“THE NEW EU AI ACT: A COMPREHENSIVE LEGISLATION ON AI OR JUST A BEGINNING?”

Discussion Paper

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“Abstract”

The paper examines whether the EU AI Act, once adopted, will represent a comprehensive piece of legislation with the focus on the intellectual property rights (IPR) legal framework. Several areas identified as being challenged by the application of AI are analyzed: ownership and authorship of works generated by the AI system or with the help of the AI system; protecting technology underlying an AI system with IP rights; protection of IP rights of third parties when training and operating an AI system (IP rights might be infringed by training an AI system on IP protected content, as well as while operating an AI system when AI systems generate content which infringes IP rights or where the AI system acts as an intermediary whose services are used to infringe IP rights) and the influence of the application of AI on the well-established legal standards. The paper will examin whether the AI Act addresses or might be used to help solving the outstanding issues in each area identified.

Keywords: Intellectual property rights, AI Act, IPR infringement

1 Introduction

In April 2021, the European Commission proposed the first EU regulatory framework for AI (EC, 2021). On 14 June 2023, the European Parliament adopted its negotiating position (with 499 votes in favour, 28 against and 93 abstentions), which initiated the so called trialogue procedure. These negotiations, which bring together the European Commission (EC) that made the legislative proposal and the co-legislators: EU member states i.e. the Council of the European Union (Council) and the European Parliament (EP), will finally shape the EU regulatory framework for AI.

The initial proposal of the EC from 2021 is the starting point of such negotiations, but the final decision is going to be made by the two co-legislators: the EP and the Council. In its negotiating position adopted recently, the EP has proposed some significant changes to the initial proposal of the EC (EP, 2023). The Council, which in fact represents the position of national governments of the EU member states, has adopted its general approach already in December 2022 (Council, 2022).

It is not possible to know with certainty the exact wording of the final EU AI Act. However, based on the EC’s initial proposal, the Communications and Explanatory memorandum from the EC as well as the position of the EP on one hand and that of the Council on the other, it is possible to analyze some aspects the EU will regulate in its forthcoming AI Act, announced as the world’s first comprehensive AI law. Once adopted, this Act might quickly spread globally and become the universal standard which other countries will follow, similarly as the EU’s GDPR (General Data Protection Regulation) some years ago, in what is sometimes referred to as the “Brussels effect” (Bradford, 2020).

The AI Act aims at establishing a legal framework for trustworthy AI. The objective is to ensure that AI systems placed on the EU market and used are safe and respect the existing law on fundamental

rights and EU values. The principle-based requirements that AI systems should comply with are set and a risk-based approach is taken. It defines 4 levels of risk in AI: unacceptable, high-risk, limited risk and minimal or no risk (EC, 2022a). Certain particularly harmful AI practices which are defined as unacceptable risk are prohibited as contravening EU values: AI systems which classify people based on behaviour, socio-economic status or personal characteristics ("social scoring") or perform some sort of cognitive behavioural manipulation of people as well as specific vulnerable groups like children are prohibited as such. Real-time and remote biometric identification systems, such as facial recognition are also prohibited (however, biometric identification systems where identification occurs after a significant delay are exceptionally allowed to prosecute serious crimes, but only after court approval.). However, the legislative proposal mostly focuses on the so called "high-risk" AI systems that pose significant risks to the health and safety or fundamental rights of persons. The EC has mostly tailored its legal intervention to address these "high-risk" AI systems because it considers there is a justified cause for concern, or such concern can reasonably be anticipated. Those AI systems will have to comply with a set of horizontal mandatory requirements for trustworthy AI and follow conformity assessment procedures before they can be placed on the EU market. AI systems such as chat bots, emotion recognition systems and deep fakes are seen as limited risk AI systems and are only subject to transparency obligation (Article 52). For example, a chat bot must be designed and developed in such a way that natural persons are informed that they are interacting with an AI system, unless this is obvious from the circumstances and the context of use. Those AI systems that are considered minimal risk such as video games or spam filters are not in any way regulated by the AI Act, however the EC will encourage and facilitate their self-regulation by adopting voluntary codes of conduct (Article 69).

In doing so, the legislative proposal significantly departs from being, what is announced as, a "comprehensive" AI law. In other words, if an AI system is not considered a threat to people (for example voice-activated toys that encourage dangerous behaviour in children) or does not fall into the "high-risk" category (for example AI systems for recruitment), there is only the transparency obligation it has to adhere to, and the rest of the AI Act would not apply to it (EC, 2022a).

