

les Nouvelles

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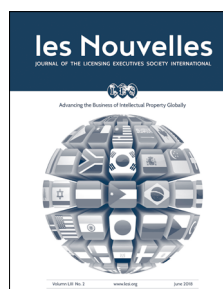
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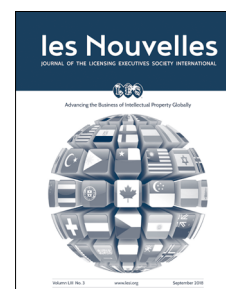
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Fuel Cells And Hydrogen, Where Do We Stand In The EU And France?

By *Géraldine Doucède and Magda Voltolini*

Summary

Hydrogen fuel cell technologies have existed since the 19th Century, yet many topics need to be explored to match the green transition objectives, including reduction of greenhouse gas emissions. While the European Union (EU) proposed a comprehensive framework to promote the use of renewable and low-carbon hydrogen, France aims to make its place in the hydrogen business. The purpose of this article is to provide an update on the ongoing regulations and research programs in EU, particularly in France, and the state of the research based on the patent landscape using Patentsight, while giving an overview of existing hydrogen fuel cell technologies.

A. Definition of Fuel Cell

1. Fuel Cells & Hydrogen

1.1 Introduction

The energy transition is now on everyone's mind and is the utmost necessity considering the past few years, notably the increasing prices of fossil fuels, as well as their polluting effects. To address these problems, developments in green energy production, such as electricity production, have been made, and it appears that not only one solution will be found but rather multitudes of solutions to be able to tackle the growing needs of our planet's population and industries.¹ This article focuses on one tiny fraction of said developments, which are fuel cell developments using hydrogen as fuel for transportation.

Although fuel cell technology has been known for decades, the attractiveness of hydrogen has increased recently in view of its economic appeal in the energy transition against climate change, as shown in studies analyzing the number of IP rights, and licensing.²

For instance, the International Energy Agency (IEA) and European Patent Office (EPO) report, titled "Hydrogen patents for a clean energy future: A global trend

1. For instance, see the sources of electricity generation in France here: IEA. "France-Countries & Regions-IEA," n.d. <https://www.iea.org/countries/france/electricity>.

2. "Patent Landscape Report Hydrogen Fuel Cells In Transportation." WIPO. WIPO, 2022. Accessed July 22, 2024. <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-1076-en-patent-landscape-report-hydrogen-fuel-cells-in-transportation.pdf>.

analysis of innovation along hydrogen value chains," released in 2023, states, in sum, that "...the new hydrogen patenting heavyweights are companies from the automotive and chemical sectors focusing on electrolysis and fuel cell technologies."³

1.2 What is a Fuel Cell?

Today, fuel cells are considered by many governments around the world as one of the key technologies necessary to enable the climate transition plan and reduce our carbon footprint. For the last few decades, applications of fuel cells have been developed to replace internal combustion engines and to develop power generation units, thus avoiding the use of fossil fuels. In fact, research and inventions regarding hydrogen fuel cells have been ongoing for centuries,⁴ and the first fuel cell was invented either by Christian Friedrich Schönbein in 1838 or by William Robert Grove in 1839.

1.2.1 What are the Existing Fuel Cell Technologies?

A fuel cell is a device that converts a fuel's chemical energy directly into electricity by electrochemical reactions of the fuel, such as molecular hydrogen (H₂) with an oxidant (*e.g.*, air or molecular oxygen, O₂). A fuel cell comprises a cathode, a membrane (being an electrolyte), and an anode. Several types of fuel cells exist and are classified based on the choice of fuel and electrolyte. The major types are Proton-Exchange Membrane Fuel Cell (PEMFC), also called Polymer Electrolyte Membrane Fuel Cell or Polymer Electrolyte Fuel Cell (PEFC); Direct Methanol/Alcohol Fuel Cell (DMFC/DAFC); Alkaline Fuel Cell (AFC); Phosphor-

3. IEA. "Hydrogen Patents for a Clean Energy Future—Analysis-IEA," January 10, 2023. www.iea.org/reports/hydrogen-patents-for-a-clean-energy-future.

4. "Hydrogen Patents for a Clean Energy Future—Analysis-IEA." Page 15.

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Table 1: Recapitulative Table Of The Existing Fuel Cells⁶

| Fuel Cell Type | Polymeric Electrolyte Membrane (PEMFC) | Alkaline (AFC) | Phosphoric Acid (PAFC) | Molten Carbonate (MCFC) | Solid Oxide (SOFC) | High-Temperature Polymeric Electrolyte Membrane (HT-PEMFC) |
|------------------------------|---|---|---|---|---|--|
| Fuel | H ₂ | H ₂ | H ₂ | H ₂ /CO/reformate | CO, H ₂ | H ₂ |
| Oxidizer | O ₂ , air | O ₂ , air | O ₂ , air | CO ₂ , O ₂ , air | O ₂ , air | O ₂ , air |
| Common Electrolyte | Hydrated polymeric ion exchange membranes | Mobilized or immobilized potassium hydroxide in asbestos matrix | Immobilized liquid phosphoric acid in SiC | Immobilized liquid molten carbonate in LiAlO ₂ | Perovskites (Ceramics) | - |
| Operating Temperature | 40-80 °C | 65-220 °C | 205 °C | 650 °C | 600-1000°C | >100 °C |
| Applications | Backup power; Portable power; Distributed generation; Transportation; Specialty vehicle | Military; Space | Distributed generation | Electric utility; Distributed generation | Auxiliary power; Electric utility; Distributed generation | Stationary applications; Vehicles |

ic Acid Fuel Cell (PAFC); Molten Carbonate Fuel Cell (MCFC); and Solid Oxide Fuel Cells (SOFC).⁵

These different types of fuel cells allow their use in various applications.

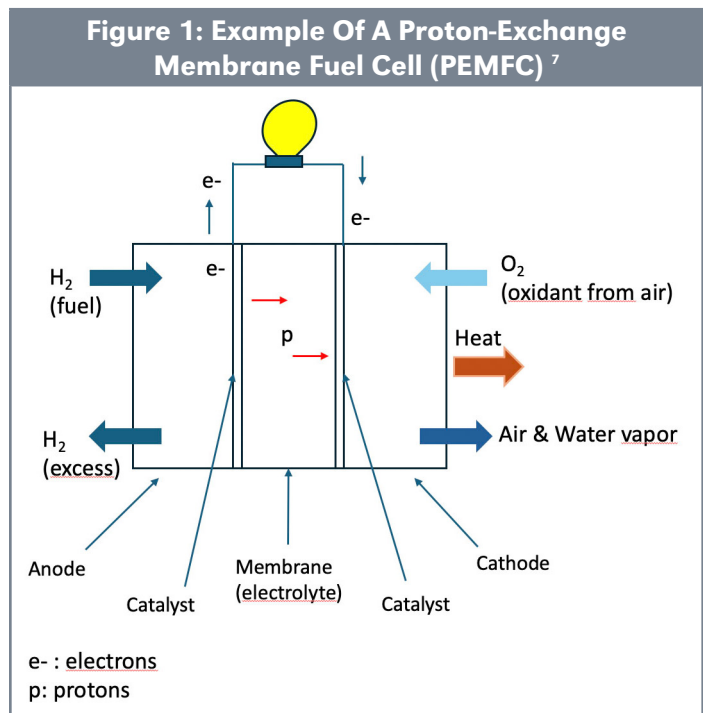
As seen from Table 1, depending on the types of fuel cells, the applications vary. For example, for transport applications, PEMFCs are the most suitable. The fuel cells that use molecular hydro-

5. "CLEFS CEA - N°50/51-HIVER 2004-2005." CEA. CEA, 2004. Accessed July 16, 2024. www.cea.fr/multimedia/Documents/publications/cleafs-cea/archives/en/065a068priem-gb.pdf.

6. Table prepared by the authors from page 72 of Mohiuddin, A. K. M., Ataur Rahman, Mohamed Fadhil Chemani, and Mohd Baihaqi Zakaria. "INVESTIGATION OF PEM FUEL CELL FOR AUTOMOTIVE USE." *IJUM Engineering Journal* 16, no. 2 (November 30, 2015): 69–78. <https://doi.org/10.31436/iujme.v16i2.605> and Marta Boaventura, et al. "The Influence of Impurities in High Temperature Polymer Electrolyte Membrane Fuel Cells Performance," *International Journal of Hydrogen Energy*, Volume 41, Issue 43, 16 November 2016, Pages 19771-19780. <https://doi.org/10.1016/j.ijhydene.2016.06.201>.

7. Figure 1 was prepared by the authors from: Intelligent Energy Limited. "Fuel Cell FAQs | Intelligent Energy," October 6, 2023. <https://www.intelligent-energy.com/product-support/faqs-your-guide-to-fuel-cells/>, matthey.com. "Fuel cells-matthey.com," n.d. <http://www.fuel-celltoday.com/>. Schumm, Brooke. "Fuel cell | Definition, Types, Applications, & Facts." *Encyclopedia Britannica*, June 22, 2024. <https://www.britannica.com/technology/fuel-cell>.

gen (H₂) as a fuel, like PEM fuel cells, have the advantage of producing only water and heat in addition to electricity. This prevents the direct emission of CO₂ (greenhouse gas) and offers potential heating sources for other processes. An example of a PEM fuel cell is shown in Figure 1.



1.2.2 What is the research on fuel cells?

Research around fuel cells can be extremely vast, as it concerns every element of the fuel cell in the supply chain of production, storage and distribution in different industries. Not only one fuel is available for fuel cells. To restrict the scope of this article, we focus on hydrogen production for fuel cells for transport applications, *e.g.*, road transport. While developing fuel cells for at least partially replacing existing means of producing electricity or combustion engines is a big deal, it should not be forgotten that to render hydrogen fuel cell a good ally in this energy transition, the fuel production shall also be as sustainable as possible to be able to measure the overall sustainability of this technology.

1.3 Hydrogen and its Production

Hydrogen can produce electricity and heat via a fuel cell with only water as a by-product, avoiding direct emissions of greenhouse gases such as CO₂. The attractiveness of hydrogen as fuel is thus undeniable for electricity and heat for chemical and petrochemical industries and mobility,⁸ as well as for energy storage in low-carbon energy system applications such as wastewater treatment plants.⁹ Hydrogen is the more abundant element and is a non-toxic gas. However, H₂ rarely exists as such and, at least for the time being, must be produced.

Over the past two decades, electrolysis technologies have driven hydrogen production innovation, according to the “Hydrogen Patents for a Clean Energy Future—Analysis—IEA.”¹⁰ They produce hydrogen from water more efficiently than thermochemical and photocatalytic methods. Therefore, industrial hydrogen production from renewable electrolysis could replace fossil fuel-based hydrogen and open new “hard-to-abate” applications. In fact, experts note that “some types of cells can be used in both directions: to make hydrogen or to produce electricity.”¹¹ Specific patenting activities related to key categories of electrolyzers, usable for hydrogen production, are presented in the IEA Analysis: an increase of at least about 200 percent in the number

of patent applications filed and published within nine years is observed (cf. Table 3.7, page 46 of “Hydrogen Patents for a Clean Energy Future—Analysis—IEA.”¹²), showing clearly that electrolyzers are of interest for researchers and the industry.

The electrolysis technologies mentioned above are not the only way of producing hydrogen and, presently, still do not represent the main production sources. Depending on the production means, and thus its sustainability, hydrogen (H₂) is classified by color, namely green, turquoise, grey, blue, pink, yellow and brown/black. Natural hydrogen on the other hand is often called white hydrogen.

- *Green hydrogen* is produced from the **electrolysis** of water. Said process uses electricity to split water into hydrogen and oxygen. To be considered green hydrogen, the electricity should be produced from renewable sources (solar, wind, etc.).
- *Turquoise hydrogen* is produced from methane pyrolysis, which permits to obtain solid carbon and a gas (H₂) with no CO₂ release into the atmosphere as opposed to the process for obtaining grey hydrogen.
- *Grey hydrogen* is produced from steam reforming by reacting hydrocarbons, in particular methane (CH₄) with water. Said reaction produces waste, including CO₂.
- *Blue hydrogen* is produced as grey hydrogen, except that CO₂ is captured to avoid a release in the atmosphere.
- *Pink hydrogen* is produced from the electrolysis of water, as with the green hydrogen, except that the electricity used for this process is from nuclear power.
- *Yellow hydrogen* is produced from the electrolysis of water, as with the green hydrogen, except that the electricity used for this process is from a mix of renewable sources and non-renewable sources.
- *Black/brown hydrogen* is produced from coal through gasification, which was the traditional way of producing H₂. This process releases greenhouse gas CO₂.

As of the end of 2021, about 47 percent of molecular hydrogen was produced from steam reforming

8. Ali Saberi Mehr *et al.*, “Recent challenges and development of technical and technoeconomic aspects for hydrogen storage, insights at different scales; A state of art review,” *International Journal of Hydrogen Energy* 70 (June 1, 2024): 786–815, <https://doi.org/10.1016/j.ijhydene.2024.05.182>.

9. E. Gholamian *et al.*, “Dynamic simulation and technoeconomic assessment of hydrogen utilization in dual fuel (Hydrogen/biogas) micro gas turbine systems for a wastewater treatment plant,” *Process Safety and Environmental Protection* 169 (January 1, 2023): 220–37, <https://doi.org/10.1016/j.psep.2022.10.045>.

10. IEA. “Hydrogen Patents for a Clean Energy Future—Analysis - IEA.” Page 39

11. IEA. “Hydrogen Patents for a Clean Energy Future—Analysis - IEA.” Page 46

12. IPF stands for International Patent Family. Footnote 1 of the “Hydrogen Patents for a Clean Energy Future—Analysis-IEA.” states that “[e]ach IPF covers a single invention and includes patent applications filed and published at several patent offices. It is a reliable proxy for inventive activity because it provides a degree of control for patent quality by only representing inventions for which the inventor considers the value sufficient to seek protection internationally. The patent trend data presented in this report refer to numbers of IPFs.”

(natural gas) and only about 4 percent from electrolysis (water).¹³ This proportion clearly needs to be changed to truly embrace the positive impact that hydrogen will have on climate change.

Finally, as to the different categories of hydrogen based on their production process, one should not neglect the impact of white hydrogen (natural molecular hydrogen) on climate change. Yet, we are on the premise of our discovery of the natural production of hydrogen. For several years now, Mali (Bourakebougou field) has been a renowned source of white hydrogen as a result of natural hydrogen exploration.¹⁴

Further, since March 2021, the initiative EarthH2 has been helping scientists and industrialists join forces and, together, increase the current knowledge on the topic of natural hydrogen.¹⁵ For example, in France, a Decree of November 23, 2023¹⁶ exclusively authorized a French company to carry out research “for mines of native hydrogen, helium and related substances” in the Pyrénées-Atlantiques for a period of five years.¹⁷

2. Legislative Framework and Policies for Green Hydrogen

Hydrogen legislation and policies vary significantly across the globe, reflecting differing levels of investment and socio-techno-economic developments, in addition to strategic climate change priorities.¹⁸ Many countries have enacted laws and policies to govern the production, distribution, and usage of hydrogen.¹⁹ Be-

low, a non-exhaustive overview of some major policies in Europe and France is presented.

2.1 European Union Hydrogen Policies and Regulations

2.1.1 EU Hydrogen Strategy²⁰

The EU’s Hydrogen Strategy proposes a comprehensive framework to promote the **use of renewable and low-carbon hydrogen**, aiming to cut the EU’s carbon emissions and decrease its reliance on imported fossil fuels in a cost-efficient manner.

The 2020 EU Hydrogen Strategy (COM/2020/301)²¹ prescribes 20 Key Actions in five main areas: investment facilitation, promotion of hydrogen production and demand, establishment of a hydrogen market and infrastructure, research and collaboration, and international cooperation.

In terms of hydrogen as a fuel for transportation, Key Action 3 aims to promote the adoption of hydrogen and its derivatives in the **transportation sector** through the Commission’s Sustainable and Smart Mobility Strategy. The regulation calls for a significant reduction in emissions and a transition to sustainable transportation. It also emphasizes the importance of a resilient transport system. The regulation outlines the need for a multimodal transport system that is greener and more connected, supported by automation and digitalization. It also emphasizes the importance of accessibility, affordability, and social fairness in the transport sector. The regulation sets out a roadmap and identifies flagship areas for action, with milestones for achieving a sustainable and smart future for European transport.²²

Additionally, to meet the needs of priority end-uses of clean hydrogen at competitive prices, Key Action 12 establishes the proposed “Clean Hydrogen Partnership,” with an emphasis on renewable hydrogen production, storage, transportation, and distribution.²³

13. “Hydrogen,” n.d. <https://www.irena.org/Energy-Transition/Technology/Hydrogen>.

14. Malga, O.; Deville, E.; Laval, J. *et al.* Characterization of the spontaneously recharging natural hydrogen reservoirs of Bourakebougou in Mali. *Sci Rep* 13, 11876 (2023). <https://doi.org/10.1038/s41598-023-38977-y>.

15. “What potential for natural hydrogen?” Energy Observer, April 19, 2022, <https://www.energy-observer.org/resources/natural-hydrogen>.

16. “Arrêté du 23 novembre 2023 accordant un permis exclusif de recherches de mines d’hydrogène natif, hélium et substances connexes dit « Sauve Terre H2 » (département des Pyrénées-Atlantiques) - Légifrance,” November 23, 2023, <https://www.legifrance.gouv.fr/eli/arrête/2023/11/23/ECOL2330172A/jo/texte>.

17. Torregrossa, Michaël. “Hydrogène blanc: feu vert pour la première exploration en France,” December 4, 2023. <https://www.h2-mobile.fr/actus/hydrogene-blanc-feu-vert-premiere-exploration-france/>.

18. IEA. “Policy Database—Data & Statistics - IEA,” n.d. <https://www.iea.org/policies?country=France&topic=Technology%20R%26D%20and%20innovation>.

19. Dolci, Francesco, Denis Thomas, Samantha Hilliard, Carlos Fúnez Guerra, Ragnhild Hancke, Hiroshi Ito, Mathilde Jegoux *et al.* “Incentives and legal barriers for power-to-hydrogen pathways: An international snapshot.” *International Journal of Hydrogen Energy* 44, no. 23 (May 1, 2019): 11394–401. <https://doi.org/10.1016/j.ijhydene.2019.03.045>.

20. “Key actions of the EU Hydrogen Strategy,” Energy, n.d., https://energy.ec.europa.eu/topics/energy-systems-integration/hydrogen/key-actions-eu-hydrogen-strategy_en.

21. “COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A hydrogen strategy for a climate-neutral Europe,” Lex-Europa, accessed July 22, 2024, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0301>.

22. “COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Sustainable and Smart Mobility Strategy—putting European transport on track for the future,” Lex-Europa, accessed July 22, 2024, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0789>.

23. “Clean Hydrogen Partnership,” European Union, July 3, 2024, accessed July 22, 2024, https://www.clean-hydrogen.europa.eu/index_en.

The primary goal of the Clean Hydrogen Partnership is to support the EU's Green Deal and Hydrogen Strategy by funding research and innovation projects as efficiently as possible.²⁴

2.2 French Hydrogen Policies and Regulations

France has been proactive in establishing a regulatory and strategic framework to promote the development and use of hydrogen as part of its energy transition efforts.²⁵ The key laws and policies related to hydrogen in France include:

2.2.1 "France 2030" Investment Plan: Green Hydrogen Strategy of 12th October 2021²⁶

The goals of the Green Hydrogen Strategy are to become the leader in green hydrogen. The strategy specifically highlights the potential of hydrogen as a solution for reducing emissions and optimizing energy consumption. It aims to build a sovereign energy sector through hydrogen production and support the development of the French hydrogen industry. Additionally, the strategy aims to foster innovation and collaboration with research institutions and industry partners.

In this regard, President Macron mentioned the partnership between the industrial sector and the CEA (French Alternative Energies and Atomic Energy Commission) and the CNRS (French National Scientific Research Center) in developing hydrogen production through electrolysis. He believes that hydrogen can transform industries, reduce emissions, and contribute to the fight against climate change.

The strategy includes a budget of €7 billion by 2030, with €2 billion already allocated for the initial phase (2022).

2.2.2 Recovery and Resilience Plan: Hydrogen Plan of 8th September 2020²⁷

24. "Clean Hydrogen Partnership."

25. Ministre De L'Économie, Des Finances Et De La Souveraineté Industrielle Et Numérique. "Présentation de la stratégie nationale pour le développement de l'hydrogène décarboné en France," September 9, 2020. <https://www.economie.gouv.fr/presentation-strategie-nationale-developpement-hydrogene-decarbone-france>.

26. Elysée. "Devenir le leader de l'hydrogène vert, voilà notre objectif avec France 2030 !" Elysee, Fr. November 16, 2021. <https://www.elysee.fr/emmanuel-macron/2021/11/16/deplacement-beziers-geniva-france-2030#:~:text=Dans%20ce%20cadre%20C%20la%20France,pour%20d%C3%A9velopper%20l'hydrog%C3%A8ne%20vert>.

27. entreprises.gouv.fr. "Stratégie nationale pour le développement de l'hydrogène décarboné en France | entreprises.gouv.fr," n.d. <https://www.entreprises.gouv.fr/fr/strategies-d-acceleration-strategie-nationale-pour-developpement-de-l-hydrogene-decarbone-france#:~:text=Dans%20le%20cadre%20du%20plan%20de%20relance%2C%20une%20enveloppe%20de,est%20pr%C3%A9vu%20jusqu'en%202030>.

The strategic goals related to the use of decarbonized hydrogen are:

- *Environmental decarbonization*: Decarbonized hydrogen is seen as a solution to reduce carbon emissions in industries and transportation, contributing to the overall goal of decarbonizing the economy.
- *Economic development*: The use of decarbonized hydrogen creates new industries and job opportunities, promoting economic growth and innovation.
- *Energy independence*: By reducing reliance on imported energy sources, the use of decarbonized hydrogen aligns with France's goal of increasing energy self-sufficiency.
- *Technological independence*: Embracing decarbonized hydrogen allows France to establish itself as a leader in hydrogen technology, enhancing its technological independence and competitiveness in the global market.

2.2.3 Law No. 2019-1147 on Energy and the Climate²⁸

The Energy and Climate Law outlines the main goals for France's energy policy, including reducing greenhouse gas emissions, increasing the share of renewable energy, and improving energy efficiency. Hydrogen has been identified as a crucial technology for decarbonizing the economy.

It prescribes that the government aims to develop low-carbon and renewable hydrogen and promote its use in industry, energy, and mobility, with the goal of reaching approximately 20 percent to 40 percent of total hydrogen consumption by 2030, to achieve carbon neutrality by 2050. Additionally, it authorizes the government to set standards for the taxonomy used to talk about different types of hydrogen based on the energy source used to produce them, since standards will make it easier to produce, transport, store, and track hydrogen. Furthermore, the government aims to set up a support system for hydrogen made from renewable energy or electrolysis of water using low-carbon electricity.²⁹

2.2.4 Multi-Annual Energy Plan (PPE) 2019-2023 and 2024-2028

The Multi-Annual Energy Plan (PPE) serves as a binding operational tool for the government and describes

28. "LOI n° 2019-1147 du 8 novembre 2019 relative à l'énergie et au climat (1) - Légifrance," n.d. <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000039355955/>.

29. France Hydrogène has published a panorama of hydrogen solutions, which provides an overview of the available hydrogen offerings in France and Europe. The document includes a breakdown of technologies across the entire value chain of hydrogen, from production to final use. This publication aims to identify the various actors in the sector and their respective technologies and required standards. The documents are available here: <https://vigny.france-hydrogene.org/ressources-documentaires/>.

the measures that will enable France to decarbonize its energy and achieve carbon neutrality by 2050.

The plan sees that hydrogen produced through renewable electricity electrolysis is a crucial solution for reducing carbon emissions in the long run. It has the potential to replace fossil hydrogen in various industries and can also be used as a decarbonization option in the transportation sector in the near future. Furthermore, beyond 2030 or 2035, it expects hydrogen to play a significant role in integrating renewable energies into the electricity system.³⁰

2.2.5 Public Funding Programs on Public Research

The Investment for the Future Program (Programme d'Investissements d'Avenir—PIA) launched by the French government as part of the France 2030 plan allocates public funding for innovative projects for the green and digital transitions covering a wide range of areas including among others green chemistry and energy issues (*e.g.*, hydrogen vector), and road vehicles.

B. Research Strategy: How is it Articulated in France?

In order to respond to the energy transition, in particular by developing hydrogen fuel cells, different public research programs and private sector initiatives are available.

1. Public Sector: Fundamental Research and Funds

France 2030 is a means for accelerating public research in several fields, including hydrogen. One of the actions of France 2030 is dedicated to financing the most fundamental research: Priority Research Programs and Equipment (PEPR). The PEPR dedicated to hydrogen research is PEPR-H2,³¹ which started on February 1, 2022, for eight years with the CEA (French Alternative Energies and Atomic Energy Commission) and the CNRS (French National Center for Scientific Research) as program drivers.

1.1 PEPR-H2

The PEPR-H2 or PEPR carbon-free hydrogen is a public research program that aims at covering the issues of production, storage, and transport of carbon-free hydro-

gen and its use for heavy mobility in particular. The ANR (French National Research Agency) precises that the goals of PEPR-H2³² is also to support upstream R&D activities by exploring new avenues that can lead to disruptive innovations and in support of industries in the sector.

1.2 H2DEC³³

In addition to the research program PEPR-H2, the program H2DEC has been launched at the beginning of 2024 to accelerate the technology transfer of innovations with high potential on three priorities, being:

- To decarbonize the industry by developing a French electrolysis sector and producing renewable and low-carbon hydrogen for industrial use.
- **To promote the use of hydrogen in heavy mobility, such as fuel cells for vehicles and tanks for transportation.**
- To support research, innovation, and skills development to promote the use of hydrogen in energy networks, industrial processes, and heavy mobility.³⁴

The H2DEC aims to take over the PEPR-H2 to nourish the flow of deep-tech innovations to industries and markets. It is thus complementary to the research program PEPR and is supported by a consortium of 18 public research partners, including the CEA, the CNRS Innovation, French universities and public research institutes, and two Technology Transfer Offices: SATT Sayens, and maturation by SATT Linksum.³⁵

2. Collaboration Public-Private Sectors: Industries Needs

The private and public sectors are not to be viewed as being in opposition with respect to research, particularly research related to hydrogen fuel cells. Indeed, the CEA informs in the context of PEPR-H2 that an “industrialists’ club,” made up of representatives from the sector, will be consulted throughout the life of the projects in order to ensure good alignment between the

32. <https://anr.fr/fr/france-2030/programmes-et-equipements-prioritaires-de-recherche-pepr/h2-hydrogene-decarbone/>.

33. SATT. “Hydrogène décarboné: le nouveau programme H2DEC va accélérer la mise sur le marché d’innovations à fort potentiel sur les priorités de la Stratégie Nationale d’Accélération.” Accessed January 30, 2024. https://www.satt.fr/wp-content/uploads/2024/02/h2dec_communique-presse_lancement_version-finale_2024.01.pdf.

34. “Livres blancs Hydrogène décarboné I,” H2dec, February 2, 2024, accessed July 25, 2024, <https://h2dec.fr/livre-blanc-hydrogene-decarbone/>.

35. Calvet, Stéphanie. “H2DEC | Pour accélérer l’innovation de l’hydrogène décarboné - Réseau SATT.” Réseau SATT, February 12, 2024. <https://www.satt.fr/accelerer-innovation-hydrogene-decarbone/>.

30. “Executive Summary: Multi-Annual Energy Plan 2019-2023 and 2024-2028.” Ministère de La Transition Écologique et Solidaire. Accessed July 16, 2024. <https://www.ecologie.gouv.fr/sites/default/files/documents/PPE-Executive%20summary.pdf>.

31. PEPR-H2 une multitude de projets, <https://www.pepr-hydrogene.fr/> & [info.gouv.fr](https://www.info.gouv.fr). “France 2030 | Accélérer le déploiement de l’hydrogène, clé de voûte de la décarbonation de l’industrie | [info.gouv.fr](https://www.info.gouv.fr),” n.d. <https://www.info.gouv.fr/actualite/france-2030-acceler-le-deploiement-de-l-hydrogene-cle-de-voute-de-la-decarbonation-de-l-industrie>.

research carried out and the needs of the sector,³⁶ showing that fundamental research financed by the different funding programs aims also to render the innovations commercially attractive to be able to be developed on a large scale and thus attempt to reach the goals of carbon neutrality.

