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17 Use of Filters by Online Intermediaries and the Rights of Users: Developments in the European Union, Mexico, India and China

Abstract: Digitisation of content has facilitated dissemination of information. Most content today is accessed through online intermediaries who facilitate the uploading, discovery, sharing, delivery and receipt of information. The web, or the participative web as it is commonly known, is considered a place for exchanging content as well as a mechanism enabling creators to reach greater audiences for their works. Despite the advantages of disseminating digital content, online intermediaries have been the hearth of copyright infringements. Public consultation on the modernization of the enforcement of intellectual property rights in 2016 in the European Union drew attention to concerns with the emergence of new online intermediaries while the report of the European Union Intellectual Property Office examining consumption of copyright-infringing content between 2017–2020, of TV programmes, music and film in the 28 EU Member States highlighted numerous issues. Policymakers responded and introduced new legislative frameworks and forced online intermediaries to deploy technological tools to terminate or curb the circulation of unauthorised content. The response was reflected in various jurisdictions including the European Union, Mexico, China and India. Developments in relation to copyright in the Digital Single Market Directive are described. The adoption of filters by online intermediaries to block or filter the content of websites and networks to prevent or stop infringements by users is described and the subsequent concerns identified. Restrictive measures taken have been subject to criticism due to the high margin of error. Filter technology mechanisms are not always able to identify lawful content related to copyright exceptions, sometimes removing content unnecessarily which leads to censorship of content available to users. Technological measures might pose obstacles to users' fundamental rights, namely the right to free speech and the freedom of arts and sciences. An array of measures dealing with the issues is presented.

Keywords: Copyright – Computer network resources; Information filtering systems

Introduction

Digitisation has given rise to high numbers of copyright-protected works being circulated through online intermediaries, enabling users to exchange content and creators to reach larger audiences for their work. [Online intermediaries](#) is used as an umbrella term to describe organisations that bring together or facilitate transactions between third parties on the Internet. They give access to, host, transmit and index content created by others on the Internet, and provide Internet-based products and services. They include Internet access and service providers (ISPs), search engines and portals, cache internet service providers, web hosting providers, e-commerce services, online content sharing service providers, social media and providers of hosting services. In this chapter, when referring to specific national legislative tools for online intermediaries, the terminology adopted in them is used.

However, it appears that copyright violations are taking place within the networks of online intermediaries. For instance, the European Union (EU) Public Consultation on the modernisation of the enforcement of intellectual property (IP) rights outlines that the emergence of new online intermediaries has led to an increase in online piracy (European Commission 2016c, 8), while a report from the European Intellectual Property Office finds that the average user consumed copyright infringing content 5.9 times per month during 2020 (European Union Intellectual Property Office 2021, 11). As a result, policymakers have introduced new legislative frameworks and require online intermediaries to prevent illicit activities within their networks. Online intermediaries are therefore ascribed a duty of care and must exercise greater responsibility regarding their operations. Appropriate measures might involve the use of technological tools with the aim to terminate, or at least to curb to a greater extent, the circulation of unauthorised content. Otherwise, online intermediaries will be subject to liability for the copyright violations that are committed by their users.

The current trend of using filters is evident in several jurisdictions where governments require, implicitly or explicitly, online intermediaries to deploy technological tools. At the European level, the [Copyright in the Digital Single Market Directive](#) of 2019, Directive 2019/790 of the European Parliament and of the Council of 17 April 2019 on Copyright and Related Rights in the Digital Single Market and Amending Directives 96/9/EC and 2001/29/EC [hereinafter DSM Directive] (Directive 2010/790 2019) and the Proposal for a Digital Services Act Regulation in December 2020 (European Commission 2020a) require online intermediaries to prevent the re-emergence of infringing content. Proactive measures suggested for online intermediaries, as many commentators argue, might involve the adoption of filtering-based technology. Similar approaches have already been adopted in Mexico with the [Ley Federal de Derechos de Autor](#)/Federal Law of the

Authors' Rights, in India with the [Information Technology \(Intermediary Guidelines and Digital Media Ethics Code\) Rules 2021](#) and in China with the [Provisions on the Governance of the Online Information Content Ecosystem](#) that came into force on the 1st of March 2020 (WILMap 2020).

Filtering obligations, however, have been subject to criticism due to the high margins of error that can occur. A study conducted by Jacques, Garstka, Hviid, and Street showed that some videos which were parodies of songs had been removed under the reasoning of copyright infringement (Jacques et al. 2017). Filtering technology might not be able to determine lawful content that falls within the meaning of copyright exceptions, such as parodies or works that belong in the public domain, and content might be taken down unnecessarily. Users' content might be censored, and fundamental user rights placed in jeopardy. More specifically, the technological measures adopted might pose an obstacle to the right of freedom of expression and the right to receive information, as per [Article 11 of the EU Charter of Fundamental Rights](#) and [Article 10 of the European Convention of Human Rights](#), as well as limit the right to creative expression, as per [Article 13 of the EU Charter of Fundamental Rights](#) and [Article 19\(2\) of the International Covenant on Civil and Political Rights](#).

This chapter argues that the imposition of filtering-based technology might violate internet users' fundamental rights. It discusses the normative role of online intermediaries as a place for the exchange of content and promotion of the freedom of expression and creativity of internet users and considers the existing legal framework at the European level, namely the DSM Directive and the Proposal for a Regulation on Single Market for Digital Services, the Mexican Copyright legislation, the Indian regulatory framework for online intermediaries and the Chinese legislative provisions on online intermediaries. Drawing on the analysis, it provides an overview of different types of filtering technology to enable the reader to gain an understanding of the peculiarities of filtering tools. Finally, the chapter critically evaluates the implications of the current legislative regimes on online intermediary liability as they impact users' fundamental rights and proposes an array of measures by which any negative implications could be overcome.

Role of Online Intermediaries as Facilitators of the Exchange of Content

Nowadays, online intermediaries facilitate the dissemination of content amongst internet users. They offer the appropriate space for users to search, discover, impart and receive content as well as express their creativity. Such a role for

online intermediaries has been reinforced at theoretical, legislative, judicial, and policy level.

Online Intermediaries Facilitate Free Speech

The role of online intermediaries as facilitators of free speech has clearly been outlined at policy level. Consider, for instance, the [EU Commission's Communication on Online Platforms](#) which outlines that online intermediaries “enhance citizens’ participation in society and democracy, as they facilitate access to information” (European Commission 2016a). Likewise, the [European Commission's Proposal for a Digital Services Act Regulation](#) notes that online intermediaries contribute “...in facilitating public debate, economic transactions and the dissemination of information, opinions and ideas” (European Commission 2020a, 6). Such a stance is also contained in the report on the economic and social roles of information intermediaries prepared by the OECD which states that one of the main functions of online platforms is to enable information exchange (Perset 2010, 6). Finally, the stakeholders in the EU Public Consultation on online platforms seem to agree that one of the most common assets of online intermediaries is to make the information accessible to internet users (European Commission 2016b; European Commission 2016d).

Current legislative provisions on online intermediary liability aim to maintain a public space for internet users to exchange information. Indeed, Advocate General Poiares Maduro, in joined cases C-236/08, C-237/08 and C-238/08 of [Google France/Inc. v. Louis Vuitton Malletier; Google France v. Viaticum Luteciel; Google France v. CNRRH, Pierre-Alexis Thonet, Bruno Raboin, Tiger, a franchisee of Unicis](#)¹ pointed out in para. 142 that “To my mind, the aim of Directive 2000/31 is to create a free and open public domain on the internet.” Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on Certain Legal Aspects of Information Society Services, in Particular Electronic Commerce, in the Internal Market [hereinafter Electronic Commerce Directive] (Directive 2000/31 2000) addresses e-commerce activities.

The role of online intermediaries as public forums where internet users can exchange views has been illustrated by academic scholarship. For instance, like the Αρχαία Αγορά/ Ancient Agora where Athenians debated and exchanged views, online intermediaries enable internet users to express and share views on political or social issues. Papacharissi (2002, 243) argues that internet infrastructure

¹ Google France v Louis Vuitton and ors Joined Cases C-236/08, C-237/08 and C-238/08 [2010] ECLI:EU:C:2010:159..

offers public space to internet users. Citing YouTube as a representative example, she argues that internet users can engage with current democratic practices, such as the uploading or viewing of political satires, viewing political speeches, being informed of major political decisions and agreements, and expressing their views via video. Laidlaw (2012, 18) interprets online intermediaries as a form of deliberative democracy where internet users can share their opinions on daily matters. Likewise, Belli and Zingales (2018, 190) suggest that online intermediaries shall be treated as public spaces if they deploy a public role. Finally, the Rapporteur of the UN on freedom of expression states that the internet “contributes to the discovery of the truth and progress of society as a whole” (La Rue 2011, 7). Internet users can access and disseminate information about political actors and promote democratic values for society.

The need to preserve the internet as a free space for the exchange of views has been supported by a cluster of cases at European level. For example, the judgment of *Delfi AS v. Estonia*², application no. 64569/09, where the European Court of Human Rights found that the use of automatic filtering to remove offensive comments did not violate Article 10 of the [European Convention of Human Rights](#). In this case, the Strasbourg Judges in the dissenting Opinion pointed out in para. 22 that the Internet “...is a sphere of robust public discourse with novel opportunities for enhanced democracy. Comments are a crucial part of this new enhanced exchange of ideas among citizens”.

The recently issued ruling of *Vladimir Kharitonov v. Russia* (application no. 10795/14) confirms the need for caution in filtering³. The European Court of Human Rights concluded that blocking a website scheme runs the risk of creating collateral censorship, terminating access to lawful websites, and violating Article 10 of the European Convention of Human Rights. In support of its reasoning, the Court reiterated the need to view the internet as a space for exchanging views and restated the need for open access to be safeguarded. It noted in para. 33 that “the Internet provides essential tools for participation in activities and discussions concerning political issues and issues of general interest, it enhances the public’s access to news and facilitates the dissemination of information in general.” Online intermediaries shall be seen as guardians of the right of Internet users to receive and impart information from a wide range of sources, and players in the enhancement of democratic values. Rights in the online public domain must not be undermined and Article 11 of the [European Charter of Fundamental Rights](#) and Article 10 of the European Convention of Human Rights must be upheld.

² *Delfi AS v. Estonia* (2015) no. 64569/09, ECHR 2015. Dissenting views on *Delfi AS v Estonia* (16 June 2015) Application no. 6456.

³ *Vladimir Kharitonov v. Russia*. 10795/14 (23 June 2020) [2020] ECHR 462.

