Digital Preservation Policy 2019-2022

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1. Introduction

1.1 Goal of this document

The goal of this document is to:

- Give insight into the policies and technical choices that the ISH makes in the preservation of the institute's digital collections.
- Show how these policies and technical choices fit within the broader IISH policy framework.
- Underpin the trust in the IISH preservation of institute's digital collections.
- Support the process of certification of, and gaining a *Trusted Digital Repository (TDR)* status for, the IISH digital repository.

1.2 Target audiences for this document

The IISH aims to reach to following target audiences with this document (in random sequence):

- Archival donors
- End users
- Funding bodies
- KNAW
- Cultural heritage sector
- Digital preservation community

1.3 Sources

This document is mainly inspired by two publications:

- Digital Preservation Sound and Vision: Policy, Standards and Procedures
- The Scape Catalogue of preservation policy elements

1.4 Status and fixity of this document

Although this policy document is valid from 2019-2022 this does not mean this is a totally fixed document. As the overall structure and core arguments will not change on a more detailed level this document is open to change and improvement.

2. Mission and task outline

The mission of the IISH is as follows:

"The IISH is a unique institute, serving science and society on a global scale. At an international level, we generate and offer reliable information and insights about the (long-term) origins, effects and consequences of social inequality.

To promote this, we form an international hub for social historians worldwide. We offer and produce historical sources and data, facilitate social-history research and collaborate internationally in ground breaking research projects.

Moreover, by preserving the heritage of often oppressed social movements, the Institute serves the quality of the world's memory. With our work we hope to contribute to a vibrant civil society."

The mission of the IISH point very clearly to the high research value of the IISH archival collections. From this follows the necessity to offer long term access to the IISH collections to researchers - including the digital collections. The IISH therefor has a clear task preserving and offering sustainable access to the digital collections. Also following from this mission is the necessity to operate in a well described and – as much as possible – open and standardized way. Proof of the authenticity of the digital sources is most important for (historical) research. By giving insight how the IISH preserves the digital objects the IISH hopes to gain a status as a "trustworthy" repository for researchers and archival donors. This policy is an important part of offering that insight.

3. Strategic Policy Framework

This preservation policy is closely connected to the overall policy in the IISH. The most relevant policy documents in this regard are the IISG multiyear policy (Strategic Plan 2018-2023) and the collection policy plan (*Collection Policy 2015-2020*). In these documents the goals and ambitions in preserving and giving long term access digital collection are explicitly mentioned and to a certain degree effected into SMART objectives.

3.1 Multiyear policy

In the Strategic Plan 2018-2023 ambitions and goals in the area of digital archiving and preservation are given a relatively prominent role. Especially chapter three and 'strategy 5.2.2' are relevant for this policy.

3.2 Collection policy

The IISH Collection plan for 2015 - 2020 gives an impression and the assumptions behind the acquisition, description, findabililty of, and access to, the collections. For this policy especially the paragraph 3.8.3 about digital storage is relevant. It describes the ambition to host a Trusted Digital Repository (TDR) following international standards like ISO 16363 and the Core Trust Seal. Also important is the description of what the IISH sees as 'authentic storage' of its digital collections. In paragraph 5.3 the information value of the collection is explicitly chosen as *preservation intent*. This choice means that migration is a viable option for preservation (next to always keeping the original file as safe copy). This will be expanded upon in paragraph 5.3.

3.3 Designated communities

The IISH identifies two user groups or designated communities (in order of importance):

1. Researchers
2. General public with (professional) interest in the IISH collections

As researchers are the most important user group decisions concerning the preservation and access of the IISH collections are always made with the interest of scientific research in mind. One of the effects of this choice is that the different collections are brought together in one information system and one online search interface. From a preservation perspective the specific IISH choice to always keep the original file and - if necessary - a migrated access copy give scientists the possibility to access the collections in any way they see fit.

