An EU Copyright Framework for Research: Opinion of the European Copyright Society

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Executive Summary: Research and academic freedom are at the core of the EU project. Yet, the relationship between EU copyright law and research is intricate. Research and education interests have traditionally been recognized within copyright law to some degree, however, the current EU copyright *acquis* is not really conducive to an effective research environment. This jeopardises the fulfilment of the EU's ambitions in the field.

Building on the pillars of action of the European Research Area (ERA) Policy Agenda 2022-2024 and its follow-up, the ECS emphasises the need for a copyright framework that fosters research, and supports the call for immediate action on the EU copyright framework to address the most pressing challenges it raises for European researchers and their institutions.

This Opinion stresses the need to ensure a proper balance between IP rights, protected under Article 17(2) CFREU, and the freedom of art and science (Article 13 CFREU), coupled with the 'right to research', as enshrined in international legal instruments (UDHR and ICESCR), the objectives of the EU treaties, and the CFREU and ECHR. Various EU and national legal instruments are in place that facilitate access and reuse of scientific works, but these have several shortcomings. They weaken the effective balance between copyright, research policy needs, and the fulfilment of ERA policy goals, including the EU Open Science agenda.

This opinion focuses on the flaws in key provisions aimed at balancing copyright and research needs: the general InfoSoc Directive research exception, the text and data mining exception of the CDSM Directive and national secondary publication rights. It also briefly assesses the interface between copyright and (research) data regulation. We propose several policy interventions to address the identified shortcomings. These include the introduction of an EU-wide secondary publication right with specific characteristics; the amendment of text and data mining exceptions; the creation of a general mandatory research exception overcoming the challenges raised by Article 5(3)(d) InfoSoc; and a more careful legislative drafting to reduce legal complexity and ensure consistency across copyright and data legislation.

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1. The Importance of Research

1 In the face of the complex challenges the EU is facing, there is an acute awareness that research must be put "at the heart of our economy"[1] and that education (skills) is of vital importance to ensure prosperous fair societies.

2 Research and academic freedom have been at the core of the EU project. This is evident from the creation of the European Research Area (ERA) 25 years ago, the progressively increasing targets for EU R&D investment, the consolidated multi-annual research Framework Programs (currently Horizon) and the extensive Commission policy agenda in the field. The EC's Open Science (OS) agenda and work towards an European Open Science Cloud (EOSC) foregrounds the importance of academic integrity, citizen involvement and access to research. In all this, academic freedom is a core value. Or, as Article 13 of the Charter of Fundamental Rights of the European Union (CFREU) and its precursors mandate, "The arts and scientific research shall be free of constraints. Academic freedom shall be respected".

3 In many cases there is no tension between academic

* The European Copyright Society (ECS) was founded in January 2012 with the aim of creating a platform for critical and independent scholarly thinking on European Copyright Law and policy. Its members are scholars and academics from various countries of Europe, seeking to articulate and promote their views of the overall public interest on all topics in the field of authors rights, neighbouring rights and related matters. The ECS is neither funded nor instructed by any particular stakeholders. Its Opinions represent the independent views of a majority of ECS members.

1 See European Commission, "A new plan for Europe's sustainable prosperity and competitiveness" and https://commission.europa.eu/priorities-2024-2029/competitiveness_en

freedom and intellectual property. However, when this happens, the clash should be resolved by striking a fair balance between conflicting fundamental rights, since Article 17(2) CFREU provides that "Intellectual property shall be protected'.

4 Research and education interests have traditionally been recognized within copyright laws to some degree, but the current copyright *acquis* is not conducive to an open and innovation-friendly research environment, thus jeopardising fulfilment of the EU's ambitions in the field.

5 Against this background, the most recent ERA Policy Agenda 2022-2024[2] identified four pillars of action: (i) to deepen a truly functioning internal market for knowledge"; (ii) to take up together the challenges posed by the twin green and digital transition, and increasing society's participation in the ERA; (iii) to amplify access to research and innovation excellence across the Union; and (iv) to advance concerted research and innovation investments and reforms.

6 Copyright law does not provide a specific regime for scientific works or, more generally, for works that stem from research activities. Save for circumscribed research exceptions, it does not grasp nor reflect in its structure the different needs, incentive drivers and characteristics of scientific authors and their outputs as compared to creators operating in the realm of cultural and creative sectors and industries (CCSIs), which traditionally constitute the core and *raison d'êtr*e of copyright law. Still, the copyright-research interface is rich and multifaceted. It comes into play for the regulation of publishing contracts and the relationship between scientific authors and publishers; when a researcher would like to share freely their published works through institutional or subject-specific repositories, or to get access to a resource their institution has not subscribed to, or to reuse a work they have lawfully acquired; when research consortia try to pool together the resources each partner has individual lawful access to; when a research team needs to perform text and data mining activities over a protected database. And the list may continue. Despite such numerous interactions, research is covered only with limited and fragmented copyright exceptions.

7 This lack of a holistic consideration of the interplay between copyright law and research and the need to shed light on the impact of copyright (and data) law on the fulfilment of EU research policy goals have been subject to analysis and comments in decades of studies and scholarly contributions, which have highlighted how "the freedom to access, use and reuse diverse knowledge resources – from repositories of literary and artistic works to more general data collections – is indispensable for research"; how "knowledge resources required for research are often subject to specific regulations that limit access and use",[3] from IP law (copyright, patent, trade secrets) to hybrid regimes such as database protection law; and how academic publishing and its governance of IP rights have become yet another stumbling block in the realization of a more equitable global research ecosystem.[4]

8 It does not come as a surprise, then, that among the actions envisioned under the first pillar of the ERA Policy Agenda 2022-2024, the second top priority is to "propose an EU copyright and data legislative and regulatory framework fit for research". To realize these objectives, the EC funded a study aimed at assessing the impact of EU and Member States' copyright and data legislation on access to and reuse of data and publications for research purposes. The study, published in 2024,[5] added yet another wealth of data and evidence of the wide array of obstacles copyright law poses to the realisation of a fully functioning European Research Area. Without the intention of being exhaustive, but only to focus on the most pressing challenges that the EU copyright framework raises for European researchers and their institutions, this Opinion offers a brief assessment of the shortcomings of the main existing instruments that have been introduced to balance copyright enforcement against research needs and goals (general research exception; text and data mining exception; secondary publication right; interface copyright-data regulation). On this basis, it proposes high-priority policy interventions to address such

2 European Commission - Directorate-General for Research and Innovation, "European Research Area Policy Agenda – Overview of actions for the period 2022-2024", Publication Office of the European Union, 2021.

3 Martin Senftleben, Kacper Szkalej, Caterina Sganga, Thomas Margoni, 'Towards a European Research Freedom Act: A Reform Agenda for Research Exceptions in the EU Copyright Acquis', forthcoming in IIC, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5130069.