Rightly so, one of the key amendments the EP has proposed is to establish certain requirements that would apply to all AI systems, even those that for the time being seem lawful, safe and trustworthy and not threating our fundamental rights and EU values. What the EP is basically saying is that, while many AI systems pose minimal risk, they neverthless need to be regulated and general principles for the development and use of all AI systems need to be set. A proposal to include a provision titled "General principles applicable to all AI systems" in the EU AI Act is therefore made by the EP. If that proposal is in the end accepted by the Council, it would ensure that all AI systems, irrespective of the risk that they pose, would have to follow the principles of "human agency and oversight", "technical robustness and safety", "privacy and data governance", "transparency", "diversity, non-discrimination and fairness" and "social and environmental well-being" (EP, 2023). This would, in fact, render the act more comprehensive.

It should be noted that the initial EC's proposal does not mention generative AI. In their defense, one should admit that the AI Act proposal was made in April 2021 and there was a quick-paced technological breakthrough which has since radically changed the potential of these technologies (EP, 2023). Only after the launch of the ChatGPT in December 2022 and the AI-powered Microsoft Bing and Edge in March 2023 did the general public become aware of their potential, but also of the concerns and risks associated with them and of the impact they might have on a range of issues. So, another key amendment that the EP has made is addressing foundation models and generative (or general purpose) AI. The general approach taken by the Council in December 2022 has also proposed to consider general purpose AI and, in particular, situations where general purpose AI technology is subsequently integrated into another high-risk system. However, the Council proposes that certain requirements for high-risk AI systems would also apply to general purpose AI systems in such cases, but an implementing act would specify how they should be applied in relation to general purpose AI systems (Council, 2022).

The proposal of the EP refers to "foundation models", a form of which is generative AI. Such AI models are trained on a very broad range of sources and large amounts of data – and can be used for

many different applications. However, the providers of such AI models need to adhere to certain specific obligations. The providers must guarantee robust protection of fundamental rights, health, safety and the environment, democracy and rule of law; they have to assess and mitigate risks associated with the model; introduce practical measures in the design and development of the model to ensure certain standards are met and they have to register the model in the EU database, introduced by the AI Act. Additional transparency requirements are imposed for "generative" foundation models (disclosing that AI-generated the content; designing the model to prevent it from generating illegal content; publishing summaries of copyrighted data used for training; and supporting innovation and protecting citizens' rights). Exemptions from those obligations and requirements for foundation models in general and generative AI in particular are made for research activities and AI components provided under open-source licenses.

While not elaborating on other EP proposals made to the AI Act, we will try to analyse whether the AI Act is a comprehensive piece of legislation or additional legislation or whether amendments to the existing legislation might be needed to regulate certain aspects in which AI might pose challenges. The focus will be the intellectual-property rights (IPR) legal framework. The research methodology includes a comparative analysis of available legislation in the IPR field, current legislative proposals around AI systems and policy documents of the European Union.

2 Discussion

Even if the EP's proposal is taken aboard in the AI Act, and the scope of the AI Act and the minimum requirements set therein are extended to all AI systems, regardless of the risk they pose, it is quite sure that this will not be the only comprehensive legislation concerning AI. It was obvious from the outset that the EU will have to regulate some areas concerning AI systems with specific and additional legislation and that the AI Act will not be the only legal intervention necessary. One example is the proposal for a Directive on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive), which was made by the EC in September 2022 (EC, 2022b). This Directive addresses the specific challenges posed by AI systems to the existing liability rules since current national liability rules, based on fault, are not suited to handling liability claims for damage caused by AI-enabled products and services. It is seen as a part of a package of measures to support the roll-out of AI in Europe and is complementary to the AI Act which lays down horizontal rules on AI systems. It introduces new rules specific to the damage caused by AI systems by creating a "rebuttable presumption of causality". So if somebody claims damages from the provider of the AI system, he/she/it would not have to prove that the defendant (AI system provider) was at fault so long as: (a) the AI system's output (or failure to produce an output) was reasonably likely to have caused the damage; (b) that damage or harm was caused by some human conduct influencing the AI system's output, and (c) the conduct did not comply with a certain obligation relevant to the harm i.e. did not meet the duty of care under EU or national law that was directly intended to protect against the damage that had occurred. The failure to meet this duty of care can be established if the defendant did not comply with the horizontal rules on AI systems (for example obligations for "high-risk AI Systems") set in the AI Act (EC, 2022b).