3.4 Archival donors and status as a private archive

As the IISH is a private archive the archival donors take in a special and prominent position concerning the acquisition and agreements about the access to the collections. In a standard contract between archival donors and the institute these agreements are laid down. Any special or additional demands can be added.

Also the result of being a private archive and the - sometimes - sensitive nature of the collections, makes that the trust between the archival donor and the institute is viewed as top priority. From a digital preservation perspective this results in the stress on the right access metadata and the importance given to information security. More generally the stress on the trustworthiness of the digital repository - and therefor the TDR status - is especially seen as important in the light of the special relation between the archival donors and the institute.

Being an archive that builds on the relationships with archival donors the institute can not afford to put strict conditions on how collections are delivered to the IISH. This means that - as some government archives can - the IISH has no list of preferred file formats or metadata schemes. As consequence the institute has to deal with large variety of material in highly different states of ordering.

4. Characterization of the digital collections

A general description and history of the IISH collections can be found online: https://socialhistory.org/en/collections. A more in-depth description can be found in paragraph 2.3 and 2.4 of the collection policy plan the IISH collection plan.

Specifically looking at the digital collections three/four main groups can be distinguished:

1. Born digital archival material: most common files are word processing files, PDF's, photo's, spreadsheets, email boxes and files, audio and video files and databases.
2. Digitized IISH material: still images (of text, photo's, objects), video and audio.
3. Research data: tabular files, CSV files, spreadsheets, text files, audio and video files etc.
4. Publications: mostly PDF files

From a preservation perspective the first category is the most challenging regarding the diversity of digital objects, the amount of material and - in many cases - the lack of metadata. Also some of these collections will contain obscure and/or obsolete digital files.

5. Digital preservation principles

5.1 Digital preservation

The IISH defines *digital preservation* as follows (using the definition of the Netherlands Institute for Sound and Vision):

"The full range of activities and processes necessary for the intellectual and technical preservation of the digital collections over time, with the purpose of ensuring sustainable access for the user groups."

5.2 Scope of preservation policy

The scope of this preservation policy extends to the first three digital collections mentioned in paragraph 4 and that are stored in the digital repository. These are the digitized collections, the born digital collections and the the research data collection.

5.3 Preservation intent

The *preservation intent* of the IISH is described as follows:

- All digital objects will be kept and (as much as possible) preserved in their original form.
- But the IISH will, in the end, give priority to the *informational value* within these objects. This means that objects may be migrated to other file formats - as the original format is obscure and/or obsolete - as long as can be guaranteed that the information within these files is still authentic.
- These migrated files are called *preservation copies*.
- As the proof of authenticity will in some cases be a challenge the original object will always be available as a fall back file.
- The digital object is always shown within the right context and is findable through the correct contextual information.

5.4 Preservable file formats

Preservable file formats within the IISH are the formats with an archival status. To gain this status file formats have to be:

- Able to represent the essential characteristics of the digital object
- Open and well documented
- Used by many

- Supported by current software
- Able to be characterized by current characterization tools
- Able to be validated by current validation tools
- Able to transcode into another file format
- Able to be made derivatives for access (if necessary)

For reasons of efficiency the IISH has selected a limited amount of archival formats for long term preservation (see the IISH file format policy).

5.5 File formats from born digital collections

Concerning the born digital collections an aside has to be made. As the IISH is a private archive which cannot force the use of selected file formats by its archival donors the IISH will archive *all* files which enter the repository (after a first appraisal and selection). During the ingest phase the file formats which are not on the list as IISH archival formats will, as much as possible, be normalized. This means that from these files derivatives will be made which will conform to the list of archival formats. The original ingested files will also be kept (for the sake of provenance). In the case of obscure formats which cannot be recognized by the (current) characterization tools (using the PRONOM file format registry) the files will be kept as such. For these files the authenticity cannot be guaranteed and only bit preservation is possible. As these files are marked as unrecognized they might be re-ingested at a later date when characterization tools are updated.