4 Caterina Sganga, Thomas Margoni, Martin Senftleben, Kacper Szkalej, 'Towards a European Research Freedom Act: A Proposal for an EU-wide Secondary Publication Right' (January 12, 2025), available at https://ssrn.com/abstract=5134238.

5 European Commission: Directorate-General for Research and Innovation, 'Improving access to and reuse of research results, publications and data for scientific purposes – Study to evaluate the effects of the EU copyright framework on research and the effects of potential interventions and to identify and present relevant provisions for research in EU data and digital legislation, with a focus on rights and obligations', Publications Office of the European Union, 2024, available at https://data.europa.eu/doi/10.2777/633395 (last accessed 27 March 2023) (hereinafter ERA Study 2024). Disclosure: Margoni, Senftleben, Sganga and Van Eechoud were part of the team that authored this report.

flaws and create the conditions for an EU copyright framework fit for research and for the fulfilment of ERA policy goals.

9 For the purpose of the Opinion, the concept of "research" is intended as covering all forms of scientific[6] research (defined as such for they employ a scientific method, regardless of the domain of knowledge involved) performed in the interest of advancing public knowledge. In this sense, the definition is purposefully broader than the one adopted in Article 2 CSDMD, which the European Copyright Society has already criticized for its incapability to encompass all forms of scientific research activities fulfilling public interest goals (e.g. by excluding independent researchers or for-profit research endeavours).[7]

2. Research within the Context of Fundamental Rights

10 A 'right to research' as such does not exist explicitly in any of the international or European human right documents. However, it is implicitly included within international legal instruments and the two main European human rights instruments, as well as the objectives of the EU treaties.[8] The tension between copyright and research is contained at the very foundation of international human rights law. The Universal Declaration of Human Rights (UDHR),[9] on the one hand, guarantees "the right to freely participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits" while also requiring that authors receive protection for the "moral and material interests resulting from any scientific, literary or artistic production." Similarly, Article 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR)[10] contains a commitment from the signatories of the covenant to "respect the freedom indispensable for scientific research and creative activity."[11] In the same provision, two separate rights are expressed: on the one hand, everyone should have the right to "enjoy the benefits of scientific progress and its applications", on the other hand all persons should "benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author."[12] However, it can be argued that these seemingly separate statements are complementary and therefore systematically linked.

11 While the international human rights framework informs the interpretation of the rights and obligations arising under the European Convention on Human Rights (ECHR) and the EU Charter of Fundamental Rights,[13] at the EU level, the right to research can be constructed through a combined reading of several fundamental rights such as freedom of expression (Article 10 ECHR, Article 11 EU Charter), freedom of art and science (Article 13 EU Charter) and the right to education (Article 14 EU Charter). Furthermore, the right to research can be rooted in the objectives of the EU treaties, such as sustainability, scientific advancement and the commitment to a social market economy. For example, Article 3 (3) TEU calls for the establishment of an internal market, which is to "work for *sustainable development* of Europe based on balanced economic growth and price stability, a highly competitive *social market economy*, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote *scientific and technological advance*",[14] for which research is a fundamental prerequisite. Sustainable development has been defined in the EU context to mean "stimulating and encouraging economic development (e.g. more jobs, creativity, entrepreneurship and revenue), whilst protecting and improving important aspects (at the global and European level) of nature and society (inter alia natural assets, public health and fundamental rights) for the benefit of present and future generations."[15]

6 Note that the term "scientific" is used in the broadest sense, encompassing all disciplines and realms of knowledge and not only pure and applied sciences.

7 ECS, Comment of the European Copyright Society addressing selected aspects of the implementation of Articles 3 to 7 of Directive (EU) 2019/790 on Copyright in the Digital Single Market, 3 May 2022, available at https://europeancopyrightsociety.org/2022/05/03/https-europeancopyrightsocietydotorg-files-wordpress-com-2022-05-ecs_exceptions_final-1-pdf/.

8 See detailed Christophe Geiger and Bernd Justin Jütte, 'Conceptualizing a 'Right to Research' and its Implications for Copyright Law, An International and European Perspective', American University International Law Review 2023, Vol 38, Issue 1, p. 1. The next paragraph draws on this research.

9 Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217 A(III) (UDHR)

10 International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966 UNGA Res 2200 A (XXI) (ICESCR), UNTS vol. 993, p. 3.

11 ICESCR, art. 15(3), see also art. 27(1) UDHR.

12 ICESCR, art. 15(1)(b) and (c).

13 Charter of Fundamental Rights of the European Union [2012] OJ C 326/391.

14 Emphasis added.

15 See Sander R.W. van Hees, 'Sustainable Development in the EU: Redefining and Operationalizing the Concept', [2014] 10 Utrecht Law Review 62, at p. 75. See also at international level the so-called Brundtland-definition, based on the homonymous 1987 UN Commission (World Commission

12 Since research and education are key in order to develop new creative works while at the same time guaranteeing that access to knowledge is available for future generations, the principle of sustainability has started to be used to conceptualize an obligation of the EU to foster research through secondary legislation and calls for a "sustainable copyright law" have emerged.[16] In any case, research plays an important and very prominent role in the law and policy of the EU in recent years, as demonstrated by the numerous policy documents produced by the European Commission to emphasize the need to create a vibrant European ecosystem for research.[17] Therefore, a copyright framework that hinders research can be in direct conflict with the international and EU fundamental rights framework as well as with the policies developed by the EU.

3. The State of the Art: Where the Problems Lie

13 Despite the positive availability of a multitude of legal instruments in the EU *acquis* and national legislations that are meant to facilitate access to and reuse of scientific works,[18] a number of shortcomings in each of these provisions and in the general architecture of copyright law weaken the effective balance between copyright and research policy needs.

14 Challenges stem from the EU legislative strategy and drafting techniques, resulting in the inconsistent or vague language and contractual overridability of most research exceptions and limitations (E&Ls), and in the lack of coordination between general (InfoSoc Directive) and subject-specific (Software and Database Directives) provisions. They arise from the fragmentation of Member States' legislative solutions and judicial interpretations, chiefly caused by the optional nature of the great majority of research E&Ls, or by the vague language of some mandatory exceptions. The same can be said for the problematic interplay and misalignment between copyright and data-related legislations, and for the large room left to freedom of contract and its impact on the balance of conflicting interests set by copyright law. Several critiques have also targeted specific E&Ls, such as Article 3 CDSMD on text and data mining, or entire acts, such as the Database Directive, for their restrictive rather than enabling impact on access to and reuse of copyright-protected materials. More generally, the lack of harmonization of copyright contract law[19] in the field of publishing of scientific works is commonly understood as a major obstacle for the fulfilment of ERA policy goals.

