University Policy on Digital Cultural Heritage

Definitions

"University" means Alma Mater Studiorum – Università di Bologna.

"University Structures" means the University Departments and Research Centres, the Bologna University Library, the libraries in the University Library System, the Historical Archive, and the museums in the University Museum Network.

"Cultural Heritage" means all Heritage Assets that, under the Italian Cultural Heritage and Landscape Code (Legislative Decree no. 42 dated 22 January 2004), are of artistic, historical, archaeological, ethnological, anthropological, archival and bibliographic interest and contribute to preserving the memory of the national community and its land and to promoting cultural development.

"Heritage Asset" means a movable or immovable asset that qualifies as such under the Italian Cultural Heritage and Landscape Code (Legislative Decree no. 42 dated 22 January 2004).

"Material" or "Materials" means the Heritage Assets selected for a digitisation project and/or the creation of a digital collection.

"Digital Object" or "Digital Objects" means both digital reproductions of analogical Cultural Heritage, achieved by different technical means and procedures, and Cultural Heritage objects originally created digitally, i.e. born digital. Digital Objects are potential research data, especially when they originate from research activities or are used as evidence for research.

"Digital Cultural Heritage" means all Digital Objects originating from the digitisation of Heritage Assets or from the arrangement of born-digital cultural content, in order to achieve more advanced knowledge by developing their relational potential. The availability of such objects within an ecosystem that enhances them, as well as their creative use or reuse, contributes to forming Cultural Heritage in the same way as any other tangible or intangible Heritage Asset.

"Metadata" means structured information that concerns Heritage Assets and Digital Objects and allows them to be identified and indexed by research engines and aggregator portals, facilitates their arrangement, management and intelligibility, certifies provenance and authorship, defines conditions for access and reuse, and describes preservation methods. Metadata are usually structured according to standard, often subject-specific or document-type-specific templates, consolidated at an international level and implemented by long-term storage and access infrastructures, such as Digital Libraries.

"FAIR Principles" means the guidelines defined and recognised at an international level to facilitate discovery and indexing of data and to ensure they are preserved and accessible, interoperable and reusable, also in an automatic form. FAIR is an acronym that stands for the principles that data need to meet – they must be Findable, Accessible, Interoperable and Reusable. For the purposes of this policy, under the FAIR Principles, Digital Objects must be recorded in infrastructures (Digital Libraries) that ensure their indexing and online traceability by adopting interoperability protocols, assigning unique and persistent identifiers, and using standardised Metadata, which describe their provenance and conditions for accessibility and reuse (access levels and licences).

"Data Management Plan" means the document for planning, documenting and monitoring FAIR management of a digitisation project or of the creation of a digital collection of Heritage Assets. Specifically, a Data Management Plan describes the nature and origin of the Digital Objects, the measures taken to ensure their quality and protection, the relevant roles and responsibilities, the organisation and management of the Digital Objects during and after a digitisation project and/or the creation of a digital collection, and the necessary activities to bring the Digital Objects in line with the FAIR Principles, in accordance with the law and third-party rights. The Data Management Plan is also referred to as DMP.

"Open Access" means the conditions of use of Digital Cultural Heritage, such to ensure that anyone is free to access, use, modify and share it – subject, at most, to measures that preserve provenance and openness.

"Digital Library" means an organisation that provides the technological infrastructure and resources, including specialist staff, to select, structure, give access to, interpret, distribute, protect the integrity and ensure persistence of collections of Digital Objects over time, so that they are readily available to and usable by a set of external communities. The technological infrastructure meets internationally recognised technical and organisational requirements for data archiving, including but not limited to the assigning of unique and persistent identifiers, the use of standard Metadata and interoperability protocols, the adoption of data management and long-term preservation policies, the publication of Metadata and, where possible, of Digital Objects under an open licence to facilitate reuse, also in an automatic form.

"Cultural Product" or "Cultural Products" means digital resources derived from Digital Objects, including but not limited to editorial products, exhibitions, educational resources.

"Digital Services" means services that can be provided digitally, based on Digital Objects, including but not limited to environments for content creation or storytelling, public and confidential annotation systems, artificial intelligence applications, data sharing services.

Recitals

According to the founding principles of its Statute, the University of Bologna protects and innovates its Cultural Heritage to meet different societal needs, is responsible for its classification, preservation and enhancement, and supports initiatives for cultural promotion via the University Library System and the University Museum Network and through the functions of the Bologna University Library and the Historical Archive.

