European Commission

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

Executive summary

Research and Innovation

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ABSTRACT

This comprehensive report supports the Action 2 objectives of the European Research Area (ERA) Policy Agenda 2022-2024, which aims at proposing an EU legislative and regulatory framework for copyright and data that is fit for research. The report provides a comprehensive analysis of barriers to the access and reuse of publicly funded research, including scientific publications and data. It assesses existing EU copyright legislation and EU data and digital legislation. It also assesses regulatory frameworks and national initiatives, and identifies potential areas for improvement.

Using a methodological, evidence-based approach, the study includes literature reviews, surveys and interviews with legal experts and stakeholders. The study proposes legislative and non-legislative measures to improve the current EU copyright and data framework and align it with the needs of scientific research and open research data principles.

The report provides a comprehensive overview of the legal environment for research and innovation in the EU and offers valuable insights for policymakers, researchers and organisations involved in the European research landscape.

EXECUTIVE SUMMARY

This report contributes to the realisation of the objectives as described under **Action 2 of the European Research Area (ERA) Policy Agenda 2022-2024**[1], which aims to *"Propose an EU copyright and data legislative and regulatory framework fit for research".* In this context, the report undertakes a comprehensive **analysis to identify impediments and challenges to the access and reusability of publicly funded research and innovation outcomes, inclusive of scientific publications and data**. This is facilitated through a detailed examination of pertinent stipulations under the existing EU copyright *acquis* as well as the EU data and digital legislation, along with corresponding regulatory frameworks and national initiatives.

Furthermore, the report **proposes a set of both legislative and non-legislative interventions aimed at refining the existing EU copyright and data legislative frameworks**. This is directed towards facilitating their adaptation to better serve the necessities of scientific research and the ethos of open research data within the ERA. The scope of this report is divided into **two main strands: firstly, the EU copyright legislation**, with a specific focus on pivotal directives such as the Information Society Directive, the Copyright in the Digital Single Market Directive, the Software Directive and the Database Directive, in conjunction with the research-related provisions of the Data Act Proposal. **Secondly,** we look at **the EU data and digital legislation** strand, where the report examines key legislative acts including the Open Data Directive, Data Governance Act, Data Act, Digital Services Act, Digital Markets Act, and Artificial Intelligence Act. This analysis is complemented by an exploration of the relevant stipulations for the European Open Science Cloud (EOSC), thereby ensuring a comprehensive assessment of the legislative environment influencing research and innovation within the European Union (EU).

1 https://commission.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf

Framework for the study

The methodology adheres to a structured, evidence-based design, employing a data triangulation logic to ensure consistent and robust findings. It involves: 1) Evaluating the concrete effects of the EU copyright framework on research through desk research, literature reviews, three surveys, and an extensive interview programme with legal experts and key stakeholders (Task 1). This task lays the groundwork for subsequent tasks and supports the assessment of the estimated advantages and/or benefits. 2) Elaborating on areas that need improvement and potential interventions based on Task 1 outcomes. This includes cross-national legal analyses concerning the Secondary Publication Right (Task 2). 3) Estimating the effects of the proposed potential interventions by assessing the estimated advantages and/or benefits, using data from Tasks 1 and 2 (Task 3). 4) Identifying relevant provisions for researchers, organisations, and infrastructures under EU data and digital legislation (Task 4). 5) Assessing compliance and benefits from EU data and digital legislation for research entities, synthesising findings from Task 4 (Task 5).

Specific methodological approach to the study

Literature review: The literature review carried out under this study was **crucial to understanding the landscape and identifying areas for progress in copyright and EU data and digital legislation**. The literature review on copyright explored the complex interplay between EU copyright, data frameworks and Open Science (OS) policies. It included an analysis of academic evidence on the impact of the EU copyright framework on OS. It also reviewed OS policies within the EU and selected Member States (i.e. Austria, Belgium, France, Germany, Hungary, Ireland, Italy, Lithuania, Malta, The Netherlands, Portugal, Romania and Spain). Additionally, the report conducted a comparative legal study of the EU and national copyright laws of all 27 EU Member States. This comprehensive review underlined the need for EU legislative action to facilitate OS and highlighted differences in national laws that affect EU-wide OS objectives. The literature review on EU data and digital legislation relied primarily on legal databases and authoritative sources to outline the legal landscape and its stages of development, highlighting legal gaps affecting researchers and research organisations and leading to further interviews for in-depth understanding. This review was instrumental in identifying specific areas requiring attention in the evolving context of digital and data legislation.

Survey Programme: The survey programme for this study, **targeting researchers, research performing organisations (RPOs) and publishers**, was methodically implemented with tailored strategies for each group to optimise participation and data collection. Researchers were surveyed from 6 October to 6 November 2023, involving 10 000 individuals from Horizon 2020 and Horizon Europe projects, using a balanced stratified sampling method and a pilot survey to ensure equitable representation. Later, the selection was boosted by 4 000 individuals to increase the number of responses. RPOs, which had received funds or indicated an interest in applying for funds from Horizon 2020 and/or Horizon Europe research proposals and/or projects, were approached during the same period through their Legal Entity Appointed Representatives, reaching 4 915 organisations, supported by outreach from groups such as LIBER Europe and Knowledge Rights 21 with a structured schedule to ensure robust participation. Publishers were surveyed from 3 to 30 November 2023, targeting 615 publishers identified through OpenAlex and Apollo.io, focusing on high-level contacts and using tools such as LinkedIn Sales Navigator and additionally disseminated through associations such as the STM Association, the French Publishers Associations and the French Publishers Journal Association (FNPS) to ensure a high response rate.