5.6 Not-preservable files formats

For now the IISH will archive nor preserve programs and system files as they hold no information value from the IISH collection perspective. The latter might change when dealing with the preservation of specialized/edge case research data.

Also ISO images from hard disks (or otherwise) will not be archived as such as they hold no information value in itself. Through an appraisal and selection process digital objects with information value will retrieved from these ISO images and all other files will be deleted/deselected.

6. Preservation Strategy

Following the preservation intent described in paragraph 5.3 the preservation strategy is focused on the following starting points:

- *Preservation of the integrity of the digital object:* The original ingested digital object is demonstrably unchanged to the level of the bits. This is guaranteed by the use of checksums.
- *Preserving the authenticity of the digital object:* the informational value within the digital object is first and foremost guaranteed by always keeping the original digital object.
- *Migration* is chosen at the moment a preferable preservation strategy. If emulation becomes more readily available in the future the IISH will maybe offer a emulation service too.
- *Guaranteeing the correct context and findability of the digital object* the link between the metadata and the object is - as much as possible - made unbreakable.

Below the measures the IISH takes to guarantee the data integrity and authenticity are elaborated upon:

Data integrity checks by the IISH:

Fixity:

- When the archival donor delivers the digital collection in an Archival Bag (in which checksums are included) fixity is checked as soon as the bag reaches the institute. If not, the institute will create an archival bag with MD5 checksums after arrival which is then ingested. In that case any data corruption that took place before the bag reached the institute falls outside the responsibility of the institute.
- During the pre-ingest (resulting in a SIP) and ingest (resulting in an AIP and DIP) the checksums are validated by Archivematica.
- During the pre-ingest, Archivematica produces SHA-256 checksums for each of the files.
- After the creation of the AIP, Archivematica performs a bag check which includes a final fixity check.
- After the storage of the AIP the fixity is regularly checked by the IISH.

The integrity of the bitstreams is guaranteed by the institute's data provider. An independent comparison by the system between metadata and hashed content is considered.

Version control:

- Original files and metadata persist in the AIP
- Changes over time in file formats are recorded and stored in the AIP METS file using PREMIS events
- Other than file format changes, AIPs are immutable; changes result in a new AIP and the relation is documented in the descriptive metadata

Data *authenticity* measures by the IISG:

The informational value within the digital object is first and foremost guaranteed by always keeping the original digital object. If this object threatens to go obsolete the object is migrated to a preservation copy that - as much as possible - preserves the informational value of the original object. Also an important part of guaranteeing the authenticity of the object is the creation of technical metadata. This metadata gives in-depth technical information about the object and is the basis for possible future preservation actions. Technical metadata is acquired and stored (as PREMIS metadata in a METS wrapper) during the preservation workflow described below. The authenticity of a digital object can only be fully guaranteed if the file format can be identified.

Provenance metadata are made in two senses:

- The origin of the digital object: the context of the object is described in the archival description which is published on the IISH website.

- Every step in the archiving workflow (audit trail) are logged by Archivematica in PREMIS metadata. Eventual migration to a new format - during the archiving proces or at a later date - will be logged in the PREMIS metadata.

The link between digital objects and metadata is maintained/guaranteed by the use of a PID (Persistent Identifier) through the Handle service.

Essential properties of categories of digital objects (like for instance word processing files) are seen by the IISH as a somewhat problematic concept as these are very much dependent on the context. The institute rather talks about preservation intent which is described above in paragraph 5.3.

The identity of the IISH archival donors are well known and formalised in a contract between donor and institute.

7. Preservation workflows and Archivematica

The IISH has three separate preservation workflows for the main digital collections (which are described in more detail in the paragraphs underneath) of the IISH:

1. Workflow for born digital collections
2. Workflow for digitized collections
3. Workflow for the research collections

The goal is to use Archivematica for all three workflows via Archivematica. At the moment of writing the workflow for born digital collections has been implemented. The other two workflows will follow in 2018.

