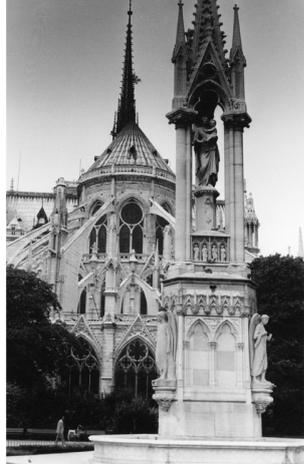European Commission

CULTURAL HERITAGE: DIGITISATION, ONLINE ACCESSIBILITY AND DIGITAL PRESERVATION

Consolidated Progress Report on the implementation of Commission Recommendation (2011/711/EU) 2015-2017

EUROPEAN COMMISSION

DIRECTORATE-GENERAL FOR COMMUNICATIONS NETWORKS, CONTENT AND TECHNOLOGY

Implementation of Commission Recommendation on the digitisation and online accessibility of cultural material and digital preservation

Consolidated Progress Report 2015-2017

Working Document

This publication reviews and assesses the overall progress achieved in the European Union in implementing the Commission Recommendation of 27 October 2011 on the digitisation and online accessibility of cultural material and digital preservation (2011/711/EU). This publication is based on the submitted country progress reports available online (ec.europa.eu/digital-single-market/en/news/2017-national-reports-digitisation-online-accessibility-and-digital-preservation). The Implementation of the Commission Recommendation on the digitisation and online accessibility of cultural material and digital preservation - Consolidated Progress Report 2015-2017 was prepared by the European Commission's The Directorate‑General for Communications Networks, Content and Technology (DG CONNECT). Reporting Member States authorities were consulted during the drafting phase through representatives of Member States in the Commission Expert Group on Digital Cultural Heritage and Europeana (DCHE). The leader of the Consortium operating the Europeana DSI – Europeana Foundation – was also consulted during the drafting phase and contributed with data extraction of statistics from the Europeana platform.

Countries are referenced by their full name or by country code, and direct quotes from country progress reports are in italics. 27 Member States submitted country progress reports for the 2015-2017 period and are listed in this Consolidated Progress Report in protocol order, as applicable based on contributions: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden. Furthermore, Lichtenstein also submitted a country progress report for the 2015-2017 period and is included in this Consolidated Progress Report.

FOREWORD

Europe's galleries, libraries, archives, museums and audiovisual archives have vast and rich collections that represent Europe's cultural diversity but also our shared history and values. In addition to the treasures guarded inside our cultural heritage institutions, Europe has many historical buildings, archaeological sites and monuments. Furthermore, Europe's intangible cultural heritage, such as cultural festivals, and craft making techniques are world renowned.

We have a lot to cherish, share and safeguard. That is why the Commission monitors progress in terms of digitisation, online access and digital preservation through the implementation of the Commission Recommendation of 27 October 2011 on the digitisation and online accessibility of cultural material and digital preservation (2011/711/EU). That is also why digital culture is among my top priorities.

This Consolidated Progress Report shows the progress made by Member States with some important themes emerging such as use of 3D technology for digitisation of cultural heritage artefacts, monuments and sites, as well as initiatives to enhance cross-border cooperation and digital capacity in the cultural heritage sector. The report also shows our progress made together when collaboration is not only about investing more but also more wisely in aligning efforts.

The Commission supports Member States in increasing collaboration to pursue progress together in areas where synergies with digital technologies can truly make an impact. In this regard, I would especially like to acknowledge the work of the Expert Group on Digital Cultural Heritage and Europeana (DCHE) that provides a space for fruitful collaboration between the Commission and Member States and among Member States. In fact, this Consolidated Progress Report is based on the Member States specific reports submitted through the DCHE. The other key and unique European Commission initiative is Europeana. I am happy to see that this report confirms the continued Member Sates support for Europeana and for our common efforts favouring the democratisation of the cross-border online access to authentic and trusted cultural heritage content as well as our aims to help cultural institutions adapt to the very rapidly changing digital environment.

The message of collaboration and mutual support is also very clear through the Declaration of Cooperation on Advancing Digitisation of Cultural Heritage, signed by 24 countries (23 Member States and Norway) at the Digital Day 2019 in April. The themes of the Declaration are also at the core of this report, and I trust that it will help boost our efforts to further develop and strengthen the cultural heritage sector, the visibility of our heritage and the citizen engagement.

The recent fire of Notre-Dame highlighted once more the need to preserve, record and protect our European cultural heritage. Reactions all over Europe show how important it is for our citizens and society.

The main message is this: more than ever, we are making progress, but we must keep working together. The time to strengthen our collaboration is now, because harnessing the power of digital for our cultural heritage can only be a joint endeavour.

Mariya Gabriel

European Commissioner for Digital Economy and Society

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EXECUTIVE SUMMARY

The Commission Recommendation on digitisation and online accessibility and digital preservation of cultural material (2011/711/EU), endorsed by the Council in May 2012, represents a milestone in digital cultural policy. It is the only policy instrument at European Union level that addresses the whole digital lifecycle of cultural heritage items from planning, monitoring and funding digitisation, to facilitating online access and re-use, to digital preservation. The Recommendation invites Member States to step up their efforts, pool their resources and involve the private sector in digitising cultural material, in order to increase online accessibility of European cultural heritage, boost engagement of citizens and growth in Europe's creative industries. Furthermore, digitised material should be made accessible through Europeana, the European cultural platform providing access to a wide array of digital content from Europe's libraries, archives and museums.

The structure of the report follows that of the Recommendation and previous Consolidated Progress Reports, divided in five main chapters. A new feature in this Consolidated Progress Report is a summary box with conclusions after each important section.

The first chapter, [Digitisation: Organisation and Funding](#) sets the scene in terms of how Member States plan, organise, and monitor digitisation of cultural heritage, who their cultural heritage institutions form partnerships with, their use of EU Structural Funds in digitisation, and how they optimise economies of scale for digitisation. This first chapter concludes that although more than two thirds of Member States centralise the country's digitisation strategy for cultural heritage at the Ministry level, there is no one-size-fits-all approach employed by Member States. As digitisation of heritage is a multi-disciplinary endeavour that requires mobilising funds and diverse expertise for implementation, and national authorities often rely on both regional and sectoral directions.

An important trend that emerged during the current reporting cycle (2015-2017) is that **more than one third of Member States reported funding programmes for digitisation of immovable cultural heritage** such as monuments, historical buildings and archaeological sites. In this context, 3D digitisation has also seen increased activity.

There are a number of ways that Member States pool resources and competences together to achieve economies of scale for digitisation. Two thirds of Member States have established digitisation and competence centres with the aim to centralise funds and lower the costs involved, consolidate the digitisation processes to focus on and ensure quality, organise trainings and share best practices. Almost two thirds of Member States share services or facilities such as repositories, content management systems or IT tools in order to optimise digitisation capacity, with the aim to store and manage digital objects and data more efficiently, while avoiding overlap of efforts, and disseminating and making better-quality content available online.

The second chapter covers [Digitisation and Online Accessibility of Public Domain Material](#), and reveals that **more than two thirds of Member States promote preserving public domain status of cultural heritage after digitisation**

through various initiatives. However, uncertainty and limited knowledge in the sector regarding this topic remains an important issue in the cultural heritage sector, which is addressed by Member States through workshops, guidelines and also funding. Nevertheless, there is a positive trend and progress towards broader application of the principle of preserving public domain status after digitisation.

The third chapter [Digitisation and Online Accessibility of In-Copyright Material](#) highlights that pending the assessment of the Orphan Works Directive, the initial indications from Member States suggest that although the Directive has been transposed into national legislations and a number of Member States have put in place measures to monitor the impact of the Directive, it would seem that **so far it has not contributed to a large-scale digitisation of orphan works by cultural heritage institutions**. The major practical and financial difficulty signalled so far seems to be linked to the due diligence search requirement. Nevertheless, **a significant number of Member States provide for some kind of mechanism to facilitate digitisation and online accessibility of works which are out-of-commerce.**

The fourth and largest chapter in this Consolidated Progress Report, [Europeana](#), confirms that the quantitative targets have already been largely achieved, and **a focus from quantitative targets to managing quality is needed.** Even though most initiatives that Member States employ to encourage their cultural heritage institutions to contribute to Europeana seem to prioritise quantity over quality, **high-quality digital objects are important to Member States: More than a third of Member States actively encourage cultural heritage institutions to submit high quality content and metadata to Europeana.** Europeana has developed a publishing framework that outlines content quality groups under four tiers: approx. 15% of total content from the EU Member States is in the high quality Tiers 3 and 4 (data subtraction: August 2018).

Furthermore, more than two thirds of Member States have a national cultural heritage aggregator enabling and supporting cultural heritage institutions in sharing their content with Europeana. Also, approximately two thirds of Member States have participated in EU funded aggregators with a thematic and domain focus. In order to promote high-quality content in Europeana, the EU funded aggregation projects have begun to include quality criteria. In order to further promote high-quality content in a consistent manner, there is a need to strengthen the ecosystem of aggregators and coordination between national and local aggregators.

The importance of linked open data directly and indirectly related to Europeana has emerged as a relevant topic to be further addressed at the EU level along with 3D digitisation and emerging fields and technologies that can improve the quality of digitized material presented online.

The final and fifth chapter, [Digital Preservation](#), reveals that overall, the majority of Member States report a variety of mixed and combinations of action plans, strategies and initiatives for the long-term preservation of digital material: Almost two thirds of Member States either initiated or are preparing to initiate action points at the national level; while almost half of Member States reported activities of public institutions, competence centres or associations taking action in this

area; and three Member States reported participation in European projects dedicated to digital preservation.

Support by Member States for the Recommendation overall and the underpinning topics it covers remains wide. **Member States consider that the Recommendation has been a useful instrument** for setting up national policies, coordinating activities, keeping up with progress, raising awareness of the need for action, and giving momentum to existing policies. **However, an update/reinforcement of certain areas covered by the Recommendation was suggested by several Member States**, to keep up with the overall regulatory, political and technological developments, as well as to review low impact provisions.

1. DIGITISATION: ORGANISATION AND FUNDING

The first chapter gives an overview of the landscape of digitisation in the European Union (EU) by outlining the overall ongoing digitisation plans, strategies and funding programmes across Member States. The chapter is divided into four sections and it provides an assessment of the extent to which Member States have made progress during the reporting period 2015-2017 in terms of organisation and funding of digitisation, as specified in points 1, 2, 3 and 4 of the Commission Recommendation (2011/711/EU) that Member States:

> *1. further develop their planning and monitoring of the digitisation of books, journals, newspapers, photographs, museum objects, archival documents, sound and audiovisual material, monuments and archaeological sites (hereinafter 'cultural material') by:*
>
> > *(a) setting clear quantitative targets for the digitisation of cultural material, in line with the overall targets mentioned under point 7, indicating the expected increase in digitised material which could form part of Europeana, and the budgets allocated by public authorities;*
> >
> > *(b) creating overviews of digitised cultural material and contributing to collaborative efforts to establish an overview at European level with comparable figures;*
>
> *2. encourage partnerships between cultural institutions and the private sector in order to create new ways of funding digitisation of cultural material and to stimulate innovative uses of the material, while ensuring that public private partnerships for digitisation are fair and balanced, and in line with the conditions indicated in the Annex;*
>
> *3. make use of the EU's Structural Funds, where possible, to co-finance digitisation activities in the framework of regional innovation strategies for smart specialisation;*
>
> *4. consider ways to optimise the use of digitisation capacity and achieve economies of scale, which may imply the pooling of digitisation efforts by cultural institutions and cross-border collaboration, building on competence centres for digitisation in Europe;*

The first section, **Planning and monitoring digitisation** gives a high-level overview of the national, regional and sectoral digitisation schemes present in Member States. Most of these digitisation schemes are ongoing and have national targets that can differ widely in each country. Furthermore, these targets are usually set per domain (i.e. domains in cultural heritage: library, archive, museum, etc.). Therefore, progress at the EU level may also be understood in terms of the reported priorities for digitisation by domain and not only in terms of isolated quantitative targets. Member States reported digitisation actions in five cultural heritage domains or areas, in priority order: library and archival cultural resources; museum collections; sound and audiovisual heritage; monuments, historical buildings and archaeological sites; and intangible culture.

An important trend across Member States constitutes the reported efforts aimed at increasing the quality of digitised material, through actions such as publishing technical guidelines, standards and specifications for digitisation that indicate minimum levels of quality and act as main points of reference in public projects for digitisation.

In terms of monitoring progress in digitisation, most Member States reported centralised monitoring realised at the national level by the Ministries or at the regional level. However, many Member States reported decentralised monitoring of digitisation of cultural heritage though agencies, competence centres, the national aggregator or national institutions that report on their own digitisation status or the status of digitisation per domain.

Twenty-three Member States participated to the latest [ENUMERATE survey conducted in 2017](#) to monitor the state of digitisation in Europe, and many of them reported that the survey is valuable to their country and cultural institutions, with some suggestions for improvement regarding timing and methodology of the survey.

The second section, **Public-private partnerships (PPPs)** reveals there is a small change from the previous reporting period between 2013-2015, although the number of partnerships and institutions involved in PPPs keeps gradually growing in the Member States. The main PPPs reported are predictably with technology companies and some with media publishers, but in a few instances also with banks. Member States also reported agreements between their cultural institutions and foundations, international non-profit organisations and private individuals. One Member State also highlights a different type of 'partnership' with end-users.

The third section, **Use of EU Structural Funds to co-finance digitisation** shows that a similar number of Member States continue making use of EU Structural and Investment Funds for digitisation of cultural material and related services for the 2014-2020 programming period. As the current programming/funding period of EU Structural Funds is 2014-2020, it covers two reporting cycles from 2013-2015 and the current one from 2015-2017. Therefore, it is expected that a similar number of Member States would report progress since 2015.

The final section of the chapter, **Optimise use of digitisation capacity for economies of scale** reports on and gives examples of how Member States pool digitisation efforts in order to reduce costs, share best practices, increase the quality of their cultural content online, and overall how to make digitisation more efficient.

1.1. Planning and monitoring digitisation

1.1.1. National, regional and institutional/domain specific digitisation schemes

Member States have different digitisation schemes based on their national agendas, priorities and coordination of cultural and digital policies. From a high-level view, digitisation schemes across the EU can largely be understood at two levels: national or regional level, and at the level of the sector or the national institutions. However, most of the Member States with national or regional digitisation policies also highlighted in their reports the involvement of their national cultural heritage institutions in the formulation of national policies, often through official committees or working groups that coordinate, set targets or monitor the implementation of digitisation of cultural heritage.

Figure 1: Predominant trends in the organisation of digitisation across the EU sketches the landscape across Member States in terms of how digitisation is organised and funded and where the responsibility of formulating the digitisation strategy lies. Even though the national cultural heritage institutions, especially the national library in most Member States plays a key role in this process, **most MSs centralise responsibility at the Ministry level** – which is reflected in the graph. Figure 1 flags the predominant parties or stakeholders involved in setting

digitisation strategies on a large scale – if not national, then regional or per domain – but it does not aim to highlight each actor involved.

FIGURE 1: Predominant trends in the organization of digitisation across the EU

	National strategies	National funding programmes	Regional strategies	Regional funding programmes	Advisory task forces, committees & work groups	National institutions/ Domain specific strategies
BE		√	√	√		√
BG				√		√
CZ	√	√			√	
DK					√	
DE		√	√	√		√
EE	√	√				√
IE		√				√
EL	√	√				
ES	√	√			√	
FR	√				√	√
HR	√	√			√	
IT	√					√
CY	√	√			√	
LV	√	√			√	
LT	√	√				
LU	√					
HU	√				√	
MT					√	√
NL	√				√	
AT		√				√
PL	√	√				√
PT						√
RO	√	√				
SI	√					√
SK	√	√			√	
FI	√	√			√	√
SE	√	√			√	√
UK	*DATA NOT AVAILABLE FOR CURRENT REPORTING PERIOD*					

Digitisation strategies under national and regional policy frameworks and actions:

A total of twenty-three Member States reported national digitisation plans and/or national funding programmes (BE, CZ, DE, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, NL, AT, PL, RO, SI, SK, FI and SE). Most Member States reported national digitisation strategies under the main coordination of the relevant Ministry or Ministries. In the case of the Member States that also foresee national funding for digitisation, the funding programme reported is generally connected to the strategy plan.

A few Member States that reported national digitisation strategies foresee digitisation across domains (museums, libraries and archives) in a centralised policy document that is updated periodically. For example, the latest national plan that covers digitisation for **Estonia** continues to be the National Strategy for Digital Cultural Heritage 2011-2016, but the country is also in the process of creating an action plan titled Digitalisation of Cultural Heritage 2018–2023. **Croatia** is in the process of amending its National Cultural Heritage Digitisation Strategy. **Sweden** has extended The National Digital Strategy 2011-2015 into the current reporting period. **Netherlands** developed the National Digital Heritage Strategy in 2015, which focuses on developing joint services and methods for improving the sustainability, usability and visibility of digital cultural heritage. **Luxembourg** launched a new digital strategy for cultural heritage in 2017.[1] **France** also defined its national digital strategy in 2017 - The National Digitisation and Valorisation Plan (Plan national de numérisation et de valorisation des contenus culturels) following the evaluation of its 2013 national digitisation plan. However, in the case of France, the objective for the future is to follow a decentralised approach to digitisation by relying on the regional directions to select, monitor and fund digitisation projects.

Additionally, **Liechtenstein** reported the newly adopted Cultural Heritage Act "Kulturgütergesetz", effective from the beginning of 2017. Liechtenstein also announced the publication of a digital and accessible "Kulturgüterregister" currently under preparation.

A number of Member States foresee national strategy on digitisation of cultural heritage under national digital agendas or in close connection to other digital objectives. For example, **Lithuania** incorporates digitisation as a part of the Digital Agenda for the Republic of Lithuania. The main development direction for cultural heritage is defined in the Programme of Digital Cultural Heritage Actualisation and Preservation 2015–2020 and its implementation plan. **Hungary** has adopted The Public Collections Digitisation Strategy, which is closely related to the implementation of the Digital Well-being Programme and the targets of the Digital Education Strategy, as well as to the expectations identified in the European Digital Agenda. **Romania** foresees digitisation under the National Strategy for the Digital Agenda for Romania and The National Programme for Competitiveness. **Czech Republic** has incorporated the digitisation of cultural content into several plans: The State Culture Policy for 2015-2020 (with the view to 2025), The Culture Content Digitisation Strategy for 2013-2020, The Integrated Strategy of the Support of Culture to 2020, The Libraries Development Concept for 2017-2020, and The Concept of digitalization, digital restoration and digital archiving in the National Film Archive in the Years 2014-2020. **Slovenia** includes digitisation objectives in the National Program for Culture 2014-2017, aiming at increasing the scope and online accessibility of digital cultural content. **Poland** conducts digitisation on the basis of national and topical strategies: The Strategy for Responsible Development to 2020 – with the perspective to 2030, divided in six areas, Strategy of Social Capital Development 2020, Strategy of digitisation of national archives resources for years 2018-2023, and Programme of digitisation of culture goods and collecting, storing and sharing digital objects in Poland 2009-2020. **Latvia** embodied digitisation in the State Cultural Policy Guidelines for

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[1] The Luxembourg representative in the Commission Expert Group on Digital Cultural Heritage and Europeana (DCHE) presented the country's new digital strategy for cultural heritage at the 4th DCHE meeting on 6 November 2018. The presentation is available here: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=55263

2014-2020 "Creative Latvia" and the Digital Cultural Heritage Development Strategy. **Finland** steers the development of information management of cultural heritage sectors via enterprise architecture work as part of the Strategy for the Cultural Policy and in close co-operation with Open Science activities. **Italy** defines the national priorities for digital transformation in the "Strategy for digital growth 2014-2020" launched at the beginning of 2015. Furthermore, digitisation of cultural heritage in Italy is a national political priority and is included in the Smart Specialisation Strategy Plan (S3) of the national cohesion policy, adopted in 2016 by the Italian Agency for Territorial Cohesion. As part of this strategy and political priority, the Italian Ministry for cultural heritage and cultural activities has also implemented a training programme that trained 500 young cultural heritage practitioners in digital cultural heritage projects.

