

# Patent Protection and Artificial Intelligence: Where We Are and Where We're Headed

02.10.2023 3 min read

## Authors

Ana Cristina Müller, D.Sc.

Lilian Ghitnick Arcalji

Valter Silva Couto

## Topics

Artificial Intelligence Intellectual  
Property INPI

For at least five decades, societies around the world, and especially the scientific community, have been researching initiatives related to the development of artificial intelligence. In recent years, however, there has been a transformative shift from theory to practical application, making AI technologies and technologies incorporating AI ubiquitous.

Experts predict that the next decade will see substantial growth in the adoption of AI-related developments<sup>1</sup>, with the global market projected to reach around 2 trillion U.S. dollars by 2030. AI will become even more pervasive: industries as diverse as manufacturing, research and analysis, supply chains, marketing, and many others will incorporate AI into their business structures to varying degrees. Technical solutions utilizing generative AI, image generation via AI, chatbots, mobile applications, and deep learning, to name just a few, promise to be strong trends into coming years.

This surge in innovation has led to a significant increase in the number of patent applications involving AI since 2013. For some types of AI applications, such as robotics, the number of patent applications filed between 2013 and 2016 grew by 265%, according to the World Intellectual Property Organization's study on Artificial Intelligence (2019)<sup>2</sup>.

It is hardly surprising, then, that the topic of patent protection for inventions involving AI is studied and discussed worldwide, especially in major Patent Offices such as the United States, Japan, the European Organization, and China.

As the number of patent applications involving AI grows, Patent Offices have felt a corresponding need for a better evaluation of the patentability of AI-based or related inventions.

In most territories, inventions involving AI are examined as a subgroup of computer-implemented inventions (CIIs). In Brazil, for instance, a computer program as such is not patentable (Law 9279/1996, the Industrial Property Law), but its source code can be protected under the Software Law (Law 9609/1998). However, a computer-implemented method that solves a technical problem can be patented, as long as it meets the requirements of novelty, inventive step, and industrial application established by Industrial Property Law.

Although the Brazilian National Institute of Industrial Property (INPI – Instituto Nacional de Propriedade Industrial) has updated its CII examination guidelines, inventions involving AI are only briefly mentioned, with no distinction from other CIIs: "Applied in the solution of technical problems

they may be considered inventions" and therefore patentable.

In countries and regions that have delved more deeply into the question of what AI inventions can (or cannot) be patented, such as the United States, Japan, China, and Europe, Patent Offices have even cited various real life examples in their examination guidelines. As a result, users of the patent system, whether individuals or entities, have a better understanding of how their AI-related patent applications will be examined, and even how to draft their application to achieve the best scope of protection for their technology.

With the rapid advance of AI-related technologies, Patent Offices, including Brazil's INPI, are under pressure update examination practices. Practices that keep abreast of today's AI-driven innovations ensure a patenting procedure that offers legal certainty and predictability for inventors and other users of the patent system.

## **NOTES**

<sup>1</sup> <https://www.statista.com/statistics/1365145/artificial-intelligence-market-size/#statistic-Container>. Accessed 30 August 2023.

<sup>2</sup> WIPO Technology Trends 2019 – Artificial Intelligence. Executive Summary. <https://www.wipo.int/publications/en/details.jsp?id=4396>.

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Ana Cristina Müller, D.Sc.



Lilian Ghitnick Arcalji



Valter Silva Couto