

## Artificial intelligence

December 2023

*A challenge for companies and for regulators*



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— ANDY RAMOS

## The impact of AI on copyright

About a decade ago, largely as a result of projects such as The Next Rembrandt and DeepDream, a debate began about the impact of artificial intelligence on the protection of intellectual property rights. This debate has intensified with the popularisation of generative artificial intelligence (“GenAI”). At present, the discussion focuses mainly on four issues, in order of relevance:

- i) the protection of **content** developed by a GenAI;
- ii) GenAI **training** using copyrighted works and other subject matter;
- iii) the legal protection of AI **foundation models**; and
- iv) the emergence of **secondary services** around the GenAI.

On the first question, article 5 of the Spanish Copyright Act<sup>1</sup> (“SCA”) clearly states that only a natural person who creates a literary, artistic or scientific work can be an author. Consequently, only a human person can be an author, as this status cannot be held by, for example, a legal entity, an animal or a GenAI. Therefore, *a priori*, if an image or text has been generated by a GenAI, this content will not be protected by intellectual property rights and may be freely exploited by any person, since the GenAI does not have the status of a natural person.

***In principle, only a natural person who creates a literary, artistic or scientific work can be an author. If an image or text has been created by a GenAI, it is not protected by copyrights.***

However, the emergence of transformative architecture<sup>2</sup> has made it necessary to rethink this debate because of the creative process that can be carried out with it to generate content. GenAI-based platforms operate through prompts, i.e. natural language commands or indications that issue orders to obtain a specific result, whether text, images or videos. A non-professional user can use a GenAI in a very simple way, with basic prompts (e.g. “write a children’s story about two animals” or “draw a futuristic city with cars suspended in the air”), which delegate the final artistic result of the content to the tool. However, GenAI can be a very powerful tool in the hands of a sophisticated user who directs and adjusts the outcome with multiple commands to become the true author of the final work.

***Sometimes GenAI can be the tool for an original creative process.***

The similarities between creative processes in the arts and the use of GenAI are evident, especially in sculpture, where the artist often collaborates with smiths or welders to realise their vision. Like a sculptor directing a technical assistant, the operator of a GenAI can use specific instructions to guide the creation, a process reminiscent of using software such as Adobe Photoshop, where tools make it easier to achieve the artistic result desired by a human.

<sup>1</sup> Royal Legislative Decree 1/1996, of 12 April 1996, approving the Spanish Copyright Act, regularising, clarifying and harmonising the legal provisions in force on the matter.

<sup>2</sup> The transformer architecture is the architecture behind popular services such as ChatGPT, DALL-E and Stable Diffusion.

After some hesitation<sup>3</sup>, copyright registries are coming to this conclusion<sup>4</sup>, permitting the registration of rights in works created using GenAI when the applicant demonstrates that there has been a creative process behind it, corroborating the nature of these intelligent systems as mere tools. Creators must therefore demonstrate that there has been a creative process, documenting it, in order to be able to justify that the final content was influenced by them and not randomly determined by a GenAI.

In any case, some countries have already adopted regulations on the protection of AI-generated works<sup>5</sup>, albeit with little practical effect, and others are in pre-legislative stages for the adoption of rules providing for the circumstances under which the result of a GenAI can enjoy the protection of copyright law<sup>6</sup>.

Elsewhere, on the second question, as we have already explained, for a GenAI to be able to develop content, it must have been previously trained with the greatest volume of works or subject matter, so that the tool has sufficient data on which to generate the material requested by the user.

***The process of training a GenAI may involve the use of rights of third parties, for example code programmers, artists, music composers or writers.***

In fact, some of the most significant copyright cases in the US today concern this issue. Thomson Reuters sued ROSS Intelligence for mass reproduction of the contents of its Westlaw legal database to enhance the latter's proprietary AI system; Getty Images has initiated proceedings in the US<sup>7</sup> and the UK against Stability AI for reproduction of the popular image bank's works to train a GenAI and for suppression of rights management information<sup>8</sup>; and a number of programmers have sued GitHub and OpenAI<sup>9</sup> for violating the terms of the open source licences they were using and also for removing rights management information.

