

# Retail & consumer goods on the way to the metaverse

June 2022



#Metaverse

# ...it's Monday morning...

...you put on your running gear and start your week with a run through the nearby woods. While enjoying the peaceful morning hours you see another jogger coming across your way.

As the other jogger gets closer you recognize his shoes – you really like the model. Luckily, you are wearing your new glasses which have several technologies built in – also a lidar scanner which immediately identifies the shoes, their brand and the model.



Back home you are able to find a digital version of the shoe. Thousand digital twins were available, only hundred are left. When buying the digital version, you are prioritized for the next drop of the physical product and furthermore, you can win concert tickets. What a great day.

#Metaverse

## ...in the evening...

... you got lucky and got the shoes and also won the concert tickets! It's going to be a concert in the virtual world which you can experience together with two friends.

As the real world fades out, you only see the virtual versions of each other. One of your friends appears as a dressed monkey, wearing the newest luxury sneakers while the other one takes shape of a digital version of him or herself. You appear as an avatar you bought with cryptocurrency only a week ago. Your avatar is as unique as your fingerprint, only you can use it.

As your group is physically sitting around a table, drinking beer; in the virtual world, you are attending a concert. It's not only you and your friends who are enjoying the music, people from all over the world, visible as holograms, are with you in the virtual room....

... and, of course, your avatar is already wearing the digital version of your new sneakers!



#Metaverse

# The sneaker as a NFT

NFTs are almost a commodity with the rise of the metaverse and its associated technologies. But what is a NFT and why is it important to understand the concept?

A NFT is a non-fungible token (NFT), every one of them is unique. Owning a NFT can represent the ownership of a digital or physical product.

NFTs, visible as digital cloth, songs, artworks, avatars and many more, can be bought and resold. With reselling NFTs, holders can be compensated with each sales. NFTs can for example function as tickets for concerts or granting access to exclusive communities.

Going back to the shoe you saw the jogger was wearing while you were on your morning walk: The physical shoe has a digital twin, which is then represented as a NFT. The technology behind the NFT can ensure the ownership of both the digital and the physical product.



#Metaverse

# Retail & consumer goods on the way to the metaverse

## Our Journey within this paper



1

What is the metaverse and how is it defined?



2

Why the metaverse is an evolution not a revolution.



3

Transformation in the retail and consumer industry.



4

Digital-only consumer products shaping a new market economy.



5

Step by step into the metaverse.



6

Let's get in touch!

# The metaverse still lacks a uniform and standardized definition

The metaverse has been the talk of the town, not least since Facebook has been renamed to Meta. Besides Mark Zuckerberg's Facebook, Microsoft ("Enterprise Metaverse"), Nvidia (Omniverse), and various gaming companies are also developing their own versions of a metaverse. What the tech giant battle distracts from are real achievements and technological developments that enable new market potential and what impact it will have on both our personal and economic lives.

It can be assumed that the metaverse will not replace, but very likely expand the internet as an interface between the physical and digital world. Products and services will also face new requirements and enable new business models as the two worlds continue to merge.



## THE GUARDIAN

"The metaverse is where the physical and digital world come together. It is a space where digital representations of people – avatars – interact at work and play, meet in their office, go to concerts, or even try on clothes."<sup>1</sup>

## IDC

"Evolution of today's internet that leverages mobile devices, augmented and virtual reality headsets, and next-generation networks to create persistent and continuous user experiences with a strong sense of presence."<sup>3</sup>

## CHINA GALAXY INTERNATIONAL

"The 'metaverse' refers to a set of augmented, virtual reality (AR/VR) technologies that will allow people to interact in a shared, immersive 3D virtual world through the internet."<sup>5</sup>

## VOGUE BUSINESS

The metaverse, characterised by shared virtual spaces, ownership of digital goods, and decentralised data, promises new ways of communicating and marketing to customers, plus new revenue streams in the form of digital twins and in-game avatars.<sup>2</sup>

## CBINSIGHTS

"Metaverse refers to the idea of a shared, persistent virtual space, akin to a digital mirror of the real world – but without any of the constraints."<sup>4</sup>

## NVIDIA

"The metaverse is a shared virtual 3D world, or worlds, that are interactive, immersive, and collaborative. Just as the physical universe is a collection of worlds that are connected in space, the metaverse can be thought of as a bunch of worlds, too."<sup>6</sup>





# Our understanding of the metaverse

A Metaverse is a **virtual persistent** and **immersive space**. Physical and virtual presence are connected, participating parties create **avatars** or personas which represent their physical or personal characteristics. Individuals can take part in **shared experiences** with one another in **cyber-physically connected environments**.