Interview programme: The interview programme for the study was **carefully designed to gather in-depth insights from legal experts on copyright, data and digital legislation**. Aimed at a diverse group of specialists from academia, research organisations, umbrella organisations associated with universities and publishers, as well as policy-related groups, the programme was tailored to each interviewee. This ensured that the discussions were as informative and relevant as possible. For data and digital legislation, the focus was on exploring different legislative frameworks, such as the Data Act and the Digital Services Act, to complement the findings from our literature review.

Multi-criteria analysis: The approach to multi-criteria analysis involved a comprehensive assessment across four policy areas, each of which was assessed separately. This technique integrated both positive and negative impacts into a single framework and facilitated the comparison of different options through a combination of qualitative and quantitative data. This approach enhanced transparency in the presentation of key issues and clearly identified potential trade-offs. The criteria included social impacts on science, such as the impact on intellectual property rights (IPR), quality control of research, availability of scientific literature, diversity of research outputs and opportunities for collaboration. Economic impacts were also taken into account, by looking at the impact on sectoral competitiveness and the conduct of business for stakeholders. This structured analysis provided a nuanced understanding of how different policy options might affect different aspects of the scientific and economic landscape.

Comparative analysis of Green open access publications since 2011: This methodology was aimed at comparing different sources of information on Green open access in the EU-27 countries from 2011 to 2022. The study team reviewed data from OpenAlex and OpenAIRE Graph and compared it with trends in Open Access to publications outlined in the report "Study on Open Science: Monitoring trends and drivers"[2].

Analysis of results

Cross-analysis of the consultation activity results: Survey responses were segmented to reflect the distinct contexts of researchers in nations with or without Secondary Publication Rights (SPR) regimes. Publishers were categorised by their institutional types and level of revenue. Survey results were complemented with insights from the in-depth interviews.

Conclusions and recommendations concerning copyright (Chapter 1)

The study proposes a combination of legislative and non-legislative measures to enhance the accessibility and reusability of research outputs. These recommendations aim to reconcile the protection of copyright and related rights with the goals of the ERA, to promote a single, borderless market for research, innovation, and technology across the EU.

Policy Options on Secondary Publication Right

The study explored the option of introducing an EU-wide Secondary Publication Right (SPR). The analysis identified several policy choices that would have to be considered when exploring avenues for the introduction of an EU-wide SPR regime:

2 https://research-and-innovation.ec.europa.eu/document/download/a5bd70c0-5cc8-45b0-b3f4-0fa35946b768_en?filename=ec_rtd_open_science_monitor_final-report.pdf

Policy Option SPR-01 proposes a comprehensive approach to scientific output within the framework of SPRs. This policy option emphasises the desirability of including a broad range of scientific output, including not only articles but also writings and other copyright-protected research results more generally, regardless of the publication outlet. It addresses the limitations of existing SPR regimes in the EU, which predominantly focus on journal articles, with divergent definitions of what constitutes an "article" and a "journal". This **variation among Member States poses challenges to the invocation of SPRs for Open accessibility of scientific output across borders**.

Policy Option SPR-02 recommends relaxing the public funding requirement for SPRs to a threshold of 50% or less. All existing SPR regimes in the Member States, except the more elastic approach taken in the Netherlands, require at least 50% public funding. In the case of further harmonisation of the SPR, it is important to note that the public funding requirement can substantially limit the effectiveness of the SPR regime. A **restrictive approach may cause problems and imbalances** in the light of current funding arrangements that often involve public-private partnerships. Encouraged by funding schemes that even require substantive contributions of non-academic research partners, research is increasingly conducted in collaboration with the private sector.

Policy Option SPR-03 suggests expanding the scope of SPR regimes to cover the version of record (VoR) of research outputs rather than limiting it to the author accepted manuscript (AAM) or earlier versions. Member States have adopted varying approaches, with Austria, Belgium, France and Germany primarily focusing on the AAM and the Netherlands being less specific. **The VoR is essential for citation purposes and accurate references to research results in the academic discourse**. Against this background, the research community sees a need to extend SPRs to the VoR. However, it is important to also consider a publisher's commercial interest in controlling access to the final published version. **Publishers indicated that the impact on their business model would be substantial** and made clear statements against the extension of SPR regimes to the VoR.

Policy Option SPR-04 proposes minimising embargo periods, in the sense of requiring no embargo or only a short period, such as 6 months. From the perspective of the research community, the reduction of embargo periods is an **important policy tool seeking to align SPR regimes more closely with open access goals, reflecting widespread support within the research community for greater and more immediate access to scientific findings**. From the perspective of publishers, however, embargo periods are of particular importance. They limit the **impact of SPR regimes on existing business models and the primary exploitation of research output**.