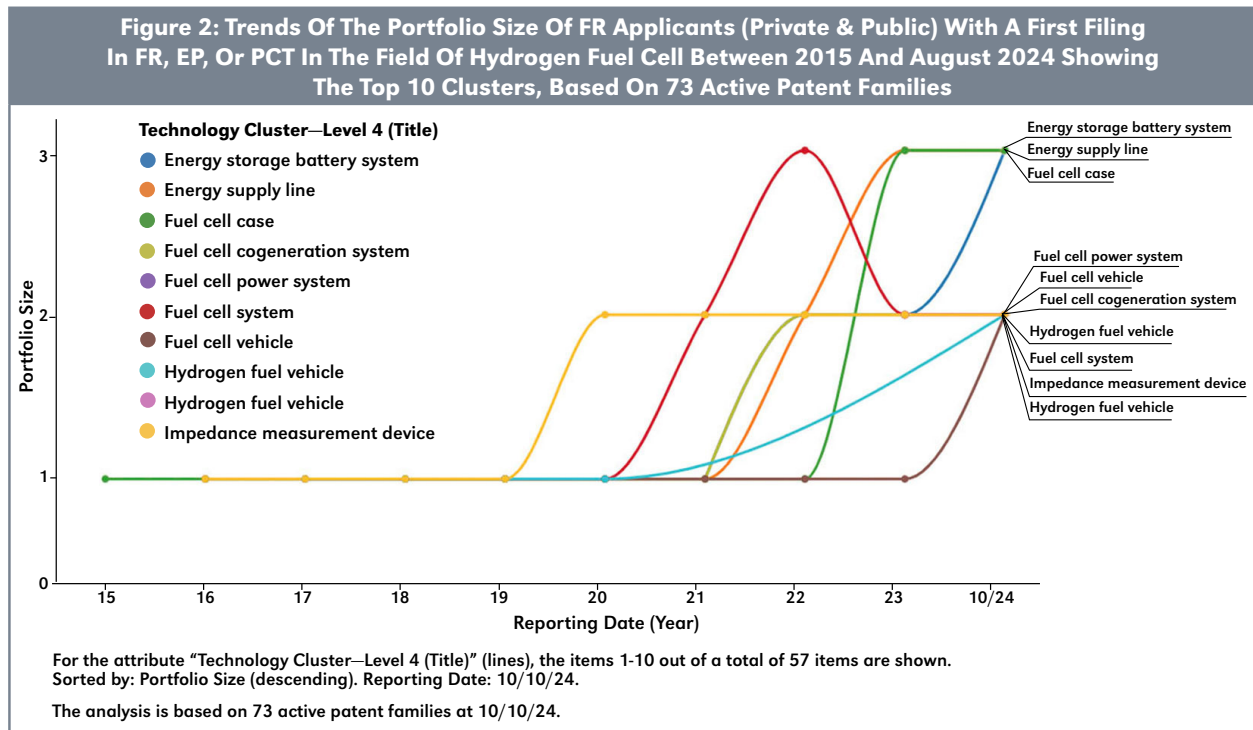
C. IP Rights in Hydrogen Fuel Cell

For analyzing the market acceptance and prospective licensing opportunities of a particular technology, the Technology Readiness Level (TRL) is a crucial consideration. The research axis of this article covers patent analysis of hydrogen and hydrogen fuel cell technologies in road transport at TRL 8 and 9,³⁷ such as technologies relative to hydrogen fuel cell for passenger cars, buses and trucks, notably hydrogen PEMFC.³⁸

When analyzing the data displayed below, it should be borne in mind that it represents only a picture of today's situation with **published** patent applications, namely patent applications that were filed at least 18 months ago. Therefore, it is expected that in about

two years the number of applications will increase to match the green transition objectives, originated from the financing programs in Europe. It would thus be of interest to redo the search at that time to study the new trends and the real impact of the above-mentioned funding programs.

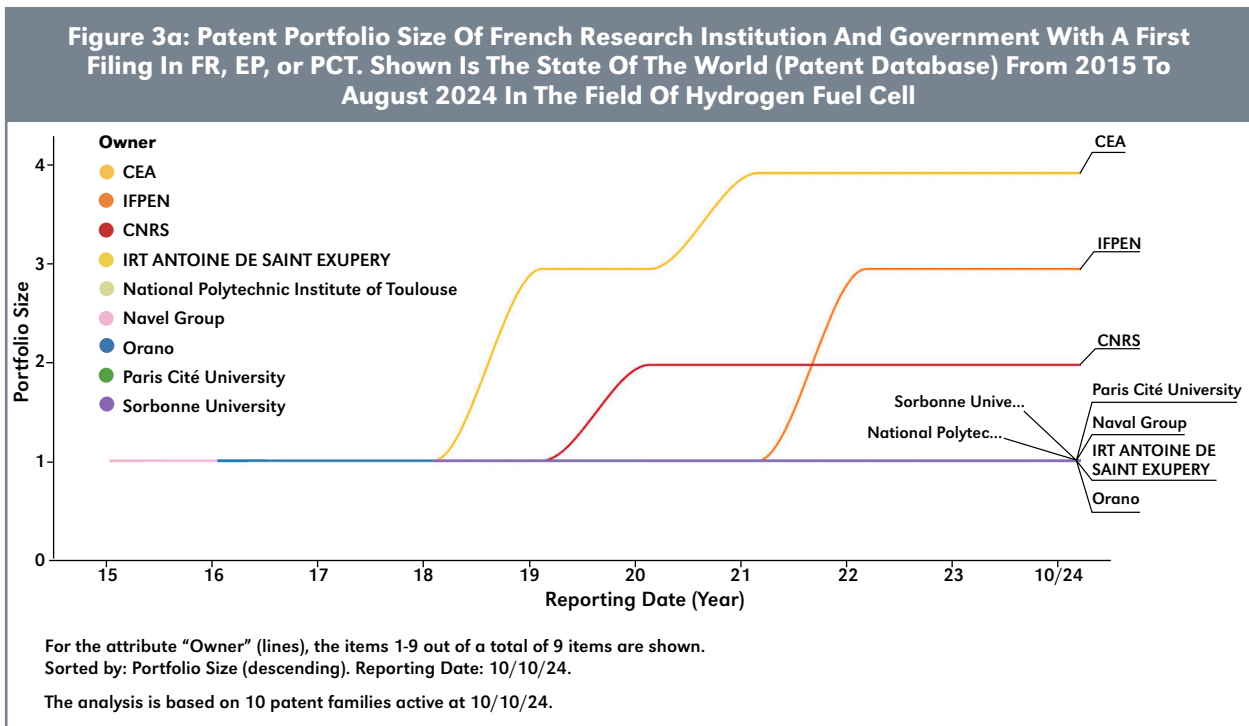
According to Figure 2, the patent families of French applicants for the listed technology clusters have grown between 2019 and August 2024. We note, however, a stagnation for “fuel cell case,” “operation of fuel cell,” “energy supply line,” and only one decrease for “fuel cell system” between 2022 and 2023. Further, there has been an increase since 2023 for “fuel cell vehicle” and since 2021 for “energy storage battery system.” Finally, from 2022, patent families are published for “hydrogen fuel vehicle” and “fuel cell stack.” Hence, it appears that, even if there is a period of stagnation for some technology clusters, new technology clusters also arise, demonstrating the ongoing interest about the hydrogen fuel cell.



36. <https://www.cea.fr/presse/Pages/actualites-communiques/energies/pepr-h2-projets-et-equipex.aspx>.

37. TRLs 8 and 9 correspond to the development phase of the Commercial Product. Source: “ETP Clean Energy Technology Guide—Data Tools - IEA,” IEA, n.d., <https://www.iea.org/data-and-statistics/data-tools/etp-clean-energy-technology-guide>.

38. (vehicle* OR road_transport* OR passenger_car* OR truck* OR bus* OR omnibus* OR electric_vehicle*) near (hydrogen_fuel_cell* OR fuel_cell* OR HT_PEM* OR PEM* OR Proton_Exchange Membrane Fuel Cell* OR Polymer Electrolyte Membrane Fuel Cell* OR Polymer Electrolyte Fuel Cell* OR AMFC* OR Alkaline Membrane Fuel Cell* OR PAFC* OR Phosphoric Acid Fuel Cell* NEAR8 (membrane* OR electrode* OR polymeric* OR catalyst* or electrolyte*))) AND NOT CPCSmart=(A) AND PublicationDate=(>=2015-01-01) AND LegalStatus=(In Force, Pending).



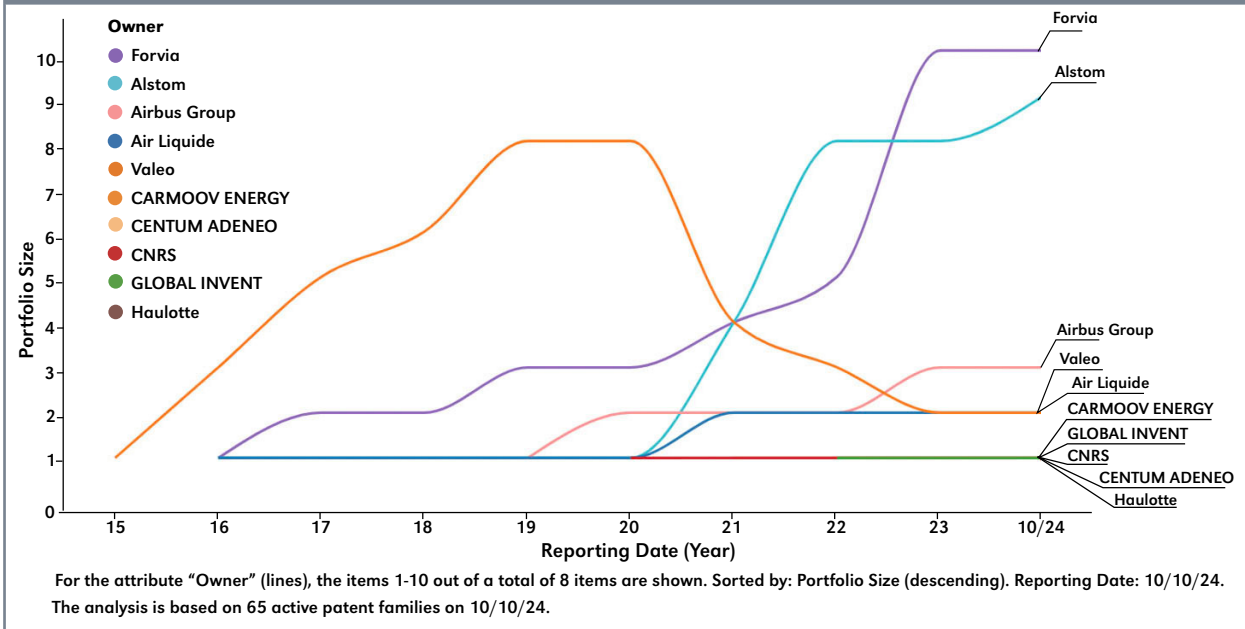
Figures 3 and 4 have been generated to compare the public and private sectors. As to the public sector, for now only a few patent families have been found, which thus merely

39. Patentsight® "The ETR indicator is an indicator of the technological importance of the patent family for a third party. It is calculated on the patent family level based on the number of forward citations the patent family has received from patent families owned by a different owner. The number of citations received by the patent family is adjusted by three factors: the patent office citation practices, the age of the patent family, and the technology fields to which the patent family belongs." Furthermore, "Technology Relevance can be defined as a relative measure that compares a patent family to other patent families. For example, a Technology Relevance of '2' means that a patent family has been twice as relevant for further technological development as an average patent family in the same technology field and of the same age." https://support.lexisnexisip.com/hc/en-us/articles/20133149893267-Technology-Relevance#h_01HDOQJPREH2622X8D0PD50ZKF.

Figure 3b: External Technology Relevance (ETR)³⁹ Of Patent Families Of Research—Institution And Government Co-Owners Measured Between 2015 And August 2024 Based On 10 Patent Families

| Co-Owner (Owner Included) | Technology Cluster-Level 4 (Title) | External Technology Relevance |
|--|------------------------------------|-------------------------------|
| CNRS | Electrocatalyst | 4.0 |
| Sorbonne University | Electrocatalyst | 4.0 |
| Paris Cite University | Electrocatalyst | 4.0 |
| CEA | Fuel cell vehicle | 1.8 |
| IFPEN | Fuel cell cogeneration system | 1.1 |
| IFPEN | Gas measurement system | 0.7 |
| CEA | Pressure vessel system | 0.7 |
| IFPEN | Compressor chamber | 0.6 |
| CEA | Thiosulfate leaching | 0.3 |
| Orano | Thiosulfate leaching | 0.3 |
| Safran | Impedance measurement device | 0.1 |
| CNRS | Impedance measurement device | 0.1 |
| National Polytechnic Institute of Toulouse | Impedance measurement device | 0.1 |
| IRT ANTOINE DE SAINT EXUPERY | Impedance measurement device | 0.1 |
| Naval Group | Fuel cell case | 0.1 |

Figure 4a: Patent Portfolio Size Of French Companies With A First Filing In FR, EP, or PCT; Shown Is The State Of The World (Patent Database) From 2015 To August 2024 In The Field Of Hydrogen Fuel Cell



provides us with a shy trend. It is expected that the number of patent families will increase in about two years from now in view of the funding programs. Nevertheless, the external technology relevance is high, indicating the importance of these technologies for the subsequent technological development. As to the industry sector, its portfolio size is for now bigger than the one of the public sector; still the ETR of both sectors is promising. These figures show that hydrogen fuel cell technology is still of interest, and there is room for new technology clusters related to hydrogen fuel cell development.

D. What Scenarios Could We Imagine in the Future?

In 2024, the ADEME (French Environment and Energy Management Agency) presented the four contrasting scenarios for France's transition to carbon neutrality, based on macroeconomic, demographic, and climate change data (+2.1 °C in 2100). The four scenarios are S1 Fragile Generation, S2 Territorial Cooperation, S3 Green Technologies, and S4 Re-

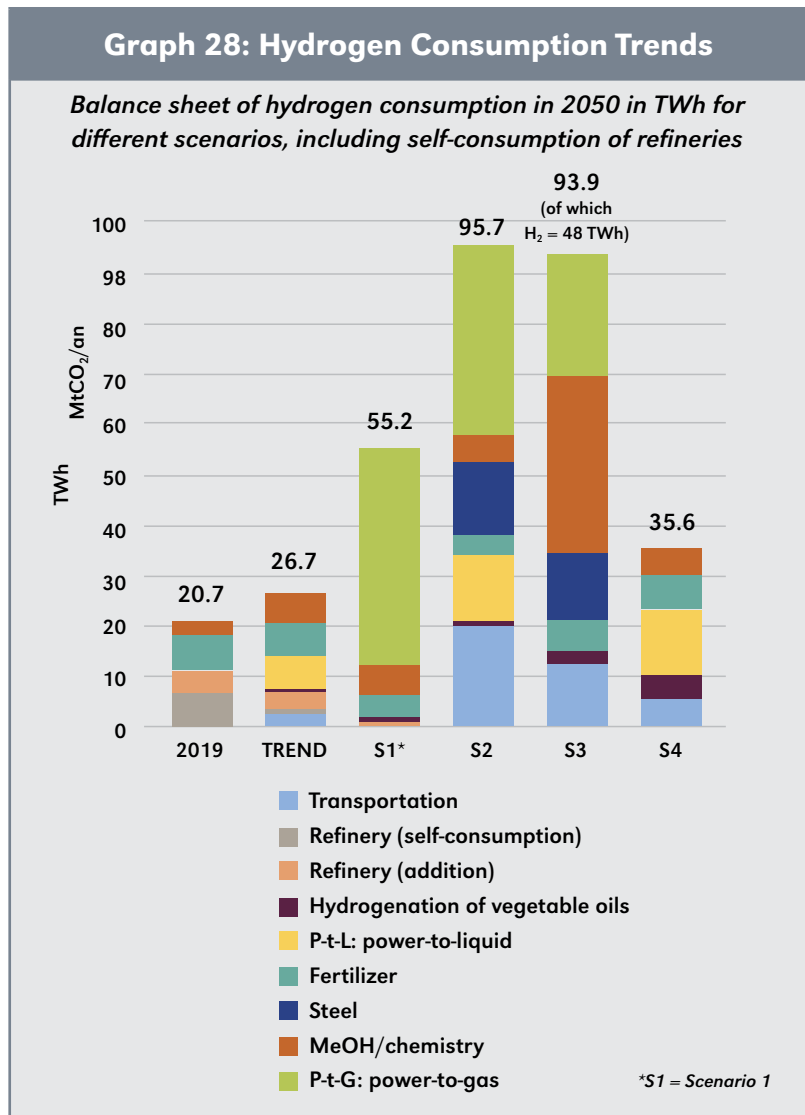
Figure 4b: External Technology Relevance (ETR) Of Patent Families Of French Companies And Co-Owners Measured Between 2015 And August 2024 Based On 64 Patent Families. See Footnote 39 For The Definition Of ETR.

| Co-Owner (Owner Included) | Technology Cluster-Level 4 (Title) | External Technology Relevance |
|---------------------------|------------------------------------|-------------------------------|
| Air Liquide | Pressure vessel system | 3.1 |
| Air Liquide | Hydrogen production system | 2.2 |
| Renault | Power supply level | 1.5 |
| Somfy | Power supply level | 1.3 |
| Alstom | Transportation vehicle | 1.3 |
| Michelin | Voltage supply system | 1.1 |
| Airbus Group | Fuel cell system | 0.7 |
| Arkema | Heat transfer fluid | 0.6 |
| Alstom | Fuel cell system | 0.6 |
| Valeo | Fuel cell vehicle | 0.6 |
| Valeo | Heat exchanger portion | 0.5 |
| SAFRA | Motor vehicle chassis | 0.5 |
| Haulotte | Vehicle drive unit | 0.5 |
| CARMOOV ENERGY | Energy management system | 0.5 |
| Michelin | Fuel cell stack | 0.5 |
| Michelin | Fuel cell case | 0.5 |
| Michelin | Fuel cell vehicle | 0.5 |
| Michelin | Operation of fuel cell | 0.5 |
| Forvia | Fuel cell stack | 0.5 |
| Forvia | Fuel cell case | 0.5 |

pair Bet. It noted that the global energy context has evolved due to risks of gas and oil supply disruptions due to the Russian-Ukrainian conflict, especially in electricity. The Transition(s) 2050 scenarios aim to transition to fossil energy, with scenarios 1 and 2 being more resilient and scenario 4 being more sensible due to its strong dependence on natural gas.⁴⁰

With respect to Graph 28, on page 200, ADEME shows that hydrogen consumption is projected to increase in all scenarios, with electrolysis being essential for replacing hydrogen currently produced from fossil gas. The maximum hydrogen production in France by 2050 is estimated to be 96 TWh in scenario S2, which includes diffuse uses like power-to-gas and mobility, as well as centralized industrial uses such as fertilizer and methanol production, liquid fuel synthesis, and steel reduction. Scenario S3 also relies on hydrogen imports (48 TWh). It concludes this decade is crucial for developing electrolysis capacities, and new hydrogen-consuming sectors such as heavy mobility, power-to-gas, methanol production, and steel industry are expected to emerge before 2030.⁴¹

Considering the above patent landscape analyses, the numerous funding programs and the prevision of the ADEME in sectors such as transport, it is expected that new patent landscapes will be drawn due to the expected increase in patent application filings by the French public and private sectors for hydrogen fuel cell technologies, illustrating the enthusiasm for this technology that the EU is betting on. ■



Source: “Prospective—Transition(s) 2050—Synthèse—Édition 2024.” Page 63.

40. “ProspectiveTransition(s) 2050-Synthèse-édition 2024.” ADEME. Accessed July 25, 2024. <https://bibliothèque.ademe.fr/ged/6529/transitions2050-synthese-mars2024.pdf> Page 63

41. “Prospective-Transition(s) 2050-Synthèse-Édition 2024.” *Ibid.* 40.

Considering Approval Risk In Business And Intellectual Property Valuation

By Glenn Perdue

I. Introduction

When considering investment in a new product, new business, or a new business built around a new product, a rational investor considers risk and the return required to compensate them for taking that risk. These risk and return dynamics are core valuation and deal pricing drivers.

All new products are not created equal with respect to proprietary protection, the seller's ability to enter the market, and the seller's ability to get paid. For some products, these issues may involve approval requirements that make it more difficult and more costly to achieve commercial success. This paper explores approval risk as a valuation consideration.¹

II. Sources Of Approval Risk

Consider an investment in the development of a new prescription drug. A new drug's commercial success is built upon layers of different approvals that must be secured.

For a new drug, approved patents will be needed to provide intellectual property (IP) protection. Investors will be betting on this IP protection to provide the time needed for the company to capitalize on its proprietary technology before competing generic products enter the market.

But an issued patent is not enough. Approval from the U.S. Food and Drug Administration (FDA) is required before market entry with a new drug is allowed. But even then, an issued patent and FDA approval still may not be enough. Approval from payers, such as the Centers for Medicare & Medicaid Services in the U.S. (CMS) along with other private health insurers will be needed for reimbursement to occur. And finally, to gain full access to targeted customers, inclusion as an approved product on formularies and by Group Purchasing Organizations (GPO) may also be needed.

While pharmaceutical products provide the richest example of approval risk, this type of risk exists with other regulated products too. The following provides a sampling of offerings that require varying degrees of regulatory oversight impacting market entry and sales activity.²

1. This paper relies upon previous *les Nouvelles* papers by the author, including "Risk and Return: Understanding The Cost Of Capital for Intellectual Property" (Part 1 and 2) as published in the June 2015 edition.

2. For the sake of brevity, only U.S. regulators are referenced in this list, not any of their numerous foreign counterparts.

- Drugs, biological products, medical devices, animal drugs, and food additives as regulated by the FDA.³
- Military weapons, for which sales to foreign countries are subject to export controls involving review and approval by the U.S. Department of State.⁴
- Meat, poultry, egg products (including egg substitutes), and seeds, as regulated by the U.S. Department of Agriculture (USDA).
- Alternative proteins, such as plant-based proteins and proteins developed from cultivated cells, which can face federal regulatory requirements from the FDA and USDA along with state-based food-labeling requirements.⁵
- Pesticides as regulated by the U.S. Environmental Protection Agency (EPA).⁶
- Marijuana farms and retail dispensaries, as approved by state-level regulators, such as the Marijuana Enforcement Division for the Colorado Department of Revenue.⁷
- Explosives, which are regulated by the Bureau of Alcohol, Tobacco, Firearms and Explosives (better

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3. <https://www.fda.gov/news-events/approvals-fda-regulated-products> – accessed 9/1/2024.

4. <https://www.state.gov/u-s-arms-sales-and-defense-trade/#:~:text=The%20U.S.%20Department%20of%20State%27s,the%20Foreign%20Assistance%20Act%20of> – accessed 9/28/2024.

5. <https://www.fdpi.org/2023/05/alternative-proteins-navigating-the-maze-of-u-s-federal-and-state-meat-labeling-requirements/#:~:text=At%20the%20federal%20level%2C%20the,which%20include%20most%20cultivated%20meat> – accessed 9/28/2024.

6. <https://www.epa.gov/pesticides/regulating-pesticides> – accessed 9/28/2024.

7. <https://sbg.colorado.gov/marijuana-enforcement/#:~:text=The%20Marijuana%20Enforcement%20Division%20is,Retail%20Marijuana%20industries%20in%20Colorado> – accessed 9/28/2024.

known as the ATF) and other federal regulators,⁸ and which may also be subject to various state and local regulations.

- New healthcare facilities, which are governed by Certificate of Need (CON) laws in 38 U.S. states, under which regulatory approval is required to develop covered healthcare facilities.⁹
- New real estate developments that require zoning changes and/or other approvals to allow for the intended use.

III. Approval Risk As A Component Of Overall Business Risk

Approval risk is a specialized type of risk faced by a limited group of businesses, such as those identified above. Some businesses don't face approval risk. But those that do must also contend with other types of risk faced by all businesses.

Someone seeking to open a retail store or restaurant may have to obtain a business license, an employer identification number, and jump through a few other regulatory hoops. But unlike a business established to develop and commercialize a new drug that may have to wait a decade or more before selling its product, the typical retail store or restaurant can be in business generating revenues in a matter of weeks or months. But after entering the market, all these businesses will face their own form of industry and market risks. They may also face unique company-specific risks.

Similarly, compare a new business developing a new drug with an established pharmaceutical company that has obtained all the necessary approvals needed to be in the market and sell its drug. The established pharmaceutical company has eliminated initial approval risk, but faces industry and market risks like others selling approved drugs. Both businesses may also face company-specific and product-specific risks.

8. <https://www.atf.gov/resource-center/fact-sheet/fact-sheet-explosives-united-states> – accessed 9/28/2024.

9. <https://www.ncsl.org/health/certificate-of-need-state-laws> – accessed 9/28/2024.

Exhibit 1 summarizes the three categories of risk introduced above and provides examples based on a new drug.

Approval Risk

Approval risk encompasses approvals and access rights needed to be in business and in the market with a salable product. Sources of approval risk can include gaining necessary IP protection, regulatory approvals, payment/reimbursement approvals, and customer access.

Industry and Market Risk

Industry and market risk is the risk faced by all participants in a competitive market. These are typical business risks considered for investment and valuation purposes dealing with the economy, demand, competition, and other factors that affect profitability and growth. For a business subject to approval risk that has gained necessary approvals, this is the post-approval risk faced with other market participants selling approved products.

Company-Specific Risk

Company-specific risk deals with risk factors unique to a particular business. Reliance upon a specific individual (key man risk) and reliance upon a specific customer, referral source, or supplier (concentration risk) are common examples of company-specific risk. In the context of a company reliant on a specific patent, the impending expiration of that key patent creates company-specific risk. Pending litigation that can have a material adverse impact on the business also creates company-specific risk.

| Exhibit 1: Sources Of Business Risk | |
|---|---|
| Approval Risk | Industry and Market Risk |
| <p>IP Protection e.g., Patent issuance for new drug</p> <p>Regulatory Approval e.g., FDA clinical trial approval</p> <p>Payment Approval e.g., Reimbursement approval by key payors</p> <p>Customer Access e.g., Product included in GPO or formulary</p> | <p>Industry risks associated with businesses in the market with approved products and access to customers</p> <p>e.g., A pharmaceutical company that has entered the market and is generating sales after obtaining issued patents, FDA approval, reimbursement approval, and is included in necessary GPOs and/or formularies</p> |
| Company-Specific Risk | |
| <p>New Business e.g., New product developed by a new pre-revenue company versus an established company</p> <p>Other Company-Specific Factors e.g., Management team, key-person risk, business size, concentration risk, etc.</p> | |

Being a new business is another company-specific risk factor. Imagine the same new drug being developed by: (A) a start-up with an inexperienced management team; or (B) a start-up with an experienced management team, or (C) an established pharmaceutical company with an experienced management team. The typical investor would likely perceive a decrease in risk—and increase in the likelihood of success—in moving from A to B to C.

IV. Valuation Basics

Valuations are estimates of prices that would occur in a transaction based on assumptions regarding the parties, premise, and timing. Valuations are often used to establish a price or provide support for a pricing position in a negotiation related to an actual transaction.

In valuing businesses, asset, income, and market-based approaches are used. In valuing individual assets, cost, market, and income-based approaches are used. Risk is considered in different ways under different methods.

Asset-based approaches consider the value of individual assets on a cumulative basis for estimating the value of a business.

Cost-based approaches may consider historical costs, the cost to obtain a replica of the asset, or the cost to obtain a functionally equivalent asset as a basis for estimating asset value.

Market-based approaches consider known pricing metrics for comparable businesses or assets as a basis for estimating the value of the subject business or asset.

Income-based approaches consider an expected benefit stream, typically measured as some form of earnings or cash flow, that are discounted or capitalized to obtain a present value as of a certain date.

V. Income Approach Basics

Income-based calculations consider three key variables: (i) an expected benefit stream; (ii) a discount rate; and (iii) a time variable. Many of us first encountered this combination of variables in the following formula, which is used to calculate compound growth in finance and other fields:

$$FV = PV \times (1 + r)^n$$

Where: FV = Future Value

PV = Present Value

r = rate of growth per period

n = number of compounding periods.

Rearranging the above terms with some basic algebra, we obtain a formula which allows us to calculate a present value. The formula that results provides the basis of discounted cash flow (DCF) analysis:

$$PV = FV / (1 + r)^n$$

The rate (r) variable noted above may be a stated in-

terest rate, an expected rate of return for an investment, or a “hurdle rate” used in corporate finance to assess project viability. But for our purposes going forward, we will refer to the rate (r) variable as the discount rate.

The above formulas are based on calculations for a discrete period (n). However, we may also calculate a present value for a benefit stream assumed to continue forever, known as a perpetuity. The present value of a perpetuity can be calculated using the Gordon Growth Model which can be stated as:¹⁰

$$PV = FV / (r - g)$$

The Gordon Growth Model introduces a growth variable (g) which is subtracted from the discount rate. This growth variable represents the amount of growth expected in the benefit stream per period. The combined term “r-g” is referred to as the capitalization or “cap” rate. To illustrate, assume the discount rate (r) is 20 percent, and expected long-run growth (g) is 3 percent. Under this set of assumptions, the cap rate would be 17 percent (.20 - .03 = .17).

Capitalization is used in valuing businesses, real estate, dividend paying stocks, and other assets. Cap rates, along with certain types of mathematically related capitalization multiples, address issues of risk and growth in a combined manner.

VI. Different Ways To Consider Risk Using DCF Analysis

Uncertainty is an objective feature of the universe. It is a fact of the world in which we live. In contrast, risk is based on perception. It is our perception of uncertainty and variations in potential outcomes that gives rise to risk and our responses to it.¹¹

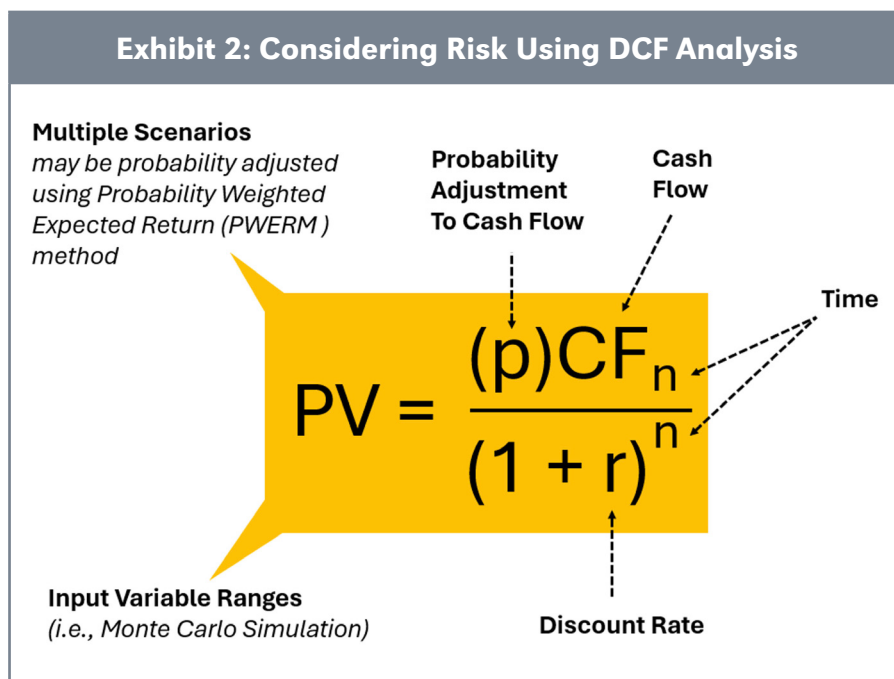
DCF analysis is particularly well-suited to consider risk in different ways. While the discount rate may be the most apparent place to consider risk in a DCF calculation, it is not the only place. **Exhibit 2** identifies the different variables that can be used to consider risk in different ways using DCF analysis.