The **open and accessible environment** should be **customizable** and artefacts in them – can be **user created**.

Artefacts should be **seamlessly transferable** between metaverses and make use of **distributed ledger** technologies or digital deeds.

The experienceable virtual environments and activities can align with events, people, activities, and interactions occurring offline and can contain **virtual replicas** or real-world artefacts.

Interactions with and within a metaverse can be driven by non-tangible **rewards** while **novel interface** options (including extended reality interfaces) may be used to participate in them.

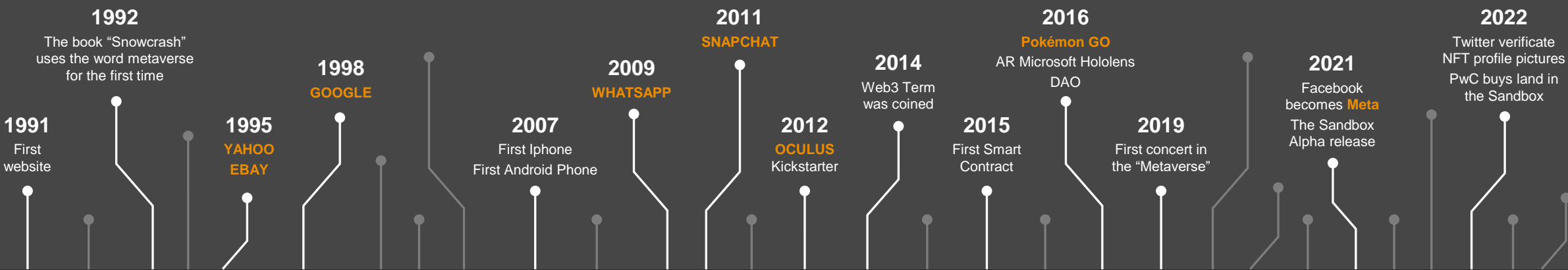


# The metaverse as an evolution, not a revolution

Today, the internet is part of our daily lives. It influences the way we interact, communicate or consume. But it hasn't always been like that. Similar to the development of the internet, also the way into the metaverse will be a slow and ongoing process, which has already started today.

What can be seen is that, with the development and innovation of the technologies, the merge between real and digital world is becoming stronger. We used to go on Google.com to find specific results for your questions. Also, Google enables consumers to find and buy their desired products. With the rise of the smartphone, people are using apps more and more often to buy, search, communicate and also consume. Today, smartphone and Google users are one more step ahead. They do not need to type in what they are looking for. The smartphone and its built-in technologies enable consumers to take a picture of a product and search it with Google.

Some of the recent innovations are especially pushing the boundaries between physical and digital world: artificial intelligence, augmented, virtual and mixed reality as well as blockchain and its digital assets the non-fungible token (NFT). Those technologies are therefore seen as some of the driving forces to move forward into a holistic and connected Metaverse.





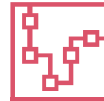
# Technologies and innovations driving the Metaverse

As described, developments in the area of emerging technologies including augmented (AR) and virtual reality (VR), NFTs and blockchain, as well as artificial intelligence (AI), play a crucial role in the novel evolution towards the metaverse. The possibilities of these technologies already suggest far-reaching changes brought about by the establishment of the metaverse. Industry experts, such as venture capitalist and metaverse expert Matthew Ball describe that the mentioned technologies in particular are driving the development of the metaverse, but not limiting it.



## Augmented (AR), Virtual (VR), and Mixed Reality (XR)

In reference to human-machine interactions and interfaces, augmented reality enhances the real world with overlaid data and information and interacts with it. Virtual reality creates a virtual, freely designable world in which three-dimensional objects are integrated. Mixed reality refers to the hybrid of physical and virtual reality.