Cultural Heritage protection and enhancement is in line with the highest constitutional values of promoting culture and scientific and technical research (Article 9 of the Italian Constitution) and ensures the fundamental right of every person freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefit, as established in the Universal Declaration of Human Rights and guaranteed by the International Covenant on Economic, Social and Cultural Rights.

Digital transformation provides the opportunity to develop new services for Cultural Heritage enhancement, promoting high standards of quality that ensure preservation, sharing and reuse of Digital Cultural Heritage over time.

This Policy complies with:

- The Council of Europe Framework Convention, signed in Faro on 27 October 2005 and ratified by the Italian Parliament on 23 October 2020, under which the signatory States undertake to improve access to Cultural Heritage in order to encourage its identification, study, interpretation, and the active engagement of citizens, including by developing and using digital technology;
- Commission Recommendations of 27 October 2011 *on the digitisation and online accessibility of cultural material and digital preservation* (2011/711/EU) and of 10 November 2021 *on a common European data space for cultural heritage* (2021/1970/EU);
- Directive (EU) 2019/790 on copyright and related rights in the Digital Single Market, transposed into the Italian legal system by Legislative Decree no. 177 dated 08 November 2021, and Directive (EU) 2019/1024 on open data and the re-use of public sector information, transposed by Legislative Decree no. 200 dated 08 November 2021;
- Italian National Plan for the Digitisation of Cultural Heritage 2022-2023 (Piano Nazionale di Digitalizzazione del patrimonio culturale – PND), approved by the Istituto Centrale per la Digitalizzazione del Patrimonio Culturale – Digital Library as per Director's Decree MIC no. 12 dated 30 June 2022, which sets out methodological and operational guidelines for promoting and coordinating digital transformation across the cultural ecosystem, first and foremost in public cultural institutions that preserve, protect, manage and enhance Heritage Assets.

This University Policy on Digital Cultural Heritage shares the principles and practices of the *University Policy on Open Access to Research Publications and Data* and the *University Research Data Management Policy*.

1. Purposes

The Policy sets out methodological principles for managing digitisation projects and the creation of digital collections of Heritage Assets, for preserving Digital Objects and for implementing Digital Cultural Heritage services.

2. Scope of Application

The Policy applies to digitisation projects and to the creation of digital collections of Heritage Assets involving the Bologna University Library, the Historical Archive, the museums in the University Museum Network and the libraries in the University Library System as regards their own collections.

The Policy also applies to digitisation projects and to the creation of digital collections of Heritage Assets in the framework of activities of cultural interest or research carried out by the University Departments and Research Centres.

3. Managing a digitisation project and/or the creation of a digital collection

The University Structures are required to act in a conscious, organised and effective manner when implementing digitisation projects and/or creating digital collections of Heritage Assets, taking the sustainability of the initiative into account in accordance with the applicable law.

A digitisation project involving assets protected under the Italian Cultural Heritage and Landscape Code must be authorised in advance by the competent authority, depending on the asset type (Article 21 of Legislative Decree no. 42 dated 22 January 2004).

The implementation of digitisation projects and/or the creation of digital collections of Heritage Assets is subject to authorisation by the holders of any rights in the Materials.

The Digital Objects and relevant Metadata generated within a digitisation project and/or in creating a digital collection of Heritage Assets must comply with the national and international standards and best practices to ensure preservation, interoperability and reuse.

3.1. Selection and collection of the Materials

In selecting the Materials to be digitised and/or in collecting born-digital Materials, consideration must be given to the purposes of the project, in accordance with the applicable law and any third-party rights in the Materials.

In selecting the Materials to be digitised, consideration must also be given to the nature and state of preservation of Materials themselves, without damaging the originals and, where possible, without making duplications.

3.2. Identification of the Materials

Prior to digitisation, the Materials must be sorted, inventoried, catalogued and described.

Any Materials yet to be catalogued and/or described must at least be univocally identified in order to be linked to the corresponding Digital Objects.

3.3. Metadata management

The University Structures that promote digitisation projects and/or the creation of digital collections of Heritage Assets must consider the type and level of Metadata for the selected and/or collected Material in order to ensure preservation and use of Digital Objects.

In selecting the Metadata associated with each Digital Object, consideration must be given to the purposes of the project, and sufficiently rich and informative Metadata are to be selected to allow its identification, search and proper management.

