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Generative AI – challenges for trade mark law

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ABSTRACT: This exploratory paper examines the regulatory challenges that generative artificial intelligence (GenAI) poses to European trade mark law. GenAI systems, trained on vast datasets collected via web scraping, frequently incorporate registered trade marks without the consent of their owners. The article analyses whether such use during model training constitutes relevant "use in the course of trade" for the purposes of trade mark infringement under the Trade Mark Directive and the EU Trade Mark Regulation, arguing that existing legal frameworks – designed for human, intentional and deterministic uses of distinctive signs – may be ill-suited to the probabilistic and opaque nature of GenAI. Particular attention is given to the heightened vulnerability of trade marks with reputation, which are deeply embedded in AI training datasets and whose dilution and parasitic exploitation by GenAI outputs raise novel evidentiary and conceptual difficulties. Drawing on recent litigation – notably Getty Images v. Stability AI (UK) and The New York Times v. Microsoft & OpenAI (US) – the paper concludes that the current legal framework struggles to accommodate these challenges and considers whether legislative reform or a purposive reinterpretation of existing provisions, potentially complemented by the EU AI Act's transparency and training-data disclosure requirements, could provide more effective protection for trade mark owners.

KEYWORDS: Generative artificial intelligence (GenAI) – trade mark infringement – use in the course of trade – trade marks with reputation – AI training data.

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1. Introduction: considerations and scope of the study

Artificial intelligence (AI) refers to: (i) the ability of a computer or robot to perform tasks normally associated with intelligent beings; and (ii) machines that react like humans and have the capacity for autonomous decision-making.[1]

One subfield of artificial intelligence is machine learning, a process by which a computer programme is taught to identify patterns in existing data, with this knowledge then being applied to new data. One of the most advanced areas within this field is deep learning, which involves teaching the computer programme to perform human tasks, such as image recognition or making predictions.

Generative AI (GenAI) refers to machine learning-based algorithmic systems which, through the probabilistic modelling of training data, are capable of autonomously generating new content that is functionally equivalent to that produced by human agents.[2] In other words, GenAI is a type of artificial intelligence that creates new and original content – such as text, images, music and code – based on the data it has been trained on, whilst preserving the structural and semantic characteristics of the original data. When it receives a prompt or instruction from a user – such as writing a poem, composing a symphony or creating a realistic image of something that does not exist – creative responses are generated using machine learning models.

This capacity for independent creation raises a number of relevant legal issues, particularly regarding authorship, liability and the protection of industrial property. Given the subject matter entrusted to us, we have limited our discussion to trade mark law.

Freedom of private economic initiative and its corollary regarding freedom of competition form the basis of our political and economic system. However, this principle is subject to exceptions, including those arising from the granting of exclusive industrial rights, such as trade mark rights, which relate to a distinctive sign/mark for goods or services, indicating their commercial origin.[3]

The recognition of legal protection for a trade mark through the granting of an exclusive right to its proprietor – which, in most legal systems, results from the registration of the trade mark[4] – is traditionally justified, above all, by the economic function of indicating the commercial origin of goods or services that this distinctive sign performs,[5] and which highlights its value as a powerful tool for competition.[6]

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[1] At this point, we are following closely – albeit with updates and in greater detail – what we wrote in "Inteligência artificial: desafios e oportunidades para o direito de marca", in: *E-TEC Yearbook 2020 - Artificial Intelligence & Robots*, ed. Maria Miguel Carvalho (Braga, 2020), 111 *et seq.*, accessed April 28, 2026, https://drive.google.com/file/d/1Uk8TIyG3-AsnUIom8uBlpUzfu1SiYAho/view.

[2] Stefan Feuerriegel et al., "Generative AI", *arXiv*, arXiv:2309.07930, accessed April 28, 2026, https://doi.org/10.48550/arXiv.2309.07930.

[3] Maria Miguel Carvalho, *Quo vadis direito de marcas? Reflexão sobre a necessidade de redimensionamento do seu alcance a partir da tutela da marca de prestígio* (Coimbra: Almedina, 2023), 111.

[4] Without prejudice to the importance of its use even in these systems, see Maria Miguel Carvalho, *A marca enganosa* (Coimbra: Almedina, 2010), 283 *et seq*.

[5] For more on the functions of the trade mark, see Rafael García Pérez, *La expansión del derecho de marca - de la marca como indicación de la procedencia empresarial a la multifuncionalidad jurídica de la marca* (Madrid: Marcial Pons, 2021), *passim* and, among us, Luís M. Couto Gonçalves, *Função distintiva da marca* (Coimbra: Almedina, 1999), *passim*.

[6] For further discussion on the legal basis for trade mark protection, see, for example, Maria Miguel Carvalho, *A marca enganosa*, 20 *et seq.* and also L.Bently and B. Sherman, *Intellectual Property Law*, 2nd ed. (Oxford/New York: Oxford University Press, 2004), 699 *et seq*.

Indeed, the choice of an attractive sign to register as a trade mark is clearly of economic importance[7] It is therefore conceivable the use of chatbots (specific AI applications designed to simulate human conversational interactions using natural language, whether in text or speech) – which, when based on GenAI, allow responses to move beyond being merely pre-programmed and instead, be generated in real time, with greater flexibility, contextualisation and capacity to adapt to the user's language. ChatGPT serves as an illustrative example of this, at least as a kind of brainstorming tool for new trade mark ideas.[8] However, the resulting outcomes will not always guarantee the granting of a trade mark registration, at least not validly.

