Advertising in the Metaverse

A first look at the basics of advertising in virtual worlds.
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We are all familiar with the merging of reality and virtuality from countless science fiction films such as „Ready Player One“, „Tron“, „Surrogates“ and „Matrix“. Years ago, Star Trek even dabbled in holodecks and virtual reality.

In the real world, we are now closer than ever before to creating this technology. For all of us, it is now completely normal to navigate virtual worlds in video games boasting breath-taking graphics which make even the most beautiful parts of the real world look pale in comparison. We move freely in a seemingly never-ending space, without any concerns or effort. We trade, buy, sell, create and destroy, and the younger the generation, the more naturally they are growing up in and with virtuality.

On the other hand, we need and appreciate the good old real world with its sensory stimuli, beauty, fragility, opportunities and dangers. It is therefore more than obvious that we need to bring both of these worlds together and expand the real world, our reality, with a digital world, thereby creating an extended reality referred to as „augmented reality“.

This augmented reality is a goal that we are still a long way from achieving and we are also a long way from grasping its true scale. The specific way in which this all plays out will stand or fall with the creations and productions of the hardware and software manufacturers of the future. But one thing is clear: When even 80-year-olds are already beginning to stand on a viewing platform in the Alps and hold their smartphone against the silhouette of the mountain range in front of them, and then look up the names and heights of the mountain peaks on their smartphone screen, which are naturally superimposed on the real camera photograph of the mountain peaks, it seems that we are not far off what we call the Metaverse. We are already very much on our way and have already passed through the entrance gates of the Metaverse.

The creation of purely virtual rooms marked the first step in this development and has provided us with use cases and exciting innovations for many different topics. The topic of marketing and advertising is one of these use cases and is set to receive an extremely effective and creative boost in the future.

The second step is the connection between reality and virtuality. This crucially depends on the hardware development of the near future. But also, and particularly in the field of „augmented reality“, all experts have prophesised new possibilities for marketing, advertising and communication.

This guide is primarily concerned with the part of the Metaverse which is already in use today and is accessible to everyone. The guide is intended for those who want to understand what is real and understandable about advertising in the Metaverse today and who want to prepare their companies for the challenges ahead. We will only be discussing advertising in virtual worlds, and no other forms of advertising already in use today, such as virtual try-ons in AR. We have therefore deliberately focussed on the blockchain-based worlds „Decentraland“, „Sandbox“ and „Voxels“. However, most of this knowledge can also be transferred to other worlds.

In the following paper, we start by providing some overarching context about the definition of the Metaverse and discuss current platforms and worlds in order to gain a basic understanding of the functionality, the technology and the market.
The evolution of the Metaverse

The Metaverse is without a doubt the biggest hype since the beginning of the digital revolution. The most prominent worlds within the Metaverse currently look like quite a boring computer game with ATARI graphics from the 80s. And yet, they harbour several digital parallel worlds and everything that goes with them.

The term ‘Metaverse’ originates from the science fiction novel Snow Crash by Neal Stephenson, which was published in 1991. Stephenson describes the Metaverse as a virtual reality through which people move as avatars.

If you look at the current Metaverse, it is still a fairly mangled and dismembered collection of different platforms where people generally navigate through different worlds using avatars. There is as yet little evidence of the infinity of space which many people associate with the Metaverse. On the contrary, the performance limitations seem very finite.

It brings back memories of navigating the internet in the late 90s and patiently waiting for the page you want to load up. It is comparable to the satisfaction we feel now when making gradual progress through the sandbox or Decentraland.

But still, we all know how quickly transfer speeds have evolved. With today’s bandwidth, we can run multiple 5K movies while streaming music and updating our smartphone while still working in the cloud.

The development and technical progress in most western countries will very quickly overcome the current limitations. So we are at the very beginning of developments which we will be able to follow with excitement.

Market size and use of the Metaverse today

According to most experts’ predictions, the Metaverse is almost certainly yet to permeate all areas of our lives. Of course, this will not happen right away during the first phase of virtual reality, but as soon as hardware advanced enough to be used for augmented reality becomes available, the digital world will accompany us everywhere.

A well-known study by CitiGroup „METAVERSE AND MONEY - Decrypting the Future“ of March 2022 predicts a wide variety of applications for use of the Metaverse. In particular, these include intelligent manufacturing, healthcare, education, public service, virtual events, concerts, tourism and last but not least, virtual advertising.

