Briefing

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Copyright and artificial intelligence-generated outputs

Protectability of outputs and competition with human-created works

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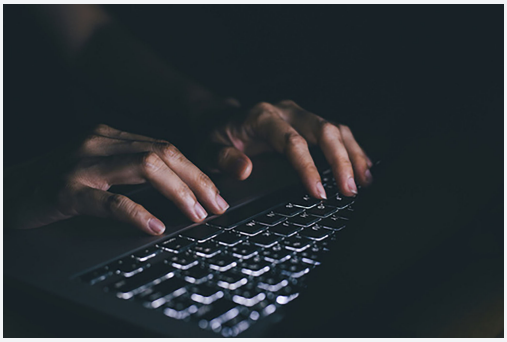

Summary

The proliferation of generative artificial intelligence (AI) technologies has given rise to new legal and policy challenges for the creative sector, and has prompted a fundamental re-examination of copyright law, particularly its **traditional concepts of authorship, originality and human creativity**. Generative AI applications are now capable of producing sophisticated outputs, including text, images, music and video. These may, in some circumstances, be difficult to distinguish from human-created works, and **ultimately compete directly** with original content for attention and revenue, thus raising concerns about the financial sustainability of the cultural and creative sector.

While the initial debate primarily focused on the lawfulness of AI models' training with copyright-protected content ('input side'), the discussion has more recently expanded to the **protection of AI-generated outputs under copyright or other related rights**. Case law on the copyrightability of AI-generated outputs has already started emerging. Alongside targeted legislation, legislative proposals and policy documents in the European Union and beyond, it emphasises the need to reserve copyright protection for human-created works and exclude purely AI-generated works from its scope. The emerging consensus across different jurisdictions is that **purely AI-generated** content with minimal to no human creativity **does not qualify for copyright protection**. By contrast, works created with the use of AI-applications may still enjoy copyright protection, where substantial human creativity has been exercised. Whether this threshold is met must be assessed on **a case-by-case basis**.

Nevertheless, the implications extend beyond copyright law to market dynamics, as AI-generated content may compete with human-created works for attention and revenue, potentially affecting creators' opportunities and the broader creative sector.

Introduction

The discussion on the intersection of copyright and artificial intelligence (AI) has gained considerable attention following the release of generative AI applications, such as ChatGPT, in 2022. Owing to the **resemblance** of the AI-generated outputs to human-created works and the frequent inability to distinguish between the two, the creative sector appears to be under increasing pressure to navigate this complex environment.

Beyond questions of copyright protection, the proliferation of AI-generated content also raises concerns regarding **market dynamics**. AI-generated content may substitute for and compete directly with original works in the market, potentially reducing their **visibility** and limiting creators' opportunities to **generate income**. This may affect the human creators' competitive position and contribute to broader changes in the dynamics of creative markets.

Copyright protection for AI-generated content

European Union approach

The policy discussion on the protection of AI-generated outputs by copyright gained momentum especially following the European Commission's launch of a call for evidence on the review of European Union (EU) copyright rules in May 2026. The initiative sought to gather feedback on possible targeted measures to **modernise the Union copyright framework**, as well as on the practical impact and effectiveness of the rules introduced by Directive EU 2019/790 on copyright in the digital single market (the CDSM Directive). The consultation indicated that the Commission is exploring whether targeted measures are needed to regulate potential gaps in the intersection of copyright and AI, including the future of AI-generated outputs. In September 2026, the Commission launched a second, targeted consultation on a potential initiative aimed at a **better copyright environment**, inviting all relevant stakeholders to share their views on the use of copyright-protected content in the context of AI. The second consultation reaffirmed the Commission's intention to assess whether a need exists for potential future measures in the area of copyright and generative AI.

The CDSM Directive predates AI developments, and, therefore, **does not provide for a specific regime** on the topic. As Regulation (EU) 2024/1689 on artificial intelligence (the AI Act) was modelled on product safety law, it remains silent on whether AI-generated outputs should benefit from copyright protection, despite the fact it was adopted at a time when AI models' capabilities and the impact of their outputs were already well-known. However, it prescribes that providers of general-purpose AI models should put in place a copyright policy allowing identification and compliance with the reservation of rights under Article 4(3) of the CDSMD, as well as the drawing up and publication of a detailed summary of the content used for the models' training, pursuant to Article 53(1)(c) and (d) of the AI Act.

