



Written Comments on the WIPO Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence

WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence (AI)

14 February 2020

AIPPI is pleased to provide the following comments relating to the above captioned Draft Issues Paper.

A. INTRODUCTION TO AIPPI

AIPPI, the International Association for the Protection of Intellectual Property, was founded in 1897 and is dedicated to the development, improvement and legal protection of intellectual property. The acronym of the organization was derived from its name in French: Association Internationale pour la Protection de la Propriété Intellectuelle. AIPPI is a non-affiliated, non-profit organization headquartered in Switzerland, having over 9,000 members representing over 100 countries. The members of AIPPI include lawyers, attorneys, and agents working across all fields of intellectual property in corporate and private practice throughout the world, as well as academics, judges, government officials and other persons interested in intellectual property. AIPPI is organized into 68 National and Regional Groups.

The objective of AIPPI is to improve and promote the protection of intellectual property at both national and international levels. It does this by studying and comparing existing and proposed laws and policies relating to intellectual property, and working with both government and non-government organizations for the development, expansion and improvement of international and regional treaties and agreements, and national laws.

B. COMMENTS

1. As a general issue, the current Draft Issues Paper seems at times to import considerations or perspectives from copyright law into issues surrounding patent law. For example, see the discussion below in Paragraph 2 on how the state of advancement of AI technology may affect the autonomous creation of patentable inventions differently from that of copyright works. In Paragraph 4 below with reference to Question 8, it is explained how the discussion as to the manner in which an invention or work of authorship is created makes less sense in the context of patent law than of copyright law. It is important to bear in mind at all times in formulating IP policy that patents and copyright are two entirely different forms of IP protection with entirely different requirements for recognition and serving entirely different purposes. For instance, in most jurisdictions copyright protection is closely aligned to the recognition of an author, and has subjective protection requirements in the sense that they need to be met from the perspective of the creator of the work in which protection is sought.

On the other hand, in various jurisdictions patent protection is wholly tied to technical subject matter as defined in the claims of the patent, with objective protection requirements that are independent of the view or perspective of any one individual.

2. In the field of artificial intelligence (AI) technology, one may distinguish between so-called "strong" AI and "weak" AI. Strong AI refers to a computer system that broadly approximates the mental capabilities of human beings. Weak AI refers to a computer system that provides solutions to well-defined problems arrived at by specific applications.

Ultimately, the purpose of weak AI is to automate tasks that traditionally required time-intensive mental activity or effort by a human, for example: engaging in classification, the identification of similarities, or the recognition of (statistical) relations between events or entities.

Strong AI is currently a mere vision, in other words, an unfulfilled and yet unrealized technology. Although there is some dispute as to whether it can be achieved at all, there seems to be agreement that at least it will not be realized for some decades from now. Moreover, there is currently no way of accurately predicting what such systems will look like, how they will work and what they will be capable of doing.

In our view, an AI system that truly conceives of autonomous inventions without any level of human dominion, contribution or intervention requires strong AI technology. As mentioned above, strong AI is an unrealized technology at the present time (see below in Paragraph 3 for a further discussion of the implications of strong AI). In this sense, the question of patent protection for AI generated autonomous inventions can be said to differ from the question of copyright protection for AI generated works, as the latter may be achieved in the present day by currently-deployed weak AI technology.

With regard to the foregoing, our organization would approach the issues of patent protection for inventions that are autonomously generated by AI with some measure of caution. We are of the view that it may be premature in the case of patent protection to discuss the legal implications of AI systems that do not yet exist, and in respect of which we do not possess any specific knowledge as to what form they will take or what functions they will be capable of achieving. The issues surrounding the inventorship and ownership of autonomous AI inventions are among the most fundamental and revolutionary, but also the most complex and difficult aspects of assessing the impact of AI on the patent system. It therefore seems to us to premature to address these issues until the character of such inventions becomes clearer.

PATENTS

Issue 1: Inventorship and Ownership

3. It appears to us that the term "autonomous" in Questions 6 and 7 of the Draft Issues Paper will benefit from a more detailed definition.

Current AI systems can be viewed as autonomous in the sense that they can find a solution to a task independently of direct human supervision, based on suitable inputs. This solution may be something that a human would not have come up with based on conventional reasoning. This aspect of autonomous operation is, however, not something that is specific to AI, as it is a common feature in most types of computer-implemented optimization (which is the very reason why one uses a computer for optimization tasks, whether AI-based or not).

Current AI systems rely on a human dominion, contribution or intervention in so many ways, for example, in the selection and curating of appropriate input data, namely an appropriate training set, the customization or configuration of the AI engine itself or, importantly, the definition of a problem to be solved and a general direction as to how a solution is to be found, or the recognition of the utility of an output of an AI engine. Again, this is not fundamentally different from the situation with other computer-implemented systems that are not AI-based.

