

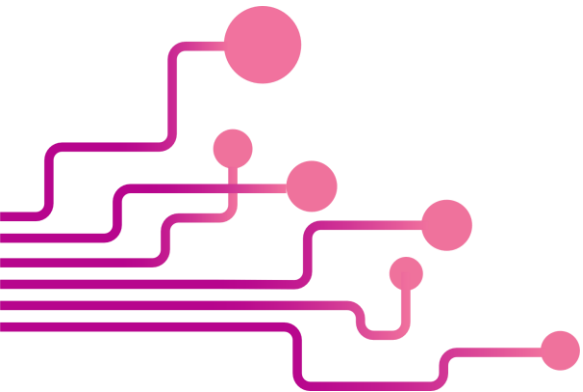
Digitization project management.



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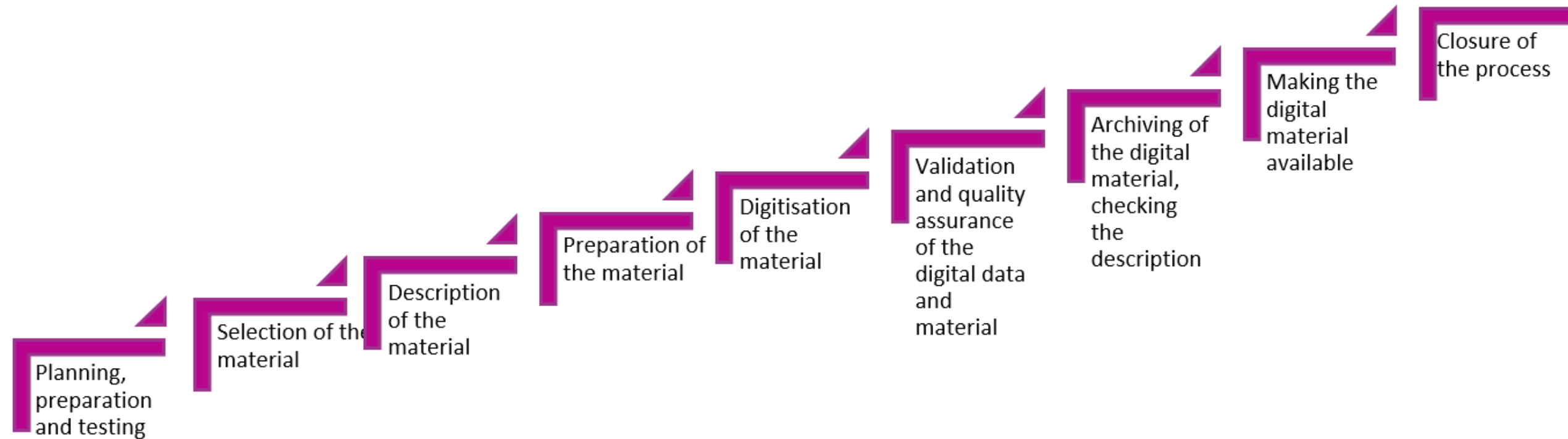
Objectives of training

- You are familiar with the whole digitization process, the issues it considers and the key concepts.
- You can identify equipment, technologies and other tools related to the digitization process.
- You can identify the standards, recommendations and quality assurance methods of digitization.
- You know how to plan a digitization project



- You can develop your work by considering the needs of legislation, safety, long-term storage and further use of the material.
- You can plan, implement, document, report and evaluate a digitization project/process.
- 'The main objective is to create and promote the digital ability and to provide additional training for those implementing digitization projects in working life. The training provides skilled workers for the region and nationally.'

The aim of the studies is to get to know the whole digitization process



Digitized data will be made more widely available, and users will have better opportunities to browse, search and share data.

The purpose of digitization is to increase availability, retrievability and **usability** of data.



- Digitization improves the accessibility, preservability and usability of the data.
- Digital materials are available regardless of time and location.



- The search for information on materials will come easier and opportunities for self-service will be improved.
- The materials available in digital form change the operating processes and influence the operating methods.
- Digitization improves operations, increases security and saves space.

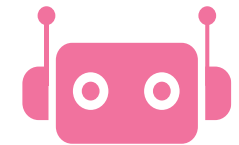


- Economic benefits are possible if archiving facilities are not necessary any more or when new archiving facilities are avoided.
- Digitizing can also ensure the survival of a document in a non-physical form.