However, these are only excerpts and overarching keywords which include countless small applications which, once established and programmed, will quickly spread to other fields of use.

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If you continue to follow the study, you quickly come to the question of market size. Some breath-taking assumptions are made here:

“We estimate that the target addressable market (TAM) for the Metaverse economy could grow to between $8 trillion and $13 trillion. Expert contributors to our Citi GPS report indicate a potential range of users of up to five billion, depending on whether we take a broad definition (i.e. unique internet users) or just a billion based on a narrower definition (i.e. virtual reality/augmented reality-device user base).”

In the broad definition of the Metaverse, CitiGroup experts estimate, on the basis of „unique internet users”, that the total addressable market for the Metaverse economy could grow to $8-13 trillion by 2030.

The American management consulting firm McKinsey also attests that the Metaverse has a great future and, in its own study of June 2022 estimates that the Metaverse will grow to a value of 5 trillion US dollars by 2030.²

In its analysis, McKinsey shows that this sum consists of the individual subject areas e-commerce, which according to McKinsey is the largest economic driver (up to $2.6 trillion), virtual learning ($270 billion), advertising ($206 billion) and gaming ($125 billion).

„Of all the potential drivers of the economic impact of the Metaverse, e-commerce is the largest. We estimate it may have a market impact of $2 trillion to $2.6 trillion by 2030 depending on whether a base or upside case for the Metaverse’s development is realized, a contribution which dwarfs sectors such as academic virtual learning (an estimated $180 billion to $270 billion impact by 2030), advertising (a $144 billion to $206 billion impact), and gaming (a $108 billion to $125 billion impact).”

The different worlds of the Metaverse

The Metaverse is not structured uniformly and consists of different platforms and worlds with different characteristics. The two most important forms are the „central worlds“ and the „decentralised worlds“.

These two types of world in competition with each other will likely have the greatest impact on the Metaverse. Combinations of the two, in addition to „private“ or individual worlds will also appear, which we will not discuss here due to their fairly low current influence on the overall trend.

Central worlds

The central worlds are mainly operated by individual companies and large players. These either use new and proprietary cryptocurrencies or existing cryptocurrencies for payment transactions. These systems can be established with or without a blockchain basis. However, data sovereignty will almost always lie with the operating companies, which require people to log in using real personal data.

Example: Horizon World by Meta (Facebook)³

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³ see https://www.meta.com/de/horizon-worlds/
The different worlds of the Metaverse

Decentralised worlds

The decentralised worlds are mainly operated by decentralised autonomous organisations (DAOs) and are based on the blockchain. Payment transactions are also made via the blockchain using cryptocurrencies.

This blockchain basis means that digital goods such as crypto art, virtual countries, etc. can also be purchased as NFTs (Non-Fungible Tokens). Users have the option of using an anonymous wallet to log in and pay, and are therefore not required to disclose their identity.

Example: Decentraland

As already mentioned, we are only looking at worlds in which we can already advertise from Germany and which are based on a blockchain. Some have DAOs (Decentraland), while others are centrally organised (The Sandbox).

We will therefore primarily consider the following platforms/worlds:

Decentraland - The Sandbox - Voxels

It is important for advertisers for the worlds to be suitable for binding legal transactions and business models. The following two questions play a role when evaluating this point:

a) Is the world/platform decentralised and open?
b) Is the world/platform built on a blockchain?

If you answer „yes“ to question a), there is much greater scope for all players and participants. In such a world, there would be a completely different amount of pressure to innovate and much greater flexibility due to the competition – which is known to stimulate business.

Systems, ideas and business models could develop much more freely and would enable all players to harvest the fruits of their labour and their ideas almost completely independently, thereby introducing new ideas and models. This type of ecosystem would initially have clear advantages for the creativity and flexibility of advertising and communication. However, disadvantages will certainly arise due to the lack of standards, which would initially need to be developed slowly and laboriously. The topic of data protection would not be of primary relevance if people moved in a world based on a blockchain, users logged in anonymously and personal data was not processed. If the whole concept were based on completely anonymous avatars, there would no longer be reference to any personal identities. The extent to which the legal situation changes in the coming years remains to be seen, at least in Germany.