In intellectual property field there are several areas with possible implications of the use of AI systems already identified in reference works (Iglesias et al. 2019; Batty 2021). These are analyzed against the proposed AI Act to find out whether the AI Act has addressed them, whether there are any amendments to the existing legislation in the field or whether adoption of new legislation foreseeable, and if so, what would be the possible scope of such legislative intervention.

2.1 Intellectual Property Generated by the AI System or with the Help of the AI System

The first possible implication of the use of AI systems that needs to be discussed is the protection of the results generated by or with the help of AI. How should we treat those inventions, works and other objects that were created by the AI system or with the help of the AI system and whether they could possibly be granted some intellectual property title should be considered. In other words, if an AI system composes some music or comes to a technical invention, whether such work can be copyright protected or is it going to be possible to register a patent for it. This implication was identified relatively long ago and there is already a lot of research on the subject. There are court cases as well, where applicants have challenged the existing IPR legal framework to protect the results generated by or with the help of AI (Iglesias et al. 2019). The DABUS case, being the most cited court case, dealt with a patent application for an invention created by an AI system called "DABUS". By filing a patent application in which DABUS was designated as the inventor in many countries around the world, it has showed that almost universally these attempts were refused[1] because it was held that the inventor can only be a natural person, i.e. a human being. The same is applicable in case of copyright since it is mostly human centered: the principles of "originality" and "intellectual creation" underlying copyright protection seem to be linked to a natural person and address the author's personality (EP, 2023). In the same vein as Naruto, a monkey who took a grinning "selfie" with a photographer's camera cannot be declared the copyright owner of the photos (famous PETA vs. David Slater case), neither are works autonomously produced by AI systems eligible for copyright protection. But, if an AI system only helps a human in creating or inventing, everything seems to be fine. AI-assisted human creations are in compliance with the current IP laws as long as a human is declared the inventor or author. Such creations can be protected, but only if the AI was used as a tool to assist a human in creating and inventing. However, if the creator of DABUS, Stephen Thaler, declared himself the inventor of the patent, the patent office would not be able to assess, if not disclosed by him, whether he was only assisted by DABUS or the invention was entirely AI-generated. It would be vulnerable to attacks by competitors who might be interested to have the patent opposed by demonstrating that the patent was not invented as claimed. However, it is doubtful that such attempts would be successful and that competitors would be able to prove it (Hellen et al., 2021). There are countries that have set up laws to protect computer-generated works. By observing the basic principles of copyright, the protection is granted not to the AI but to the "person who set up the arrangements necessary for the creation of work" (Iglesias et al. 2019). This approach makes sense, since it only legalizes what would be anyhow achieved if the person claiming protection does not reveal to the authorities that the work was AI-generated. Legal scholars have discussed the issue of inventorship and authorship at length, and their views are quite divergent on the issue: some propose denying any protection to AI-generated content and placing them into public domain, others opt for creation of some sort of *sui generis* right, while few propose to afford a computer to be named an inventor or an author (Iglesias et al. 2019).

Since trademarks do not have the equivalent of an author or inventor, AI does not affect the trademark system in the same way as the patents, designs and copyright systems in this regard (Casey, 2020).

A horizontal legislation such as the AI Act obviously did not address this specific issue. However, under the EP's proposal, if incorporated in the final AI Act, generative foundation AI models (such as ChatGPT), that use large language models to generate art, music and other content, would have to

[1] *Artificial Intelligence and Intellectual Property Strategy Clearing House* is a data base operated by the World Intellectual Property Office. It collects and publishes the main government instruments of relevance to AI and IP with the aid of the Member States. Member States are invited to inform WIPO about any updates in their policies. The above research was undertaken by a query: "Case law for AI and IP"; detailed results available at: *https://www.wipo.int/about-ip/en/frontier_technologies/strategy-search.jsp?territory_id=&policy_id=2434 (accessed 24 August 2023)*

disclose that the content was generated by AI and not by humans. This is certainly going to be helpful in distinguishing AI-generated inventions.