Digitization generally has two main objectives: better accessibility and/or preservation.

Digitalization often aims to ensure both objectives.



Benefits of digitization

What are you paying for?

- Experts to plan.
- Time to test equipment and workflows.
- Trained or educated workforce.
- Digital environment equipment and workspaces.
 - photography equipment, scanning, lighting, software, hardware support
 - safe operating environment
- Preparing of the material.
- File storage and backup.
- Content description and indexing.

Examples of benefits of digitization

- **Change in the operating environment:** The material available in digital form will change the operating processes and influence the operating methods. It will improve the efficiency of operations, increase security, facilitate data management and save archiving space.
- **Accessibility and benefits of searching information:** Digitization improves the accessibility and usability of data. Digital materials are available regardless of time, place and number of users. The searching of data will be made easier, the distribution will be speeded up and the possibilities for self-service will be improved. Digitized data will be made widely available, and users will have better opportunities to browse, search and share the data.
- **Benefits of survival:** Digitization can also ensure that the document is preserved in a non-physical form. Digitization reduces the deterioration of analogue data when no data requests are made for the original material.
- **Economic benefits:** Economic benefits can be obtained if archiving facilities are freed or when new archiving facilities are avoided. Digitization creates new opportunities for the utilization of collections and the construction of new revenue models.
- **Ecological benefits:** The need for physical archives is reduced as well as travel to archives.

Digitization principles

‘By digitizing The National Library promotes the visibility, availability and usability of its unique collections. Digital collections enhance the use of cultural heritage in virtual environments, in particular new types of research, education, civic use and creative activities.’

The digitization policy of the National Library

The permanent address of the publication (in Finnish) is:

<http://urn.fi/URN:NBN:fi-fe201401151118>

- **Digitization planning and implementation is a systematic activity – that is why a digitization policy is needed.**
- **The digitization policy document can include**, among others, the starting points for digitization, objectives, legislation defining activities, funding and possible partnerships, responsibilities, areas and content of digitization, life cycle management of material, security.
 - Finnish memory organizations have had a common policy on the digitization of cultural heritage since spring 2003.
 - Archives, libraries and museums organize their own digitization program.
 - ‘On 11 January 2000, the Ministry of Education set up the Cultural Heritage Digitization Working Group (KULDI) as part of the Finnish Government’s Content Production Project. Museums, archives and scientific libraries have been represented in the working group. The task of the working group has been to promote the digitization of cultural heritage material, the availability of digitized material through a computer network and the creation of content production using this material.’
 - **Cultural heritage in the information society: Strategic objectives and proposals for measures.**
The permanent address of the publication (in Finnish) is: <http://urn.fi/URN:ISBN:952-442-520-3>

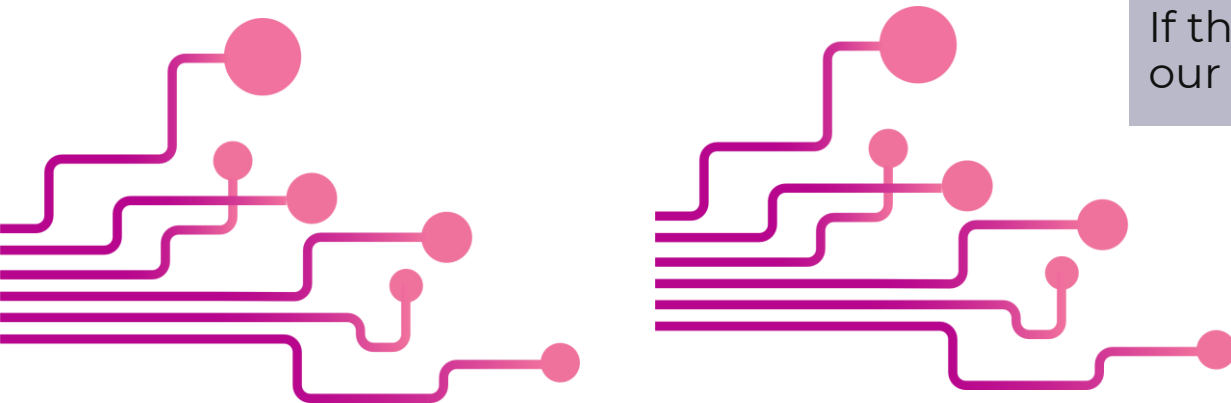
Digitization - Digitalization - Digital transformation

- **Digitization** may change the organization's way of working, but **digitization** and **digitalization** must be separated from each other as concepts.
- They are linked by the fact that neither is merely information technology. **Digitization** is not a single technical performance.
- **Digitalization**, in turn, can be divided into different principles, which aim, among other things, to support the digitalization of public services.