The respondent GenAI developers, usually American companies, often rely on the fair use defence doctrine to justify the acts of reproduction they carry out to train their GenAI tools.

Although we do not currently know what decisions will be made by the English and American courts, we can anticipate that the issue should be decided upon differently in the European Union, where such a doctrine does not formally exist.

***The European Parliament approved limitations to the exclusive right to reproduction, to allow text and data mining.***

In order to partially address this issue, the European Parliament adopted Articles 3 and 4 of Directive 2019/790<sup>10</sup> (the "DSM Directive"), which obliges Member States to establish, primarily, limitations on the exclusive reproduction right of individual rightsholders, to allow for text and data mining. Thus, in the European Union there is already regulation covering data mining activities, defined by the DSM Directive itself as the "automated computational analysis of information in digital form, such as text, sounds, images or data"<sup>11</sup> including whether this processing is carried out by a GenAI.

Both exceptions therefore allow the reproduction of other people's works and other subject matter for automated analysis to enable algorithms to carry out specific instructions, but only in the case of research bodies and cultural heritage institutions for scientific research purposes (Art. 3 of the DSM Directive) or for any undertaking, which must have legitimate access to the work or other subject matter, provided that the rightsholders do not make an express reservation of rights (Art. 4 of the DSM Directive). Therefore, where there is such a reservation, those responsible for the GenAI tool will require a corresponding licence for the uses of third-party works or performances, as described in Recital (18) of the DSM Directive.

On the same issue, if the latest version of the proposed AI Act goes ahead, providers of foundation models that are used in GenAI systems will have to produce a document, which they will have to make publicly available, with information on whether the data on which the model was trained was protected by copyright.

<sup>3</sup> <https://www.reuters.com/legal/ai-created-images-lose-us-copyrights-test-new-technology-2023-02-22/>

<sup>4</sup> In particular, the U.S. Copyright Office (<https://www.reuters.com/world/us/us-copyright-office-says-some-ai-assisted-works-may-be-copyrighted-2023-03-15/>) and the copyright registries of the Community of Madrid (<https://www.genbeta.com/actualidad/registro-propiedad-intelectual-espanol-tambien-le-niega-copyright-a-obras-creadas-ias-asi-argumenta>).

<sup>5</sup> For example, the United Kingdom, which already in 1987 established that when a work is "generated by computer in circumstances such that there is no human author", the author of such a work is "the person by whom the arrangements necessary for the creation of the work are undertaken".

<sup>6</sup> The most representative case is France, in whose National Assembly a proposal for a Law for the Regulation of Artificial Intelligence through Copyright was registered, available at [https://www.assemblee-nationale.fr/dyn/16/textes/l16b1630\\_proposition-loi](https://www.assemblee-nationale.fr/dyn/16/textes/l16b1630_proposition-loi). The legislative proposal, which is very protective of authors, grants the rights to a work generated using GenAI to the persons whose works made that content possible and, in the event that this is not possible, establishes a collective management remuneration right.

<sup>7</sup> The statement of claim is available at [https://copyrightlately.com/pdfviewer/getty-images-v-stability-ai-complaint/?auto\\_viewer=true#page=&zoom=auto&pagemode=none](https://copyrightlately.com/pdfviewer/getty-images-v-stability-ai-complaint/?auto_viewer=true#page=&zoom=auto&pagemode=none)

<sup>8</sup> Regulated in article 7 of the Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society.

<sup>9</sup> The complaint is available at [https://githubcopilotlitigation.com/pdf/06823/1-0-github\\_complaint.pdf](https://githubcopilotlitigation.com/pdf/06823/1-0-github_complaint.pdf)

<sup>10</sup> Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC.

<sup>11</sup> Recital (8) of the DSM Directive.

On the other hand, and in relation to these foundation models, their possible protection by intellectual property rights, industrial property rights or trade secrets is another key issue for AI companies today. According to the proposed AI Act, a foundation model is “an AI system model that is trained on broad data at scale, is designed for generality of output, and can be adapted to a wide range of distinctive tasks<sup>12</sup>”.

