

AIPPI UK RESPONSE TO UK GOVERNMENT OPEN CONSULTATION

ARTIFICIAL INTELLIGENCE AND INTELLECTUAL PROPERTY: COPYRIGHT AND PATENTS

INTRODUCTION

AIPPI United Kingdom (AIPPI UK) supports the UK Government’s ambition to encourage innovation in AI technology and promote its use for the public good, while preserving the central role of intellectual property in promoting human creativity and innovation. We welcome the opportunity to respond to the Consultation entitled “Artificial intelligence and Intellectual Property: copyright and patents” (the “**2021 Consultation**”), requesting evidence and views on a range of options on how AI should be dealt with in the patent and copyright systems in the UK.

AIPPI UK is the UK national group of The International Association of the Protection of Intellectual Property, known as AIPPI (Association Internationale pour la Protection de la Propriété Intellectuelle), which is the world’s leading international organisation dedicated to the development and improvement of laws for the protection of intellectual property. AIPPI UK’s membership comprises over 400 IP professionals from all areas of the profession (barristers, solicitors, patent attorneys and trade mark attorneys, working in private practice, in-house and in industry, as well as academia).

This response has been authorised by and is made solely on behalf of AIPPI UK. AIPPI UK has not sought the views of AIPPI internationally. Nothing in this response is or may be taken to imply anything as to either the views of AIPPI internationally or the views of any particular individual.

This response builds on the submission made by AIPPI UK to the Government’s 2020 Consultation entitled “Artificial intelligence and Intellectual Property: call for views” (the “**AIPPI 2020 Response**” to the “**2020 Call for Views**”).

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Computer generated works

1. Please rank these options in order of preference (most to least preferred) and explain why

Initial comments

- 1.1. As set out in our answer to question 5 of the copyright section of the AIPPI 2020 Response, AIPPI UK considers that a limited form of protection for computer-generated works (“**CGW**”) is both justified and desirable. It must however be framed carefully, taking into account the eligible subject matter which may be protected, ownership of the right, the scope and term of protection and the relationship between the new right and the copyright awarded to original works of human authors (see paragraph 6.1 of the AIPPI 2020 Response).
- 1.2. The choice between Options 0, 1 and 2 is framed in the 2021 Consultation as the balance between incentivising the creation of CGWs with the cost to third parties, including the users of those works and human creators.
- 1.3. With respect to incentivising the creation of CGWs, the Impact Assessment accompanying the 2021 Consultation indicates that the Government has been unable to identify whether there are any clear differences in the levels of AI investment attributable to whether a jurisdiction currently protects CGWs. AIPPI UK wishes to make the following observations:
 - 1.3.1. **Current lack of legal certainty (UK):** As recognised by the notes accompanying the 2021 Consultation, it has been argued that the protection currently offered to CGWs in the UK is unclear and contradictory. Without legal certainty regarding the scope and application of the UK’s current regime, organisations may not feel sufficiently confident that UK is any more favourable for the creation and commercialisation of CGWs than other jurisdictions.
 - 1.3.2. **Current lack of legal certainty (general):** At present there is considerable uncertainty **regarding** the dividing line between human created works and CGW. The line is drawn by the requirement that, in order to obtain copyright protection, a work must be original. So far as AIPPI UK is aware, the application of the originality test to distinguish between works created by a human using an AI as a tool (“**AI Assisted Works**”) and CGW has yet to be considered by the courts in the UK or the EU¹. The extent of the causal connection required between human input and the characteristics of a work for the work to qualify as an original authorial work therefore remains untested. In addition to legal uncertainty regarding the nature of the test, works are often created in highly complex factual scenarios which may involve input from multiple individuals

¹ Outside the UK and EU, AIPPI UK notes the decision of Beijing High Court in *Feilin v. Baidu* (holding that a software-generated report was not protected by copyright) and the Nanshan District Court of Guangzhou Province in *Shenzhen Tencent v. Yinxun* (holding that there was sufficient human intervention in the creation of an article by automated writing software to merit copyright protection). Based on English language reporting of the judgments, in each case the decision appears to have turned on the specific circumstances in which the works were created.

(e.g., in data selection, sourcing and synthesis, data engineering, model creation, selection, training, evaluation and tuning and system deployment, monitoring and retraining). The result of this uncertainty is that organisations involved in the creation of works using AI systems may reach differing views regarding their eligibility for copyright. One organisation using AI in the creation of works may, for example, consider their works to have human authors, while another may consider works created in identical circumstances to be CGWs. The current divergence of opinion on the application of traditional copyright to works created using AI may act as a confounding factor in studying the link between AI investment and the protection of CGWs.

- 1.3.3. **Application of CGW protection to AI model data structures:** Much of the public debate around CGWs has focused on the creation of works of popular culture for human enjoyment (music, art, novels). However, the creation of AI models often involves the **use** of automated processes. As discussed in paragraph 8 of copyright section of the AIPPI 2020 Response, this gives rise to the question of whether certain AI models are protected by copyright. AIPPI UK considers that clarifying the legal protection afforded to AI models could act as an incentive for organisations to invest in developing and deploying those models in the UK.
- 1.3.4. **Future developments:** The technology necessary for the creation of CGWs is still developing and will continue to develop. Equally, the markets for CGWs are still evolving and the economic significance of CGWs will vary across industry sectors. In each case, developments may happen very quickly. The level of investment in the creation of CGWs and the importance of their legal protection in driving investment decisions is therefore likely to change over time, potentially within a short space of time. Beyond any current economic considerations, clear rules for the protection of CGWs could therefore provide a framework for future investment in their creation and commercialisation in the UK.
- 1.4. With respect to the cost to third parties wishing to use CGWs, AIPPI UK is not currently aware of any examples of situations where a party's desire to access CGWs has been hindered by the current protection of these works in the UK. AIPPI UK also notes that a lack of *in rem* protection for CGWs does not necessarily result in those works becoming freely available for use by third parties as those creating the works (assuming they are sufficiently incentivised to do so) may adopt alternative legal and technical measures which prevent reuse (see further paragraph 1.8.1 below).
- 1.5. With respect to the cost to human creativity, AIPPI UK considers that the expression of human personality through the creation of works is a cornerstone of human culture and must continue to be encouraged, rewarded and protected. Any protection offered to CGW should not act to diminish the incentivisation and recognition of human creativity. AIPPI UK is aware of three areas of concern regarding the impact of CGW protection on human creativity; (i) philosophical objections that protecting CGW dilutes the promotion of human creativity which is inherent in the copyright system; (ii) practical concerns that CGWs could come to dominate in certain markets reducing the

incentive for human generated works to be created; (iii) legal concerns that protecting CGW could incentivise their mass creation as a mechanism to threaten human authors with infringement proceedings based on allegations that they have copied a CGW.