- **Digitization** is the digital conversion of analog or physical material.
- **Digitalization** means that information technology is used to organize everyday life. The change applies to all the activities of society, from banking to public transport, to finding information and sending messages, and to the flow of information in health care, for example.
- **Digital transformation** is a whole new concept for a digitalized product or service.

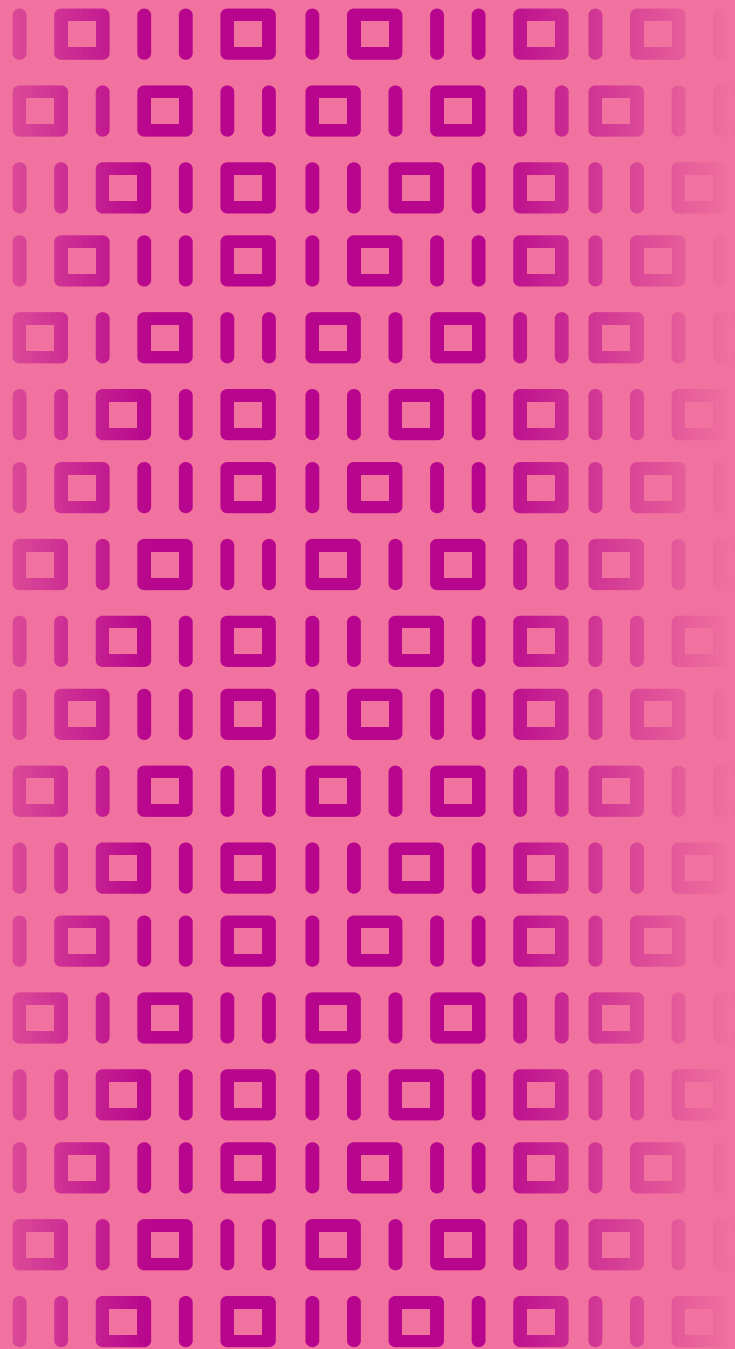
Digital transformation comes alongside digitization and digitalization. When some analogue material is digitized, digitalization can then create new services from digital material.

If the service created then develops a service that changes our way of working, we talk about digital transformation.



