

# Enforcing intellectual property rights in metaverse gaming platforms: The next steps for the EU's metaverse agenda

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## Abstract

This article delineates a comprehensive framework for the achievement of effective metaverse governance that reflects the EU's current metaverse agenda and promotes respect for intellectual property rights. To do so, this article follows a two-strand methodology. It engages in a doctrinal legal analysis and a policy-oriented assessment. It comprises four substantive sections. First, the article highlights the risks for copyright and trade mark infringements in the metaverse context under the EU legislative framework, taking into consideration landmark case law from the CJEU. The narrative moves to the enforcement of copyright and trade marks in metaverse gaming platforms; assessing the extent to which the enforcement aligns with the EU Declaration on Digital Rights and Principles (EU Declaration) and the broader EU Commission's Strategy for virtual worlds (EU Strategy). In particular, the article undertakes a focused analysis of the Terms of Service (ToS) of four prominent metaverse gaming platforms—Roblox, Fortnite, Minecraft, Sandbox—at face value on their stated terms and observes an overall satisfactory degree of compliance with several EU objectives, and arguably a higher degree of compliance when it comes to the protection of IP rights

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compared to other objectives, though with some room for greater alignment with the EU's agenda.

Following the case study insights, the article turns to the widely used remedy of blocking injunctions. The issuing of blocking injunctions directly hinders users' right to access the metaverse and might encroach upon the fundamental right of freedom of expression and information of metaverse users and therefore, a limited degree of compatibility with the EU's metaverse agenda objectives has been observed. Finally, the authors put forward two core recommendations that constitute a targeted approach which could result in more effective IP enforcement within metaverse gaming platforms and other metaverse platforms which function in a similar fashion, that is, which enable online user interactions in real time and may serve as social hubs for the public. The first is a legal reform proposal to amend Article 3 of the IP Enforcement Directive to include an additional sub-section entailing key principles of the EU Commission's metaverse policy when it comes to metaverse gaming providers. The second is a techno-legal recommendation for the use of AI enforcement tools within metaverse gaming platforms with the aim of safeguarding IP rights whilst at the same time achieving a higher degree of alignment aligned with key EU strategic goals for the metaverse context.

#### KEYWORDS

Enforcement of Intellectual Property Rights, EU Declaration on Digital Rights and Freedoms and EU Commission's Strategy on Virtual Worlds, metaverse, metaverse gaming platforms

## 1 | INTRODUCTION

Metaverse<sup>1</sup> platforms can be described as real-time, immersive and persistent environments that combine physical and virtual features, enabling internet users to interact by means of an avatar in different activities.<sup>2</sup> Their rise has opened new horizons for the creation, promotion and distribution of intellectual property (IP) content while their popularity has skyrocketed with estimates suggesting that the metaverse platforms attract around 700 million active users on a monthly basis;<sup>3</sup> this number is expected to grow to 2.6 billion by 2030.<sup>4</sup> From an economic perspective, the market size of the metaverse is expected to grow from EUR 27 billion in 2022 to over EUR 800 billion by 2030, thereby contributing between 10% and 12.08% to the development of the Digital Economy's share of the global GDP.<sup>5</sup> At policy level, the European Commission's Strategy on virtual worlds

accentuates the seminal role of the metaverse '...to boost the cultural and creative industry, from fashion to video games, cultural heritage, music, visual arts and design, by offering new ways to create, promote and distribute European content and engage with audiences.'<sup>6</sup>

As the technology evolves, the impact of the metaverse platforms on various industries is also evident. A prominent example can be found in the cultural and creative industries and in particular, in the gaming industry.<sup>7</sup> Many gaming metaverse platforms are prospering financially and attracting a high number of users. Representative examples can be found in Roblox which has an estimated 380 million monthly active users,<sup>8</sup> in Minecraft, which has been acquired by Microsoft for EUR 2.5 billion 2014, of which 240 million copies were sold by 2021<sup>9</sup>; and in Fortnite, which has attracted over 60 million daily active users in 2025.<sup>10</sup> These gaming platforms operate in the metaverse either on centralised or decentralised models. They have a dual function, offering to users access to various virtual ecosystems and realities, while at the same time they also serve a social function as fora for public discourse and user engagement in real time.<sup>11</sup>

Yet these technological advancements come with significant legal challenges. In fact, in the recently adopted Resolution on Virtual worlds—opportunities, risks and policy implications for the single market (2022/2198(INI)) in January 2024, the European Parliament highlighted that the advent of virtual worlds presents governance-related concerns in specific areas, including in relation to user-generated content, intellectual property rights and fundamental human rights.<sup>12</sup> Some of the challenges have already been addressed, albeit imperfectly, while others have yet to be addressed.<sup>13</sup> Indeed, with regard to the latter, a high number of intellectual property infringements might take place within gaming metaverse platforms by means of non-fungible tokens or NFTs.<sup>14</sup>

At the same time, certain current IP enforcement mechanisms might be ill-equipped to meet challenges regarding gaming platforms in the metaverse. Consider, for instance, the remedy of blocking injunctions. Whilst blocking orders against NFT platforms can be issued, it is questionable whether they should be enforced against online gaming platforms in the metaverse. Doing so might not only be detrimental to digital innovation, but might also defy the values and aims of the European Commission's policy agenda, namely to create '...open, interoperable and innovative virtual worlds that can be used safely and with confidence by the public and businesses'.<sup>15</sup>

Against this background, this article engages with the virtual worlds' global governance debate set forth by the European Commission (EU Commission), highlighting key IP challenges and identifying specific governance needs in the context of gaming metaverse platforms. Currently, there is limited academic scholarship on the enforcement of IP rights in metaverse platforms, which mainly engages with stances of copyright and trade mark infringements and the legal issues that revolve around applicable laws and jurisdictions in this context.<sup>16</sup> Yet, no scholar so far has examined the interaction of the enforcement of IP rights in gaming metaverse platforms in the context of the virtual worlds' global governance debate and the Declaration on Digital Rights and Principles that have been initiated by the European Commission.

This article aims to make a significant and original contribution to the discourse of enforcing IP rights in gaming metaverse platforms. To do so, this article addresses the challenges that revolve around intellectual property rights and endeavours to align the goals of the IP Enforcement Directive with the strategic goals of the EU Commission for the future development of virtual worlds by means of novel recommendations tailored to the gaming metaverse ecosystem.

This article delineates a comprehensive framework for the achievement of effective metaverse governance that reflects EU values and offers greater respect for intellectual property rights. The proposed framework set forth by the authors would ensure an open and inclusive digital environment that on one hand serves and benefits businesses of all sizes and on the other, facilitates a digital space conducive to public participation. To do so, this article follows a two-strand methodology. It engages in a doctrinal legal analysis and a policy-oriented assessment. It comprises four substantive sections. First, the article highlights the risks for copyright and trade mark infringements in the metaverse context under the EU legislative framework, taking into consideration landmark case law from the CJEU. The narrative moves to the enforcement of copyright and trade marks in metaverse gaming platforms; assessing the extent to which the enforcement aligns with the EU Declaration on Digital Rights and Principles (EU Declaration) and the broader EU Commission's Strategy for virtual worlds (EU Strategy). In particular, the article

undertakes a focused analysis of the Terms of Service (ToS) of four prominent metaverse gaming platforms—Roblox, Fortnite, Minecraft, Sandbox—at face value on their stated terms and observes an overall satisfactory degree of compliance with several EU objectives, and arguably a higher degree of compliance when it comes to the protection of IP rights compared to other objectives, though with some room for greater alignment with the EU's agenda. Following the case study insights, the article turns to the widely used remedy of blocking injunctions. The issuing of blocking injunctions directly hinders users' right to access the metaverse and might encroach upon the fundamental right of freedom of expression and information of metaverse users and therefore, a limited degree of compatibility with the EU's metaverse agenda objectives has been observed.

Finally, the authors of this article conclude that if engagement with a fair, inclusive and culturally diverse metaverse environment is to be achieved, policy makers should balance access to the metaverse against respect for the exclusive rights of IP holders. While reliance on the existing governance framework is essential, the article emphasizes that legislative reform is warranted to support its alignment to the EU's metaverse agenda. The authors' recommendations are two: First, a proposal to amend Article 3 of the IP Enforcement Directive to include an additional sub-section entailing key principles of the EU Commission's metaverse policy when it comes to metaverse gaming providers and other metaverse providers which offer similar services to the former, that is, which enable online user interactions in real time and may serve as social hubs for the public. Second, a techno-legal recommendation for the use of AI enforcement tools within metaverse gaming platforms, like the ones deployed by online marketplaces (e.g., BrandShield, Lex Machina, TrademarkNow), offering regulators, metaverse platforms and users greater guidance on compliance with IP laws, fundamental rights, as well as with the European Commission's goals in this complex digital ecosystem. The analysis aims to inform EU policymakers in particular, in light of the ongoing developments with the highly anticipated Communication of the EU Commission on video games and the upcoming Proposal for a Digital Fairness Act in 2026. Ensuring the enforcement of IP rights is crucial not only for IP holders and innovation in the EU digital single market, but also for safeguarding the fundamental rights of metaverse gaming platforms' users.

## 2 | DEFINITION AND LEGAL CLASSIFICATION OF METAVERSE GAMING PLATFORMS

The definition of the metaverse gaming platforms stems from the concept of metaverse itself. The concept of metaverse featured for the first time in the book 'Snow Crash' and was represented as a 3D visual successor of Internet.<sup>17</sup> What is meant by 'metaverse', however, might be subject to various interpretations.<sup>18</sup> This is mainly because the concept of metaverse has been framed differently based on technological, societal, governance or legal perspectives. On one hand, technologists view the metaverse as 2D and 3D virtual worlds and immersive experience environments with the presence of avatars.<sup>19</sup> UKIPO captured the technical standards that describe metaverse by noting four distinctive characteristics of the metaverse ecosystem, namely immersive realism, ubiquity, interoperability, scalability.<sup>20</sup>

On the other hand, scholars construe the metaverse with an emphasis on users' interactions and capabilities, highlighting its societal dimension. For example, it has been argued that in metaverse platforms, users are represented by avatars and holograms and interact with each other in real time within simulated environments with a sense of social presence,<sup>21</sup> while they can also engage in commercial transactions by owning or selling virtual assets.<sup>22</sup> Lau frames the metaverse by addressing social activities between the avatars and states that '... the Metaverse allows us to immerse a version of ourselves, known as avatars, in its environment, and it is the avatars that interact with other avatars, socialise, learn or carry out activities in the Metaverse.'<sup>23</sup>

Further, from a governance perspective, Friedmann frames metaverse as 'an open, inclusive, persistent, interoperable network that provides Extended Reality, which could include digital twins of physical objects, that can be experienced multi-sensorily, and makes, at least partly, use of decentralized technology'.<sup>24</sup> Mezei and Chawla Arora define the metaverse based on the services that they provide and highlight metaverse as a horizontal virtual

collaborative space, whose recent developments have been generally due to the parallel progress of technology, platformization, datafication and the accompanying social changes.<sup>25</sup> Moreover, scholars views metaverse as a unique entity that provides a unified virtual space with centralized governance while other scholars argue that metaverse consists of multiple interconnected worlds, which might enable the interaction of users across different digital platforms.<sup>26</sup>

From a legal perspective, metaverse platforms might fall under the scope of existing authoritative legal definitions featured in the main legal instruments based on their services.<sup>27</sup> Given that the focus of our article is on metaverse gaming platforms, the following legal classification can be achieved. On the one hand, if the gaming metaverse platform operates as an online marketplace that displays content or goods, it falls under the definition of hosting provider. As per Article 14 of the E-Commerce Directive, and as reiterated in Article 6 of the EU Digital Services Act, a hosting service provider is 'an information society service... that consists of the storage of information provided by a recipient of the service'.<sup>28</sup> Given that metaverse gaming platforms host content or goods within their networks and offer them for purchase, this being marketplaces, they would fit within their hosting providers' services. Should the metaverse gaming platform fall within the scope of hosting provider, it must either have no knowledge of the infringing activity or expeditiously remove the infringement from its services upon being notified in order to escape from liability. Along similar lines, due to the nature of operation, the gaming metaverse platforms could be classified as very large online platforms if they exceed 45 million users per month. This is the case of Roblox which has recently announced that it reached 48 million users at the end of February, which is above the threshold for designation as a very large online platform under the Digital Services Act.<sup>29</sup>

On the other hand, if the metaverse gaming platform enables users to upload and share content online, they might fall under the definition of 'online content sharing service providers' of the Copyright in the Digital Single Market Directive, hereinafter referred to as CDSM Directive.<sup>30</sup> As per Article 2 (6), an online content-sharing service provider is defined as 'a provider of an information society service of which the main or one of the main purposes is to store and give the public access to a large amount of copyright-protected works or other protected subject matter uploaded by its users, which it organises and promotes for profit-making purposes'.<sup>31</sup> In other words, the provision applies where metaverse gaming platforms communicate protected works to the public. Should metaverse gaming platforms fall under the definition of 'online content sharing service providers', they can be held primarily liable for copyright infringements within their platforms as per Article 17 of the CDSM Directive.<sup>32</sup> The latter requires online content sharing service providers to obtain authorization from rights holders to use or communicate protected works to the public.

