

## INTELLECTUAL PROPERTY PIRACY IN THE TIME OF THE METAVERSE

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## I. INTRODUCTION

When the Non-Fungible Token (NFT) artist Mason Rothschild released a set of “MetaBirkins,” including one that reportedly sold for \$42,000 in the metaverse,<sup>1</sup> Hermès, the originator of this bag trademarked as “Birkin” in the real world, filed a complaint in the United States Southern District of New York Court.<sup>2</sup> The complaint alleged that the NFT creator was a “digital speculator who is seeking to get rich quick by appropriating the brand METABIRKINS” and that “METABIRKINS simply rips off Hermès famous BIRKIN trademark by adding the generic prefix ‘meta’ to the famous trademark BIRKIN.”<sup>3</sup> Hermès eventually won its lawsuit when a Manhattan federal jury concluded that the artist’s NFTs had violated Hermès’ trademark rights, awarding the French fashion house \$133,000 in damages.<sup>4</sup>

Digital fashion is being created through NFTs around the world.<sup>5</sup> An NFT is a unique digital art asset using blockchain technology.<sup>6</sup> The year 2021 saw an explosion of sales for NFT fashion, art, and other

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<sup>1</sup> Robert Williams, *Hermès Sues NFT Creator Over “MetaBirkin” Sales*, BUSINESS OF FASHION (Jan. 17, 2022), <https://www.businessoffashion.com/news/luxury/hermes-sues-nft-creator-over-metabirkin-sales/> [<https://perma.cc/E7SA-FWLN>].

<sup>2</sup> Mara Siegler, *Hermès suing artist over Birkin bag NFTs*, PAGE SIX (Jan. 20, 2022, 8:44 PM), <https://pagesix.com/2022/01/20/hermes-suing-artist-over-birkin-bag-nfts/> [<https://perma.cc/T7K2-A3E2>].

<sup>3</sup> Complaint & Demand for Jury Trial at 1, *Hermès Int’l v. Rothschild*, No. 1:22-cv-00384 (S.D.N.Y. Jan. 14, 2022).

<sup>4</sup> Blake Brittain, *Hermes wins U.S. trademark trial over ‘Metabirkins’ NFTs*, REUTERS (Feb. 8, 2023), <https://www.reuters.com/legal/hermes-wins-us-trademark-trial-over-metabirkin-nfts-defendants-lawyer-2023-02-08/> [<https://perma.cc/CM3Q-AB4B>].

<sup>5</sup> See generally Ross Blum et al., *Panel 1: Digital Art and Digital Collectibles*, 37 CARDOZO ARTS & ENT. L.J. 567, 576 (2019).

<sup>6</sup> Lynne Lewis et al., *Non-Fungible Tokens and Copyright Law*, INTELL. PROP. & TECH. L.J., Sept. 2021, at 18, 18.

collectibles<sup>7</sup>—a market which crashed in 2022.<sup>8</sup> Gucci,<sup>9</sup> Nike,<sup>10</sup> and Balenciaga<sup>11</sup> have all experimented with their own versions of virtual fashion in the metaverse. Fashion is a growing part of the metaverse, and fashion stylists are finding their place.<sup>12</sup> The entertainment, education,

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<sup>7</sup> Chusan Akolkar, *Non-Fungible Tokens (NFT) Market Clocks \$2.5B Sales Volume in H1 2021*, COINSPEAKER (July 6, 2021), <https://www.coinspeaker.com/nft-market-2-5b-sales-h1-2021/> [<https://perma.cc/79SV-3TYV>].

<sup>8</sup> Scott Nover, *The NFT market is down by almost every metric*, QUARTZ (Oct. 14, 2022), <https://qz.com/the-nft-market-is-down-by-almost-every-metric-1849655660> [<https://perma.cc/P5ZP-FK28>].

<sup>9</sup> Stephanie Hirschmiller, *Gucci Vault Is Live In The Sandbox Metaverse And It's Selling Exclusive Digital Collectibles*, FORBES (Oct. 27, 2022, 11:01 AM), <https://www.forbes.com/sites/stephaniehirschmiller/2022/10/27/gucci-vault-launches-in-the-sandbox-metaverse/?sh=157c96ee6237> [<https://perma.cc/2SVH-62CZ>] (“Gucci Vault, which launched in 2021, is the brand’s experimental online store it calls its metaverse ‘emissary’ or representative, and features a mesh of archive sales, collaborative collections and NFT projects.”); see *Vault*, GUCCI, <https://vault.gucci.com/en-US/story/metaverse> [<https://perma.cc/SD87-6SNS>] (last visited Mar. 19, 2023).

<sup>10</sup> Bernard Marr, *The Amazing Ways Nike Is Using the Metaverse, Web 3 And NFTs*, FORBES (July 1, 2022, 1:05 AM), <https://www.forbes.com/sites/bernardmarr/2022/06/01/the-amazing-ways-nike-is-using-the-metaverse-web3-and-nfts/?sh=645bc98a56e9> [<https://perma.cc/23GU-VXL2>].

<sup>11</sup> See *Cristóbal Balenciaga: To The Moon*, CRYPTO.COM, <https://crypto.com/nft/collection/068a64867a8f11b68facbdb7ecefblac?lang=en> [<https://perma.cc/559D-CDS2>] (last visited Mar. 19, 2023).

<sup>12</sup> Tanya Basu, *The metaverse fashion stylists are here*, MIT TECH. REV. (Dec. 7, 2022), [https://www.technologyreview.com/2022/12/07/1064364/the-metaverse-fashion-stylists-are-here/?truid=1e6e5531b46aa95546b18849fb46fde8&utm\\_source=the\\_download&utm\\_medium=email&utm\\_campaign=the\\_download.unpaid.engagement&utm\\_term=&utm\\_content=12-07-2022&mc\\_cid=12777dc767&mc\\_eid=f885456765](https://www.technologyreview.com/2022/12/07/1064364/the-metaverse-fashion-stylists-are-here/?truid=1e6e5531b46aa95546b18849fb46fde8&utm_source=the_download&utm_medium=email&utm_campaign=the_download.unpaid.engagement&utm_term=&utm_content=12-07-2022&mc_cid=12777dc767&mc_eid=f885456765) [<https://perma.cc/8W5J-SQ69>].

gaming, and distributed ledger technology worlds are following suit.<sup>13</sup>

Touted to be a future industry worth \$10 trillion, the metaverse is envisioned as an immersive version of the internet, complete with three-dimensional virtual environments.<sup>14</sup> Augmented by virtual reality (VR) headsets and often reliant upon Artificial Intelligence (AI), the metaverse is a digital technology experience that supports entertainment, shopping, education, communication, and work environments in one seamless space.<sup>15</sup> The metaverse relies on cloud computing, the internet, and network connectivity.<sup>16</sup> Andrew D. Kasnevich explains:

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<sup>13</sup> See Ulrik Lykke, *NFTs and Traditional Industries: A New Frontier for Creative Commerce*, INVESTING.COM (Feb. 28, 2023, 7:08 AM ET), <https://www.investing.com/analysis/nfts-and-traditional-industries-a-new-frontier-for-creative-commerce-200635751> [<https://perma.cc/5AGE-KSDV>]; see also Erin Brereton, *What are NFTs, and What Role Can They Play in K-12?*, EDTECH (Sept. 20, 2022), <https://edtechmagazine.com/k12/article/2022/09/what-are-nfts-and-what-role-can-they-play-k-12> [<https://perma.cc/HS2R-ZEGG>].

<sup>14</sup> Sean Williams, *The Single Biggest Question That'll Determine the Future of the \$30 Trillion Metaverse*, MOTLEY FOOL (Dec. 14, 2021, 5:06 AM), <https://www.fool.com/investing/2021/12/14/question-determine-future-of-30-trillion-metaverse/#:~:text=Within%2010%20to%2015%20years,reality%2C%20one%20unknown%20loom%20large> [<https://perma.cc/3N7C-226G>].

<sup>15</sup> The term “metaverse” was first used by Neal Stephenson in his 1992 novel *Snow Crash*. Stephanie Condon, *He coined the term ‘metaverse.’ Now, Neal Stephenson wants to make something of it*, ZDNET (Jan. 23, 2023), <https://www.zdnet.com/article/he-coined-the-term-metaverse-now-neal-stephenson-wants-to-make-something-of-it/> [<https://perma.cc/EU3B-3UKU>]; see also Jackie Wiles, *What Is a Metaverse? And Should You Be Buying In?*, GARTNER (Oct. 21, 2022), <https://www.gartner.com/en/articles/what-is-a-metaverse> [<https://perma.cc/V67H-Y8W5>] (“DToCs and digital humans can interact with customers to aid in areas, such as financial transactions, concierge shopping experiences or patient health monitoring.”).

<sup>16</sup> *Metaverse and Cloud Computing: Future of Technology*, TESTPREPTRAINING, <https://www.testpreptraining.com/blog/metaverse->

The metaverse is a new way to engage with computers through artificial intelligence (AI), widespread connectivity, augmented reality (AR) and virtual reality (VR). Instead of interacting with a two-dimensional application or website via screen and keyboard, the metaverse adds a figurative “third dimension” for users to explore in an intuitive, realistic manner. The metaverse is also an opportunity for a new digital economy. Users can buy and sell goods, services, and property, and even attend events virtually. Like the Internet before it, the metaverse is expected to lay a foundation for the creation of business, art, and technology.<sup>17</sup>

Yet, for all these tremendous opportunities for creativity, commerce, and entertainment, the metaverse—in its early forms and in its future iterations—is also rife with daunting challenges.<sup>18</sup> Andy Ramos contends:

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and-cloud-computing-future-of-technology/ [https://perma.cc/L4S6-BU4V] (last visited Mar. 23, 2023) (“The metaverse and cloud computing are interconnected in that the cloud infrastructure can provide the necessary resources for the metaverse to exist, and the metaverse can offer a new platform for cloud computing applications and services.”).

<sup>17</sup> Andrew D. Kasnevich, *IP in the Metaverse: An Overview for Retailers in a New Landscape*, THE NAT’L L. REV. (Mar. 16, 2022), <https://www.natlawreview.com/article/ip-metaverse-overview-retailers-new-landscape> [https://perma.cc/PFP5-VDB4].