In fact, if a model of this type is asked to suggest signs to register as a trade mark to distinguish a particular product, the outcomes may be very satisfactory, but they may also include signs that conflict with already registered trade marks and/or include descriptive and generic terms, which may compromise their (necessary) distinctive character.[9] In this regard, some authors have already referred to "*algorithmic genericism.*"[10]

In our view, the above serves to underscore the need for human oversight of the results generated by GenAI and their potential modification, as well as the need to consult the various databases made available by the relevant registration authorities[11] in order to avoid the filing of applications for the registration of signs that conflict with those already registered and which are, therefore, likely to be unregistrable and/or invalid.

The aim of this paper is to explore the regulatory challenges that may arise in this context within the field of trade mark law.

As a matter of fact, this framework was designed on the basis of assumptions regarding the human, intentional and deterministic use of distinctive signs, which may not be suited to the probabilistic, opaque and automated nature of GenAI systems. We therefore believe it is possible to identify at least three main areas of tension: (i) the attribution of liability for the use of distinctive signs generated by AI; (ii) the adequacy of evidentiary rules in contexts of stochastic outputs (i.e., results, predictions or data generated by systems that involve randomness, uncertainty or

[7] The strategic selection of an attractive and distinctive brand is at the heart of corporate marketing policies, and is a key factor in building brand identity, reputation and customer loyalty. See Aaker, *Building strong brands* (New York: Free Press, 1996).

[8] Some authors even point out that *"the adoption of AI in branding and trademark development accelerated by over 70% in 2024 (IAB Europe & Microsoft Advertising 2024)"*, Ndam Nander Esmeralda, «Artificial intelligence and trademark infringement: legal interpretation of "use" of AI-Generated signs», *The European Union. Trends in intellectual property research*, 4(2) (2026): 19-28, accessed April 28, 2026, https://doi.org/10.69971/tipr.4.2.2026.98.

[9] Regarding this ground for refusal of registration, see, *inter alia*, J. P. Remédio Marques, *Direito Europeu das patentes e das marcas* (Coimbra: Almedina, 2021), 410 *et seq.* and also Maria Miguel Carvalho, "Artigo 209.º", in *Código da propriedade industrial anotado*, ed. Luis M. Couto Gonçalves (Coimbra: Almedina, 2021), 825 *et seq*.

[10] The trend for GenAI systems to rely on common patterns and widely used structures often results in outputs that lack distinctiveness and are repetitive, making it difficult or even impossible for the trade marks generated in this way to function as effective indicators of commercial origin, which, at the same time, increases the likelihood of conflict with earlier trade marks. See Aaina Sethi and Divanshi Gupta, "AI-generated trademarks: from prompt to protection", *Chascha & Chascha IP*, 18/7/2025, accessed April 28, 2026, https://www.candcip.com/single-post/ai-generated-trademarks-from-prompt-to-protection.

[11] For example, with regard to EU trade marks, TM View (https://www.tmdn.org/tmview/#/tmview).

probability, rather than providing a single fixed and deterministic result);[12] and (iii) the use of protected content in model training.

For the sake of brevity, we shall focus on the latter issue, namely the feeding of GenAI with registered trade marks without the consent of the proprietors, concentrating essentially on EU trade mark law (the Trade Mark Directive (TMD)[13] and the European Union Trade Mark Regulation (EUTMR),[14] given that the AI Act[15] does not specifically regulate these distinctive signs, leaving the transparency obligation set out therein to other speakers,[16] although, as we shall have occasion to mention, we consider it relevant to complement trade mark legal protection.

2. The rights conferred by trade mark registration and trade mark infringement

2.1. The rights conferred by trade mark registration

Trade mark registration confers an exclusive right on the proprietor and, under European trade mark law, this right to exclude others allows the proprietor – without prejudice to any rights acquired by the proprietor prior to the date of filing of the application for registration or the date of the priority claimed by the proprietor – to prevent third parties from using,[17] in the course of trade, as a trade mark and without the proprietor's consent, any sign which: (i) is identical to the trade mark, for goods/services identical to those covered by the earlier trade mark registration ("*double identity*"); (ii) is identical to the trade mark, for related goods or services, or is similar to the trade mark, for identical or related goods or services, if there is a likelihood of confusion or association in the mind of the consumer; and (iii) is identical or similar to the trade mark with a reputation, regardless of whether the goods or services are identical, similar or dissimilar to those for which the trade mark is registered, if the use by a third party, without due cause, causes damage or takes unfair advantage of the distinctive and/or attractive character of the earlier trade mark (Article 10 TMD and Article 9 EUTMR).

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[12] GenAI systems produce probabilistic outputs, which makes it difficult to demonstrate key elements of trade mark infringement, such as the consistent repetition of a sign or the existence of a likelihood of confusion.

[13] Directive (EU) 2015/2436 of the European Parliament and of the Council of 16 December 2015 to approximate the laws of the Member States relating to trade marks (recast), *OJL* 336, 23.12.2015, 1-26, http://data.europa.eu/eli/dir/2015/2436/oj.

[14] Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark (codification), *OJL* 154, 16.6.2017, 1-99, http://data.europa.eu/eli/reg/2017/1001/oj.

[15] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (Text with EEA relevance), *OJL*, 2024/1689, 12.7.2024, ELI: http://data.europa.eu/eli/reg/2024/1689/oj.

