

# AI innovation and a ‘person skilled in the art’

In an editorial published in May 2024,<sup>1</sup> we examined the test for inventive step, where the ‘person skilled in the art’ is endowed with limited talents (a ‘donkey’) when determining whether the invention is non-obvious, but exhibits great expertise (a ‘genius’) when deciding whether the disclosure of the invention is sufficiently clear and complete. In this editorial, our person skilled in the art provides a further argument against treating innovations created solely by Artificial Intelligence (AI) as suitable for protection under patent law.

Whether artificial intelligence can be considered an inventor has already been examined by patent offices and courts.<sup>2</sup> Patent statutes can only be read as requiring a ‘person’ or ‘individual’, and therefore an ‘inventor’, to be a natural person, to the effect that, where a substantial contribution from a human is absent, the proposed innovations cannot be patented. Here, we look elsewhere in patent law for confirmation that an AI-produced innovation is not patentable because, when assessed through the ‘person skilled in the art’ test (in this case, another artificial intelligence with comparable capabilities), the innovation will always be found to be obvious.

Italian law is representative of the test on whether an invention is not evident (and thus potentially eligible for patent protection):

An invention shall be considered as involving an inventive step if, for the person skilled in the art, it is not evident from the state of the art.<sup>3</sup>

Certainly, a machine equipped with AI, when presented with a technical problem, is capable of using its own software and databases to find a new solution. But does the new solution meet the requirement for patentability, notably whether the invention involves an inventive step?

This assessment is commonly whether the ‘person skilled in the art’, given the same technical problem and knowledge of the prior art related to the AI-generated invention, could arrive at the same or a technically equivalent solution. But for an AI invention, who is the ‘person skilled in the art’? The skilled in the art cannot be human, because a human cannot match the capabilities of an AI innovator. For an invention generated by AI alone, the ‘skilled in the art’ can only be another supercomputer with the same computational capacity and access to the same data as the computer that generated the invention. Under these conditions,

<sup>1</sup> Roberto Dini and Mario Franzosi, ‘The so-called “person skilled in the art”: a donkey or a genius?’ (2024) 19 *Journal of Intellectual Property Law & Practice* 387.

<sup>2</sup> See, eg, among the court cases, *Thaler v Vidal*, 43F4th 1207 (Fed Cir 2022), *Thaler v Comptroller General of Patents Trade Marks and Designs*, [2023] UKSC 49 (20 December 2023); regulatory action U.S.P.T.O., *Inventorship Guidance for AI-Assisted Inventions*. 89 FR 10043 (13 February 2024).

<sup>3</sup> [Italian] Codice della proprietà industriale (2002), Art 48 (Attività inventiva). The European Patent Convention is to the same effect: see EPC Art 56.

the AI reviewer, addressing the same technical issue, will find the same solution as the AI innovator. That solution will be found to be evident; the AI-based innovation will be unpatentable for lacking an inventive step.

This conclusion is not surprising. According to the principle of reproducibility of experiments, to be considered valid and reliable, the results of a scientific experiment must be replicable or reproducible by other researchers using the same methodologies and conditions. Applying this principle to an AI innovation, two supercomputers with the same capabilities, when presented with the same technical problem, can only produce the same solution. The conclusion is sweeping: whenever one supercomputer is the presumed inventor and a second is the ‘skilled in the art’, the innovation made by AI, acting alone, can never involve the inventive step necessary to be validly patented.

US patent law approaches the question of inventive step by asking whether the innovation is obvious:

A patent for a claimed invention may not be obtained, ... if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.<sup>4</sup>

The US code introduces the qualifier ‘ordinary’ into the expression ‘skill in the art’. But it is difficult to believe that an innovation made by an AI innovator would be assessed for obviousness by a human having ordinary skill in the art. Given the superior capabilities of the AI innovator (computing power and access to data), the innovation would never be obvious to the human possessing ordinary skill. This would render the test meaningless. On the other hand, as demonstrated earlier, if the innovation is to be examined by the ‘ordinary skill’ of a second AI with comparable capabilities, the AI innovation would consistently fail because of obviousness.

This conclusion is consistent with case law interpreting ‘person having ordinary skill in the art’ in the US code. In *KSR v Teleflex*, the US Supreme Court found:

The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.<sup>5</sup>

Applying this test, it would be difficult to find any innovation developed by artificial intelligence alone to be non-obvious. The AI-equipped computer, in response to a prompt, draws upon its

<sup>4</sup> 35 US Code s 103.

<sup>5</sup> *KSR Int'l Co. v Teleflex Inc.*, 550 U.S. 398 (2007).

storehouse of prior art, known techniques and teachings in the art, and engages in simple substitution or offers an improvement that in each case would be found to be a 'predictable result'. Artificial intelligence simply reshuffles the prior art; in its work, there is no 'flash of genius'.

It is therefore necessary to make a distinction between (I) the use of AI by humans to refine research and to choose among the various technical solutions generated by AI (for example, in pharmaceutical research), where the inventor can be identified and the innovation can be patented, and (II) an invention created solely by AI, where AI is the inventor but the innovation not patentable.

The conclusion must be that even if the problem of identifying the inventor in the case of an innovation produced solely by a machine could somehow be overcome (eg by modifying patent

laws), another obstacle remains. Indeed, applying the validity requirements set forth in all international patent laws, any innovation produced solely by a machine equipped with artificial intelligence fails the further test of non-obviousness or inventive step. This is because, as discussed earlier, the skilled in the art, who would need to assess these requirements, is another machine identical to the one that produced the innovation, and due to the principle of reproducibility of experiments, it would find the same solution as the 'innovating' AI-equipped machine.

**Roberto Dini\***

Intellectual Property Consultant.

\*Email: [roberto@dini.com](mailto:roberto@dini.com)