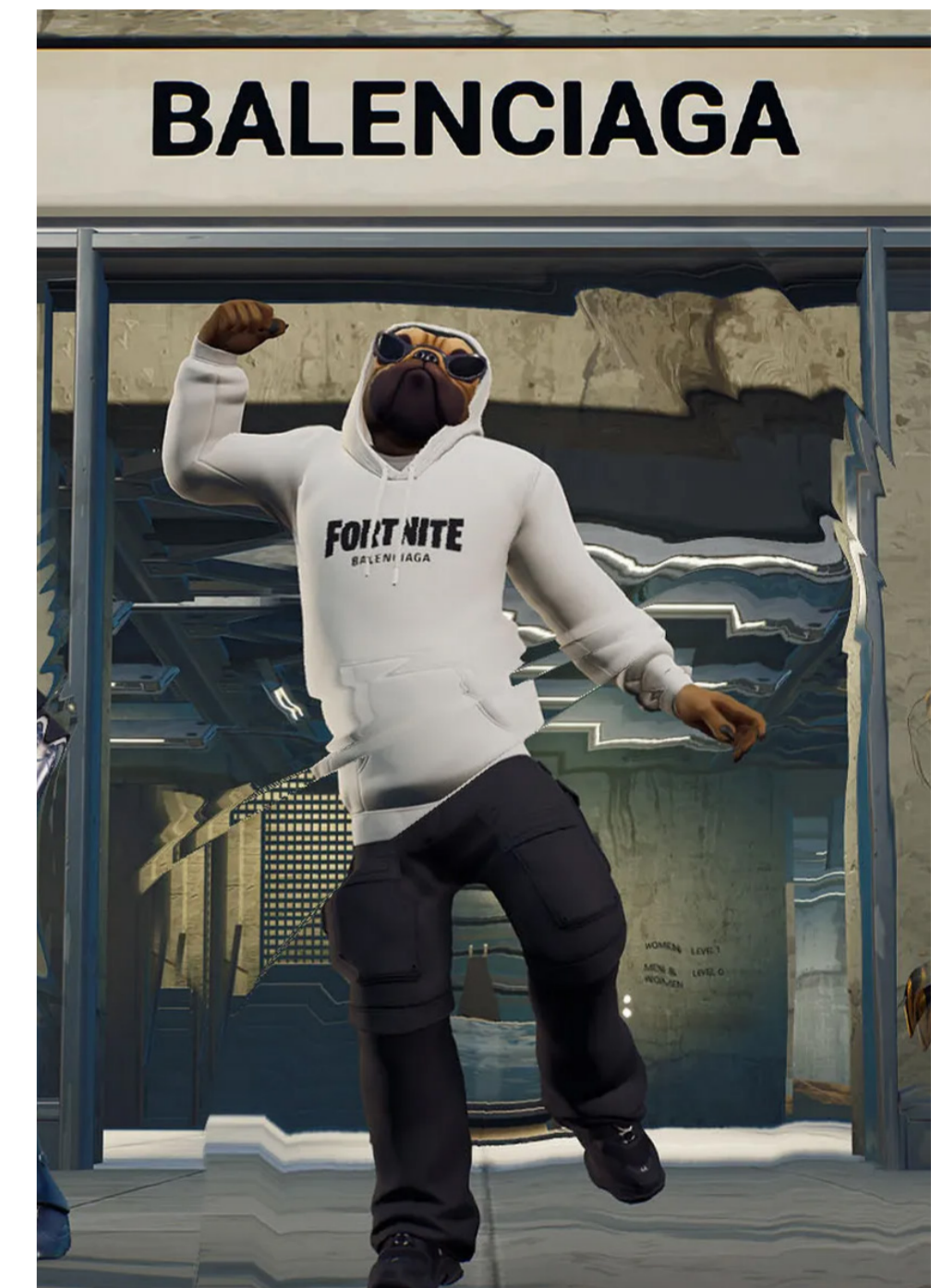


FIG 31: Balenciaga x Fortnite, <https://www.vogue.es/moda/articulos/balenciaga-fortnite-colaboracion-digital-prendas>

3.4. How is the Metaverse changing Fashion.

3.4.1. New revenue streams through NFTs.

Since the launch of the Fabricant's Iridescent dress, fashion has increasingly been engaging with NFTs, or non-fungible tokens as more and more people keep replicating their real lives into virtual space. The \$9,500 price tag on the Iridescent dress proved just how much value consumers are willing to assign to digital possessions. According to a survey made by Wunderman Thompson Data, consumers are willing to pay more than \$2900 for a bag and even higher prices when it comes to art and real state.⁷²

Fashion has realised the potential that this new market is bringing and almost every brand -or luxury brand- has followed the path of The Fabricant, some of them with even higher revenues. In 2021, the marketplace RTFKT sold 600 pairs of digital sneakers in just seven minutes, generating \$3.1 million in sales. In June 2021, a digital-only Gucci bag was sold on Roblox for over \$4,000—which is more than the physical bag costs, making brands to see the repercussions.⁷³⁷⁴ By using NFT in a metaverse, fashion brands will have access to a new revenue stream. Instead of only selling physical products and charging people for every visit to the virtual showroom, fashion brands will be able to make money by selling their virtual items and clothing on a decentralized market.

NFTs however, can bring more than just an economical benefit. To begin with, they can provide a solution to the never ending problem Fashion, especially luxury brands, has had regarding authentication. The fact that they are traded within a blockchain, not only means that they are unique, but also traceable, helping to protect brand identity and future revenue streams. It also gives people a true ownership of digital items and the possibility to trade them on a decentralized virtual market place.

Furthermore, NFTs are changing the relationship fashion brands have with their customers by giving them a sense of community through extra benefit or exclusive access to those who own them. When drops are limited, collectible assets become even more appealing for consumers. The fact that an nfts are non fungible, creates a sense of speculation for buyers, hoping that its value will increase over time.



FIG 32: Average of money people would be willing to pay for virtual goods. Article Into The Metaverse, Wunderman Thompson Intelligence, 2021 [PDF file].

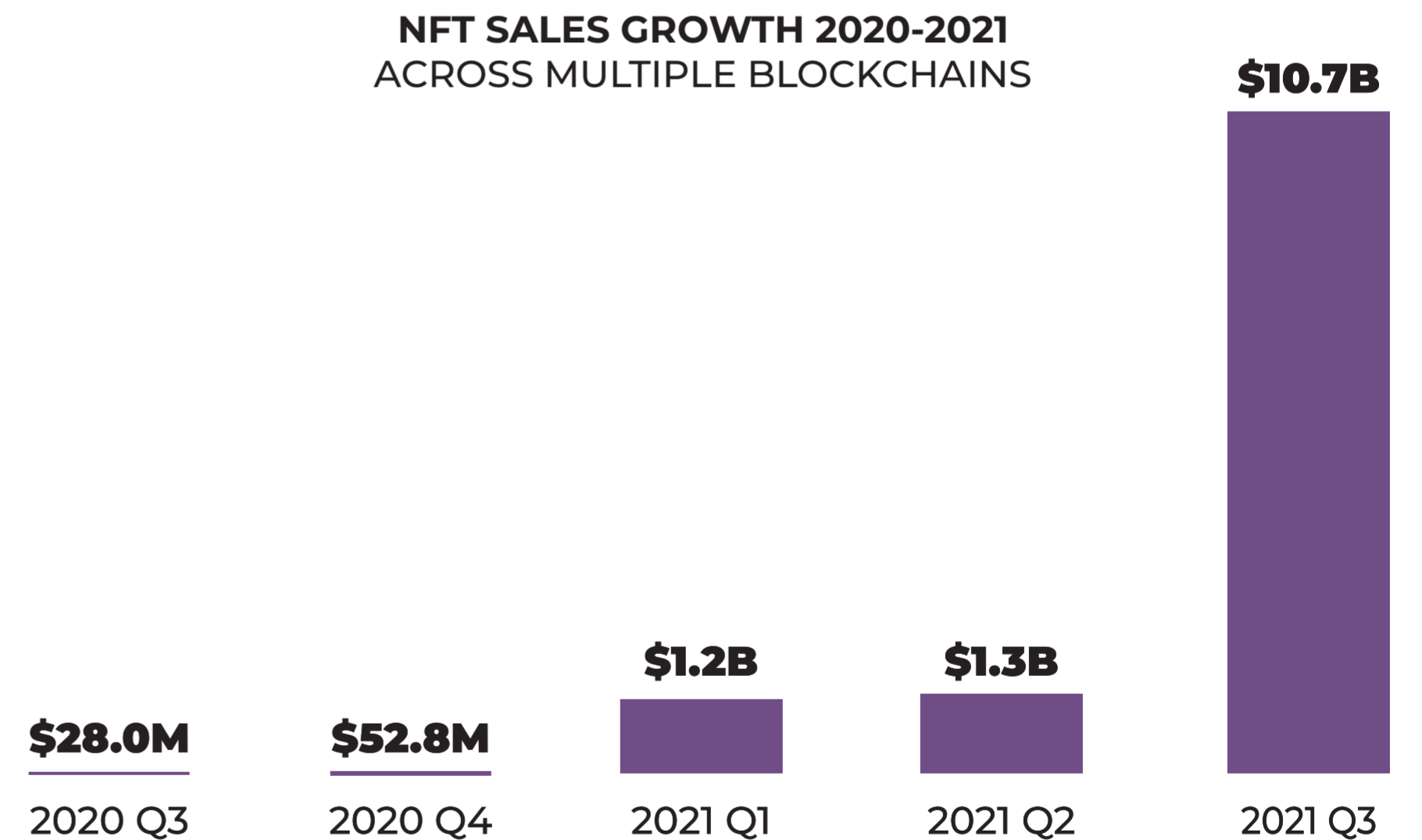


FIG 33: NFTs sales growth during 2020 and 2021, Welcome to the Metaverse, The Business of Fashion Show Youtube video], <https://www.youtube.com/watch?v=QTXpJ1v7UII>

D2A - DIRECT TO AVATAR

Direct-to-Avatar (D2A) refers to an emerging business model selling products directly to avatars- or digital identities- by-passing any supply chain management like dropshipping, logistics of how to get a physical product to a consumer's door", said Ryan Gill, co-founder and CEO of Crucible. "D2A brands are being sold in social or competitive virtual environments like games or open worlds where consumers project themselves as an avatar."⁷⁵

Established fashion and auto brands—from mass-market to high-end—are starting to pivot for this new direct-to-avatar business model. Ralph Lauren released a 50-piece digital clothing collection in August 2021, available for purchase in social networking app Zepeto. American Eagle announced a digital clothing collection for Bitmoji avatars in July 2021. Gucci and The North Face released a joint collection for avatars on Pokémon Go in January 2021. And in March 2021 Gucci released virtual sneakers that can only be worn with AR, using technology developed by Wanna.⁷⁶

The future of consumerism lies in virtual products, Murphy predicts. "People are going to start seeing value in digital items and realize that they'd rather interact with

“Gen Zers consider their digital avatars an extension of themselves”

Samantha G. Wolfe⁷⁹

a digital item, or have an infinite wardrobe of digital fashion items but a very limited wardrobe of physical items.”⁷⁷

For its fall 2021 collection, Gucci partnered with the art auction house Christie's on an NFT video called "Aria," which sold for \$25,000 in June.⁷⁸

REVENUE FOREVER: RESALE MARKET

One of the main reasons why luxury labels are investing and creating NFTs is related to the secondary resale market. Outside the Metaverse, everytime a fashion brand is resold (on a resale site) luxury brands don't get any share. With digital items and NFTs authenticating them, fashion brands can get a part of the share everytime that product is being resold. Now brands can finally monetize in a market that they could never crack.

This is a great advantage offered by the Metaverse, especially with the amount of money consumers are willing to pay for digital assets. Again, the digital Gucci bag on Roblox which resold for almost \$4000 which was more than the RL version is a good example.

NFTs assure authenticity, which discourages knockoffs, and can embed the equivalent of a sitcom actor's residuals in every luxury dress or bag. All it takes is for the smart certificate or NFT to include a royalty fee or revenue share on future transactions, guaranteeing the original designer a percentage of whatever's paid. The Fabricant already operates like this on its creator-powered platform by taking a 5% royalty whenever a garment is resold after the first purchase.⁸⁰

ADIDAS INTO THE METAVERSE

In 2021, Adidas made its jump into the metaverse by launching a collections of NFTs in partnership with a few top projects like Bored Ape Yacht Club, Mutant Ape Yacht Club, Pixel Vault NFT and others. The collection sold out in mere seconds, and netted \$23.5m in sales in the span of an afternoon.⁸¹

The sportswear brand is granting holders access to physical merchandising (Exclude adidas Originals, gmoney, Bored Ape Yacht and PUNKS Comic physical), as well as access to open Metaverse virtual land experiences.

The relevant part about these partnerships is that they put in perspective the magnitude of the Metaverse and the relevance of the NFTs. Previous iconic Adidas partnerships had been iconic and unique collections with notable artists, such as the one with Kanye/Yeezy in 2016, or with Beyonce/Ivy Park just a few years later in 2019. Moving forward to 2021, the hyped partnership/collaboration for Adidas is with an NFT community of Apes.