Online Intermediaries Boost Creativity

Online intermediaries are spaces for creative expression amongst Internet users. Users can exchange content such as songs, videos, or photos. For instance, the DSM Strategy of the European Commission acknowledged that 56% of citizens across the EU Member States used the Internet for cultural purposes and that spending on the digital media industry in the next five years was expected to see double growth (European Commission 2015a, Para. 2.4), while at the same time the Communication: *Towards a Modern, More European Copyright Framework* noted that 49% of EU Internet users accessed music, videos, and games online, quoting figures from the Eurostat community survey on ICT usage in households and by individuals conducted in 2014 (European Community 2015b, Para.1). [Statista](#) publishes regular updates on monthly Facebook usage with 2.89 billion in the second quarter of 2021 (Statista, 2021). [David Sayce's blog](#) in 2020 noted that there were around 6,000 tweets per second, 500 million tweets per day and around 200 billion tweets per year. Meanwhile, “the majority of music video parodists on YouTube (77%) copied the original sound recording in their work; however, some 50% of the sample added new original lyrics to the parody, while 86% of creators added a new original video recording” (Erickson, Kretschmer and Mendis 2013, 11).

The role played by online intermediaries in boosting the creativity of online users is described in academic scholarship. For instance, Frosio outlines the existence of creativity in the online world in the following way, “Digital creativity, including user-generated content (UGC), results from participatory culture spreading through community interactions and promoting identity and diversity” (Frosio 2019, 34-35). Likewise, Gauntlett (2013, 1) discusses how the Internet facilitates creativity and innovation amongst users and compares it with the creativity in the offline world by noting that “The difference that high-speed internet connections make is not just a boost in convenience of communication but represents a significant transformation in how those human beings who are online can share, interact and collaborate.” In addition, Literat and Glaveanu (2018, 897) aptly point out that online intermediaries are enhancing the relationship between creativity and fan-fiction groups. Finally, Doctorow critically suggests new ways of enforcing IP rights online and notes that online intermediaries boost the creative sector since creators can reach larger audiences for their works (Doctorow 2015, 69).

The significance of online intermediaries in enhancing cultural growth has also been accentuated at judicial level. A representative example is to be found in the Advocate General’s opinion on [Peterson/YouTube](#) (C-682/18).⁴ The Advocate General discussed the dispute between a copyright owner and YouTube for

⁴ *Peterson v. YouTube and Elsevier v Cyando AG* C-682/18 and C-683/18 of 2021) ECLI:EU:C:2021:503.

not removing a video from a song, alleging copyright infringement. He argued in para. 43 of his Opinion that:

The platform gives its users (who number more than 1.9 billion, if Google is to be believed) the opportunity to share their content and, in particular, their creations online. A multitude of videos is uploaded there every day, including cultural and entertainment content, such as musical compositions published by emerging artists looking for a wide audience, informative content on topics as diverse as politics, sport and religion, as well as ‘tutorials’ the purpose of which is to allow anyone to learn to cook, play the guitar, repair a bicycle, etc.

The Advocate General suggests that the use of technological tools would restrict freedom of expression online which would subordinate online creativity. The right to culture as per [Article 27](#) of the Universal Declaration of Human Rights and the right to freedom of the arts and sciences as per [Article 13 of the EU Charter of Fundamental Rights](#) would be jeopardized.

Overall, it seems that at policy, judicial, and scholarship levels, online intermediaries are perceived to facilitate users as they seek to freely impart and receive information and enhance creativity. The right to freedom of expression and the right to artistic freedom as set forth in European Conventions, national legislation and International Conventions are safeguarded by online digital access.

Yet, the role of online intermediaries as facilitators of content exchange and cultural activities might be restricted in light of the adoption of filtering-based tools by online intermediaries. Policymakers ascribe a duty of care to online intermediaries to exercise greater responsibility regarding the operation of their platforms. In this light, online intermediaries are required to use advanced technological tools to perform their role.

Trends in Legislation Relating to Filter-based Technology

A bedrock of emerging legislative frameworks worldwide appears to require online intermediaries to terminate or prevent the reappearance of infringing content online, and to adopt filter-based tools. The following discusses filtering obligations with reference to relevant legislation and provisions from the EU, Mexico, India and China. The choice of these jurisdictions is because they are all in the process of reforming the liability of online intermediaries in adjusting to the enforcement of copyright laws in the digital age.

Developments in the European Union

Copyright in the Digital Single Market Directive

Following an intense debate and lobbying in the EU Parliament and Council, the controversial DSM Directive was passed on March 26 2019 in the European Parliament, and ratified by the European Council on April 17 2019. The controversial provisions of the Directive have been subject to severe criticism by human rights associations, Internet activists, and academic scholars while its compliance with fundamental rights has also been examined by the European Court of Justice following an application for annulment by Poland which argues that the Directive encroaches upon fundamental rights as enshrined in the Polish Constitution (Centrum Cyfrowe Foundation 2019; Mileszyk 2019). In that case, however, the Advocate General, Saugmandsgaard Øe⁵, in his [Opinion](#) declared that the use of filtering tools are compatible with freedom of expression as set forth at the EU Charter of Fundamental Rights but admitted that filtering tools might be a possible solution due to the high volume of content that cannot be reviewed by human moderators. Likewise, the CJEU held that Article 17 is valid but observed with regard to filtering tools that, “neither the defendant institutions nor the interveners were able, at the hearing before the Court, to designate possible alternatives to such tools.” (Case C-401/19, para. 54).

Amidst the controversial provisions of the Directive, Article 17 para.4 enables online content sharing service providers to avoid liability under three conditions. They must demonstrate their best efforts to obtain authorisation, demonstrate their best efforts to ensure unavailability or disable or remove content in the case of copyright infringements following industry practices or act expeditiously. The provisions have been subject to heated debate since it could be interpreted that online content sharing service providers must deploy filter-based technologies to prevent the reappearance of any works violating copyright.

One might argue that the filter-based obligations cannot be implied because in para.8 of Article 17 in the same Directive the prohibition of general monitoring obligations is included. It states that “the application of this Article shall not lead to any general monitoring obligation”. European policymakers want online intermediaries to be compliant with the [EU *acquis*](#) and in particular with Article 15 (1) of the [Electronic Commerce Directive](#) (Directive 2000/31/EC) which prohibits general monitoring. Article 15 (1) is considered one of the cornerstones of e-commerce since it does not impose any obligation on online intermediaries to develop fil-

⁵ Opinion of Advocate General Saugmandsgaard ØE in case C-401/19, Republic of Poland v European Parliament, Council of the European Union, para. 220.

ter-based tools to identify copyright infringing works within their networks. Consequently, online intermediaries can continue their business operations without investing resources for content identification technologies.

Yet it seems impossible to satisfy the requirement of best efforts described in Article 17(4) of the DSM Directive to terminate the circulation of infringing content or prevent the reappearance of infringing content within the online intermediaries' networks without deploying monitoring obligations. This understanding has been reiterated in the words of European and national policymakers. After the final vote on the DSM Directive in Strasbourg in March 2019, the French Minister stated that French authorities need to collaborate to promote the use of content identification systems (Masnik 2019a). Likewise, the former Commissioner for Digital Affairs reinforced that Article 17 of the DSM Directive opens the door for the adoption of filtering obligations to online intermediaries by noting, “[a]s things stand, upload filters cannot be completely avoided” (Masnik 2019b). These statements illustrate the rationale of the DSM Directive and underline the suggestion that the use of filtering technologies would constitute an important part of the new copyright framework in the digital world.

The risks in the use of filters is evident in the [Guidance on Article 17 of the Copyright in the Digital Single Market Directive](#) issued by the European Commission on June 4 2021. In particular, the Guidance notes that rightsholders may decide to provide information to online content sharing service providers about copyright works whose infringement could cause significant economic harm (European Commission 2021, V.2). If online content sharing service providers do not consider the information provided by rightsholders, they would be unable to demonstrate that they had made best efforts to prevent the dissemination of copyright infringing content within their networks and would be subject to liability. To exonerate liability, online content sharing service providers would need to resort to filtering-based tools or hire human moderators to examine the work or parts of the work that have been uploaded within the networks but have been earmarked as infringing content by the rightsholders (Reda and Keller 2021a; 2021b).

Crucially, the risk of imposing filtering-based technology is not only expressed by national policymakers. It seems to have been adopted in the implementation of the DSM Directive within the EU Member States. The following section provides examples.

Implementation in Member States

The German Parliament passed on May 20 2021 the [Urheberrechts-Diensteanbieter-Gesetz \(UrhDaG\)/Act on Copyright Liability of Online Content Sharing Service](#)

[Providers](#), which transposes Article 17 of the DSM Directive. Germany enacted Article 17 into its own legislative piece and separated it from other provisions of the German Copyright Act (Reda 2020; Nordemann and Waiblinger 2020). Like the provisions of the DSM Directive, the German Act on Copyright Liability transposes the conditions for primary liability of online content sharing service providers once they communicate unauthorised works within their networks. To escape from liability, Section 4 of the Act states: “Service providers are obliged to undertake their best efforts to acquire the contractual rights of use for the communication to the public of copyright-protected works...”

In order to protect copyright exceptions, the German Act inserts a new provision under the term of presumably authorised uses. More specifically, the Section 9 states that user-generated content must remain online if it: “1. contains less than half of a work or several works by third parties, 2. combines the part or parts of a work referred to in no. 1 with other content, and 3. uses the works of third parties only to a minor extent (section 10) or is flagged as legally authorised (section 11)”. Content can be removed only after the conclusion of the complaints procedure provided by the online content sharing service provider. In practice, online content sharing service providers cannot take down a work that falls within the notion of presumably unauthorised use even if the work matches with a file that is archived in the database of the filtering software. As per Section 9 para. 3, it is the responsibility of the online content sharing service provider to contact and inform the rightholder about the right to file a complaint. While the matter is being processed, the content is still available on the platform and can only be removed following human moderation.

Yet, the Act remains silent on the moderation of content that does not fall within the above-mentioned categories, for instance, if the uploaded work cites the whole work of the creator or belongs in the public domain or in the case of false claims for copyright violations (Reda and Selinger 2021; Nobre 2021).

A similar stance has been adopted by the Netherlands in transposing the provisions of the DSM Directive. The Dutch draft bill was adopted by Parliament on May 15, 2020. Instead of introducing a separate legislative piece, the Draft bill added the relevant provisions of the DSM Directive and made amendments to the current [Auteurswet/Dutch Copyright Act](#) (Chavannes 2020). [The Dutch draft bill](#) followed verbatim Article 17 of the Copyright in the DSM Directive and the Act states in Article 29 (d) 2. (2) that the online content sharing service provider must “upon receipt of a sufficiently substantiated notification from the author or his successor in title, promptly remove the reported works from his website or make access to them impossible and make every effort to prevent the reported works in the future will be offered again”. This means that online content sharing service providers are required to take down or prevent the re-emergence of unau-

thorised works. Crucially, this outcome could be achieved either through the use of human reviewers or the installation of automated technological tools within the networks.

