

Isle of Man Public Record Office Digital Preservation Strategy

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1. Isle of Man Public Record Office Mission Statement

The Isle of Man Public Record Office (IOMPRO) preserves the national archives of Isle of Man public bodies. Our role and activities are defined by statute - the Public Records Act 1999 and the Public Records Order 2015.

Our mission is to ensure records of Isle of Man public bodies that have historic or cultural significance are **identified**, **preserved** and **made accessible** for all who wish to use them, whilst ensuring compliance with the law in respect of sensitive or personal records.

We commit to preserving and making accessible records in all formats, both physical and digital, through active programmes of **selection and transfer of records**, **conservation and collections care**, **collections information**, **access and outreach**.

The work of the IOMPRO contributes to the Isle of Man Government's vision for a **vibrant, secure and sustainable Island nation**, as set out in 'Our Island Plan'.

2. Purpose of Digital Preservation Strategy

This document lays out the structure for the Public Record Office in regards to how it will tackle the long term preservation of digital records as it is required to do so under the Public Records Act 1999. It will give background to digital preservation and identify the key strategies, activities and procedures required to preserve digital records.



3. Context of Isle of Man Digital Preservation Strategy

3.1 Legal and Strategic Context

The work of the Isle of Man Public Record Office contributes to the Isle of Man Government's vision for a vibrant, secure and sustainable Island nation, as set out in 'Our Island Plan'.

We assist public bodies across the Island with record-keeping, helping to ensure they have access to the right information at the right time to deliver the 'Our Island Plan' vision.

We preserve vital information assets that support the One Government principles of strategic thinking, stewardship, productivity, delivery and accountability in Government policy and services.

We contribute to:

- **'An Island of health and wellbeing'**
 - We encourage arts, culture and heritage enrichment through research, our social media, events and outreach activities;
 - We enable people to understand their community, family and cultural background and sense of identity;
 - We preserve critical documentation, such as records of life events, which protects human rights.
- **'Outstanding lifelong learning and development opportunities for all'**
 - We provide research facilities to support Island students and residents with their lifelong learning;
 - We offer opportunities for work placements and skills development through our volunteer programme.
- **'An environment we can be proud of'**
 - We strive towards sustainable buildings and digital infrastructure for the Island's national archives.



3.2 Relevant Legislation

- Public Records Act 1999
- Public Records Order 2015
- GDPR and LED Implementing Regulations 2018
- Freedom of Information Act 2015
- Data Protection Act 2018

4. Definition of Digital Preservation

4.1 Regarding Digital Preservation

Digital Preservation is the series of managed activities required to ensure that digital records remain accessible and usable in the long term. This involves taking steps to mitigate the risks of data loss and obsolescence which can be caused by technological change, media degradation or other factors that threaten the long term usability of digital records.

4.2 Regarding Digitisation and Digitised Content

Digitisation refers to the process of converting analogue materials, such as physical documents, images or even sound recordings into digital formats. This involves using equipment and software to create digital version that are representations of the original materials.

5. Statement of Intent

The Isle of Man Government Public Record Office has a responsibility to preserve digital public records that have been identified for permanent preservation in the same way that it currently looks after analogue records. This will require the Public Record Office to gain new tools, skills and processes in order to fulfil its role. This document lays out some of the changes that are required so that the long term preservation of digital public records can be achieved.



6. Strategic Focus

6.1 Implement Digital Preservation Policy & Procedures

The Public Record Office requires additional policy and procedure documents in order to maintain an adequate management and control over the digital records it intends to protect.

- Produce a Digital Preservation Policy and review every three years;
- Produce a Digital Preservation Strategy and review every three years;
- Produce procedures around the acquisition, selection, pre-ingest, ingest, preservation and management of digital records;
- Produce external guidance for other government bodies who are looking to transfer digital records to the Public Record Office.

6.2 Setup of Digital Preservation Infrastructure

The Public Record Office has been running a project since 2020 to implement Digital Preservation systems to supplement the record keeping facilities of the department.