Despite the lack of specific regulations in EU law on whether AI-generated content is protected by copyright or related rights, such protection is generally understood[1] to be available **only for works**

created by humans. The Court of Justice of the European Union (CJEU) has consistently held in its case law which works can enjoy copyright protection. Over time, it has confirmed the **anthropocentric approach** governing copyright law by highlighting that human authorship lies at the heart of copyright protection. An original work reflects the **author's own intellectual creation**, whereby an author has made free and creative choices.[2]

Therefore, if the production of content has been mainly determined by **technical considerations**, leaving no room for creativity and artistic freedom, then the outcome will most likely **not meet the originality threshold** required to enjoy copyright protection.[3]

Conversely, if a human has used **AI as a tool** for the production of content (widely known as AI-assisted works), similar to how cameras for taking photos are used, having made substantive creative choices, the final output may be subject to copyright protection. The human's overall involvement may be assessed by considering the degree of creative control exercised, whether the output reflects their **personal creative choices**, and whether the contribution consists of selecting, arranging, or substantially transforming AI-generated material.

Under the current understanding of EU copyright law, AI-generated outputs produced **without any human involvement** or prompt-based outputs with **little to no human refinement** and modification are unlikely to fall within the scope of the copyright protection in the EU, as noted in the European Parliament's 2025 study on generative AI and copyright. More elaborate prompting, selection, modification or other human intervention may, depending on the circumstances, help demonstrate the author's free and creative choices.The need to ensure the protection of human creativity and exclude content fully generated by AI from copyright protection has been repeatedly highlighted by the European Parliament in its resolutions.

The Commission had also highlighted this in a 2020 report, Trends and developments in AI – Challenges to the intellectual property rights framework, where it explicitly noted that 'the requirement of human intellectual effort excludes from copyright protection outputs that are produced without any human intervention' and that 'a production that is wholly generated by an **AI system without any human intellectual effort** is excluded from copyright protection'. However, as underlined in the same report, this requirement does not exclude creations by human authors made with the aid of machines, 'provided that the human contribution to the output meets the legal standard of originality/creativity'.

Assessing whether an AI-generated output involves substantial human intervention and creativity to qualify as original work and, therefore, meet the criteria for copyright protection is neither a simple nor a straightforward task. What has crystallised so far, according to the 2025 Parliament's study, is that a **mere prompt** containing a general instruction, which leads to an accepted output with no further modifications, **will not be subject to copyright protection**. By contrast, where the user has taken actions that substantially shaped the outcome, through edits, specific instructions and modifications, the result might qualify for protection by copyright or related rights. Ultimately, it is up to the courts and to policymakers to determine which **degree of human involvement** suffices for the final output to enjoy copyright protection. At present, this assessment requires a case-by-case examination. The existing EU copyright framework and the CJEU case law are at present considered adequate to provide the necessary indicators for this assessment.

In addition to copyright protection, it has been left open whether **a *sui generis* right** could also be explored as a mechanism to protect AI-generated outputs, as currently happens in Ukraine with regard to non-original content generated by computer programs.

National approaches within the EU

A series of rulings from EU Member States' national courts, has provided some further guidance on the topic. These are expected to serve as a precedent for further harmonisation of the criteria for the determination.

- In 2023, the Prague Municipality Court held that a **text prompt merely describing the subject matter** of an expected AI output **does not suffice** to grant copyright protection to the generated content and name the user as the author. The party's failure to prove that the final output relied on concrete directions and orders, or on sufficient creative input, excluded the final product from copyright protection, as it was concluded that the prompts were merely ideas or suggestions. The court clarified that the content was not the outcome of human creativity, and since **AI-generated works do not constitute an author's original work**, the content should be exempt from copyright protection.

In Germany, several courts provided guidance on the protectability of AI-generated outputs by copyright through the relevant cases they were called to handle.

