

**Ofcom**



# Future Technology and Media Literacy: The metaverse

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# Overview

The metaverse is a concept that has received significant investment from technology companies as well as considerable attention from media commentators, industry, academics, policy makers and regulators. While there is not yet a single accepted definition of the metaverse, there are some common technological components that constitute its foundational elements. These technologies include several products already available to consumers, such as virtual reality headsets, augmented reality glasses and other wearable technologies, with others still in development<sup>1</sup>. Many believe that a fully realised metaverse employing these technologies could herald a step change in how individuals use the internet given the anticipated use-cases and potential user behaviours.

Proponents of the metaverse highlight its potential in transforming our online experiences. ‘Imagine catching a world-class theatre performance or an intimate gig with your favourite artist right there in your living room. Imagine learning to perform surgery in a helicopter, counsel a bereaved father or fight a fire in a power station, from the safety of your home or office’<sup>2</sup>. A fully realised metaverse, as described here, could provide new opportunities for people to learn, explore and create online content but may also present new risks.

For those working to promote media literacy some of these opportunities and risks will not all be new as many will be present in our online lives today and many even will pre-date the internet. But there are some significant shifts in how these risks and opportunities are enacted and experienced, and they will require new applications of media literacy skills.

This document explores where these shifts may occur, what these opportunities and risks might look like, and how the platforms and the media literacy sector could respond.

## Key areas this paper explores in relation to media literacy:

Interactions in the metaverse
Creation in the metaverse
Data in the metaverse
Exploration and discovery

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<sup>1</sup> <https://competitionandmarkets.blog.gov.uk/2022/06/22/the-metaverse-and-immersive-technologies-a-regulatory-perspective/>

<sup>2</sup> [https://www2.deloitte.com/uk/en/pages/consulting/articles/what-is-the-metaverse.html?gclid=EAlalQobChMIxazW8pvZ\\_wIVRe3tCh16zwB8EAAYAiAAEgJVzPD\\_BwE](https://www2.deloitte.com/uk/en/pages/consulting/articles/what-is-the-metaverse.html?gclid=EAlalQobChMIxazW8pvZ_wIVRe3tCh16zwB8EAAYAiAAEgJVzPD_BwE)

# Introduction to the future technology trends project

This discussion paper forms part of a series we are producing on future technology trends and their related potential media literacy implications to support those working on media literacy so they may better understand what opportunities and challenges could arise.

The discussion papers will also outline possible media literacy opportunities and risks for users as they look to use, understand and create content.

To outline what Ofcom's role is in this area, where this remit comes from and how Ofcom defines media literacy, we have created an [anchor document](#). It describes how we will select the future technology trends that will be looked at in this discussion series and the lenses through which we will assess the media literacy implications of these technology trends.

## Definition of the metaverse

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The metaverse as a concept is widely discussed and debated. There are different interpretations of the metaverse with no universally accepted definition. At a general level for purposes of this discussion document, the metaverse could be conceptualised as 'a persistent 3D virtual space in which users can interact with computer-generated environments and other users'. The metaverse could allow its users to carry out many different functions that are typically undertaken in real life, such as entertainment, social interactions, work, communication and commerce.

Absent a unified definition of the metaverse, it is useful to consider the constituent parts of the metaverse. This includes the technologies people may use to access it, how the metaverse might be used, how the metaverse could be built, and how users' behaviours change in the metaverse, as well as the opportunities and implications for media literacy that this presents.

As online interactions become more immersive and embodied, some of the considerations discussed in this paper may be realised, even before a fully realised metaverse comes to fruition.

## Opportunities and risks

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As outlined in the anchor document for this series, we have used Ofcom's media literacy definition and the European Commission's Digital Competencies framework<sup>3</sup> (the "Framework") as a structure for examining media literacy opportunities and risks that may arise in a fully realised metaverse. In this paper we have explored some of the areas where there is a significant shift in either the opportunity or risk (and sometimes both) that could arise from the metaverse.

Also, as outlined in the Making Sense of Media annual plan 2023-24<sup>4</sup>, media literacy is about people and platforms. The considerations below are designed to form part of a sector-wide discussion on how media literacy could be supported through improving people's skills and the actions of platforms.