- Digital Repository infrastructure to be procured and implemented;
- Integration between Digital Repository and existing Public Record Office systems;
- Implement processes and tools to assist with the selection, accession and pre-ingest of digital deposits;
- Digital record storage to undergo geographic redundancy in the form of a second location storage backup;
- Robust digital record storage to allow for the maintenance of file integrity for content and metadata as well as remain in EEC as per GDPR legislation.



6.3 Training and Uplifting of Team Skills

The training of the team with regards to how to apply their existing archival skills and knowledge into a digital context. This is a part of the transition to business-as-usual for digital preservation.

- External training programs
- Internal training on new systems
- Development and practise in person internal training

6.4 Accession and Ingest Digital Collections

As the preservation of digital records moves to business-as-usual, this means that the transfer and preservation of digital public records can be started in earnest.

- Begin the ingest and preservation of legacy digital collections
- Transfer digital records on vulnerable digital carriers into the digital preservation repository
- Engage with government departments around the transfer of digital records
- Catalogue and make available digital collections that are accessible to the public

6.5 Access

Implementing a digital Online Catalogue public front-end to allow users to search the collections both analogue and digital from the comfort of their own home.

- Design and implementation of a publically accessible online catalogue that integrates with existing internal catalogue systems
- Make existing catalogues searchable online
- Integrate online catalogue and digital repository to allow access to open catalogued digital records



7. Approach to Preservation

7.1 Selection and Transfer

Records we select may illustrate:

- core operations/main functions and business processes of public bodies;
- the formulation and interpretation of policy;
- the formulation of legislation, its implementation and interpretation;
- the impact of changes in policy and legislation on a public body's work;
- matters of precedent;
- major projects and initiatives, including those which did not happen;
- significant changes in strategic functions or obligations;
- significant changes in direction or practice, including restructure of public bodies;
- significant relationships with other jurisdictions;
- the management of the economy;
- the administration of justice;
- the management and protection of assets including property;
- significant impacts on, and interaction with, the physical environment;
- controversial issues, proposals and developments;
- the rights of individuals;
- impact on the public, including the effect of changes in policy and legislation;
- the interaction between public bodies and citizens.

Records we select may include:

- information on high profile individuals and organisations;
- information on events of continued interest, including international events;
- matters of interest to the media at the time or more recently;
- information on times of political, legal, social or economic change;
- information on unique aspects of life on the Isle of Man;
- summary or snap shot information about aspects of Island life;
- case files, data sets and records that contain extensive information about the lives of individuals, groups, organisations and places;



- case files, data sets and records that reflect particular sectors of the economy and community which can be used for statistical or quantitative analysis.

Due to the nature of how the preservation of digital records is undertaken, with the intellectual control and management being taken on by the Public Record Office, the temporary housing of records under section 3(8) of the Public Records Act 1999 is not feasible in a digital context. All records ingested into the Digital Repository must be full accessions.

Minimum Metadata requirements must be filled in prior to transfer of the digital records themselves, just as with analogue material. Please contact the Public Record Office team who can talk you through the process and assist you with a template.

Type	Description
Reference code	A unique code used for identification
Previous reference code	Any previous reference codes used for the record / series
Extent Date range	Date range of the records
Title	Name of the records
Description	Brief description of contents
Original Creator	Who was the original creator of the records
Closure period	Applied closure period
Special closure category	Any special close period that may need to be applied
Reason for special closure	Description behind why it requires a special closure period
Notes	Additional notes relating to the record / series



7.2 Migration as Primary Methodology

Upon ingestion into the Digital Repository specific file types that are identified are being at risk for the purposes of long term preservation will be automatically migrated into a safer, more stable Preservation format. As a part of this process the original copy will be kept intact but the Preservation copy will be considered the original for all preservation actions moving forwards.

Original Format	Preservation Migration	Notes
<i>[Example] Image filetype JPEG [.jpg, .jpeg]</i>	<i>Image filetype TIFF [.tiff .TIF]</i>	

Although migration is the primary strategy of the Isle of Man Public Record Office, the decision has been made to instead only migrate file formats that have been identified as being “at risk”. This is to stop a large amount of duplication from creating say TIF copies of JPEG file formats for preservation purposes when the JPEG copy is currently an acceptable format.