It is impossible to predict how much German case law will affect the development of a completely supranational and “stateless” Metaverse. The effects on German players and companies in the Metaverse will, however, be clear.

4 see https://decentraland.org/
If the answer to question b) above is that the platform/world is based on a blockchain, you will immediately notice many advantages for marketing and advertising.

In a blockchain-based world, people usually log in with their wallet, which guarantees anonymous and unambiguous authentication. Wallet IDs are generally never deleted by their users and are changed only very rarely. The authentication system within these worlds is therefore very stable.

Decentralised and open systems based on a blockchain have advantages over closed or non-blockchain-based worlds for the majority of advertisers and in terms of diversity, flexibility and creativity.

**Advertising in the Metaverse**

The Metaverse is very difficult to grasp due to its decentralised structure and the multitude of different platforms, organisational forms and technologies. This doesn’t necessarily help professional businesses, as regulated business life requires a clear structure and unambiguous rules that apply to everyone. We are still a long way from reaching this point in the Metaverse, and it is hard to imagine that we will ever reach that status.

However, business is already taking place in the Metaverse and it can be assumed that this business will increase. As already shown under the point „Market size and use of the Metaverse today“, as well as business uses, there will also be many uses in the areas of leisure, further education and information gathering. Essentially, we will see many uses in the Metaverse which we are already familiar with from Web 2.0. And just like in Web 2.0, users will feel the urge to pay money for all of the various offers. This and many other reasons make the Metaverse an interesting prospect for advertising. Even the most restrictive DAO (decentralised autonomous organisation) will have to recognise that running a platform in the Metaverse or providing quality content requires financial funding. This can either be collected from users or generated through advertising, which is already ubiquitous.

**The first steps**

Along with many other things, advertising first of all requires an area, a space, a medium, i.e. something on which it can be shown, played and of course also seen. We are all familiar with conventional forms of advertising, such as posters, large-scale outdoor advertising, city light posters, TV, video and radio spots, online banner advertising and many others.

On shared platforms in the Metaverse, we first see advertising that looks similar to out-of-home advertising, usually located on parcels or virtual land on individual platforms. For example, there are often plots “Voxels” or in “Decentraland” where NFT galleries provide the opportunity for businesses to show their own NFTs, or those created by others, and to offer them for sale. You can often also see a corresponding note or a simple advertising banner indicating that people can click on the banner to access various NFT marketplaces such as „Open Sea“ in order to buy the displayed NFTs. The display looks more like an out-of-home poster, while it operates in a similar way to a classic online advertising banner from the Web 2.0 world.
These were and continue to be very popular forms of advertising in the Metaverse. They are hung up or designed and programmed like individual posters. All avatars that pass by the parcel see this advertisement and can react accordingly. However, professional playout, which we are familiar with from the world of Web 2.0, has never been not particularly commonplace.

In the next stage of development, Metaverse advertising evolved into elaborately designed advertising media which also contained moving images. However, advertising material was still placed on individual plots which were individually designed and programmed.

These advertising materials were usually posted by the owners or operators of the parcels, who in most cases also advertised themselves (sale or purchase of parcels, sale of their own NFTs, etc.).

Up to this point, this initial form of Metaverse advertising was not suitable for campaigns. Individual locations were used, each of which only allowed individual banners or images. This had a similar effect to putting up a poster in your front yard.

**The initial campaign-ready displays**

In addition to the initial very basic forms of advertising, which could only be viewed individually, there are now more and more displays that we also encounter on several different plots. These are also individual advertising media which are designed and programmed individually by hand in a similar way to the early individual banners. The main difference is that they appear on multiple parcels and have been fine-tuned and coordinated. There are companies which have managed to persuade several plot owners (land owners) to place ads on their plots. For example, the same ad can be seen in different places in Decentraland.

The ability to place the same ads on several plots on a platform (e.g. Voxels or Decentraland) has of course significantly increased coverage and therefore reach. However, this depends heavily on where these individual parcels are located and how many avatars are moving around these parcels. This is crucial for reach, as is the case for outdoor advertising in real life. So far, however, no tools have been developed which are capable of measuring advertising effectiveness, including reach.

The coordination of several plots and the placement of the same ad on different plots means that it is possible to consider the conditional campaign capability of this advertising service for the first time.