[16] See in particular Articles 50, 52(6) and 53 of the AI Act. See also the second draft Code of Practice on Marking and Labelling of AI-generated content, presented by the European Commission – presented after our speech at this Congress – which is expected to be finalised by June 2026 and aims to ensure that texts, images, audio and deepfakes generated or manipulated by AI are clearly identifiable to users, mitigating the risks of disinformation and increasing trust in the digital ecosystem (https://digital-strategy.ec.europa.eu/pt/library/commission-publishes-second-draft-code-practice-marking-and-labelling-ai-generated-content).

[17] The third party will also be unable to register that sign, as there is a corresponding relative ground for refusal of registration; if registration is nevertheless granted, it may be invalidated. See Articles 5(1) and (3)(a) of the TMD and Articles 8(1) and (5) and 60(1)(a) of the EUTMR.

In the first case, the protection is described as "*absolute*", and it is not necessary to prove that there is a likelihood of confusion.

In the second case mentioned, protection is granted only if there is a likelihood of confusion, in the mind of the public,[18] which encompasses the risk of association[19] and covers situations where the public, whilst not confusing the signs, attributes them to the same undertaking (indirect risk of confusion) or assumes that there are special legal, economic or commercial links between the different undertakings[20] (risk of confusion in the broad sense).

This risk is assessed by reference to the "*average consumer*", *i.e.*, a consumer who is reasonably well-informed and reasonably observant and circumspect in relation to the category of products or services in question,[21] without prejudice to the fact that their level of attention may vary depending on the nature, characteristics and price of the products or services in question.[22] And this assessment depends on many factors, such as the degree of similarity between the conflicting signs,[23] the identity or similarity of the goods or services, brand awareness in the market, and the association that may be made with the earlier sign. Therefore, that risk must be assessed as a whole, taking into account all factors relevant to the case in question,[24] although it is accepted that a low degree of affinity between the goods may be "*compensated*" by a high degree of similarity between the signs, and vice versa,[25] and also that the likelihood of confusion is all the greater where the distinctive character of the earlier trade mark is recognised as significant.[26]

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[18] And in the latter case, the protection of the trade mark with reputation is at stake, which we will discuss in the next section.

[19] Thus, there can be no risk of association if there is no risk of confusion, since "*the concept of risk of association is not an alternative to the concept of risk of confusion, but serves to clarify its scope*." For further details on these concepts in the preparatory work for the TMD, currently in force, see Maria Miguel Carvalho, "O risco de confusão e o risco de associação na proposta de Directiva de marcas (reformulada): o regresso à origem?", in *Estudios de Derecho Mercantil - Libro Homenaje al Prof. Dr. Dr. H.c. José Antonio Gómez Segade*, ed. Férnandez-Albor B. and Tobio Rivas and Tato Plaza (Madrid/Barcelona/Buenos Aires/São Paulo: Marcial Pons, 2013), 769 *et seq*.

[20] See Judgment of the Court *Canon*, 29 September 1998, case C-39/97, ECLI:EU:C:1998:442, and Judgment *Lloyd*, 22 June 1999, case C-342/97, ECLI:EU:C:1999:323.

[21] See Judgment *Lloyd*, cited above, para. 26. Therefore, as Pedro Sousa e Silva notes [in *Direito industrial – noções fundamentais*, 3rd ed. (Coimbra: Almedina, 2025), 277], it is necessary to *"identify and take into account the characteristics of the typical consumers of the goods or services in question, their level of education, their attention span, their consumption habits, values, expectations and concerns.*"

[22] See Judgment *Lloyd*, cited above, para. 26, referring to the *"categories"* of the goods or services in question.

[23] Specifically with regard to the assessment of the similarity of the signs, this must be based on the overall impression produced by the trade marks, taking into account, in particular, their distinctive and dominant elements, since the average consumer normally perceives the trade mark as a whole and does not carry out a detailed analysis of its specific features. On this point, and also on the identity and similarity between the products/services, see, *inter alia*, Maria Miguel Carvalho, "Os requisitos da imitação de marca (a propósito do caso «SUPER PORTO»)", in *Estudos de direito intelectual em homenagem ao Prof. Doutor José de Oliveira Ascensão - 50 anos de vida universitária*, ed. Dário Moura Vicente *et al.* (Coimbra: Almedina, 2015), 981-996.

[24] See Judgment of the Court *Sabel v. Puma*, 11 November 1997, case C-251/95, ECLI:EU:C:1997:528, para. 22; see Judgment *Canon*, cited above, para. 16, and Judgment *Bimbo Doughnuts*, 8 May 2014, case C-591/12, ECLI:EU:C:2014:305, para. 20.

[25] Judgment *Canon*, para. 17. See also, *inter alia*, J. P. Remédio Marques, *Direito Europeu...*, 525 and Pedro Sousa e Silva, *Direito Industrial*, 281 *et seq*.

[26] Judgment *Sabel v. Puma*, para. 24, and Judgment *Canon*, para. 18.

2.2. Strengthened protection of trade marks with reputation

The scenarios we have referred to embody the principle of speciality that governs the rights conferred on the trade mark owner. However, there are certain trade marks[27] – which are instantly recognised by the general public as a distinctive sign for goods or services and which enjoy "*a high degree of satisfaction*" or, in the case of goods or services that are not widely consumed, possess "*a high symbolic and evocative value*"[28] – that require exceptional protection. We are referring to so-called trade marks with reputation.