This does however require that the Public Record Office keeps a record of the file formats deposited as well as comparing this list with widely accepted digital format risk registers. In the case that a format is identified as being high risk then a default preservation migration would be enabled.

The methodology requires that there is the staffing and skills to be able to undertake this technology watch, and should this become unviable then moving back to normalisation for preservation would be an appropriate decision.



7.3 Integrity Checking and Validation

Regular fixity checks using Checksum allow for the detection of data corruption in addition to any alteration of a digital file held within the Digital Repository. Checksums are created upon ingestion into the Digital Repository and checked at regular intervals, with no longer than one month between full integrity checks.

7.4 File Formats and Normalisation

For public access the original file format or the preservation copy may not be appropriate for normal usage, whose purpose is just to view the informational content. These are more accessible file formats that are able to be opened by default on the majority of computers, lower resolution and a smaller file size to allow for easier access.

Original Format	Presentation Migration	Notes
[Example]		
TIFF	JPEG	

7.5 Emulation where Appropriate

Emulation is the act of using software to emulate hardware for the purposes of preservation. Emulation is a costly and complex method for preservation and access, however there may be times in which it is the most appropriate method for providing access to a digital record.

By default the Public Record Office will not offer emulation as a solution but there may be bespoke situation where this is possible with the software available or specific limitation of digital record types.



7.6 Storage

The Digital Repository is to be stored in a secure data store, with a minimum of three copies kept in different geographic locations. Due to GDPR constraints around the type of data these locations are required to be in in the EU.

In an ideal situation these storage centres would be on different storage mediums, but that may not be possible for the current scope of digital preservation at the Isle of Man Government.

7.7 Security

Due to the nature of the records held by the Public Record Office the security of digital systems and records is of paramount importance.

Physical access to the data storage centre that holds the digital repository will be strictly controlled, in addition the data itself will be encrypted to ensure that even with unauthorised direct access at the source the information should be unreadable.

Access to the data itself will be through an end to end encrypted service which will require an individual log in. Different users will have different privileges and access appropriate to their role and grade, and direct access to the digital records themselves will be limited to Public Record Office staff only.

7.8 Access and Closure

Digital records are subject to the same closure periods that apply to analogue records, these can be found on the table below. The Public Record Office has a responsibility to make records that are open accessible, this would be ideally through the usage of an online portal however there may be instances where a records has restricted access or copyright law means that although a record is open it is not available online. In such instances, and where legally and practically possible, the Public Record Office may explore alternative access methods.

Closure periods

Closure Type	Kind of Information	Class of Records	Period



A	Information the disclosure of which would not be in the public interest in that it would harm defence, international relations (including relations with the United Kingdom), national security (including the maintenance of law and order) or the economic interests of the Island	All Records	40 years
B	Information supplied in confidence the disclosure of which would constitute a breach of good faith	1. Records relating to tax of any kind	100 years or where records are known only to relate to adults 84 years
		2. Records containing personal information subject to a statutory restriction on disclosure during the lifetime of an individual	100 years or where records are known only to relate to adults 84 years
		3. Records of any census taken under the Census Act 1929	100 years
		4. All records not falling within 1, 2 or 3 above	40 years
C		1. Records containing information from which it is likely that	100 years



	Information about individuals the disclosure of which would cause either:	an individual could be identified as a rape victim	
	(i) substantial distress, or (ii) danger from another person, to persons affected by disclosure or their descendants	2. All records not falling within 1 above	100 years or where records are known only to relate to adults 84 years

7.9 Maintenance and Sustainability

A digital archive project with capital funding has been established to set up the infrastructure for a digital repository and online public access. Ongoing revenue funding is required to maintain the services implemented as a part of the digital archive project as a whole.