Finally, there might be cases where metaverse gaming platforms might fall under both definitions of hosting providers and online content sharing service providers. For instance, looking at the Terms of Service of Roblox, the gaming platform enables users to 'create, upload, and exchange assets and create Games', while at the same time it offers the option to monetize content by selling items in the platform and to develop a monetized game.<sup>33</sup>

Overall, it can be concluded that depending on the services that they provide and the number of users that attract monthly, metaverse gaming platforms can fall under the wings of either the CDSM Directive or the EU Digital Services Act, or even both of them. This classification showcases that different obligations will be ascribed to metaverse gaming platforms in order to address intellectual property infringements within their services. Recent case examples involving intellectual property infringements in the metaverse, as well as hypothetical examples of how intellectual property infringements could take place in practice will be thoroughly discussed in the following section.

### 3 | COPYRIGHT AND TRADE MARK INFRINGEMENTS IN THE METAVERSE PLATFORMS

Upon exploring the legal classification of metaverse gaming platforms, this Section examines how infringement might arise within the metaverse environment under the EU intellectual property law regime. Given that metaverse gaming platforms host a large amount of user-generated content, third party IP infringing activity may be facilitated

within their virtual worlds. This Section briefly looks into the conditions that must be met in order for copyright and trade mark exclusive rights to be violated, whilst placing particular emphasis on recent case examples involving infringing activity in the metaverse.

In the context of metaverse gaming platforms, copyright and trade mark holders might experience infringement of their rights due to unlicensed third-party uses of their works. While online gaming providers would unlikely offer unauthorized IP material for use per se, they do, however, allow online users to upload content within the game, which may bear protected images or signs. For example, it is increasingly common nowadays for users to upload their own customized virtual avatar outfits.

Previously, online videogames would typically only allow for minimal customization of avatar outfits with options pre-determined by the developers, while the outfits would be at the disposal of end-users by means of a license, that would allow their use within a specific online gaming environment only, that is, the well-known Fortnite 'skins'.<sup>34</sup> With the emergence of both metaverse gaming and NFT digital wearables, third-party content is more and more likely to appear on avatars, as users are now able to mint and make use of their own digital wearables' designs as NFTs within various metaverse games, including at Roblox and Sandbox. This development not only allows metaverse users to take a more active creative role, but also grants them with greater choice as to how they want to express themselves and their unique digital identity through their virtual avatars' appearance. From the limited choice of skins and the varying prices for which they are being sold in-game, metaverse gamers can use their custom metaverse skins designs, whilst also retaining proof of ownership over their digital NFT wearables, potentially constituting a contributing factor to their willingness to participate in the digital environment.

Nevertheless, newly minted customized virtual avatar outfits by users could entail protected copyright works or protected signs. Where no prior authorisation by the rightsholder has been granted, the third-party uploaded NFT digital wearables within a metaverse game could give rise to an infringement.

### 3.1 | Copyright infringement

In the context of metaverse gaming platforms, the issue of copyright infringement is most likely to arise in relation to the rights of reproduction and of communication to the public,<sup>35</sup> on the basis that copyright works—and primarily copyright protected artworks—could be used and/or exhibited within the online games to metaverse users.

First, the right of reproduction could be triggered from the preparatory act of digitizing copyrighted material, such as artworks, for the purposes of minting an NFT based on such material, without the rights holders' permission. Article 2 of the InfoSoc Directive<sup>36</sup> notes that both direct or indirect acts of reproduction of copyright content in any form would give rise to an infringement. Under the EU copyright regime, for a reproduction to be considered unauthorised, there needs to be copying of the whole or a 'substantial' part of the original work, which constitutes the 'author's own intellectual creation',<sup>37</sup> following a qualitative assessment of the elements that have been transposed within the allegedly unauthorised copy.

More specifically, where physical artworks are concerned, infringement could be established at the stage of digitization, the technical process that entails copying of the original works in their entirety so as to transform them into 2D format, which is an integral preparatory step for the purposes of minting. Exact copying via digitization would amount to copying of the 'author's own intellectual creation' as a whole, within the meaning of *Infopaq*<sup>38</sup> and would, thus, give rise to an infringement of the author's right of reproduction. A copyright claim for unauthorised reproduction was brought in *Vegap v Mango*,<sup>39</sup> the first copyright-related metaverse case that was addressed in the EU, dealing with a series of artworks protected by copyright by renowned Spanish artists, Miró, Tàpies and Barceló, which were subsequently digitized and minted into NFT digital wearables for use in the metaverse by fashion company Mango. Digital artists were commissioned to create a digital NFT fashion collection based on the original paintings, yet no prior authorisation was given by the copyright authors, represented by collecting society organisation Vegap. The artists' right of reproduction could be violated on the basis of exact copying via digitization

prior to minting, as well as on the derivative NFT items created for Mango. Yet the 9th Mercantile Court of Barcelona dismissed the infringement claim and accepted Mango's defence that the derivative digital wearables possessed a 'transformative' character and were, thus, found to be derivative non-infringing works.<sup>40</sup>

Post-digitisation, the copied and digitised IP assets would be minted and NFTs would come into existence. Yet the NFTs could not themselves be regarded as infringing copies, given that they are represented as metadata on the blockchain, rather than as embodiments of the copied IP assets.

What typically happens upon minting, is that copies of the media files of the digitized IP works would become uploaded to and hosted by a digital repository or other online server by the minting platform itself, that is, OpenSea, and a link to their external location would be contained within the NFT's metadata. This is owed to reducing the cost of token minting, as it is dependent upon the size of the metadata that is to be permanently stored on blockchain.<sup>41</sup> It follows that the resulting NFT files could not be regarded as infringing copies that violate the copyright author's reproduction right, as their metadata would only include the associated link to the infringing copies, which are hosted externally.<sup>42</sup>

However, the hosting of copies of the copyright-protected content in a digital repository associated with the NFT and accessing the work through linking could fall within the scope of the right of communication to the public and the right of making available to the public under Article 3(1) of the InfoSoc Directive.<sup>43</sup> In this scenario, upon the minting of the NFT, the link to the infringing copies would become publicly available on the blockchain record and the public could access it from anywhere and at any time they choose. According to the CJEU in *Svensson v Sverige*,<sup>44</sup> any communication of copyright content, including the making available of such content, to a 'new' public which the original authors did not have in mind in the initial communication of their works, would amount to copyright infringement. Whilst an act of communication could easily be established, the same cannot for the second prong of the test in the context of NFTs. According to the CJEU in *SGAE v Rafael Hoteles*, establishing a public would require 'a fairly large number of persons',<sup>45</sup> yet accessing the works with the link contained entry of the NFT in question on the blockchain ledger might be limited, given that the average online user might lack knowledge on how to view blockchain entries and/or that such link would exist on those entries.

In the context of metaverse gaming, the display of the copyright protected content online in the form of NFT digital wearables for metaverse gaming avatars, could also implicate Article 3(1). In this case, an act of communication could be established from the featuring of the protected content on virtual avatars' outfits, aimed at an indeterminate and fairly large number of the public that partakes in metaverse gaming. As for the 'new' public, it could be argued that metaverse gamers would unlikely be the intended audience that the authors of physical artworks had contemplated in the initial communication of their artworks to the public. In fact, it is possible that such public did not exist for certain artworks created many decades ago.<sup>46</sup> In the aforementioned *Vegap v Mango* case, the in-copyright artworks were subsequently minted as NFT digital wearables and were showcased at Mango's virtual store in metaverse platform Decentraland. The display of the digital wearables featuring the in-copyright artworks could also implicate the right of public communication. Nevertheless, because the physical paintings had been acquired by Mango, Spanish domestic law establishes a broad right of public exhibition to the owners of physical artworks without the need to seek authorization from the original creators, as per Article 56(2) of the Spanish Intellectual Property Act.<sup>47</sup> This right would only be unenforceable if contractually ruled out at the time of the acquisition, which did not occur in the present case, or if the exhibition would harm the reputation of the artworks' authors, which was rejected by the court. The NFT digital wearables' exhibition in the metaverse was, thus, found permissible by the court and no violation of the copyright authors' right of public communication could be established.

### 3.2 | Trade mark infringement

From a trade mark law perspective, a trade mark infringement takes place when the registered trade mark has been used without the consent of its proprietor in relation to goods or services in the course of trade. This understanding

has been set forth in Article 10 (2) of the EU Trade mark Directive<sup>48</sup> and Article 9 (2) of the EU Trade Mark Regulation.<sup>49</sup> In addition, as far as the goods and services are concerned, the provision differentiates between two categories, namely cases where the sign is identical to the trade mark and is used in relation to goods or services which are identical to those for which the trade mark is registered, or in cases where the sign is identical, or similar, to the trade mark and is used in relation to goods or services which are identical, or similar, to the goods or services for which the trade mark is registered, if there exists a likelihood of confusion on the part of the public. In addition, in the case of a well-known mark, the requirements for a trade mark infringement can be established if the use of the sign at issue would take unfair advantage of, or be detrimental to, the distinctive character or the reputation of the registered trade mark.

Crucially, in the context of metaverse gaming platforms, determining trade mark infringement might be problematic. This is mainly because there is a difference between virtual goods and physical goods. For instance, goods within metaverse platforms fall under Class 9 as 'downloadable image files' or 'downloadable digital image files authenticated by non-fungible tokens [NFTs]', as opposed to physical goods that would fall under different classes. Therefore, since it is unlikely that goods belonging to different Classes might be similar, a likelihood of confusion would likely not be established. Yet one might argue that if the signs are identical, a trade mark infringement can still be established due to the doctrine of interdependence. More specifically, under the *Canon* case<sup>50</sup> 'a global assessment of a likelihood of confusion implies some interdependence between the relevant factors and, in particular, between the previously established findings on the degree of similarity between the marks and that between the goods or services. Therefore, a lesser degree of similarity between goods and services may be offset by a greater degree of similarity between the marks and vice versa.'<sup>51</sup> This means that a likelihood of confusion might still arise if the marks at issue are identical but represent similar goods in purpose and context. Consider, for instance, the case where the signs are identical and represent virtual sneakers and physical sneakers accordingly. While virtual sneakers and physical sneakers fall under different Classes of goods, their purpose and context are similar as they both serve as fashion and lifestyle products.<sup>52</sup> Therefore, a likelihood of confusion might be established. What is more, the average consumer might be different between metaverse gaming platforms and the physical world. While the average consumer in the physical world is reasonably well informed and circumspect, the same interpretation cannot necessarily be adopted in relation to metaverse gaming platforms. A potential factor to this might be owed to statistical data pointing out that a great number of users in metaverse gaming platforms are minors.<sup>53</sup> This understanding might imply that the average consumer might exhibit a lower level of attentiveness, thereby increasing the possibility that likelihood of confusion arises.

On the other hand, as far as reputable marks are concerned, it seems that there are higher chances for a trade mark infringement to be established. This is mainly because the proviso of likelihood of confusion is not applicable here. Representative examples of well-known marks can be found in the line of case law that addresses the unauthorized use of well-known trade marks in NFTs within metaverse platforms. More specifically, NFTs are non-fungible tokens that represent both physical and digital assets, allowing the verification of authenticity, origin, and ownership.<sup>54</sup> Offering for sale NFTs that reproduce a third party's trade marks without the authorization of the trade mark holder could amount to trade mark infringement.<sup>55</sup>

This understanding has been highlighted in *the Juventus v Blockeras*<sup>56</sup> ruling of the Rome Court of First Instance, which concerned a dispute between Juventus, an Italian football team, and Blockeras, an NFT platform. On the Blockeras platform, a third party minted, advertised and displayed for sale NFTs that represented the registered famous trade marks of the Juventus football team, namely the word marks 'Juventus' and 'Juve', as well as the design of the football club's black and white jersey, without prior authorisation. Despite that no additional registrations for digital goods or 'downloadable electronic publications' had been secured by Juventus under the updated version of Class 9 of the Nice Classification, they were still able to rely on their established reputation in the EU territory. The Court ordered Blockeras to refrain from selling NFTs that made use of Juventus' trade marks, concluding that the unauthorized use of the trade marks in the NFT context constituted a trade mark violation.