**Events**

The next step in the evolution of Metaverse advertising is events. Events are a special form of advertising. These events may include an art show, cultural event, product launch, game or concert which links a brand or product to the event so that as many users as possible attend or hear about the event as avatars, thereby communicating the brand message. The events in the Metaverse are usually supported with a flanking classic or web 2.0 campaign to ensure that reach in the real world is also utilised and the advertising message is thereby spread far and wide. Many advertisers are starting to lure users and avatars to their events with special games or goodies such as NFTs or other assets as additional incentives.
Events are held on parcels in each Metaverse world. There are barely any limits to creativity here, which enables companies to test creative brand messages and implement them with relatively small budgets of EUR 10 - 100 thousand in order to gain initial insights into what will be possible in the future, how the new target groups will react as avatars and how their own brand communication should be structured in the future.

The techniques and insights gained from events, which are generally associated with digital architecture on a parcel, will also be valuable when creating a future shop or service point in the Metaverse. The first companies are already testing how business, recruiting and service models can be set up in the Metaverse in the future.

Although gamification elements are currently still very popular, some companies are increasingly focusing on real business models, shops and even entire malls.

With the right tools, the first of which have been around for a few months, these events not only provide insights into the right concepts and architecture, but can also be used to generate valuable data for future use. The first companies are already delivering tracking and reporting tools for the Metaverse.

**State-of-the-art advertising in the Metaverse**

But what is the current status of display advertising in the Metaverse? While many brands are still in the early stages of Metaverse advertising, programmatic advertising (the fully automated and individualized buying and selling of advertising space in real time) will no doubt make its way into the Metaverse in a big way. Many brands are already using programmatic technology for their Web 2.0 campaigns, which will fuel general tolerance and a desire to also use this technology in Web 3.0. Ads in the Metaverse will work in a similar way to familiar in-game ads. If you visit a Metaverse platform in the future, you will probably see advertising media that are precisely tailored to your individual avatar.

The latest developments in Metaverse advertising indicate that the introduction of programmatic advertising in the Metaverse has significantly increased the campaignability of Metaverse advertising. The first programmatic solution for the Metaverse has recently been released in the form of an SSP for Metaverse advertising. The world’s first Metaverse SSP is currently marketing advertising space in „Decentraland“, „Voxels“ and „The Sandbox“, and other Metaverse platforms will follow.

Programmatic advertising in Web 3.0 works in a very similar way to Web 2.0. The inventory, i.e. the advertising space, is made available via the SSP. On the other side, advertisers, media agencies and advertisers then submit their offers for the advertising service. Just like in Web 2.0, this is fully automated using a bidding process in real time via connected DSPs (demand-side platforms).

The DSPs therefore make the advertising spaces in the Metaverse available in real time to all interested advertisers by accessing the inventory offered by the SSP. This step means that campaigns in the Metaverse are now possible. The advertising is then delivered to the highest bidder.
The decisive factor for this type of advertising delivery is the 1:1 relationship between the avatar and the advertising material. In the latest programmatic Metaverse campaigns, advertising is mainly delivered on large-format billboards, which are very reminiscent of out-of-home advertising media. However, this 1:1 relationship between the avatar and the advertising medium is the decisive difference.

If several avatars are standing in front of an advertising space that has been booked programmatically, the latest systems can deliver advertising material tailored to each avatar on the basis of data. Different users standing in front of the same advertising space at the same moment will see different advertising media.

This completes the entry into programmatic Metaverse advertising, as just like in Web 2.0, advertisers can now bid on individual avatars/users and deliver the ads to a specific target group. Banners and videos in 16:9 or 9:16 format are used for the programmatic campaigns. These advertising media are not only used for viewing purposes. You can interact with them like in the same way as with banners and videos in Web 2.0. For example, if an avatar clicks or touches an advertising space, the user of the avatar can then be directed to a shop. The targeting options „Near by“, „On locations“, „In focus“ and „Clicks“ can also be used to play out storytelling elements or simply display different advertising messages, depending on how the avatar behaves, how he/she interacts with the ad and how far away he/she is. There are barely any limits to creativity here either.

Reach in the Metaverse

Even technically very advanced forms of advertising depend on reach and are only successful if a large number of advertising materials are delivered and a large number of active avatars can be reached on the respective Metaverse platform.