The sustainability of the chosen technical solutions are incredibly important to the long term success and maintenance of the digital archive. Although gauging future technological advances and changes is difficult it is important that the Public Record Office remains aware of significant changes to allow for future planning.

The environmental impact of using cloud storage for the purposes of long term preservation will also be assessed alongside future iterations of Digital Preservation Strategy. All attempts will be made to minimise the environmental impact of digital preservation infrastructure, storage and practices.

7.10 Business Continuity

Any partners with the Isle of Man Public Record Office in regards to digital preservation are required to supply an exit strategy for any data held in their systems. This provides the security for the digital records of the Isle of Man Government should the working relationship between the Public Record Office and said third party were to cease or in the situation that a third party entered liquidation.



7.11 Data confidentiality

Any partners with the Isle of Man Public Record Office in regards to digital preservation will be required to sign a data sharing or data processing agreement as appropriate to their access and role.

8. Current Criteria for Success

Current criteria for success within the Digital Preservation Project:

- Implementation of an appropriate Digital Repository for the actions and workflows required to continue digital preservation actions of the digital records taken by the Public Record Office.
- Procurement of digital storage to host the Digital Repository and allow the accession of digital records into the Public Record Office. The digital storage will meet the strict security and backup infrastructure required for long term storage.
- Design and creation of an Online Access Catalogue or Public Access Portal to allow for members of the public to be able to access digital records.
- Provide clear defined relationship for Public Bodies in regards to dealing with digital records and digital preservation.

9. Use of External Contractors

The Public Record Office will use external contractors in order to be able to provide the most comprehensive and effective digital preservation facility for the Isle of Man Government stakeholders.

This will include Preservica as the Digital Preservation Repository Solution, Axiell as the supplier for the catalogue, and the usage of third parties for cloud based storage.

This could also include the future usage of third parties for the digitisation of analogue material, which would then be preserved by the Public Record Office.



10. Selection and Appraisal

Selection and appraisal of digital records will be in line with the current Collections and Selection policy of the Public Record Office.

Digital records present an ongoing challenge surrounding scale, there are significant numbers of digital records being produced and the ability to effectively navigate and select these records based on the usual selection and appraisal records will not be effective long term. New tools and techniques will need to be utilised in order to manage this problem going forwards.

11. Standards

- Open archival information system Reference model ISO 14721:2003:
http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnnumber=24683
- International Standard on Records Management ISO 15489:2016
<https://www.iso.org/standard/62542.html>
- International Standard on Metadata for Records ISO 23081:2006
http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnnumber=40832

12. Links to other Policies

- Isle of Man Government Public Record Office Mission Statement
<https://www.gov.im/media/1371654/20220124-iompromissionstatement-170222.pdf>
- Isle of Man Government Public Record Office Collection and Selection Policy
<https://www.gov.im/media/1363841/collectionandselectionpolicy-v2-0.pdf>
- Isle of Man Government Public Record Office Digital Preservation Policy
- Isle of Man Government Information and Records Management Policy



Review Period

Version 1.1 issued 17/07/2023.

We will review this strategy every year, during the Digital Archive Project. After the conclusion of the project this strategy will be reviewed every three years, and at interim dates where necessary.

The policy and strategy will inform the annual forecasting for storage and planning including any assessment models utilised to aid this process, such as NDSA.

Approval

Approved by: Edward Clague, Registrar General

Date: 17 July 2023



Appendix A - Glossary

A

Access is assumed to mean continued, ongoing usability of a digital resource, retaining all qualities of authenticity, accuracy and functionality deemed to be essential for the purposes the digital material was created and/or acquired for. (DPC Handbook)

Accession 'material that comes into an archive as a single acquisition is described as an accession. A number of accessions may form one single collection with shared provenance, e.g. the records of a business may be transferred to an archive over time.' (ArchivesHub)

Appraisal the process of identifying which content has continuing value and needs to be preserved and which content can be disposed.

Authentication A mechanism which attempts to establish the authenticity of digital materials at a particular point in time. For example, digital signatures.

