

RECOMMENDATIONS

COMMISSION RECOMMENDATION (EU) 2021/1970

of 10 November 2021

on a common European data space for cultural heritage

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Whereas:

- (1) Digital technologies have been changing our lives at a fast pace, providing new opportunities for society, including cultural heritage institutions. Digital technologies offer cultural heritage institutions more effective tools with which they can digitise cultural heritage assets and reach broader audiences. This creates more ways for the public to access, discover, explore and enjoy cultural assets and creates more possibilities for reusing cultural assets for innovative and creative services and products in various sectors, such as other cultural and creative sectors, as well as tourism.
- (2) As the Communication '2030 Digital Compass: the European way for the Digital Decade' ⁽¹⁾ underlines, digital technologies have become, more than ever, essential to working, learning, socialising, enjoying entertainment and accessing a wide range of services and products from health services to culture.
- (3) The COVID-19 pandemic has highlighted the strengths and vulnerabilities of the cultural heritage sector and the need to accelerate its digital transformation to make the most of the opportunities provided. Many cultural institutions incurred a major financial loss or had to close. Nonetheless, despite the financial challenges created by the pandemic, many also managed to retain or even expand their audiences by increasing their digital services (e.g. engaging with audiences, sharing collections, offering digital tools), demonstrating once more their high value to society and to the European economy.
- (4) Cultural heritage is not only a key element in building a European identity that relies on common values but also an important contributor to the European economy, fostering innovation, creativity and economic growth. For example, cultural tourism represents up to 40 % of all tourism in Europe ⁽²⁾, and cultural heritage is an essential part of cultural tourism. Advanced digitisation of cultural heritage assets and the reuse of such content can generate new jobs not only in the cultural heritage sector but also in other cultural and creative sectors, including for instance the video game and film industries. Cultural and creative industries contribute to 3,95 % of EU value added (EUR 477 billion), employ 8,02 million people and involve 1,2 million firms of which 99,9 % are SMEs ⁽³⁾.

⁽¹⁾ COM(2021) 118 final.

⁽²⁾ UNWTO report on Tourism and Culture Synergies.

⁽³⁾ SWD/2021/351 final.