In this very early phase of Metaverse development, we still see relatively few avatars or users cavorting on the blockchain-based Metaverse platforms. In the absence of official figures, we can currently only rely on estimates by experts and the DAOs’ own statements. Figures currently circulating on the internet, for example estimate 300,000 to 500,000 active users per month for the Sandbox and approx. 200,000 to 400,000 active users per month for Decentraland.

The ranges are significantly higher for related platforms, such as the online gaming worlds of Fortnite and Roblox, which cannot be compared to the blockchain platforms due to their lack of a blockchain basis. 400 million users worldwide are already gathering on Fortnite and 200 million on Roblox every month, and this trend is rising.

The development of most blockchain-based Metaverse platforms is a little slower, as they are not controlled centrally and are completely decentralised and free. Both DAOs and land owners help to shape the virtual space and can contribute their own ideas. This development is therefore less coordinated than that of professional gaming platforms, but also more flexible and creative. Experts assume that the Metaverse will develop rapidly in the next few years.
In addition to the ever-increasing development of use cases and the high degree of creativity and freedom in the Metaverse, the driving force will be hardware development. VR and AR glasses already announced by the big tech giants are primarily a catalyst for the Metaverse. The moment mainstream-capable hardware establishes itself on the market, the development of the Metaverse will really pick up speed. The big tech giants like Google, Meta, Microsoft and Epic will also play a decisive role in the spread and utilisation of the Metaverse. However, these companies can certainly have a decisive influence on the topic of reach.

Ad campaigns in the Metaverse have not been placed there for performance or direct branding purposes. First and foremost, the aim is to achieve a controlled entry into a new world and learn how this world „feels”, how it reacts and what is and what is not possible. Most of the brands already running ad campaigns in the Metaverse are doing so to “hoist their flag” and gain initial experience in this new universe.

This experience is of great value, even if the reach is still modest, although it is constantly increasing. The Metaverse has the potential to change our lives comprehensively, so knowledge about the Metaverse, its peculiarities, mechanisms, opportunities and risks may end up being very decisive competitive advantages, especially for companies. Barely any experts now dispute that the Metaverse is unstoppable, but when and how it will cross the line into mainstream media is not yet clear. This could happen in 1-2 years or possibly 10 years. But as soon as there is sufficient coverage in the most important countries, those companies that are already exploring these topics now will be at an advantage.

Current reach in the mentioned blockchain-based platforms allow companies to generate initial experiences with advertising in the Metaverse.

**Targeting, tracking & data**

Another important question is how advertising campaigns can be monitored and how success is measured.

Many aspects of data protection in this area have not yet been legally clarified. It is therefore not possible to provide any legal advice in this form regarding data protection in the Metaverse. However, what we can now is demonstrate what is technically possible. Everyone will need to decide for themselves whether and how to use the new opportunities. In principle, all full-fledged Web 3.0 users have a unique ID via their wallet. If the wallet is used in a virtual environment, for example to enable the purchase of NFTs, this ID is available to the platform and the corresponding service providers. This also applies to advertisers who have their own billboards.

Using programmatic advertising in particular, we have recently been able to target and track users very accurately, while also collecting data and information about avatars to measure success, which in turn makes it possible to target users in such an accurate way.
Marketeers take notice they see the data collection opportunities resulting from a programmatic advertising campaign in the Metaverse. Any avatar that moves closer to this type of advertisement is revealing very specific information about themselves through their wallet ID. We are currently already able target the following things:

**Targeting avatars/users**

- Wallet ID
- Username
- Avatar gender
- Avatar update count (how often has an avatar been changed)
- Skin colour
- Hair colour
- Eye colour
- Photo of the avatar
- Photo of the face
- Wearable IDs (shoes, shirts, sunglasses, etc.)
- „Near by“, „On locations“, „In focus“ and „Clicks“

**NFT targeting**

(includes other plots and estates, but also all other tokens, e.g. from the Decentraland Marketplace)

- Amount of cryptocurrency
- NFTs
- All bids
- All purchases
- All sales
- Total spending
- Total income
- ENS (if used)

It becomes immediately clear that there are major tracking and targeting option differences compared to Web 2.0. The information about individuals goes much deeper and is both more comprehensive and more precise, because this is real readable data.