- 1.5.1. With respect to (i), AIPPI UK notes that economic rights are already awarded in the UK to certain categories of subject matter (such as films and sound recordings), which encourage certain types of investment without undermining the copyright protection awarded to original works.
- 1.5.2. With respect to (ii), AIPPI UK is not able to form a conclusive view on the extent of these risks, as they depend to a large extent on future technological development and the extent to which CGWs are accepted in the market as direct replacements for human created works. AIPPI UK does however anticipate that CGWs are less likely to be accepted as a direct replacement for categories of human created works which are enjoyed because they provoke an emotional response in the viewer (which are generally those with greater cultural significance). AIPPI UK notes that this concern is also linked to the issue of false attribution, which is discussed further below.
- 1.5.3. With respect to (iii), concerns of this nature could be addressed through an appropriate scope of protection for CGWs and other procedural checks and balances in the context of litigation proceedings.

Proposed Policy Options

- 1.6. AIPPI UK considers Option 2 to be the most preferable for the following reasons:
 - 1.6.1. **Option 2 incentivises the creation and dissemination of CGWs:** The creation and dissemination of CGWs may give rise to a public good. This could include the creation of categories of work which are not economically viable for human authors to create or provide works which satisfy needs which are currently underserved by human authored works. The incentives to invest in the creation and publication of such works would be significantly reduced without the existence of an *in rem* restriction on third party dealings.
 - 1.6.2. **Option 2 retains the primacy of human creativity:** AIPPI UK considers that a limited form of protection for CGW allows a balance to be struck between encouraging the societal benefit which may arise from the production and dissemination of CGW with the **primacy** of human creativity.
 - 1.6.3. **Option 2 allows a new balance to be struck:** AIPPI UK considers that Option 2 is preferable to Option 1 as it allows a reassessment of the balance between incentivising creation of CGWs and the cost to third parties. This reassessment can be undertaken informed by the current state of AI technology, potential future developments, and concerns regarding its potential impact of human creativity.
 - 1.6.4. **Option 2 allows consideration of transparency requirements:** The current CGW protection in the UK applies irrespective of whether a work is identified

as such. Option 2 provides the opportunity to reassess whether transparency requirements could form part of the conditions for protection.

- 1.6.5. **Option 2 promotes certainty in the licensing of CGWs:** Providing a limited *in rem* right for CGWs promotes certainty in their commercialisation as it provides a clear legal basis for their licensing, including on creative commons or open-source terms. Without such a right, parties wishing to commercialise CGWs must impose obligations of **confidence** on those wishing to access the works, or otherwise rely on contractual obligations which control the use of the works and prohibit further dissemination.
- 1.7. AIPPI UK considers Option 0 to be less preferable than Option 2. As AI technology develops the term and scope of protection currently offered to CGW in the UK may become incommensurate with the investment required to create a CGW, or the societal benefit generated through the dissemination of that work. However, AIPPI UK considers Option 0 to be preferable to Option 1 as it avoids the disadvantages of Option 1 set out in paragraph 1.8 below.
- 1.8. AIPPI UK considers Option 1 to be the least preferable for the following reasons:
- 1.8.1. **Option 1 leads to a cliff edge in protection:** Adopting Option 1 would result in a binary distinction between works which are human-created and entitled to copyright protection for the life of the author plus 70 years, and CGWs which are not entitled to any form of *in rem* protection (unless they are protected by an existing related right, e.g., as a sound recording). This “cliff edge” would place significant pressure on the legal distinction between AI Assisted Works and CGWs which, as set out in paragraph 1.3.2 above, is currently unclear.
- 1.8.2. **Option 1 leads to legal uncertainty for third parties:** Third parties may have no realistic prospect of establishing whether a work (e.g., an image found online without attribution) is a human authored work or a CGW. Under Option 1 this work could either be subject to full copyright protection or no protection at all, and no mechanism would exist enabling the third party to determine between the two.
- 1.8.3. **Option 1 may result in restricted availability of CGWs:** Removing protection for CGWs **could** incentivise those who wish to commercialise them in the UK to adopt other legal and technical measures to secure a monopoly over access and use of those works. This could include the use of contractual restrictions and/or technical protections which prohibit those with access to the works from undertaking certain activities. As CGW would not be subject to copyright protection, they would not be subject to statutory exceptions to copyright or the prohibitions on certain contractual terms which purport to exclude certain statutory exceptions. For example, it would be possible to impose a contractual term which prohibits the decompilation of a computer program which was a CGW, when such a term would be void in respect of a computer program with

a human author under s296A CDPA². Removing protection for CGWs could therefore have the unintended consequence of making such works less available for use by third parties.

1.8.4. Option 1 may negatively impact the protection of AI Assisted Works:

While AI Assisted Works would retain copyright protection under Option 1, moving from a position where CGW are protected to one where they are not would create the impression in the minds of AI developers and investors that the UK does not recognise any form for protection for works created using AI systems. It would also potentially result in UK courts reaching a narrower view of AI Assisted Works, on the basis Parliament would have legislated to specifically exclude CGWs from any form of protection. Both factors could create a disincentive for investment in the use of AI systems for the creation of works in the UK.

- 1.9. In the case of Option 2, AIPPI UK considers that the subject matter eligible for protection should be clearly defined and allow the creators of CGW and third parties to establish with ease whether a particular work is protected. Categories of subject matter which are not currently eligible for copyright as original human authored literary, dramatic, musical or artistic (“**LDMA**”) works (e.g., factual information) should not be protectable. AIPPI UK proposes that an “objective originality” test should be adopted to define the subject matter eligible for protection under either Option 2. This test would consider the counterfactual; had the LDMA work been created by a notional human author, would it be considered original, i.e., the author’s own intellectual creation? If Option 0 is adopted, and no changes are made to the CDPA, any clarification of the subject matter which is eligible for protection would need to arise as a matter of case law.

2. Do you currently rely on the computer-generated works provision? If so, please provide details of the types of works, the value of any rights you license and how the provision benefits your business. What approach do you take in territories that do not offer copyright protection for computer-generated works?

- 2.1. AIPPI UK is not involved in the creation of CGW. We do however make the following observations:
- 2.1.1. The legal uncertainty regarding the application of the UK’s current CGWs provision may **reduce** the willingness of organisations to rely on it.
- 2.1.2. The technology to produce CGWs is still developing, as are the markets for their **consumption**. Organisations may therefore place greater reliance on the provision in future.

² There may of course be circumstances in which such a term in respect of a CGW would be unenforceable for other reasons, e.g. as a breach of the common law doctrine of restraint of trade or as a breach of competition law.