<sup>18</sup> MCKINSEY & CO., VALUE CREATION IN THE METAVERSE: THE REAL BUSINESS OF THE VIRTUAL WORLD 9 (2022), <https://aboutblaw.com/4AV> [https://perma.cc/VNR2-T9VQ]; Andrea Vittorio, *Metaverse Technology Opens Up a Wider World of Privacy Concerns*, BLOOMBERG LAW (Aug. 30, 2022), [https://www.bloomberglaw.com/bloomberglawnews/exp/eyJjdHh0IjoiUFZOVyIsImklIjoiMDAwMDAxODItYTg2MC1kYjMyLWFKZWItZmE2NzVhOWQwMDAxIiwic2lnIjoiV1Z6SVNIR083bXJ1VFQ5Z3NzRk1FR0NSamNBPSIsInRpbWUiOiIxNjYxODgyMjg3IiwidXVpZCI6Ii9xQ2h4Rmc5VVpKVUh5b1BraFBYVFE9PTY5aktNNEJWk0ZDV3ZPKzNoM21Fc1E9PSIsInYiOiIxIn0=?bwid=00000182-a860-db32-adeb-fa675a9d0001&cti=L SCH&emc=bblnw\\_n1%3A16&et=NEWSLETTER&isAlert=false&item=read-text&qid=7346403&region=digest&source=newsletter&uc=1320016995&udvType=Alert&usertype=External\\_](https://www.bloomberglaw.com/bloomberglawnews/exp/eyJjdHh0IjoiUFZOVyIsImklIjoiMDAwMDAxODItYTg2MC1kYjMyLWFKZWItZmE2NzVhOWQwMDAxIiwic2lnIjoiV1Z6SVNIR083bXJ1VFQ5Z3NzRk1FR0NSamNBPSIsInRpbWUiOiIxNjYxODgyMjg3IiwidXVpZCI6Ii9xQ2h4Rmc5VVpKVUh5b1BraFBYVFE9PTY5aktNNEJWk0ZDV3ZPKzNoM21Fc1E9PSIsInYiOiIxIn0=?bwid=00000182-a860-db32-adeb-fa675a9d0001&cti=L SCH&emc=bblnw_n1%3A16&et=NEWSLETTER&isAlert=false&item=read-text&qid=7346403&region=digest&source=newsletter&uc=1320016995&udvType=Alert&usertype=External_) [https://perma.cc/24AD

It is a certainty that NFTs and the metaverse, when it comes into being, will bring many challenges to owners of IP rights. Most of these challenges cannot be anticipated at this stage. Consequently, we must analyze NFTs, the emergent metaverse and any other new digital phenomena against existing regulations, which have been enacted after thorough debate by multiple countries and cultures. These regulations have also been tested in various scenarios and have proven valid for decades. Undoubtedly, some adjustments will be necessary in the coming years to regulate human interaction in digitally-connected worlds, but these must come when we learn the nature of these challenges. In the meantime, IP rights will continue to be as valid as ever for the advancement of science and the arts.<sup>19</sup>

One of the obvious areas of law that needs to be explored involves Intellectual Property (IP), comprised of copyright, patents, and trademarks. A key challenge in the metaverse is interoperability, which means the existence of a streamlined system so that the end-user experiences a “continuity.”<sup>20</sup> The main legal issue with interoperability arises when a company uses its proprietary “coding system” in the metaverse.<sup>21</sup> Because everything must be

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-JMJA] (noting concerns over privacy in the metaverse, particularly when it relates to children).

<sup>19</sup> Andy Ramos, *The metaverse, NFTs and IP rights: to regulate or not to regulate?*, WIPO, [https://www.wipo.int/wipo\\_magazine/en/2022/02/article\\_0002.html](https://www.wipo.int/wipo_magazine/en/2022/02/article_0002.html) [<https://perma.cc/95Z3-VX7J>] (last visited Mar. 29, 2023).

<sup>20</sup> Sarah Lewis, *Definition: Interoperability*, TECHTARGET, <https://www.techtarget.com/searcharchitecture/definition/interoperability> [<https://perma.cc/V8C7-D7E8>] (last visited Dec. 16, 2022) (defining interoperability as “the ability of different systems, devices, applications or products to connect and communicate in a coordinated way . . .”).

<sup>21</sup> See *The Reed Smith Guide to the Metaverse: Intellectual property*, REEDSMITH, <https://www.reedsmith.com/en/perspectives/>

shared in order to streamline the “operation,” there may be potential issues of IP infringement.<sup>22</sup> In the metaverse, it is also unclear which country’s laws will reign supreme.<sup>23</sup> Which jurisdiction will provide rights and enforcement of rules to vendors, developers, and consumers in the metaverse? This Article does not explore either of these two challenges.

Instead, this Article focuses on IP piracy and counterfeiting, both long-time problems in the real world and online.<sup>24</sup> These problems will only be exacerbated in the metaverse. The research group Gartner predicts that by 2026, “25% of people will spend at least one hour a day in the metaverse for work, shopping, education, social and/or entertainment.”<sup>25</sup> Moreover, “30% of organizations worldwide will have products, such as apparel, automobiles, artwork, and other goods in the form of NFTs, available in the metaverse.”<sup>26</sup> Piracy is likely to flourish in the metaverse.<sup>27</sup>

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metaverse/2022/08/intellectual-property [https://perma.cc/FP9T-SWM A] (last visited Apr. 3, 2023).

<sup>22</sup> *Id.*

<sup>23</sup> See generally Schuyler Moore, *Law In The Metaverse*, FORBES (Dec. 22, 2021, 12:02 AM), <https://www.forbes.com/sites/schuylermoore/2021/12/22/law-in-the-metaverse/?sh=534ec01145d1> [https://perma.cc/56NA-FENC].

<sup>24</sup> See generally James M. Cooper, *Piracy 101*, 36 CAL. WEST. INT’L L.J. (SPECIAL ISSUE) 89 (2005).

<sup>25</sup> Meghan Rimol, *Gartner Predicts 25% of People Will Spend At Least One Hour Per Day in the Metaverse by 2026*, GARTNER (Feb. 7, 2022), <https://www.gartner.com/en/newsroom/press-releases/2022-02-07-gartner-predicts-25-percent-of-people-will-spend-at-least-one-hour-per-day-in-the-metaverse-by-2026> [https://perma.cc/E78N-B63V].

<sup>26</sup> Benjamin Stasa, *Will Metaverse Platforms Establish IP Enforcement Protocols?*, JDSUPRA (May 4, 2022), <https://www.jdsupra.com/legalnews/will-metaverse-platforms-establish-ip-2471920/> [https://perma.cc/AW2T-QSS8].

<sup>27</sup> *Id.*

This Article explores ways in which companies, innovators, artists, and cultural workers can best protect their IP rights in the metaverse. After a short introduction, Part II of this Article details the perennial scourge of IP piracy and counterfeiting and the threats that these illicit activities pose to legitimate commerce, government tax revenues, public safety, and national security. Part III examines the implications that the metaverse poses for businesses going forward with respect to brand management and revenue source protection. Part IV details the manners in which IP rights can be best protected in the metaverse. Part V concludes with a review of the law enforcement challenge that traditional jurisdiction rules face with the metaverse and calls for more regulatory clarity on the part of sovereign States to deal with IP rights in the context of Web 3.0.

## II. THE PERENNIAL SCOURGE OF INTELLECTUAL PROPERTY PIRACY

IP piracy has long been a scourge for U.S. IP rights holders.<sup>28</sup> For years, the U.S. government has provided inaccurate estimates.<sup>29</sup> U.S. Secretary of Commerce Carlos Gutierrez and other U.S. officials have previously claimed that U.S. businesses lost \$250 billion annually.<sup>30</sup> This

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<sup>28</sup> See, e.g., James M. Cooper, *Games Without Frontiers: The Increasing Importance of Intellectual Property Rights for the People's Republic of China*, 22 WAKE FOREST J. BUS. & INTELL. PROP. L. 43, 47–48 (2021).

<sup>29</sup> U.S. GOV'T ACCOUNTABILITY OFF., GAO-10-423, INTELLECTUAL PROPERTY: OBSERVATIONS ON EFFORTS TO QUANTIFY THE ECONOMIC EFFECTS OF COUNTERFEIT AND PIRATED GOODS 18–19 (2010).

<sup>30</sup> *A Warning with Teeth: N.Y. Rolls Up Movie Piracy Rings*, THE FED. BUREAU OF INVESTIGATION (June 30, 2006), <https://archives.fbi.gov/archives/news/stories/2006/june/iprny063006> [<https://perma.cc/T7Y9-AWDT>].



estimation was rightly criticized by the U.S. Government Accountability Office (GAO) for its lack of credible evidence and methodology.<sup>31</sup> According to the GAO, it is impossible to accurately measure counterfeiting and piracy: “There is no single methodology to collect and analyze data that can be applied across industries to estimate the effect of counterfeiting and piracy on the U.S. economy or industry sectors.”<sup>32</sup> Subsequent U.S. government reports lacked specific overall estimates of damages.<sup>33</sup> One GAO report states that:

The U.S. economy as a whole may grow more slowly because of reduced innovation and loss of trade revenue. To the extent that counterfeiting and piracy reduce investments in research and development, companies may hire fewer workers and may contribute less to U.S. economic growth, overall. Furthermore, as GAO reported in June 2012, private sector organizations have experienced data loss or theft, economic loss, computer intrusions, and privacy breaches. For example, in February 2011, media reports stated that computer hackers had broken into and stolen proprietary information worth millions of dollars from the networks of six U.S. and European energy companies.<sup>34</sup>

Notwithstanding, hacking and malware attacks are on the rise.<sup>35</sup> In the European Union (EU) too IP violations

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<sup>31</sup> U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 29 (noting the estimation that piracy costs the U.S. \$200 to \$250 billion and 750,000 jobs annually came from a press release made by the Federal Bureau of Investigation).

<sup>32</sup> *Id.* at 19.

<sup>33</sup> U.S. GOV’T ACCOUNTABILITY OFF., GAO-13-762T, INSIGHTS GAINED FROM EFFORTS TO QUANTIFY THE EFFECTS OF COUNTERFEIT AND PIRATED GOODS IN THE U.S. ECONOMY 9–10 (2013).

<sup>34</sup> *Id.* at 1.

<sup>35</sup> *2021 Trends Show Increased Globalized Threat of Ransomware*, CYBERSEC. & INFRASTRUCTURE SEC. AGENCY. (Feb. 9,

are a major problem. “As regards counterfeiting and piracy, the Commission sees a clear need to step up efforts. In 2016, imports of counterfeit and pirated goods into the EU amounted to as much as EUR 121 billion, which represents up to 6.8% of EU imports (against 5% of EU imports in 2013).”<sup>36</sup> The European Commission admitted that “counterfeiting and piracy are still thriving, including by taking advantage of digital technologies.”<sup>37</sup> Indeed, the economies of the Member States of the European Union rely on IP rights to provide revenues.<sup>38</sup>

The paucity of accurate statistics is one of the major impediments to the formulation of a cohesive international strategy to combat piracy and counterfeiting. In short, we just do not know the extent of the piracy and counterfeiting problem. Thus, law enforcement officials, policy makers, and analysts alike must rely on specific estimates, often supplied by industry associations.<sup>39</sup> Industry associations

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2022), <https://www.cisa.gov/news-events/cybersecurity-advisories/aa22-040a> [<https://perma.cc/G5HJ-R2ET>] (“In 2021, cybersecurity authorities in the United States, Australia, and the United Kingdom observed an increase in sophisticated, high-impact ransomware incidents against critical infrastructure organizations globally.”).