When bridging the gap into the metaverse, it's important to build with communities to make the transition as authentic as possible. This also creates an opportunity for

fans of Adidas that are simply excited about new merch and experiences, not explicitly crypto or the metaverse. A minimum of 9,620 NFTs were reserved for general sale, meaning theoretically anyone could buy an "Into the Metaverse" NFT whether they're a crypto enthusiast or not. You're essentially getting access to an exclusive club, with Adidas promising access to both physical and digital products and experiences. This could be limited edition hoodies and beanies you wear to the gym, or a ticket to an Adidas event in the metaverse where your NFT is effectively your ticket.⁸²





FIG 35: DOLCE & GABBANA X UNDX, <https://www.larazon.es/lujo/20211027/6govpzychamfgpb6o3a7wz66e.html>

DOLCE & GABBANA

Dolce & Gabbana also dropped an NFT collection in October 2021 but with a different direction from Adidas. Instead of going for a mass market, the Italian brand chose to create a highly exclusive collection consisting only of 9 NFTs. Five of those pieces had 'physical twins' that were paired with the respective NFT. This collection was a complete success for the brand, who established a record for Fashion NFTs when it reached \$6 million in sales.⁸³

Other digital-only creations that were put on sale reached incredible results. The 'Impossible Tiara' with its seven blue sapphires and 142 diamonds, was sold for \$1.25 million, marking it as the highest sale-price of the collection.⁸⁴ Just like Adidas, the digital assets guaranteed access to exclusive events, such as the Dolce & Gabbana haute couture parades or private visits to the workshops in Milan.

Companies can follow Adidas or Dolce & Gabbana's two different directions, considering however, to create a sense of community and making the drops authentic.

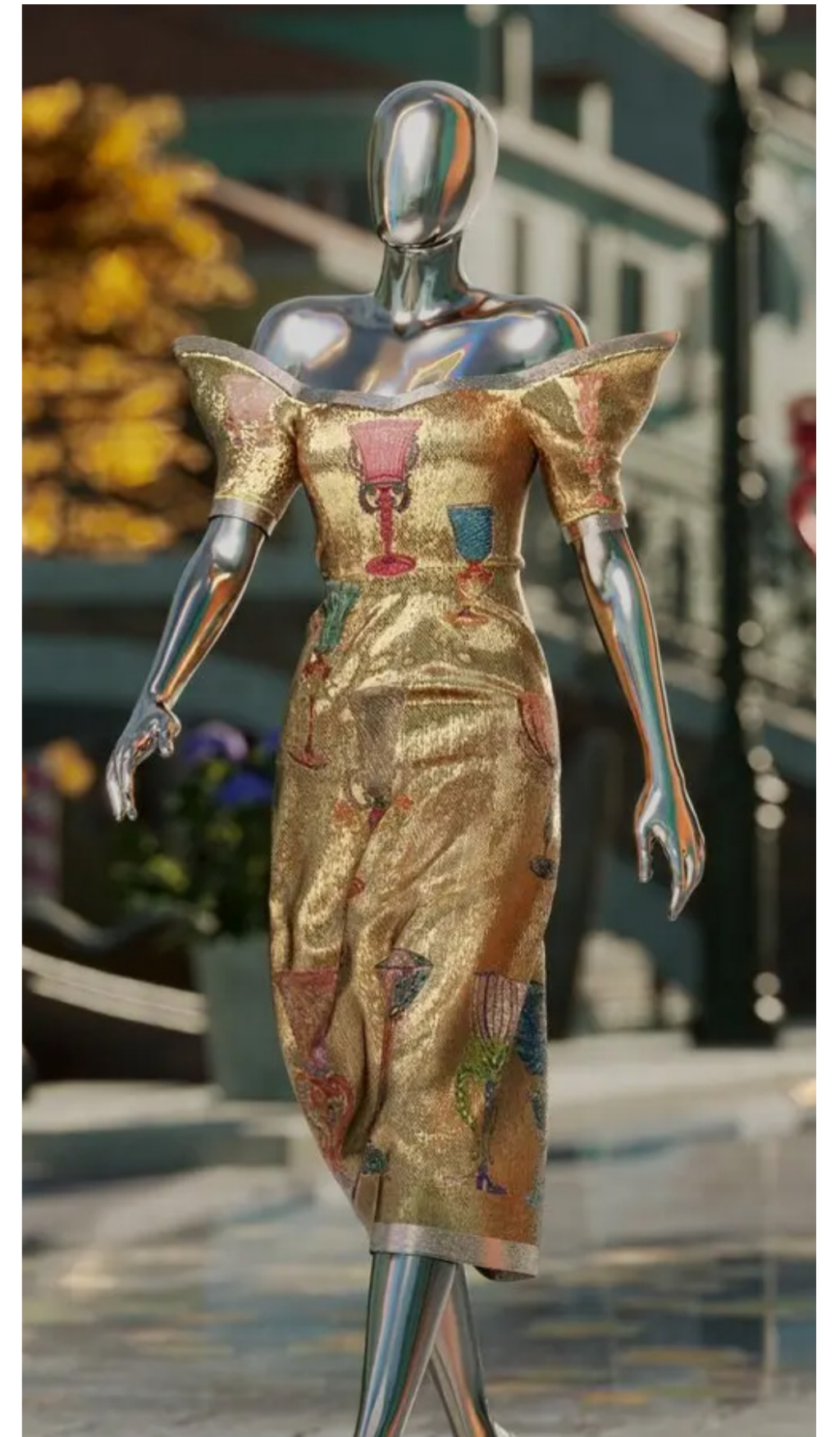


FIG 36: DOLCE & GABBANA X UNDX, <https://hypebeast.com/2021/10/dolce-and-gabbana-six-million-usd-fashion-nft-record-announcement>

FASHION & NFTs 2019 - 2022

MARCH 2019
The First Clothing NFT Sells



FIG 37

February 2021 -
RTFKT Studios x Fewocious
makes US\$3.1 million

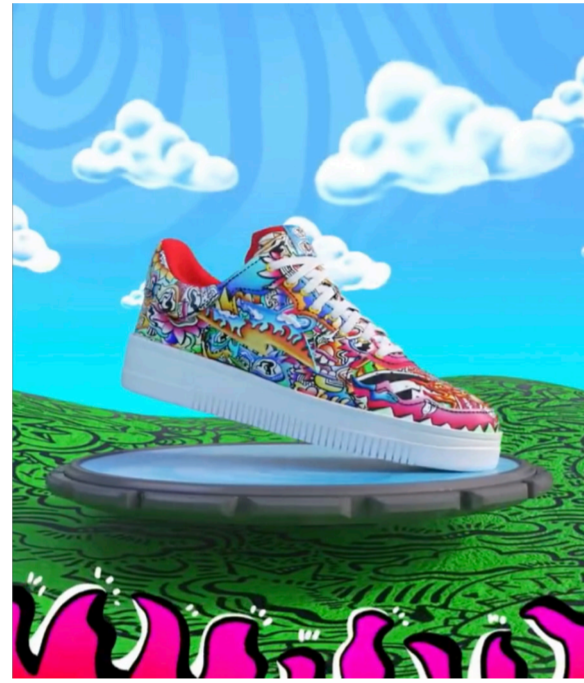


FIG 38

June 2021 -
Gucci Sells NFT Film: Aria



FIG 39

September 2021 -
Balenciaga joins The Metaverse,
Dolce & Gabbana breaks record
for most expensive Fashion NFTs,



FIG 40

December 2021
Metabirkins drops Jaws
Nike Acquires RTFKT



FIG 41

February 2022 - SUPERGUCCI

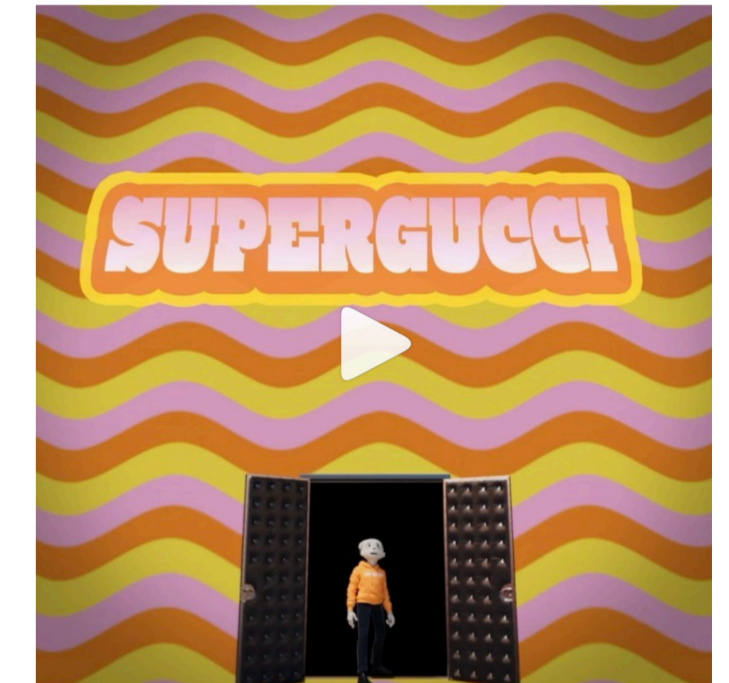
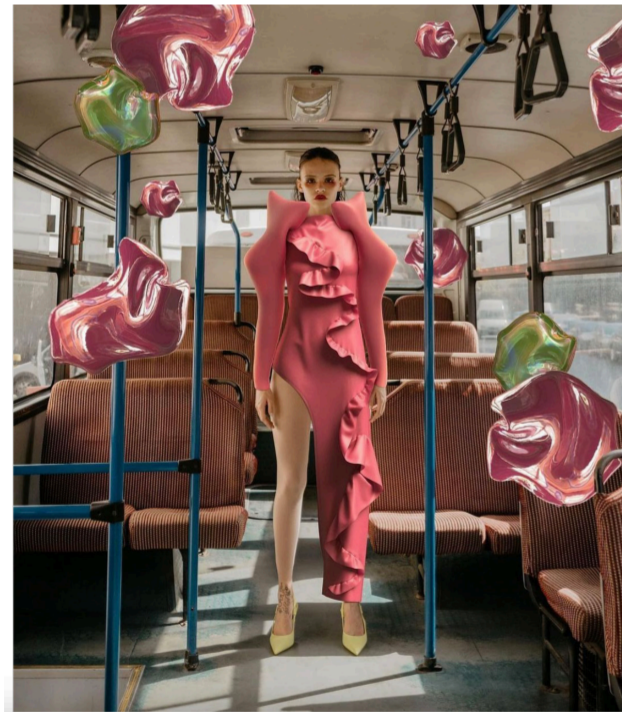


FIG 42

FIG 43



August to December 2020
Digital Fashion Designers & Retailers
Emerge

FIG 44



April 2021 - Overpriced sells The
First Wearable Linked to an NFT

FIG 45



August 2021 -
Burberry's Blankos, Balmain's
Flaming Dress & LOUIS THE GAME

FIG 46



October 2021 - The First Eyewear
Maverse arrives with Rayban

FIG 47



January 2022
Balmain x Barbie Collection

FIG 37: Digital couture dress from The Fabricant, <https://www.thefabricant.com/iridescence>
 FIG 38: RTFKT Studios x Fewocious, 2021 (Instagram) @FEWOCIOUS
 FIG 39: Gucci video for Aria collection, <https://www.reeditionmagazine.com/fashion/gucci-aria>
 FIG 40: DOLCE & GABBANA X UNDX, <https://hypebeast.com/2021/10/dolce-and-gabbana-six-million-usd-fashion-nft-record-announcement>
 FIG 41: Metabirkins NFT bag, 2021 (Instagram) @metabirkins
 FIG 42: Gucci Vault for the SUPERGUCCI launch, 2022 (Instagram) @Gucci

FIG 43: 'Silicone Road' metadress by @anic8nic with DressX, 2021 (Instagram), @dressx
 FIG 44: Overpriced first NFT fashion edition, 2021 (Instagram) @overpriced.nft
 FIG 45: Sharky B Burberry's in-game NFT toy, 2021 (Instagram) @burberry
 FIG 46: First ever NFT Ray-Ban Aviator by digital artist Oliver Latta, 2021 (Instagram), @rayban
 FIG 47: Balmain x Barbie Collection, <https://www.balmain.com/de/balmain/projekte/balmain-x-barbie>

3.4.2. CREATIVE FREEDOM

Digital fashion in the Metaverse is promising to free designers and users from the limitations of traditional fashion, offering new tools for exploring the evolutionary trajectory of clothing itself.

IMPOSSIBLE CLOTHES

In the Metaverse designers can create clothing pieces with no gravitational limitations, they don't have to worry about excess inventory or discounts, or varying labor costs. Take digital fashion house, The Fabricant, and the way they've approached the production of digital clothing pieces and collections. For Australian fashion week, The Fabricant brought the Animator Overcoat to life, made of liquid metal and augmented with gravity-defying tentacles, something that is impossible to physically reproduce in the real world.

DressX, an international digital fashion multi-brand retailer that carries digital fashion collections from contemporary brands and designers offer shoppers the opportunity to purchase gravity-defying sci-fi looks from "tech-couture" brands such as Auroboros, which would take weeks to engineer physically or would be impossible to make.

This represents an immense advantage for brands to appeal to these younger

consumers who are continuously looking for newness and original ways to express themselves, with pieces that would help them stand out across different social media platforms and that better reflect the time in which we are living. Cathy Hackl, a globally recognized metaverse expert, tech futurist, and top business executive says "It's about unleashing creativity, pushing limits. Younger generations have always pushed limits. I think it's part of embracing that rebellion: how are they expressing themselves in these virtual spaces?"⁸⁵

IMPOSSIBLE SHOWS

The creative freedom has also pushed designers to look for different ways on how to present their collections. Fashion brands are taking their fashion shows to a next level, by creating virtual catwalks with set ups that would be impossible to do in real life. During Helsinki's Fashion Week in 2020, fashion designer Patrick McDowell presented his collection called Catholic Fairytales, born out of his desire to offer a more inclusive alternative to the Catholic Church for the LGBTQ+ community. In order to achieve this, he created a set inspired by the Vatican City in the sky, with clouds that invaded the scene and antique statues covered with graffiti writings.⁸⁶ Other designers went for crazier sceneries, such as

designer Mandali Mendrilla who presented her whole collection under the ocean.