The interpretation appears to echo the [Explanatory Memorandum](#) which had accompanied the Dutch Draft Bill when it was debated in the Dutch Parliament, as well as when the draft was subject to open consultation. In particular, the Explanatory Memorandum offers, in many instances, the term filtering, or filtering technology, as an example that could be used by online content sharing service providers (Chavannes 2020). Observation of the mass protests and reactions from human rights associations and Internet activists during the legislative process of the DSM Directive in Brussels led to open-ended political discussions about the meaning of upload filters. The final Bill did not make use of the term to avoid criticism.

France has implemented the DSM Directive into its national legal system and has transposed verbatim Article 17 of the DSM Directive in [Article L. 137-1 and Article L. 137-2](#) of the existing [Code of Intellectual Property Law](#). Article L. 137-1 addresses the scope of online content sharing service providers and Article L. 137-2 is about the liability of online content sharing service providers for copyright infringements within their networks. Online content sharing service providers must demonstrate they have made their best efforts to obtain authorisation for the use of the work or show that they made the best efforts to terminate or prevent the reappearance of the infringing content, and the use of filtering tools is not excluded. The implementation of Article 17 does not entail any relevant procedural provisions that would safeguard users' fundamental rights. The French perspective on this matter was contained in the response of the French Government to the Commission's stakeholder [consultation for the implementation of Article 17 of the Copyright in the Digital Single Market Directive](#) which noted that the existing provision took into consideration the fundamental rights of users and in particular Article 11 of the EU Charter of Fundamental Rights.

Finally, [Finland's implementation is ongoing](#). A public hearing of the government's proposal for the transposition of the DSM Directive was made on December 21 2020. At first glance, the Government's proposal seems to refrain from obliging online content sharing service providers to use content moderation technologies within their networks although the situation might change. The draft proposal follows Article 17 (8) of the DSM Directive, and states that general monitoring obligations for online content sharing service providers are prohibited, but it incorporates a blocking procedure that online content sharing service providers must follow to avoid direct liability for copyright violations within their networks (Keller 2020). Blocking requires online content sharing service providers to deploy technological tools for content moderation before the

content is uploaded to the platform. Once the automated technology identifies an unauthorised video, it notifies the copyright holder of the infringing content. It is then up to the copyright holder to decide whether the video represents an infringement or not. In the case of an infringement, the rightsholder requests the video be blocked and a notification is sent to the user, with appropriate justification, and information is provided about available counter-claim procedures and the option to challenge the outcome in court. Interestingly, the same approach seems to be followed in the second draft of the Bill in Section 55 h which refers to the complaints and redress mechanism. Yet, it is unclear whether this process will be followed since amendments are expected during the legislative drafting in the Finnish Parliament (Melart 2022). It appears that despite the prohibition of general monitoring, online content sharing service providers are required to follow a notice and action approach with the support of content identification mechanisms to curb the dissemination of unauthorised content online. Whilst the DSM Directive prohibits general monitoring obligations, there is still the risk of adopting filter-based tools. This understanding appears to be followed by the current reform for online intermediary liability at the European level.

Proposal for Regulation on a Single Market for Digital Services

The [Proposal for a Digital Services Act Regulation](#) published on December 15 2020 seems to adopt the same pattern as the DSM Directive and requires online intermediaries to prevent illicit online activities (European Commission 2020a). Such prevention might be achieved with the implementation of filtering technology in the battle against illegal content. Following the outcomes of the impact assessment of the EU Commission (European Commission 2020b), the Commission published a new Proposal for regulating illegal content online:

which aims to offer the best conditions for innovation in the Digital Single Market as well as ensure the protection of fundamental rights online (European Commission 2020a).

The proposed Regulation would apply as *lex specialis*⁶ for the cases that are not covered by the existing legislation. This means that it would apply in cases that are not entailed in the DSM Directive or the Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018 Amending Directive 2010/13/EU on the Coordination of Certain Provisions Laid Down by Law, Regulation or

⁶ A law governing a specific subject matter, *lex specialis*, overrides a law governing only general matters *lex generalis*.

Administrative Action in Member States Concerning the Provision of Audiovisual Media Services [[hereinafter the Audiovisual Media Services Directive](#)] ([Directive \(EU\) 2018/1808](#)) (Angelopoulos 2020). The proposed Regulation notes:

Building on the key principles set out in the e-Commerce Directive, which remain valid today, this proposal seeks to ensure the best conditions for the provision of innovative digital services in the internal market, to contribute to online safety and the protection of fundamental rights, and to set a robust and durable governance structure for the effective supervision of providers of intermediary services.

In addition, it states that it “calls for an ambitious reform of the existing EU e-commerce legal framework while maintaining the core principles of its liability regime” and Recital 16 of the proposed Regulation notes:

The legal certainty provided by the horizontal framework of conditional exemptions from liability for providers of intermediary services, laid down in Directive 2000/31/EC, has allowed many novel services to emerge and scale-up across the internal market. That framework should therefore be preserved. However, in view of the divergences when transposing and applying the relevant rules at national level, and for reasons of clarity and coherence, that framework should be incorporated in this Regulation. It is also necessary to clarify certain elements of that framework, having regard to case law of the Court of Justice of the European Union.

The provisions of the proposed Regulation reinforce the provisions of the Electronic Commerce Directive. More specifically, Article 3 of the proposed Regulation reinforces Article 12 of the Electronic Commerce Directive and refers to the liability of mere conduit Internet service providers; Article 4 of the proposed Regulation incorporates Article 13 of the Electronic Commerce Directive and addresses the liability of caching Internet service providers; Article 5 reinstates the liability of hosting Internet service providers, as set forth in Article 14 of the Electronic Commerce Directive.

The proposed Regulation follows the rationale of Article 15 (1) of the Electronic Commerce Directive and reinstates that providers of hosting services are not required to monitor their networks. More specifically, Article 7 repeats Article 15 of the Electronic Commerce Directive and notes that “[n]o general obligation to monitor the information which providers of intermediary services transmit or store, nor actively to seek facts or circumstances indicating illegal activity shall be imposed on those providers”. This means that online intermediaries would not need to license expensive filtering technology or develop their technology to monitor their networks (Frosio and Geiger 2021, 30–31).

As always, the devil is in the detail. The prohibition of general monitoring obligations appears to be nullified because the filter-based technological tools seem to be allowed as per Recital 58 of the proposed Regulation:

Very large online platforms should deploy the necessary means to diligently mitigate the systemic risks identified in the risk assessment. Very large online platforms should under such mitigating measures consider, for example, enhancing or otherwise adapting the design and functioning of their content moderation, algorithmic recommender systems and online interfaces, so that they discourage and limit the dissemination of illegal content, adapting their decision-making processes, or adapting their terms and conditions.

Consequently, certain types of online intermediaries would be required to deploy content moderation tools or algorithm-based software. Such tools would amount to automated content removal and are already applied by certain online intermediaries on a voluntary basis. Representative examples can be found in [Content ID](#) of YouTube, or the [Photo DNA](#) software of Microsoft. Content ID is a fingerprint-based software that automatically removes unauthorised videos once they are uploaded by users and there is an indication that they match with files that already exist in the database of the software. At the time of writing this chapter, the proposed Digital Services Regulation's trilogues negotiations have been completed (22 April 2022). While the final draft has not been made available, it appears that mandatory appeal mechanisms and compensatory claims have been included in order to safeguard users' fundamental rights.

The proposed Regulation on a Single Market for Digital Services reflects the trend of using filter-based tools for content moderation to curb the dissemination of illegal content. Use of filters by online intermediaries for this purpose has spread beyond European borders. The following section addresses the proliferation of filtering obligations in non-EU jurisdictions, Mexico, India and China.

Filter Obligations in Non-EU Jurisdictions

Mexico

Before July 2020, Mexico did not have statutory provisions for online intermediary liability. More specifically, the [Ley Federal Del Derecho De Autor/Federal Copyright Act of 2013](#) did not entail specific procedures for online intermediaries about the removal of infringing content for their networks upon being notified. Likewise, the [Ley de Telecomunicaciones y Radiodifusión/Broadcasting and Telecommunications Act of 2014](#), which is still active, does not include relevant provisions for the regulation of the liability of online intermediaries. It focuses on the procedures for blocking access or suspending communications through judicial orders (WILMap 2014b). To seek redress for copyright infringements online, rightsholders could resort to the provisions of the [Código Civil Federal](#)/Mexican civil code that provides compensatory, but not injunctive, relief. As per [Article 1913](#):

When a person operates machines, any instrument or substance that is inherently dangerous . . . such person is obliged to repair the damage caused by such instruments, even if the person does not act in an unlawful manner, unless that person proves that the damage was a consequence of the inexcusable fault or gross negligence of the injured party.

A person providing a machine through which the rights of third parties have been infringed shall be liable for damages for any infringement. Neither lack of fault nor negligence shield the person from liability. Transposing this interpretation to online intermediaries, it could be held that online intermediaries whose platforms violate the rights of copyright holders would be subject to claims for damages. Yet, to date, the provision does not seem to have been used by rights-holders to protect their rights.

The new [Ley Federal del Derecho de Autor](#)/Federal Copyright Act, which has been in force since July 2020, offers statutory provisions about the regulatory framework of online intermediaries and has come under severe criticism from human rights and Internet activist bodies due to the rush in the legislative process and its incompatibility with the Mexican Constitution (Doctorow 2020a, 4; Doctorow 2020b; Betancourt et al 2020). It has been introduced in light of the [USCMA Agreement](#) between the United States, Mexico, and Canada which aims to facilitate free trade between the countries involved. Amidst the provisions of the USCMA, the Agreement entails new provisions for Digital Trade (Krishnamurthy et al 2020; Laidlaw 2019, 45).

The Mexican Government has added the new provisions to the existing Copyright Act under the heading “Technological Protection Measures, Information on Rights Management and Internet Service Providers” to transpose the digital trade provisions of the Agreement. One of the key issues of digital trade lies in Article 19.17 of the USMCA Agreement which sets forth the legal framework for online intermediaries that host content online. The legislative framework offers statutory provisions that shield online intermediaries from liability for third party content that is uploaded within their networks. As per [Article 114 Octies](#), online intermediaries are not liable for material hosted within their networks if they expeditiously remove any allegedly infringing content when learning about it, either through a notification from the copyright owner or an order for removal from the appropriate authority. Otherwise, online intermediaries would be subject to liability for illegal acts committed by their users.

