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IP and the Metaverse

Key IP topics to consider in the Metaverse

Im folgenden Artikel werden die wichtigsten Themen in Bezug auf die Rechte an geistigem Eigentum im Metaverse dargelegt. Ausserdem wird ein Blick auf diverse Probleme geworfen, mit denen sich Rechteinhaber konfrontiert sehen.

L'article suivant présente les sujets clés en matière de propriété intellectuelle dans le métavers, en particulier les questions auxquelles les titulaires de droits doivent faire face.

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I. What Is the Metaverse?

Decentraland, The Sandbox or Somnium Space – these are only a few examples of the currently existing metaverses.[1] As such, they are convergences of physical, virtual and augmented reality combined in an immersive and constant 3D world where people can interact with each other through their avatars.[2] Frequently referenced to as the «Internet of Senses», the metaverse might mark the beginning of the internet's next iteration, which will allow users to smell, feel and taste things in a digital world.[3] The potential interactions range from purely leisure and gaming activities to professional and commercial transactions.[4]

The rise of the metaverse with its various possibilities of interaction creates new opportunities, but also expands existing digital challenges. This is particularly true for the field of intellectual property («IP»).

This article provides an overview of the various IP rights in the context of the metaverse. In doing so, the article highlights the numerous opportunities for IP protection in the metaverse and the associated challenges that might arise.

II. Patents in the Metaverse

1. Overview

In the context of the metaverse, patent protection plays a role in two respects: first, concerning hardware components; and second, computer programs. Patent protection of hardware components is at the center of interest. Regarding com-

1 T. WINTERS, The Metaverse. Prepare Now for the Next Big Thing, Poland 2021, 51 ff.

2 SCHMID, Urheberrecht für Games, in: C. Hentsch/F. Falk (Eds.), Games und Recht, Baden-Baden 2023, § 9 N 32.

3 Council of the European Union, Analysis and Research Team, Metaverse – virtual world, real challenges, 9 March 2022, ‹https://www.consilium.europa.eu/media/54987/metaverse-paper-9-march-2022.pdf› (7 February 2023).

4 European Parliamentary Research Service, June 2022 Briefing on «Metaverse, Opportunities, Risks and Policy Implications», PE 733.557, 1 ff., ‹https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733557/EPRS_BRI(2022)733557_EN.pdf› (7 February 2023).

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puter programs, however, patent protection is possible only in limited ways, as will be shown below.

2. Hardware Components

Since the emergence of the metaverse, various high-tech companies have developed hardware components to enter and use the metaverse. Such hardware components include e.g. augmented reality (AR) and virtual reality (VR) glasses, devices that personalize avatars by scanning a picture of the user and reproducing it in the form of an avatar, or devices that track the facial expressions of the user to adapt the content shown based on their reactions.[5]

Metaverse hardware components like those above are, generally speaking, eligible for patent protection as they may qualify as a patentable invention (Art. 1 paras. 1 and 2 of the Swiss Patent Act, SR 232.14, «Patent Act»). To qualify as a patentable invention, the hardware component must constitute a technical solution to a technical problem (the so-called *Aufgabe-Lösungs-Ansatz*)[6] that is new, non-obvious from the prior art, and susceptible to industrial application.[7]

As patents are granted on a first-come, first-to-file basis, it is essential for businesses to be the first mover – being a quick follower will not suffice. Consequently, if businesses consider to enter the metaverse hardware market, they are well advised to file for patent protection of their metaverse hardware components as soon as possible.

3. Computer Programs

The metaverse consists of numerous creations that run and implement the 3D environment,[8] such as e.g. a metaverse platform, a software on which operational smart contracts are based, or a so-called interplanetary file system («IPFS»). These creations are computer programs. The context of the metaverse does not pose any specificities with regard to the protectability of such computer programs under patent law.[9] Consequently, the same rules apply to metaverse computer programs as to any other computer program.[10]

Computer programs, i.e. the programming or the user interface *per se* are not eligible for patent protection (cf. Art. 1 Patent Act).[11] Protection for computer programs can only be obtained if such computer programs contain a technical solution to a technical problem (so-called «computer-integrated invention»).[12] This is not the case if only non-technical activities are implemented by a computer program, such as a mere automated displaying of data.[13]

To a certain extent, the boundaries between computer programs with a technical or non-technical character are fluid. Businesses are, hence, well advised to check the patentability of their computer program as soon as possible so as not to miss a potential protection of their computer-integrated invention.