- 2.1.3. Commercial arrangements relating to AI commonly assume that copyright subsists in the **relevant** subject matter, without undertaking a detailed examination of whether that subject matter is an AI Assisted Work or CGW.
- 2.1.4. We are aware of only one reported decision to date in which the CGW provision has been considered - *Nova Productions Ltd v Mazooma Games Ltd & Ors* [2006] EWHC 24 (Ch). The issue was not considered on appeal, and at first instance no finding was made as to whether or not the work in issue was computer generated, as on the facts of that case the author of the work on one approach, and of the computer program which created the work on the alternative approach (in which case the position would have been governed by the CGW provision) were one and the same.
3. **If we introduce a related right for computer-generated works, as per option 2, what scope and term of protection do you think it should have? Please explain how you think this scope and term is justified in terms of encouraging investment in AI-generated works and technology.**
- 3.1. **Scope of protection:** In light of concerns that a new right could negatively impact human creativity, AIPPI UK considers that the scope of protection under Option 2 should not extend beyond that which is necessary to incentivise the creation and dissemination of CGWs in the UK. AIPPI UK proposes that any new right should be framed along the same lines as the scope of protection which applies to existing entrepreneurial rights. The new right could, for example, prohibit only the facsimile reproduction of all or a substantial part of a CGW, along with further dealings (such as communication to the public) in relation to such a facsimile reproduction. Restricting the scope of protection in this way would allow rightsholders to secure their investment by preventing free riding through the direct reproduction of CGW, while permitting human authors to take inspiration from, adapt or reinterpret elements of those works. Such an approach would reduce legal concerns that protecting CGW could incentivise their mass creation as a mechanism to threaten human authors with infringement proceedings based on allegations that they have copied a CGW (see paragraph 1.5 above).
- 3.2. **Term of protection:** In recognition of the importance of human creativity, AIPPI UK considers that the term should be substantially shorter than that afforded to human authored works and should be no longer than is necessary to incentivise the creation and dissemination of CGWs in the UK. The term should however allow a reasonable opportunity for those creating CGWs to recoup and profit from their investment. AIPPI UK considers that considering the current state of AI technology and the developing markets for CGWs, a term of 15 years would be appropriate. However, the time required to make a return on the creation of CGWs may be longer today, when the technology is more expensive to deploy and the market for such works needs to be developed, than in future where the technology and markets are better developed. AIPPI UK therefore considers that it would be advantageous for the Government to build in a mechanism to shorten the duration of protection for new CGW, should the state of AI technology mature to a point where very little investment is required for their creation and markets for their commercialisation are readily available.

4. What are your views of the implications of the policy options and of AI technology for the designs system?

- 4.1. AIPPI UK does not consider the policy options to have direct implications for the designs system.
- 4.2. For AIPPI UK's view of the implications of AI technology for the designs system we refer designs section of the AIPPI 2020 Response.

5. For each option, what are your views on the risk that AI generated works may be falsely attributed to a person?

- 5.1. AIPPI UK understands the concern regarding false attribution to cover situations in which a person falsely claims that a work generated by AI was authored by them to obtain protection to which the work would otherwise not be entitled.
- 5.2. AIPPI UK notes this problem exists under the current system of CGW protection (and would continue to exist under Option 0) as a human could claim to be the author of a CGW and obtain copyright protection for their lifetime plus 70 years, rather than the 50 years from the year of creation which applies to a CGW. However, given that CGWs have only come to prominence in the last decade, it is fair to say that the difference between these two terms has not been an issue thus far.
- 5.3. False attribution may however become far more important if either Option 1 or 2 are adopted, as the difference will become one of full copyright protection vs no protection (Option 1), or full copyright protection vs shorter and narrower protection (Option 2). The incentives to falsely attribute will therefore become greater. The 2021 Consultation mentions that the Fraud Act 2006 would penalise people who make false representations for gain. However, given that the distinction between a CGW and a human created work depends on the application of complex case law on originality/intellectual creation, it is difficult to see how prosecutions could be brought against those claiming to be authors of works unless it was very clear that they knew that they were not - nor might not be - the author, such that the *mens rea* required by section 2 of the Fraud Act could be established to the criminal standard.
- 5.4. AIPPI UK notes that aside from false attribution, an equally important issue from the perspective of third parties wishing to use a work are circumstances in which a work is not accompanied by any attribution. While s104(2) CDPA establishes a presumption that a person named on copies of a work is the author, there is no requirement for an author to be identified in this manner to obtain protection for their works, and indeed any such requirement, as to LDMA works, is precluded by Article 5(2) of the Berne Convention, by which "[t]he enjoyment and the exercise of [the rights the subject of the Convention] shall not be subject to any formality". Many circumstances therefore arise in which the author of a work is not identified (e.g., unattributed images found via an online image search) and indeed section 116A CDPA provides for the collective licensing of works for which the copyright owner cannot be found after a diligent search. Without attribution a third party is unlikely to be able to distinguish between a human authored work and a CGW and will not therefore know whether they are free to use the work.

- 5.5. AIPPI UK considers that Option 2 could offer a potential route to address lack of attribution. One potential solution would be to introduce an additional requirement that a new right could only be enforced if a CGW (or lawful copies thereof) are marked or tagged in some way to indicate their status as CGWs and the year in which they were created. Such an approach would also have the added benefit of providing consumers of those works with a level of transparency regarding the process by which the work was created, e.g., they would be informed that the work had been created without a human author and could take economic decisions regarding that work accordingly.

Text and data mining

6. **If you license works for TDM, or purchase such licences, can you provide information on the costs and benefits of these? For example, availability, pricing, whether additional services are included or available, number and types of works covered by the licence. Please also consider the benefits that TDM provide to you and your colleagues.**

6.1. AIPPI UK is not involved in TDM activities. We do however make the following observations based on the experience of our membership of IP professionals:

6.1.1. The commercial feasibility of obtaining a licence to works for TDM activities is affected by several factors, including the number of rights holders involved, their willingness to grant licences for TDM purposes and the experience of both parties in negotiating the licence terms for TDM.

6.1.2. Obtaining a licence is commercially feasible where rights in the works are controlled by a small number of entities who are willing to license them for TDM purposes, and the parties have experience pricing the transaction and negotiating relevant licensing terms. In these circumstances transaction costs are generally low.

6.1.3. Obtaining a licence becomes less feasible where one, or both, of the parties involved has limited experience licensing works for TDM. This can result in protracted discussions regarding the price and appropriate licence terms, increasing transaction costs.

6.1.4. Obtaining a licence becomes commercially challenging where works originate from many different sources, as the process of identifying all the relevant rights holders and negotiating individual licences involves significant time and money. This commonly arises where the works are found online, e.g., images from multiple websites identified through an online image search. Without a single point of licensing for the dataset, the task of obtaining licences covering every work in the dataset may be insurmountable and AI developers are faced with the choice of either abandoning the project or running the risk that each individual rights holder will not find out about the use of their work for TDM or be concerned enough to take any enforcement action.

6.2. While the question refers only to “works”, AIPPI UK wishes to make the following observations regarding the subject matter which may be the subject of licence for TDM:

6.2.1. **Protected databases:** Data provided in a structured database is often easier to use for TDM. Licensing of databases protected by the *sui generis* right for TDM should therefore be encouraged. In this regard AIPPI UK notes that following the UK’s departure from the EU, Regulation 18 of The Copyright and Rights in Databases Regulations 1997 has been amended such that protection only arises where a maker of the database has a connection to the UK. A connection to the EEA is no longer sufficient. This may reduce the willingness

of organisations established in the EEA to licence newly created databases to those in the UK, as extraction or reutilisation of the contents will not amount to an infringement of a UK database right. AIPPI UK strongly believes that reciprocal protection for databases should form part of future trade agreements made between the UK and the EU.