A new future workflow might be for digital publications. As the influx of this kind of material is still quite small this has no high priority.

7.1 Workflow for born digital collections

A detailed descriptions of this workflow can be found in the Scheme born digital archive workflow (May 2019) and the Functional description of the workflow for pre-ingest and ingest of Born Digital Collections.

The most important pre-ingest and pre-Archivematica steps are:

- A contract is drawn up between the archival donor and the institute in which - among other things - agreements are laid down about the access to the digital collection.
- The digital collection is transported to the archive either on hard disk or otherwise through file transport or cloud services.
- The digital collection is received and checked on viruses and other malicious content
- The digital collection is inspected and if necessary some files are deselected or requested from the archival donor
- The digital collection is registered at meta-level
- Appraisal and selection of the archive is an optional step
- An archival bag is made and transferred to an Archivematica "hot folder" (from which the Archivmatica part of the workflow will commence)

For a part of the pre-ingest (creation of SIP) and ingest phase (creation of AIP and DIP) Archivematica is used to perform the following steps (among others):

- Check file fixity
- File format identification (using the PRONOM list of formats)
- File format validation (how well does the object adheres to the description of the file format?)
- Offer optional room for appraisal and selection within Archivematica functionality
- Creation of the SIP
- Normalisation of the files and creation of preservation and access copies (following the IISH file format policy)
- Create UUID's and for files and folders
- Creation of a METS file in which all steps within the ingest workflow and technical metadata are documented.
- Creation of the AIP
- Storage of the AIP
- Create (Handle) PIDS for files and folders
- Creation of the DIP
- Storage of the DIP

The most important post-Archivematica steps are:

- Make an EAD description of the digital archive
- Offer the DIP to the access applications of the IISH.

7.2 Workflow for digitized collections

In Proposed Archivematica QC/validation workflow and Digitisation workflow - functional description a temporary description of this workflow can be found. This workflow will be transferred to an Archivematica "fuelled" workflow in 2019.

The Archivematica pre-ingest and ingest part of the worflow will for the greater part be the same as born digital material workflow described above.

7.3 Workflow for research data collections

This workflow will be transferred to an Archivematica "fuelled" workflow in 2020.

8. Preservation Levels

8.1 Full preservation and bit preservation

The IISH offers two preservation levels:

1. Full preservation: on this level the authenticity and the fixity of the digital object is guaranteed. This can only be fully realized if a digital object can be identified during the (pre-)ingest workflow to the repository (see above).
2. Bit preservation: on this level only the fixity of the bits with a digital object is guaranteed. This level is used for digital objects that can not be identified and characterized during the ingest workflow.

8.2 Guarantees

Guarantees for each preservation level are:

	Level 1 (full preservation)	Level 2 (bit preservation)	Remarks
Files can be returned as they were submitted	x	x	
Files will not be unintentionally changed following storage	x	x	
Files and folders are retrievable by their original file name	x	x	In Archivematica file- and directory names are normalised (removal of 'forbidden' character like ampersands) using the 'clean up names' microservice. The original names are recorded in the METS /PREMIS metadata included in the AIP/DIP.
Directories will be preserved	x	x	
Empty files and folders are preserved	x	x	
Files are stored well down to bit level	x	x	
Files are linked to descriptive metadata	x	x	
Files and folders are retrievable by a persistent URL	x	x	
Files are stored in a preservable archive format	x		Only possible when a tool(s) is/are available for creating a preservable archive format.
The metadata comply with the metadata standard of the IISH	x	x	
Files are playable/usable for the short term	x		
Files comply with the valid format standard	x		Only possible when there is a validation tool available.