Digital fashion houses and clothing brands solve this problem. Kerry Murphy explains in Vogue Business, "the real value of 3D is that it enables us to be way more creative and to create situations that we haven't previously seen, which allows for this new aesthetic language; a new way of expressing our creativity that really speaks to young, digitally savvy audiences".⁸⁷



FIG 48: Catholic Fairytales virtual show from Patrick McDowell, <https://keiseimagazine.com/helsinki-fashion-weeks-virtual-extravaganza/>

FIG 49: DressX founder Daria Shapovalova in a digital design by Auroboros, <https://edition.cnn.com/style/article/metaverse-digital-fashion/index.html>

3.4.3. RESHAPING THE FASHION RETAIL

The creative possibilities that the Metaverse offers Fashion is not only through materials but also in the way brands can promote their products, being through marketing or through immersive fun experiences that go beyond the possibilities of traditional shopping. “The world has witnessed the changes in consumer behaviour, the nature of retail, reshaping of the high street landscape due to the e-commerce revolution and continued expansion”.⁸⁸ This observation underlines the impact of the pandemic caused by the shift of consumer mind-sets, the retail model is altering, being reinforced with the development of technology and the advancements of e-commerce.

One of the biggest potentials that digital fashion has brought -especially hyperrealistic one- is the possibility to provide optimized online and virtual shopping experiences. 3D immersive virtual stores filled with digital garments can allow shoppers to have hyper-personalised and fully interactive experiences, including virtual try on of clothes within these spaces. Considering that the lack of physical constraints, these virtual stores can as well allow custom fitting of designs that are not available in the real world because of the physical limitations.

When shoppers buy clothes the traditional way -that is going to the physical store- they have the ability to physically see the garment, touch it and try it on before proceeding with the purchase, which gives the undeniable benefit of reassurance. E-commerce shopping on the other hand, forgoes the physical aspect of traditional brick-and-mortar shopping, but offers other advantages, such as convenience, speed and access. Now with the arrival of the Metaverse, brands are looking to bridge the gap between the two separated worlds, by merging -in some ways- both of them and promising to change the industry forever.

This is an opportunity for fashion brands to be able to reach out to a larger pool of fashion enthusiasts who can partake without being in physical proximity to the brand. For instance, a fashion enthusiast in a remote part of the world will still be able to enjoy the showrooms and virtual wearable items the fashion brand produces. Distinguished brands will also be able to stand out more with unique editions of fashion and luxury products.⁸⁹

Technology can assist in efficient, more sustainable and fast business processes, improve customer services and new experiences. According to Siebel (2021) “physical

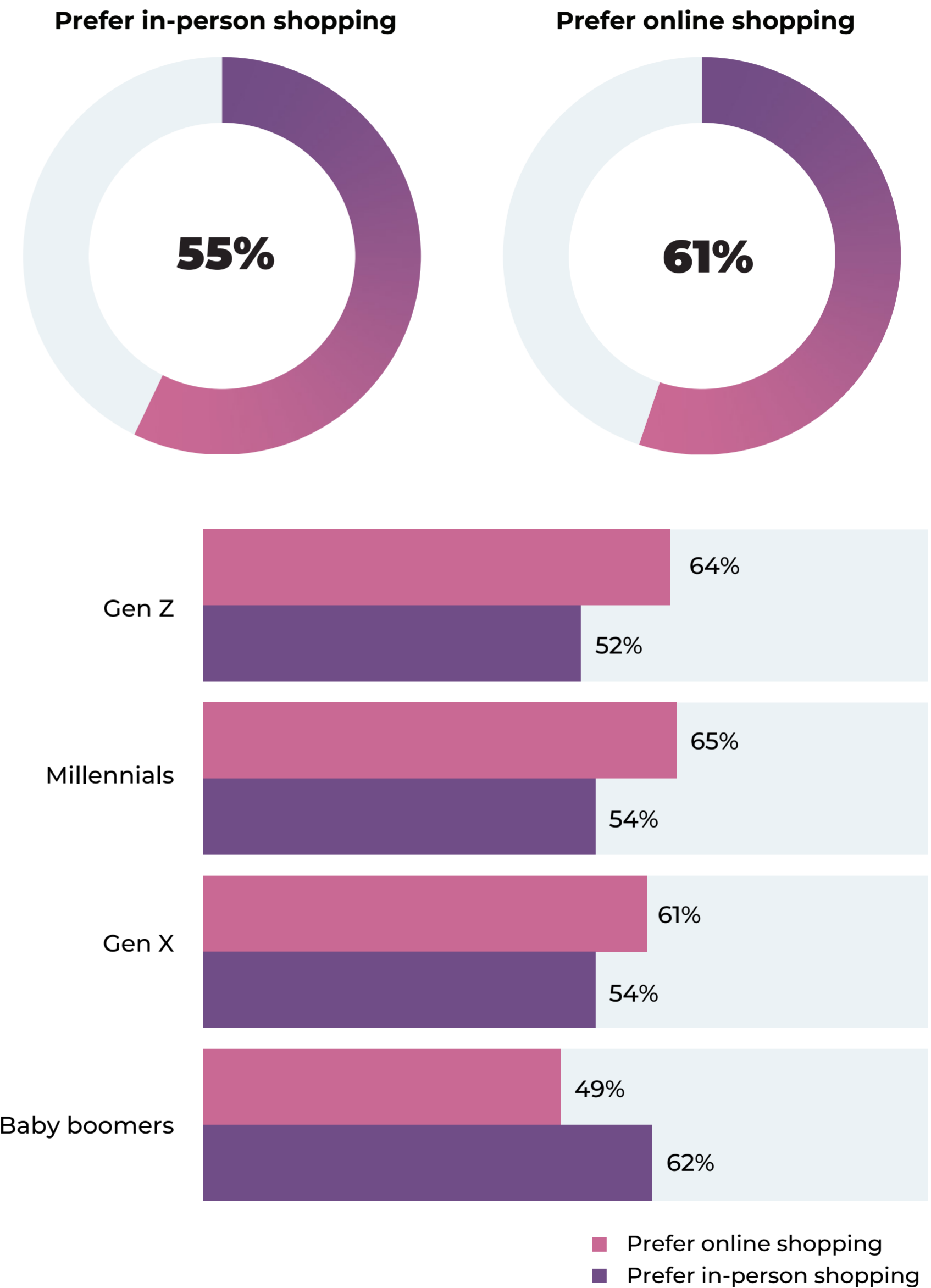


FIG 50

FIG 51: Percentage of people that prefer in-person shopping vs people who prefer online shopping across different generations, Article Into The Metaverse, Wunderman Thompson Intelligence, 2021 [PDF file].

spaces will be reframed so that, through immerse experiences, consumers can perceive the universe of a brand and product". Through the technology, retailers are immersing themselves in integrating with customer's omnichannel both online and offline and creating innovative shopping experiences.

Today, 81% of global consumers agree that a brand's digital presence is as important as its instore presence. This is encouraging brands to enhance their ecommerce storefront prominence and making way for virtual flagship stores. In July 2021, Fendi opened a 360-degree virtual flagship based on its New York City 57th Street store, and Lancôme opened a temporary virtual flagship set in Singapore.⁹⁰

What does this mean for bricks-and-mortar stores? There is demand for both, as 61% of global shoppers say they prefer online shopping to in-person shopping, and 55% prefer in-person to online. Physical shops are increasingly blending digital overlays. Snap AR has been ramping up its offerings, with AR try-ons in collaboration with American Eagle, Farfetch, Piaget and Prada. "We see big opportunity in taking the reality around you and layering the digital world on top of it," Carolina Arguelles

Navas, group product marketing manager at Snap AR, tells Wunderman Thompson Intelligence. "From shopping experiences to travel, there's an endless opportunity to take the power of digital content and layer this onto the physical world around you."⁹¹

Leather goods and accessories maker Coach partnered with the Obsess experiential e-commerce platform to create an immersive virtual wholesale showroom that is a 3D re-creation of its Fifth Avenue flagship store. Obsess uses virtual and augmented reality (VR and AR) technologies to create immersive digital flagship and pop-up store experiences for consumers and to digitize brands' showrooms for wholesale buyers. These photorealistic online stores are designed to drive discovery, engagement, click-through, session duration, average order value, and conversion for leading retailers and brands.

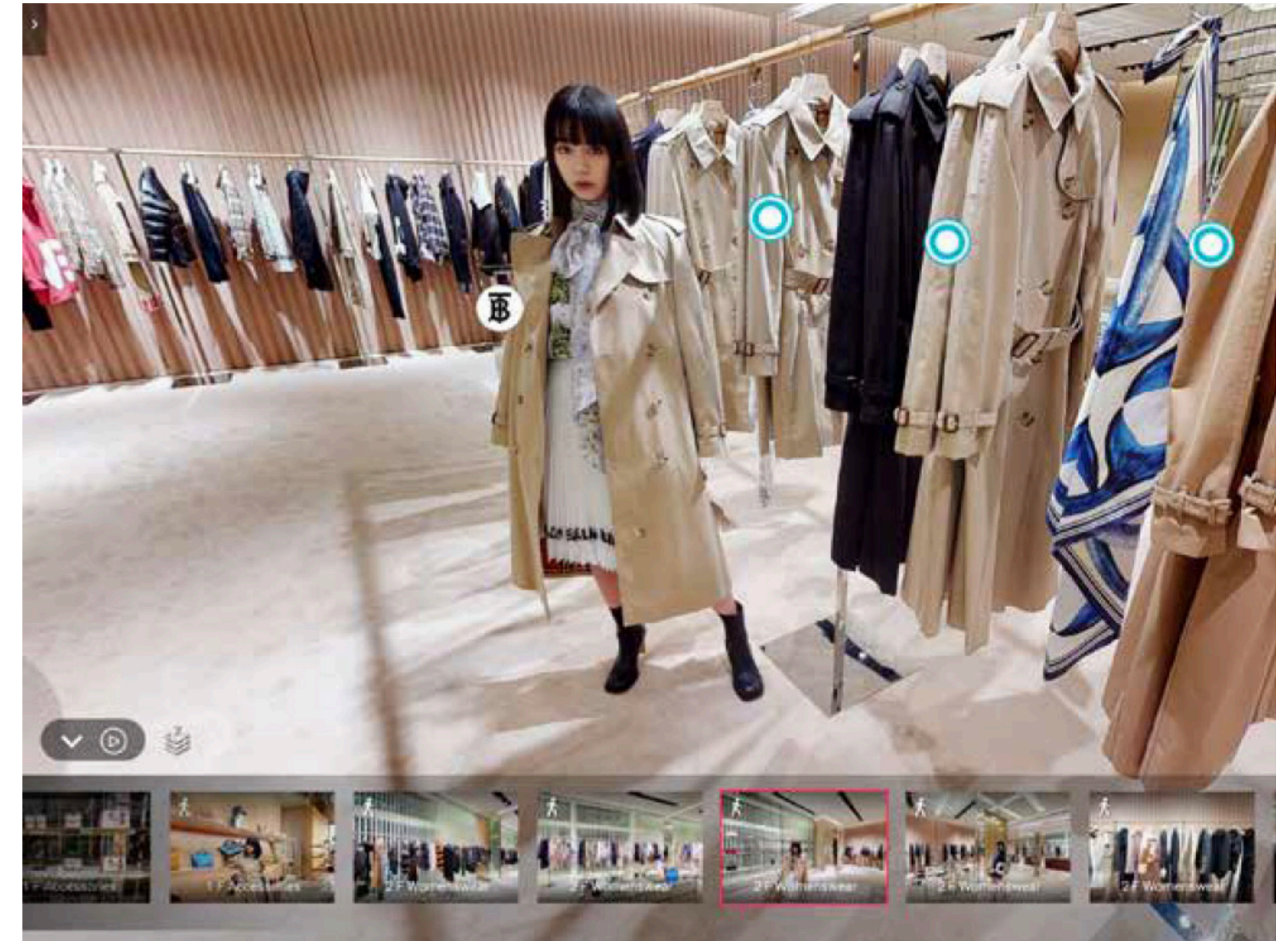


FIG 52: Burberry Ginza-inspired virtual store in collaboration with Elle Digital, Article Into The Metaverse [PDF file]



FIG 53: Gucci Bloom room in Gucci Gardens' exposition, <https://www.vogue.fr/vogue-hommes-en/article/gucci-garden-archetypes-exhibition>

GUCCI GARDENS

Also in 2021, Gucci collaborated with Roblox by selling several rare Gucci items on the Roblox platform. For two weeks, the fashion house created a unique virtual garden exhibit, accessible exclusively on Roblox. The virtual exhibition was part of Gucci's Archetypes, a 2-week immersive multimedia experience in Florence, Italy, that explored and celebrated the brands' 100th birthday. The physical exhibition dove into the world of Gucci's advertising campaigns and largely comprised of inspirations such as music, art, travel, and pop culture. Each venue was divided into exhibition rooms by theme, which reproduced different Gucci's campaigns. With cutting-edge technology, handicrafts by artisans with the utmost precision, and innovative interior designs, the exhibition presented the diverse and immersive space and made visitors feel as if they were in the advertising campaigns of Gucci.¹⁰⁴

For two weeks in May, the virtual Gucci Garden space was available to everyone on Roblox. Those who attended were able to view and experience the vision, aesthetics, and inclusive philosophy of the brand's creative director Alessandro Michele through 15 past advertising campaigns by Gucci. The house dropped limited edition items such as Virtual bags on Roblox platforms.