In terms of national funding programmes for digitisation, **Ireland** approved a new cultural digitisation scheme, which will fund digitisation projects planned by ten national cultural institutions and cultural heritage organisations between 2017-2020. **Greece** has two main digitisation funding schemes: the Operational Programme "Digital Convergence" 2013-2017 National Programme for Digital Convergence 2012-2015 and the new Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK). Greece funds a variety of projects, on digitisation and cultural developments related to museums, ancient monuments, and contemporary art. **Austria** funded digitisation through several national funding programmes commissioned by the Austrian Federal Chancellery/Division for Arts and Culture.

An example of allocating state budget funds for cultural heritage digitisation programmes can also be observed in **Croatia**. Every year the Ministry of Culture publishes a Public Call for Financing public needs in culture of the Republic of Croatia, funding state aid granted to programmes of digitisation of archive, library and museum material.

Additionally, three Member States reported regional digitisation plans (BE, DE and ES). Setting digitisation plans at the regional level stems from the national structure of these three Member States, such as the structure of the Flemish, French and German-speaking Communities in Belgium, the states or Länder in Germany, and the autonomous communities in Spain. In **Belgium**, the Flemish Minister of Culture launched a vision note on the impact of digital technology on culture, which includes digitisation.[2] The Minister of Culture of the French speaking Community is expected to adopt a new digital cultural plan by early 2018. In **Germany**, there are a number of digitisation strategies at the Länder level concerning the digital transition across sectors, which in several cases, also address digitisation of cultural heritage, for example, "digital@bw" for the state of Baden Wuerttemberg. Germany reported that nearly all German Länder now have a digitisation strategy. In addition to Länder level digitisation plans, Germany has national funding programmes, for example through the German Research Foundation. **Spain** has in some instances domain specific national and/or regional plans. For example, in the field of archives, the Spanish Government set up the Archives National Digitisation Plan, while in the field of museums, the autonomous community Castile y León approved the Museum Centres Action Plan 2017-2020.

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[2] The Belgium representative in the Commission Expert Group on Digital Cultural Heritage and Europeana (DCHE) presented the Flanders vision paper on digital impact for cultural heritage at the 4th DCHE meeting on 6 November 2018. The presentation is available here: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=55262

Even when digitisation is set as a national priority, it is important to note that regions can also play a significant role. For example, in **Italy**, the 20 regions have the responsibilities for the promotion of access to and valorisation of cultural heritage. They often include digitisation in their regional policies and Regional Operational Programmes / POR (for example: Lazio Region Smart Specialisation Strategy – S3 - par.2.2.3 Cultural heritage and technologies for culture) and monitor progresses and quality of the digitisation projects based on the national standards and guidelines.

National institutions/Domain specific digitisation strategies:

At least twenty-three Member States reported national institutions setting or participating in formulating, setting targets and monitoring digitisation strategies (BE, BG, CZ, DK, DE, EE, IE, ES, FR, HR, IT, CY, LV, HU, MT, NL, AT, PL, PT, SI, SK, FI and SE). As illustrated in Figure 1, at least thirteen of these Member States reported established cross-domain advisory task forces, committees or working groups composed of key national institutions together with the relevant Ministry advising and setting the national digitisation strategy. For example, in **Netherlands**, the national digitisation strategy is developed and implemented by the Digital Heritage Network/ Netwerk Digitaal Erfgoed (NDE), together with the Ministry of Education, Culture and Science. The core members of NDE are five large national institutions that get government funding from the Ministry, and which are expected to take the lead and assist smaller organisations with digitisation in their respective domains. Another such example was reported in **Croatia**, where the Council of the Cultural Heritage Digitisation Project is in charge of drafting the digitisation strategy. The Council consists of directors of key national institutions in the field of digitisation as well as representatives of the Ministry of Culture. Furthermore, the Croatia Ministry of Culture also reported the establishment of five domain-specific working groups: archival, audiovisual, library, museum and technical coordination group, to support in setting the strategy. **France** also set up four working groups on governance, open data, metadata and 3D digitisation. The digital national strategy of France was formulated by the Ministry of Culture in collaboration with these working groups. As of 2017, **Cyprus** also established a national Committee on Digital Cultural Heritage with the main objective to set up a strategic plan on Digitalisation and Preservation of Cypriote cultural heritage, and to establish the corresponding national financial framework. *The members of this Committee are: the department of Antiquities, all the state Universities: University of Cyprus, Open University, Cyprus University of Technology, The Press and Information Office (PIO), The National Archive, National Library, The State Radio and TV Broadcasting Corporation (CyBC) and the Church of Cyprus.*

More than two thirds of Member States centralise the country's digitisation strategy for cultural heritage at the Ministry level, however, it is clear that the national institutions, especially the national libraries across Member States play a key role in the process.

There is no one-size-fits-all approach that Member States employ for planning digitisation of cultural heritage. As digitisation of heritage is a multi-disciplinary endeavour that requires mobilising funds and diverse expertise for implementation (e.g. legal and technical), and as cultural heritage is at the core of social and economic value of a country, Member States balance digitisation policies between centralised and decentralised approaches, sometimes relying on both regional and sectoral directions.

1.1.2. Quantitative targets and priorities for the digitisation of cultural material

In terms of quantitative targets for digitising cultural resources, most Member States with national or regional funding programmes report that targets are closely tied to funding in terms of available budget and the goals of the programmes. As available funding levels differ among Member States, so do the set targets. Furthermore, Member States also reported that targets are generally set by the individual cultural heritage institutions based on the number and type of objects in their collection, and as just mentioned, based on budgets. A few other Member States reported setting targets by the digitisation centres, or per regions. For example, **Belgium**, following an inventory of audiovisual resources created in 2013 by FARO (Flemish interface centre for cultural heritage) and PACKED vzw (centre of expertise in digital heritage), the Flemish Institute for Archiving (VIAA) has set the objective to complete the digitisation (or transfer of born digital but non-file-based materials onto mass storage systems) of the inventory of all collections surveyed in 2013, supplemented with the audiovisual collections of some of the Flemish government bodies, the main city archives, the heritage institutions recognised but not subsidised under the Flemish Cultural Heritage Decree, and the performing arts organisations subsidized under the Arts Decree by the end of 2023, with the exception of film material that is not under the immediate threat of physical degradation (due to the vinegar syndrome). An example of digitisation targets set per region can be observed in **Spain**, where quantitative objectives can be set per autonomous community, by domains.

Irrespective of quantitative targets that are set based on national funding programmes, or by national institutions, they are generally set per domain (e.g. library, archive, museum collections). Therefore, progress at the EU level may also be understood in the context of the reported priorities for digitisation by domain.

Digitisation of library and archival cultural resources: Based on Member States reports, the digitisation of library and archival documents, including manuscripts, books, journals and historical newspapers, is one of the main digitisation priorities. Over the current reporting period, at least eighteen Member States mention digitisation initiatives for text based cultural and historical

resources (BG, CZ, DE, EE, ES, FR, HR, IT, LV, HU, MT, NL, AT, PL, PT, SI, SK and FI).

Digitisation of museum collections: The digitisation of museum objects, including images, photographs, and sculptures was also observed as a priority for Member States. Similarly to the digitisation of library and archival documents, at least seventeen Member States mention digitisation initiatives for museum objects over the current reporting period (BE, BG, CZ, DE, EE, EL, ES, HR, IT, LV, HU, MT, AT, PL, PT, SK and FI).

Digitisation of sound and audiovisual heritage: Sound and audiovisual heritage is also increasingly becoming a priority. During the current reporting period, at least thirteen Member States reported digitisation programmes and actions of sound and/or audiovisual cultural heritage (BE, CZ, DE, EL, IT, LV, MT, AT, PL, HU, SK, FI, and SE). Of important mention is the developments in **Austria**. In addition to digitisation funding programmes for sounds, films, audiovisual interviews, etc., Austria also reported additional upcoming digitisation projects in this area.

> *Austria: 2018 the Austrian Republic will celebrate the 100th anniversary of its founding. On this occasion, the Filmarchiv Austria will launch a big digitisation project of the main filmic sources of the Austrian First Republic between 1918 and 1938. To receive an optimum of picture quality the Filmarchiv Austria will start from the original sources, which were produced on the highly inflammable nitrate base. The newly produced digital content will then undergo a thorough digital restoration. To finance this task Filmarchiv Austria is trying to get funding from the public sector of the Republic as well as the private sector. Since in 2018 Austria will also commemorate 80 years of the "Anschluss", the annexation of Austria by Hitler-Germany, another digitisation project will focus on the surviving film sources from the period between 1938 and 1945. This is a further project that will involve digital restoration.*

Digitisation of monuments, historical buildings and archaeological sites: According to the latest Member States progress reports, there is an increase of funding programmes focused on digitising immovable cultural heritage such as monuments, forts, palaces, and archaeological sites. Eleven Member States reported digitisation initiatives and projects in this area (BG, CZ, EE, EL, ES, IT, LV, NL, PL, SK and FI). Out of these countries, Bulgaria, Spain, Greece and Poland reported 3D digitisation of monuments and sites. In **Bulgaria**, the Digital Cultural and Historic Heritage of Plovdiv Municipality Project led to the establishment of a digital centre equipped with digitisation equipment including scanners for creating 3D models of buildings, city areas and items. The digitised 3D models are accessible online.[3] **Spain** reported a 3D image digitisation project managed by the Regional Authority of Galicia covering notable pieces from the collections of the museums as well as overhead drone images of archaeological sites prepared for public access. **Poland** reported the ZABYTEK.PL[4] project described as a modern way of sharing information about Polish monuments and historical buildings, along with descriptions, photographs, interesting digital

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[3] More about the the Digital Cultural and Historic Heritage of Plovdiv Municipality Project:
http://digital.plovdiv.bg/EN/Pages/default.aspx

[4] More about the ZABYTEK.PL project: www.ZABYTEK.PL

materials (e.g. 3D models of the buildings, point clouds), as well as the location of the buildings. 3D digitisation of monuments and sites is also taking place in **Greece** in the context of various local research and conservation/restoration projects. Furthermore, **France** and **Germany** have both reported working groups and projects dedicated to 3D digitisation.

Digitisation of intangible culture: At least six Member States reported digitisation programmes for intangible culture such as the living arts, and traditional folklore culture such as traditional dances and folk customs, as well as elements of roma culture (BE, BG, EL, LV, NL and SK). For example, in **Belgium**, the Flemish government established an official Inventory of Intangible Cultural Heritage of Flanders, together with the immaterieelerfgoed.be[5] website committed to highlighting intangible heritage such as festivals or social customs, and examining applications for inclusion in the inventory. Similar to other Member States that reported under this heading, this initiative from Belgium highlights the strong community involvement that is essential when it comes to intangible cultural heritage.

> **More than half of Member States prioritise digitisation of library and archival cultural resources. Text based heritage such as manuscripts, books, journals and historical newspapers are at the top of the digitisation agenda – a trend that continues from previous reporting cycles.**
>
> **More than one third of Member States reported funding programmes for digitisation of immovable cultural heritage such as monuments, historical buildings and archaeological sites. This has become an important priority during the current reporting period.**
>
> **In this context, 3D digitisation is also seeing increased development. Further consideration should be given to 3D digitisation at EU level, to determine the need for coordination to ensure minimum acceptable quality of 3D digitised objects across the EU. France and Germany are just two of the Member States that have set in place a working group on 3D and a project to develop standards or guidelines in 3D.**

1.1.3. Increasing the quality of digitised material

Fifteen Member States published domain specific or cross-domain guidelines, technical standards and specifications for digitisation that act as main points of reference for digitisation projects (BE, DE, ES, EL, FR, HR, IT, LV, LT, HU, NL, PL, SK, FI and SE). These guidelines are compiled by the Ministries, competence centres or as a result of public projects. They cover a wide range of topics from overviews of ICT standards, visualisation of and access to digital objects (structured metadata, attention to graphical materials, etc.), interoperability, storage, use and long-term digital preservation to copyright, business models, findability, 3D digitisation and web statistics. In the case of most Member States, institutions are required to follow the published guidelines when digitising under specific funding programmes and/or in order for the digital objects to be stored in the central digital archive and presented through the national

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[5] More about intangible cultural heritage in Flanders: immaterieelerfgoed.be

portal. For example, in the case of **Greece**, guidelines concerning interoperability, metadata and digitisation specifications based on common standards and international good practices were published by the National Documentation Centre as part of the "Digital Convergence" Call funding requirements.

In **Belgium**, the Flemish Government is focussing on standardisation from a general point of view. Belgium highlighted TRACKS[6] – created by the Flemish Government as a toolbox for handling archives and collections within the arts. The idea behind this project was that in the digital realm, the sustainability of digital objects should be taken care of from the beginning of the lifecycle of the digital object. Another initiative that was highlighted was CEST[7], a project that focusses on cultural heritage collections and is implemented and updated continuously. It is also aligned with the Dutch initiative De BASIS (maintained by Digitaal Erfgoed Nederland - DEN).

In addition, **Finland** also reported that institutions also have their own initiatives to guarantee the quality of digitised material. *The National Archives has its own Digitisation Quality Criteria. In the museum sector, The Museum 2015 Project led by the National Board of Antiquities developed cataloguing instructions to standardize the cataloguing data and procedures of museums for increased quality and facilitated availability. A revised set of standards was published in 2017. The National Library of Finland on the other hand prioritises availability, openness and accessibility of digitised material and metadata in its current library strategy. The library actively promotes and develops national solutions to improve the systemic interoperability in the public information sector e.g. through open interfaces and metadata, aiming at enabling wide use of digitised resources in research and society. Specific strategic guidelines for openness and transparency of services and operations are set in the Open National Library policy. International standards and further qualitative requirements are considered in the library's Digital Humanities policy.*

An additional two Member States reported aims at increasing the quality of digitised material by improving or updating digitisation infrastructure or equipment (BG and MT). Additionally, another Member State reported expectations that its new national digitisation scheme will add to improving the quality of digitisation objects (IE).

> **More than half of Member States highlight the importance of minimum standards of quality in digitised cultural heritage, through published guidelines and technical standards that also consider 3D digitisation.**

1.1.4. Monitoring progress in digitisation of cultural material

Member States reported two main channels for monitoring progress of digitisation of cultural materials: centralised and decentralised. Even within this division of two channels for monitoring digitisation, it is important to note that as digitisation is a cross-cutting area that involves a set of stakeholders, some Member States employ more than one monitoring channel.

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[6] More about TRACKS: http://www.projecttracks.be/

[7] More about CEST (cultureel erfgoed standaarden toolbox: http://projectcest.be/

Centralised monitoring: Up to sixteen Member States reported monitoring of digitisation realised at the national level by the Ministries or at the regional level (BE, BG, CZ, DE, EE, IE, EL, ES, FR, HR, LV, LT, NL, AT, SK and FI). In most instances, monitoring done at the national or regional level is part of the national/regional digitisation plans and projects, or the national digitisation funding programmes of the Member States discussed in the sections above. Most of these national digitisation plans and strategies include a methodology for monitoring digitisation that may comprise of set performance indicators and percentage based targets tracked through various reporting mechanisms such as national registries. The benefits of centralised monitoring include reducing unwanted duplication of digitised objects, therefore saving costs and making digitisation more effective, and enabling easier access and sharing of the digitisation results across the country.

Some examples that highlight the use of national registries include:

Czech Republic: The Digitisation Register of the Czech Republic[8] is the specialised national project, with the aim to run national registry of digitised documents (book funds) […] It is designed especially for libraries or other memory institutions that digitise their collections.

Slovak Republic: All digitised cultural materials are registered in the National Register of Digitisation, which was developed as part of the national project Central Application Infrastructure and Registry. Progress of digitisation is monitored regularly at the Ministry level throughout the implementation period.

In terms of national digitisation funding programmes of the Member States, these often assign targets based on budgets allocated in the programme, and foresee reporting mechanisms on the degree of progress achieved.

Decentralised monitoring: Eleven Member States reported monitoring digitisation of cultural heritage resources though agencies, competence centres, the national aggregator or national institutions that report on their own digitisation status or the status of digitisation in the domain (BE, DK, DE, EL, ES, IT, HU, PL, SI, FI and SE). For example, in **Sweden** there are at least two monitoring channels for the digitisation of cultural materials: *Myndigheten för kulturanalys (Swedish Agency for Cultural Policy Analysis) and DIGISAM, that both in some parts have the function of national monitoring channel.* Even though the reports are made to the Ministries or other competent public bodies, such as in Germany – progress tracked by the German Digital Library and the portal www.kulturerbe-digital.de, or in Finland – through performance agreements drawn and concluded by the Ministry, digitisation status is not centralised under a particular scheme such as a national registry.

Germany: While there is no scheme as such to monitor progress, the German Digital Library (Deutsche Digitale Bibliothek, DDB) aims to collect all digital content from German heritage institutions. While this process is still far from complete, the growth of the German Digital Library's content can be seen as an indicator for the growth of digitised material in Germany. Also, with the support of the Federal Government Commissioner for Culture and the

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[8] Check The Digitisation Register of the Czech Republic here: http://www.registrdigitalizace.cz/

Media the portal kulturerbe[9] is currently updated and provides an overview of many digitised cultural heritage material available in Germany.

Finland: *In Finland, practices of reporting and monitoring the digitisation of cultural material vary between sectors. Statistical monitoring is currently carried out in the museum sector, where digitised collections are included in the annual statistics of professionally-run museums. The National Library and the National Archives provide some quantitative data on digitised collections online in addition to internal monitoring. Moreover, all national cultural heritage institutions are to monitor and report on the digitisation of their cultural materials as part of their performance agreements drawn and concluded by the Ministry. Monitoring of digitisation projects funded with state subsidies is based on the Discretionary Government Transfers Act.*

Almost two thirds of Member States apply centralised monitoring through mechanisms such as national registries.

