Annex - Response form

After you have read the consultation document, please consider the questions below. There is no expectation or requirement that all questions are completed. You are welcome to only answer the questions that are relevant to you, your business or organisation.

A copy of this response form is available to download from GOV.uk.

There are two sections on this form:

A. Questions arising from this consultation

B. Information about you, your business or organisation

When you are ready to submit your response, please email this form and any other supporting documentation to AIcallforviews@ipo.gov.uk.

The closing date for responses is at 23:45 on 7 January 2022.

The options for computer generated works, text and data mining and patent inventorship are summarised in the following tables.

Computer generated works	
Option 0	Make no legal change
Option 1	Remove protection for computer-generated works
Option 2	Replace the current protection with a new right of reduced scope/duration

Text and Data Mining (TDM)	
Option 0	Make no legal change
Option 1	Improve licensing environment for the purposes of TDM
Option 2	Extend the existing TDM exception to cover commercial research and databases
Option 3	Adopt a TDM exception for any use, with a rights holder opt-out
Option 4	Adopt a TDM exception for any use, which does not allow rights holders to opt out

Patent Inventorship	
Option 0	Make no legal change
Option 1	“Inventor” expanded to include humans responsible for an AI system which devises inventions
Option 2	Allow patent applications to identify AI as inventor
Option 3	Protect AI-devised inventions through a new type of protection

Section A

Copyright – computer generated works (CGW)

1. *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?*

N/A

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

Option 0 is preferred followed by Option 2 followed by Option 1.

Copyright law is a critical mechanism for incentivizing the creation of socially valuable works and allowing copyright for CGWs results in the same benefits as copyright for traditional human-generated works. While AI is not responsive to copyright incentives, the individuals and businesses who own and develop AI are. Allowing copyright for CGWs increases the value of creative machines which encourages people to make, use, and build creative machines. This rewards effort upstream from the stage of creative activity and ultimately results in more expressive works.

In addition, copyright subsistence for CGWs prevents a perverse situation where an AI is more effective at generating creative output than a person in certain situations, but a business is forced to avoid using AI because only traditionally human authored output can attract copyright protection.

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.*

There should be no difference between how CGWs and traditional human-generated works are protected. That is because the goal of the copyright system is primarily to generate more socially valuable works, and so people and businesses should be encouraged to rely on whatever actor is most effective to achieve that goal. If a legal preference or disincentive exists for CGWs vs traditional human-generated works, that will result in firms making decisions to use an AI vs a person in part to obtain a legal advantage, rather than based on which is more effective.

The term of protection is different now between CGWs and traditional works (50 years from creation vs 70 years after the life of an author). That difference, however, is unlikely to have much impact simply because the additional 20-plus years of protection is unlikely to have much impact on anyone's behaviour.

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

For the same reasons that apply to copyright protection for CGWs, AI- or computer-generated designs should receive equivalent protections to traditional human-generated designs. This will encourage people and businesses to more effectively generate designs using AI and people.

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

If copyright protection is not available for CGWs, it is very likely people will inaccurately claim authorship for work performed by machines. Anyone in control of an AI that has generated a CGW with value could thus protect that work simply by claiming to be the author (in most cases, at least absent discovery in protracted litigation). This would encourage applicants to act dishonestly to capture the value of CGWs. It also undermines the value of human authorship by allowing individuals to inaccurately claim they are authors.

Copyright – text and data mining (TDM)

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, price-point, whether additional services are included or available, number and types of works covered by the licence etc.*

N/A

7. *Is there a specific approach the government should adopt in relation to licensing?*

N/A

8. *Please rank the options in order of preference (most to least preferred) and explain why.*

N/A

9. *If you have experience of the EU exception with opt out for rights holders, how has this affected you?*

N/A

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

N/A

Patents

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

Option 2 followed by Option 1 followed by Option 3 followed by Option 0.

Patent protection should be provided for AI-generated inventions to encourage innovation. Patents encourage innovation under an incentive theory. Some people

and businesses will be more inclined to invent if they can receive patents to exploit commercial embodiments of their inventions. Perhaps more importantly, entities investing in research and development will be more inclined to invest in inventive activities if there is a clear path for resultant inventions to receive protection and subsequently generate a positive return on investment.