8.3 Preservation actions

	Level 1 (full preservation)	Level 2 (bit preservation)	Remarks
Integrity calculation during (pre-) ingest	x	x	Checksums are made for every file and the AIP as a whole
Integrity check during storage	x	x	The checksum of the AIP is regularly checked
Integrity check during access	x	x	
Backup	x	x	
Carrier replacement	x	x	
Restore	x	x	
Format	x		If a file is in thread of becoming obsolete they are migrated to modern, more open file formats. This can be done

migration			during ingest (normalisation on the basis of the file format policy) or during storage phase (on the basis of preservation watch, following the file (revised) format policy). Migration can only be performed if migration tools are available.
Format analysis	x		

9. Preservation planning

Preservation planning is a functional entity within the OAIS model that monitors the neighborhood of the digital repository for any relevant changes within technology (file formats, software and hardware), the designated communities (archive donors and end users) or the organisation itself. When changes occur that have an impact on the repository *preservation plans* have to be made and *preservation action* has to take place (see above).

9.1 Technological changes

Technological changes can come in many different forms:

- File format changes
- Changes of storage systems and media
- Software changes:
    - Pre-ingest tools
    - Digital preservation tools (Archivematica)
    - Storage maintenance software
    - Viewing software
    - Research tools
- Standard changes:
    - Newer versions of existing standards
    - Standards going obsolete
    - Standards being replaced by competing or newer standards
    - New standard (like for instance IIIF)

To keep track of all these changes the IISH has an pro-active policy of tracking these changes. Different staff members follow (inter-)national developments and rapport possible issues to the digital archivist. As the IISH is a middle sized institute the range and depth of expertise is limited to the needs and mission of the organisation. This means that there is in depth knowledge of the systems, software (like Archivematica) and workflows connected to the digital repository as all this hosted by the institute itself. Also there is in-house knowledge on the OAIS model and specific preservation issues (like file formats) related to the institute's digital collections. The ambition and expertise of the IISH do not extent to in depth research on preservation issues or to ambitious software development of - for instance - preservation tools. This is clearly seen as the task of bigger institutes or collaborative efforts in national or international projects. From a Dutch perspective this means that while IISH takes an active role in the Dutch Digital Heritage Network (NDE http://www.den.nl/pagina/511/netwerk-digitaal-erfgoed/) and the Netherlands Coalition for Digital preservation (http://www.ncdd.nl/en/) issues that are of national relevance are taken up by bigger institutes (as for instance the National Archives) or in collaborative projects. The active role in these knowledge networks also helps the IISH to gain new knowledge.

9.2 Changes concerning the designated Communities

As choices for (pre-)ingest, preservation and access are closely connected with the wishes and demands of the archival donors and the different groups of end users the IISH closely monitors these groups.

Archival donors

As the IISH is a private archive cannot make demands on the way or in what form digital archives are delivered to the institute. This also means when archival donors change software and/or formats the IISH will only notice this during the acquiring stage and usually not before. The necessity of flexible and pragmatical dealings with new kinds of digital content is therefor an essential condition of the IISH preservation strategy. For newly ingested materials this strategy is as follows: all ingested digital content will be stored as such and if possible archival and access derivatives are made. When this is not possible – because the format is as yet unknown – this will notified and could at a later date be ingested again when the format can be recognized with the then updated file format registries (see also paragraph 4.4).

End users

Changes on the side of the end users will also influence preservation strategies. The IISH regularly monitors the needs of the researchers using the collections. Also the fact that the institute itself employs quite a large group of researchers gives us direct feedback on the usability of our digital collections. The IISH (and HUC) especially is very keen to follow developments in the area of digital humanities. If these developments will effect the digital repository and preservation strategies the IISH will do everything in its power to adapt to these new user demands.