15 Within the context of ERA, the EU promotes greater access and reuse of scientific knowledge through Open Science (OS) policies, of which Open Access (OA) to scientific outputs is a major component. The backbone of EU OS goals has been first outlined in the EC Recommendation on access to and preservation of scientific information (2012),[20] which invited Member States to develop "clear policies for the dissemination of scientific publications produced within publicly funded research activities and open access to them"[21] by, *inter alia*, mandating OA for publications that stem from publicly funded research activities, immediately and in any case not more than six/twelve months after the date of first publication.[22] The objective was later operationalised in two further Recommendations, calling for the facilitation of open sharing of metadata[23] and the formulation of clear policies to preserve and reuse scientific information.[24] OA and Open Data Policies are now integrated in the EU's framework programme. All research products funded through Horizon Europe must in principle be made available as OA, and research data published as FAIR (findable,

on Environment and Development (WCED), Our Common Future, 1987, Chapter 2, para. 1.), where sustainability is commonly defined as "meeting the needs of the present whilst ensuring future generations can meet their own needs."

16 See e.g. with further references Christophe Geiger and Bernd Justin Jütte, 'The Right to Research as Guarantor for Sustainability, Innovation and Justice in EU Copyright Law', in: T. Pihlajarinne, J. Mähönen and P. Upreti (eds.), *Rethinking the Role of Intellectual Property Rights in the Post Pandemic World: An Integrated Framework of Sustainability, Innovation and Global Justice*, Edward Elgar, 2023, p. 138 sq.;

17 For further references, see above section 1 of the Opinion; Geiger and Jütte, note 9; Christophe Geiger and Bernd Justin Jütte, 'Copyright, the Right to Research and Open Science: About Time to Connect the Dots', in E. Bonadio and C. Sganga (eds), *A Research Agenda for EU Copyright Law*, Edward Elgar, 2025, p. 149.

18 The term "scientific work" is hereby used to refer to all research outputs in all disciplines and realms of knowledge, and not only in pure and applied sciences, in line with the specification provided supra (n 6).

19 The EU competence in the field may be based on the same ground (Article 115 TFEU) that supported the intervention on copyright contracts and author's remuneration with Articles 18 et seq CDSMD.

20 Commission Recommendation of 17 July 2012 on access to and preservation of scientific information, OJ L 194, 21/07/2012, p. 39–43.

21 Ibid Recommendation 1.

22 Ibid.

23 Commission, 'OSPP-REC - Open Science Policy Platform Recommendations' (Directorate-General for Research and Innovation, 2018), <https://data.europa.eu/doi/10.2777/958647> (last accessed 27 March 2025).

24 Commission Recommendation (EU) 2018/790 of 25 April 2018 on access to and preservation of scientific information, C/2018/2375, OJ L 134, 31.5.2018, p. 12–18.

accessible, interoperable, and reusable).

16 Since 2012, OS initiatives have been undertaken at different levels and with a different pace across Member States, mostly via soft law tools, and in line with the EU priorities.[25] Ambitious objectives, however, have often remained aspirational statements lacking effective implementation measures, as testified by the very low percentage of OA publications (mostly Green OA) circulating within the ERA also in recent years.[26] Various reasons are put forward to explain the limited success of OS policies - legal, economic, organisational, as well as technological. Along with scientific practices and regulatory approaches to hiring/promotion and research evaluation processes, which favour high-impact, often proprietary journals and well-functioning proprietary databases, important legal obstacles stem from a lack of true harmonization of national E&L and copyright contract rules. In combination with the territorial nature of copyright, this has resulted in continued legal uncertainty and related chilling effects on scientific authors and institutions willing to engage in OS actions, particularly when cross-border activities are involved.[27] In addition, the effectiveness of E&L has been curtailed by their contractual overridability and by the application of technological protection measures, while publishing contracts have often banned the possibility to resort to free (Green) OA options.

17 Against this background, the EC report "Open Science and Intellectual Property Rights" (2018)[28] explicitly highlighted the misalignment between the EU OS agenda and the approach followed in the context of the harmonization of EU copyright and database laws, followed by the ERA Policy Agenda 2022-2024 and its priority of proposing "an EU copyright and data legislative and regulatory framework fit for research".

18 The ECS wishes to support the call for an immediate action on the EU copyright framework to address the most pressing challenges the EU copyright framework raises for European researchers and their institutions. To this end, this Opinion offers an overview of the flaws affecting the key instruments that have been introduced to balance copyright enforcement against research needs (general research exception; text and data mining exception; secondary publication right; interface copyright-data regulation). On this basis, it offers concise policy recommendations to tackle such challenges and create the conditions for an EU copyright framework fit for research and for the fulfilment of ERA policy goals.

a.) General Research Exception

19 With Article 5(3)(a) ISD, Articles 6(2)(b) and 9(b) of the Database Directive (DBD) and Article 10(1)(d) of the Rental, Lending and Related Rights Directive (RLRD), the copyright acquis provides for an exception that globally refers to use for purposes of "scientific research." Article 5(3)(a) ISD, for instance, reads as follows:

> *Member States may provide for exceptions or limitations to the rights provided for in Articles 2 and 3 [the reproduction right and the right of communication to the public] in the following cases: (a) use for the sole purpose of illustration for teaching or scientific research, as long as the source, including the author's name, is indicated, unless this turns out to be impossible and to the extent justified by the non-commercial purpose to be achieved;...*

20 Evidently, the provision is not confined to specific forms of research or specific research tools, methodologies, collaborations, research settings etc. It deals with scientific research in a broad, general manner. The same can be said about its DBD and RLRD counterparts. At first sight, these provisions, thus, seem to inject considerable flexibility into the EU copyright and database protection system. However, a closer look reveals several conceptual problems.

21 First, Article 5(3)(a) ISD, Articles 6(2)(b) and 9(b) DBD and Article 10(1)(d) RLRD are "may" provisions. This optional nature implies that Member States are not bound to implement the exemption of use for scientific research purposes in a standardised form. As a result, national research provisions based on Article 5(3)(a) ISD – the most widely transposed research exception of the EU acquis – differ in relation to beneficiaries, works covered, the scope of permitted use, the exclusive rights covered (reproduction and/or communication to the public), conditions of applicability, remuneration requirements and safeguards against contractual

25 For an overview, see ERA Study 2024, pp 399-452.

26 In 2018, only 36% of publications were in OA, with percentages varying from 52% in the United Kingdom to 49% in the Netherlands, 43% in Spain, 41% in France, and 40% in Italy. The most widespread format is the Green OA model (between 70 and 80%), while the Gold version usually covers around 15-20% of the total.

27 This problem has been repeatedly highlighted by researchers and research performing organizations participating at the survey conducted within the framework of the ERA Study 2024, pp 78-80.

28 Commission, 'Open Science and Intellectual Property Rights' (Directorate-General for Research and Innovation, 2022) <https://data.europa.eu/doi/10.2777/347305> (last accessed 27 March 2025).

override. Quite clearly, this diversity is not conducive to cross-border research activities. It poses challenges to joint research activities in transnational consortia. Research use that is permissible in one Member State may amount to infringement in other Member States that have followed a more restrictive implementation strategy.