- In December 2025, the Frankfurt Regional Court noted that, even if a **joint work**, such as a song, consists of human creative elements (in its lyrics) and AI-generated parts (in its music), these two **elements must be considered separately**, and the part created by human will continue benefiting from copyright protection. This means that the author of the copyright-protected part may demand that the opposing party cease using the song as a whole, insofar as such use infringes the scope of protection afforded to the lyrics.
- In February 2026, the Munich District Court ruled that AI-generated products can be copyright-protected where the **creative elements** incorporated through prompting determine the output to such an extent that the work reflects the individual personality of the person providing the prompts, **despite the algorithmic process**. The sole selection of an image from AI recommendations or through general and open-ended directions that leave the final decision to the AI model do not qualify for copyright protection, as noted by the Court. Moreover, external factors, such as whether a premium AI version is used, or the amount of time invested, are irrelevant for determining the copyright protection.
- In April 2026, the Düsseldorf Higher Regional Court ruled that an AI-generated output can only constitute original work eligible for copyright protection when it is the **result of the creative decisions** and influence of a human being, despite the software-controlled process. Such human influence can also take place through prompting, provided that the prompter's creative touch is reflected in the final output. Similar to the Munich court ruling, the Düsseldorf court excluded from copyright protection the **mere selection of an AI product from several recommendations**, and the generation of the product based on entirely software-controlled process.

In addition to the above-mentioned case law, relevant legislative and policy approaches can be found in several EU countries and the United Kingdom (UK), encompassing both recent developments and existing regimes that may apply to the topic:

- **Ireland and UK**. The Irish Copyright Act offers protection to computer-generated works, i.e. works produced by computers where the author is not an individual.The provision is closely modelled on the UK Copyright, Designs and Patents Act. However, as these provisions were enacted at a time when AI had not been envisaged, it remains uncertain whether, and to what extent, they apply to AI-generated works.
- **France**. The July 2026 mission report on the status of AI productions, commissioned by the French High Council for Literary and Artistic Property (CSPLA), underlined that the criterion of originality remains fit for purpose even today. Creations made with the use of AI can be protected by copyright if they bear the stamp of human creativity, meaning that author's personality can be identified in the result and therefore, these creations reach the originality threshold. Synthetic content generated without substantial human involvement should be excluded from copyright protection.
- **Italy**. The Law on Artificial Intelligence, which entered in force in 2025, and especially Article 25 amending the Italian Copyright Act, stipulates that creative works created with the aid of AI tools are protected by copyright as long as there is a substantial human intellectual and creative contribution.
- **Netherlands**. The government-wide vision on generative AI states that mere AI-generated outputs are excluded from copyright protection. However, protection of output where there is a collaboration between human and AI tools is not excluded if there have been sufficient creative choices in developing the idea in the prompt. The document further notes that human influence on the final output may not be sufficient to constitute a work under copyright law, but that creative choices made later at the end result may change this.

Approaches outside the EU

China

Chinese courts have delivered several rulings on the protection of works generated by AI, consistently concluding that copyright protection of these works is possible as long as they present **substantial human creativity**.

In the *Tencent Shenzhen* v *Shanghai Yingxin* case, the court considered a financial news report generated by an AI application, Dreamwriter, to be an original work, incorporating substantial **human intellectual elements** reflected in the design of the algorithm, the software's operation, as well as in the data's and templates' selection and organisation. The court confirmed as copyright owner the company operating the system that generated the report. Similarly, in the Qiyu case, the court granted copyright protection to a traditional Chinese painting produced by an AI application, considering that it presented substantial creativity exercised through the **prompts and parameters** used, as well as through the choice of the style, the lighting effects and the selection of the final image.

Furthermore, the *Li* v *Kiu* case confirmed the copyright protection of an AI-generated picture, following the plaintiff's extensive selection from over **150 prompts and subsequent modification**, which were considered as sufficient intellectual activity, reflecting their creative expression. Finally, the *Feng Runjuan* v *Kuashi Plastic* case reaffirmed that purely AI-generated images are out of the copyright protection's scope, following the lack of proof from the plaintiff indicating that substantial creativity has been exercised by a human.

United States

The United States (US) has taken a similar approach to the EU regarding the protection of AI-generated outputs. In its 2023 guidance, the US Copyright Office (USCO) suggested that entering a text prompt into AI would not suffice for authorship to be established. Nevertheless, if a human **selects or arranges AI-generated content** in a sufficiently creative way, resulting in a work that can meet the originality threshold, or modifies AI-generated material so that the modifications meet the standard for originality, this work can be subject to copyright protection.