FIG 54



FIG 55

FIG 54: Gucci boutique, Gucci Gardens, https://www.gucci.com/us/en/stories/inspirations-and-codes/article/gucci_garden

FIG 55: Avatar walking on Gucci Gardens' virtual experience, <https://www.theverge.com/2021/5/17/22440134/gucci-garden-roblox-experience-metaverse-date>

NIKELAND

Nike is another big brand that partnered with Roblox to create a true immersive space where fans can socialize, create, share experiences and even compete. The whole architecture, buildings and fields are inspired by Nike's real life headquarters, including arenas for players to test their skills through several mini games.⁹²

The whole gaming experience and branded metaverse activation enables shoppers to use Snapchat Lenses and buy digital products to put on their own 3D avatars and at the same time test their skills and compete against other shoppers

The purpose of the Nikeland is turning sports and play into a lifestyle and encourage shoppers to move. By shaking their mobile devices and using the accelerometer, Nikeland visitors can activate super powers like long jumps and faster in-game speed. In the Nikeland Showroom, shoppers can deck out their personal metaverse avatar with a virtual collection of Nike shoes, clothes, and accessories including a free, exclusive-to-Roblox Nike cap and backpack. Buildings and fields inside the Nikeland digital experience are inspired by Nike's real-life world headquarters in Oregon.⁹³



FIG 56



FIG 57

FIG 56: NIKELAND avatars, <https://news.nike.com/news/five-things-to-know-roblox>
FIG 57: Avatar playing in NIKELAND, <https://news.nike.com/news/five-things-to-know-roblox>

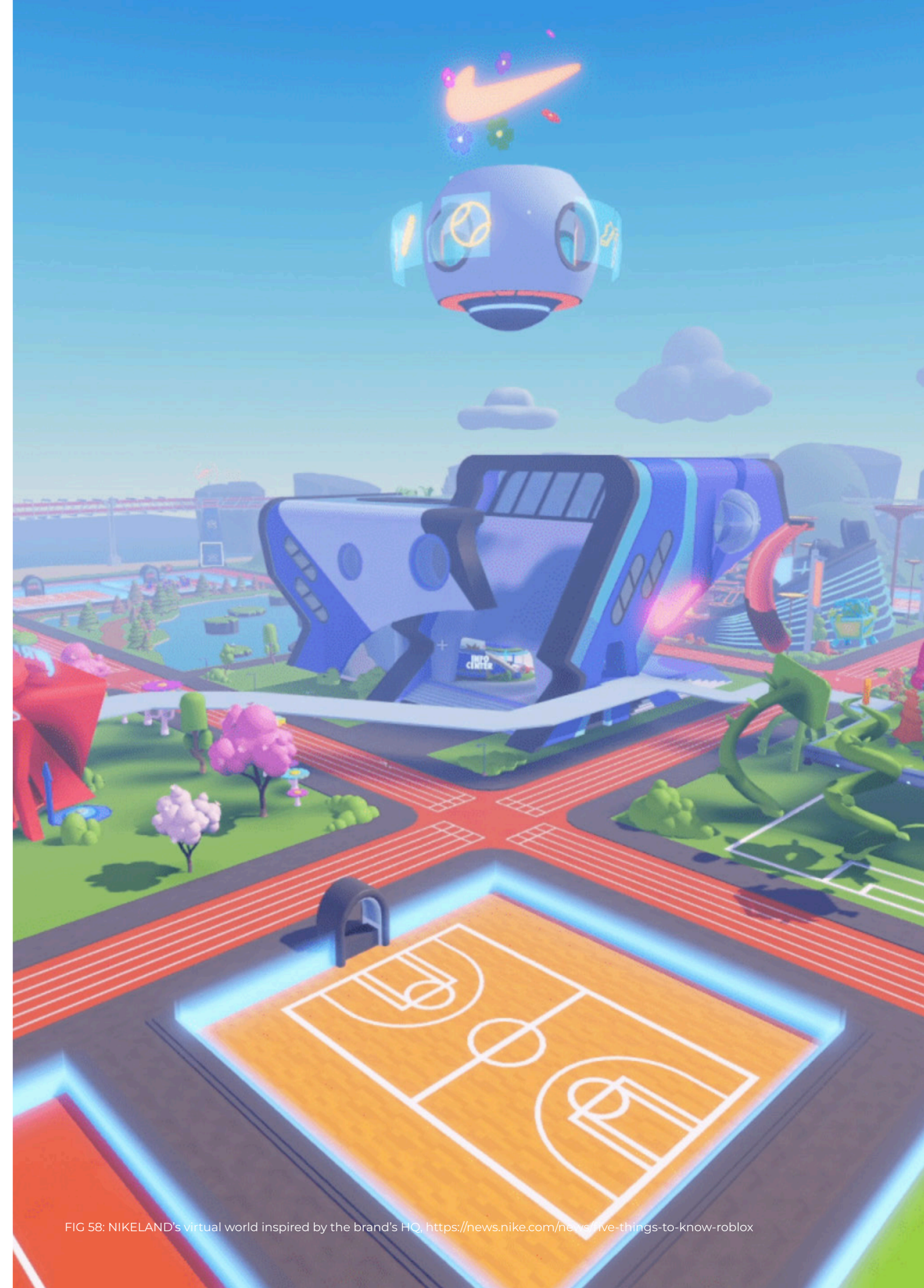


FIG 58: NIKELAND's virtual world inspired by the brand's HQ, <https://news.nike.com/news/five-things-to-know-roblox>

3.4.4. Accessibility & Democratization.

Perhaps one of the most significant opportunities that digitalization and the Metaverse are bringing has to do with Fashion accessibility and democratization, and how these concepts can be approached. Digitalization is making fashion become more fluid and adaptable, allowing others who may not be familiar with the industry to take part. Daria Shapovalova from the DressX stated “This is an opportunity to democratize the industry for the designers and creators. It’s quite hard to be a young designer, but with digital fashion, anyone can try. It’s just you and your laptop”.⁹⁴

Storytelling

To speak about democratization with luxury brands might be a little contradictory considering that they thrive off of exclusivity and luxury, with an unachievable aspirational element. However, having cheaper clothes is not the only way in which democratization can be achieved; brands can make fashion more democratic through more transparent storytellings of the process of creation of a collection and the way in which it is presented. Virtual fashion weeks are an example of this. While fashion shows are usually reserved for the elite, digital fashion shows that could be accessed by anyone allow anyone with access to the Internet to participate, while

creating a strong brand affiliation that is then hard to break.

A chance for independent designers

Digital fashion is allowing any artist to produce a virtual fashion collection with minimal financial resources. The Metaverse, unlike, fashion world’s historic exclusivity, has attracted independent designers without a formal background in clothing design. These creators treat their virtual-only “clothes” as art-like commodities, but unlike traditional fashion designers, are not restricted to the contours of physical reality.

With NFTs becoming mainstream, fashion brands are reaching for NFT collectors and artists to activate collections in the Metaverse. One of the most famous ones was between RTFKT Studios and the crypto-artist known as FEWOCiOUS; an 18-year old with a rapidly rising profile in the digital space. The two collaborated on a series of virtual sneakers that generated a revenue of \$3.1 million USD with over 600 pairs of sneakers being sold.⁹⁵ The success of this collection points to the exponential boom in the crypto-art and NFT market, which is quickly becoming an appealing prospect for investors.



FIG 59

Same case for Adidas, mentioned before, who worked with artists such as Bored Ape Yacht Club for the “Into the Metaverse” project. These projects are usually marketed to an increasing group of cryptocurrency enthusiasts.

UGC & Co-Creation Communities

For many years now, games have been enabling users to create their own garments for the avatars and then being able to share the designs online.

In The Sims, content creators -from youtubers to ‘Simfluencers’ have been replicating and creating unofficial runway looks and accessories (from Gucci belts to fictional Ugg x Dior collaborations)⁹⁶ with Instagram profiles dedicated to their designs.



FIG 60

FIG 59: RTFKT X Fewocious, 2021 (Instagram) @FEWOCiOUS

FIG 60: Gucci Off The Grid for the The Sims 4 Community, <https://www.gucci.com/us/en/stories/article/gucci-off-the-grid-x-the-sims-shoppable>

The Animal Crossing's Pro Design Feature caught the attention of many fashion advocates who use the game as a creative platform to showcase their design through out several Instagram pages such as the Animal Crossing Fashion Archive. Created by musician and visual artist Kara Chung, the Instagram page lets players submit their designs in the hopes of being showcased on the feed. From outfits based on streetwear brands such as Supreme, Cactus Plant Flea Market and visvim to high fashion labels like Louis Vuitton, Dior and Chanel, players' creations have shown how the seemingly simple game can provide a new outlet to show off personality and creativity.⁹⁷

This digital engagement is turning passive consumption into active creation, especially with younger generations such as Gen Z. Younger cohorts are extremely entrepreneurial and for them, customization and creation are an intricate part of their gaming experience.

ANIMAL CROSSING FASHION ARCHIVE

ANIMAL CROSSING FASHION ARCHIVE

Animal crossing is a social simulation game created by Nintendo in which players can create their own worlds and communities and socialize using avatars. A very distinctive feature of the game, is that players can design their avatars' outfit from scratch, which makes the game different from others in which customization is limited to choosing already existing styles.

The Animal Crossing's Pro Design Feature caught the attention of many fashion advocates who use the game as a creative platform to showcase their design through out several Instagram pages such as the Animal Crossing Fashion Archive. Created by musician and visual artist Kara Chung, the Instagram page lets players submit their designs in the hopes of being showcased on the feed. From outfits based on streetwear brands such as Supreme, Cactus Plant Flea Market and visvim to high fashion labels like Louis Vuitton, Dior and Chanel, players' creations have shown how the seemingly simple game can provide a new outlet to show off personality and creativity.⁹⁸



FIG 61: Different outfits for Animal Crossing Fashion Archive, 2021 (Instagram) @animalcrossingfashionarchive

THE FABRICANT STUDIO

Another example of fashion brands that are making digital fashion accessible is the Fabricant. The digital-only dutch fashion house launched in 2021 an online design platform under the name of 'The Fabricant Studio' that allows users to create their own virtual garments that can be then traded or worn in the metaverse.

This online studio works by inviting users, fashion brands and designers to create the garments by first dropping a 3d blank template into the platform. Users can then customize them by picking from a wide range of different materials, fabrics, accessories and trims created specially for the platform.

Once the garment is finished, it is then turned into an NFT and users become co-creators with the brand. Each co-creation is minted on their flow blockchain that enables the associated asset to be bought, sold and collected.⁹⁹ Royalties from each sale are then split equally between all the participants involved in the respective creation.

This is a great study case that shows how digital fashion can be democratic, by offering an accessible place for anyone to become a designer. The key point is that they allow people without a 3d experience to easily create a fashion piece due to the easiness of the process.

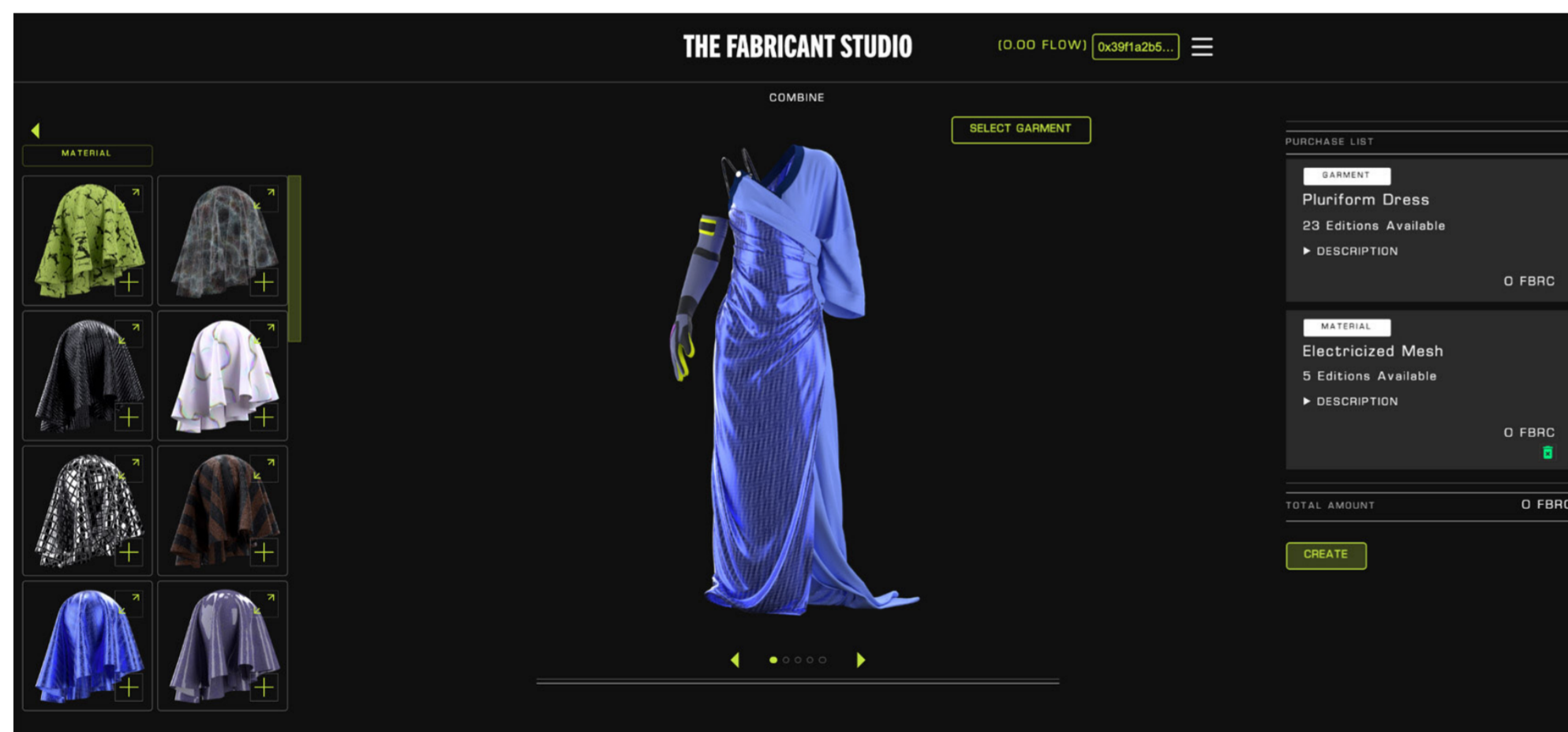


FIG 62: The Fabricant Studio, <https://www.dezeen.com/2021/11/03/the-fabricant-studio-digital-fashion-dezeen-15/>

ALEXANDER MCQUEEN - MCQ

MCQ is a technology-driven label and platform from Alexander McQueen that partners with new creatives every cycle and gives collaborators complete freedom to express themselves in ways that don't resemble any other fashion house. This label was dismantled from the brand's previous line, McQ by Alexander McQueen, and rebuilt as a pioneering label with its own identity separate from Alexander McQueen.¹⁰⁰

The particularity of this platform and label is that it doesn't have a hierarchy which means that there is no creative team to give brand direction. Instead, the teams are composed from individuals that come from similar environments and share common goals. This makes MCQ a global platform that's open to all kinds of ideas and challenges from today's world of fashion. Thanks to this, new and up-and-coming designers have the chance to showcase themselves and realize their ideas, which makes this a great opportunity.