III. Copyrights in the Metaverse

1. Overview

In the context of the metaverse, there are numerous creations that are, generally speaking, eligible for copyright protection. They can be divided into two categories: first, the metaverse itself, i.e. the computer programs that run and implement a metaverse; second, the creations within a metaverse. The latter can be divided further into creations originating inside the metaverse and creations originating outside the metaverse.

Depending on the category and subcategory, there are different legal implications.

2. Computer Programs

As shown above, a metaverse consists of numerous creations that qualify as computer programs, such as e.g. a metaverse platform, software on which operational smart contracts are based, or an IPFS.[14] Just as with patent protection, the context of the metaverse does not pose any specificities with regard to the protectability of such computer programs under copyright law.[15] Consequently, the same rules apply to the computer programs of a metaverse as to any other computer program in the real world.[16]

Computer programs are considered works of authorship and as such, they can be protected by copyright (Art. 2 para. 3 of the Swiss Copyright Act, SR 231.1, «Copyright Act»). Such protection is granted if a computer program is an intellectual creation with individual character (Art. 2

5 European Innovation Council and SMEs Executive Agency, Intellectual Property in the Metaverse, Episode III: Patents, 30 May 2022, ‹https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/intellectual-property-metaverse-episode-iii-patents-2022-05-30_en› (7 February 2023).

6 M. Schweizer/H. Zech (Eds.), in: Stämplis Handkommentar SHK Patentgesetz, Bern 2019, PatG 1 N 57 ff.; European Innovation Council and SMEs Executive Agency, Metaverse Episode III (Fn. 5).

7 Schweizer/Zech (Fn. 6), vor Art. 1 N 16; W. Straub, Softwareschutz. Urheberrecht, Patentrecht, Open Source, Zürich/St. Gallen 2011, 161 f.

8 European Innovation Council and SMEs Executive Agency, Intellectual Property in the Metaverse, Episode IV: Copyright, 30 June 2022, ‹https://intellectual-property-helpdesk.ec.europa.eu/news-events/news/intellectual-property-metaverse-episode-iv-copyright-2022-06-30_en› (February 2023).

9 European Innovation Council and SMEs Executive Agency, Metaverse Episode III (Fn. 5).

10 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).

11 Swiss Federal Institute of Intellectual Property (Ed.), Richtlinien für die Sachprüfung der nationalen Patentanmeldung, Bern 2019, 16 f.; cf. O. Nemethova/M. Peters, Patent als effektiver Schutz für Software-Produkte, InTeR 2018, 67, 70; Straub (Fn. 7), 163 ff.

12 Swiss Federal Institute of Intellectual Property (Fn. 11), 15 ff.; cf. Nemethova/Peters (Fn. 11), 67, 70; Straub (Fn. 7), 163 ff.

13 Cf. Nemethova/Peters (Fn. 11), 67, 70.

14 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).

15 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).

16 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).

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para. 1 Copyright Act).[17] Programs that are merely based on standardized codes or codes that are technically required and hence leave no creative leeway are not eligible for protection.[18]

The protection of the program extends to its source code and its object code.[19] Not protected, however, are the underlying ideas expressed through such codes, their functionality or the programming language.[20]

Concerning the ownership of copyrights, two rules apply: first, according to the so-called «Creator Principle», the creator of the computer program is the original holder of the copyrights in such a program (Art. 6 Copyright Act);[21] second, if a computer program is created under an employment contract in the course of discharging professional duties and in fulfilling contractual obligations, the employer alone is entitled to exercise the exclusive rights of use (Art. 17 Copyright Act).[22] As discussions may arise as to whether the second rule applies (i.e. whether a creation was made in the course of discharging professional duties and in fulfilling contractual obligations) and because the consequences of the second rule are still highly debated (assignment by law vs. exclusive license),[23] employers are well advised to include a clear-cut IP clause in the employment agreements with their employed programmers.[24]

3. Creations within the Metaverse

Within a metaverse, various works can be created. They range from creations that originate within the metaverse – e.g. buildings, marketplaces and avatars – to mere digital copies of works that exist in the real world. These works are so-called graphical user interfaces, which can qualify as artistic works.[25] As such, they are protected by copyright law (Art. 2 para. 2 lit. c Copyright Act).[26]

According to the Creator Principle, the creator of the graphical user interface is the original holder of the copyrights (Art. 6 Copyright Act).[27] Consequently, the holder of the copyrights in the computer programs that run and implement a metaverse does not necessarily hold the copyrights in the works created within such a metaverse.[28] Rather, if a metaverse allows its users to generate content (so-called «open» metaverses), these users will be the original holders of the copyrights in their creations.[29] The terms and conditions of a metaverse might, however, foresee a license granted in favor of the holder of the copyrights in the metaverse computer programs.[30]