However, apart from the conditions that enable online intermediaries to escape liability, the new Federal Copyright Act includes the use of filtering mechanisms to curb the dissemination of infringing content online. Article 114 Octies II sets forth the use of technological tools regarding copyright infringements without explicitly stating the use of filtering mechanisms. More specifically, it states that,

“in both cases, reasonable measures must be taken to prevent the same content that is claimed to be infringing from being uploaded to the system or network controlled and operated by the Internet Service Provider after the removal notice or the resolution issued by the competent authority” (Doctorow 2020a, 36). Online intermediaries must undertake measures to prevent the dissemination of infringing content and are not required simply to deploy filter-based measures to terminate the circulation of unauthorised content within their networks. They are forced to do so. Such methods might vary from algorithmic decision-making procedures to automated content identification technologies.

The idea of filtering obligations is not new in Mexico. In 2010 the Mexican Congress introduced a draft law proposal the aim of which was to amend the Federal Copyright Act by adding provisions based on the three strikes system about copyright infringements in the digital ecosystem (WILMap 2010). More specifically, according to the three strikes system, rightsholders could ask the Mexican Institute for Industrial Property to require online intermediaries to send two warning notices to users who were committing copyright infringements. If the allegedly infringing users do not comply with the two warnings, they would be subject to injunctions with a third warning notice. To warn users, online intermediaries had been requested to deploy filtering obligations and monitor their networks with the aim of identifying the allegedly repeated infringers. However, similar to [Hadopi Loi](#) in France (Dato 2013), which was also a draft law proposal for the adoption of a three strikes system against online copyright infringements, the Mexican draft law proposal came under severe scrutiny and its implementation was abandoned (Haggart 2014, 312).

India

In India, the legal framework for online intermediaries is to be found in Section 79 of the [Information Technology Act 2000](#) which shall be read in conjunction with the [Information Technology \(Intermediary Guidelines and Digital Media Ethics Code\) Rules 2021](#) [hereinafter Information Technology Rules 2021]. According to Section 79 (2) of the [Information Technology Act 2000](#), online intermediaries are exempt from liability for third party copyright violations within their networks under specific circumstances, namely they must not initiate, modify or select the receiver of the transmission while they must exercise due diligence in the operation of their business model. However, as per Section 79 (3) the provision for liability exemption is not applicable in cases where the online intermediary has conspired or abetted or aided or induced the infringing act or failed to remove the infringing content upon receiving actual knowledge of the illicit activity.

The Information Technology Rules 2021 were rapidly processed in February 2021 without any consultation and replaced the [Information Technology \(Intermediaries Guidelines\) Rules 2011](#). They describe a stricter legal framework for online intermediaries and require online intermediaries to take down infringing content after being notified by the court within 36 hours. In addition, as per Rule 3 para. j online intermediaries must provide within 72 hours to a governmental body's request any information about the verification of the identity of a user for crime or cybercrime prevention purposes.

The new Rules introduced two types of online intermediaries, namely social media intermediaries and significant social media intermediaries. The latter are those intermediaries that have above five million registered users and are subject to additional obligations such as transparency reports and the use of filtering technology with the aim to terminate or prevent the emergence of infringing content. As per Rule 4 para. 4:

A significant social media intermediary shall endeavour to deploy technology-based measures, including automated tools or other mechanisms to proactively identify information that depicts any act or simulation in any form depicting rape, child sexual abuse or conduct, whether explicit or implicit, or any information which is exactly identical in content to information that has previously been removed or access to which has been disabled on the computer resource of such intermediary under clause (d) of sub-rule (1) of rule 3, and shall display a notice to any user attempting to access such information stating that such information has been identified by the intermediary under the categories referred to in this sub-rule:...

Online intermediaries are required to deploy technological tools to determine the illegality of content disseminated online. Ex-ante filtering obligations are assigned to online intermediaries with the aim of curbing online piracy.

The Information Technology Rules 2021 have triggered a high level of criticism (Rodriguez, Mathew and Schmon 2021; Khan, Voule, and Cannataci 2021), primarily because the use of proactive measures are thought to come into conflict with the [Indian Constitution](#), and in particular with Article 19(2) of the Constitution of India that safeguards the right to free speech and dictates that:

(2) Nothing in sub-clause (a) of clause (1) shall affect the operation of any existing law, or prevent the State from making any law, in so far as such law imposes reasonable restrictions on the exercise of the right conferred by the said sub-clause in the interests of 6 [the sovereignty and integrity of India,] the security of the State, friendly relations with foreign States, public order, decency or morality, or in relation to contempt of court, defamation or incitement to an offence.

What is more, the new legislation seems to be against the landmark decision of [Shreya Singhal v. Union of India \(Writ Petition No. 167 of 2012\)](#).⁷ The case concerned the arrest of two young ladies by the police for posting offensive comments about Mumbai's shutdown for the death of an important politician. Amidst the important findings of the ruling, the Supreme Court of India stated that online intermediaries cannot remove infringing content by themselves. Rather, it is only after a judicial order is issued that online intermediaries can block illicit information online. In the Court's words in para. 119:

Section 79 is valid subject to Section 79(3)(b) being read down to mean that an intermediary upon receiving actual knowledge from a court order or on being notified by the appropriate government or its agency that unlawful acts relating to Article 19(2) are going to be committed then fails to expeditiously remove or disable access to such material.

Finally, news websites have negatively reacted to the introduction of the new provisions. More specifically, two digital news websites have filed petitions in front of Kerala High Court and Delhi High Court respectively arguing that the new provisions might have a detrimental effect on free speech online and might lead to censorship. Both High Courts have accepted the petitions and the cases are ongoing. (Chaturvedi, 2021). It appears that the Information Technology Rules 2021 are opening the door for the use of automated technology to filter and block allegedly infringing content but at the same time such use might conflict with the constitutional protection of free speech.

China

In China, the [Regulation on the Protection of the Right to Network Dissemination of Information Networks 2006](#) (hereinafter Regulation 2006) regulates online intermediaries' liability for online infringements with [Order of the State Council of the People's Republic of China no. 634](#). Articles 14–17 of Regulation 2006 provide a notice and takedown procedure according to which online intermediaries must immediately remove the infringing content upon receiving written notification from the rights holder and notify the user-subscriber about the allegedly infringing content. Article 22 of Regulation 2006 enables online intermediaries to escape from liability if, for instance, the online intermediaries are not aware of the infringing nature of the content, they delete the content upon receiving a

⁷ *Shreya Singhal v. Union of India*, AIR 2015 SC 1523; Writ Petition (Criminal) No. 167 OF 2012.

notice from the rights holder, or they do not receive any direct economic benefit from the infringing content (Wang 2018, 52).

Online intermediaries are required to undertake necessary measures to terminate infringing activities within their networks. As per [Article 36\(2\) Tort Liability Law 2009](#), online intermediaries must deploy appropriate measures to terminate or delete the infringing content either after being notified by the rightsholder, or once they become aware of such content (Friedmann 2020).

The Chinese legislative framework is supported by a cluster of case law that ascribes an obligation to online intermediaries regarding the termination of infringing content. Consider, for instance, the case of [Beijing Higher People's Court, Zhong Qin Wen v. Baidu, Gao Min Zhong Zi No. 2045 \(2014\)](#).⁸ Zhong Qin Wen, a copyright holder, brought legal proceedings against Baidu, an online content exchange platform, alleging copyright infringement. To the Court's reasoning, online intermediaries are ascribed a duty to monitor popular works on their networks (WILMap 2014a). However, as Wang points out, the Court refrained from clarifying the concept of popular works, and thus passed this difficult issue onto the online intermediaries (Wang 2016, 137). Online intermediaries must decide the threshold for likes or downloads which make a work popular.

The Beijing High People's Court shed light on the legal uncertainty and released the [Guidelines on the Trial of IP Cases involving Networks 2016](#) which aimed to provide consistent guidance with regard to the current provisions of the online intermediary regulatory framework and were binding in the courts within the Beijing municipality. To determine whether the online intermediary has knowledge of the infringing content, the Courts must examine whether the rightsholder notified the online intermediary of the infringing content, if the online intermediary interfered in making available the infringing content within its platform, if the infringement has repeatedly taken place and the online intermediaries have not acted to stop it, if the online intermediary knew about the allegedly infringing content with the use of filtering-based technology, and if the online intermediary deploys a mechanism for the notice and takedown procedure (Friedmann 2020). What is more, the obligation for online intermediaries to prevent online infringements has been reinforced in the [Provisions on the Governance of the Online Information Content Ecosystem](#) that came into force on March 1st, 2020 and aim to safeguard the network ecosystem and protect the rights of individuals, as well as public interest, from cyberattacks. Amidst the provisions, Article 7 explicitly states that online intermediaries must take appro-

⁸ *Zhong Qin Wen v. Baidu* [中青文v.百度] *Gao Min Zhong Zi No. 2045*, Beijing Higher People's Court [北京市高级人民法院](2014) 高民终字第2045号], 2014.

priate measures and prevent or terminate the dissemination of illegal contents that “adversely affect network ecology” (WILMap 2020).

Overall, it appears that a cluster of jurisdictions at international level require online intermediaries to deploy filter-based technology with the aim of preventing or stopping the circulation of infringing content online, while other jurisdictions are initiating copyright reforms to meet the demands of the digital age. Either implicitly or explicitly, jurisdictions require online intermediaries to deploy filtering obligations as part of their business models to fight infringements within their networks. Before venturing into the implications of filter-based technology for the fundamental rights of internet users, it is worth discussing the types of filters in use to gain a better understanding of the different technological tools involved and how their interaction with the activities of users.

Types of Filter-based Technology and Their Impact on Use

Due to the exponential growth of artificial intelligence (AI) and rapid innovation in recent years, many types of filter-based technology are available to online intermediaries. Filters can be applied ex-ante or post-ante; each has its own characteristics; and they can locate infringements based on audio, video, text, or images (Sartor and Loreggia 2020, 39). The types of filters in use are described and their impact on users fundamental rights examined.

Filter-based Technologies

[Metadata](#) is the simplest form of filtering technology (Moreno 2020, 158) and is the information that goes with the work. It helps to determine infringements based on audio, video, text, or images. Some examples of metadata are a song’s title, the publisher of a book, or the duration of a video. Metadata filtering technology scans the metadata of the work against a database of files to identify unauthorized works (Sartor and Loreggia 2020, 40) without downloading the file.

Another type of filtering technology that identifies infringements based on audio, video or images is hashing. A [hash](#) constitutes a unique digital signature for each file. If the hash of one file matches the hash of another file, a copyright infringement is identified. (Frosio and Husovec 2020, 621). An example is the [PhotoDNA](#) software developed by Microsoft. It is a digital fingerprint-based software which detects images that relate to terroristic or child abuse content. Microsoft donated its advanced and sophisticated PhotoDNA software to the [US National Center for Missing & Exploited Children](#) (NCMEC) for use as well as to

law enforcement agencies to assist in rescuing children from the risks of child pornography and exploitation (Sartor and Loreggia 2020, 40). Another example is [LTU Tech](#) which provides image recognition technologies which can be used either for detecting child pornography or abuse cases, or counterfeit goods (Gann and Abacassis 2018, 6; Angelopoulos 2009, 2–3).