- 6.2.2. **Data not protected by IP rights:** As recognised by the 2021 Consultation, not all sources of text or data will be protected by copyright or database right, although other areas of law may be relevant, including data protection, general licensing, or other contractual restrictions. These data sources can be of substantial value for TDM and AIPPI UK believes that they should be considered as part of any Government initiatives to encouraging and facilitate data licensing. AIPPI UK further notes that the provision of mandatory exceptions to copyright and database right for TDM which prohibit contractual opt-out by the rightsholder could leave those in possession of datasets which do not benefit from copyright or a database right in a stronger position to prohibit TDM than those who do hold such rights³.
- 6.3. AIPPI UK observes that while some data licences are granted by way of a specific data licence agreement, the terms on which data can be accessed and re-used (including for TDM) are commonly found in other forms of commercial agreement, e.g., a contract for the provision of an AI based service will commonly contain provisions regarding the terms on which the service provider can access and re-use customer data, e.g., to maintain or enhance the service, or to develop new services. These contractual terms can form an important element of the commercial balance achieved between the parties, e.g., a service provider may be willing to offer a service at a lower price if they have the right to undertake TDM activities using customer data. AIPPI UK considers that any changes to the legal framework for TDM should take this broader context into account.
7. **Is there a specific approach the government should adopt in relation to licensing?**
- 7.1. AIPPI UK recommends that the Government consider an approach which (i) encourages data licensing for TDM by reducing transaction costs; and (ii) facilitates the licensing of works for TDM in circumstances which currently make licensing commercially challenging. AIPPI UK also believes that any approach adopted with respect to licensing should encourage and incentivise the making available of works and protected databases in formats which are amenable to TDM.
- 7.2. **Encouraging bilateral licensing:** While several open-source data licences have been made available for organisations wishing to facilitate the re-use of their data, these standard agreements are of limited use to parties who wish to enter commercial licences governed by English or Scottish law. To reduce transaction costs for data

³ See, by way of analogy, the CJEU's decision in *Ryanair Ltd v PR Aviation BV* (C-30/14) that the holder of a database which is not protected by copyright or the *sui generis* right was not precluded from imposing contractual limitations which would be null and void under Article 15 of Directive 96/9/EC if such rights had subsisted in the database.

licensing, AIPPI UK supports the creation of standard TDM data licences for use in a commercial context, along with educational materials to support organisations adopt these licences. Standard licences should be suitable for use with data protected by IP rights and data which is not protected by such rights (see paragraph 6.2.2 above). AIPPI UK also supports the development of technical standards for the provision of works and protected databases in formats which facilitate TDM.

- 7.3. **Facilitate licensing which is currently commercially challenging:** In addition to encouraging direct licensing by rights holders, AIPPI UK supports the exploration of extended collective licensing as a potential solution to situations in which a party is willing to pay for a licence to use published works for TDM but is prevented from doing so by the transaction costs, e.g., a need to identify and negotiating licences with many individual rights holders. An extended collective licensing solution could involve collecting societies offering licences for TDM activities in relation to one or more category of works. The grant of licences by collecting societies for TDM could either be encouraged through voluntary codes of conduct for collecting societies or mandated by law. In either case, AIPPI UK believes that careful consideration should be given to scope of the TDM licence required to be granted. TDM activities which are intended to result in subject matter which competes in the market with works which are used as training data are more likely to be objectionable to rights holders than TDM activities which do not result in such subject matter. For example, the use of photographs in TDM to create an image classifier is less likely to give rise to an objection by the rights holder than the use of their photographs to create an AI system which itself creates images. An extended collective licensing scheme should permit rights holders to opt out of the scheme and conclude their own bilateral licences for TDM.
- 7.4. A collective licensing approach might also consider the extent to which collecting societies could make works available in a format which makes them amenable to TDM, and whether the provision of works in this format could command enhanced royalty payments.
- 7.5. AIPPI UK notes that database rights are not currently subject to collective licensing schemes. The challenge of licensing from multiple sources is generally less acute in the context of databases, as a single database is more likely to contain the totality of data required for a TDM project than a single copyright work. As a result, AIPPI UK believes that a collective licensing solution is more appropriate for copyright works than for databases protected by the *sui generis* right.
8. **Please rank the options in order of preference (most to least preferred) and explain why.**

Commercial TDM

- 8.1. AIPPI UK considers that any option adopted by the Government with respect to TDM for commercial purposes should incentivise investment in AI development in the UK by lowering barriers to parties lawfully obtaining the right to undertake TDM activities in relation to copyright works. Consideration should also be given to the legitimate interests of rights holders, who should be entitled to object to the use of their works to create competing subject matter and should be entitled to reasonable compensation

for commercial uses of their works. However, this compensation should reflect that TDM processes do not use works for their primary purpose of human enjoyment.

- 8.2. AIPPI UK considers Option 1 to be the most preferable if it includes measures to encourage bilateral licensing together with extended collective licensing for the commercial use of copyright works for TDM activities which do not create competing subject matter. AIPPI UK considers that improving the licensing environment for commercial TDM is preferable to introducing new exceptions, as licensing provides commercial certainty for the party undertaking the TDM, while allowing rights holders to participate in the economic benefits which arise through use of their works.
- 8.3. If Option 1 is not adopted, AIPPI UK considers Option 3 to be preferable to Option 4. Adopting Option 3 would harmonise the position between the UK and EU and remove the risk of AI investment being diverted from the UK to the EU because the EU offers a more favourable regime for commercial TDM. By adopting Option 3 the UK would also have the opportunity to provide more commercial certainty for rights holders and those engaged in commercial TDM by developing its own guidelines and framework for rights holders to opt-out their works.
- 8.4. AIPPI UK considers Option 4 to be less preferable to Option 3 for the following reasons:
 - 8.4.1. it would undermine the market for bilateral licensing and investment in services which make works and databases available in formats which facilitate commercial TDM;
 - 8.4.2. it would have the potential to adversely impact the negotiation of other commercial arrangements, such as AI services agreements (see paragraph 6.3 above); and
 - 8.4.3. it would place the holders of copyright and database rights in a worse position than those who control datasets which are not protected by these rights (see paragraph 6.2.2 above).

TDM for scientific research

- 8.5. With respect to scientific research, AIPPI UK considers Option 2 to be preferable to Option 0 as it would facilitate a wider range of research projects and public-private collaborations while providing safeguards for rightsholders. However, to avoid undermining investment in services which aim to provide materials in formats which are especially suited for TDM, the exception for commercial scientific research could be qualified as applying only to the extent a licensing scheme for TDM activities does not already exist for those works or databases.
9. **If you have experience of the EU exception with opt out for rights holders, how has this affected you?**
 - 9.1. AIPPI UK notes that the TDM exception provided by Article 4 of Directive 2019/790 is still relatively new. Many organisations with operations in the EU are still working to understand the scope of the rights holder opt out under national law implementations

of the Directive. AIPPI UK notes, for example, that a reservation of rights “in an appropriate manner” under Article 4(3) has been the subject of substantial debate. One issue under discussion is whether “browse wrap” website terms and conditions (i.e., those which can be accessed via a link on a website but do not need to be expressly agreed to by a visitor to the site) are an appropriate reservation of rights. Restrictions contained in website terms and conditions can take on a variety of linguistic forms and can be difficult to interpret in a machine-readable fashion. While AIPPI UK is aware of work to develop a machine-readable standard for indicating a reservation of rights, this remains at an early stage and the extent to which failure to use a specific technical standard would preclude a rights holder from reserving their rights remains unknown.