<sup>36</sup> *Making the Most of the EU’s Innovative Potential: An Intellectual Property Action Plan to Support the EU’s Recovery and Resilience*, at 15, COM (2020) 760 final (Nov. 25, 2020) [hereinafter *Making the Most*]. See generally Chris Brook, *EU Says Cooperation Needed to Fight IP Theft, Piracy*, DATA INSIDER (Nov. 30, 2022), <https://digitalguardian.com/blog/eu-says-cooperation-needed-fight-ip-theft-piracy> [<https://perma.cc/66TW-PFVG>].

<sup>37</sup> *Making the Most*, *supra* note 36, at 3.

<sup>38</sup> *Committee on Legal Affairs Report On an Intellectual Property Action Plan to Support the EU’s Recovery And Resilience*, A9-0284/2021 (Oct. 14, 2021) (“Commission in pursuing the aims of its IP action plan of November 2020, as strong, balanced and robust IPR protection at the national, European and international level which allows return on investment is particularly important for the economic and social recovery . . .”).

<sup>39</sup> See FRONTIER ECONOMICS, THE ECONOMIC IMPACTS OF COUNTERFEITING AND PIRACY: REPORT PREPARED FOR BASCAP AND

report that piracy, counterfeiting, and violations of US rightsholders rights continue unabated.<sup>40</sup> The Motion Picture Association (MPA, formerly the Motion Picture Association of America or MPAA),<sup>41</sup> Recording Industry Association of America (RIAA)<sup>42</sup> and its global network the International Federation of the Phonographic Industry (IFPI), the Business Software Alliance (BSA),<sup>43</sup> the Entertainment Software Association (ESA), and others experienced increases of piracy and counterfeiting during the COVID-19 pandemic.<sup>44</sup> Moreover, “there is a general

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INTA 7, 14 (2017), <https://iccwbo.org/publication/economic-impacts-counterfeiting-piracy-report-prepared-bascap-inta/> [<https://perma.cc/8D-BD-Z94F>] (“Our analysis shows that the scale of counterfeiting and piracy globally is large, that it has grown since previous estimates, and that this growth is expected to continue.”).

<sup>40</sup> See *infra* notes 41–44; *Federal Bureau of Investigation (FBI)*, STOPFAKES.GOV (July 22, 2016), <https://www.stopfakes.gov/article?id=Federal-Bureau-of-Investigation-FBI> [<https://perma.cc/NN24-65C8>] (“The Federal Bureau of Investigation (FBI) investigates criminal counterfeiting, piracy, and other federal crimes. You can report suspicions concerning the manufacture or sale of counterfeit or pirated goods to the FBI by contacting your local FBI Office, or calling (202) 324-3000 and asking to speak with the Duty Complaint Agent. If you suspect products for sale on the Internet are counterfeit or pirated, you can report your suspicions to the FBI Internet Fraud Complaint Center.”).

<sup>41</sup> *Our History*, MOTION PICTURE ASS’N, <https://www.motionpictures.org/who-we-are/#our-history> [<https://perma.cc/QE9X-UCHK>] (last visited Nov. 21, 2022).

<sup>42</sup> See generally RECORDING INDUS. ASS’N OF AM., <https://www.riaa.com> [<https://perma.cc/59FE-VU2Y>] (last visited Nov. 21, 2022).

<sup>43</sup> See generally BUS. SOFTWARE ALL., <https://www.bsa.org> [<https://perma.cc/3A5M-S2VB>] (last visited Nov. 21, 2022).

<sup>44</sup> James Pearce, *Piracy Surges During Coronavirus Lockdown*, IBC (Apr. 27, 2020), <https://www.ibc.org/piracy-surges-during-coronavirus-lockdown/5820.article> [<https://perma.cc/JWZ6-Y2GR>]; Sarah Whitten, *More People Are Pirating Movies During Coronavirus Lockdown*, CNBC (Apr. 27, 2020), <https://www.cnbc.com/2020/04/27/more-people-are-pirating-movies-during-the-coronavir>

consensus among economists who study piracy that it negatively impacts sales . . . across the music, television, and film industries.”<sup>45</sup>

It is important to address the scourge of widespread IP violations. The motion picture and sound recording industries are very important to the economy of the United States.<sup>46</sup>

In 2020, the private sector supported 2.2 million jobs, paid out \$192 billion in total wages, and was comprised of more than 110,000 businesses.<sup>47</sup> The industry made over \$27 billion in payments to more than 359,000 local businesses across the United States in 2022 and

us-lockdown.html [<https://perma.cc/6ZCT-ATW3>]; ARIANNA MARTINELLI ET AL., *PIRACY IN TIMES OF COVID 2* (2022), [http://www.serci.org/congress\\_documents/2022/Joost%20Poort.pdf](http://www.serci.org/congress_documents/2022/Joost%20Poort.pdf) [<https://perma.cc/EU7Q-CU65>] (“MUSO data suggests that film piracy increased by 41% in the USA, 43% in the UK, 50% in Spain, 62% in India and an astonishing 66% in Italy during the last week of March 2021, compared with the last week of February 2020—just before many countries or regions experience[d] a lockdown to combat the pandemic.”).

<sup>45</sup> Brett Danaher et al., *Copyright Enforcement in the Digital Age: Empirical Economic Evidence and Conclusions*, WIPO/ACE/10/20 (Aug. 25, 2015).

<sup>46</sup> *Motion Picture Film, Exposed and Developed*, OBSERVATORY OF ECON. COMPLEXITY, <https://oec.world/en/profile/bilateral-product/motion-picture-film-exposed-and-developed/reporter/usa?redirect=true> [<https://perma.cc/8J2P-GFHH>] (last visited Dec 16, 2022) (“In 2020, United States exported \$1.23M in Motion-picture film, exposed and developed, making it the 3rd largest exporter of Motion-picture film, exposed and developed in the world. At the same year, Motion-picture film, exposed and developed was the 1173rd most exported product in United States. In 2020, United States imported \$1.91M in Motion-picture film, exposed and developed, becoming the 1st largest importer of Motion-picture film, exposed and developed in the world.”).

<sup>47</sup> MOTION PICTURE ASS’N, *THE AMERICAN MOTION PICTURE AND TELEVISION INDUSTRY: CREATING JOBS, TRADING AROUND THE WORLD 1* (2022), [https://www.motionpictures.org/wp-content/uploads/2022/01/MPA\\_US\\_Economic\\_Contribution\\_2020\\_Final.pdf](https://www.motionpictures.org/wp-content/uploads/2022/01/MPA_US_Economic_Contribution_2020_Final.pdf) [<https://perma.cc/ML2V-TCDN>].

generated \$31 billion in public revenue from sales tax on goods, state income, and federal income taxes.<sup>48</sup> Thus, piracy and widespread IP violations can not only be harmful to the national economy, but also to local economies and small businesses.

In 2021, when theaters re-opened following the COVID-19 pandemic lockdowns, “the global box office market was \$21.3 billion.”<sup>49</sup> This was an 81 percent increase compared to 2020, showing a significant increase in the United States, Canada, and international moviegoers.<sup>50</sup> It is no surprise then that the motion picture and sound recording industry provided the second highest growth of employment in 2022 to 2023 in California.<sup>51</sup> The motion picture industry is a major source of new income by virtue of the royalties that are earned by locally produced films and television shows.<sup>52</sup> As of 2016, the film sector of Los Angeles County employed 164,100 people and grew by 49,500 jobs from 2011 to 2016, faster than the average national growth rate for the film industry.<sup>53</sup>

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<sup>48</sup> *Id.*

<sup>49</sup> MOTION PICTURE ASS’N OF AM., 2021 THEME REPORT 3 (2021), <https://www.motionpictures.org/wp-content/uploads/2022/03/MPA-2021-THEME-Report-FINAL.pdf> [<https://perma.cc/7JEK-VJFM>].

<sup>50</sup> *Id.*

<sup>51</sup> L.A. CNTY. ECON. DEV. CORP., 2022 ECONOMIC FORECAST 72 (2022), [https://laedc.org/wp-content/uploads/2022/02/LAEDC\\_Economic\\_Forecast\\_2022.pdf](https://laedc.org/wp-content/uploads/2022/02/LAEDC_Economic_Forecast_2022.pdf) [<https://perma.cc/K2QJ-NXCX>].

<sup>52</sup> See Edward Hammerman, *Television’s Multi-Million Dollar Secret: Claiming Retransmission Royalties for Documentaries*, IDA (Feb. 1, 2011), <https://www.documentary.org/feature/television-multi-million-dollar-secret-claiming-retransmission-royalties-documentaries> [<https://perma.cc/48Q3-EAKR>].

<sup>53</sup> BEACON ECON., FILM AND DIGITAL MEDIA INDUSTRY: LOS ANGELES COUNTY PERSPECTIVE 6–7 (2016), <https://file.lacounty.gov/SDSInter/bos/supdocs/128694.pdf> [<https://perma.cc/G3PD-DWZT>].

Technology has been a double-edged sword for the music recording industry. The digitization of music brought not only piracy but also large reductions in the costs associated with producing, distributing, and promoting music.<sup>54</sup> Piracy is a major threat to the industry's future.<sup>55</sup> The RIAA reported that the U.S. economy loses \$12.5 billion in total output annually as a consequence of music theft.<sup>56</sup> Additionally, sound recording piracy leads to the loss of 71,060 jobs from the U.S. economy.<sup>57</sup> The RIAA also reported that music theft leads to the loss of \$2.7 billion in earnings annually in both the sound recording industry and in downstream retail industries.<sup>58</sup> These losses, however, are not just suffered by musical artists, producers, and media companies. Federal, state, and local governments in the United States lose a minimum of \$422 million in tax revenues annually due to piracy.<sup>59</sup> Of that \$422 million, it is estimated that \$291

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<sup>54</sup> Danaher et al., *supra* note 45; *see id.*

<sup>55</sup> *IPR Center, RIAA launch partnership to combat digital piracy*, U.S. IMMIGR. AND CUSTOMS ENF'T (Apr. 22, 2022), <https://www.ice.gov/news/releases/ipr-center-riaa-launch-partnership-combat-digital-piracy> [<https://perma.cc/VHN9-T996>] (“Digital music piracy remains a major threat to artists, songwriters, and rightsholders—taking many forms from the theft and distribution of works prior to commercial release leaks to stream-ripping. It has caused a massive amount of harm to the industry and artists, reducing recorded music revenues in the United States by 50% during the peak periods of peer-to-peer network piracy, losses from which the industry has yet to fully recover.”); STEPHEN E. SIWEK, *THE TRUE COST OF SOUND RECORDING PIRACY TO THE U.S. ECONOMY* 1 (2007), <https://www.riaa.com/reports/the-true-cost-of-sound-recording-piracy-to-the-u-s-economy/#:~:text=Sound%20recording%20piracy%20leads%20to,and%20in%20downstream%20retail%20industries> [<https://perma.cc/EA9F-K7PW>].

<sup>56</sup> SIWEK, *supra* note 55.