Policy Option SPR-05 advocates a broader application of SPRs to allow open access publication covering all types of uses, with no confinement to specific forms of use, such as use for non-commercial purposes. This change addresses the inconsistency across national SPR systems, where countries like Germany, Austria, and France restrict the SPR to non-commercial uses, while others like Belgium and the Netherlands do not specify use purposes. In the evolving landscape of academic publishing and research practices, **collaborations with private partners are increasingly common, making the non-commercial use requirement seem outdated and overly restrictive.**

Policy Option SPR-06 considers developing umbrella licensing and remuneration schemes as an alternative to SPRs for ensuring long-term open access to research outputs. With regard to this policy option, it is important to note that the survey design did not leave room for specifying individual types of licensing or remuneration regimes. Instead, the survey questions concerning this policy avenue referred generally to "umbrella licensing solutions to make research use possible, such as extended collective licensing or lump sum remuneration regimes (copyright holders receive a pre-determined lump sum payment for research use)." At this aggregated level, **the survey results only provide general indications and do not allow a more concrete identification of licensing or remuneration regimes that could find support**. Further research seems necessary to obtain more detailed information.

Policy Options on Copyright and Related Rights (CRR)

Policy Option CRR-01, focusing on strengthening open-ended and flexible research exceptions, seeks to enhance the legal framework of EU copyright law in support of scientific research and includes three distinct but related sub-policy options.

- **Policy Option CRR-01.1** concerns the introduction of a fully harmonised, mandatory, and general exemption of scientific research (not confined to specific forms of, or tools for, conducting research) applicable across the Information Society Directive (ISD), Rental and Lending Directive (RLD), Database Directive (DBD), and the Software Directive. This is grounded in the **strong preference demonstrated in the RPO survey, where a significant majority of respondents favoured an open-ended umbrella clause for research use** of copyrighted knowledge resources. On the other hand, results from the publishers' survey present a more divided perspective on Policy Option CRR-01.1, with **a notable portion of (commercial) publishers expressing strong opposition to open-ended research exceptions.** Further research is necessary to understand the view of, and impact on, other rightsholders not covered by the present study.

- **Policy Option CRR-01.2** addresses the challenge of lawful access in scientific research, a critical issue highlighted by the responses to the researchers' survey. The survey revealed that **80% of researchers face significant barriers due to a lack of subscriptions to access copyrighted knowledge resources.** These concerns in the research community, first, **reinforce the importance of considering the introduction of an EU-wide, harmonised SPR regime** that could substantially enhance open access to research output. Second, it would be consistent with legislative developments in the area of EU digital and data legislation to explore whether EU copyright law offers **possibilities for adopting specific access rules when an overwhelming public interest justifies the creation of an additional access avenue** that complements the standard model of subscription-based access. Third, potential problems arising from the requirement of subscription-based access in copyright law could be reduced by **enlarging the territorial scope and circle of beneficiaries of existing subscriptions**. In the case of transnational research consortia, this could mean that a subscription taken by one research partner is regarded as a lawful basis for all consortium partners to obtain access. However, a cautious approach is necessary with regard to all three approaches. The research community may be strongly in favour of these measures. By contrast, publishers, and in particular commercial publishers, have expressed deep concerns.

- **Policy Option CRR-01.3** focused on removing barriers posed by technological protection measures (TPMs) emerging from significant concerns highlighted in both researcher and RPO surveys. The researchers' survey indicates that 59.6% of participants find paywalls and electronic fences a major obstacle in accessing copyrighted online resources, a sentiment echoed by RPOs, with 39.6% reporting frequent access issues due to paywalls. This widespread challenge underscores the **need for effective measures against excessive use of TPMs that impede research.** Article 6(4) of the Information Society Directive (ISD) mandates Member States to ensure that beneficiaries of copyright exceptions, including researchers, can utilise these exceptions even when TPMs are in place. However, this obligation is conditional upon researchers having legal access to the work and is not applicable when resources are available online under contractual agreements. Thus, **TPMs, in conjunction with online contracts, currently have substantial legal backing, often prevailing over research freedom.**

Policy Option CRR-02 addresses the requirement of use for a "non-commercial purpose" in Article 5(3)(a) ISD and Articles 6(2)(b) and 9(b) DBD. This requirement has become a **source of legal uncertainty and appears outdated, especially in light of research practices that increasingly involve collaborations with private partners, often encouraged and even required by European and national research funding schemes.** More concretely, the non-commercial use requirement raises doubts about the applicability of copyright exceptions when a research project includes industry funding or public-private partnerships. Furthermore, the potential commercialisation of research conducted within publicly funded institutions through technology offices and commercialisation divisions poses a risk of legal complications for researchers who initially relied on these exceptions under the assumption of non-commercial use.

Policy Option CRR-03 focuses on guidance relating to the TDM provisions in Articles 3 and 4 CDSMD to **enhance awareness among the research community and establish a more uniform approach across Member States.** Survey results highlight the beneficial effects of clarifications. The researchers' survey shows that researchers have not yet explored the full potential of the new TDM provisions. Responses indicate that researchers may refrain from using research tools that make it possible to mine texts, images, films and music because they are afraid of copyright infringement.

Policy Option CRR-04 explores the potential of umbrella licensing solutions and remuneration regimes to enhance access to knowledge resources for research purposes. As also pointed out in the SPR context, the questionnaire design – covering various research-related issues – did not allow for a fine-grained analysis of different licensing or remuneration approaches. Therefore, **the results only reflect general trends and do not allow the identification of specific implementation models**. It is advisable to conduct further research, for instance, in the area of extended collective licensing, to obtain further insights into concrete policy avenues.