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<sup>3</sup> Vuorikari, R., Kluzer, S. and Punie, Y., DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes, Publications Office of the European Union, Luxembourg, 2022

<sup>4</sup> Ofcom, Making Sense of Media annual plan 2023-24, <https://www.ofcom.org.uk/research-and-data/media-literacy-research/approach>

# Interactions in the metaverse

Interactions in the metaverse will more closely resemble 'real' life through virtual interactions in real time/in the moment.<sup>5</sup> This could include interactions between avatars, the virtual environment, sharing of in-world content, or real-time voice or text chat; and we need to understand more about how harms could manifest and what impact they may have on those within virtual environments.

One aspect of the metaverse is that users may select the experience they are seeking to partake in and be automatically matched with other users seeking to join the same experience online. Who users are matched with, where they are placed, and what they encounter in the metaverse to a large degree may be seemingly randomised and potentially based on indirect factors such as availability of other users and network latency.<sup>6</sup>

Some of the more prominent technology companies exploring the metaverse are using avatars designed by the user to be representative of users within that metaverse world.<sup>7</sup> This avatar may be contained within a specific platform's metaverse world, or follow the user across the metaverse, depending on the level of interoperability between platforms' metaverse worlds. These avatars could be designed by the user and may have no requirement to represent the user's actual identity. Therefore, if one is automatically matched with other users, it may be difficult or even impossible to discern the user's identity from their avatar.

There may be users who prefer to know an individual's identity has been verified before interacting with them online. This might be the case, for example, for users who have previously been victims of harassment or abuse online, particularly if that abuse is based on protected characteristics such as age, gender, race, or disability.

The way we interact with each other in virtual worlds might be very different to how we communicate through 'traditional' social media platforms. Interaction in these virtual worlds would be much more like real life. It could happen in real-time, meaning some content could be ephemeral with no public record of events and interactions.<sup>8</sup> In this case, harmful content or interactions in the metaverse are likely to be harder to police which could result in them going unreported.

## Interaction: media literacy considerations

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Media literacy is about people and platforms. The considerations below are designed to form part of a sector-wide discussion on how media literacy could be supported through improving people's skills and the actions of platforms.

- User identity check

While some users may not wish to represent their real identity in an avatar within the metaverse, as we discuss above, there are a variety of reasons why other users knowing who they are interacting with may be key in them being able to fully engage with the metaverse. It may be necessary to

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<sup>5</sup> M. Dolata & G. Schwabe, What is the Metaverse and Who Seeks to Define it? Mapping the Site of Social Construction. *Journal of Information Technology*, 2023

<sup>6</sup> Matthew Ball, The Metaverse - and how it will revolutionize everything, WW Norton & Co, 2022.

<sup>7</sup> XR today, The Role of the Avatar in the Metaverse, <https://www.xrtoday.com/virtual-reality/the-role-of-the-avatar-in-the-metaverse/>

<sup>8</sup> Nick Clegg, Making the metaverse: What it is, how it will be built, and why it matters, [://nickclegg.medium.com/making-the-metaverse-what-it-is-how-it-will-be-built-and-why-it-matters-3710f7570b04](https://nickclegg.medium.com/making-the-metaverse-what-it-is-how-it-will-be-built-and-why-it-matters-3710f7570b04).

ensure that the needs of users are being met, allowing them to maintain their privacy and feeling safe in using the metaverse.

- Is ephemerality a choice?

While not keeping a record of any interaction on the metaverse may be desirable for platforms and some users, for other users the concerns associated with ephemerality may outweigh the benefits. The lack of record of some interactions on the metaverse may be of particular importance when reporting inappropriate behaviour and as such could disproportionately impact children, and users with protected characteristics. Women, for example, are often subject to sexualised and gendered harassment and abuse in online spaces. When reporting harassment and abuse to a platform, the user is reliant on a record of this interaction to evidence the abuse. Where there are limited records of interactions kept, reporting of harassment and abuse may be harder for users and may mean that platforms do not have the necessary information to make a decision. There are a variety of media literacy tools that could be used to address harassment and abuse, including supporting users to understand their options if abuse and harassment occurs, and considering approaches to perpetrator education in online spaces.

- Do users understand how they are matched with other users?

If the metaverse utilises or offers automated matchmaking to group users together for experiences, it may not be apparent as to how and why they were matched. How might users learn about factors driving automated matchmaking and how they influence who they interact with online are important considerations.

- Do parents understand that their children may be automatically matched with other users in the metaverse?

