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14 February 2020

World Intellectual Property Organization  
34, chemin des Colombettes  
CH-1211 Geneva 20, Switzerland

*SUBMITTED VIA ONLINE PORTAL*

**Re: Response to “WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence: Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence” (13 December 2019)**

Dear Sir or Madam:

Intellectual Property Owners Association (IPO) submits the following comments and suggestions in response to the World Intellectual Property Organization (WIPO) notice entitled “Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence,” published on 13 December 2019.

IPO is an international trade association representing companies and individuals in all industries and fields of technology who own, or are interested in, intellectual property rights. IPO’s membership includes 175 companies and close to 12,000 individuals who are involved in the association either through their companies or as inventor, author, law firm, or attorney members. IPO advocates for effective and affordable IP ownership rights and provides a wide array of services to members, including supporting member interests relating to legislative and international issues; analyzing current intellectual property issues; information and educational services; and disseminating information to the general public on the importance of intellectual property rights.

IPO agrees that artificial intelligence will only continue to become more important to industry and supports WIPO’s exploration of wide-ranging impacts of AI. We appreciate the ability to provide feedback and look forward to future opportunities to continue this discussion. Our response to the draft issues paper is below. Each response pertains to the context of the current state of the technology. Perspectives might change with the eventual development of Artificial General Intelligence.

Generally, we suggest that WIPO seek guidance from the public regarding exemplary or related laws from across jurisdictions that cover the issues presented in the paper. We also believe that efforts in conjunction with the IP5 will be highly relevant in informing a broad range of issues. We recommend that WIPO consider, at a minimum, the issues that the USPTO is considering in:

- Federal Register Notice (FRN) #1, “Request for Comments on Patenting Artificial Intelligence Inventions,” published 27 August 2019,<sup>1</sup> and
- Federal Register Notice (FRN) #2, “Request for Comments on Intellectual Property Protection for Artificial Intelligence Innovation,” published 30 October 2019.<sup>2</sup>

### **Specific Comments**

#### **Regarding Introduction – No. 5:**

5. *The issues identified for discussion are divided into the following areas:*

- (a) *Patents*
- (b) *Copyright*
- (c) *Data*
- (d) *Designs*
- (e) *Technology Gap and Capacity Building*
- (f) *Accountability for IP Administrative Decisions*

**Comment:** Trademarks and trade secrets questions are not explicitly raised here. Unless they are being addressed elsewhere in this paper, we suggest that WIPO consider the same issues the USPTO is considering in their Federal Register Notices (FRN #2).

#### **Regarding Issue 1: Inventorship and Ownership – No. 6 and 7:**

6. *In most cases, AI is a tool that assists inventors in the invention process or constitutes a feature of an invention. In these respects, AI does not differ radically from other computer-assisted inventions. However, it would now seem clear that inventions can be autonomously generated by AI, and there are several reported cases of applications for patent protection in which the applicant has named an AI application as the inventor.*

7. *In the case of inventions autonomously generated by AI:*

- (i) *Should the law permit or require that the AI application be named as the inventor or should it be required that a human being be named as the inventor? In the event that a human inventor is required to be named, should the law give indications of the way in which the human inventor should be determined, or should this decision be left to private arrangements, such as corporate policy,*

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<sup>1</sup> <https://www.federalregister.gov/documents/2019/08/27/2019-18443/request-for-comments-on-patenting-artificial-intelligence-inventions>.

<sup>2</sup> <https://www.federalregister.gov/documents/2019/10/30/2019-23638/request-for-comments-on-intellectual-property-protection-for-artificial-intelligence-innovation>.

*with the possibility of judicial review by appeal in accordance with existing laws concerning disputes over inventorship?*

- (ii) *The inventorship issue also raises the question of who should be recorded as the owner of a patent involving an AI application. Do specific legal provisions need to be introduced to govern the ownership of autonomously generated AI inventions, or should ownership follow from inventorship and any relevant private arrangements, such as corporate policy, concerning attribution of inventorship and ownership?*
- (iii) *Should the law exclude from the availability of patent protection any invention that has been generated autonomously by an AI application? See also Issue 2, below.*

**Comment:** A key to answering many of these questions may reside in defining “autonomously” in the context of AI inventions. We recommend that WIPO propose an appropriate definition of “autonomously” for public commenting.