[Watermarking](#), which places a hidden barcode in the work, is commonly used by the film industry to locate who is accessing works without authorisation (Moreno 2020, 158). Before the Oscar Awards, copies of new films are watermarked before being sent to the voting members of the Academy so that it is easier to identify if a member leaks the movie to third parties (Milano 2012, 3). Finally, [fingerprint-based technology](#) identifies infringements by examining a specific piece of content to identify its inherent characteristics and then matches it against a database of files (Gann and Abecassis 2018, 6). Representative examples can be found in [deep packet inspection](#), [Cleanfeed](#) software, the [Content ID](#) system, and [Audible Magic technology](#).

Content ID is a rights management system based on digital fingerprinting technology developed by Google. It is deployed by YouTube with estimated development costs varying but reportedly exceeding US\$100 million (Doctorov 2020a, 8; Spoerri 2019, 173; Engstrom and Feamster 2017, 23). Content ID contains a database of 50 million works amounting to a period of 600 years of audio and visual material (Jacques et al. 2018, 218). The filtering technology is highly sophisticated. It has been reported that between September and December 2020, Content ID was used by YouTube to terminate the dissemination of unauthorised works online and took down fourteen times more videos than the human content moderators did (Sartor and Loreggia 2020, 49).

Audible Magic uses fingerprint technology and matches video and audio content against a Global Content Registry which is a database of fingerprints of copyrighted works (Gann and Abacassis 2018, 6). [Dailymotion](#) works with Audible Magic and INA to use fingerprinting technology to detect unauthorised videos by checking their fingerprints against a database (Gann and Abecassis 2018, 6). [Echoprint](#) is an open-source fingerprint-based software for audio that is deployed by [Spotify](#). It generates a code for a song and scans the code against a database of codes already submitted by copyright holders and collecting societies (Engstrom and Feamster 2017, 15).

Finally, another type of filtering technology identifies textual infringements. Two representative examples are [Natural language processing](#) and [Blacklisting](#). Natural language processing identifies potential infringements by conducting a semantic and syntactical analysis. Semantic analysis examines the meaning of words and categorises them as well as identifying names and the positive or negative sentiment of the text. With syntactical analysis, natural language pro-

cessing identifies the names, adjectives, verbs, and nouns used in the text along with its structure by dividing it into main sentences and clauses. Blacklisting matches content against a database of files with copyright infringing content. To identify copyright infringing content, blacklisting scans the text against the database. Should the text match with an unauthorised work in the database, software removes it (Sartor and Loreggia 2020, 41–42). Additionally, in the online world, it is common for images to be accompanied by text. For instance, images in memes, street directions, or menus are posted by users to online intermediaries every day. To detect infringing text in images, Facebook has initiated the development of [Rosetta](#), a machine-learning software which extracts text that appears in images from a billion of images made available through Facebook and performs a syntactical and contextual analysis (Sartor and Loreggia 2020, 43; Borisyuk, Gordo, and Sivakumar 2018).

It appears that the rapid advancement of technology enables the development of different kinds of filtering tools, and it has been argued that the use of filtering technology might have corrosive effects on Internet users' activities online. The following section critically evaluates the implications of the use of filtering tools in relation to user rights.

Impact of Use of Filters on User Rights

The attribution of a duty of care to online intermediaries has led to the proliferation of filter-based obligations on a global basis. The tools are applied either on their own or accompanied by human moderators. Article 17 (9) of the DSM Directive states that any complaints related to decisions about disabling access or removing uploaded content shall be subject to human review.

The extensive use of filtering technology has given rise to considerable criticism from scholars, internet activists, and prominent public figures since it poses serious threats to users' fundamental rights, such as the right to freedom of expression and the right to creative expression. Filters “involve risks of both over-blocking and under-blocking content and as such amount to a violation of the right to freedom of expression” (Article 19 2016, 1), while the [European Digital Rights](#) (EDRi) notes that “these practices deeply affect human rights such as freedom of expression and access to information, culture and education” (EDRi 2018). Likewise, Article 3b of the [UN Joint Declaration on Freedom of Expression and the Internet](#) outlines that filters constitute “a form of prior censorship and are not justifiable as a restriction on freedom of expression”. Meanwhile, an open letter signed by prominent internet advocates, including the founder of the world wide web Sir Tim Berners-Lee, states that the DSM Directive copyright reforms

should not turn “the Internet from an open platform for sharing and innovation into a tool for the automated surveillance and control of its users” (O’Brien and Malcolm 2018).

The negative impact of filtering mechanisms on free speech and creativity is seen in the lack of accuracy. It has been argued that the adoption of filtering mechanisms does not guarantee the removal of copyright infringing content. Several cases have been reported where filtering technology could not differentiate between legitimate and infringing content. One example can be found in a video showing students protesting to free Tibet which was removed from YouTube for the stated reason that it violated the International Olympic Committee’s copyright, even though it did not (Marsoof 2015, 19).

The difficulty that online intermediaries face distinguishing between legitimate and illegitimate content is evidenced by the high number of counter-notifications for content removed from their networks. A representative example can be found in YouTube’s counter-claim procedure. During the Covid-19 pandemic, it has been reported that while 11 million videos had been taken down during April and June 2020, 320,000 of the removals were appealed, and half were placed back because they have been erroneously removed (Vincent 2020). The issues with accuracy stem from the specifications of each type of filtering technology. For instance, machine learning technology requires a considerable amount of training data for each field. Lack of training data might result in the erroneous removal of lawful content (Sartor and Loreggia 2020, 57).

Automated content identification technologies are subject to high margins of error. For example, metadata is not uniquely attached to a work since two works, a film and a book for example, might have the same metadata (Engstrom & Feamster 2017, 11–12). The technology can be circumvented by users and prove inaccurate (Gann and Abecassis 2018, 5). Hash-based identification technology, such as the PhotoDNA software or [Shazam](#), is subject to users’ circumvention with small changes made to a copy so that it differs from the original file (Sartor and Loreggia 2020, 51). Likewise, content filters such as Cleanfeed software, or the Content ID system, can be circumvented if modifications to the sound or speed of song files or to the level of brightness and darkness of video files takes place (Sartor and Loreggia 2020, 40) while watermarking is mainly applied to newly copyright-protected work and fails to detect content that is already available to the online world (Moreno 2020, 158; Japiot 2017, 17).

Difficulties in identifying copyrighted works arise from the nature of copyright infringements which are described as contextual infringements. To establish a copyright violation, several parameters must be taken into consideration, including societal conditions, information about the date of an author’s death, whether the work is licensed, and information about the submission of the work

to various databases (Husovec 2016, 36). Any failure in the watermarking and matching process might lead to removal of works in the public domain which should be freely accessible to everyone. A study by Ahlert, Marsden, and Yung (2014) described a case where researchers submitted a complaint about lack of availability of legitimate content to a UK and a US Internet service provider who offered Internet access. The work that had been removed was part of a book by John Stuart Mill which was published in 1869 and thus belonged in the public domain. In response to the complaint, the UK Internet service provider expeditiously removed the legitimate material without any further investigation of the claim; however, the US Internet service provider requested further information about the copyright ownership.

The different approaches by the providers are due to the different copyright exceptions in various countries, and judicial interpretations of those exceptions. What constitutes fair use and what proportion of an original work may be used is highly debated in the courts and is left for the courts to decide. Sag (2012, 51) points out that fair use is “doctrinally incoherent and unpredictable in application”, and a “lottery argument”. Works covered by copyright exceptions run the risk of being removed. Another example can be found in the study by Jacques, Garstka, Hviid, and Street (2017, 58–60) on the impact of YouTube on cultural diversity. Their study indicates that the Content ID software used by YouTube failed in many instances to recognise song parodies that entailed new lyrics but used the original sound recording.

The [Advocate General’s Opinion on *Peterson v. YouTube* \(C-682/18\)](#) focused on the potential restrictions on creativity and stated in para. 243 that the use of filtering technology “would introduce a risk of undermining online creativity, which would be contrary to Article 13 of the Charter. The danger in that regard is that maximum protection of certain forms of intellectual creativity is to the detriment of other forms of creativity which are also positive for society”.

Finally, filtering technology appears to face difficulties in applying the interpretations adopted by the courts. For instance, the Court of Justice of the European Union in Luxembourg set out in the [Eva Glawischnig-Piesczek v Facebook \(C-18/18\)](#)⁹ case that the host Internet service provider must terminate or prevent the re-emergence of identical and equivalent content. Para. 53 states that equivalency shall be understood as “information conveying a message the content of which remains essentially unchanged and therefore diverges very little from the content which gave rise to the finding of illegality.” Para. 46 states that online intermediaries must prevent the re-emergence of identical and equivalent content without being required to “carry out an independent assessment”.

⁹ *Eva Glawischnig-Piesczek v Facebook* C-18/18 [2019] ECLI:EU:C:2019:821 .

One might wonder how filtering technology can identify equivalent infringements without conducting an additional examination in, for example, instances where infringing content is reposted by a user who criticises or comments on the content thereof, or where infringing content is reposted by a user in the context of news reporting (Krokida 2021, 315). Lack of further investigation might lead to the removal of lawful content and restrict users' fundamental rights, namely the right to free speech and the freedom to the arts and sciences.

The difficulty in distinguishing between legitimate and infringing copyright content is not the only reason why the right to freedom of expression and the right to creativity may be in jeopardy. Online intermediaries might turn to over-blocking of content to evade liability. As stated earlier, being subject to liability rules, hosting Internet service providers might act as “overzealous police officers” (Rowland, Kohl, and Charlesworth 2017, 86) and potentially over-enforce their rights online or block websites without further examination of the allegedly illicit activities that take place within their networks. Several studies demonstrate the threat of over-removal of content by online intermediaries. Urban, Karaganis, and Schofield (2017, 11) found that one out of twenty-five automatic removals is erroneous. Similarly, another study under the auspices of the French Ministry of Culture concluded that “Just over half of those who received a blocking message when sharing audio or video content (56%) disputed it, or about 2% of Internet users.” (Mochon et al. 2020, 93).

Overall, one can conclude that technological filtering tools might have a corrosive effect on users' fundamental rights and on the right to freedom of expression and creativity. Filtering technology cannot easily distinguish between legitimate and copyright infringing content use due to the peculiarities of each filtering software and inaccuracies in identifying the context and the circumstances within which the content has been posted. Online intermediaries have the capacity to deploy filtering systems excessively to avoid liability for violations with potentially unnecessary removal of content and collateral censorship where lawful content has been removed from networks.