22 Second, legal uncertainty with a corrosive effect on research activities can arise from conceptual inconsistencies, mostly due to the improper juxtaposition of teaching and research under the same exceptions. In the context of Article 5(3)(a) ISD and Articles 6(2)(b) and 9(b) DBD, for instance, it is unclear whether the illustration requirement only concerns teaching or is intended to cover use for research purposes as well. Divergent national implementation practices show that both interpretations have informed lawmaking in EU Member States.

23 Third, the research exceptions in the EU *acquis* differ with regard to the spectrum of exclusive rights. While Article 5(3)(a) ISD covers both reproduction and communication to the public, Article 9(b) DBD only covers acts of reproduction ("extraction" in the terminology used in the context of the sui generis database right). The Software Directive (SWD) does not even contain a scientific research provision, and it is unclear whether the existing rules on studying, testing and decompiling computer programs are capable of providing comparable breathing space for research use. The asymmetry between the general research provisions in different EU directives is likely to pose difficulties in the context of research projects. The lack of an entitlement to make protected elements of a database available to the public can lead to a situation where researchers in a larger consortium are inhibited from sharing data resources (extracted from a protected database) with colleagues. It cannot be ruled out that the circle of researchers belonging to a broader research consortium, such as a group of researchers consisting of several teams in different EU Member States, is deemed a relevant public in the sense of copyright and sui generis database law. Accordingly, the sharing of protected database contents within this circle of researchers amounts to an act of making available to the public. As the research exemption in Article 9(b) DBD does not cover the re-utilisation – the making available to the public – of protected database contents, this use falls outside the scope of the use privilege and requires an authorisation for each protected database element. In addition, the missing limitation of the right of making available to the public will prevent researchers from sharing research results with the broader academic community – or the public at large – if these research results contain protected elements of a database. Hence, it is hardly possible to check the replicability of the scientific analysis and verify research results.

24 Fourth, the requirement of use for a "non-commercial purpose" further enhances the legal complexity surrounding the exceptions laid down in Article 5(3)(a) ISD and Articles 6(2)(b) and 9(b) DBD. The requirement also appears outdated, especially in light of the evolving nature of research practices that increasingly involve collaborations with private partners and public-private partnerships, often encouraged and even required by European and national research funding schemes. When the non-commercial use requirement is applied strictly, the mere possibility of research yielding results that can be exploited commercially may already bar researchers from invoking the research exception. As a result, even the commercialisation of research output by technology offices of publicly funded research institutions may create legal complications for researchers who initially – while conducting the research – relied on the research exemption under the assumption of non-commercial use and learned only afterwards – when the project was completed – that the results would be exploited commercially.

25 Fifth, the current lack of a research exception in the area of computer programs leads to imbalances. The EU acquis treats copyright holders in the realm of software (no exposure to an exception for scientific research according to the SWD) more favourably than other right holders who must tolerate certain research freedoms. Conversely, the absence of a general research provision in the SWD disadvantages researchers who need software resources, when their position is compared with colleagues who can invoke the aforementioned research provisions with regard to other work categories and databases.

26 Sixth, it must not be overlooked that in addition to the described issues arising from the wording of the research provisions themselves, the EU acquis poses additional hurdles. The overarching requirement to ensure compliance with the three-step test laid down in Article 5(5) ISD gives rise to the question whether researchers must explain – potentially even with regard to each individual project – that the intended use of resources enjoying protection constitutes a "special case." Moreover, they may have to rebut allegations that the use carried out in a research project has a corrosive effect on the normal exploitation of protected works and/or unreasonably prejudices legitimate interests of right holders.

27 Finally, legal uncertainty and use restrictions can follow from Technological Protection Measures (TPMs) that serve as electronic fences preventing access and use for research purposes. Article 6(4), subparagraph 4, ISD makes this additional legal issue even more pressing. According to this provision,

contractual terms prevail over the research exemption in Article 5(3)(a) ISD in the context of online uses. This decision of the EU legislature exposes researchers to contractual clauses that may exclude use for research purposes altogether.

b.) Text and Data Mining Exceptions

28 Two Text and Data Mining (TDM) exceptions were introduced at the EU level in 2019 by the CDSM Directive. The first of these exceptions is imperative and available to research organizations and cultural heritage institutions acting for research purposes (Article 3 CDSMD); the other is available to any beneficiary, but it is subject to an "opt-out" by rightsholders who have the possibility to reserve the uses for TDM in an appropriate form (Article 4 CDSMD).

29 The configuration of TDM activities as in need of copyright exceptions, while intended to introduce much needed legal certainty in the area (see Recital 8 CDSMD), also implicitly assumed that uses that extract (unprotected) informational value from works, but which do not "use works as works" (so called non-consumptive uses) fall into copyright exclusivity. Formally, this recognition relies upon the broadly defined right of reproduction under Article 2 ISD, not on the recognition of property rights in the informational value of works, as Recital 9 ISD indicates. Simply put, a TDM exception is not needed because the informational value of a work is protected, but because, in order to reach that informational value (e.g., the statistical correlations between the various words and sentences in a text), a number of technical copies are usually made. TDM exceptions are needed to excuse these often temporary, partial and non-literal copies which are nonetheless suitable to trigger Article 2 ISD, as the CJEU confirmed in *Infopaq I* and *II*.[29]

30 Regarding the content of the exceptions, despite the aforementioned important difference in scope, they share several similarities. They enjoy that same, wide, definition of TDM contained in Article 2(2) CDSMD; both are exceptions (mainly) to the right of reproduction; both require lawful access to content - though the respective recitals employ different wording; both allow the retention of copies for scientific research and for text and data mining, respectively; and both have the same intricate relationship with TPMs, as provided in Article 6(2) InfoSoc (see also Article 7(2), second sentence CDSMD).

31 The adoption in 2024 of the AI Act has added an additional layer of complexity to the role of the TDM exceptions. The AI Act has in fact confirmed that Articles 3 and 4 CDSMD are the legislative interfaces between copyright exclusivity and the training of General-Purpose AI (GPAI) models, which rely on TDM as a data acquisition and analysis technique (Recital 105 and Article 53 AIA).

32 The resulting picture is complex and multifaceted. On the one hand, EU actors now have two legal provisions addressing TDM which have indisputably brought legal clarity in important areas (e.g., the imperativeness of Article 3 CDSMD, the possibility to retain copies, etc). At the same time, other conditions are still in need of further elaboration to reach the intended effects, such as, for instance, the precise form of the reservation of rights under Article 4 CDSMD.