In the case of AI, even though machines do not care about patents, people who build, own, and use AI do. Allowing patents for AI-generated works would make inventive AI more valuable and incentivize the development of AI. This would reward effort upstream from the stage of invention and result in even more innovation. Patents on AI-generated inventions would have substantial value independent of patents on AI or computer-implemented inventions. Allowing patents for AI-generated inventions would also avoid an inefficient outcome where a company has the option of more efficiently using an AI to generate inventive output but has to rely on human researchers to obtain patent protection.

Patents for AI-generated inventions would also achieve the other economic goals attributed to the patent system: incentivizing the disclosure of information and the commercialization and development of new inventions. AI-generated inventions may even be especially deserving of protection because inventive AI may be the only means of achieving certain discoveries that require the use of tremendous amounts of data or that deviate from conventional design wisdom.

If patents are to be granted for AI-generated inventions, particularly in cases in which no natural person qualifies as an inventor, this raises the questions of who, or what, should qualify as an inventor and who should own any subsequent patents.

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?*

Improvements in AI and increased AI adoption may impact other patentability criteria, such as inventive step, but that is not based on whether patents can subsist in AI-generated inventions. That's because inventive step is explicitly not based on what inventors would find obvious.

The skilled person essentially represents the average worker in the field of an invention, and so the standard should evolve as the characteristics of average workers change over time. As AI comes to commonly augment the average researcher, the skilled person should be conceptualized as a skilled person using AI. AI can make a person more knowledgeable and sophisticated, so this should raise the level of inventive step. With respect to augmenting the sophistication of average researchers, certain activities that once required inventive skill may become routine with the use of AI, such as modeling protein folding.

Given continued advancements in AI it is likely that, at some point in the medium to long term future, AI will routinely transition from augmenting human researchers to automating R&D—at least in some fields. This may happen, initially, in areas where AI has a comparative advantage such as discovering new uses of existing drugs from pattern recognition in large data sets. If the inventive step standard fails to reflect the capability possessed by AI, then once the average worker routinely uses

inventive AI, or inventive AI replaces the average worker, then inventive activity will be normal instead of exceptional. This will result in too lenient a standard for patentability. Allowing the average worker to routinely patent their outputs would cause social harm. As the U.S. Supreme Court has articulated, "[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may . . . deprive prior inventions of their value or utility." KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 402 (2007).

Once inventive AI becomes the standard means of research in a field, considering the skilled person as a skilled person using AI would also encompass the routine use of inventive AI by average workers. Taken a step further, once inventive AI becomes the standard means of research in a field, the skilled person may simply be replaced by an inventive AI. Conceptualizing the skilled person as using a skilled person using AI might be administratively simpler but replacing the skilled person with the inventive AI would be preferable because it emphasizes that the AI is engaging in inventive activity, rather than the human worker(s).

However the test is applied, a skilled person standard based on the capabilities of inventive AI will dynamically raise the current benchmark for patentability. Inventive AI will be significantly more intelligent than skilled persons and also capable of considering more prior art. This would not prohibit patents, but it would make obtaining them more difficult: A person or AI might need to have an unusual insight that other inventive AI could not easily recreate, developers might need to create increasingly intelligent AI that could outperform standard AI, or, most likely, invention will be dependent on specialized, non-public sources of data. The nonobviousness bar will continue to rise as AI inevitably become increasingly sophisticated.

Taken to its logical extreme, and given there may be no limit to how intelligent AI will become, it may be that every invention will one day be obvious to commonly used AI. That would mean no more patents should be issued without some significant change to current patentability criteria.

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

The optimal response to AI-generated inventions may be to list an AI as an inventor and to have the AI's owner own any patents on its inventive output. The AI should be listed as the inventor for several reasons. First, it would inform the public of how an invention was generated. Second, it will facilitate appropriate attribution of ownership and chain of title. Third, it will protect the rights of human inventors because it will prevent people from receiving undeserved acknowledgement. Taking credit for an AI's work would not be unfair to a machine, but it would be unfair to other people who have traditionally invented because it would equate human ingenuity with someone asking a machine to solve a task in an inventive fashion. Finally, acknowledging AI as inventors would acknowledge AI developers, and it would reduce gamesmanship with the UKIPO.

AI inventorship should also apply to instances of joint invention with a natural person. There is no reason an AI's contribution should be ignored simply because a person

is involved. Leaving out the AI would prevent that AI's owner from receiving the benefit of his or her property and it may reduce the value of inventive AI—thus ultimately harming investments in inventive AI. Such an approach could also discourage owners of inventive AI to from sharing or licensing their AI.