In both centralised and decentralised monitoring mechanisms, the cultural heritage institutions along with other implementing bodies such as competence centres, are central to the process of tracking digitised heritage.

Centralised monitoring may require more coordination on the part of the institutions and the Ministry, but the aims of a centralised mechanism can be very beneficial: to avoid unwanted duplication of digitised objects, therefore saving costs and making digitisation more effective, and to enable easier access and sharing of the digitisation results across the country.

1.1.5. ENUMERATE surveys/European level overview of digitisation data

As a project funded by the European Commission within the Europeana initiative, the primary objective of ENUMERATE is to create a reliable baseline of statistical data about digitisation, digital preservation and online access to cultural heritage in Europe.

ENUMERATE has run four Core Surveys, in 2012, 2014, 2015 and 2017 covering six main topics: digital collections, digitisation activity, digital access, participation, digital preservation and digitisation expenditures. The latest ENUMERATE report on Core Survey 4 builds on data provided by almost 1,000 institutions that responded to the survey between May and July 2017. This number of respondents is slightly lower than the Core Survey 3 from 2015. The ENUMERATE report on Core Survey 4 can be retrieved here.

Similar to the previous reporting cycle, most Member States reported having encouraged and supported the participation of their cultural institutions in the ENUMERATE survey through different communication channels and through the networks of the national aggregator and national institutions (BE, CZ, DK, DE, EE, IE, EL, ES, IT, LV, LT, LU, HU, NL, AT, PL, PT, SI, FI and SE). Most Member

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[9] Kulturerbe platform can be accessed here: http://www.kulturerbe-digital.de/

States reported an increased number of institutions that participated in the survey. For example, the response rate increased substantially in Belgium, Greece, Czech Republic, and Poland. However, in a few Member States, the response rate was lower than the previous year, and with this, some suggestions were sourced from the national reports regarding future surveys:

- **Increase the time period for filling in the survey. Germany** reported that usually the data asked for are not at hand and have to be collected in the institutions, therefore more time is needed to accommodate the internal process of institutions. Also, steps should be undertaken to get more representative data.
- **Ensure that the survey questions cover the scope of all domains of memory institutions. Spain** reported that the questionnaire reveals a focus above all on a library perspective. Consideration should be given to certain aspects of the characteristics of archive and museum projects.
- **Some questions could be more useful rephrased or expanded. Poland** reported a few suggestions regarding the questions of the survey. For example, the questions on digitisation costs are phrased in such a way that they are mainly useful only in the scale of particular countries.
- **Ensure that any technical errors that arise do not stop institutions from responding to the survey. Germany** reported that due to a sorting error when offering the different language versions on the survey, the German language version could not be found. Furthermore, there may have been an issue with the country menu in the questionnaire, which may not have offered an option for **Croatia**.
- **Increase dissemination of the survey, its results and conclusions.** Both **Estonia** and **Spain** suggested to increase the communication of the results of the survey once published.
- **Increase the usability of Enumerate data by developing an action plan based on the survey results, and by developing comparison data for benchmarking**. **Finland, Spain** and **Hungary** reported that the usability of the survey data should be improved. **France** suggested that the data should be constructed and automatised in a way that would allow Member States or the involved cultural heritage institutions to update their entries. **Hungary** reported two suggestions on this topic: usability could increase by publishing the results of data collections faster, and, by developing benchmark tools optimised for the institutions. **Spain** went on to recommend the publication of an action plan along with the results of the survey.

Overall, Member States reported that the ENUMERATE survey is valuable to their country and cultural institutions. For example, **Estonia** reported that the Ministry is highly interested in continuing its participation in ENUMERATE and other surveys at the European level. **Poland** reported that Polish institutions - including the archives - are interested in exchanging their experience in digitisation with other institutions through the ENUMERATE research platform.

Nevertheless, questions regarding the difference of results between surveys and response rates have arisen. The **Netherlands** proposed to take a larger pause between the surveys, to coordinate smaller focused surveys or other types of research, and a better method or system to collect results and benchmarks.

> **Overall, Member States reported that the ENUMERATE survey is a valuable initiative for their country and cultural heritage institutions. Member States suggest that the usability of the Enumerate data be increased by developing comparison data for benchmarking along with an action plan that follows-up on the survey results.**

1.2. Public-private partnerships

There is a small change in terms of public-private partnerships (PPPs) since the last reporting period, though the number of partnerships and institutions involved in PPPs has been gradually growing in the Member States.

The main private sector companies that cultural institutions have signed agreements with are technology companies, but in a few instances also media publishers and banks. Member States also reported agreements between their cultural institutions and foundations such as Wikimedia, international non-profit organizations and private individuals.

Public-private partnerships (PPPs)

Google and Proquest (for libraries) and Family Search International (for archives), Telefónica (for libraries and museums) continue to be the main private partners for large-scale digitisation projects. In addition to large multinational companies, Member States also reported agreements with local software and technology companies.

Some examples of PPPs between national or state libraries and Google were reported by **Czech Republic, Germany, Netherlands**, **Austria** and **Italy**. All these PPPs focused on large-scale digitisation of historical books. **Czech Republic** reported that up to now, approximately 150,000 books have been digitised and made available since 2011 when the multiyear PPP was established between the Czech National Library and Google. **Germany** reported that at the moment, the PPP with Google has led to the digitisation of almost 2 million books. **Netherlands** reported that The National Library has been cooperating with Proquest and Google for the digitisation of printed material. The Google programme is entering its last phase; around 50,000 books will be digitised by 2019 in this programme. **Austria** reported that the Austrian National Library and Google started a PPP in 2010 with the goal to digitise the entire historical books collection of the Austrian National Library (600,000 books). The books that have been digitised so far have been made available in full text via Google Books and the Austrian National Library. Access is open and free of charge for non-commercial purposes. **Italy** also reported a PPP with Google Books that started in 2010. Between 2015 and 2017 eight libraries were involved for a total of 232,474 scanned volumes. The project continues in 2018 and 2019. Italy reports that *the Google Books project is co-funded. Google covers all costs related to digitisation, insurance, shipping to the digitisation centre and management of the digital*

platform. Italian public funding[10] funds the overall management of the project, the cataloguing and restoration of volumes and the monitoring of the correct operational deployment. Italy also reported an agreement with three major online booksellers (Amazon, IBS, AbeBooks) and Central Institute for the Union Catalogue of the Italian Libraries (ICCU) in order to link the records of the online public access catalogue of the National Library Service (SBN) to their online catalogues: *if the SBN user lands on these online selling platforms and buys books, ICCU has a revenue of 6-10% on the amount of the purchase.*

France also reported a PPP between The National Library of France and Proquest since 2012 that has digitised 5.5 million pages from five collections of Early European Books.

In the case of **Sweden**, the Swedish National Archive has an agreement with Arkiv Digital that camera equipment belonging to the company is located in the reading rooms of the archive. In return, the National Archives has free access to the web service of Arkiv Digital and are allowed to use their images for free.

Furthermore, **Spain** reported several PPPs between libraries, museums and archives and various private entities such as banks and telecommunication companies. For example, a PPP between National Library of Spain and Telefónica, S.A was established from 2008 to 2016 with the goal to start the institution's first mass digitisation project. The scope of the PPP included dissemination and usage of digital material and fostering entrepreneurship and technological innovation. Another PPP that involved Telefónica was between the Reina Sofía Museum and Telefónica Foundation and Telefónica S.A. for the study and digitisation of Pablo Picasso's "Guernica", and the subsequent online presentation.

Partnerships with cross-sector organizations supported by public funding:

Most Member States also reported digitisation projects between culture and creative institutions with organisations from other sectors, including education, science, technology, research, but also healthcare, environmental and ecological sectors, etc.). Such projects were reported to have various aims from digitisation to virtualization and access. However, such partnerships differ from PPPs in the sense that the driving force behind them is public, not private funding.

A different type of 'partnership' with end-users:

A different funding model from public funding or resulting from PPPs was also reported, one that focuses on end-users. **Austria** reported two different initiatives that provided funding for digitisation with the help of end-users. For example, through eBooks on Demand[11] end-users were able to request at the cost of a fee the digitisation of books from the University and Regional Library of Tyrol at the University of Innsbruck. With the fee paid by the end-user, the digitisation process is co-financed as the fee covers only a small part of the full costs of the whole process chain of digitisation (including hardware costs or costs for long-term archiving).

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[10] Contributed by MiBAC- Directorate General for Libraries, the Agency for Digital Italy – AgID, and the Presidency of the Council of Ministers.

[11] eBooks on Demand http://books2ebooks.eu

Another initiative reported is from October 2016, when the Filmarchiv Austria launched a crowdfunding campaign to finance the reconstruction and restauration of the Austrian silent movie "The City without Jews". Austria reported that: *the campaign successfully ended in December 2016. More than 700 supporters made it possible to preserve the film by contributing more than EUR 86,000.*

> **Main reported PPPs are between national libraries and technology companies – most often involving multi-nationals such as Google and Proquest (publisher) that are known to have a vested interest in text based content.**
>
> **Crowdfunding has emerged as an alternative source of funding in the digitisation of books and audiovisual materials.**

1.3. Use of EU Structural Funds to co-finance digitisation

The Commission Recommendation (2011/711/EU) acknowledges that the EU Structural Funds can be and are being used to co-fund digitisation activities as part of projects having an impact on the regional economy. It recommends and encourages to make more widespread use of the EU's Structural Funds where possible, to co-finance digitisation activities.

For the current reporting period, eighteen Member States reported the use of EU Structural and Investment Funds for digitisation of cultural material and related services such as – developing standards for 3D digitisation, or keeping records of and documenting digital inventories – concerning the programming period 2014-2020 (BG, CZ, DE, EE, EL, ES, HR, IT, CY, LV, LT, MT, PL, RO, SI, SK, FI and SE). In some cases, the budget from Structural Funds for cultural heritage digitisation is available only for high competitive grants, for example, as is the case in **Cyprus**. Since the previous reporting cycle, this is an increase of eight Member States regarding this programming period. However when comparing the current and previous programming periods, the total number of Member States using EU Structural and Investment Funds for digitisation of cultural material has only slightly increased.

> **Two thirds of Member States report making use of EU Structural and Investment Funds for the programming period 2014-2020. As this programming period is concluding soon, and preparations are underway for the next programmatic period 2021-2027, new considerations may be given to the topic of digitisation.**

1.4. Optimise use of digitisation capacity for economies of scale

Optimising the use of digitisation capacity and achieving economies of scale is important for all Member States. For example, digitisation and competence centres, national or cross-border collaborations, or sharing services and facilities such as repositories or IT tools, can make the digitisation process more efficient and less costly.

In many of these Member States, economies of scale and the importance of coordinated digitisation activities are encouraged and supported in the national digitisation strategy or plan. For example:

Lithuania: One of the tasks of the Programme of Actualisation and Preservation of Digital Cultural Heritage 2015-2020 is to ensure coordinated digitisation activities of memory institutions and provision of consolidated digitisation services through the network of digitisation competence centres. Investments should be used rationally for digitisation facilities and at the same time to ensure continuity and quality of digitisation processes of the Lithuanian cultural heritage. It is planned to strengthen the network of digitisation centres until 2020 in order to have it cover objects of cultural heritage of any type, and to expand their activities by creating conditions to consolidate the processes that ensure quality, compatibility and interaction of digitisation of cultural heritage and digital content, and by establishing an effective mechanism of cooperation between the centres and provision of services for all the memory institutions.

Eighteen Member States reported designated digitisation and competence centres, largely domain specific but not exclusively (BE, BG, CZ, DE, EE, IE, ES, FR, HR, CY, LV, LT, HU, NL, PL, SK, FI and SE). Through digitisation and competence centres, Member States reported that their institutions were able to pool digitisation efforts in order to centralise funds for digitisation and lower costs, consolidate the digitisation processes to focus on and ensure quality as well as share best practices and organise trainings.

Eighteen Member States reported shared services or facilities such as repositories, content management systems or IT tools (DK, EE, EL, ES, FR, HR, IT, LV, LT, LU, MT, NL, AT, PL, SI, SK, FI and SE). In their latest reports, Member States highlighted the aims of their institutions in using centralised repositories that allow to store and manage digital objects and data more efficiently, while avoiding overlap of efforts, disseminating and making better-quality content available online.

Twelve Member States reported national or cross-border collaboration initiatives that aim to optimise the use of digitisation capacity to achieve economies of scale (DK, EE, ES, FR, CY, IT, LV, LT, LU, NL, AT and PL). For example, **Estonia** reported several cross-border collaborations that focused on sharing best practices and establishing uniform standards for mass digitisation:

- *Swedish-Baltic seminar on text-mining services and tools that libraries should develop to serve digital humanities with their digital collections (2017).*
- *Lithuanian, Latvian, Estonian summer seminar of Baltic National Libraries 2016. Topic: how to ensure that our collections stay relevant to researchers and students and developments in the field of the legal deposit copy legislation.*
- *Lithuanian, Latvian, Estonian organises a joint museology course every year. In 2017, the topic of the Baltic Museology School was "Information Management for Museums" and it dealt with issues concerning collection, organization and use of museum related information.*

- *International project "Collaborative Digitisation of Natural and Cultural Heritage: CD-ETA" (Interreg) is aiming to improve adoption of the digitisation policy for natural and cultural heritage and contribute for establishing of uniform standards in the mass digitisation. Estonian War Museum is a partner from Estonia.*

Apart from digitisation and competence centres, national or cross-border collaborations, or sharing of services and facilities, national and cross-domain/thematic aggregators also contribute to economies of scale. A number of Member States reported collaborating in European Union funded projects or cross-domain aggregators such as Archives Portal Europe Network of Excellence (APEX) – for more information on aggregators, check the section **National and cross-border aggregators** in the Europeana chapter.

In some Member States, economies of scale in terms of digitisation is addressed at the regional level. For example, in **Belgium**: *the Flemish Institute for Archiving (VIAA) provides a common approach to the digitisation of (a very large part of) the Flemish audiovisual heritage. This is done by aiming the digitisation projects not only on the collections of one or a few, but on the collections of many. The total number of content providers from whom carriers are included in the VIAA digitisation projects concerns currently (the end of 2017) more than 140 organisations. This group is even largely cross-sectoral: broadcaster's archives take the biggest part in the amount of carriers obviously, but these are completed with many more small collections from heritage libraries, archives, museums and performing arts institutions throughout Flanders*.

There are a number of ways that Member States pool resources and competences together to achieve economies of scale for digitisation.

Two thirds of Member States have established digitisation and competence centres with the aim to centralise funds for digitisation and thus lower the costs involved, consolidate the digitisation processes to focus on and ensure quality, organise trainings and share best practices.

Two thirds of Member States share services or facilities such as repositories, content management systems or IT tools at the national level or cross-border, in order to optimise digitisation capacity. The aim of such sharing of services and facilities is to store and manage digital objects and data more efficiently, while avoiding overlap of efforts, and disseminating and making better-quality content available online.

2. DIGITISATION AND ONLINE ACCESSIBILITY: PUBLIC DOMAIN MATERIAL

The second chapter of this consolidated report is divided into three sections and provides an overview of the extent to which Member States have made efforts during the reporting period 2015-2017 towards improving access to and re-use of digitised cultural heritage material in the public domain, as specified in point 5 of the Commission Recommendation (2011/711/EU) that calls on Member States to:

> 5. *improve access to and use of digitised cultural material that is in the public domain by:*
>
> *(a) ensuring that material in the public domain remains in the public domain after digitisation;*
>
> *(b) promoting the widest possible access to digitised public domain material as well as the widest possible reuse of the material for non-commercial and commercial purposes;*
>
> *(c) taking measures to limit the use of intrusive watermarks or other visual protection measures that reduce the usability of the digitised public domain material;*

The first section **Preserving public domain status after digitisation,** provides a high-level overview of measures employed by Member States or institutions to ensure that material in the public domain stays in the public domain after digitisation. These measures cover structured actions such as making the national budget and EU structural support for digitisation conditional on making the digitised objects available for public use, to issuing guidelines and organizing trainings on the topic. Overall, twenty-one Member States reported strategies under this heading.

The second section, **Access to and use of digitised public domain material,** builds on the previous section by highlighting actions taken by Member States and their institutions for the promotion of wider access or re-use of digitised public domain material. Overall, twenty-five Member States reported actions under this heading, with most of them highlighting examples of access and non-commercial re-use, and only three highlighting commercial re-use examples.

The third section, **Unhindered usability of digitised public domain material,** focuses on ensuring that the digitised public domain material is free of intrusive protection measures that may inhibit re-use. This section reveals a consecutive decrease from the last two reporting exercises in terms of structured actions taken by Member States to limit the use of intrusive watermarks or other visual protection measures that reduce chances for re-use of digitised public domain material. Although in general Member States adhere to this practice, only seven have reported measures taken or being considered under this heading.

2.1. Preserving public domain status after digitisation

Twenty-one Member States reported initiatives taken by their country or institutions to ensure that material in the public domain stays in the public domain after digitisation (BE, BG, CZ, DE, EE, IE, EL, ES, FR, HR, IT, CY, LT, LU, MT, NL, AT, PL, SI, FI and SE). Member States report a wide range of measures to encourage cultural heritage institution to make sure that digitised material in the public domain is not subject to copyright or is released under an open license, from making the national funding and EU structural support for

digitisation conditional on making the digitised objects available for public use without any restrictions but without infringing upon the copyrights of the works, to issuing guidelines and organising trainings on the topic.

Bulgaria especially reported an impressive project: the Digital Cultural and Historic Heritage of Plovdiv Municipality Project. All digitised reproductions created during the project have been made accessible to the public through the website that was created as part of the project, which can be accessed here.

Among the Member States that reported no structured initiatives under this heading, it was largely stated that institutions are informally encouraged to mark their digitised public domain content as public domain, if appropriate.

Despite the fact that the principle saying that public domain material should remain in the public domain after digitisation has mostly been accepted, **seven Member States reported some kind of obstacles in fully ensuring that public domain material remains in the public domain after digitisation (DE, HR, LV, HU, AT, RO and SE).** The obstacles reported are mainly in connection with the following issues:

a) fear of losing control and income by institutions in case of giving access for free to their most valuable collections;

b) legal uncertainty, e.g. lack of relevant legal provisions at EU and national level regarding public domain and its status after digitisation or difficulties in clearly identifying objects to be in the public domain. Moreover, the metadata (descriptive texts) accompanying cultural heritage object can create additional layer of complexity in terms of potential legal issues. This is because the descriptions of objects that cultural heritage professionals, curators, academics and researchers provide to cultural objects is often copyrighted either by the institutions or professionals themselves. Therefore, sometimes digital objects may be in the public domain but their metadata remains under copyright;

c) possible rights of photographers and other digitising agents in relation to their digitised output.

Germany specifically reported *the descriptive texts attached to museum objects are often copyright protected and also taking a photo of an artwork or an object can result in rights of the photographer on his work*.