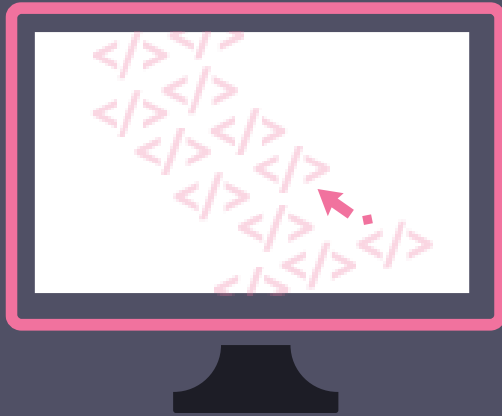
Effects of digitalization on digitization

- 'The Ministry of Education and Culture launched a development project on 13 October 2021 that encompasses all agencies within the Ministry's governance. The project aims to ensure the effectiveness, quality and service capacity of all educational and cultural activities into the future.'
- 'To promote digitalization, a digital vision and roadmap would be prepared for the education sector, **investments would be made to digitize cultural heritage, and the maintenance and development of information resources and the related financial planning would be reformed.**'
- 'A guidance and service function for the educational and cultural administration would be established in the Ministry, and a common overall guidance structure would be adopted for guidance.'
- Educational and Cultural Administration 2030
Final report of the Ministry of Education and Culture's corporate governance project
- The permanent address of the publication (in Finnish) is:
<http://urn.fi/URN:ISBN:978-952-263-816-8>



Digitization process

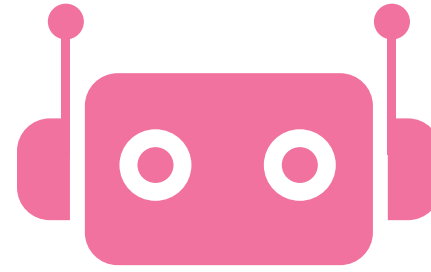
Phases of the digitization process



Digitization is always planned on the terms of the original material, with as little burden as possible.

Digitization does not usually replace original material.

The digitization plan defines the objectives of digitization and the resources available.



The bigger the digitization project, the more important it is to make a thorough digitization plan.

- Scope, timetable, resources
 - What to digitize
 - In what order
 - By whom
 - With what equipment
- The preparation of digitization ensures that digitization is effective without compromising the information contained in analogue material. Inadequately prepared material stops the process and may damage documents or scanners – or at worst causes lack of full information on the document.

Digitization requires decision-making



In the preparation phase of the digitized material, it must be possible to evaluate the material, its condition and quality before continuing the digitization process. The preparation highlights the subtle handling of the material. Any damage can not be done to the material that might hinder scanning or discard information.

For example, audiovisual material: Often the condition of the original recordings has deteriorated over time. It is therefore practically impossible to determine what condition the recording was when it was stored or the last time it was repeated.

The digitization process often only assumes that the recording is in the same condition as before and aims to digitize it with the best possible quality.



- The purpose of the digitization is to convert analogue stored data into digital storage.
- The data content of the original material must not be lost, only the method of storage of the data will change (National Archives, 2018).
- The digital storage version must be as close as possible to the original material. Therefore, any disturbances in the original material will not be corrected.
- In order to guarantee the authenticity and originality of the digitized information, it is important to use high-quality digitization devices that can reproduce and record the original material as accurately as possible.



Several phases of work

The careful planning and documentation of work phases is important.

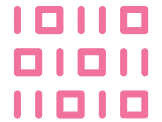
It is good for the digitizer to have clear instructions and precise assignments to reduce the likelihood of errors and misunderstandings.

Each organization can implement the steps in a slightly different way, but the basic idea remains the same.

The research and preparation of digitized materials. Digitization. Quality assurance and storing.



- Regardless of what kind of material is digitized, the digitization process begins with the preparation of digitizing materials.
- The purpose of the preparatory work is to ensure the most efficient and secure digitization process possible.
- The preparatory phase will decide, for example, which equipment is used to digitize the material.
- You don't have to digitize everything.



Phases of the digitization process

- **Planning**
- **Selection of the material**
- **Transfers and transports**
- Preparation of materials
- Digitization/scanning/photography
- Description of materials and methods and documentation
- Automatic methods and content recognition
- Digital material management and quality assurance
- Digital archiving and putting to use
- Post processing and destruction of material

Planning

- Principles for selecting the data to be digitized
- Design and prioritization of the digitization order
- Selection of the digitization method
- Identification of post-digital storage need and requirements
- Considering the requirements of the post-digital system and designing digital data transfer and access rights for the desired data management system
- Definition of metadata and file formats
- Planning the quality of digitization and designing the desired result
- Planning information service on digital data