Outside Europe, stances of trade mark infringement in NFTs have also been addressed in the landmark case of *Hermès v Rothschild*<sup>57</sup> in the US. Hermès brought both a consumer confusion and a dilution claim against an artist called Mason Rothschild. The infringement claims were based on Rothschild's sales of NFTs under the name of 'MetaBirkin' handbags that imitated Hermès' registered trade marks, namely the 'Birkin' word mark as well as the shape mark of their iconic Birkin bags range at both Instagram, NFT marketplaces and the metaverse. Although the artist alleged fair use on the grounds of artistic expression, the US court dismissed his allegations and concluded that the unauthorized use of the MetaBirkins as NFTs constituted trade mark infringement on both trade mark counts, despite the fact that the Birkin trade marks had not been registered for metaverse-related goods under the Nice Classification. To the Court's reasoning, the sale of MetaBirkins as NFTs was misleading and created confusion to consumers about the origin of the products, thus making them believe that Hermès had a commercial involvement with the NFTs.<sup>58</sup> Indicative of this confusion was the high popularity of the 'MetaBirkin' NFT wearables that were sold at premium prices, between \$450–\$46,000 each. In one instance, a 'Baby Birkin' NFT was auctioned for \$23,500, exceeding the average \$9500 price of original Hermès 'baby' Birkins sold by the luxury fashion house. At the same time, the Court also found dilution of the distinctive character of the famous Birkin trade marks in the minds of the average fashion consumer, in the sense that the 'Birkin' marks could lose their capacity to evoke an immediate association with the goods in question and thus, become diluted or 'blurred'.<sup>59</sup>

Although no specific case law has yet involved unauthorized uses of registered trade marks of physical goods or services for virtual goods or services on metaverse gaming platforms, the *Hermès* case establishes the first legal precedent for addressing unauthorised uses of reputable signs in a metaverse context, offering a degree of reassurance to trade mark owners and brands whose signs may be attached to digital wearables in gaming avatars. Despite it being a US precedent, the *Hermès* case could provide a persuasive guidance for EU courts to allow brands with reputable marks in the real world to rely on their established reputation and therefore enjoy extended trade mark protection against dilution even where their registrations under the Nice Classification predate the inclusion of digital goods in Class 9.

Consider, for instance, the hypothetical scenario where the famous word mark 'BARBIE' was being utilised for digital wearables and accessories in an unlicensed metaverse game that resembled the official online game 'Barbie DreamHouse Tycoon' in Roblox. In that online game, users can experience the famous doll's lifestyle with her large pink house and accessories, trade mark infringement could arise. Unlike the official online game 'Barbie DreamHouse Tycoon', where the available digital wearables are authorised by rightsholder brand Mattel, the unlicensed game's items bearing the mark 'BARBIE' could be of poorer quality, that is, poorly designed or featuring controversial design elements that are not aligning with Mattel's target audiences, including minors. Such unauthorized use of a well-known mark, such as 'BARBIE', might offer grounds for tarnishment of the reputation of the BARBIE registered trade mark, as per Article 10(2)(c) EU Trade Mark Directive.<sup>60</sup> At the same time, Mattel could further claim that that the unauthorised use of the word mark 'BARBIE' within the unlicensed metaverse gaming platform takes unfair advantage of the trademark's reputation, capitalizing on its established brand recognition to gain an unjust market advantage.

While the likelihood of success in claims relating to unauthorised metaverse uses of famous marks such as 'Birkin' or 'BARBIE' would be high, the landscape is not as clear when it comes to smaller brands whose signs may not have yet acquired reputation in the EU territory, meaning that the same extended protection would unlikely be applicable to them. Given the lack of case law in relation to smaller brands, the broad interpretation of *Canon* and the adoption of the doctrine of interdependence, as discussed earlier, in such context by the EU courts cannot be guaranteed. Thus, in their case, proceeding with registrations for digital goods under the updated Class 9 would increase their likelihood of succeeding in double identity or confusion claims, in cases where unauthorised uses of their signs might have taken place within metaverse gaming platforms.<sup>61</sup>

## 4 | COPYRIGHT AND TRADE MARK ENFORCEMENT IN METAVERSE GAMING: ASSESSING COMPLIANCE WITH RECENT EU MEASURES

Having established that digital content within the metaverse, including metaverse gaming platforms, may give rise to either copyright or trade mark infringement, rightsholders may seek to enforce their rights by means of blocking injunctions. This enforcement measure is widely utilised by national courts across the EU, yet it can have the effect of blocking access to access to metaverse gaming platforms that facilitate copyright and trade mark infringement altogether. Given that the metaverse is an emergent digital ecosystem which sits at the heart of the EU's digital transformation plans, this section examines whether and to what extent enforcement of IP rights, including enforcement by means of blocking injunctions, remains suitable and aligns with the objectives of the EU Declaration on Digital Rights and Principles and the EU Commission's Strategy on virtual worlds. It then critically evaluates the Terms of Service (ToS) of four prominent metaverse gaming platforms, in order to assess compliance with the EU's various objectives.

### 4.1 | EU declaration on digital rights (EU Declaration) and the EU commission's strategy on virtual worlds (EU Strategy)

#### 4.1.1 | EU declaration on digital rights and principles

As part of the EU's agenda on human-centred digital transformation, the European Declaration on Digital Rights and Principles for the Digital Decade was proposed on 26 January 2022 and was subsequently signed on 15 December 2022. The EU Declaration on Digital Rights and Principles is non-binding and therefore does not affect legal obligations nor does it create new rights for citizens. Yet, as Cocito and De Hert argue, the EU Declaration has a transformative dimension and highlights the determination of EU policymakers to advance the discourse on digital rights and pave the way towards a regulatory approach in the digital world.<sup>62</sup> At the same time, the EU Commission's Strategy on virtual worlds is a non-legislative text, but reveals the EU Commission's clear intention to become the world's pioneer in regulating the metaverse and steer the next digital transformation plans.<sup>63</sup>

Despite that neither of those policy documents have a legally binding effect yet, they place particular importance on advancing fundamental rights and thus, the future implementation of those digital rights and principles could have a significance for better safeguarding both IP holders' rights, as well as online users' rights engaging in this digital frontier. The EU Declaration aims to uphold the Union values and rights and freedoms of individuals online through six Chapters, including a commitment to the protection of freedom of expression, as well as offering guiding principles, such as inclusivity and sustainability, when dealing with new technologies. The application and impact of those digital rights and principles are actively being monitored across EU borders.<sup>64</sup>

In the context of metaverse gaming platforms, one of the most pertinent areas of the EU Declaration is encapsulated within Chapter IV, which concerns itself with fostering participation in the digital public space; it emphasizes that every person is entitled to freedom of expression and that this freedom, which forms a fundamental pillar of democracy, should be safeguarded.<sup>65</sup> The decision to focus on that part of the Declaration is also reinforced by the fact that Chapter IV has been one of the least engaged areas among the 27 EU member states by means of digital rights initiatives, as underlined by an empirical independent study on monitoring the implementation of the Declaration between 2024 and 2025.<sup>66</sup>

Chapter IV, Articles 12–15 of the Declaration set out the main rights that must be respected within virtual worlds and the metaverse and note that:

*'12. Everyone should have access to a trustworthy, diverse and multilingual digital environment. Access to diverse content contributes to a pluralistic public debate and effective participation in democracy in a non-discriminatory manner.'*

13. Everyone has the right to freedom of expression and information, as well as freedom of assembly and of association in the digital environment.

14. Everyone should be able to access information on who owns or controls the media services they are using.

15. Online platforms, particularly very large online platforms, should support free democratic debate online. Given the role of their services in shaping public opinion and discourse, very large online platforms should mitigate the risks stemming from the functioning and use of their services, including in relation to misinformation and disinformation campaigns, and protect freedom of expression.'

The above provisions highlight the right of users to access a trustworthy environment and contribute to a pluralistic public debate. In this light, users can exchange content in the digital environment and to access information about the digital platform that they are using. Removal of legitimate content from the digital environment might run the risk of censorship and therefore violate the right of users to freedom of expression and information. Ultimately, it follows that safeguarding freedom of expression is of particular importance to public digital participation, and the Declaration underscores that inherent to it are: access diverse content online that reflects the cultural and linguistic diversity in the EU and the ability to engage in the digital environment without discrimination. It further places online platforms subject to additional rules that complement the existing EU platform regulatory instruments, with the emphasis on very large platforms and a duty to mitigate risks associated with free speech, misinformation and disinformation that might stem from the functioning and use of their services.

Chapter IV of the Declaration continues by setting out a number of commitments in that vein. Freedom of expression and information, as well as equal treatment and the right to public participation are central to the commitments, which read as follows:

*'a. continuing safeguarding all fundamental rights online, notably the freedom of expression and information, including media freedom and pluralism;*

*b. supporting the development and best use of digital technologies to stimulate people's engagement and democratic participation;*

*c. taking proportionate measures to tackle all forms of illegal content, in full respect for fundamental rights, including the right to freedom of expression and information, and without establishing any general monitoring obligations or censorship;*

*d. creating a digital environment where people are protected against disinformation and information manipulation and other forms of harmful content, including harassment and gender-based violence;*

*e. supporting effective access to digital content reflecting the cultural and linguistic diversity in the EU;*

*f. empowering individuals to make freely given, specific choices and limiting the exploitation of vulnerabilities and biases, namely through targeted advertising.'*

The above provisions indicate the seminal importance of freedom of expression and information in the digital ecosystem. On the one hand, users' fundamental rights to access digital content that represents the multiculturalism content, receive information and ensure their democratic participation must be safeguarded. On the other hand, digital platforms must refrain from imposing general monitoring obligations and disseminating harmful content. It could be concluded that at the heart of Chapter IV lies freedom of expression and in order to achieve meaningful participation in the digital public space, measures must be in place not just against online repression, but also against undue content restrictions.

#### 4.1.2 | EU strategy on virtual worlds

In July 2023, the EU Commission adopted a Strategy on Web 4.0 and virtual worlds in order to steer the technological transition and to facilitate an open, interoperable, secure, trustworthy, fair and inclusive digital metaverse environment for different stakeholders, including EU citizens and EU businesses.<sup>67</sup> Importantly, the Strategy is intended to steer cooperation among EU Member States with the aim of developing common practices towards

challenges, including intellectual property challenges, that revolve around the metaverse and the wider technological transition to Web 4.0 and virtual worlds.

Among the priorities set within the EU Strategy, there is explicit mention of citizens ability to access safe and trustworthy information, as well as the citizens ability to access open and interoperable virtual worlds (Section 3.4.1). Another strategic pillar of particular interest to this study relates to the fostering of a supportive business environment, with an emphasis on the protection of IP rights (Section 3.2.3). As part of the EU Strategy's aim to support businesses in cultural and creative industries in this virtual ecosystem, which include metaverse gaming, reference is made to regulatory sandboxes for supporting their effective operation, but the Strategy's aspect of most relevance to this paper is a commitment to the protection of IP rights.

More precisely, the EU Strategy further acknowledges in Section 3.2.3. the risks posed by virtual assets which infringe existing intellectual property rights, not only to rightsholders and consumers, but also to the detriment of digital platforms' trust and integrity, which could impact their willingness to participate in the digital public space. As part of the Commission's plans for greater respect for intellectual property is the creation of a 'toolbox against counterfeiting to give holders of intellectual property guidance and recommendations on how to enforce their rights both in offline and online environments, including in virtual worlds'.<sup>68</sup> Lastly, in 2024 a 'Citizen Toolbox', first introduced within the Strategy, became available to EU citizens, in order to encourage their engagement with the metaverse.<sup>69</sup>

Nevertheless, the EU Strategy does not provide any comprehensive examination or guidance on the enforcement of existing regulations, including regulations on the enforcement of IP rights. As such, other than individual Member States which can determine how these can be implemented effectively in this novel borderless digital context, metaverse platforms Terms of Service (ToS) might, to some extent, give effect to IP rights and ensure that users respect them, further explored in the following section.

## 4.2 | Case study on metaverse gaming platforms' terms of service (ToS)

This<sup>70</sup> section reviews the Terms of Service (ToS) of four popular metaverse gaming platforms, Roblox, Fortnite, Minecraft, Sandbox, which have been selected based on the high number of internet users that engage within their services. By taking these ToS texts at face value on their stated terms, the authors investigate whether these platforms currently comply with either the EU Declaration and/or the EU Strategy. The analysis focuses on both IP-related provisions of the Terms to offer insights as to whether respect for IP rights is expressly mentioned, as well as on their General Terms to assess whether compliance with the EU's broader strategic goals, including respect for fundamental rights or promoting diversity and online public participation. Yet, whether the degree of compliance with the EU documents is followed in practice by the metaverse gaming platforms goes beyond the ambits of this article and therefore, it must be noted that there may be some divergence between these ToS texts and metaverse platforms' practice.

### 4.2.1 | Roblox terms of service

Roblox is an immersive platform that enables users to play, create and connect with each other. It makes a direct commitment to the protection of both 'safety' and 'civility' for its community members.<sup>71</sup> The Community Standards are a key document for ensuring the realization of these standards, which applies to all the activities undertaken on Roblox and extends even to real life 'hosted by Roblox'.<sup>72</sup>

In terms of compliance, it appears that it is achieved to some extent in relation to Chapter IV of the EU Declaration. The Roblox Community Standards explicitly prohibit a number of actions which could infringe users' and rights holders' interests while it provides a number of redress mechanisms for the affected parties, arguably

contributing to the creation of a 'trustworthy' environment for all users of the service. Additionally, by making specific provisions with respect to how advertising should be used on their services, Roblox has the potential to also be compatible with the commitments made under the same Chapter.