AI systems now and in the foreseeable future are not autonomous in the sense that they are not independent of human dominion, contribution or intervention, or in the sense that such AI systems can do things that humans, in principle, cannot do. In fact, some EPO decisions have drawn allusion to the fact that a human, in principle, may be capable of performing the same algorithms as an AI system does. The difference between the machine and human efforts at executing the same algorithms is that the quality of the result depends on the quantity of data being processed, and that a computer system is able to process much larger amounts of data in less time than any unaided human is capable of achieving.

Thus, if "autonomous" does not mean "without any human dominion, contribution or intervention" (which would invite the discussion of strong AI, see Paragraph 2 above) and it does not mean autonomous in the sense according to which existing computer implemented systems may function independently of direct human supervision, one needs to define more precisely what is meant by this term.

Issue 2: Patentable Subject Matter and Patentability Guidelines

4. The criteria for patent eligibility are tied to the claimed subject matter and they are independent of how the claimed invention has come about. It does not matter whether the invention was created by accident, by guessing, by an ingenious idea or by just trying all available alternatives. Specifically referring to the EPC, the criteria of technical subject matter, novelty, inventive step and commercial applicability are all independent of how the invention came about. In a sense, the foregoing is a distinguishing feature between patent protection and copyright protection, where for latter the requirement for an author's original contribution or their exercise of sufficient skill and judgement will affect whether or not copyright subsists in a work.

Issue 3: Inventive Step or Non-obviousness

5. Referring to Question 9 of the Draft Issues Paper, the person of skill in the art is not a real person but a fictional or notional person who possesses the requisite knowledge in the context of the invention. In a sense, the notional skilled person in the art encapsulates the skills and methodologies to be applied when developing new methods or products.

Referring to Question 9 (i), the question of non-obviousness reasonably needs to be limited to the field of technology of the claimed subject matter, and so must be the definition of a person skilled in the art. A person of skill in the art may possess an amalgam of knowledge taken from more than one field of expertise. For instance, if it is part of the common general knowledge to use AI in a particular field of technology, then the use of AI has to be attributed to the person skilled in the art in addition to knowledge that is possessed in respect of the particular field of technology.

Specifically referring now to Question 9 (ii) of the Draft Issues Paper, this question pre-supposes that AI technology is sufficiently evolved to be capable of autonomous invention.

In the context of existing patent law, an algorithm replacing the person skilled in the art would have to be commonly known and used in the relevant field of technology. If this is so, then the algorithm is also made part of the capabilities of a person skilled in the art according to conventional definitions and there is no need to redefine or replace the concept of a person skilled in the art currently employed in patent law. On the other hand, should both AI technology and patent law evolve to the point that an AI entity can receive recognition as an inventor, then the standard of the notional skill person may have to admit the AI entity itself as equating to such a skilled person for purposes of assessing inventive step or non-obviousness. As mentioned above in Paragraph 2, we have expressed the view that the strong AI technology required to support the possibility of autonomous intention is as yet unrealized. Question 9(ii) should be clarified accordingly.

Turning now to Questions 9(iii) and 9(iv) of the Draft Issues Paper, in many patent systems of which we are aware, prior art is defined by that body of information that is disclosed to the public or that is readily accessible to the person skilled in the relevant art. Who or what generated the information in question appears immaterial to those determinations.

6. Still referring to Question 9 of the Draft Issues Paper, services as mentioned in paragraph 9(i) of the provision are not *per se* protected by patent law, unless they are delivered by way of a method or process which is recognized as eligible subject matter. It may therefore be more appropriate to refer to “apparatus or method” instead of “product or service”, or to rephrase the language of the provisions as “...the field of technology of the product or service that embodies the respective apparatus or method of the invention”.

Issue 4: Disclosure

7. AIPPI believes Question 10 of the Draft Issues Paper merits additional clarification. Question 10 of the Draft Issues Paper appears to present considerations that are only relevant to inventions consisting of or directed to AI systems, and that are not relevant to inventions that are merely AI-assisted or AI-generated. For the latter category of inventions, the issue of an enabling disclosure is entirely unrelated to the question of how or by what methodology an invention comes about. The requirement for an enabling disclosure means that sufficient information is provided in the patent specification such that it will be possible, once the patent expires, for the skilled person in the art to produce the claimed device or perform the claimed process on the basis of that information and the common general knowledge.

It would therefore be important in this context to distinguish between a stand-alone-invention that is independent of the AI system that was employed to create it, and an invention for which the AI system forms an inseparable part. If an invention is directed to an novation or an improvement to an AI system or the use thereof, the questions posed regarding the disclosure of the invention (namely Questions 10(i) to 10(iv) do appear relevant in this context). However, Question 10(v) seems less relevant with respect to the disclosure of an invention as an invention can only lie in a technical apparatus or method, not in human expertise. With respect to AI-assisted or AI-generated inventions, the disclosure requirement covers the invention itself and not the AI system or method that was used to create the invention.