## NFT and Blockchain

A non-fungible token (NFT), is a digital asset stored on a digital ledger that can represent physical and virtual ownership of objects and entities related to art, gaming, videos and music. They are typically traded online using digital currencies. The decentralized encryption technology behind NFTs is made possible by a blockchain. Blockchains are shared, immutable registries that facilitate the recording of data and tracking of tangible, as well as intangible assets across a business network.



## Artificial Intelligence

The theory and development of systems that perceive the environment, make decisions, and perform actions that would normally require human intelligence.

# Technologies and innovations driving the Metaverse

The emerging technologies (**AI, AR/VR and Blockchain**) have grown rapidly in recent years and have long since established themselves as **driving forces in the IT industry**.

The metaverse is said to have **accelerate their market potential and development** according to experts. The global metaverse market size reached **\$47.69 billion in 2020** and is expected to register a revenue **CAGR of 43.3%** during the five year forecast period.<sup>10</sup>

It is therefore **growing at a similar rate** as the other innovative technologies listed in the graphic.

Even though some sources assume a trillion dollar market, these figures cannot be confirmed with certainty today.

## CAGR (2020–2025)



AR/VR  
**45.90%**<sup>7</sup>



AI  
**41,01%**<sup>8</sup>

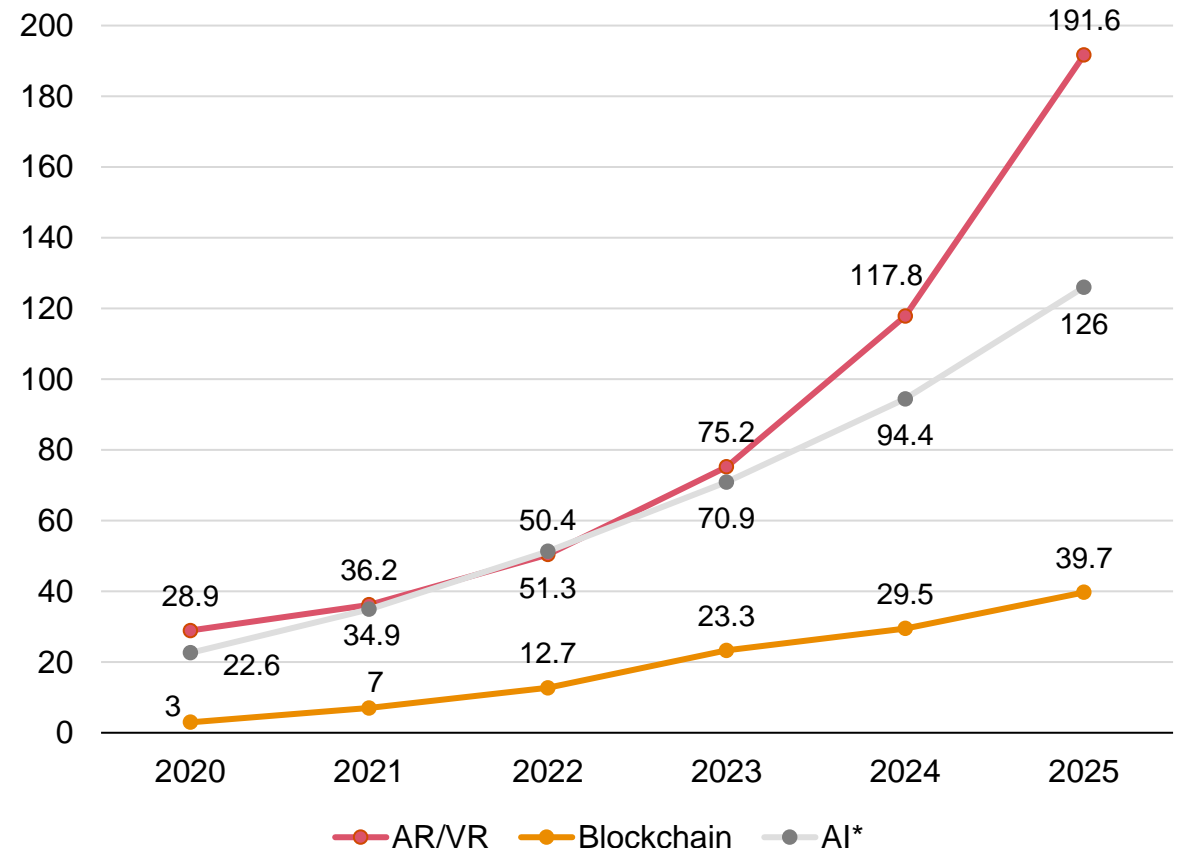


Blockchain  
**67.30%**<sup>9</sup>



Metaverse  
**43.30%**<sup>10</sup>

## AR/VR, AI and Blockchain Revenue in USD (bn)



\*AI software revenue only

Quelle: PwC-Analyse

# Virtual gaming worlds allow a glimpse into potential future marketing and sales possibilities in the Metaverse

The new way we deal with the real and digital world also means a change in the way we communicate, collaborate and consume and thus it represents new opportunities as well as challenges, especially for the consumer-oriented retail and consumer goods industry. People increasingly spend their time online, in digital spaces. In addition to social media, the focus shifts to gaming platforms, which allow for initial concepts and insights into the future of metaverses.