- (5) The evaluation ⁽⁴⁾ of the Commission Recommendation on the digitisation and online accessibility of cultural material and digital preservation (2011/711/EU) concluded that several of the challenges faced by the cultural heritage sector 10 years ago are still present today, such as the urgent need to protect and preserve European cultural heritage, and, in particular, endangered cultural heritage. However, the evaluation also acknowledged that the cultural heritage landscape had changed significantly over the past years, with new needs, but, above all, with new opportunities that could further increase cultural heritage's contribution to the European economy. It is therefore necessary to ensure a policy response that meets these new needs and expectations of the cultural heritage sector, of the cultural and creative sectors and of society in general.
- (6) This Recommendation encourages Member States to put in place appropriate frameworks to enhance the recovery and transformation of the cultural heritage sector and to support cultural heritage institutions in becoming more empowered and more resilient in the future. This will lead to higher quality digitisation, reuse and digital preservation across the EU, and have spillover effects in other key sectors of the European economy, such as tourism, research, and other cultural and creative sectors.
- (7) Member States have various approaches to cultural heritage, addressing the specific characteristics and needs of cultural heritage institutions to a varying extent. A comprehensive digital strategy for the cultural heritage sector, setting up a clear and concrete vision and the most appropriate means for implementing it, would ensure a more effective policy response and make the sector stronger. In order to achieve an effective digital transformation, establish confidence and strong cooperation, Member States should involve all the relevant stakeholders in preparing the strategy.
- (8) The development of advanced digital technologies, such as 3D, artificial intelligence, machine learning, cloud computing, data technologies, virtual reality and augmented reality, has brought unprecedented opportunities for digitisation, online access and digital preservation. Advanced digital technologies lead to more efficient processes (e.g. automated generation of metadata, knowledge extraction, automated translation, text recognition by optical character recognition systems) and higher quality content. They allow innovative forms of artistic creation, while opening up new ways of digitally engaging with and enjoying cultural content through co-curation, co-design and crowdsourcing, empowering public participation. Artificial intelligence, blockchain and other advanced technologies can also be explored for automatically identifying cultural goods that are illicitly trafficked. The uptake of such advanced technologies has a significant impact on European recovery and growth following the COVID-19 pandemic, and Member States should support it by taking appropriate measures.
- (9) Moreover, Member States and cultural heritage institutions should make use of the unprecedented opportunities provided by the advanced digital technologies to drive climate action and support transition to a greener and more sustainable EU economy, as set out in the European Green Deal ⁽⁵⁾. For instance, cultural heritage assets digitised in 3D can be a source of relevant knowledge on climate-related impact, adaptation and resilience (e.g. 3D allows non-destructive analysis of assets, visualisation of damages and information for restoration, conservation, etc.). Likewise, digital twins and Earth observation technologies may be of key importance in increasing resilience to climate change and supporting preventive conservation of cultural heritage monuments, buildings and sites. In this context, digitisation is also a driver to support experts to fight environmental crime on specific sites.
- (10) It is important that Member States continue their efforts to digitise ⁽⁶⁾ and digitally preserve cultural heritage assets. Setting up specific goals for digitisation and preservation, based on an assessment of the needs and on clear and objective criteria, would lead to concrete and measurable results. This would be particularly important for cultural heritage at risk. In such cases, 3D digitisation with the highest level of detail may even be a necessity, for example for conservation and restoration purposes. However, even where the risk of deterioration or destruction is low, it should be a priority given the high reuse potential of digitised cultural heritage assets, such as for innovative experiences and sustainable tourism, to support the overall recovery and resilience of the economy, in line with the goals of the European Green Deal. Moreover, Member States should strengthen their efforts for under digitised domains, such as buildings, monuments and sites, and intangible cultural heritage.

⁽⁴⁾ SWD(2021) 15 final.

⁽⁵⁾ COM(2019) 640 final.

⁽⁶⁾ Including 2D digitisation.