Selection of the material

- Screening of the contents to be retained and reviewing storage periods
- Organization of materials
- Selection of the data to be digitized
- Separation of non-digital data
- Separation of highly debilitated, debilitated or specialized material (separate preparation and/or digitization methods)

Transfers and transports

- Agreement on transfer and planning of transport
- Identification of the material to be transferred
- Where appropriate, identification and/or protection of the transfer
- Preparation of the material for transport
- Collection and transport of material
- Receipt, verification and acceptance of the transfer
- Retrieving material for preparation



Phases of the digitization process

- Planning
- Selection of the material
- Transfers and transports
- **Preparation of materials**
- **Digitization/scanning/photography**
- Description of materials and methods and documentation
- Automatic methods and content recognition
- Digital material management and quality assurance
- Digital archiving and putting to use
- Post processing and destruction of material

Preparation of materials

- Removal of items that prevent or harm digitization (e.g., paper-clips, rivets, tape)
- Processing for digitization material that is in poor condition or is special material
- Selection of material to be stored within the time limit and removal of material
- Description and approval of the material
- Pre-processing and preparation of the material for scanning or photography
- Organization of the material into digitization order
- Selection of the scanning method and delivery to digitization

Digitization/scanning/photography

- Preparation of workspaces suitable for digitization
- Ensuring dust-free facilities with regular clean-up and cleaning
- Testing and calibration of equipment
- Preparation and optimization of equipment and software for scanning/photography
- Scanning/photographing
- Checking the color shades of the images
- Monitoring the performance of systems and equipment
- Utilization of quality assurance methods (e.g., measurement boards, reference values and analysis software)



Phases of the digitization process

- Planning
- Selection of the material
- Transfers and transports
- Preparation of materials
- Digitization/scanning/photography
- **Description of materials and methods and documentation**
- **Automatic methods and content recognition**
- Digital material management and quality assurance
- Digital archiving and putting to use
- Post processing and destruction of material

Description of materials and methods and documentation

- Description of the data and storing of metadata
- Documentation of methods and restrictions to ensure integrity and preservability of metadata
- Documentation of hardware and software used in digitization and saving of metadata
- Supplementing metadata
- Other documentation

Automatic methods and content recognition

- Automatic indexing
- Automatic text recognition and its verification (e.g., OCR, HTR)
- Automatic description and its verification (e.g., Annif)
- Use of other automatic or artificial intelligence methods



Phases of the digitization process

- Planning
- Selection of the material
- Transfers and transports
- Preparation of materials
- Digitization/scanning/ photography
- Description of materials and methods and documentation
- Automatic methods and content recognition
- **Digital material management and quality assurance**
- **Digital archiving and putting to use**
- **Post processing and destruction of material**

Digital material management and quality assurance

- Creating and updating folder structure
- Material management measures required by the receiving system
- Naming of the files
- Transferring of the file(s) or digital instance(s) to a folder structure or system
- Verification of the integrity of digital material, the validation of digitized material (e.g., sampling, visual inspection, identification result) and quality assurance
- Utilization of quality assurance methods (e.g., measurement boards, reference values and analysis software)

Digital archiving and putting to use

- Transfer to digital storage or archiving of digitized material
- Migrations of storage methods and systems
- Ensuring the integrity of information in systems in the long term
- Access to and the distribution of digitized material

Post processing and destruction of material

- Post processing and protection of analogue material and re-archiving
- Secure information destruction