- 9.2. While the scope of the EU exception remains to be fully understood, AIPPI UK is aware examples of commercial organisations established in the UK considering whether to relocate their AI research and development activities to the EU to take advantage of the TDM exception provided by Article 4 of Directive 2019/790. AIPPI UK anticipates that in those areas of AI development which require the use of works protected by copyright or databases protected by the *sui generis* right, differences in the approach to TDM exceptions between the UK and EU will be one factor which inform future investment decisions.

10. How would any of the exception options positively or negatively affect you? Please quantify this if possible.

- 10.1. AIPPI UK considers that adopting Options 1 and 2 in the form set out in paragraph 8 above would further enhance the UK’s position as a leading centre for AI research and development while giving due consideration to the legitimate interests of rights holders.

Patent protection for AI-devised inventions**11. Please rank these options in order of preference (most to least preferred) and explain why?***Initial Comments*

- 11.1. AIPPI (UK) is supportive of the UKIPO's desire to ensure that the UK economy and its much-respected patent system remains fit for purpose in respect of new technologies, including artificial intelligence.
- 11.2. We believe that the availability of patent protection is an important part of a legislative system that rewards investment in research and development that results in new and inventive technology.
- 11.3. The UK's patent system also seeks to balance the needs of the patentee with those of the general public who are entitled to practise innovations that are not protected by intellectual property rights, either because they have expired or because they are excluded under existing legal principles.
- 11.4. We believe this balance is important in driving a successful innovative economy. Over-extending patent protection may disincentivise smaller innovative companies from developing or commercialising their products in the UK. Similarly, not allowing for the protection of some new technology that is intrinsically inventive purely for semantic reasons, could undermine the rationale for a patent system as a matter of principle, and may reduce the commercial value of innovative products to potential rights holders.
- 11.5. Given the importance of technology to the UK's economy, which includes a significant population of start-up and scale-up companies⁴, we believe it is important that this balance is carefully considered in the context of the policy discussions concerning the patentability of AI-generated inventions.
- 11.6. It is worth noting that today, *AI-related* inventions are very much common subject matter for patent applications.⁵ The 2020 Call for Views focussed on distinguishing between AI-assisted inventions on the one hand and AI-generated (or AI-devised) inventions on the other. AI-assisted inventions may be characterised in AI is typically used as a 'tool' by a human – a human that would qualify as an inventor under the Patents Act 1977. By contrast, an AI-devised invention requires that the AI itself has generated the inventive concept (either on its own or jointly with a human co-inventor).
- 11.7. We note that in the alternatives set out by the UKIPO in the 2021 Consultation, Options 1 to 3 assume that AI would be recognised by legislation as the "deviser" of the invention. Only Option 0, that advocates a 'no change' legislative position, rejects the proposition that AI can be considered as the deviser.

⁴ At just over \$32bn of start-up investment in the 12 months to 29 October 2021, the UK ranks third globally behind the US and China <https://news.crunchbase.com/news/countries-most-startup-investment/>

⁵ Artificial Intelligence, A worldwide overview of AI patents & patenting by the UK AI sector, UKIPO, June 2019

- 11.8. Given the UKIPO's first consultation on AI inventorship in November 2020 and the various decisions concerning the DABUS patent applications, AIPPI UK considers that there is an underlying question which should be addressed from a policy perspective before trying to frame answers to the question of inventorship. Specifically, **“should AI-devised inventions be patentable?”**
- 11.9. Focussing on patentability more generally highlights a fundamental concern about the awarding of patent rights in relation to AI devised inventions. In the event that a pre-existing AI system could be tasked with devising a solution to a known technical problem, which it then does by generating a novel and inventive solution, is it right that this solution should be patentable? The human that tasks the AI system with the problem would likely be entitled to the resulting patent, as a result of which they will have gained significant commercial advantage merely because of their access to existing AI technology and because they were the first to pose the problem to the AI system, but they would not by themselves have solved it (i.e. it was solved by the AI). Is such an outcome acceptable where it is possible, or even likely, that the skilled (human) person faced with that problem and with access to the same technology may have been likely to do the same? On the face of it, it seems that this could lead to patent rights being awarded to those with the best access to AI technology, rather than to (human) individuals or entities which themselves develop innovative solutions. Moreover, it begs the question as to whether and how the skilled person can be defined in relation to AI systems which themselves will have an increasing level of built-in technical skill and expertise. Should such patents fail for lack of an inventive step because it would be obvious for a skilled person to use an existing AI system when confronted with a known technical problem (i.e. using an AI will always be an inherently obvious thing to do)? If the answer to this question is yes, there seems little rationale for amending patent inventorship rules to accommodate AI systems, when all such applications may, ultimately, fail. Potential rights holders could incur significant costs acquiring rights which, in the end, are shown to lack inventive step. AIPPI UK's view is that this would be an undesirable outcome.
- 11.10. AIPPI UK considers it would therefore be useful to directly address with industry such wider-ranging policy questions and to highlight the commercial consequences that arise from the issue of patentability of AI-devised inventions.
- 11.11. From the interactions of our membership with other professionals and industry, and indeed at the recent UKIPO AI round-table sessions, AIPPI UK does not believe there is currently consensus in the UK on whether AI-devised inventions should be patentable. For example, some representatives from large UK-based electronics companies are not in favour of legislative changes to facilitate AI-devised patents. By contrast, representatives of the pharmaceutical sector are more vocally in favour. Accordingly, it is clear that factors such as the nature of the industry, technological sophistication and the economic resources of any particular company will materially influence whether it views AI-devised patents as beneficial or detrimental to its operations.
- 11.12. We would therefore support the UKIPO facilitating a deeper 'in principle' discussion with a broad cross-section of UK industry on this one question before attempting to

define legislation around inventorship that assumes that the majority of UK stakeholders think AI-devised patents are desirable.

- 11.13. Should it become clear from this first step that UK industry favours the availability of patent protection (or a form thereof) for AI-devised inventions, then we would support as a second step, a process that explores how such protection would work in practice. The results of such a process would then inform the nature of the legislation required to give effect to the desired protective framework.
- 11.14. The current UK legislation dealing with patentability was formulated to support human innovation and does not contemplate a scenario where a non-human is devising inventions⁶. Indeed, this was one of the points that all of the Judges agreed upon in the recent DABUS decision in the English Court of Appeal.⁷ In such circumstances, there are likely to be inherent problems with adjusting existing legislation to accommodate a system for AI-devised inventions that will have some fundamentally different basic principles.
- 11.15. Notwithstanding our view above we have nonetheless attempted to answer the questions 11 to 17 below.

