



Comments of the Max Planck Institute for Innovation and Competition of 11 February 2020

on the Draft Issues Paper of the World Intellectual Property Organization on Intellectual Property Policy and Artificial Intelligence

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I. Introduction

1. The Max Planck Institute for Innovation and Competition (MPI) welcomes the initiative of the World Intellectual Property Organization (WIPO) to engage with a broad range of stakeholders on the aspects of artificial intelligence (AI) relevant for intellectual property (IP) policy.
2. The regulation of the digital economy has been a key component of the MPI research agenda for quite some time.¹ At the beginning of our research in this area, the focus was on existing and potential future rights in data as well as regimes of data access.² Meanwhile, our interest has turned to AI and IP, whereby, at an initial stage, it was important for us to gain an in-depth understanding of technical aspects of AI relevant for IP.³
3. This submission comments on the outline of policy issues presented in the WIPO Draft Issues Paper of 13 December 2019,⁴ in particular, in terms of their clarity

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¹ MPI, 'Regulation of the Digital Economy' <<https://www.ip.mpg.de/en/projects/details/regulation-of-the-digital-economy.html>>.

² See Part V, below.

³ Drexl, Hilty et al., 'Technical Aspects of Artificial Intelligence: An Understanding from an Intellectual Property Law Perspective' Max Planck Institute for Innovation & Competition Research Paper No. 19-13 (2019) <<https://www.ip.mpg.de/de/publikationen/details/technical-aspects-of-artificial-intelligence-an-understanding-from-an-intellectual-property-perspective.html>>.

⁴ The World Intellectual Property Organization, 'Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence' WIPO/IP/AI/2/GE/20/1 (13 December 2019) [hereinafter, the WIPO Draft

and significance. It also suggests additional important topics arising at the intersection between AI and IP. The following comments mainly concern substantive law issues.

II. General remarks

4. **The identification of problems.** WIPO seeks comments on the correctness of the identified issues. However, its Draft Issues Paper often presents these issues as sets of questions that are either directed at the identification of a problem, or inquire how IP law should be amended without defining what exactly the problem is. A more detailed characterization of problems would allow a better assessment of how relevant the questions are for addressing specific challenges.
5. **Technical understanding of AI and terminology.** The Draft Issues Paper builds on the premise that AI can generate certain output autonomously. Yet, it would be of crucial importance to clarify the technical basis and definition of AI autonomy. Indeed, there is a need to distinguish between the cases where humans use AI as a tool – e.g., in the sense of AI-assisted inventions – and where AI generates information or data autonomously. Without adequate understanding of dynamic developments in the technological state of the art, it is difficult to assess the relevance of questions on how the IP system should be adjusted, if at all, in the advent of AI autonomy. Furthermore, the Draft Issues Paper often refers to training data, which indicates that the main focus is on machine learning. It would be beneficial to take a broader view of diverse techniques covered under the umbrella term “AI” and to account for their differences, especially in terms of human input, importance of data and other resources involved.⁵

Issues Paper], available at https://www.wipo.int/about-ip/en/artificial_intelligence/call_for_comments/index.html (accessed 31.01.2020).

⁵ For instance, evolutionary algorithms do not require training data. Besides, different types of machine learning vary in terms of human input and resources involved. See e.g. Drexl, Hilty et al., above note (2) pp.7-8 .

6. **Need to go beyond the exclusive focus on AI-generated output.** For the most part, questions raised in the Draft Issues Paper concern results of AI application. However, the applicability of the existing IP framework to AI as a tool and its constituting elements needs to be examined as well. This would allow for a more detailed understanding of how AI interacts with IP law.
7. **Justification for the introduction of new sui generis forms of protection.** The question regarding the need for new sui generis forms of protection for data and AI-generated outputs is raised several times. While WIPO generally considers the fundamental rationales of IP protection (paragraphs 10, 11, 12, 23), the relevant objectives of IP protection need to be reviewed as to whether they also justify protection in an AI context.
8. **The importance of access to data beyond copyright law.** The impact of IP rights on AI innovation and the free flow of data is only considered with regard to copyright infringement (Question 18). However, the issue of access to data is of a general nature. While there are cases where copyright-protected subject-matter is needed for algorithm training, the required datasets can also be protected by other regimes of protection (such as database rights or trade secrets), or by factual or contractual exclusivity.

III. Patents

9. **Inventorship and ownership.** Issue 1 is based on the assumption that “it would now seem clear that inventions can be autonomously generated by AI” (paragraph 7). This premise needs to be clarified and supported, especially given that the possibility of AI solving problems autonomously was recently considered to be “a science fiction”.⁶ Without a sound understanding of how AI can produce inventions autonomously and in what way AI-generated inventions

⁶ The World Intellectual Property Organization, ‘Background document on patents and emerging technologies’ SCP/30/5 (28 May 2019) <https://www.wipo.int/edocs/mdocs/scp/en/scp_30/scp_30_5.pdf> para 55.

differ from AI-assisted inventions (when humans use AI as a tool to invent), it appears difficult to assess the relevance of questions regarding inventorship and patent ownership presented in paragraph 7.