If a creation originates within a metaverse, no copyrights in preexisting works are involved that need to be respected. If, however, a work created within a metaverse constitutes e.g. a digital copy of a work that exists in the real world, the copyrights in the original work must be respected. Otherwise, the creator infringes copyrights in preexisting works, regardless of whether they exist in the real world or a metaverse.[31]

4. NFTs

A so-called «token» is a block on a blockchain that represents a digital or non-digital asset. Such tokens can be classified into fungible (i.e. exchangeable) tokens and non-fungible (i.e. non-exchangeable) tokens («NFT»).[32] With fungible tokens, exchangeable assets such as cryptocurrencies can be traded on a blockchain. With NFTs, non-exchangeable assets such as unique (digital or non-digital) creations can be traded on a blockchain.[33]

The unique (digital or non-digital) creations that are represented in an NFT are in many cases works of authorship protected by copyright law. Consequently, various copyright issues arise in connection with the creation and trading of NFTs. More precisely, it is questionable whether the creation of an NFT – a process called «minting» – constitutes an act relevant to copyright law. Further, it is questionable what effect the transfer of an NFT has on the copyrights of the work represented in such NFTs.[34]

a) Minting of NFTs

With regard to the minting of an NFT, one needs to take a closer look at the separate technical steps in order to understand their relevance for the underlying copyrights:
- First, the creator generates a file on the IPFS that contains the actual creation, e.g. a digital creation or a digital copy of a physical creation.[35]

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17 BBl 1989 III 477, 522.
18 Schmid (Fn. 2), N 9.
19 Schmid (Fn. 2), N 13.
20 Schmid (Fn. 2), N 13, 15.
21 G. Hug, in: B. Müller/R. Oertli, Stämpflis Handkommentar SHK, Urheberrechtsgesetz, 2. Aufl., Bern 2012, URG 6 N 1 ff; J. De Werra, in: B. Müller/R. Oertli, Stämpflis Handkommentar SHK, Urheberrechtsgesetz, 2. Aufl., Bern 2012, URG 17 N 1 ff.
22 De Werra (Fn. 21), URG 17 N 1 ff.
23 De Werra (Fn. 21), URG 17 N 14 ff.
24 De Werra (Fn. 21), URG 17 N 14.
25 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).
26 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).
27 Hug (Fn. 21), URG 6 N 1 ff.
28 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).
29 Hug (Fn. 21), URG 6 N 1 ff.
30 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).
31 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).
32 K. Garbers-von Boehm/H. Haag/K. Gruber, Study for the JURI committee commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs, Intellectual Property Rights and Distributed Ledger Technology. With a focus on art NFTs and tokenized art, ‹www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2022)737709› (7 February 2023), 12 f.
33 K. Garbers-von Boehm/H. Haag/K. Gruber (Fn. 32), 13.
34 M. Aref/L. Fábián/S. Weber, Digitale Originale dank NFTs?, GesKR 2021, 385, 396.
35 Aref/Fábián/Weber (Fn. 34), 385, 396 f.; European Parliament Policy Department for Citizens' Rights and Constitutional Affairs (Fn. 32), 13 ff., 19.

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- Second, the creator generates another file on the IPFS that contains metadata including a link to the file containing the actual creation.[36]
- Third and last, the creator generates a token from a so-called smart contract deployed on a blockchain that contains a link to the metadata file.[37]

With the first step – the creation of a file on the IPFS that contains the actual creation – the actual creation is reproduced. Further, through the recording of the creation on the IPFS, the creation becomes publicly available, as the IPFS can be accessed by anyone from any place and at any time. Both of these acts – the reproduction and the making available to the public – are exclusively reserved to the holder of the copyrights in the original work (Art. 10 para. 2 lit. a and lit. c Copyright Act).[38] Consequently, regarding this first step of the minting of an NFT, the authorization of the holder of the rights in the original work is required or else their copyrights are being infringed.[39]

With the second step – the creation of a file on the IPFS that contains metadata including a link to the file containing the actual creation – the title and a description of the actual creation is included in the metadata. Both the title and the description could be protected by copyright law as linguistic works (Art. 2 para. 2 lit. a Copyright Act), provided that they constitute intellectual creations with individual character (Art. 2 para. 1 Copyright Act).[40] Consequently, the recording of the metadata on the IPFS could again qualify as a reproduction and a making available of the original work (Art. 10 para. 2 lit. a and lit. c Copyright Act) and, hence, the authorization of the holder of the rights in the original work could also be required for the second step of the minting of an NFT.[41]