Apart from the EU Declaration, an observable degree of Roblox's compliance with the EU Strategy's priorities can be noted. Roblox's Terms of Service (ToS) promote respect for intellectual property on its service and clarify that users 'warrant' that the content they upload on Roblox does not violate 'the rights of any third party, including intellectual property...'.<sup>73</sup> In case of copyright or trade mark violations, Roblox makes available a number of mechanisms for rightsholders to protect their interests, that is, enabling them to send a notice to the platform for the infringing content to be taken down and specifying the required documents that rightsholders need to submit in order to kickstart the process. Roblox further has a specific 'repeat offender' process for dealing with users who commit multiple violations of IP rights.

Considering the statement commitment to the protection of IP rights and the availability of mechanisms for the enforcement of both copyright and trade mark laws, it could be argued that Roblox provides a system which could be capable of mitigating the harms linked to IP infringements identified in the EU Strategy, at least according to its Terms of Service.

However, as it currently stands, there is no evidence that Roblox is compliant with the EU Commission's priorities to ensure that virtual worlds are becoming increasingly 'open and interoperable'. Roblox is not an interoperable platform and it is impossible to use or transfer assets, such as Robux, the virtual currency available on Roblox, to any other platform which offers same or similar services. Thus, it falls short of complying with the aspirations for virtual worlds set out by the Commission. This might be understandable to some extent, as most of the section appears to provide the EU Commission's positions to the governance of these technologies, rather than introducing any specific obligations for platforms. It is, nevertheless, one of the goals of the EU's future governance efforts that Roblox could be required to implement in the near future.

#### 4.2.2 | Minecraft terms of service

Minecraft is a metaverse game that consists of blocks, creatures and community. Users can build things from their imagination using blocks, which they can share with other players or play in community worlds. The Minecraft platform commits to engage with its community of users to create an environment where users 'do cool things that share them with the community'. A set of Minecraft Usage Guidelines enlist different uses of the in-game creations, including user-created written works which are subsequently shared on Minecraft, such as for personal or commercial use and the use of videos or streams, as well as in-game activities, that is, hosting of live gaming events.

When examining the ToS of Minecraft,<sup>74</sup> it appears that there is partial compliance with Chapter IV of the EU Declaration and in particular, the commitment for facilitating a trustworthy environment in the digital world. For example, users have the ability to report any violations of the Usage Guidelines via an online 'help' form, which is available in three languages, namely English, Japanese and Spanish. Yet, as far as open and interoperable standards are concerned, it seems that the terms limit the functionality of Minecraft. For instance, this is evidenced from a ToS limitation imposed on developers to not be able to, either directly or indirectly, check whether a player owns an NFT, in order to unlock skins or other in-game experiences.

With regard to this gaming platform's compatibility with the EU Strategy, Minecraft's Terms of Use aim to protect intellectual property rights, through express references to copyright and trade mark law throughout. For instance, in relation to trade mark law, the Usage Guidelines note that users must not take any actions or include content that could be interpreted as official or approved by, endorsed by, associated with, supported by, or connected to Minecraft. It further notes that users must not be involved in any action that would harm or damage Minecraft's name or assets. As far as copyright law is concerned, Minecraft's Terms stipulate that users are allowed to take actions that are covered by the fair dealing exceptions to copyright laws and that they are responsible for

the audio and music they select, thereby ensuring that users have the freedom to create content and that they are aware of copyright law's scope. However, while a reporting mechanism for any actions contrary to Minecraft's Guidelines that take place on the platform is available to rights holders—the above-mentioned 'help' form—, there does not seem to be any specific redress mechanism for IP infringements, which can undermine the platform's commitment to the protection of IP.

Overall, Minecraft's commitment to the protection of IP rights within its service, at least based on its Terms, is evident through express reference to the safeguarding of copyright and trade mark law on its platform. Despite that no specific redress mechanism for IP infringements seems to exist, the platform's commitment to IP protection and the EU strategic goals appear to be at a satisfactory level. As for the EU Declaration's objectives, Minecraft's general Terms showcase a greater focus on the creation of a trustworthy environment, as opposed to interoperability, which might lessen Minecraft's compliance with the aspirations set out by the Commission.

### 4.2.3 | Sandbox terms of service

The Sandbox is another metaverse gaming platform whose aim is to create, buy, transfer, and trade unique digital game assets for game-making purposes. The platform further enables users to purchase and publish onto LAND parcels in The Sandbox, where they can create assets and visual scripting using The Sandbox Game Maker. Sandbox offers a set of guidelines in a separate section, namely for user content, restrictions and obligations for users, ownership of assets and games, the right to monitor and moderate the content disseminated within the gaming platform.<sup>75</sup>

It appears that the platform's ToS largely comply with Chapter IV of the Declaration on Digital Rights on ensuring online users' access to a trustworthy environment. The ToS provide a section on the enforcement of rights within the platform, where Sandbox reserves the right to review any user content that is uploaded and to investigate and/or take appropriate action against users' actions that violate the Terms. For instance, Sandbox may remove or modify user content, terminate a users' account and report the unlawful act to law enforcement authorities. However, the Terms do not refer to interoperable standards, as initiated in the Declaration.

In addition, Sandbox provides specific categories in its 'acceptable use' policy sections. With regard to intellectual property infringements, users are required not to use the platform to collect, upload, transmit, display, or distribute any user content that violates any third-party right, including but not limited to, any copyright, trademark, patent, trade secret, moral right, privacy right, right of publicity, or any other intellectual property or proprietary right.

With regard to the platform's compatibility with the Strategy of the EU Commission for virtual worlds, Sandbox makes it clear in its general ToS that it seeks to protect intellectual property rights on its service. For instance, it retains the right to moderate and review assets for copyright infringement and to remove assets from The Sandbox that violate these terms. Further, Sandbox retains ownership of copyright, trade mark rights, trade secret rights, patent rights, database rights and other intellectual property and proprietary rights therein. Finally, any transmission of any material that may infringe the intellectual property rights or other rights of third parties, including trademark, copyright, patent, or right of publicity, or which otherwise constitutes or promotes counterfeit materials or goods is prohibited.

Although respect for IP appears throughout the platform's ToS, which is also in line with the EU's objectives to a high extent, there seems to be a lack of access to complaint forms which are specific for IP infringements. While the platform's terms state that Sandbox 'does not permit the infringement of intellectual property rights on the Services, and will remove Assets and/or Games from the Services if properly notified that such Assets and/or Games infringe on another's intellectual property rights', no relevant reporting mechanism is available to online users, which undermines its commitment to the protection of IP as per the Commission's Strategy. With regard to Sandbox's compliance with the EU Declaration's objectives, the platform's Terms of Use place emphasis on

facilitating access to a trustworthy environment and no mention to interoperability can be traced, meaning that Sandbox might fall behind in terms of compliance with certain points of the EU Declaration.

#### 4.2.4 | Fortnite terms of service

Fortnite is a freely available online video game and a metaverse gaming platform developed by Epic Games. It allows up to 100 online players to participate in a survival race in real time, with the aim of defeating the other 99 online players. The platform provides a detailed set of guidelines for participation, such as access to services and account security, content moderation, the use of intellectual property rights, prohibited uses, users' contributions, resolution of disputes, small claims courts, individual arbitration and class action.<sup>76</sup>

The ToS in Fortnite appear to contribute to the creation of a trustworthy environment and thus, appear to be in compliance with the EU Declaration. They entail detailed guidelines on the use of content for lawful purposes and redress mechanisms for in-court and out-of-court disputes. In terms of IP rights, it is clearly stated that users must not engage in IP infringing acts. The gaming platform reserves the right to monitor and edit or remove any users' content, as well as terminate user accounts in case of Terms of Use violations, including intellectual property violations. Yet the ToS make no reference to open and interoperable standards within the Fortnite platform.

To reinforce the trustworthy environment, in line with the EU Declaration, Fortnite's Terms of Use provide additional policies in terms of copyright infringements under the title 'fan content policy'.<sup>77</sup> The privacy policy concerns the information collected by users and how the gaming platform protects it, whilst the fan content policy amounts to information on the use of brands, logos, game titles, character names, or other trademarks.

Furthermore, Fortnite appears to be compliant the EU's Strategy to a high degree, but only in relation to copyright law. It promotes the protection of IP rights by making available reporting mechanisms for copyright violations only. More precisely, a complaints' procedure is only provided for making claims against copyright violations, accompanied with detailed guidance with regard to the statement that must be submitted, but no equivalent procedure is in place for trade mark or other IP violations. Upon receiving user reports, Fortnite has a policy of updating, transferring, suspending, or terminating the accounts of users who are deemed to be repeat infringers of the copyright of others.

It could be argued that Fortnite scores a high degree of compliance with the EU Strategy, but only in relation to copyright law. As for compliance with the EU Declaration, Fortnite complies only partially, as its ToS once again primarily focus on the creation of a trustworthy environment, as opposed to interoperability.

Overall, one might conclude that the metaverse gaming platforms under review reach an overall satisfactory degree of compliance with the EU Declaration and EU Strategy, though some shortfalls are evident. Reference to the protection of intellectual property rights, prohibited uses and accepted uses have been identified by reviewing the four platforms' ToS. These findings contribute to a commitment of creating a trustworthy environment where users can express their views, while rights holders can seek to enforce their rights, thus aligning with the objectives of the EU's strategic goals on virtual worlds and the metaverse. Yet, variations in terms of redress mechanisms for IP infringements have been observed. In particular, whilst Roblox and Minecraft offer a reporting mechanism for all types of infringements, Fortnite's reporting mechanism only covers copyright violations and not trade mark or other IP infringements. In the case of Sandbox, no reporting mechanism is made available to rightsholders to notify suspected IP infringements, thereby undermining the platform's commitment to safeguarding IP rights effectively.

The insights provided by this ToS investigation on these four prominent and widely used metaverse gaming platforms indicate that although compliance with the EU's objectives is achieved to some extent, and arguably to a higher extent when it comes to protection of IP rights compared to other objectives, there is room for greater alignment with the EU's agenda on important areas. These include areas related to fundamental rights, that could optimise users' experiences when participating in the digital public space. It is also important to acknowledge that

there may be gaps or divergences between the contents of the ToS with the realities of respecting or enforcing rights on these platforms, due to a lack of empirical data by the existing literature.<sup>78</sup> It follows that giving effect to those digital rights and principles, through a set of recommendations introduced in the next section, could have a positive effect both on safeguarding IP holders' rights, as well as online users' rights engaging in this digital frontier. Having discussed how the gaming industry interprets IP enforcement within their services, the narrative moves to how state governance enforces IP rights online, with an emphasis on the remedy of blocking injunction. The following section examines to what extent the remedy of blocking injunction is compliant with the EU Declaration and the EU Strategy and by extension, with EU fundamental rights, whilst offering a holistic understanding on the enforcement of IP rights within metaverse gaming platforms.

### 4.3 | The remedy of blocking injunction

Blocking injunctions are recognised as an increasingly popular enforcement tool for copyright and trade mark holders in their fight against various forms of copyright and trade mark infringements.<sup>79</sup> Their application has also been highlighted in the gaming industry, with the WIPO's study revealing that blocking orders constitute a successful enforcement strategy.<sup>80</sup> For instance, in 2018, Nintendo filed legal proceedings against the operators of the ROM sites [LoveROMS.com](http://LoveROMS.com) and [LoveRETRO.co](http://LoveRETRO.co) alleging copyright and trade mark infringements. In case at hand, the operators of the sites reproduce and distribute unauthorized copies of Nintendo's video games without Nintendo's permission. A permanent injunction was issued by the US Courts preventing the defendants from continuing to violate Nintendo's copyrights and trademarks.

The popularity of injunctions derives from the fact that, by obtaining a blocking order from a court, copyright holders are able to compel Internet Service Providers (ISPs) to restrict access to websites, including online platforms, that facilitate copyright and trade mark infringement and as a result, limit large-scale breaches.<sup>81</sup> First and foremost, the issuing of a blocking injunction against a metaverse gaming platform in cases where user-generated content that infringes upon existing IP rights is found, would effectively mean that access to the metaverse platform would be blocked altogether. Although the aim is safeguarding of IP rights, this remedy goes directly against the EU's objectives for facilitating '...open, interoperable and innovative virtual worlds that can be used safely and with confidence by the public and businesses'.<sup>82</sup> More precisely, hindering access to metaverse gaming platforms goes directly against the right of public participation to the metaverse and to open and interoperable virtual worlds, which is enshrined within Chapter IV of the EU Declaration and which forms one of the main pillars of the EU Strategy, as per Section 3.4.1. Aside from that major concern, the remedy of blocking injunctions arguably goes against a number of fundamental rights, which are enshrined not only within the EU Strategy and Declaration, but also within various sources of EU law.