- (11) In addition to serving preservation and restoration purposes, 3D technologies may also provide increased opportunities for cultural heritage institutions to reach wider audiences with more immersive experiences that include virtual access to places which are normally inaccessible (e.g. underwater) or temporarily closed, or to reach persons with visual impairments by offering, for example, accessible tactile experiences. Therefore, a particular focus on 3D digitisation of cultural heritage at risk and of the most visited cultural and heritage monuments, buildings and sites would enhance the value and the potential of cultural heritage. This would also be in line with the Declaration on 'Cooperation on advancing digitisation of cultural heritage' of April 2019 ⁽⁷⁾, where Member States agreed to step up efforts and pursue progress together, under the pillar of a pan-European initiative for 3D digitisation of cultural heritage artefacts, monuments and sites.
- (12) Nonetheless, digitisation does not entail digital preservation by default. To ensure access to the digitised assets in the long term, Member States need to carefully plan and carry out the digital preservation of their assets, considering all the relevant financial, organisational and technical challenges over the long term. The digital preservation goals may include not only the cultural heritage assets that are considered a priority for digitisation (e.g. assets at risk, most visited monuments and sites, or under digitised domains) but also previously digitised assets.
- (13) The current financial framework provides unprecedented opportunities for Member States to use different funding streams in order to significantly boost digitisation and preservation and build significantly more capacity in the cultural heritage sector. Member States should increase awareness among the sector's players about the funding opportunities that Digital Europe, Horizon Europe ⁽⁸⁾, the Cohesion policy Funds ⁽⁹⁾, REACT-EU ⁽¹⁰⁾, the Technical Support Instrument ⁽¹¹⁾ and the Recovery and Resilience Facility ⁽¹²⁾ provide to support the investments needed for the sector's recovery and digital transformation, to give wider access to culture and to have a positive impact on local communities.
- (14) Digitising Europe's cultural heritage requires significant financial resources. In order to share the financial efforts and at the same time speed up public access to cultural heritage, cultural heritage institutions are cooperating with private actors. Yet, many of these cooperation arrangements grant exclusive rights to the private partners. Directive (EU) 2019/1024 of the European Parliament and of the Council ⁽¹³⁾ establishes a set of minimum rules governing reuse and lays down practical arrangements to make it easier to reuse existing documents held by public sector bodies of the Member States. In particular, it requires the cultural heritage institutions falling under its scope (e.g. museums, archives, libraries) to comply with specific provisions on exclusive arrangements, as laid down in Article 12 of the Directive. In order to facilitate fair and non-discriminatory access for all to cultural heritage assets, cultural heritage institutions partnering with the private sector, including those not falling under the scope of the abovementioned Directive, should aim to apply the principles laid down in said Article 12.
- (15) As underlined in the European Skills Agenda ⁽¹⁴⁾, the COVID-19 pandemic has widened the already existing digital skills gap, while new inequalities have been emerging, as many professionals do not have the required level of digital skills that are needed at the workplace. This is also valid for the cultural heritage sector, where the digital divide leaves small institutions (e.g. museums) in particular struggling to make use of advanced technologies, such as 3D or artificial intelligence. Therefore, in line with the European Skills Agenda and its first flagship initiative, the Pact for Skills, and in support of the European Pillar of Social Rights action plan ⁽¹⁵⁾, Member States should set specific targets for upskilling or reskilling cultural heritage professionals. Complementary to this, and building on the Blueprint Alliance for cultural heritage (CHARTER), the cultural and creative industries, as one of the 14 eco-systems identified by the single market strategy, are currently building a large-scale partnership for skills development that should join the Pact for Skills.

⁽⁷⁾ <https://digital-strategy.ec.europa.eu/en/news/eu-member-states-sign-cooperate-digitising-cultural-heritage>

⁽⁸⁾ https://ec.europa.eu/info/horizon-europe_en

⁽⁹⁾ https://ec.europa.eu/regional_policy/en/2021_2027/

⁽¹⁰⁾ https://ec.europa.eu/regional_policy/en/newsroom/coronavirus-response/react-eu

⁽¹¹⁾ https://ec.europa.eu/info/overview-funding-programmes/technical-support-instrument-tsi_en

⁽¹²⁾ https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en

⁽¹³⁾ Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the reuse of public sector information (OJ L 172, 26.6.2019, p. 56).

⁽¹⁴⁾ COM(2020) 274 final.

⁽¹⁵⁾ COM(2021) 102 final.