Discount Rate (r)—Risk and return expectations can be reflected through discount rates. A discount rate should be selected that reflects a rate of return commensurate with the risk of achieving estimated future cash flows. Discount rates used for valuation purposes are generally stated in nominal terms reflect-

10. To assist the reader, I have used consistent variable names in this section. Some presentations of present value, future value, and the Gordon Growth Model use different variable names. For use in the Gordon Growth Model here, the FV term represents the benefit stream for the next future period. The FV term is changed to CF (cash flow) in the next section.

11. *The Flaw of Averages*, by Dr. Sam L. Savage, copyright 2009. See Chapter 7.

Exhibit 2: Considering Risk Using DCF Analysis



to provide a range of potential values. These different outcomes can also be probability weighted (e.g., pessimistic at 40 percent, base case at 50 percent, and optimistic at 10 percent) with the weighted amounts being summed to obtain a single value. This is referred to as the probability weighted expected return method (PWERM).

Variable Ranges—Uncertain input variables such as units sold, price, or cost of goods sold can be considered in ranges and used in different combinations. This is a basic feature of Monte Carlo simulation, which allows for the consideration of input variable ranges as the basis for assessing a range of potential outcomes.

ing expected inflation. For proper matching, cash flows being discounted with nominal rates should also reflect expected inflation.¹²

Cash Flow (CF)—In the prior section, this was the future value (FV) variable. The variable name has been changed here to better reflect the concept of expected future cash flow (CF). Forecasted cash flow amounts can be adjusted directly to reflect the risk that actual results may fall short.

Probability Adjustment (p)—Forecasted future cash flow can also be adjusted based upon a probability factor. In **Exhibit 2** we see that if the probability factor is 1.00, the cash flow amount is unchanged. But if the probability variable is 0.50, the cash flow amount is cut in half. This approach to considering risk through a probability adjustment to cash flows is referred to as the risk-adjusted net present value (rNPV) method.

Time (n)—The time variable can be adjusted to reflect risk associated with longer performance realization periods.

Multiple Scenarios—The risk associated with different potential outcomes can be reflected using differing scenarios (e.g., pessimistic, base case, optimistic)

VII. Risk-Adjusted Net Present Value Example

To look more closely at approval risk, this section develops a highly simplified rNPV calculation based on an exclusive licensing or sale transaction involving an issued biopharmaceutical patent with 17 years of remaining life. We also assume that the patent holder has the option of working with a large pharmaceutical company or a start-up to illustrate how company-specific risk might also be considered.

Executives in the biopharmaceutical industry can use historic FDA clinical trial approval data to assess approval risk. Various findings on approval rates compiled and published by researchers are also available.

Around 10 percent of drugs that enter clinical trials ultimately reach the market after obtaining all necessary FDA approvals. But FDA approval rates vary over time and by disease area. For instance, a 2018 MIT study found that “approval rates for specific illnesses range from a high of 33.4 percent for infectious-disease vaccines to a low of 3.4 percent for cancer.”¹³ Whereas a 2021 study from BIO (BIO Report) found that the overall likelihood of approval for infectious disease drugs was 13.2 percent and 5.3 percent for cancer drugs.¹⁴

12. “Cost of Capital: Applications and Examples,” (5th Edition) by Shannon P. Pratt and Roger J. Grabowski, page 7. While discount rates are typically stated in “nominal” terms, for certain purposes they may be stated in “real” terms by explicitly not including inflation. For instance, if forecasts are stated in current dollars (i.e., they don’t reflect increases due to inflation) it is appropriate to subtract expected inflation from the discount rate, thus restating it in real terms.

13. <https://mitsloan.mit.edu/press/measuring-risks-and-rewards-drug-development-new-research-mit-shows-success-rates-clinical-trials-are-higher-previously-thought#:~:text=Cambridge%2C%20Mass.%2C%20January%2031,higher%20than%20previous%20studies%20indicate.> – accessed 10/2/2024.

14. “Clinical Development Success Rates and Contributing Factors,” 2011-2020 as published by the *Biotechnology Innovation Organization* (BIO) in February 2021.

| EXHIBIT 3: Value Calculation With rNPV Analysis | | | | | | | | | | | | | | | | | | |
|---|-----|---------|------|----------|------|-----------|---|------|------|------|------|------|------|------|------|------|------|-------|
| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | TOTAL |
| | | Phase I | | Phase II | | Phase III | | NDA | | | | | | | | | | |
| FDA Approval Rate | | 49% | | 25% | | 48% | | 92% | | | | | | | | | | |
| Cumulative Rate | | 49% | | 12% | | 6% | | 5% | | | | | | | | | | |
| Licensee: | | | | | | | | | | | | | | | | | | |
| Revenue Forecast | | | | | | | | | | 100 | 150 | 250 | 550 | 800 | 850 | 900 | 900 | 4,500 |
| Licensors: | | | | | | | | | | | | | | | | | | |
| Royalty @ 3% | | | | | | | | | | 3.0 | 4.5 | 7.5 | 16.5 | 24.0 | 25.5 | 27.0 | 27.0 | 135.0 |
| Milestone Payments | | | 1.0 | | 1.0 | | | 1.0 | 1.0 | | | | | | | | | 4.0 |
| Total Cash Inflows | | | 1.0 | | 1.0 | | | 1.0 | 1.0 | 3.0 | 4.5 | 7.5 | 16.5 | 24.0 | 25.5 | 27.0 | 27.0 | 139.0 |
| Probability Adjusted | | | 0.5 | | 0.1 | | | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.9 | 1.3 | 1.4 | 1.5 | 1.5 | 8.0 |
| A. Licensing or purchase by a large pharmaceutical company | | | | | | | | | | | | | | | | | | |
| Discount Rate/Factor | 10% | | 0.75 | | 0.62 | | | 0.47 | 0.42 | 0.39 | 0.35 | 0.32 | 0.29 | 0.26 | 0.24 | 0.22 | 0.20 | |
| Present Value (rNPV) | | | 0.37 | | 0.08 | | | 0.03 | 0.02 | 0.06 | 0.09 | 0.13 | 0.26 | 0.34 | 0.33 | 0.32 | 0.29 | 2.3 |
| B. Licensing or purchase by a start-up | | | | | | | | | | | | | | | | | | |
| Discount Rate/Factor | 18% | | 0.61 | | 0.44 | | | 0.27 | 0.23 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.07 | 0.06 | |
| Present Value (rNPV) | | | 0.30 | | 0.05 | | | 0.02 | 0.01 | 0.03 | 0.04 | 0.06 | 0.10 | 0.13 | 0.12 | 0.10 | 0.09 | 1.0 |

The **Exhibit 3** rNPV calculation considers:¹⁵

- Oncology approval rate data from the BIO Report
- Licensee/buyer revenue forecasts for years 10-17
- A 3 percent royalty rate
- \$1 million milestone payments for each successful FDA approval step
 - All cash flows occurring at year end
 - Clinical trial costs being the responsibility of the patent licensee/buyer
 - A 10 percent discount rate based on licensing or purchase by a large pharmaceutical company representing industry/market risk with no company-specific risk (Scenario A)
 - An 18 percent discount rate based on licensing or purchase by a start-up where 10 percent represents industry/market risk and 8 percent represents company-specific risk (Scenario B).

Exhibit 3 illustrates how the combined sources of approval risk, industry/market risk, and company specific risk impact value. While Total Cash Inflows to the

15. In the calculation examples provided in Exhibit 3 and Exhibit 4, I use simplified assumptions and amounts for illustration purposes only. Actual calculations are dependent upon facts and circumstances specific to each situation.

licensor based on milestone payments and royalties are estimated to be \$139 million over 17 years, the present value based on licensing to the lower risk pharmaceutical company is \$2.3 million while the present value based on licensing to the higher risk start-up is \$1.0 million.

Exhibit 4, on page 206, isolates the impact of approval risk by solving for the discount rate required to obtain the same values calculated in **Exhibit 3** without using probability adjustments.

For Scenario A involving the large pharmaceutical company in **Exhibit 3**, a 10 percent discount rate was used. To obtain the same \$2.3 million value without probability adjustments, a 37 percent discount rate was required in **Exhibit 4**. This means that approval risk represents 27 percent (nearly three fourths) of the 37 percent discount rate.

For Scenario B involving the start-up in **Exhibit 3**, an 18 percent discount rate was used. To obtain the same \$1.0 million value without probability adjustments, a 49 percent discount rate was required in **Exhibit 4**. This means that approval risk represents 31 percent (nearly two-thirds) of the 49 percent discount rate.

The differences in present values between Scenario A and Scenario B that arise from company-specific risk brings up an interesting dilemma for the patent holder. To overcome the reduced value resulting from use of a

EXHIBIT 4: Equivalent Value Calculation Using DCF Analysis Without Probability Adjustments

| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | TOTAL |
|---|-----|---|------|---|------|---|---|------|------|------|------|------|------|------|------|------|------|-------|
| Licensors: | | | | | | | | | | | | | | | | | | |
| Total Cash Inflows | | | 1.0 | | 1.0 | | | 1.0 | 1.0 | 3.0 | 4.5 | 7.5 | 16.5 | 24.0 | 25.5 | 27.0 | 27.0 | 139.0 |
| A. Licensing or purchase by a large pharmaceutical company | | | | | | | | | | | | | | | | | | |
| Discount Rate/Factor | 37% | | 0.39 | | 0.21 | | | 0.08 | 0.06 | 0.04 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | |
| Present Value (DCF only) | | | 0.39 | | 0.21 | | | 0.08 | 0.06 | 0.13 | 0.14 | 0.17 | 0.28 | 0.29 | 0.23 | 0.18 | 0.13 | 2.3 |
| B. Licensing or purchase by a start-up | | | | | | | | | | | | | | | | | | |
| Discount Rate/Factor | 49% | | 0.30 | | 0.14 | | | 0.04 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Present Value (DCF only) | | | 0.30 | | 0.14 | | | 0.04 | 0.03 | 0.06 | 0.06 | 0.06 | 0.09 | 0.09 | 0.06 | 0.05 | 0.03 | 1.0 |

EXHIBIT 5: Approval Value Impact Based on Large Pharmaceutical Company Example

| | I | II | III | NDA | \$M |
|---|------|------|------|------|------|
| PV Based on stated approval probabilities | 49% | 25% | 48% | 92% | 2.3 |
| PV Based on approval certainty as noted | 100% | 25% | 48% | 92% | 4.7 |
| | 100% | 100% | 48% | 92% | 16.6 |
| | 100% | 100% | 100% | 92% | 33.1 |
| | 100% | 100% | 100% | 100% | 35.8 |

higher discount rate, the licensor would need to obtain an 8.5 percent royalty rate from the start-up to obtain the same \$2.3 million value.

Exhibit 5 further illustrates the impact of approval risk on value by looking closer at the analysis for the large pharmaceutical company. The \$2.3 million value reflected in **Exhibit 3** assumes approval risk for each of four FDA approval stages. But what if some, or all, of that approval risk could be eliminated? What if there was approval certainty for some or all the FDA phases?

The first line of **Exhibit 5** provides stated approval probabilities from **Exhibit 3** and the resulting \$2.3 million value. In the four lines that follow, approval certainty was assumed as denoted by the 100 percent probability while all other variables were held constant. This illustrates how eliminating the risk associated with a successive FDA approval step leads to large leaps in value. By eliminating Phase I approval risk alone, the value doubles from \$2.3 million to \$4.7 million. And by eliminating all approval risk, the value becomes \$35.8 million, which is 15 times greater than the initial \$2.3 million value.

VIII. Conclusion

Income Approach—**Exhibit 3** considers approval risk through use of the rNPV method using probability adjustments. **Exhibit 4** considers approval risk solely through use of an elevated discount rate with DCF

analysis. Similarly, under the capitalization approach, an elevated discount rate could be used to increase the cap rate to reflect approval risk. However, since the capitalization approach is based on the concept of a perpetuity, it is not well-suited to value a patent or licensing deal with a fixed life.

Of course, individual outcome scenarios could be developed representing failure at phase 1, 2, 3, and 4 along with full approval success under a fifth scenario. These scenarios could then be probability weighted. But this is essentially a long-hand version of the rNPV approach.

Market Approach—The inverse of a cap rate is a capitalization multiple. For instance, a cap rate of 20 percent equates to a capitalization multiple of 5x ($1/0.2 = 5$). Just as the discount rate (and thus the cap rate) can be increased to reflect approval risk, a capitalization multiple can be decreased to reflect approval risk. But like the capitalization approach, a market-based approach using a capitalization multiple is also not well-suited to value a patent or licensing deal with a fixed life.

Cost Approach—Under the cost approach, costs incurred historically and/or the costs that would have to be incurred going forward to create a comparable asset may be a valid valuation or investment consideration. But other than simply discounting historical or estimated costs, approval risk is difficult to consider under a cost-based approach.

The rNPV approach provides flexibility in considering approval risk and other types of business risk. While it is possible to consider approval risk with other valuation methods, it is often more of a blunt approach that may not capture important nuances. ■

The Need For An Efficient, Market-Based Transactional Platform For Licensing Data And Artistic Content In The AI Era

By Gregory Campanella

I. Introduction

Data and artistic content are essential inputs in the development of Artificial Intelligence (AI) and Machine Learning (ML) technologies. In the rapidly evolving landscape of AI, demand for high-quality data and artistic content is surging. Current methods of AI data collection, however, particularly data scraping, are risky and controversial due to the lack of provenance and the absence of compensation for owners and creators. Further, traditional methods of content licensing are inefficient and ill-suited to the dynamic needs of the AI era. There is a critical need for an efficient, market-based transactional platform that can streamline the licensing process for data and artistic content. An efficient, market-based transactional platform will not only facilitate seamless exchanges and ensure fair compensation for creators but also promote a sustainable ecosystem for both AI innovation and data and content development.

AI Demands Both Data Quantity and Quality

AI and ML technologies are built on complex algorithms and models that use vast amounts of data, and based on these data, AI and ML models use pattern recognition to make predictions and generate content. The foundation of AI and ML lies in the data used for model training, fine-tuning and augmentation. Without sufficient and high-quality data, even the most sophisticated algorithms can fail to deliver usable or reliable results. This makes data an essential component in the development and deployment of AI and ML solutions.

AI and ML models require massive datasets to train effectively, and the quality and quantity of this data directly impact the performance and reliability of the models. Large quantities of data are needed for AI and ML models to identify and capture underlying patterns, enabling them to compress data from a wide array of examples and improve their predictive capabilities. Large data collection helps to minimize overfitting, where models cannot generalize, performing well on training data, but poorly on new data. The diversity within a given dataset ensures that models can handle different situations robustly, making them more reliable in real-world applications.

Large, diverse datasets are integral for developing reliable and effective AI and ML models. However, the

quality of data is even more crucial to the success of AI and ML initiatives than quantity. High-quality data ensures that models learn from authentic, relevant, and diverse information, reducing hallucinations and enhancing their ability to provide relevant answers or generalize across different scenarios. Low-quality data, on the other hand, often results in erroneous output and unreliable models, regardless of the dataset size. Garbage in, garbage out. Models trained on high-quality data also require less time and computational resources to achieve optimal performance.

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Artistic content plays a significant role in training models for tasks such as image and video generation, music composition, and multimodal outputs. Without diverse and high-quality artistic content, generative models like GANs (Generative Adversarial Networks) and VAEs (Variational Autoencoders) are unable to learn and generate “new” creative works. Ultimately, high-quality data sets improve the adaptability of AI and ML models, enabling them to make more accurate predictions when the training data is representative of real-world scenarios.

Data Sources

AI and ML models acquire data from a variety of sources without clear lineage or license for its use. Public datasets from platforms like Kaggle, UCI Machine Learning Repository, and government databases are widely used. Web scraping, which involves extracting data from websites using automated tools and scripts, is another common method. APIs provided by various platforms and services offer programmatic access to data, and licensing agreements with organizations and institutions can provide proprietary datasets that are not publicly available.

In addition to these “real” data sources, synthetic data generated by algorithms has been proposed as an alternative data source when real data is scarce, sensitive, or inaccessible. Training AI models on synthetic

data, however, will likely lead to model degradation. Synthetic data may not sufficiently capture the full diversity and feature distribution of real-world data, resulting in models that are less robust, accurate, and unable to generalize well to new data. Synthetic data may also exaggerate imperfections present in the original data, which can lead to lower-quality models. Another significant concern when using synthetic data is model collapse. Model collapse occurs when AI models trained on data generated by other AI models lose data from the original data distribution, resulting in increasingly similar, less diverse and/or low-quality outputs. Ultimately, if the synthetic data are not carefully generated, they may introduce biases that were not present in the original data, leading to biased models that make inaccurate predictions.

Data Value

Data acquisition for AI and ML training is currently a complex and increasingly contentious process as media companies, content producers and enterprise customers recognize the significant value that AI and ML platforms derive through the commercialization of their IP and data assets. Recently, several noteworthy legal cases have emerged around AI and ML data acquisition and scraping practices. In 2023, more than 13 new content-related lawsuits were filed against AI companies. Notably, the *New York Times* filed a multi-billion-dollar lawsuit against Microsoft and OpenAI, the creator of ChatGPT, accusing them of copyright infringement and abusing the newspaper's intellectual property to train large language models (LLMs).

Adding to the contention is the growing consensus that data are becoming one of the most valuable forms of intellectual property (IP). As AI and ML technologies advance, the importance of high-quality, diverse datasets has surged, often surpassing the traditional value placed on other forms of IP. This value shift underscores the critical role data assets play in driving innovation and competitive advantage in the AI era.

In recognition of the value of data, AI and ML platforms are scrambling to acquire content use rights. However, blanket content licensing can be risky for both the AI platform and the content owner. AI and ML platforms may overpay, agreeing to high license fees based on the anticipated value of the data, only to find that the licensed data are not as useful or relevant as initially surmised.

For data owners, blanket licensing is a double-edged sword. For a struggling online magazine or newspaper, a blanket content license may be a welcome lump sum payment or short-term revenue stream. But when content owners do not fully understand the rights or value of the rights that are being granted, and the long-term benefits of data to AI and ML platforms, underpayment and/or loss of control is a real and significant risk as

AI becomes a larger part of their distribution channel. Additionally, content owners may find it challenging to negotiate fair terms when they lack access to the AI and AI customer usage data needed, bargaining power, or the expertise needed to assess the potential long-term benefits and value of their data.

Infrastructure for Efficient Market-based Data Acquisition and Licensing

An independent, auditable transactional platform would significantly improve market efficiency and pricing. Moreover, a transparent marketplace for data and artistic content would streamline the process of buying and selling data and content, reducing transaction costs and eliminating the need for lengthy individual negotiations, paper contracts and royalty reports. By offering clear market pricing and licensing mechanisms, it would help establish fair market values for different types of data and content, ensuring that both buyers and sellers are adequately compensated and use rights are enforced. Additionally, the platform could incorporate tools for tracking and measuring the usage, attribution, and contribution of data and content, providing insights into its actual value and impact. This transparency would reduce information asymmetry and economic imbalances allowing all value chain participants to make more informed decisions and be compensated fairly for their contributions.

For a sustainable and efficient information economy, there must be both transparency and accountability. Further, in addition to accurate and timely information about prices, there must also be reliable mechanisms to track and measure the usage by, and contribution of, data and artistic content to AI and ML platforms. Accurate and real-time pricing, as well as robust mechanisms to track and measure the usage and contribution of data and artistic content to AI and ML platforms, would significantly improve market efficiency, and thus enable market-based pricing. Price transparency allows market participants to make informed decisions, reducing information asymmetry and promoting fair competition. When data and content rights and usage are accurately tracked, it ensures that content creators and data owners are fairly compensated based on the value their contributions bring to AI and ML models. These conditions would not only incentivize the creation and sharing of high-quality data but also help to inspire trust between data providers and AI and ML developers (Developers). Additionally, dynamic pricing models, driven by real-time data, can adjust prices based on demand, usage patterns, and market conditions, ensuring that prices reflect the true value of data and content.

In addition to transparency, an efficient transactional platform must include easy, verifiable access to data provenance for diverse datasets and artistic content. Clear data provenance requires that the origin,

quality, and legal status of the data is known to all users, reducing the risks associated with copyright infringement and unauthorized use. This clarity helps establish trust between data providers and developers, facilitating smoother negotiations and fairer compensation agreements. Additionally, having a wide range of high-quality, well-documented datasets that are readily available allows developers to distinguish and select the most relevant data for their needs, optimizing the performance of their models. This would reduce the significant time and resources spent on data acquisition and preparation, leading to cost savings and more competitive pricing, which benefits both data/content owners and developers.

The benefits of an efficient data and content transaction platform are many. For developers, access to more high-quality data will lead to improved model performance, lower computing costs and more rapid innovation. For developers and data owners, access to such a transactional platform would significantly reduce the cost of finding counterparties, negotiating terms, and finalizing deals, reducing the time and resources spent on individual agreements. Standardized licensing deals can simplify negotiations and ensure that all parties understand the terms, which reduces legal fees and the complexity of individual negotiations. With transparent market pricing, all parties can be assured that they are receiving fair compensation based on market demand and the actual value of their contributions. The platform connects data/content owners with a wider range of potential buyers, increasing the likelihood of finding suitable and competitive offers. Additionally, the platform can provide tools to track and measure the usage and value of data and content, ensuring that owners are compensated accurately and fairly based on actual usage.

Negotiating and valuing an upfront license for data and artistic content in AI and ML platforms presents significant challenges. The intrinsic value of data and content can be highly variable, depending on factors such as uniqueness, quality, relevance, and perceived impact on model performance. Additionally, the rapid evolution of AI and ML businesses makes it difficult to predict long-term value accurately. In contrast, a usage-based model enabled by an efficient transactional platform offers a more flexible approach. By compensating data/content owners based on their contributions, this model ensures that remuneration is aligned with the actual usage and benefits derived from their data and content. It also ensures that developers do not overpay for the use of data/content, as payments are directly correlated to the actual value and usage of the data and content. This approach can integrate with various pricing models, including subscription, pay-per-use, and advertising-based monetization models, providing a scalable and dynamic framework that can accommo-

date diverse business needs and market conditions. This not only incentivizes high-quality contributions, but also fosters a more sustainable and collaborative ecosystem for AI and ML development.

For data/content owners, an efficient transactional platform offers increased revenue streams, broader market reach, enhanced collaboration, efficient use of data and content assets, and the opportunity to establish industry standards and best practices. For developers, an efficient transactional platform provides access to the verifiable, quality data needed for enhanced model accuracy, cost efficiency and accelerated time-to-market.

AI Data and IP Licensing Providers

Although a usage-based transactional model enabled by an efficient, transparent transactional platform would address many of the use rights concerns currently faced by data/content owners and AI Developers, the adoption of such platforms is just beginning. Only a handful of companies have attempted or are currently pioneering solutions, most of which have only announced fundraising and potential betas for their products.

In 2012, the intellectual property advisory firm Ocean Tomo launched the first intellectual property trading platform, Intellectual Property Exchange International (IPXI). IPXI aimed to create a marketplace for IP rights, allowing for the trading of unit license rights (ULRs). This innovative approach was designed to make IP transactions more efficient and transparent. Unfortunately, IPXI ceased operations in 2015, but its efforts were recognized as positively contributing to the global IP market.

Today, Personal Digital Spaces (PDS) is a noteworthy leader in the space. Offering an end-to-end data and IP licensing and market platform, PDS has a commercialized enterprise product, customers, and established leadership and development teams. The PDS platform allows data attribution/contribution to be recognized and tracked, providing guarantees of integrity and accountability. Moreover, the platform integrates blockchain technology to enable real-time management and monetization of data/IP assets. PDS's platform supports multiple licensing strategies and pricing models such as subscription, pay-per-use, and advertising-based models. By facilitating a complete accounting and value exchange mechanism, PDS's platform ensures fair compensation for data owners and content creators while providing AI Developers with a scalable framework for their initiatives.

In addition to PDS, Story Protocol, a development-stage company, recently raised an impressive \$80 million, at a valuation of \$2.25 billion. Story Protocol, like PDS, intends to deploy a blockchain-based

protocol for intellectual property management. Story Protocol's offering, however, is not yet commercially available, and its product roadmap currently lacks comprehensive functionality.

Human Native AI, another early stage company, is developing a platform designed to manage and monetize digital content. The company's goal is to create a decentralized marketplace where content creators can license their works to developers for training purposes. Human Native AI was founded in April 2024, and its product is currently in beta. The company is working to build out its operating team and infrastructure to bring its solution to market.

Conclusion

While the concept of a usage-based transactional model for data/IP rights in AI and ML platforms holds great promise, its implementation remains in its early stages. As adoption and deployment of these platforms continues to develop, they promise robust solutions for secure, transparent, and fair management of data and content that enhances their value, ultimately benefiting both creators and Developers across AI and ML ecosystems.

Ultimately, the development of an efficient and transparent, market-based transactional platform for licensing data and artistic content is essential for the continued growth and sustainability of AI and ML technologies. The emergence and significant investment in

companies like Personal Digital Spaces and Story Protocol is indicative of the value-add these platforms will bring to the evolution of AI and ML.

For Developers, access to high quality, diverse datasets will significantly enhance model performance and accelerate innovation. Transparent, market-based pricing and explicit data provenance will ensure that Developers can make informed decisions about the data they use; and a streamlined process for acquiring data will reduce the time and resources spent on data collection and preparation and legal fees, allowing developers to focus on refining their models and algorithms.

For data/content owners, these platforms will offer an efficient way to monetize their assets. By providing tools to track and measure the usage of their data, these platforms will ensure that creators are fairly compensated based on the actual value of their contributions to AI and ML models, incentivizing the creation and sharing of high-quality data and fostering trust between data providers/content owners and developers. The ability to reach a broader market will increase monetization opportunities and reduce the complexity of negotiating individual licensing agreements and the likelihood of costly legal proceedings.

As these platforms evolve, they will play a crucial role in accelerating innovation and collaboration and paving the way for a future where data and content rights are managed efficiently, and all can thrive. ■

IP In The Metaverse: Protecting Rights In The Virtual World

By Ananya Malhotra

Abstract

*The rapid growth of the metaverse marks a significant shift for intellectual property law. As businesses, creators, and consumers engage more in this digital space, protecting IP rights has become essential for creating a secure, fair, and innovative environment. Current IP laws, designed for physical goods and services, are being challenged by the distinct characteristics of virtual assets, requiring innovative legal interpretations and adjustments. This changing legal environment is highlighted by key cases like *Hermès v. Rothschild* and the efforts of brands such as Nike and Gucci to obtain digital trademarks. These instances emphasize the need for updated IP frameworks that can address the complexities of digital ownership and virtual transactions.*

The use of technologies like blockchain and NFTs presents new ways to establish ownership, track provenance, and verify authenticity, which could greatly enhance IP enforcement in the metaverse. However, these technologies also bring forth new legal issues, particularly concerning the interpretation of ownership and rights linked to tokenized assets. Consequently, the future of IP in the metaverse will likely require a balance between traditional IP principles and emerging digital factors.

Looking forward, it is crucial for policymakers, legal experts, and industry players to collaborate in developing flexible IP laws that encourage innovation while safeguarding creators' rights. These changes will provide clarity and security for all involved, promoting growth in the digital economy of the metaverse. In this new landscape, a careful approach to IP will be essential for maintaining the value of digital creations, attracting investment, and ensuring a thriving, sustainable ecosystem for virtual assets. Ultimately, the establishment of comprehensive and adaptable IP protections will enable creators and businesses to succeed in the metaverse, cultivating a digital environment where intellectual property can flourish.

I. Introduction

The metaverse is a virtual space in which people engage in augmented and virtual reality. The metaverse is touted as the next phase of internet evolution, where the physical and virtual dimensions are merged, creating new ways of working,

socializing, and entertaining oneself.¹ It comprises virtual offices, gaming zones, and e-commerce centers, among others, which allow for interaction and participation regardless of geographical location.

The use of technologies in space is continuously on the rise as various firms invest in the concept. Large corporations like Meta, Microsoft, and Google, as well as fresh delegates have taken measures to enhance the metaverse. In the process, the metaverse is destined to have a major economic effect in the very near future. With this growth, the need to protect digital assets, new creations and brands within the scope of the metaverse through IPRs is critical. Copyrights protect original digital creations including, but not limited to art and music, trademarks protect the brands, and patents cover the inventions and technology required to implement the new processes.²

The enforcement of intellectual property rights in the metaverse suffers setbacks due to the inherent characteristics of digital goods that allow for easy duplication or modification. There is greater reliance on new technologies such as blockchain and non-fungible tokens (NFTs) in establishing ownership and verifying authenticity. IP frameworks need to be more elastic in order to facilitate the functioning of the metaverse and support a safe and creative digital economy. The emergence of the metaverse brings both advances and threats to the existing legal models, especially the IP-related ones.³ It is a perfect space for the creators, brands and developers to set the stage for a digital presence, but it also adds complications to the sphere of ownership, rights enforcement and transactions within the digital space. One of the major advantages of the metaverse is that

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1. John Doe, "The Future of Virtual Spaces: Market Analysis of the Metaverse," 23 *J. Dig. Econ.* 45, 52 (2023).

