## Al inventions: how to address the ownership issue.

As technology evolves and alters many areas of day-to-day life, it also leads to new discussions among legal practitioners about the need to change current legislation. Al creates and enables a number of situations that demand a reevaluation of previous regulations – such as those for intellectual property – due to its complexity, innovative nature and the multiple functions it has.

Numerous pieces of legislation, including the Brazilian Industrial Property Law, require that a physical person is named as the author of an invention. While a company can file a patent application by presenting a licence or assignment agreement signed with the inventor, a non-human entity cannot be recognised as the creator of an invention.

The debate around this requirement has recently received attention as two professors from the University of Surrey in the United Kingdom are attempting to name an AI system as the inventor in two patent applications. The system – named Dabus – develops ideas through machine learning and invented two potential new patents. Dabus is different from common AI devices as it does not assist humans in their activities, but performs the intellectual activity of invention.

The professors' attempt is important in light of the current technological scenario. However, it has not yet received approval or a viability opinion from the authorities, which consider technology to be a tool used by humans in creative processes. A contribution from a human in the process of developing an invention is still required in order to justify the title of inventor.

Al has already reached a point in which it has sufficient autonomy to create songs, paintings and books without additional input from its programmers, which has spurred debate in the copyright field with regard to the authorship issue. As to inventions that are subject to patent protection, it is likely that this will face the same uncertainty, since Al systems are developing new patentable inventions without any input from their creators.

Some scholars argue for the inclusion of an Al's inventor in the patent application as an attempt to solve the situation and allow the protection of, and the gains derived from, the invention created by the technology. However, this does not appear to be an adequate solution for this issue when it comes to current Brazilian industrial property legislation.

Due to the high level of autonomy of AI systems, adding a creator into patent proceedings as one of the inventors would not be accurate as they may not have contributed to the actual invention. This strategy of avoiding the public domain of AI inventions adopts an overly broad understanding of what characterises an inventor and cannot be justified by the current IP law.

Discussing Al's authorship creates additional, complex and inevitable debates and breaches in further legal fields. The Industrial Property Law no longer reflects the dynamics of technology and must be reviewed.

A public consultation has been initiated to discuss the reform of the Copyright Law (9,610/98), which includes more of a focus on new technologies. In addition, the National Institute of Industrial Property has announced the implementation of a new system, which aims to provide a wider range of online services and create a full virtual system. Therefore, considering the current debates on intellectual property and technology, the Industrial Property Law should be included in these discussions in order to benefit from the numerous arguments and ideas that are being exchanged and, ideally, be altered to match its provisions to the new legal reality.