Authenticity The digital material is what it purports to be. In the case of electronic records, it refers to the trustworthiness of the electronic record as a record. In the case of "born digital" and digitised materials, it refers to the fact that whatever is being cited is the same as it was when it was first created unless the accompanying metadata indicates any changes. Confidence in the authenticity of digital materials over time is particularly crucial owing to the ease with which alterations can be made. (DPC Handbook)

B

Bit A bit is the basic unit of information in computing. It can have only one of two values commonly represented as either a 0 or 1. The two values can be interpreted as any two-valued attribute (yes/no, on/off, etc).

Bit Preservation A term used to denote a very basic level of preservation of digital resource as it was submitted (literally preservation of the **bits** forming a digital resource). It may include maintaining onsite and offsite backup copies, virus checking, fixity-checking, and periodic refreshment to new storage media. Bit preservation is not **digital preservation** but it does provide one building block for the more complete set of digital preservation practices and processes that ensure the survival of digital content and also its usability, display, context and interpretation over time. (DPC Handbook)

Born-Digital Digital material which were not originally intended to be in analogue form either as the original or a conversion. This term is used to differentiate between analogue records that have been digitised.

Byte (B) A unit of digital information that most commonly consists of eight bits. Historically, the byte was the number of bits used to encode a single character of text in a computer and for this reason it is the smallest addressable unit of memory in many computer architectures.



C

Catalogue / Description ‘a description of the material within an archival collection, providing essential information about the collection. Often also called an archival description, a catalogue, or a finding aid.’ (ArchivesHub)

Checksum A unique numerical signature generated from a file. Used to compare copies.

Crawl The act of browsing the web automatically and methodically to index or download content and other data from the web. The software to do this is often called a web crawler which are generally used in website preservation.

D

Depositor the person or organisation donating or depositing the content to the archive.

Digital Archiving This term is used very differently within sectors. The library and archiving communities often use it interchangeably with digital preservation. Computing professionals tend to use digital archiving to mean the process of backup and ongoing maintenance as opposed to strategies for long-term digital preservation. For the purposes of this project it is the latter definition that will be used.

Digital Materials A broad term encompassing digital surrogates created as a result of converting analogue materials to digital form (digitisation), and "born digital" for which there has never been and is never intended to be an analogue equivalent, and digital records.

Digital Preservation Refers to the series of managed activities necessary to ensure continued access to digital materials for as long as necessary. Digital preservation is defined very broadly and refers to all of the actions required to maintain access to digital materials beyond the limits of media failure or technological and organisational change. Those materials may be records created during the day-to-day business of an organisation; "born-digital" materials created for a specific purpose (e.g. teaching resources); or the products of digitisation projects. (DPC Handbook)

- **Short-term preservation** - Access to digital materials either for a defined period of time while use is predicted but which does not extend beyond the foreseeable future and/or until it becomes inaccessible because of changes in technology.
- **Medium-term preservation** - Continued access to digital materials beyond changes in technology for a defined period of time but not indefinitely.
- **Long-term preservation** - Continued access to digital materials, or at least to the information contained in them, indefinitely.

Digital Records Records created digitally in the day-to-day business of the organisation and assigned formal status by the organisation. They may include for example, word processing documents, emails, databases, or intranet web pages.



Digital Repository A digital collection and information storage system that ingests, stores, manages, preserves and provides access to digital content. Covering the primary processes for **digital preservation**.

Digitisation The process of creating digital files by scanning or otherwise converting analogue materials. The resulting digital copy, or digital surrogate, would then be classed as digital material and then subject to the same broad challenges involved in preserving access to it, as "born digital" materials.

E

Electronic Records See **Digital Records**

Emulation A means of overcoming technological obsolescence of hardware and software by developing techniques for imitating obsolete systems on future generations of computers.