By including its collaborators, MCQ gives the public ownership of their pieces through the MYMCQ platform, a unique blockchain that combines social media with consumer's archives.¹⁰¹



FIG 63: Parka jacket by MCQ, <https://www.highsnobiety.com/p/alexander-mcqueen-launches-mcq/>

3.4.5. Sustainability

It is known that the fashion industry is one of the most polluting industries, with a long history of established wasteful practices that have been increasing with the rise of fast fashion. The need to speed up the time to-market and reduce costs has resulted in the use of toxic textile dyes that put fashion at second only to the oil industry in terms of global pollution damage.

One of the biggest advantages that digital fashion is set to bring is promoting sustainability while helping brands deliver to environmentally conscious consumers. Digital fashion prototyping allows a designer or brand to style, experiment and validate a variety of different looks and collections digitally before creating the physical product, unless it is an only digital garment which in that case won't even use fabrics at all. Digital wear can save 3,300 liters of water per garment and emitting 97% less carbon emission.¹⁰²

We should not consider the material waste and production practices as the only main problem the industry faces, there are many

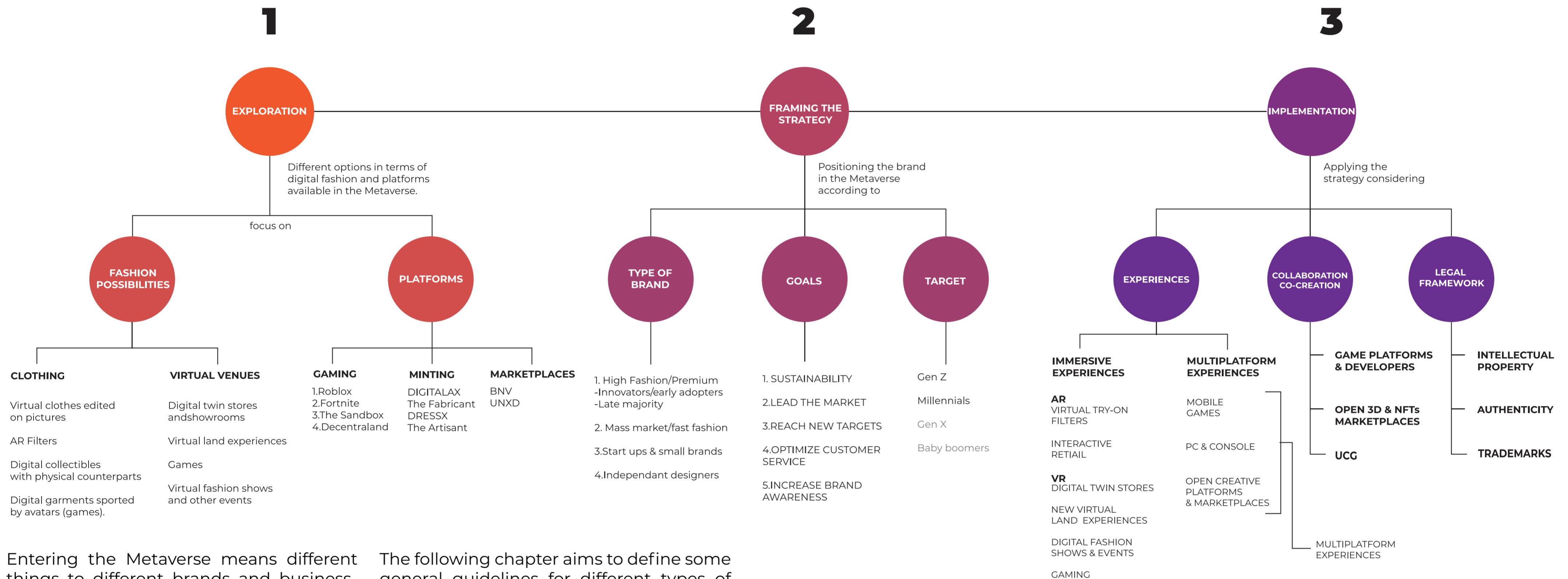
other parts of the business that have major negative impacts. One of them is related to Fashion weeks and travelling. A 2020 research report states that during major fashion weeks, such as London, Milan, Paris, and New York generated 241,000 tonnes of carbon emissions. Helsinki Fashion Week on the other hand, went purely digital this year, reducing the carbon footprint per visitor from 137kg to 0.66kg.¹⁰³

4



GOING METTAVVERSE GUIDELINES

4. Going Metaverse - Guidelines



Entering the Metaverse means different things to different brands and businesses and the best approach will depend on things such as the brand's size, target and goals. For example, for a start up, it might mean using AI to collect data or AR to allow consumers try on the clothes. For big established brands it might be creating an entire VR world.

The following chapter aims to define some general guidelines for different types of brands that would like to approach the Metaverse, divided in three different main stages; based on the different platforms available and targets, while providing as well some considerations they should have.

FIG 64: Metaverse Guidelines graphic, Own elaboration.

4.1. EXPLORATION

The Metaverse presents a high number of different platforms and technologies, as well as a wide range of opportunities for brands to maximize their revenues. Such considerable extension naturally requires a proper research and exploration as the first thing any brand that is still waiting on the sideline should do. Fashion brands can focus on exploring possibilities regarding:

1. DIGITAL FASHION

There are different ways in which brands can take advantage of digitalization in Fashion. Brands should dive into the different ways in which they can use digitalization in terms of clothing, but also in terms of retail and other virtual venues. Some of the main possibilities are:

1.1. CLOTHING

1. Designing physical clothes with 2D and 3D softwares
2. Designing physical clothes with digital counterparts
3. Rendering clothes on pictures
4. AR filters
5. Skins - Digital garments to be sported by avatars.

Designing physical clothes with 2D and 3D softwares

Garments created through 2D and 3D softwares that eliminate unnecessary physical sampling and waste generated by pattern cutting or fittings. 2D design and 3D rendering allow designers to cut, simulate and try materials while adjusting the pieces without having to sample the pieces IRL. This not only shortens the production but also eliminates waste and reduces costs. Designers can find a variety of 3D creation programs such as CLO3D, Optitex, Marvelous Designer, and so on.

Designing physical clothes with digital counterparts

Creating physical drops with digital counterparts or twins is another option and one of the most common examples found within Metaverse fashion. As seen on previous examples such as Adidas and Dolce&Gabbana, designers can, not only produce a physical piece but offer customers a virtual version of it, for them to use as skins on their avatars in games for example, or as NFTs that serve to authenticate the garments or have access to exclusive events or benefits from the brands.

Rendering clothes on pictures

With younger generations spending more time online and on social media, brands can now create fully digital collections and sell them to be photoshopped on customers' pictures for them to use across different social media platforms. Going fully digital represents an advantage for designers due to the lack of physical constraints but it requires expertise on the digital softwares mentioned before in order to replicate accordingly the garment onto the pictures. At the same time, users can have the possibility of reselling the garments within different marketplaces as seen with brands such as The Fabricant or DressX.

AR clothing try-on

With AR filters, brands can create three dimensional digital pieces that render onto the person automatically and in real time as they move, through their phones or through other devices such as laptops. Unlike rendering the garment on a static image, they behave as social media filters, such as the ones on Snapchat, meaning that when the person's body moves, the piece of clothing goes in sync with the user and responds to the movements, measurements and environment to make it look realistic.

Digital garments to be sported by avatars - Skins

Probably the biggest opportunity for brands to monetize in the Metaverse is by creating digital clothes or 'skins' that people can buy to establish their online identity with their avatars. These outfits or shells are bought by players to customize their appearance in an online game but as the Metaverse continues developing, people will not only use avatars for gaming purposes but also for working or socializing.

1.2. VIRTUAL VENUES

As seen on the previous chapters, with the pandemic, online shopping and brands' online presence has become as important as its instore presence. Through digitalization, fashion brands have also the possibility to provide optimized online and virtual shopping and other immersive experiences. Brands can create:

1. Digital twin stores and showrooms
2. Virtual land experiences
3. Virtual Fashion shows

Digital twin stores and showrooms

By digital twin stores are 3D recreation or replicas of a brand's physical store, that allows customers to experience collections without the need of going to the physical

store. Digital twin stores represent an opportunity for brands to create immersive experiences of discovery and engagement, which can improve customers' conversion.

Virtual land experiences

As seen on previous examples the Metaverse offers the opportunity for brands to create completely new virtual spaces that can go beyond real life structures. An example of this is Balenciaga's Afterworld for which they created an entire city or Nike's Nikeland in Roblox, a sports gaming park based inspired by the brand's headquarters. In these virtual lands brands cannot only showcase their clothes but integrate gaming to incentivate consumers and create online communities that increase the engagement. This can also be referred as gamevertising.

Digital Fashion Weeks & Virtual Shows

With the pandemic, the fashion industry has discovered the opportunities behind virtual fashion shows. These allow designers to create extravagant experiences through new technologies such as CGI, 3D design, body mapping, and image capture. Virtual shows are also a good way to broaden brands' audiences because they can be accessed by anyone, contributing to fashion's democratization.

2. PLATFORMS

The opportunities offered by the Metaverse are directly linked with the platforms available and the services each of these provide. One of the most important things for a brand to do is picking the right platform, that will depend on variables such as their goals and focused target. Metaverse platforms can be divided into three main groups:

1. Gaming platforms
2. Minting platforms
3. Marketplaces

2.1. Gaming platforms

The metaverse was born out of gaming and games continue to be the most chosen digital space in this matter because of the wide range of activities they offer. Apart from playing, users can shop, socialize, earn money and even attend events, making online gaming platforms one of the most versatile and easiest ways to access the Metaverse.

Because of the high level of active users, gaming platforms offer fashion brands the opportunity to connect with massive audiences and most of all younger audiences. At the same time, games partnerships allow brands to create clothes that have strong

storytelling as the case of Louis Vuitton with League of Legends (2019). The brand didn't just add its famous monogram onto virtual clothes, but created authentic and stylistic outfits for the characters. At the same time, games offer important marketing opportunities with the growth of professional gaming for example with esports.

2.2. Marketplace platforms

NFTs marketplaces are decentralized platforms that allow designers to trade or market their digital collections. Unlike the minting platforms mentioned before, these do not offer the possibility to create the garments, but work only as the trading spaces.

2.3. Minting platforms

Minting platforms are those that allow brands and designers to create their own digital asset and then publishing it on an NFT marketplace to make it purchasable. There are some very accessible ones, while other might require an invitation from the platform to participate and create the NFT.