Recommendations

Filtering obligations have the capacity to transform the digital ecosystem and pose serious threats for users who receive and send online content. A user-based approach should be adopted in implementing filtering technology. It is proposed that transparency be adopted in the use of any filters. Filter-based software uses algorithms that extract codes, fingerprints, hashes, or metadata and scan them

against a database of audios, videos, images, and texts to determine any infringement. Such algorithms are often described as black boxes because users do not understand them. Many online intermediaries publish transparency reports on a voluntary basis. To name a few, Facebook, Google, and Twitter publish transparency reports of removal requests with justifications and counter-notifications. A statutory obligation for transparency would result in consistency within the online intermediaries and promote legal certainty for users and rightsholders. As Ursula von der Leyen, the President of the European Commission, said in her State of the Union speech, “Algorithms must not be a black box and there must be clear rules if something goes wrong” (Von der Leyen 2020).

Secondly, there is a growing need for adoption of a hybrid model for online content moderation. Human moderators need to be involved in reviewing content deemed unauthorised by filtering systems. In Germany where the [Network Enforcement Act/Netzwerkdurchsetzungsgesetz](#) addresses hate speech content online, Facebook hired 1200 human moderators who, in parallel with algorithmic review, review hate speech related content and take it down (Article 19 2018, 61; Oltermann 2018). Errors or inaccuracies can be limited when human moderators examine complex copyright infringements to determine whether they are within the meaning of fair use or not. A recent Ofcom report highlights the hybrid model of human review and technology and states that “This combination allows vast quantities of content to be automatically filtered, whilst enabling the more complex content to be reviewed by a team of human moderators who better understand the nuances of online content” (Ofcom 2019, 36). The risks of removing lawful content and censorship can be avoided.

Thirdly, it is recommended that oversight bodies be created to supervise the appropriate implementation of filtering obligations. This recommendation echoes the European level Article 17 (9) of the DSM Directive which states:

Member States shall also ensure that out-of-court redress mechanisms are available for the settlement of disputes. Such mechanisms shall enable disputes to be settled impartially and shall not deprive the user of the legal protection afforded by national law, without prejudice to the rights of users to have recourse to efficient judicial remedies.

Such authorities exist in some countries, such as Greece and Italy, and could serve to safeguard users’ fundamental rights online (Krokida 2022).

Conclusion

This chapter has examined the emerging legislative frameworks requiring online intermediaries to deploy filtering to prevent the re-emergence of infringing content within their networks. The use of filtering algorithms seems to have spread on a global basis and a handful of jurisdictions has incorporated such activities into their legal regimes for online intermediaries while others have initiated copyright reforms in the digital age. At the European level, the DSM Directive requires online intermediaries to make best efforts to prevent the reappearance of infringing content to escape liability. Many EU Member States, such as Germany, France and the Netherlands have transposed the Directive into their local contexts and required online intermediaries to adopt the necessary measures to curb or stop the infringements within their networks. In similar fashion, in Mexico there is a new Federal Copyright Law that requires online intermediaries to prevent the emergence of unauthorised content online. Unless online intermediaries undertake their obligations, they are subject to liability. In India, the Information Technology Rules 2021 impose an obligation for online intermediaries to deploy technology-based tools to detect infringing content, while in China the Provisions on the Governance of the Online Information Content Ecosystem that came into force on March 1 2020 require online intermediaries to adopt proactive measures to safeguard network ecology.

The imposition of filtering obligations has the potential to erode the fundamental rights of users, namely the right to freedom of expression and the right to artistic expression. Online intermediaries are not always able to determine the difference between lawful and infringing copyright content, leading potentially to censorship. Filtering algorithms are inaccurate; and studies highlight the increasing number of counter-notifications and high percentages of reinstatement of content. At the same time, filtering obligations can lead to over-blocking, thus triggering the risk for censorship.

Going forward, a user-based approach has been suggested to limit the detrimental effect of filtering technology on users' fundamental rights. The approach should include transparency, the establishment of authority to supervise the implementation of filtering obligations, and a hybrid model of filtering technology including human moderators. Otherwise, the rationale for the Internet as a space of free speech and exchange of ideas and information set forth by the inventor of the World Wide Web, Sir Tim Berners Lee (2008), will belong to the past.

References

- Ahlert, Christian, Chris Marsden, and Chester Yung. 2014. “How ‘Liberty’ Disappeared from Cyberspace: The Mystery Shopper Tests Internet Content Self-Regulation.” https://www.academia.edu/686683/How_Liberty_Disappeared_from_Cyberspace_The_Mystery_Shopper_Tests_Internet_Content_Self_Regulation.
- Angelopoulos, Christina. 2009. “Filtering the Internet for Copyrighted Content in Europe.” *IRIS Plus (Supplement to IRIS – Legal Observations of the European Audiovisual Observatory) 2009–4*. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1983866.
- Angelopoulos, Christina. 2020. “Intermediary Liability, Fundamental Rights and the Digital Services Act.” *EU Law Live. Weekend Edition*, no. 42: 20–33. https://issuu.com/eulawlive/docs/weekend_edition_42.
- Article 19. 2018. “Germany: Responding to ‘Hate Speech’: Country Report.” London: Article 19. <https://www.article19.org/wp-content/uploads/2018/07/Germany-Responding-to-%E2%80%98hate-speech%E2%80%99-v3-WEB.pdf>.
- Belli, Luca and Nicolo Zingales, editors. 2017. *Platform Regulations: How Platforms Are Regulated and How They Regulate Us: Official Outcome of the UN IGF Dynamic Coalition on Platform Responsibility*. Geneva: United Nations Internet Governance Forum. <https://juliareda.eu/wp-content/uploads/2019/09/Reda2017-Platform-regulations-how-platforms-are-regulated-and-how-they-regulate-us3.pdf>.
- Berners-Lee, Tim. 2008. “Web Foundation Creation Announcement.” World Wide Web Foundation. Video entitled “Tim Berners Lee Announces W3F” available at <https://vimeo.com/1761434>; Transcript available at <https://webfoundation.org/about/community/transcript-of-tim-berners-lee-video/>.
- Betancourt, Alba, et al. 2020. “Temas Relevantes de la Nueva Legislación de Derechos de Autor: Seminario Permanente: Propiedad Intelectual 2020-2.” Videoteca Jurídica Virtual [Webinar] Universidad Nacional Autónoma de México. <https://www.juridicas.unam.mx/videoteca/evento/2442-seminario-permanente-de-propiedad-intelectual-2020-2#!>.
- Borisyuk, Fedor, Albert Gordo, and Viswanath Sivakumar. 2018. “Rosetta: Large Scale System for Text Detection and Recognition in Images.” *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining*. July. <https://doi.org/10.1145/3219819.3219861>. Available at <https://arxiv.org/abs/1910.05085>.
- Cambridge Consultants. 2019. “Report on the Use of AI in Online Content Moderation; 2019 Report Produced on Behalf of Ofcom.” London: Ofcom. https://www.ofcom.org.uk/data/assets/pdf_file/0028/157249/cambridge-consultants-ai-content-moderation.pdf.
- Centrum Cyfrowe Foundation. 2019. “Poland Challenges Copyright Upload Filters Before the CJEU.” *EDRI*. September 11, 2019. <https://edri.org/our-work/poland-challenges-copyright-upload-filters-before-the-cjeu/>.
- Chaturvedi, Arpan. 2021. “Intermediary, Social Media Guidelines Challenged in Courts by Digital News Portals.” *Bloomberg Quint*. March 10, 2021. <https://www.bloomberquint.com/law-and-policy/intermediary-and-social-media-guidelines-challenged-in-courts-by-digital-news-portals>.
- Chavannes, Remy. 2020. “The Dutch DSM Copyright Transposition Bill: Safety First (Up to a Point) – Part 2.” *Kluwer Copyright Blog*. June 11, 2020. <http://copyrightblog.kluweriplaw.com/2020/06/11/the-dutch-dsm-copyright-transposition-bill-safety-first-up-to-a-point-part-2/>.

- Datoo, Siraj. 2013. “France Drops Controversial ‘Hadopi Law’ After Spending Millions”. *The Guardian*. July 10, 2013. <https://www.theguardian.com/technology/2013/jul/09/france-hadopi-law-anti-piracy>.
- Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on Certain Legal Aspects of Information Society Services, in Particular Electronic Commerce, in the Internal Market (“Directive on Electronic Commerce”). 2000. OJ L 178, 17.7.2000. <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32000L0031>.
- Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018 Amending Directive 2010/13/EU on the Coordination of Certain Provisions Laid Down by Law, Regulation or Administrative Action in Member States Concerning the Provision of Audiovisual Media Services (Audiovisual Media Services Directive) in View of Changing Market Realities. PE/33/2018/REV/1. OJ L 303, 28.11.2018. <https://eur-lex.europa.eu/eli/dir/2018/1808/oj>.
- Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on Copyright and Related Rights in the Digital Single Market and Amending Directives 96/9/EC and 2001/29/EC (Text with EEA relevance). 2019. PE/51/2019/REV/1:OJ L 130, 17.5.2019. <https://eur-lex.europa.eu/eli/dir/2019/790/oj>.
- Doctorow, Cory. 2015. *Information Doesn’t Want to Be Free, Laws for the Internet Age*. San Francisco: McSweeney’s.
- Doctorow, Cory. 2020a. *Mexico’s New Copyright Law: Copying and Pasting USA’s Flawed Copyright System is a Human-rights Catastrophe. Appendix by Kit Walsh*. San Francisco: Electronic Frontier Federation. https://www.eff.org/files/2020/07/31/mexicos_new_copyright_law.pdf.
- Doctorow, Cory. 2020b. “Mexico’s New Copyright Law Puts Human Rights in Jeopardy.” Electronic Frontier Federation (blog). July 24. <https://www.eff.org/deeplinks/2020/07/mexicos-new-copyright-law-puts-human-rights-jeopardy>.
- Engstrom, Evan and Nick Feamster. 2017. *The Limits of Filtering: A Look at Functionality & Shortcomings of Content Detection Tools*. Washington, DC: Engine. <https://static1.squarespace.com/static/571681753c44d835a440c8b5/t/58d058712994ca536bbfa47a/1490049138881/FilteringPaperWebsite.pdf>.
- Erickson, Kris, Martin Kretschmer, and Dinusha Mendis. 2013. *Copyright and the Economic Effects of Parody: An Empirical Study of Music Videos on the YouTube Platform and an Assessment of the Regulatory Options: Parody and Pastiche. Study III*. Newport: UK Intellectual Property Office. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/309903/ipresearch-parody-report3-150313.pdf.
- European Commission. 2015a. “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Digital Single Market Strategy for Europe.” <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2015%3A192%3AFIN>.
- European Commission. 2015b. “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Towards a Modern, More European Copyright Framework.” <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2015%3A626%3AFIN>.
- European Commission. 2016a. “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee

- of the Regions Online Platforms and the Digital Single Market Opportunities and Challenges for Europe.” [EUR-Lex – 52016DC0288 – EN – EUR-Lex \(europa.eu\)](#).
- European Commission. 2016b. “Synopsis Report on the Public Consultation on the Regulatory Environment for Platforms, Online Intermediaries and the Collaborative Economy.” <https://digital-strategy.ec.europa.eu/en/library/synopsis-report-contributions-public-consultation-regulatory-environment-data-and-cloud-computing>.
- European Commission. 2016c. “Summary of Responses to the Public Consultation on the Evaluation and Modernisation of the Legal Framework for IPR Enforcement.” <https://ec.europa.eu/docsroom/documents/18661>.
- European Commission. 2016d. “Results of the Public Consultation on the Regulatory Environment for Platforms, Online Intermediaries, Data and Cloud Computing and the Collaborative Economy.” <https://wayback.archive-it.org/12090/20170401091641/https://ec.europa.eu/digital-single-market/en/news/results-public-consultation-regulatory-environment-platforms-online-intermediaries-data-and->
- European Commission. 2020a. “Proposal for a Regulation of the European Parliament and of the Council on a Single Market For Digital Services (Digital Services Act) and Amending Directive 2000/31/EC. COM/2020/825 final.” <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=COM:2020:825:FIN>; <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0825&from=en>.
- European Commission. 2020b. “Commission Staff Working Document, Impact assessment on a Proposal for a Regulation on a Single Market for Digital Services.” <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD:2020:348:FIN>.
- European Commission. 2021. “Communication from the Commission to the European Parliament and the Council: Guidance on Article 17 of Directive 2019/790 on Copyright in the Digital Single Market.” <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1625142238402&uri=CELEX%3A52021DC0288>.
- European Digital Rights (EDRI). 2018. “Upload Filters Endanger Freedom of Expression.” May 16, 2018. <https://edri.org/our-work/upload-filters-endanger-freedom-of-expression/>.
- European Union Intellectual Property Office. 2019. “Online Copyright Infringement in the European Union: Music, Films and TV (2017–2018), Trends and Drivers.” doi: 10.2814/907556. https://euiipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/quantification-of-ipr-infringement/online-copyright-infringement-in-eu/online_copyright_infringement_in_eu_en.pdf.
- European Union Intellectual Property Office. 2021. “Online Copyright Infringement in the European Union Music, Films and TV (2017–2020): Trends and Drivers.” doi:10.2814/505158. https://euiipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/online-copyright-infringement-in-eu/2021_online_copyright_infringement_in_eu_en.pdf.
- France. 2021. “Code de la propriété intellectuelle/Intellectual Property Code.” <https://www.legifrance.gouv.fr/codes/id/LEGITEXT000006069414/>.
- Friedmann, Danny. 2020. “Oscillating from Safe Harbor to Liability: China’s IP Regulation and Omniscient Intermediaries.” In *The Oxford Handbook of Online Intermediary Liability*, edited by Giancarlo Frosio, 277–294. Oxford University Press. Available at https://www.researchgate.net/publication/316991001_Oscillating_from_Safe_Harbor_to_Liability_China's_IP_Regulation_and_Omniscient_Intermediaries_in_THE_oxford_Handbook_of_Online_Intermediary_Liability_Giancarlo_Frosio_ed_Oxford_OUP_2020_277-294.

- Frosio, Giancarlo. 2019. "Reforming the C-DSM Reform: A User-based Copyright Theory for Commonplace Creativity." *Center for International Intellectual Property Studies. Research Paper*, No. 12. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3500722.
- Frosio, Giancarlo and Christophe Geiger. 2020. "Taking Fundamental Rights Seriously in the Digital Services Act's Platform Liability Regime." *European Law Journal*. Forthcoming. Available <https://ssrn.com/abstract=3747756>.
- Frosio, Giancarlo, and Martin Husovec. 2020. "Accountability and Responsibility of Online Intermediaries." In the *Oxford Handbook of Online Intermediary Liability*, edited by Giancarlo Frosio, 613–630. Oxford: Oxford University Press. Available at https://www.researchgate.net/publication/336049678_Accountability_and_Responsibility_of_Online_Intermediaries.
- Gann, Alexander, and David Abecassis. 2018. *The Impact of a Content Filtering Mandate on Online Service Providers*. Drafted by Analysys Mason and commissioned by Allied for Startups. <https://www.analysismason.com/contentassets/a5fe19f42b1e4ca69666fa7f45960012/impact-of-a-content-filtering-mandate---2018-06-08---full-report.pdf>.
- Gauntlett, David. 2013. "Creativity and Digital Innovation." In *Digital World: Connectivity, Creativity and Rights*, edited by Gillian Youngs, 75–128. Abingdon: Routledge. Available at <https://davidgauntlett.com/wp-content/uploads/2013/05/Gauntlett-Creativity-and-Digital-Innovation-2013.pdf>.
- Germany. 2021. "Urheberrechts-Diensteanbieter-Gesetz (UrhDaG)/Act on Copyright Liability of Online Content Sharing Service Providers." <https://www.gesetze-im-internet.de/urhdag/UrhDaG.pdf>; English translation available at https://www.bmjv.de/SharedDocs/Gesetzgebungsverfahren/Dokumente/UrhDaG_ENG.pdf?__blob=publicationFile&v=3.
- Haggart, Blayne. 2014. *Copyright: The Global Politics of Digital Copyright Reform*. Toronto: University of Toronto Press.
- Husovec, Martin, 2016. "Accountable, Not Liable: Injunctions Against Intermediaries." *TILEC Discussion Paper* series 2016–012. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2773768.
- Jacques, Sabine, Krysztof Garstka, Morten Hviid, and John Street. 2017. "The Impact on Cultural Diversity of Automated Anti-Piracy Systems as Copyright Enforcement Mechanisms: An Empirical Study of YouTube's Content ID Digital Fingerprinting Technology." DOI:10.13140/RG.2.2.14443.54560. https://www.researchgate.net/publication/312578373_THE_IMPACT_ON_CULTURAL_DIVERSITY_OF_AUTOMATED_ANTI-PIRACY_SYSTEMS_AS_COPYRIGHT_ENFORCEMENT_MECHANISMS_AN_EMPIRICAL_STUDY_OF_YOUTUBE'S_CONTENT_ID_DIGITAL_FINGERPRINTING_TECHNOLOGY.
- Jacques, Sabine, Krysztof Garstka, Morten Hviid, and John Street. 2018. "Automated Anti-piracy Systems as Copyright Enforcement Mechanism: A Need to Consider Cultural Diversity." *European Intellectual Property Review* 40, no. 4: 218. Available at <https://research-portal.uea.ac.uk/en/publications/automated-anti-piracy-systems-as-copyright-enforcement-mechanism>.
- Japiot, Oliver. 2017. "Copyright Protection on Digital Platforms: Existing Tools, Good Practice and Limitations." Report for the French Ministry of Culture High Council or Literary and Artistic Property Report by the Research Mission on Recognition Tools for Copyright Protected Content on Digital Platforms. Report submitted to the Conseil Supérieur de la Propriété Littéraire et Artistique. <https://www.culture.gouv.fr/content/download/185905/>

- [file/CSPLA%20report-%20Copyright%20protection%20on%20digital%20platforms%20.pdf](#).
- Keller, Paul. 2020. "Finnish Article 17 Implementation Proposal Prohibits the Use of Automated Upload Filters." *Kluwer Copyright Blog*, December 23 2020. <http://copyrightblog.kluweriplaw.com/2020/12/23/finnish-article-17-implementation-proposal-prohibits-the-use-of-automated-upload-filters/>.
- Khan, Irene, Clement Nyaletsossi Voule, and Joseph Cannataci. 2021. "Mandates of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression; the Special Rapporteur on the Rights to Freedom of Peaceful Assembly and of Association and the Special Rapporteur on the Right to Privacy." Geneva: United Nations. <https://spcommreports.ohchr.org/TMResultsBase/DownloadPublicCommunicationFile?gld=26385>.
- Krishnamurthy, Vivek, Abby Lee Lenner, Meghan Sali, Velo-Vincent Van Houden, Sarah Crothers, Jessica Nguyen, Jessica Fjeld, and Benjamin Horton. 2020. "CDA 230 Goes North American? Examining the Impacts of the USMCA's Intermediary Liability Provisions in Canada and the United States." Report for CIPPIC—The Samuelson-Glushko Canadian Internet Policy and Public Interest Clinic at the University of Ottawa; Cyberlaw Clinic, Harvard Law School Berkman Klein Center for Internet & Society at Harvard University. Boston, Mass: CIPPIC and Cyberlaw Clinic. Available at <https://ssrn.com/abstract=3645462>.
- Krokida, Zoi. 2021. "Towards a wider scope for the duty of care of host internet service providers: The case of *Eva Glawischnig-Piesczek v Facebook*." *European Intellectual Property Review* 43, no. 5: 313–321.
- Krokida, Zoi. 2022. *Internet Service Provider Liability for Copyright and Trade Mark Infringement: Towards an EU Co-Regulatory Framework*. Oxford: Hart Publishing.
- La Rue, Frank. 2011. "Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression, Frank La Rue." United Nations. General Assembly. Human Rights Council Seventeenth Session Agenda item 3 Promotion and protection of all human rights, civil, political, economic, social and cultural rights, including the right to development. A/HRC/17/27. <https://www.icnl.org/wp-content/uploads/A.HRC.17.27.en.pdf?ga=2.245904896.583816022.1628145835-551724802.1628>.
- Laidlaw, Emily. 2012. "Internet Gatekeepers, Human Rights and Corporate Social Responsibilities." PhD thesis. London School of Economics and Political Science. Available at <http://etheses.lse.ac.uk/317/>.
- Laidlaw, Emily. 2019. "Mapping Current and Emerging Models of Intermediary Liability." A report prepared for the Canadian Broadcasting and Telecommunications Legislative Review Panel. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3574727. Final report: *Canada's Communications Future: Time to Act* Available at <http://www.ic.gc.ca/eic/site/110.nsf/eng/00012.html>.
- Literat, Ioana and Glaveanu, Vlad Petre. 2018. "Distributed Creativity on the Internet." *International Journal of Communication* 12: 893–908. Available at <https://ijoc.org/index.php/ijoc/article/view/7621/2275>.
- Marsoof, Althaf. 2015. "'Notice and Take down': A Copyright Perspective". *Queen Mary Journal of Intellectual Property Law* 5, no. 2: 183-205. DOI:10.4337/qmjip.2015.02.04. Available at https://www.researchgate.net/publication/276163075_'Notice_and_takedown'_A_copyright_perspective.

