QUESTIONS AND COMMENTS TO BE PRESENTED IN THE OPEN PUBLIC CONSULTATION BY WIPO IN RELATION TO THE WORKING DOCUMENT ON AI

This document is a compilation of presentations by professionals working with Alessandri, Carey and Cariola Díez Pérez-Cotapos & Cía. Ltd., the Ministry of Science, Technology, Knowledge and Innovation and the Institute of Industrial Property (INAPI). INAPI compiled this document in order to contribute to the public dialogue initiated by the World Intellectual Property Organization (OMPI).

Preliminary questions

Before analyzing the questions contained in the WIPO working document, we consider it important to devote some time to the development of definitions of certain AI concepts, and to find out whether AI policies exist in other countries. Since some countries have already adopted AI policies, knowledge of these policies would help to understand the context in which decisions relating to the protection of AI are made. To ensure common understanding of the questions to be answered, it appears necessary to precede the questions in the working document with a glossary of AI terms.

Accordingly, we suggest the following as preliminary questions:

(a) Does your country have an AI policy?
(b) What is the definition of AI in your country?
(c) What is the definition of an algorithm in your country, and what would be its nature?
(d) Which forms of AI expression are recognized by your legislation/policies in general, and which forms in particular are recognized as protectable?
(e) What is meant by autonomously generated inventions?
(f) What is meant by an AI-assisted invention?
(g) What is meant by deep-learning?
(h) What is meant by e-learning?
(i) What is meant by "inventor" in the case of (i) inventions created autonomously by an AI application and (ii) inventions created with the help of AI?
(j) Should the inventor of an invention always be a human?
(k) Should inventions continue to be denied legal protection because they were originated by an AI application?
(l) What is the relationship between the concepts of software and an AI application, especially given that usually software is already protected under copyright?
(m) Up until now, has the patent system been an incentive or a deterrent to the development of solutions that use AI, or has it been neither? What has been the market reaction?

Issue 1: Authorship and ownership of an invention

Before considering whether the law should allow or require an AI application to be named as an inventor, or should stipulate that a human be named as an inventor, the following should be asked.

(a) In some cases, in order to reach the final result, a human has contributed to an invention that is attributed to an AI application. In this case, to whom should authorship be attributed? The AI? The human that participated? Both? In the latter case, to what extent would they share inventorship/ownership?

(b) Could an AI application that is very close to human in terms of its behaviour and creativity be subject to a type of right and, therefore, be considered an "inventor"?
(c) Where the AI application is the inventor of the invention, could it have a "guardian" or "human representative" to manage its creation and the resources that it generates as well as to assume its correlative obligations?
(d) Regarding c) above, who would choose the guardian or human representative?
(e) Could an AI application be considered an inventor owing to its inventive step, while the rightholder is the person who wrote the software of that AI application?
(f) Aside from the issue of ownership of an invention generated by an AI application, could there be a similar scheme to that adopted in the field of copyright law, which attributes "ownership of a work" to its producer and which would be like a right of use derived from the production of the work?
(g) In the case of results generated through deep learning by an AI application, it is possible that the AI program code belongs to one owner or several, while the big data necessary for deep learning is owned by another person. How would the issue of ownership or co-ownership be resolved in this case?
(h) In the material world, nobody disputes that the owner of the means of production, or the hirer of a person's labor, is the owner of what those means and labor produce. For example, the owner of an automobile factory which uses human and machine labor, including robots, is the owner of the automobiles that are produced and then sold to third parties. The proceeds of the sale are the producer's property. In this case, there is no dispute that the work carried out by robots, for example, does not belong to them. Neither is there any dispute about who owns those machines. In the case of non-material results (i.e. an invention), why could the owner of the invention not be the owner of the machine or computer that was able to produce it?

Issue 2: Patentable subject matter and patentability guidelines

(a) When is an invention understood to have been created autonomously by AI?
(b) Inventions generated (completely or autonomously) by AI are different from inventions generated by a human with the help or assistance of AI, regardless of the proportion of activity that AI and the human in question respectively contributed. In these two cases, could a human be attributed inventorship and ownership of the invention at the same time?
(c) Inventions developed by an AI system pose two issues regarding patentability: (i) the patentability of a system that is capable of autonomously generating an invention and (ii) the invention itself generated under an AI system. Should the law protect an AI system capable of autonomously generating an invention? Should the law protect an invention that has been generated by an AI system? Should the law protect both? If so, should it protect them in the same way or differently?
(d) Scientific principles and theorems as well as abstract ideas are inventions which are unpatentable under most legislation. To consider an invention generated by AI patentable, should the restriction that prevents inventions involving scientific principles and theorems as well as abstract ideas from being patentable first be lifted? If there is no desire to change these exceptions to patentability, could sui generis protection then be considered for inventions generated by AI, whereby the aforementioned exceptions do not apply?
(e) Which elements of the patent system should be included in the sui generis system? Which new elements would be included and which would be removed?
(f) If the basic algorithm of an AI application were in the public domain, what would be the

effect on the patentability of specific inventions generated by that algorithm?

