

Digital Preservation Policy

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00	July 2017	Archives & Records Manager	ARC-POL-006	New policy

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Digital Preservation Policy

1. Introduction

This policy outlines how the Royal Armouries Archive Service intends to manage, preserve and make accessible digital records selected for long-term preservation because of their enduring historical, informational or evidential value in a manner that retains the records' authenticity, integrity, usability and reliability.

2. Relationships with other policies

This policy should be read in conjunction with:

- the Information and Records Management Policy, which deals with the management of current and semi-current records, and the disposition of records, some of which will be transferred to the Archives.
- the Archives Development Policy, which deals with the acquisition, disposal and deaccessioning of archive, including born digital and digitised records.
- The Archives Preservation Policy, which deals with the preservation of other archival materials.

3. Aims

The aim of this policy is to ensure the long-term preservation of born-digital and digitised records through the creation and maintenance of a Digital Strong Room.

4. Scope

4.1. Digital records are typically either:

- 'Born digital', where the record was created using software and hardware, and saved in digital format.
- 'Made digital' or digitised, where the record was created in a physical, tangible form and has subsequently been recreated, through scanning or photographic techniques, as a digital object.

4.2. The preservation process spans the full lifecycle of a digital record, from the point of creation through ongoing custodianship within the Digital Strong Room.

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4.3. This policy specifically covers digital records, which are within the scope of the Archives Development Policy, and which will be preserved within the Digital Strong Room:

- Born-digital records created in the course of the Museum’s conducting its business, which hold corporate memory and have been selected for long term preservation.
- Born-digital and made-digital records, created outside the Museum and accessioned into the Archives via external acquisition, such as donation or purchase.
- Made-digital surrogates, of physical objects, created by the Museum for the purposes of:
 - Preservation, where the physical original is subject to decay or technological obsolescence.
 - Access, to broaden its audience and widen research potential.
 - Outreach, to promote the Museum and its archives.

4.4. Digital formats and media

- The Archives will accept digital records in most file formats (such as text, graphic, image, video, audio, database, website and email) and will apply standard archival appraisal criteria, codes of practice and best practice to determine suitability for long term preservation.
- The Information and Records Management Policy, Retention Schedules (as determined by Records Management), Appraisal Criteria and standard codes of practice will be referred to when determining if the collection complements the Archives existing holdings.
- The Archives will accept digital records held on physical media (such as CD Rom, floppy disc, external Hard Disc Drive, USB flash drives), but depending on condition and age, cannot guarantee that their contents can be fully extracted. (See *Selection and Appraisal*, section 6.1)

5. Principles

5.1. Record creators within the Museum are encouraged to be mindful of the preservation of digital content at the point of its creation. This is to ensure that records deemed of sufficient historical, informational or evidential value to be

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preserved for the long term, are created in a manner that will facilitate their preservation.

5.2. The Archives and Records Manager provides advice and guidance on the best practice to be adopted for the creation, management and disposition of current and semi current records.

5.3. The Museum will take all reasonable measures to ensure digital objects managed and preserved within the Digital Strong Room are, and remain, trustworthy and accessible.

- **Authenticity**

The Museum will carry out regular audits to ensure that digital records within the Digital Strong Room have not been subjected to unauthorised or accidental alteration, corruption or loss.

- **Integrity**

The Museum will maintain a thorough audit trail of actions and activities that have been carried out through the lifecycle of a digital record.

- **Provenance**

The Museum will ensure that 'chain of custody' for the records held within the Digital Strong Room is maintained through the capture and preservation of appropriate descriptive metadata.

- **Reliability**

All archival processes and procedures undertaken to preserve digital records will be fully documented and subject to external audit, in line with current international standards and best practice, to ensure the University can establish and communicate to its users the trustworthiness of the Digital Strong Room.

- **Usability**

The Museum will preserve digital records held within the Digital Strong Room in line with best practice and provide sufficient metadata to allow the records to be located, retrieved and interpreted.