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> *Id.*

million is lost in personal income taxes while \$131 million is lost in corporate income and production taxes.<sup>60</sup>

Like the other digitally available mediums, it is difficult to accurately quantify the financial loss due to piracy in the movie industry. The Institute for Policy Innovation (IPI) discovered that:

[F]ilm piracy was costing the U.S. economy \$20.5 billion annually. That IPI study and a subsequent one in turn built on a study founded by the studio's trade association, the Motion Picture Association of America, and conducted by L.E.K. Consulting, which was based on over 200,000 surveys of consumers conducted in 22 countries, L.E.K. found that piracy was costing studios \$6.1 billion a year.<sup>61</sup>

One major challenge of the L.E.K. study was actually getting the data—finding the pirates and calculating the figures.<sup>62</sup>

The U.S. Chamber of Commerce Global Innovation Policy Center (GIPC), in partnership with NERA Economic Consulting, published a study that shows that in 2017, the U.S. movie and television production industry accounted for approximately \$229 billion in domestic revenues and 2.6 million jobs.<sup>63</sup> In recent years, video streaming has grown in popularity with more than 500 licensed online video portals worldwide.<sup>64</sup> Currently, more subscribers pay

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<sup>60</sup> *Id.*

<sup>61</sup> Carl Bialik, *Studios Struggle for Focus on Film Pirates' Booty*, WALL ST. J. (Apr. 5, 2013), <https://www.wsj.com/articles/SB10001424127887324600704578402850894445768> [<https://perma.cc/WER8-BZ9N>]; SIWEK, *supra* note 55.

<sup>62</sup> SIWEK, *supra* note 55.

<sup>63</sup> David Hirschmann, *Foreword to DAVID BLACKBURN ET AL., U.S. CHAMBER STUDY SHOWS SIGNIFICANT IMPACT OF DIGITAL PIRACY ON U.S. ECONOMY* (2019), <https://www.theglobalipcenter.com/wp-content/uploads/2019/06/Digital-Video-Piracy.pdf> [<https://perma.cc/9LSX-L5AZ>].

<sup>64</sup> *Id.*

for streaming services than traditional cable.<sup>65</sup> This shift has given rise to a new source of online piracy. Now, over 80 percent of stolen and shared content is viewed on streaming sites.<sup>66</sup> Overall, the study finds that approximately 26.6 billion viewings of US-produced movies and 126.7 billion viewings of US-produced TV episodes are digitally pirated each year.<sup>67</sup>

Like the film and recording industries, the software industry is also blighted by IP piracy. Unlicensed software poses a major challenge to legitimate companies and the government revenues that emanate from their profits. “According to a study by BSA, the commercial value of unlicensed software globally was at least \$46 billion in 2018.”<sup>68</sup>

The internet is by far the vehicle by which the illegal software is transferred. Google’s Transparency Report shows that Digital Millennium Copyright Act (DMCA)<sup>69</sup> takedown notices have increased dramatically over the last several years, from a few dozen requests for the entirety of 2008 to the nearly nineteen million requests per week as of 2015.<sup>70</sup> This equates to nearly 100,000 requests per hour to remove infringing data from its

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<sup>65</sup> BLACKBURN ET AL., *supra* note 63, at 1.

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at ii.

<sup>68</sup> U.S. TRADE REP., 2022 SPECIAL 301 REPORT, at 34 (2022), <https://ustr.gov/sites/default/files/IssueAreas/IP/2022%20Special%20301%20Report.pdf> [<https://perma.cc/T59N-CZQB>]; BSA, BSA GLOBAL SOFTWARE SURVEY JUNE 2018, at 12 (2018), [https://gss.bsa.org/wp-content/uploads/2018/05/2018\\_BSA\\_GSS\\_Report\\_en.pdf](https://gss.bsa.org/wp-content/uploads/2018/05/2018_BSA_GSS_Report_en.pdf) [<https://perma.cc/EX59-2RUH>].

<sup>69</sup> Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (Oct. 28, 1998).

<sup>70</sup> Ernesto Van der Sar, *Google Asked to Remove 100,000 ‘Pirate Links’ Every Hour*, TORRENT FREAK (Mar. 6, 2016), <https://torrentfreak.com/google-asked-to-remove-100000-pirate-links-every-hour-160306/> [<https://perma.cc/U6RV-Y8X3>].



index.<sup>71</sup> In 2022, Google “hit a new milestone after receiving DMCA notices for more than four million unique domain names.”<sup>72</sup> The BSA concluded in a 2010 study “that reducing the piracy rate for PC software by 10 percentage points in four years would create \$142 billion in new economic activity—more than 80 percent accruing to local industries—while adding nearly 500,000 new high-tech jobs and generating roughly \$32 billion in new tax revenues.”<sup>73</sup>

The video game industry is also prey to pirating. According to the ESA, the trade association for the largest game producers, the “[o]verall” total consumer spending on video games in the U.S. totaled \$60.4 billion in 2021, an 8 percent increase over 2020.”<sup>74</sup> The ESA’s sales figures include content, hardware, and accessories.<sup>75</sup> But modern technology has presented tremendous challenges:

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<sup>71</sup> *Id.*

<sup>72</sup> Ernesto Van der Sar, *Google Received DMCA Takedown Notices For 4 Million Unique Domains*, TORRENT FREAK (Sept. 4, 2022), <https://torrentfreak.com/google-received-dmca-takedown-notice-s-for-4-million-unique-domains-220904/> [<https://perma.cc/47SQ-8GEK>].

<sup>73</sup> *Facts About IP*, U.S. CHAMBER OF COM. GLOBAL INNOVATION POL’Y CTR. (citing BSA, 2010 PIRACY IMPACT STUDY: THE ECONOMIC BENEFITS OF REDUCING SOFTWARE PIRACY, at exec. summary (2011)), <https://www.theglobalipcenter.com/resources/why-is-ip-important/facts-about-ip/> [<https://perma.cc/HDB3-TBF9>] (last visited Apr. 17, 2023).

<sup>74</sup> Karen Elliott, *U.S. Consumer Video Game Spending Totaled \$60.4 Billion in 2021*, ENT. SOFTWARE ASS’N (Jan. 18, 2022), <https://www.theesa.com/news/u-s-consumer-video-game-spending-totaled-60-4-billion-in-2021/#:~:text=U.S.%20Consumer%20Video%20Game%20Spending,in%202021%20%2D%20Entertainment%20Software%20Association> [<https://perma.cc/6FDU-PLVT>].

<sup>75</sup> ENT. SOFTWARE ASS’N, 2022 ESSENTIAL FACTS ABOUT THE VIDEO GAME INDUSTRY 21 (2022), <https://www.theesa.com/wp-content/uploads/2022/06/2022-Essential-Facts-About-the-Video-Game-Industry.pdf> [<https://perma.cc/66HL-FRQN>].

The digitization of media goods weakened the effective strength of copyright policy by allowing widespread sharing of media files over the Internet, forcing governments to consider how to reform copyright policy to reflect the digital era and forcing firms to consider new strategies in order to compete with online piracy.<sup>76</sup>

One way to quantify the cost of piracy to data-based industries is by comparing revenues with the number of users of illicit peer-to-peer and cyberlocker sites like Megaupload.<sup>77</sup> When sites like Megaupload are shut down, legitimate sales go up; however, this method, has been criticized as an inaccurate measure of the scope of the problem.<sup>78</sup> Like the music industry, “although DVD/VHS sales were increasing from 2000 to 2003, after the introduction and widespread adoption of BitTorrent filesharing protocol, these sales dropped by 27% from 2004 to 2008.”<sup>79</sup> It is no surprise then that “[m]any have called for a reform of existing copyright policy to address issues particular to digitization, and governments have tried a variety of [demand side and supply side antipiracy] policies to mitigate the impact that piracy has had on sales.”<sup>80</sup>

Big pharma is also willing to fill in the gaps for data at the national and international levels. The World Health Organization (WHO) has estimated that 10% of global pharmaceutical commerce, or \$21 billion worth, involves counterfeit drugs.<sup>81</sup> Online pharmacies have also given

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<sup>76</sup> Danaher et al., *supra* note 45, at 1.

<sup>77</sup> SIWEK, *supra* note 55, at 5.

<sup>78</sup> Danaher et al., *supra* note 45, at 7 (citing Brett Danaher & Michael D. Smith, *Gone in 60 Seconds: The Impact of the Megaupload Shutdown on Movie Sales*, INT’L J. INDUS. ORG., Mar. 2014, at 1, 1–8).

<sup>79</sup> *Id.* at 2.

<sup>80</sup> *Id.* at 3.

<sup>81</sup> Albert I. Wertheimer et al., *Counterfeit Pharmaceuticals: Current Status and Future Projections*, 43 J. AM. PHARM. ASS’N 710, 711 (2003) (citing WORLD HEALTH ORG., COUNTERFEIT DRUGS:

fake drug manufacturers access to consumers in Canada, Western Europe, and other developed countries that otherwise have tightly regulated healthcare systems.<sup>82</sup> In May 2021, an INTERPOL operation involving law enforcement and health authorities from 92 countries shut down thousands of online pharmacies selling unauthorized or fake drugs.<sup>83</sup> They also seized more than 9 million illicit medications and medical devices, including 3 million fake drugs in the U.K. and 500,000 unauthorized surgical masks in Italy.<sup>84</sup> The counterfeit medicines ranged from sleeping pills and pain medication to antibiotics and antimalarials and even cancer treatments.<sup>85</sup> In 2016, international trade in counterfeit pharmaceuticals reached \$4.4 billion, which does not include a very large volume of domestically produced and consumed illicit pharmaceuticals.<sup>86</sup> Over the period between 2014–2016, seized counterfeits included medicaments for serious diseases, including malaria, HIV/AIDS and cancer.<sup>87</sup> They also included antibiotics, lifestyle treatments, pain killers, diabetes treatments and central nervous system medicines.<sup>88</sup>

Counterfeit medical products are especially dangerous to public health because they are ineffective to

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GUIDELINES FOR THE DEVELOPMENT OF MEASURES TO COMBAT COUNTERFEIT DRUGS (1999)).

<sup>82</sup> *Id.* at 712.

<sup>83</sup> *Thousands of fake online pharmacies shut down in INTERPOL operation*, INTERPOL (June 8, 2021), <https://www.interpol.int/en/News-and-Events/News/2021/Thousands-of-fake-online-pharmacies-shut-down-in-INTERPOL-operation> [<https://perma.cc/TX4J-34WY>].

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> OECD/EUIPO, TRADE IN COUNTERFEIT PHARMACEUTICAL PRODUCTS 11 (2020), <https://www.oecd.org/gov/trade-in-counterfeit-pharmaceutical-products-a7c7e054-en.htm> [<https://perma.cc/DGS5-NP HH>].

