

Intellectual Property in an AI World

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The scope and application of artificial intelligence (AI) have rapidly expanded in recent years. AI's rapid evolution is challenging intellectual property (IP) laws. This Legal Update discusses the potential impact of AI on current Canadian IP law.

In a matter of months, generative artificial intelligence (AI) has taken the intellectual property (IP) world by storm and caused a reflection on how traditional ideas of authorship and inventorship apply to this new technology and what impact this has on the role of people in the creative process.

Many forms of IP are based on the efforts of the author or creator. The scope of the IP and its ownership is based on the work done by the author or creator. For example, the author of a creative work is the first owner and can assign or license this ownership to others or the ownership is held by the author's employer (see [Practice Notes, IP: Overview and IP Ownership in Employment](#) and [Intellectual Property Licensing Toolkit](#)).

When AI technology is used to create new works, identifying an author or owner is more difficult, and may not even be possible. If there is no 'author', is there enforceable IP protecting the work?

Patents and Trade Secrets

When it comes to inventions and protecting inventive ideas with patents, inventors are identified who contributed to the inventive idea. The ownership of the patent then flows from these inventors. For example, the Supreme Court of Canada has said:

Of course, in the steps leading from conception to patentability, the inventor(s) may utilize the services of others, who may be highly skilled, but those others will not be co-inventors unless they participated in the conception as opposed to its verification.

(*Apotex Inc. v. Wellcome Foundation Ltd.*, 2002 CarswellNat 3436 (S.C.C.) at paragraph 97.)

Technology is at the point where it is being argued that AI technology has invented, or at least is co-inventing new ideas. For example, Dr. Stephen Thaler has developed AI software, referred to as "Device for Autonomous Bootstrapping of Unified Sentience" (DABUS) which has been listed as the inventor on certain patent applications. Dr. Thaler says that it was DABUS and not any humans which came up with the inventive ideas described in the patent application.

It is not hard to contemplate pharmaceutical drug development projects where an AI system provides insights or even results which would not otherwise be conceived by the human investigators. This raises issues as to whether:

- To list the humans as inventors when the idea is provided by an AI system.
- An AI system is akin to simply an advanced tool or is doing something more.

So far, patent legislation has not yet evolved on this issue. Human inventors must be identified as the inventors. And if there are no humans who contributed to the inventive idea, then there can be no patentable idea that can be protected. As part of its consultation process on the role of AI systems in the invention process, the United States Patent and Trademark Office (USPTO) has posed this question: "Are there situations in which AI-generated contributions are not owned by any entity and therefore part of the public domain?"

For more information on the patent prosecution process in Canada, see [Practice Note, Patent Prosecution: Overview \(Canada\)](#). For more on information the protection of pharmaceutical inventions, see [Practice Note, IP Protection of Pharmaceuticals \(Canada\)](#). For

more information on the scope of protection provided by patents generally, see [Practice Note, Patent Scope of Protection](#).

Because trade secrets are not registered but simply become valuable because they are maintained in confidence to the advantage of the business, there will likely not be the same issues with AI generated trade secrets. If an AI system comes up with a new more efficient process, and this is kept confidential, then likely this would be a protectable trade secret if someone stole the trade secret. There is no requirement to identify the originator of a trade secret.

Without clear rules on the patentability of inventions developed or co-developed using AI systems, there may be incentives to forgo the use of such AI systems to reduce the risk that resulting ideas would be found unprotective. Similarly, a business concerned that an idea could be subject to attack if patent protection was sought, could keep the idea as a trade secret. One of the rationales for the patent system is the quid pro quo of sharing new ideas with the public in return for a time limited period of exclusivity; retaining AI developed as trade secrets without sharing them, could be seen as holding back the sharing of knowledge.

Copyright

Artistic works and the like are often thought to be the result of human creativity and skill, and capable of moving one's soul. The development of AI has now allowed machines to make incredible art, sometimes even better than art produced by humans. As such, these AI generated works have the potential to be a significant source of revenue. This raises the issue of who is entitled to that revenue.

Copyright laws protect original expressions of literary, dramatic, musical, and artistic works. A work must be the exercise of skill and judgment by an author to be original. The author is often the first owner of a work, except in employment and other specific circumstances (see [Practice Note, IP Ownership in Employment](#)). The first issue is whether an author can be a non-human. The Copyright Act, R.S.C. 1985, c. C-42 (Copyright Act) references the author as being a citizen of or subject of, or ordinarily resident in a treaty country. A machine likely cannot have a citizenship or residency in a country, however the person controlling the AI or inputting data for the AI (for example, the AI creator or programmer) may be exercising the sufficient skill and judgment necessary for copyright protection. In this case, that

creator or programmer may own copyright. However, sometimes, the work generated by the AI may be independent of the skill and judgment of the human AI creator or programmer.

Conversely, if a user of the AI output takes the generated work and reproduces it for their business, then the user of the work and/or the business may be liable for copyright infringement if the AI had "access" to an underlying work. The issue of "access" may not be an easy one to decipher. The Supreme Court of Canada affirmed the principle of technological neutrality for the purpose of interpreting copyright law in *Canadian Broadcasting Corporation v. SODRAC 2003 Inc.*, 2015 SCC 57 (S.C.C.), so courts are emboldened by this principle to apply existing copyright laws to new and evolving technologies, like AI.

In December 2021, the Canadian Intellectual Property Office (CIPO) registered a copyright for a painting titled *Suryast* which lists two co-authors: Mr. Ankit Sahni and RAGHAV Artificial Intelligence Painting App (RAGHAV). This makes *Suryast* the first-ever Canadian copyright registration with an AI author. Nevertheless, whether an AI can be an author is still a live issue in Canada. There was a public consultation in 2021 about potential amendments to the copyright framework in Canada to adapt to AI (see [A Consultation on a Modern Copyright Framework for Artificial Intelligence and the Internet of Things](#)). Some options considered include:

- Making entirely AI-generated works ineligible for copyright protection.
- Giving author rights to the human creators and/or programmers.
- Permitting "authorless" AI-generated works.

It will be interesting to see what approach is taken in Canada and if the Copyright Act will be amended soon to expressly deal with AI generated works.

Trademarks, Industrial Designs and Related Rights

In addition to patents and copyright, other types of IP rights may also be impacted by generative AI. For example, if an AI system creates a 3D shape or product design that is sold and/or used, then industrial design rights may be asserted against the AI platform and/or the user of the 3D shape. Similarly, an AI may output a brand or logo that may infringe a trademark owner's rights if used with certain goods or services. If so, the ultimate user of the brand may be at risk if the use is not cleared in advance. The good

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news is that industrial designs and trademarks need not be created by a human author to be protectable.

Another related right to consider when using or generating AI is whether a known person's name, image, voice or other identifiable aspect has been taken. If so, the tort of misappropriation of personality will need to be considered to minimize risks.

As AI becomes more integrated in society, users of AI generated works need to consider how to use existing IP laws to protect their rights. At the same time, it will be increasingly important to consider whether the AI generated works and their use do not infringe existing IP rights and in fact expose users to risky IP lawsuits.

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