33 From the standpoint of research organizations and cultural heritage institutions, a number of issues remain unanswered. The many conditions found in Article 3 CDSMD (e.g., beneficiaries, lawful access, focus on right of reproduction, TPMs, public-private partnerships, etc), considerably reduce the usefulness of the exception for research organizations. In more abstract terms, approaching a basic analytical technique (this is TDM) through the regulatory mechanism of a copyright exception, instead of the more structural approach of a fundamental rights (e.g., right to research), almost inevitably leads to the compression of constitutionally protected rights. Against this background, it should be assessed whether the presence of Article 4 CDSMD and its elevation to a sort of Copyright-Generative AI interface may further dilute the importance of an already too narrow provision, such as Article 3, intended to exempt activities falling under the umbrella of public interest research. That said, as the first national pronouncements have demonstrated, the decried peril to "circumvent" Article 4 via Article 3 has been proven fictitious. In other words, commercial actors interested in using datasets developed on the basis of Article 3 require a proper license from rightsholders if the opt-out was exercised.

c.) Secondary Publication Right

34 Funders of research in the EU and in Member States increasingly require that research outputs be made openly available. In many cases publishers control copyright, which is either transferred or exclusively

29 See Case C-5/08, *Infopaq I*, EU:C.2009:465, and C-302/10 *Infopaq II*, EU:C.2012:16. Cf. Thomas Margoni, Martin Kretschmer, 'A Deeper Look into the EU Text and Data Mining Exceptions: Harmonisation, Data Ownership, and the Future of Technology', GRUR Int, vol.71(8), 2022, pp.685-701.

licensed as a precondition for publication. The development towards open access through reform of the publishing system has so far been a slow process, involving complicated negotiations between research organisations and commercial publishers. A statutory secondary publication right is an important means to ensure at least some level of openness.

35 Until now, six Member States (Germany, France, Belgium, Austria, the Netherlands and Bulgaria) have introduced, either in their copyright statutes or in an independent act, a secondary publication right (SPR). The SPR attributes to the author of a scientific work, variously defined (see below), the right to make it publicly available after a certain period of time (the so-called "embargo" period) following its first publication, openly and free of charge, subject to certain conditions. Usually framed as not overridable by contract, the SPR represents a safety valve to facilitate the dissemination in OA of scientific works regardless of the conditions set by publishing contracts.

36 All national solutions converge on the definitions of the basic requirements for SPR to operate, although divergences remain. The subject-matter is generally limited to scientific contributions published in periodicals (e.g. journal articles), with the exclusion of monographs or book chapters. However, the language used is not homogeneous. Germany and Austria require "a scientific contribution", France a "scientific writing", Belgium a "scientific article", the Netherlands a "short scientific work", with the additional requirement (but not in the Netherlands and Bulgaria) of inclusion in outlets published periodically (Belgium) or at least once (France) or twice (Austria, Germany) a year. There is no full convergence either on the version of the product to which the SPR applies. While Germany, Austria, Belgium and France admit only the so-called author-accepted manuscript (AAM, that is the post-peer review draft without typesetting), the Dutch definition does not impose any limitation.

37 All Member States require the work to originate from research that has been funded wholly or partially by public funds. However, the percentage (from 50% to "at least partially") as well as other specific requirements vary. The same variations appear with regard to the duration of the embargo period that should pass between the first publication and the exercise of the SPR. Options range from one year without distinctions (Germany and Austria) to six months for natural sciences and one year for the humanities and social sciences (France and Belgium), with Bulgaria opting for no embargo, and the Netherlands referring to a "reasonable period". Additional requirements may be present, such as the agreement of all co-authors (France). Member States converge, instead, in declaring the provision unwaivable and not overridable by contract, making any contrary clause null and void, and in requesting the indication of the original source and the republication to be for non-commercial uses only (with the exception of Belgium).

38 National SPRs have been introduced with the aim of offering to authors of scientific works who do not want or cannot afford opting for paying OA (the "Gold" route) the possibility to republish for free in repositories the AAM version of their work ("Green" OA), and thus comply with the OA obligations set by an increasing number of funding institutions, without struggling with the acceptance and subsequent compliance with non-negotiable standard model publication agreements that may ban Green OA practices.

39 Surveys and studies conducted in the past years have demonstrated a general lack of awareness among stakeholders about the availability of SPRs.[30] This circumstance, coupled with copyright territoriality, have negatively impacted on the effectiveness of the instrument, which have been only moderately used, and only in the context of publishing agreements governed by the law of one of the six Member States featuring SPRs. In fact, these reforms had limited or no impact on the practice of international journals whose standard agreements are subject to other national laws. At the same time, divergences among national solutions have also created further barriers to the development of common practices among publishers and stakeholders in different Member States, further reducing the potential impact of existing SPRs, and triggering the risk of forum shopping to avoid the application of national SPR provisions.

40 At the same time, specific features of existing SPRs have already proven their shortcomings in the implementation phase. The discrimination between journal articles and other publications or products have substantially circumscribed the number of research outputs eligible for SPR. Longer embargo periods have substantially frustrated the potential impact of a broader dissemination in OA of research results in sectors or topics where findings get fast outdated, conflicting with the basic OS goal of achieving greater and more immediate access to scientific findings. Similarly, the uncertain interpretation of the public funding benchmark has triggered chilling effects in the application of SPR in instances such as publications by non-tenured staff members or those funded by private funds, or outputs stemming from multiple projects within extended partnerships, where the percentage of public funding could be difficult to calculate

30 Cf ERA Study 2024 at p.54 et seq.

with certainty. The same can be said for the non-commercial use requirement. In contemporary research practices, public-private partnerships are not only increasingly common, but often a prerequisite under national funding schemes. Limiting SPRs to non-commercial uses creates legal uncertainties in projects conducted with private partners, particularly in cases where the funding scheme requires a commercial use of the project's results.

41 While being a positive addition and a remarkable step forward in aligning national copyright frameworks with the EU Open Science and research policy goals, the actual implementation of national SPRs have evidenced flaws that, due to their inevitable cross-border nature and impact on the ERA, clearly call for an EU-wide intervention.

d.) Interface Copyright-Data Regulation

42 The growing body of data legislation at EU level intersects with existing copyright law. The AI Act, Digital Services Act and Digital Market Act are well-known examples[31]. In the copyright realm there is less attention for the interface with the Open Data Directive ("ODD"), Data Governance Act ("DGA") and Data Act ("DA").[32] From the perspective of research and academic freedom, the most significant interface with copyright is in the ODD and DGA.[33]

43 The Open Data Directive obliges public sector bodies to allow re-use of information they hold for commercial and non-commercial purposes as freely as possible. This includes the re-use of copyrighted materials, unless these are subject to third-party (intellectual property) rights. The position of public research organisations is not entirely clear. They qualify as public sector body under the ODD's definitions, but the ODD also contains a specific provision mandating that free use be allowed of "research data" (a broad term, also encompassing IPR protected materials including academic publications) made public in repositories (Article 10(2) ODD). This means that the ability to exercise copyright prerogatives freely by researchers and research organisations (esp. academics at public universities) is restricted by the ODD. Such restrictions can also result from the 'open access' policies for research data that Member States are obliged to develop (Article 10(1) ODD).