- (16) Cultural heritage institutions have encountered different copyright-related obstacles when digitising and sharing cultural heritage, such as the costs associated with clearing rights, lack of sufficient copyright expertise among cultural heritage professionals, limitations to cross border cooperation between institutions. Specific measures have therefore been taken at the EU level to address such challenges. For instance, Directive (EU) 2019/790 of the European Parliament and of the Council ⁽¹⁶⁾ on copyright and related rights in the digital single market lays down various provisions modernising the copyright framework that governs how cultural heritage institutions operate in the digital environment. One of the most important changes introduced by the Directive is a clear framework for the digitisation and dissemination of out-of-commerce works that cultural heritage institutions have in their collections. Moreover, the Directive introduces harmonised and mandatory exceptions for making preservation copies by cultural heritage institutions and for text and data mining for scientific research. Finally, the Directive clarifies the status of works of visual art in the public domain with the objective to increase legal certainty. In particular, the new copyright rules will facilitate a core public interest mission of cultural heritage institutions by enhancing the preservation and availability of cultural heritage and by significantly facilitating the use of works that are no longer commercially available for the benefit of European culture and of all citizens. Member States must therefore ensure an effective implementation and application of EU copyright legislation so that cultural heritage institutions can fully benefit from the copyright framework, as updated in particular by Directive (EU) 2019/790.
- (17) Europeana ⁽¹⁷⁾ has been key in strengthening cooperation and standardisation activities across borders, in the EU and beyond. Its standardised frameworks for sharing digital content and metadata online, in particular, the Europeana Data Model ⁽¹⁸⁾, Rights Statements ⁽¹⁹⁾ and the Europeana Publishing Framework ⁽²⁰⁾ have been taken up widely in the cultural heritage sector in Europe and internationally. For instance, the Europeana Data Model allows a standardised representation of data delivered in Europeana by cultural heritage institutions from different domains using different formats. The RightsStatements.org framework provides a set of standardised rights statements that can be used by cultural heritage institutions to communicate the copyright and reuse status of digital objects to the public. However, interoperability remains a continuous effort in terms of formats and standards for digital content and metadata, such as in the case of 3D or the use of contextual entities and authority files for semantic interoperability. In the Declaration on 'Cooperation on advancing digitisation of cultural heritage' of April 2019, Member States agreed to step up their efforts to further develop and promote interoperability standards and frameworks in digitisation initiatives. Member States and cultural heritage institutions should therefore strengthen their efforts to support or adhere to the relevant standards and frameworks in order to accelerate sharing and reuse of data.
- (18) The creation of a common European data space for cultural heritage will give the cultural heritage institutions the possibility to build on the scale of the single market, in line with the European data strategy ⁽²¹⁾. It will foster the reuse of content and spur creativity in various sectors, with value for the whole economy and society. In particular, it will provide high quality content and efficient, trusted and easy-to-use access to European digital cultural heritage assets. It will enhance further collaborations, partnerships and engagement with the network of data partners (e.g. museums, galleries, libraries, archives across Europe), aggregators and experts working in the field of digital cultural heritage. The data space will build on the current Europeana strategy for 2020-25 ⁽²²⁾, whose aim is to empower cultural heritage institutions in their digital transformation.
- (19) Europeana currently gives access to 52 million cultural heritage assets, 45 % of which can be reused in various sectors. Images and text make up 97,5 % of the assets, with only 2,47 % audiovisual content and 0,03 % in 3D. Increased contributions of high quality digitised assets, such as in 3D, would enhance innovation and creation through the use and reuse of the digitised cultural heritage assets in various key domains (e.g. education, smart cities and environmental modelling, sustainable tourism and cultural creative sectors). Bringing an additional 40 million, high quality, digitised and diversified types of assets through the data space would add to the richness of the material available online, while further promoting our European cultural heritage. This increase would also allow enhanced reuse and therefore potential new services and applications. It is important that cultural heritage institutions make significant contributions to the data space, with the support of the Member States.

⁽¹⁶⁾ Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC (OJ L 130, 17.5.2019, p. 92).

⁽¹⁷⁾ COM(2018) 612 final.

⁽¹⁸⁾ <https://pro.europeana.eu/page/edm-documentation>

⁽¹⁹⁾ <https://rightsstatements.org/>

⁽²⁰⁾ <https://pro.europeana.eu/post/publishing-framework>

⁽²¹⁾ COM(2020) 66 final.

