

AI created Inventions or Works – Are they protected by Australian IP laws?

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Artificial intelligence (AI) and automated decision-making technology is being deployed by government and business to automate or improve operational capabilities. AI technology or systems also are increasingly being used in the inventive or creative process to generate inventions and literary, artistic, musical and dramatic works without direct human involvement.

Can AI generated inventions be the subject of Patent Protection in Australia?

In Australia, AI generated inventions will not be eligible for patent protection in Australia, unless human inventorship can be established. The Australian courts are still to consider the question of whether ownership of the source code and computers of the AI system which generates the output the subject of the invention, including the operation and maintenance of the AI system, is sufficient human input to constitute inventorship for patent protection.

Commissioner of Patents v Thalerⁱ

The recent appeal court decision of the Federal Court of Australia, *Commissioner of Patents v Thaler* illustrates how the existing patent laws are being challenged by AI technology. AI generated inventions will not be eligible for patent protection where the named inventor is not a human.

In that case, Dr Thaler, the owner of the AI system known as DABUS claimed the output of the DABUS system as an invention and named DABUS as the inventor on the patent application. Dr Thaler owned the copyright in the DABUS source code, the computers upon which DABUS operated and was responsible for the maintenance and cost of the DABUS system and computers.

The trial judge had ruled that the DABUS system could be named as an inventor on the patent application. This ruling was overturned by the appeal court which held that under the *Australian Patents Act 1990 (Cth)* and Patents Regulations, the inventor named on a patent application had to be a "**natural person**" to be entitled to a grant of a patent. As a result, Dr Thaler was not entitled to patent protection for the AI generated invention, although he owned the DABUS system that generated the inventionⁱⁱ.

The court confirmed that a product or process the subject of the invention had to be brought about by some "*human action*". This approach accorded with legislative history – "*origin of entitlement to the grant of patent lies in human endeavour, which is rewarded by the grant of a limited term monopoly.*"ⁱⁱⁱ

The court did not accept the proposition that if DABUS is not accepted as the inventor, no invention devised by an artificial intelligence system is capable of being granted a patent. The court left open the question of whether the ownership of copyright in source code and computers on which the AI system operates and its maintenance and operation is sufficient human contribution for inventorship where the claimed invention is AI generated.

Can AI generated Works be the subject of Copyright Protection in Australia?^{iv}

Businesses or individual using AI computer systems or technology to generate literary works, such as reports, directories or other compilations, databases, computer software, digital images, designs or plans or artistic, musical or dramatic works are at risk of not having copyright protection.

In Australia, such works will not be protected by copyright where they are AI computer generated and the party claiming copyright is unable to establish that the works originate from a human author or authors exercising sufficient skill and judgement or intellectual effort in the creation or production of the works.

Unlike the United Kingdom, Australia has not amended its *Copyright Act* to provide specific copyright protection to computer generated works. Under section 9, *Copyright, Designs and Patents Act 1988(UK)*, the author of computer generated literary, dramatic, musical and artistic works is taken to be the person by whom the arrangements necessary for the creation of the work was undertaken.

Policy Considerations for IP protection of AI generated inventions or works

The *Thaler case* raises a number of policy considerations relating to the scope and type of IP protection required for AI output and changes required to existing laws in Australia:

- a. Whether AI generated inventions or works should be protected by patents, copyright or a new scheme?
- b. Should the existing patent and copyright laws be amended, so that protection extends to persons who can establish ownership or control of the AI system that generated the invention or work?
- c. Whether human input or human endeavour should be a requirement for IP protection of inventions or works generated by AI systems?
- d. If AI generated inventions are to be protected under patent law, what tests are to be used to establish patentability – inventive step?
- e. If AI generated works or output is to be protected under copyright law, what criteria is to be applied to establish “originality”?
- f. Whether the ownership and protection of AI generated inventions or works should be left to contractual arrangements and trade secrets protection?
- g. If a new scheme for the protection of AI systems generated inventions or works, is to be introduced, what level of protection should be provided where no human input is involved?

Practical Considerations for Intellectual Property Protection of AI or Computer Generated Works.

Businesses or individuals will not be able to claim copyright protection or be eligible for patent protection for AI generated works or inventions unless they can establish human involvement. Therefore, it is important that organisations have appropriate processes and systems in place that they can rely upon to establish human input including:

- a. Documentation that records the AI systems used in the creation or production of the work or invention, such as:
 - i. Development costs of the AI system;
 - ii. Ownership of the AI system;
 - iii. Operational and maintenance cost of the AI system and the entity who pays these costs;
 - iv. Whether the AI system is used under licence from a third party and the licence terms and conditions.

- b. Documentation that records each step in the creation or production of works or invention from “idea” to “concept” through to production phase including a description of the work or invention, the contribution made by each author or inventor, relevant dates and times and details of any AI contribution in the creation or production of the work or invention.

- c. Regular audits of the processes and systems to ensure compliance.

If there is a risk of not being able to establish human involvement in the AI generated work or invention for copyright or patent protection, then contractual and trade secret protection should be considered. This is a complex area and business should seek expert advice.

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ⁱ [2022] FCAFC 62; NB: Special leave has been sought by Dr Thaler to appeal this decision to the High Court of Australia.

ⁱⁱ *Ibid* at [113]

ⁱⁱⁱ *Ibid* at [116]-[117]

^{iv} *AI Generated Works and Copyright Protection*, Katarina Klaric, August 2019, www.stephens.com.au