44 Of note, where obligations under the ODD *curb* the freedom to keep access to research outputs controlled, also through the use of copyright, a secondary publication right can in fact *help* academics make research outputs more open, especially if the SPR is structured as a rights retention. In any case, to prevent possible conflict and legal uncertainty, the obligations and objectives of the ODD should be taken on board in the crafting of a harmonized SPR. What is also worth noting is that the ODD is blind to the fact that the academic freedom of individual researchers may be at odds with a public institution's policy. Notably, copyright is a key instrument for individual academics to retain control over how their work is used (e.g. in predatory OA journals, in onerous contexts that harm academic integrity or reputation). Being forced to publish open access under a permissive license (such as CC-BY) effectively means relinquishing control, which can be at odds with academic freedom.

45 The Data Governance Act (DGA) addresses a variety of issues. What is relevant for the purposes of this Opinion is that it extends the principle of openness from the ODD to public sector-held information that is subject to third party copyright or other intellectual property rights. The DGA does not regulate the position of public sector bodies in the research and education field specifically and there is some ambiguity about their position, e.g. to what extent they must try to retain copyright, or try to secure copyright permissions of third parties, with a view to opening up research data and outputs.

46 The law is silent on how the re-use provisions of the ODD and DGA relate to the TDM exceptions of

31 As highlighted also by previous ECS Opinions. See, e.g., European Copyright Society Comment on Copyright and the Digital Services Act Proposal, 17 January 2022, available at https://europeancopyrightsociety.org/wp-content/uploads/2022/01/2022-01-17-ecs-comment-on-copyright-and-the-digital-services-act-proposal-4.pdf; Opinion of the European Copyright Society on selected aspects of the proposed Data Act, 12 May 2022, available at https://europeancopyrightsociety.org/wp-content/uploads/2022/05/opinion-of-the-ecs-on-selected-aspects-of-the-data-act-1.pdf; Copyright and Generative AI: Opinion of the European Copyright Society, January 2025, available at https://europeancopyrightsociety.org/wp-content/uploads/2025/02/ecs_opinion_genai_january2025.pdf

32 Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on Open Data and the Re-Use of Public Sector Information ("ODD")); Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act | "DGA"); Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Act | "DA"). The Data Act becomes effective on 12 September 2025.

33 See Mireille van Eechoud, 'Study on the Open Data Directive, Data Governance and Data Act and their possible impact on research', Publications Office of the European Union, 2022, https://data.europa.eu/doi/10.2777/71619 and ERA Study 2024, pp 205-208.

the CDSM Directive, or to any other limitations or exemptions relevant to research and education for that matter. This results in legal uncertainty, which triggers chilling effects on researchers and research-performing organisations and thus weakens the potential of such provisions to operate concurrently to pursue OS goals.

47 Finally, the ODD and DGA prohibit public sector bodies from exercising their sui generis database rights (not their copyright in databases). At the same time, Article 43 of the Data Act excludes data generated by Internet-of-Things products from sui generis database protection regardless of who the database producer is. The introduction of such limits outside copyright/intellectual property instruments adds to the complexity of the system as a whole.

4. The Way Forward: Policy Recommendations

48 Against the flaws and challenges raised by the current regulatory state of the art, the ECS believes that the EU legislator should carefully consider the opportunity to proceed with the following interventions, listed in order of time feasibility (short-term vs medium-term).

a.) Introduction of an EU-Wide Secondary Publication Right

49 It is clear that, to achieve a unified ERA inspired by shared OS principles, the introduction of a harmonized EU-wide SPR that builds on the experiences already developed by six Member States may represent the most time-effective and realistic policy solution, tackling one of the currently greatest stumbling blocks to the full realisation of a fairer and more accessible internal market for research. Also, in light of the national fragmentations triggered by local legislative initiatives, such a harmonized solution would also prevent nationality-based or geographic discrimination, achieve greater legal certainty, and avoid forum shopping in the scientific publishing sector.

50 One of the key challenges to tackle is striking a proper balance between conflicting fundamental rights (Articles 11-13 vs Article 17(2) CFREU), taking into account the effective bargaining powers of the parties involved, without unduly curtailing the operation of the SPR and thus frustrating the fulfilment of its function of leverage to attain ERA's OS goals. Conditions of applicability and other requirements should be carefully tailored and defined with precision, in order to avoid legal uncertainties (and related chilling effects) and fragmentation in national implementations, should the EU-wide SPR be introduced via a Directive. This would perpetuate the challenges currently faced by researchers when dealing with different national SPR regimes, with no benefit for the correct functioning of the ERA.

51 Against this background, it is clear that the EU legislator should exercise utmost care when defining the parameters and requirements of the EU SPR regime, by taking into account, *inter alia*, the evolution of business models in the scientific publishing sectors (e.g. APC and double-dipping, transformative agreements, greater value generated by additional platform/data aggregation services, etc.), the variety of research output produced by researchers, trends of public-private partnerships, evolving practices of research funding organisations and their expectations, differences in the practices of various scientific disciplines. This constitutes the basic background to perform a comprehensive impact assessment of a reform that aims at striking a fair balance between conflicting interests while effectively enhancing OA to research outputs, thus supporting the development of a unified ERA built on OS principles.

52 To properly fulfil this function, an EU-wide SPR should have a number of minimum features.

1) First, the SPR should have a mandatory and imperative nature against contractual overridability. This represents an inevitable prerequisite for any SPR to perform its institutional function of rebalancing the bargaining power of scientific authors and publishers and avoid contractual carve-outs of Green OA options.

2) With regard to the subject-matter, it is also advisable to consider extending the scope of the SPR to cover a wider range of research outputs. The problems and uncertainties engendered by different national solutions require a harmonizing intervention that also takes into account the diversification of academic practices in different fields and the related greater variety of research products that go beyond the mere category of journal articles. This approach would also be more aligned with the protection and fulfilment of the fundamental right to research, based on Articles 11 and 13 CFREU, and more adequate to strike a fair balance between the related need to protect research openness and autonomy and the protection of copyright under Article 17(2) CFREU. Against this background, it is necessary to consider the possibility to extend the scope of an EU-wide SPR to cover a broader range of products, especially to the benefit of those

disciplines where journal articles constitute only a limited share of research outputs. To the extent other products such as data collections, blog posts and other outputs are covered by IP rights and pose similar barriers to OA practices, this circumstance should be properly taken into account when framing the subject-matter of a harmonized SPR. In this sense, it is advisable to set the external boundaries of the objective scope of the right on the basis of a thorough impact assessment, which should shed light on the detriments publishers would suffer from the inclusion of each and any form of scientific output, compared to the benefits such an inclusion would produce in terms of greater OA availability of research results for researchers and the society at large.