Headsets are potentially a key technology for accessing the metaverse meaning that, unless an experience is deliberately cast, parents may not be able to see what their child is seeing, who they are talking to, or what is happening within their virtual reality. It is therefore key that parents understand how their child is interacting in the metaverse and can put in place adequate safeguards and protection, both through the platforms and by having informed conversations with their child about behaviours, content, and people they may encounter online, and how they should react.

- How do users report where ephemerality is present in the metaverse?

Where ephemerality is present within the metaverse, it will be important to consider the actions that can be taken to support reporting of content. Ephemeral content does currently exist across some formats and some platforms have used tools such as profanity checks to mitigate risks of inappropriate content. In cases where additional checks are not in place, some users have adapted – for instance by screenshotting images – however, this places the onus on those users who are subject to abuse and harassment to understand and identify the offensive act in the moment and act to record the interaction in some way. For users who experience abuse and harassment online, there is the danger that they, perceiving themselves to be at risk of abuse or harassment, self-exclude from (some) metaverse environments.

It will be important for users to understand their right to recourse in these scenarios including understanding who and how to report. This may not be sufficient to prevent abuse however, and the media literacy sector may want to explore working with users to address perpetrator actions, and how to ensure perpetrators understand the impacts of their actions.

# Creation in the metaverse

For many of those thinking about the metaverse, a significant opportunity lies in the promise of being able to create your own content. Some emerging metaverse-like platforms and those developing metaverse-like spaces have emphasised the capacity for users to create their own worlds within these platforms. Such content will almost certainly look different across different metaverse worlds but will be a prominent feature in them. Possibilities for content generated by users are varied: the current variations of metaverse include the potential for users to create avatar clothing, animations, games, or indeed whole metaverse spaces in 3D.

Content creation in the metaverse, for example, by building worlds, structures and outfits, offers users the potential to have some level of ownership and remuneration for this content. Possibilities for user-generated content are emerging, with tools both providing more granular customisation or control, and becoming more accessible to users<sup>9</sup>. This is likely to be a significant step change from the internet environment as we currently use it. Users currently engage largely in online spaces where the world and/or platform design is created for them, with opportunities for user creation limited to social media content, specific games, specific tasks or moments within a platform.

The metaverse offers the opportunity for users to make their content available across the metaverse to many users, including users outside the immediate network. If, as many proponents of the metaverse claim, the metaverse becomes an interoperable space<sup>10</sup>, with users able to move their digital assets between metaverse platforms, it is also possible that users will be able to move their own content across platforms with, for example, user-generated avatar accessories being present across multiple metaverses, allowing them to be seen, used, and potentially purchased by a significantly wider audience.

The interoperability of metaverse worlds could provide users with more commercial opportunities but there remain some uncertainties. A key question that arises is: who owns the content users create? Is it the user themselves, the platform the content was created on, or could ownership be split between the creator and the platform? Complexity arises where the product has been generated by the user but built on software owned and developed by (or licenced to) the platform. It may also be that different platforms have different answers to this question, so content created in one metaverse world could have different ownership rules than user-generated content in another.

The ownership rules over users' creations may also impact how users are remunerated for their content. Again, different platforms could opt for different payment models, based on their ownership rules as well as other factors.

Not only could ownership and user rights vary between platforms, but there could be a gap between users who are able to generate content and users who cannot. Even with user-friendly content design systems, there will be those users whose current skill level is not sufficient to be able to generate content of their own. This could lead to a growing gap between those users who are able to access all the potential content generation opportunities of the metaverse (along with the ownership and payment opportunities this may provide) and those who are not, creating tiers of users within the metaverse.

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<sup>9</sup> Tim Sweeney, Foundational principles & technologies in the metaverse, 2019. <https://dl.acm.org/doi/10.1145/3306307.3339844>, Semantic Scholar

<sup>10</sup> World Economic Forum, A New Reality: Building the Metaverse, Davos 2023, <https://www.youtube.com/watch?v=e7l0cJRRPx4>

## Creation: media literacy considerations

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- How will platforms approach ownership of user-generated content in the metaverse?

Informing users of their ownership rights over content they have created is likely to be complex, involving licensing issues and differing from platform to platform. Informing users in an accessible and comprehensive manner, although challenging, will be key in shaping the user experience. Users who do not understand their ownership rights could find that their content is used in ways that they are unhappy with, or that appropriate credit is not given to them as the creator.

- How will users be paid for their creations?