In fact, it is not possible to protect these trade marks through the aforementioned legal means, because there are situations in which signs that are identical or nearly identical to trade marks with reputation are used and/or registered, but to different products or services that are not similar to those for which the latter is registered. And, despite the absence of any risk of confusion, the permissibility of such practices may seriously undermine their distinctive and/or attractive character, thereby weakening them, as well as allowing them to be exploited parasitically.

The use of similar or identical signs on dissimilar goods or services may indeed lead to the dilution of the trade mark's distinctive and/or attractive character, either by giving rise to undesirable associations between the goods or services designated by the trade marks in question, thereby discrediting and/or denigrating the prestigious trade mark[29] (dilution by tarnishment), or by trivialising it[30] (dilution by blurring), focusing primarily on the prevention of so-called dilutive harm. The second ground referred to – the parasitic exploitation of the distinctive and/or attractive character of the trade mark with reputation – is based, according to its proponents, on a combination of arguments that take into account not only the interests of the owner of the trade mark with reputation (who has invested in creating and maintaining the brand's reputation),[31] but also the objective of the

[27] The qualification of these trade marks (including their distinction from well-known trade marks) is disputed. For further discussion of this issue – which we do not explore here for the sake of brevity – see Maria Miguel Carvalho, *Quo Vadis*, 15 *et seq.*, with further references.

[28] Luís M. Couto Gonçalves, *Função distintiva*, 169 [who endorses the distinction made by Leonini, *Marchi famosi e marchi evocative* (Milano: Giuffrè Editore, 1991) 129 *et seq.*]. It should be noted that this does not mean, as Luís Couto Gonçalves (*Função distintiva*, 169 *et seq.*) emphasises, that "*the goods or services, in themselves, must be of exceptional or even good objective quality*", given that *"it is not the quality of the goods or services that is at issue, but rather the particular meaning that the trade mark conveys to the average consumer in terms of the successful satisfaction of certain specific needs.*"

[29] This is what occurs in the examples cited by Pedro Sousa e Silva (*Direito Industrial*, 302 *et seq.*), which illustrate the harm suffered by the owner of the trade mark with reputation should the use and/or registration of a sign identical or similar to the trade mark *"Valium"* (which distinguishes tranquillising medicines) by a third party to label funeral urns, or to the *"Ferrari"* trade mark for pornographic articles. In such cases, the trade mark owner would be harmed *"(...) and seriously, by initiatives of this kind: at the very least, because the use of their trade marks on products with negative connotations (in the case of pornography) or associated with distressing events (such as death, particularly in the case of medicines) contributes to discrediting those signs, damaging or denigrating the favourable image they enjoy among consumers.*"

[30] Drawing once again on the example given by Pedro Sousa e Silva (*Direito Industrial*, 303), consider the scenario in which a *"(...) third party, independent of the owner of the DIOR perfume trade mark, adopts this trade mark to designate computers.*" The damage caused in this case relates to the loss of the sign's distinctive and/or attractive character due to its being used in such a general manner.

[31] This rationale underpinning the protection afforded to the owner of a famous trade mark in the US, as noted by David J. Franklyn ["Debunking dilution doctrine: Toward a coherent theory of the anti-free-rider principle in American Trademark Law", *Hastings L. J.*, 56 (2004–2005), 141, accessed April 28, 2026, https://repository.uchastings.edu/cgi/viewcontent.cgi?article=3572&context=hastings_law_journal], is fundamentally based on the idea of internalising the benefits of creating a famous trade mark,

third party who, having contributed nothing to it, seeks to exploit it, leading to the condemnation of such undue exploitation ("*reaping without sowing*"), and is considered morally reprehensible.[32]

The owner of a trade mark with reputation – whether nationals of Member States or of the EU – is therefore entitled to: (1) oppose the application for registration; (2) apply for the registration to be declared invalid; (3) oppose the use of an identical or similar trade mark, regardless of whether the goods or services for which it has been applied for, registered or used are identical, related or unrelated to those for which the earlier trade mark was registered, where the use of the later trade mark seeks to take unfair advantage of the distinctive character or the reputation of the earlier trade mark or is likely to be detrimental to them,[33] unless there is due cause – Articles 5(3)(a) and 10(2)(c) TMD and Articles 8(5) and 9(1) and (2) EUTMR.

It has been held that *"due cause"* is an indeterminate concept covering cases where there has been authorisation by the owner of the trade mark with reputation; the registration of a sign identical or similar to the trade mark with reputation prior to the registration of the latter; and also registration subsequent to that of the trade mark with reputation, but prior to the acquisition of reputation. The CJEU has also already ruled in favour of a broad interpretation of this concept. Relying on the teleology of the provision and of trade mark law itself, as well as on a systematic argument,[34] it declared that *"due cause"* serves to protect the interests of a third party in using, in the course of trade, a sign similar to a trade mark with reputation, are "*...not being limited to cases where there are objectively overriding reasons*,..." but also cover situations where "*the subjective interests of a third party using*

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reminiscent of Locke's theory on the ownership of the fruits of one's labour [cf. John Locke, *Two Treatises of Government*, II, Awnsham and John Churchill (London, 1968) 185 (27)], which, in this case, would imply recognising that the owner of that trade mark deserves to reap the economic benefits of the trade mark they have made famous, including those arising from licences for dissimilar goods or services.

[32] David J. Franklin, "Debunking dilution doctrine...", 139 et seq.