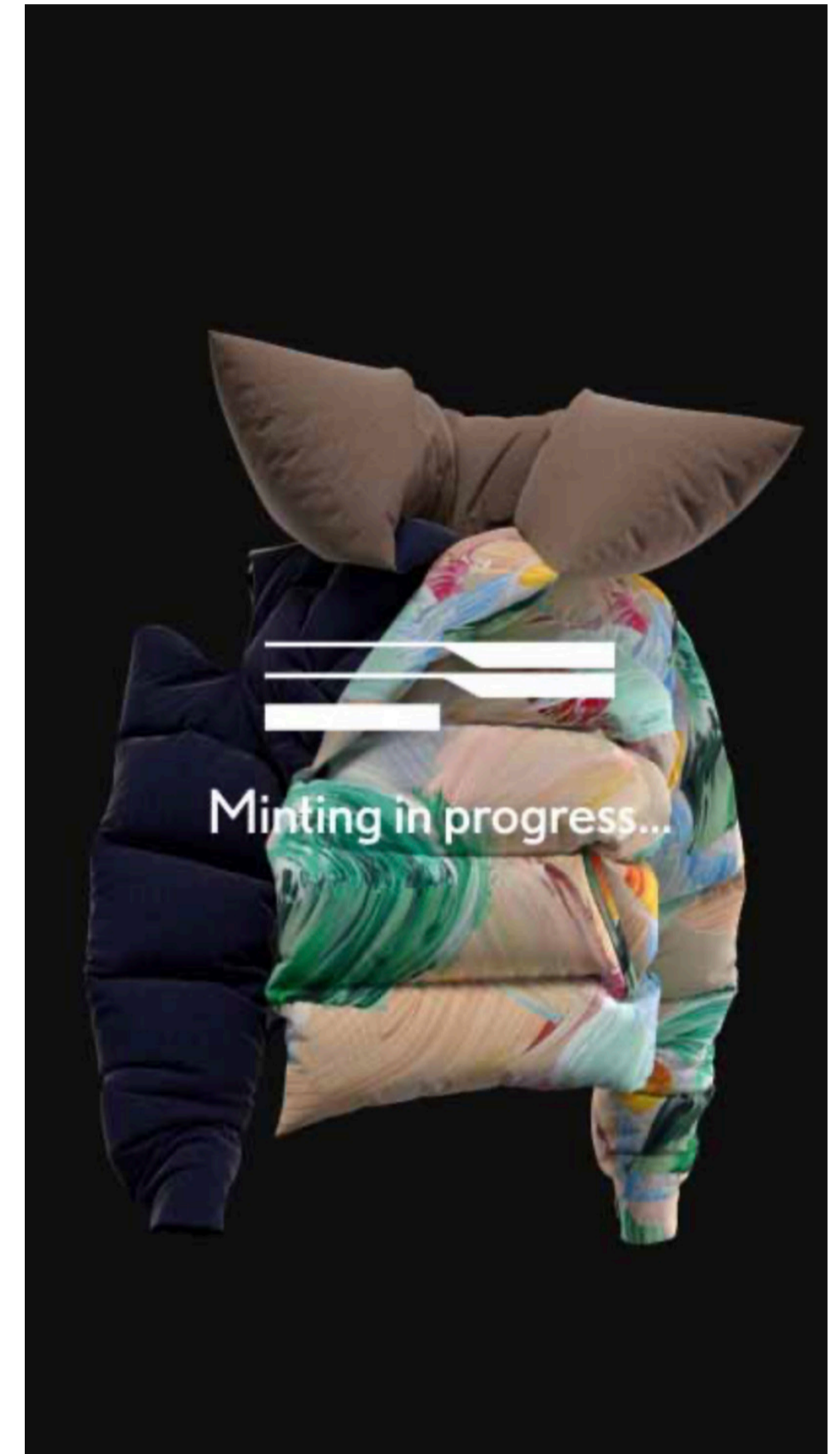


FIG 65: Customizable jacket, The Fabricant Studio, <https://www.thefabricant.studio>

4.2. FRAMING THE STRATEGY

After going through the main opportunities and options that the Metaverse has to offer, designers and brands need to frame or create a strategy. In order to do this, they need to position themselves within the Metaverse, depending on the type of brand they are, the goals they want to achieve and the target audience.

1. NATURE OF THE BRAND

By nature, is intended the type of brand that can be defined according to the products it sells, the market it targets and of course the dimension and budget it has. This helps understanding which platform is more convenient to approach.

For a brand, understanding its position is understanding the possibilities it has in these virtual worlds. Even though the Metaverse is changing fashion into a more accessible and democratized industry it does not mean that all brands can access it equally. A small brand or an independent designer does not have the budget, nor the engagement that an established, luxury brand does and will probably not create a completely new game to present a collection the way Balenciaga did in Af-

terworld. It could be stated for example, that the budget of a brand can affect the level of immersiveness they can achieve in the Metaverse. In general terms, fashion brands can be divided into:

- Luxury & premium fashion brands
- Mass market / fast fashion brands
- Start up brands and independent designers

2. GOALS

As seen before, the Metaverse provides not one, but many benefits for the Fashion industry and the ways in which it can be approached are several. Before starting a business in the Metaverse (or moving it into it) brands need to define a set of goals that they would like to achieve. Establishing some sort of hierarchy on the goals pursued might help to then develop a clearer strategy. These goals can also be defined as opportunities brands have; some of the main ones are.

1. Increase revenues
2. Stay relevant / lead the market
3. Reach new/younger audiences
4. Increase brand's awareness
5. Optimize customer's service
6. Sustainability

This hierarchy can be at the same time affected by the nature of the brand mentioned before. From the study cases seen on previous chapters, there can be found certain similarities regarding goals according to the type of brand:

HIGH FASHION/PREMIUM BRANDS:

- .Stay relevant/lead the market
- .Reach younger audiences

These brands are characterized by their high quality products, craftsmanship, exclusivity but also innovation. High fashion brands are the ones leading the industry into the Metaverse as seen in the case of Louis Vuitton, Gucci and Balenciaga, and are by nature forced to stay relevant. But while some try to lead the market with new approaches, by creating true immersive gaming experiences that are accessible for younger audiences, others keep their sense of exclusivity, launching very small limited NFTs collections (Dolce & Gabbana). With high budgets to invest on more complex virtual experiences, these brands can really improve the target's engagement and create true communities around them.

MASS MARKET/FAST FASHION BRANDS:

- .Lead the market
- .Optimize customer's service

These brands have also budget to invest on true Metaverse projects and come up with whole new virtual land experiences that combine games and other activities with digital fashion (Nikeland again is an example of this).

At the same time, they tend to invest on technologies that can improve the customer's service, such as 3D body scanning and AR technology that allow innovations such as virtual try-on through filters. Augmented fitting filters can bring several advantages, for both, brands and customers such as increased conversions (according to Shopify, conversion rates increase by 250% when products are supported by virtual try-on software).¹²²

SMALL BRANDS, START UPS & INDEPENDENT DESIGNERS

- .Increase brand's awareness
- .Sustainability

New brands and startups are usually likely to look for sustainability as a good reason to adopt digitalization that includes as well the idea of making fashion a more inclusive industry. As smaller starting brands, it is easier for them to incorporate sustainability since early stages. At the same time, these brands look for ways to increase awareness

and engage with customers. Having lower budgets and resources, they need to rely on platforms that offer the infrastructure to create 3d collections as well as market-places to trade them.

3. TARGET

One might think that the Metaverse is a space only suitable for younger generations such as Gen Z and Millennials. This is a misconception that comes from the fact that, on the one hand, gaming is at the moment the highway of the Metaverse; and on the other, that Generation Z (the most digy savvy and adapted to virtual realities) is at the same time, the most interested in gaming. Even though brands can have shorter-term benefits with younger consumers, it is not the only generation interested in games and virtual spaces. If we look at the survey made by the Business of Fashion (figure 22, pg47), gaming is the preferred entertainment format across all ages, especially since the pandemic (Figure 65).

The amount of time each generation spends online is relevant aspect to consider, because it can be a good indicator on how fast a brand should take a step into the Metaverse. For example, for brands that focus on younger cohorts, this means that they cannot stay outside the Metaverse for

too long if they do not want to risk losing consumers and therefore profits. Apart from this, it can help determine which is the most suitable platform a brand or business should focus on.

Depending on the target, the platform the brand should pick, not only for gaming, but for social media as well. For this reason one of the most important things for a brand to do is picking the right platform, that will depend again on the focused target. Social media is a great example of how a platform preference changes across generations, with Baby Boomers preferring platforms such as YouTube and Facebook, while Gen Z prefers Instagram, YouTube, and Snapchat.¹²³

This is extremely relevant for gaming as well, since it is one of the main and most convenient ways to access the Metaverse. According to a survey made during the pandemic, by Stannah among players from the US, PC and mobile platforms were in the top three of all generations. However, PC was the most popular platform for every generation except Gen X, where 23% of respondents reported mobile as their favorite platform. Gen Xers were also the only generation to include Xbox One in their top three, while the other three generations preferred to game on a PS4¹²⁴.

Percentage Gaming Daily Amid Covid-19

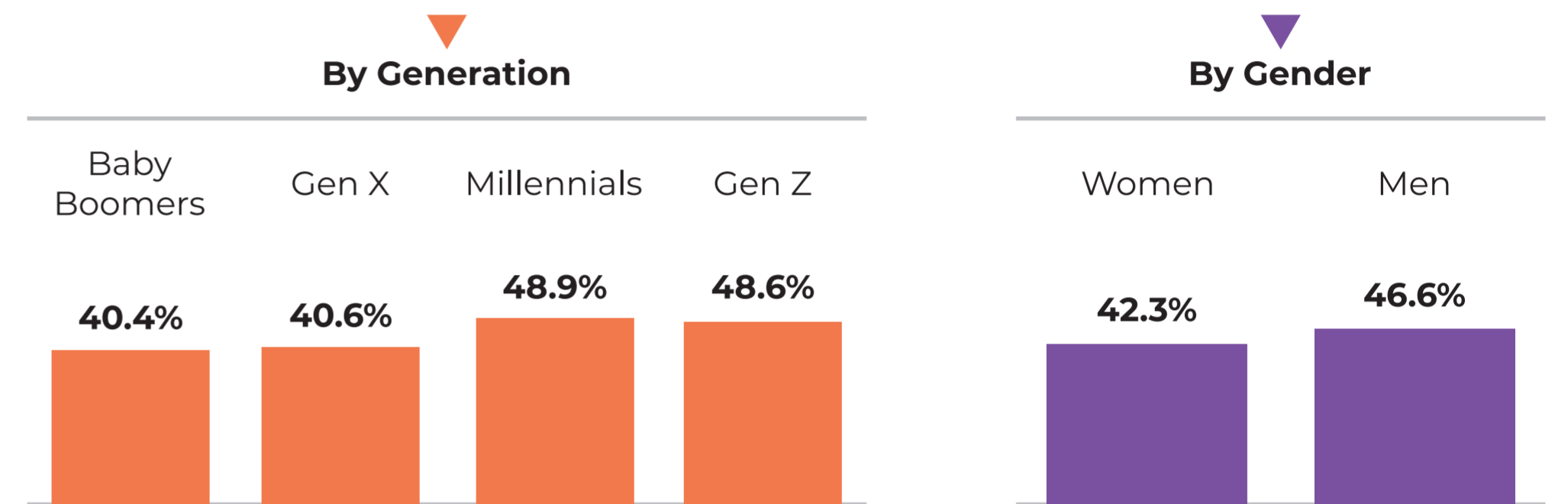


FIG 66

Top 3 Favorite Consoles, by Generation

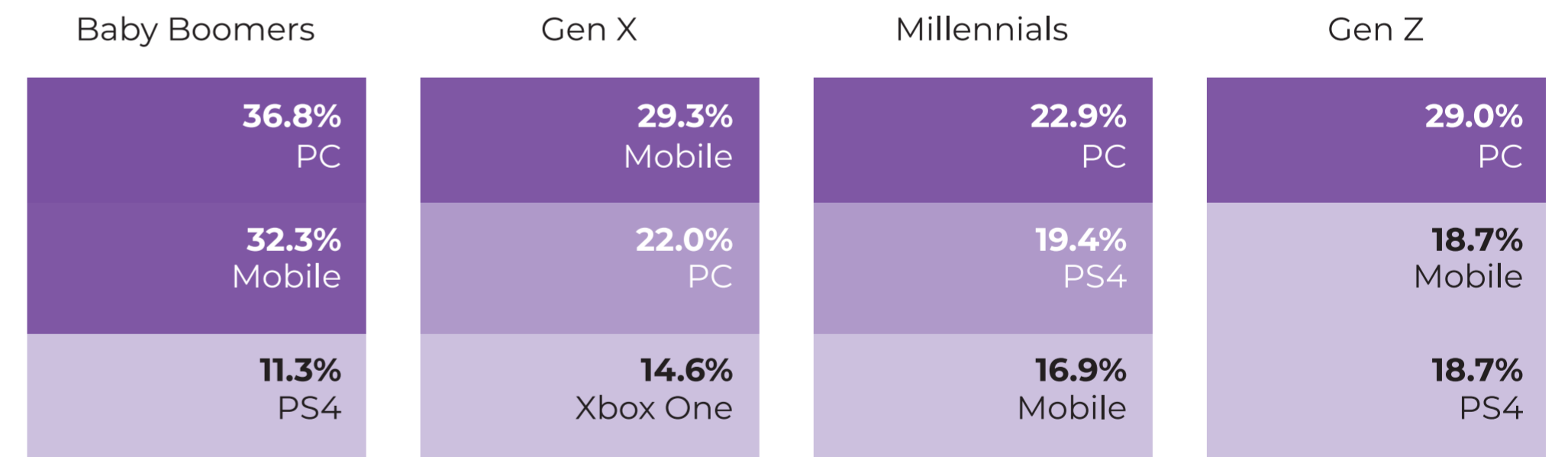


FIG 67

FIG 66: Percentage Gaming Daily Amid Covid-19 by generation and gender, <https://blog.stannah-stairlifts.com/lifestyle/generational-gaming/>

FIG 67: Top 3 favorite consoles by generation, <https://blog.stannah-stairlifts.com/lifestyle/generational-gaming/>

4.3. IMPLEMENTATION

With defined goals and audience, fashion brands can decide how to approach the Metaverse. However, it is important to pinpoint very important considerations that are key to accomplish a successful virtual campaign. These include:

- 1- Focusing on experiences
2. Partnerships and co-creations
3. Legal Framework

1.FOCUSING ON EXPERIENCES

The whole concept of the metaverse is around the idea of being fully immersed in the virtual worlds; this is particularly important to create a strong engagement with the consumers. Customers and clients who go into the metaverse want to experience things and not just get a plain vision of what it is being sold. Without interaction, virtual worlds become unnecessary.