Thus, foundation models are the set of information and parameters of an AI system, which enable the performance of tasks or the achievement of a specific result. These models are composed of tens of billions of parameters<sup>13</sup>, which will determine the behaviour of the AI system later on when faced with a user request. Today, foundation models are at the core of AI systems such as ChatGPT, DALL-E or Midjourney; the better they are built, the less data they need to learn, the less power they consume, and the more scalable they are, the better the AI service that is built on top of it.

**The technical complexity of foundation models means that their legal protection is not, a priori, simple.**

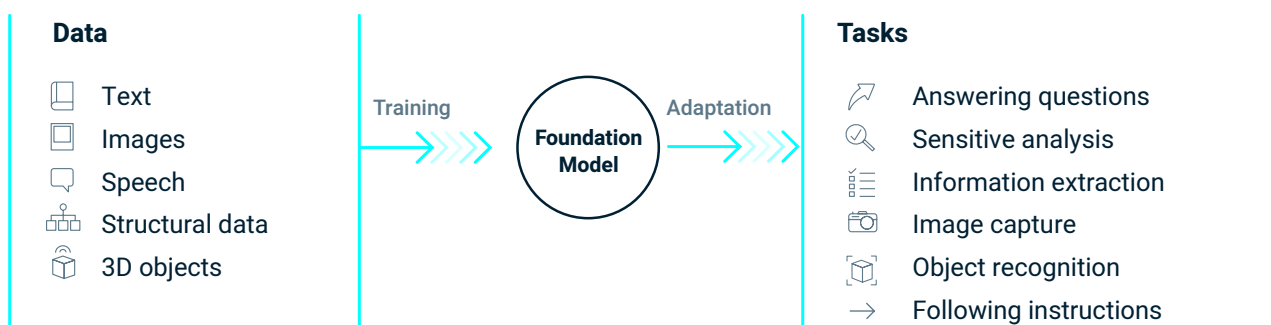
Foundation models are composed of different elements, including:

- **Attributes or characteristics**, which define the capabilities, limitations or suitability of each data or dataset that is part of the foundation model. Among other attributes, a model may include the size of the dataset, possible labels when learning is supervised, sources, timestamps, categories, the reliability of the data or possible copyrights on the data;
- **Algorithms**, which are a “set of rules that, when systematically applied to appropriate input data, solve a problem with a finite number of elementary steps<sup>14</sup>”.

- **Computer programs**, which are sequences of instructions or indications intended to be used in a computer system to perform a function or task or to obtain a specific result.
- **Data**, which is the material on which foundation models for training are based. Once the model has been trained with this material, it is no longer available in an accessible form in this kind of information system, although it contains the aggregated statistical patterns obtained during the learning of such large volumes of data.
- **Parameters**, which are the internal variables that the model learns during the training process. Current foundation models such as GTP-4 may have more than 1.76 trillion parameters, while GPT-2 had a mere 1.5 billion.

Each of these components is highly complex and potentially protectable by intellectual property rights, in the following ways, specifically:

- **Original database**: the SCA protects collections of data or other elements that are arranged in a systematic or methodical manner and are individually accessible<sup>15</sup>, provided that, like other works of human intellect, the structure is original and creatively expressed. As long as the attributes or parameters of a foundation model are arranged in a systematic or methodical manner and meet the other requirements of the SCA, this kind of structure is copyrightable.
- **Sui generis database**: the SCA also confers protection, in addition to the original structure of a database, to its content, if it is the result of a substantial investment by its manufacturer, in quantitative or qualitative terms, for obtaining, verifying or presenting its content<sup>16</sup>. The parameters of a foundation model, usually obtained through years of training and investment of multiple resources, could be protected by *sui generis* database law to prevent their extraction or re-use by unauthorised third parties.