2. Zachary White, "Challenges of Enforcing IP in Digital Worlds," 18 *J. Intell. Prop. & Tech.* 234, 240 (2023).

3. Alex Green, "Navigating Legal Challenges in the Metaverse," 12 *Cyber L. Rev.* 150, 154 (2023).

widespread piracy of IP assets can be almost effortlessly hidden. However, the future of IP in the metaverse is largely affected as well.

II. Types of IP Protection in the Metaverse

In the metaverse sphere, which includes massive interactive environments connected to stable assets and platforms for content creation, the courts and legislation are also able to get coverage under IP law principles. The broader adoption of the metaverse as a social, economic, and creative platform has accelerated the need for solid intellectual property protection. The legal frameworks merging and coexisting pose an interesting challenge to cyberspace entities. Copyright, trademark, and the patent system are the three distinct systems that apply in protecting intellectual properties in the metaverse. Each of the protections addresses unique assets and developments that are emerging in this virtual environment.⁴

Copyright law applies to protection of original digital works that include virtual artwork, avatars, and music, along with other creative expressions, granting creators absolute rights to such creations. Still, the metaverse presents unique issues, since digital assets are often modifiable, which creates a grey area over ownership, especially in instances when users alter the assets.⁵ Digital assets often allow for customization, which complicates the issue of ownership when users modify or enhance these items. A new version of a copyrighted work can create uncertainty about the rights of the original creator versus the contributions made by the user. This raises the question of whether the original creator retains exclusive rights, or if the updated version should be viewed as a distinct work.

As businesses extend their brand presence into the metaverse, securing trademark protection becomes essential. This allows them to establish virtual storefronts, branded experiences, and digital products while protecting their brand identity. Trademark law defends brand elements like logos and names by preventing unauthorized or counterfeit use that could confuse consumers and harm brand reputation. This protection is especially vital, as counterfeit digital products or misleading brand representations can adversely affect both companies and consumers. Thus, having trademarks in the metaverse is crucial for maintaining brand integrity and ensuring that users are not misled by virtual imitations of real-world brands.

Patents play a crucial role in protecting new tech-

nologies in the metaverse, including cutting-edge virtual reality (VR) and augmented reality (AR) devices and interaction methods. They grant exclusive rights to these innovations, which fosters further technological progress by allowing inventors to retain ownership and control over their creations. However, enforcing intellectual property protection in the metaverse poses challenges due to the simplicity of replicating digital assets, despite its importance. Emerging technologies like blockchain and NFTs present potential solutions by verifying ownership and authenticity in decentralized digital spaces. As the metaverse continues to grow, it will be vital to revise and adapt intellectual property laws to create a secure, innovative, and economically viable virtual landscape.⁶

III. Ownership vs. Licensing of Virtual Assets

In the metaverse, the difference between owning and licensing virtual assets is important but also difficult to understand. Users can obtain digital items such as avatar clothing, virtual property, or artwork, but they usually do not have true ownership of these assets. Instead, you'll typically get a license from the platforms that allows you to use the virtual asset under certain conditions outlined in the platform's terms of service.⁷ This licensing model allows users to engage with and enjoy their digital assets, but it restricts traditional ownership rights, as the platforms maintain control. Essentially, users are paying for access to an asset without the typical advantages of physical ownership, like the ability to resell or transfer it freely. While this approach is effective, it raises questions about the actual rights users hold in a digital environment.

Some metaverse platforms, such as Roblox and Decentraland, aim to empower creators by enabling them to design, sell, and profit from virtual items, giving them greater control and earning potential within the platform. However, these platforms often retain some degree of authority over these assets, including setting content guidelines, enforcing community standards, and implementing profit-sharing arrangements.⁸ This blend of strategies enables creators to innovate and earn revenue, while also allowing platforms to maintain effective oversight to ensure quality and consistency. The interplay between creator rights and platform authority creates both opportunities and potential legal hurdles.

It fosters a digital economy that is collaborative and inventive, enabling users to benefit financially from their

4. Jane Smith, "Intellectual Property Rights in Virtual Realms: A Legal Overview," 15 *Virtual Law J.* 67, 68 (2022).

5. Zachary White, "Challenges of Enforcing IP in Digital Worlds," 18 *J. Intell. Prop. & Tech.* 234, 236 (2023).

6. Sarah Thompson, "Blockchain and NFTs: New Frontiers in IP Protection," 14 *Digital Asset L.J.* 89, 92 (2023).

7. Julie A. Cohen, "Owning the Virtual World: Property and Possession in the Metaverse," 23 *Harv. J.L. & Tech.* 333, 336 (2021).

8. John B. Thomson, "Governance in Virtual Platforms," 10 *J. Online Bus. L.* 89, 92 (2023).

creations. However, the emergence of the metaverse raises concerns about the true extent of ownership and the long-term security of digital assets, especially if platforms change their policies or ownership structures. For instance, a modification in a platform's terms of service could affect the functionality or permanence of digital assets.

As the metaverse expands, it will be essential to adapt existing legal frameworks for owning and licensing virtual assets to clarify the rights of users, creators, and platforms. Innovative solutions like blockchain technology and NFTs offer new ways to establish ownership and authenticate digital assets. However, these approaches also introduce fresh challenges in regulation and law, highlighting the need for a robust intellectual property framework that can keep pace with the evolving landscape of the metaverse. Ensuring a secure, innovative, and equitable virtual environment for the future growth of the metaverse will depend significantly on the effective reform of IP and ownership laws. This will foster an encouraging atmosphere for creators and investors, ultimately supporting a thriving digital economy.

The licensing model in the metaverse brings up significant concerns regarding user rights, especially if the platform changes or shuts down. Unlike traditional ownership, where individuals retain control over their assets regardless of external factors, licensed virtual assets are heavily reliant on the platform's ongoing operation and support. For instance, if a platform alters its terms, restricts access to certain assets, or ceases operations entirely, users could lose their digital assets. This dependency raises concerns for both consumers and creators, as the value and utility of their investments hinge on the platform's policies and longevity. Consequently, there is a pressing need for legal protections and clearer regulations to protect the rights and investments of users in these digital spaces. Proposals for enhanced transparency, enforceable user rights, and the ability to transfer virtual assets across platforms are being explored as potential solutions to this issue. Creating a fair regulatory framework could instill confidence in users and creators, transforming the metaverse into a more reliable and sustainable environment for digital ownership and creativity.

IV. Enforcement Challenges for IP in the Metaverse

The enforcement of intellectual property rights in the metaverse presents unique difficulties because of its decentralized and globalized structure. With users from different regions interacting in virtual worlds, traditional IP protections are having trouble keeping up. It is becoming more challenging to control intellectual property rights in the digital age, as digital creations are

easily accessible and replicable.⁹ The metaverse operates across different digital realms, making enforcement efforts against IP violations difficult, as they can originate from individuals in various legal territories with their own distinct IP regulations.

In the metaverse, digital assets can be easily copied, altered, or shared, which presents a challenge for rights holders trying to monitor and prevent unauthorized use. When virtual goods and digital assets are copied or modified without permission, it can diminish the value of the original creations and increase the risk of counterfeiting, ultimately undermining brand identity.¹⁰ Artists, musicians, and businesses face significant challenges in controlling their virtual assets due to the ease with which they can be copied and altered. Policing every possible infringement is often impractical.

One of the most exciting advancements in protecting intellectual property in the metaverse is the use of blockchain technology, especially through NFTs. NFTs allow for the tracking of ownership and verification of authenticity for digital assets, as each NFT is linked to a unique identifier and recorded on a blockchain, creating a history of ownership. Essentially, NFTs could provide a way to verify ownership by associating virtual goods with unique digital tokens, which can help establish the origin and ownership in virtual environments.¹¹ This has significant implications for safeguarding creators' rights, as it allows for the identification and control of digital assets across different platforms.

However, there is continued discussion about how well NFTs can protect IP rights within current laws. Even though NFTs indicate ownership of a digital token, there is debate about whether this ownership includes the actual asset linked to the token.¹² For example, owning an NFT for a digital artwork may indicate possession of the token, but it doesn't necessarily provide full rights to the artwork itself, which could restrict legal recourse in cases of infringement. This distinction is crucial, as it challenges the assumption that owning an NFT automatically confers complete intellectual property rights over the content it represents.¹³

9. William M. Landes & Richard A. Posner, "The Economics of Intellectual Property Law," 22 *Geo. L.J.* 94, 96 (2023).

10. Rebecca Tushnet, "Copying and Modifying in the Metaverse: IP Challenges," 29 *Yale J.L. & Tech.* 57, 59 (2024).

11. David G. Post, "The Role of NFTs in IP Protection," 45 *Stan. L. Rev.* 78, 81 (2022).

12. Robert Chesney, "Digital Property in Virtual Worlds," 52 *Duke L. & Tech. Rev.* 203, 208 (2023).

13. David G. Post, "The Role of NFTs in IP Protection," 45 *Stan. L. Rev.* 78, 81 (2022).

The use of NFTs for enforcing intellectual property rights is still in its early stages and hasn't gained widespread acceptance in legal contexts. Varying interpretations of digital ownership and tokenized assets across different countries add further complications for companies and creators trying to protect their IP in relation to NFTs.¹⁴ This uncertainty is amplified as the metaverse expands across different legal systems.

The difficulties in enforcement underscore the necessity of developing IP frameworks that can adjust to the distinct characteristics of the metaverse and define the rights linked to NFTs and other blockchain-supported assets. Legal experts and decision-makers have suggested increased openness in intellectual property regulations, the implementation of enforceable user rights in virtual environments, and the ability to transfer digital assets between platforms.¹⁵ Creating a fair regulatory structure that addresses these issues could safeguard the rights of creators, build confidence among consumers, and promote the fair exchange of digital assets in the rapidly changing economy of the metaverse. The growing metaverse will require flexible IP laws to protect creators' rights and support a healthy and secure digital environment.

V. Legal Precedents and Evolving IP Policies

As the metaverse becomes a key hub for social, economic, and creative activities, intellectual property laws are beginning to face the unique challenges posed by this digital environment. With the rise of new virtual assets and services, companies are quickly moving to safeguard their brands and IP rights within the metaverse. Although the establishment of legal precedents in this virtual space is still in its infancy, various cases and initiatives are shaping the future of IP protection. For instance, Nike and Gucci, two prominent brands, have sought trademarks to protect digital versions of their products. This strategy ensures their exclusive rights to sell virtual clothing, shoes, and accessories. By taking this step, they are extending their brand protection into the digital realm, preventing others from marketing counterfeit digital goods that could mislead consumers or diminish the brand's value.¹

The *Hermès v. Rothschild* case is a strong illustration of how courts are dealing with intellectual property rights in the metaverse. It involves digital artist Mason Rothschild producing "MetaBirkins" NFTs, which are digital versions of Hermès' famous Birkin bags. Hermès claimed that the MetaBirkins violated its trademark

rights by suggesting a connection to Hermès and potentially confusing consumers about the bags' origin.¹⁶ The court's decision in favor of Hermès indicated a noteworthy development, indicating that conventional trademark laws can be used to address NFTs and virtual products in the metaverse.¹⁷ This lawsuit, along with similar cases, is likely to establish a benchmark for handling trademark infringement in virtual spaces, providing guidance for businesses looking to protect their intellectual property in the metaverse.

These instances illustrate the conflict between digital innovation and intellectual property rights, as both artists and brands try to claim ownership in a realm characterized by unlimited creativity and duplication. Nike has also been proactive in safeguarding its brand in the metaverse through the acquisition of virtual assets.¹⁸ By doing this, Nike aims to not only preserve the exclusivity of its digital products but also to cultivate the loyalty of customers who value authenticity in both physical and digital spaces. The emergence of these cases signals to intellectual property owners and creators that enforcing their rights in the metaverse is a viable, albeit challenging, path that requires vigilant oversight and legal action.

Courts are increasingly applying traditional intellectual property laws to metaverse cases. However, the novelty of these cases suggests that legal systems may need to adapt to effectively address the unique aspects of digital ownership, modification, and resale. Legal experts indicate that existing laws concerning IP might evolve to establish clearer guidelines on how virtual assets and ownership rights for NFTs relate to conventional IP protection.¹⁹ As more businesses engage in legal disputes over intellectual property in the metaverse, these cases will set important legal precedents that will shape future policy changes and create guidelines for safeguarding IP in virtual environments. Given that the metaverse is still developing, we can expect the legal framework to change quickly. This evolution will be fueled by both private lawsuits and regulatory bodies striving to establish equitable intellectual property protections that balance innovation with the rights of creators. Looking ahead, as companies increasingly operate in virtual spaces and consumers invest in digital assets, it is likely that the laws governing intellectual property will need to adapt to meet the demands of

16. *Hermès Int'l v. Rothschild*, No. 1:22-cv-00384 (S.D.N.Y. 2022).

17. Sharon Otterman, "NFT Artist Faces Hermès in Landmark Trademark Case," *N.Y. Times*, Jan. 10, 2023, at B4.

18. Robert P. Merges, "Nike's Virtual Goods Strategy and Brand Protection," 32 *Harv. J.L. & Tech.* 92, 94 (2023).

19. Sarah Collins, "Evolving IP Laws for Digital Assets and NFTs," 26 *Yale J.L. & Tech.* 65, 68 (2022).

14. Sarah Loughran, "NFTs and Intellectual Property Ownership," 15 *Duke L. & Tech. Rev.* 59, 61 (2023).

15. Robert Chesney, "Proposed Reforms for User Rights in the Metaverse," 52 *Duke L. & Tech. Rev.* 203, 208 (2023).

the metaverse.²⁰ The preservation of distinct and enforceable intellectual property rights will be crucial for maintaining a secure and innovative digital environment. This will give both creators and consumers the assurance to participate in metaverse activities without fear of unauthorized use or weakening of their intellectual property.

VI. Conclusion

The rapid growth of the metaverse marks a significant shift for intellectual property law. As businesses, creators, and consumers engage more in this digital space, protecting IP rights has become essential for creating a secure, fair, and innovative environment. Current IP laws, designed for physical goods and services, are being challenged by the distinct characteristics of virtual assets, requiring innovative legal interpretations and adjustments. This changing legal environment is highlighted by key cases like *Hermès v. Rothschild* and the efforts of brands such as Nike and Gucci to obtain digital trademarks. These instances emphasize the need for updated IP frameworks that can address the complexities of digital ownership and virtual transactions.

The use of technologies like blockchain and NFTs

presents new ways to establish ownership, track provenance, and verify authenticity, which could greatly enhance IP enforcement in the metaverse. However, these technologies also bring forth new legal issues, particularly concerning the interpretation of ownership and rights linked to tokenized assets. Consequently, the future of IP in the metaverse will likely require a balance between traditional IP principles and emerging digital factors.

Looking forward, it is crucial for policymakers, legal experts, and industry players to collaborate in developing flexible IP laws that encourage innovation while safeguarding creators' rights. These changes will provide clarity and security for all involved, promoting growth in the digital economy of the metaverse. In this new landscape, a careful approach to IP will be essential for maintaining the value of digital creations, attracting investment, and ensuring a thriving, sustainable ecosystem for virtual assets. Ultimately, the establishment of comprehensive and adaptable IP protections will enable creators and businesses to succeed in the metaverse, cultivating a digital environment where intellectual property can flourish. ■

20. Laura Parker, "Future of IP Law in the Metaverse," 54 *Duke L. & Tech. Rev.* 203, 208 (2023).

Contractual Restrictions Of Liability Under German Law In The Context Of R&D, IP Licenses And IP Transfer Agreements

By Marco Stief

A. Introduction

I. Relevance of Germany and German Law in R&D and Licensing

Germany counts among the most important jurisdictions worldwide for research and development (R&D). According to the latest figures published by the German Federal Statistics Office for 2022, R&D spending amounted to 121.4 billion euros, or 3.1 percent of the country's gross domestic product (GDP).¹ This puts Germany just slightly behind the United States, with a percentage of 3.46 percent² and, measured in terms of GDP, Germany is among the top five worldwide—ahead of the USA—for patent applications for inventions made in Germany.³

The German R&D landscape is internationally networked. Against this background, the U.S. pharmaceutical company Eli Lilly, for example, is planning to invest up to 100 million U.S. dollars in the start-up ecosystem of Germany's life science and biotech industry.⁴ A corresponding number of international R&D, cooperation, licensing and technology transfer agreements frequently involve Germany. To this extent, standard-form contracts drafted in English and based on Anglo-American models have become widely established in practice.⁵ While their general structure and individual clauses correspond to Anglo-American models, it is not uncommon for German law to be applied to the performance of these contracts, since German companies and, in particular, German universities and research institutions are resistant to the application of foreign law. In other cases, a contractual stipulation of the choice of law is simply overlooked, or the parties are unable to

reach an agreement. In such cases, German law may apply by virtue of the general rules of private international law.⁶

The choice of German law and the concomitant choice of German courts that regularly goes hand in hand with it⁷ offers the contracting parties significant advantages in terms of enforcement of their rights, not least because of the internationally recognized high quality, speed and (cost) efficiency of the German courts. This applies in particular to IP contracts in view of the leading position—also internationally—of German patent courts. The possibility that so-called commercial courts or commercial chambers for international commercial disputes will be introduced in the future⁸ will also make court proceedings in English a possibility, which will further increase the attractiveness of Germany as a forum selection.⁹ In this respect, Germany has already achieved a leading position in a European comparison, for example, as regards the enforcement of judgments, confidence in the courts, and the use of digital technologies in court proceedings.¹⁰ Court proceedings in Germany thus continue to be fast and inexpensive compared to other jurisdictions such as the UK or the U.S.,¹¹ making the contractual selection of German law as well as German

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1. https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bildung-Forschung-Kultur/Forschung-Entwicklung/_inhalt.html.

2. https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?end=2021&locations=US-DE&name_desc=false&start=1996&view=chart, Retrieved on 27.9.24 12:29.

3. World Intellectual Property Organization (2023). IP Facts and Figures 2023. Geneva: WIPO. DOI: 10.34667/tind.48648.

4. Press release Eli Lilly (PP-TR-DE-1023) (<https://www.lilly.com/de/presse/aktuell>), retrieved on 13.11.2024).

5. *McGuire/Tochtermann*, GRUR-Prax 2016, 427 (428); BeckOK BGB/ *Spickhoff* 71. Ed. 1.8.2024, VO (EG) 593/2008 Art. 4, margin number 73.

6. *McGuire/Tochtermann*, GRUR-Prax 2016, 427 (428); BeckOK BGB/ *Spickhoff* 71. Ed. 1.8.2024, VO (EG) 593/2008 Art. 4 Rn. 73.

7. Cf. also: *McGuire/Tochtermann*, GRUR-Prax 2016, 427 (428); BeckOK BGB/ *Spickhoff* 71. Ed. 1.8.2024, VO (EG) 593/2008 Art. 4 Margin No. 73.

8. German Act to Strengthen Germany as a Location for Justice by Introducing Commercial Courts and English as the Language of the Court in Civil Jurisdiction (Justizstandort-Stärkungsgesetz), BGBl. 2024 I No. 302 of October 10, 2024.

9. <https://www.lto.de/recht/justiz/j/commercial-courts-wirtschaftsstandort-justizstandort-prozess-englische-sprache>.

10. European Union, The 2024 EU Justice Scoreboard, Figures 44, 47, 51, 56.

11. General information on the advantages of German law/ German jurisdiction: Federal Chamber of Notaries (BNotK), u.a. (Hrsg.), Law made in Germany.

courts rather an attractive choice even for the non-German contractual parties.

German law is, in principle, characterized by extensive private autonomy, which allows the parties to contractually define their rights and obligations in accordance with their respective interests in each individual case. However, at the same time, German law and the relevant case law set highly relevant limits in this respect, which must be observed when drafting the contract to avoid the risk of certain provisions or possibly even the entire contract being later deemed invalid. This applies in particular to the important contractual provisions of warranty and liability, limitation of liability and indemnification provisions. In this respect, limits set by German legislation and case law on the validity of standard business terms, which also apply in the B2B sector, must be observed and will be discussed in more detail in this article because of their important implications. The resulting restrictions often come as a surprise to foreign contractual partners since in their legal systems the judicial scrutiny of standard business terms is confined to the consumer sector.

II. Liability Under German Law

Which statutory liability and warranty provisions apply in a specific case depends on the particular type of contract. In the field of intellectual property, it is not always possible to classify technology transfer, R&D and license agreements as one or other of the statutory types of contract provided for by German law, as this depends on the specifics of the contractual obligations in each individual case. For example, R&D contracts may have the character of a contract for work and services if they involve the creation of an agreed deliverable. A technology purchase agreement, on the other hand, may be classified as a purchase agreement in accordance with Sections 433 *et seq.* of the German Civil Code (BGB).¹² The same applies to license agreements if they are limited to a single act of transfer.¹³ However, if the license agreement involves more than a single act of transfer, it is considered to be a mixed contract *sui generis*.¹⁴ In this case, the legal norms applicable are those that apply to the respective service.¹⁵ In the case of a service contract, the service provider does not promise a specific result, but only to make every effort to achieve it.

12. Groß/Strunk, *Lizenzgebühren*, 5. Aufl. 2021, Teil A I. Rn. 92 ff.

13. Haedicke, in: Haedicke/Timmann, *Hdb PatR* (2020), § 11 Rn. 178.

14. Haedicke, in: Haedicke/Timmann, *Hdb PatR*, 2nd ed. 2020, Section 11 para. 179; Mes, 5th ed. 2020, *PatG* Section 15 para. 36; Klein/von Busse/von Jeinsen, in: Metzger/Zech, 1st ed. 2016, *SortG Art. 27* para. 127, Osterrieth, in: Osterrieth *PatR*, 6th ed. 2021, para. 649.

15. Mes, 5th ed. 2020, *PatG* § 15 para. 36.

Decisive for the distribution of responsibilities and liability of the parties is thus the performance specification. This lays down the criteria for the classification of the respective contractual relationship and, thus, ultimately, the limits for the possibility of a limitation of liability and warranty by the parties. This must be taken into account when drafting the contract. This applies all the more, since the English-language description of a contract, for example, as a service agreement, does not necessarily have a corresponding designation under German law.

B. Contractual Limitations of Liability

As mentioned, within the framework of private autonomy, also pursuant to German law, the contractual parties can, in principle, modify their liability and warranty in deviation from the statutory model to suit the needs of the individual case. Although the chosen restrictions differ in individual contracts, some typical clauses have emerged, which will be briefly outlined below. Essentially, there are two different approaches: On the one hand, qualifying the standard of care required in a contractual project can reduce or possibly exclude liability, or the parties may agree to limit the consequences of liability.

I. Qualifying the Applicable Standard of Care

By defining the standard of care in deviation from the statutory model, liability can be made more manageable for the parties and, thus, ultimately, better adapted to the actual economic circumstances. With a risk distribution appropriate to the individual case, the respective profit expectations can ultimately also be taken into consideration.

In principle, statutory liability under German law requires fault, with some exceptions. Section 276 (1) of the German Civil Code (BGB) mentions the two degrees of fault: intent and negligence. Negligence is deemed to exist if (i) in the case of simple negligence, the customary care has been disregarded or (ii) in the case of gross negligence, there is an objectively serious and subjectively inexcusable breach of the requirements of the care required in the ordinary course of business.¹⁶ Wilful intent is the knowledge and desire to carry out the act.¹⁷ At the same time, German law provides for the possibility of contractually further defining and modifying the standard of liability. It may make sense to further concretize the standard of care for simple negligence by referring to standards in certain industries or company sizes. At the same time, statements in the preamble to the contract regarding the abilities of the individual contractual partners can become important

16. BeckOK *BGB/Lorenz*, 71. Ed. 1.8.2024, *BGB* § 276 Rn. 19; *BGH*, NJW 2003, 1118 (1119).

17. BeckOK *BGB/Lorenz*, 71. Ed. 1.8.2024, *BGB* § 276 Rn. 10.

when determining the standard of care to be observed. More can be expected from a specialized international Fortune 500 company with many years of experience than from a young start-up.

II. Limiting the Contractual Consequences

At least in principle, the contractual parties can also limit their respective liability to certain types of damage, specific remedies and redress measures or a maximum amount.

1. Type of Damage

In the event of a breach of duty, German law requires compensation for the resulting consequential damage. A contractual limitation to certain types of damage not only helps to mitigate and confine the financial consequences, but also helps the parties to better anticipate them in advance. Thus, indirect damage, lost profit, third-party damage and pure financial loss are typically excluded in order to ensure that the amount of damages to be paid remains at least predictable and that there is no liability for any consequential costs.¹⁸ This is particularly appropriate if a contractual partner could claim damages from an unsuccessful market entry or withdrawal from a market due to IP infringement claims by third parties.

2. Contractual Remedies

The parties can further expressly regulate legal consequences in the event of default, non-fulfilment, defective performance or breach of duty in order to agree on appropriate remedies for each individual case. This applies, for example, to license agreements in the event of IP infringement claims by third parties against the licensee and related potential claims against the licensor.

Under German law, the licensor must provide the licensee with a right to use the licensed technology free from third-party rights. The U.S. Uniform Commercial Code (UCC) provides for a similar construct, whereby sales contracts always contain implied warranties that also provide for freedom from third-party rights without any contractual modification.

To limit this broad liability, an exclusion of knowledge is often agreed in IP contracts. In this case, the licensor only guarantees that, to his best or actual knowledge, he is not aware of any conflicting third-party IP rights.¹⁹ In this respect, the group of persons who have this knowledge can also be precisely defined in order to exclude a far-reaching attribution of knowledge within a legal entity.²⁰ An additional requirement for disclosure of all relevant information (disclosure schedule) may apply.²¹

On the legal consequences side, it is also conceivable to include provisions whereby the licensor is to replace the infringing technology, or the licensee is entitled to a reduction in license fees if and to the extent that the licensor cannot remove conflicting third-party rights.²² Similarly, license agreements alternatively offer the licensor an obligation to in-license the infringed third-party IP rights or to develop a workaround. In addition, it makes sense to agree on rights of withdrawal/termination and escape clauses for the parties. This can go so far as to allow the licensee, in the event of a serious breach by the licensor, to terminate the agreement and therewith any obligations to pay royalties while granting the licensee a fully paid up and unlimited right to continue using the licensed technology and the intellectual property rights after termination.

3. Maximum Amount

To better calculate the liability risk, the parties to an agreement may also agree upon the stipulation of a maximum liability amount by including an absolute or dynamic maximum liability limit (liability cap). Such maximum liability limits are particularly useful in the case of a high liability risk, for example, in the case of a development collaboration, where there is a comparatively low financial consideration. In addition to a fixed amount, the contract volume can be used as a basis, *e.g.*, the contract value, or the license fees already paid or to be paid annually.²³

4. Provision that the Contractual Liability Provisions are Exhaustive

In contrast to Anglo-American common law, German law does not recognize the principle that contracts are normally to be interpreted on their own terms. Rather, in the absence of a contractual provision, the relevant statutory law applies. This must be taken into account when drafting the contract. Therefore, it must be expressly stipulated that the contractual restrictions, modifications and limitations to the statutory law are conclusive. Otherwise, there is a risk that the statutory liability regime could still apply in addition to the contractual liability consequences, which would effectively render the contractual provisions meaningless.²⁴

Furthermore, it must be ensured that the restrictions and limitations, often stipulated in the context of the contractual warranty clauses, also apply to the indemnification clauses. Indemnification clauses, while rather atypical for German contracts, are increasingly found in international contracts and provide the parties

18. *Stief*, PharmR 2022, 261 (265).

19. *Bisle*, DStR 2013, 364 (365).

20. *Schmitz*, RNotZ 2006, 561 (592).

21. *Hanke/Socher*, NJW 2010, 1576.

22. *Stief*, PharmR 2022, 261 (265).

23. *Stief*, PharmR 2022, 261 (265).

24. *Stief*, PharmR 2022, 261 (265).

with additional contractual remedies. Such indemnity clauses are used to cover known or typical risks whose extent or time of realization is still unknown.²⁵ In such cases, the indemnifying party undertakes to eliminate a contractual partner's obligation towards a third party.²⁶ This may be particularly more advantageous in the case of high monetary claims than to pay the amount due and then seek recourse from the contractual partner.²⁷ However, it is regularly limited to a specific damage event as defined in the indemnity clause, and its scope of application is, therefore, more limited than in the case of a guarantee.²⁸ Nevertheless, a contractual indemnification obligation may result in serious liability consequences, potentially even exceeding the consequences provided for in the warranty clauses. Like the independent guarantee, it establishes a separate and (at least in the absence of contractual provisions to the contrary) strict liability. It is, accordingly, very important to mirror the restrictions stipulated in the warranty clause or to ensure that the limitation and restriction of liability do apply to the contractual warranties as well as the indemnification obligation.