Yet, this enforcement mechanism finds its legal basis in various EU instruments.<sup>83</sup> More specifically, the scope of blocking injunctions against online intermediaries for copyright infringements is premised on the statutory provision of Article 8 (3) of the InfoSoc Directive which states that 'Member States shall ensure that rightsholders are in a position to apply for an injunction against intermediaries whose services are used by a third party to infringe a copyright or related right'.<sup>84</sup> Unlike in the copyright context, there is not a statutory counterpart in the field of trade marks. Instead, Article 11 (3) of the IP Enforcement Directive notes that 'Member States shall also ensure that rightsholders are in a position to apply for an injunction against intermediaries whose services are used by a third party to infringe an intellectual property right, without prejudice to Article 8(3) of Directive 2001/29/EC'.<sup>85</sup> This means that member states are required to ensure that rights holders can apply for an injunction against intermediaries whose services are used by a third party to infringe an IP right other than copyright or a related right.

However, as Geiger and Izyumenko highlight, the existence of a comprehensive legal basis for this IP enforcement mechanism has done little to clarify how blocking injunctions, which, from a fundamental rights perspective, have been recognised as enabling the protection of copyright holders' right to intellectual property,<sup>86</sup>

should be balanced with the rights of ISPs, users of the services,<sup>87</sup> and as noted by Savola, the rights of the website operator.<sup>88</sup> Such a balancing exercise was recognised in *Promusicae*,<sup>89</sup> which held that the right to intellectual property is not absolute and Member States must balance its protection with other fundamental rights when transposing and implementing the legal instruments capable of giving effect to this protection.<sup>90</sup>

In terms of blocking injunctions' compatibility with EU Law, the CJEU has ruled that this remedy could be compatible with EU Law, but refrained from clarifying the exact form under which are in compliance with EU Law framework. More specifically, in *UPC Telekabel Wien v Constantin Film*,<sup>91</sup> among the questions asked by the referring court, the CJEU had to decide whether a blocking injunction which required the ISP to block access to the infringing website without prescribing any measures for this was able to strike the balance between IP protection and fundamental rights.<sup>92</sup> While the Court found that such a measure could pose risks especially to the ISPs the freedom to conduct business,<sup>93</sup> it ultimately held that such an order could be compatible with EU law and the requirement to strike a balance between all the rights at stake if the order:

(i) the measures taken do not unnecessarily deprive internet users of the possibility of lawfully accessing the information available and (ii) that those measures have the effect of preventing unauthorised access to the protected subject-matter or, at least, of making it difficult to achieve and of seriously discouraging internet users who are using the services of the addressee of that injunction from accessing the subject-matter that has been made available to them in breach of the intellectual property right, that being a matter for the national authorities and courts to establish.<sup>94</sup>

In this light, the decision confirms the negative impact blocking injunction could have on fundamental rights and provides some clarity as to how these measures could be reconciled with the rights of users and ISPs. Yet, a bedrock of scholars<sup>95</sup> have argued that the decision has done little to clarify whether this specific mechanism for IP enforcement is required by the EU framework, while they found it problematic from the perspective of legal certainty when it comes to the exact form under which blocking orders are compatible with EU fundamental rights.<sup>96</sup>

Against this background, when it comes to the negative implications for fundamental rights and in particular for ISPs, scholars have highlighted that blocking injunctions pose a risk to their freedom to conduct business<sup>97</sup> as recognised by the EU Charter.<sup>98</sup> This is because, as Kulk and Zuiderveen Borgesius explain, the CJEU has clarified in *Scarlet Extended*, which concerned the imposition of filtering obligations on Scarlet to prevent its users from illegally downloading works administered by SABAM and committing copyright infringement,<sup>99</sup> that ISPs would be the ones required to develop, implement and support the mechanism necessary for compliance with the order aspect which would restrict their freedom to conduct business.<sup>100</sup>

Crucially, the implications of the blocking order for the right to operate business come into conflict with the EU Declaration. This is because, as stated in Section 4.1.1., one of the principles of the EU Declaration concerns a fair digital environment. In particular, the Declaration states that 'Everyone should have the possibility to compete fairly and innovate in the digital environment. This should also benefit businesses, including SMEs.' This means that the interests of the metaverse gaming platforms must also be enforced in the digital environment. Therefore, issuing blocking orders against a metaverse gaming platform might pose risks for the operation of its business model.

What is more, the risk to intervene with the freedom to operate business goes against the priorities of the EU Commission's strategy for virtual worlds. In particular, the remedy fails to comply with the promotion of a supportive business environment as set out in the EU Strategy. This is because the remedy of blocking injunction might be costly since the implementation costs might be placed on online platforms' shoulders. Further, the issuing of blocking injunctions appears to be incompatible with the open standards that are promoted in the Strategy. This is mainly because the internet service provider is compelled to terminate the access to the infringing content on the online platform, thus highlighting the problematic nature of the acts ordered in the injunction. Therefore, one might question how the open standards in metaverse gaming platforms could be guaranteed?

Beyond this, it has been noted that blocking injunctions raise significant concerns regarding freedom of expression, a fundamental right which lies at the core of the EU's digital transformation, as underlined also in

Chapter IV of the Declaration.<sup>101</sup> Geiger and Izyumenko have noted that blocking orders particularly threaten users' rights.<sup>102</sup> This is because, as clarified by Frosio and Bulayenko, a number of cases decided by the European Court of Human Rights have emphasised the role of access to internet for the fulfilment of the right to receive and impart information.<sup>103</sup> Consequently, as Frosio and Bulayenko concluded, blocking injunctions are capable of affecting users right to freedom of expression and information as they are interfering with internet accessibility necessary for the fulfilment of these rights online.<sup>104</sup>

Further, while recognising the concern raised by the previous scholars, Lee notes that the risk to freedom of expression extends to other stakeholders not only to users or subscribers of the blocked services.<sup>105</sup> Focusing in particular on the decision in *Yildirim*,<sup>106</sup> the authors note that blocking injunctions would inevitably frustrate the ability of the website operator to exercise their freedom to receive and impart information.<sup>107</sup> Additionally, referencing the decision in *Twentieth Century Fox Film v British Telecommunications*,<sup>108</sup> Lee contends that a blocking injunction could also be seen as encroachment on the right to freedom of expression of the ISP which is the recipient of the injunction.<sup>109</sup>

Crucially, this understanding underscores the conflict between the remedy of blocking injunctions and the EU Declaration. In particular, the remedy might intervene with the principles of safeguarding freedom of expression online as well as people's engagement and democratic participation in the digital world, both underlined as commitments in Chapter IV of the EU Declaration. This is mainly because the remedy of blocking injunction runs the risk of over-blocking where lawful gaming websites might be blocked. At the same time, operators of lawful metaverse gaming platforms that have been blocked cannot challenge the decision of blocking because they are not parties in the proceedings, thus depriving users from engaging and participating to the activities online. Preserving that public engagement is not only important for upholding the goals of the EU Commission, but ensures the metaverse's relevance and ultimately, whether or not it will surpass its initial hype phase. Crucially, Ramakrishna points out that whilst we might experience living within an increasingly virtualized society, this does not mean that everyone is going to become 'virtualized'.<sup>110</sup> As such, Murray emphasizes that 'as soon as we stop participating, because we are confused or bored or uncomfortably stimulated, the illusion vanishes'.<sup>111</sup>

What is more, the right to freedom of expression encompasses the right to receive and impart information. Given that metaverse gaming platforms constitute a medium to communicate via chats and enable users to interact in real time from all over the world, it could be argued that a blocking injunction against the metaverse gaming platform at issue might go against the principle of effective access to cultural and linguistic diversity online and thus, prevent users from participating in the digital public space. Further, the implications of blocking orders to freedom of expression of metaverse gaming users do not comply with the priorities of the EU Strategy which explicitly states that users must feel safe, confident and empowered in the virtual worlds while at the same time, rights as users, consumers, workers or creators must be respected. This is mainly because blocking injunctions are wide and might block the whole metaverse gaming platform and not only the site that provided the infringing material. Therefore, it is worrisome as to what extent users can have freedom of choice since they will not be able to access the platform itself.

Finally, the remedy of blocking injunction might encroach upon the interests of copyright and trade mark holders as set forth in Article 17 (2) of the EU Charter of Fundamental Rights.<sup>112</sup> This is mainly due to the implementation costs of blocking injunctions and in particular which party shall be burdened, namely the rights holders or the internet service providers. Given the InfoSoc Directive and the IP Enforcement Directive remain silent and give the leeway to the Member states with regard to the implementation costs, diverse approaches amongst the national courts have been observed. For instance, in France and Austria, national courts seem to lean in favour of imposing implementation costs to internet service providers,<sup>113</sup> while in the post-Brexit UK, the courts appear to impose the costs of injunctions on the rights holders, concluding in *Cartier* that 'the ordinary principle is that unless there are good reasons for a different order an innocent intermediary is entitled to be indemnified by the rights-holder against the costs of complying with a website blocking order'.<sup>114</sup>

Should the rights holders be burdened with the implementation costs, it is questionable whether they would still resort to this remedy and whether this remedy is fit for IP enforcement online. As Stobbs and Thompson have observed, 'Whilst most brand owners with the resources available to obtain an injunction from the courts could probably cover a further £2500, if the overall cost of implementing a blocking order comes closer to £25,000, it risks putting these injunctions out of the financial reach of many brand owners.'<sup>115</sup>

This understanding rightfully reveals the conflict between the remedy of blocking injunction and the EU Declaration and the EU Strategy. It could be argued that the remedy is not compatible with Chapter IV of the EU Declaration and in particular with the principle requiring proportionate measures to be taken in order to foster participation in the digital public space. To what extent could the imposition of excessive expenses to rights holders with regard to the application of blocking injunctions could amount to a proportionate measure? What is more, the remedy of blocking injunction has usually been issued for platforms that have a centralized business model. Considering the line of case law so far, injunctions are issued against centralized online platforms where infringing content has been disseminated. Given the nature of metaverse gaming platforms, namely either centralized or decentralized platforms, one might wonder how enforcement of IP rights can take place in decentralized platforms in decentralized platforms given the lack of legal precedent, whilst fostering a supportive business environment with an emphasis on IP rights that has been envisioned by the EU Commission's Strategy.

To summarise, as our findings indicate, it can be extrapolated that ToS of the above-mentioned metaverse gaming platforms are in a reasonable degree of compliance with the principles set in the Declaration and the EU Strategy. On the other hand, the remedy of blocking injunction is a mechanism that is aimed to protect IP rights, but appears to largely fall behind the aspirations set in the Declaration and the EU Commission's Strategy. This is because, as the analysis has indicated, while the CJEU has developed a strong jurisprudence where the need to balance IP protection with fundamental rights is clearly recognised, blocking injunctions bring a series of significant risks to the functioning of the web and its users. First and foremost, hindering access to the metaverse altogether, but also other risks associated to the right to freedom of expression and information of internet users and the right to conduct business by metaverse gaming platforms. In this light, a set of proposals for legislative reform is warranted.

## 5 | THE WAY FORWARD FOR THE IP ENFORCEMENT IN METAVERSE GAMING PLATFORMS: FROM PRINCIPLES TO ACTIONS

This section puts forward two core recommendations that address the shortcomings with the remedy of blocking injunction and to some extent, with the reviewed ToS of metaverse gaming platforms, and ensure a higher degree of compliance with the EU Declaration and Strategy. The recommendations are both legal and techno-legal respectively and constitute a targeted approach which could result in more effective IP enforcement within metaverse gaming platforms and other metaverse platforms which function in a similar fashion, that is, which enable online user interactions in real time and may serve as social hubs for the public. The first is a legal reform proposal to amend Article 3 of the IP Enforcement Directive to include an additional sub-section entailing key principles of the EU Commission's metaverse policy when it comes to metaverse gaming providers. The second is a techno-legal recommendation for the use of AI enforcement tools within metaverse gaming platforms with the aim of safeguarding IP rights whilst at the same time achieving a higher degree of alignment aligned with key EU strategic goals for the metaverse context.