10. **Patentable subject-matter and patentability guidelines.** Paragraph 8 of the Draft Issues Paper uses the terms ‘computer-assisted inventions’, ‘inventions assisted by AI’ and ‘inventions autonomously generated by AI’ without explaining or properly delineating between these notions. The incoherent use of these terms causes confusion. The WIPO Draft Issues Paper states that “computer-assisted inventions and their treatment under patent laws have been the subject of lengthy discussions in many countries around the world”. In fact, computer-assisted inventions (e.g. computer-aided engineering design) have not been problematic from the perspective of patentable subject-matter. Instead, this challenge has been relevant for computer-*implemented* inventions (where the claimed technical solution is implemented through a computer program). It would be important to clarify the terminology and formulate the problems and questions related to patentable subject-matter more specifically. WIPO could consider distinguishing three categories: (i) AI-generated inventions (where AI acts autonomously without human intervention); (ii) AI-assisted inventions (where humans use AI as a tool to invent), and (iii) AI-implemented inventions (where AI is implemented as part of the invention). In addition, the question of patentability of AI as a tool (including patentability of computer programs) and jurisdictional differences in this regard need to be examined.
11. **Inventive step or non-obviousness.** Issue 3 explains what the requirement of inventive step is (paragraph 9); yet, specific problems arising with regard to its application in the context of AI are not explicitly stated. In Question 9(i), it is not quite clear what type of inventions the term “AI inventions” refers to. Analytically, it would be helpful to distinguish between the three categories identified above (paragraph 10 of these Comments) – AI-generated, AI-assisted and AI-implemented inventions. Issues in relation to the inventive step

requirement in each case need to be further specified and formulated in a manner consistent with current technological realities.

12. **The disclosure requirement.** Question 10(i) asks what issues AI-assisted or AI-generated inventions present for the disclosure requirement. The relevance of this question for AI-assisted inventions does not appear straightforward since, in principle, a patent is meant to disclose a technical solution sufficiently for it to be reproducible by a skilled person, while the disclosure of methods or tools that might have assisted in the process of developing an invention is irrelevant for that purpose. The disclosure requirement, however, is problematic in situations where the technical solution of an invention is *enabled* through the functioning of an AI-based system, i.e. where AI is comprised within the claimed subject-matter, and in particular where the AI tool as such forms the subject-matter of protection. In this regard, it would be pertinent first to raise the question of how the current rules on disclosure apply to inventions claiming AI, and whether they are sufficient to secure the underlying policy rationale.
13. If the disclosure requirement is viewed as an instrument to identify inventions autonomously generated by AI in order to exclude such inventions from patentability (or to treat them otherwise differently), it is questionable whether this requirement is an apt instrument for that purpose. One needs first to consider why the patent system has never required disclosure of how an invention came into being—not of least importance is the reason that such a requirement might simply be unfeasible to apply and enforce.
14. **General policy considerations for the patent system.** It is welcomed that the innovation-based justification behind the patent system is considered a foundation for the identification of policy considerations regarding patent eligibility of AI-generated inventions (Issue 5). However, it would be of paramount importance to clarify, first, to what extent concerns regarding AI autonomy are practically relevant in light of technological developments in the field of AI.

IV. Copyright and related rights

15. **General remarks.** The Draft Issues Paper uses the sub-title “copyright and related rights”; however, related rights are not sufficiently considered (Question 12(iii) addresses the potential need for sui generis protection, and Issue 8 makes a limited reference to related rights in the context of “deep fakes”). Implications of AI for non-anthropocentric related rights need to be addressed on a greater scale and clearly delineated from implications for copyright.
16. It would be important to raise issues regarding “AI-assisted” creations, as in the patent and design sections.
17. **Authorship and ownership.** The use of the terms “AI-generated *works*” and “literary and artistic *works* autonomously generated by AI” alludes to the presumption of copyright protection. A neutral term such as “AI-generated output” would be preferred.
18. The question of copyright justification for autonomously AI-generated output is legitimate and important. An even more urgent question, however, would be to determine the appropriate degree of human guidance necessary for copyright eligibility when using AI tools.
19. The section is limited to AI-generated outputs. However, AI tools as a potential subject-matter of copyright protection raise important questions as well. In particular, reflection is needed as to how copyright software protection applies and should apply to AI tools.
20. Question 12(i) implies that AI-generated output can be ‘original’. However, it is unclear how the originality standard applies or should be applied in this context. In other words, when referring to AI autonomy: What are, if any, the machine’s “free and creative choices” that make its expressed output original?
21. Question 12(ii) on whether AI should be given legal personality is raised only with regard to copyright. This matter has fundamental and overarching ramifications and ought not be considered in isolation. It should rather be

approached from the perspective of the legal order as a whole. In the IP context, the question is rather whether there is a need to allocate IP rights to anyone if AI starts to generate benefits autonomously.