C. Legal Limits of Restrictions Pursuant to German Statutory and Case Law

Limitations of liability ultimately serve to concretize and appropriately distribute risks in individual cases. German law allows this, in principle, within the framework of private autonomy. Nevertheless, there are limits to be observed, the violation of which can lead to the invalidity of the agreed liability rules. In this respect, contracts are regularly subject, on the one hand, to mandatory statutory law, and, on the other hand, the law governing standard business terms may restrict the use of certain contractual provisions. This far-reaching applicability of legislation and case law on standard business terms, also in the B2B area, is particularly surprising, especially since it can also have an impact on contracts negotiated by the parties in individual cases. Knowledge of the applicable principles is, therefore, particularly important to avoid the invalidity of the agreed-upon limitations and restriction of liability and consequently being exposed to unforeseen and potentially unrestricted liability risks.

I. General German Law Statutory Provisions

The private autonomy of the parties in the design of their contractual arrangements is, under German law, limited by both the general moral law and the mandatory law.

25. *Hilgard*, BB 2016, 1218.

26. *BGH*NJW 1991, 634 (635).

27. *Schütt*, NJW 2016, 980.

28. *Hilgard*, BB 2016, 1218 (1221).

1. General Moral Law

Section 138 (1) of the German Civil Code (BGB) serves as a catch-all provision, according to which an immoral commercial transaction is void. The provision serves to protect against unjustifiable contractual agreements and is intended to prevent a contractual party from defrauding the other party in a reprehensible manner.²⁹ An act is always deemed to be immoral if it violates the sense of decency of fair-minded people.³⁰ A total invalidity of the contract in accordance with Section 138 (1) of the German Civil Code (BGB) only occurs if the contract as a whole has been drafted so one-sidedly from a morally reprehensible standpoint that only one party to the contract can enforce its rights, while the essential and legitimate concerns of the other party are disregarded.³¹

2. German Mandatory Law

A highly relevant example for German mandatory law in the context of contractual limitation of liability is Section 276 (3) of the German Civil Code (BGB). Pursuant to this provision, a contractual release in advance from liability for intent is not possible. The provision is mandatory and cannot be waived (even) by private agreement.³² A circumvention, *e.g.*, by means of a corresponding statute of limitations agreement regarding liability for intent before the claim arises, is also not permitted under Section 202 (1) of the German Civil Code (BGB).³³ The consequences of this (amongst others) is that any contractual limitation of liability clauses must specifically provide that the limitation shall not apply in cases of intent. Without such a specification, the entire restriction is considered in violation of German mandatory law and, accordingly, invalid. The consequence is that the restriction of liability does not only not apply in cases of intent, but since the entire clause is considered invalid, the agreed upon liability restriction also does not apply in a case of slight negligence.

An important application of the principle of moral law is contractual penalties. Since it is often difficult to prove damage resulting from a breach of duty, a contractual penalty is often the most effective protection, especially for torts of omission.³⁴ Accordingly, penalty clauses are enjoying particular popularity in all kinds

29. *MüKoBGB/Armbrüster*, 9th ed. 2021, BGB § 138 Rn. 1 ff.

30. *BGH*NJW 2004, 268 (2670).

31. *BGH*NJW 2001, 2466 (2468).

32. *MüKoBGB/Grundmann* 9th ed. 2022, BGB § 276 Rn. 182.

33. *MüKoBGB/Grothe*, 9th ed. 2021, BGB § 202 Rn. 7; *BT-Drs.* 14/6040, 110.

34. *Higher Regional Court Munich* NJW-RR 1993, 1334; *Ostendorf*, *JuS* 2015, 977.

of IP agreements. In principle, contractual penalties can be agreed either in the form of liquidated damages or as a classic contractual penalty according to Section 339 *et seq.* of the German Civil Code (BGB).³⁵ The distinction depends on the will of the parties: either the simplification of an existing claim for damages is at the forefront (liquidated damages) or the securing of the proper performance of the service by means of the most effective pressure possible on the contractual partner (contractual penalty).³⁶

Pursuant to German law, liquidated damages are allowed, provided that the amount does not exceed the damage that would normally be expected in the ordinary course of events.³⁷ Then again, a contractual penalty may be inadmissible if it unfairly disadvantages the other party in bad faith.³⁸ This is the case if the amount of the contractual penalty is unreasonable, *i.e.*, if the penalty is disproportionate to the gravity of the breach and its consequences.³⁹ A contractual penalty that does not differentiate according to the severity of the breach is, therefore, inadmissible.⁴⁰

It is also often difficult to distinguish this from punitive damages, which are equally inadmissible. The BGH, the highest German civil court, has declared punitive damages to be manifestly incompatible with the fundamental principles of German law.⁴¹ Corresponding enforcement, therefore, regularly fails due to public policy in Sections 723 (2) sentence 2, 328 (1) no. 4 of the German Code of Civil Procedure (ZPO).⁴² Likewise, the fault requirement cannot simply be waived.⁴³

II. German Law on Standard Business Terms

The most significant restrictions in German law arise from the statutory provisions on standard business terms in Sections 305-310 of the German Civil Code (BGB).

1. Individualized Clauses and Standard Business Terms

The first important distinction to be made is between individualized clauses and standard business terms. It is only the latter that are subject to the strict restrictions. However, German courts generally readily classify contractual clauses as standard business terms

unless the parties can show that the specific wording of a clause has indeed been negotiated and specifically agreed upon by the parties of the agreement. The incorporation of standard international clauses into a contract that is subject to German law must, therefore, be viewed in the light of the German legal provisions on standard business terms and the strict German case law. This poses a considerable challenge when drafting international contracts under German law.

Section 305 (1) of the German Civil Code (BGB) defines when a clause is considered a standard business term. Accordingly, standard business terms exist if one party unilaterally sets the contractual conditions, and these are pre-formulated for a large number of contracts. German case law thus qualifies contractual clauses as standard business terms when they are based on a template and/or have been used in previous agreements. But even if a wording is used the first time in a contract, it may be considered as a standard business term if it appears likely that the clause is meant to be used also in future agreements.

In contrast, an individualized contractual agreement exists if the parties have negotiated the relevant clause in detail. To this extent, the parties to the contract must have seriously discussed the content of the clause, *i.e.*, made it the subject of negotiation.⁴⁴ In this respect, it is not sufficient for the parties to have discussed the relevant clause only once. Rather, their content must have been thoroughly discussed, and the contractual partner must be convinced of the factual necessity of the clause.⁴⁵ Only if this is the case can an unmodified adoption of the pre-formulated text be classified as an individualized agreement.⁴⁶ However, here, case law applies an extremely restrictive standard.⁴⁷ Thus, in the case of liability limitation clauses, a standard business terms provision should also be assumed if the parties have negotiated this without this ultimately leading to an adjustment of the original wording of the clause, otherwise a clause will most likely be qualified as standard term by a German court.⁴⁸ This outcome can also not be avoided by a clause in which the contracting parties specifically acknowledge that all clauses were negotiated individually and do not constitute a standard

35. *Ostendorf*, JuS 2015, 977.

36. *BGH NJW* 1992, 2625; *Ostendorf*, JuS 2015, 977 (978).

37. *BGH NJW-RR* 2000, 719 (720).

38. *Federal Court of Justice NJW* 2017, 3145, para. 15.

39. *BGH NJW* 2016, 1230, para. 34.

40. *Higher Regional Court of Munich BeckRS* 2010, 20437; *Ostendorf*, JuS 2015, 977 (980).

41. *BGH NJW* 1992, 3096 (3104).

42. *BGH NJW* 1992, 3096 (3103).

43. *BGH NJW-RR* 2003, 1056 (1059).

44. *vWestphalen/Thüsing*, *VertragsR u. AGB/Graf von Westphalen*, 50th EL, *VertragsR*, Individualvereinbarung, I., 3. a) para. 36 with further references.

45. *BGH NJW* 1998, 2600 (2601).

46. *vWestphalen/Thüsing*, *VertragsR u. AGB/Graf von Westphalen*, 50th EL, *VertragsR*, Individualvereinbarung, I., 3. a) para. 36 with further references.

47. *MüKoBGB/Basedow*, 8th ed., § 305 para. 39 with further references.

48. *vWestphalen/Thüsing*, *VertragsR u. AGB/Graf von Westphalen*, 50th EL, *VertragsR*, Individualvereinbarung, I., 3. f) para. 47.

business terms contract. The requirement of “serious discussion” is not really an option in commercial practice, especially in the case of limitations of liability, as the other party would alternatively have to be presented with the option of unlimited liability.⁴⁹ However, the individuals involved could then be accused of acting in breach of duty of care required in business dealings.⁵⁰ As a result, the existence of standard business terms must practically always be assumed.

2. Hidden or So-called Surprise Clauses (“Überraschende Klauseln”), Section 305c (1) of the German Civil Code (BGB)

Section 305c (1) of the German Civil Code (BGB) provides that clauses that are objectively unusual and subjectively surprising are excluded from a contract and, accordingly, invalid.⁵¹ According to German case law, this is the case if the contractual partner need not reasonably expect the clause and it deviates significantly from his (reasonable) expectations.⁵² The decisive factor for the surprise effect is the contractual context, so that, for example, a disclaimer under the heading “set-off/retention” is inadmissible because placing it under this heading is so unusual that it could not be expected to appear there.⁵³ In contrast, the drafting of limitations of liability in capital letters, which is common in the Anglo-American sphere, is unusual and not considered necessary by German courts. Also, since all clauses in the contract are, in principle, equally important, the positioning at the beginning or end is not important in this respect.⁵⁴

3. Clauses Considered Invalid According to Sections 307, 308 and 309 of the German Civil Code (BGB)

The main purpose of the monitoring of standard business terms is to protect a party from being unreasonably disadvantaged by the party using pre-formulated clauses. This core concern is reflected in Section 307 (1) of the German Civil Code (BGB), according to which clauses are declared invalid if their content unreasonably disadvantages the contractual partner contrary to the principle of good faith. This general clause is followed by two lists in Sections 308 and 309 of the German Civil Code, which regulate the validity of individual clause contents. Section 308 BGB lists clauses that typically violate Section 307 BGB but are not necessarily invalid, as it depends on the formulation of the

individual case.⁵⁵ However, the clauses in Section 309 BGB are always invalid. Sections 308 and 309 BGB do not apply in the B2B area (section 310 (1) sentence 1 BGB), but are limited to consumer protection. However, the value judgments mentioned there are an expression of the requirement of good faith from Section 307 (1) BGB, which is always applicable and, therefore, has an indirect effect in the B2B area. This applies especially to the listing of prohibitions in Section 309 of the German Civil Code.⁵⁶ This also largely applies to Section 308 of the German Civil Code.⁵⁷ In practice, the listing in both sections, Section 308 and Section 309, must, therefore, also be observed in commercial legal transactions.

4. Exclusion of Liability for Injury to Life, Limb or Health

In view of the prohibition under German law as it applies to standard business terms of excluding liability for injury to life, limb or health, liability clauses should stipulate that impairment of the above-mentioned legal interests shall remain unaffected by the remaining limitations on liability. As an absolute prohibition of exemption, a differentiation based on the degree of fault would also be inadmissible.⁵⁸

5. Exclusion for Gross Negligence and Ancillary Persons

A general exclusion of liability for gross negligence is invalid under the German law governing standard business terms. According to the German Federal Court of Justice (BGH), this is because, even in the B2B sector, the contractual partner has the right to expect that the other party will not cause it harm through gross negligence.⁵⁹ The same strict standard applies if the liability is merely restricted rather than being completely excluded.⁶⁰

Furthermore, according to German case law, a general exclusion for breach of duty by ancillary persons involved in the performance of the contract is inadmissible.⁶¹ The legal principle in Section 278 sentence 1 of the German Civil Code rather envisages that the fault of ancillary persons is attributable to and is to be treated as one’s own fault. A corresponding exclusion of liability would, in the view of German courts, be an unreasonable deviation from this legal provision.⁶² The situa-

49. *Leuschner*, NJW 2016, 1222 (1223).

50. *Leuschner*, NJW 2016, 1222 (1223).

51. BeckOK BGB/H. *Schmidt*, 70th ed. 1.5.2024, BGB § 305c marginal no. 13.

52. *Leuschner/Rodi*, AGB-Recht im unternehmerischen Rechtsverkehr, 2021, Part 2 BGB Section 305c para. 29.

53. *BGH* NJW 2010, 3152 (3154).

54. *BGH* NJW 2010, 3152 (3153).

55. *MiKoBGB/Wurmnest* BGB (2022) Section 308 marginal no. 2.

56. *Staudinger/Piekenbrock* (2022), BGB Section 310 para. 28; *BGH*, NJW 2007, 3774 (3775).

57. *BGH* NJW 2008, 1148 (1149).

58. *BGH* NJW 2007, 3774 (3775).

59. *BGH* NJW 2007, 3774 (3775).

60. *Leuschner*, NJW 2016, 1222 (1223).

61. *BGH* NJW-RR 2006, 267 (269 f); *BGH* NJW 1984, 1350.

62. *BGH* NJW-RR 2006, 267 (269).

tion may be different only if the exclusion of attributing the culpable conduct of ancillary persons has been customary in the industry for a long time and is generally excluded from standard business terms having regard to the particularities of the particular type of business.⁶³ However, in its more recent case law, the German Federal Court of Justice (BGH) has also become increasingly critical in this respect.⁶⁴ Therefore, considerable caution is advised even with industry-standard exclusion clauses.

6. Special Features of the Limitation of Liability Regarding Material Contractual Obligations

With regard to so-called cardinal obligations, German case law prohibits an exclusion of liability even in the case of simple negligence on the grounds that otherwise the contract itself would be jeopardized in terms of its content and purpose.⁶⁵ Under German law, cardinal obligations are those obligations whose fulfilment is essential to the proper performance of the contract.⁶⁶ This means that restrictions regarding liability in the case of quality defects, non-performance, default, defective performance, breach of contractual warranties and delays are generally inadmissible and ineffective on the basis of their classification as essential contractual obligations.⁶⁷ However, there is a small workaround to provide the parties with more legal certainty: they can clearly define in the contract what essential contractual obligations are and thus more clearly delineate the scope of liability. Whether this contractual definition will be readily accepted by German courts, or whether the latter will at least reserve the right to undertake a plausibility check, remains to be seen.

Furthermore, according to established case law, an exclusion of liability for slight negligence with regard to the violation of non-essential contractual obligations is also inadmissible if the resulting damage is foreseeable and typical for the type of contract.⁶⁸ Otherwise, this would constitute an unreasonable disadvantage contrary to the principle of good faith.⁶⁹ Consequently, in the case of slight negligence, the only remaining possibility is to exclude liability for non-essential contractual obligations in the case of typically foreseeable damage.⁷⁰

63. *BGH NJW-RR* 1997, 1253 (1255).

64. *Staudinger/Coester-Waltjen* (2022), § 309 Nr. 7 Rn. 42a; *BGH NJW-RR* 2002, 536 (537).

65. *BGH NJW-RR* 2005, 1496 (1505); Cf. also: *Leuschner, ZEuP* 2017, 335 (340 f); *RGZ RGZ* 106, 386 (388).

66. *BGH NJW-RR* 2005, 1496 (1505).

67. *Leuschner, NJW* 2016, 1222 (1223).

68. *BGH NJW* 1985, 2016 (2018); *BGH NJW-RR* 2006, 267 (269); *Graf von Westphalen, NJW* 2022, 1409 (1413 f).

69. *Federal Court of Justice NJW* 1985, 2016 (2018).

70. *Leuschner, NJW* 2016, 1222 (1223).

7. Exclusion of Statutory Warranty Rights

Also, the customer's statutory warranty rights arising out of poor performance, such as rectification or rescission, cannot be completely and effectively excluded pursuant to Section 309 no. 8 b) aa) of the German Civil Code (BGB). This, at least in principle, also applies in business dealings. Otherwise, according to German case law, the contractual fairness and the buyer's trust that goods are as new may be undermined.⁷¹ However, this does not affect the right to modify the contractually owed warranty in the event of poor performance vis-à-vis the standard set by law, for example, to the effect that the contractual partner must first and foremost have the opportunity to rectify a defect that has occurred before the contract can be rescinded due to a defect and a corresponding claim for reimbursement of payments made can be established.

8. Exclusion of Certain Types of Damage

The exclusion of various types of damage or loss, such as lost profits or consequential damages, is rather common in agreement and often seen as a necessity for the parties to calculate and confine the risk of a particular transaction. Under German law, it is, in principle, possible to exclude indirect, unforeseen, or consequential damages, as well as damage to certain goods.⁷² However, the above-mentioned statutory restrictions, in particular pertaining from Section 308 and Section 309 of the German Civil Code (BGB), must also be observed in this respect. For example, a (comprehensive) exclusion of indirect and consequential damages would at the same time exclude liability for intent, gross negligence and loss of life, limb or health, and the clause would therefore be inadmissible for this reason alone.⁷³ Particular care is therefore required when formulating such a clause in order not to jeopardize the effect of limiting liability and, thus, the calculability of the contractual risk.

9. Restriction to a Fixed Amount (Absolute or Dynamic)

Like most legal systems, German statutory law does not, with a few exceptions, set a cap on damages. Against this background, parties often agreed upon a contractual upper limit for liability, possibly corresponding to an insurance policy or corresponding to the respective party's financial ability to pay damages and/or the allocation of benefits and risks under the agreement as negotiated by the parties. However, when determining the respective maximum liability amount, it should

71. *Leuschner/Bach, AGB-Recht im unternehmerischen Rechtsverkehr*, 2021, Part 3 Warranty Clauses, para. 27.

72. *MüKoBGB/Wurmnest* (2022), Section 309 No. 7, para. 23.

73. *BGH NJW* 2002, 2470 (2472); *OLG Stuttgart NJW-RR* 1988, 1082 (1083).

be noted that, in light of the legal provisions governing standard business terms, it may not be set too low. In this respect, it is recognized by German courts that a maximum amount that is set too low can undermine the rights of the contractual partner to such an extent that the purpose of the contract may be jeopardized and thus constitute an unreasonable disadvantage contrary to the principle of good faith.⁷⁴ Therefore, foreseeable damages typical for the contract must also be factored in by the parties when determining and agreeing upon the maximum amount of liability.⁷⁵

The maximum liability amount does not have to be stated as a specific maximum amount, especially since this will not always be possible depending on the contract.⁷⁶ This also does not contradict the transparency requirement contained in Section 307 para. 1, sentence 2 BGB.⁷⁷ Alternatively, it is not uncommon in contractual practice to link the liability amounts to the sum insured under the existing insurance cover. This applies even more if contractual partners are under an obligation to take out insurance. In the interest of (prompt) claims settlement by a financially strong insurer, contracts often provide for such an obligation in practice, particularly in the case of start-ups, but also for group companies with limited liability. Here, too, care must be taken to ensure that the amount of cover is appropriate in light of the damage scenario.⁷⁸

10. Shortening the Period of Limitation

While the parties can extend limitation periods in individual cases, shortening them is generally not possible under German law, as this would lead to a *de facto* limitation of liability.⁷⁹ Accordingly, a limitation of liability by shortening the statutory limitation periods is inadmissible if this does not exclude damage to life, limb and health as well as gross negligence.⁸⁰ In this respect, the provision codified in section 309 no. 7 a) and b) BGB also applies in commercial dealings due to its indicative effect.⁸¹ Otherwise, the protection of these legal interests and the performance of the contract may be jeopardized.⁸² Section 202, para. 1, BGB already prohibits the shortening of the limitation period in the case of intent.⁸³

74. *BGH* NJW 1984, 1350 (1351).

75. *BGH* NJW 2001, 292 (295); *BGH* NJW 1993, 335 (336).

76. *BGH* NJW 2013, 291 (295).

77. *BGH* NJW 2013, 291 (295).

78. *OLG Celle*, judgment of. 20.11.2001 - 16 U 187/99; *BGH*, decision of 13.11.2003 - VII. ZR 439/01.

79. BeckOK *BGB/Henrich*, 71st ed. 1.8.2024, BGB § 202 marginal no. 1.

80. *BGH* NJW 2013, 2584 (2585).

81. *BGH* NJW 2007, 3774 (3775).

82. *BGH* NJW 2014, 211 (213).

83. *OLG München* BeckRS 2024, 7528.

11. Exclusion “to the Extent Permitted by Law”

Given the far-reaching consequences mentioned above, the drafter of a contract may feel tempted to provide for a clause that liability is restricted only “to the extent permitted by law” in order to benefit from the broadest possible limitation of liability. According to German case law, however, this wording does not sufficiently indicate to the contracting parties how far the exclusion of liability should apply and is therefore qualified as inadmissible and invalid pursuant to Section 307, para. 1, sentence 2 of the German Civil Code (BGB) for not being clear and comprehensible.⁸⁴

D. Consequence of Inadmissibility of Certain Limitation

The particular severity of German law on standard business terms lies not only in the inadmissibility of the clauses as such, but also in the consequences resulting from their inadmissibility. As follows from the respective provision prohibiting it, an inadmissible clause has no effect. However, the rest of the contract and the other standard business terms remain effective pursuant to Section 306 para. 1 BGB.⁸⁵ However, Section 306 para. 3 BGB provides for an important exception to this rule for practical purposes, according to which the rest of the contract or at least the contractual liability provisions as a whole are also invalid if adhering to them would constitute unreasonable hardship for one of the contracting parties.⁸⁶

I. Statutory Provision in Case of Invalidity of Contractual Provision

Pursuant to section 306 para. 2 of the German Code (BGB), the invalid clause shall be replaced by the corresponding provisions of German statutory law.⁸⁷ If there is no statutory provision, the clause is generally deleted without being replaced.⁸⁸ The usual severability clause, according to which invalid clauses are to be replaced by a provision that comes closest to the economic purpose of the original clauses, is not permissible as a circumvention of section 306 para. 2 BGB.⁸⁹

II. No Reduction of Invalid Provisions to Preserve Validity

Reduction in scope in order to preserve validity, which is regularly provided for in contracts by means of a severability clause, is also not permissible.⁹⁰ In order

84. *Leuschner/Leuschner*, AGB-Recht im unternehmerischen Rechtsverkehr, 2021, Part 3 Exemption clauses para. 18.

85. *MüKoBGB/Fornasier* (2022), § 306 marginal no. 1.

86. *Ermann BGB/Looschelders* (2023) Section 306 para. 16.

87. BeckOK *BGB/H. Schmidt*, 71st ed. 1.8.2024, BGB § 306 marginal no. 29.

88. *Ermann BGB/Looschelders* (2023) section 306 para. 6.

89. *BGH* NJW 2016, 401 (402).

90. *BGH* NJW 2018, 1811 (1812); *MüKoBGB/Fornasier* (2022) Section 306 para. 18.

to prevent the deliberate or careless use of ineffective clauses in the belief that a judge will reduce inadmissible provisions to the (barely) permissible level, German case law considers such a reduction to be inadmissible.⁹¹ This means that it is not only prohibited to reduce the clause to the maximum permissible level, but also to an objectively reasonable level.⁹² This even applies if the clause still met the requirements of case law at the time it was used, but no longer meets these requirements following subsequent stricter case law.⁹³

III. Entire Exclusion of Liability Affected

In most cases of effectiveness monitoring, it is not even permitted to divide the clause in question into a permissible and not permissible part. According to the case law of the German Federal Court of Justice (BGH), this is only permissible in exceptional cases if the clause contains independent provisions that can be separated from each other in terms of content (blue-pencil test).⁹⁴ This is the case if the invalid part can be deleted without affecting the meaning of the remaining part.⁹⁵ If this exception does not apply, the entire clause is invalid. In the case of a limitation of liability clause, the clause is therefore void in its entirety, and the statutory liability regime applies. The consequences can be enormous: imagine a clause with a limitation of liability, but which has not provided an exception for bodily injury and is therefore invalid. Now, a financial loss occurs as a result of slight negligence in relation to a non-essential contractual obligation. Although the damage could theoretically have been excluded from liability and also has no connection to the missing addendum regarding bodily injury, the user is faced with the ineffectiveness of his entire liability clause and, thus, a case of unlimited liability, although this was not intended by either of the contracting parties.

IV. No Invoking of Invalidity by Drafter of the Respective Clause

However, according to the generally applicable principle of good faith (Section 242 of the German Civil Code (BGB)), the party using inadmissible standard business terms clauses cannot invoke their ineffectiveness but must also accept restrictions that are inadmissible and, therefore, ineffective.⁹⁶ Monitoring of the content of the standard business terms law serves exclusively

to protect the contractual partner, which is why the party using them may not derive any advantages from their invalidity.⁹⁷ The party using them is, therefore, precluded from retreating to a dispositive law that is more favorable to it, with the result that under certain circumstances, only one of the two contracting parties is bound by the clause.⁹⁸

E. Alternatives to Restriction of Liability

Although the options for structuring contracts are limited in view of the far-reaching legal provisions and German case law, there are nevertheless a number of ways to at least partially allocate risks between the contractual parties. One clear hallmark of contracts is the contracting parties' mutual obligations. Seen in this light, obligations on the respective other contracting party to fully cooperate should be expressly stipulated. This approach can also be used to limit liability. For example, liability can be excluded in the event that the contractual partner is responsible for breaches of duty on its part.⁹⁹ Examples for such provisions are the obligation of the other party, *e.g.*, the licensee, to conduct its own freedom-to-operate analysis before launching the product in a particular market, or to carry out contractually defined receiving inspections regarding any materials or devices for deviations from the agreed-upon specifications.

However, this may only be permitted within the limits of reasonableness.¹⁰⁰ Only if the severity of the breach of duty is in proportion to the consequences of the sanction is there no unreasonable disadvantage within the meaning of Section 307 (1) of the German Civil Code (BGB).¹⁰¹ Moreover, the care required in business dealings can be determined by contract and thus at least influence the degree of negligence under Section 276 of the German Civil Code (BGB).¹⁰² However, it should be noted that an indirect limitation of liability of an objectively existing contractual obligation is also not permissible in standard business terms.¹⁰³

F. Conclusion

Contracts concluded with German partners in the tech sector in an international setting are generally drafted in English and follow Anglo-American models.

91. *Staudinger/Mäsch* (2022) BGB Section 306 para. 23; *BGH NJW* 2017, 3145 (3147).

92. *Staudinger/Mäsch* (2022) BGB Section 306 para. 26.

93. *BGH NJW* 2008, 1438 (1439); *MüKoBGB/Fornasier* (2022) Section 306 para. 19.

94. *BGH NJW* 2020, 1811 (1814).

95. *MüKoBGB/Fornasier* (2022), section 306 para. 23.

96. *MüKoBGB/Schubert* (2022) Section 242 para. 627.

97. *BGH NJW* 2016, 1572 (1574).

98. *Staudinger/Mäsch* (2022) BGB Section 306 para. 18.

99. *BGH NJW-RR* 2004, 1175 (1176).

100. *BGH NJW* 2005, 1174 (1176).

101. *BGH NJW* 1990, 767 (768).

102. BeckOK BGB/Lorenz, 70th ed. 1.5.2024, BGB § 276 marginal no. 23.

103. *MüKoBGB/Wurmnest*, 9th ed. 2022, BGB Section 309 No. 7 para. 23.

At the same time, the contracts are often subject to German law and German jurisdiction. While German law allows for extensive private autonomy, especially in the B2B sector, it also contains equally practically relevant and significant restrictions which need to be adhered to in order not to risk the validity of certain clauses or possibly even the entire agreement. This is particularly true as regards contractual limitations of liability, which in many cases need to be adjusted in accordance with German statutory and case law in order to ensure their admissibility and validity. Other-

wise, such restriction of limitations will only be effective to the benefit of the other party, but the drafter of the clauses will be prevented from evoking said limitations in their own interest. For foreign contractual partners, the complex limitations on admissibility and effectiveness resulting out of the law on standard business terms and the extensive relevant German case law are often surprising. It is, therefore, not advisable to just blindly adopt internationally accepted contractual clauses. Instead, professional advice should be sought at an early stage. ■

“Pay Or Okay” Model Part I: Personalised Advertisement And Data Processing— A Legal Analysis

By Pinar Bakirtaş*

I. Introduction

The better artificial intelligence (AI) technologies get at predicting our preferences, the more we feel that our every digital move is being constantly tracked. We often encounter online advertisements that seem to read our minds. For example, we might see a promotion for a travel agency immediately after searching for a flight. Thus, it is reasonable to question the legal basis for monitoring our online activities to create personalised advertisements.

One of the most prominent entities using personalised advertising is Meta, which includes the social platforms Facebook, Threads, Instagram, and WhatsApp. In the last two years, several European legal authorities have concluded that Meta’s policy of processing user data for personalised advertisements contravenes the EU’s General Data Protection Regulation (GDPR).¹ In response to those findings, in November 2023, the tech giant changed its privacy policy in the EU, the European Economic Area (EEA) and Switzerland. Since then, Meta’s options are known as the “pay or okay” model, where:

- (i) A paid version (monthly EUR 9.99 on the web or EUR 12.99 on mobile applications) of Meta services with no ads, guaranteeing that users’ personal data is not processed for advertising purposes; or
- (ii) A free of charge version requires users to “consent” to the processing of their personal data for advertising purposes.

A few days after Meta implemented this model, the Noyb-European Center for Digital Rights launched a GDPR complaint² to the Austrian Data Protection

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1. Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L 119.

2. Noyb—European Centre for Digital Rights Complaint on Meta’s pay or okay system <<https://noyb.eu/sites/default/files/2023-11/Complaint%20-%20Meta%20Pay%20or%20Okay%20-%20REDACTED.pdf>>.

Authority, laying down claims against Meta’s pay or okay model for personalised advertising.

Against this background, this paper will analyse the pay or okay model. It will provide some relevant factors to seek a balance between data protection and free markets. This first part of the paper (Part I) will focus on data protection concerns. In addition, it will discuss possible alternatives to the model. It will also examine how the laws governing personalised advertisements may be constructed. The second part (Part II, in a subsequent issue) will address challenges in other fields, such as competition law, consumer protection, and unfair commercial practices, in order to holistically consider the legality of pay or okay models.