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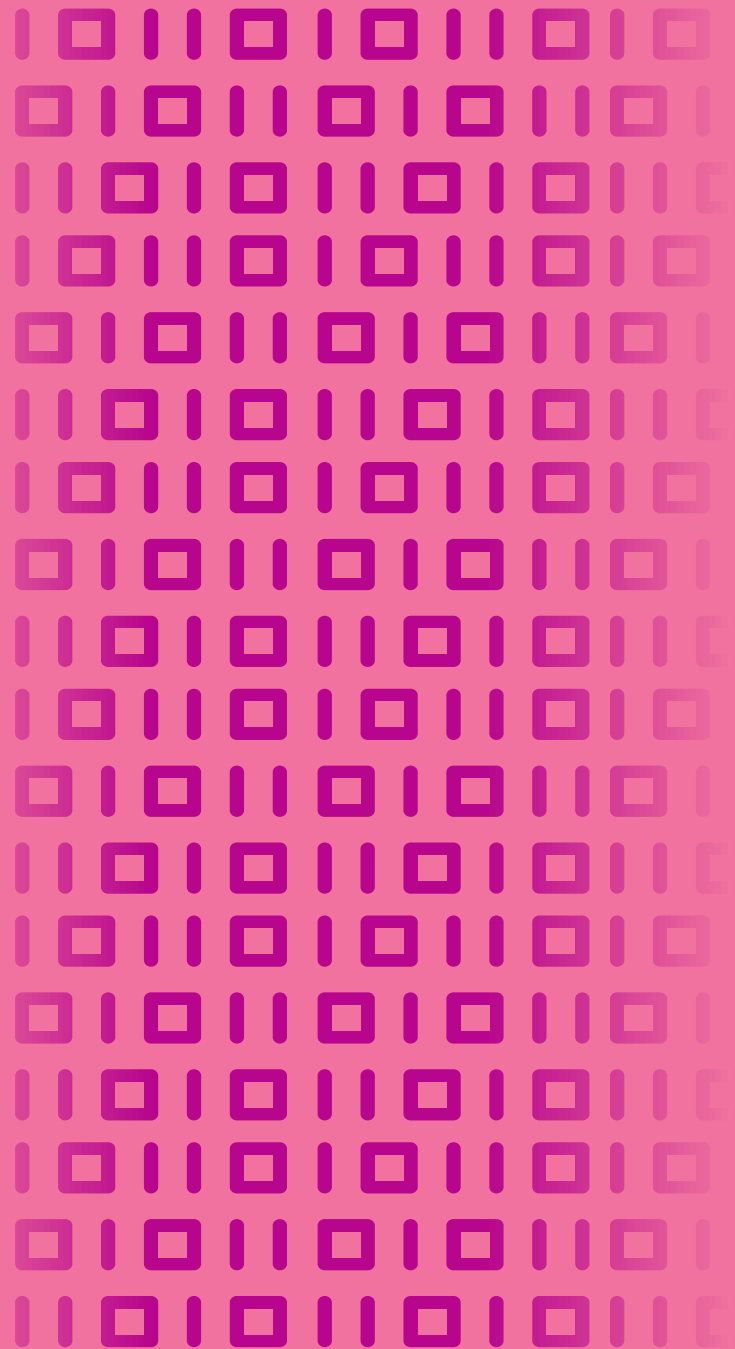
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Project management

Managing digitization project



Managing digitization project

Digitization projects can be carried out on a small or large scale. Every project is different.

If there are large quantities to digitize, special materials or your own expertise is not enough to achieve the desired result, the service can be obtained from outside.

However, each project should be carefully planned.

There must be time for communication and data management planning for the entire project. Documentation and communication from the preparation to the end of the project must be done systematically and as planned.



- The scheduling of the project is facilitated by making work packages. When the project is divided into sections, it is also easier to manage the overall quality.
- To the requirements of minimum quality standards is written which regulations, guidelines, standards and laws are complied with, as they also dictate the quality.
- The costs directly affect whether the digitization project receives funding. The legitimacy of the project must also be realized in terms of costs.
- When planning digitization, it is important to identify stakeholders in order to target the objectives and reasoning of the project correctly.

Project management

Preparation: need and requirements

Project plan

Acquisition

Digitization

Evaluation

DOCUMENTS:

- Preliminary plan
- Project description
- Project presentation
- Memos
- Feasibility analysis

An example of managing a *high-quality* digitization project

- Identification and description of background, cause and meaning
- Considering the operating environment
- Identification of stakeholders
- Objectives and reasoning
- Identification and analysis of benefits
- Identification and documentation of digitization processes
- Identification, description and specification of user requirements
- Brainstorming, mapping and preparation of opportunities



Project management

Preparation: need and requirements

Project plan

Acquisition

Digitization

Evaluation

DOCUMENTS:

- Project plan
- Quality plan
- Structure of the division of tasks
- Risk management plan
- Acquisition plan
- Budget
- Phased and scheduled implementation plan
- Description of the result
- Draft of minimum quality requirements
- Draft of metadata requirements
- Communication plan
- Planning memos

An example of managing a *high-quality* digitization project

- Planning resources and responsibilities: personnel, facilities, equipment, materials, tools
- Project organization planning
- Description, extent and scope of the material
- Considering regulations, guidelines, standards and laws
- Cost assessment and budget preparation
- Planning the necessary purchasing services
- Timetable
- Overall quality management: planning, ensuring and monitoring quality and quality assessment.
- Definition of minimum quality requirements
- Determination of the acceptable level of risk
- Safety and occupational safety
- Defining the necessary and new skills
- Definition of the necessary guidelines
- Communication and information management planning
- Project closure planning



