



Law Society  
of Scotland

# Consultation response

## Artificial Intelligence and Intellectual Property

November 2020



## Introduction

---

The Law Society of Scotland is the professional body for over 12,000 Scottish solicitors. With our overarching objective of leading legal excellence, we strive to excel and to be a world-class professional body, understanding and serving the needs of our members and the public. We set and uphold standards to ensure the provision of excellent legal services and ensure the public can have confidence in Scotland's solicitor profession.

We have a statutory duty to work in the public interest, a duty which we are strongly committed to achieving through our work to promote a strong, varied and effective solicitor profession working in the interests of the public and protecting and promoting the rule of law. We seek to influence the creation of a fairer and more just society through our active engagement with the Scottish and United Kingdom Governments, Parliaments, wider stakeholders and our membership.

Our Intellectual Property Law Committee welcomes the opportunity to respond to the UK Government's consultation on *Artificial Intelligence and Intellectual Property*.<sup>1</sup> In preparing our response, we held a stakeholder roundtable, inviting participants for industry and academia with a particular interest in artificial intelligence (AI) and machine learning to discuss pertinent issues with our intellectual property (IP) law specialists. The breadth of expertise from a variety of disciplines across the IP spectrum allowed us to identify and test the core themes set out below across a range of industries. We have the following comments to put forward for consideration.

As per the consultation overview, a number of these comments apply across all areas. We have therefore structured our response as a general section which picks up on a number of cross-cutting issues, followed by individual sections on specific areas of IP.

We also note that the current consultation does not deal with issues around liability. However, we note that the IP regime should be consistent with rights and responsibilities in terms of property law and liabilities and any changes to the IP regime would need to reflect this essential consideration. We note in this regard, that property law is devolved in Scotland and this dynamic must be reflected in any proposals put forward.

## General observations

---

### **The need for new rules and/or a separate IP framework specifically for AI has not been proven**

We support the IPO's objective in ensuring that IP rewards people for creativity and innovation and see a clear value of a modern and effective IP regime in supporting the proper functioning of an innovative economy. AI is an effective tool in problem-solving. However, the innovation is human-led, where a range of tools are utilised

<sup>1</sup> <https://www.gov.uk/government/consultations/artificial-intelligence-and-intellectual-property-call-for-views>

for reasons of efficiency, accuracy and/or cost. We are strongly of the view that overall, the existing IP frameworks adequately cater for AI. This was a consistent theme in our roundtable discussion across all areas of IP. There are some areas in which clarification as to how these rules apply in the specific context of AI but we believe that the fundamental principles are not affected.

## Definition of AI

The UK Government's definition of AI is "technologies with the ability to perform tasks that would otherwise require human intelligence, such as visual perception, speech recognition, and language translation." This is a broad definition. We note that the EU has not yet provided a definition. However, the following observation in "Communication the Commission to the European Parliament the European Council, The European Economic and Social Committee and the Committee of the: Artificial Intelligence for Europe" may be helpful to consider:

*"What is artificial intelligence?"*

*Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals.*

*AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications).*

*We are using AI on a daily basis, e.g. to translate languages, generate subtitles in videos or to block email spam.*

*Many AI technologies require data to improve their performance. Once they perform well, they can help improve and automate decision making in the same domain. For example, an AI system will be trained and then used to spot cyber-attacks on the basis of data from the concerned network or system".*

If AI is not to be regarded as a separate legal entity or capable of owning IP, we consider that it would be best to avoid defining AI at this point. It may particularly difficult in such a rapidly evolving area to provide a definition which is sufficiently precise to provide legal certainty but also does not run the risk of being overtaken by technological developments, which it is not currently possible to anticipate.

## The concept of AI as a legal entity

We note that the IPO is not considering concept of AI as a legal entity but that the consultation considers whether AI should be recognised as a 'creator/inventor'. Whilst the LSS considers that this is not a necessary or appropriate step to take, if AI were to be recognised as being the creator, the position of being able to create rights (where AI is the inventor) but to have no corresponding responsibilities (since AI is not a legal entity) would be an anomalous one within the legal system more generally.

The Law Society consider that AI should simply be regarded as a tool which is used by legal persons to assist in the creation of IP. The resulting IP should be attributed to the legal person, owned by the legal person and the legal person should remain responsible/accountable for the AI's activities.

### **Recognising AI as a “creator” or “inventor”**

In our view, AI itself should not be recognised as a “creator” or “inventor” as those terms are understood in an IP context. It is a tool which is capable of ‘learning’ through analysis of data. We support the current legal rules under which the creator requires to be a human. Indeed, Section 7 of the Patents Act 1977 states that the inventor of a patent is a “person or persons” and Section 2(3) of the Registered Designs Act 1949 states that the author of a design is the “person who creates it”. Neither statute considers the possibility that a non-human could be the inventor or the designer. Similarly, Section 9(1) of the Copyright Designs and Patents Act 1988 (“CDPA”) states that the author of a work is the person who creates it and caters for computer-generated works under section 9(3) by reference to the human being involved in setting the parameters of the relevant task.