II. The History of Processing Personal Data for Personalised Ads

A. Legitimate Basis under the GDPR

Tailored advertising can be delivered to users individually by processing the personal data of each of them. In EU and EEA member states, any processing of personal data—such as collection, recording, organising, or structuring—must be based on a lawful ground outlined under Article 6 of the GDPR. Examples of lawful grounds for processing include “consent,”³ “contractual necessity,”⁴ and “legitimate interest.”⁵

“Consent” refers to the agreement of the “data subjects,” meaning identified or identifiable natural living persons, for the processing of their personal data. The consent referred to in Article 6 must be “freely given, informed, specific and unambiguous.”⁶ It could be withdrawn at any time.

“Contractual necessity,” on the other hand, occurs when the data processing is required for the performance of a contract. Freedom to conduct a business is rooted within this ground. Some contractual obligations

3. GDPR (n 1) Art 6(1)(a).

4. GDPR (n 1) Art 6(1)(b).

5. GDPR (n 1) Art 6(1)(f).

6. GDPR (n 1) Art 4 (11).

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require the processing of personal data in order for the contract to be fulfilled in relation to the data subject. The context of this ground is better understood when interpreted within the broader framework of GDPR⁷ in line with principles laid out in Article 5 of the GDPR. Especially, fairness, lawfulness, transparency, purpose limitation and data minimisation standards are core to determining the applicability of contractual necessity.

Finally, “legitimate interest” concerns “a lawful basis where companies use personal data in a way that individuals can reasonably expect.”⁸ While the GDPR allows processing personal data with legitimate interest, this can be overridden by the data protection right of data subjects. There are three requirements⁹ that depend on legitimate interest in processing personal data. First, such processing must be “necessary” to serve the legitimate interest. Second, there should be a legitimate interest on the part of the controller or a third party. Any kind of legitimate interest in any context could be applicable, though it must be real, present and lawful. Third, a balancing exercise between the legitimate interests for processing personal data and other fundamental rights involved in the processing is required. It is probable that the balance would lean closer towards legitimate interest if there are preventive measures to protect the clashing fundamental rights.

B. The Dispute on the Appropriate Legal Basis for Processing Personal Data for Personalised Ads

i. The EDPB Decision

When the GDPR entered into force in 2018, Meta used contractual necessity¹⁰ to justify its processing of personal data for personalised advertisements. This basis was ruled to be invalid by the European Data Protection Board (EDPB) (5 December

2022),¹¹ the entity responsible for ensuring a consistent application of the GDPR. One month later, Meta was fined by the Irish Data Protection Authority, prompting the company to switch its legal basis to legitimate interest.¹² Following this, the EDPB issued an urgent binding decision (1 November 2023).¹³ The decision placed an EAA-wide ban to process personal data for personalised ads on the two mentioned legal bases.

ii. The CJEU Decision

On 4 July 2023, the Court of Justice of the European Union (CJEU) ruled on the processing of personal data under the GDPR.¹⁴ The decision has significant implications for the application of consent as a legal basis for personal data processing. It emerged following the Bundeskartellamt’s (German Federal Cartel Office) prohibition of Meta’s processing of personal data obtained from third-party platforms (off-Facebook data). This was considered an abuse of dominant position by the Office. Additionally, the prohibition was against Meta’s processing of personal data without the consent of data subjects. This decision was challenged before the Oberlandesgericht (Higher Regional Court) Düsseldorf which referred several questions to the CJEU.

Most strikingly, the CJEU suggested that if users declined consent for data processing, Facebook could offer services through alternative means “if necessary for an appropriate fee.” This led to the company implementing a consent-based model known as pay or okay.

As a result, consent remains the sole legal basis for the processing of personal data for personalised advertisements.

III. Lawfulness of the Pay or Okay Licensing Model

A. Consent under the GDPR

i. Freely Given Consent

Article 4(11) of the GDPR requires, among other things, that consent be freely given. The same regulation also stipulates that if a person has no genuine or free choice, such consent should not

7. EDPB Guidelines 2/2019 on the processing of personal data under Article 6(1)(b) GDPR in the context of the provision of online services to data subjects [2019].

8. “What Is the Legitimate Interests Lawful Basis for Data Processing?” (*GDPR EU*) <<https://www.gdpreu.org/the-regulation/key-concepts/legitimate-interest/>>.

9. Gabriela Zanfir-Fortuna and Teresa Troester-Falk, “Processing Personal Data on the Basis of Legitimate Interests under the GDPR: Practical Cases” [2018] *The Future of Privacy Forum* <https://info.nymity.com/hubfs/Landing_Pages/Nymity_FPF—Legitimate_Interests_Report/Deciphering_Legitimate_Interests_Under_the_GDPR.pdf?hsCtaTracking=9cf491f2-3ced-4f9c-9ffa-5d73a77a773e%7C7469b2ec-e91c-4887-b5db-68d407654e23>.

10. Erin Egan and Ashlie Beringer, “Complying With New Privacy Laws and Offering New Privacy Protections to Everyone, No Matter Where You Live” [2018] *Meta News* <<https://about.fb.com/news/2018/04/new-privacy-protections/>>.

11. EDPB, “EDPB Adopts Art. 65 Dispute Resolution Binding Decisions Regarding Facebook, Instagram and WhatsApp” (2022) <https://www.edpb.europa.eu/news/news/2022/edpb-adopts-art-65-dispute-resolution-binding-decisions-regarding-facebook-instagram_er>.

12. Data Protection Commission, “Data Protection Commission Announces Conclusion of Two Inquiries into Meta Ireland” (2023) <<https://www.dataprotection.ie/en/news-media/data-protection-commission-announces-conclusion-two-inquiries-meta-ireland#Meta>>.

13. EDPB, “EDPB Urgent Binding Decision on Processing of Personal Data for Behavioural Advertising by Meta” (2023) <https://www.edpb.europa.eu/news/news/2023/edpb-urgent-binding-decision-processing-personal-data-behavioural-advertising-meta_er>.

14. C-252/21 *Meta Platforms Inc and Others v Bundeskartellamt* [2023] ECLI:EU:C:2023:537.

be considered as freely given. Under Meta’s pay or okay framework, users are confronted with a fee of EUR 12.99 (on mobile apps) to exercise their right to privacy on Facebook or Instagram. It could be argued that at least some people cannot afford such a privacy fee. This is especially relevant considering average income per capita varies significantly among EEA states. If the individuals are not able to afford this rate of consent to personalised advertisements, one could infer that it is because they have no choice.

Conversely, a fee that is affordable to all consumers may not be a sound commercial strategy. Meta’s success lies in part in its ability to convert user engagement (based on time spent per day on its platforms) into large advertising revenues. In 2023, Meta captured around 20 percent of U.S. digital ad spending, despite accounting for only 7.6 percent of overall digital media time.¹⁵

One could argue, to a certain extent, that the network effects of Meta services create a lock-in effect. The more contacts a user has on a given platform, the higher their reluctance to switch to competing platforms. Such reluctance among users could be in part caused by the difficulties or even impossibilities surrounding the transfer of connections and previous interactions to other platforms. Consequently, one might contend that at least some users, *i.e.*, those who cannot afford a EUR 9.99/12.99 monthly fee, are forced to allow their personal data to be processed. If this were the case, it would breach the obligations of the GDPR. However, recent developments show that users are, in fact, migrating from social media platforms to encrypted closed platforms such as WhatsApp and Telegram.¹⁶ While a lock-in effect may exist, people’s shifting interests in social media platforms may be reducing its impact.

Another point to consider is the potential imbalance in the relationship between data subjects (Meta’s users) and the data controller (Meta), favouring Meta. This would likely impact the analysis of “freely given” consent within the scope of Recital 43 of the GDPR.

ii. Consent as a Pre-Requisite for Providing a Service

As EU Directive 2019/770 points out, “digital

content or digital services are often supplied (...) where the consumer does not pay a price but provides personal data to the trader.”¹⁷ However, when assessing the validity of consent in terms of its voluntary nature (freely given consent), the GDPR emphasises that a user’s consent cannot be made a condition to process their personal data unless it is “necessary” for the performance of the contract, *e.g.*, to use of a service.¹⁸

At this point, it is important to define the scope of “necessity” for the performance of a contract which is explained in the EDPB Guidelines.¹⁹ According to the Guidelines, “necessity” must be interpreted “strictly.” If there are “realistic, less intrusive alternatives” for the performance of the contract, processing personal data is not necessary. As observed by the decision of the EDPB, contractual necessity seems to refer to technical necessity only. So, if it is technologically possible to provide the service by alternative means, personal data processing should not be considered necessary for the performance of the contract. On the other hand, the term “realistic” in the Guidelines could include the economic viability of alternatives. A technically possible alternative may not be “realistic” from a financial perspective. In any event, according to the CJEU’s Meta decision, personalised content, which is the result of processed personal data, is not necessary to perform Meta’s services established in the contract with users. Therefore, Meta should not be allowed to make consenting to personalised advertisements a condition to access their services.

B. Clash of Fundamental Rights: Right to Privacy and Personal Data Protection Versus Freedom to Conduct a Business

The rights to privacy and personal data protection are fundamental rights established under Articles 7 and 8 of the Charter of Fundamental Rights of the European Union.²⁰ The pay or okay model could be seen as eroding the right to privacy, which should be equally available to all. However, it is made clear under Recital 4 of the GDPR that the right to data protection “is not an absolute right” and that it must be “balanced against other fundamental rights.”

Therefore, the right to privacy and data protection must be weighed against the fundamental freedom to

15. Ethan Cramer-Flood, “Meta’s Ad Revenue Share Vastly Exceeds Its Share of Consumer Time” (2023) <<https://www.emarketer.com/content/meta-s-ad-revenue-share-vastly-exceeds-its-share-of-consumer-time>>.

16. “The End of the Social Network” [2024] *The Economist* <<https://www.economist.com/leaders/2024/02/01/the-end-of-the-social-network>>.

17. Directive (EU) 2019/770 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the supply of digital content and digital services [2019] OJ L 136.

18. GDPR (n 1) Article 7(4).

19. EDPB Guidelines 2/2019 (n 7) Recital 24.

20. Charter of Fundamental Rights of the European Union (2000/C 364/01) [2000].

conduct a business as provided under Article 16 of the Charter. This results from “freedom to exercise an economic or commercial activity,” “freedom of contract” and “free competition.”²¹ From this perspective, it could be said that a free market will keep the quality high and foster innovation at the best possible prices.²² However, under the same provision, freedom to conduct a business should be in accordance with EU law, which includes the GDPR.

It should be noted that fundamental rights are “defensive rights of citizens against the state” and do not introduce, as a rule, obligations against private parties.²³ As a fundamental right, the same logic may be underpinning in data protection law. However, in the modern age fundamental rights have found a new arena to be performed: online platforms. Therefore, as within the GDPR, fundamental rights of data subjects do not only raise obligations against states but also against private companies like social media platforms. This obliges companies to find a balance between their freedom to conduct a business and, in this case, the right of data protection of data subjects. In that context, the objectives and principles under Articles 1 and 5 of the GDPR may be guiding.

C. Appropriate Fee

As previously mentioned, in its Meta decision the CJEU decided that Facebook’s services can be offered without personal data processing when consent for such processing is refused “if necessary for an appropriate fee.”²⁴ These few words arguably laid the foundation for the pay or okay system. The terms “necessary” and “appropriate” carry significant weight and require deeper analysis. Whether a fee is necessary will be analysed below under alternative options. It is also important to determine the appropriateness of Meta’s fee as it contributes to examining the legality of Meta’s new access regime.

Since the CJEU did not define “appropriate fee,” in its complaint to the Austrian Data Protection Authority (para. 42), Noyb presented the following options:

- a) A price that does not significantly manipulate the consent rates (the fact that almost all users consent to personal data processing is not considered genuine consent because, according to Noyb, it is

- not “freely given,” as the other option is to pay);
- b) A price that is affordable for users should the pay or okay model be adopted by other platforms (creating greater financial burden on the users as they may be forced to pay separate privacy fees to each platform);
- c) A price that reflects the actual costs of offering services to a user (without personal data processing), plus a fair profit for the service provider;
- d) A price that covers the profit to be made through personalised advertising.²⁵

From a privacy-centric approach the first three options appear more beneficial for users as they consider the effect on the right to privacy and personal data protection of users. Meanwhile, the last option seems to adopt a free-market perspective and is more appreciative of the business model and profits built by companies such as Meta. The advantages of free markets should also be considered against a privacy-first approach. In a free-market economy, consumer demand designates the produced goods, contributes to economic growth and promotes innovation. Also, disruptive technologies emerge, which enhance efficiency and improve quality of life with a focus on people’s needs for progression. For example, Facebook emerged as a disruptive technology itself²⁶ and Meta, as the company owning it, is now investing in next-generation technologies such as metaverse and AI solutions.²⁷

Independently of which method the Court chooses to follow, perhaps calculating the fee based only on personalised advertisements is the more suitable approach. The fee is an alternative to processing personal data, which requires consent by the law. Therefore, the fee to reject such consent should only reflect the lost profit from the lack of that processing. Meanwhile, Meta’s current paid alternative considers the fees to be gained by both personalised and non-personalised advertisements, as it prevents both.

D. The Pay or Okay of Newspapers

Proponents of pay or okay are hopeful of its validity, as press publishers have been implementing a similar structure with cookie paywalls.²⁸ These paywalls work

21. “EU Charter of Fundamental Rights Title II Freedoms Article 16—Freedom to Conduct a Business” (*FRA European Union Agency for Fundamental Rights*) <<https://fra.europa.eu/en/eu-charter/article/16-freedom-conduct-business>>.

22. “The Benefits of Competition” (*Autoridade da Concorrência*) <<https://www.concorrenca.pt/en/adc-mission-and-goals>>.

23. Jürgen Bering, “Fundamental Rights Obligations of Digital Corporations” <[https://freiheitsrechte.org/en/themen/digitale-grundrechte/grundrechtsbindung-der-digitalkonzern-e#:-:text=Fundamental rights protect the freedom,on private individuals and companies.>](https://freiheitsrechte.org/en/themen/digitale-grundrechte/grundrechtsbindung-der-digitalkonzern-e#:-:text=Fundamental%20rights%20protect%20the%20freedom,on%20private%20individuals%20and%20companies.>)>.

24. CJEU Meta (n 14) paragraph 150.

25. Noyb (n 2) paragraph 42.

26. Stefan F.Dieffenbacher, “18 Disruptive Innovation Examples 2023” (2023) <[https://digitalleadership.com/blog/disruptive-innovation-examples/#:-:text=Facebook%2C a prime example of,online connections among college students.>](https://digitalleadership.com/blog/disruptive-innovation-examples/#:-:text=Facebook%2C%20a%20prime%20example%20of,on%20line%20connections%20among%20college%20students.>)>.

27. Andrew Bosworth, “Living in the Future” (*Meta News*, 2023) <<https://about.fb.com/news/2023/12/metasp-2023-progress-in-ai-and-mixed-reality/>>.

28. “Facebook and Instagram to Offer Subscription for No Ads in Europe” (*Meta News*, 2023) <<https://about.fb.com/news/2023/10/facebook-and-instagram-to-offer-subscription-for-no-ads-in-europe/>>.

as follows: if a user does not consent to cookies to share their personal data, they must pay to access the content. Hence, it is a pay or okay system particular to media outlet websites. To date, the privacy fee presented by cookie paywalls has been a grey area where national data protection authorities have taken different approaches on the issue.²⁹ Meta quotes decisions of French³⁰ and German³¹ authorities on the cookie paywall dilemma to support its practice.³² However, the mentioned decisions require the fulfilment of certain conditions for allowing cookie paywalls. For example, the German authority highlights the requirement of freely given consent. As analysed above, Meta’s compliance with this requirement seems unclear under the new policy. Therefore, how the decisions of cookie paywalls will affect the considerations on pay or okay by the data protection authorities remains to be seen.

The cookie paywall decisions might have two implications: (i) rejection of consent might require a fee under some circumstances, and (ii) this might especially be the case when another fundamental right/freedom is concerned. Regarding media outlet cookie paywalls, this was the freedom of media.³³ The struggle of news media³⁴ that would affect the freedom of the media could have been a factor that weighed in for this instance. It remains to be seen if freedom to conduct a business will be given the same weight.

E. EDPB’s Decision on Pay or Okay Models of Large Online Platforms

On 25 January 2024, the data protection authorities in Norway, the Netherlands, and Hamburg asked the EDPB to issue an opinion on the matter of pay or okay models.³⁵ The EDPB published its opinion on 17 April 2024, addressing large online platforms.³⁶ These are exemplified as “very large online platforms” under the

Digital Services Act and as “gatekeepers” under the Digital Markets Act. In the end, the Board opined against “binary” pay or okay models and noted that “controllers should consider providing data subjects with an ‘equivalent alternative’ that does not entail the payment of a fee.” If they want to charge a fee to give access to their platforms, they should provide a further free alternative without personalised ads, *e.g.*, instead offering fewer or zero personalised ads. Providing a further free alternative without personalised ads is considered a very important criterion to assess the validity of consent as noted by the EDPB.

Waiting for the above-mentioned developments will impact the current framework, thus it is relevant to examine alternative mechanisms that could be introduced instead of the applied pay or okay system.

IV. Alternative Options

A. Differentiating between Personalised and Contextual Advertisements

Personalised advertisements are not the only way to make targeted advertisements. There are also non-personalised advertisements including contextual advertisements which do not require the processing of personal data. Therefore, a fee may not be “necessary” at all, keeping in mind the mentioned CJEU’s Meta decision that explained an alternative could be provided “if necessary for an appropriate fee.” In the end, allowing users to deny consent to personalised advertisements without incurring a fee may be an option for implementing consent under the GDPR. Large online platforms could provide a genuine free choice in line with the recent EDPB opinion where users could select one of the following:

- (1) A free of charge version where the user either
 - (a) consents to personalised ads or
 - (b) refuses consent to personalised ads and is subject to non-personalised ads (*e.g.*, contextual ads)
- (2) A paid version without any ads, personalized or non-personalized. (In this third option, users would be paying for the value of an ad-free service and not for protecting their right to privacy and data protection.)

This reasoning could also be based on Recital 42 of the GDPR where consent cannot be freely given if the data subject is “unable to refuse or withdraw consent without detriment.” The EDPB Guidelines outline detriment as meaning “any costs for the data subject.”³⁷ This interpretation would prohibit Meta from charging a fee to consumers in exchange for their personal data. Others claim that, for there to be any detriment, one must be entitled to access to these private services and

29. Victor Morel and others, “Your Consent Is Worth 75 Euros A Year—Measurement and Lawfulness of Cookie Paywalls” (Association for Computing Machinery 2022) <<https://victor-morel.net/publication/wpes2022/WPES2022.pdf>>.

30. “Cookie Walls: La CNIL Publie Des Premiers Critères d’évaluation” (2022) <<https://www.cnil.fr/fr/cookie-walls-la-cnil-publie-des-premiers-criteres-devaluation>>.

31. “Bewertung von Pur-Abo-Modellen Auf Websites” (2023) <https://www.datenschutzkonferenz-online.de/media/pm/DSK_Beschluss_Bewertung_von_Pur-Abo-Modellen_auf_Websites.pdf>.

32. “Facebook and Instagram to Offer Subscription for No Ads in Europe” (n 28).

33. Charter (n 20) Article 11.

34. Astrid Henningsen and Adam Krčál, “Public Financing of News Media in the EU Final Report” (2023).

35. Natasha Lamas, “European Digital Rights Groups Say the Future of Online Privacy Is on a Knife Edge” [2024] Tech Crunch <<https://techcrunch.com/2024/02/15/no-consent-or-pay-pls/>>.

36. EDPB, “EDPB Opinion 08/2024 on Valid Consent in the Context of Consent or Pay Models Implemented by Large Online Platforms” (2024) <https://www.edpb.europa.eu/system/files/2024-04/edpb_opinion_202408_consentorpay_en.pdf>.

37. EDPB, “EDPB Guidelines 05/2020 on Consent under Regulation 2016/679” (2020) <https://www.edpb.europa.eu/sites/default/files/files/file1/edpb_guidelines_202005_consent_en.pdf>.

this would make social media services close to an essential facility.³⁸

On the other hand, it could be argued that a fee may be “necessary” to compensate for the revenues forgone from personalised ads that cannot be recouped by contextual ads.³⁹ Accordingly, the above mentioned option (1) (b), *i.e.*, a free of charge version where the user refuses to consent to personalised ads and is subject to non-personalised ads, could be modified as an option under the paid version in point (2). In that case, the options could be modified as follows:

- (1) a free of charge version where the user consents to personalised ads
- (2) a paid version
 - (a) where the user refuses consent to personalised ads and is subject to non-personalised ads (where the fee is considerably less than option (2) (b) as it only corresponds to the lost margin from personalised ads that cannot be generated by non-personalised ads.)
 - (b) without any ads, personalized or non-personalized.

The above suggestions depend on whether such social media services could be provided and profits could be compensated (at least partly) by non-personalised advertisements. However, some suggest that such an advertising technique may not be so appropriate for social media platforms.⁴⁰

B. Prohibiting Personalised Advertisements

A second alternative could be to impose an outright ban on personalised advertisements. Some privacy concerns associated with personalised advertisements include using AI analytics to infer information about individual users.⁴¹ Also, since the personal data obtained from Facebook or Instagram is combined with data from third-party sources (off-Facebook data), there is a risk of re-identification of personal data with the use of data collected from a diverse range of sources.⁴²

38. Mikołaj Barcentewicz, “Pay or OK: Practical Considerations for Adtech and Beyond” (IAPP, 2024) <<https://iapp.org/news/video/pay-or-ok-practical-considerations-for-adtech-and-beyond/>>.

39. This perspective would include the financial aspect of understanding necessity as well.

40. *Ibid.*

41. Leslie K John, Tami Kim and Kate Barasz, “Ads That Don’t Overstep” (*Harvard Business Review*, 2018) <<https://hbr.org/2018/01/ads-that-dont-overstep>>; Amitai Richman, “Re-Identification of Anonymized Data: What You Need to Know” (2023) <<https://www.k2view.com/blog/re-identification-of-anonymized-data>>.

42. Gary LaFever, “Beyond GDPR: Unauthorized Reidentification and the Mosaic Effect in the EU AI Act” [2023] IAPP <<https://iapp.org/news/a/beyond-gdpr-authorized-reidentification-and-the-mosaic-effect-in-the-eu-ai-act/>>.

However, such a radical solution does not appear to be on the radar of EU policy makers. Especially considering the recently debated AI Act, the EU does not consider personalised advertising services under its category of prohibited systems.⁴³ Indeed, the introduction of the Digital Markets Act⁴⁴ and the Digital Services Act⁴⁵ suggests that the EU favours considering this issue in terms of, respectively, regulating competition and transparency obligations.

Despite this, some surveys show that an overwhelming majority of users enjoy personalised advertisements because getting irrelevant ads frustrates them.⁴⁶ However, other surveys show intriguing results. When the consumers were asked about the personal data collection activities to generate personalised advertisements, only 17 percent found it was proper.⁴⁷

V. Conclusion

The new pay or okay framework has shaken up the privacy field. “Legitimate interest” and “contractual necessity” as grounds for processing personal data for personalised ads were rejected by the EDPB’s binding decision, leaving “consent” as the only viable option. The consent-based approach resulted in pay or okay schemes giving the user a choice to either (i) pay or (ii) consent to data processing for personalised ads. One thing is for sure: consent must be freely given by the data subject. Also, the “necessity” in the performance of a contract carries value in the interpretation of valid consent under the GDPR. Depending on whether “necessity” implies technical possibility and/or economic viability, this might create opposite outcomes. Consent may not be necessary for the performance of a contract in terms of technological possibilities. Still, there could be financial constraints to perform the contract without making consent a condition to access.

43. “EU AI Act: First Regulation on Artificial Intelligence” (*European Parliament*, 2024) <<https://www.europarl.europa.eu/topics/en/article/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence>>.

44. Article 5, Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act) [2022] OJ L 265/1.

45. Article 26, Regulation (EU) 2022/2065 of The European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) [2022] OJ L 277/1.

46. Holly Pauzer, “71 percent of Consumers Prefer Personalized Ads” (*Adlucent*) <<https://www.adlucent.com/resources/blog/71-of-consumers-prefer-personalized-ads/>>.

47. Ross Benes, “Do People Actually Want Personalized Ads?” (*Emarketer*, 2019) <<https://www.emarketer.com/content/do-people-actually-want-personalized-ads>>.

The CJEU Meta decision is crucial as it forms the basis of the pay option. What would be an appropriate fee in such a case constructs a hot debate as it should not turn the right to privacy into a commodity.

The EDPB’s recent opinion, which is against a two-fold pay or okay system, will guide all data protection authorities when it comes to large online platforms. It will likely force these platforms to provide users a free-of-charge option that allows them to refuse consent for processing their personal data. An option which, thus far, has not been available.

In the present sphere, legal considerations about other ways to consider personalised advertisements are

ongoing. A sensible method to understand consent as a legal basis under the GDPR could be to allow users to choose voluntarily whether they want to be subjected to personalised advertisements or not. Opting for personalised advertisements should ideally not be subject to a fee, as lost profits generated by personalised ads should be offset by non-personalised targeted ads. Also, companies could create value from an entirely ad-free paid subscription. If we take the issue one step further, legislators could also consider banning personalised advertisements entirely, considering the privacy risks they entail. However, this seems unlikely at present, and for this point consumer attitudes to personalised ads could be relevant. ■

New Use Problems: How Have U.S. Courts Addressed This Issue Over The Decades?¹

By Raysa Vital Brazil Freire

Suppose that the authors of a musical play assigned all their motion-picture rights in the 1930s, and the assignee then transferred these same rights to a third party, which, at the end of the 1950s, decided to license the movie for television broadcast. Was the assignment in discussion broad enough to cover the new use even when it does not expressly mention the right to exhibit by television? Does the fact that the assignor had reason to know of the television potential make any difference in this analysis? Would the conclusion in such a case be different if the assignee decided to license the movie for a streaming platform today, thus, an unimaginable medium in the 1930s?

Aside from the question about licensing the movie for a streaming platform, all the other inquiries are not mere hypotheses. The Second Circuit discussed these issues in 1968 in *Bartsch v. Metro-Goldwyn-Mayer, Inc.*,² one of the leading cases about the grant of copyrights and new technologies. Since that case, courts have faced this question and used different approaches in evaluating whether a copyright assignment/license embraces a new technology.³ That is because the rapid advancement of new media consistently generates new and unforeseen methods for distributing copyrighted works, which often replace or supplement the old ones and give new value to the contents.⁴

As pointed out by the expert in technology and policy, Kate Darling, approximately 10 years ago, “the performing arts and film industries have witnessed a progression over the last few decades from theater to motion pictures, television, videocassettes, DVDs, on-demand movies, streaming video, cell phone formats, and more. The music industry has experienced a similar succes-

sion of technological developments, including piano rolls, vinyl records, 8-tracks, reel-to-reel tapes, cassette tapes, CDs, mini discs, MP3 downloads, and streaming audio.”⁵

Today, with the advancement of artificial intelligence, we are

witnessing the apex of the digital age and the transformation in how information is accessed and copyrighted works are utilized. This disruptive change underscores how methods for distributing copyrighted works can change more than ever before. Therefore, the question of whether a copyright grant encompasses new technologies and methods of exploitation is extremely relevant.

This article aims to analyze three aspects. First, it examines the methods proposed by Professor Nimmer, renowned for his treatise on copyright in the United States, for determining if copyright licenses encompass future markets generated by emerging technologies, alongside prominent decisions from the Second and Ninth Circuits regarding the so-called “new use problems.”⁶ Second, it investigates whether a split exists among these courts, establishing a default rule favoring either grantees or grantors. Additionally, it assesses recent cases on this issue and their potential impact on previous legal precedents, as well as how the district courts for the Southern District of New York and for the Central District of California have been applying all these rules.

This article thus analyzes 10 cases from 1968 to 2021, addressing disputes about the exploitation of motion pictures, literary works, and sound recordings to evaluate the criteria used and the court’s understanding of the new use problems.

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1. This paper was previously entered into the 2024 Marcus B. Finnegan Prize Competition.

2. *Bartsch v. Metro-Goldwyn-Mayer, Inc.*, 391 F.2d 150 (2d Cir. 1968).

3. Stacey M. Byrnes, “Copyright Licenses, New Technology and Default Rules: Converging Media, Diverging Courts?” 20 *LOY. L.A. ENT. L. REV.* 243, 244-245 (2000).

4. Kate Darling, “Contracting About the Future: Copyright and New Media,” 10 *Nw. J. Tech. & Intell. Prop.* 485, 486 (2012). See also, Levan Nanobashvili, “If the metaverse is built, will copyright challenges come?,” 21 *UIC Rev. Intell. Prop. L.* 215 (2022), 244.

5. *Id.*

6. “Disputes about whether licensees may exploit licensed works through new marketing channels made possible by technologies developed after the licensing contract—often called ‘new use’ problems—have vexed courts since at least the advent of the motion picture.” *Boosey & Hawkes Music Publishers Ltd. v. Walt Disney Co.*, 145 F.3d 481, 486 (2d Cir. 1988).

I. The Binary Method Presented by Nimmer and the Prominent Rulings of the Second Circuit

Before delving into the method presented by Nimmer and its application by the Second Circuit, it is important to remember that copyright protects original works of authorship once they are first fixed.⁷ Authors of original works have exclusive rights, including the rights to reproduce, distribute, and create derivative works.⁸ These rights can be licensed or transferred in full or in part to third parties. Copyright licenses typically authorize specific uses of a work for a limited period or for the duration of copyright protection in the work, within a specified territory, and are granted through agreements. Transfers of rights occur when the owner assigns all or specific exclusive rights to someone else.⁹ In this case, section 204(a) of the Copyright Act provided that the transfer “is not valid unless an instrument of conveyance, or a note or memorandum of the transfer, is in writing and signed by the owner of the rights conveyed or such owner’s duly authorized agent.”