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

cure or combat the medical ailment for which the medicine is used, or worse, further harm the patient when the product contains contaminants or toxic components.<sup>89</sup> Public safety is threatened by counterfeit foods and other consumables. Moreover, the true trademark holder incurs harm as well. Challenges include confusion by customers as to the provenance of goods offered by the mark holder, damage to the mark holder's reputation, physical harm to the consumer because of harmful agents or unregulated production, and lost profits from sales diversion.<sup>90</sup>

Digital piracy is estimated by the Global Innovation Policy Center of the U.S. Chamber of Commerce to cost the U.S. economy some \$30 billion annually.<sup>91</sup> It is estimated to cost some 70,000 jobs each year.<sup>92</sup> According to its Annual Intellectual Property Report to Congress in April 2022, the U.S. Office of the Intellectual Property Enforcement Coordinator (IPEC) claims that the White House coordinates the work of the U.S. Departments of Agriculture, Commerce, Defense, Health and Human Services, Homeland Security, State, and Treasury, the Office of the U.S. Trade Representative, and the U.S. Copyright Office to enforce the IP rights of U.S. businesses and innovators.<sup>93</sup>

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<sup>89</sup> *Substandard and falsified medical products*, WORLD HEALTH ORG. (Jan. 31, 2018), <http://www.who.int/entity/mediacentre/factsheets/fs275/en/> [<https://perma.cc/NA6H-VQ3C>].

<sup>90</sup> Laura Zanzig, *The Perfect Pairing: Protecting U.S. Geographical Indications with a Sino-American Wine Registry*, 88 WASH. L. REV. 723, 724 (2013).

<sup>91</sup> James Pearce, *Digital Piracy Costs US Economy \$30BN Annually*, IBC (July 1, 2019), <https://www.ibr.org/trends/digital-piracy-costs-us-economy-30bn-annually/4037.article> [<https://perma.cc/MH63-SXC7>].

<sup>92</sup> Damjan Jugovic Spajic, *Piracy is Back: Piracy Statistics for 2022*, DATAPROT, <https://dataprot.net/statistics/piracy-statistics/> [<https://perma.cc/S3QH-W3F8>] (last visited Mar. 20, 2023).

<sup>93</sup> INTELL. PROP. ENF'T COORDINATOR, ANNUAL INTELLECTUAL PROPERTY REPORT TO CONGRESS 2 (2022),

According to the U.S. Trade Representative, “[o]nline piracy and counterfeiting continue to grow, requiring robust, sustained, and coordinated responses by governments, private sector stakeholders, and consumers.”<sup>94</sup> In particular, Congress expressed its concern that:

[T]he absence of adequate and effective protection of United States intellectual property rights, and the denial of fair and equitable market access, seriously impede the ability of the United States persons that rely on protection of intellectual property rights to export and operate overseas, thereby harming the economic interests of the United States.<sup>95</sup>

IP violations chill research and development investments. Counterfeiting and piracy kill off economic growth and reduce government revenues, such as income tax, sales tax, and payroll tax.<sup>96</sup> While IP piracy poses dangers to public security, it has also been a lucrative industry for criminal organizations.<sup>97</sup> Finally, there is also

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<https://www.whitehouse.gov/wp-content/uploads/2022/04/FY21-IPEC-Annual-Report-Final.pdf> [<https://perma.cc/Z2NR-APWN>]. This report is submitted pursuant to 15 U.S.C. § 8114. *Id.*

<sup>94</sup> U.S. TRADE REP., 2022 TRADE POLICY AGENDA & 2021 ANNUAL REPORT 103 (2022) [hereinafter U.S. TRADE REP., 2022 TRADE POLICY], [https://ustr.gov/sites/default/files/2022%20Trade%20Policy%20Agenda%20and%202021%20Annual%20Report%20\(1\).pdf](https://ustr.gov/sites/default/files/2022%20Trade%20Policy%20Agenda%20and%202021%20Annual%20Report%20(1).pdf) [<https://perma.cc/PYF7-YWXB>]; *see also* U.S. TRADE REP., *supra* note 68, at 20–22.

<sup>95</sup> Omnibus Trade and Competitiveness Act of 1988, § 1303(a)(1)(B), Pub L. No. 100-418, 102 Stat. 1179 (Aug. 23, 1988) (amended 2018).

<sup>96</sup> UNITED NATIONS OFF. ON DRUGS AND CRIME, THE ILLICIT TRAFFICKING OF COUNTERFEIT GOODS AND TRANSNATIONAL ORGANIZED CRIME 3, [https://www.unodc.org/documents/counterfeit/FocusSheet/Counterfeit\\_focussheet\\_EN\\_HIRES.pdf](https://www.unodc.org/documents/counterfeit/FocusSheet/Counterfeit_focussheet_EN_HIRES.pdf) [<https://perma.cc/7DYK-5C8L>] (last visited Dec. 16, 2022).

<sup>97</sup> *Mobilizing global action against intellectual property crime*, INTERPOL (Oct. 12, 2021), <https://www.interpol.int/News-and->

a connection between IP piracy and terrorism financing.<sup>98</sup> There are plenty of reasons to stem IP piracy and counterfeiting and to enforce IP laws at home and abroad.

### III. HOW BRANDS ARE ABUSED IN THE METAVERSE

IP rights holders who create content, as individuals, a group of individuals, or a corporation, have the right to do whatever they want with that content. This includes the ability to monetize content—in the real world, online, or in the metaverse. Clearly, if another individual or a corporation monetizes that content without the expressed written permission of the content owner, it is a violation of IP law that brings potential financial penalties. The Digital Millennium Copyright Act (DMCA) was passed by the United States in 1998 and became a vitally necessary

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Events/News/2021/Mobilizing-global-action-against-intellectual-property-crime [<https://perma.cc/GXM4-5ZAK>]; see also Interpol Washington, *Strengthening the global response to intellectual property crime*, U.S. DEPT. OF JUST. (Aug. 29, 2017), <https://www.justice.gov/interpol-washington/pr/strengthening-global-response-intellectual-property-crime> [<https://perma.cc/P6YD-PXMG>]; UNITED NATIONS OFF. ON DRUGS AND CRIME, *supra* note 96, at 2 (“As a global, multibillion dollar crime, organized criminal groups have not hesitated to cash in on the trade in counterfeit goods . . . [s]ome estimates put the counterfeit business at well in excess of \$250 billion a year and hundreds of billions more . . .”).

<sup>98</sup> Brandy Robinson, *IP Piracy & Developing Nations: A Recipe for Terrorism Funding*, 42 RUTGERS L. REV. 42, 50–51 (2015); Cooper, *supra* note 24; see James Cooper, *Pirated CDs may fund terror networks*, PROVIDENCE J., Aug. 17, 2004, at B4 [hereinafter Cooper, *Pirated CDs*]; GREGORY F. TREVERTON ET AL., *FILM PIRACY, ORGANIZED CRIME AND TERRORISM* 73 (2009); see also William Costanza, *Hizballah and Its Mission in Latin America*, 35 *STUD. IN CONFLICT & TERRORISM* 193, 193–210 (2012); The Hollywood Reporter, *Interpol links Piracy to Terrorism Funding*, BILLBOARD (June 6, 2004), <https://www.billboard.com/music/music-news/interpol-links-piracy-to-terrorism-funding-1435755/> [<https://perma.cc/XR7K-WPL5>].

update to copyright law.<sup>99</sup> Copyright has become an essential tool to protect Intellectual Property in a digital environment.<sup>100</sup>

Matthew Ball discusses “the ‘interoperation’ of competing intellectual properties, which is a philosophical, not technical, problem (cross-platform gaming reminds us this is the harder of the two challenges).”<sup>101</sup> Retailers are now thinking through how to best navigate this space.<sup>102</sup> There is a paradigm shift that comes with interoperability across platforms:

Brand owners must embrace something they almost never allow: unlimited-term licenses (in-game outfits are kept by players forever), overlapping marketing windows (some brand events are mere days apart or overlap entirely), and little to no editorial control. In sum, this means it’s now possible to dress as Neymar while wearing a Baby Yoda or Air Jordan backpack, holding Aquaman’s trident, and exploring a virtual Stark Industries. And the owners of these franchises *want* this to happen.<sup>103</sup>

There are a number of other examples of brands’ IP rights being violated in the metaverse, including reports that “StockX, an online sneaker reseller, has been selling NFT receipts of highly desirable, limited-edition Nikes that

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<sup>99</sup> Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (Oct. 28, 1998).

<sup>100</sup> Edward Hanapole, *The Metaverse of Intellectual Property*, IBM (Apr. 25, 2022), <https://www.ibm.com/blogs/journey-to-ai/2022/04/the-metaverse-of-intellectual-property/#:~:text=The%20latest%20challenge%20to%20the%20area%20of%20intellectual,cloud%20computing%20models%2C%20the%20internet%20and%20network%20connectivity> [<https://perma.cc/3S6C-569B>].

<sup>101</sup> MATTHEW BALL, *THE METAVERSE: AND HOW IT WILL REVOLUTIONIZE EVERYTHING* 139 (2022).

<sup>102</sup> Kasnevich, *supra* note 17.

<sup>103</sup> BALL, *supra* note 101.

include an image of the sneaker in question.”<sup>104</sup> This year alone,

[P]rominent brand owners, including Nike, Ralph Lauren, Converse, and Wal-Mart, have filed trademarks for a range of virtual goods and services . . . [c]ompanies like Prada and Gucci reportedly are challenging applications filed by unaffiliated individuals attempting to register PRADA and GUCCI marks in classes for metaverse-related categories, including downloadable virtual goods, virtual worlds, and virtual clothing used in virtual spaces.<sup>105</sup>

Clearly, the number of IP violations in the metaverse is going to grow. Fashion and consumer goods companies are taking actions to address these violations and to prevent new ones as innovators, brands and pirates alike navigate this new space: the metaverse.

#### IV. HOW TO PREVENT PIRACY IN THE METAVERSE

Rightsholders can indeed protect their Intellectual Property rights in the metaverse in much the same way that would outside the metaverse, in the physical, real world. IP rights in the metaverse can be protected through the registration of copyrights, trademarks, and patents with government agencies in which the innovation is created and those in which the inventor plans to operate.<sup>106</sup> In the

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<sup>104</sup> *Nike and Hermès NFT Lawsuits Presage a Wave of Metaverse IP Litigation*, PYMNTS (Feb. 8, 2022), <https://www.pymnts.com/metaverse/2022/metaverse-alliance-seeks-interoperability-standards-meta-shareholders-rage/> [<https://perma.cc/CDP2-UVVW>].

<sup>105</sup> Stuart Irvin et al., *Brands in the Metaverse Will Fight Old Battles on New Ground*, BLOOMBERG LAW (Feb. 18, 2022), <https://news.bloomberglaw.com/tech-and-telecom-law/brands-in-the-metaverse-will-fight-old-battles-on-new-ground> [<https://perma.cc/P4QV-ECWP>].

<sup>106</sup> See Ramos, *supra* note 19.