For example, a stand-alone invention may be found in the aerodynamic contour or shape of an automobile or aircraft, where the contour or shape in question is the result of an AI-assisted design process. The enabling disclosure in such a situation need not contain any

details of the AI system because the manufacture of the article featuring the inventive contour or shape would not require recourse to the underlying AI system that was initially used to create it. A stand-alone invention as per the foregoing example that is created with the assistance of AI does not require an enabling disclosure directed to the AI technology, nor does an AI in this context teach the skilled person how the inventive article is to be produced or manufactured. More specifically, disclosing the algorithm and/or the data by means of which a stand-alone invention was conceived does not meet the requirements of an enabling disclosure in the sense of patent law in such cases.

8. Still referring to Question 10, we would add an additional question as follows: “(vi) In the case of inventions that are generated by AI without human dominion, contribution or intervention, should the disclosure requirements extend to the details of the AI itself?”

Issue 5: General Policy Considerations for the Patent System

9. Referring now to Question 11 of the Draft Issues Paper, we suspect that the analysis of this issue will turn on whether strong AI technology will become a reality (see Paragraph 2 above).

10. Again with reference to Question 11, arguably there are additional objectives/theories that underpin the patent system, over and above the utilitarian view of the maximization of net social welfare – such as the labour theory (which provides a reward for individual effort), personality theory (which fosters human needs/interests) and social planning theory (which promotes a fair and attractive culture). Accordingly, any consideration of a new IP right for AI-generated inventions should therefore approach the question of adjusting innovation incentives (Question 11(i)) with a holistic appreciation for all of the objectives of innovation.

COPYRIGHT AND RELATED RIGHTS

Issue 6: Authorship and ownership

11. The following questions could be added:

(ii) In the event that a human creator is required for the copyright protection of works, to what extent should human intervention be required? For example, should it be sufficient if a person (i) designed the AI algorithm or system that created the work; (ii) contributed to the design of the algorithm or process; (iii) selected the data used by the algorithm for training or otherwise; or (iv) selected one work among others that have been generated by the AI algorithm or system? Are there other contributions a person could make in a potentially copyrightable AI-generated work in order to be considered an “author”?

(iv) One could imagine that in the future, the number of works created by AI will increase and potentially become enormous. Consequently, if copyright can be attributed to AI-generated works, there is a risk that human creations would infringe copyright in AI-generated works. These would hinder human creation and might destabilise the copyright system. How can appropriate IP policy be formulated to avoid such risk?

Issue 9: General Policy Issues

12. In the event there is found to be a requirement of human intervention for the recognition of copyright protection, the concern is that this may inadvertently create an impetus on the part of IP owners to incorrectly state that there was human intervention in the AI produced work in order to attain copyright protection. In practice, it would be difficult to prove that there was no human intervention in an AI generated work. In this context, we would propose the following additional question: "(ii) Should there be any regulation against misstatements surrounding the issue of human intervention? Should the latter result in any legal consequences?"

DATA

13. Referring to Question 20 of the Draft Issues Paper, it should be borne in mind that in order for data to have economic value in the context of AI technology, the type of data or properties thereof are not decisive in and of themselves, but it is the quantity of data that matters. The value of data in the context of current-day AI technology arises from having a vast amount of data available, whereas a few data items of the same type are virtually worthless. Current IP rights (other than possibly database protection) have qualitative requirements, which are not appropriate (at least not as exclusive criteria) where quantity is the key.

With current forms of AI technology, the ability for a party to access, collect and curate training data is the most important consideration. It is at least a possibility that only few entities will have the resources be able to collect the amount of data necessary to train AI engines in certain fields. Thus, an additional question that may be posed is whether it should be safeguarded that data necessary to train AI engines (and thus the potential to create technical innovations that are not the monopoly of a few), would be made available to third parties, and in what circumstances such access should be granted.

Issue 10: Further Rights in Relation to Data

14. We would wish to formulate the following new question under Issue 10 of the Draft Issues Paper, namely: "(ix) If new IP rights were considered for data, how would authorship and/or ownership of the new rights in data be determined?"

15. Regarding Issue 10 of the Draft Issues Paper, our organization is of the view that the various questions surrounding further rights in relation to data should be assessed in terms of whether all current means of IP protection for data, namely copyright, trade secrets and *sui generis* protection, fail to provide sufficient coverage in the context of AI technology. As intimated in Paragraph 12 above, it may very well be more significant in the context of AI to consider new rights regarding access by third parties to various categories of training data for AI systems.

Respectfully submitted,

International Association for the Protection of Intellectual Property (AIPPI)