On the other hand, all data is merely “avatar” data and it is therefore most likely, at least according to the current situation, that it does not legally constitute personal data. With the option of registering anonymous wallets, individual users are protected and at the same time more transparent than ever before.

To understand this apparent paradox, we must always keep the blockchain in mind, which is the basis of these systems. It draws its almost insurmountable protective function from the fact that all of its stored content can be viewed by the public. Every connected computer knows how much Ethereum is in a specific wallet, so it is not easy to manipulate this value, as you would then need to manipulate all connected systems, which is virtually impossible.

If you take a closer look at the individual targeting options, you will see that there are very “hard” but also “soft” targeting options. Hard targeting includes values such as the „Wallet ID“, essentially the „Cookie 3.0“, in addition to values such as „amount of cryptocurrency“, „NFTs“ (including parcels, estates, wearables, etc.), „bids“, „purchases and sales“, „income and expenditure“. These values are transparent, but only for the avatar, without revealing any details about the real person behind the avatar.
“Softer” targeting focuses on all properties of the avatar, such as "gender", "update count" (how many times an avatar has been changed), "skin colour", "hair colour", "eye colour", "photo", "face". Soft targeting in this context refers to the fact that every user has free choice of their own avatar and therefore change it constantly. Consequently, it cannot be guaranteed that a male avatar actually belongs to a male user or that a dark-haired female avatar belongs to a dark-haired user.

In the future, however, there will certainly be statistics indicating the percentage of users choosing avatars that resemble their own appearance, and the percentage of users deliberately opt for a different appearance. In this respect, this "soft" targeting will also become more calculable.

The topic of data generation and data use will also play a significant role in the Metaverse. It is all the more important to be GDPR-compliant and check how Web 2.0 specifications can also be implemented in the Metaverse and Web 3.0. We now see many companies collecting avatar and wallet data to help them to understand their audiences as accurately as possible. Some companies are already using the data generated so far to identify specific target groups for future campaigns.

**Target audiences in the Metaverse**

If we assume that the expert predictions are correct and that the Metaverse will become mainstream sooner or later, it is also clear that by then at the latest, almost every target group that we know from Web 2.0 can also be addressed and contacted in the Metaverse for advertising purposes. Avatars currently vary widely and there is barely any reliable data. However, focussing on the number of visitors to the entry portals of the three major Metaverse platforms “Decentraland”, “The Sandbox” and “Voxels”, a relatively uniform picture has emerged.

The target groups are in the areas of investments, fintech, computers and lifestyle. This confirms the assumption that current target groups are more likely to be focussed on the future, keen to experiment and are already in some of the leading milieus, such as the “expeditive milieu”\(^5\), the “neo-ecological milieu”\(^6\) and the “performance milieu”\(^7\).

These assumptions are confirmed by data from SimilarWeb.com. Although there are no analyses of the individual platforms or inside the Metaverse platforms, a lot can be learned by analysing the entrance portals of the Metaverse platforms.

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\(^5\) The ambitious creative bohemian: Urban, hip, digital, cosmopolitan with good networking skills; looking for new trends Limits and unconventional experiences, solutions and successes; strong self-portrayal skills, self-image as a postmodem elite. Source: Sinus-Milieus, SINUS market and social research 2022

\(^6\) The drivers of global transformation: Positivity and a spirit of optimism, along with a pronounced awareness of planetary challenges; open to new value syntheses: disruption and pragmatism, success and sustainability, party and protest; self-image as progressive realists; environmental and climate-sensitive lifestyle. Source: Sinus-Milieus, SINUS market and social research 2022

\(^7\) The efficiency-oriented and progress-optimistic elite: global economic and liberal thinking; overall social perspective based on personal responsibility; self-image as style and consumption pioneers; high technology and digital affinity. Source: Sinus-Milieus, SINUS market and social research 2022
Let’s start by taking a look at the gender distribution on the three platforms:

![Gender Distribution Chart](source)

Here we see a very similar picture for all three platforms. The men are clearly in the majority in all three. Almost twice as many men as women visit the homepages of all three platforms. The blockchain-based Metaverse still seems to be a very strong male domain.