Even if AI finds the solution to a given problem, the problem will have been identified by a human and the parameters of how the problem may be solved are also defined by a human. Furthermore, selection of the data which the AI uses and its underlying programming will also be the result of human action. The resulting IP (and moral rights) are properly owned by the human creator (or such other legal entity as is decided by contract). The moral rights attach to the human creator.

The anthropomorphism of AI might be argued to be a natural progression, as AI moves from an assistive role in segregation and classification of data to architectures which may be considered more similar to human thought capable of generating inventions. However, in view of the present technology, any such changes are premature. Moreover, before consider whether AI can be an inventor or creator of IP, a broader consideration of the recognition of AI as a legal person must first take place. This in turn will require considerations of ownership of inventions and the way in which inventorship disputes might be resolved, whether such an AI person would be capable of infringement, and the disclosure of the invention that would be required from such a non-human inventor.

## **Patents**

---

Consideration of AI as an inventor of a patent would significantly depart from the current requirement that inventions are invented by natural persons. See further comments on anthropomorphism and AI as an inventor above.

### **Complexity and transparency of AI technologies**

The patenting of AI technologies faces many similar challenges to those observed for computer implemented inventions generally. Data, in the form of test training data, large input datasets and the organisation of data is the bedrock of AI systems, particularly for machine learning. Patenting AI-generated systems and/or

algorithms presents particular challenges given the potential complexity of the subject matter: it may be difficult for the examiner to assess the sufficiency of disclosure and to ascertain the extent to which the AI-generated invention is in fact innovative.

Sufficient disclosure in a patent application to ensure that the skilled person understands that the invention was available at the filing date, and that the full scope of the claimed invention is provided without undue experimentation, is critical to ensuring patent quality. The predictability of an AI system being considered will be a key component in the assessment of sufficiency of disclosure. However, predictability in the art is already managed in relation to other technical fields such as the life sciences. Thus, this is not considered to be a difficulty particular to the patenting of AI systems.

## **Skilled persons**

We anticipate that understanding of “persons skilled in the art” will evolve as technology progresses and AI expands and develops. Further, the description of the skilled person will also be key in the assessment of “inventive step”; this has been already considered and managed in other developing technical fields. For example, it is envisaged the skilled person may be considered to be skilled in using AI tools where this is common in the relevant technology field at the filing of the application.

## **Ethical and societal considerations**

The application of AI models to new problems by providing input data, training data and the processing of such data sets raises difficulties in sufficiently disclosing the invention, whilst retaining confidentiality of the data. For example, where training data is provided by large data sets of health data from many individuals to develop an AI process, the description of the process and the application of such an AI process on input data, cannot be easily described without breach of confidentiality of the data.

There are ethical and societal concerns for disclosure of an AI invention - for example, to allow assessment of any potential bias of algorithms of an AI system. It is considered these ethical and societal questions should be considered separately from the disclosure requirements for patentability. To satisfy ethical and societal concerns, new processes to enable access to data utilised by AI systems, whilst preserving confidentiality of such data may be required. These might be provided in a similar way to processes of regulatory approval in the pharmaceutical sector. Similar data exclusivity rights as provided in the pharmaceutical sector as part of the regulatory approval process may be appropriate in the AI field.

## **Copyright**

---

### **Ownership – current framework under CDPA**

It would be helpful to have clarity on issues of ownership and liability for AI under copyright law in the UK.

It is clear that copyright is one of the main forms of protection relevant to AI, being the form of IP subsisting in computer generated works such as programs, coding and algorithms. Under copyright law in the UK, it is only ever envisaged that a natural person/human will be the author, even where the works are machine written.

Section 9(1) of the Copyright Designs and Patents Act 1988 (“CDPA”) states that the author of a work is the person who creates it. Moreover section 9(3) states that in the case of “a computer-generated [work], the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken”.

With regard to AI, it seems straightforward that the person who writes the computer program will be the owner of it. Even where there is a ‘contribution’ made by the computer either by interpreting the instructions, executing the program or generating an output that is not specifically carried out by a human, again the legislation seems clear. The person who makes the arrangements for it to operate is the owner. Indeed, this is reflected in the definition of ‘computer generated’ in Section 178 CDPA which states that it includes work “generated by computer in circumstances such that there is no human author of the work”.

### Issues with originality

Copyright subsists in computer programs which are original. Following the jurisprudence from the CJEU, it was held that it is not sufficient for the works to be original where the author only exercised sufficient skill, labour or effort in its creation. In the *Infopaq* case (C-5/08) the CJEU decided that copyright must be the author’s own ‘intellectual creation’. This harmonised the approach to originality set out in Article 1(3) of the Software Directive and Article 3(1) of the Database Directive.