United States, copyrights can be registered with the U.S. Copyright Office.<sup>107</sup> Trademarks can be registered with and patents can be obtained through the U.S. Patent and Trademark Office.<sup>108</sup> Registered trademarks and issued patents will then allow for legal protection of the respective IP rights against the infringing party.

Under United States copyright law, there is protection for “original works of authorship fixed in any tangible medium of expression.”<sup>109</sup> There are many innovations in the metaverse that are copyrightable including software, pictorial and graphical works, sound recordings, and even some text.<sup>110</sup> Like in the physical world, copyrighting the content that creators make is critical. Moreover, the contract clauses to place particularly sensitive or proprietary materials in the metaverse should be reviewed carefully. There should be clear lines about the ownership of content that is posted in virtual worlds as in the real world. Of course, fair use of IP rights and the freedom of expression should be considered

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<sup>107</sup> See *Register Your Work: Registration Portal*, U.S. COPYRIGHT OFF., <https://www.copyright.gov/registration/> [<https://perma.cc/RVN2-FE66>] (last visited Mar. 20, 2023).

<sup>108</sup> See *Apply Online*, USPTO, <https://www.uspto.gov/trade-marks/apply> [<https://perma.cc/L2YA-RTQJ>] (last visited Mar. 20, 2023); *File Online*, USPTO, <https://www.uspto.gov/patents/apply> [<https://perma.cc/2EL2-66V7>] (last visited Mar. 20, 2023).

<sup>109</sup> 17 U.S.C. § 102.

<sup>110</sup> See *id.*; see also Thomas W. Brooke, *Intellectual Property Protection in the Metaverse*, HOLLAND & KNIGHT (Mar. 9, 2022), <https://www.hklaw.com/en/insights/publications/2022/03/intellectual-property-protection-in-the-metaverse#:~:text=Protectable%20IP%20assets%20in%20the,patent%20protection%20for%20unique%20configurations> [<https://perma.cc/HT5P-BPPP>] (“Protectable IP assets in the metaverse vary from copyrighted content to all manner of trademarks, including logos, brands, slogans and trade dress in the form of packaging and design, and possibly even design patent protection for unique configurations.”).

in the metaverse as in the real world, or even more so,<sup>111</sup> but that topic goes beyond the scope of this Article.

There are a number of ways to protect IP rights in the metaverse. The metaverse can utilize Digital Rights Management (DRM) to ensure its “[d]igital assets have metadata that enables their copyright and licensing information to be captured and monitored. This is critical to tracking licensing details of stock audio files, photos, and videos to prevent unauthorized usage.”<sup>112</sup> Through coding, content copying can be prohibited, or at the very least, coders can limit the number of devices from which a product can be accessed.<sup>113</sup> “DRM is crucial for helping organizations comply with data protection regulations.”<sup>114</sup> In healthcare, health management and other organizations just meet the requirements of the Health Insurance Portability and Accountability Act (HIPAA).<sup>115</sup> There is also compliance under the California Consumer Privacy Act (CCPA)<sup>116</sup> and the rules around the European Union’s General Data Protection Regulation (GDPR) for good measure.<sup>117</sup> The metaverse is going to test these legal regimes and issues of jurisdiction and sanction will grow.

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<sup>111</sup> Danny Friedmann, *Digital Single Market, First Stop to The Metaverse: Counterlife of Copyright Protection Wanted*, in *LAW AND ECONOMICS OF THE DIGITAL TRANSFORMATION* (Klaus Mathis & Avishalom Tor eds.) (forthcoming 2023).

<sup>112</sup> *Digital Rights Management (DRM)*, FORTINET, <https://www.fortinet.com/resources/cyberglossary/digital-rights-management-drm> [<https://perma.cc/HDB3-TBF9>] (last visited Dec. 21, 2022).

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

<sup>115</sup> Health Insurance Portability and Accountability Act of 1996 (HIPAA), Pub. L. No. 104-191, 110 Stat. 1936 (codified as amended in scattered sections of 18, 26, 29, and 42 U.S.C.).

<sup>116</sup> California Consumer Privacy Act (CCPA), Cal. Civ. Code §§ 1798.100–199 (West 2022).

<sup>117</sup> Regulation 2016/679, of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with

IP rights in the metaverse can also be protected through the use of technological measures, like encryption<sup>118</sup> and Digital Rights Management.<sup>119</sup> These measures help control access to and prevent unauthorized use of IP.<sup>120</sup> A video game developer could use DRM to prevent the players of the game from copying and/or sharing the game without the permission of the developer.<sup>121</sup> Rightsholders can also deploy Artificial Intelligence technology to identify violations and theft of digital IP.<sup>122</sup>

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Regard to the Processing of Personal Data and on the Free Movement of Such Data and Repealing Directive 95/46/EC, 2016 O.J. (L 119) 1.

<sup>118</sup> Mattias Artzt, *Metaverse and Privacy*, IAPP (Aug. 23, 2022), <https://iapp.org/news/a/metaverse-and-privacy-2/> [<https://perma.cc/2E6D-WEER>].

<sup>119</sup> Laura Parker, *The DRM Dilemma*, GAMESPOT (May 26, 2009, 12:10 AM PDT), <https://www.gamespot.com/articles/the-drm-dilemma/1100-6209660/> [<https://perma.cc/8XDU-LCVN>] (“DRM is an umbrella term that encompasses technologies and copy protection measures put in place by copyright holders to manage the use, installation, copying and performance of digital content and devices.”).

<sup>120</sup> See Chris Capelle, *Protecting Intellectual Property: Technology Is Key*, CAPLINKED (July 20, 2020), [https://www.caplinked.com/blog/how-to-protect-intellectual-property-with-technology/#:~:text=Protection%20through%20Encryption,decryption%20key\)%20to%20access%20it](https://www.caplinked.com/blog/how-to-protect-intellectual-property-with-technology/#:~:text=Protection%20through%20Encryption,decryption%20key)%20to%20access%20it) [<https://perma.cc/MR8E-DVZT>] (“Data encryption plays an important role in protecting your company’s IP. In short, data encryption is a process that translates your data into another form, rendering it unreadable to those who don’t have the password (or decryption key) to access it.”).

<sup>121</sup> Parker, *supra* note 119 (“SecuROM prevents the game from being copied illegally via the use of duplication devices.”).

<sup>122</sup> Carlo Scotto di Clemente & Camilla Rosi, *Artificial Intelligence and IP rights: threats and opportunities*, DENTONS (Apr. 14, 2022), <https://www.dentons.com/en/insights/articles/2022/april/14/artificial-intelligence-and-ip-rights-threats-and-opportunities> [<https://perma.cc/53CW-R4R6>] (“On one hand, the deployment of AI can tangibly help service providers in identifying infringement materials.”); *Artificial intelligence and intellectual property: an interview with Francis Gurry*, WIPO, [https://www.wipo.int/wipo\\_magazine/en/2018](https://www.wipo.int/wipo_magazine/en/2018)

Such a combination of legal and technological measures is required to protect IP rights in the metaverse. By registering the appropriate IP and utilizing technological measures that control access, innovators and creators can work to ensure that their rights are respected in the virtual world as they are in the physical one.<sup>123</sup> Rightsholders could also employ or contract staff to identify violations and enforce IP law in the metaverse.

The metaverse merges many disruptive technologies including VR, AR, AI, NFTs, cryptocurrencies, decentralized ledgers such as blockchain with smart contracts, and the myriad of evolving innovations that will flourish therefrom. But these advances come with various challenges for IP holders. Policing IP infringements on the metaverse may be difficult and certainly increases costs.<sup>124</sup>

While the incorporation of special copyright filters in the metaverse software may be helpful, copyright disputes in the metaverse will pose special challenges. The most recent landmark event for both music and NFTs is *Roc-A-Fella Records, Inc. v. Damon Dash*.<sup>125</sup> In this case, the “music recording company Roc-A-Fella Records sued its co-founder Dam[on] Dash who registered and tried to sell as NFT the copyright on Jay-Z’s debut album

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/05/article\_0001.html [https://perma.cc/JAN4-HW6B] (last visited Mar. 31, 2023).

<sup>123</sup> Hanapole, *supra* note 100.

<sup>124</sup> Amy M. Adler & Jeanne C. Fromer, *Taking Intellectual Property into Their Own Hands*, 107 CAL. L. REV. 1455, 1508–09 (2019) (“Like most general self-help, self-help in the intellectual property context has shown itself to be dramatically cheaper and faster than bringing a lawsuit.”).

<sup>125</sup> Levan Nanobashvili, *If the Metaverse Is Built, Will Copyright Challenges Come?*, 21 UIC REV. INTELL. PROP. L. 215, 240 (2022) (citing *Roc-A-Fella Recs., Inc. v. Dash*, No. 21-CV-5411 (JPC) (S.D.N.Y. Jun. 29, 2021)).

‘Reasonable Doubt.’”<sup>126</sup> Although the case was settled between the parties, it may be only the beginning of what is to come.<sup>127</sup> As AlDhaheeri and D’Agostino note:

In this world, most functions, assets, and even human experiences (the “metaverse”) will be available in surrogate digital form. The ease by which these assets and proxies will move across sovereign boundaries will also speed up, redefining the basic notion of property rights at the individual, corporate, and nation-state levels. While any one of these trends may be stopped individually, or significantly hindered through legislative or legal action, it is unlikely that any nation-state or group of nation-states can or will be able to ban the new footprint of digital technology in the human experience . . . [A] clear methodology for, and organization of, IP transfer must be put in place. Local factors must be taken into account and—again, an unfashionable view—a planned rather than a market-based approach is necessary for the initial proliferation of relevant technologies and knowhow. This implies the need for a regional leader, one able to extend the benefits of IP without provoking on-the-ground backlash.<sup>128</sup>

Regulating the augmented reality (AR) space is going to be very difficult. In *Candy Lab Inc v. Milwaukee County et al.*, thousands of players in Milwaukee flocked outside to play a mobile AR game, and in the process caused damage to the area.<sup>129</sup> As a preventive measure, the Milwaukee County passed an ordinance requiring AR developers to take permits if the games include park

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<sup>126</sup> *Id.*

<sup>127</sup> *See id.*

<sup>128</sup> Mohamed Jouan Salem AlDhaheeri & John D’Agostino, *Can the Transfer of Intellectual Property Save the World?*, 20 HORIZONS: J. INT’L RELS. & SUSTAINABLE DEV. 102, 110–11 (2022).