The third step – generating a token from a smart contract containing a link to the metadata file – does not contain any act relevant to copyright law. Notably, the generating of a hyperlink to the metadata file does not constitute a making available of such metadata that could potentially contain works protected by copyright law.[42]

b) Transfer of NFTs

Concerning the effects that the transfer of an NFT has on the copyrights in the work represented therein, one needs to bear in mind that the NFT itself does not contain the creation it represents. The NFT merely contains a hyperlink to a file with metadata of the creation, which includes another hyperlink to a file that contains the creation.[43] This leads to three conclusions:

Frist, the transfer of an NFT constitutes the transfer of rights within such an NFT. The «buyer», consequently, has the right to hold the NFT in its wallet and to further transfer it.[44]

Second, the transfer of an NFT does not constitute a transfer of the copyrights in the creation represented therein. These copyrights remain with the holder of such rights unless the parties agree to a transfer of copyrights in the creation itself.[45]

Third, through the transfer of an NFT, the «buyer» does not receive a copy of the creation. Consequently, the so-called Principle of Exhaustion (Art. 12 para. 1 Copyright Act), which would allow the «buyer» to further transfer or otherwise distribute a copy of the creation, does not apply.[46]

At the end of the day, it is up to the parties of an NFT transfer to agree on the «buyer's» rights to use the underlying creation. Usually, the terms and conditions of metaverse platforms contain such language.[47] Consequently, «buyers» are well advised to check the terms and conditions of a metaverse platform to learn what rights they receive through an NFT transfer.

IV. Trademarks in the Metaverse

1. Overview

A trademark is an important commercial asset for companies, but also a valuable tool to protect business. The metaverse indeed provides additional exposure and opportunities with respect to trademarks, but also corresponding increasing risks. A number of brands are currently seeking to extend their trademarks to cover goods and services in the metaverse, and some disputes have already taken place. Based on those disputes, a few court decisions, guidelines of competent authorities and existing practice, some answers to a number of questions are now emerging, although many issues still remain unclear.

2. Protecting Existing Trademarks in the Metaverse

Traditionally, a trademark holder willing to market its goods and/or services in the real world under a trademark would apply for trademark registration and designate the physical goods to be marketed in the corresponding trademark application. The registered trademark provides protection to the sign, wording or logo concerning goods and ser-

36 Aref/Fábián/Weber (Fn. 34), 385, 396 f.; European Parliament Policy Department for Citizens' Rights and Constitutional Affairs (Fn. 32), 13 ff., 19.
37 Aref/Fábián/Weber (Fn. 34), 385, 396 f.; European Parliament Policy Department for Citizens' Rights and Constitutional Affairs (Fn. 32), 13 ff., 19.
38 Aref/Fábián/Weber (Fn. 34), 385, 396 f.; A. La Spada, La propriété intellectuelle dans le métavers, Anwaltsrevue 2022, 363, 365.
39 Cf. Aref/Fábián/Weber (Fn. 34), 385, 396 f.; La Spada (Fn. 38), 363, 365.
40 Aref/Fábián/Weber (Fn. 34), 385, 397.
41 The recording of a hyperlink to a file containing the actual creation, however, does not constitute a making available of such creation, *see* Aref/Fábián/Weber (Fn. 34), 385, 397; R. Hilty/O. Schmid/M. Weber, Urheberrechtliche Beurteilung von «Embedding», sic! 2016, 237, passim.
42 Aref/Fábián/Weber (Fn. 34), 385, 397; Hilty/Schmid/Weber (Fn. 41), 237, passim.
43 Aref/Fábián/Weber (Fn. 34), 385, 398; La Spada (Fn. 38), 363, 365.
44 K. Garbers-von Boehm/H. Haag/K. Gruber (Fn. 32), 22, 36 ff.
45 Aref/Fábián/Weber (Fn. 34), 385, 398; La Spada (Fn. 38), 363, 365.
46 Aref/Fábián/Weber (Fn. 34), 385, 398.
47 European Innovation Council and SMEs Executive Agency, Metaverse Episode IV (Fn. 8).

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vices identical or similar to those for which the trademark has been registered (principle of speciality) (Art. 13 para. 1 and 2 of the Swiss Trademark Protection Act, SR 232.11 («Trademark Act»)). Only famous trademarks («*marque de haute renommée*»/«*Berühmte Marke*») provide extended protection beyond the designated goods and/or services (Art. 15 Trademark Act).