[33] For further details on these requirements, see Maria Miguel Carvalho, "A marca de prestígio à luz da jurisprudência comunitária", *Actas de Derecho Industrial y Derecho de Autor*, v. 33 (2012-2013): 359 et seq.

[34] See judgment CJEU *Leidseplein Beheer BV and Hendrikus de Vries v. Red Bull GmbH and Red Bull Nederland BV* (hereinafter, *The Bulldog),* 6 February 2014, case C-65/12, ECLI:EU:C:2014:49. This reasoning stemmed from the fact that there was a discrepancy between the different language versions of the previous TMD [Directive 2008/95/EC of the European Parliament and of the Council of 22 October 2008 to approximate the laws of the Member States relating to trade marks (Codified version), *OJL* 299, 8.11.2008, pp. 25–33, ELI: http://data.europa.eu/eli/dir/2008/95/oj]. Indeed, the Dutch version referred to *"geldige reden"* (valid reason) rather than *"rechtvaardige reden"* (due cause), thus deviating from the legal texts in other languages. For further details on this discrepancy, see the Opinion delivered in this case by Advocate General Juliane Kokott on 21 March 2013, ECLI:EU:C:2013:196, paras. 19 *et seq*.

As the Court points out, the exclusive right was granted to enable the trade mark owner to protect his specific interests as the owner of that trade mark and, in the case of trade marks with reputation, broader protection has been established, which is granted subject to the fulfilment of a *specific* condition – there is use, *without due cause*, of a sign identical or similar to a registered trade mark which takes or is liable to take unfair advantage of the distinctive character or the reputation of the earlier trade mark or causes or is liable to cause damage to them, regardless of whether the goods or services are identical or similar.

The neutralisation of the right conferred on the trade mark owner in cases where a third party has a *"due cause"* for using the sign is justified, according to the CJEU, to the need to strike a balance between the interests of both parties, given the extended protection enjoyed by a trade mark with reputation (paras. 33 and 46 of the judgment in the *The Bulldog* case).

a sign which is identical or similar to the mark with a reputation" may justify such use (our emphasis).[35]

2.3. Trade mark infringement: use of the trade mark

However, in any event, the owner of a registered trade mark may only oppose the use of a sign that is identical or similar to their own if such use takes place *in the course of trade*, a concept that has been examined by the CJEU and from which it follows, on the one hand, that such use must take place in the context of a qualified activity, in substantive terms, as commercial,[36] aimed at economic gain,[37] including preparatory acts[38] (*e.g.*, amongst others,[39] the affixing of the sign to goods or their packaging and its use in commercial documents and in advertising), and, on the other hand, that the third party carrying out the act adopts an active stance and exercises direct or indirect control over it.[40]

On the other hand, and as stated in Recital 18 of the Trade Mark Directive, "*(...) an infringement of a trade mark can only be established if there is a finding that the infringing mark or sign is used in the course of trade for the purposes of distinguishing goods or services. Use of the sign for purposes other than for distinguishing goods or services should be subject to the provisions of national law.*"

The CJEU has repeatedly held, under previous versions of the Trade Mark Directive, and has already confirmed this case-law in the context of a dispute subject to the application of the EUTMR,[41] that the exercise of that right must, however, be reserved for cases in which the use of the sign by a third party "*adversely affects or is liable to adversely affect the functions of the trade mark, which include not only the essential function of the trade mark which is to guarantee to consumers the origin of the goods or services, but also its other functions, such as, in particular, that of guaranteeing the quality of those goods or services, or those of communication, investment or advertising.*"[42]

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[35] See paras. 43 and 45 of the judgment in the *The Bulldog* case.

[36] Therefore, the formal classification of the person carrying out the act is not, in absolute terms, relevant. Consequently, where a natural person sells a trademarked product on an e-commerce site which, due to its volume, frequency or other characteristics, goes beyond the scope of a private activity, this is classified as use in the course of trade (para. 55 of the Judgment CJEU *L'Oréal v. eBay*, 12 July 2011, case C-324/09, ECLI:EU:C:2011:474). Similarly, a person who does not carry on a commercial activity on a professional basis, who receives, releases for free circulation in a Member State and retains goods which are manifestly not intended for private use, which have been dispatched to their address from a third country and on which, without the consent of the proprietor, a trade mark is affixed, makes use of the trade mark in the course of trade (Judgment CJEU *A v. B*, 30 April 2020, case C-772/18, ECLI:EU:C:2020:341).

[37] See, *inter alia*, para. 40 of the Judgment CJEU *Arsenal*, 12 November 2002, case C-206/01, ECLI:EU:C:2002:651, and para. 34 Judgment CJEU *Audi*, 25 January 2024, case C-334/22, ECLI:EU:C:2024:76.

[38] For example, acts preparatory to commercial activity and, therefore, relating to a time prior to its offering on the market, as noted by Michal Bohaczewski, "Conflicts between trade mark rights and freedom of expression under EU Trade Mark Law: reality or illusion?", *International Review of Industrial Property and Copyright Law*, 51 (2020): 859.

[39] Emphasising the non-exhaustive nature of the list set out in the statutory provision, see paragraph 33 of the judgment delivered in the *Audi* case, cited above.

[40] See, *inter alia*, paras. 39 and 40 of the Judgment CJEU *Daimler*, 3 March 2016, case C-179/15, ECLI:EU:C:2016:134, and para. 33 of the Judgment delivered in the *Audi* case.