Similarly, **Romania** reported that *the author of a photographic reproduction of a public domain work has the copyright on the reproduction. So the digital images of public domain works are not in the public domain.*

In order to promote the widest possible implementation of the digitised public domain material principle, Member States have taken different actions that are mostly of twofold nature:

i. Most Member States that fund digitisation centres and projects from national budgets or EU structural funds usually make the funding conditional that the digitised output is in the public domain;

ii. To clear the uncertainties, Member States with the help of different national institutions have organised information campaigns, trainings and workshops.

The work of Europeana (e.g. Europeana Public Domain Charter) and other institutions lobbying for open licenses is also acknowledged (e.g. DE, ES, LU, PL).

> **More than two thirds of Member States promote preserving public domain status of cultural heritage after digitisation through various initiatives. However, uncertainty and limited knowledge in the sector regarding this topic remains an important topic addressed by Member States – through workshops, guidelines and funding.**
>
> **The mind-set in the cultural heritage sector in terms of fearing loss of income if digitised cultural heritage is provided online in the public domain, remains to continue as an area to be addressed.**
>
> **Nevertheless, despite the mentioned difficulties the positive trend and progress towards broader application of the principle of preserving public domain status after digitisation is visible and continues.**

2.2. Access to and use of digitised public domain material

Twenty--five Member States reported under this heading, supporting actions for the promotion of wider access or use of digitised public domain material – stable number since the previous reporting cycle (BE, BG, CZ, DK, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, SI, SK, FI and SE). Support may be centralised by the Ministries and take place at the national or regional levels, or sectoral level support at the initiative of the cultural heritage institutions. Once digitised cultural heritage is marked for public domain, reported actions for promoting both access to and re-use of the digitised resources include dedicated portals, databases and repositories, as well as wikis, blogs, social networks, crowdsourcing, hackathons or web and media campaigns.

Examples of amplified access to digitised public domain cultural heritage:

Throughout the national reports, ten Member States reported collaborations with or the publication of cultural heritage datasets on Wikipedia (BE, DE, EE, ES, IT, HU, MT, NL, PL and SE). For example, in **Belgium**, the centre of expertise in digital heritage PACKED vzw has been working with Wikimedia Belgium since the beginning of 2017 to publish datasets on a wide and diverse range of topics including: performing arts productions made in Flanders since 1993; authors of books for children; historical agricultural vehicles, commercial vehicles and carriages; and liberal politicians.

In addition to publishing datasets, PACKED vzw and Wikimedia Belgium also organised edit-a-thons focussed on the creation and enrichment of existing Wikipedia pages, and a photography contest Wiki loves Art that included 13 different Belgian cultural institutions and resulted in the upload of more than 3,000 photographs.

In terms of results from such amplified access/re-use examples, **Netherlands** reported: *In 2016, 900,000 items from Dutch heritage collections were available for re-use on Wikipedia Commons (2 of total). 60,000 of these items were used in 900,000 Wikipedia articles. These articles generated 220 million page views a month. This is way beyond the audience reached by heritage organisations own web sites.*

Examples of non-commercial re-use of digitised public domain cultural heritage:

Many Member States have been reporting non-commercial re-use initiatives throughout the reporting cycles, such as re-use for scientific and higher education research. For example, **Greece** reported initiatives such as the *National Archive of PhD Theses (EADD) providing wide access to more than 37,500 PhD theses from all Higher Education Institutions in Greece as well as PhD theses awarded to Greek scholars by foreign higher education institutions and certified by the Hellenic NARIC, or an ePublishing suite of services that aims to disseminate scientific output with Open Access principles.*

Some specific examples from the current reporting period have also highlighted the digitisation of historic buildings for re-use in conservation or restauration projects: **Estonia** reported that following *a project led by Archaeovision that involved laser scanning the Haapsalu Episcopal Castle including the ruins of the main castle and main gate tower, the results were used for the creation of a Building Information Model (BIM) that was used by architects within the re-building project. A documentation project for the Church of Our Lady of Kazan also involved laser scanning and photogrammetric survey to compile final CAD drawings and plans.*[12]

Examples of commercial re-use of digitised public domain cultural heritage:

Among reported re-use initiatives, only a few Member States reported commercial re-use. At least three Member States reported commercial initiatives that re-use digitised cultural heritage either by the institutions that hold the original heritage objects, or by the creative sector (BG, EE and HU).

Estonia reported that E-varamu,[13] a portal for access to national cultural heritage was opened in 2016. The digitised ethnographic patterns available through this portal are widely used in design: *It is very popular to use these patterns as inspiration for new modified designs and goods such as designer clothes;[14] handmade folk costumes;[15] jewellery;[16] furniture and home design;[17] handicraft shop;[18] bed linen;[19] etc..*

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[12] http://archaeovision.eu/portfolio-item/kaasan-church/

[13] www.e-varamu.ee

[14] www.keerukoda.ee/triibukleidid/ and www.keerukoda.ee/triibuseelikud/

[15] http://rahvaroivad.folkart.ee

[16] https://etnoehe.wordpress.com/

[17] www.sisustusweb.ee/ee/uudis/3208/oige-disainiga-rulookardin-onkordumatu-sisustuselement.html

[18] http://kogo.seto.ee/et/pood

[19] www.textelle.ee

Furthermore, Estonia also highlighted in the national report commercial initiatives that involve museum shops including a monetary prize for the best museum gift shop object: *Museum shops have a large variety of gifts and souvenirs using their own collections, including prints of reproductions.*[20] *Estonian Museum Association in cooperation with the Ministry of Culture hands out a souvenir award called EMMA. EMMA is a monetary prize, which is handed out every two years to an Estonian museum that submits the best souvenir.*[21]

Hungary also reported that the national aggregator *Forum Hungaricum Nonprofit Ltd is making virtual exhibitions*[22] *every week from the records uploaded to the Hungarian National Digital Archive.*[23] *Certain exhibitions also include gifs made from database records with PDM licence. In addition, they also re-use these records on their events, to make puzzles, memory games and fridge magnets.*

More information on access and re-use of digitised cultural heritage, including digital cultural resources in the public domain, check the chapter on **Europeana**.

The majority of Member States employ several channels to increase access to and promote re-use of digitised cultural heritage with public domain status.

For amplified online access, Member States report publishing in Wikipedia through collaborations between national institutions and Wikimedia subsidiaries across Europe, or through projects meant to increase datasets in Wikipedia.

Trends in online access for non-commercial re-use of public domain digital cultural heritage was confirmed from previous reporting cycles, mainly that it focuses on scientific and higher education research.

Three Member States report commercial re-use with examples by the institutions that hold the original heritage objects, or by the creative sector such as fashion, jewellery, furniture and home design.

2.3. Unhindered usability of digitised public domain material

The Recommendation calls on Member States to take measures to limit the use of intrusive watermarks or other visual protection measures that reduce the usability of the digitised public domain material. **Although in general Member States adhere to this practice, only seven have reported measures taken or being considered under this heading (CZ, EL, ES, CY, LV, MT and FI).** This represents a consecutive decrease from the last two reporting exercises – nine Member States confirmed during 2013-2015, and fourteen during 2011-2013 progress period.

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[20] https://pood.ekm.ee/en; www.erm.ee/et/shop-new/categories/erm-soovitab; https://pood.ekm.ee/en/reproductions etc.

[21] www.kul.ee/et/eesti-muuseumimeene-auhind-emma

[22] http://en.mandadb.hu/virtual-exhibitions

[23] https://en.mandadb.hu/

Approximately twenty Member States reported that they do not take any structured measures to limit the use of intrusive watermarks (BG, BE, DK, DE, EE, IE, FR, HR, IT, LT, LU, HU, NL, AT, PL, PT, RO, SL, SK and SE). The reported reason is mainly because the use of watermarks or other visual protection measures that reduce the usability of digitised objects is not applied in digitisation public projects or by most institutions. Although MSs reported isolated examples of use of watermarks, cultural heritage institutions refrain for the most part from this practice, in line with supporting re-usability of digitised public domain material.

Although taking measures against the use of watermarks or other visual protection limitations on digitised material has been an active area since 2011, the situation has largely improved.

Only a third of Member States report action taken or being considered in order to limit visual protection being applied to digital heritage that can hinder their re-use. Most Member States report that overall, institutions adhere to this practice.

Even though this area of activity is slowing down, it remains a significant topic due to the importance of maximizing the re-use potential of digitised content.

3. DIGITISATION AND ONLINE ACCESSIBILITY: IN-COPYRIGHT MATERIAL

The level of digitisation and online accessibility of the cultural heritage institutions collections that consist of works protected by copyright or other protected subject matter is still much lower than collections of works for which the institutions do not have to obtain licences. This phenomenon leads to underrepresentation of works from the 20th century in digitisation projects of cultural heritage institutions known as the '20th century black hole'. Therefore, this chapter addresses point 6 of the Recommendation that calls on Member States to:

> *6. improve conditions for the digitisation of in-copyright material and its availability online by:*
>
> > *(a) rapid and correct transposition and implementation of the provisions of the Directive on orphan works, and its close monitoring;*
> > *(b) creating the legal framework conditions to underpin licensing mechanisms identified and agreed by stakeholders for the large-scale digitisation and cross-border accessibility of works that are out-of-commerce;*
> > *(c) contributing to and promoting the availability of databases with rights information, connected at the European level, such as ARROW;[24]*

The first section, **Monitoring the impact of the Orphan Works Directive**, suggests that the Directive seems to have had so far a low impact across Member States in terms of enabling large-scale digitisation.

The second section, **Legal conditions underpinning digitisation of out-of-commerce works**, assesses the incremental progress made by Member States in adoption of mechanism to facilitate digitisation and online accessibility of works, which are out of commerce.

The final section, **Databases of rights information**, gives an overview of the rights databases in use by Member States, mainly the Orphan Works Database at EUIPO (European Union Intellectual Property Office).

3.1. Monitoring the impact of the Orphan Works Directive[25]

The Directive was transposed in all Member States only at the end of 2015 and has taken a long time to start producing its effects. Last year some Member States were still establishing lists of sources to be consulted under the diligent search procedure and/or national guidelines on implementation. Moreover, given the review of the copyright framework[26], it was considered more

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[24] The Accessible Registries of Rights Information and Orphan Works Towards Europeana (ARROW) project took place 2008-2011, then continued up to 2013 with the ARROW Plus project. After the end of the ARROW Plus project the database continued until June 2017. As of today the ARROW database is no longer operational. Although ARROW is not operational anymore, the software has been released as open source - see the official announcement http://www.aie.it/Cosafacciamo/Iniziative/Arrow.aspx

[25] Directive 2012/28/EU of the European Parliament and of the Council of 25 October 2012 on certain permitted uses of orphan works, JO L 299 of 27.10.2012, p. 5.

[26] The reviewed EU copyright rules consist on the Directive on coypright in the Digital Single Market and the Directive on television and radio programmes. The Directives were published in the Official Journal of the EU on 17 May 2019. More about modernisation of the EU copyright rules: https://ec.europa.eu/digital-single-market/en/modernisation-eu-copyright-rules

efficient to wait for the outcome of the legislative process as it touches on interrelated issues such as out-of-commerce works. It seemed therefore appropriate to wait for a full and effective implementation of the Orphan Works Directive before conducting a review in line with the Article 10 of the Directive. A review of the Directive is planned for 2019.

The foreseen review will also benefit from the EnDOW[27] and FORWARD[28] projects, which were launched to facilitate the uptake of the Directive, and have been currently completed.

There are considerable amounts of cultural and creative orphan works in collections of cultural heritage institutions around Europe (i.e. material still protected by copyright or related rights such as books, journals, newspaper and magazine articles, films and audio recordings but whose right holders cannot be identified or located). The Orphan Works Directive sets out common rules on the digitisation and online display of orphan works, of which authors are not known or could not be located. These common rules aim to make digitisation of such works legally possible.

Following the transposition of the Directive in all EU national legal systems, sixteen Member States reported about measures put in place to monitor its impact (CZ, DK, DE, EE, EL, ES, HR, IT, CY, LT, LU, MT, NL, SI, SK and SE). Overall, Member States reported that the Directive has not yet made major contributions to digitisation, nor to a large-scale use of orphan works by Europe's cultural heritage institutions. So far, the Directive has been used in relatively low number of cases and for particularly notable works[29].

Member States generally agree on the reasons for the low impact and on the main challenges faced during the initial practical implementation of the Directive by cultural heritage institutions. These challenges mainly concern the diligent search reporting requirements established by the Directive. The costs of undertaking a diligent search in order to determine whether a work is orphan or not is, in many cases, prohibitive. **Approximately six Member States highlighted that the diligent search procedure consumes considerable resources, and most cultural heritage institutions do not have the means to fulfil this requirement, especially on a large scale (BE, CZ, DE, ES, LU and HU).** After having identified this challenge, some Member States are seeking to remedy the situation with support from the European Commission. For example, **Luxemburg** reported that *the National Library has participated in an international effort to create an online tool to facilitate and document diligent searches in all eligible work categories, notably in the framework of the* above mentioned EnDOW project which specifically aims at designing, implementing and testing an

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[27] EnDOW ("Enhancing access to 20th Century cultural heritage through Distributed Orphan Works clearance") is a collaborative project funded under Heritage Plus, a programme launched by agencies of 18 European countries and the European Commission as part of the Joint Programming Initiative in Cultural Heritage and Global Change. http://diligentsearch.eu/

[28] FORWARD - a framework for a EU-wide audiovisual orphan works registry set out to create an EU wide, standardized system to assess and register the rights status of audiovisual works and to support the diligent search for orphan works. http://project-forward.eu/

[29] See also: Orphan works survey 2017, EUIPO: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/Orphan_Works_Survey_Summary_Report/Orphan_Works_Survey_Summary_Report.pdf

online platform to carry out diligent searches according to the requirements of the Orphan Works Directive.

Few Member States (e.g. FI, CZ) reported that their national systems for digitisation of out-of-commerce works also cover the use of orphan works and that these systems are more practical as out-of-commerce status can by proven easier than orphan works status.

> **Pending the assessment of the Directive, the initial indications from Member States suggest that although the Orphan Works Directive has been transposed into national legislations and a number of Member States have put in place measures to monitor the impact of the Directive, it would seem that so far it has not contributed to a large-scale digitisation of orphan works by cultural heritage institutions. The major practical and financial difficulty signalled so far seems to be linked to the due diligence search requirement.**

3.2. Legal conditions underpinning digitisation of out-of-commerce works

Out-of-commerce works are works that are not or no longer commercially available through the customary channels of commerce but are still protected by copyright. Such works are part of collections held by cultural heritage institutions and can hold great cultural value. However, their large-scale digitisation and further dissemination can be hampered by difficulties associated to a time-demanding and costly rights clearance.

To facilitate access to out-of-commerce works, the Memorandum of Understanding on Key Principles on the Digitisation and Making Available of Out-of-Commerce Works was signed on 20 September 2011 under the auspices of the European Commission. The Memorandum was negotiated amongst relevant stakeholders (organisations representing libraries, publishers and authors, and their collecting societies) and it encourages and underpins voluntary licensing agreements. The Memorandum, however, only applies to some categories of works (books and learned journals). Legislative provisions concerning the licensing models referred to in the Memorandum were also proposed by the Commission as part of the proposal for a Directive on Copyright in the Digital Single Market[30].

As a consequence of the 2011 Memorandum of Understanding, and further to the Commission Recommendation which encourages Member States to create *"the legal framework conditions to underpin licensing mechanisms identified and agreed by stakeholders for the large-scale digitisation and cross-border accessibility of works that are out-of-commerce"*, a number of Member States have already adopted legislation to underpin such licensing mechanisms. **As many as twelve Member States reported legal frameworks in place that facilitate licensing or similar mechanisms for the large-scale digitisation and online accessibility of works which are out of commerce (CZ, DE, ES, NL,**

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[30] See footnote 26

PL, SK, FI, SE, EE, FR, UK and HR[31]). Some other Member States (e.g. **Ireland**) are currently discussing the possibility to amend the copyright framework or are in the process of consulting stakeholders (e.g. **Hungary**).

However, it should be noted that in some Member States suitable licensing mechanisms are only available for some types of works (e.g. only for books in **Germany** or literary work in printed form in the **Slovak Republic**).

Luxembourg also pointed out that out-of-commerce works' digitisation and online accessibility suffer from a lack of a pan-European, uniform legal framework allowing for extended collective licensing (ECL) or similar mechanisms that can be used for licensing this kind of works. It is expected that the situation will improve once the proposal for the DSM Directive, which, as mentioned above, includes provisions addressing this problem, is adopted and implemented. There are also Member States (e.g. **Netherlands**) that decided to wait before proceeding to change their national copyright legislation until new EU-wide solutions for out-of-commerce works are in place.

> **A significant number of Member States provide for some kind of mechanism to facilitate digitisation and online accessibility of works which are out-of-commerce. To a large extent, such mechanisms are based on the 2011 Memorandum of Understanding on Key Principles on the Digitisation and Making Available of out-of-commerce Works. However, while licensing mechanisms are available in those Member States, their practical application is limited, e.g. due to the fact that they only apply to some types of the works (e.g. literary works) or that a harmonised, pan-European approach was lacking.**

3.3. Databases of rights information

Eighteen Member States reported their contribution to or promotion of availability of databases with rights information during this reporting cycle, generally in the form of participation in or contribution to the Orphan Works Database at EUIPO (European Union Intellectual Property Office)[32], and the ARROW database (BE, CZ, DE, EE, IE, EL, ES, HR, IT, LV, LT, HU, MT, NL, PL, PT, SK and FI). This represents incremental progress since the previous reporting period, with at least two additional Member State reporting measures under this heading. It also brings the total number of reported contributing Member States to twenty-two (some Member States abstained from reiterating already reported initiatives during the previous reporting period).

In short, during this reporting period, Member States focused mainly on their activities related to the Orphan Works Database established and managed by EUIPO. **Fourteen Member States reported that their cultural heritage institutions have contributed with relevant information concerning diligent searches to the Orphan Works Database at EUIPO (BE, CZ, DE, EE, IE, EL, ES, HR, IT, LV, LT, HU, NL and PT).** Four Member States reported contributions

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[31] *"In the Law on Copyright and Related Rights the provision on Extended Collective Licensing is implemented, but so far there is no concrete application of such licensing mechanism".*

[32] https://euipo.europa.eu/ohimportal/en/web/observatory/orphan-works-db

to the ARROW database - Accessible Registries of Rights Information (CZ, HU, SK and FI). Several other such databases were flagged by Member States: Audiovisual Orphan Works Registry – FORWARD (CZ, IT) also mentioned earlier in this chapter, Sherpa/Romeo (EL), and the Virtual International Authority Files – VIAF (HU).

With regard to the promotion of the Orphan Works Database at EUIPO, at least nine Member States reported initiatives (BE, IE, EL, ES, HR, LV, NL, PL and PT). Some examples include dedicated workshops and seminars organised on the subject that aim to promote the existence and functionalities of the database and its benefits for digitisation stakeholders, as well as guidelines and information notes available on websites or social media on the functioning of the database.