It is probable that payments will be based on both the ability of the users and/or platform to monetise the creation and how popular it is with other users. In this way, users become profit generators for platforms. It will be important for users to have clarity about whether, and how, they will be paid for their content. It may be useful for users to have the ability to seek more information, have questions answered, and obtain clarity over payments and payment models that is distinct from other communication routes. This would both acknowledge their role as content and profit generators for the platform and create a clear, distinct line of communication between the platform and its content creators.

- What is the scope for developing the skills of users within the platform?

Platforms for whom user-generated content forms a significant part of their metaverse world will want to ensure their users can generate content and engage with the full opportunities of their platform. This will also be key for user experience and to create a more equal metaverse. Platforms could deliver skills development within their metaverse world, for example with workshops that users can visit to learn how to create metaverse content, tutorials that users can view, or even 'build-along' seminars that users could attend when visiting the providers' digital shops.

- Ownership rights

Understanding your rights online is already a significant aspect of media literacy<sup>11</sup>. The development of the metaverse, and an increase in content generated by users will bring this issue into increased focus<sup>12</sup>. It is likely that users will have a greater need to understand their ownership rights online as the opportunities for user-generated content increase alongside the monetisation of that content. Understanding what it means to 'own' a digital asset and, for example, how ownership is impacted when content is available across platforms may become an increasingly important topic for users.

To manage their rights over their creations in the long term, users will also need to be aware of how their creation is protected on the platform it is hosted on and what happens if such a platform is sold or collapses. Particularly, users will need to be informed about such risks because ownership within the metaverse is likely to differ from the 'real world' and will be reliant on the platform users host their content on. For instance, if a house is built in a metaverse and the online platform the house is built in stops operating, ownership rights over the content may become irrelevant as all content in that metaverse platform could cease to exist.

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<sup>11</sup> Vuorikari, R., Kluzer, S. and Punie, Y., DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes, Publications Office of the European Union, Luxembourg, 2022

<sup>12</sup> European Parliament, Metaverse Opportunities, risks and policy implications, 2022.  
[https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS\\_BRI\(2022\)733557\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf)



Users will also need to be aware how their creation could impact their reputation as a creator. Subject to the interoperability of platforms, it would be possible that content designed in one metaverse world for a particular purpose could be moved to a different metaverse and used for a purpose other than was originally intended. Users will need to be able to make informed decisions about their creations – choosing how they create, and what platform they create on – with knowledge about their ownership rights, terms and conditions including protection of their creations as a component of that decision-making process.

# Personal Data, privacy and data protection

Users' awareness of how their personal data can be used to decide how they interact with products and services online are important media literacy considerations<sup>13</sup>. This includes an awareness of what personal data is collected, who it can be shared with, what rights users have regarding the collection of their personal information and implications for consumer privacy and data protection<sup>14</sup>.

In a fully realised metaverse there is the potential for a significant increase in the volume and sensitivity of personal data that is collected. This shift may come from the hardware we use to access the metaverse, and how we interact within it, and the users' awareness of how their personal data can be used. How users understand this and use this knowledge to inform how they interact with products and services online are important media literacy considerations.

Immersive technologies, such as augmented or virtual reality devices, are likely to collect new and sensitive forms of personal data. For example, glasses or headsets used to access to the metaverse could potentially track eye movements. Such tracking data could provide insights for companies on what shapes, colours or movement attract and hold a user's attention and may allow for detailed inferences to be made about a user's likes or dislikes. Haptic or touch technology and body suits may also be used to engage in the metaverse, allowing users to better express their movement online and to experience physical sensations that their avatar may be experiencing in the metaverse. These technologies may be able to monitor and capture user body temperature and heart rate alongside other physiological reactions and data. The data collected by these technologies could be used to enhance the feeling of presence in the metaverse and create a more 'real' life experience. This data is also likely to be appealing to platforms, as they could use the data to understand what attracts attention and prompts a response from their users<sup>15</sup>.

As we have already experienced, the more of our life we conduct online, the greater the volume of personal data collected and processed about individual users. This could also be true of the metaverse. Many proponents of the metaverse argue that when it is fully realised, users will live their lives in the metaverse including learning, socialising, and working in virtual worlds, which will give users scope to express their identities and shape their online realities. If this becomes the case, the volume of data that users input into the metaverse will likely cover almost every area of their lives building unprecedented and sophisticated user profiles.