5.4. The Museum will provide public access to its digital collections, unless subject to restrictions imposed by legislation, contractual obligations imposed by a

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donor/depositor or technological issues that limit accessibility. (See *Rights Management, section 6.5*)

- 5.5. The Museum will follow international standards and established best practice in all its Digital Preservation actions and activities. (See *Standards, section 7*)
- 5.6. All preservation processes will be transparent and auditable.
- 5.7. The Museum recognises that the preservation of digital content is an active process that requires sustainable management and resources.

6. Policy

6.1. Selection and appraisal.

The selection of digital records to be managed and preserved within the Digital Strong Room will be carried out in line with Archives Development Policy. The appraisal of digital records will be carried out through adopting best practice procedures and the use of industry standard applications in line with Archives Appraisal Policy.

6.2. Accessioning.

It is important that digital records are properly screened and documented at the point of accession to ensure that the 'chain of custody' is maintained, the records retain their authenticity and the preservation process begins with good quality data and metadata. To achieve this objective the Museum will:

- quarantine records prior to accession into the Digital Strong Room and conduct thorough anti-virus checks to ensure they pose no threat to the integrity of other records within the Digital Strong room or the Museum's IT network.
- identify, characterise and validate file formats.
- gather appropriate descriptive, administrative and preservation metadata.
- conduct fixity checks to ensure the authenticity of accessioned records.
- generate a 'preservation' and 'access' copy of the original.

6.3. Preservation strategy.

With reference to the Archives Care and Conservation Policy, the Museum will adopt the most appropriate strategy deemed suitable for the preservation of its digital records. In all cases the Museum will preserve the original bitstream as well as any other manifestations created as a bi-product

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of the preservation process. In order to adopt such strategies the Archive Service and IT Department will develop appropriate workflows for preservation planning and a technological infrastructure to manage the ingest, preservation process, storage, back up and accessibility of its digital collections.

6.3.1. Preservation planning.

Preservation planning is at the core of content preservation. Its role is to monitor the technological, financial, legislative and institutional environment and mitigate the risks of change to the accessibility of digital records. The Museum will carry out preservation planning under the following areas:

- **Risk assessment**

The Archive Service and IT Department will perform regular risk analysis on the digital records it holds to determine the type and level of preservation action required.

- **Technology watch**

The Museum will continually monitor the technological landscape both internally and externally to identify where changes or developments may impact upon its digital records, the type and level of impact and recommend appropriate actions.

- **Impact assessment**

In response to outcomes from the risk assessment and technology watch the Museum will prioritise actions it needs to take and implement changes accordingly.

6.4. Access and use.

With reference to the Archives Access Policy, the online archive catalogue will be the entry point for access to digital records held within the Digital Strong Room. The catalogue will be open to the public, without requirements for user authentication.

6.4.1. Open access. Where access can be granted fully to digital records the user will be able to view them online, through a browser, via the archive catalogue provided the user either has access to an internet connection or access to the Museum’s IT network.

6.4.2. Partially closed access. Some digital records described within the catalogue may be subject to rights management restrictions (see *Rights Management*

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section 6.5) and may therefore have limited access. Access to such records will be purely onsite, within the Library and Archives Reading Room.

6.4.3. **Closed.** Where digital records have to remain closed for reasons of confidentiality or rights management there will be no access (either online or onsite) to both the catalogue record and the accompanying digital record.

6.4.4. **Staff only.** There may be a requirement, in some cases, to restrict access to some digital records to internal users only. In this instance only users with the appropriate level of access will be able to view those digital records.

6.5. Rights management.

With reference to the Archives Access Policy it is likely that certain rights and access conditions will apply to digital records held in the Digital Strong Room. The Museum will adopt open metadata standards, such as PREMIS, METS and Dublin Core, to express the rights status of a record or collection within the catalogue record. This may result in restrictions to the accessibility of some records. Such restrictions typically relate to:

- the presence of personal data, which restricts access under Data Protection legislation.
- where the records are subject to Copyright legislation.
- contractual obligations made by the donor/depositor of digital collections at the point of acquisition.
- where an access copy cannot be made due to current technological limitations.

Where possible the Museum will adopt the Non-Commercial Government licensing scheme and encourage donors of digital collections to do likewise to make records more openly accessible to users.