[41] Judgment in the *Audi* case, paras. 31 *et seq.*

[42] Regarding the proposal put forward by the European Commission – unsuccessfully – to clarify in the recitals and the body of the TMD that, in cases of duplicate identities and similarities, only the source function counts; see Maria Miguel Carvalho, *Quo vadis...*, 61 *et seq.*

3. Generative artificial intelligence feeding with registered trade marks without the consent of the owners

As mentioned, GenAI models are trained using vast amounts of data – often collected from the internet via web scraping – which may include, for example, copyrighted works[43] and registered trade marks, without the consent of the rights owners.

We shall focus on the latter, beginning by noting that this practice has already given rise to at least one court case in the United Kingdom, the judgment that was handed down recently,[44] and others currently pending in the US,[45] including one

[43] There are already several copyright cases before the courts (which may also have implications for trade mark law, given that the arguments at issue are transferable to this field, which, like copyright, falls within the broad scope of intellectual property), *e.g.*, in the US, among others, the cases *Authors Guild v. OpenAI* (S.D.N.Y., 2023) – a class action brought by numerous authors, including John Grisham, Jodi Picoult and George R.R. Martin; *Andersen v. Stability AI et al.* (N.D. Cal., 2023); *Concord Music Group v. Anthropic* (M.D. Tenn., 2023); *The Intercept v. OpenAI & Microsoft* (S.D.N.Y., 2024); in Germany, *e.g.*, *GEMA v. OpenAI* (Landgericht München, 2024); Hamburg Regional Court, Germany [2024]: *Robert Kneschke v. LAION e.V.*, Case No. 310 O 227/23 (the appeal of which is currently being considered by the BGH).
Given its relevance to the EU, see also the request for a preliminary ruling submitted by the Budapest Környéki Törvényszék (Hungary), on 3 April 2025, currently before the CJEU in case C-250/25, the *Like Company* case (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C_202503039). The dispute is between Like Company, a Hungarian newspaper publisher, and Google Ireland, concerning the Gemini chatbot (formerly Bard), which is alleged to have reproduced substantial parts of Like Company's protected articles in response to user prompts between June 2023 and February 2024.
The questions referred to the CJEU are as follows: 1. Must Article 15(1) of Directive (EU) 2019/790 (1) and Article 3(2) of Directive 2001/29/EC (2) be interpreted as meaning that the display, in the responses of an LLM-based chatbot, of a text partially identical to the content of web pages of press publishers, where the length of that text is such that it is already protected under Article 15 of Directive 2019/790, constitutes an instance of communication to the public? If the answer to that question is in the affirmative, does the fact that [the responses in question are] the result of a process in which the chatbot merely predicts the next word on the basis of observed patterns have any relevance? 2. Must Article 15(1) of Directive 2019/790 and Article 2 of Directive 2001/29 be interpreted as meaning that the process of training an LLM-based chatbot constitutes an instance of reproduction, where that LLM is built on the basis of the observation and matching of patterns, making it possible for the model to learn to recognise linguistic patterns? 3. If the answer to the second question referred is in the affirmative, does such reproduction of lawfully accessible works fall within the exception provided for in Article 4 of Directive 2019/790, which ensures free use for the purposes of text and data mining? 4. Must Article 15(1) of Directive 2019/790 and Article 2 of Directive 2001/29 be interpreted as meaning that, where a user gives an LLM-based chatbot an instruction which matches the text contained in a press publication, or which refers to that text, and the chatbot then generates its response based on the instruction given by the user, the fact that, in that response, part or all of the content of a press publication is displayed constitutes an instance of reproduction on the part of the chatbot service provider?
For further details, see T.W. Dornis and N. Lucchi, "Generative AI and the scope of EU Copyright Law: a doctrinal analysis in light of the referral in Like Company v. Google", *International Review of Industrial Property and Copyright Law*, 56, (2025): 1800–1840, accessed April 28, 2026, https://doi.org/10.1007/s40319-025-01649-7.

[44] *Getty Images (US) Inc & Ors v. Stability AI Limited* [2025] EWHC 2863 (Ch) (https://www.judiciary.uk/wp-content/uploads/2025/11/Getty-Images-v-Stability-AI.pdf). As mentioned below, an appeal has, however, been lodged against this decision; see *Getty Images (US), Inc & Ors v Stability AI Ltd* Neutral Citation Number [2025] EWHC 3343 (Ch) (https://caselaw.nationalarchives.gov.uk/ewhc/ch/2025/3343?query=getty+images).

[45] In the US, the lawsuit was initially filed in Delaware in February 2023 [*Getty Images (US), Inc. v. Stability AI, Ltd., et al.*, No. 23-cv-135-JLH (D. Del.)]. The grounds for this action included, amongst others, trade mark infringement and trade mark dilution (due to the poor quality of

that broadly concerns the same facts and involves the same parties – and so it is only natural to look forward to the US ruling, to assess the "*alignment*" of the case law in question. We refer to the case of *Getty v. Stability* and the case of *Times v. Microsoft & OpenAI Background*.

3.1. Getty v. Stability

Getty Images (hereinafter "Getty") is a company that operates a stock image library, whose archive contains over 470 million images and illustrations and more than 50,000 hours of footage. Getty operates via a website where customers can search for and browse images, purchase usage rights – with image costs varying according to the chosen resolution and type of rights associated – and download them.

Getty uses watermarks – such as the one shown in image 1 – which are registered trade marks and which, as well as serving as a marketing tool (displaying and promoting the Getty brand), serve to protect the images from unauthorised use, rendering them unusable for most commercial purposes without a licence.