Animal Crossing, Fortnite, Roblox and Zepeto – gaming worlds offer their users new ways of interaction and display options. Traditional retailer and consumer companies such as Balenciaga, Gucci, Vans, and Burberry show interest and continue to collaborate with platforms in the digital sphere. Users can, for example, purchase NFTs in the form of digital products and equip them to a virtual controllable character or add them to their virtual collection.

**Use cases, which can be seen in the virtual gaming world, show how brands will be able to execute similar cases in the future:**



## New ways of marketing

Beauty and luxury brands are increasingly advertising their products through gaming platforms. Digital native target groups in particular are approached and won using more modern channels. Artificial scarcity often plays just as relevant a role as in the real world and transfers the exclusivity of the brand to the new marketing channels. The digital promotion of products targets the promotion of the real and digital products.

### GUCCI

Promotion of capsule collection by providing digital twins for players in Pokemon Go.<sup>11</sup>

### VANS

Players in Roblox can dress their avatars in Vans while driving with a branded skateboard in the Vans-customized skatepark in Roblox.<sup>12</sup>

### DIOR

The brand's lipstick collection can be worn by the player's avatar in Zepeto. Lipsticks can be archived through the game or bought.<sup>13</sup>



## Sales of digital twins on virtual platforms

While some brands are using gaming platforms for advertising and marketing purposes, other companies have gone a step further and started selling virtual goods in the form of NFTs. Available with few restrictions, the value is increased by demand and artificial scarcity. The virtual goods can achieve a multiple of the initial price, but also of the value of the physical good.

### BALMAIN

The luxury brand created a flame dress nft, which was sold in an auction and can be used in the gaming app Altava.<sup>14</sup>