9.3 Organizational changes

Organizational changes within the IISH which might impact the digital repository are:

- Changes of the IISH organization itself
- Changes in budget
- Changes within staff
- Changes within the collection profile
- Changes within the IISH research "agenda"

Realistically these risk can only be mitigated up to a certain point. But important to mention on this context is that the IISH is a Royal Netherlands Academy of Arts and Sciences (KNAW) institute. This means that part of the IISH services and policies are dependent on broader KNAW policies. Responsibility for collection management is however in the hands of an independent foundation - the IISH Foundation. This is different for research data that are created by IISH researchers. These are owned by the KNAW institute IISH. Since 2017 the IISH is also part of the Humanities Cluster (HUC) - an alliance between the KNAW institutes IISH, the Meertens Institute (https://www.meertens.knaw.nl/cms/en/) and Huygens-ING institute (https://www.huygens.knaw.nl/?lang=en). This alliance has a goal to stimulate cooperation between these institutes, stimulate innovation on the terrain of technical infrastructure and digital humanities research. This wider KNAW and HUC context gives the IISH more backbone/elbow room concerning issues like office IT, information security, digital humanity tools and research and knowledge management.

So it is important to notice that that the IISH is at once part of a bigger entity (KNAW, HUC) as also the collection is part of a smaller entity (the IISH Foundation). This gives IISH and especially the preservation of its collections a certain robustness in times of grave internal or external changes.

10. Standards and formats

The IISH follows closely as possible national and international standards from the cultural heritage and research fields.

10.1. Digital collection management/OAIS

In structuring the digital repository, the different preservation workflows and the direct surroundings of the repository the IISH uses the OAIS reference model as guideline. In practice this means that the IISH has covered all the different elements in the OAIS functional model. This can be derived from:

- The different policies in place
- The different preservation workflows implemented or being implemented
- The use of Archivematica: Archivematica plays an important role in the creation of SIP's, AIP's and DIP's, in preservation planning and data management.
- The implementation of a secure, stable and replicated storage system (see chapter 11).
- By having enough qualified staff and expertise to manage the digital repository.
- By striving to obtain a Core Trust Seal certificate into which a broad spectrum of OAIS related functions return.

10.2 Metadata formats

10.2.1 Descriptive metadata

The IISH aims to give proper access to all collections by adding so much descriptive metadata they can be easily found in the IISH internal and external search systems and engines. If the depositor has delivered metadata we will use that as a staring point for creating descriptive metadata. But, as a private archive the Institute has no real influence on the use, the form and the amount of metadata the depositor delivers with the archive. In many cases the descriptive metadata will be created the instute itself.

The approach to the quality of *collection describing metadata* is pragmatical in the sense that the IISH follows standards that are widely used within the cultural heritage community. Findabitility and interoperability of the collections is key to the allocated metadata. Obvious standards used here are archival standards ISAD(G), EAD and the libary standard MARC 21. Also the institute makes extensive use of well established vocubularies like GTAA (for audio visual materials) and the LOC and these will be the basis of the search capabilities of the new linked data fuelled IISH website

Comprehensive documentation on the description of the IISH collections is found on the internal IISH Confluence wiki: https://confluence.socialhistoryservices.org/display/coditest/Catalogiseren+en+inventariseren

10.2.2 Preservation metadata

For technical and preservation metadata the PREMIS (in a METS wrapper) standard is used. This metadata is generated by Archivematica - or better by all the microservice tools that run during the different steps in the archiving workflow. This results in a comprehensive METS file from which is can be attained which preservation steps were taken during the archiving process (like for instance file identification, file validation, SIP creation, normalisation, AIP and DIP creation).

10.2.3 Structural metadata

For metadata that describe the structure of the original file folder structure of the born digital archive or the structure and order (sequence, which files relate to each other) of a digitized archive the METS standard is used.

10.3 File formats

In the IISH file format policy a comprehensive description can be found of how the IISH deals with file formats within it's digital repository.