Products existing in the metaverse are «non-physical items that are purchased and used in the online communities or online games»[48]; they are a mere virtual appearance of the real products. Thus, the prominent view is that the virtual products should be treated as computer software covered by class 9 of the Nice Classification. To secure its rights in the metaverse or enforce its rights against a third party's use of a similar or identical trademark in relation to virtual products in the metaverse, a trademark holder could not rely on its existing trademark for physical goods if this trademark does not cover class 9 for computer software. In addition, where an existing trademark is registered in class 9 of the Nice Classification, it would be considered to include virtual products retailed in the metaverse provided only that the registration is broad enough.[49]

On this issue, the draft (2023 edition) to adopt and complete the Guidelines for examination of European Union trademarks (the European Union Intellectual Property Office «EUIPO Draft Guidelines (2023 edition)»), although not universal in scope but limited to the European Union trademark, provides valuable guidance. Indeed, according to the EUIPO Draft Guideline (2023 edition) «virtual goods are proper to Class 9 because they are treated as digital contents or images.»[50] The EUIPO further indicates that «the terms downloadable goods and virtual goods lack clarity and precision».[51] The content to which the virtual goods relate must be specified. According to the EUIPO, «an acceptable designation would be downloadable virtual goods, namely, digital art.»[52]

In the same vein, the 12th Edition of the nice Classification has been modified to include in class 9 the term «downloadable digital files authenticated by non-fungible tokens [NFTs]». From the perspective of the Nice Classification, NFTs are understood as unique digital certificates registered in a blockchain. They are deemed a means of certification. They are not the digital item itself. Consequently, when applied for trademark registration, NFTs cannot be accepted as such for classification purposes. The item authenticated by the non-fungible token must be specified. An acceptable designation would be «digital art, authenticated by an NFT».[53]

It is worth noting that class 9 only covers downloadable goods. Offers of services in relation to virtual goods in the metaverse are to be classified in line with the established principles of classification with specifications concerning the virtual goods to which the retail services relate.[54] An acceptable designation would be «provision of an online marketplace for downloadable digital art images authenticated by non-fungible tokens [NFTs]» in class 35.[55] In the context of the metaverse, the relevant classes would be class 35 (advertising; business management, organization and administration; office functions) for virtual marketplaces, class 41 (online gaming services) for entertainment components,[56] and class 42 (design and development of computer hardware and software).

Trademark holders willing to protect their trademarks in the metaverse are well advised to check their existing trademarks to make sure that designated goods and services are correctly classified and, if not, consider extending their trademark portfolio. As a reminder, once the trademark is registered, the trademark holder cannot add classes. Only subsequent restrictions are allowed. It is then necessary to apply for a new trademark to cover additional classes.

3. Filing a Trademark for Use in the Metaverse and Future Developments

Registration for virtual goods and/or services, in particular in class 9 for virtual goods, will secure the rights of the trademark holder in the metaverse and provide the basis for enforcing rights against third-party infringement. However, even when they have filed a trademark for the metaverse, the trademark holder should keep in mind that complements to the registration might be needed in the future. The metaverse is indeed only at an early stage. It might evolve in the future, along with its associated technology. Therefore, in the future, actual use of a trademark in the metaverse might vary from the use contemplated at the time of registration with the risk of invalidity of non-used trademark.

Consequently, whatever strategy is adopted by the trademark holder, a regular monitoring of the metaverse is strongly recommended, whether this means to monitor possible trademark infringements by third parties in the metaverse or to amend a trademark portfolio in order to adapt to the metaverse and related technology developments.

4. Genuine Use of a Trademark in the Metaverse

For a trademark to remain protected, it must be used in accordance with its registration features (registered verbal or figurative element, goods and services, territory) within five years following the end of the objection period or proceedings if any (Art. 12 para. 2 Trademark Act). It is questionable whether a trademark used in the metaverse is genuinely

48 Draft EUIPO Guidelines for examination of European Union trademarks, Version 1.0, 15 June 2022, Section 3, § 6.25.
49 *See* M. Baccarelli/M. Baldassarra, «Juventus FC Scores Landmark Win for a TM Infringement Case in the Metaverse», Monday, 29 November 2022, ‹https://www.mondaq.com/italy/trademark/1255084/juventus-fc-scores-landmark-win-for-a-tm-infringement-case-in-the-metaverse#› (15 January 2023).
50 Draft EUIPO Guidelines (Fn. 48), Section 3, § 6.25.
51 Draft EUIPO Guidelines (Fn. 48), Section 3, § 6.25.
52 Draft EUIPO Guidelines (Fn. 48), Section 3, § 6.25.
53 Draft EUIPO Guidelines (Fn. 48), Section 3, § 6.25.
54 Draft EUIPO Guidelines (Fn. 48), Section 3, § 6.25.
55 Draft EUIPO Guidelines (Fn. 48), Section 3, § 6.25.
56 La Spada (Fn. 38), 363, 364.