The sharing of personal data could also enter new realms as platforms attempt to create true interoperability between metaverse worlds. If platforms achieve interoperability – what many commentators and platforms claim will be a key element of the metaverse – users will be able to move between metaverse worlds with little to no friction, taking with them their online wallets, avatars, online assets and the data of their activities, contacts, and interactions. The scale of the data that will need to be moved seamlessly and continuously between metaverse platforms will

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<sup>13</sup> [What is personal information: a guide | ICO](#)

<sup>14</sup> Through the DRCF, Ofcom has been engaging with the Information Commissioner's Office – the UK data protection regulator – on immersive technology and how data protection regulation interacts with Ofcom's remit. This engagement will continue over 2023/24 as the DRCF considers technological and market developments in virtual environments. [DRCF-Workplan-2023-24.pdf](#)

<sup>15</sup> Matthew Ball, The Metaverse: What It Is, Where to Find it, Who Will Build It, and Fortnite, <https://www.matthewball.vc/all/themetaverse>

provide new questions of data privacy, protection and security for users, platforms and regulators alike.<sup>16</sup>

## Media literacy considerations concerning personal data

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- How do platforms support users to understand how their personal data is being used?

Users have a right to be informed about the collection and use of their personal data under the UK GDPR.<sup>17</sup> This information is communicated to users by way of a privacy policy, typically in the form of text-based documents within online terms and conditions or contracts. Within the metaverse, platforms may have the opportunity to provide privacy information in new, interactive ways that engage users' understanding. This could also provide information to users about how their data could be used if permissions are given.<sup>18</sup>

- Can users opt out of personal data collection and sharing?

Given the quantity and types of data that could be collected, platforms may consider "high privacy" settings by default, unless there is a compelling reason not to. This may include design features and software prompts that encourage users to opt-out of personal data processing where it's not required, or educational prompts that explain to users how certain forms of personal data may be used if they opt-in. While this may create additional friction for interoperability, it would allow users to make active, informed decisions about the collection and use of their data and support platforms in meeting their transparency requirements under existing data protection legislation.

- Broader data protection

The volume and sensitivity of personal data collected through the metaverse is likely to be significant. Where the metaverse leads to people having an increased online presence and the convergence of working, socialising, and learning in one place or platform, the opportunity for sophisticated user profiles becomes realised. To ensure both compliance with data protection regulation and the promotion of media literacy regarding the metaverse, platforms must ensure users are aware of what personal data is being collected, and for what purpose it is being collected. This enables users to make informed choices to engage with or not engage with certain platforms, products and services and understand the implications of doing so.

The increased data collection that may be possible within the metaverse will likely mean that users need to have more knowledge about how information is stored and their rights around data removal, particularly as the cumulative impact of data collection becomes apparent to the user, or new uses for the data are implemented by platforms and third parties. Some users will require additional support to achieve this.

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<sup>16</sup> The Information Commissioner's Office (ICO) has set out their views on the data protection implications of immersive technologies in their 2022 Tech Horizons Report ([Tech Horizons Report | ICO](#)).

<sup>17</sup> [Right to be informed | ICO](#)

<sup>18</sup> Where platforms come within scope of the ICO's Children's code ([Children's code guidance and resources | ICO](#)) it's important to ensure privacy information and settings are appropriately targeted to all users. This is increasingly important to consider for devices that may be shared across multiple users within a household or education setting.

## Exploration and discovery

The potential of a persistent and never-ending 3D virtual space that can be visited through a number of immersive technologies holds significant opportunity for exploration and discovery both within and outside a formal learning environment<sup>19</sup>. Whilst our understanding of the potential of these technologies is nascent, they have already begun to offer users the chance to travel the world<sup>20</sup> and explore the international space station<sup>21</sup>, all from their home. Such 'armchair travellers' may visit places in virtual reality that would not be possible for them in the real world.

Outside of travel, the metaverse could have applications in education, for example in allowing users to see the inside of a human body and explore the inside of a functioning lung, or zooming in on particles that are too small for the human eye to see.

The learning possibilities of the metaverse are vast. Alongside the opportunities to explore places and things that may not be attainable in a real-life classroom or home, the metaverse also brings the opportunity to learn from world experts on their specialist areas.

So far, it is unclear how the metaverse will change formal learning. The opportunities it provides could be appealing to those looking to engage students and may have interesting use cases in the practice of higher-level skills from electronics to surgery.