12 Article 3.1c of the proposed AI Act.

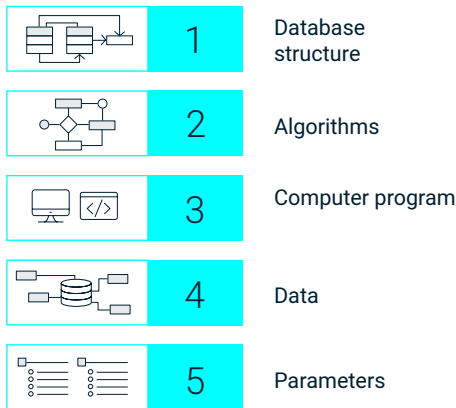
13 About 65 billion parameters for the foundation LLaMa model, developed by Meta; more information at <https://research.facebook.com/publications/llama-open-and-efficient-foundation-language-models/>

14 R. PEÑA MARÍ, *Historia de los algoritmos y de los lenguajes de programación* (2006), p. 16.

15 Art. 12. SCA.

16 Art. 133. SCA.

## Foundation Model



- **Scientific work:** in so far as the SCA protects *literary, artistic and scientific works*<sup>17</sup>, when an idea or concept is expressed through an algorithm, whether in natural language, with algebraic symbols and/or sequential structures, and is carried out in an original and certainly complex manner, the result (i.e. the algorithm, not the ideas underlying it) may be protected by this body of law, regardless of its possible development in computer code. Despite the widespread understanding that an algorithm is an *idea* and therefore not copyrightable, the reality is quite different, since algorithms are often precisely *expressions* of certain principles or logics, with an original and complex development to obtain a certain result, and are therefore copyrightable. The idea underlying the algorithm would not be protected and could be developed differently by someone else, but its original expression in natural language, diagrams or pseudocode would be protected.
- **Computer program:** the special regime for software in the SCA protects not only computer code, in any programming language and in high and low level code (source code and object code), but also the preparatory work, which may include flowcharts, again, algorithms, and the detailed technical description from which a computer program can be derived<sup>18</sup>. In a foundation model, therefore, different elements may be protected under the SCA, namely the computer code developed to execute that model, the Application Programming Interface (API) that connects it to external services or, as we have described, the algorithms that express ideas or principles in an original way.

The legal system also offers complementary forms of protection for some of these components of a data model, namely business confidentiality, provided that any information is confidential, has commercial value due to its confidentiality and is subject to reasonable measures to maintain its secrecy. In fact, in general, both the attributes of a foundation model and its subsequent parameters are strictly guarded by the owners of AI systems, as they are the result of significant investments and what gives them a competitive advantage in the market.

Finally, the way in which these GenAIs operate is prompting debate on the possible protection of prompts, especially given the emerging secondary market that is taking shape, with services specialising in marketing instructions for use with GenAIs, such as Stable Diffusion or DALL-E. Any text that possesses traits of originality may be eligible for copyright protection.

### **Prompts do not always meet the protection requirements of copyright law.**

This is the case with the simplest prompts, composed of mere single words equivalent to the orders a sculptor would give to his technical assistant. Therefore, as discussed above, copyright protection can be found in the final work that emerges from this complex process, conditioned by the creative that uses the GenAI as a tool, and not in the set of instructions provided during the process.

Another unique issue that GenAIs are raising is that the companies that operate these systems acknowledge the existence of intellectual property rights in their terms and conditions, both in prompts and in the images, texts or videos generated by these web services. In other words, their general terms and conditions, which must be accepted by users before using the GenAI, usually contain specific provisions on intellectual property, in the form of the user's authorisation to the service to use the content generated from it or the assignment of rights from the owner of the GenAI to the user, albeit with certain prerogatives granted to the supposed assignor.

These pre-determined conditions set by the operators of these GenAI-based services have a two-fold analysis; on the one hand, they presuppose the existence of intellectual property rights over the prompts and the content generated by their tools, which is debatable, as we have explained above; while, on the other hand, they confer rights over them to the users, albeit with certain restrictions. Precisely because of the possible absence of protection of prompts and content generated by a GenAI, their use will be free for anyone, meaning that an agreement restricting this freedom will only be valid between those who agree to it (i.e. the GenAI manager and its user), but not for third parties, who will still be able to use this content unprotected by copyright.

As we have seen in the recent Writers Guild of America strike<sup>19</sup>, GenAI tools will bring about major changes in the entertainment and internet industry, with competition between content created by professionals, content made by users and, now, content generated by artificial intelligences.

### **The theoretical protection of prompts and the resulting content does not seem to be as problematic as the impact this content will have on the cultural and entertainment sector.**

<sup>17</sup> Art. 10. SCA.

<sup>18</sup> Recital 7 of Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs.