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used. The answer to that question is presently unclear. However, a commercial exploitation of the trademark in the metaverse through the offer of virtual products and services under the registered trademark would likely be recognized as genuine use of the trademark pursuant to Art. 11 of the Swiss Trademark Act.

The question of the relevant territory arises. Indeed, pursuant to the principle of territoriality, a trademark must be used on the territory of the country(ies) in which the trademark is registered.[57] In the context of the metaverse, is a trademark used in the relevant territory when only used in the metaverse? The same rules as those developed for the use in the internet should likely apply: there should be a genuine use of the trademark in Switzerland if the use in the metaverse has a commercial impact in the country.[58] Other possible criteria to affirm genuine use could be the targeted consumers, the orders or regular uses of the metaverse by consumers based in Switzerland.[59] The legal position remains unclear for the time being. Case law will have to provide the desired clarifications on this matter.

5. Assessment

So far, the Swiss Federal Institute of Intellectual Property (IPI) has not published any communication regarding the metaverse. It is reasonable to assume that the IPI will follow the current trend outlined by the EUIPO. Court decisions will moreover provide desirable clarification.

It may also be speculated whether a revision of the trademark legislation ought to include specific references to the metaverse. This would avoid an inflation of trademark registrations in the specific classes for virtual goods and services and provide adequate protection to those who are not considering offering goods or services in the metaverse but are a victim of trademark infringement by third parties in the metaverse. One could consider completing Art. 13 para. 2 of the Trademark Act to extend the prohibited use of trademark to affixing the sign not only on the goods and packaging but also to the virtual appearance of the products offered in virtual sphere such as metaverse. It could even be extended to offering the goods and their virtual appearance, placing them on the market, whether a real or online marketplace, or storing them for such purposes under the sign. However, this solution, if adopted, will only be useful if it is harmonised at the international level. Indeed, in view of the current trend, adding specific classes for virtual products and services would still be needed for international protection.

V. Designs in the Metaverse

1. Overview

Design protection provides exclusive rights in novel aspects of the appearance of a product. The protection extends to the ornamental aspects of products, including their shape, configuration, colour and pattern (Art. 1 of the Swiss Design Act, SR 232.12 («Design Act»)).

The design right confers on its right holder the right to prohibit others from using the design for industrial purposes (Art. 9 para. 1 Design Act), which should be understood as «use for professional purpose» *(«zu gewerblichen Zwecken»)*.[60] Use includes, but is not limited to, manufacturing, storing, offering for sale, putting into circulation, importing, exporting, transiting and possessing for these purposes (Art. 9 Design Act). We will focus here on issues of disclosure, use and protection of designs in the metaverse.

2. New Design and Disclosure in the Metaverse

To qualify for design protection a design must be new and original (Art. 2 para. 1 Design Act). First, a design is not new if an identical design, which could be known within the circles specialized in the relevant sector in Switzerland, has been made available to the public prior to the filing date or the priority date (Art. 2 para. 2 Design Act). Contents displayed in the metaverse can been seen and known by anybody. They are therefore «made available to the public» when shared in the metaverse. There is therefore «disclosure» of a design via the metaverse. Second, if such a design is disclosed in the metaverse, it is questionable to what extent such disclosure undermines the novelty of the design. Novelty of a design is a relative concept set by the knowledge of circles specialized in the relevant sector in Switzerland.[61] Yet, it is unclear whether any disclosure of a design in the metaverse will undermine the novelty of such design in Switzerland, merely because metaverse is accessible from Switzerland. Based on the principle of relativity, the answer is probably no. By analogy, with the disclosure on the internet,[62] the design displayed in the metaverse is indeed easily accessible; however, the probability of coming across a design displayed in the metaverse by chance is low.