22. **Infringement and exceptions.** The Draft Issues Paper raises an important question regarding the need for exceptions and limitations for the use of data subsisting in copyrighted works. However, the issue of access to data needs to be considered beyond copyright law (see also point 27 below). Besides, the subject of technical protection measures and digital rights management should be included within the scope of inquiry.
23. **Deep fakes.** Question 15(i), regarding the assignment of authorship in deep fakes and compensation, requires a clearer distinction between two legal regimes: copyright and personality rights. The question appears to “put the cart before the horse” in considering how copyright in deep fakes should be assigned. A more pressing question is whether deep fakes are eligible for copyright protection in the first place.

V. Data

24. **General remarks.** The question of regulation of data is crucial in the context of AI. However, while we do not see any need to introduce new (exclusive) IP rights in relation to data, we do welcome a discussion on the need for new (sector-specific) data access rights which may be better suited to foster AI innovation in certain cases. In this respect, WIPO should coordinate its efforts regarding data access policies (e.g. with regard to the licensing of data) with other international organizations, such as the OECD.
25. The MPI has published two Position Statements in the context of an EU-wide debate on the regulation of the data-driven economy: in 2016 and 2017.⁷ There,

⁷ Drexl, Hilty et al., ‘Data Ownership and Access to Data. Position Statement of the Max Planck Institute for Innovation and Competition of 16 August 2016 on the Current European Debate’ <https://www.ip.mpg.de/fileadmin/ipmpg/content/stellungnahmen/positionspaper-data-eng-2016_08_16-def.pdf>; Drexl, Hilty et al., ‘Position Statement of the Max Planck Institute for

we argue that the creation of new rights in data is neither justified nor necessary. Instead, exclusive rights in data would most likely hinder data sharing between undertakings horizontally and vertically, create further market entry barriers and possibly eventually impede AI innovation.

26. **Excessive IP rights foreclosing data access.** When raising the question of creating new IP rights in data (Question 10(i)), WIPO only asks whether the protection provided under the existing legal regimes is sufficient. Yet, WIPO should also consider whether existing protection regimes, such as database rights and trade secrets protection, have the potential to foreclose data access and what can be done to avoid negative effects of such protection. This is the most relevant issue relating to data access that WIPO should address as an IP policy institution.
27. **The importance of justification of new rights in data.** Paragraph 23 and Question 10(iii) are devoted to a crucial issue: the reasons for introducing new rights in data. This question should be addressed more prominently, given that the justification of any new right is decisive for the entire discussion. One should assess whether such rights are an appropriate means to achieve the desired policy objectives, or whether there are other equally effective but less intrusive measures. Reasons that speak *against* the introduction of such rights should be considered as well. Such an approach helps identify potential dysfunctional effects that new rights in data might cause.

VI. Designs

28. Paragraph 24 rightly states that the design law issues are comparable to the patent and copyright law issues. However, in framing this issue, differences between the legal regimes in detail and at intersections (such as the differing role of

Innovation and Competition of 26 April 2017 on the European Commission's "Public consultation on Building the European Data Economy"
<https://www.ip.mpg.de/fileadmin/ipmpg/content/stellungnahmen/MPI_Statement_Public_consultation_on_Building_the_EU_Data_Eco_28042017.pdf>.

humans with regard to objective protection criteria in copyright and design law) ought not be overlooked.

VII. Additional issues

29. **The omission of trade secrets law.** The Draft Issues Paper does not seem to acknowledge trade secrets as a relevant legal instrument in the field of AI. Trade secrets protection is only mentioned once in passing (paragraph 21). However, trade secrets play an important role in the innovation strategy of undertakings as a complement to or substitute for classical IP rights. The importance of this field of law in today's economy has furthermore been perceived by legislatures worldwide: the US and the EU have modernized their legal protection of trade secrets,⁸ and the Japanese legislature has developed a specific regime of protection of data strongly influenced by the principles of trade secrets law.⁹ Reverse engineering in the context of AI (in particular, of machine learning components) remains difficult,¹⁰ a fact that increases the incentive for undertakings to rely on trade secrets.
30. **The insufficient consideration of trademark law.** The Draft Issues Paper does not cover trademark law apart from mentioning the WIPO Brand Image Search. AI raises fundamental questions regarding substantive trademark law and justification. The functions as well as the law and practice of trademarks are based on concepts relying on human perceptions, which might need to be reconsidered with the increasing use of AI in marketing and the proliferation of AI used by consumers in the context of Internet of Things applications.

⁸ The U.S. Defend Trade Secrets Act of 2016 (DTSA); Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure OJ L 157, 15.6.2016, p. 1–18.

⁹ On the revision of the Japanese Unfair Competition Prevention Act, see Ministry of Economy, Trade and Industry <https://www.meti.go.jp/english/policy/economy/chizai/chiteki/index.html>.

¹⁰ Drexl, Hilty et al., 'Technical Aspects of Artificial Intelligence: An Understanding from an Intellectual Property Law Perspective' Max Planck Institute for Innovation & Competition Research Paper No. 19-13 (2019), p. 10.