Before discussing the recommendations, this section begins by enlisting a plethora of elements in support of the need for a metaverse-specific reform. Firstly, the gaming sector occupies the leading position in the entertainment sector's financial gains. In 2022 the global gaming industry generated revenues of \$184.4 billion.<sup>116</sup> It has been estimated that those revenues are higher than the revenues acquired by the global recorded music

industry and the movie industry together. Secondly, gaming metaverse platforms have revolutionized how gamers interact with each other in light of their dual function. On the one hand, they are seen as social public forums where users can interact and communicate via chat in real time from all over the world, whilst also being seen as entertainment hubs where users can play games and engage in real time. Concomitantly, metaverse gaming platforms gather users from all over the world with different cultures and languages, thus showcasing their global outreach.<sup>117</sup>

From a policy perspective too, a legislative reform which suggests a targeted approach in the enforcement of IP rights on metaverse gaming platforms is timely and coincides with the highly anticipated Communication of the EU Commission on video games and the upcoming Digital Fairness Act in 2026. It also reinforces the utmost significance of the gaming industry as highlighted at policy level in the EU Parliament's report,<sup>118</sup> which calls for the development of a coherent, long-term European video game strategy. It also aligns with the EU Council's report that invites, among others, Member states to explore all relevant options for the implementation of a support framework aimed at the promotion of the creative and cultural dimension of video games.<sup>119</sup> Finally, it is in line with the European Media Industry Outlook<sup>120</sup> which highlights the dynamic nature of gaming technologies and its importance for IP rights as well as with the International Consumer Protection and Enforcement Network report which urges the creation of a trustworthy online environment.<sup>121</sup>

## 5.1 | Proposal for amending Art 3 of IP Enforcement Directive 2004/48/EC

In light of the above, the first recommendation of the authors is a proposal to amend Article 3 of the IP Enforcement Directive is explored as a means of providing a more holistic legal basis for injunctions against metaverse gaming platforms and other metaverse platforms which offer similar services to the former, that is, which enable online user interactions in real time and may serve as social hubs for the public. Article 3 of the IP Enforcement Directive sets forth a set of principles that must be taken into consideration with regard to the remedies available for rights holders. It requires that:

'Member States shall provide for the measures, procedures and remedies necessary to ensure the enforcement of the intellectual property rights covered by this Directive. Those measures, procedures and remedies shall be fair and equitable and shall not be unnecessarily complicated or costly, or entail unreasonable time-limits or unwarranted delays. Those measures, procedures and remedies shall also be effective, proportionate and dissuasive and shall be applied in such a manner as to avoid the creation of barriers to legitimate trade and to provide for safeguards against their abuse.'

The additional sub-section the authors propose to Article 3 of the IP Enforcement Directive would be of seminal importance not only for the rights holders whose rights have been violated in metaverse platforms, but also to minimize the possibility of future copyright and trade mark infringements taking place.

Accordingly, a possible approach would be informed by the principles of the EU Declaration and EU Strategy. The following additional sub-section to Article 3 of the IP Enforcement Directive would be required to reconcile any conflict. Accordingly, the *proposed additional sub-section to Article 3 of the IP Enforcement Directive* is as follows:

**In the context of metaverse service providers, Member States shall also ensure that those measures, procedures and remedies enable user participation to this digital space, promote access to content that reflects cultural and linguistic diversity and do not contravene their open and interoperable standards.**

This proposed amendment clarifies that, in terms of metaverse platforms, including metaverse gaming platforms, the judiciaries must also take into consideration to what extent the remedy of blocking injunctions complies with the principles of the EU Declaration and the EU Commission's strategic priorities. This is mainly because although the EU Declaration and EU Strategy are not legally binding, they both demonstrate the EU's priority to craft a robust and solid Metaverse agenda. Therefore, when judiciaries examine applications for blocking orders in the context of metaverse gaming platforms, they must also examine and factor in those principles in addition to the

obligations in the other items of Article 3 of the IP Enforcement. Having said that, the draft provision proposed above offers a solid legal basis for the delivery of a blocking injunction on metaverse gaming platforms. It encompasses the main principles of the EU Declaration and the promotion of business environments online with an emphasis on IP rights. It also avoids the risk of encroaching upon the fundamental rights at stake, such as the right to conduct business (as per Article 16 of the EU Charter of Fundamental Rights), the right to freedom of expression (as per Article 11 of the EU Charter of Fundamental Rights), and the right to property of copyright and trade mark holders (as per Article 17 (2) of the EU Charter of Fundamental Rights).<sup>122</sup>

As previously explained, neither the EU Declaration nor the EU Strategy have a legally binding effect yet, but it is the authors' view that giving them legal effect could have a significant effect on ensuring greater respect for both IP rights, but also for facilitating an open, accessible and trustworthy environment that enables user participation in the digital public space and optimises users' digital experience.

## 5.2 | Proposal for an AI-based content moderation

Apart from the recommendation for legislative reform, the authors offer an additional recommendation for achieving a targeted IP enforcement in the metaverse. Currently, the special EU Barometer in the Digital Decade reveals that only 53% of the respondents are getting access to a trustworthy, diverse and multilingual digital environment. In this light, the adoption of an AI-based content moderation recommendation would ensure that a large segment of such content would be 'weeded out'. This is because the use of AI-content moderation might disable access only to the unauthorised content, rather than blocking access to the metaverse platforms altogether, which is the effect of blocking injunctions. In this way, cultural and linguistic diversity in user uploaded content in the metaverse could be preserved, whilst ensuring that intellectual property rights are safeguarded. More specifically, according to Strowel, 'We need to embrace a new approach that takes technological worlds into greater account—their speed, and their ubiquity—and focus on implementing alternative mechanisms for enforcing the law in these new worlds.'<sup>123</sup> In this vein, it is argued that the assistance of AI technologies might be required, especially within metaverse environments where human monitoring in real time could be complex, uneconomic and/or impracticable in virtual environments with high volumes of content.

While content moderation for the metaverse has been highlighted by a Stanford University study as early as in 2002,<sup>124</sup> the prominence of AI tools for content moderation workflows has been underlined by a Cambridge Consultants study on behalf of OFCOM in 2019 and their expected significant impact in, among others, increasing moderation accuracy when used in combination with human moderators.<sup>125</sup> One of the main advantages they possess is their ability to process vast amounts of data constantly produced by users close to real time.<sup>126</sup> Various online marketplaces have already embarked on AI powered content filters, including the ones deployed by BrandShield, Lex Machina, TrademarkNow.<sup>127</sup> In the context of metaverse gaming platforms, AI tools, also referred to as AI agents, could be used to monitor the metaverse gaming environment with regard to third-party content, that is, customized virtual avatar outfits by users, for automated flagging of suspicious content for human review and for subsequent disablement of IP infringing content from the platform. This measure would fall within the definition of an expeditious remedy that prevents infringements, is not complex and does not entail any unwarranted time limits given the automatic operation of these technologies, within the meaning of Article 41 (1), (2) of the TRIPS Agreement. By disabling access only to the unauthorised content, rather than blocking access to the metaverse platforms altogether, which is the effect of blocking injunctions, these measures would be proportionate and applied in a way that does not hinder legitimate trade, as per Article 3 of the IP Enforcement Directive.

Such techno-legal 'tracking' aids would complement other enforcement measures implemented by member states at national level and would require close cooperation between national IPOs and AI providers under EU oversight, that is, for the provision of IP protected content as training data. AI training on the relevant EU copyright

works and EU trade marks would be a prerequisite for this solution to be effective, given that a lack of access to the relevant data needed to the specific task for which the AI tools are being trained could hinder their efficiency.<sup>128</sup> In effect, the AI tools would only be able to make an association between the pre-existing knowledge learned (the protected IP content) and the third-party unauthorised content in the metaverse and therefore, enable their detection.

However, they carry associated risks. For instance, both the World Economic Forum in 2024 and the US Federal Trade Commission in 2022 have raised concerns regarding the use of AI tools as a policy solution, due to the possibility of system failure, inaccuracies, biases and discrimination as well as promoting commercial surveillance to the detriment of users' fundamental freedoms.<sup>129</sup> The proposed AI 'tracking' mechanism is not to operate in a completely automated manner, but rather flagged content is to be subjected to human review, thereby ensuring accuracy in removing the right content, so as not to amount to some form of modern copyright censorship.<sup>130</sup> This means that the proposed solution also complies with Article 8 of the Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law, which sets out an obligation to ensure that<sup>131</sup>: as for users' rights, the recommended AI 'tracking' tools would not be trained on any datasets connected to users in any way and the subsequent flagging and removal of content would not significantly affect individuals, i.e. profiling them, so as to give rise to i.e. data protection issues.<sup>132</sup>

## 6 | CONCLUSION

This article has hitherto critically examined the enforcement of IP rights within metaverse gaming platforms. Enforcement of IP rights is of seminal importance due to the increasing risk for copyright and trade mark infringements in virtual environments. For instance, in the context of metaverse gaming platforms, infringement could arise in relation to user-uploaded NFT digital wearables for virtual avatars which feature protected digitised artworks or protected signs of physical goods or services without prior authorisation. From a trade mark perspective, offering for sale NFTs that reproduce a third party's trade marks without the authorization of the trade mark holder might also give rise to infringement.

Crucially, although the metaverse is not fundamentally different from the real world when it comes to copyright and trade mark infringement, the article argues that current IP enforcement methods are not fully capable of adapting to the digital environment. It is further argued that certain aspects specific to metaverse gaming platforms, that is, enabling online user interactions in real time and serving as social hubs for the public, necessitate current IP enforcement methods to be adjusted.

First, the article has undertaken a focused analysis of the Terms of Service (ToS) of four prominent metaverse gaming platforms—Roblox, Fortnite, Minecraft, Sandbox—at face value on their stated terms, in order to examine the extent to which enforcement of copyright and trade marks can be achieved within metaverse gaming platforms. The specific enforcement methods and policies under the platforms' ToS have also been reviewed also in light of their commitment to safeguard IP rights in line with the EU Declaration on Digital Rights and Principles (EU Declaration) and the broader EU Commission's Strategy for virtual worlds (EU Strategy). Following the review of the four platforms' ToS, an overall satisfactory degree of compliance with several EU objectives has been noted, and arguably a higher degree of compliance when it comes to the protection of IP rights compared to other objectives, such as openness and interoperability. Nevertheless, inconsistent policies for redress mechanisms for suspected IP violations has been observed between the different platforms' ToS, leaving room for greater compliance with the EU's agenda and the commitment to safeguarding IP rights within the metaverse gaming context.

Second, upon examination of the increasingly sought after remedy of blocking injunction for IP infringements online, it has been argued that although it is, in principle, applicable to digital metaverse uses of protected IP content, it falls behind the aspirations set out in the EU Declaration and the EU Strategy. This is because blocking injunctions have the effect of hindering users' right to access metaverse platforms altogether in cases of online

copyright and trade mark infringements. This blocking effect not only poses significant risks to the fundamental rights of freedom of expression and information of metaverse users, whose interests naturally conflict with those of rightsholders, but also comes in direct contrast with the EU Commission's objectives. More specifically, it is argued that blocking orders might interfere with the EU Commission's objectives of facilitating a trustworthy and fair digital environment that promotes diverse cultural and linguistic content and enables users' democratic participation to the digital public space.

The authors of this article conclude that if engagement with a fair, inclusive and culturally diverse metaverse environment is to be achieved, policy makers should balance access to the metaverse against respect for the exclusive rights of IP holders more efficiently. While reliance on the existing governance framework is essential, the article emphasizes that legislative reform is warranted to support its adaptation to the strategic goals of the Commission. In this light, the authors propose a legislative amendment to Article 3 of the IP Enforcement Directive to include an additional sub-section entailing key principles of the EU Commission's metaverse policy when it comes to metaverse service providers, thereby giving these policy documents legal effect, would have a twofold advantage. In particular, it would not only allow for a targeted enforcement of IP rights against metaverse gaming platforms and other metaverse platforms which serve a social function, but also greater alignment with the EU's ongoing digital transformation policy and therefore, appears to be justified. In this article's recommendations, particular emphasis is placed on the non-compliance of the enforcement mechanism of blocking orders with the EU's metaverse objectives, as well as with a series of other fundamental rights. The authors argue that its problematic effects are particularly prominent in the metaverse context, given that its enforcement could effectively block access to metaverse platforms within which IP infringement might be detected altogether, whereas the principles of the EU Declaration and the EU Strategy's priorities aim to enable participation to the digital public space, to ensure access to content that reflects cultural and linguistic diversity and to not contravene with the open and interoperable standards of metaverse gaming platforms.

Based on the authors' legal recommendation, the above-mentioned principles and priorities would constitute factors that the judiciaries would have the authority to take into consideration when examining applications for blocking orders, in addition to the obligations in the other sub-sections of Article 3 of the IP Enforcement Directive, arguably leading to greater balance between the rights of IP holders and the fundamental rights of metaverse gaming platforms' users, whilst largely relying on the existing governance framework. Lastly, the authors recommend the deployment of AI content moderation tools, so as to detect and disable unauthorised IP content in online gaming platform environments, as a promising and effective IP enforcement mechanism that could be in greater compliance with EU objectives and fundamental rights and at the same time, safeguard the rights of IP holders in the metaverse environment. In line with the aforementioned EU strategic goals, these could initially be tested within multistakeholder governance sandbox environments, in order for their impact to be realised, prior to their full implementation.