<sup>19</sup> <https://apnews.com/article/hollywood-ai-strike-wga-artificial-intelligence-39ab72582c3a15f77510c9c30a45ffc8>



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## Deepfakes and the right to self-image

If we follow the report *Tackling deepfakes in European policy*<sup>1</sup>, the European Parliament's first foray into the issue, deepfakes can be defined as synthetic or manipulated audio, visual or audiovisual media that appear to be authentic, and which, through artificial intelligence techniques such as machine learning or deep learning, represent people who appear to say or do things they have never said or done. As the U.S. Department of Homeland Security clarifies on the other side of the Atlantic, the term deepfake is a combination of the term deep, because of the importance of deep learning, along with the fact that the result is fake content<sup>2</sup>. None of these definitions has, to date, been elevated to the status of law<sup>3</sup>.

In Spain, the term deepfake is not legally defined, although the National Institute of Cybersecurity (INCIBE) describes it in a similar way to the European Parliament and the US Government<sup>4</sup>. In any case, whether using these artificial intelligence techniques or any other more rudimentary ones, our legal system confers protection to any person who suffers an unlawful attack on their honour or their own image<sup>5</sup>. Thus, the use of deepfake technologies to, for example, ridicule a person, could be covered by art. 7.7 of Law 1/1982, or to associate their image with a company for advertising purposes, by art. 7.6 of the same law. The novelty of the phenomenon is therefore relative, as there are already rules prohibiting certain harmful acts.

***In Spain, deepfakes are not defined from a legal point of view, although the current law does protect anyone who suffers an unlawful attack on their honour or their own image.***

The proto-history of deepfakes takes us back to the Spanish-American War of 1898, where for the first time videos were manipulated to represent events that never took place<sup>6</sup>. As with any disruptive technology<sup>7</sup>, what is new is the variety of effects - both positive and negative - that deepfakes can have. In terms of positive effects, we could cite uses in the audiovisual sector, where they can contribute to replacing or adding actors, contestants, presenters, etc. to audiovisual works<sup>8</sup>, improving human interaction through technology, giving interfaces a human-like appearance<sup>9</sup> and even uses in the medical sector,

1 *Tackling Deepfakes in European Policy*. Scientific Foresight Unit (STOA). European Parliament. July 2021. Available at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690039/EPRS\\_STU\(2021\)690039\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690039/EPRS_STU(2021)690039_EN.pdf)

2 [https://www.dhs.gov/sites/default/files/publications/increasing\\_threats\\_of\\_deepfake\\_identities\\_o.pdf](https://www.dhs.gov/sites/default/files/publications/increasing_threats_of_deepfake_identities_o.pdf)

3 In fact, the term was coined by a user of the social network Reddit, who used it to identify himself on the website. See <https://mitsloan.mit.edu/ideas-made-to-matter/deepfakes-explained>

4 In its online guide to security (entitled #aprendecibersecurity), available here, it offers a definition of deepfake as manipulated videos

5 Organic Law 1/1982, of 5 May, on the Civil Protection of the Right to Honour, Personal and Family Privacy and One's Own Image.

6 <https://link.springer.com/article/10.1007/s11229-023-04097-3>

7 If we follow the now classic distinction between enabling technologies and disruptive technologies, or, in other words, technologies that improve existing processes (the first type) as opposed to those that enable new processes to be undertaken (the second type). The originator of this term, Clayton Christensen, eventually embraced the term "disruptive innovation" as opposed to "disruptive technology" on the grounds that it is not the technology itself, but its practical application that brings value. See <https://www.techtarget.com/whatis/definition/disruptive-technology>.

8 <https://rm.coe.int/native/0900001680a11e0b> p. 9

9 See Tackling report.

where deepfakes can be of service in aesthetic medicine projects<sup>10</sup>. However, as for negative effects, which are those that deserve the legislator's attention, the list of potential problems caused by the use of deepfakes is certainly extensive.

Deepfake techniques, due to their capacity to generate deception, can be used for extortion, impersonation, fraud, reputational damage of various kinds, to promote hate speech, to promote fake news and even to negatively influence the security of States<sup>11</sup> among many other unlawful conducts, including those covered by the Criminal Code.