⁽²²⁾ <https://op.europa.eu/s/pjHV>

- (20) National and domain or thematic aggregators have a key role in the cultural heritage landscape, building bridges between the various players within the cultural heritage sector and beyond, at national and European level. For instance, national aggregators aggregate and enrich content for Europeana, give access to and promote the cultural heritage assets of their country and pool valuable resources and knowledge for the cultural heritage sector. However, although most of the aggregators across the EU have an official mandate for their activities, there are still many others needing one and struggling to ensure sufficient and sustainable resources or organisational support. Member States should address this challenge by strengthening the role of the aggregators, providing adequate support and supporting their contribution to the common European data space for cultural heritage.
- (21) The expected increase in the number and complexity of digital assets will require secure, resilient, efficient and sustainable cloud-based solutions for processing, accessing and managing such data sets. Therefore, Member States' support ⁽²³⁾ for the European federation of cloud-to-edge infrastructure and services will be key for an effective access to digitised cultural heritage assets.
- (22) This Recommendation builds on and replaces Recommendation 2011/711/EU,

HAS ADOPTED THIS RECOMMENDATION:

CHAPTER I

GENERAL PROVISIONS

Purpose and scope

1. The purpose of this Recommendation is to pave the way for a common European data space for cultural heritage ('data space'), thereby helping cultural heritage institutions to accelerate their digitisation and preservation efforts, and to seize the opportunities created by the digital transformation. This Recommendation encourages Member States to put in place appropriate frameworks to enhance the sector's recovery and transformation and to help cultural heritage institutions become more resilient in the future.
2. This Recommendation covers all types of cultural heritage (tangible, intangible, natural, born digital), including all the categories of cultural heritage at risk.

Definitions

3. For the purposes of this Recommendation, the following definitions apply:
 - (1) 'cultural heritage assets' means assets of:
 - (a) tangible cultural heritage, such as monuments, archaeological sites, sound and audiovisual material, books, journals, newspapers, photographs, museum objects, archival documents;
 - (b) intangible cultural heritage;
 - (c) natural heritage, such as landscapes and natural sites, as defined in Article 2 of the Convention concerning the protection of the world cultural and natural heritage ⁽²⁴⁾;
 - (d) born digital heritage;
 - (2) 'intangible cultural heritage' means practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage, within the meaning of Article 2 of the Convention for the Safeguarding of the Intangible Cultural Heritage ⁽²⁵⁾;

⁽²³⁾ <https://digital-strategy.ec.europa.eu/en/news/towards-next-generation-cloud-europe>

⁽²⁴⁾ UNESCO Convention concerning the protection of the world cultural and natural heritage, Paris, 16 November 1972.

⁽²⁵⁾ UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage 2003, Paris, 17 October 2003.

- (3) 'born digital' means assets created in a digital form, such as digital art or animation, virtual museums, without an analogue equivalent, or cultural content created outside cultural heritage institutions, such as on social media or the gaming industry;
- (4) 'cultural heritage institution' means a publicly accessible library or museum, an archive or a film or audio heritage institution, as defined in Article 2, point (3) of Directive (EU) 2019/790;
- (5) 'digitisation' means converting assets from an analogue format to a digital one;
- (6) 'digital transformation' means both the process and the result of leveraging digital technologies to transform how an organisation operates and delivers value;
- (7) 'digital preservation' means a set of activities necessary to make sure digital objects can be located, rendered, used and understood in the future.

CHAPTER II

ADVANCED DIGITISATION AND DIGITAL PRESERVATION OF CULTURAL HERITAGE

4. Member States should provide for and/or regularly update a comprehensive and forward-looking digital strategy for cultural heritage at the relevant national or regional level to accelerate the sector's digital transformation. Member States should collaborate with or make arrangements for the collaboration of all the concerned stakeholders/parties, such as cultural heritage institutions and competent authorities, to prepare the digital strategy and should provide resources/support for its implementation.
5. The national strategy should contain measures to support the cultural heritage institutions in taking up advanced technologies, such as 3D, artificial intelligence, extended reality, cloud computing, data technologies and blockchain, to ensure a more efficient process of digitisation and digital preservation and a higher quality content for a wider access, use and reuse.
6. The digital strategy should set clear digitisation and digital preservation goals. Those goals should be based on objective and clear criteria, including:
 - (a) cultural heritage at risk;
 - (b) the most physically visited cultural and heritage monuments, buildings and sites; and
 - (c) the low level of digitisation for specific categories of cultural heritage assets.