But then, what criteria should be applied to determine whether the design is known by the specialized circle in Switzerland? Regarding disclosure on the internet, the literature considers that the mere existence of an image on the internet has no significance for the state of the design with the following caveats: the operator does not make the website and its address known by means of an advertisement that is noticed in Switzerland; there are no links to the website from other websites that are well frequented by relevant specialized circles in Switzerland or the Website is not reported in a top position in search engine.[63] In addition, a certain minimum duration of time spent on the internet is required.[64] The same rules should likely apply to disclosure

57 BGer, sic! 2009, 268 ff. E. 2.1, «Gallup».
58 E. Meier, in: J. de Werra/Ph. Gilliéron (Eds.), Commentaire romand, Propiété intellectuelle, Basel 2013, MSchG 11 N 54.
59 Meier (Fn. 58), MSchG 11 N 20, 54.
60 Y. Cherpillod, in: J. de Werra/Ph. Gilliéron (Eds.), Commentaire romand, Propriété intellectuelle, Basel 2013, DesG 9 N 3.
61 Cherpillod (Fn. 60), DesG 2 N 3.
62 P. Heinrich (Ed.), DesG/HMA Kommentar, 2. Aufl., Zürich 2014, DesG 2 N 64.
63 Heinrich (Fn. 62), DesG 2 N 66.
64 Heinrich (Fn. 62), DesG 2 N 67.

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in the metaverse. Case law on disclosure in the metaverse remains to be seen. But it is likely that a specific link to the specialised circle in Switzerland, for example, an advertisment targeting clients in Switzerland, would be required for the disclosure of a design in the metaverse to undermine the novelty of such design in Switzerland.

3. Protecting Design in the Metaverse

What must then be considered is whether it is possible to protect a design exclusively intended for the metaverse with no equivalent in the real world and, if so, how to protect such a design. Although perceived as borderline cases, graphical user interfaces (GUIs) of data processing systems and components of IT programs, such as icons, can be protected by design rights. They are indeed visually perceptible, self-mobile in their electronic form and independently marketable.[65] They are registered for products in the classes 14.04 of the Locarno Classification (screen displays and icons). Yet, the same should apply to designs intended for the metaverse. There is no doubt about their marketability since one of the functions of the metaverse is precisely to allow the offer and sharing of virtual products.

Consequently, designs intended to the metaverse only will likely have to be registered as a product of the class 14.04. As a matter of fact, class 14.04 of the Locarno Classification has recently been updated to include augmented reality graphical user interfaces [for screen display]. This applies since 1 January 2023.[66]

4. Use of a Third Party's Design for Virtual Goods in the Metaverse: Prohibited Use?

Design protection is a right to exclude. It entitles the right holder to prohibit third parties from using its design. «Use» is understood in a broad form. It is any form of use in the sense of materialization *(«Verkörperung»)* of the design.[67]

In that respect, is there any use of a design in the metaverse insofar as use in the metaverse does not result in any material product? Would this use be prohibited? Article 9 of the Swiss Design Act provides a non-exclusive list of prohibited uses of designs. This list does not directly refer to design as an immaterial asset but to the product. For some authors, a design is always linked to a specific product. It is in fact a specific form for a specific product, so that the design includes the nature of the product.[68] Hence, the protection does not extend to the use of the protected form for any products but only for identical products or products of a similar kind.[69] For these authors, a product is of a similar kind when it is substitutable or functionally highly similar.[70] For other authors, design protection applies regardless of the product – it is the design as a form which is protected. For the latter, the design of a car cannot therefore be used for a toy.[71]

In this context, it remains unclear whether the protection of a design registered for a physical goods extends to its corresponding virtual product insofar as they are not substitutable. The question of whether the right holder can object to the use of its design for virtual products offered in the metaverse will have to be determined by case law.

VI. Risks and Additional Issues in Relation to the Metaverse

There is no doubt that the metaverse will provide new opportunities, but this is not without risks and challenges. To conclude, here is a brief, non-exhaustive list of such risks and additional issues raised by the metaverse.

1. Detection of Infringement in the Metaverse

First of all, it may be difficult for right holders to detect infringements of their IP rights in the metaverse. There is indeed not one but several metaverses which need to be regularly monitored to detect infringements. The difficulty will be even greater if the right holder itself is not active in the metaverse. In this context, regular monitoring of the metaverse is essential and recommended.

2. Identification of Infringer

Once an infringement has been detected, the right holder will have further troubles to deal with. One of them is the difficulty in identifying the author of the infringement. The metaverse provides a high level of anonymity to its users, especially when blockchain technology is used. It may therefore be difficult if not impossible to identify the infringer, who in some cases will hide behind an avatar. Yet, without knowing the identity of the infringer, the right holder could be deprived of legal recourse even though a violation of its rights is proven, at least as far as compensation for damage is concerned. In that context, there is a particular need for metaverse platforms to provide notice-and-take-down procedures. While this may not provide compensation for incurred damage, it is at least an effective means of ending the infringement.