Project management

Preparation: need and requirements

Project plan

Acquisition

Digitization

Evaluation

DOCUMENTS:

- Tender documents
- Service description
- Metadata requirements and naming guide
- Service level requirements
- Definition of requirements
- Criteria for the assessment of acquisition
- Examples of user cases
- Draft of project plan
- Draft of agreement to be supplemented
- Agreement

An example of managing a *high-quality* digitization project

- Planning and control of acquisitions
- Requirements
- Market dialogue
- Defining competitive tendering criteria
- Competitive tendering and call for tenders
- Analysis and comparison of tenders
- Selection of suppliers
- Agreement on agreements, and negotiations
- Preparation and management of contracts
- Implementation of acquisition



Project management

Preparation: need and requirements

Project plan

Acquisition

Digitization

Evaluation

DOCUMENTS:

- Digitization documentation
- Inspection documentation
- Document on the follow-up to the implementation of the specifications
- Monitoring document on conformity of acquisition quality criteria
- Digitization Instructions
- Orientation plan
- Maintenance report of the equipment
- Monitoring report
- Memos

An example of managing a *high-quality* digitization project

- Preparation and planning of the implementation
- Making Instructions
- Selection of the material
- Verification of the content to be archived, organization of the material
- Testing or piloting
- Preparation of the material
- Material logistics
- Maintenance of equipment
- Digitization: e.g., scanning/photography
- Metadata production and text recognition
- Validation/quality assurance of digital material
- Archiving digital material
- Making materials available
- Measurement, analysis and evaluation of operations
- Monitoring the implementation of the agreements and other monitoring of progress



Project management

Preparation: need and requirements

Project plan

Acquisition

Digitization

Evaluation

DOCUMENTS:

- Requirements
- Implementation assessment document
- Document on conformity assessment of acquisition quality criteria
- Final report

An example of managing a *high-quality* digitization project

- Assessment of outputs and services
- Assessment of the benefits achieved, and the achievement of the objectives achieved
- Evaluation of the implementation of the project plan measures and results
- Implementation of final reporting
- Assessment of risk and change management
- Customer satisfaction assessment
- Identification and information of lessons learned
- Internal and external communication
- Development



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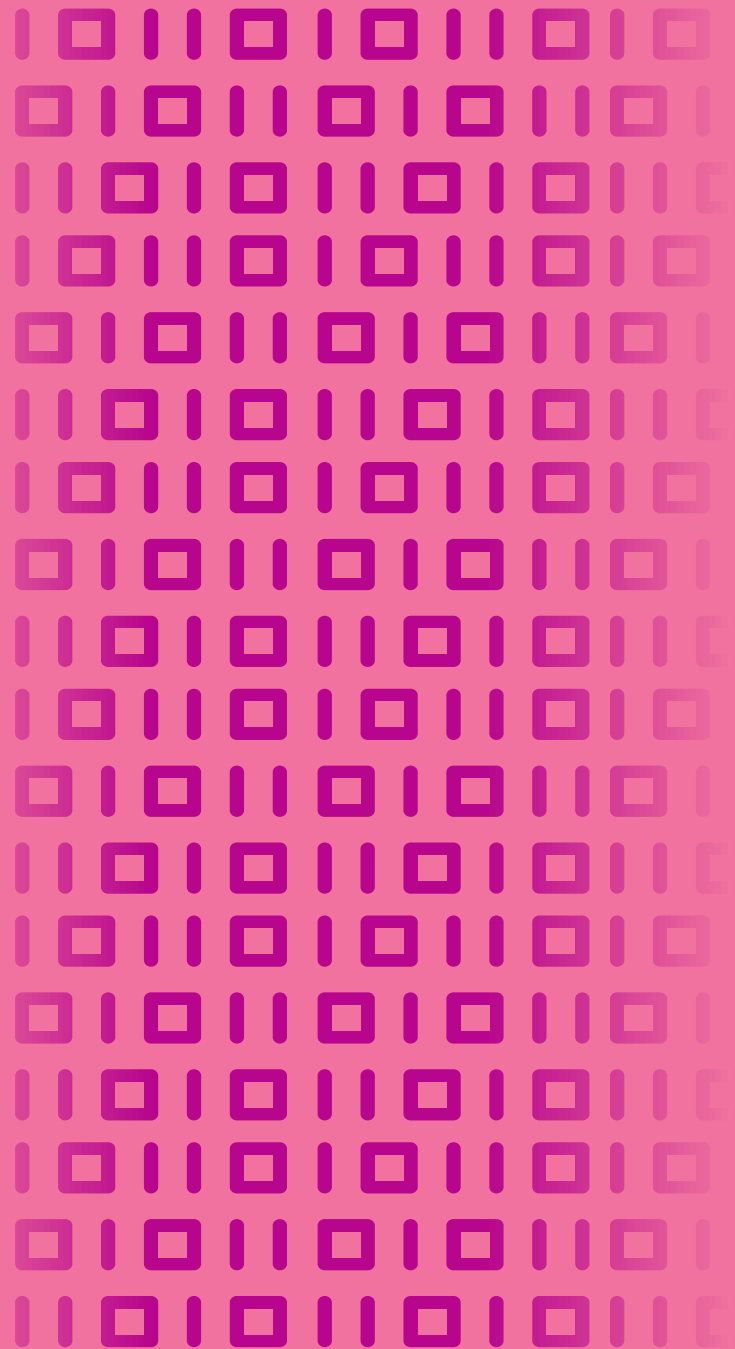
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Digitization project