By 2030, Member States should digitise in 3D all monuments and sites falling under (a) and 50 % of those falling under (b).

By 2025, Member States should digitise 40 % of the overall 2030 targets.

Member States should take the necessary measures to ensure that all digitised cultural assets referred to in point 6(a), (b) and (c) are also digitally preserved.
7. When planning digitisation, Member States and cultural heritage institutions should take a holistic approach. Such an approach should, for instance, consider the purpose of the digitisation, the target user groups, the highest quality affordable, the digital preservation of the digitised cultural heritage assets, including aspects such as formats, storage, future migrations, continuing maintenance and the necessary long-term financial and staffing resources. The digital strategy should provide for a clear and well-defined mandate for national or regional aggregators to collaborate with the cultural heritage institutions to make digitised cultural heritage assets available through Europeana and the data space. In particular, Member States should strengthen the role of the aggregators as intermediaries between Europeana and cultural heritage institutions and encourage their active contribution to the data space.

8. Member States should support partnerships between the cultural heritage sector and other sectors, such as higher education and vocational education and training, creative industries and sustainable cultural tourism, to stimulate innovation for new services and applications.
9. Member States should facilitate the involvement of small and medium-sized enterprises to support the digital transformation of the cultural heritage sector, in particular towards digitisation and data-driven innovation.
10. Where cultural heritage institutions enter into partnerships with the private sector, they should ensure that clear and fair conditions for reusing the digitised assets are laid down, in line with competition rules and with Directive (EU) 2019/1024, and in particular with the rules on exclusive arrangements laid down in Article 12 of that Directive, where relevant.
11. Member States should take the necessary measures to assess the digital skills gap in the sector so that cultural heritage institutions are able to fully exploit the opportunities offered by advanced digital technologies. In particular, Member States should set ambitious objectives to be achieved by 2030 to upskill and reskill cultural heritage professionals, including on data management and analytics, artificial intelligence, advanced digitisation and extended reality technologies.
12. In order to facilitate the digital transformation of cultural heritage institutions and to help widen access to and promote cultural heritage, Member States are recommended to take full advantage of the opportunities offered by the current copyright framework by:
 - (a) ensuring correct and effective implementation of the relevant EU copyright provisions, in particular those laid down by Directive (EU) 2019/790;
 - (b) accompanying all parties in the efficient practical application of the national implementing rules;
 - (c) closely monitoring national implementing rules in order to guarantee their successful application; and
 - (d) supporting cultural heritage professionals in acquiring copyright and licensing related skills and by providing copyright expertise.
13. In order to find shared responses to common challenges to advanced digitisation and preservation and to exchange best practices, to showcase and promote European culture, values and success stories, Member States should encourage cross-border collaboration and partnerships with cultural heritage institutions at international level, in complementarity with the actions promoted by UNESCO and the Council of Europe.
14. Member States should make full use of all funding possibilities at European and national level to accelerate the digitisation and preservation efforts.

CHAPTER III

GUIDING PRINCIPLES FOR A COMMON EUROPEAN DATA SPACE FOR CULTURAL HERITAGE

15. Cultural heritage institutions should adhere to relevant standards and frameworks, such as those used by the Europeana initiative for sharing digital content and metadata, including the Europeana Data Model, RightsStatements.org, and the Europeana Publishing Framework, to achieve interoperability at European level. Member States should take the necessary measures to promote and facilitate the adherence to such existing and future standards and frameworks and collaborate at the European level to expand them in the context of the data space.
16. Member States should actively encourage cultural heritage institutions to make their digitised assets available through Europeana and thus contribute to the data space, in line with the standards and frameworks referred to in point 15 and with the indicative targets provided in Annexes I and II.