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## CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## ENDNOTES

- <sup>1</sup> All online sources were last accessed on 5 May 2026.
- <sup>2</sup> European Parliamentary Research Service, 'Metaverse: Opportunities, Risks and Policy Implications' (2022) 2; EUIPO provides an etymological definition, 'The term 'Metaverse' is a combination of the Greek word meta meaning 'beyond' with 'universe' suggesting limitless possibilities in a new dimension.
- <sup>3</sup> Number of Metaverse Users in 2025 <<https://explodingtopics.com/blog/number-of-metaverse-users>>.
- <sup>4</sup> 75+ Latest Meta Statistics & Facts for 2025 <<https://cropink.com/meta-statistics>>.
- <sup>5</sup> Metaverse to Hit 2.6 Billion Users by 2030, Three Times More Than Today—AltIndex <<https://altindex.com/news/metaversa-hit-billion-users#:~:text=The%20metaverse%2C%20an%20immersive%20virtual%20space%20where,growing%20attention%20from%20investors%20and%20tech%20giants>>.
- <sup>6</sup> EU Commission, 'An EU initiative on Web 4.0 and Virtual Worlds: A Head Start in the Next Technological Transition' (2023) 4.
- <sup>7</sup> EU Commission, 'Staff Working Document: An EU Initiative on Web 4.0 and Virtual Worlds: A Head Start in the Next Technological Transition [COM(2023) 442 final] 44; Renaissance Numérique, 'Représentations et usages du Métavers' (2023), 16–24.
- <sup>8</sup> Roblox Demographics Statistics 2025 <<https://www.linkedin.com/pulse/roblox-demographics-statistics-2025-mario-rami%C4%87-zkfnf/>>.
- <sup>9</sup> L. Winslow, 'Minecraft Reached 140 Million Monthly Users And Generated Over \$350 Million To Date' (Gamespot, 3 May 2021) <<https://www.gamespot.com/articles/minecraft-reached-140-million-monthly-users-and-generated-over-350-million-to-date/1100-6490962/>>.
- <sup>10</sup> Fortnite Statistics 2025 <<https://sites.google.com/view/fortnitestatistics2025/home/>>.
- <sup>11</sup> On the difference between centralised and decentralised models see M. Lastiri Santiago, 'Metaverse in the World of Trademark Law' (2023) 28 ULR 390–406; On the metaverse's social function, see E. Shapiro and N. Talmon, 'Foundations for Grassroots Democratic Metaverse', Cornell University arXiv:2203.04090 (2022).
- <sup>12</sup> European Parliament resolution of 17 January 2024 on virtual worlds—opportunities, risks and policy implications for the single market (2022/2198(INI)), Section F.
- <sup>13</sup> G. Dimita, Y. H. Lee, M. MacDonald, A. Catton, Anthony, Z.K. Kavcar Penbegullu, J.A. Pulido Lock, 'IP and Metaverse(S)—an Externally Commissioned Research Report' UKIPO (2023); Queen Mary Law Research Paper No. 427/2024 (2024), 1.
- <sup>14</sup> As per Guadamuz an NFT "...is just a cryptographically signed receipt that one owns a unique version of a work" in A. Guadamuz, 'The treachery of images: Non-fungible tokens and copyright' (2021) 16 Journal of Intellectual Property Law & Practice, 1384.
- <sup>15</sup> JRC Science for policy report, 'Next Generation Virtual Worlds: Societal, Technological, Economic and Policy Challenges for the EU' (2023) 6.
- <sup>16</sup> UKIPO, 'Research and Analysis IP and Metaverse(s)—An Externally Commissioned Research Report', (2024) 1; H. Y. Jabotinsky and M. Lavi, 'Regulating the Metaverse: Reducing Diffusion of Trader Responsibility' (2025) 58 U.MICH JLR 1; Document input for the global multistakeholder high level conference on Governance for Web 4.0 and virtual worlds (2025); M. Lastiri Santiago (n 11).
- <sup>17</sup> N. Stephenson, *Snow Crash* (Bantam Books 1992).
- <sup>18</sup> UKIPO (n 16) 12.
- <sup>19</sup> See further on G. Frosio and F. Obafemi, 'Augmented Accountability: Data Access in the Metaverse' (2025) 59 CLSR 5.
- <sup>20</sup> UKIPO (n 16) 12.
- <sup>21</sup> C. Kyriltsias and D. Michael-Grigoriou, 'Social Interaction with Agents and Avatars in Immersive Virtual Environments: A Survey' (2022) 2 Frontiers in Virtual Reality 2; Y. Dwivedi and others, 'Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy' International Journal of Information Management (2022) 2.
- <sup>22</sup> Ibid.

- <sup>23</sup> P. L. Lau, 'The Murky Waters of the Metaverse: Addressing Some Key Legal Concerns' (2022) 27 CL 77.
- <sup>24</sup> D. Friedmann, 'Digital Single Market, First Stop to The Metaverse: Counterlife of Copyright Protection Wanted' in Klaus Mathis and Avishalom Tor (eds.) *Law and Economics of the digital transformation* (Springer 2023) 137-189.
- <sup>25</sup> P. Mezei and G. Chawla Arora, 'Copyright and Metaverse' in M. Cannarsa and L. Di Matteo, *Research Handbook on Metaverse and the Law*, (1st edn., Edward Elgar 2024), 189-206.
- <sup>26</sup> See further on G. Frosio and F. Obafemi (n 18); J. Jaurisch, 'Opinion Piece: The DSA Also Works "in the Metaverse"—If It Is Enforced Well' (Stiftung Neue Verantwortung (SNV) 14 December 2022) is available at <<https://www.interface-eu.org/publications/opinion-piece-dsa-also-works-metaverse-if-it-enforced-well>>.
- <sup>27</sup> M. Lastiri Santiago (n 11); See analysis on different definitions of online platforms and liability regimes in Z. Krokida, *Internet Service Provider Liability for Copyright and Trade Mark Infringement: Towards an EU Co-Regulatory Framework* (Hart Publishing 2022), Ch. 2 and 3.
- <sup>28</sup> Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (E-Commerce Directive), Art. 14; Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act), Art. 6.
- <sup>29</sup> A. Datta, 'European Commission Mulls Bringing Gaming Platform Under Its Digital Rules: Roblox Could Be The First Gaming Platform to Be Designated Under the Bloc's Digital Services Act' (Euractiv), <European Commission Mulls Bringing Gaming Platform Under Its Digital Rules | Euractiv>.
- <sup>30</sup> Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC (CDSM Directive).
- <sup>31</sup> *Ibid.*, Art. 2(6).
- <sup>32</sup> *Ibid.*, Art. 17.
- <sup>33</sup> The Sandbox Game—Terms of Use <<https://www.sandbox.game/en/terms-of-use/>>.
- <sup>34</sup> I. Lapatoura, 'NFTs, Digital Worlds and Brand Protection in Fashion: An UK/European Intellectual Property Perspective' (2023) 2 IJLCW 3, 144.
- <sup>35</sup> Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society (InfoSoc), Art. 2, 3(1).
- <sup>36</sup> *Ibid.*, Art. 2.
- <sup>37</sup> C-5/08, *Infopaq International A/S v Danske Dagblades Forening*, ECLI:EU:C:2009:465, para 35; See *Eva-Maria Painer v Standard VerlagsGmbH*, C-145/10, EU:C:2011:798, paras 88-92.
- <sup>38</sup> *Ibid.*
- <sup>39</sup> *Visual Entidad de Gestión de Artistas Plásticos (Vegap) v Punto SA (Mango)* (2024) (9th Commercial Law Court Barcelona), ECLI:ES:JMB:2024:1.
- <sup>40</sup> For a critique on the *Vegap v Mango* decision, see: See I. Lapatoura, 'From *Hermès v Rothschild* to *Vegap v Mango*: An EU Analysis on Fair Metaverse Uses of Digitised IP Content' (2025) 8 IELR 2; See M. Jetsaphon Niyompatama and I. Lapatoura, 'Generative AI in Fashion Design Creation: A Copyright Analysis of AI Assisted Designs' (2025) 20 JIPLP 10, 665; See C. Sandei and I. Lapatoura, 'NFTs & Legal Complexities Through the Lens of European IP, Financial and Consumer Protection Law', in Basu S. and Guinchard A. (eds.) *A Research Agenda for Big Data and the Law*, (1st edn., Edward Elgar Publishing 2026).
- <sup>41</sup> A. Guadamuz (2021) (n 14); I. Lapatoura (2023) (n 34), 147.
- <sup>42</sup> A. Guadamuz, 'Non-Fungible Tokens (NFTs) and Copyright' *WIPO Magazine* (10 December 2021), <<https://www.wipo.int/en/web/wipo-magazine/articles/non-fungible-tokens-nfts-and-copyright-42365>>.
- <sup>43</sup> InfoSoc Directive, Art. 3(1).
- <sup>44</sup> C-466/12, *Nils Svensson and Others v Retriever Sverige AB* [2014] ECLI:EU:C:2014:76.
- <sup>45</sup> C-306/05, *SGAE v Rafael Hoteles SA*, para 30.
- <sup>46</sup> I. Lapatoura (2025), 164-166.
- <sup>47</sup> Spanish Intellectual Property Act of 1996, Art. 56(2).
- <sup>48</sup> Directive (EU) 2015/2436 of the European Parliament and the Council of 16 December 2015 to approximate the laws of the Member States relating to trade marks, Art. 10(2).

- <sup>49</sup> Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark, OJ L 154, Art. 9(2).
- <sup>50</sup> C-39/97, *Canon Kabushiki Kaisha v Metro-Goldwyn-Mayer Inc.*, EU:C:1998:442, para. 17.
- <sup>51</sup> EUIPO, Guidelines: Interdependence principle. <https://guidelines.euipo.europa.eu/1935303/1983187/trade-mark-guidelines/2-interdependence-principle>.
- <sup>52</sup> C-39/97, *Canon* (n 50), para. 23.
- <sup>53</sup> Metaverse Statistics 2025: Market Size, NFTs, Platform Rankings • SQ Magazine <[https://sqmagazine.co.uk/metaverse-statistics/#:~:text=Age%20Distribution%20of%20Metaverse%20Gamers,\(Reference:%20Demand%20Sage\)](https://sqmagazine.co.uk/metaverse-statistics/#:~:text=Age%20Distribution%20of%20Metaverse%20Gamers,(Reference:%20Demand%20Sage))>.
- <sup>54</sup> Z. Krokida, 'Non-Fungible Tokens and Liability of Online Marketplaces: A European Perspective' in Bonadio, E. and Sganga, C. (eds.) *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024), 40–63; See I. Lapatoura and Z. Krokida, 'Regulating NFT Marketplaces: A Comparative Analysis of the EU and UK Legal Systems' in Aksoy, P.Ç., Dimatteo, L., & Hufnagel, S. (eds.) *The Routledge Handbook on NFT Law* (1st edn., Routledge 2025).
- <sup>55</sup> See for defences to trade mark infringement, Article 16, Intervening right of the proprietor of a later registered trade mark as a defence in infringement proceedings in Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark.
- <sup>56</sup> Rome of Court of First Instance, decision on 20 July 2022, case No. 32072/2022.
- <sup>57</sup> *Hermès Int'l v. Rothschild*, No. 22-CV-384 (JSR), 2023 WL 1458126 (S.D.N.Y. Feb. 2, 2023).
- <sup>58</sup> For a detailed discussion on the *Hermès v Rothschild* case, see: I. Lapatoura, 'From *Hermès v Rothschild* to *Vegap v Mango*: An EU analysis on fair metaverse uses of digitised IP content', (2025) 8 *Interactive and Entertainment Law Review* 2.
- <sup>59</sup> *Ibid.*
- <sup>60</sup> EU Trade mark Directive (n), Art. 10(2)(c); C-487/07, *L'Oréal and Others* (2009), ECLI:EU:C:2009:378, para 40; Case C-323/09, *Interflora v M&S*, ECLI:EU:C:2011:604, paras 73, 76; N. Van der Laan, 'The Use of Trade Marks in Keyword Advertising. Developments in ECJ and National Jurisprudence' in Lee N. et al. (eds.) *Intellectual Property, Unfair Competition and Publicity—Convergences and Development* (Edward Elgar 2014), 231–286, where she states that 'the Court merely states that tarnishment is caused when the goods or services for which the sign is used by the third party may be received by the public in such a way that the trade mark's power of attraction is reduced'.
- <sup>61</sup> I. Lapatoura, 'Metaverse Advertising, Trade Mark Law and the Protection Of Luxury Brands in Virtual Spaces' in A. Antoniou (eds.) *Research Handbook in Advertising Law* (Edward Elgar Publishing, forthcoming 2026).
- <sup>62</sup> C. Cocito and P. De Hert, 'The Transformative Nature of the EU Declaration on Digital Rights and Principles: Replacing the Old Paradigm (Normative Equivalency of Rights)' (2023) *CLSR* 11.
- <sup>63</sup> EC, 'Virtual Worlds Fit For People | Shaping Europe's Digital Future' <<https://digital-strategy.ec.europa.eu/en/policies/virtual-worlds>>.
- <sup>64</sup> EC, Digital Decade 2025: Declaration on Digital Rights and Principles—Monitoring report 2025' (16 June 2025) <<https://digital-strategy.ec.europa.eu/en/library/digital-decade-2025-declaration-digital-rights-and-principles-monitoring-report-2025>>.
- <sup>65</sup> *Ibid.*, Chapter IV, Art. 13.
- <sup>66</sup> Capgemini Invent, Visionary Analytics, IDC, Ecorys and E. Kosta, 'Study to Support the Monitoring of the Declaration on Digital Rights and Principles', Final Report (May 2025), 7–8.
- <sup>67</sup> EC, 'Towards the Next Technological Transition: Commission Presents EU Strategy to Lead on Web 4.0 and Virtual Worlds' (11 July 2023) <[https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_3718](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3718)>, Section 3.2.3.
- <sup>68</sup> *Ibid.*, Section 3.2.3.
- <sup>69</sup> Action 3, announced for Q1 2024, COM (2023) 442, 8.
- <sup>70</sup> The term Terms of Service is used interchangeably with the term Terms of Use throughout the article.
- <sup>71</sup> See for example Roblox, 'Safety and Civility at Roblox' <<https://en.help.roblox.com/hc/en-us/articles/4407444339348-Safety-Civility-at-Roblox>>.
- <sup>72</sup> Roblox, 'Roblox Community Standards' <<https://en.help.roblox.com/hc/en-us/articles/203313410-Roblox-Community-Standards>>.
- <sup>73</sup> *Ibid.*