<sup>129</sup> *Candy Lab Inc. v. Milwaukee Cnty.*, 266 F. Supp. 3d 1139, 1141 (E.D. Wis. 2017).

locations.<sup>130</sup> In response, the plaintiff, the developer of an AR-based game, sued the County for violation of its right to freedom of speech.<sup>131</sup> The district court judge ruled in favor of the company, and the county agreed to a permanent injunction against enforcement of the original ordinance.<sup>132</sup>

There is a natural tendency for legislatures or courts to intervene to try to solve perceived problems with new technologies. However, the best way to nurture a new technology can sometimes be for the law to leave it alone. “[A] series of (largely accidental) decisions in the early history of the Internet created [regulatory uncertainty] in which companies [have innovated] with [little or no] government regulation.”<sup>133</sup> This may also be the case with VR and AR, as lawmakers struggle to keep up with the disruption.<sup>134</sup> The lack of regulation is a comparative advantage when there is lax enforcement, little or no regulatory guidance, and an economic benefit to being compliance-free.<sup>135</sup>

## V. LAW ENFORCEMENT CHALLENGES IN THE METAVERSE

There are endless opportunities to be leveraged in the coming metaverse. But as the metaverse blends the

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<sup>130</sup> *Id.*

<sup>131</sup> *Id.*

<sup>132</sup> *Id.* at 1154.

<sup>133</sup> Mark A. Lemley & Eugene Volokh, *Law, Virtual Reality, and Augmented Reality*, 166 UNIV. PA. L. REV. 1051, 1134 (2018).

<sup>134</sup> *Id.*

<sup>135</sup> HOWARD BEALES ET AL., GOVERNMENT REGULATION: THE GOOD, THE BAD, & THE UGLY 3 (2017), <https://rtp.fedsoc.org/wp-content/uploads/RTP-Regulatory-Process-Working-Group-Paper.pdf> [<https://perma.cc/A2VS-DARR>] (“Sensible, evidence-based regulations that respect the fundamental role of free-market competition can provide vital public benefits.”).

virtual world and the real world, it raises many new IP challenges. As a result, there are many issues concerning jurisdiction and the role that national laws will play in the metaverse.<sup>136</sup> Issues around the enforceability of wrap contracts will persist.<sup>137</sup> This is clearly an area that needs much work, and it should be done ahead of time—long before this new virtual world is built.<sup>138</sup> The geopolitical stakes are high too.<sup>139</sup> The concerns over IP are particularly acute when it comes to Chinese versions of

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<sup>136</sup> James Cooper, *Why We Need ‘MetaJurisdiction’ for the Metaverse*, THE HILL (Dec. 2. 2021), <https://thehill.com/opinion/technology/583529-why-we-need-meta-jurisdiction-for-the-metaverse> [http://perma.cc/GQ4P-BV3D].

<sup>137</sup> See generally NANCY S. KIM, WRAP CONTRACTS: FOUNDATIONS AND RAMIFICATIONS (2013). Courts have recently evaluated what is commonly referred to as a “sign-in wrap” agreement, and in each case the court held that the manner in which the applicable terms were presented to the user or the manner in which the user assented to them was not sufficient to form an enforceable contract. See *Berman v. Freedom Financial Network, L.L.C.*, 30 F.4th 849, 856 (9th Cir. 2022); *Doe v. Roblox Corp.*, 602 F. Supp. 3d 1243, 1255 (N.D. Cal. 2022); *Sellers v. JustAnswer L.L.C.*, 289 Cal. Rptr. 3d 1, 22 (Cal. Ct. App. 2021); *Sarchi v. Uber Technologies, Inc.*, 268 A.3d 258, 269 (Me. 2022); *Kauders v. Uber Technologies, Inc.*, 159 N.E.3d 1033, 1050 (Mass. 2021).

<sup>138</sup> James Cooper, *Towards the Metaverse: First Thing We Do, Let’s Grill all the Lawyers*, THE HILL (Jan. 21, 2022), <https://thehill.com/opinion/technology/590319-towards-the-metaverse-first-thing-we-do-lets-grill-all-the-lawyers> [https://perma.cc/2G5T-LA65].

<sup>139</sup> DIR. OF NAT’L INTEL., NATIONAL INTELLIGENCE STRATEGY 4 (2019), [https://www.dni.gov/files/ODNI/documents/National\\_Intelligence\\_Strategy\\_2019.pdf?utm\\_source=Press%20Release&utm\\_medium=Email&utm\\_campaign=NIS\\_2019](https://www.dni.gov/files/ODNI/documents/National_Intelligence_Strategy_2019.pdf?utm_source=Press%20Release&utm_medium=Email&utm_campaign=NIS_2019) [https://perma.cc/QLU8-UGYX] (“In addition to these familiar threats, our adversaries are increasingly leveraging rapid advances in technology to pose new and evolving threats—particularly in the realm of space, cyberspace, computing, and other emerging, disruptive technologies. Technological advances will enable a wider range of actors to acquire sophisticated capabilities that were previously available only to well-resourced states.”).

these new platforms and the participation of the People's Republic of China (PRC's) government and state-owned enterprises in the metaverse.<sup>140</sup> IP rights in China have long been a challenge.<sup>141</sup> In the last decade however, IP rights matter in China because IP rights are the source of much revenue in new technology-centric industries that the PRC and its companies will dominate.<sup>142</sup>

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<sup>140</sup> *Notice of the "14th Five-Year Plan" Digital Economy Development Plan*, STATE COUNCIL, PEOPLE'S REPUBLIC OF CHINA (Dec. 12, 2021), [http://www.gov.cn/zhengce/content/2022-01/12/content\\_5667817.htm](http://www.gov.cn/zhengce/content/2022-01/12/content_5667817.htm) [<https://perma.cc/5LKH-R557>]. The PRC released the report of the "Five Year Plan" that stated "[t]he digital economy is the main economic form after the agricultural economy and the industrial economy." *Id.* The plan is to "[s]trengthen the popularity and application of ultra-high-definition TV, and develop new formats such as interactive video, immersive video, and cloud games. Innovate and develop "cloud life" services, deepen the integration of artificial intelligence, virtual reality, 8K high-definition video and other technologies, expand applications in social networking, shopping, entertainment, exhibitions and other fields, and promote the upgrading of the quality of life consumption. Encourage the construction of smart communities and smart service life circles, promote the integration of public service resources, and improve the level of professional and market-oriented services. Support physical consumption places to build new digital consumption scenario app, as smart navigation, intelligent diversion, virtual and real interactive experience, contactless services, etc., to enhance the consumption experience of scenarios. Cultivate a number of new consumption demonstration cities and leading enterprises, build a digital product service display exchange and skill training center, and cultivate the digital consumption awareness and habits of the whole people."). *Id.*; see also Nie Huihua, *Why China's Buying Into the 'Metaverse' Hype*, SIXTH TONE (Jan. 26, 2022), <https://www.sixthtone.com/news/1009494> [<https://perma.cc/FE95-KXEV>] ("Shortly after the metaverse concept started making waves around the world last October, Shanghai authorities released a '14th Five-Year Plan for the Development of the Electronic Information Industry,' which named the metaverse a development focus. This was the first time that a local Chinese government included the metaverse in a Five-Year Plan.").

<sup>141</sup> Cooper, *supra* note 28, at 74.

<sup>142</sup> *Id.* at 71.



But as the economic decoupling of the United States and China persists,<sup>143</sup> there is much uncertainty in the physical world and in the coming virtual one. It is up to brand owners to monitor the metaverse for new opportunities to utilize, leverage, and enforce their respective IP rights, but there are attendant risks too. Luckily, content creators with a presence on the internet have experience in building business plans and revenue models. It seems like everybody is readying for the metaverse:

Prior to Roblox’s IPO filings in October 2020, the “Metaverse” had appeared only five times in US Security and Exchange Commission filings. In 2021, the term was mentioned more than 260 times. That same year, Bloomberg, a software company that provides financial data and information to investors, catalogued more than a thousand stories contain the word Metaverse. The prior decade had only seven.<sup>144</sup>

The metaverse is a recent phenomenon about which, like blockchain technology,<sup>145</sup> many corporations make mention of it, but have no real plans on how to integrate the

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<sup>143</sup> James Cooper, *That Decoupling Sound: China, the US and a Year of CBDCs*, COINDESK (Dec. 28, 2020), <https://www.coindesk.com/markets/2020/12/28/that-decoupling-sound-china-the-us-and-a-year-of-cbdcs/> [https://perma.cc/D4B7-TTKD].

<sup>144</sup> BALL, *supra* note 101, at xii.

<sup>145</sup> *Long Island Iced Tea Skyrockets After Renaming Itself Long Blockchain*, REUTERS (Dec. 21, 2017), <https://www.reuters.com/article/us-longislandicedtea-blockchain-idUSKBN1EF20I#:~:text=%28Reuters%29%20-%20Beverage%20maker%20Long%20Island%20Iced%20Tea,to%20tap%20into%20the%20frenzy%20surrounding%20crypto%20currencies> [https://perma.cc/GG3A-2JQH]; see also Claire Brownell, *Blockchain Frenzy Fuelling Company Name Changes, New Coins, Corporate Takeovers and Soaring Prices*, FIN. POST (Jan. 12, 2018), <https://financialpost.com/technology/blockchain/blockchain-frenzy-fuelling-company-name-changes-new-coins-reverse-takeovers-and-soaring-stock-prices> [https://perma.cc/QL65-UQ9K].

metaverse into their respective businesses.<sup>146</sup> Matthew Ball notes:

Throughout the remainder of 2021, the term “Metaverse” almost became a punchline as every company and its executives seemed to trip over themselves to mention it as something that would make their company more profitable, their customers happier, and their competitors less threatening.<sup>147</sup>

But the stakes with respect to IP rights are so high, they had better do more than pay lip service to Web 3.0. A clear strategy at a supranational level is necessary.<sup>148</sup> Trade industries have banded together to create a self-regulating organization.<sup>149</sup> Without government regulation, it is in

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<sup>146</sup> See generally David Lazarus, *The ‘Metaverse’ is Increasingly Looking Like a Scam*, MSN (Apr. 14, 2022), <https://www.msn.com/en-us/news/technology/the-metaverse-is-increasingly-looking-like-a-scam/ar-AAWeELC> [<https://perma.cc/W829-EYTG>]; see Alex Goryachev, *The Metaverse Needs To Have A Role In Your Strategy: Here Is How*, FORBES (Nov. 1, 2022), <https://www.forbes.com/sites/forbescommunicationscouncil/2022/11/01/the-metaverse-needs-to-have-a-role-in-your-strategy-here-is-how/?sh=592c78024559> [<https://perma.cc/6N2X-STGV>] (“[T]he question many growth strategists are still grappling with is where to start.”).

<sup>147</sup> BALL, *supra* note 101, at xii.

<sup>148</sup> L.B. Rosenberg, *The Growing Need for Metaverse Regulation*, in INTELLIGENT SYS. & APPLICATIONS 540, 540 (Kohei Arai ed., 2022) (“Recently branded “the metaverse” by Meta and other platform providers, many major corporations have expressed plans for deploying consumer products within the next three to five years. With the prospect that the metaverse platforms gain broad adoption over the next decade, it’s important to consider the risks and plan for meaningful regulation as necessary.”).