3) Similar caution should be exercised when setting any public funding requirement. Introducing a high threshold may carve out from the scope of the SPR a great part of the results of projects based on public-private funding schemes. At the same time, the setting of any threshold should be accompanied by a very detailed definition of the elements that are relevant for the definition of "public" or "private" funding, in order to limit to the maximum extent possible the uncertainties that have tainted the application of national SPRs in the past years. More generally, the identification of the public funding benchmark should be based on an assessment of the impact the requirement may have on the legitimacy of private exploitation interest. A high quota of public funding decreases the legitimacy of private interest in exploiting research results, since the output is offered to the publisher free of charge. However, this does not change in the case of public-private partnerships, since in no case is the publisher that finances the research from which the article or other output stemmed, and its investments are limited to the management of the peer-review and editorial process and the marketing of the final product. In this sense, there seems to be no objective basis to justify the subordination of the SPR to a public funding requirement. The EU legislator may decide to limit the instrument to the mere function of making publicly funded research outputs available to the public in OA, or to aim at a greater range of scientific knowledge available in OA by lowering the threshold (or eliminating it), thus including also a larger number of outputs stemming from more public/private research partnerships.

4) The introduction of an embargo period should be carefully considered. From the perspective of researchers, immediate access to scientific fundings is of fundamental importance to stay abreast of the state of the art and build their own research on this basis. From the perspective of publishers, embargo periods limit the impact of SPR on their business model and primary markets, for it postpones the dissemination of a substitute of their published products to a later stage and makes them retain their competitive advantage for the interim period between first and second publications. When deciding on this requirement, the EU legislator should perform a careful assessment and balancing between such conflicting interests. An additional element to be considered is that the added value of a proprietary journals database subscription may lie more in their nature of one-stop-shop (with connected data-related services and internal connections between results), while the secondary publication of a single article may only act as a substitute for a single contribution. Additionally, attention should be paid to the fact that embargo periods have different legal effects depending on the copyright management strategies adopted by the publisher. When the relationship between author and publisher is based on a non-exclusive license, or on an implied contract where neither the transfer nor an exclusive license in favour of the publisher is provided, embargoes translate such agreements into a de facto exclusive license. This effect and the distinction should be carefully taken into account and reflected upon when devising an EU-wide SPR.

5) Another feature introduced by the majority of national SPR is the limitation of the right to the author-accepted manuscript (AAM) version only. The choice is dictated by the aim of avoiding a pure substitution effect between the first and second publication, which it is argued would happen were the SPR to allow the free distribution of the version of record (VOR, i.e. the publisher's edited version with typesetting). From the perspective of researchers, extending the SPR to the VOR would be preferable, as this would ensure the circulation of a single version of the work, certainty on the final/correct version, and a consistent and proper referencing and verification. From the perspective of publishers, the abovementioned substitution effect is perceived as a threat to their return on investment on the review, typesetting and pagination processes, which would in turn act as a disincentive to invest and lead to lower publication quality. While the actual impact on publishers' interests depends on whether their copyright management strategy uses exclusive or non-exclusive assignment schemes, in order to adopt the right policy option, the EU legislator will nevertheless need to strike a fair balance between these two conflicting

sets of needs and objectives. Elements to be considered are the potentially different impact of covering the VOR for different types of outputs (journal articles, books, book chapters, datasets etc) if appropriate; the presence of publishers' exclusive rights on the layout and typographical arrangements; referencing and verification habits of different academic sectors; effective substitution effects and their impact in different disciplines.

6) The last element to be carefully evaluated when devising an EU-wide SPR is the opportunity to introduce a non-commercial use limitation. As mentioned, Member States have adopted remarkably divergent stances on the matter. From an OS perspective, such a limitation is not advisable in light of the uncertainties it may trigger, with related chilling effects on researchers. From the publishers' perspective, the requirement acts as a guarantee against exercises of the SPR which may directly compete with the first publication. Here, the same considerations made on the embargo period and related substitution effects apply. The evolution of publishers' business models sees article processing charges (APC) offered to authors willing to pay to have their works in OA, flanked with more expensive subscription models and structured databases that also offer additional resources (particularly data and their aggregations), which tighten the dependency of researchers and academic institutions on publishers beyond the mere access to single published articles. In this sense, the added value and competitive advantage of granting exclusive access to single publications is much lower than in the past. This element should also be considered when conducting an assessment of the impact on SPR exercised for commercial uses, and weighted against the impact that such a limitation may have on the range of products available in OA.

b.) Introduction of a General Mandatory Research Exception

53 In line with CJEU jurisprudence, the reconciliation of competing fundamental rights must take place internally: within the system of exclusive rights and limitations in EU copyright and sui generis database law. As the analysis has shown, the current EU acquis is unlikely to offer sufficient breathing space for this balancing task. The existing research rules have structural deficiencies, ranging from fragmented and overly restrictive research exceptions to opaque lawful access provisions, outdated non-commercial use requirements, legal uncertainty arising from the three-step test, obstacles posed by the protection of paywalls and other technological measures, and exposure to contracts that override statutory research freedoms. To arrive at a copyright framework that is conducive to research in line with the described ERA goals, it should be considered to:

1) clarify that the requirement of use as an "illustration" in Article 5(3)(a) ISD and Articles 6(2)(b) and 9(b) DBD only concerns the teaching branch of the use privilege and does not relate to scientific research;

2) abandon the outdated requirement of use for a "non-commercial purpose" and only require compliance with the three-step test, following the model in Article 10(1)(d) and (3) RLRD;

3) clarify that, regardless of the volume of use, scientific research constitutes a "special case" in the sense of the three-step test of Article 5(5) ISD because of the fundamental rights underpinning following from Articles 11(1) and 13 CFREU;

4) declare the fourth subparagraph of Article 6(4) ISD inapplicable to use for the purposes of scientific research, as already done in Article 7(2) CDSMD with regard to scientific TDM, and ensure that the application of TPMs does not hinder the exercise of Article 5(3)(a) ISD;

5) declare any contractual provision contrary to use privileges for scientific research unenforceable, as already stated in Article 7(1) CDSMD.

54 In contrast to the current, optional research exceptions in Article 5(3)(a) ISD, Articles 6(2)(b) and 9(b) DBD and Article 10(1)(d) RLRD, a more flexible and robust exemption with these conceptual contours should constitute a mandatory "shall" provision to ensure a harmonised application across Member States and comparable conditions for research teams in different countries. Moreover, the strengthened provision should cover both the right of making copies for research purposes (reproduction) and the right of sharing these copies (making available to the research group). Finally, it is advisable to implement the proposed more flexible and robust use privilege for scientific research not only in the field of copyright, related rights and sui generis database protection but also in the area of computer programs, where an open-ended research provision is currently missing.