Figure 1 - Watermark as shown in the court judgment handed down in the United Kingdom

Stability AI (hereinafter "Stability") is an artificial intelligence company that develops open-source GenAI models. It is well known for having created the Stable

the images produced by Stability AI; these grounds are analysed further on in the text). However, Stability sought to have Getty's claim dismissed on jurisdictional and substantive grounds, as well as the transfer of the case to the U.S. District Court for the Northern District of California; and, indeed, the case was transferred to that court [*Getty Images (US), Inc. v. Stability AI, Ltd.* (3:25-cv-06891) District Court, N.D. California]. On 23 April 2025, the U.S. District Court for the Northern District of California dismissed Getty's claims based on copyright infringement, but did not dismiss the claims relating to trade mark infringement and unfair competition, and the proceedings are therefore continuing in respect of these.

Diffusion model, which generates images from text, but also has models for video, audio and language, and is partially trained on large-scale public datasets.

Getty brought the aforementioned legal proceedings, alleging, in particular, infringement of copyright and trade mark rights on the grounds that Stability had trained Stable Diffusion using images from its database without its consent, and that the resulting model could generate outputs that replicated Getty's registered trade marks.

Whilst acknowledging that some of Getty's trade marks appeared in the datasets in question, Stability denied infringing Getty's rights, arguing that any historical reproduction of watermarks was limited and mitigated by filtering processes.

Getty failed to demonstrate that the acts of copyright infringement took place in the United Kingdom, which significantly impacted the viability of its copyright claims, which we will not address here; however, we note that the appeal on this matter was dismissed.[46]

More specifically, with regard to trade mark law, the Court found that, in certain earlier versions of Stable Diffusion, and when given realistic rather than artificial prompts, the model could generate synthetic images containing the Getty watermark or the iStock watermark (which is also a registered trade mark of Getty). Consequently, it held that if such results are generated *"in the course of trade"* and are capable of causing confusion among consumers, they may constitute trade mark infringement. Nevertheless, it considered that the risk of reproducing the watermark was not uniform across all versions of the model, that the filtering and enhancement mechanisms used significantly reduced the likelihood of outputs containing the said mark, and that such outputs would be even less likely when users accessed the model via controlled platforms rather than through open-access downloads. It therefore found that there had been some *"limited"* and *"historical"* instances of trade mark infringement in earlier versions of Stable Diffusion, but that this had not caused any damage to the distinctive character, and/or to reputation, nor did it constitute taking unfair advantage.

3.2. Times v. Microsoft & OpenAI Background

In this case, The New York Times (hereinafter "The Times") filed a lawsuit on 27 December 2023 in the U.S. District Court for the Southern District of New York, alleging that Microsoft and OpenAI used millions of the newspaper's articles to train their AI models (including ChatGPT and Bing Chat) without authorisation or compensation; that Microsoft and OpenAI are creating a "*market substitute*" for its news and that these companies' AI generates "*hallucinations*"[47] based on The Times' articles, which substantially damage its reputation and trade mark, constitute unfair competition and infringe copyright. Microsoft and OpenAI defended themselves by invoking fair use.[48]

[46] See footnote 44 above.

[47] This is a term commonly used to describe a phenomenon characteristic of GenAI systems, whereby the model generates information that is factually incorrect, unsubstantiated or entirely fictitious, presenting it with apparent coherence and a high degree of confidence, without any indication of its inaccuracy.

[48] In the US, the fair use defence comprises an exhaustive list of covered cases, with 15 U.S.C. § 1115(b)(4) providing that: *"(...) the use of the name, term, or device charged to be an infringement is a use, otherwise than as a mark, of the party's individual name in his own business, or of the individual name of anyone in privity with such party, or of a term or device which is descriptive of and used fairly and in good faith only to*

On 13 September 2024, the Court granted a motion to consolidate the case with another brought by the Daily News and other publications; and, meanwhile, the case has become more complex due to the issue – which is still under consideration – concerning the "*preservation of evidence.*" Indeed, following the Times's request, the Court ordered OpenAI (and Microsoft) to preserve the chat logs – which might otherwise have been deleted to comply with data protection requirements – as they could prove the reproduction of protected content and the model's behaviour in real-world situations. However, OpenAI argued, amongst other reasons, that this is not proportionate to the needs of the case, as it would require OpenAI to make changes to its infrastructure to allow for data retention and that this would also undermine the trust of its users. Furthermore, it is also at issue whether there has been a destruction of evidence, which may also have significant consequences for the final decision in this case.

3.3. Generative AI training and trade mark law

The above-mentioned court cases highlight the problems that feeding large volumes of data containing registered trade marks into systems can give rise to.

First and foremost, it is necessary to determine whether this constitutes relevant use – use in the course of trade and as a trade mark – for the purposes of establishing trade mark infringement.

European trade mark law does not expressly regulate algorithmic training activities. These are not included in the illustrative list set out in Article 10(3) of the TMD and Article 9(3) of the EUTMR, which is based on traditional categories of use (display, offering, marketing, etc.), which do not directly cover the training phase of AI systems, as they presuppose human intervention, an economic purpose and control over the sign used.

Although it could be argued that the list in question is illustrative and therefore does not exclude others, in the context of GenAI, we must bear in mind that training is an *internal* technical process (the trade mark is not presented to the consumer at the time of training), which will, in principle, take place without any specific intention regarding any individual trade mark (there is no offer of products under another's trade mark), the process being guided by statistical rather than communicative objectives, so that, as a rule, there will be no direct distinctive function.