Some Member States reported on the relevance of such databases for the functioning of the copyright system. For example, **Finland** reported that *the development and availability of databases with rights information is an essential part of the functioning of the copyright system. The availability of rights information contributes to the effectiveness of licensing and distribution of remuneration.*

During this reporting period, Member States mainly focused on, contributed to and some of them actively promoted, the publicly accessible Orphan Works Database at EUIPO.

4. EUROPEANA

The chapter on the Europeana initiative is divided into seven sections and provides an overview and assessment of the extent to which Member States have made efforts during the reporting period 2015-2017 to contribute to the development of Europeana, as specified in point 7 of the Commission Recommendation (2011/711/EU), that Member States:

> *7. contribute to the further development of Europeana by:*
>
> *(a) encouraging cultural institutions as well as publishers and other rightholders to make their digitised material accessible through Europeana, thus helping the platform to give direct access to 30 million digitised objects by 2015, including two million sound or audiovisual objects;*
>
> *(b) making all public funding for future digitisation projects conditional on the accessibility of the digitised material through Europeana;*
>
> *(c) ensuring that all their public domain masterpieces will be accessible through Europeana by 2015;*
>
> *(d) setting up or reinforcing national aggregators bringing content from different domains into Europeana, and contributing to cross-border aggregators in specific domains or for specific topics, which may bring about economies of scale;*
>
> *(e) ensuring the use of common digitisation standards defined by Europeana in collaboration with the cultural institutions in order to achieve interoperability of the digitised material at European level, as well as the systematic use of permanent identifiers;*
>
> *(f) ensuring the wide and free availability of existing metadata (descriptions of digital objects) produced by cultural institutions, for reuse through services such as Europeana and for innovative applications;*
>
> *(g) establishing a communication plan to raise awareness of Europeana among the general public and notably in schools, in collaboration with the cultural institutions contributing content to the site;*

The first section **Increase in content contribution**, gives an overview of the total content contribution to Europeana of more than 58 million objects (August 2018), focusing on statistics per country by type of media (image, text, audiovisual, sound and 3D). It also examines the reported initiatives from Member States that enabled, promoted and encouraged publishing in Europeana, grouped under five activities and analysis of relevant trends. These activities represent main areas of policy coordination, actions as well as challenges, and are interconnected throughout the rest of the sections in this chapter.

The second section, **Accessibility through Europeana as a condition for public funding,** expands on the first activity mentioned above, and examines in more detail the progress made by Member States to enhance their national frameworks and approaches to make public funding for digitisation conditional on publishing the digitised cultural material through Europeana. The assessment of reported approaches reveals five main ways employed by Member States: conditional funding via national aggregators or national repositories and portals and, subsequently, through Europeana; conditional funding via Europeana thematic aggregators; conditional funding on making the digitised material comply with Europeana and international standards, thus enabling the workflow to

Europeana; conditional funding for projects of federal museums; and finally, as incentivised funding.

The subsequent section **Public domain masterpieces in Europeana,** outlines the continued reports made regarding important works of national value that have been digitised and made available through Europeana. It also examines Member States contribution of high quality digital content to Europeana. As such, it analyses quality of data provided by institutions based on four tiers of participation in Europeana, as outlined in The Europeana Publishing Framework and Europeana Publishing Guide. The analysis shows a mixed picture across the EU, with approx. 57% of total content from the EU Member States at limited quality (tiers 1 and 2) and approx. 15% of content within the high quality range (tiers 3 and 4). It also reports on the efforts made by Member States to encourage institutions to submit high-quality content and metadata to Europeana, including representation of all Member States in the cross-border campaign Europeana 280.

The following section, **National and cross-border aggregators,** examines the landscape of national and cross-border thematic and domain aggregators, as well as shared challenges to aggregation. The section shows that there has been an increase in activities of national aggregators and in cultural heritage institutions participation in cross-border aggregators across Member States. However, the section also reveals that challenges to aggregation continue to persist, and cover a variety of topics from copyright to technical interoperability across the cultural heritage sector.

The next section, **Use of Europeana standards and permanent identifiers,** presents a mixed picture in terms of reported national initiatives that endorse digitisation standards defined by Europeana. However, even though less than half of Member States report national coordination on this topic, either through policy or the national aggregator, there is an overall positive assessment in terms of the actual use or implementation of standards and permanent identifiers by cultural heritage institutions.

The following section, **Free availability of metadata for re-use,** offers again a mixed picture with only about half of Member States reporting that the wide and free availability of existing metadata of digitised cultural heritage is encouraged at the national level and implemented by a large number of cultural institutions. Some additional Member States reported free availability of metadata practiced only within specific domains.

The final section of the Europeana chapter **Raising awareness of Europeana among the general public**, reveals little coordination at the national level on this subject. Approximately one third of Member States reported having a national communication plan for raising awareness of Europeana, with mixed actions focused on the general public, content providers, the education sector, and the international audience. Nevertheless, a number of Member States that specified absence of a structured national communication plan reported the presence of at least some communication initiatives.

4.1. Increase in content contribution

4.1.1. Overall contribution to Europeana

The quantitative target of 30 million digitised objects by 2015 set in the Commission Recommendation (2011/711/EU) has been reached and already reported.[33] By August 2018, Europeana gave access to more than 58 million objects,[34] of which 33.5 million were classified as image, 22.8 million as text, 1.2 million as video or audiovisual, 700,000 as sound, and 28,000 as 3D content. Therefore, image and text objects published in Europeana far outweigh the other categories of media objects. The target of two million sound or audiovisual objects set in the Commission Recommendation (2011/711/EU) has almost been reached with a total of 1.8 million sound and audiovisual objects in August 2018.[35] **Figure 1** (below) provides an overview of content contribution by media category from all EU and non-EU content providers.

FIGURE 1: Overview of content contribution to Europeana by media category from all content providers (EU and non-EU)

% CONTRIBUTION PER MEDIA CATEGORY

- 57,59% IMAGE
- 39,20% TEXT
- 1,95% AUDIOVISUAL
- 1,20% SOUND
- 0,05% 3D
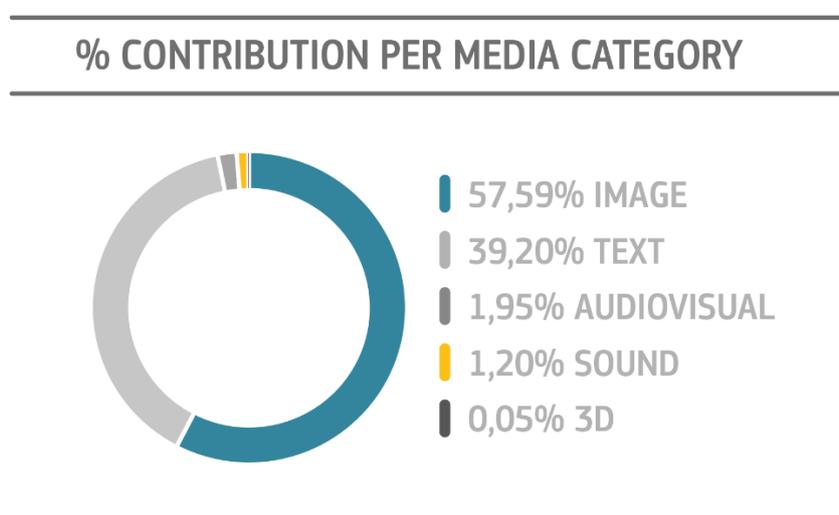
From the total number of more than 58 million objects accessible through Europeana in August 2018, more than 52.5 million were provided by EU Member States.[36] **Table 1** provides a detailed overview of content contribution to Europeana (August 2018) by media category, per Member State. The Member States with the highest contribution targets for number of objects by 2015 specified in Annex II of the Commission Recommendation (2011/711/EU), are also the main content providers to date, with the exception of The Netherlands. The original targets were calculated based on size of the population and GDP, with an additional 30% increase if contribution was already or almost achieved in

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[33] See also Consolidated Progress Report (2013-2015)
http://ec.europa.eu/information_society/newsroom/image/document/2016-43/2013-2015_progress_report_18528.pdf

[34] 58,229,213 total items in August 2018 – based on extraction from the europeana.eu platform on 16 August 2018.

[35] 1,839,079 sound and audiovisual items in August 2018 – based on extraction from the europeana.eu platform on 16 August 2018.

[36] 51,998,431 items provided by cultural heritage institutions from EU Member States - based on extraction from the europeana.eu platform on 16 August 2018.

2011.[37] **Germany** (highest target), **France** (2nd highest), **UK** (3rd), **Italy** (4th) and **Spain** (5th) were all surpassed by **Netherlands** (7th) for the second consecutive reporting period.[38] Indeed, Netherlands participated with 18% of total contribution to Europeana, followed by Germany 10%, Spain, France and UK almost on par at 9%. Sweden contributed 6%, followed closely by Poland and Italy approximately on par at 5%. Among non-member countries shown in **Table 2**, **Norway** is the biggest contributor to Europeana.

TABLE 1: Overview of content contribution to Europeana by media category, per Member State in August 2018 (Source: Europeana.eu – data extraction on 16 Aug 2018)

EU MEMBER STATES	TOTAL PER MEM-BER STATE	NUMBER OF OBJECTS				
		IMAGE	TEXT	AUDIOVISUAL	SOUND	3D
Belgium	1,486,868	1,149,074	203,897	133,027	311	559
Bulgaria	116,459	50,842	51,867	8	13,738	4
Czech Republic	864,882	533,901	119,252	211,729	0	0
Denmark	1,678,319	1,264,986	399,371	1,692	12,270	0
Germany	5,654,207	3,266,537	2,300,554	62,138	11,361	13,617
Estonia	531,456	226,352	279,605	5,453	20,046	0
Ireland	122,403	93,875	8,546	1,348	18,156	478
Greece	774,005	371,076	378,036	19,062	5,126	705
Spain	5,016,111	1,460,250	3,429,749	111,013	7,568	7,531
France	5,005,775	2,285,524	2,419,417	169,171	131,317	346
Croatia	115,887	65,263	50,340	6	140	138
Italy	3,038,238	2,075,135	804,026	61,052	97,016	1,009
Cyprus	42,713	36,770	4,651	4	881	407
Latvia	143,419	71,294	69,849	205	2,071	0
Lithuania	185,118	138,920	34,262	1,100	10,836	0
Luxembourg	65,622	9	65,613	0	0	0
Hungary	850,283	328,491	262,568	231,821	25,832	1,571
Malta	55,165	53,931	1,234	0	0	0
The Netherlands	10,439,109	8,866,650	1,531,161	17,752	23,546	0
Austria	2,280,827	877,359	1,266,958	3,319	133,065	126
Poland	3,062,188	415,502	2,634,513	4,899	7,274	0
Portugal	208,013	121,731	78,286	1,649	6,347	0
Romania	146,658	67,453	72,022	6,895	140	148
Slovenia	577,167	150,538	419,884	6,292	168	285
Slovak Republic	112,627	87,385	25,242	0	0	0
Finland	972,728	392,952	578,216	700	860	0
Sweden	3,438,175	2,560,878	876,123	158	1,016	0
United Kingdom	5,014,009	4,239,694	625,241	8,063	140,853	158
Europe-wide	538,790	234,294	208,097	68,221	27,399	779
TOTAL EU MEMBER STATES	**52,537,221**	**31,486,666**	**19,198,580**	**1,126,777**	**697,337**	**27,861**
TOTAL NON-EU COUNTRIES	**5,691,992**	**2,048,437**	**3,628,504**	**10,938**	**4,027**	**86**
EUROPEANA TOTAL	**58,229,213**	**33,535,103**	**22,827,084**	**1,137,715**	**701,364**	**27,947**

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[37] There are no available targets for Croatia, as these targets were calculated in 2011, before Croatia joined the EU.

[38] More information: Commission Recommandation (2011/711/EU) https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:283:0039:0045:EN:PDF

NON-EU COUNTRIES	TOTAL PER COUNTRY	NUMBER OF OBJECTS				
		IMAGE	TEXT	AUDIOVISUAL	SOUND	3D
Norway	5,112,309	1,910,542	3,191,540	9,297	844	86
USA	309,593	0	309,593	0	0	0
Switzerland	130,881	112,574	14,448	1,219	2,640	0
Serbia	68,189	6,937	60,892	105	255	0
Russia	29,212	336	28,848	0	28	0
Israel	21,200	9,390	11,810	0	0	0
Iceland	10,022	5,430	4,592	0	0	0
Moldova	4,318	123	4,195	0	0	0
Turkey	3,492	1,138	2,114	0	240	0
Ukraine	1,716	1,614	102	0	0	0
North Macedonia	387	244	107	16	20	0
Albania	314	7	7	300	0	0
Vatican City State	199	0	199	0	0	0
Montenegro	83	82	0	1	0	0
Georgia	50	0	50	0	0	0
Bosnia and Herzegovina	27	20	7	0	0	0
TOTAL NON-EU COUNTRIES	**5,691,992**	**2,048,437**	**3,628,504**	**10,938**	**4,027**	**86**
EUROPEANA TOTAL	**58,229,213**	**33,535,103**	**22,827,084**	**1,137,715**	**701,364**	**27,947**

4.1.2. Contribution to Europeana by media categories

Image and text are the largest categories of content in Europeana. Images constitute more than half (58%) of the total number of objects accessible, followed by text (39%), audiovisual (3%), and 3D (less than 1%). Indeed, most Member States' largest contribution category is image (BE, CZ, DK, DE, IE, HR, IT, CY, LV, LT, HU, MT, NL, PT, SK, SE, and UK) followed by text (BG, EE, EL, ES, FR, LU, AT, PL, RO, SI, and FI). This trend is reversed for the non-EU group of contributing countries. Among non-member countries, text is the largest category of content represented, followed by image. However, main contribution by media type of a country is linked to the contributing cultural heritage institutions (i.e. libraries and archives are more likely to provide text based objects), and is not necessarily a reflection of the digitised cultural heritage in the respective country.

In terms of sound and audiovisual contributions, Member States reported specific digitisation or other types of initiatives to encourage and enable institutions to contribute and/or continue contribution to Europeana in this category (BE, CZ, DK, DE, EE, IE, FR, IT, CY, LV, HU, NL, AT, PL and SK). For example:

> **Belgium:** *The Royal Library (KBR) is running a digitisation project on its audio collection of historical sound recordings (78rpm) with focus on Opera and Jazz. By the end of 2020, KBR is projected to contribute to Europeana Music with about 4,000 hours of recorded music.*

Cyprus: We encouraged all memory Institutions to contribute audiovisual material to Europeana. These kinds of data are more popular and preferable for research purposes particularly in Academic repositories.

However, obstacles still exist to reaching the two million sound or audiovisual target. For example, **Slovak Republic** pointed out that copyright is the main problem in the audiovisual sector, limiting the broader dissemination.

4.1.3. Initiatives to encourage contribution to Europeana – main trends

Member States continue to report initiatives to regularly encourage cultural institutions as well as publishers and other rightsholders to make their digitised material accessible through Europeana.

In general, Member States apply national coordination to create a bridge between cultural heritage institutions and Europeana. The following trends have been observed, building on progress from the previous reporting period:

- **Funding digitisation from EU Structural and Investment Funds and/or national funds, with the condition to make the digitised material available via the Europeana portal is stable since the previous reporting period (CZ, DE, EL, ES, AT, and SK, and in part PL).** Only a few Member States make accessibility through Europeana a condition for public funding, including in the case of Poland, incentivising contribution in applications for funding:

  Poland: Making available the digitised material via the Europeana portal was the basis for awarding additional points for the evaluation of applications submitted to the Long-Term Culture + Programme and to the ongoing Ministerial Programme "Digital Culture".

  More information about how Member States have made publishing in Europeana a condition for public funding can be found in the dedicated section of this report: **4.2. Accessibility through Europeana as a condition for public funding**.

- **National as well as regional aggregation initiatives have increased in influence and importance at the national level and for Europeana (BE, BG, CZ, DE, ES, FR, HR, IT, LV, LT, HU, MT, NL, AT, PL, PT, RO, SK, FI and SE).** National and regional aggregators play a central role in the Europeana ecosystem. They are often the primary local support for cultural heritage institutions in their Member State. The main goal of national and regional aggregators, along with cross-border thematic and domain aggregators is to provide additional and needed support for cultural institutions in making their digitised content and metadata accessible.

  The size and level of support of the national and regional aggregators varies across the Member States based on national coordination in each country, financial resources and local technical landscape in the cultural heritage sector. For example, **Austria** has the national aggregator Kulturpool, which is cross-domain, whereas **Belgium** has no national aggregator but smaller

regional and thematic aggregators,[39] and furthermore, **Spain** has both the national aggregator Hispana and regional aggregators. Detailed information on aggregators can be found in the dedicated section of this report: **National and cross-border aggregators**. It is important to note that encouraging cultural heritage institutions to provide their digitised content to Europeana through national and regional aggregators has been a continued practice of some Member States for longer than the current reporting period. However, during the current reporting cycle, national and regional aggregators are becoming a recognised important initiative across an increasing number of Member States.

- **Technical updates and improvements of technical architectures under national coordination were observed during this reporting period (CZ, ES and LT).** Technical conditions are crucial to enable cultural heritage institutions to provide robust data and content to Europeana. The technical updates reported do not refer to thematic or domain aggregators, whose coordination as well as contribution involves more than one Member State or other countries. The technical updates reported in this section were made to national and/or regional aggregator systems that support the participation of cultural heritage institutions in Europeana. During the reporting period, four Member States have signalled technical related issues that have been solved, updated or improved. For example, **Lithuania** reported new functionalities introduced in 2016 to the national virtual information system of cultural heritage, which facilitates the provision of data from various sectorial systems from across the country such as the Lithuanian Integral Museum Information System. Previously in Lithuania, only digitised objects of single memory institutions were submitted.

  However, technical updates remain an ongoing activity (MT) and interoperability among systems remains a challenge (LV). Even though efforts to encourage and support ingestion of content into Europeana is prevalent across all Member States, technical related issues persist. For example, **Malta** reported that following the establishment of the National Bibliographic Office as a Europeana aggregator, the aggregation system is still a manual one and as such, remains challenging. On the other hand, in the case of **Latvia**, The National Library – as in other Member States – offers other cultural heritage institutions a service to provide their digitised materials to Europeana, but it is only occasionally used, due to lack of interoperability between systems used by these other cultural institutions.

- **Participation in European aggregation projects, including cross-border thematic and domain aggregators and cross-border campaigns have expanded geographically across more Member States (BE, CZ, DE, EE, IE, EL, ES, FR, CY, LV, LT, LU, MT, NL, AT, PL, PT, RO, SI and SE).** Cross-border thematic and domain aggregators, along with national and regional aggregators are the main technical bridge between cultural heritage institutions and Europeana. Domain and thematic aggregators differ from national aggregators in terms of scope and geographical coverage. As mentioned in the section above, further details related to aggregators can be

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[39] For example, ErfgoedPlus for the provinces of Limburg and Vlaams-Brabant, Erfgoedinzicht for the provinces of East- and West-Flanders, The Flemish Art Collection (Vlaamse Kunstcollectie) for the three largest fine arts museums in Flanders.

found in the dedicated section of this report: **National and cross-border aggregators**.