In 2023, the USCO partially cancelled the registration of the comic Zarya of the Dawn after concluding that the images in it had been generated by an AI application. The USCO only recognised the protection of the text incorporated in the comic, as well as the selection, coordination and arrangement of the written and visual elements, but not that of the images included and generated by AI. In the same year, the Office **refused** to register the work Théâtre D'opéra Spatial, despite the applicant experimenting with over 600 prompts, concluding that extensive prompting and iterative refinement **did not amount to authorship** of the resulting image, as the output remained determined by the AI system rather than the user. In the *Thaler* v *Perlmutter* case, the court confirmed the USCO's rejection to register an AI application as the author of a picture generated by it, noting that copyright protection presupposes **human creators** and, therefore, works generated entirely by AI cannot benefit from it.

In its 2025 report, the USCO stressed that works created with the **assistance of AI tools**, which only complement the creation rather than replace it, may qualify for copyright protection. By contrast, those merely generated by AI are completely exempted. Copyright protection is granted for the original works created by humans, despite the use of AI-generated content. Ultimately, a **case-by-case assessment** of whether the human involvement has been substantial to define the work, and therefore make it subject to copyright protection, is necessary.

AI-generated content: Risk of displacing original works

AI-generated works' presence on marketplaces

Apart from considerations regarding output protection, there is growing evidence[4] that the large-scale availability of AI-generated productions has substantially **increased competition** in the cultural and creative field, as more AI-generated productions enter the market and operate as a substitute for the original works. In essence, AI-generated content increasingly competes with human-created works for consumers' and users' **attention, visibility, demand** and **revenues.**

As reported, an increasing number of AI-generated books – often without any disclosure of their nature – have flooded the online marketplaces because of their extremely **low production costs**. A study examining over 14 000 self-published books sold on Amazon between 2023 and 2026 notes that books containing substantial amounts of AI-generated text, defined by the study as more than 25 % of the book, make up a large share of the catalogues. A similar trend can be observed in academic and other written publications. Within the first 12 months following the launch of ChatGPT, the share of primarily AI-generated articles **increased dramatically**, reaching 36 % and 48 % by 12 and 24 months, respectively, as reported.

The music sector has seen a comparable development. An analysis of over 1 000 000 music tracks, conducted in July 2026, found that 23.2 % were fully AI-generated. Data reported by a global music-upload platform showed a notable increase in AI-generated music, with AI-generated tracks accounting for 50 % of all tracks uploaded to the platform in June 2026. Against this backdrop, the Australian Recording Industry Association decided to **exclude entirely or predominantly AI-generated music** from Australia's official music charts, requiring all musical works included there to be substantially human-created. A similar approach has been followed by SNEP, the French Union of Phonographic Publishing, which has announced that purely AI-generated tracks will be **excluded from its official rankings**. SNEP further set **three conditions** that need to be fulfilled for a work to be included in its charts: substantial human intervention; clear indication of the use of AI; and the AI tool used for the production of the track(s) to respect the legal framework applicable in France.

Competition with human-created works

As noted by the USCO in its 2025 report, the increasing presence of AI-generated content in digital markets may affect the visibility and revenues of human-created works, although the extent and distribution of these effects are still emerging. The economic study of copyright and AI, carried out at the request of the European Parliament's Committee on Legal Affairs (JURI), has examined, among other issues, the potential economic implications of generative AI for creators and rights-holders, including matters relating to the traffic to original content and associated revenues.

A recent European Commission study has also examined challenges relating to the discoverability of European cultural content in the digital environment, with a particular focus on music and books. Its findings point to the growing role of AI-generated content and **algorithmic recommendation systems** among the factors that may affect the visibility and discoverability of European cultural works online. The study suggests further examining the **discoverability of cultural content** in the online environment, including the effects of algorithmic bias, filter bubbles[5] and the growing use of AI, with a view to informing possible policy responses.

As users may be drawn to AI-generated content without being aware of its nature, the **labelling** of such content as AI-produced may influence their choices regarding the type of content they consume online. The AI Act establishes specific rules in Article 50 on the labelling and marking of AI-generated output to ensure that natural persons are informed when they interact with such content, with the aim of reducing phenomena of **manipulation and deception**. The provision, which started applying from 2 August 2026, is further specified by a code of practice and European Commission guidelines.

Impact on revenues and suggested options

Visibility leads to more revenues for the workers in the cultural and creative sector. In the EU, authors, artists and other rights-holders should receive appropriate and proportionate remuneration for the use of their works, according to the CDSM Directive. Therefore, for remuneration to be due, there should be a copyrighted work that – as explained above – is linked to a human author. Autonomously AI-generated productions, with no human involvement, cannot be subject to remuneration under Union copyright law.