17. Contributions from cultural heritage institutions, referred to in point 16, should include, in particular, 3D digitised cultural heritage assets to promote European cultural jewels, enhance the potential reuse in important domains such as social sciences and humanities, sustainable cultural tourism, cultural and creative sectors, or help identify cultural goods that are illicitly trafficked.
18. Member States should ensure that, as a result of their policies, data resulting from publicly funded digitisation projects become and stay findable, accessible, interoperable and reusable ('FAIR principles') through digital infrastructures (including the data space) to accelerate data sharing.
19. All public funding for future digitisation projects of cultural heritage assets should be made conditional upon making digitised content available in Europeana and the data space, as referred to in point 16.
20. Member States should take all the necessary measures to support and raise awareness of Europeana among the general public and particularly in the education sector and schools, including through educational materials.
21. Member States should exploit the European federation of cloud-to-edge infrastructure and services in order to scale up the storage, management and access to digitised cultural heritage assets.

CHAPTER IV

FOLLOW-UP TO THE RECOMMENDATION

Member States should inform the Commission 24 months from the publication of this Recommendation in the Official Journal of the European Union, and every 2 years thereafter, of actions taken in response to the Recommendation.

Done at Brussels, 10 November 2021.

For the Commission
Thierry BRETON
Member of the Commission

ANNEX I

Indicative targets for content contribution to Europeana and the data space by 2030 per Member State ⁽¹⁾

	A	B	C	D	E	F
	Number of records on 1 February 2021	Number of high quality records ⁽¹⁾ on 1 February 2021	New high quality records by 2030	Total number of records by 2030 [= A+C]	Total number of high quality records by 2030 ⁽²⁾ [=B+C]	3D digital assets by 2030 ⁽³⁾
Austria	2 372 357	1 106 942	1 002 892	3 375 249	2 109 834	401 157
Belgium	2 499 646	2 247 432	1 215 817	3 715 463	3 463 249	486 327
Bulgaria	94 447	62 647	329 454	423 901	392 101	131 782
Croatia	67 357	5 456	235 877	303 234	241 332	94 351
Cyprus	30 959	1 858	71 466	102 425	73 324	28 586
Czechia	881 263	369 602	889 329	1 770 592	1 258 931	355 732
Denmark	1 032 422	662 712	676 884	1 709 306	1 339 596	270 754
Estonia	648 205	486 024	99 825	748 030	585 849	39 930
Finland	1 093 297	960 899	548 428	1 641 725	1 509 327	219 371
France	3 860 232	1 779 567	6 381 064	10 241 296	8 160 631	2 552 426
Germany	5 536 786	4 107 742	8 924 266	14 461 052	13 032 008	3 569 707
Greece	661 593	383 327	642 175	1 303 768	1 025 502	256 870
Hungary	732 033	571 425	637 732	1 369 765	1 209 157	255 093
Ireland	86 765	44 424	856 780	943 545	901 204	342 712
Italy	2 150 207	687 421	5 119 900	7 270 107	5 807 321	2 047 960
Latvia	128 505	113 341	117 705	246 210	231 046	47 082
Lithuania	224 359	182 337	209 875	434 234	392 212	83 950
Luxembourg	65 600	1 325	145 567	211 167	146 893	58 227
Malta	50 310	1 006	46 013	96 323	47 019	18 405
Netherlands	9 126 499	7 554 003	1 992 463	11 118 962	9 546 466	796 985
Poland	3 040 221	936 996	2 477 819	5 518 040	3 414 815	991 127
Portugal	203 044	138 963	727 333	930 377	866 297	290 933
Romania	135 213	84 549	1 209 889	1 345 102	1 294 438	483 956
Slovakia	15 106	453	341 636	356 742	342 089	136 654

⁽¹⁾ The indicative targets per Member State are proportional to the population of each Member State, adjusted to the Member State's GDP per capita (in PPS).