The findings of this study should be complemented with further analyses to support future potential policy initiatives. Further research is necessary to assess the impact of the policy options presented in this study, where relevant, on rightsholder groups other than scientific publishers which were not covered in this study. Further analysis is also needed with regard to the economic and social impact of the policy options discussed in this study, including the impact on the role of scientific publishers in the research ecosystem.

Conclusions and recommendations concerning the Data and Digital Legislation and the European Open Science Cloud (Chapter 2)

Chapter 2 analyses how the research ecosystem, particularly researchers and research organisations, is impacted by the recent adoption of EU data and digital legislation. EU DDL is an emerging field of law underpinned by policy priorities that vary in the regulation of online platforms, access to IoT data, reuse of public sector information, and the regulation of artificial intelligence systems. As such, scientific research is not a focal point in the surveyed legislation.

This growing body of law does, however, impact research. Following the study's instructions, the analysis focuses on the following instruments: the Open Data Directive (ODD), the Data Governance Act (DGA), the Digital Services Act (DSA), the Digital Markets Act (DMA), the Data Act (DA), the Artificial Intelligence Act proposal (AIA)[3], and the European Open Science Cloud (EOSC). The objectives, domains and approaches of these instruments are diverse, sometimes significantly. They introduce new forms of regulatory intervention for a wide variety of digital infrastructures and data transactions. Importantly, the research for this study was conducted when most of these instruments were recently adopted or, in some cases, still pending. Therefore, the practical effects of EU DDL are often difficult to assess, and most of the sources are of a statutory, policy or doctrinal nature. Case law is scarce. EOSC deserves a dedicated approach because it is not a legislative instrument but consists of multiple actions.

Despite these limitations, it was clear that EU DDL has the potential to impact research, research organisations and affiliated researchers in various ways. This impact may be beneficial, as the EU DDL may provide several opportunities for conducting research, but it may also pose challenges to the field of research. In the context of this regulatory environment, the study analyses which legal provisions in EU DDL are relevant to researchers and research organisations and which rights and obligations flow from EU DDL.

Chapter 2 has two interconnected specific objectives: to identify the relevant provisions for researchers and research organisations in the covered legislative instruments and to analyse what opportunities or challenges the instruments bring from a perspective of compliance. Special attention was given to the interplay between instruments and how they may interact or overlap. Chapter 2 concludes with key findings and a set of recommendations.

Interplay between EU DDL and research

The regulation of research is not the declared objective of the surveyed frameworks. Nevertheless, a noticeable impact on research has emerged in the study. What could be termed a fragmented regulatory approach to research in the DDL shows certain common characteristics, including the use of a similar yet not identical taxonomy, a substantive and functional partial overlap across different regulatory interventions, and the occasional use of identical terms whose meaning plausibly varies across specific instruments depending on their scope.

Accordingly, the study reveals a network of provisions often regulating tangent or even overlapping areas that research organisations operating within the field of EU data and digital legislation must comply with. The common denominator, especially from the point of view of research and research organisations, seems to be that of *regulatory complexity.* This complexity is not a negative element in itself, and it is often justified by the complexity that

3 At the time of writing, the Artificial Intelligence Act was being negotiated. Please refer to section *2.7 Artificial Intelligence Act (Proposal)* of the study for more information on the versions of the legislative text which were used for the analysis.

characterises the underlying economic, technological and social dynamics object of regulation.

However, a complex regulatory environment has higher compliance costs, and these costs tend to disproportionately affect parties with less availability of financial resources, such as researchers and research organisations. From this point of view, it is particularly important to unpack the reported regulatory complexity. As argued, this can be done on various levels and in various moments of the law-making process. The study, in Section 2.9 of Chapter 2, attempts to offer a holistic view of this complexity and, for the identified interplays, proposes either solutions on the conceptual and/or normative level, when possible or alternatively, denounce possible incompatibilities across the surveyed instruments.

Main opportunities and challenges

Section 2.10 of Chapter 2 is structured according to the two different perspectives that researchers and research organisations commonly occupy vis-à-vis EU data and digital legislation[4]. From the first perspective, researchers and research organisations are considered to be *users* of data and digital technologies, with these assets becoming the input for research activities. An example of this perspective is researchers accessing public sector bodies' documents pursuant to the ODD. Under the second perspective, they are *providers* of (research) data and digital technologies, with these assets becoming the output of the research activities. A fitting example can be found in the potential qualification of digital research repositories as a hosting service under DSA, which triggers certain legal obligations.

The findings on the opportunities and challenges posed by EU data and digital legislation are presented for each of the two perspectives relevant to research activities. While some provisions in the legislation may be useful from the perspective of researchers and research organisations as 'users', they may simultaneously raise challenges when they qualify as 'provider' of (research) data and digital technologies. Below, we offer some examples of the findings of the full study.