- <sup>74</sup> Usage Guidelines | Minecraft <<https://www.minecraft.net/en-us/usage-guidelines>>.
- <sup>75</sup> The Sandbox Game—Terms Of Use <<https://www.sandbox.game/en/terms-of-use/>>.
- <sup>76</sup> Epic Games Terms of Service—Epic Games <<https://legal.epicgames.com/epicgames/tos>>.
- <sup>77</sup> Epic Games Fan Content Policy—Epic Games <<https://legal.epicgames.com/epicgames/fan-art-policy>>.
- <sup>78</sup> Empirical research on the realities of the above findings has not been carried out for the purposes of this paper.
- <sup>79</sup> EUIPO, 'Study on Dynamic Blocking Injunctions in the European Union' (2021), 14–15 <<https://op.europa.eu/publication-detail/-/publication/7b070e18-8d1d-11eb-b85c-01aa75ed71a1>>; See also C. Geiger and E. Izyumenko, 'Blocking Orders: Assessing Tensions with Human Rights' in Frosio G. (ed.), *The Oxford Handbook of Online Intermediary Liability* (2020, OUP).
- <sup>80</sup> G. Dimita, Y. H. Lee and M. Macdonald, 'Copyright infringement in the video game industry' (2022) WIPO/ACE/15/4; Also the authors of the WIPO study are sceptical about the application of the blocking orders in the gaming industry, 'Litigation might not always be the best option, especially when success is not guaranteed. In fact, enforcement might not result in the desired or anticipated solution, leading only to temporary or unsatisfactory outcomes (as illustrated by the "Streisand effect" and the "whack-a-mole" problem applicable to all identified uses and practices), or an entirely counterproductive legal precedent'.
- <sup>81</sup> Y. H. Lee, 'Copyright and Freedom of Expression: A Literature Review' (CREATe Working Paper 2015/04, May 2015), 163 <<https://zenodo.org/record/18132/files/CREATe-Working-Paper-2015-04.pdf>>.
- <sup>82</sup> JRC Science for Policy Report (n 15). EU Declaration (n 62).
- <sup>83</sup> See EUIPO Study (2021) (n 80) 15; Y. H. Lee, *ibid*, 164.
- <sup>84</sup> InfoSoc Directive (n 31), Art. 8(3).
- <sup>85</sup> Art. 11(3) of Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights.
- <sup>86</sup> Charter of Fundamental Rights of the European Union (herein after EU CFR) [2012] OJ C 326/391, Art 17(3); C. Geiger, G. Frosio and E. Izyumenko, 'Intermediary Liability and Human Rights' in Frosio G. (ed.), *The Oxford Handbook of Online Intermediary Liability* (OUP 2020).
- <sup>87</sup> C. Geiger and E. Izyumenko (n 80), 4. See also C. Geiger, G. Frosio and E. Izyumenko (n 86).
- <sup>88</sup> P. Savola, 'Proportionality of Website Blocking: Internet Connectivity Providers as Copyright Enforcers', 5 JIPITEC 2 (2014), 116.
- <sup>89</sup> C-275/06, *Productores de Música de España (Promusicae) v Telefónica de España SAU* [2008] ECR I 271.
- <sup>90</sup> *Ibid*, paras 66–70. See S. Kulk and F. Zuiderveen Borgesius, 'Filtering for Copyright Enforcement in Europe after the SABAM Case' 34 (2012) EIPR 11, 791.
- <sup>91</sup> C-314/12, *UPC Telekabel Wien GmbH v Constantin Film Verleih GmbH* [2014] Bus. L.R. 541.
- <sup>92</sup> *Ibid*, para 17.
- <sup>93</sup> *Ibid*, paras 48–50.
- <sup>94</sup> *Ibid*, para 64.
- <sup>95</sup> See M. Husovec, 'CJEU Allowed Website—Blocking Injunctions With Some Reservations' (2014) 9 JIPLP 8, 631; C. Angelopoulos, 'CJEU in UPC Telekabel Wien: A totally legal court order...to do the impossible', (*Kluwer Copyright Blog*, 3 April 2014) <<https://copyrightblog.kluweriplaw.com/2014/04/03/upc-telekabel-wien/>>.
- <sup>96</sup> See M. Husovec (n 95).
- <sup>97</sup> See for example, S. Kulk and F. Zuiderveen Borgesius (n 81); C. Geiger, G. Frosio and E. Izyumenko (n 86); G. Frosio and C. Geiger, 'Taking Fundamental Rights Seriously in the Digital Service Act's platforms Liability Regime' (2023) 29 *ELJ* 1–2, 39.
- <sup>98</sup> EU CFR (n 86), Art. 16.
- <sup>99</sup> Case C-70/10, *Scarlet Extended SA v Société belge des auteurs, compositeurs et éditeurs SCRL (SABAM)* [2011] E.C.R. I-11959, paras 15–17.
- <sup>100</sup> S. Kulk and F. Zuiderveen Borgesius (n 81). See also P. Savola (n 88), 120–21; C. Geiger, G. Frosio and E. Izyumenko (n 86).
- <sup>101</sup> See EU Declaration (n 62), Chapter IV.

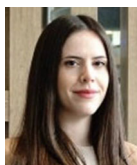
- <sup>102</sup> C. Geiger and E. Izyumenko (n 80).
- <sup>103</sup> G. Frosio and O. Bulayenko, 'Website Blocking Injunctions in Flux: Static, Dynamic and Live' (2021) 16 JIPLP 10, 1127, 1139–40. See *Times Newspapers Ltd (Nos 1 and 2) v United Kingdom*, App. nos 3002/03 and 23676/03 (ECtHR, 10 March 2009); *Ahmet Yildirim v Turkey*, App. no 3111/10 (ECtHR, 18 December 2012); *Guseva v Bulgaria*, App. no 6987/07 (ECtHR, 17 February 2015); *Cengiz and Others v Turkey*, App. nos 48226/10 and 14027/11 (ECtHR, 1 December 2015).
- <sup>104</sup> G. Frosio and O. Bulayenko, *ibid*.
- <sup>105</sup> Y. H. Lee (n 82), 164.
- <sup>106</sup> *Ahmet Yildirim v Turkey* (n 103).
- <sup>107</sup> Y. H. Lee (n 82), 164. See also G. Frosio and O. Bulayenko (n 103), 1139.
- <sup>108</sup> *Twentieth Century Fox Film v British Telecommunications* [2011] EWHC 1981 (Ch).
- <sup>109</sup> Y. H. Lee (n 82), 164, 169.
- <sup>110</sup> P. Ramakrishna, 'There's Just No Doubt That It Will Change the World': David Chalmers on V.R. and A.I.' *The New York Times* (18 June 2019), <<https://www.nytimes.com/2019/06/18/opinion/david-chalmers-virtual-reality.html>>.
- <sup>111</sup> J. H. Murray, 'Virtual/Reality: How to Tell the Difference' (2020) 19 JVC 1, 25–27.
- <sup>112</sup> EU CFR (n 86), Art. 17(2).
- <sup>113</sup> Z. Krokida, 'Harmonizing Website Blocking Injunctions in the EU: Copyright and Trade mark Perspectives' (Hart Publishing 2027 forthcoming), Ch. 2.
- <sup>114</sup> *Cartier International AG v British Telecommunications plc* [2018] UKSC 28, para 31.
- <sup>115</sup> J. Stobbs and K. Thompson, 'UK Supreme Court Decides Brand Owners Should Pay Costs of Implementing Blocking Injunctions' (Kluwer Copyright Blog 2018) <<https://legalblogs.wolterskluwer.com/trademark-blog/uk-supreme-court-decides-brand-owners-should-pay-costs-of-implementing-blocking-injunctions/>>.
- <sup>116</sup> T. Wijman, 'The Games Market in 2022: The Year in Numbers' (Newzoo, 21 December 2022) <<https://newzoo.com/resources/blog/the-games-market-in-2022-the-year-in-numbers>>; K. Arora, 'The Gaming Industry: A Behemoth With Unprecedented Global Reach' (Forbes, 17 November 2023) <<https://www.forbes.com/councils/forbesagencycouncil/2023/11/17/the-gaming-industry-a-behemoth-with-unprecedented-global-reach/>>.
- <sup>117</sup> T. Wijman, 'The Games Market in 2022: The Year in Numbers' (Newzoo, 21 December 2022) <<https://newzoo.com/resources/blog/the-games-market-in-2022-the-year-in-numbers>>.
- <sup>118</sup> European Parliament, 'Report on Esports and Video Game' (2022) <[https://www.europarl.europa.eu/doceo/document/A-9-2022-0244\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/A-9-2022-0244_EN.pdf)>.
- <sup>119</sup> Council of the European Union, 'Council Conclusions on Enhancing the Cultural and Creative Dimension of the European Video Games Sector' (2023) <<https://data.consilium.europa.eu/doc/document/ST-15901-2023-INIT/en/pdf>>
- <sup>120</sup> European Commission, 'European Media Industry Outlook' (2023) <<https://digital-strategy.ec.europa.eu/en/library/european-media-industry-outlook>>.
- <sup>121</sup> ICPEN, 'Participants in ICPEN Sweep Find a Range of Manipulative Design Practices in Mobile and Online Games' (2025) <<https://www.icpen.org/news/1432>>
- <sup>122</sup> EU CFR (n 86), Art. 11, 16, 17(2).
- <sup>123</sup> Renaissance Numerique, 'Governing the Metaverse and Tomorrow's Internet' (22 November 2023) 64–65.
- <sup>124</sup> Content Policy and Society Lab, Stanford University, 'Content Governance in the Metaverse' (August 2002), 5–16.
- <sup>125</sup> Cambridge Consultants on behalf of OFCOM 'Use of AI in Online Content Moderation' (2019) 48–52.
- <sup>126</sup> *Ibid*, 47.
- <sup>127</sup> BrandShield <<https://www.brandshield.com/>>; Lex Machina <<https://www.lexisnexis.com/community/insights/legal/lex-machina>>; TrademarkNow <<https://corsearch.com/trademarknow/>>.
- <sup>128</sup> M. Jetsaphon Niyompatama and I. Lapatoura (2025) (n 40), 3.i.
- <sup>129</sup> World Economic Forum and Capgemini, 'Navigating the AI frontier: A Primer on the Evolution and Impact of AI Agents' (2024) <[https://reports.weforum.org/docs/WEF\\_Navigating\\_the\\_AI\\_Frontier\\_2024.pdf](https://reports.weforum.org/docs/WEF_Navigating_the_AI_Frontier_2024.pdf)>; US Federal Trade Commission, 'Combatting Online Harms Through Innovation' (2022); See H. Bloch-Wehba, 'Automation in Moderation' (2020) 53 CILJ 41, 42–96.

- <sup>130</sup> M. Senftleben, 'The Original Sin—Content 'Moderation' (Censorship) in the EU' (2020) 69 GRUR Inter 4, 339–340; Youtube Content ID can be used as an illustrative content moderation tool example in use, which also comes with its criticisms, see: I. Lapatoura, 'YouTube's Transparency Report (July 2023–December 2023)' *Kluwer Copyright Blog* (14 October 2024); See European Commission, 'Ethics Guidelines for Trustworthy AI' <<https://ec.europa.eu/futurium/en/ai-alliance-consultation.1.html>>.
- <sup>131</sup> Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law, Council of Europe Treaty Series—No. 225 (2024), Art. 8.
- <sup>132</sup> See, for example, K. Hao, 'The Race to Understand the Thrilling, Dangerous World of Language AI' *MIT Technology Review* (20 May 2021) <<https://www.technologyreview.com/2021/05/20/1025135/ai-largelanguage-models-bigscience-project/>>.

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