Furthermore in *Football Dataco* the CJEU held that the “criterion of originality is satisfied through ... its author expressing his creative ability in an original manner by making free and creative choices”. This does not necessarily mean that every part of the work must be original but rather it is a test applied to the work as a whole. The approach in the case law envisages that it is the human author who exercises these choices and thus only a human can own the copyright in the relevant works.

At present, there is a strong case to be made for the human involvement in AI so that the creator of it is naturally assumed to be the author. It is the person who exercises his/her intellectual creation in an original manner to create the algorithms that will be considered to be the owner. Even where those creative elements involve a ‘machine element’, such as those found in machine learning, the author can rely on the fact that he has made the arrangements for the work to be created to claim ownership. Without the input of the data sets, the setting of the input and output parameters and the assessment of the outputs themselves, the computer would not be directed to create the specified solution.

However, the complexity of AI is evolving at a significant rate and questions of authorship will inevitably come to the fore. A recent collaboration between the University of Cambridge and Microsoft has created DeepCoder, an AI tool that has taught itself to write code with no previous knowledge by taking lines of code from other programs and putting them together. DeepCoder is based on neural networks and demonstrates some human like characteristics in decision making. Against this background it seems inevitable that AI will

take on more of the intellectually creative process and exercise free and creative choices. It will have an increasing autonomy which deviates from human instruction. The further away that becomes from the human elements of control, the harder it will be to make a sound argument that the author is indeed the person who created the works or even who made the arrangements for it to be created.

Moreover, if a machine autonomously creates a program or a code, it seems unlikely that any human will have exercised his or her own intellectual creation by “expressing creative ability in an original manner by making free and creative choices”. The jurisprudence from the CJEU and the Software and Database Directives only envisage that a human author will be the owner of the works. This is consistently applied by the provisions in the Software Directive which states that the author has the exclusive rights to prevent unauthorised reproduction of the work. Clearly a computer does not have such capacity.

### **Dealings with AI works**

In commercialisation of AI works, the owner would usually be expected to provide a warranty that it owns the necessary IP which is the subject of the agreement. The licensor or the assignor would have to satisfy itself that it had met the criteria to be the author of the relevant works. The issues set out above regarding who the author is and whether the work is the author’s intellectual creation come to the fore. It would not be feasible for an owner to provide such a warranty if the AI has created the IP.

Moreover, in a claim for copyright infringement, it is a common tactic for the defending party to raise the issue of ownership and place the burden of proving ownership of the relevant works on the claimant/pursuer. Clarity on this will help owners to determine whether there is a sufficient nexus with the creation of the works to claim ownership.

### **Clearer legislation**

In light of the above, greater clarity on ownership would be helpful. As AI becomes more sophisticated and machine learning becomes prevalent, the gap between what happens in practice and how copyright law protects works in the CDPA could grow wider. Clearer legislation would also ensure that authors of AI works continue to be protected, which in turn encourages innovation.

There are also issues of proof when it comes to dates of creation and access to original works by an AI programme which could lead to difficulties in proving or defending copyright infringement cases.

In all of these cases, the most obvious conclusion is that there should be a strong element of human ownership, control and responsibility for the actings of AI works. Otherwise, complex algorithms could be used to avoid infringement and liability or provide the opportunity for human parties to act with impunity.



## Trade marks

---

### Functions of trade marks

Beyond the core ‘source identifier’ function, trade marks carry out a range of communication functions, identifying characteristics such as quality and affordability to the customer. AI technology will not be swayed by aspirational or romantic ideas which are currently central to the success of cultivating brand loyalty. AI will rely solely on data. For basic goods, where the average consumer has a low level of attention, there is likely to be less impact. However, in many sectors, trade marks are the only explanation for such wide price discrepancy between products which otherwise have comparable functionality.

### Applying existing legal concepts to AI

The definition of ‘average consumer’ has been developed to have imperfect recollection and the inability to compare marks side by side. These factors do not arise with AI. The assessment of how much attention is paid prior to committing to a purchasing decision also rests on human decision-making processes, rather than AI technology. The assumptions in law are that a lower degree of attention is paid where the goods are purchased regularly and the costs are low. However, these assumptions may not be accurate when considering the decision-making processes utilised by AI.

### AI infringement of trade marks

We are strongly of the view that AI should be regarded as tool, employed by a legal or natural person. That person should remain legally responsible for any infringement of third party trade mark rights. Having regard to the comments about AI being a tool, rather than a separate legal person, or similar, it is not necessary to consider whether or how “use in the course of business” would apply.

## Conclusion

---

This consultation raises a number of wide-reaching questions which go to the heart of IP law. As set out in the observations above, the Law Society of Scotland is firmly of the view that reform is neither necessary nor appropriate at this stage. However, if changes are contemplated, we believe it is vital that further consultation is carried out, including in-depth stakeholder engagement to allow for detailed discussion and analysis before any proposals are put forward.

### For further information, please contact:

Carolyn Thurston Smith  
Policy Executive  
Law Society of Scotland  
DD: 0131 476 8205