Examples of the findings of the full study

Research Organisations and Researchers as *users* of data and digital technologies		**Research Organisations and Researchers as *providers* of data and digital technologies**	
Opportunities	**Challenges**	**Opportunities**	**Challenges**
Wider availability and reusability of public sector data	Complexity and legal uncertainty in data access and reuse for research purposes	Wider availability of legal and technical resources to enable and foster access, (re)use and sharing of data	Legal uncertainties
Wider opportunity to reuse research data (including through infrastructures)	The need to address the interplay of legal frameworks regulating access and reuse of data for different purposes	Recouping costs for provision of data/information	Resources needed for compliance when sharing (research) data
More clarity on compensation of costs for data access or sharing obligations	Pressure on academic freedom, increased influence of third parties on research	-	Lack of incentives to register as data altruism organisation
Researchers' access to private sector data	-	-	Possible conflicts with academic freedom

Source: Compiled by the study team.

4 See: Institute for Information Law (2023). Information Law and the Digital Transformation of the University. Part I. Digital Sovereignty. Amsterdam: September 2023, p. 49.

Key findings and recommendations

In the final Section of the Study, we identify key findings and ensuing recommendations. We first present a set of instrument-specific findings and recommendations, followed by some overarching ones. Recommendations are addressed to researchers and research organisations, policy- and lawmakers, interpreters and enforcers and the private sector.

Key findings and recommendations: Instrument-specific

Open Data Directive

Recommendations to researchers and research organisations

A) Key finding: Article 10 ODD will have a major impact on RPOs, in particular, the requirement to make publicly funded and publicly available research data reusable. This requirement can generate administrative, financial and compliance costs. It requires adequate capacity and knowledge in RPOs and researchers to manage data in a complex legal environment.

A1) Recommendation: Adequate resources must become available to open up research data for reuse. Member States are encouraged to ensure RPOs can invest in legal and technical expertise and resources in order to achieve compliance with the requirements set out in the ODD when making research data reusable.

Recommendations to law- and policymakers

A) Key finding: As regards the ODD, it has been set out in this study that several uncertainties revolve around Article 10 ODD, and the (required) reusability of research data remains. Those uncertainties can have serious impacts on RPOs and researchers.

A1) Recommendation: Pursuant to Article 18(1) ODD, the Commission will evaluate the ODD next year at the earliest. Paragraph 2 of that provision sums up what factors should be particularly considered in the evaluation. It does not mention the impact of the ODD's new rules on research data. It is advisable that the impact of the research data reuse provisions is taken on board explicitly in the evaluation and that the interplay with other instruments is also considered. This should allow for the design of targeted policies and interventions where necessary to ensure the regulatory framework for research data safeguards the interests of RPOs, researchers and the wider public interest in research.

Member States shall also provide the Commission with information to prepare the evaluation report to be written up by the Commission[5]. It is encouraged that input from various stakeholders, including those active (in public research), be included in this information and subsequently thoroughly considered.

Data Governance Act

Recommendations to researchers and research organisations

a) Key finding:
The DGA regulates the reuse of certain categories of protected data (Chapter II), codifies commercial data intermediation services (Chapter III) and provides for registered data altruism organisations (Chapter IV).

5 Article 18(1) ODD.

a1) Recommendation:
Ensure there are adequate resources, (legal) expertise and processes in place to ensure that before releasing protected data as open research data (under Article 3 DGA), the protected nature of data is safeguarded.

a2) Recommendation:
Put in place processes that ensure researchers and RPOs are aware of the possibilities of seeking access to certain categories of protected data from public sector bodies pursuant to Chapter II of the DGA.

a3) Recommendation:
RPOs and researchers engaged in data-sharing activities with private sector actors should seek legal advice about their compliance with Chapter III of the DGA regulating data intermediary services.

Recommendations to law- and policymakers

a) Key finding:
Considering the DGA, researchers and RPOs face legal uncertainty about the situations in which they are falling within the scope of application of Chapter II of the DGA, not least because the exception for certain RPOs in recital 12 of the DGA is non-binding.

a1) Recommendation:
In the next review process for the DGA, address the issue of the scope of application with respect to RPOs. Meanwhile, consider offering official guidance to RPOs and researchers on the application of the DGA.

b) Key finding:
Preparing protected data for release and reuse involves the risk of liability for any infringements of third-party rights and interests as guaranteed by, for example, the GDPR, intellectual property rights and contractual confidentiality.

b1) Recommendation:
Safeguard the voluntary nature of the extended reuse of protected (research) data at the EU level under Chapter II of DGA in the interest of avoiding administrative burdens for RPOs and researchers and ensuring respect for academic freedom.

b2) Recommendation:
Consideration should be given to practical solutions to offset the considerable legal risks that RPOs and researchers would face, which, when they make protected data available for reuse, *unintentionally* infringe upon third parties' rights. For example, Member States' competent bodies could operate the requisite secure processing environments for research data, which contain categories of protected data, thereby assuming liability risks and professionalising the reuse of protected data.

c) Key finding:
Data sharing infrastructures are key for open science and open research data and benefit the European Research Area, researchers and RPOs alike.

c1) Recommendation:
The EU should (continue to) support data-sharing infrastructures in the area of research and promote the creation and maintenance of data-sharing infrastructures by RPOs and their networks.

c2) Recommendation:
With a view to supporting the reuse of protected data as foreseen under the DGA, the EU should (continue to) promote the sharing of knowledge and technical solutions for safe processing environments, including offering Open Source software.

d) Key finding:
Concerning Chapter IV of the DGA, researchers and RPOs are cognisant of the benefits of Data Altruism Organisations but they may be less likely to set up and notify as registered Data Altruism Organisations.

d1) Recommendation:
Ensure registration processes are efficient for RPOs and researchers and that the added value is made clear; consider additional positive incentives should take-up prove to be low.

d2) Recommendation:
Pan-European research would benefit from opening up the European data altruism consent form more broadly for data sharing in the context of scientific research, which adheres to recognised ethical standards for scientific research.