Specifically, the Metadata must provide the following information:

- Persistent univocal identification and description of each Material (descriptive Metadata);
- Data concerning the project, level of digitisation, provenance of the Materials, holders of the rights and user licence (administrative Metadata);
- Intrinsic characteristics of the files (technical Metadata);
- Internal structure of the documents or relations among the components of the Digital Objects (structured Metadata);
- Events concerning preservation and certifying integrity of the files (preservation Metadata).

In order to ensure interoperability and the sharing of information, it is recommended that internationally recognised Metadata schemas are adopted or, alternatively, that the Metadata for the digitisation project and/or the creation of a collection of Heritage Assets are mapped according to the main Metadata standards, appropriately encoded in shared structured languages.

3.4. Digitisation methods

The digitisation project or the processing of digital-born Materials must be implemented using appropriate tools to ensure that the Materials are preserved and the reproduction is faithful to the original, taking the nature of the selected Materials and the purposes of the project into account.

The digitisation project or the processing of digital-born Materials can be carried out using the tools and staff of the University Structures or by contracting a dedicated service from an external provider, in accordance with the technical and qualitative requirements of the national guidelines.

3.5. Formats

The file formats selected for the Digital Objects must ensure long-term preservation and the highest level of interoperability.

Long-term preservation is guaranteed by an uncompressed, lossless and preferably 'raw' format. The use of lossy, possibly compressed copies is mostly permitted for online publishing.

Where previous digitisation projects are resumed, the selected format should guarantee the least possible loss of information and greatest interoperability.

3.6. File Naming of the Digital Objects

In order to ensure the univocal identification of the files and establish a reliable and univocal logical link between the descriptions and the Digital Objects, a conventional file naming and a structured and hierarchical organisation of the Digital Object files and directories must be used.

The files and directories names must contain at least: the institutional identification code; the Digital Object identification code; the progressive number for sorting the sequence of components; the file extension. The nomenclature of the document parts should also be included in the files names for bibliographic material.

4. Data Management Plan

The University Structures which promote digitisation projects and/or the creation of digital collections of Heritage Assets undertake to prepare a Data Management Plan and manage the Digital Objects in accordance with best practices and the FAIR Principles.

If a digitisation project is implemented and/or a digital collection of Heritage Assets is created in the framework of activities of cultural interest or research carried out by the University Structures, the project manager undertakes to prepare a Data Management Plan and manage the Digital Objects in accordance with best practices and the FAIR Principles.

5. Publishing and reusing Digital Objects

Within a digitisation project and/or the creation of a digital collection of Heritage Asset, each University Structure must establish the terms and conditions for publishing and reusing Digital Objects.

Publication and reuse must comply with the applicable law on Cultural Heritage and landscape protection, intellectual property protection and personal data protection, as well as with the provisions of the University Statute and regulations, and any other rights in and/or restrictions on the Materials and/or their digital reproduction.

Where possible, the University promotes the application of user licences allowing reuse of Digital Objects according to Open Access principles.

6. Online access to Digital Objects

Online access to Digital Objects must be ensured by depositing the files, of appropriate formats and resolution, into dedicated Digital Libraries.

The Digital Libraries must provide a reliable and permanent service over time and adopt technical standards for the indexing of Digital Objects in national and international infrastructures for Cultural Heritage research and enhancement.

7. Storing and reusing master files

Master files, or files in lossless, high-resolution or 'raw' formats originating from digitisation activities, must be archived together with appropriate Metadata and permanently and securely stored to ensure service availability throughout the life cycle of the data.

Third-party reuse of high-resolution files is subject to the national guidelines on the acquisition, circulation and reuse of reproductions of public Heritage Assets in the digital environment.

8. Design and development of Cultural Products and Digital Services

The University Structures are committed to adopting the methodological principles of this Policy in designing and implementing Cultural Products and Digital Services, including but not limited to interactive resources for exhibition, educational and editorial purposes, also for profit.

9. University Digital Library

The University has implemented AMS Historica, an institutional Digital Library for the collection, preservation and dissemination of its own Digital Cultural Heritage.

AMS Historica can be used as an enabling technological infrastructure for preparing Cultural Products and Digital Services.

All Digital Objects deposited into AMS Historica must be accompanied by a Data Management Plan.

10. Digital Maturity Assessment

The University undertakes to adopt methods, indicators and tools for the assessment of its own digital maturity, in order to monitor the level of progress and management quality of the digital transition processes involving Cultural Heritage.

11. Final provisions

This Policy shall become effective on 01 January 2024.