

PATENTS

Issue 2: Inventorship and Ownership

1. 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-assisted inventions might not differ radically from other computer-implemented inventions. However, it would now seem clear that the role of AI in the invention process is increasing, and there are cases in which the applicant has named an AI application as the inventor in a patent application.¹

2. In the case of AI-generated inventions:

(i) Do AI-generated-inventions require patent protection or a similar incentive system at all? See also Issue 3(i).

AI generated-inventions are novel but may become commonplace in few years to come. Except when disclosed, such inventions can easily pass for those emanating from human beings. The need to be able to identify the source of inventions is necessary and the capacity to protect AI-generated inventions within the patent system is important. These underlies the integrity of the patent system. I do not see a need for a new system. The patent system can be modified to allow for AI-generated inventions.

(ii) Should the law require that a human being be named as the inventor or should the law permit an AI application to be named as the inventor?

The law recognized human beings who invents is an inventor. An AI that invents should be known as an AI-inventor because not all AI will invent in the long run. The realization that AI can invent questions the ownership concept. Legal jurisprudence across jurisdictions recognize the right of an inventor in relation to its invention and to be so named in the application to patent the invention. This right may extend to ownership of the invention. One of the tests for ownership is the right to sue or be sued on the thing owned. The right to sue or be sued is granted to companies under corporate and ships in maritime law because of the wide ranging consequences that actions of these can cause. The reality is that AI has the capacity to have such wide ranging consequences. Hence, the law should be made and/or reviewed to recognise AI as an inventor – an AI inventor.

(iii) If a human inventor is required to be named, should AI-generated inventions fall within the public domain or should the law give indications of the way in which the human inventor should be determined? Should the decision how to determine the human inventor be left to private arrangements, such as corporate policy, with the possibility of judicial review by appeal in accordance with existing laws concerning disputes over inventorship?

The relationship between man and AI may akin to a master and a servant. The law has a role to play to ensure that there is a proper delineation of responsibilities. Flowing from my position in 2 above, it is best that AI-generated inventions should not fall into the public domain. If it is allowed

¹ See EPO decision of 27 January 2020 on EP 18 275 163 and EP 18 275 174

<https://www.epo.org/news-issues/news/2020/20200128.html>,

UK IPO patent decision BL O/741/19 of 4 December 2019

https://www.ipa.gov.uk/p-challenge-decision-results/a-challenge-decision-results-bl?BL_Number=O/741/19 and

USPTO decision of 22 April 2020 on Application No. 16/524,350

https://www.uspto.gov/sites/default/files/documents/16524350_22apr2020.pdf

to fall into public domain, the best of AI inventions may not be filed as AI inventions as there is no right incentive to do to register an invention in the public domain. The law should regulate this area. I will rather that the law provide a joint inventorship structure that will allow human beings as joint inventors with AI. This will allow human beings play the ownership role where the AI is unable to act.

(iv) If an AI application is permitted to be an inventor should the AI application be considered a sole inventor or should joint inventorship with a human be required?

Flowing from the above, AI should not be a sole inventor. Human being should be designated as a joint inventor. This position is strengthened from both the standpoint of human input in AI training, acquisition and the role of humans in discovery of AI-generated invention. AI-generated invention may be undiscovered if the AI handler is not circumspect. Discovery of AI-generated invention except where programmed or expected to result from its activities requires high intellectual capacity which is not taught. Hence, developing such intellectual capacity can be rewarded with joint inventorship.

(v) 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 AI-generated inventions, or should ownership follow from inventorship and any relevant private arrangements, such as corporate policy, concerning attribution of inventorship and ownership?

The legal principle of ownership following from inventorship may need to be modified for AI-generated invention. Flowing from earlier positions, AI-generated invention should by implication be mandated to have joint inventorship. The essence for recognition of the human inventor in the inventorship regulation will be a joint owner. However, the modification referred to earlier will operate to allow for the operability and working of the invention through the need to provide consent to use and assignability of the invention to third parties. The modification needs to be encoded by statutes in a manner that allows for operability not variation or waiver.

(vi) If AI-generated inventions are excluded from patent protection, what alternative protection mechanisms are available for such inventions? Would the lack of patent protection for AI inventions lead to the increase in the use of trade secrets and decrease of flow of information and technological advancement? If so, should policy address this and how?

A sui generis right may be created. However, the road to creating a new type of right may be tortuous and unnecessarily cumbersome. There is the likelihood that trade secrets may be resorted to and as expected, this will block the flow of information and by extension stifle technological advancement. Decisions are taken by humans in these circumstances. The introduction of a human element in joint inventorship and ownership and the vesting of the right to grant consent to humans provides a critical balancing role and strongly serves as an incentive to allow for information flow. The effect of this proposition is that it endows human with the benefit of AI-generated invention which is an underlying factor in the discourse for AI-generated invention.

(vii) If AI-generated inventions do not benefit from patent protection, will this incentivize concealment of the involvement of AI? Should there be a system to prevent such behavior? How could such behavior be detected? Should each invention have a log of acts of the creation process leading to a protectable work and transparently identify the acts of each

participant? In order to prevent circumvention of rules, should each invention involving an AI application have a declaration as to the involvement of the AI application?

The failure to grant patent protection to AI-generated inventions will likely incentivized to concealment of AI involvement in AI-generated invention. This will definitely reduce the value attached to patents if AI trained with similar data and deployed in similar roles end up producing similar inventions just like humans. Hence, it may become evident at a later stage that an earlier patent was AI-generated and hence spur invalidity proceedings which will deal huge blows to the integrity of the system.

In order to ensure humans, do not conceal and subsequently claim AI-generated invention as human inventions, the best process will be to grant patent protection to AI-generated invention. In the alternative, there may be an AI checking system configured to analyse such inventions and provide its analysis for human analysis and scrutiny. It will be absurd to withdraw patent protection from AI-generated invention and yet allow AI make decisions on human or AI generated inventions. To assist such decision process, a log of the acts leading to the creation process may be required. This will allow the decision maker, to verify the AI generated analysis for correlation with the log provided by the Applicant. A downside to this may be the overloading of irrelevant information that may make patent documents rather unattractive and untidy.

(viii) What ramifications would the question of inventorship and ownership have on related issues, such as, infringement, liability and dispute resolution?

With benefits come liability. The human entity that is statutorily conferred with benefits should also be the entity conferred with the liability where it arises. The recognition of joint inventorship with humans provides an avenue to allow AI-generated inventions to operate an a bit similar level to the current patent system.

One major concern noteworthy is that if AI-generated inventions are allowed protection with the existing legal order, there is need to reduce the duration of protection for AI-generated inventions. With the rapid rate of technological development and the speed at which innovations will become rather obsolete, retaining legal protection for AI-generated invention in the presence of novel inventions in the same area will stifle access to prior inventions. AI-generated invention should be an avenue to allow rapid global developments through quicker access to innovation. Hence the term for protection of AI-generated inventions should be shorter than human inventions.