Regarding the assertion, “[h]owever, it would now seem clear that inventions can be autonomously generated by AI,” (No. 6) we believe this is still subject to debate from a technical and legal standpoint. We propose revised wording like “~~However, it would now seem clear that inventions can be autonomously generated by AI,~~ and There are several reported cases of applications for patent protection in which the applicant has named an AI application as the inventor.”

From a legal standpoint, the EPO’s [preliminary] decision and the UKIPO’s formal decision indicate that, at this time, only human inventorship is contemplated. Because there are many ethical and practical questions that need to be addressed before giving inventor or legal status to AI, it may be helpful to include the following questions:

- If an AI system can be considered as an inventor, what ramifications does that have on related issues, such as, infringement and liability?
- If an AI system can be considered an owner, how does the system enforce, assign, seek legal counsel, sign court documents, etc.?

No. 7(iii) could be expanded to consider the complex policy implications involved. For instance, if laws and regulations should continue to prohibit an AI application from being listed as an inventor where the invention is deemed to be an improvement where a human is not named as a co-inventor, then what are the public policy considerations? If patent protection is not available, what protection mechanisms are available to the owner of the AI application (e.g., trade secrets)? Are such protection mechanisms sufficient to promote, or do they inhibit, research and development advancements or commercial licensing and exploitation of the AI improvements to others?

**Regarding Issue 3: Inventive Step or Non-Obviousness – No. 9(ii):**

*9. A condition of patentability is that the invention involves an inventive step or be non-obvious. The standard applied for assessing non-obviousness is whether the invention would be obvious to a person skilled in the relevant art to which the invention belongs.*

*(ii) Should the standard of a person skilled in the art be maintained where the invention is autonomously generated by an AI application or should consideration be given to replacing the person by an algorithm trained with data from a designated field of art?*

**Comment:** We believe that the standard may also need to be discussed in the situation where a skilled person has “access” to more advanced AI technology/tools. As such, it may be helpful to include this issue as a question.

**Regarding Issue 4: Disclosure – No. 10:**

*10. A fundamental goal of the patent system is to disclose technology so that, in the course of time, the public domain may be enriched and a systematic record of humanity’s technology is available and accessible. Patent laws require that the disclosure of an invention be sufficient to enable a person skilled in the relevant art to reproduce the invention.*

*(i) What are the issues that AI-assisted or AI-generated inventions present for the disclosure requirement?*

*(ii) In the case of machine learning, where the algorithm changes over time with access to data, is the disclosure of the initial algorithm sufficient?*

*(iii) Would a system of deposit for algorithms, similar to the deposit of microorganisms, be useful?*

*(iv) How should data used to train an algorithm be treated for the purposes of disclosure? Should the data used to train an algorithm be disclosed or described in the patent application?*

*(v) Should the human expertise used to select data and to train the algorithm be required to be disclosed?*

**Comment:** Regarding (iii) and (iv), we recommend the following additional question:

- If a system of deposit is made available and if the data used to train an algorithm must be disclosed or described in the patent application, what are

the implications or exceptions to consider regarding protected trade secrets and privacy protections on personal data?

We suggest additional questions regarding the person skilled in the relevant art:

- What are the considerations for the requirement of the person skilled in the relevant art with respect to disclosure?
- If the inventor and the person skilled in the relevant art are both AI, then what should an enabling disclosure look like? Does it need to enable a human to make and use the invention, or would some kind of machine code, understandable by the AI but not by humans, qualify as an enabling disclosure?