11. Storage policy

Specific IISH demands for storage of it's digital collections:

- The storage facilities have to fall under Dutch legislation
- All those concerned with maintenance of the storage system will have to sign confidentiality statement

The primary archival storage of the IISH is provided by the KNAW ICT Services from Vancis. The AIP's are stored in two different datacenters in the Netherlands. For additional safety, Vancis also provides a 30 day backup of the data. As an extra security measure, the AIPs are also stored on secondary storage provided by SURFSara, including a backup. The secondary storage system is only accessible as a WORM storage, which does not allow deletes and does not allow overwriting AIPs. In this sense, the AIPs are always stored in versions; a new version of the same AIP does not overwrite the old AIP, but writes a new version of the AIP. See documentation on Multiple copies and backup.

As the data is replicated across two different storage providers and mirrored across various datacenters, this allows for a high level of protection against data loss.

12. Technical infrastructure

The IISH uses the OAIS model as (compulsory) guidelines for the elements which has to be covered by the repository. For the recording and management of new acquisitions, the Acquisition database is used. Digital packages are produced using the BagIt format using the tool Exactly. The archival bags are ingested into Archivematica using the accession number provided by the Acquisition database.

Archivematica serves as the OAIS ingest workflow and preservation planning software tool. The ingest procedure in Archivematica is provided as as workflow through a number of microservices, each providing the necessary tools for the required checks, information extractions, transformations and normalization steps during the ingest procedure. At the end of the ingest procedure, Archivematica produces an AIP, which also conforms to the BagIt format. This AIP includes a METS document as a wrapper for all structural and technical metadata. All preservation metadata is included in the METS using the PREMIS data model. All customizations of rules and tooling to use for various file formats during the ingest procedure is configured using the preservation planning tools provided by Archivematica.

During the ingest procedure persistent identifiers are assigned using the PID handle service. For persistent identifiers and resolving the IISH uses the Handle System. All digital objects and descriptive metadata is made accessible through persistent identifiers.

All descriptive metadata is described using either MARC or EAD. MARC is used for describing the library descriptions ad the descriptions of individuals objects. Evergreen is used for the management of the MARC inventory. EAD is used for describing the archival descriptions. An XML editor XMetal is used for the management of the EAD descriptions. All descriptive metadata can be accessed through OAI-PMH and SRU/SRW.

The IISH tries as much as possible to use open source software. Especially the software concerning collection management and dissemination is mostly all open source. All software and test material produced by the IISH is open source and available through our GitHub repository.

13. Organisation

13.1 Roles and responsibilities

Roles and responsibilities lie at the different levels in the organisation.

From a management perspective the IISH Director Collections & Digital Infrastructure has end responsibility for the preservation and processing of the digital collections. On a strategic level the digital archivist and the manager collections take the lead. On an operational level at the moment of writing four people from the collection's department are responsible for the processing and preservation of the digital collections. Responsibility for the technical infrastructure and IT security lies at the level of the Digital Infrastructure department of the Humanities Cluster (of which the IISH is a part).

13.2 Training and knowledge management

On all of the above mentioned levels knowledge is constant being developed. This is done by visiting conferences and meetings, by being active in the Dutch Heritage Network, by in-house and external training and by self-study. As noted earlier the IISH as a middle-big organisation has to take a pragmatic view on what expertise is needed in-house and what can be attained from external sources (see also paragraph 9.1).

15. Certification

The IISH hopes the attain TDR status in the form of a Core Trust Seal at the end of 2019 or the beginning of 2020. The main reasons for wanting to reach TDR status are:

- Trust from the funders and KNAW. By being a TDR the IISH wants to prove the funders the long term access to the digital collection is guaranteed.
- Trust from the IISH archival donors. By being a TDR the IISH wants to prove the donors that the collections will be properly cared for and policies and procedures - concerning access and restrictions - are in place and being followed.
- Trust from the IISH users. By being a TDR the IISH wants to prove the users the authenticity of and long term access to the digital collections is guaranteed.

At moment of writing there is no strong ambition of - on the longer term - reaching above the CTS status and gaining a Nestor seal or ISO 16363 status.