### ***Emerging legislative approaches in both Europe and the US swing between promoting AI as a technology and mitigating risks, including in the field of deepfakes.***

In fact, the recently approved DSA<sup>12</sup> includes, in its article 35.k, the first significant regulation in relation to deepfakes, in what we can consider to be a pioneering legal measure directly aimed at reducing the risks associated with the use of deepfakes. In particular, this article, which is addressed to very large online platforms and very large online search engines ("VLOPs" and "VLOSEs" respectively), requires measures to be taken to ensure two issues. Firstly, that the use of deepfakes is clearly indicated in the online interfaces of VLOPs and VLOSEs, and, secondly, that a "user-friendly" functionality is provided precisely so that users of the service are able to flag this information.

However, this article will not be the only provision in this area for long. The European Commission's proposed AI Act<sup>13</sup> also has its sights set on deepfakes. As Recital 70 of the draft regulation explains, irrespective of the risk classification of the artificial intelligence system it is based on, simply generating deepfakes should be subject to certain transparency obligations. As in the case of the DSA, the text insists on the obligation to notify users (unless it is obvious from the circumstances), as well as imposing an obligation on persons using artificial intelligence systems to communicate that the content has been created by such systems.

Unlike the DSA, the future regulation indicates that it will not apply when the use is legally foreseen to "detect, prevent, investigate and prosecute criminal offences" or when "necessary for the exercise of the right to freedom of expression and the right to freedom of the arts and sciences". In any case, the final version may, of course, be subject to some drafting changes.

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<sup>10</sup> See *idem* p. 28.

<sup>11</sup> See *idem* p. 29.

<sup>12</sup> Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022, on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)

<sup>13</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021PC0206>

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### RAIS AMILS

## Research, patents and transfer of results generated by artificial intelligence

AI has become a major tool for the development of new inventions. In fact, nowadays we can find inventions that have been developed by a natural person, where AI is simply used to verify the results obtained with that invention or to implement it in practice. There are also inventions where the natural person identifies a problem and uses AI to achieve a solution to the technical problem. And we are even finding more and more inventions in which it is the AI itself that detects the problem to be solved and provides a solution, without the intervention of a natural person (at least not directly). These inventions, which have been developed using AI, have given rise to a number of debates. The main issues are patentability and authorship.

The first question raised by inventions involving AI in their creation, development and/or implementation is whether they are patentable. This debate arises because article 52 of the European Patent Convention (“EPC”), equivalent to article 4 of the Spanish Patent Law 24/2015 (“Patent Law”), establishes that mathematical methods, programs for computers and ways of presenting information are not considered inventions (and, therefore, are not susceptible to being protected by a patent right). This express exclusion means that AI as such is not patentable. This is because, by definition, AI and machine learning are based on computational models and algorithms (e.g. neural networks) and are therefore of an abstract mathematical nature. This has been established by the European Patent Office (“EPO”) in its Examination Guidelines, Part G, Chapter II, paragraph 3.3.1.

### **AI has given rise to a number of debates about its patentability and authorship.**

However, these provisions expressly state that this exclusion of subject-matter or activities only applies “to the extent that the patent application or patent relates exclusively to one of those subject-matter or activities considered as such”. In other words, although AI is not patentable “as such”, it would be possible to patent an invention in which AI has been used as a tool or assistant for its development, provided that it can be verified that a technical effect is achieved by means of this technology.

In order to illustrate how this “technical effect” can be determined, the EPO Examination Guidelines contain some examples in which AI and machine learning constitute a technical contribution (as would be the case of a neural network in a cardiac monitoring device, which aims to identify irregular heartbeats), and examples in which it is not possible to identify this technical character, so that we would not be dealing with a patentable invention (as would be the case of a method to classify text documents solely on the basis of their linguistic content, a case analysed in decision T 1358/09 of the EPO Board of Appeal).

### **Another major debate surrounding AI is whether it is possible to designate AI as an “inventor”. The majority of different jurisdictions have rejected applications. The inventor must be a natural person.**

This is the most pressing issue at the moment because it challenges patent law, which has traditionally required a natural person to be identified as the

“inventor”. This debate was triggered by the DABUS (Device for the Autonomous Bootstrapping of Unified Sentience) case, the name of the AI tool created by Dr Thaler. Dr Thaler applied to patent offices in several countries for two inventions “created” by DABUS, namely a plastic food container based on fractal geometry and a flashing light for attracting attention in emergency situations. All patent applications requested that DABUS be recognised as the “inventor”.