Experiential marketing is one of the most important drivers of customer engagement. Studies show that brands who focus on building experiences gain 25% more brand loyalty than those who don't.¹²⁵ According to Remound Wright, founder and CEO of EnvironXR (an immersive e-commerce platform that helps brands create metaverse revenue streams), "immersive

e-commerce increases time spent shopping and the average order value—basically, augmented reality helps improve all the most important metrics to e-commerce brands. The better you can build the experience around a product, the more likely people are to convert and purchase that product."¹²⁶

AR marketing campaigns

Brands do not have to create fully virtual worlds to create engaging experiences. With the use of AR, brands can create immersive marketing campaigns in the real world. Combined with 3D body scanning, AR technology can allow innovations such as virtual try-on technology, that is already changing the retail experience. Farfetch, Prada and Piaget are among early adopters of the new tools. Augmented fitting filters can bring several advantages, for both, brands and customers such as increased conversions (according to Shopify, conversion rates increase by 250% when products are supported by virtual try-on software)¹²⁷, personalization and reduced returns.

However, virtual try-ons are not the only way in which brands can take advantage of AR. As part of the "Walk in the Park" series (the Men's fashion events taking place in January in Paris) Louis Vuitton created

an interactive AR experience that allowed users to see the flagship store in Paris being 'taken over' by animated characters from the 'Zoooom with Friends' campaign. Customers with the Louis Vuitton app could stand outside the store, hold up their phones and watch as the campaign creatures creep out of the windows, up the walls and on to the roof of the building.¹²⁸ This campaign allowed the public to interact with Virgil Abloh's visual world.

Virtual stores and fashion events

Another way in which a brand can enhance the engagement is through virtual stores or events that can help establish its presence on the metaverse while building a strong emotional connection with their customers. Creating virtual stores can offer the possibility of a virtual tour and interactive 3D product exhibits.

Multiplatform experiences

Brands don't necessarily have to limit to one platform only. With different age cohorts congregating in different metaverses, brands should consider creating doing multiplatform campaigns that can help overcome the interoperability limitations that the Metaverse faced nowadays. Gucci is a clear example of this. The brand has been reinventing itself by actively adopting



FIG 68: Farfetch Snapchat's apparel try-on tool, <https://www.voguebusiness.com/technology/snapchat-boosts-ar-try-on-tools-farfetch-prada-dive-in>

emerging technologies and digital marketing tools to create digital content, in order to attract younger consumers, by incorporating Augmented Reality, Virtual Reality, AI chatbots, applications, as well as by collaborating with partners to deliver digital collections and products. For example in 2020, Gucci created a collection of digital sneakers that consumers could try on using



FIG 69: Louis Vuitton's store in Paris through a filter on the Louis Vuitton app, <https://hk.louisvuitton.com/eng-hk/magazine/articles/mens-ss21-ar-experience#vendome>

Augmented Reality. The brand also created virtual versions of its collections for esports like Tennis Clash, for platforms like Roblox, for fashion-themed video game Drest and for VR chat apps where users could dress up their avatars with Gucci clothes.¹²⁹ The brand has also gone for fully immersive experiences like the already mentioned Gucci Gardens. Balenciaga is another famous example, that created their own virtual game 'Afterworld' with Epic's Unreal Engine called for their Fall 21 collection, and then did a massive activation with Fortnite later in the year.

2. PARTNERSHIPS & CO-CREATION

For any brand approaching the Metaverse, whether it is for gamevertising, creating an NFT collection or hosting any virtual event, the most convenient way to do so is through partnerships. Game platforms like Roblox, Decentraland, Fortnite and so on, not only can connect a brand with massive communities increasing their visibility, but they also provide the infrastructure.

Gaming platforms & in-platform creators

New platforms bring along new formats, for this reason it is convenient to partner with creators that already master these spaces, in order to create successful gaming campaigns. In Roblox, for example,

brands gain more traction when they partner with members of the Roblox developer community in creating items and experiences. Similarly, when O2 threw a concert on Fortnite, they partnered with creators who were already experts on the Fortnite platform.

3. LEGAL FRAMEWORK

One of the most important things to be considered on the Metaverse has to do with the legal framework. This is particularly important when it comes to NFTs.

NFTs can bring fashion brands both, benefits and challenges. On the one hand, they are becoming an accessible and popular asset to generate revenues and value. On the other hand, they can bring problems related with authenticity, ownership, and intellectual property protection. For example, even though NFTs usually come with a digital certificate of ownership, most of the times they don't guarantee access to the physical product or any related intellectual property. This can bring confusion over the right to display or resell the NFT for the consumer and can potentially lead to unauthorized use and dissemination of the brand.

A proliferation of NFTs that make unauthorized use of a brand's trademarks and/or trade dress, for instance, creates the risk for potential trademark dilution, particularly in the metaverse where digital iterations of luxury goods often outstrip the value of physical products.¹³⁰ One of the most famous examples related to trademark issues comes from the French luxury house Hermès and the 'Baby Birkin' NFT, sold in a Basic.Space auction for the equivalent of \$23,500.¹³¹ This is not the only brand that dealt with this; Nike sued StockX on February, 2022 accusing the resell platform for selling unauthorized sneaker NFTs of Nike shoes.¹³²

With the level of exposure and creative freedom that comes with UGC, brands-emerging ones in particular- the first thing a brand should do is updating its trademark protection and IP contingency prevention plan. Brands should register their trademarks in a trademark's office and create both, physical and metaverse strategy to protect their brand.

With the rise of the Metaverse, unauthorized use of trademarks is probably going to keep increasing and there is a lot of uncertainty on how protection tools and laws will develop in this space. Fashion brands should anticipate the potential risks by reg-

istering their trademarks for use in a virtual marketplace, in order to have a better and more efficient way to enforce trademark rights if the prospect of litigation arises.¹³³

When it comes to intellectual property, brands should consider this matter more holistically. Most of the time the issuer -the fashion brand- retains copyright properties, while the buyer receives the right to use the asset; which means, the brand is giving the rights to use the NFT rather than transferring the ownership of the intellectual property. Brands should be cautious and address carefully through clear terms anything related to IP that might forbid the user to do any modification of the asset.

Brands should also monitor virtual platforms as part of their online brand protection strategy, so as to be aware of infringing digital uses within the Metaverse.



FIG 70: Baby Birkin NFT by Mason Rothschild and Eric Ramirez, <https://www.highsnobiety.com/p/baby-birkin-nft-basic-space/>

4.4. FINAL OUTCOME - Guidelines

1	2	3	4	5	6	7
Platform	What do they offer?	Who is it for? (Brands)	Goals	Target	Strategy (Considerations)	Examples
GAMING	<ul style="list-style-type: none"> .High levels of visibility and engagement .Storytelling and branding opportunities .Immersive marketing & shopping experiences .Easy access to partnerships .Opportunity to acquire a new type of consumer 	ESTABLISHED BRANDS -High Fashion/premium -Mass market	<ul style="list-style-type: none"> .Leading the market staying relevant .Reaching younger cohorts and massive audiences 	<ul style="list-style-type: none"> .Hard & mid core gamers .Fashion is not a main interest .Highly connected .Games used for entertainment and socialization .Looks for unique and immersive experiences 	<ul style="list-style-type: none"> .Rely on collaborations partnerships (game developers & in-platforms creators) .D2D (Direct to Avatar) drops with physical counterparts .Focus on accessibility .Focus on immersive experiences 	<ul style="list-style-type: none"> -ROBLOX -MINECRAFT -THE SANDBOX -DECENTRALAND
MARKETPLACES	<ul style="list-style-type: none"> .Space for brands to market and trade their collections .Digitalization of products .Consultancy & other services 	High Fashion brands	.Stay relevant & exclusive	<ul style="list-style-type: none"> .Fashion primary interest .Look for novelty & exclusivity .Willing to pay higher prices for NFTs .Look to generate content & do business with the garments 	<ul style="list-style-type: none"> .Focus on exclusivity - small collections .NFTs as access to exclusive events .Invest on quality imagery and fitting. 	<ul style="list-style-type: none"> -UNXD -BNV
		.Small brands Start-ups	Increase awareness and generate new revenues			<ul style="list-style-type: none"> -THE DEMATERIALISED
MINTING	<ul style="list-style-type: none"> .Infrastructure and technology to create digital assets (NFTs) .In-platforms marketplaces .Connection with other creators (co-creation opportunities) 	<ul style="list-style-type: none"> .Independant designers .Fashion Amateurs 	<ul style="list-style-type: none"> .Take initial steps into digital Fashion .Increase awareness .Invest in new business models 	<ul style="list-style-type: none"> .Fashion primary interest .Active consumers entrepreneurial 	<ul style="list-style-type: none"> .Focus on co-creation .Prioritize interoperability. 	<ul style="list-style-type: none"> -DIGITALAX -THE FABRICANT STUDIO -DRESSX

FIG 71: Metaverse Guidelines chart, Own elaboration.

FINAL OUTCOME

The guidelines were created starting from the main type of platforms available. These are divided into three main categories mentioned before:

1. Gaming platforms
2. Minting platforms
3. Marketplaces

Based on them, other questions were asked in order to cluster the types of brands within these platforms, as it follows:

- 1 Platform
- 2 What does it offer? (for brands)
- 3 Who is it for? - Brands & Goals
- 4 Target
- 5 Strategy (considerations)
- 6 Examples

It is important to clarify that this categorization is not definitive or absolute, but is rather based on a matter of benefits and convenience. This means looking for the type of brand that is likely to find more benefits on

a specific platform. A high fashion brand can of course access any of the 3 platform categories, but gaming platforms might provide more business opportunities than a marketplace.

1. GAMING PLATFORMS

As mentioned, games represent the closest virtual platforms to what the Metaverse is aspiring to be and one of the most versatile in terms of the possibilities they offer. There are different options depending on the type of activation a brand can do. The main difference is perhaps the type of structure, in which we can find:

Centralized games: These are games in which all game-related data is stored on servers that are fully controlled by the game developers or administrators, with the data including everything from user account information to all of the events and in-game assets they collect on their virtual travels. This means that the players themselves never actually own their own data or the in-game items.¹³⁴ Games such as Roblox, Fortnite, Animal Crossing are in this category.

Decentralized games: Any game that is built and operates fully or partially on block-

chain technology. They apply the same principles as decentralized autonomous organizations (DAO), meaning there is no central or official leadership and decisions are made by the community. Furthermore, it allows gamers to participate in how the game evolves, as well as the opportunity to earn while they play.¹³⁵ Decentraland and the Sandbox are examples of these.

2. WHAT DO THEY OFFER? - For brands
Whether centralized or decentralized, gaming platforms offer several benefits to brands that wish to invest on them among which we can find:

-High levels of visibility and engagement:
As stated by the Business of Fashion, 3 billion people play video games, being half of the players women and are the preferred form of entertainment across all generations (Fig. 22, pg. 47). Games like Roblox or Fortnite, that have massively grown with the pandemic, have millions of active users.

-Storytelling and branding opportunities
With players having the opportunity to choose the style of the characters they play with and with games including the option of designer brands too, the skin market offers brands a subtle marketing opportunity by introducing items into the game in

a very natural and authentic way, without being invasive or annoying for the gamers

-Immersive marketing & shopping experiences

At the same time, within games like Roblox or Decentraland, brands can create their own worlds and unique exhibitions, not only with really strong storytellings, but with true immersive experiences. With no physical limitations, brands can build original worlds that speak their identity (Gucci Gardens) and some even introducing games (Vans World). These kind of authentic immersive experiences are key to increase customers' engagement.

-Easy access to partnerships
Game platforms bring together a high number of creators from, game developers to users that are now more than ever becoming active consumers. Brands, as seen from the study cases, don't necessarily have to partner with the developers of the game themselves, but can create drops or collaborations directly with other independent creators or designers within the gaming platforms.

-Opportunity to acquire a new type of consumer
Gaming platforms gather consumers that

are not primarily interested in fashion (consumers described more deeply in the target point). In this case, doing in game activations give brands the chance to connect with a different audience, broaden their target and increase their awareness.

3. WHO ARE THEY FOR? - Brands & goals

- .High fashion & premium brands**
- .Fast fashion brands**

Gaming platforms can be accessed by anyone, both users and brands. However, established brands might be the ones that take most advantage because of the high level of recognition they have. Within gaming platforms, such as Roblox, users can choose from millions of different games and activities which means that the competition for recognition is high. For this reason, it is convenient for brands to have a strong presence in real life and in social media before trying to develop their presence in games. At the same time established brands have the resources and budget to develop high-end projects such as what Nike did with Nikeland.

Gaming platforms are convenient for fashion brands that are looking to:

-Lead the market | Stay relevant

Leading the market is the focus some high fashion brands are taking such as Balenciaga, Gucci or even Louis Vuitton being one of the firsts to collaborate with a game. As top, leading brands, they need to look for original ways in which to promote themselves and games seem like the perfect opportunity because of the amount of possibilities they offer. From creating skins for specific games (Louis Vuitton x League of Legends), to virtual lands or even creating the outfit for artists that perform in the Metaverse (Party Royale in Fortnite that hosted important virtual concerts from Travis Scott and Ariana Grande).

-Reach new cohorts

At the moment, most brands, in particular high fashion ones, are trying to engage with younger audiences as these are the ones that are going to lead the market (Fig. 20, pg. 45), specially the luxury one. For this reason, they are turning to games, since these gather high levels of young active users and, as mentioned before, offer huge visibility. Generation Z is the most predominant one when it comes to games, and the main focus of brands that are turning to games. However, there are certain platforms that gather audiences that are a bit older, such as Millennials, like the case of The Sandbox.