Unlike many countries such as Spain, Belgium, Greece, Poland, Hungary, and the Czech Republic, the United States Copyright Law permits authors to transfer or license their copyrights to known or unknown methods of use at the time of contract execution.¹⁰ Consequently, the question often posed to U.S. Courts is not whether the assignment/license of rights to unknown future uses of works is valid, but rather about the scope of the grant (extension of use) when the contract language is ambiguous or silent on the matter.¹¹

The extent of the contract’s scope is a significant matter for both the creative industry and intermediaries, such as publishers and record labels. This is because the rights to commercially exploit works of authorship stem directly from such licensing or assignment agreements.

When interpreting the scope of contracts, courts analyze the language used by the parties in the agreement

to determine if it is unambiguous and, in this case, gives effect to what was clearly stated by the parties.¹² If more than one reasonable interpretation is possible, extrinsic evidence may also be considered in the interpretation.¹³ However, as noted by Nimmer, and as the Second Circuit pointed out in *Boosey & Hawkes Music Publishers Ltd., v. Walt Disney Co.*, the challenge of interpreting the parties’ intent regarding future technologies is that extrinsic evidence may not be helpful, given that the parties may not have considered the advent of the new use in discussion when executing the agreement.¹⁴ As a result, as will be discussed in the decisions on the new use problem in the next sections, the language used by the parties in the agreement will play a pivotal role in the analysis.

A. New Use Problem by Nimmer

When examining the scope of licenses and new uses, Nimmer highlights that most cases are settled by the parties before a ruling, and upon reviewing the judgments of the decided cases, there is no “clear pattern decision” on how to interpret specific grants.¹⁵ For instance, courts vary in their interpretation of whether the term “dramatic rights” encompasses motion pictures and whether granting “motion picture rights” includes the right to exhibit the film on television or not.¹⁶ Nimmer suggests that the lack of uniformity can be explained by the fact that the scope of the rights granted will always depend on the “intent” of the parties reflected in the contract.¹⁷ In fact, the real complexity may arise from the potential misalignment of intentions between the parties or from the complete absence of intention regarding the new use, given the unpredictability of the new technology at the time of the contract’s execution.¹⁸

Given that, Nimmer proposes two possible approaches for interpreting such licenses. First, “it may be held that a license of rights in a given medium (e.g., ‘motion picture rights’) includes only such uses as fall within the unambiguous core meaning of the term (e.g., exhi-

7. Copyright Act §102.

8. Copyright Act §106.

9. See Nimmer on Copyright § 10.03 (2023): “*The Copyright Act defines a ‘transfer of copyright ownership’ to consist of ‘an assignment, mortgage, exclusive license, or any other conveyance, alienation, or hypothecation of a copyright or of any of the exclusive rights comprised in a copyright...but not including a nonexclusive license.’ The Act permits such transfers to be effectuated, in whole or in part, by means of conveyance or by operation of law.*”

10. See Nanobashvili, *supra* note 4, at 344.

11. See Darling, *supra* note 4, at 489. See also Patry on Copyright §§ 5:115 (2023).

12. *Welles v. Turner Entm’t Co.* See *Welles v. Turner Entm’t Co.*, 503 F.3d 728, 735 (9th Cir. 2007).

13. *Id.*

14. Nimmer, *supra* note 9, at § 10.10[B].

15. *Id.*

16. *Id.*

17. *Id.*

18. *Id.* About foreseeability, see also Shyamkrishna Balganes. Shyamkrishna Balganes, “Foreseeability And Copyright Incentives,” 122 *Harv. L. Rev.* 1569, 1633 (2009), and Justin Hughes “Foreseeability and Copyright Incentives,” 122 *HARV. L. REV.* 81, 91 (2009).

bition of motion picture film in motion picture theaters) and exclude any uses that lie within the ambiguous penumbra (e.g., exhibition of motion picture film on television or by videocassettes).¹⁹ Second, a “licensee may properly pursue any uses that may reasonably be said to fall within the medium as described in the license.”²⁰ He indicates a preference for the second approach. In his opinion, it would be unfair to require that the licensee should have clarified a meaning that was already present in the contract rather than to require it from the licensor.²¹ As the renowned professor and author of important treatises in copyright, William Patry, argues, Nimmer’s position seems to be a policy favoring the grantee.²²

B. *Bartsch v. Metro-Goldwyn-Mayer*

In *Bartsch v. Metro-Goldwyn-Mayer*, the Second Circuit expressly applied Nimmer’s position, creating, at that time, a supposed rule favoring the grantee.²³ As initially described, in this case, the court was asked whether a grant of motion picture rights to a musical play authorizes television broadcast of the movie when the contract does not expressly mention television.

In 1930, the composers of the musical play “Wie Einst in Mai,” known in the U.S. as “Maytime,” assigned their motion picture rights to Hans Bartsch.²⁴ Months later, Bartsch assigned his rights to Warner Bros. Pictures, Inc.,²⁵ which then transferred to Metro-Goldwyn-Mayer (MGM), the defendant.²⁶ The lawsuit arose from MGM licensing its motion picture

for television in 1958.²⁷ In summary, the Plaintiff, Bartsch’s widow, contended that the motion picture rights assigned to Warner Bros. “could not grant the right to televise the motion picture since, under the similar language of the assignment to him, it was not his to grant.”²⁸

In analyzing the case, the district court concluded that the defendant’s right to televise was based on the contractual language covering the rights “to project, transmit and otherwise reproduce the said musical play or any adaptation or version thereof visually and audibly by the art of cinematography or any process analogous thereto,”—specifically, referring to “any process analogous thereto.” The Second Circuit affirmed the decision, but under another rationale.

First, the Second Circuit highlighted that the defendant’s rights are not determined by language pointed out by the district court “but rather on the broad grant, in the assignments to and from Bartsch, of ‘the motion picture rights throughout the world,’ which were spelled out to include the right ‘to copyright, vend, license and exhibit such motion picture photoplays throughout the world.’”²⁹ In this sense, and referring to Nimmer’s position, the court concluded that the language of the contract was broad enough to cover the new use, and if the assignors wished to restrict the grant of the motion picture rights to traditional meth-

19. See Nimmer, *supra* note 9, at § 10.10[B].

20. *Id.*

21. *Id.*

22. See Patry *supra* note 11, § 5:115.

23. *Bartsch, Inc.*, 391 F.2d 150 at 155.

24. See the contract language “[t]he motion picture rights and all our right, title and interest in and in connection with such motion picture rights of the said operetta or musical play, throughout the world, together with the sole and exclusive rights to use, adapt, translate, add to and change the said operetta or musical play and the title thereof in the making of motion picture photoplays, and to project, transmit and otherwise reproduce the said work or any adaptation or version thereof, visually or audibly by the art of cinematography or any process analogous thereto, and to copyright, vend, license and exhibit such motion picture photoplays throughout the world; together with the further sole and exclusive rights by mechanical and/or electrical means to record, reproduce and transmit sound, including spoken words, dialogue, songs and music, and to change such dialogue, if extracted from said works, and to interpolate or use other dialogue, songs and music in or in connection with or as part of said motion picture photoplays, and the exhibition, reproduction and transmission thereof, and to make, use, license, import and vend any and all records or other devices required or desired for any such purposes.” *Id.* at 151.

25. See the contract language “[t]he motion picture rights throughout the world, in and to a certain musical play entitled “WIE EINST IN MAI,” libretto and lyrics by Rudolf Schanzer and Rudolph Bernauer, music by Walter Kollo and Willy Bredschneider, for the full period of all copyrights and any renewed and extended terms [**3] thereof, together with the sole and exclusive right to use, adapt, translate, add to, subtract from, interpolate in and change said musical play, and the title thereof (subject so far as the right to use said title is concerned to Paragraph 7 hereof), in the making of motion picture photoplays and to project, transmit and otherwise reproduce the said musical play or any adaptation or version thereof visually or audibly by the art of cinematography or any process analogous thereto, and to copyright, vend, license and exhibit such motion picture photoplays throughout the world, together with the further sole and exclusive right by mechanical and/or electrical means to record, reproduce and transmit sound, including spoken words, dialogue, songs and music, and to change such dialogue, if extracted from said musical play, and at its own expense and responsibility to interpolate and use other dialogue, songs and music in or in connection with or as part of said motion picture photoplays, and the exhibition, reproduction and transmission thereof, and to make, use, license, import, vend and copyright any and all records or other devices made or required or desired for any such purposes.” *Id.* at 152.

26. *Id.*

27. *Id.*

28. *Id.*

29. *Id.*

ods at the time of contract execution, they could have explicitly done so.³⁰

The court pointed out that Bartsch's assignment was "well designed to give the assignee the broadest rights with respect to its copyrighted property, to wit, the photoplay. 'Exhibit' means to 'display' or to 'show' by any method, and nothing in the rest of the grant sufficiently reveals a contrary intention."³¹ Moreover, the court assumed that Bartsch, as an experienced businessman, "had reason to know of the new medium's potential" and should be bound by the natural implication of the broad language of the contract.³²

The court also noted that a narrower interpretation of the contract could result in the inadvertent consequence of preventing the public from accessing the work.³³ Furthermore, it noted that the contract's language was sufficient to prevent copyright owners from licensing others to broadcast the content.³⁴

Certainly, Bartsch provides valuable insights into analyzing new use problems. However, it remained unclear how the possible unpredictability of the new technology could have influenced such a decision. As pointed out in *Boosey & Hawkes Music Publishers, Ltd. v. Walt Disney Co.* 10 years later, the question of whether "a new-use license hinges on the foreseeability of the new channels of distribution at the time of contracting" was left open.³⁵ Nevertheless, it is indisputable that the foreseeability impacted the court's understanding of the license's scope. At least, together with the broad language of the contract, it contributed to the conclusion that it covered the new technology.

C. *Boosey & Hawkes Music Publishers Ltd., v. Walt Disney Co.*

In *Boosey*, the Second Circuit was confronted with the issue of whether a licensee who had been granted the rights to use a musical composition in a motion picture in 1939 could record and distribute it on video, or whether the license only covered the theatrical distribution.³⁶

Basically, in 1939, Igor Stravinsky, composer of the song "The Rite of Spring," licensed Disney to use it

throughout the world in a motion picture.³⁷ Paragraph Three of that agreement provided that "[t]he music of said musical composition may be used in one motion picture throughout the length thereof or through such portion or portions thereof as the Purchaser shall desire. The said music may be used in whole or in part and may be adapted, changed, added to or subtracted from, all as shall appear desirable to the Purchaser in its uncontrolled discretion."³⁸

In 1940, Disney released the film "Fantasia," which featured no dialogue but instead portrayed pantomimes set to passages of classical music, including the piece "The Rite of Spring."³⁹

Disney exhibited *The Rite of Spring* in *Fantasia* for more than five decades. The film has been re-released for theatrical distribution several times since the first release. Despite "Fantasia" never being broadcast on television in its entirety, excerpts featuring portions of "The Rite of Spring" have been televised over the years. Neither Stravinsky nor Boosey objected to any of these distributions.⁴⁰ In 1991, Disney released *Fantasia* in video format in the United States and abroad, leading Boosey to file a lawsuit against Disney in 1993. The lawsuit sought, among other things, "(1) a declaration that the 1939 Agreement did not include a grant of rights to Disney to use the Stravinsky work in video format; (2) damages for copyright infringement in at least 18 foreign countries."⁴¹ The district granted the declaratory judgment, concluding that the "license did not authorize distribution on videotape or laser disc directly to consumers."⁴² Disney appealed.

At the beginning of the considerations, the Second Circuit recognized the lack of a unanimous opinion among courts and scholars regarding whether a broad license extends to future markets created by new technologies.⁴³ However, the court maintained the position articulated in *Bartsch*, which aligns with Nimmer's second approach that the "licensee may properly pursue any uses that may reasonably be said to fall within the

30. *Id.* at 155. See "If the words are broad enough to cover the new use, it seems fairer that the burden of framing and negotiating an exception should fall on the grantor; if Bartsch or his assignors had desired to limit 'exhibition' of the motion picture to the conventional method where light is carried from a projector to a screen directly beheld by the viewer, they could have said so." *Id.*

31. *Id.* at 153.

32. *Id.*

33. *Id.*

34. *Id.*

35. *Boosey*, 145 F.3d 481,486.

36. *Id.* at 483-485.

37. *Id.* at 484. The agreement provided that "[i]n consideration of the sum of Six Thousand (\$ 6,000) Dollars, receipt of which is hereby acknowledged, [Stravinsky] does hereby give and grant unto Walt Disney Enterprises, a California corporation ... the nonexclusive, irrevocable right, license, privilege and authority to record *in any manner, medium or form*, and to license the performance of, the musical composition hereinbelow set out." (emphasis added) *Id.*

38. *Id.*

39. *Id.* at 485.

40. *Id.*

41. *Id.*

42. *Id.* at 484.

43. *Id.* at 486.

medium as described in the license.”⁴⁴ As a result, the court concluded that the language “to record in any manner, medium or form”⁴⁵ is more reasonably interpreted to encompass rather than exclude a motion picture distributed on video cassette, especially considering the absence of any clause on the contrary and the evidence presented that “home viewing of feature films existed by 1939.”⁴⁶

In this context, the court pointed out that depriving the author-licensor of the profits of new unforeseen channels of distribution is not satisfactory.⁴⁷ Nonetheless, the court concluded that “it is more fair and sensible than a result that would deprive a contracting party of the rights reasonably found in the terms of the contract it negotiates.”⁴⁸

It is worth noting that the court clarified that this approach to the new use problem is not—and should not be—a result of a rule merely favoring the licensee; rather, it should be based solely on “neutral principles of contract interpretation.”⁴⁹ In this sense, the court explained that what governs (in *Bartsch* and *Boosey*) is the language of the contract and the meaning more reasonably conveyed by its terms.⁵⁰

Furthermore, the court pointed out that this approach is more consistent “with the law of contract than the view that would exclude new technologies even when they reasonably fall within the description of what is licensed.”⁵¹ In this context, the court also underscored that while interpreting a contract typically involves investigating the intentions of the parties involved, such intentions may not be “helpful” when the matter under consideration is something the parties had not anticipated, a rationale similarly expressed by Nimmer.⁵² Similarly, the court noted that extrinsic evidence would not “illuminate the intent of the parties, because the use in question was, by hypothesis, new, and could not have been the subject of prior negotiations or established practice. On the other hand, the parties or assignees of the contract should be entitled to rely on the words of the contract.”⁵³

The Second Circuit expressly left open the question

of whether the parties’ lack of foresight regarding new distribution channels at the time of the agreement’s execution would alter the conclusion about the contract’s scope. In *Boosey*, once again, the court did not need to address this abstract question as it concluded the “new use” under discussion was a “nascent market” in 1939.⁵⁴ Other notable takeaways from this ruling include the finding that the inclusion or absence of a future technologies clause in the agreement⁵⁵—a clause that covers the use of the work on new media/devices not currently in existence at the time of the contract’s execution—and/or the presence of a reservation clause should not affect the analysis.⁵⁶ This is because the reservation clause merely confirms that the grantor retained ownership of anything not explicitly granted, which, according to the court, does not contribute to defining the boundaries of the license.⁵⁷

Upon analyzing the Second Circuit’s leading cases concerning new use problems, it is undeniable that Nimmer’s second approach, which states that “the licensee may properly pursue any uses that may reasonably be said to fall within the medium as described in the license,”⁵⁸ has significantly influenced and been endorsed by the court. Nevertheless, it is equally undeniable that while *Bartsch* suggested a rule in favor of the grantees, *Boosey* clarified the court’s understanding that there should be no default rule in favor of either the licensee or the licensor. In fact, the “new-use analysis should rely on neutral principles of contract interpretation rather than solicitude for either part.”⁵⁹

In practice, the Second Circuit still deems Nimmer’s second approach appropriate for addressing the new use problem, but its application should be strictly based on the contract’s language. Thus, the conclusion to the problem should be based on the most reasonable interpretation of the contract’s language as a whole and without burdening any of the parties in advance.

II. Did the Ninth Circuit Deviate from the Second Circuit’s Rationale?

A. *Cohen v. Paramount Pictures Corp.*

It is not uncommon for *Cohen v. Paramount Pictures Corp.* to be cited as a decision with an approach that contrasts *Bartsch*.⁶⁰ In *Cohen*, the Ninth Circuit decid-

44. *Id.*

45. See *supra* note 37.

46. *Id.* at 486.

47. *Id.* at 487.

48. *Id.* at 486.

49. *Id.*

50. *Id.*

51. *Id.* at 487.

52. *Id.*

53. *Id.*

54. *Id.* at 486 (“Disney has proffered unrefuted evidence that a nascent market for home viewing of feature films existed by 1939”).

55. In *Boosey*, the agreement did not include a future technology clause.

56. *Id.* at 488.

57. *Id.*

58. See *Boosey*, 145 F.3d 481, 486.

59. *Id.*

60. See Byrnes, *supra* note 3, at 251.

ed whether a license executed in 1969, granting the rights to use a music composition in a film, authorized the distribution of the film containing such a song on video cassette. The conclusion was negative.⁶¹

In 1969, Herbert Cohen, owner of the copyright in a musical composition entitled “Merry-Go-Round,” granted H&J Pictures, Inc. (H&J) a “synchronization” license, which allowed the uses of the composition in a film called “Medium Cool” and to exhibit the film in theatres and on television.⁶² H&J then assigned all of its rights in such a film to Paramount Pictures, including the rights and interests created by the license previously granted by Cohen to H&J.⁶³

Later, Paramount released a video cassette of the film, and Cohen filed a lawsuit against Paramount, alleging copyright infringement. Cohen argued that the license granted to H&J did not include the right to distribute video cassettes of the film containing the song.⁶⁴ In analyzing the terms of the license, the court specifically drew attention to the following provisions of the agreement:

“The document begins by granting the licensee the ‘authority...to record, *in any manner, medium, form or language*, the words and music of the musical composition...with [‘Medium Cool’]...to make copies of such recordings and to perform said musical composition everywhere, all in accordance with the terms, conditions, and limitations hereinafter set forth...’ (emphasis added.) Paragraph 4 states, ‘The...license herein granted to perform... said musical composition [**5] is granted for: (a) The exhibition of said motion picture...to audiences in motion picture theatres and other places of public entertainment where motion pictures are customarily exhibited...(b) The exhibition of said motion picture...*by means of television*...’, including ‘pay television,’ ‘subscription television’ and ‘closed circuit into homes’ television...’ (emphasis added.) Finally, paragraph 6 of the license reserves to the grantor ‘all rights and uses in and to said musical composition, except those herein granted to the Licensee...’⁶⁵

In this context, the court concluded that although the terms of the contract were broad regarding the permission for recording and copying of the movie (“in any manner, medium, form”), the same interpretation could not be applied to distribution.⁶⁶ Specifically, the court noted the “distribution of video cassettes through

sale and rental to the general public for viewing in their homes does not fit within the purpose of category 4(a) above which is restricted to showing in theatres and other similar public places.”⁶⁷

While the defendant contended that the provision “exhibition by means of television” provided in paragraph 4(b) should be interpreted as encompassing video cassettes, the court made a detailed explanation indicating that this clause covered broadcasting or centralized distribution, not the distribution of individual copies.⁶⁸ Furthermore, the court pointed out that the consumer experience of watching a film on a “conventional television set” versus “by means of a video cassette recorder” is fundamentally different.⁶⁹

Interestingly, the Ninth Circuit emphasized that VCRs for home use had not yet been invented or were not known when the license was executed. This fact was cited as an important reason why the language “exhibition by means of television” would not encompass video cassettes.⁷⁰ In the court’s view, interpreting the license with a restrictive language, as in *Cohen*, as covering a market that had not yet existed at the time of the agreement’s execution, would frustrate the purposes of the Copyright Act, which aims to grant exclusive rights to authors as an encouragement for the production of artistic works.⁷¹

Therefore, the restrictive language of the license, the dissimilarities between exhibiting a film on television broadcast and via video cassette, and the lack of foreseeability of video cassette technology at that time significantly impacted the outcome.⁷²

At first glance, this decision might seem to suggest that the Ninth Circuit adopts a strictly narrow interpretation approach and a presumption in favor of the author/grantor, contrasting with the Second Circuit’s neutral approach, which is grounded solely in the language of the contract and the meaning reasonably conveyed by its terms. However, such an interpretation would oversimplify the Ninth Circuit’s opinion.⁷³

While the decision mentioned that the “license must

67. *Id.*

68. *Id.*

69. *Id.* at 854.

70. *Id.*

71. *Id.*

72. The court highlighted these points later in *Welles v. Turner Entm’t Co.* See *Welles v. Turner Entm’t Co.*, 503 F.3d 728, 736 (9th Cir. 2007): “We emphasized that ‘VCRs for home use were not invented or known in 1969, when the license was executed’ and noted the dissimilarities between display of a motion picture on television and distribution of a motion picture on home video, and we also pointed out that the license did not directly address which party owned the right to exploit music in media that had not yet been invented.”

73. See also Byrnes, *supra* note 3, at 258-259.

61. *Cohen v. Paramount Pictures Corp.*, 845 F.2d 851, 853 (9th Cir. 1988).

62. *Id.* at 852.

63. *Id.*

64. *Id.* at 852.

65. *Id.* at 853.

66. *Id.*

be construed in accordance with the purpose underlying federal copyright law⁷⁴ and affirmed that the purpose of the Act would be frustrated if the license were interpreted to include a medium that had not been developed at the time of the agreement's execution, it does not seem to be a general proposition that stands alone. This is primarily because the court mentioned it when stated that the purpose would be frustrated in cases where the license contains 'limiting language,'⁷⁵ as in *Cohen*, and when "the license also expressly reserves to the copyright holder all rights not expressly granted."⁷⁶

Indeed, the court pointed out that the outcome in *Cohen* could have been different if the language of the agreement were broader, as in cases like *Platinum Record Company, Inc. v. Lucasfilm* or *Rooney v. Columbia Pictures Industries, Inc.*⁷⁷ Moreover, years later, in *Maljack Prods. v. Goodtimes Home Video Corp* and *Welles v. Turner Entm't Co.*,⁷⁸ the Ninth Circuit addressed cases discussing new use problems and shed more light on how to address the problem. In these cases, the court did not apply a strictly narrow interpretation in favor of the author/grantor due to the unforeseeability of the new use at the time the parties entered into the agreement. Instead, the court highlighted the pivotal role of the language of the agreement and the "intent of the parties," as will be discussed below.

B. *Welles v. Turner Entm't Co.*

Decades after *Cohen*, the Ninth Circuit decided *Welles v. Turner Entm't Co.*, where it was asked to decide, among other things, a similar matter concerning the defendant's right to distribute a motion picture in home video format. In 1939, RKO Radio Pictures, Inc. (RKO), Orson Welles, and Mercury Productions, Inc. (Mercury) entered into a Production Agreement under which Orson Welles would produce and write a screenplay.⁷⁹

The parties agreed that RKO would acquire all mo-

tion picture and television rights,⁸⁰ but Mercury would retain broad rights in the screenplay ("original story"): publication, radio, and other residual rights.⁸¹ The parties also entered into other agreements, one of them in 1941, providing that the first motion picture resulting from the Production Agreement would be titled "Citizen Kane."⁸²

Decades after the first release of 'Citizen Kane' in 1941, RKO released a home video version of the film.⁸³ Beatrice Welles, successor-in-interest to both Orson and Mercury, thus filed a lawsuit in 2003 arguing, among other things, that the Production Agreement did not grant the defendants the right to distribute Citizen Kane in home video.⁸⁴

When ruling the case, the Ninth Circuit observed from the very beginning that it was "unlikely that, in 1939, Mercury or RKO gave any thought to who would own the home video rights to Citizen Kane."⁸⁵ This observation is not surprising, considering that home video became popular decades later. However, as suggested in *Cohen*, the absence of such technology at the time of the agreement's execution, along with the lack of a future technologies clause, does not automatically preclude applying the grant of rights to new technology. It

80. The court pointed out Section 13 of the Production Agreement "[RKO] shall own the negative and positive prints of each of the Pictures and all rights of every kind and nature in and to each Picture, and all parts thereof and all material, tangible and intangible, used therein, as soon as such rights come into existence, including, but not being limited to, the exclusive rights of distribution, exploitation, manufacture, recordation, broadcasting, televising (other than in connection with the advertising or exploitation of a commercial product or service), and reproduction by any art or method, and the literary, dramatic, musical and other works included in such Picture. . . . [Mercury] agrees that it will have no interest of any kind in either of the Pictures, except as in this agreement expressly provided." (emphasis added). *Id.*

81. The court pointed out the following part of Section 13 of the Production Agreement "In case of any original story written by [Mercury] or any of its employees and used as the basis of either Picture, however, [RKO] shall acquire the motion picture and television rights in such story for such Picture only. [RKO] shall not remake any such Picture unless [Mercury] produces or directs the same or unless [RKO] buys the remake rights from [Mercury] at a price satisfactory to both parties. [Mercury] shall own the publication, radio, dramatic and other rights in any such story but shall not use the same in any way to compete with or injure the distribution of the Picture based on such story." (emphasis added) *Id.*

82. *Id.*

83. The Court decision did not mention when the home video version of Citizen Kane was released by RKO, but the "defendants argue (and the district court agreed) that because Beatrice Welles knew since 1991." *Id.*

84. *Id.* at 734.

85. *Id.*

74. *Cohen*, 845 F.2d 851, 854.

75. See "We would frustrate the purposes of the Act were we to construe this license—with its *limiting language*—as granting a right in a medium that had not been introduced to the domestic market at the time the parties entered into the agreement." (emphasis added) *Id.* at 854.

76. *Id.* at 855.

77. See "Like the contract in *Platinum*, the contracts in *Rooney* contained sweeping language, granting, for example, the right to exhibit the films 'by any present or future methods or means,' and by 'any other means now known or unknown.' *Id.* at 223 (emphasis added)." *Id.* at 855.

78. *Maljack Prods. v. Goodtimes Home Video Corp.*, 81 F.3d 881 (9th Cir. 1996).

79. Welles, 503 F.3d 728, 732. In this sense, the court pointed out the following language of the Production Agreement "[RKO] hereby engages [Mercury] to produce, direct and write the screenplay for the two (2) motion pictures hereinafter described, which are herein referred to as 'the Pictures.'" *Id.*

is essential to interpret the language of the agreement.⁸⁶

In this sense, the court stated that they must “look for the meaning that reasonable persons in the positions of the parties would have attached had they thought about the matter.”⁸⁷ In other words, not only “interpreting language as the parties intended,” but “construing the language to accord with what would have been the intention and the honorable agreement of the parties if their attention had been drawn to the possible events as they actually were to occur.”⁸⁸

In practice, the court must initially determine whether the language of the agreement is unambiguous or whether it is capable of more than one interpretation. Thus, whether extrinsic evidence should also be considered to determine the intent of the parties.⁸⁹

The court thus proceeded to analyze whether the defendants’ “motion picture and television rights” in the *Citizen Kane* screenplay encompassed distributing the film on home video (“[RKO] shall acquire the motion picture and television rights in such story for such Picture only”⁹⁰).⁹¹ The challenge in interpreting the language of Section 13 of the Production Agreement arose from the possibility of two interpretations. The first interpretation suggested that the defendants’ “motion picture” rights in the screenplay are broad enough to include the distribution of a motion picture on home video.⁹² The second argued that incorporating home video distribution within the scope of “motion picture” rights would make the separate grant of “television rights” redundant, as it would encompass all potential methods of transmission, including television.⁹³

The court did not disregard the similarities between this case and *Cohen*, including not only the fact that home video had not been invented when the parties executed the agreement, but also the provisions granting rights to the motion picture and reserving other rights.⁹⁴ Despite that, the Court concluded that the language of the contract was ambiguous, so extrinsic evidence should be considered:

“Had Mercury granted RKO sweeping rights in the screenplay and only retained minimal rights for itself, we might be able to distinguish *Cohen* and conclude that, had RKO and Mercury thought

about the matter of home video rights, they would have vested those rights in RKO. *But, in light of the narrow scope of rights granted to RKO and the broad reservation of rights by Mercury, we cannot conclude with certainty that the parties would have given RKO home video rights had they contemplated the issue.* We hold that the contract is ambiguous regarding which party owns the right to exploit the *Citizen Kane* screenplay on home video. Because we cannot discern, from the Production Agreement alone, what the parties in this case would have agreed upon had they known that some day *Citizen Kane* would be distributed on home video, we turn to extrinsic evidence to aid our interpretation of the contract.” (emphasis added).⁹⁵

In this regard, the court noted that it does not “adopt a presumption against applying a grant of rights in ‘motion pictures’ to new technologies.”⁹⁶ Rather, the analysis must stem from the interpretation of the contract.⁹⁷

It is important to point out that, although stated in a footnote, the court recognized that a contract might allow the licensee to use the work in a different format regardless of the lack of future technology provision.⁹⁸ In this context, the court mentioned that in *Maljack Productions*, they “held that a licensee obtained the right to exploit certain music in a motion picture in a new medium *when the license had no future technologies clause but granted the licensee ‘any and all worldwide rights under copyright and otherwise...to the music and musical composition recorded or contained upon the sound track of the Picture.’*” (emphasis added).⁹⁹ However, in *Welles*, the court noted that the same conclusion would not be possible due to ambiguities in the contract’s language.¹⁰⁰

As a result, the court concluded that the interpretation of the agreement depended on the credibility of extrinsic evidence, thus vacating the district court’s summary judgment and remanding for further proceedings.¹⁰¹

Although it cannot be denied that *Cohen* present-

86. *Id.*

87. *Id.*

88. *Id.* at 734-735.