Slovenia	598 310	382 081	166 799	765 109	548 880	66 720
Spain	2 960 596	1 228 351	3 851 622	6 812 218	5 079 973	1 540 649
Sweden	4 307 321	3 047 430	1 098 975	5 406 296	4 146 404	439 590
EU 27	42 602 653	27 148 311	40 017 586	82 620 239	67 165 896	16 007 034

(¹) High quality records adhere to the requirements of Tier 2 or above (**Tier 2+**) of the Europeana Publishing Framework for content, and to the requirements of Tier A or above for metadata. These standards are required to foster reuse for various purpose.

(²) Member States are encouraged to improve the quality of Tier 1 records, therefore the total number of high quality records may increase further.

(³) 40% of the new records should be for 3D digital assets. The number of 3D digital assets currently available in Europeana is considered negligible.

ANNEX II

Intermediate targets for content contribution to Europeana and the data space by 2025 per Member State

	A	B	C	D	E	F
	Number of records on 1 February 2021	Number of high quality records ⁽¹⁾ on 1 February 2021	New records by 2025 ⁽²⁾	Total number of records by 2025 [= A+C]	Total number of high quality records by 2025 ⁽³⁾ [=B+C]	Assets in 3D by 2025 ⁽⁴⁾
Austria	2 372 357	1 106 942	401 157	2 773 514	1 508 099	60 174
Belgium	2 499 646	2 247 432	486 327	2 985 973	2 733 759	72 949
Bulgaria	94 447	62 647	131 782	226 229	194 428	19 767
Croatia	67 357	5 456	94 351	161 708	99 807	14 153
Cyprus	30 959	1 858	28 586	59 545	30 444	4 288
Czechia	881 263	369 602	355 732	1 236 995	725 333	53 360
Denmark	1 032 422	662 712	270 754	1 303 176	933 465	40 613
Estonia	648 205	486 024	39 930	688 135	525 954	5 989
Finland	1 093 297	960 899	219 371	1 312 668	1 180 270	32 906
France	3 860 232	1 779 567	2 552 426	6 412 658	4 331 993	382 864
Germany	5 536 786	4 107 742	3 569 707	9 106 493	7 677 448	535 456
Greece	661 593	383 327	256 870	918 463	640 197	38 530
Hungary	732 033	571 425	255 093	987 126	826 518	38 264
Ireland	86 765	44 424	342 712	429 477	387 136	51 407
Italy	2 150 207	687 421	2 047 960	4 198 167	2 735 381	307 194
Latvia	128 505	113 341	47 082	175 587	160 423	7 062
Lithuania	224 359	182 337	83 950	308 309	266 287	12 593
Luxembourg	65 600	1 325	58 227	123 827	59 552	8 734
Malta	50 310	1 006	18 405	68 715	19 411	2 761
Netherlands	9 126 499	7 554 003	796 985	9 923 484	8 350 988	119 548
Poland	3 040 221	936 996	991 127	4 031 348	1 928 124	148 669
Portugal	203 044	138 963	290 933	493 977	429 897	43 640
Romania	135 213	84 549	483 956	619 169	568 504	72 593
Slovakia	15 106	453	136 654	151 760	137 107	20 498

Slovenia	598 310	382 081	66 720	665 030	448 800	10 008
Spain	2 960 596	1 228 351	1 540 649	4 501 245	2 769 000	231 097
Sweden	4 307 321	3 047 430	439 590	4 746 911	3 487 019	65 938
EU 27	42 602 653	27 148 311	16 007 034	58 609 687	43 155 345	2 401 055

(¹) High quality records adhere to the requirements of Tier 2 or above (**Tier 2+**) of the Europeana Publishing Framework for content, and to the requirements of Tier A or above for metadata. These standards are required to foster reuse for various purpose.

(²) Intermediate target: 40 % of indicative targets by 2030.

(³) Member States are encouraged to improve the quality of Tier 1 records, therefore the total number of high quality records may increase further.

(⁴) Intermediate target for 3D digital assets: 15 % of 2030 targets.