As with many technological developments, there are questions of affordability of devices to access such technology. Ofcom research found that device cost is already a factor in accessing immersive technology.<sup>22</sup> Immersive technology in the metaverse could prove to be both a levelling technology and one that could deepen social and economic divides. For example, the metaverse could help close the gap between students whose family have the resources to send them on school trips to visit the pyramids in Egypt, and those whose family or school can enable them to experience the pyramids in the metaverse. However, this is subject to those students and/or their school being able to afford the technology to access the metaverse. Furthermore, schools with significant resources could use the metaverse to build on a trip to Egypt by allowing its students to compare present day Egypt to a historical depiction of Egypt in the metaverse, while those in a school with fewer resources could be deprived of both the in-person and virtual trip to Egypt.

There are also questions that arise around how and by whom these virtual worlds would be created, and what perspective they may portray. If not carefully balanced, the information that such worlds or metaverse experiences convey could be skewed and carry the preferences and/or biases held by the creators. Understanding that the very development of these metaverse experiences is not neutral may form a key part of how this technology is relied upon to assist users to explore and discover. Having that information could form a key part of media literacy in the age of the metaverse. How metaverse platforms communicate this to users remains unclear but it's hard to imagine users obtaining this information without active platform engagement.

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<sup>19</sup> Digital Learning Institute, Immersive Learning and the Metaverse, <https://www.digitallearninginstitute.com/blog/immersive-learning-and-the-metaverse/>

<sup>20</sup> <https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/tourism-in-the-metaverse-can-travel-go-virtual>

<sup>21</sup> <https://www.nasa.gov/nasa-at-home-virtual-tours-and-augmented-reality>

<sup>22</sup> MTM research for Ofcom, Media Literacy, immersive technology and the future, 2023

## Exploration and discovery: media literacy considerations

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- Device divide in the metaverse

Device inequality drives a digital divide and can result in worse outcomes for those without access to the technology that is appropriate for the task they are undertaking. This will undoubtedly be the case for those with and without access to appropriate devices to access the metaverse. The rollout of affordable technologies that allow users access to the metaverse is not simply an issue for platforms and manufacturers but may also be of relevance for governments and societies around the world. Ensuring that devices are accessible across society regardless of social or economic status would go some way to preventing the reproduction of societal inequalities in the digital world.

- How are educators taught about the metaverse?

When devising media literacy programmes thoughts often go to the end users. In the case of metaverse in schools it may be beneficial to think of a 'train the trainer' type programme, which could support education professionals. Ensuring those working with learners understand the opportunities and technological capabilities of the metaverse and how to use the associated technologies to access it, will prove key in ensuring they can obtain the most amount of benefit from the metaverse for their learners and help their learners access the opportunities the metaverse could offer.

- How can media literacy be taught in the metaverse?

A significant opportunity that the metaverse may provide is the ability to teach media literacy in new and exciting ways. The options for gamification of media literacy information in the metaverse, e.g. by adding game mechanisms to non-game environments, will allow media literacy providers to hold the user's interest. It will also provide an opportunity to teach media literacy in environments that could simulate the real-life situations in which users may find themselves. This could support users to develop and practice new skills as well as improve their existing skills, in order to better utilise the possibilities of the metaverse.

## Conclusion

If fully realised, the metaverse could change the way we engage with the internet and how we spend our time online. While much of what the metaverse will look like and what applications will develop are unclear, the possibilities of the metaverse could be staggering.

A new online environment, even one with the potential implications of the metaverse, does not necessarily mean completely new media literacy skills are needed. Many of the skills referred to throughout this discussion paper are skills needed to navigate the internet today but with different applications needed in increasingly complex environments.

There is the possibility of users exploring the world without leaving home, of users building new online worlds and being able to monetise their own content and gain greater access to new ideas and perspectives. As enticing as these new applications may sound, they also carry a risk of harm for users. How the metaverse is realised, and what regard it has for media literacy, will be an important task for the years ahead and so these questions may provoke fruitful discussion:

1. Does the responsibility for media literacy within the metaverse remain with parents, professionals and platforms as well as users themselves or are there other actors with responsibility too?
2. Does that responsibility shift when considering different types of users?
3. How can platforms support media literacy for users as they begin to access the metaverse?
4. If the metaverse provides the same kind of societal change that the advent of the internet did, how do we minimise the risk that some users are left behind?