Question 11

- 11.16. AIPPI UK would rank the options listed in order of preference (most to least preferred) as follows: 0, 3, 1 = 2.
- 11.17. We believe that until such time as there is a clear mandate for patenting AI-devised inventions from industry members that develop or commercialise technology in the UK, then amending legislation seems premature and could risk having an overall negative effect on the UK's innovation landscape.
- 11.18. As a result, at least for now, "Option 0: Make no legal change" is the favoured option.
- 11.19. To the extent that there is a clear indication from UK industry that AI-devised inventions should be protectable as a patent right (or similar), then we think there could be a separate process to explore what is the most appropriate form of protection and how it should be achieved.
- 11.20. Once complete, the results from the process would inform the nature of the legislation required, whether it could be implemented by amending existing legislation or whether it would require the introduction of a new type of protection altogether as proposed in Option 3. In principle, however, we believe that a more separate approach to protecting AI-devised inventions could have its benefits over adapting existing legislation so accordingly Option 3: a new type of protection is the next favoured option.
- 11.21. We do not think it possible to assess whether the alternatives raised in Option 3 (e.g. a type of patent right which incorporates a stricter inventive step test, or has a shorter

⁶ For a fuller discussion of 'actual deviser' see *Yeda Research v Rhone Poulenc* [2007] UKHL 43

⁷ [2020] EWHC 2412 (Pat) at paragraph 55.

term) are appropriate until a further exploration of industry needs is conducted, though this is broadly addressed in our responses to questions 16 and 17.

- 11.22. AIPPI UK views Option 1 and Option 2 as the equally least favoured options.
- 11.23. Option 2 proposes that UK patents protect AI-devised inventions and that this is achieved in one of two ways - either by: a) allowing AI to be named as inventor, or b) removing the requirement to name an inventor where the invention is devised by AI. Ownership would not pass to an AI but would pass to “the human closely responsible for an invention devised by AI”. Option 2 also suggests that ownership may be deemed to lie with the human who made the arrangements necessary for AI to devise the invention, as in Option 1.
- 11.24. As mentioned above, AIPPI UK currently does not think that there is sufficient reason (or consensus) from a policy perspective, to allow for UK patents to protect inventions devised by AI, irrespective of how it is achieved.
- 11.25. Principles of inventorship and ownership are closely linked under the Patents Act 1977 which provides that the primary owner of the patent is the inventor⁸, and, in preference to the inventor, any person so entitled through, *inter alia*, an enactment or agreement (e.g. an employer through an employment contract). This important principle again highlights how the current regulatory framework is centred around natural persons and the need to have legal personhood – from invention to ownership (and ultimately commercialisation in order to generate value).
- 11.26. In the event that policy discussions with interested parties achieve sufficient support at a national level for protecting AI-devised inventions, Options 2 a) and b) give rise to a number of problems, not least the issue of ownership. Option 2 purports to solve this by introducing a form of deeming provision in favour of the human “closely responsible for an invention devised” by the AI. In practice what would qualify such a human for being deemed the patent owner is very unclear. How close must the human’s involvement be? Is it someone that provides the training data? Is it someone who merely sets the problem to be solved? Is it the programmer of the AI or someone that owns the AI (presumably meaning someone that owns the copyright in the AI software) following the “fruit of the tree” principles argued in the Court of Appeal in DABUS? It is notable that the proposed wording in the 2021 Consultation is focussed on responsibility for the “invention”, rather than the AI itself.
- 11.27. The UKIPO suggests that perhaps the correct criterion is that of Option 1, namely that the patent owner is the human who made the arrangements necessary for AI to devise the invention. The only difference between the two options would be that one would deem the human that made the arrangements as the inventor, whereas the other would deem the same human as the owner. There are, nonetheless, some practical consequences of this in terms of employer ownership of inventions depending on

⁸ S.7(2) Patents Act 1977.

whether Option 1 or 2 were to be applied, and thus the legal basis for employer ownership of employee inventions would likely have to be reviewed⁹.

- 11.28. Option 1's deeming provisions in respect of humans that have "made the arrangements necessary for the AI to devise the invention" appears to be taken from copyright legislation that provides that the author of a literary, dramatic, musical or artistic work which is computer-generated "shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken"¹⁰.
- 11.29. This equivalent provision in the CDPA 1988 is not without its challenges however. As highlighted in paragraphs 1.3 above and by various commentators (see *Copinger*¹¹) it is not clear how originality is to be assessed in such circumstances where the work must be the product of at least some skill and labour¹². *Copinger* suggests that the difficulty will often be overcome by a practical need to find a human author, even in a process which is highly computer-assisted¹³, but in principle there will always remain a class of works in respect of which this is not possible. Importantly, there has been some suggestion that the relevant skill and labour is that of the person by whom the arrangements necessary for the creation of the work were undertaken. While this may work under principles of copyright authorship, its application to patent inventorship is less clear. The creative efforts needed to satisfy the requirements of patentability are always likely to be significantly higher than those needed to satisfy originality under English copyright law. It is therefore improbable that the human 'making arrangements' for the AI to devise the invention will be able to satisfy the requirement of inventorship in the same way as *Copinger* suggests might apply to deemed authorship of computer-generated copyright works. Even if it was possible for "making arrangements" to be, in itself, inventive, the patent application would then satisfy the requirement of having a human inventor in any event.
- 11.30. Accordingly, AIPPI UK view Option 1 as the least attractive option along with Option 2 which would seem to rely on the same the principle in order to deem patent ownership.

12. Would the changes proposed under Options 1, 2 and 3 have any consequential effects on the patent system, for example on other patentability criteria?

- 12.1. The most significant issues are in respect of sufficiency¹⁴.
- 12.2. The sufficiency requirement of patentability requires disclosure of the invention which is 'sufficiency clear and complete for it to be carried out by a person skilled in the art' under art 83 EPC or 'clearly enough and completely enough for it to be performed by a person skilled in the art' under Section 72(1)(c) Patents Act 1977.

⁹ S. 39 (1) Patents Act 1977, "an invention *made* by an employee shall... be taken to belong to his employer" (emphasis added) would fall outside the scope of Option 2.

¹⁰ S.9(3) Copyright, Designs and Patents Act 1988.

¹¹ *Copinger and Skone James on Copyright* 18th Ed.

¹² A. Guadamuz, "Do androids dream of electric copyright? Comparative analysis of originality in artificial intelligence generated works" (2017) I.P.Q. 169.

¹³ See, e.g. *Express Newspapers Plc v Liverpool Daily Post & Echo Plc* [1985] 1 W.L.R. 1089; [1985] F.S.R. 306.

¹⁴ For a fuller discussion of the issues see our AIPPI 2020 Response.

- 12.3. The specification is to be construed as it would be by the person skilled in the art, who is expected to make use of common general knowledge to understand the specification (see *Halliburton v Smith International* [2006] R.P.C. 2).
- 12.4. It is generally accepted that UK case law has established three distinct species of sufficiency (see, for example, the judgment of Arnold J (as he then was) in *Sandvik v Kennametal* [2011] EWHC 3311 (Pat)): (i) “classical sufficiency”, which requires that the specification contain sufficient information to allow the person of ordinary skill in the art to work the claimed invention without undue burden; (ii) “ambiguity sufficiency”, which requires that boundaries of the patent’s claims are sufficiently clear such that the person of ordinary skill in the art is able to determine whether or not s/he is practising the invention; and (iii) “claim breadth/Biogen insufficiency”, which requires that the specification enables the claims of the patent across their breadth.
- 12.5. Any AI-devised inventions will need to be carefully scrutinised under this test and careful consideration given to who the skilled person is. If the disclosure is only ‘sufficiently clear and complete’ to an AI, and not a human - there is a serious question as to whether the patent has been made available to the public in a true sense. In such circumstances, it is difficult to see how the patent bargain can be fulfilled. Humans cannot take the benefit of the invention because the public is not in a position to practice the invention on expiry of the patent because of lack of sufficient disclosure. This is a critical aspect as sufficiency and the “patent bargain” underpin the patent system.
- 12.6. It is the centrality of the concept of the skilled person in patent law which causes the most significant issues if options 1 or 2 were to be proposed.
- 12.7. AIPPI UK notes that in relation to inventive step, the test applied to inventive step is an objective one that does not depend on whether the inventor(s) reached the invention by any particular route. Instead, the test has regard to the skill and knowledge of the notional skilled person. This knowledge and skill varies with time because it is judged at the priority date. It therefore has the flexibility to take account of, for example, AI tools available to the skilled person at the priority date of patents filed now, compared with what was available some years ago and what will in time be available in the future. However, as noted above this fits most neatly only when the framework is AI as a tool rather than AI-devised inventions.
- 12.8. For option 3, a standalone right would be unlikely to have the same knock-on impacts to the other patentability criteria given the purpose is to sit outside / adjacent to the patent system.