2.2 Intellectual Property in the Technology Underlying an AI System

The protection of artificial intelligence by intellectual property has also been widely discussed and there is a significant number of papers on the subject (Iglesias, 2019). This relates mainly to the question of patentability of inventions on core AI technology itself, but also to AI-based inventions; namely inventions in which AI is part of the inventive concept (WIPO, 2023). Further it relates to protection of AI systems through trade secrets, while copyright, design protection and trademark protection around AI does not seem to be controversial.

Patent protection is available for inventions in all fields of technologies as long as they are not excluded from patentability. These exceptions are not harmonized globally. For example, Article 52 of the European Patent Convention (EPC) states that computer programs *per se* shall not be considered patentable inventions. In the United States of America, there is no specific exclusion of software from patentable subject matter. Therefore, since AI technologies are classified as subsets of computer software, current US laws are adequate for patent protection of both AI technology and AI-based inventions (WIPO, 2022). On the other hand, Europe seems to be struggling with patentability of AI technology for several reasons. Computer programs *per se* cannot be protected, and because AI technologies are based on computational models and algorithms, which are regarded as mathematical methods, there is yet another exclusion applicable since abstract mathematical methods are not patentable. However, EPO guidelines clarify that if a patent claim is directed either to a method involving the use of technical means (e.g. a computer) or to a device, its subject-matter has a technical character as a whole and is thus not excluded from patentability. This opened the door to AI-related patents being granted. For example, the use of a neural network in a heart monitoring apparatus for the purpose of identifying irregular heartbeats makes a technical contribution and my be patented. There were, however, still some doubts on the patentability of a method of training an AI- or machine-learning algorithm, or to a method of generating training data for this purpose. Here the EPO guidelines have introduced the so called "plausibility requirement" by which it is possible to patent such methods if "a classification method serves a technical purpose, the steps of generating the training set and training the classifier may also contribute to the technical character of the invention if they support achieving that technical purpose" (EPO, 2023 update) i.e. that it is at least made plausible by the disclosure in the application that its teaching solves indeed the technical problem it purports to solve (Pila, 2020). There are also some other issues on how standards of patent protection can be met in AI-related patents. For example, the disclosure requirement which should be strictly applied in order to avoid patenting the so called "black-boxes", but might be hard to satisfy due to the unpredictability of certain AI systems (Iglesias, 2019) and in view of the complexity of the reasoning for certain AI technologies (EP, 2023). It further raises the question whether the data used to train an algorithm should be disclosed or described in the patent application (Castets-Renard, 2020). Another example is the public policy and morality exclusion on patentability, which should be adapted in case of AI-related patents to be able to recognize and confront the uncertain consequences of new technologies and their implications for society (Pila, 2020).

AI systems are copyright protected, but it has to be mentioned that this kind of protection extends only to the expression of the AI, i.e. the original code of the algorithm, whereas the concept, ideas and principles which it comprises are not protected. This, with patent protection being difficult to afford and achieve, might lead developers to protect their creations with trade secrets, which is an informal type of intellectual property that may suit the purpose of protecting AI technologies with a kind of "informal" monopoly by keeping the technology underlying an AI system secret from other competitors. There is, however, always the risk of competitors developing the same independently or revealing the technology by reverse engineering.

As in case of IP created by the AI system, the AI Act does not specifically address this issue, but might be a corner stone for solving some of the problems around it. For example, it will certainly help the authorities when applying the public policy and morality exclusion on patentability. Instead of performing a detailed risk assessment which would involve creating a special morality and public policy triage system within the patent authority (as suggested by Pila, 2020) evaluation of when a commercializing of a given technology would be contrary to European legislative can be linked to non-compliance with horizontal rules on AI systems as set in the AI Act. A technology that does not satisfy the requirements under the AI Act (for example obligations for "high-risk AI Systems") would not satisfy the public policy requirement and would therefore not be patentable.

The EP is also highly concerned with protecting trade secrets in future regulatory framework for AI, in particular as regards any detailed requirements for the narrow set of applications deemed 'high-risk'. It should be noted that in light of these concerns, a number of EP proposals was made to the initial proposal of the AI Act which aim to ensure the preservation of trade secrets underlying a high-risk AI system. For example, when under the AI Act the notified body is granted access to the training and trained models of the AI system, including its relevant parameters, such access shall be subject to the existing EU law on the protection of intellectual property and trade secrets. They shall take technical and organizational measures to ensure the protection of intellectual property and trade secrets. Although the initial proposal of the EC already contained some general safeguards in relation to intellectual property rights, confidential business information or trade secrets of a natural or legal person, including source code, the EP's proposals significantly strengthen them.