However, most of these jurisdictions rejected Dr Thaler’s applications on the grounds that the inventor must be a natural person. Thus, in decision J 08/20, the EPO rejected such applications on the grounds that, according to article 81 EPC (which states that “*the European patent application shall designate the inventor [...]*”), and article 60 EPC (according to which “*the right to a European patent shall belong to the inventor or his successor in title [...]*”, a provision equivalent to article 10 of our Patent Act), the inventor must be a natural person.

A similar conclusion has been reached in the vast majority of jurisdictions where DABUS patents have been applied for: The United States<sup>1</sup>, the United Kingdom<sup>2</sup>, Germany<sup>3</sup> and Australia<sup>4</sup> (although initially in Australia DABUS obtained a favourable ruling from the court of first instance, which considered that the inventor did not have to be a natural person; this ruling was later overturned by the higher court). In fact, to date, DABUS patents (where DABUS is listed as the “inventor”) have only been granted in South Africa, where patents are granted without prior examination.

The DABUS patent issue has sparked an intense legal and ethical debate on the limits and implications of AI in the field of patents and trademarks. Some argue that recognising an AI as an inventor could encourage innovation and technological development, as well as protecting the rights of AI creators. However, others argue that granting patents in which AI is listed as the “inventor” could undermine the system of incentives and rewards for individual inventors, as well as raising liability and security concerns. Moreover, opponents of AI being designated as an inventor argue that AI can never generate the invention “autonomously”, as there is always a natural person behind it who has selected the data on which the AI has been trained, who has created or modified the algorithm with which a technical effect has been obtained, and/or who has identified the technical problem to be solved. And as long as there is a natural person behind it, it is always possible to consider them as the “inventor”, and not the AI.

In any case, the DABUS case has not yet been finally resolved and further court rulings on this issue are expected. However, in view of the almost unanimous opinion of the various patent offices that have spoken on the issue so far, it seems clear that, at present, AI cannot be designated as the “inventor” in

a patent application. But given the inexorable advance of AI technologies and their growing capacity to generate innovative solutions in various fields, it is foreseeable that legislators will be faced with the problem of regulating this issue, either to confirm that only a natural person can be designated as an inventor or to explore alternatives to protect these types of inventions by recognising AI as an “inventor”. Proposals include creating a special patent regime for AI inventions, attributing ownership to the owner or user of the AI system, or granting limited or temporary rights to AI developers or beneficiaries of inventions.

In any case, this is a complex challenge that requires in-depth, multidisciplinary analysis and international harmonisation to ensure a balance between the promotion of innovation, respect for human and workers’ rights and the general interest.

### **AI appearing as an inventor could raise liability and security concerns.**

1 Judgment of the United States Court of Appeals for the Federal Circuit of 5 August 2022 (Thaler v. Vidal, No. 2021-2347, Fed. Cir. 2022).

2 Judgment of the Court of Appeal (Civil Division) of 21 September 2021 ([2021] EWCA Civ 1374), confirming the judgment of the High Court of Justice of 20 September 2020 ([2020] EWHC 2412 (Pat)).

3 Judgment of the 18th Senate of the German Federal Patent Court (Case ID: 18 W (pat) 28/20).

4 First instance judgment of the Federal Court of Australia of 30 July 2021 ([2021] FCA 879), reversed by judgment of 13 April 2022 of the Full Federal Court ([2022] FCAFC 62).



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## Artificial intelligence

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# What can companies already do?

- Analysis on the legitimate use of a data source for AI training.
- Identification of the different components of the AI system and possible protection by intellectual property rights, industrial property rights or trade secrets.
- Risks and contractual aspects for the exploitation of content developed by a GenAI.
- Analysis of possible infringement of third-party rights by the use of own works or services for the training of GenAI systems.
- Risk analysis of the use of deepfake AI technologies.
- Potential patent protection for an invention developed using an AI system.