For options 1 and 2:

- 13. If UK patents were to protect AI-devised inventions, how should the inventor be identified, and who should be the patent owner?**
- 13.1. Whilst options 1 and 2 are our least preferred, if AI-devised inventions are to be permitted, then we see no particular practical problems with Option 1 in terms of identification of the human most closely responsible being identified as inventor; this

would be achieved by naming this human on the statement of inventorship, and if an indication of AI involvement was needed, then some means could be included on the statement of inventorship for such an identification, although we do not believe that this would be necessary on the basis that the underlying statute would presumably have been amended to define (human) inventors as including the human most closely involved in AI devised inventions. As a practical point, we do see a possible issue in identifying the (single) human most closely involved since, typically, there might be a number of humans involved in an invention developed by AI. As to ownership under Option 1, other than those points raised above in answer to question 11, we see no practical problem with ownership vesting with the named (human) inventor or their employer, as is the case under current rules.

- 13.2. We do, however, see certain issues with Option 2 on the basis that the naming of a defined human inventor (with legal personality) as is currently the case is very different to the naming of a machine-based inventor which has no legal personality and is likely to be somewhat undefined in many respects, e.g. the state of an AI machine at a given moment in time and how would this be defined for the purposes of inventorship? On the basis that distributed and cloud-based AI systems are likely to be involved and these could be located across multiple jurisdictions (with varying definitions of personality attributable to “an AI”), it can be seen that there would likely be a number of issues regarding how an AI inventor could be defined with sufficiently clarity and legal certainty. Whilst some of these issues could be avoided by doing away with the requirement to name an AI inventor *per se*, as is one option under Option 2, the problem then becomes one of ownership by a legal person and how does ownership transfer from an entity which cannot be concretely defined since the patent is granted first to the inventor.

What effects does this have on incentivising and rewarding AI-devised inventions?

- 13.3. As explained above, the patent system is built on incentivising and rewarding innovation. If innovation results from an AI machine being used to innovate, the question arises as to where the innovation has taken place. Is the innovation achieved wholly by the AI itself? If so, enabling the owners of patented inventions under Options 1 and 2 to be rewarded would seem to be at odds with the principle of rewarding the actual underlying innovation, which is likely to be within the AI machine as previously conceived by another person. The existing patent system should already enable reward for a person involved in building innovative AI machines, such that further rewarding of those who merely choose to be involved with the output of such a machine would appear to be at odds with the basic principle of rewarding the actual innovation. In the situation where there is innovation in the selection by a human of a particular AI machine, or in the provision and generation of certain training data to a given AI machine, then we consider that reward for such innovation by a human would be covered under Option 0, with no need to extend further reward to those who might merely be closely involved in the innovative output of an AI machine.
- 13.4. The consequences of rewarding owners of AI-devised inventions under Options 1 and 2 are difficult to predict without a very detailed economic analysis first being undertaken. As an example, on the basis that an inventor or owner can be attributed

on the basis of mere involvement with an invention devised by AI, we provisionally see that there could be significant distortions in certain sectors, such as pharma or telecoms (though such distortions are difficult to quantify without detailed economic analysis). Moreover, it would seem entirely plausible that a given AI machine provisioned by one entity, e.g. a cloud-services provider, could be deployable to a number of other entities at the same time, and providing the “reward” of a patent monopoly right to these multiple entities merely for involvement with the inventive output of this given AI machine could have some far-reaching economic consequences. If Options 1 and 2 are to be contemplated, AIPPI UK would recommend to firms undertake careful and detailed economic analysis.

14. In considering the differences between options 1 and 2, how important is it that the use of AI to devise inventions is transparent in the patent system?

- 14.1. As explained above, we see no fundamental issue with not having to identify an AI machine under Option 1, so long as the underlying statute defines (human) inventors appropriately. e.g. as including the human most closely involved in AI devised inventions.
- 14.2. For Option 2, a number of aspects of the UK patent system are predicated on an explicit identification of the inventor(s), e.g. ownership of employee inventions. On the basis that an AI machine would be permitted as an inventor under Option 2, then we see it as essential that the AI machine be clearly identified as such. Without any such clear identification, transparency of ownership and the derivation of rights to inventions by third parties, for example, becomes problematic. However, as explained above, we see practical challenges in being able to clearly identify a given AI machine as an inventor. Moreover, and as highlighted in our previous responses, we doubt whether the existing legal framework surrounding governing ownership of inventions as derived from an inventor could support ownership being “transferred” from an AI machine inventor to another legal person.

15. Would the UK adopting option 2 affect your global patent filing strategy, if so, how?

- 15.1. Yes. A fundamental issue arises if not all jurisdictions adopt the same strategy, since in principle if an invention is devised by an AI machine it would not be possible to file a patent application in any jurisdictions where only human inventors can be identified. In this situation, it may be appropriate to not file any patent applications instead of filing applications only in jurisdictions that permit AI machines to be identified.
- 15.2. If one overlooks this issue, if other jurisdictions follow the same strategy and allow AI machines to be the deviser of an invention, difficulties could arise when claiming priority from an earlier application. This is because some jurisdictions (e.g. US) require that the chain of title from the inventor to the applicant be identified, and if an AI machine is identified as the inventor on a GB application, it might not be possible to demonstrate the chain of title if the US, for example, does not accept AI machines as inventors. This could result in excessive costs as rights holders would need to engage in a two-stream filing strategy with a human being listed for a first stream of applications and an AI machine being listed for a second stream of applications.

- 15.3. A further consideration is whether the perceived inventive activity might be reduced for an AI machine. In other words, the bar for demonstrating the existence of an inventive step for inventions derived by AI machines inventions might be higher than for inventions derived by a human inventor. In any event, when considering the inventive activity of an AI machine against a human, the outcome of any inventive step analysis during prosecution might be different. This might mean that applicants will file two separate streams of applications one for each of an AI machine and a human to protect against any perceived imbalance in inventive activity.

For option 3:

16. What term and scope of protection should a new right offer?

- 16.1. As noted, future developments in AI may necessitate a review of the protections available for AI-devised inventions.