- **Raising awareness about Europeana through outreach activities that include workshops, webinars, campaigns and special events – reported as slightly increased (ES, HR, CY, HU, AT, PL, SK and SE).**

  Networking events to encourage institutions to provide content to Europeana were mainly organised in the Member States by the national aggregators, or by Europeana. These events were positioned to highlight either services offered – in the case of national aggregators – such as publishing, exporting, translating, monitoring, etc., or success figures from other contributing institutions. Furthermore, **Sweden** organised public workshops to select 10 masterpieces that participated in Europeana 280.

  Working groups organised by Ministries have continued from the previous reporting period. For example, **Poland** had previously reported the activity of the working "Europeana network," and currently a working group that continues to gather Polish institutions that are actively engaged in cooperation with Europeana. National Cultural Centre and Ministry of Culture of the **Slovak Republic** organised working committees and workshops to encourage institutions to contribute to Europeana, in particular high quality digital content.

Among the Member States that participated in this reporting cycle, **Luxembourg** has reported that no specific measures have been taken at the national level to encourage contribution to Europeana. For example, there is no national aggregator to support cultural institutions. However, Luxembourg confirmed that it is a regular practice that digitised content from cultural organisations is also made available via Europeana.

> **The quantitative targets for Europeana have already been largely achieved. Even though most initiatives that Member States employ to encourage their cultural heritage institutions to contribute to Europeana seem to prioritize quantity over quality, the focus on quality has nonetheless emerged as a need.**
>
> **Europeana supports five different types of content (image, text, sound, audiovisual, and 3D), but image and text form the overwhelming largest categories of content in Europeana.**

4.2. Accessibility through Europeana as a condition for public funding

Up to eight Member States report making public funding for digitisation projects conditional on creating links between the digitised material and Europeana (CZ, DE, EL, EE, ES, AT, and SK, as well as partly PL). Public funding in this case refers to both EU Structural and Investment Funds and/or national funding schemes. Some Member States only make EU structural funding conditional on providing the digitised content to Europeana, others enforce the

same condition for national funding. For example, **Slovak Republic** linked digitisation funded through EU structural funds to Europeana, but not digitisation funded through the national budget, whereas **Austria** linked digitisation funding from the Austrian Federal Chancellery to Europeana.

The number of Member States in this section has been stable since the last reporting period, but is expected to increase. Both **Latvia** and **Netherlands** have signalled change in this area. Latvia reported that after the completion of an ongoing structural funds project, the introduction of a legal framework for digitisation activities is planned. The Netherlands reported that making content accessible through the national aggregator, domain-aggregators and Europeana is not yet a condition for funding, but it is approached more and more as a matter of course.

Similar to the previous reporting period, condition of public funding for digitisation is linked to Europeana in various ways:

- **Via national aggregators or national repositories and portals (DE, EE, ES and SK).** In this case, funding may be conditional on providing digitised content through national aggregators/repositories and, subsequently, through Europeana. For example, Estonia explicitly mentioned that public funding for digitisation projects is conditional on making the heritage data available through national repositories and portals but not through Europeana. However, these repositories have links to Europeana.
- **Via thematic aggregator (CZ).** Czech Republic references the Manuscriptorium Digital Library, a thematic Europeana aggregator whose services are provided by the National Library of the Czech Republic. All the funding of the Ministry of Culture of the Czech Republic for digitisation of manuscripts and old printed books is provided under the condition that the produced data is included into the Manuscriptorium Digital Library.
- **Based on making the digitised material comply with Europeana metadata standards and international standards (EL).** Another strategy that may ensure publishing in Europeana is making funding conditional on respecting the necessary standards.
- **For projects of federal museums (AT).** In the case of Austria, the integration in Europeana is a prerequisite for projects of federal museums, which are funded by the Austrian Federal Chancellery.
- **As additional incentive when applying to funding within a point-based framework (PL).** Poland awards additional points within the framework of the digitisation programs organised by the Ministry of Culture and National Heritage to institutions applying for funding that can declare the results of their projects via Europeana.

For the Member States that have reported no specific measures in this area, the trend is that material digitised by means of public funding is shared nationally through aggregators or other platforms and is therefore assumed that this content can be linked to or also made available through Europeana (BE, DK, IT, CY, LU, and NL).

> **Approximately one third of Member States make public funding for digitisation projects conditional on linking to Europeana.**

As Europeana aggregates over 58 million items from all Member States and support for quantity is not as needed as quality, making public funding conditional on publishing in Europeana should be encouraged when connected to quality criteria.

4.3. Public domain masterpieces in Europeana

This section of the report refers to masterpieces or important works from the cultural heritage collections from across the EU. Since the definition of what should be considered a masterpiece has been challenged over the previous reporting periods, Member States have encountered obstacles to fully address this provision of the Recommendation (2011/711/EU). Nevertheless, they still mention that important works of national value from collections have been digitised and made available on Europeana (EL, ES, FR, HR, CY, LT, NL, AT and PL).

However, for this reporting period, since it is problematic for Member States to address and therefore make progress on this topic, this section now focuses on high quality digital content and high quality metadata. Digital content refers to the image, text, video, sound and 3D digital reproductions. Metadata is the text information that accompanies a digital object (e.g. an image, text, video), and which contains relevant and descriptive information about the digitised object (e.g. title of the artwork, author, location, brief description) as well as its production (e.g. digital quality of the image, IPR). It is important to note that an image's findability in the search results of Europeana is based on the information contained in the metadata.

In order to support cultural heritage institutions and aggregators from across the European Union and beyond to provide Europeana with high-quality content and metadata, a set of standards have been put into place. The Europeana Publishing Guide[40] is a comprehensive guide that outlines the minimum content and metadata requirements for data incorporation into Europeana. It outlines participation in Europeana based on four tiers. Tier 1 is the lowest of the four publishing tiers and defines set of minimum requirements and Tier 4 is the highest. More information on Member States' use of Europeana standards in section **4.5. Use of Europeana standards and permanent identifiers**.

Several Member States reported working groups, projects, guidelines, events or campaigns to actively encourage heritage institutions to submit high quality content and metadata to Europeana (BG, DK, DE, IE, EL, HR, IT, HU, AT, PL, SK and FI).

Based on statistics of contributions from Member States until August 2017 - **Table 3**, almost 7 million objects or 15% of total content from the EU was in the high quality range in Tiers 3 and 4. More than 26.5 million objects or 57% was medium or basic quality content (Tier 1 and 2). 13 million objects or 28% was content that did not comply with the Europeana Publishing Guide, and/or was below Tier 1.

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[40] There are various relevant documents on the topic ranging from the Data Exchange Agreement to the Public Domain Charter, but the Europeana Publishing Guide is the single document that clarifies all Europeana policies for publication. For more information: https://pro.europeana.eu/post/publication-policy. For Europeana Publishing Framework: https://pro.europeana.eu/post/publishing-framework

Spain, followed by **Sweden**, had the highest number of objects in the Tier 3 and 4 range available on Europeana. They are followed by **Netherlands**, **UK** and **Germany**, which all have under one million such objects available.

With over 1.5 million content in Tier 3 and 4, **Spain** reported that digitised masterpieces have been made accessible via Europeana, even though contribution of important works was not specifically promoted. Contribution includes content and metadata handled by The Digital Network of Museum Collections of Spain, as well as other cultural institutions. For example, 100 masterpieces in high quality format from the collection of the Prado Museum and high quality metadata of 28,000 images from the photographic archives of Wunderlich, Loty and Moreno. Spain further reports that: *The Autonomous Communities of Spain, and other entities performing digitisation projects, follow the national guidelines referred to for their digitisation projects. As a result, all the content contributed during the period to Europeana is of the high quality characteristics indicated.*

In addition to standards for publishing, Europeana has also organised campaigns to encourage cultural institutions from Member States to participate with high-quality content reproductions of national symbolic value. **All Member States participated in the cross-border campaign Europeana 280[41], and twelve Member States outlined their participation in their progress reports during this reporting period (BE, EE, IE, EL, ES, FR, CY, LT, LU, AT, PL and SE).**

> **High-quality digital objects are important to Member States: More than a third of Member States actively encourage cultural heritage institutions to submit high quality content and metadata to Europeana through working groups, projects, guidelines, events or campaigns.**
>
> **Europeana has developed a publishing framework that outlines content quality groups under four tiers: approx. 15% of total content from the EU Member States is in the high quality Tiers 3 and 4.**

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[41] Europeana 280 was a cross-border campaign that toured Europe from April-December 2016, and that brought together a collection of more than 300 paintings, drawings, photographs, posters, illustrations, sculptures and other objects which together tell a story of how Europe's art heritage has developed down the centuries.

TABLE 3: Overview of content contribution to Europeana until August 2017 by Tier specifications from the Europeana Publishing Framework, per Member State (Source: Europeana.eu – data extraction on 16 Aug 2018)

MEMBER STATES	TOTAL PER MEMBER STATE	BELOW TIER 1	TIER 1&2	TIER 3 & 4
Belgium	1,532,058	475,270	1,037,106	19,682
Bulgaria	116,438	7,554	69,359	39,525
Czech Republic	771,107	246,704	521,068	3,335
Denmark	1,622,261	677,876	477,130	467,255
Germany	5,876,851	1,554,742	3,806,832	515,277
Estonia	528,134	134,552	368,669	24,913
Ireland	267,958	155,091	93,216	19,651
Greece	559,234	163,354	380,669	15,211
Spain	4,929,118	546,615	2,837,603	1,544,900
France	4,838,225	1,669,992	2,669,173	499,060
Croatia	114,476	31,083	65,269	18,124
Italy	3,607,375	1,589,370	1,776,695	241,310
Cyprus	42,698	11,501	30,337	860
Latvia	143,622	20,980	120,541	2,101
Lithuania	173,690	35,427	128,605	9,658
Luxembourg	87,366	5,211	82,139	16
Hungary	990,467	391,993	527,678	70,796
Malta	62,383	58,142	4,232	9
The Netherlands	5,611,000	2,416,060	2,303,833	891,107
Austria	2,150,968	217,691	1,603,192	330,085
Poland	2,680,091	478,792	2,199,415	1,884
Portugal	236,653	128,381	108,089	183
Romania	155,218	29,274	59,270	66,674
Slovenia	565,858	43,962	438,363	83,533
Slovak Republic	156,340	126,828	9,251	20,261
Finland	958,181	65,641	831,677	60,863
Sweden	3,400,035	394,119	1,656,067	1,349,849
United Kingdom	4,443,398	1,396,164	2,413,966	633,268
TOTAL	**46,621,203**	**13,072,369**	**26,619,444**	**6,929,390**

4.4. National and cross-border aggregators

As mentioned earlier in this chapter, national and cross-border thematic and domain aggregators play a central role in digital cultural heritage and online accessibility of content. They are important players in the Europeana ecosystem because they streamline the technical process between these institutions and Europeana.

4.4.1. National aggregators

Twenty Member States reported national aggregators bringing content into Europeana (CZ, DK, DE, EE, ES, FR, HR, IT, CY, LV, LT, HU, NL, AT, PL, RO, SI, SK, FI and SE). National aggregators play a central role in national digital cultural policy and in the Europeana ecosystem. Services offered by national aggregators differ across Member States based on the needs of the cultural heritage institutions they serve. Different services have been reported such as

digitisation and technical expertise, copyright and legal expertise, online access, translations, workshops, helpdesk availability.

Seven Member States reported no national aggregator (BE, BG, IE, EL, LU, MT and PT). However, from these Member States, **Bulgaria** named the Pencho Slaveikov Regional Library-Varna as one of the main aggregators in the country. Although it is not officially the national aggregator, it fulfils that role, especially for libraries. It includes 5 regional libraries, 4 museums, 4 libraries in community centres in the Varna region, and 3 private collections.

Luxembourg reported that the possibility to set up a national aggregator will be discussed during the establishment of the national strategy.

Belgium and **Portugal** reported that in the absence of national aggregators operating on a countrywide scale, there are regional aggregators that fulfil this role on a smaller scale.

4.4.2. Cross-border thematic and domain aggregators

Twenty Member States have reported contributions to Europeana through cross-border thematic and domain aggregators (BE, CZ, DE, EE, EL, ES, IT, CY, LV, LT, LU, MT, NL, AT, PL, PT, RO, SI, FI and SE).[42]

Several cross-border aggregators were named by Member States in their reports, including Archives Portal Europe[43] (DE, EE, ES, FR, LV, MT, NL, PL, SI and FI), Europeana Sounds[44] (EL, FR, IT, CY, LV, LT, NL, AT, PT) OpenUP[45] (DE and FI), European Film Gateway[46] (CZ, DE, EE, IT, AT, PT and FI), CARARE[47] (DE, EL, NL and PL), European Fashion Heritage[48] (BE, EL, FR, IT, NL and PT), EU Screen[49] (EL, IT, NL, LT and PL). All the mentioned cross-border aggregators were created between 2008-2014 with co-funding from the European Commission. Although these European aggregation projects had and continue to have quantity targets, quality targets have also been introduced in order to encourage the publication of high-quality data in Europeana.

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[42] CZ, MT and SI are mentioned in this section for their reported participation in Archives Portal Europe in the first Europeana section as referenced in the national progress reports.

[43] Archives Europe Portal started in 2009 with support from the European Commission through APEnet, followed by the APEx project, now a cross-border archival domain aggregator: www.archivesportaleurope.net

[44] Europeana Sounds started in 2014 with support from the European Commission through the ICT Policy Support Programme as part of the Competitiveness and Innovation Framework Programme. The project ended in January 2017, but continues to be an aggregator for audio and audio-related material for Europeana.

[45] OpenUP started in 2011 with support from the European Commission as a Best Practice Network, under the eContentplus programme, now a cross-border natural history domain aggregator: http://open-up.eu

[46] European Film Gateway started in 2008 with support from the European Commission as a Best Practice Network, under the eContentplus programme, now a cross-border heritage film aggregator: www.europeanfilmgateway.eu/

[47] CARARE started in 2010 with support from the European Commission's ICT Policy Support Programme, now a cross-border archaeology and architectural heritage aggregator enabling access to 3D and Virtual Reality content through Europeana: www.carare.eu

[48] European Fashion Heritage (formerly known in short as Europeana Fashion) started in 2014 with support from the European Commission, now a cross-border fashion heritage domain: https://fashionheritage.eu/

[49] EU Screen started in 2009 with support from the European Commission, and was succeeded in 2013 by EUscreenXL project supported by the European Commission, now a cross-border audiovisual domain aggregator: http://euscreen.eu

Interoperability/integration issues between systems was mentioned as a technical challenge that is being worked on between some domain aggregators and cultural heritage institutions (SI).

Six Member States reported that they did not participate with content in Europeana through cross-border aggregators throughout this reporting period (DK, IE, HR, HU, SK and SE).

4.4.3. Challenges to aggregation

Member States reported on several topics related to aggregation of content that require further development at the national level and by Europeana. These challenges cover a wide range of areas and levels in the sector, which makes tackling them more difficult but also crucial. The reported challenges are interrelated but can be outlined in the following categories:

- **The need to further strengthen the coordination initiatives performed by the national aggregators (ES, HR, IT, HU, PL, RO and SI).** National aggregators are at the core of national digital cultural heritage ecosystems. They benefit cultural heritage institutions in many areas from improving the quality and consistency of digital content and metadata to coordinating aggregation. However, at least seven Member States reported challenges faced by national aggregators, including the need for support in terms of a unified approach and policies, technical interoperability and skills across the sector, communication and dissemination, and access to resources regarding staff and funds.

   Spain: The greatest challenge is to strengthen the coordination initiative that has been performed by Hispana and to provide it with an appropriate legal framework, giving it sufficient economic and staffing resources to fulfil the mission of coordinating the different cultural domains (Libraries, Archives and Museums), to develop an explicit national policy, etc., in line with similar horizontal bodies in Europe.

- **The digital capacity of cultural heritage institutions (BG, DE, HR, LV, LT, SI and SE).** The digital transformation of the cultural heritage sector is not just about digital access to heritage resources. It is also about digital solutions that are affordable for the institutions, many of which operate on limited budgets, and the extent these solutions solve traditional problems. Furthermore, the digital transformation of cultural heritage institutions is also about the capacity of these institutions to adapt and adopt disruptive technologies into their practices. **Slovenia** pointed out in the national report that the notion of 'digitisation' has changed its meaning; digitisation is also about transformation of processes and not only transformation of analog objects in the digital medium.

   Digital transformation requires a holistic approach and therefore can raise challenges at different levels in the institutions. At least seven Member States reported difficulties faced by their cultural heritage institutions regarding digitising content and making it available through aggregators. They also reported obstacles to process, cooperation and digital transformation

regarding working cross-domain (e.g. archives, libraries, museums, etc.), administrative hierarchical environment inside the institutions and limited budgets.

- **Data submission: metadata schemes, standard application models and compatibility of the data exchange formats (BG, DE, IE, FR, PL and SE).** Standardization and common solutions for content and metadata management have been an on-going priority for Europeana. The Europeana Publishing Guide (covers the Europeana Data Model and the Europeana Publishing Framework) for metadata and content quality includes the most up-to-date benchmarks and guidelines for cultural heritage institutions, other data partners and aggregators. It establishes the compulsory and optional fields for submitting content.

  Six Member States identified general and specific difficulties that concern data submission, making the export to Europeana in some cases challenging. Specific issues include the use of different/incompatible metadata schemes by cultural institutions (BG) and the high cost of importing and submitting metadata to content uploads, especially in terms of audiovisual material (PL). The submission fields included in The Europeana Publishing Framework were also mentioned, as some fields may not apply to all memory institutions such as archives that for example, submit content without visuals because they work with text more than images (DE).
  Germany: Regarding archives, their participation is complicated by the fact that Europeana presupposes that every data record includes a digitised image, whereas many archives can only provide descriptive information.

  Spain did not flag difficulties with data aggregation, and reported that it aligns all its digitisation initiatives with the Europeana specifications. However, Spain notes that it may be beneficial for Member States if data enrichment performed at Europeana level would circulate back to the data provider. *As Europeana applies enrichment processes to the data sets that are aggregated, it would be desirable for it to offer the primary sources a means of integrating this enrichment within their national catalogues, along with greater transparency as regards these processes, the tools used, etc..*

- **Copyright and assigning appropriate rights statements to digitised content (BG, DE, LV and FI).** Challenges reported by Member States regarding copyright differ from general to specific. General challenges include lack of expertise regarding copyright legislation and assigning copyright status of digital cultural material (BG and FI). Member States also reported more specific obstacles to aggregation regarding Europeana's copyright-related requirements:

  Germany: In the museum domain, Europeana's requirement that all metadata have to be CC0 remains a stumbling block. Especially the descriptions of museum objects are often long and high quality texts that are (or could be) copyright protected. As a result, many museums hesitate to deliver rich data-sets to Europeana. A related, secondary problem lies in the fact that the German Digital Library as the national aggregator to Europeana is still not able to block the description text from the data export forwarded to Europeana.