**Regarding Issue 6: Authorship and Ownership – No. 12:**

*AI applications are capable of producing literary and artistic works autonomously. This capacity raises major policy questions for the copyright system, which has always been intimately associated with the human creative spirit and with respect and reward for, and the encouragement of, the expression of human creativity. The policy positions adopted in relation to the attribution of copyright to AI-generated works will go to the heart of the social purpose for which the copyright system exists. If AI-generated works were excluded from eligibility for copyright protection, the copyright system would be seen as an instrument for encouraging and favoring the dignity of human creativity over machine creativity. If copyright protection were accorded to AI-generated works, the copyright system would tend to be seen as an instrument favoring the availability for the consumer of the largest number of creative works and of placing an equal value on human and machine creativity. Specifically,*

*(i) Should copyright be attributed to original literary and artistic works that are autonomously generated by AI or should a human creator be required?*

*(ii) In the event copyright can be attributed to AI-generated works, in whom should the copyright vest? Should consideration be given to according a legal personality to an AI application where it creates original works autonomously, so that the copyright would vest in the personality and the personality could be governed and sold in a manner similar to a corporation?*

*(iii) Should a separate sui generis system of protection (for example, one offering a reduced term of protection and other limitations, or one treating AI-generated works as performances) be envisaged for original literary and artistic works autonomously generated by AI?*

**Comment:** Regarding the assertion, “AI applications are capable of producing literary and artistic works autonomously,” we suggest wording such as “it might now be clear that literary and artistic works will eventually be created autonomously without assistance of a human person, but many still believe AI to be a mere tool lacking true autonomy,” similar to our comments on Issue 1, No. 6.

In addition, since software programs have been granted copyright protection in most jurisdictions under the same criteria as literary and artistic works, we suggest adding a further clarification to indicate potential examples of “original literary and artistic works that are autonomously generated by an AI application without human assistance such as (1) creating new source code or object code that is an improvement to an AI application that reflects an unintended or new behavior of the AI application (e.g., an AI application for detection of a person from other images and autonomously adding the behavior of identifying if the person is sick or injured); or (2) creating a new product package design that does not reflect any assistance from the person(s) that created the AI application or using the AI application.” Such a clarification may better inform individuals and organizations on how best to respond to the questions pertaining to the issue of AI impact on copyrights.

Regarding no. 12(i), we suggest including more details on the question of “should a human creator be required?” For example, “what are the level of contributions that should be required by a human creator?”

Regarding no. 12(ii), it may be helpful to include the following question, similar to our comments on Issue 1, No. 6:

- What ramifications does AI authorship and ownership have on related issues, such as infringement and liability?

We would also suggest adding further public policy questions under issue 6 as follows:

- If copyright laws in a jurisdiction prohibit copyright protection from being granted to a work autonomously generated by an AI application, what is the public policy impact on companies or persons that invest in development of AI applications? If copyright and patent protection are not available, do current trade secret laws provide adequate protection or is there an impact to R&D development of AI applications due to insufficient measures to keep an AI-related work a trade secret?

**Additional issues:**

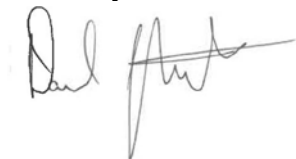
We suggest the draft paper should also include the issue of rights associated with government entities and contractors. Some possible questions are:

- What rights and ownership interests should be allocated to the relevant government stakeholders and contractors in AI-generated works with respect to projects or offerings that are fully or partially funded by government bodies?
- With AI systems using increasing amounts of data, how should competing contractual claims to ownership based on data usage should be handled?

As technology evolves, we suggest that WIPO maintain a continuous and open dialogue covering the laws and policies presented in the paper and in our response, as well as potential issues not currently listed that may not be obvious or known at this time. As AI progresses to artificial general intelligence (AGI), where the intelligence and capabilities of machines approach those of humans, new and unforeseen issues in intellectual property could arise.

Thank you for considering IPO's response. We welcome further dialogue or opportunity to provide additional information regarding these issues.

Sincerely,

A handwritten signature in black ink, appearing to read 'Daniel Staudt', with a long horizontal flourish extending to the right.

Daniel Staudt  
President