<sup>149</sup> *Trust & Safety*, ROBLOX, <https://corporate.roblox.com/trust-safety/> [<https://perma.cc/25AQ-ET2R>] (last visited Feb. 23, 2023) (“As part of our commitment to digital civility, Roblox has formed a Trust & Safety Advisory Board comprised of world-renowned digital safety authorities.”); see also William D. Eggers et al., *The Future of Regulation: Principles for regulating emerging technologies*, DELOITTE (June 19, 2018), <https://www2.deloitte.com/us/en/insights/industry/>

their interest to do so. IP rights, and the revenue that is derived therefrom, provide an incentive for innovations that enhance and improve our lives.<sup>150</sup> When artists, inventors, or scientists have assurances that their works will be protected and rewarded thanks to IP rights, they are more inclined or able to produce.<sup>151</sup> With strong copyright laws, musicians are more likely to record new albums. Patent protections enable pharmaceutical companies to take on the costs and challenges of putting lifesaving new drugs on the market. Without opportunities for ownership or profit, the

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public-sector/future-of-regulation/regulating-emerging-technology.html [https://perma.cc/9N7K-9HK2]; THE OASIS CONSORTIUM, https://www.oasisconsortium.com [https://perma.cc/JG8S-3UXB] (last visited Feb. 23, 2023) (providing an example of a leading, self-regulating organization in the metaverse).

<sup>150</sup> ROD FALVEY & NEIL FOSTER, *THE ROLE OF INTELLECTUAL PROPERTY RIGHTS IN TECHNOLOGY TRANSFER AND ECONOMIC GROWTH: THEORY AND EVIDENCE*, at vii (2006), https://www.unido.org/sites/default/files/2009-04/Role\_of\_intellectual\_property\_rights\_in\_technology\_transfer\_and\_economic\_growth\_0.pdf [https://perma.cc/6CCQ-4KNR] (“Developed countries, with many potential innovators, have tended to opt for relatively strong IPR systems, with the aim of encouraging inventive and creative activities that are seen as an important source of long-run economic growth. With R&D spending concentrated in a handful of the world’s richest countries, genuinely innovative activities are limited in most developed and developing countries. The majority of countries in the world have taken a different approach, providing only weak IPR protection, if any, as a way of allowing the rapid diffusion of knowledge through imitation as a significant source of technological development.”).

<sup>151</sup> 2022 *International IP Index*, U.S. CHAMBER OF COM. (Feb. 23, 2022), https://www.uschamber.com/intellectual-property/2022-international-ip-index [https://perma.cc/6E8P-8BAH] (“While uncertainty around the pandemic persisted, intellectual property (IP) drove the development of innovative vaccines, therapeutics, and technologies that kept us safe, connected, and productive throughout the pandemic. IP-driven innovation and creativity allowed the global community not only to survive—but to thrive—as we charted a course to the new normal.”).

incentive to innovate falls.<sup>152</sup> There is so much more growth in knowledge-based industries, and IP protections will be a critical challenge for countries, industries, and technology companies alike because so many revenue streams will be attached to content creation data.<sup>153</sup>

It may be that current IP rules are robust enough to enforce in the real world and in the metaverse and all its component technologies, including Non-Fungible Tokens. Andy Ramos explains:

The immediate conclusion, however, is that there are a good number of precedents to rely on when debating the necessity for specific uses of IP rights in NFTs or the metaverse. As said, nothing comes from nothing and, in fact, historically, the development of new regulation has been based on the application of the principle of learning from previous experiences. Another takeaway is that the metaverse and NFTs are not, at least from a legal standpoint, as disruptive as some believe; at the end of the day, virtual worlds and digital objects have already existed for two decades.<sup>154</sup>

So current rules could do it. But at least in the popular media, the metaverse is increasingly looking like the Wild West with chicanery,<sup>155</sup> wonder,<sup>156</sup> and profit<sup>157</sup> all baked into the space.

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<sup>152</sup> FALVEY & FOSTER, *supra* note 150, at iii. A 2009 study commissioned by the United Nations International Development Organization provided “new evidence linking protection of IPRs to economic growth, innovation and technology diffusion.” *Id.*

<sup>153</sup> See generally WIPO, USING IP FOR DEVELOPMENT, [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_using\\_ip\\_dev.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_using_ip_dev.pdf) [<https://perma.cc/T95H-G9M5>] (last visited Apr. 2, 2023).

<sup>154</sup> Ramos, *supra* note 19.

<sup>155</sup> Sheera Frankel & Kellen Browning, *The Metaverse’s Dark Side: Here Come Harassment and Assaults*, N.Y. TIMES (Dec. 30, 2021), <https://www.nytimes.com/2021/12/30/technology/metaverse-harassment-assaults.html> [<https://perma.cc/KNR2-ABYM>]. A case of

## VI. CONCLUSION

Because the IP rights are often the asset of greatest value in a technology company,<sup>158</sup> getting the right balance between a regulatory sandbox and lawlessness will be essential for countries building strong ecosystems for technology development<sup>159</sup> to ensure the fulfilment of their respective national industrial policies.<sup>160</sup>

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alleged assault was reported to Facebook in Fall 2021. *Id.* “Chanelle Siggins . . . maneuvered her avatar into a virtual lobby in the immersive digital world and waited for the action to begin. But as she waited, another player’s avatar approached hers. The stranger then simulated groping and ejaculating onto her avatar . . .” *Id.*

<sup>156</sup> Christos Makridis, *2B3D Aims To Reduce Veteran Suicide In The Metaverse with Virtual Reality Mental Health Therapies*, FORBES (Sept. 23, 2022), <https://www.forbes.com/sites/zengernews/2022/09/23/2b3d-aims-to-reduce-veteran-suicide-in-the-metaverse-with-virtual-reality-mental-health-therapies/?sh=492add56cc9> [<https://perma.cc/SJ9H-MRFC>].

<sup>157</sup> Emelia David, *Venture capital considers the metaverse*, VENTURE CAPITAL J. (Dec. 13, 2021), <https://www.venturecapitaljournal.com/venture-capital-considers-the-metaverse/> [<https://perma.cc/5MGT-7894>] (“Venture capital firms, long working with technologies generally related to the metaverse, are figuring out how to take the advantage of the interest and how world-changing it would be.”).

<sup>158</sup> Sarah Ponczek, *Epic S&P 500 Rally is Powered by Assets You Can’t See or Touch*, BLOOMBERG (Oct. 21, 2022), <https://www.bloomberg.com/news/articles/2020-10-21/epic-s-p-500-rally-is-powered-by-assets-you-can-t-see-or-touch?leadSource=uverify%20wall> [<https://perma.cc/5XJL-7J6L>].

<sup>159</sup> *See generally* Exec. Order No. 13,960, 85 Fed. Reg. 78939 (Dec. 3, 2020).

<sup>160</sup> Guówùyuyuàn guānyú yìnfā “zhōngguó zhìzào 2025” de tōngzhī (國務院關於印發《中國製造2025》的通知), [Notice of the State Council on Printing and Distributing “Made in China 2025”], STATE COUNCIL, PEOPLE’S REPUBLIC OF CHINA (May 8, 2015), [http://www.gov.cn/zhengce/content/2015-05/19/content\\_9784.htm](http://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm) [<https://perma.cc/V6MM-ZMUH>], translated in IOT ONE, MADE IN CHINA 2025, <http://www.cittadellascienza.it/cina/wp-content/uploads/2017/02/IoT-ONE-Made-in-China-2025.pdf> [<https://perma.cc/9LR2-6USG>].

None is more advanced than the strategy pursued by the authorities in the People’s Republic of China. They continue to push, and invest in, strategic digital technologies:

Since the 18th National Congress of the Communist Party of China, the Party Central Committee with Comrade Xi Jinping as the core has attached great importance to the development and application of modern information technology, and has called for the construction of a cyber power and digital China, and the use of artificial intelligence, the Internet, big data and other modern information technology to improve governance capabilities and governance level of modernization. Supervision, as an inherent element of governance, plays an important role in managing the party and governing the country . . . Relying on blockchain + big data + artificial intelligence technology, the discipline inspection and supervision agencies conduct dynamic monitoring of administrative approval, financial fund management and use, public resource transactions and even massive public power exercise information.<sup>161</sup>

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(last visited Apr. 2, 2023) (“To fulfill the strategic goal of transforming China’s manufacturing sector, we must follow the problem-oriented method, make an overall plan, and focus on key areas. The plan must embody the consensus of the entire society and lead to comprehensively increasing the development quality and core manufacturing competitiveness.”); *see also State Council publishes revised government work rules*, STATE COUNCIL, PEOPLE’S REPUBLIC OF CHINA (Mar. 24, 2023), [http://english.www.gov.cn/policies/latest\\_releases/202303/24/content\\_WS641d5344c6d0f528699dc1f4.html](http://english.www.gov.cn/policies/latest_releases/202303/24/content_WS641d5344c6d0f528699dc1f4.html) [<http://perma.cc/AN4J-Z2CZ>].

<sup>161</sup> Lǐlùn shìyě: yùnyòng xìnxī jìshù fù néng jīngzhǔn jiāndū (理论视野: 运用信息技术 赋能精准监督) [Theoretical Vision: Using Information Technology to Enable Accurate Supervision], CENTRAL COMM’N FOR DISCIPLINE INSPECTION AND THE STATE SUPERVISION COMM’N (Oct. 13, 2022), <https://www.ccdi.gov.cn/yaowenn/>

The metaverse in particular is of interest to local authorities in China, not just the national government:

Since the beginning of this year, more than 20 cities in China have successively released Metaverse Action Plans . . . . Luo Jun, executive chairman of the Metaverse Special Committee of the China Computer Industry Association, said in an interview with a reporter from China News Agency recently that the development of the Metaverse industry should not be rushed for success. The cultivation and growth of emerging industries will take a long time. He believes that cultivating the ecological construction of the metaverse should be the core element at present, “you must first build a small oasis in the desert before you can talk about growing into a forest.”<sup>162</sup>

Only time will tell if the challenges of IP piracy will force Chinese authorities to better police that country’s version of the metaverse. It is already a major concern in the Western versions of the metaverse, as was demonstrated by Hermès’ victory against NFT artist Mason Rothschild in the MetaBirkins case.<sup>163</sup> In the Western world, it appears that IP rights in the metaverse still matter.

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202210/t20221013\_223742\_m.html [https://perma.cc/L8BQ-RBXH]  
(translation on file with author).

<sup>162</sup> Pang Wuji (庞无忌), 20 Duō chéng jìng zhú zhōngguó yuán yǔzhòu chǎnyè rúhé pòjú? (20多城竞逐 中国元宇宙产业如何破局?) [More than 20 cities compete. How does China’s meta-universe industry break through?], CHINANEWS (Oct. 13, 2022), <https://www.chinanews.com.cn/cj/2022/10-13/9872264.shtml> [https://perma.cc/8BS4-USTW] (translation on file with author).

<sup>163</sup> Joe Miller et al., *Hermès wins landmark lawsuit over ‘MetaBirkin’ NFTs*, FIN. TIMES (Feb. 8, 2023), <https://www.ft.com/content/5f40179e-7124-4479-8124-df193c49c276> [https://perma.cc/TWX6-UXC8].