- Masnick, Mike. 2019a. “After Insisting That EU Copyright Directive Didn’t Require Filters, France Immediately Starts Promoting Filters.” *Techdirt*. March 28 2019. <https://www.techdirt.com/articles/20190327/17141241885/after-insisting-that-eu-copyright-directive-didnt-require-filters-france-immediately-starts-promoting-filters.shtml>.
- Masnick, Mike. 2019b. “EU Commissioner Gunther Oettinger Admits: Sites Need Filters to Comply with Article 13.” *Techdirt*. April 3 2019. <https://www.techdirt.com/articles/20190329/15501341902/eu-commissioner-gunther-oettinger-admits-sites-need-filters-to-comply-with-article-13.shtml>.
- Melart, Samuli. 2022. “The Finnish Transposition of Article 17 of Directive 2019/790: Progress or Regress?” *Journal of Intellectual Property Law & Practice* 17, no. 5,:437–442, <https://doi.org/10.1093/jiplp/jpac030>. Available at <https://research.utu.fi/converis/portal/detail/Publication/175105908>.
- Mexico. 2014. “Ley Federal del Derecho de Autor/ Federal Law of the Authors’ Rights; Texto Refundido Publicado en el Diario Oficial de la Federación el 14 de julio de 2014.” <https://wipolex.wipo.int/en/text/468140>.
- Milano, Dominic. 2012. *Content Control: Digital Watermarking and Fingerprinting; White Paper*. Rhozet Business Unit. https://www.digimarc.com/docs/default-source/technology-resources/white-papers/rhozet_wp_fingerprinting_watermarking.pdf.
- Mileszyk, Natalia. 2019. “The Copyright Directive Challenged in the CJEU by Polish Government.” *Communia. Policy Recommendation no. 11*. <https://www.communia-association.org/2019/06/01/copyright-directive-challenged-cjeu-polish-government/>.
- Mochon, Jean-Philippe, Sylvain Humbert, Cara Menaldi, Didier Wang, Pauline Blassel, and Laetitia Facon. 2020. “Mission Report: Towards More Effectiveness of Copyright Law on Online Content Sharing Platforms: Overview of Content Recognition Tools and Possible Ways.” Report prepared for the French Ministry of Culture Conseil Supérieur de la Propriété Littéraire et Artistique (CSPLA)/Higher Council on Literary and Artistic Property National Centre for Cinema and the Moving Image High Authority or the Dissemination of Works and the Protection of Rights on the Internet. <https://www.culture.gouv.fr/content/download/265045/file/Mission%20Report%20Content%20Recognition%20Tools%20ENG%20V.pdf?inLanguage=fr-FR>.
- Moreno, Felipe Romero. 2020. “‘Upload Filters’ and Human Rights: Implementing Article 17 of the Directive on Copyright in the Digital Single Market.” *International Review of Law, Computers & Technology* 34, no. 2: 153–182. <https://www.tandfonline.com/doi/full/10.1080/13600869.2020.1733760>.
- The Netherlands. 2021. “Auteurswet/Copyright Act.” <https://wetten.overheid.nl/BWBR0001886/2021-06-07>.
- Nobre, Teresa. 2021. “The German Model to Protect User Rights When Implementing Article 17.” *Communia. Policy Recommendation no. 7*, January 27, 2021. <https://www.communia-association.org/2020/07/02/german-model-protect-user-rights-implementing-article-17/>.
- Nordemann, Jan Bernd, and Julian Waiblinger. 2020. “Art. 17 DSMCD: A Class of its Own? How to Implement Art. 17 into the Existing National Copyright Acts, Including a Comment on the Recent German Discussion Draft – Part 1.” *Kluwer Copyright, Blog*. July 16 2020. <http://copyrightblog.kluweriplaw.com/2020/07/16/art-17-dsmcd-a-class-of-its-own-how-to-implement-art-17-into-the-existing-national-copyright-acts-including-a-comment-on-the-recent-german-discussion-draft-part-1/>.

- O'Brien, Danny, and Jeremy Malcolm. "70+ Internet Luminaries Ring the Alarm on EU Copyright Filtering Proposal." *Electronic Frontier Federation (EFF)*. June 12, 2018. <https://www.eff.org/deeplinks/2018/06/internet-luminaries-ring-alarm-eu-copyright-filtering-proposal>.
- Oltermann, Philip. 2018. "Tough New German Law Puts Tech Firms and Free Speech in Spotlight." *The Guardian*. January 5 2018. <https://www.theguardian.com/world/2018/jan/05/tough-new-german-law-puts-tech-firms-and-free-speech-in-spotlight>.
- Papacharissi, Zizi. 2008. "The Virtual Sphere 2.0: The Internet, the Public Sphere, and Beyond." In *Handbook of Internet Politics*, edited by Andrew Chadwick and Philip Howard, 230–45. Abingdon: Routledge. Available at https://zizi.people.uic.edu/Site/Research_files/HIP%20-%20Papacharissi.pdf.
- Perset, Karine. 2010. "The Economic and Social Role of Internet Intermediaries", *OECD Digital Economy Papers*, No. 171. Paris: OECD Publishing. <https://doi.org/10.1787/5kmh79zsz8vb-en>.
- Reda, Felix. 2020. "In Copyright Reform, Germany Wants to Avoid Over-blocking, Not Rule Out Upload Filters – Part 1". *Kluwer Copyright Blog*. July 9 2020. <http://copyrightblog.kluweriplaw.com/2020/07/09/in-copyright-reform-germany-wants-to-avoid-over-blocking-not-rule-out-upload-filters-part-1/>.
- Reda, Felix, and Paul Keller. 2021. "European Commission Back-tracks on User Rights in Article 17 Guidance." *Kluwer Copyright Blog*. June 4 2021. <http://copyrightblog.kluweriplaw.com/2021/06/04/european-commission-back-tracks-on-user-rights-in-article-17-guidance/>.
- Reda, Felix, and Joschka Selinger. 2021a. "Germany Attempts to Square the Circle in its Implementation of Article 17 CDSMD – Part 1." *Kluwer Copyright Blog*. June 2 2021. <http://copyrightblog.kluweriplaw.com/2021/06/02/germany-attempts-to-square-the-circle-in-its-implementation-of-article-17-cdsmd-part-1/>.
- Reda, Felix, and Joschka Selinger. 2021b. "Germany Attempts to Square the Circle in its Implementation of Article 17 CDSMD – Part 2." *Kluwer Copyright Blog*. June 3 2021. <http://copyrightblog.kluweriplaw.com/2021/06/03/germany-attempts-to-square-the-circle-in-its-implementation-of-article-17-cdsmd-part-2/>.
- Rodriguez, Katitza, Sasha Mathew, and Christoph Schmon. 2021. "India's Strict Rules for Online Intermediaries Undermine Freedom of Expression." San Francisco: Electronic Frontier Federation. <https://www.eff.org/deeplinks/2021/04/indias-strict-rules-online-intermediaries-undermine-freedom-expression>.
- Rowland, Diane, Uta Kohl, and Andrew Charlesworth. 2017. *Information Technology Law*. 5th ed. Abingdon: Routledge.
- Sag, Matthew. 2012. "Predicting Fair Use." *Ohio State Law Journal* 73, no. 1: 47–91. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1769130.
- Sartor, Giovanni and Andrea Loreggia. 2020. *The Impact of Algorithms for Online Content Filtering or Moderation: Upload Filters*. Commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs at the request of the JURI Committee Brussels: European Parliament. [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/657101/IPOL_STU\(2020\)657101_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/657101/IPOL_STU(2020)657101_EN.pdf).
- Spoerri, Thomas. 2019. "On Upload-filters and Other Competitive Advantages for Big Tech Companies Under Article 17 of the Directive on Copyright in the Digital Single Market." *Journal of Intellectual Property, Information Technology and E-Commerce Law* 10, no. 2: 173–186. <https://www.jipitec.eu/issues/jipitec-10-2-2019/4914>.

- Statista. 2021. “Number of Monthly Active Facebook Users Worldwide as of 2nd Quarter 2021.” <https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/>.
- Stil, Viveka. 2020. “Public Hearing of the Transposition of Article 17 in Finland.” https://api.hankeikkuna.fi/asiakirjat/ea5be8e5-c718-4049-8836-5d7fa9589c18/34982413-2d74-40ff-984f-c7f987181638/ESITYS_20201221112608.pdf
- Urban, Jennifer, Joe Karaganis, and Brianna Schofield. 2017. “Notice and Takedown in Everyday Practice.” *UC Berkeley Public Law Research Paper No. 2755628*. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2755628.
- Vincent, James. 2020. “YouTube Brings Back More Human Moderators After AI Systems Over-censor.” *The Verge*. September 21, 2020. <https://www.theverge.com/2020/9/21/21448916/youtube-automated-moderation-ai-machine-learning-increased-errors-takedowns>.
- Von der Leyen, Ursula. 2020. “State of the Union Address 2020.” https://ec.europa.eu/info/sites/default/files/soteu_2020_en.pdf.
- Wang, Jie. 2016. *Regulating Hosting ISPs’ Responsibilities for Copyright Infringement: The Freedom to Operate in the US, EU and China*. Doctoral thesis. Maastricht University. <https://cris.maastrichtuniversity.nl/ws/portalfiles/portal/4737875/c5439.pdf>.
- World Intermediary Liability Map (WILMap). 2014a. “Beijing Higher People’s Court [北京市高级人民法院], Zhong Qin Wen v. Baidu [中青文v. 百度], 2014 Gao Min Zhong Zi No. 2045, [2014] 高民终字第2045号, 2014” <https://wilmap.stanford.edu/entries/beijing-higher-peoples-court-beijingshigaojirenminfayuan-zhong-qin-wen-v-baidu>.
- World Intermediary Liability Map (WILMap). 2014b. “Ley de Telecomunicaciones y Radiodifusión [Broadcasting and Telecommunications Act].” <https://wilmap.stanford.edu/entries/ley-de-telecomunicaciones-y-radiodifusion-broadcasting-and-telecommunications-act>.
- World Intermediary Liability Map (WILMap). 2020. “Provisions on the Governance of the Online Information Content Ecosystem: Order of the Cyberspace Administration of China (no 5).” <https://wilmap.stanford.edu/entries/provisions-governance-online-information-content-ecosystem>.
- World Intermediary Liability Map (WILMap). 2010. “Mexico: Copyright Amendment Bill, implementing a Three Strike System, Introduced on April 27, 2010.” <https://wilmap.stanford.edu/entries/copyright-amendment-bill-implementing-three-strike-system-introduced-april-27-2010>.