6.6. Storage, duplication and backup.

The Museum will hold multiple copies of digital records through its routine backup procedures, with one copy located in remote storage geographically dispersed from other backup copies.

Digital records acquired by the Museum, which are stored on removable or other physical media, will be transferred from their physical carrier onto secure, server-based storage by the Archive Service and IT Department using industry standard applications at the point of accession.

6.7. Security management.

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The Digital Strong Room will be managed in accordance with the Museum’s Information Security Policy in order to protect its assets from unauthorised access and protect the confidentiality and integrity of its digital records.

7. Legal constraints and professional standards

The Museum will ensure compliance with all relevant legislation as outlined within the Information and Records Management Policy, and will adopt key professional industry standards in its approach to Digital Preservation. Standards enable the Museum to define its Digital Preservation requirements, processes and workflows and to thereafter benchmark its success against established best practice. The most relevant industry standards applicable are (but not limited to):

- Space data and information transfer systems - Open Archival Information System reference model (ISO 14721:2012)
- Space data and information transfer systems – Producer-Archive Interface Methodology Abstract standard (ISO 20652:2006)
- Information and documentation – Records management – Part 1: General (ISO 15489- 1:2001)
- Space data and information transfer systems – Audit and certification of trustworthy digital repositories (ISO 16363:2012)
- International Standard for Archival Description (General) (ISAD(G))
- Preservation Metadata Implementation Strategies (PREMIS)
- Metadata Encoding and Transmission Standard (METS)

8. Roles and responsibilities

The implementation and management of Digital Preservation activities will require expertise from within the Museum, but will rely in the first instance on help from external sources. The Museum will endeavour to ensure that sufficient resources are available to enable the Archive Service and IT Department to carry out its Digital Preservation mandate to the highest industry standard.

Detailed roles and responsibilities will be developed as part of the Digital Strong Room project.

9. Skills and training.

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The Archive Service and IT Department will ensure its Digital Preservation activities are carried out by trained staff and will provide training opportunities for staff to develop and enhance their Digital Preservation skills.

The Archive Service and IT Department will actively raise awareness of Digital Preservation issues and approaches across the University and will provide training, where appropriate.

10. Audit and certification.

The Museum will pursue appropriate accreditation and certification relevant to its Digital Preservation activities in line with other public authorities and Places of Deposit so that stakeholders and users can be assured that its digital collections are managed in a trustworthy environment.

11. Policy review

This policy will be reviewed on a periodic basis as circumstances within the Museum and the Archive Service and IT Department changes. This review period will be at least every two years, depending on the rate of technological change and how this impacts on the policy, and will be conducted in conjunction with senior management and other stakeholders.

12. Risk Management

The associated risk of non-compliance with this policy is:

Impact of non-compliance: High

Likelihood of non-compliance: High

13. Effective date

This policy is effective from the date of signing.

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Director General & Master of the Armouries

Date.....

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Glossary

Accessioning	The process of taking custodianship of a digital record or collection of records for the purposes of long term preservation and access.
Bitstream preservation	A preservation strategy that involves management of the original manifestation of a digital record. It ensures that the original retains its authenticity and is maintained in a secure environment with appropriate security and back up.
Chain of custody	A system of controls that extends over the lifecycle of the digital record to ensure trustworthiness of its provenance.
Content preservation	A preservation strategy that ensures the continued accessibility of digital objects over their lifetime to mitigate the effect of technological obsolescence. It involves active intervention, and format migration, to ensure accessibility and readability of digital records.
Digital object	An individual digital component that either singly, or collectively with other digital objects, forms a digital record.
Digital record	Information in an electronic format that demonstrates evidence of an action or activity.
File characterisation	The process whereby information about the digital record, such as format and version, is identified and extracted in the form of metadata.
File validation	The process whereby digital records can be checked to establish if their format conforms to standard specifications.
Ingest	The process of moving digital records from the record creator and into a Digital Preservation repository system.
Manifestation	A digital derivative or copy of an original bitstream object.
Metadata	The literal definition is 'data about data', and is classified as either descriptive, administrative or structural, and which in some way will enable the continued management, preservation and access to digital records.
Technology watch	The process whereby the technological landscape is monitored to assess the likely impact any changes may have

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