However, such training constitutes an activity that may be classified as commercial, as the designs are developed for profit. Furthermore, the broad scope with which the CJEU has interpreted *"use"* may allow for a functional reinterpretation of that concept, capable of encompassing indirect technological uses, at least where these contribute to outputs that may affect the functions of the trade mark.

It also follows from the cases mentioned that the protection of trade marks with a reputation is also challenged.

These trade marks are particularly vulnerable to GenAI for structural reasons. On the one hand, they appear extensively in the datasets used to train AI models, which paradoxically stems from their reputation – these are trade marks that are very widely recognised by the public and with which the public associates high symbolic and evocative value; consequently, as they are deeply embedded in culture,

describe the goods or services of such party, or their geographic origin." In addition to these, there are other fair use defences that are more user-oriented and have been developed by the courts, such as the nominative fair use defence.

commerce and communication, AI models "*learn*" their visual characteristics, semantic associations and contexts of use in great depth. Furthermore, the value of these trade marks lies, to a large extent, in intangible elements – emotional associations, perceptions of quality, social status – which are the very patterns that GenAI captures and can reproduce or manipulate. On the other hand, owners of trade marks with a reputation invest heavily in advertising, creating high-quality visual and textual content, which is particularly valuable for AI training.

However, GenAI can pose risks to trade marks with a reputation. In addition to the full or partial reproduction of registered trade marks, consider the generation of content that associates the reputable trade mark with messages that are inconsistent and/or contexts that contradict its identity, or the impact of a reputable trade mark appearing in millions of AI outputs on its distinctive and/or attractive capacity.

As briefly mentioned above, reputable trade marks are protected against use by third parties who take unfair advantage of, or carry out any action that would be detrimental to the mark's distinctive character or reputation, without due cause. However, this protection was also designed for identifiable and contextual uses, not for large-scale statistical learning.

Here, in addition to the issues concerning the requirement of "*use in the course of trade*", further problems arise. First and foremost, the protection of trade marks with reputation requires the public to establish a "*nexus*" – a mental link – between the sign used by the third party and the trade mark with reputation.[49] This requirement presupposes that the public is exposed to the use of the sign. But the use for training GenAI in itself will not allow this. This will only occur with the output.

There are additional difficulties in proving this. The CJEU has required proof that the use "*requires evidence of a change in the economic behaviour of the average consumer of the goods or services for which the earlier mark was registered consequent on the use of the later mark*" or, at the very least, "*a serious likelihood that such a change will occur in the future*",[50] in cases of dilution by blurring. But how can one demonstrate that the inclusion of a trade mark in the training data of a specific AI model has caused a change in consumer behaviour? Or that there is a serious risk, given that the effects of incorporating trade marks into AI models may only become apparent in the long term, as the technology spreads and outputs accumulate? Not to mention that it is very difficult to demonstrate exactly how a trade mark has been "*incorporated*" and how it influences the outputs.

4. Final remarks

GenAI represents one of the most profound transformations that intellectual property law has faced since the advent of the internet.

In the specific field of trade mark law, the challenges are manifold and intertwined. In addition to being used as a tool for counterfeiting on an industrial scale, GenAI may, for example, raise questions regarding the ownership and protection of the very signs created with the aid of AI, generate trade marks that conflict with previously registered signs, and reproduce or imitate third-party trade marks in its outputs.

[49] See paras. 30 *et seq*. of Judgment of the Court (First Chamber) *Intel*, 27 November 2008, case C-252/07, ECLI:EU:C:2008:655.

[50] See para. 77 of the *Intel* case, cited above.

In this exploratory paper, we briefly examined some of the issues raised by the use of GenAI systems trained on large volumes of data, particularly due to the use of images and content incorporating registered trade marks during the model training process, which may challenge structural assumptions of European trade mark law, such as the concept of "*trade mark use*" and the exceptional protection afforded to trade marks with a reputation, referring in particular to certain court cases.

The UK court's decision – against which, as mentioned, an appeal has been filed – found that there had been an infringement of the trade mark right, although it held that the infringement was very limited and circumscribed, and rejected the claim that the trade mark had been diluted. This decision is particularly relevant because, although the UK is no longer an EU Member State, its trade mark legislation – the Trade Marks Act[51] – was the UK legislation that was passed to enable the TMD to be incorporated into UK law. Thus, this highlights the difficulties courts are facing, which stem from the fact that trade mark legislation was not designed for this new reality.

It is therefore necessary to consider whether legislative amendments are required, or whether a reinterpretation of existing legislation – possibly in conjunction with other legal provisions – would suffice. In particular, consideration should be given to the AI Act which, as mentioned, does not contain specific provisions on trade marks. Nevertheless, given its requirements regarding transparency and the labelling of content, it could contribute to greater traceability, which may facilitate the enforcement of trade mark rights. Indeed, the identification of content as "*AI-generated*" and, above all, the requirement to publish summaries of training data (Article 53 of the AI Act) could assist trade mark owners in determining whether their signs have been included in the datasets and in substantiating claims for ceasing use or compensation.

That notwithstanding, insofar as this protection of trade marks is not without consequence for the interests of competitors, consumers and the general public, it will also require careful consideration of the limits that ensure the balance of the legal system.

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[51] UK Public General Acts, Trade Marks Act, 1994.