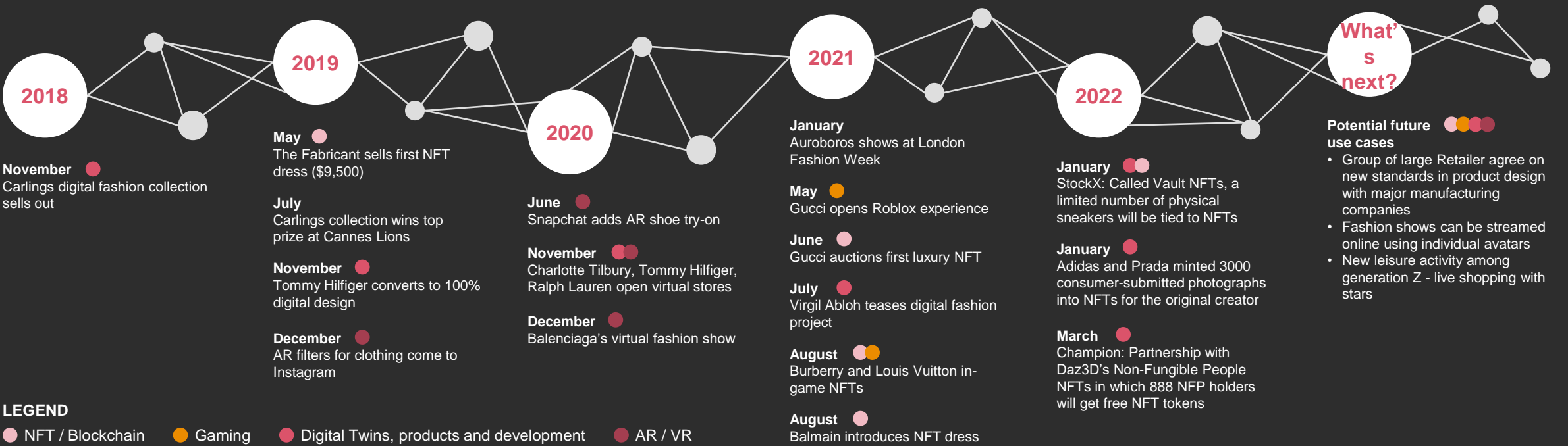
### RALPH LAUREN

The brand opened a virtual map and sold 50 new and old designs on the gaming app Zepeto.<sup>15</sup>

### LOUIS VUITTON

Sales of digital products in League of Legends. A bandeau sold for about \$170, a biker jacket for more than \$5000.<sup>16</sup>

# The transformation in the R&C industry is already happening



The retail and consumer goods industry has been undergoing a steady transformation for several years. Starting with the establishment of online shops and shopping options, the development of platforms and the emergence of new sales channels followed.

The development of the metaverse and the associated technologies presents new opportunities and challenges for the involved companies. The first movers in the market are already working out new business models and customer touchpoints for themselves. Digital natives, in particular identify with gaming environments, use AR filters, and are enthusiastic about new technological developments such as VR games, NFTs and blockchains. Fueled by the pandemic outbreak and the shift away from physical presence, the amount of digital and virtual projects has increased tremendously in the past months and years. Companies continue to recognize the potentials in this new economy and the markets.

# The retail and consumer goods industry is focussing on emerging technologies, associated with the Metaverse

But it is not only in the gaming worlds, in which the development towards the metaverse can be observed. The driving technologies, augmented and virtual reality, and the use of artificial intelligence, have fundamentally increased the digitization of processes and the advancement of new products. What we will see in the upcoming years will be an advancement of digital products and services without physical representation in the real world but also digital twins, digital representation of a product in any stage of its product lifecycle in the real world.

Companies including Tommy Hilfiger already design their products fully digital, from the sketch to the selection of materials to the finished product. Ikea and Amazon provide augmented reality applications to let customers try, test and visualize products virtually within their own homes before buying them.

The isolated implementation of a digitalization of product development, the use of AR and VR and other technologies today does not yet mean that companies are in the metaverse, rather the increased use of these technological advancements should be understood as a step towards the metaverse – a market whose potentials seem to be underestimated today and can exceed those of the traditional platform business.

## Potential Usecases

0  
1

**Virtual showrooms, shops and shows**



0  
2

**Digitalization of products for advertising with augmented reality**



0  
3

**Digital products and twins**



0  
4

**Transformation to digital product development**





# The retail and consumer goods industry focussing on emerging technologies, associated with the Metaverse

01

## Digitalization of products for advertising with augmented reality

Shopping on the internet via apps, social media networks or dedicated websites brings various advantages for customers. Products being delivered with the click of a button is convenient. The choices are limitless and prices can be compared within seconds. However, products can only be tried out once they have reached the customer. Current augmented reality applications offer a solution by bringing the product into one's own home with the help of a smartphone. Consumers can see in advance how, for example, the longed-for wardrobe would look in the living room, or whether the shoes match the rest of their outfit.



02

## Virtual showrooms, shops and shows

Virtual showrooms allow customers to walk through a virtual, three-dimensional space in reference to a physical shop. Showrooms are individually designed with a multitude of different functionalities. Customers access the rooms through the company's websites, Apps or through various of the many novel gaming platforms. As an example, the luxury brand Balenciaga has a virtual store in the online video game Fortnite.