- **Motivation for aggregation and/or to contribute to Europeana (BE, BG, HU and PL).** The long process to providing data, technical and administrative challenges for the portal once data is provided, and not receiving clear value, were reported as factors that may limit the motivation of cultural heritage institutions to contribute content to Europeana. Furthermore, Belgium reported that the lack of funds available for digitisation also limits motivation for aggregation.

> **More than two thirds of Member States have a national cultural heritage aggregator. Also, approximately two thirds of Member States have participated in European Union funded aggregators with a thematic and domain focus.**
>
> **In order to promote high-quality content in Europeana, the European Union funded aggregation projects have begun to include quality criteria.**
>
> **There is an overall issue with adequate and proportional support for national aggregators that not only support cultural institutions in publishing in Europeana but also in other digital initiatives including support to adapt to the digital transformation. Given the importance and enormity of the tasks of cultural heritage aggregators, more attention for a future national strategy for aggregation could be considered.**

4.5. Use of Europeana standards and permanent identifiers

4.5.1. Content and metadata standards

Content and metadata standards are important in the European cross-cultural, multilingual context in order to support interoperability of the digitised materials.

At least six Member States report focusing, establishing and endorsing digitisation standards at the national level (BE, EE, EL, FR, LV and SK). Some of these Member States built standardization at the national level on Europeana standards. For example, **Slovak Republic** published digitisation standards as methodological recommendations/manuals based on Europeana standards and guidelines. Generally, nationally endorsed standards tend to be enforced as binding only for publicly funded digitisation projects. Therefore, generally, all public data sources are required to be published as open data.

In addition to the above six Member States that have standardization on the national policy agenda, further six Member States reported that encouraging standards and ensuring interoperability is in the scope of the national aggregators (IT, CY, HU, AT, RO and FI).

Two additional Member States reported no central scheme in place at the national level in terms of standardization, but under the coordination of the cultural heritage institutions (DK and LU).

Member States also reported on the following Europeana standards used by their institutions and/or national aggregators:

- **Exporting metadata to Europeana under the Europeana Data Model (EDM) (BE, BG, DE, ES, FR, HR, IT, LV, LT, HU, MT, NL, AT, PL, PT, RO, FI and SE).** The role of EDM is to provide a wide range of data providers from libraries, archives, museums, and the audiovisual sector with cross-domain metadata standards that accommodate the domain-specific standards such as LIDO for museums, EAD for archives or METS for digital libraries.

- **Implementing International rights statements provided by rightsstatements.org[50] and using the guidelines set out in the Europeana Publishing Framework (BE, BG, ES, FR, HR, IT, LV, LU, PL, PT, SI, FI and SE).**

Rightsstatements.org is the outcome of a collaboration between Europeana, Digital Public Library of America (DPLA), and Kennisland, and provides 12 different rights statements that can be used by cultural heritage institutions to communicate the copyright and re-use status of digital objects to the public. They are divided in three categories, statements for works that are in copyright, not in copyright, and unclear copyright status. In addition to the Member States that have implemented, encouraged or are planning to implement International rights statements, translations into German and Estonian are available since June 2018, while the French translations will be available mid-2019 with the participation of the national libraries of France and Luxembourg and the "Library and Archives Canada" project. Further translations projects have started for Portuguese, Spanish, Finnish, Swedish, and Polish.

The Europeana Publishing Framework outlines the criteria for submission of content and metadata to Europeana, based on four tiers (content) and three tiers (metadata). The highest tier outlines the requirements for the highest quality. In order to facilitate the understanding and use of the Europeana Publishing Framework by cultural heritage institutions, several Member States have translated the guidelines, including **Poland, Spain** and **Romania**. **France** and **Italy** have also provided translations. **Germany** reported that the translation of the Europeana Publishing Framework will also be undertaken by the German Digital Library.

4.5.2. Systematic use of persistent identifiers (PIDs)

Nineteen Member States reported the systematic use of PIDs by their national institutions (BE, CZ, DE, EE, EL, ES, FR, HR, IT, LV, LU, HU, NL, AT, PL, SL, SK, FI and SE). The systematic use of persistent identifiers (PIDs) is important to administer to digitised content to link back to a source. For cultural heritage institutions, PIDs can make the connection between databases and digital platforms. The use of PIDs grew over 2013-2015 as a widely used practice at the national level or at the institutional level in several Member States. For the current reporting period (2015-2017), use of PIDs has further expanded as reported by the eighteen Member States listed above. In addition, several Member States reported working groups or national projects focusing on improving and further developing the implementation of PIDs across the library-

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[50] http://rightsstatements.org/en/

archive-museum domains (BE, DE and LU). **France** reported that PIDs are part of the national strategy for semantic web of the Ministry.

However, implementation of PIDs can be problematic for cultural heritage institutions. **Several Member States reported challenges regarding implementation, use and service of PIDs (BG, ES, CY, NL and AT). The Netherlands** and **Austria** reported that use of PIDs can be particularly challenging for smaller cultural heritage institutions. Issues reported regarding PIDs range widely. For example: administrative challenges that block the process, lack of training and skills development in the institutions, technical issues due to changes of servers and web address or lack of regular backups, communication and dissemination regarding the benefits and the need for the use of persistent identifiers.

The Netherlands: Whereas large organisations preserving digital collections usually have the knowledge and tools to ensure sustainable links (persistent identifiers) to data and metadata, small organisations lack such resources. In 2016 and 2017, the Digital Heritage Network have worked towards lowering the thresholds: Online information on persistent identifiers helps organisations to learn and think about PID, and guides their first steps towards selecting a PID system.

Almost two thirds of Member States published, endorsed or encouraged digitisation standards at the national level or through national aggregators

Persistent identifiers (PIDs) are widely used by cultural heritage institutions: more than two thirds of Member States report the systematic use of PIDs by their cultural heritage institutions.

Since effective use of PIDs is increasing in importance – as online accessibility of content increases and so does the risk of breaking the link to the source database – systematic implementation of PIDs could be further considered in national strategies.

4.6.   Freeing metadata for re-use

4.6.1. CC0 and the free availability of metadata

Europeana uses and encourages Creative Commons Zero Public Domain Dedication (CC0). CC0 was developed by Creative Commons for making data available without restrictions on re-use. This means that anyone can use the metadata published by Europeana for any purpose without any restrictions whatsoever. As mentioned earlier in this chapter, metadata is the text that accompanies a digital object and contains relevant information (e.g. title of the artwork, author, location, brief description, digital quality of the image, IPR). In the cultural heritage sector, the descriptions provided in the metadata are usually rich in content and detail, written by museum professionals and scientists. The metadata that accompanies digital objects in Europeana are published in the language of the providing country, and Europeana does not currently provide translations for the metadata.

Similar to the previous reporting period, there is an overall positive attitude towards free metadata for re-use. **Fourteen Member States have reported that the wide and free availability of existing metadata of digitised cultural heritage (DE, EE, EL, ES, FR, LT, LU, HU, NL, AT, PL, SK and FI), only a few naming CC0, is accepted at a national level and implemented by a large number of cultural institutions.**

In other Member States, free availability of metadata is more widely practiced within domains. For example, **Belgium** reports that the metadata of digitised objects from the Flemish Art Collection is freely available. **Portugal** and **Slovenia** report that library datasets are available with open access together with the metadata. **Sweden** reports that it focuses on open data in terms of archival material in general, not only cultural heritage.

However, Member States have also reported obstacles to providing free metadata for re-use (BE, DE, FR, CY and AT). The challenges regarding CC0 metadata have to do with metadata enriched by the work of some cultural professionals or scientists, and lack of attribution. For example, **Germany** reported that the descriptions of museum objects are often long and high quality texts that are (or could be) copyright protected, therefore CC0 metadata is problematic.

> *France: The National library of France's (BnF) metadata is available as open data since January 1st, 2014. The main obstacle remains the difference in licensing between the French open license, which requires attribution, and the CC0 license required by Europeana. The BnF has decided to extend its authorisation to Europeana for reusing the metadata without attribution and beyond the DC records, for the purpose of the Europeana Sounds project, considering that the link to the digitised object can be considered, to a certain extent, as a form of attribution. However, this issue remains important with the perspective of providing better quality data to Europeana (in EDM format) in the future. In 2017, the BnF released a new website api.bnf.fr dedicated to the dissemination of its open metadata through APIs and downloadable datasets.*

On the other hand, **Cyprus** reports a different type of challenge: *Unfortunately there is a lack of expertise in regards to documentation processes and crowd sourcing information might be our only option to further enrich our digital records.*

4.6.2. Re-use of metadata

Open metadata is made available usually through APIs to a variety of platforms, mobile applications, or services, mainly in education or digital humanities. **Croatia, Latvia, Austria** and **Finland** reported re-use of their metadata in innovative applications. However, Latvia for example, reported that *re-use in most cases does not have a systematic character, and takes place on case to cases basis, with re-users requesting individual objects or specific data sets.*

Metadata provided to Europeana by institutions from across Member States will usually be in the language of the Member State. However, **Poland** reported that: *Metadata is translated into English, which increases the usefulness of metadata in the case of international cooperation.*

Germany reports raising awareness for the use and re-use of free metadata through cultural hackathons, naming a variety of hackathons under the "Coding da Vinci" label organised by the Wikimedia Foundation, the German Digital Library and others in Hamburg (2016), Berlin (2017), Leipzig and Mainz (2018) and Munich (planned). Germany further reports that the digitisation and delivery to Europeana of 30 early 20th century amateur films is a direct result of a hackathon in 2015.

Member States have also reported on linked open data (LOD) for the enrichment of metadata online. At least ten Member States mentioned LOD (BE, BG, IT, ES, EL, HR, FR, CY, PL and AT) but many more are working in this area. Reports were made in the context of projects that worked on the implementation of persistent URIs, the further enhancement of metadata and the publication of museum data on artworks as linked open data. Some of these projects, for example, the Linked Heritage[51] project was associated mainly with enhancing the metadata on Europeana, but other projects and LOD platforms reported did not involve Europeana directly. Member States also mentioned working on achieving interoperability through international linked data.

The development of LOD standards, as well as LOD platforms were also touched upon. For example, **Italy** reported that the Ministry for cultural heritage and cultural activities has a platform[52] aimed at publishing ministerial information as linked open data, in line with the World Wide Web Consortium (W3C) standards. *Implemented in 2014, the platform is the result of a first cooperation process between Central Institutes and Directorates-General of the he Ministry for cultural heritage and cultural activities, aimed at connecting datasets from different sources: the database of cultural locations, data from archives and libraries, the cultural heritage catalogue, other documentary and photographic databases. A result of this first phase is the Cultural-ON ontology[53] and the publication of datasets of Cultural places and cultural events, Register of Italian libraries (ICCU), State Archives (ICAR) and museums and galleries (ICCD).[54]*

> **Half of Member States consider that the wide and free availability of existing metadata of digitised cultural heritage, is accepted at the national level and implemented by a large number of cultural institutions. However, very few mention CC0. There are overall issues with CC0, with Member States reporting that it may not create a trust climate for the cultural institutions.**
>
> **CC0 requirements may be too strict for cultural heritage institutions, especially as a number of national aggregators do not adhere to CC0 as a requirement. More flexibility to open data licenses could be explored to better accommodate cultural institutions and to better promote high-quality content, especially metadata.**

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[51] Linked Heritage was a 30 month EU project (April 2011-September 2013). The main goals were: 1) to contribute large quantities of new content to Europeana, from both the public and private sectors; 2) to demonstrate enhancement of quality of content, in terms of metadata richness, re-use potential and uniqueness; 3) to demonstrate enable improved search, retrieval and use of Europeana content. Learn more here: http://linkedheritage.eu/

[52] Learn more here: dati.beniculturali.it

[53] Learn more here: http://dati.beniculturali.it/cultural-ON/ENG.html

[54] Available here: http://dati.beniculturali.it/datasets

> **The importance of linked open data directly and indirectly related to Europeana has emerged as a relevant topic to be further addressed at the EU level along with 3D digitisation and emerging fields and technologies that can improve the quality of digitized material presented online.**

4.7. Raising awareness of Europeana among the general public

Seven Member States reported having a national communication plan for raising awareness of Europeana with the general public (EL, ES, CY, LU, AT, PL and PT).

Awareness of Europeana among citizens has been an ongoing issue that continues to remain a concern. Specific communication actions differ among Member States, but most actions include Ministry activities and events, presentations and participation in conferences and workshops, press-releases, blogs, social media campaigns, mailing lists, print and web advertisement.

Based on reported tailored communication actions at the national level, overall targeted stakeholders can be split in four main categories:

1. **The general public** – tailored communication to inspire visits to Europeana for purposes of learning and enjoyment (EL and CY).
2. **Content providers** – communication actions to depict the value of publishing content in Europeana (EL and CY).
3. **The educational sector**:
    a. **Teachers** – communication actions to facilitate usage of the platform by teaching staff, such as workshops promoting use of Europeana and national aggregator (AT and PL), translations of the Europeana Education Guide (ES), co-hosting e-learning conferences (AT), consultation with various academic institutions (CY).
    b. **Students** – workshops and customized educational projects promoting the re-use of resources published in Europeana and national portals (IT and PL).
4. **International audience** – communication actions through international organisations for culture and cooperation (ES).

Eighteen Member States specified that they do not have a structured overarching national communication plan for raising awareness of Europeana (BE, CZ, DK, DE, EE, IE, FR, IT, LV, LT, HU, MT, NL, RO, SI, SK, FI and SE). However, most of the named Member States reported a number of communication initiatives aimed at giving visibility to the initiative on national platforms and aggregators websites and through local Europeana data partners and events targeted at the same stakeholder groups as above, including schools. For example, **Slovenia** reported: *We will strive to raise the awareness of Europeana among the general public schools and to present to them some good practices (examples) in that area (practices from other Member States).*

Approximately one third of Member States have communication actions at the national level for raising awareness of Europeana with their citizens.

Awareness of Europeana among citizens has been an ongoing issue that should be considered further at the national and EU levels.

5. DIGITAL PRESERVATION

This chapter is divided into four sections and provides an assessment of the extent to which Member States have made efforts during the reporting period 2015-2017 towards long-term digital preservation as specified in points 8, 9, 10 and 11 of the Commission Recommendation (2011/711/EU) that Member States:

8. reinforce national strategies for the long-term preservation of digital material, update action plans implementing the strategies, and exchange information with each other on the strategies and action plans;

9. make explicit and clear provision in their legislation so as to allow multiple copying and migration of digital cultural material by public institutions for preservation purposes, in full respect of European Union and international legislation on intellectual property rights;

10. make the necessary arrangements for the deposit of material created in digital format in order to guarantee its long-term preservation, and improve the efficiency of existing deposit arrangements for material created in digital format by:

(a) ensuring that rightholders deliver works to legal deposit libraries without technical protection measures, or that, alternatively, they make available to legal deposit libraries the means to ensure that the technical protection measures do not impede the acts that libraries have to undertake for preservation purposes, in full respect of European Union and international legislation on intellectual property rights;

(b) where relevant, making legal provision to allow the transfer of digital legal deposit works from one legal deposit library to other deposit libraries that also have the right to these works;

(c) allowing the preservation of web-content by mandated institutions using techniques for collecting material from the Internet such as web-harvesting, in full respect of European Union and international legislation on intellectual property rights;

11. taking into account developments in other Member States, when establishing or updating policies and procedures for the deposit of material originally created in digital format, in order to prevent a wide variation in depositing arrangements;

The first section, **Long-term preservation strategies and action plans,** provides a high-level overview of strategies and action plans for the long-term preservation of digital material. Across the EU, there is a mixed coordination approach at different levels to ensure the long-term preservation of digital material. Eighteen Member States either initiated or are preparing to initiate action points at the national level under this heading, while at least fourteen Member States reported activities of public institutions, competence centres or associations taking action in this area, and three Member States reported participation in European projects dedicated to digital preservation. Overall, twenty-one Member States reported strategies and action plans for digital preservation – stable number since the previous reporting period 2013-2015.

The second section **Multiple copying and migration,** reveals limited progress across the EU in terms of making explicit provisions in legislation to allow multiple copying and migration of digital cultural material by public institutions for preservation purposes. A total of sixteen Member States reported on this topic – only one additional Member State since the previous reporting period. Three of these Member States reported amendments or new legislation, and one reported a public consultation on the topic. From the Member States that reported no provisions in their legislation to cover this area, one of them reported that preservation coordination functions at the institutional level. However, it is not

clear if this the case in other Member States that do not foresee legislation in this area.

The third section **Digital legal deposit,** is divided in three topics: Ensuring that rightholders deliver works to legal deposit libraries; Provision for transfer of digital legal deposit works between legal deposit libraries; and Web harvesting.

Overall, incremental progress has been observed across the three topics. Firstly, eighteen Member States – increase by two Member States since the previous reporting period – reported measures for the deposit of digital-born cultural materials by digital legal deposit libraries, without technical protection measures or accompanied by the means to ensure they do not hinder the long-term preservation of said materials. Secondly, thirteen Member States reported provisions in their copyright, archives, libraries or media legislation allowing the transfer of digital legal deposit works among legal deposit libraries – increase by four Member States since the previous reporting period. Thirdly, eighteen Member States reported measures in place to allow preservation of web content using techniques such as web harvesting for collecting cultural material from the web – also an increase by four Member States since the previous reporting period. Additionally, two Member States reported that in addition to preservation, they provide access to harvested websites on some library premises.

The final section **Co-ordinated approaches on legal deposit arrangements,** also shows some progress from seventeen (previous reporting period) to nineteen Member States that took into account other countries' experiences, or assisting them in the development of existing schemes when establishing or updating policies/practices regarding legal deposit of digital material.

5.1. Long-term preservation strategies and action plans

Across the EU, there is a mixed approach to strategies and action plans for the long-term preservation of digital material. Based on the national reports of Member States, coordination to ensure the long-term preservation of digital material is implemented at different levels. **Nineteen Member States reported having a strategy for the long-term preservation of digital material (BE, CZ, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, HU, NL, AT, PL, SI, SK and FI). Even though eight Member States reported no strategies at the national level addressing preservation of digital resources, most of them did report some initiatives (DK, DE, LU, MT, PL, PT, RO and SE).** In addition, **Liechtenstein** reported that the strategy for long-term preservation of digital resources is currently underway.

Overall, twenty-three Member States (versus twenty-one in the previous reporting period 2013-2015) reported the following main approaches to preservation of digital resources:

- **National strategies (BE, CZ, EE, IE, EL, ES, FR, HR, IT, CY, LV, LT, HU, NL, AT, PL, SI, SK and FI):** More than half of Member States initiated or are preparing to initiate action points for the long-term preservation of digital material at the national level. Reports under this heading covered action points such as guidelines for stakeholders to follow; legal coordination; inclusion of digital preservation goals in overall digital culture

national agendas; and ensuring more effective management and administration of national information resources or setting up new infrastructures and network of repositories and aggregators. **In terms of legal coordination in support of long-term preservation of digital material, Estonia passed and entered into force during the reporting period the New Legal Deposit Copy Act.[55] Slovak Republic is preparing for the new legal deposit during the legislative term of 2016-2020.**

- **Public institutions or other public bodies and services (BE, CZ, DK, DE, EE, IE, ES, FR, LU, AT, PT, SI, FI and SE):** At least fourteen Member States reported activities of public institutions, competence centres or associations, either domain specific or cross-domain, which in addition to providing services such as digitising or archiving, they also deploy systems and strategies to ingest digital born collections and/or ensure the long-term availability of these data.