Let’s take a look at the age distribution of the platforms:

![Age Distribution Chart](source)

Here, too, all three platforms are very similar. None of the three worlds have significantly different data. Although „The Sandbox“ stands out slightly with a larger group of 18 to 24 year olds due to its gaming character, all other age groups are very similar to the other two platforms. In general, we note that the age group of 25 to 34 year olds is the most represented. The relatively strong presence of 35 to 44 year olds is also surprising, at just under 20% they are almost as strongly represented as the very young target group.
If we look at users’ interests, we see a very similar picture for all three Metaverse worlds:

<table>
<thead>
<tr>
<th>Browsing habits of visitors to decentraland.org</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers electronics and technology / Social networks and online communities</td>
<td>10.7 %</td>
</tr>
<tr>
<td>Computers electronics and technology / Computers electronics and technology</td>
<td>10.5 %</td>
</tr>
<tr>
<td>Finance / Investing</td>
<td>10.1 %</td>
</tr>
<tr>
<td>Finance / Finance - Other</td>
<td>10.1 %</td>
</tr>
<tr>
<td>Computers electronics and technology / Programming and developer software</td>
<td>8.4 %</td>
</tr>
<tr>
<td>Others</td>
<td>50.3 %</td>
</tr>
</tbody>
</table>

Source: similarweb.com

Almost exactly 50% of Decentraland users are interested in „computers”, „technology” and „finance”. It’s easy to guess that these are people who are combing the new worlds in search of good investments in virtual real estate, fintech, crypto and NFTs.

There is a similar picture in the sandbox:

<table>
<thead>
<tr>
<th>Browsing habits of visitors to sandbox.game</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance / Investing</td>
<td>11.9 %</td>
</tr>
<tr>
<td>Computers electronics and technology / Social networks and online communities</td>
<td>11.6 %</td>
</tr>
<tr>
<td>Finance / Finance - Other</td>
<td>10.4 %</td>
</tr>
<tr>
<td>Computers electronics and technology / Computers electronics and technology</td>
<td>10.2 %</td>
</tr>
<tr>
<td>Games / Video games consoles and accessories</td>
<td>7.1 %</td>
</tr>
<tr>
<td>Others</td>
<td>48.8 %</td>
</tr>
</tbody>
</table>

Source: similarweb.com

The only difference here is that just over 7% of users are interested in games, which is surprising given the fact that the sandbox also clearly positions itself as a game. Considering its own definition, more users would be expected to have an interest in games. In fact, the topics „computer”, „technology” and „finance” dominate here, as they did in Decentraland.
A look at voxels offers no surprises in terms of content and reinforces these observations even more clearly. The topics „computer“, „technology“ and „finance“ also dominate here at almost 70%, followed by the related business topic „e-commerce & shopping“.

### Browsing habits of visitors to voxels.com

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers electronics and Technology / Social networks and online communities</td>
<td>36.4%</td>
</tr>
<tr>
<td>Computers electronics and technology / Search engines</td>
<td>12.9%</td>
</tr>
<tr>
<td>Computers electronics and technology / Programming and developer software</td>
<td>9.8%</td>
</tr>
<tr>
<td>Ecommerce and shopping / Marketplace</td>
<td>9.5%</td>
</tr>
<tr>
<td>Computers electronics and technology / E-mail</td>
<td>8.2%</td>
</tr>
<tr>
<td>Others</td>
<td>23.1%</td>
</tr>
</tbody>
</table>

Source: similarweb.com

In conclusion, it can be stated that innovators and early adopters can currently be found in the blockchain-based Metaverse, which are exciting target groups for many advertisers in several respects.

### Billing models in the Metaverse

Billing models in the Metaverse are currently very similar to the well-known billing models of Web 2.0. The predominant models are fixed placements and CPM (cost per mille), CPV (cost per view) and CPP (cost per play).

Some providers bill in cryptocurrency, but the main providers calculate the bookings in proven fiat currencies, i.e. euros, dollars, etc..
Outlook for the coming years

Looking into the crystal ball should always be approached with caution, but we still want to invest a few thoughts on the exciting question of the future development of advertising in the Metaverse. These developments will not be linear or monocultural. It will be difficult to calculate what is happening in one part of the Metaverse and whether this can be transferred to other parts or whether it should be transferred at all. Due to the decentralised structure and differences between the individual players, users, worlds, architects, etc., an outlook is an undertaking that could take months.