# The retail and consumer goods industry focussing on emerging technologies, associated with the Metaverse

03

## Digital products and twins

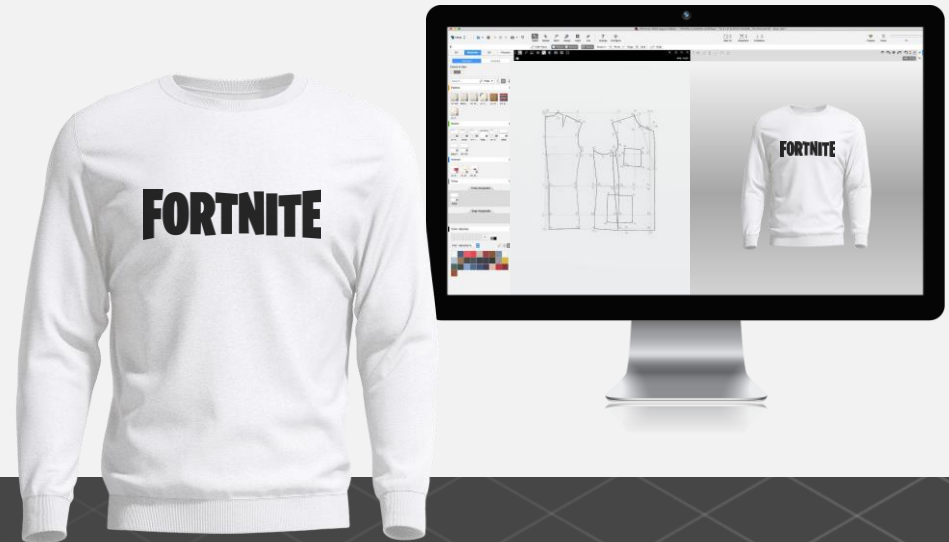
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04

## Transformation to digital product development

In order to make the development of new products more cost-effective and faster, companies switch to the pure digital development of their products. New technologies allow for a detailed visualization of materials and substances while providing a certain understanding of the haptics of the product. In addition to the optimized time and cost efficiency, companies benefit from the digital twins of their products, which can be used for various other applications.



# New digital-only consumer products developing in the digital world

Besides known products, being transformed into their digital twins, new types of “consumed products” are rising in the metaverse, creating a whole new market. The market economy (metanomics) in the metaverse is still shaping and has some flaws to overcome. Thereby, the products focus on the appearance and identity of individuals in the new virtual spaces.

Bored apes (bored apes yacht club NFT collection), cryptopunk avatars (NFT-based) and similar assets, allowing individuals to shape their identities in the virtual metaverse. Additionally, these assets are unique, meaning that there is no one, e.g. using the same avatar. Meanwhile, artificial scarcity and the uniqueness of each asset created a new type of status object and luxury product – for example, one of the bored ape NFTs sold for \$2,7 million<sup>17</sup>, while prices for cryptopunk avatars range around \$1 million.<sup>18</sup>

But it's not only about people's digital identity. Further assets as digital artworks crowd into the market – reaching similar high prices. Other than in the real world, the authenticity of the art works and its owner is encrypted on the blockchain, making it easy to reveal copies and fakes, while the owner is able to share his ownership – as status symbol – in the wide space of the digital world.

Besides identity and status, the ownership of the NFT can open up doors for exclusive memberships and events. Examples range from exclusive whatsapp chats, only for “bored apes” owners, to restricted parties, leading to rising prices and desirability of the NFT-based assets.



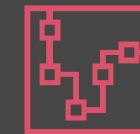
## Physical product

A physical product can be bought at a retailer



## Physical and digital products

A physical product can be bought but also a digital twin of it, is available for several business and use cases



## NFT based products

A digital only product can be bought online. Often the ownership is secured on the blockchain, and consumers can wear their products in digital spaces

# The growing market for digital goods and products



## Unique and Emerging Economy

The emerging (and still shaping) decentralized economy of metaverse(s) and NFT offers companies to create unique and scarce digital assets which can be distinguished like physical products while the ownership can be ensured on the blockchain.



## NFT-based products

Metaverse(s) access wallets with reading rights on the blockchain to verify ownership of NFTs (assets) and offer a gateway to trade and exhibit them. Products which were minted on a blockchain like Ethereum or Solana can be used in the metaverse.



## Attributes of products in the Metaverse

### Exclusive

Products in the Metaverse are based on non-fungible tokens (NFT), which have distinct characteristics.

### Scarce

The total amount of products of each series (collection) is known as the NFTs lie on a transparent blockchain. The artificial scarcity is immutably verified and the usage of blockchain technology also prevents manipulation of ownerships.