- 16.2. It is well-established that the patent system was designed to further the public policy objective of rewarding and fostering human innovation. The ‘patent bargain’ that is struck means that the inventor obtains a monopoly that can be commercialised, in return for disclosing the invention to the public for use after the monopoly has expired.¹⁵ The patentee ensures a return on its investment into R&D by having a time limited exclusive right to exploit its invention and society learns of new technology, exploitable on the patent’s expiry. As Terrell on the Law of Patents puts it, “innovation is encouraged and knowledge is disseminated.”¹⁶

- 16.3. In our view, a new right may need to be considered:

16.3.1. if it is agreed that the patent system should exist only to reward human innovation;

The wording, “if it is agreed” is used to acknowledge that there is a debate to be had as to whether, when the patent system was established, legislators intended it to be strictly limited to human innovation, or whether a purposive construction could/should be taken to include innovation by an AI.

16.3.2. if the use of AI is frustrating or undermining the requirement to disclose the invention to the public after the patent has expired; and/or

It is understood that some AI-derived inventions can be disclosed to a patent office without the patentee needing to refer to the existence or use of the AI behind the invention. Present laws on disclosure may permit this, so long as the public can put the invention into effect. However, there is a question as to whether the patentee is nevertheless at an advantage knowing that AI has been used to arrive at the invention in circumstances where the public at large does not.

¹⁵ Warner-Lambert Company LLC v Generics [2018] UKSC 56, at [17]

¹⁶ Paragraph 1-01

16.3.3. where AI has reduced the investments required to innovate so significantly that the award of a patent monopoly can no longer be justified.

Already today there are examples where AI is significantly reducing the innovative process. In such circumstances, should the patentee be awarded a 20 year monopoly?

- 16.4. As a preliminary point, scenario b), on its own, may not necessitate a new right. For example, it may be possible to require additional disclosure from the innovator in circumstances where AI has been used to devise the invention. Scenarios a) and c), however, could necessitate a new right.
- 16.5. As to the term and scope that such a right should offer, further evidence is needed. In the case of scenario a) (where it is decided that the patent system should reward human innovation, alone) it may still be the case that investments in AI-generated innovations warrant a significant return (in terms of the scope and term) for the right.
- 16.6. It is not unimaginable that certain industries are reorientating their R&D efforts entirely around AI. Were it to be decided that patent protection were not to be available for AI-generated inventions, then the alternative right (in terms of its scope and term) would need to incentivise companies for whom AI-generated inventions were their only assets. To assess whether this is a real problem for industry, evidence as to companies that foresee their business models shifting from human-lead innovation to AI-lead innovation would need to be obtained.
- 16.7. To determine whether scenario c) could be realised, evidence is needed to understand whether AI is in fact reducing the effort and/or investments required to be made by the innovator. It is not unimaginable that there will be different answers for different industries, and therefore designing a right to adequately compensate all industries is likely to be difficult and only possible if sufficient information is gathered.
- 16.8. For example, the life sciences industry has embraced the use of AI to develop compounds for medical use. However, whilst this may have reduced the time and investments required during the initial discovery phase, clinical trials research continues to demand further time and investments that AI is presently unable to materially shortcut. The effect is that AI is speeding up only parts of the process, but the overall R&D investments required of a pharma company may be said to be materially the same. There is an argument, therefore, that in such circumstances, companies should not be deprived from applying for the full monopoly afforded to them by patent rights.
- 16.9. Alternatively, in the well-publicised inventions sought to be filed by Dr Thaler and team, it was said that the invention required no human investment. In that scenario the right to be afforded could conceivably be limited, so as not to stagnate or impeded further innovation in fields where the speed of innovation is equally matched.
- 16.10. Overall, our conclusion is that industries should be canvassed to understand how their R&D efforts are built on patent rights, and/or how they envisage their R&D efforts changing with AI. It is into inconceivable that different rights might need to be created for different industries to deal with the varying innovative lifecycles. There is precedent for this. In the life sciences

industry, Supplementary Protection Certificates have been devised to extend protection for medicinal products, where the regulatory approvals required take a certain amount of time.

17. What should the criteria for grant of a new right be and why? Particularly should it:

a) Replicate the current requirements for a patent?

b) Set a different bar for inventive step?

c) Be an automatic or registered right?

- 17.1. As highlighted in various paragraphs above, AIPPI UK believes that it is necessary to canvas UK industry to ascertain the desirability of protection AI-devised inventions. If there is consensus that such protection is desired then a deeper exploration is needed to determine its scope, term, and the requirements for granting such protection. It is difficult to predict what (if any) rights are needed to protect the inventive output of AI, but given that the resulting protection will likely create a form of monopolistic right, the granting requirements will need to be rigorous and capable of being assessed consistently and transparently.

General**18. What role does the IP system play in the decision of firms to invest in AI?**

18.1. While AIPPI UK does not invest in AI, we would make the observation that firms appear to be actively engaged in attempts to secure IP protection for AI-related innovation.¹⁷

19. Does the first mover advantage and winner-take-all effect prevail in industries adopting AI? How would this affect the impact of the policy options proposed on innovation and competition?

19.1. Without a fuller economic analysis it is difficult to assess whether a first mover advantage is sufficient, on its own, to ensure a winner takes all outcome, or at least results in a significant commercial success. This is an argument that we addressed in the AIPPI 2020 Response in the context of balancing patent protection with the use of “open” technologies.¹⁸

20. How does AI adoption by firms affect the economy? Does the use of AI in R&D lead to a higher productivity?

20.1. We address this in our answer to question 16 above. While there is likely to be anecdotal evidence that AI can drive innovative outcomes (e.g. the Alphafold results produced by Deepmind) we believe that further information should be gathered across multiple sectors to fully understand the impact of AI on a company’s operations and in particular on its productivity.

21. Do the proposed policy options have an impact on civil society organisations? If so, what types of impacts?

21.1. It is unclear what is meant by a civil society organisation. To the extent that a civil society organisation forms part of the public at large, we refer to our answers provided above in response to question 11 and the need to consider the balance struck by the patent bargain, specifically the need to incentivise the rights holders and the need to disseminate technical information to the public.

¹⁷ See paragraph 11.6.

¹⁸ See paragraphs 1.8 to 1.10 of AIPPI 2020 Response.

Section B: Respondent information

A: Please give your name (name of individual, business or organisation).

AIPPI United Kingdom

B: Are you responding as an individual, business or on behalf of an organisation?

2) *Organisation – please provide the name of the organisation*

AIPPI United Kingdom

C: If you are responding on behalf of an organisation, please give a summary of who you represent.

Please see Introduction above.

D: If you are an individual, are you?

- 1) General public
- 2) An academic
- 3) A law professional
- 4) A professional in another sector – please specify
- 5) Other – please specify

N/A

E: If you are responding on behalf of an organisation, are you?

5) *Any other type of organisation - please specify*

Please see Introduction above.

F: If you are responding on behalf of a business or organisation, in which sector(s) do you operate? (choose all that apply)

17) *Legal activities*

G: How many people work for your business or organisation across the UK as a whole?
Please estimate if you are unsure.

4) *250–999*

H: The Intellectual Property Office may wish to contact you to discuss your response. Would you be happy to be contacted to discuss your response?

Yes.

I: If you are happy to be contacted by the Intellectual Property Office, please provide a contact email address.



J: Would you like an acknowledgement of receipt of your response?

Yes