Of course, countless new worlds will be created and old worlds will fade away. Companies and DAOs will prevail and then disappear again after a while. In this respect, it makes little sense to philosophise about names or the question of which worlds will prevail. There will be consolidation, but just like in the early days of the internet, „giants” will emerge that people stop recognising after a while. It will be the same in the Metaverse, but more colourful and faster.

Nevertheless, we would like to at least try to outline three developments.

Standardisation and interoperability

One of the main issues for advertisers will be choosing the right virtual world and service provider for the placement of their advertising. There are currently no standards and no guarantee that individual measures such as the distribution of wearables on one platform also means that these wearables can also be used on another platform. However, when users are given or buy digital goods, the value is severely limited if users can only use them in one world.

All stakeholders know this, and yet closed systems will exist for financial and power-political reasons, which, strictly speaking, are in contradiction to the basic concept of the Metaverse. However, some platforms will try to be compatible or interoperable.

Corporate-run worlds have fewer incentives to create and allow an open system, but similar problems existed in the early days of the internet.

The internet managed to come to a collective agreement on common and standardised protocols, which has made it a success. In the years to come, the task will be to once again agree on similar standards with the aim of making the Metaverse a success.

Creativity

Despite highly creative agencies and sophisticated ad tech systems, we still don’t fully grasp how important creativity is in the Web 2.0 world and how important it will remain in the future. With each advancing year of digitisation, we see that computers and algorithms are taking over tasks that people were still doing until recently. But there is something that is difficult for a computer or even an algorithm to simulate, and that is our human creativity.
In online marketing, you can stand out through creativity, but in the Metaverse creativity becomes a hygiene factor. Placements, targeting, tracking and target groups are often discussed at length in digital marketing. New target group definitions or traffic sources are tested line item by line item, people study the decimal places of CTRs and CRs, but few actually fully think through the creation involved. This process was taking place well before the online placements and banners and advertising media are usually quickly adapted using classic advertising.

This will all change in the Metaverse. The Metaverse offers a lot of freedom and possibilities and the creation of advertising material or events and videos will become much more important than the adaptation of banners. The creation of advertising media, storytelling, audio, video advertising, social and viral elements will be merged, transformed, rethought, questioned, fragmented and reformulated. The systems and units we have been accustomed to use in order to think and create advertising will be changed by the Metaverse. Creativity will be the most important factor, along with technology, in making a campaign or communication a success. A creative space like the Metaverse requires significantly more creativity from all involved stakeholders.

Augmented reality

In addition to the two developments mentioned above, „augmented reality” as discussed above will gradually develop and establish itself on a completely separate level to the other two topics. While we are moving within worlds and platforms when it comes to the other topics, the future success or failure of augmented reality depends on further hardware developments. We know that many large companies are developing such hardware, and good hardware in this field is all it would take to push „augmented reality” into the mainstream in one fell swoop and make it suitable for the masses.

So far, however, there are barely any viable advertising concepts beyond the brainstorming of advertising and ad tech professionals. There will be enormous movement in this area in the coming years and we will see that, in addition to creativity and technology, other „considerations”, such as the question of social compatibility and psychological aspects which go beyond the advertising effect, will find their way into the advertising world. Even medical and sensory perception professionals are more in demand than previously in advertising.

But one thing remains certain: The Metaverse will be in an ongoing state of flux and will reinvent itself constantly. And that’s why advertising and all stakeholders who have dedicated themselves to advertising will also reinvent themselves over and over again.
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Bundesverband Digitale Wirtschaft (BVDW) e.V.

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Metaverse Committee

The Metaverse Committee is an expert forum for inspiration, interdisciplinary exchange and a proactive assessment of this new trend, with the aim of exploring the potential promised by the DNA of Web3: experiencing virtual spaces, discovering new forms of value creation and cooperation and the secure, transparent and controlled handling of data and digital objects.

The Committee chair consists of Mark Wächter (MWC.mobi, Chair), Dominik Wöber (Google, Deputy Chair), Nico Wohlgemuth (DAYONE, Deputy Chair), Kira Grabner (Meta, Deputy Chair) and Lea Horn (Arvato Systems, Deputy Chair).

The Committee is currently divided into four labs:

- **Lab Metaverse: Technology - Infrastructure, Devices, Software**
- **Lab Metaverse: Economy - Business Models and Ecosystems**
- **Lab Metaverse: Society - General Framework, Ethics and Sustainability**
- **Lab Web3**

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