Issue 3: Inventive step or non-obviousness

(a) Regarding inventions generated by an AI application, is it possible or necessary to retain the traditional requirements and concepts of "inventive step" and "non-obviousness" which are in the current patent system and which are fundamentally associated with human processes?
(b) Is it justifiable that technical experts are experts in areas related to AI, regardless of the technological field to which the invention belongs?
(c) If the algorithm of an AI application is obvious to an AI expert, is it justifiable to patent an invention derived from it, even if the invention is not obvious to the expert specialized in the technical field of the invention?
(d) The following consideration could complement Issue 9. In the case of an invention generated by an AI application, could the introduction of aspects other than the patent examination discourage inventiveness and/or the protection of inventions?

Issue 4: Disclosure

We suggest adding the following questions:

(a) If the patent examination only takes one set of data into account, what will happen when it is given other data?
(b) Should new data protection protocols be introduced when the data includes personal data?
(c) If a patent has been obtained through an algorithm (either completely or partially), should that algorithm become part of the prior art so that any other invention obtained through it lacks novelty?
(d) Regarding machine learning, can an algorithm that evolves through access to more data be considered to have novelty? If not, can a patent that originates from an evolved algorithm be considered to have novelty?
(e) Regarding machine learning, what use could be made of algorithm repositories that update constantly and almost immediately after they have been created?
(f) The data that feeds into AI systems can be of different legal natures, which can vary further between jurisdictions. The data could also be information in the public domain, confidential data that is not meant for the public, information subject to property rights, personal data, sensitive information from a health or security perspective, etc. Therefore, some data may have disclosure restrictions, which in turn could create difficulties in explaining the AI system results. This suggests that the disclosure of data in relation to AI-related patents could require a special status to reconcile the interests and legal assets involved. Some countries consider that restricting the use of data intended to feed AI systems because of third party rights, for example, could have a negative impact on the competitiveness of such systems. Should the information in the algorithm that needs to be disclosed be differentiated by subject matter? (e.g., AI linked to relevant decision-making, such as algorithms to assist in judicial decision-making, could provide grounds for a higher standard of disclosure).

Issue 5: General Policy Considerations for the Patent System

(a) As a result of EPO case law, some countries have added the "requirement" of patent "plausibility", in that the patent application should contain enough information for the invention to have "at least plausibly" found a solution to the technical problem that it aimed to solve. Would this request be applicable to inventions generated by an AI application? If so, how would this requirement be applied?
(b) Many pieces of legislation already provide protection from the second use of elements that are already known. In some cases, this protection is subject to compliance with certain requirements. Could an AI application generate second-use inventions?
(c) Should human participation in AI patent examinations be graded?
(d) Bearing in mind the data that AI uses, how can data be protected from unauthorized use?
(e) Could adding different conditions to the patent examination for an invention generated by an AI application create a disincentive?
(f) It should be noted that, bearing in mind that there is a difference between a software patent and an AI-generated invention, there should be further discussion in order to increase the possibility of granting software-related patents. There are issues related to a potential special protection for algorithms and it is this opportunity should be seized to start a discussion about the possibility of granting broader protection to software, whether or not it is the result of AI.
(g) The following question should be added to paragraph 13: If AI is not recognized as the author, how can it be considered an infringer when it infringes copyright?

Issue 9: General Policy Issues: DATA

Regarding paragraph 21, consider the following:

(a) There are AI systems that have a "black box" or "explainability" problem (e.g., some deep learning algorithms). This means that it is possible to check whether a result is correct, but it is not possible to know the decisions or data that the system took into account in order to reach the result. How does this feature of some AI systems affect the duty of disclosure and replicability of the inventions?
(b) Should limits be placed on trade or industrial secrets involving AI used in certain sensitive sectors, such as in judicial decision-making?
(c) Should criteria or grounds be established to justify revealing trade or industrial secrets in cases involving AI applications (e.g., potential discrimination in certain areas)?

Issue 10: Further rights in relation to data

(a) In the case of AI generated by deep learning systems, the program code might belong to one or more holders, while the big data necessary for e-learning belongs to one or more other holders. This will make it difficult to determine who owns the results. Which rules should be applied to AI generated by deep learning systems when the data from which the systems learn belongs to one or more other owners?
(b) It is important to bear in mind that the owner of personal data owns the rights that arise from it. In most countries, this is an unwaivable guarantee to natural persons enshrined in the constitution. Therefore, the "creation of new data rights" should be based on the fact that these new rights arising from personal data belong to the data owners, which is not possible when the data compilation method is protected.

Therefore, we suggest bearing this fact in mind for all the questions set out under Issue 10. We also suggest adding the following question: Could data be protected as a trade secret?

(c) Regarding question (b) above, we recommend considering the cross-border flow of data, since countries that are considered "safe havens" usually prohibit the flow of data to countries that are not considered such. ("Safe haven" refers to countries that have an adequate level of personal data protection).

Issue 12: Capacity-building

(a) Is it fair for offices to use AI applications to carry out searches for prior rights/patent examinations when this is not available to all offices?

Issue 13: Accountability for decisions in IP administration

(a) Certain types of AI produce results after complex analyses in which it is difficult to understand how the result was reached (black box). In these cases, how can we introduce incentives to help AI produce explanations for their results (e.g., should patentability be dependent on the AI producing an explanation)?

This point may be relevant to cases of AI-assisted decision-making, given that it deals with the right to receive explanations and facilitates the possibility of a human reviewing decisions made by AI.