



The EPO explains why the inventor has to be a human being, not a machine

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📁 INTELLECTUAL PROPERTY

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On 27 January 2020, the European Patent Office published the grounds for its recent refusal of two European patent applications whereby an artificial intelligence system was indicated as the inventor¹.

EP 18 275 163 and EP 18 275 174 concerned different inventions, namely a “food container” and “devices and methods for attracting enhanced

attention”. Both applications were filed with the UK Intellectual Property Office and forwarded to the EPO in 2018. Initially, in each application, the field for indicating the inventor was left empty. Later, the applicant (Mr. Stephen Thaler) filed separate submissions designating a machine called DABUS as the inventor, describing it as “a type of connectionist artificial intelligence” (AI). Mr. Thaler also specified that he had obtained the right to such patents as employer of DABUS;

¹ On 20 December 2019, the EPO issued the following press release:

“The EPO has refused two European patent applications in which a machine was designated as inventor. Both patent applications indicate «DABUS» as inventor, which is described as «a type of connectionist artificial intelligence». The applicant stated that they acquired the right to the European patent from the inventor by being its successor in title.

After hearing the arguments of the applicant in non-public oral proceedings on 25 November the EPO refused EP 18 275 163 and EP 18 275 174 on the grounds that they do not meet the requirement of the EPC that an inventor designated in the application has to be a human being, not a machine. A reasoned decision may be expected in January 2020.”

then he corrected this statement indicating himself as a successor in title. As the owner of the machine, he argued to be the assignee of any intellectual property created by the machine itself.

According to the applicant, allowing designation of machines as inventors, in cases where the subject-matter of the application has been achieved without human intervention, was in line with the purpose to incentivize disclosure of information, commercialization and development of inventions. Furthermore, he argued that acknowledging machines as inventors would facilitate protection of moral rights of human inventors and allow for recognizing the work of machines' creators.

Nonetheless, the EPO dismissed all arguments put forward by the applicant, highlighting that the European Patent Convention (EPC) sets out the requirement whereby the inventor designated in a European patent application needs to be a human being, not a machine. With the grounds for both decisions published, it is now possible to give initial thought to the reasoning followed by the EPO.

Designation of the inventor as a natural person

First, according to the EPO decisions, it is clear that the EPC only refers to natural persons when dealing with inventorship. In particular, Article 81 EPC on the designation of the inventor prescribes that: *"The European patent application shall designate the inventor. If the applicant is not the inventor or is not the sole inventor, the designation shall contain a statement indicating the origin of the right to the European patent."*, and Rule 19(1) of the Implementing Regulations to the Convention specifies that: *"... The designation shall state the family name, given names and full address of the inventor, contain the statement referred to in Article 81 and bear the signature of the applicant or his representative."*

In this regard, the EPO noted that names given to natural persons (whether

composed of a given name and a family name or mononymous) do not only serve the function of identifying them, but also enable them to exercise certain rights and act in certain capacities, thus forming part of their personality. Actually, within the legal framework of the EPC, the inventor's position is vested with several rights, in line with the intention of the Munich Diplomatic Conference to give inventors a clear and strong legal position.

Differently, things have no rights or capacities which a name would allow them to exercise, because they have no legal personality comparable to natural (or legal) persons. This point is well explained in the EPO's words: *"Legal personality is assigned to a natural person as a consequence of their being human, and to a legal person based on a legal fiction. Where non-natural persons are concerned, legal personality is only given on the basis of legal fictions. These legal fictions are either directly created by legislation, or developed through consistent jurisprudence. In the case of AI inventors, there is no legislation or jurisprudence establishing such a legal fiction. It follows that AI systems or machines cannot have rights that come from being an inventor, such as the right to be mentioned as the inventor or to be designated as an inventor in the patent application."* (see para. 27/28 of the decisions).

Moreover, the legislator's understanding of the term "inventor" as referring only to a natural person is confirmed by the preparatory works to the EPC and appears to be an internationally applicable standard among national jurisdictions and patent offices.

Indication of the origin of the right to the patent

According to the EPO, AI systems or machines can neither be employed nor transfer any rights to a successor in title. Since they have no legal personality, they cannot be party to an employment agreement (which is limited to natural persons). And since they have no rights, they cannot have any legal title over their

output that could be transferred by operation of law or agreement.

Rather, they are an object of ownership. The owner of an AI system or machine may, pursuant to national law, own the output of that system or machine. However, this does not mean that the owner is also the inventor: the question of ownership of an output must therefore be distinguished from that of inventorship.

Designation of inventor and patentability

The applicant had argued that not accepting AI systems or machines as inventors would exclude inventions made by AI from patentability, contrary to Articles 52-57 EPC. According to the applicant, if there is a patentable invention pursuant to patent law, it must be presumed that an inventor exists.

On this point, the EPO clarified that the designation of the inventor is a formal requirement, which a patent application must meet: its assessment is independent from and has no bearing on substantive patentability, which relates to the invention. From the fact that a certain subject-matter fulfils the requirements under Articles 52-57 EPC on patentability, no information can be inferred as to whether the application meets the formal requirements laid down by the Convention. Rather, the assessment of the latter, including the designation of the inventor, takes place prior to and independently from the substantive examination concerning patentability requirements.

The right of the public to know who the inventor is

The formal requirement of designating the inventor provides the public with information on inventors, enabling third parties to challenge a designation before a national court. Resting on this

perspective, the applicant argued that the requirement whereby the designation of the inventor should indicate a natural person could be used to conceal to the public the true identity of the inventor in cases where the subject-matter of the application was developed without human intervention.

The decisions rejected this argument, too, pointing out that the EPO does not check the origin of the subject-matter claimed in the patent application (in fact, under Rule 19(2) of the Implementing Regulations, “*The European Patent Office shall not verify the accuracy of the designation of the inventor*”). Rather, it is for the public, including a possible inventor omitted from the designation, to raise the incorrectness of the designation, based on the contents of the documents filed by the applicant.

What next?

The EPO decisions can be appealed before the Boards of Appeal within two months and highly likely they will. It is, therefore, to be expected that an appellate decision will review the legal reasoning that is laid down in the grounds summarized above.

It is not entirely clear why the applicant did not agree that the natural person concerned (Mr. Thaler) should be designated as the inventor, being the owner of the AI and its output, and was seeking to be designated as successor in title of that output instead.

It seems hard to disagree from the EPO decisions on the basis of the current legal framework of the EPC, from which no national system would appear to disagree either. The appellate decision would no doubt shed light on this intriguing legal issue, which is bound to present itself time and again with AI expanding exponentially to all areas of knowledge and science.





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