Digital Services Act

Recommendations to law- and policymakers

a) Key finding: Article 40 DSA on research access to the data of VLOPs and VLOSEs – which is specifically addressed to researchers – emerges as the most innovative and potentially generative DSA provision from a data access perspective. However, its concrete impact on researchers and RPOs will depend on how this access mechanism is implemented in practice to inform the operationalisation of the DSA's systemic risks framework. The upcoming Commission delegated act on Article 40 DSA will play a crucial role in this regard, as it will detail the technical conditions for sharing data with vetted researchers. Ultimately, the approach of national regulators (in particular, the Digital Services Coordinators of establishment) in processing and deciding on researchers' access requests under Article 40(4) DSA, and the Commission's enforcement of Article 40(12) DSA on access to publicly available data, will be key in shaping the practice of research access under Article 40.

a1) Recommendation: The DSA regulators (the Digital Services Coordinators and the Commission, also in the context of the Board for Digital Services) should prioritise monitoring the concrete implementation of Article 40 DSA across the EU and how it affects broader DSA enforcement goals. In particular, they should regularly engage and facilitate discussions with researchers' and RPOs to identify relevant challenges in using this access mechanism and realising its full potential in the context of the DSA enforcement framework.

b) Key finding: The status of RPO-provided services under the DSA requires a case-by-case assessment to determine which DSA obligations might apply to the specific service. In their effort to organise compliance with the DSA, some RPOs (in particular, universities governed by public law) could incur into organisational burdens and financial costs, which might in turn favour the decision to further externalise and opt for services provided by third-parties.

b1) Recommendation: The DSA regulators (national Digital Services Coordinators and the Commission, also in the context of the Board for Digital Services) should promote discussion on the status of RPOs-provided services under the DSA, including by engaging with the relevant RPOs organisations, and provide clarifications on their potential obligations under the DSA framework.

Digital Markets Act

Recommendations to law- and policymakers

a) Key finding: The DMA includes a number of transparency provisions that are of potential relevance for researchers and RPOs as they allow for some form of data access. However, a low level of awareness of this legal framework, and possible procedural complexities (in particular, on acquiring the authorisation to access data as third-parties) could limit the potential benefits of these provisions for researchers and RPOs.

a1) Recommendation: The Commission, as regulator competent to enforce the DMA, can provide guidance and raise awareness on the transparency provisions under the DMA. These initiatives could increase the potential positive impact of the DMA on researchers and RPOs.

Data Act

Recommendations to researchers and research organisations

a) Key finding: The DA regulates data sharing, including between Internet of Things (IoT) data holders, users and third parties. These provisions may require data holders to share "readily available data" and relevant metadata generated by a connected device or related service with users or with third parties, including relevant sensor data.

a1) Recommendation: Ensure (knowledge) resources are in place that allow researchers in their capacity as users of IoT products, to familiarise themselves with the access and portability rights as well as with the connected limitations that can offer them access to IoT data.

a2) Recommendation: Ensure knowledge resources and processes are in place that enable researchers seeking access IoT data as third parties, to comply with the DA's requirements, notably as regards their communication with IoT users, the potential limits that data holders may be able to impose on the scope of the data, especially regarding trade secrets, and compensation due to the data holder under Art. 9 DA.

b) Key finding: The DA provides a mechanism for business-to-government (B2G) data sharing that can involve data being shared by the relevant governmental bodies with researchers and research organisations. These provisions may require researchers and research organisations to take appropriate measures for the handling of data received from such governmental bodies.

b1) Recommendation: In order to benefit from these provision, researchers and research organisations should familiarise themselves with and adopt relevant data handling measures, including via technical infrastructure and/or other best practices such as data management plans, so that governmental bodies are able to share data with them.

Recommendations to law- and policymakers

a) Key finding: The DA regulates unfair contractual terms unilaterally imposed on another enterprise and provides the Commission with the power to develop model contractual terms and standard contractual clauses. Such unfair contractual terms may also be imposed upon researchers and research organisations that suffer from power asymmetries.

a1) Recommendation: In the interest of research, the Commission should monitor the application of the rules on unfair contractual terms as they apply in research contexts, and in developing model contractual terms and standard contractual clauses, should take into account, and potentially directly address, research use cases.

b) Key finding: The DA provides mechanisms for the establishment of interoperability, including of data, of data sharing mechanisms and services, of common European data spaces, of data processing services, as well as of smart contracts for executing data sharing agreement. Such interoperability requirements are likely to set a technical benchmark for realising the stipulations of the DA, including in the context of EOSC as a common European data space. The Commission has the power to guide the development of relevant interoperability requirements, including via delegated acts, implemented acts, as well as guidelines.