2.3 Protection of Intellectual Property when Training and Operating an AI System

There are also concerns that existing IP titles may be infringed by an AI system.

Mainly these concerns have concentrated around copyright and *sui generis* database right (envisaged under the EU Database Directive) since AI techniques are often trained by large amounts of data. Some of the data may be raw, but some may be organized in databases for which database makers hold the right or the data may be non-personal, such as texts, sounds, images and alike, which are copyright protected (Iglesias et al. 2019). Some authors point out that AI techniques may also infringe trademarks and report of a court case filed in the US in 2023 where Getty, an image licensing service, filed a lawsuit against the creators of Stable Diffusion, alleging the improper use of its photos, both violating copyright and trademark rights it has in its watermarked photograph collection. Regarding copyright, in the US the use of copyrighted content might be allowed under the fair use doctrine which allows for a transformative use of the copyrighted material in a manner for which it was not intended. Without precedents to rely on, developers may wish to ensure that they are in compliance with the law with regard to their acquisition of data for training their models. This should involve licensing and compensating the individuals who own the IP that developers seek to add to their training data, whether by licensing it or sharing in the revenue generated by the AI tool (Appel et al., 2023). Developers in the EU should apply the same approach, provided they are not covered by the existing text and data mining exception. The existing legislation recently enacted in the EU contains rules on limitations and exceptions to copyright and database *sui generis* rights protection in case of text and data mining for the purpose of scientific research by research and cultural heritage institutions. Another exception applicable to everybody envisages the so called "contract-out": anyone (private companies as well) can use works under copyright or database *sui generis* rights protection provided that the rightsholders have not reserved this right by appropriate means. Some authors have criticized this solution and argued that there should be no need for a text and data mining exception in respect of the act of extracting informational value from protected works (Margoni and Kretschmer, 2022).

Apart from infringing IP rights by training on IP content, an AI system can infringe IP rights while operating - this may happen when, by using an AI system, the output it creates infringes certain IP

rights. Appel et al. report of a case filed in late 2022, Andersen v. Stability AI et al., where three artists formed a class to sue multiple generative AI platforms on the basis of the AI using their original works without license to train their AI in their styles, allowing users to generate works that may be insufficiently transformative from their existing, protected works, and, as a result, would be unauthorized derivative works, which amounts to copyright infringement (Appel et al., 2023). Following the aforesaid, another example would be the case in which AI has an impact on the information available to consumers and their purchasing decisions. In doing so, it may influence the consumer to purchase an infringing product, and the consumer might be liable for trademark or design infringement.

The AI Act will, if the EP proposals are accepted, partially address these concerns. Providers of foundation models and "generative AI" are going to be obliged to train, and where applicable, design and develop the foundation model in such a way so as to ensure adequate safeguards against the generation of content in breach of EU law, in line with the generally-acknowledged state of the art, and without prejudice to fundamental rights, including the freedom of expression. In plain words: the model would need to be designed in order to prevent it from generating illegal i.e. IPR infringing content. Additionally, providers would need to document and make publicly available a sufficiently detailed summary of the use of training data protected under copyright law. This would render them subject to monitoring and periodical assessment by the designated authority if the generation of content is in breach of, *inter alia*, copyright rules (EC, 2021).