Since purely AI-generated productions generally do not benefit from copyright protection, they can neither be licensed nor generate remuneration through copyright law. For this reason, users may

simply use unprotected AI-generated content, rather than copyright-protected content, in an effort to avoid payment for the use of copyright-protected material.

However, the absence of copyright protection in the output does not necessarily mean that the output is unrelated to copyright-protected works. AI-generated outputs may reproduce, incorporate, or otherwise reflect elements of protected works that have been used as inputs in the AI system. This raises the question of whether, and under what conditions, the use and influence of such protected works in the generation of an output should give rise to remuneration for authors and rights-holders.

In light of this, some European author societies have proposed the introduction of a **remuneration system** for authors and rights-holders when their works have been used and have influenced, or been embedded in, the final AI-generated output. However, it remains to be further specified which factors should be considered for such influence to be established (such as the resemblance of the output to the original works or other factors).

The German collecting society for music, GEMA, has presented its licensing model for AI that aims to cover both the use of music to train AI systems and the **content those systems later generate based on the original works**. As the organisation notes, such a system aims to provide fair, high-level remuneration while staying flexible enough to adapt to fast changes in the market and technology.

Several US academics suggest that a copyright holder **contractually agrees** with the AI model owners that part of their work will be incorporated in the AI-generated output, which will then be commercially exploited, making them **participants in all the revenues** generated by the AI model. In this scenario, the author or rights-holder will not merely participate in the royalties collected by a concrete output influenced by their work but also in all the revenues the AI company has gained.

A different study recommends the launch of a '**data intermediary**' who will negotiate with AI companies on behalf of the creators and distribute royalties to them. Under this model, payments will take place according to the AI company's revenues, proportional to each creator's contributions to social surplus.

Similarly, another report suggests a framework that **distributes royalties** to those copyright holders whose works **were used to train AI systems**, based on how likely the output is to meet users' needs. Royalties will then be distributed to copyright owners depending on their contributions. The criterion chosen in this proposal is highly subjective, as it is linked both to how accurately the output responds to the prompt and to the users' satisfaction, which may raise several issues on how this can be neutrally assessed.

It has also been suggested that, rather than using the AI training process as the basis for calculating remuneration owed to authors, the legislator should consider the introduction of an **AI levy**. Under this proposal, AI systems capable of generating content similar to protected works would be subject to a lump-sum levy, which would then be distributed among authors and rights-holders.

Concluding remarks

Both the protection of AI-generated outputs under copyright or other related rights and their growing competition with human-created works have become increasingly important as AI model capabilities continue to develop. It remains to be seen whether the Commission will reopen the CDSM Directive or eventually propose a new, standalone legislative instrument to address any gaps at the intersection of

copyright and AI, as well as how this proposal will look like. It will also be important to monitor how the relevant provisions of the AI Act will be applied in practice.

Main references

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Endnotes

1 As reflected in a 2025 European Parliament study on generative AI and copyright, as well as in Parliament's resolutions of 2020 and 2021; the 2024 summary of Member States' contributions to the policy questionnaire on the relationship between generative AI and copyright and related rights, prepared by the Hungarian Presidency of the Council of the EU; and the European Commission's 2020 report on trends and developments in AI.

2 CJEU judgments of 16.7.2009 – C-5/08 – Infopaq International A/S v *Danske Dagblades Forening*; 1.12.2011 – C-145/10 – Painer; 1.3.2012 – C-604/10 – *Football Dataco*; 13.11.2018 – C-310/17 – Levola Hengelo; and 3.9.2026 – C-598/24 – CY.

3 CJEU judgments of 12.9.2019 – C-683/17 – Cofemel; 4.12.2025 – C-580/23, C-795/23 – Mio and konektra.

4 This is acknowledged by the European Parliament in its March 2026 resolution on copyright and generative artificial intelligence – opportunities and challenges; a March 2026 UK government policy paper, Report on Copyright and Artificial Intelligence; and a February 2025 US Copyright Office report, Identifying the Economic Implications of Artificial Intelligence for Copyright Policy.

5 A filter bubble is a situation where a user mainly gets exposed to information that supports their existing preferences, often because of algorithms, without realising that other perspectives are being excluded.

Any AI-generated content in this text has been reviewed by the author. AI tools have been used to improve the readability of the text and broaden the range of sources available to the author.

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