4. TARGET

The predominant gaming target is Generation Z, but these spaces gather people from all ages. These audiences can be described as hard core and mid core gamers, which means they spend a considerable amount of time in these platforms. This target consumes fashion but it is not their main interest; fashion comes as a complementary attribute for their online personas. Instead, they use these platforms mainly to entertain themselves through games but also to socialize online or even make money. This target looks for unique and immersive experiences as well as online communities to get involved with; a sense of belonging that brands should pay attention to.

5. STRATEGY

How should brands approach an in-game activation and what should they consider?

.Collaborations with game developers and in-platform creators

Each virtual world and game has its own access, membership, monetization rights, formats of creative expression, and so on. Business and technical specifications can vary widely. For this reason, it is convenient for brands to partner with experts on the subject and people who are already within the gaming community that can make the

brand's transition into the gaming platform smooth and authentic.

.D2D (Direct to Avatar) drops with physical counterparts

One of the best ways to generate revenues in the Metaverse is through the skin market. Within games brands should create collections for users' avatars but it might be even more convenient to release a physical collection as well, or at least some exclusive pieces. In this way, they can redirect these new consumer to other platforms such as their website and increase the possibility of conversion.

.Focus on accessibility

Accessibility does not only mean to creating clothes with lower price tags, but allowing the target access brand's events or feel part of their creative process. A good example of this is Gucci Gardens exhibition that could be accessed online through Roblox for those that could not attend the physical event.

Create immersive and original experiences

As mentioned before, younger consumers, specially gamers, look for immersive and interactive experiences that will connect them deeper with the brand. At the same

time, creating an immersive and entertaining experience will help the brand stand out from the enormous amount of other games that already exist within these platforms. Once more, Gucci gardens achieved this by allowing users to explore the different rooms but also try on clothes and interact with the exhibition.

6. EXAMPLES OF PLATFORMS

.Roblox

Roblox is an online gaming platform that allows users to play thousands of different games, customize their own avatars with skins and monetize with its in-platform currency called Robux. This platform has one of the highest levels of active younger users, with half of the children in America playing in it¹³⁶, reason why it has become an incredibly popular space for fashion brands to connect with younger consumers and reach high levels of engagement. Roblox is a great opportunity for brands to not only create their own experiences or their own virtual items but also to work directly with developers within the platform and UGC creators.

.Minecraft

Minecraft is a game that allows players to build and explore in a 3D world. It is also one of the first games to offer a virtual

economy, with players able to trade items. Just like Roblox, Minecraft is highly adaptable, meaning that players can create their own content and share it with others. This makes it easy to create new experiences and worlds within the game. Apart from that, Minecraft also has a large and active community that creates a sense of belonging, allowing players to connect with each other.

.The Sandbox

A blockchain-based virtual world (built on Ethereum) where players can build, own, and monetize their gaming experiences. The Sandbox uses “play-to-earn” model to incentivize players for time spent in the metaverse, and is building an open metaverse to enable greater collaboration with creators and brands alike.¹³⁷ Considering that users are required to acquire land in order to have a virtual presence, The Sandbox is more suitable for those brands that desire to do long term activations. For short term activations, games like Roblox are more convenient (e.g. Gucci Gardens lasted 2 weeks).

.Decentraland

Together with The Sandbox, Decentraland represents two of the largest blockchain metaverses that exist today that is pow-

ered by the Ethereum blockchain. As its name suggests, Decentraland is a decentralized platform, which means it's owned by the users. The platform offers the possibility to explore LANDs, experience incredible scenes and structures, create scenes, artworks, challenges and so on, using the a builder tool; buy and sell LAND, Estates, Avatar wearables in the Decentraland Marketplace.¹³⁸

Having hosted the first ever Metaverse Fashion week, with the participation of more than 60 participants, including brands, artists and top designers, this platform represents one of the most popular spaces for brands to experiment, showcase and drop NFTs collections and reach large audiences. It is at the same time a great place for community building and UGC but, just like the Sandbox, it is more suitable for longer activations.

MARKETPLACES

NFTs marketplaces are decentralized platforms that allow designers to trade or market their digital collections. Unlike the minting platforms mentioned before, these do not offer the possibility to create the garments, but work more as trading spaces.

2. WHAT DO THEY OFFER?

.Space for brands to market and trade their collections.

.Digitalization of products, consultancy and other services

Many of these marketplaces are founded by teams of expert people that offer partners help to introduce their collections into the digital market, bridging the real world with the digital one, which makes it good for small brands that start ups.

3. WHO ARE THEY FOR? - Brands & goals

.High Fashion brands - stay relevant & exclusive

Unlike fashion brands that go for massive audiences with in-game activations, high fashion brands can also get involved in the Metaverse while keeping their exclusivity, by creating small NFTs collections that can be traded in more exclusive or luxury NFT marketplaces. This is the example of

Dolce &Gabbana's 9 piece collection sold on UNXD.

Small brands and start ups - increase awareness and generate new revenues.

Some of these marketplaces platforms, not only offer consultancy and other supportive services for brands that want to enter the metaverse, but also look for new designers to showcase their collections within their platforms and represent a good opportunity for newborn brands and designers.

4. TARGET

NFT Marketplaces target audiences that are primarily interested in fashion, unlike gaming platforms where it might have a secondary role. Unlike gaming consumers, they look for exclusive and original pieces and are willing to pay high prices for them in order to generate content (use is for social media purposes) or to do business as well (trading and reselling).

5. STRATEGY

-Focus on small collections

With small limited collections, scarcity usually generates more value and therefore demand. Considering that customers look for limited or exclusive pieces, brands and designers should focus on quality of design over quantity.

-NFTs with exclusive benefits

Brands can take advantage of NFTs offering them as tickets or access to exclusive events or limited edition clothes. This can help generate a sense of belonging and community, which is very important for today's consumer, and also create more interest around the brand.

-Invest on quality imagery and fitting.

Brands that create digital garments to be rendered on customers pictures or in real time need to make sure that the quality of the fitting is appropriate and that, in the case of AR filters, garments respond in sync with the movement of the body.

6. EXAMPLES OF PLATFORMS

The Dematerialised

The Dematerialised is a digital fashion marketplace where consumers and creators can buy and sell authenticated virtual goods. The virtual items are released as NFTs, generated and authenticated on the LUKSO blockchain.¹³⁹ This means that each virtual good can be easily identified. Users can enter a code to go into a 3D space where they can interact with the digital garments for sale and click on them to get more information on the product and designers. However, this platform works with invited designers and creatives only, which

does not make it very convenient for small or starters designers.

UNXD

UNXD is a curated NFT marketplace for digital luxury and culture. The company's platform provides collectors with culturally significant items and experiences, and curates significant digital cultural moments and more.¹⁴⁰ This is the chosen platform for brands such as Dolce &Gabbana where they sold an NFT for \$6M on UNXD marketplace.

BNV (Brand New Vision)

BNV is a company that works with brands and designers helping them to create strong authentic digital fashion experiences and creating access and relationships with the new metaverses, gaming and communications apps. The platform is more than just a marketplace because it also helps brands build digital fashion experiences working as a bridge between the real world and new metaverses. The company connects brands with the new digital consumer. Some of the partnerships include brands such as Adidas and AVAVAV.

MINTING PLATFORMS

Platforms where brands or designers can create their own digital asset for it to be marketed within the platform's marketplace.

2. WHAT DO THEY OFFER?

- Infrastructure and technology to create digital assets (NFTs)

Some of these platforms provide designers and brands with easy tools to create digital garments, from mockups to materials. Other platforms offer as well the possibility to digitalize existing physical pieces.

-In-platform marketplaces

Apart from allowing designers to create their NFTs, these platforms come as well with their own marketplaces and wallets.

-Connection with other creators (co-creation opportunities)

Just like gaming platforms, minting platforms connect a lot of different creators and designers who can work on a same piece providing different attributes such as materials, patterns or the design and then being able to split the profits.

-Complementary services

Some platforms also offer designers the option to sell their digital designs in different formats, so that they can be easily applied on other platforms. In some cases the platforms can render the design onto customers so that they can use it on social media.

3. WHO ARE THEY FOR? - Brands & goals

Independant designers

.Approach Metaverse for the first time

.Increase awareness

.Investing in new business models

This platforms are great opportunities for new or independant designers who are new not only in the Metaverse but with digital fashion in general. Minting platform are an a good choice for designers with minimal financial resources and even no fashion design background, since they give already made piece to intervene (e.g. The Fabricant Studio).

4 . TARGET

Just like marketplaces platforms, minting platforms also gather young audiences that are genuienly interested in fashion as well as amateur designers or regular customers who want to take an opportunity as digital fashion designers. This kind of

consumers are active and entrepreneurial, which means that co-creation should be considered.

5 STRATEGY

-Focus on co-creations

Designers should take advantage of the connection with other creators and designers these platforms offer, not only because it makes it can simplify the design process (for example when one person does de pattern design and the other the material), but also because these can help them create a network and increase their brand awareness at the same time.

-Prioritize interoperability

Some of these platforms, as mentioned before offer designers the possibility to have their digital assets in different formats so that consumers are not limited to wear the clothes in one platform only, increasing at the same time the brands or designers' awareness with new audiences.

6. EXAMPLES OF PLATFORMS

Digitalax

Digitalax is a one of a kind, digital-only fashion NFT platform, built on the Ethereum blockchain. It is an open-source digital fashion toolkit, that allows designers, brands and studios to easily step into the digital fashion space.

Designers can create exclusive pieces of clothing that can easily be then transferred on digital content platforms. It also brings NFT applications that can be then sold through their marketplace where players can take the items directly into different gaming and content platforms. Digitalax also allows several designers to cocreate on a single project, through the so called 'fractional garment ownership' pioneered by the platform in which along with outfits that are parent NFTs, there are also child NFTs in the form of patterns, materials, or textures. This means that while one designer provides the texture, another one provides the pattern and the other provides the style of garment. When the final product is sold, each creator receives a share.¹⁴¹

The Fabricant Studio

The Fabricant Studio is another accessible platform that allows users to co-create with other artists, designers and brands by customizing already existing items using digital fabrics and trims created for this particular platform. Just like in Digitalax, creations can be minted as NFTs and traded in the Fabricant Studio marketplace and royalties are splited.

DressX

DressX is digital-only fashion retailer that carries digital fashion collections from multiple contemporary brands and designers. This platform is one of the 'friendliest' ones for any designer that wishes to start with the Metaverse. It gives both 3D designers and traditional fashion brands a platform to sell and distribute digital clothing, whether it's existing digital assets or giving physical designs a new digital life and a new revenue opportunity. At the same time, the brand offers 'influencer marketing campaign' packages for brands to give their influencers digital, rather than physical, clothes. DRESSX just launched an app, where the content creation with new outfits became even easier: digital looks can be applied in Augmented Reality (AR) on real-time videos and photos.¹⁴²

5



CONCLUSION

4. CONCLUSION

Throughout the research done in this paper, it can be stated that the Fashion industry is undergoing one of its biggest transformations with the adoption of digitalization. A process that started quite slowly, has been suddenly accelerated by the urgency to prevail during the worldwide crisis created by the pandemic. Even with the world finally overcoming the crisis, Fashion brands are continuing to invest in digital technologies related to the Metaverse because they have found new opportunities to generate new profits, as well as new and creative business models.

The attempts to create virtual realities in the past didn't succeed. Today however, generational readiness and technological advancements are the main reasons for the resurrection of the Metaverse. Gen zers, being the first ones to be brought up surrounded by technology are prepared and incorporate digitalization and virtuality in a very natural way unlike people in the past. The technological advancements on the other hand, such as the cellphone and other devices have allowed for digital spaces to be accessible by the masses easily.

With Generation Z defined as the future leading fashion consumer, brands need to start creating business models and strategies that meet this target expectations.

Online games are proving to be the preferred platforms of established brands to reach this younger cohorts, because they are the ones that gather the higher amount of younger consumers. The potential of digital fashion within gaming platforms is best indicated by the exponential rise in collaborations involving high-fashion brands and gaming/3D design companies in these past 2 years. At the same time, gaming companies can also benefit from the cultural relevance that fashion brands can bring in. Fashion and gaming partnerships create benefit for both parties and are set to continue in future.

One of the biggest advantages that digital fashion and the Metaverse are bringing to the industry is its democratization. Digital fashion is not only for established brands with high budgets. Independent 3D fashion studios such as The Fabricant or RTFKT are experiencing great success because other brands reach out to them looking for the technology and most of all knowledge to access the Metaverse. At the same time, it is an opportunity for independent designers, who are able to produce virtual fashion with minimal financial resources or no formal design background.

Success of fashion activations in the Metaverse lies on collaborative approach-

es that can include brands from different industries. Co-creation is another important aspect to consider, especially when targeting younger cohorts who are no longer passive consumers, but have become active entrepreneurial targets. When collaborating, fashion brands need to pay special attention to issues related with authenticity and intellectual property. At the same time, the proliferating NFT market is leading to unauthorized use of a brand's trademarks creating the risk for potential trademark dilution. Brands need to anticipate these problems.

The Metaverse offers a variety of options for the industry and doesn't have to mean the same thing for every brand. The best way to approach it will depend on different variables such as the brand's size and target. The strategy can differ not only in terms of platform chosen, but also in terms of immersiveness. Regardless the approach, all fashion brands need to start creating strategies to adapt their business model to these new realities. This is particularly important for brands that target younger audiences, since they are spending most of their daily lives in digital and virtual spaces.

Once more, it is important to highlight that it does not mean creating completely new

virtual realities. Brands can incorporate digitalization on different levels and stages of the customer's service for example (from an AR filter, to photoshopped images and gaming experiences). Brands that wait too long on the sideline, risk to lose relevance, visibility and consumers, while those that integrate digitalization and push towards innovation are likely to lead the market.

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