89. *Id.*

90. *Id.* at 731.

91. *Id.* at 736.

92. *Id.*

93. *Id.*

94. *Id.*

95. *Id.*

96. *Id.*

97. *Id.* (“Instead, we simply interpret the written contract of the parties in this case, as our precedent instructs.”)

98. *Id.* at 737.

99. *Id.*

100. See “However, in this case, the Production Agreement, in addition to having no future technologies clause, granted RKO only motion picture and television rights in the *Citizen Kane* screenplay while granting Mercury broad, residual rights in the screenplay. It is thus not clear to us to whom the parties would have intended to grant the right to exploit the screenplay in new mediums.” *Id.*

101. *Id.*

ed a possible narrow approach to interpreting the new use problem, *Welles* sheds light on the Ninth Circuit's stance that there is no presumption in favor of the author/grantor. The court's decision must be based on a thorough examination of each case, thus, the language of the contract and extrinsic evidence, if necessary. The absence of a future technologies clause is not a determining factor.¹⁰² Furthermore, even the unforeseeability of the new medium does not appear to be a determining factor either, given that the Ninth Circuit recognized in *Welles* that the home video was not invented when the parties signed the Production Agreement in 1939. However, this fact alone was not sufficient for the court to conclude that the right to distribute on home video was not encompassed by the license.

Given the above, especially the fact that the Ninth Circuit referred to *Boosey's* holding that the "'new-use analysis should rely on neutral principles of contract interpretation' and that 'the language of the contract governs,'"¹⁰³ it appears conclusive that there is no split between the Ninth and Second Circuits.

III. Recent Court Decisions on New Use Problems

As technology advances, courts have continued being challenged to address new use problems. This section will delve into more recent decisions, particularly examining how the Southern District of New York and the Central District of California have approached this issue in light of the precedents of the Second and Ninth Circuits.

A. District Court for the Southern District of New York

In the early 2000s, *Random House, Inc. v. Rosetta Books LLC* raised the question of whether the right to publish a literary work "in book form" also covers the right to offer "eBooks" to the public. Random House had been licensed by several authors in the 1970s the rights to "print, publish and sell the work[s] in book form."¹⁰⁴ In view of the launch of eBooks by Rosetta Books featuring works by eight of these authors, Random House filed a lawsuit alleging infringing activity pursuant to 17 U.S.C. § 502(a) of the Copyright Act and seeking a preliminary injunction to prevent such sales.¹⁰⁵ Although the court did not adjudicate on the merits of this case, as the parties settled after the pre-

liminary injunction was denied by the District Court for the Southern District of New York and affirmed by the Second Circuit,¹⁰⁶ the analysis of the preliminary injunction request,¹⁰⁷ particularly regarding the likelihood of success on the merits, provides valuable insights for analyzing the new use issue.

The first question before the court was whether Random House was the beneficial owner of the rights to publish the works in discussion in electronic format.¹⁰⁸ In other words, could Random House claim copyright infringement based on the scope of the exclusive license executed with the authors in the past?

In interpreting the license in dispute, the court recognized *Boosey* and *Bartsch's* relevance in determining the contract's scope regarding "new uses," but distinguished *Random House* from them.¹⁰⁹ In summary, the court stated that the terms of the grant in such leading cases were broad enough to cover the new use, a conclusion that could not be drawn in *Random House*.

Regarding *Bartsch*, the court noted that the license covers "the motion picture rights [to 'Maytime'] throughout the world," including the right to "copyright, vend, license and exhibit such motion picture photoplays throughout the world; together with the further sole and exclusive rights by mechanical and/or electrical means to record, reproduce and transmit sound, including spoken words...."¹¹⁰ Thus, applying Nimmer's second approach, the licensee could "properly pursue any uses which may reasonably be said to fall within the medium as described in the license."¹¹¹ In *Boosey*, the grant was "to record in any manner, medium or form, and to license the performance of, the musical composition [for use] in a motion picture."¹¹² Therefore, in the Second Circuit's understanding, it could also be reasonably interpreted to encompass the new use.

In contrast, considering that *Random House* was granted the right to "print, publish and sell the work in

106. Megan Gillespie, "To Whom Does a New Use Belong?: An Analysis of the New Use Doctrine and the Protection it Affords after *Random House v. Rosetta Books*," 11 *WM. & MARY BILL RTS. J.* 809, 841 (2003)

107. "In order to obtain a preliminary injunction, Random House must demonstrate (1) irreparable harm and (2) either (a) a likelihood of success on the merits or (b) sufficiently serious questions about the merits to make them a fair ground for litigation and a balance of hardships tipping decidedly toward the party requesting relief." (emphasis added) *Random House*, 150 F. Supp. 2d 613, 617.

108. *Id.* at 618.

109. *Id.* at 618-619.

110. *Id.* at 619.

111. *Id.*

112. *Id.*

102. See "We did not say in *Cohen* that absent a future technologies clause, the author/grantor always reserves the right to exploit the work in new mediums. Rather, we relied on the language of the parties' contract, which reserved to the grantor "all rights and uses in and to said musical composition, except those herein granted to the licensee." *Maljack Prods. v. Goodtimes Home Video Corp.*, 81 F.3d 881, 885 (9th Cir. 1996).

103. *Welles*, 503 F.3d 728, 736.

104. *Random House, Inc. v. Rosetta Books LLC*, 150 F. Supp. 2d 613, 614 (S.D.N.Y. 2001).

105. *Id.* at 613-17.

book form”¹¹³ and, in a separate paragraph, the right to “publish book club editions, reprint editions, abridged forms, and editions in Braille,” the court concluded that the rights conveyed were specified; thus, it would not be reasonable to interpret the license including the right to publish eBooks.¹¹⁴ The key points in this conclusion were the use of the expression “in book form” to qualify the work and, further, the description of other forms conveyed. In the view of the court, this language would be superfluous if “in book form” conveyed all types of books. Moreover, the court pointed out that a reasonable person used to the terms of the publishing industry would interpret “in book form” as “publish hardcover trade book.”¹¹⁵

In sum, the district court stated four factors that distinguish *Random House* from the new use case law. First, the language of the license was limited compared to the other cases.¹¹⁶ Second, the similarities/dissimilarities between the old and new mediums of use. In this sense, the court stated that *Boosey* and *Bartsch* were examples of new uses within the same medium—video cassettes and laser discs were “subsequently developed methods [in the same medium] of distribution of a motion picture,”¹¹⁷ which is not true about printed words on paper and eBooks.¹¹⁸ Third, the licenses in *Boosey* and *Bartsch* involved creating new work, whether on television or video, which is not the case in *Random House*.¹¹⁹ Fourth, in *Boosey* and *Bartsch*, there was a concern about promoting access to the work to the public and not discouraging the development/use of new technologies, which, in the opinion of the court, is no longer a concern in the 21st century.¹²⁰

113. *Id.*

114. *Id.*

115. *Id.* at 621-622.

116. *Id.* 622.

117. *Id.*

118. *Id.* See also “[I]n this case, the ‘new use’—electronic digital signals sent over the internet—is a separate medium from the original use—printed words on paper. Random House’s own expert concludes that the media are distinct because information stored digitally can be manipulated in ways that analog information cannot. (Van Dam Dep. at 29-30, 36, 42.) eBooks take advantage of the digital medium’s ability to manipulate data by allowing eBook users to electronically search the text for specific words and phrases, change the font size and style, type notes into the text and electronically organize them, highlight and bookmark, hyperlink to specific parts of the text, and, in the future, to other sites on related topics as well, and access a dictionary that pronounces words in the eBook aloud. The need for a software program to interact with the data in order to make it usable, as well as the need for a piece of hardware to enable the reader to view the text, also distinguishes analog formats from digital format.” *Id.*

119. *Id.* at 323.

120. *Id.*

When analyzing the appeal against the preliminary injunction denial, the Second Circuit affirmed the decision but highlighted that “determining whether the licenses here in issue extend to eBooks depends on fact-finding regarding, *inter alia*, the ‘evolving’ technical processes and uses of an eBook (...) and the reasonable expectations of the contracting parties ‘cognizant of the customs, practices, usages and terminology as generally understood in the...trade or business’ at the time of contracting.”¹²¹

Although the language of the contract plays a major role in interpreting the new use problem, *Random House* raised a question—unfortunately left unanswered—regarding the importance of similarities between the mediums to the analysis.

How might such similarities change or guide the conclusion? Could a broader language in the contract be sufficient, regardless of the differences between the mediums?

Thirteen years later, in *HarperCollins Publishers LLC v. Open Road Integrated Media, LLP*, the District Court for the Southern District of New York was again asked about the extent of a license to eBooks and reached a different conclusion.¹²²

The court distinguished the case from *Random House*, noting that the language in the contract entered by the author Jean George and HarperCollins Publishers LLC in 1971, granting the exclusive rights to publish “Julie of the Wolves” in book form, was broader, therefore, not limited to the publication of paper books.¹²³ This is because the contract only mentions “to publish ... in book form,” without explicitly mentioning “print” as in the *Random House* agreement.¹²⁴

Beyond this provision in Paragraph 1, two other provisions in the contract were decisive for the court to conclude that it conveyed eBook publication rights. Paragraphs 20 and 23 permit HarperCollins to license the book, subject to the author’s permission, “in storage and retrieval and information systems, and/or whether through computer, computer-stored, mechanical or other electronic means now known or hereafter invented.”¹²⁵ The court concluded that although the eBook format did not exist at the time of the execution of the agreement, the forward-looking reference to tech-

121. *Random House, Inc.*, 283 F.3d 490, 491-492.

122. *HarperCollins Publrs. LLC v. Open Rd. Integrated Media, LLP*, 7 F. Supp. 3d 363 (S.D.N.Y. 2014).

123. *Id.* at 371.

124. *Id.* (“The word ‘print’ is absent from the 1971 contract governing here, thereby distinguishing the case at bar from *Rosetta Books*”).

125. *Id.* at 372.

nologies “now known or hereafter invented” is broad enough to encompass electronic publication.¹²⁶

The court noted that such a provision made the language of the contract even greater than the ones in *Bartsch* and in *Boosey*, since none of them included any reference to rights in future technologies, although the language in those contracts was still deemed sufficient to extend the motion picture rights to television broadcast of a movie and the video cassette format.

It is interesting to note that the district court addressed the inquiry about the role of the new medium foreseeably, rejecting *Open Road’s* argument that the new use standard requires “two analytical steps.” According to *Open Road*, it would be necessary to demonstrate that the language of the contract is sufficiently broad to cover new uses and that the specific use in dispute is, in fact, foreseeable.¹²⁷ The court expressly recognized that the case law does not require that:

“The case law itself, however, contains no such explicit bifurcation. Further, the Second Circuit has left open the question of whether foreseeability is, in fact, required. *Boosey*, 145 F.3d at 486. Although *Bartsch*, *Bourne*, and *Boosey* all evaluate, to some extent, whether the new use was within contemplation at the time of the grant, plaintiff’s presentation of Second Circuit law as requiring a separate and specific showing of foreseeability is, at best, an oversimplification and, at worst, a distortion of the explicit language of the relevant precedent.”¹²⁸

As stating that, the district court once again reinforced that the language of the contract governs and, in this case, “the reference to electronic means ‘now known or hereafter invented’ anticipated future technological uses for the work, which would one day include e-books.”¹²⁹ Thus, the contract “fulfill[s] the foreseeability standard, to the extent it exists, even without reference to the record evidence.”¹³⁰

Beyond all discussions regarding the grant of rights to exploit motion pictures and the scope of such rights concerning new technologies, and, more recently, whether the right to publish a literary work includes the right to commercialize the book in digital form as an eBook, the rapid advancement of technology has also tasked the courts with interpreting recording agreements negotiated before the digital age and the

rise of music downloading and streaming.¹³¹ Both the District Court for the Southern District of New York and the Central District of California (and, indeed, the Ninth Circuit) were asked to analyze disputes regarding music exploration in the digital age.¹³²

One relevant case addressing this issue, ruled by the District Court for the Southern District of New York, involves Richard Reinhardt, a member of the punk band the Ramones, and the distribution of some of his songs on digital media.¹³³ Reinhardt entered into a recording agreement with Ramones Productions, where the recording company would record performances of the artist, thereby granting the company the right to “create physical sound recordings embodying the Compositions.”¹³⁴ Such an agreement also “contemplates” a music publishing agreement between Reinhardt and Taco Tunes, a corporation engaged in exploiting musical compositions.¹³⁵

Reinhardt filed a lawsuit against Richard Reinhardt, Taco Tunes, and other companies engaged in the distribution of sound recordings over the Internet,¹³⁶ alleging that they have infringed his copyright by exceeding the scope of their license by exploiting his songs in digital formats without permission.¹³⁷

Relying on the Second Circuit case law for new use problems, the court concluded that the recording agreement covered digital exploitation.¹³⁸ The court noted two key aspects of the contract’s language.

First, the authorization granted to Ramones Productions to manufacture and exploit the masters and phonograph records embodying the masters, “in any or all fields of use, by any method now or hereafter known.”¹³⁹ Second, the comprehensive definition of phonograph records as “[r]ecords,’ ‘phonograph records,’ ‘recordings,’ and ‘derivatives’ means all forms of reproduction including pre-recorded tapes and discs and electronic video recordings, now or hereafter known, manufactured or sold primarily for home use, school use, juke box use or use on means of transportation.”¹⁴⁰

131. See Nina Aragon, “Article: Calculating Artists’ Royalties: An Analysis Of The Courts’ Dualistic Interpretations Of Recording Contracts Negotiated In A Pre-Digital Age,” 2017 *Cardozo L. Rev. De Novo* 180.

132. *Id.*

133. *Reinhardt v. Wal-Mart Stores, Inc.*, 547 F. Supp. 2d 346, 349-350 (S.D.N.Y. 2008).

134. *Id.* at 350.

135. *Id.*

136. *Wal-Mart Stores, Inc.; Apple, Inc.; and RealNetworks, Inc.*

137. *Id.* at 354.

138. *Id.*

139. *Id.*

140. *Id.*

126. *Id.*

127. *Id.* at 375.

128. *Id.*

129. *Id.* at 376.

130. *Id.* at 376.

According to the court, these two provisions together, specifically the expression “now or hereafter known” regarding forms of reproduction, indicate that the agreement encompasses future technologies.¹⁴¹ The most reasonable reading of the agreement, as suggested in *Boosey*, supports digital exploitation.¹⁴²

It is interesting to note that the court expressly rejected the defendant’s argument that such a provision refers to “selling” and not “digital downloads,” which the defendant argued as being transmitted and licensed, not manufactured and sold.¹⁴³ According to the court, such a distinction is immaterial, as it contradicts the most reasonable interpretation of the contract. To propose an alternative interpretation, the defendant would need to provide a justification to the contrary, which he failed to do.

Another intriguing case recently ruled by the District Court for the Southern District of New York pertains to an emerging technology involving “print-on-demand websites.” These platforms allow consumers to select images from a portfolio on the website and print them on various mediums, such as canvas, metal, and wood, which are produced upon purchase. The dispute presented to the court centered on an allegation of copyright infringement by Michael Grecco Productions, Inc. (MGP), the owner of some photography works, against Time Magazine and Pixels.com, which operate several “print-on-demand” websites.¹⁴⁴

In 2000 and 2005, MGP and the two companies entered into similar agreements, in which MGP licensed them to use three photographs on their covers. Years later, the companies began offering print-on-demand products. MGP thus alleged that both companies infringed its copyrights on the photographs when they reproduced the covers on print-on-demand products, arguing that this business model fell outside the scope of the license and did not exist at the time the contracts were executed.¹⁴⁵

Both agreements provided that “*TIME Magazine* retains the right to reproduce the cover of the Magazine as it appears, *in any media, for any purpose, in perpetuity* without additional payment.”¹⁴⁶ According to MGP’s interpretation, “all media” exclusively referred to “means of mass communication,” thus, reproduction rights

would be restricted to modes of communication.¹⁴⁷

The court rejected MGP’s argument, stating that “media” is the plural of “medium,” and given the comprehensive scope of the licensing provision, *TIME* has the right to use the covers without any restriction.¹⁴⁸ As a result, print-on-demand products should be considered a reasonable use, falling within the medium as described in the license.¹⁴⁹ Moreover, it added that the expressions “any purpose” and “in perpetuity” on the license provision demonstrated that the scope of the license was broader than mere communications-related purposes and encompassed “evolving modes of and technologies for reproduction over time.”¹⁵⁰

Given that, the fact that print-on-demand businesses did not yet exist in 2000 and 2005 was not a concern for the court. Indeed, the court referred to *HarperCollins*, *Boosey*, and *Bartsch* as “precedent[s] indicating that broad grant language will extend to later-invented uses.”¹⁵¹

B. District Court for the Central District of California

As discussed in the preceding section, the Central District of California has been tasked with analyzing some disputes concerning old assignments/licenses and the exploitation of digital music. One crucial aspect of these discussions revolves around royalty payments owed to the artist/licensor. Specifically, if the license is deemed broad enough to encompass new uses, the question of whether the royalty payment should consider the rate for the sale of physical albums or for their licensing. This topic, including the different understandings among the circuits, could be the subject of an independent study. Considering that this article intends to analyze the interpretation/extension of old contracts in the context of new technologies, the present section will be restricted to the analysis of two recent cases,

148. *Id.* See the also “[A]ccording to the *Merriam-Webster Dictionary*, ‘medium’ is ‘a means of effecting or conveying something,’ including the ‘material or technical means of artistic expression (such as paint and canvas, sculptural stone, or literary or musical form).’ Likewise, the *Oxford English Dictionary* defines ‘medium’ as ‘[a]ny of the varieties of painting or drawing as determined by the material or technique used. Hence more widely: any raw material or mode of expression used in an artistic or creative activity.’ These definitions of ‘medium’ unequivocally encompass the print-on-demand products, including prints on canvas, wood, and metal, that are the subject of this case. As ‘the licensee may properly pursue any uses which may reasonably be said to fall within the medium as described in the license,’ *Bartsch v. Metro-Goldwyn-Mayer, Inc.*, 391 F.2d 150, 155 (2d Cir. 1968), we conclude that defendants are not violating the provision.” *Id.*

149. *Id.*

150. *Id.* at 4*.

151. *Id.*

141. *Id.* at 355.

142. *Id.*

143. *Id.*

144. *Michael Grecco Prods. v. Time USA, LLC*, 2021 U.S. Dist. LEXIS 140274 [3*] (S.D.N.Y. July 27, 2021).

145. *Id.*

146. *Id.* at 3*.

147. *Id.*

decided by the District Court for the Central District of California, addressing the scope of the contract, not the consequences of an affirmative conclusion.

In *Young v. Wideawake Death Row Entm't LLC*, for example, the court analyzed the contract executed by the artist Andre Young, popularly recognized as Dr. Dre, and his rap music record label Death Row Records, regarding some albums, particularly the famous “The Chronic.”¹⁵²

In the middle of the 1990s, when Young decided to surrender his ownership interest in Death Row and resign from the company, the parties celebrated an agreement where the artist assigned to the record label “all vested or contingent right, title and interest of every kind and description, including all copyrights in and to the master recordings embodied in sound recordings heretofore released by Death Row not limited to the sound recording entitled ‘The Chronic.’”¹⁵³

Death Row was then acquired by Wideawake Death Row Entm't LLC (Wideawake), which included the rights to Young’s recordings subject to the terms of the 1996 Agreement. Wideawake thus began distributing digital copies of “The Chronic” and individual songs from the album through internet retailers such as iTunes and Amazon.com.¹⁵⁴ This led Young to sue the company, arguing that they breached the 1996 Agreement by making the album “The Chronic,” among other works, available for digital download without his authorization.¹⁵⁵

The interesting aspect of this dispute concerns not only the digital exploitation (digital download on the internet) itself but also, primarily, the manner in which Young’s recordings were made available to the public. It is worth mentioning that digital platforms were selling the recordings as “singles,” a practice that had never occurred prior to the execution of the 1996 Agreement, and distributing such recordings on new albums.¹⁵⁶

The crux of the battle between the parties and the task for the court to resolve was around paragraph 3(c) of the 1996 Agreement, which provided that “unless the parties hereto otherwise agree in writing, the foregoing master recordings shall only be distributed in the manners heretofore distributed.” What was the intent of the parties with the word “manner,” and how could it be reasonably interpreted by the court?

According to the plaintiff, this provision “unambigu-

ously prohibits defendants from distributing his recordings in any other way than they were distributed prior to the execution of the 1996 Agreement.”¹⁵⁷

On the other hand, the defendant argued that manner simply means that “the songs on ‘The Chronic’ should not be remixed, mixed in a different order than how they appeared on the original album, or mixed together with other recordings.” Furthermore, the inclusion of Young’s songs in new albums post-1996 could not constitute a breach, as those albums contained very specific songs that were supposedly distributed as singles by Death Row before the execution of the 1996 Agreement.¹⁵⁸

Considering the disagreement between the parties concerning the terms of the agreement, the court considered external evidence, such as the plaintiff’s deposition testimony, to determine whether paragraph 3(c) could be interpreted in a way that is consistent with the defendant’s argument.¹⁵⁹ Despite the defendant’s attempts to prove that the plaintiff did not intend to convey the idea of “different forms of media” when limiting the manner, the court was not persuaded.¹⁶⁰ Even with the plaintiff’s negative response to the question posed by the defendant’s attorney about whether he would consider a breach of the agreement “if ‘The Chronic’ was released as a complete cohesive album in the same order, exactly as it was originally recorded, and it was... made available for distribution as a digital download.”¹⁶¹

It is interesting to note that the court pointed out that the “plaintiff’s after-the-fact comprehension of the legal effect of the 1996 Agreement as applied to the hypothetical offered by defendants’ counsel adds little to the understanding of the parties’ objective mutual intent at the time the 1996 Agreement was executed.”¹⁶² The court adhered to the objective theory of contracts, which dictates that the interpretation of a contract must be based on the objective intent reflected in the contract’s language, not considering the subjective intent of one of the parties.¹⁶³

Moreover, the court rejected the defendant’s argument that the plaintiff acquiesced to digital distribution.¹⁶⁴ Rather, it recognized that Young had diligently guarded his rights by sending cease-and-desist letters demanding the removal of downloads containing

152. *Young v. Wideawake Death Row Entm't Ltd. Liab. Co.*, No. CV 10-1019 CAS (JEMx), 2011 U.S. Dist. LEXIS 158553, [3*-4*](C.D. Cal. Apr. 19, 2011).

153. *Id.* at 4*-5*.

154. *Id.* at 5*.

155. *Id.* at 6*.

156. *Id.* at 10*.

157. *Id.* at 10.

158. *Id.* at 11.

159. *Id.* at 14.

160. *Id.* at 17.

161. *Id.*

162. *Id.*

163. *Id.*

164. *Id.* at 18-20.

165. *Id.*

Young's recordings.¹⁶⁵

As a result, the court concluded that the agreement “unambiguously prohibits defendants from distributing plaintiff’s recordings in any fashion other than how they were made available prior to the execution of the 1996 Agreement without plaintiff’s written consent. This includes making ‘The Chronic’ available for digital download on the internet, allowing online retailers to sell as singles plaintiff’s recordings that were not sold individually prior to 1996, and distributing plaintiff’s recordings on compilation albums.”¹⁶⁶

In 2021, the court was once again asked whether the exploitation of songs through digital distribution exceeded the scope of an old license.¹⁶⁷

In *Straughter v. Concord Music*, the court had to decide whether the licenses granted by Ernest Straughter (Straughter) of his song “Forces of Nature” to Prestige Records, a company later owned by Concord Music Group, authorize the exploitation of it via digital delivery or digital downloading.¹⁶⁸

The referred contract had the following provision: “We hereby grant you a non-exclusive license to use the words and/or music of [“Forces of Nature”] substantially in their original form in the recording, manufacture, and distribution of phonograph records in the United States of America.”¹⁶⁹

Straughter contended that a phonograph record means a “disc with a spiral groove carrying recorded sound for phonograph reproduction;” therefore, the distribution would be restricted to such a format.¹⁷⁰ However, the court rejected the argument by stating that “phonograph record” was not defined in the contract.¹⁷¹ Rather, by looking at the provision regarding the royalty rate, it would be possible to conclude that the meaning of “phonograph record” was broader than mere “disc type” since the provision stipulated the payment would be “per side” and “side” was defined as “one side of a disc type phonograph record *or the equivalent thereof* having a continuous, uninter-

rupted playing time of not more than three and one half-minutes.”¹⁷² The court also pointed out the broad definition of “phonorecord” or “phonographic record” in the Copyright Act of 1976.¹⁷³

Moreover, the argument that “digital downloading” was invented after the contract was executed by the parties and the lack of reference to rights in future technologies also did not convince the court.¹⁷⁴ Indeed, the court distinguished *Straughter* from *Cohen* by noting that, in *Cohen*, the motion picture rights were granted to specific means (theaters or similar venues and television), and the distribution of a motion picture on home video was dissimilar to them.¹⁷⁵ Additionally, the court pointed out that the agreement in *Cohen* reserved all rights not granted to the licensee.¹⁷⁶ Here, however, the contract did not set any limit or the means by which the song could be exploited.¹⁷⁷

Considering the lack of such a limitation and the Ninth Circuit’s understanding, expressed in *Maljack Productions* and in *Welles*, that a future technologies clause is not required in all cases to permit the licensee to exploit the work in a new medium, the court concluded that the mechanical license for “Forces of Nature” authorized the defendant to distribute it in new media, including digital downloads.¹⁷⁸

IV. Conclusion

Considering the precedents discussed above, it can be concluded that both the Second and Ninth Circuits and their respective district courts understand that the analysis of the new use problem should be based on the most reasonable interpretation of the contract’s language and without burdening any of the parties in advance. In other words, the “new-use analysis should rely on neutral principles of contract interpretation.”¹⁷⁹

It is essential, therefore, to interpret the contract terms in their entirety and, eventually, consider extrinsic evidence to ascertain the comprehensiveness of the grant.¹⁸⁰ Nevertheless, the language used by the parties in the agreement will play a pivotal role in the analysis. For instance, as discussed, a single word, such as “print” in *Random House*, along with the reservation clause, may be sufficient to restrict the right to publish a book in hardcover or paperbacks and exclude eBooks.

166. *Id.* at 24.

167. *Straughter v. Concord Music*, No. ED CV 19-1360-JFW(SHKx), 2021 U.S. Dist. LEXIS 10922 (C.D. Cal. Jan. 8, 2021).

168. *Id.* at 3. Beyond the discussion of whether digital distribution constitutes an infringement, the court was also tasked with determining whether Concord Music Group had effectively been granted non-exclusive licenses to use Straughter’s songs. Additionally, certain aspects of the scope of those licenses, such as the territory covered and the right to reissue the songs with high-resolution audio. However, these issues are not directly relevant to the purpose of this article.

169. *Id.* at 7.

170. *Id.* at 20.

171. *Id.*

172. *Id.* at 20.

173. *Id.* at 21.

174. *Id.* at 22-23.

175. *Id.* at 23.

176. *Id.*

177. *Id.* at 24.

178. *Id.* at 25.

179. *See Boosey*, 145 F.3d 481, 486.

180. *See Welles*, 503 F.3d 728, 737 and *Young*, No. CV 10-1019 CAS (JEMx), 2011 U.S. Dist. LEXIS 158553, 13*.

A different understanding could be reached if these aspects are absent, especially if the contract included a provision mentioning the right to use the work “through computer, computer-stored, mechanical or other electronic means now known or hereafter invented,”¹⁸¹ regardless of whether the parties really foresaw a specific technology or medium—for example, eBooks.¹⁸²

There is no rule on whether the “new-use license hinges on the foreseeability of the new channels of distribution at the time of contracting.”¹⁸³ Nevertheless, although the Ninth Circuit did not specifically address this aspect, the reasoning in *Welles* at least suggests that proof of foreseeability is not required.

Furthermore, the courts did not completely disregard the dissimilarities between the traditional and the new mediums of exploration when analyzing the new use problem. However, this factor seems to have an impact only when the grant of the rights was limited to specific mediums. This understating was noted in cases

like *Welles*,¹⁸⁴ *Young*¹⁸⁵ and *Straughter*,¹⁸⁶ but could also be inferred from the opinions in *Cohen* and *Random House*. It is worth noting that in cases such as *Bartsch*, *Boosey*, *Reinhardt*, *HarperCollins*, and *Michael Grecco*, there were no concerns from the courts regarding potential dissimilarities between mediums, as the courts deemed the terms of the contracts sufficiently broad, or potentially broad depending on the extrinsic evidence, to include new technologies and mediums.

In summary, both the Second and Ninth Circuits and their respective district courts rely on neutral principles of contract interpretation to address new use problems. While a future technology clause is the simplest form to guarantee the new uses, its absence, or the inclusion of a general reservation clause, does not alone lead to a contrary conclusion. Instead, the new use analysis must rely on the language of the contract as a whole to determine the meaning reasonably conveyed and, thus, the scope of the contract. ■

181. *HarperCollins Publr. LLC*, 7 F. Supp. 3d 367.

182. *Id.* at 376.

183. *Id.* 371.

184. *Welles*, 503 F.3d 728, 736.

185. *Young*, No. CV 10-1019 GAS (JEMx), 2011 U.S. Dist. LEXIS 158553, 24*.

186. *Straughter*, No. ED CV 19-1360-JFW(SHKx), 2021 U.S. Dist. LEXIS 10922, 23-24*.

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