There is no provision that would provide guidance on the legal treatment of IPR infringements where the AI does not generate illegal content, but rather influences a consumer to, for example, buy a fake product or is otherwise misused in criminal activities. As it stands in the EP proposal, the safeguards are set against the generation of content in breach of EU law, but there are no obligations to develop an AI system whose application would be solid proof of any possible illegitimate use. Rightly so, because the AI systems are, as a rule, "tools, which are neither good or bad in themselves. Rather, it is the use of these technologies that determines whether they are beneficial or harmful" (EUIPO, 2022). An AI system that is designed to find counterfeits on various online marketplaces can have a very practical and legitimate application if it is deployed by authorities and trademark holders to track infringers for the purpose of initiating infringement procedures. But it can also be deployed by consumers to find places where cheap knock offs are sold, in which case its application makes the trademark infringement easier. In such case, a tool can be used for IPR infringement and therefore poses a risk of adverse impact on fundamental rights, since IP rights are fundamental rights (although there is some criticism around it, see Zemer, 2020). The question that arises is whether it should therefore be considered high-risk AI. The study undertaken by EUIPO shows through several invented but realistic scenarios 20 examples how AI can be used both as a tool for the production and sale of copyright or design infringing goods or digital content, as well as by the rightsholders themselves in pursuing their legitimate interests. This is depicted as a "double-edged sword" metaphor" (EUIPO, 2022). So, if for example natural language processing tools can be employed to produce deepfake music, video and generative design based on tools which are used for the creation of precisely optimized and customized design solutions, it can be used in the manufacture of infringing copies; AI in 3D printing can facilitate creation of infringing goods and AI in robotics can be employed as a means of optimizing mass production of fakes; AI in computer vision can help to identify and replicate the unique colours and shapes used by originators to infringe the products - one could argue that makes them a high-risk AI system under the AI Act. It remains to be seen how the AI Act, once enacted, will be implemented in this respect.

One should also think about a possible scenario where an AI system is created solely for the purpose of infringing IPR rights and what happens in such case, where there is no other application possible but one that is infringing IP rights, which are fundamental rights. It would contradict the basic objectives of the AI Act, which is to develop a single market for a lawful, safe and trustworthy AI applications to allow application of such an AI system. However, due to the risk-based regulatory approach that was taken in the AI Act, there are no specific provisions that could be applied to

automatically prohibit the application of such an AI system. It would therefore probably be treated as any other high-risk AI system.

On the other hand, one should also consider a case of an AI in retail that would suggest a product that infringes a registered trademark or is a counterfeit. Such AI systems already exist and are widely used: the Amazon Echo and Google Home devices; eBay's ShopBot or alike (Curtis and Platts, 2017). If a consumer asks the AI system to find a product, provided the parameters are set to find the product based on certain criteria such as past purchasing decisions, price, availability, delivery time and alike, it may happen that the AI suggests an infringing product and the consumer buys it, thereby committing IP infringement. An AI system that would automatically order products, would even make the final decision of the purchase itself and would thereby be the one committing the infringement. But to declare such AI systems high-risk just because in some situations unintentional IPR infringement may be involved would be far-fetched. Nevertheless, the above may be very appealing for the IP holders if the AI Act would oblige developers to include safeguards for AI systems and teach them how to recognize and avoid buying a counterfeit. In fact, if an AI would be employed to look for and order lifestyle medicines, it would not only be in the interest of the patent owner to prevent the AI system from suggesting a counterfeit product, but also in the interest of the public at large due to possible death or danger to health such counterfeit medicines pose.

But even if those safeguards are included, AI can fail to do what it is designed to do due to undesired learned behaviour and, as a result, infringe upon someone's intellectual property. The first question is whether this would amount to a "serious incident" regulated by the AI Act. If the EP's proposal is accepted, under which a breach of fundamental rights protected under Union law would be also considered a serious incident, it seems to be the case. Another question, one which could be asked in relation to any of the above-mentioned scenarios in which the application of an AI system leads to an IPR infringement, is that of liability.

2.4 Changing the Standards of Intellectual Property Protection Due to the Applications of AI

There are many well-established standards in the current intellectual property legislative framework which might be affected by the application of the AI system. These standards have been set considering certain abilities or behavior of human beings. However, they might be questionable if the use or decision-making in relation to the objects of IP rights is not by humans, but by AI instead.

In patent law, one of the criteria for patentability is the so called "inventive step". A patent is granted only for inventions which are non-obvious. By doing so, the system assures that trivial or obvious improvements on existing inventions are not protected, but only those that represent technical advance of prior art that is worth protecting. It is important to do examine for whom the invention should be or should not be obvious. The standard of "the person skilled in the art" is applied and a patent application is examined with a view of whether given the known prior art, the claimed invention would be obvious to a person skilled in the art. The person skilled in the art is a legal fiction that is interpreted by the authority deciding on the issue of patentability. For example, for the European Patent Office this person is presumed to be "a skilled practitioner in the relevant field of technology who is possessed of average knowledge and ability" and "is aware of what was common general knowledge in the art at the relevant date" (EPO, 2019 update). It has been pointed out by some authors that when examining the patentability of the AI-generated inventions, the assessment of the inventive step based on the standard of "the person skilled in the art" the way it is understood at the moment raises certain issues (European Commission Joint Research Centre, 2018).