3. Enforcement

When the right holder is finally able to seize a court, enforcement of claims for destruction based on intellectual property rights will in most cases be impossible for technical reasons, in particular in case of unauthorized NFTs. Indeed, the entry in the blockchain is immutable.[72]

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65 Heinrich (Fn. 62), DesG 1 N 23 and 82.
66 World Intellectual Property Organization, Fourteenth Edition of the Locarno Classification, January 1 2023.
67 Heinrich (Fn. 62), DesG 9 N 16.
68 Heinrich (Fn. 62), DesG 1 N 47.
69 Cherpillod (Fn. 60), DesG 9 N 22.
70 Cherpillod (Fn. 60), DesG 9 N 20.
71 R. Stutz/S. Beutler/M. Künzi, Designgesetz. DesG, Bern 2006, Art. 8 N 72.
72 Garbers-von Boehm/Haag/Gruber (Fn. 32).

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4. Applicable Law and Jurisdiction

For issues relating to applicable law and jurisdiction, the principles developed in relation to intellectual property infringements on the Internet may likely be used as a basis. However, putting it into practice could still be difficult.

5. License and Coexistence Trademark Agreement

A license grants to the licensee the right to use the intellectual property rights whether worldwide or for a specific territory, usually defined by reference to the territory of one or several countries. Licenses may also be granted for a specific field of exploitation. In the future, it will be necessary to consider the use in the metaverse to properly allocate the right to use between licensee and licensor or between different licensees. The same should apply to coexistence trademark agreements.

Zusammenfassung

Der Aufstieg des Metaversums bringt eine Vielzahl neuer Möglichkeiten mit sich. Gleichzeitig vergrössert es die bestehenden digitalen Herausforderungen. Im Rahmen des Patentrechts sind die zahlreichen Hardwarekomponenten, die entwickelt werden, um das Metaversum zu betreten und zu nutzen, in der Regel patentfähig. Die Computerprogramme, die das Metaversum ausführen und implementieren, sowie die grafischen Benutzeroberflächen, die innerhalb des Metaversums erstellt werden, sind geistige Schöpfungen der Literatur und Kunst und als solche urheberrechtlich geschützt. Wird eine grafische Benutzeroberfläche (oder eine andere Schöpfung) über ein NFT veräussert, wird das zugrunde liegende Urheberrecht nicht auf den «Käufer» übertragen, es sei denn, dies wurde ausdrücklich vereinbart. Markenschutz für Waren und Dienstleistungen im Metaversum ist möglich, erfolgt allerdings nicht automatisch. Es ist eine spezifische Eintragung für die Waren und Dienstleistungen im Metaversum erforderlich. Auch ein ausschließlich für das Metaversum entworfenes Design kann geschützt werden. Ob sich der Schutz eines bestehenden Designs für physische Produkte auch auf ein virtuelles Äquivalent erstreckt, ist noch nicht geklärt. In jedem Fall und trotz des gewährten Rechtsschutzes werden die Inhaber von Rechten des geistigen Eigentums unweigerlich mit Schwierigkeiten bei der Durchsetzung ihrer Rechte konfrontiert sein – Schwierigkeiten, die mit einer globalen und anonymen virtuellen Welt zusammenhängen.

Résumé

L'essor du métavers offre une myriade de nouvelles possibilités. Parallèlement, il amplifie les défis numériques existants. Dans le cadre du droit des brevets, les nombreux composants matériels développés pour entrer dans le métavers et l'utiliser sont, de manière générale, éligibles à la protection par brevet. Les programmes informatiques qui exécutent et mettent en œuvre le métavers ainsi que les interfaces utilisateur graphiques créées au sein du métavers sont considérés comme des œuvres d'art et sont donc protégés par la loi sur le droit d'auteur. Lorsqu'une interface utilisateur graphique (ou une autre création) est échangée par le biais d'un NFT, le droit d'auteur sous-jacent n'est pas transféré à l'«acheteur», sauf accord explicite. La protection d'une marque pour des produits et services dans le métavers est possible, mais n'est pas automatique. Un enregistrement spécifique pour les produits et services du métavers est nécessaire; un design exclusivement destiné au métavers peut également être protégé. La question de savoir si la protection d'un design existant pour des produits physiques s'étend à leurs équivalents virtuels reste à déterminer. En tous les cas et malgré la protection légale conférée, les titulaires de droits de propriété intellectuelle font face à des difficultés dans la mise en œuvre de leurs droits, difficultés liées à un monde virtuel global et anonyme.

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