b1) Recommendation: The Commission should ensure that such interoperability requirements are achievable for a wide range of operators, including via supporting measures for their implementation and the positive encouragement of their adoption. The specific role of research organisations, in particular the way in which complex compliance legal and technical requirements could disproportionately affect them, should be taken into consideration in this process.

b2) Recommendation: The Commission should ensure that the technical implementation of such interoperability requirements do not run counter to alternative legal and policy objectives, including the facilitation of research access to data in the public interest.

c) Key finding: The DA sets the amount of compensation due to data holders by data recipients to the level of marginal cost when the recipient is a research organisation, but leaves open the possibility to other EU or national law to reduce or exclude compensation (Art. 9(6)).

c1) Recommendation: National legislators should work to ensure the flexibility offered by Art. 9(6) DA is used to ensure costs for research organisations do not hinder data access.

Recommendations to interpreters and enforcers

a) Key finding: The DA regulates unfair contractual terms unilaterally imposed on another enterprise. In its current formulation, the DA leaves open the question of whether researchers and research organisations qualify as an “enterprise”, such that they would benefit from the protections afforded by the DA.

a1) Recommendation: Courts addressing questions related to unfair contractual terms concerning access to and the use of data or liability and remedies for the breach or the termination of data-related obligations should interpret the scope of these provisions so that the rationale for the adoption of the provisions is appropriately substantiated, including, where relevant, as it applies to researchers and research organisations.

b) Key finding: The DA clarifies the role of the *sui generis* database right in the context of IoT data sharing. Some legal uncertainty persists regarding the scope and language of Article 43.

b1) Recommendation: Competent authorities and courts addressing questions concerning the *sui generis* database right and IoT data covered by the DA should take due account of the interests at stake, including, where relevant, of researchers as data holders, users and third parties to IoT data sharing schemes. This could be in the direction of an expansive reading of Art. 43 as to include other forms of rights related to copyright.

Recommendations to the private sector

a) Key finding: The DA mechanism for business-to-government (B2G) data sharing regulates the provision of relevant data to researchers and research organisations. This provides, among other things, that such data can be kept for up to 6 months after the erasure of this data by the requesting governmental body. Where such data contribute to research outputs such as an academic publication in a peer-reviewed scientific journal, such data may therefore not be available long term.

a1) Recommendation: Publishers of scientific publications, including journals, should be aware of this legal requirement and support researchers at the various stages of the publication process, for instance, exploring the possibility to offer an alternative secure storage facility for data in agreement with the original data holder.

Artificial Intelligence Act (proposal)

Recommendations to Researchers and Research Organisations

A) Key findings: While research organisations may also be considered providers when they ''put [an AI system] into service … for its [own] use,'', this does not cover AI systems ''specifically developed and *put into service* for the sole purpose of scientific research and development''. Irrespective of the above, once an AI system is commercialised at a later stage of its life cycle, the provider will need the necessary information to comply with the AI Act.

A1) Recommendation: Research organisations should strive to develop best practice in terms of transparency and documentation of the developing phases of AI systems – for example, when making available a ''detailed summary'' of the training dataset. This will support future commercial applications of the AI systems.

A2) Recommendation: When operating in the context of private/public partnerships for the development of an AI system, research organisations should draw up agreements with the consortium partners to allocate responsibilities and ensure compliance with the obligations under the AI Act.

Recommendations to law- and policymakers

A) Key findings: Neither the making available of an AI system in the context of non-commercial research (e.g. during testing) nor the making available of ''AI components'' on Open Source licences constitute a placing on the market of an AI system, these very same acts appear to have been exempted by ad hoc provisions in the various versions of the AI Act – (research in AI) Art. 2(5) EP text, Art. 2(7) Council text, and (OS AI) Art. 2(5e).

A1) Recommendation: As the text of the AI Act is not yet final, it could be unambiguously clarified that non-commercial research falls beyond the scope of the AI Act.

A2) Recommendation: it should be unambiguously clarified that the mere making available of AI components is not within the scope of the AI Act, irrespective of whether they are made available on OS licences or not.

B) Key findings: While research organisations acting for research purposes are allowed to freely train AI systems on copyright-protected data under Art. 3 CDSMD, under certain limited conditions they may have to comply with Art. 28b(4)(c) EP text (requiring making available a sufficiently detailed summary of the data used for training). Whereas this provision may generally enhance transparency, it was arguably originally developed in relation to the opt-out mechanisms of Art. 4 CDSMD. To the extent that it also applies to Art. 3 (research organisations), it will add a layer of compliance costs for research organisations that has not yet been tested. The function of Art. 28b(4)(c) is to allow rightsholders to monetise the use of their works, which is not applicable to research organisations precisely by virtue of the exception of Art. 3 CDSMD.

B1) Recommendation: For consistency, it could be clarified that Art. 28b(4)(c) AI Act EP text does not apply in cases of Art. 3 CDSMD.