55 Proposing these amendments, benefits for society as a whole must not be overlooked. An open-ended research provision with the described conceptual contours can render EU copyright and sui generis database law capable of keeping pace with the rapid

evolution of new technologies and changing research approaches and methodologies. A narrow research exception that only supports known research needs and methodologies will inevitably fail to offer a basis for new, previously unknown approaches. In contrast to a specific, narrow research privilege, a general provision enables the research community to analyse developments in the increasingly digital and algorithmic information society – with all rapid changes in information technology and modes of communication. It would strengthen research autonomy by providing a basis for exploratory research projects and methodologies that fall outside traditional approaches and categories.

c.) Amendment of the Text and Data Mining Exceptions

56 Text and Data Mining, defined as "any automated analytical technique aimed at analysing text and data in digital form" is a broad definition that, in the digital environment, is capable of capturing most activities conducted by scientific researchers. Consequently, any restriction applied to the concept or scope of TDM is suitable to directly restrict research activities. It is therefore of utmost importance for a thriving research environment to safeguard a broad and protected space for research, including research performed via TDM, and to only introduce restrictions to this space in clearly defined and well justified cases.

57 Against this background, the main features of Article 3 CDSMD that may constitute an unnecessary or not well defined limitation to research done via TDM are: the requirement of lawful access, the beneficiaries of the provision, the purposes covered, the rights of economic exploitation exempted, the faculty to retain copies, as well as the impact of technological and integrity measures on Article 3 CDSMD. In order to offer an interpretation of these concepts that complies with the aforementioned principles, the following policy recommendations are proposed.

1) Lawful access. The concept of lawful access in Article 3 CDSMD should be conceived broadly and, as it has been argued in the literature, not be linked to the current standards developed by the CJEU for the cases of lawful sources (e.g. *ACI Adams*[34]) or to the concept of consent in relation to communication to the public (e.g. *Renckhoff*[35]). On the contrary, lawful access should: a) focus on the acts carried out by the researcher; and b) build upon the examples offered in Recital 14 CSDMD, particularly the expression "freely available online" in relation to the content that can be lawfully accessed.

2) Beneficiaries. The current text of the CDSMD offers a detailed definition of research organizations.[36] As recent national case law has indicated, this definition is capable of covering research activities carried out by non-academic institutions. However, individual researchers, not affiliated with a research institution, seem to fall outside the scope of this provision. Given the rise of non-institutional scientific research, such as citizen science, it would be important to further elaborate this concept in order to avoid excluding individual contributors to scientific research, a practice that is particularly important to "democratise" the scientific process.

3) Purposes. The purpose of scientific research appears both as an element in the main text of Article 3 CSDMD, as well as a definitory component of the concept of research organizations in Article 2 CDMSD. This redundancy may not necessarily be problematic. However, as it has been pointed out, research purposes do not cover some important, and arguably research-related, activities, such as investigative journalism.[37] This limitation to the scope of Article 3 CDSDM should be further assessed as it could create unjustifiable differential treatment to equally protected rights.

4) Rights and subject matter (software) exempted. The current text of Article 3 CSDMD exempts the right of reproduction for copyright and the right of extraction and re-utilization for the sui generis database right in databases; the right of reproduction for works and other subject matter covered by Article 2 ISD; and the right of reproduction and making available to

34 Case C-435/12 *ACI Adam BV and Others v Stichting de Thuiskopie*, EU:C:2014:254.

35 Case C-161/17 *Land Nordrhein-Westfalen v Dirk Renckhoff*, EU:C:2018:634.

36 "A university, including its libraries, a research institute or any other entity, the primary goal of which is to conduct scientific research or to carry out educational activities involving also the conduct of scientific research: (a) on a not-for-profit basis or by reinvesting all the profits in its scientific research; or (b) pursuant to a public interest mission recognized by a Member State; in such a way that the access to the results generated by such scientific research cannot be enjoyed on a preferential basis by an undertaking that exercises a decisive influence upon such organization".

37 Similarly, see ECS, Comment of the European Copyright Society addressing selected aspects of the implementation of Articles 3 to 7 of Directive (EU) 2019/790 on Copyright in the Digital Single Market, supra at n 6.

the public of press publications under Article 15 CDSMD. The strong focus on the right of reproduction and the absence of software from the scope of Article 3 CDSMD stand out and have the potential to create uncertainty and legal fragmentation. For instance, Article 5(3)(a) ISD which was the basis for pre-2019 national TDM exceptions also exempts the right of communication to the public. This is particularly important since the CDSMD clarifies that "The existing exceptions and limitations in Union law should continue to apply, including to text and data mining ... as long as they do not limit the scope of the mandatory exceptions or limitations provided for in this Directive". The absence of software in the scope of Article 3 CDSMD raises interpretative uncertainty, particularly in the light of the fact that software is present in the scope of Article 4 CDSMD. It should be clarified whether the absence is intended to allow Member States to decide whether to include software in their national implementations or on the contrary whether such absence is intended as a form of negative pre-emption.

5) The retention of copies. Article 3(2) CDSMD permits the storage of copies made during TDM "for the purposes of scientific research, including for the verification of research results". This is a very important element of the EU TDM framework, particularly in the case of research. However, it is not clear whether these copies can be further shared with fellow researchers, particularly outside the research institution. These practices are essential for the purpose of "scientific research" and for the verification of results. However, the potential to trigger the (not exempted) right of communication to the public may deter researchers and their institutions from sharing these copies and thus frustrate an essential element of the scientific process.

6) Technological and integrity measures. While Article 7 CDSMD importantly clarifies the unenforceability of contractual limitations to Article 3 CDSMD, a similar degree of clarity in relation to TPMs is absent. An additional element of uncertainty refers to the unclear relationship between TPMs and the new concept of "security and integrity measures" of Article 3(3) CDSMD which right holders are allowed to adopt. Whereas in principle this category and its function are justifiable (for example the use of application programming interfaces (APIs) for a safe and efficient access to a resource), the unclear definition and the relationship with TPMs creates unnecessary ambiguity (for example the use of APIs so restrictive that frustrate the scope of scientific research central to Article 3 CDSMD).

d.) Interface Copyright-Data Regulation

1) As the growing body of data legislation in the EU affects scientific research at the level of institutions and individual researchers and also has multiple copyright dimensions, it is advisable to maximize efforts to reduce legal complexity and ensure consistency across instruments. The legal complexity of the system of rules impacting research can be reduced by pursuing a more holistic approach. Specifically, the introduction of copyright related rules in multiple legislative instruments [outside of copyright law] should be avoided. Should this not be possible - as in the case of a potential European Research Act, the EU legislator should exercise utmost care in streamlining definitions and ensure consistency with the EU copyright acquis and its key tenets.

2) The Open Science policies (including open access) currently have little consideration for the academic freedom of individuals, especially as regards the ways in which limiting the exercise of copyright prerogatives can adversely affect academic freedom. Certainly, where Open Science policy is increasingly expressed in binding norms, it is important to ensure these norms are consistent with key principles of copyright such as the centrality of the natural person as creator.

3) To prevent possible conflict and legal uncertainty, the design of any harmonized secondary publication right should be consistent with the obligations and objectives of the Open Data Directive and Data Governance Act that promote access and re-use of research outputs.

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