  Germany and **Finland** reported two different functional approaches to working with institutions and resulting in practical action points, development of standards and the exploitation of synergy effects in the area of digital preservation.

  In **Germany**, nestor, the German competence network for digital preservation, plays a coordinating role in this area. nestor was set up by the German Federal Ministry for Education and Research, and is a cooperation association that includes partners from different fields connected in some way with the subject of "digital preservation." Germany reported that nestor identified key challenges in digital preservation. These may be of importance for all Member States. *In its 2015 positioning paper nestor identifies five main areas where action needs to be taken: lack of resources, lack of suitable legal framework, lack of clear responsibilities, lack of sufficient research into new preservation techniques, lack of national strategy and coordination.*

  Finland pointed out in their national progress report that the country can only succeed in digital preservation in close collaboration between participating memory organisations and the responsible public authority. The Ministry of Education and Culture of Finland initiated and steered the development of Digital Preservation Service that covers preservation of digital data and works with organisations that store cultural heritage. State-owned CSC – IT-centre of Science maintains the service with the support of the Ministry. Finland reported that: *this collaboration has been our key activity since 2010 and has continued in 2015-2017. As a result of this collaboration, we have published national preservation specifications, which describe in detail how materials shall be submitted to the preservation service, how materials shall be described and which file formats are supported for materials preserved in the Service. These specifications are annually updated in collaboration with stakeholders,*

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[55] New Legal Deposit Copy Act (EN) https://www.riigiteataja.ee/en/eli/514092016001/consolide

which also provides outlines for the functional requirements for the further development of the Digital Preservation Service.

- **European projects (BE, EE, FR and SI)**: Only four Member States explicitly reported participation in European projects dedicated to digital preservation, such as 4C,[56] PREFORMA,[57] APEx,[58] eArk,[59] DC-Net,[60] DCH-RP.[61] Even though only Belgium, Estonia and Slovenia specifically named participation in these EU funded projects during the reporting period, additional Member States participated. For example, a total of six Member States reported participation in the APEx project in the previous section of this report – Europeana.

Overall, the majority of Member States report a variety of mixed and combinations of action plans, strategies and initiatives for the long-term preservation of digital material: Almost two thirds of Member States either initiated or are preparing to initiate action points at the national level; while almost half of Member States reported activities of public institutions, competence centres or associations taking action in this area; and only three Member States reported participation in European projects dedicated to digital preservation.

5.2. Multiple copying and migration

During the previous reporting cycle 2013-2015, fifteen Member States reported explicit provisions in their national copyright or archival law allowing multiple copying and/or migration of digital cultural material by public institutions for preservation purposes (BE, DE, CZ, DK, EE, ES, FI, LU, MT, NL, PL, PT, SE, SI, UK).

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[56] 4C was a project (2013-2015) co-funded by the European Union under the 7th Framework Programme. Its objective is to help organisations across Europe to invest more effectively in digital curation and preservation. http://www.4cproject.eu/

[57] PREFORMA, PREservation FORMAts for culture information/e-archives, is a Pre-Commercial Procurement project started in 2014, and co-funded by the European Commission under its FP7-ICT Programme. The aim of the project is to address the challenge of implementing good quality standardised file formats for preserving data content in the long term. The main objective is to give memory institutions full control of the process of the conformity tests of files to be ingested into archives. http://www.preforma-project.eu/

[58] APEx, previously mentioned in the Europeana section, is the follow-up project of Archives Europe Portal, co-funded by the European Commission in 2009, now a now a cross-border archival domain aggregator: www.archivesportaleurope.net

[59] E-ARK was a multinational big data research project that improved the methods and technologies of digital archiving, in order to achieve consistency on a Europe-wide scale. Running from 2014-2017, E-ARK was co-funded by the European Commission under its ICT Policy Support Programme within its Competitiveness and Innovation Framework Programme. http://www.eark-project.com/

[60] DC-NET - Digital Cultural heritage NETwork was an ERA-NET (European Research Area Network) project, financed 2009-2012 by the European Commission under the e-Infrastructure - Capacities Programme of the FP7. The main aim is to develop and to strengthen the co-ordination of the public research programmes among the European countries, in the sector of digital cultural heritage. www.dc-net.org/

[61] DCH-RP Digital Cultural Heritage Roadmap for Preservation was a coordination action supported by EC FP7 e-Infrastructures Programme, launched to look at best practice for preservation standards in use. The project aims to harmonize data storage and preservation policies in the digital cultural heritage sector; to progress a dialogue and integration among institutions, e-Infrastructures, research and private organisations; to identify models for the governance, maintenance and sustainability of the integrated infrastructure for digital preservation of cultural content. http://www.dchrp.eu/

During the current reporting period 2015-2017, four Member States have reported amendments or new developments under this heading (CZ, DE, EE and IE). Amendments to the copyright law concerning libraries were reported in **Czech Republic** and **Germany**, while in **Estonia** the New Legal Deposit Copy Act mentioned in the previous section, allows the National Library to migrate formats or use other technologies to ensure long-term preservation. **Ireland** reported that the public consultation Legal Deposit of Published Digital Material was organised and completed.

Czech Republic: The latest amendment to the Copyright Act No. 102/2017 Coll., Which came into effect on 20 April 2017, clarified the amendment to the exemption for libraries and other storage institutions that allow the reproduction of copyrighted works and other objects of conservation for preservation purposes. The new regulation expressly specifies what has been interpreted so far, namely that, for the purposes of that provision, such institutions may make reproductions in the numbers and formats necessary for the permanent retention of the work.

Germany: The reporting period saw a change in copyright law. It is now legal for the German National Library to use web harvesting methods for long time preservation purposes. Also, digital media which have been published under a licence can now be archived.

Liechtenstein also reported that existing laws on archiving and of intellectual property allow for efforts in preservation of archival material.

Two Member States reported no provisions in their legislation to allow multiple copying and migration of digital cultural material by public institutions for preservation purposes (CY and SK). For example, **Cyprus** reported that at the moment all preservation coordination is only applied in each institution under their respective policies.

> **Almost half of Member States reported on making explicit provisions in legislation to allow multiple copying and migration of digital cultural material by public institutions for preservation purposes.**
>
> **In the case of the Member States that do not foresee legislation that covers multiple copying and migration, it is possible that the preservation coordination is both determined and carried out at the level of cultural institutions without the framework of legislation.**

5.3. Digital legal deposit

5.3.1. Ensuring that rightholders deliver works to legal deposit libraries

In the previous reporting period 2013-2015, sixteen countries (BG, EE, EL, ES, HR, LT, LU, HU, MT, NL, AT, PL, PT, SI, SE and UK) reported measures for the deposit of digital-born cultural materials by digital legal deposit libraries, without technical protection measures or accompanied by the means to ensure they do not hinder the long-term preservation of said materials.

In addition to the above 16 countries, **Italy** also reported that *the Italian Law on copyright and related rights (L. 633/1941, regularly recast, last amendments in 2016) states that rightsholders who have affixed technological protection measures can be required to remove them in order to allow the use of protected works or materials, upon request of the competent authority, for public safety purposes or for ensuring the proper conduct of an administrative, parliamentary or judicial procedure (art. 71 quinquies comma 1).*

During the current reporting period, several other Member States reported progress in this area including **Ireland, France** and **Cyprus** – these Member States did not report initiatives during the previous reporting exercise.

Also during the current reporting cycle, two Member States, Estonia and Spain, adopted legislation regulating the legal deposit of online publications. In **Estonia** the New Legal Deposit Copy Act,[62] passed 15.06.2016, in force from 01.01.2017, mentioned earlier in the section, foresees that for example, in practical terms, the National Library of Estonia may submit a request to the depositor to submit the copy and the depositor is required to enable making a copy. In **Spain**, the *Royal Decree 635/2015,[63] of 10 July 2015 establishes that web publication rights-holders in cases where access is protected by a username and password must provide conservation centres (the National Library of Spain and those autonomous regional libraries with copyright deposit responsibilities) with a capture of the content whenever said centres so require (Articles 7 and 8). In the case of documents that cannot be automatically archived with specialized harvesting software, the publishers or distributors will be required by conservation centres to submit the documents in question, which must be deposited without protective measures and accompanied by the software required in order to allow their long-term preservation (Article 8). Conservation centres are likewise entitled to reproduce, reformat, regenerate and transfer resources so as to guarantee their conservation (Article 9.4).*

Furthermore, two additional Member States (BE and HU) reported upcoming legislation being prepared that will define criteria and rules for providing legal deposit copies of electronic publications without technical protection measures that may impede the acts that libraries have to undertake for preservation purposes.

Belgium: *The legislation in preparation for digital legal deposit provides precise criteria. Files will have to be filed without Digital Rights Management (DRM) and in a standard and open format to allow long-term preservation.*

Hungary: *Based on the revision of Government Decree 60/1998. (III. 27.) on the provision and utilisation of the deposit copies of press products, the public collections area will put forward a deposit copy regulation on a new legal basis in the near future, which will define the rules of providing deposit copies of electronic publications in detail, as well as the provisions on the technical solutions ensuring legal protection.*

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[62] https://www.riigiteataja.ee/en/eli/514092016001/consolide

[63] https://www.boe.es/diario_boe/txt.php?id=BOE-A-2015-8338

France also reported that a legal framework under this heading is being discussed in the context of technical initiatives already being implemented: *The Inter-ministerial service for archives of France is in charge together with the BnF of the Web legal deposit. The BnF harvests web material in an experimental way since 2002 and operational since 2006. Across the past few years, developments have been made to be able to ingest other types of digital-born material: newspapers, ebooks, music. This effort continues in the technical level, while discussions are under way on the legal framework (décret) to make it fully operational. At the end of 2017, the Web archive reached a total of more than 930 Terabytes.*

An additional four Member States reported upcoming initiatives to ensure that digital material delivered as legal deposits are enabled for long-term preservation (IE, EL, CY and MT). In **Ireland** and **Malta**, national institutions such as libraries and archives are in the planning stages of implementing projects or systems in place for this purpose. In **Greece**, there are ongoing discussions on the balance between rights-holders right to technical protection and the libraries' long-term preservation role. **Cyprus** has established a national committee that will be implemented during the next two years, which will address this topic as one of its main objectives.

During the previous reporting period, some obstacles were reported as standing in the way of a fully operational digital legal deposit scheme such as funding (e.g. BG) and legal challenges (e.g. FR). However, during the current reporting cycle, no major obstacles were flagged. Indeed, **Denmark, Netherlands** and **Finland** reported that at the moment, there do not seem to be major obstacles, especially no technical protection measures hindering long-term preservation in their countries.

5.3.2. Provision for transfer of digital legal deposit works between legal deposit libraries

During the previous reporting cycle 2013-2015, nine Member States reported provisions in their copyright, archives, libraries or media legislation allowing the transfer of digital legal deposit works among legal deposit libraries (AT, CZ, DK, ES, FR, HR, LU, PL and UK). During the current reporting period 2015-2017, five new Member States reported measures under this heading (EE, IE, IT, HU and FI). From these four Member States, **Estonia** and **Finland** permit the transfer of digital legal deposit works from one legal deposit library to another according to the law. On the other hand, **Hungary** reports that the Act CXL of 1997 on museum institutions, public library services and public education contains certain provisions on inter-library document supply and borrowing. **Ireland** completed a public consultation on Legal Deposit of Published Digital Material in 2017. **Italy** has put forth under development future regulation for the legal deposit of documents distributed via digital networks, which meanwhile can happen on a voluntary basis.

Therefore, seven years after the Recommendation (2011/711/EU), up to fourteen Member States have put in place legal provisions for the transfer of digital deposit works from one legal deposit library to other. With approximately half of Member States implementing provisions under this heading, the situation across the EU remains mixed due to several reasons. For example, among the Member States

that reported no initiatives or steps taken in this direction, **Belgium** reported that while legislation does not enable this, it is up to the publishers who deposit their publications in digital legal deposit to decide whether their deposited publications may be available or not in other libraries. **Cyprus** reported that as a smaller Member State, the need for provisions on this topic are not necessary at this time. **Liechtenstein** reported similarly.

5.3.3. Web harvesting

Based on the previous reporting period 2013-2015, fourteen Member States had measures in place to allow preservation of web content using techniques such as web harvesting for collecting cultural material from the web (AT, DE, DK, EE, ES, HR, LT, LU, NL, PT, SE, SI, SK, UK). Normally these provisions target cultural content of national significance published on websites with the relevant country code top-level domain. For example, websites with ".de" top-level domain in Germany, ".at" in Austria, etc. Some Member States define web content of national significance for harvesting in broad terms, for example, web material in the language of the country or made by authors of the country. Other Member States reported harvesting that cover certain topics or events of national relevance such as media (newspapers etc.), politics (institutions, elections etc.), women/gender, refugee crisis, and Eurovision Song Contest.

During the current reporting period, six additional Member States reported actions under this heading (BE, IE, IT, LV, PL and FI). **Belgium** reported a two-year project that began in September 2017, launched by The Royal Library. It is a networked project with other scientific and academic institutions (the State Archives, the University of Ghent and Namur and the Haute Ecole de la Senne) to define a strategy for the preservation of the Belgian web. **Poland** also reported ongoing actions under this heading. Poland prepared an analysis of the actions needed to start the system of Internet archiving, including the estimation of the costs of the planned activity and the optimal organizational model. Poland reports that special attention will be needed in the future for analysing the scope of necessary state intervention in the area of archiving of born digital resources, archiving of computer games and other formats. On the other hand, **Ireland** and **Finland** report that their national libraries - National Library of Ireland, and respectively, National Library of Finland – harvest and archive web content. Similarly, in **Latvia**, the National Library of Latvia is gradually increasing the scope and depth of web-harvesting (currently roughly 3,000 web-pages are harvested once a year) and is experimenting with new technical solutions for web-harvesting, which would allow a better full-text search within the preserved web-resources.

Croatia reported significant developments in terms of archiving harvested websites. In response to the loss of catalogued web content since 1998, the National and University Library of Zagreb and the University of Zagreb Computing Centre started a project in 2003 to establish a tool for collecting and archiving legal deposit copies of web Croatian publications while preserving, to the largest extent possible, their original contents, formats and functionalities.

Croatia: *The National and University Library in Zagreb (NUL) started cataloguing web resources as early as 1998. The resources were not archived and could only be accessed via their original homepage. This has resulted in the loss of many*

valuable web sites. The NUL, in collaboration with the University of Zagreb University Computing Centre started the project Design of the System for Capturing and Archiving Legal Deposit of Croatian Web publications in 2003. The objective was to establish a tool for collecting and archiving legal deposit copies of Croatian publications on the Internet while preserving, to the largest extent possible, the original contents, formats and functionalities, in order to ensure access and use in the future. The archive is based on the concept of selective capturing of web resources. Each resource has a full level of description and is retrievable in the online catalogue. The Croatian Web Archive is integrated with the library information system and is running as a service since January 2004. In 2010, the name Digital Archive of Web Publications was changed to the Croatian Web Archive. The new name describes more precisely the aim and purpose of archiving web resources and does not confuse the user as to the scope of the service. The collected resources complement the national collection with content of scientific or cultural significance. Digital born content is collected with particular care, as it documents the everyday stuff like social trends, popular events, and important sports competitions, political, cultural and other types of events. More about the project: http://haw.nsk.hr/en

Hungary also reported significant developments in this area, starting with the revision of the regulation on deposit copies that also affects websites. In 2017, a pilot web archiving project was launched by the National Széchényi Library, set to continue until the end of 2018.

Hungary: In the pilot period, a few hundred cultural and scientific websites will be selected (e.g. websites of libraries, museums, universities and research institutes, electronic magazines, professional blogs), the owners of which were informed in electronic mails, and were requested to approve the archiving or potentially the supply of the saved versions in a collection created for demonstration purposes. The purpose of this research and development work is to establish the conditions for a future Hungarian internet archive.

In terms of access, two Member States, **Germany** and **Austria** reported that access to harvested websites is available on some library premises. In addition, Austria also launched an online search portal[64] to provide an overview of ongoing collections and further information for users.

Two Member States, **Greece** and **Cyprus** reported that no measures were adopted to allow preservation of web content.

Two thirds of Member States have measures in place for the deposit of digital-born cultural materials by digital legal deposit libraries, without technical protection measures or accompanied by the means to ensure they do not hinder the long-term preservation of said materials.

Half of Member States foresee provisions in their copyright, archives, libraries or media legislation allowing the transfer of digital legal deposit works among legal deposit libraries – increase by four Member States since the previous reporting period.

More than two thirds of Member States reported measures in place to

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[64] https://webarchiv.onb.ac.at

allow preservation of web content using techniques such as web
harvesting for collecting cultural material from the web.

5.4. Co-ordinated approaches on legal deposit arrangements

The previous reporting cycle 2013-2015 saw reports from seventeen
Member States that took into account other countries' experiences, or
assisting them in the development of existing schemes when establishing
or updating policies/practices regarding legal deposit of digital-born
material (AT, CZ, DE, DK, EE, EL, ES, FR, HR, HU, LU, MT, NL, SE, SI, SK,
UK). During the current reporting period, three additional Member States,
Ireland, Italy and Cyprus, reported monitoring developments in other
Member States in this area. Furthermore, Cyprus highlighted the need for
EU standards under this heading.

*Cyprus: Even though a great variety of deposition arrangements are being
applied between member states, Cyprus strongly supports the establishment of a
common policy which aim to unite all joint efforts and achieve uniformity that will
mutually benefit all Member States and memory institutions in particular.*

In most cases, these exchanges take the form of collaboration between
institutions and participation in cross-border working groups/associations, or
conferences. Three Member States, **Estonia**, **Spain** and **Slovenia,** mention
membership in the International Internet Preservation Consortium (IIPC).[65]
Furthermore, **Germany** reported its representation in the World Confederation of
Open Access Repositories (COAR),[66] working in this area.

More than two thirds of Member States considered other countries'
experiences, or assisting them in the development of existing schemes
when establishing or updating policies/practices regarding legal deposit
of digital material.

Member States and their cultural heritage institutions may benefit from
the establishment of a common policy in terms of legal deposit
arrangements at the EU level, with the aim to unite all joint efforts,
achieve uniformity and ease the process.

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[65] The mission of the IIPC is to acquire, preserve and make accessible knowledge and information from the Internet for
future generations everywhere, promoting global exchange and international relations.

[66] COAR is an international association with over 140 members and partners from around the world representing libraries,
universities, research institutions, government funders and others. COAR brings together the repository community
and major repository networks in order build capacity, align policies and practices, and act as a global voice for the
repository community. The Executive Director of COAR is based at the Göttingen State and University Library, in
Germany.