Alternately, UKIPO could elect to allow for patents on AI-generated inventions but adopt an alternate approach to inventorship such as deemed or imputed inventorship to a natural person, for instance allowing an AI's owner, user, or programmer to qualify as an inventor even when they do not traditionally meet inventorship criteria.

An AI cannot legally assign an invention but having patent ownership vest directly in an AI's owner as opposed to an inventor is consistent with general principles of property ownership under common law doctrines such as accession and first possession.

Listing an AI as an inventor is not a matter of crediting an AI but rather of informing the public of how an invention was generated and preventing a person from taking undeserved credit. Failing to list an AI as an inventor would not necessarily discourage future inventions being protected by patents, but it may be desirable for the above reasons. Failing to provide patent protection for an AI-generated invention may negatively impact AI development, by discouraging developers, users, and owners of AI from making and using inventive AI. If patent protection cannot be obtained for AI-generated inventions, then AI owners may seek to rely on trade secret protection which should have a negative impact on public disclosure and commercialization of inventions.

The moral case for recognizing AI as an inventor is not as a matter of AI rights, but a matter of informing the public how an invention was made and preventing a person from taking underserved credit.

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?*

As discussed above, transparency it is important for appropriate determinations of ownership and entitlement, for accurate recognition of human inventors, and for informing the public of how an invention was made.

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

Different jurisdictions can already require different inventors – for instance, inventorship can differ between the US and UK based on contributions to certain claims vs the inventive concept in the specification. Israel does not require the disclosure of an inventor. It may simply be that different disclosures are required in different jurisdictions, and this may already be the case specifically with AI-generated inventions in jurisdictions such as South Africa and Australia.

It may be that disclosing the absence of a traditional human inventor is prejudicial to obtaining protection in certain jurisdictions. However, this will be the case as a matter of fact regardless of whether it is disclosed in the application process. For instance,

in the United States, under the current state of law, if someone discloses a human "inventor" for an AI-generated invention who does not meet inventorship requirements, the applicant might obtain a patent because this designation is unlikely to be challenged by the US Patent and Trademark Office, but the patent would be invalidated or unenforceable in litigation. Also, deliberately inaccurate designation of inventorship is a criminal offense in the United States.

For option 3:

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

For the reasons discussed above, and with respect to copyright, there should be no difference in how an AI-generated invention and a traditional invention is protected. Any difference will create unnecessary inefficiencies in R&D that promise to be costly and disruptive.

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?*

General

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

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?*

While there are other incentives for inventive and creative activity, the United Kingdom has long relied on intellectual property rights (IPRs) as a critical means of promoting innovation and competition—as well as protecting the rights of domestic businesses abroad. In certain industries and for certain use cases it may be that non-IPR based incentives are adequate to motivate behaviour, but this is unlikely to be the case in industries where IPRs are critical such as in the life sciences where the cost of new drug approvals is substantial.

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

AI adoption is critical to the United Kingdom's economic competitiveness. This was recently a finding of the United Kingdom's National AI Strategy (https://www.gov.uk/government/publications/national-ai-strategy).

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

Section B: Respondent information

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

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

1) Business – please provide the name of your business
2) Organisation – please provide the name of the organisation
3) Individual – please provide your name

Responding on behalf of an organisation.

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

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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

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

1) An academic institution
2) An industry body
3) A licensing body
4) A rights holder organisation
5) Any other type of organisation - please specify

An Academic institution

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

1) Agriculture, forestry and fishing
2) Mining and quarrying
3) Manufacturing – Pharmaceutical products
4) Manufacturing – Computer, electronic and optical products
5) Manufacturing – Electrical equipment
6) Manufacturing – Transport equipment
7) Other manufacturing
8) Construction
9) Wholesale and retail trade; repair of motor vehicles and motorcycles
10) Transportation and storage
11) Information and communication – Publishing, audio-visual and broadcasting
12) Information and communication – Telecommunication
13) Information and communication – IT and another Information Services
14) Financial and insurance activities
15) Real estate activities
16) Scientific and technical activities
17) Legal activities
18) Administrative and support service activities
19) Public administration and defence

20)Education
21)Human health and social work activities
22)Arts, entertainment and recreation
23)Other activities – please specify

University of Surrey operates in all the above fields. Primarily we operate in "Education".

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

1) Fewer than 10 people
2) 10–49
3) 50–249
4) 250–999
5) 1,000 or more

1,000 or more

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.

[redacted]

J: Would you like an acknowledgement of receipt of your response? Yes/No

Yes

Signed,

[redacted]

[redacted]

[redacted]

[redacted]