F

File Format A file format is a standard way that information is encoded for storage in a computer file. It tells the computer how to display, print, and process, and save the information. It is dictated by the application program which created the file, and the operating system under which it was created and stored. Some file formats are designed for very particular types of data, others can act as a container for different types. A particular file format is often indicated by a file name extension containing three or four letters that identify the format. http://en.wikipedia.org/wiki/File_format

Fixity Check a method for ensuring the integrity of a file and verifying it has not been altered or corrupted. During transfer, an archive may run a fixity check to ensure a transmitted file has not been altered en route. Within the archive, fixity checking is used to ensure that digital files have not been altered or corrupted. It is most often accomplished by computing checksums such as MD5, SHA1 or SHA256 for a file and comparing them to a stored value. http://en.wikipedia.org/wiki/File_Fixity

Format migration 'a means of overcoming technical obsolescence by preserving digital content in a succession of current formats or in the original format that is transformed into the current format for presentation. The purpose of format migration is to preserve the digital objects and to retain the ability for clients to retrieve, display, and otherwise use them in the face of constantly changing technology.' (NDSA)

G

GDPR General Data Protection Regulation, is an EU law for data protection and privacy detailing the rights for collecting, processing and storing personal identifiable information on individuals.



Gigabyte (GB) A unit of digital information often used to describe data or data storage size, equates to approximately 1,000 **Megabytes** (MB).

I

Ingest the process of turning a Submission Information Package (**SIP**) into an Archival Information Package (AIP), i.e. putting data into a digital archive (**OAIS** term).

ISO International Organization for Standardization. <http://www.iso.org/iso/home.html>

Integrity Checking See **fixity checking**

K

Kilobyte (KB) A unit of digital information often used to describe data or data storage size, equates to approximately 1,000 **Bytes**

L

Lossless Compression A mechanism for reducing file sizes that retains all original data despite compression.

Lossy Compression A mechanism for reducing file sizes that typically discards data during the compression process.

M

Megabyte (MB) A unit of digital information often used to describe data or data storage size, equates to approximately 1,000 **Kilobytes** (KB).

Metadata Information which describes significant aspects of a resource. Most discussion to date has tended to emphasise metadata for the purposes of resource discovery. The emphasis the documentation will be on what metadata are required successfully to manage and preserve digital materials over time and which will assist in ensuring essential contextual, historical, and technical information are preserved along with the digital object. (DPC Handbook)

Migration A means of overcoming technological obsolescence by transferring digital resources from one hardware/software generation to the next. The purpose of migration is to preserve the intellectual content of digital objects and to retain the ability for clients to retrieve, display, and otherwise use them in the face of constantly changing technology. Migration differs from the refreshing of storage media in that it is not always possible to make an exact digital copy or replicate original features and appearance and still maintain the compatibility of the resource with the new generation of technology. (DPC Handbook)

N



NDSA National Digital Stewardship Alliance a US based organisation active in digital preservation. <http://www.digitalpreservation.gov/nda/>

Normalisation ‘some digital repositories will place a limit on the number of formats which they will support, and as such may only support the formats which most best overall promote functionality, longevity and preservability. Normalisation, in this instance, is the process of converting a digital object from its original format to an accepted format, so that a repository can ingest and support the object.’ (Community Archives and Heritage Group - Digital Preservation for Community Archives)

P

Petabyte (PB) A unit of digital information often used to describe data or data storage size, equates to approximately 1,000 **Terabytes** (TB).

R

Refreshing Copying information content from one storage media to the same storage media.

S

Selection a decision-making process to decide which content is transferred to the archive.

Significant properties Characteristics of digital and intellectual objects that must be preserved over time in order to ensure the continued accessibility, usability and meaning of the objects and their capacity to be accepted as (evidence of) what they purport to be. <https://www.archives.gov/files/era/acera/pdf/significant-properties.pdf>

Storage media devices that store the original digital content e.g. CDs, DVDs, floppy disks and hard drives.

T

Terabyte (TB) A unit of digital information often used to describe data or data storage size, equates to approximately 1,000 **Gigabytes** (GB).

V

Validation checks whether the digital content conforms to their file format specification.

W

Writeblockers Tools that prevent an examination computer system from writing or altering a collection or subject hard drive or other digital media object. Hardware writeblockers are generally regarded as more reliable than software writeblockers.