European Open Science Cloud

Recommendations to researchers and research organisations

a) Key findings: Research organisations recognised the DDL and EOSC as a source of opportunities and challenges for the execution of their activities. Among the main challenges, the costs of compliance and legal uncertainty concerning the application of certain rules to specific organisations and practices were highlighted. These challenges pose potential deterrents for researchers and other stakeholders in the research community, as they may hesitate to share data due to concerns about legal compliance. In addition to the legal requirements, additional requirements imposed by research funding organisations, institutions (e.g. universities), and journals have a significant impact on researchers' data sharing.

a1) Recommendation: Consider the development of educational and training activities for researchers on how to operationalise existing obligations and mechanisms outlined in EU DDL, EOSC and Copyright Law, facilitating improved understanding and implementation of processes for data access, sharing, and (re)use.

a2) Recommendation: Research performing organisations, research funding organisations, and universities should take into consideration all the existing regulations (e.g. national and regional laws) on data (re)use and sharing before issuing new rules on the matter.

Recommendations to law- and policymakers

a) Key findings: The amount of existing legal sources that regulate research activities and/or activities carried out by researchers and research organisations can overwhelm researchers, create legal uncertainty, and generate compliance costs that may potentially affect the achievement of EOSC and Open Science goals.

a1) Recommendation: Development of best practices delineating strategies to navigate synergies between the EOSC, EU Copyright Law, and the DDL concerning obligations and mechanisms for data access and (re)use.

a2) Recommendation: New regulatory interventions should provide (i) increased clarity on the impact of said regulation on research activities and (ii) detailed information on the entities falling under the purview of these regulations, recognising the varied sizes and natures of organisations encompassed within the research ecosystem (e.g. universities, repositories).

Key findings: Recent procurements related to the EOSC EU Node and Simpl will be particularly relevant to fostering data sharing and interoperability. However, research carried out within this study showed that there is room for further research on some aspects concerning the role of EOSC as the Common European Data Space for Research.

b1) Recommendation: Consider the creation of additional funding opportunities to promote further investigation on:

> (i) the implications for researchers and research organisations resulting from the recognition of EOSC as a Common European Data Space;
>
> (ii) the interactions with other Data Spaces and their potential positive impacts on research across various domains; and
>
> (iii) the potential for EOSC to address complex cross-border issues inherent to the borderless nature of research itself.

Together with the existing expertise in technical interoperability and open and FAIR data, these aspects can become potent tools to unlock the full potential of EOSC as a Data Space.

Overarching key findings and recommendations

Recommendations to law- and policymakers

a) Key finding: The landscape of EU DDL as relevant to research activities is becoming ever more complex. A lack of consistency can negatively affect compliance with legal obligations and limit the ability of stakeholders to reap benefits.

a1) Recommendation: Key terminology and concepts related to scientific research and the actors within the research ecosystem should be consistent across the different legislative interventions. Considering that most instruments have been recently adopted, this could be done at the regularly scheduled revisions of the legislative tools, as well as at the policy and interpretative levels.

a2) Recommendation: EU policymakers may consider streamlining the consideration of scientific research in EU legislation and policymaking, such as integrating scientific research in the Better Regulation Toolkit.

a3) Recommendation: Consider the introduction of a regular monitoring exercise to identify researchers' and RPOs' ability to reap benefits from the body of EU DDL, and challenges encountered with compliance; in light of the important contribution of scientific research to the attainment of EU objectives, strategies and values.

b) Key finding: The variety of specific and often divergent data access and reuse regimes creates a complex regulatory system that risks overburdening researchers and research organisations with compliance costs.

b1) Recommendation: Develop further coordination across the surveyed DDL instruments with a view to consolidating some of the most outstanding inconsistencies at the terminological and functional level. This could be done in policy documents or in the scheduled revisions of the DDL instruments.

b2) Recommendation: Evaluate the feasibility of developing a coordinated, homogeneous and horizontal set of data access and reuse provisions for scientific research (Business-to-Research, B2R).

b3) Recommendation: As an EU core regulatory value, scientific research should be the clear policy and regulatory objective of provisions relating to scientific research, not simply a tool employed to achieve different goals. Examples may be found in Art. 40 DSA or in the B2G provisions of the DA. In both cases, researchers are granted specific access frameworks, but the ultimate goal is not scientific research (it is respectively systemic risk identification and exceptional need), which lead to situations that may frustrate scientific research (e.g. obligations to limit the scope of the research to systemic risk or to erase the data after a certain period of time).

c) Key finding: Academic freedom as protected by Article 13 of the EU Charter, is not consistently recognised as a relevant value to be safeguarded as regards aspects of institutional autonomy and the autonomy of individual researchers.

c1) Recommendation: Have consistent consideration for safeguarding academic freedom, both at the level of institutional autonomy of RPOs and individual autonomy of researchers. Ensure that EU data and digital law aligns with values that underpin academic freedom, i.e. as regards recognised research methods and practices in the various research community and disciplines and adherence to ethical research standards.

c2) Recommendation: EU policymakers may consider streamlining the consideration of scientific research in EU legislation and policymaking, such as integrating scientific research in the Better Regulation Toolkit.

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EU open data

The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

This report supports ERA Policy Agenda 2022-2024, aiming at an EU framework for copyright and data fit for research. It analyses barriers to accessing and reusing publicly funded research, evaluating EU copyright and data legislation, along with regulatory frameworks. Presented measures aim to enhance the current framework, aligning it with scientific research and open data principles. It offers a comprehensive overview of the EU's research and innovation legal landscape, providing insights for policymakers, researchers, and research organisations.

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