## Different Use Cases for NFT-based products

Art: Appreciation of artistic, emotional, and financial value of ownership

Exclusive access to a community (e.g. Bored Ape Yacht Club), content (multimedia files and streams), or creators (interaction, consultation)

Option-to-buy: advantage in connection with physical products

Digital assets: Skins, cosmetics, and customizations to be used in-game or in metaverses

# Why 'Metaverse' shouldn't be treated as just another buzzword

The new channels hold **further potential**, especially with regards to marketing activities and customer interaction. In addition to the sale of products, the development of the metaverse also represents a **new field of business**. New customers can be reached, the digital, immersive environment enables **new brand associations, experiences and services**. In this context, companies in the retail and consumer goods industry benefit in particular from their customer proximity and an existing brand core on which the multiverse brand image can be built.

Morgan Stanley assumes that the metaverse will create additional **sales for the fashion and luxury industry** that could reach **\$50 billion by 2030**.<sup>19</sup> Already today, NFT sales alone have increased 8% to \$1.3B from Q1 2021 (\$1.2B) and are up 723% to 10.7B last quarter.<sup>20</sup> As an example, the brand Dolce & Gabbana sold nine NFTs for \$5.7 million.<sup>21</sup>

At the same time, the transformation poses **new challenges** for companies in the industry. The entry into the new technology requires both **mature data, a system and process landscape as well as internal resources** to implement new projects.

A **preliminary analysis** is crucial in order to **identify the right use cases** – depending on the company's focus, target group and strategic orientation – and to **decide on the exact implementation**. Because even if new target groups can be reached via the new technologies and the future metaverse, existing customer groups should not be lost from focus. Thus, one goal of the analysis should be to find the **right measure and pace for the transformation**.

**Current developments still leave many questions unanswered:** How many metaverses will there be? How can products and brands be protected on the new platforms? What kind of restrictions must be enforced to protect privacy and data – how can this be achieved? Where can I find the right employees and talents to implement the projects? What kind of knowledge and expertise is needed to thrive in these new market conditions?



## New chances, possibilities and business opportunities

new field of business and growth

new products

new brand associations, experiences and services

new Customer touchpoints and interaction

new marketing channels



## New challenges, risks and requirements

adapt to changing consumer behavior

legal requirements and trademark protection

Internal staff and resources with the ability to develop and implement metaverse cases

data security is becoming even more relevant

mature data, system and process landscape as well as internal resources are crucial

new strategies and methods are required

# Taking a step towards retail transformation and the Metaverse

Business transformation is crucial to stay relevant in the market. But just like the transformation to online and platform business, the industry's entry into the metaverse won't happen overnight. Rather, experts assume a gradual process.

The individual journeys towards the metaverse, will depend on the businesses individual strategy, its consumer focus and set-up.

The great news is that investments in emerging technology such as machine learning (AI), augmented reality /extended reality and blockchain technology pay off for the metaverse. Furthermore investments in data and process integration also lead the way in the right direction.

The first step for retailers is to gain a clear understanding of metaverse potentials, but also of their own business, their customers, digital and business capabilities and their USP. Building on to that, a transformation strategy and key targets can be defined.

PwC supports retailers on every step of their individual transformation. From the evaluation of the right approach through the development of a roadmap to the execution of concrete measures.

1

## Get Up To Speed

Start to understand the metaverse's concepts and development. Get to know different cases and their potential relevant for your business

2

## Develop A Strategy

Define a metaverse strategy which aligns with your business and customers while having potential metaverse use cases in mind.

3

## Design Your Transformation

Design your transformation while keeping customer needs and USP in mind. Start thinking about which innovations and use cases accelerate your businesses USP and provide a solid business case to build upon. Also keep in mind new challenges – associated with the metaverse – like new concerns regarding trademark protection, data security or legal requirements.

4

## Build A Foundation

Develop a solid and scalable foundation to enable further growth. Your future business and digital set up should nourish a changing mindset, a solid data management and integrated business processes to move forward with your transformation and metaverse strategy.

5

## Test The Waters

Celebrate quick wins and test the water. Start to understand the market play with small, easy to adapt use cases.

6

## Leverage And Growth

With a solid and scalable foundation that focuses more on further growth than the current trend you are able to adapt to changing requirements.

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# Let's get in touch.

For any questions, feel free to contact us.



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