Similar, in trademark law there is the standard of "an average consumer" and in industrial designs law that of "an informed user".

The standard of an average consumer is applied when assessing the scope of protection of earlier trademarks and therefore mostly used by authorities when deciding if rights have been infringed. A

trademark is infringed if another identical/similar mark is used for identical/similar goods and services provided a likelihood of confusion (including a likelihood of association) exists on the part of the public in the territory where the earlier mark is protected. The "average consumer" is a legal concept that is used in the sense of the relevant public for that purpose. The "average consumer" is deemed to be reasonably well informed and reasonably observant and circumspect, taking into account that the relevant public's degree of attention is likely to vary according to the category of goods or services in question (EUIPO, 2023). It has been argued that AI applications have important implications for who is considered to be the "average consumer" (Lee and Platts, 2020). This is because the average consumer is assumed to be human and to have certain human traits and psychological characteristics, such as suffering from imperfect recollection, appreciating a mark as a whole, and concentrating on the dominant and distinctive elements of a mark. By contrast, AI technologies are likely to have perfect recollection, and due to the ability to process, analyse and interpret high volumes of data, may in some circumstances be able to make fine distinctions between marks (Batty, 2021).

In design law, one of the requirements for protection is that a design has individual character. A design will be considered to have individual character if the overall impression it produces on the informed user differs from the overall impression produced on such a user by any prior design. The "informed user" is again a fictitious person who routinely uses the categories of products in which the contested design is incorporated and is aware of the existing design corpus. This concept lies somewhere between that of the average consumer applicable in trademark matters, who may not have any specific knowledge, and the sectorial expert, who has detailed technical expertise (EUPIO, 2023) comparable with "the person skilled in the art" from patent law. Usually when a design is created with the application of an AI system, the AI is learning from the already existing designs and is exposed to large quantities of images and then anayses in detail the concept of design, which does not fit the existing definition of the "informed user" who is only aware of the existing design corpus.

These aspects of collision of the intellectual property legislative framework with the application of the AI system, will not be addresses by the upcoming AI Act.

3 Conclusion

Based on the EC's initial proposal of the AI Act, the negotiating position of the EP on one hand, and that of the Council on the other, some aspects that the EU will regulate in its forthcoming regulatory framework for AI were analysed. This analysiys shows that the risk-based approach taken by the EC resulted in making the AI Act significantly less comprehensive. Some of the key amendments the EP has proposed regarding certain requirements that would apply to all AI systems and regulate foundation models and generative AI would make the act more comprehensive. But as we have already seen with the proposal for the AI Liability Directive, the AI Act will not be the only piece of legislation concerning AI in the EU, but perhaps, just the beginning. Horizontal rules on AI systems as set in the AI Act could help to identify what is created lawfully, so that the protection is afforded only to those works generated by AI systems in compliance with the AI Act. If the EP's proposal on generative foundation AI models is accepted, the AI Act might also be helpful for distinguishing AI-generated inventions and works. The AI Act might help the authorities when applying the public policy and morality exclusion on patentability. To address its concerns regarding the protection of trade secrets underlying a high-risk AI system which might be revealed to the notified national body under the AI Act, the EP has introduced some safeguards in its proposals that strengthen the protection of such trade secrets. The EP has introduced as a proposal to the AI Act an obligation to train, and, where applicable, design and develop the foundation model and generative AI to ensure safeguards against the generation of content in breach of EU law, including those on IPR protection. On the issue of IPR infringement resulting from operating an AI system that influences an IPR infringement (for example and AI in retail that suggests a counterfeit) or is simply misused in criminal activity, it remains to be seen whether such AI systems might be regarded as high-risk systems under the AI Act. Under one of the amendments to the AI Act suggested by the EP, a breach of a fundamental right would be considered a serious incident, and since IPR rights are fundamental rights, the procedures

initiated in cases of serious incidents would therefore also be initiated when an AI system is infringing IP rights. Some well-established standards in the current intellectual property legislation (for example the "average consumer" as a legal standard in trademark law) might in future need to be adapted to accommodate the application of AI, but are not addressed by the EU AI Act.

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