Example of digitization project plan

Project plan

Project objectives

- a. Project description
- b. Digitization objectives
- c. Digitization effects
- d. Digitizing material

Project segmentation and schedule

- a. Digitization process
- b. Digitization implementation options
- c. Timetable
- d. Work plan

Organization of the project

- a. Project organization
- b. Project control

Project inputs

- a. Resources
- b. Acquisition
- c. Costs
- d. Cost-benefit analysis
- e. Financing

Quality assurance

- a. How will quality be ensured throughout the process?

Project communication

As an example, the digitization project of the imaginary local association

Project description

The association's photo archive contains photographs from the 1940s to the 21st century. The material is analog, most of it images, some negatives.

The digitization project scans the most important part of photographic data. Digitized material is listed in the existing data management system. The aim is to publish some of the material in the Finna search service.

Digitization objectives

Digitization project aims to increase the accessibility of the material and ensure long-term preservation of the material. The availability and findability of the material will increase through digitization.

The impact of digitization

Digitized material will enable the photographic material to be packed more tightly, so that the material can be transferred to a smaller and better condition.

Material to be digitized

Negatives from 1940-1960 (150 negatives) by Maija Meikäinen, an amateur photographer working in the municipality. The photographs are the most used photographic material in the local association archive, photographed in 1940-2000 (550 images).



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Digitization process

Project planning, project implementation, project final reporting.

Digitization implementation options

The options are hiring an external element or voluntary work by members of the association.

Timetable

The timetable depends on the timescale of the funding application. Implementation after funding within three months.

Work plan

Organization of photo archive and selection of digitized photos

Listing of digitized material

Solving of copyrights and rights of use

Acquisition of required hardware and applications

Digitization of material and processing of images

Quality assurance and organization of digitized material

Possible publication of the material for the Finna service



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Project Organization

Board of executive committee

Possible project worker

Project guidance

National Archives/Regional museum of responsibility

Resources

Possible external funding

Association's own contribution

Project worker to be paid

Members of the association (optional on a voluntary basis)

Acquisitions

Level scanner, image processing applications

Materials related to the organization of the material

Costs

Salary costs €9000

Purchases of equipment €2000

Other material, etc. expenses €100

Cost-Effort Analysis

The equipment to be purchased can be used in similar digitization projects in the future

Digitization equipment can be offered to members of the association

Financing

Application for external funding €10000

Own contribution €2000



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Project communication

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Project quality assurance

Instructions and proper orientation

Regular meetings

The secretary of the association ensures the quality of the processing and cataloging of analogue material.

If necessary, help is also requested from outside to direct the project.

System expert on the quality of digitization and the accuracy of file designation.

Calibration of the equipment

Communication of the project

The Board of executive committee and the financier will be informed of the project phases and the outcome of the project.

Communication for local media

Reporting from project to stakeholders



DIGIKSI

Digitointi-
projektin
suunnittelijan
ja toteuttajan
opas

Emmi Liikane ja
Henna Ristolainen (toim.)

Digitization project planner and executor guide

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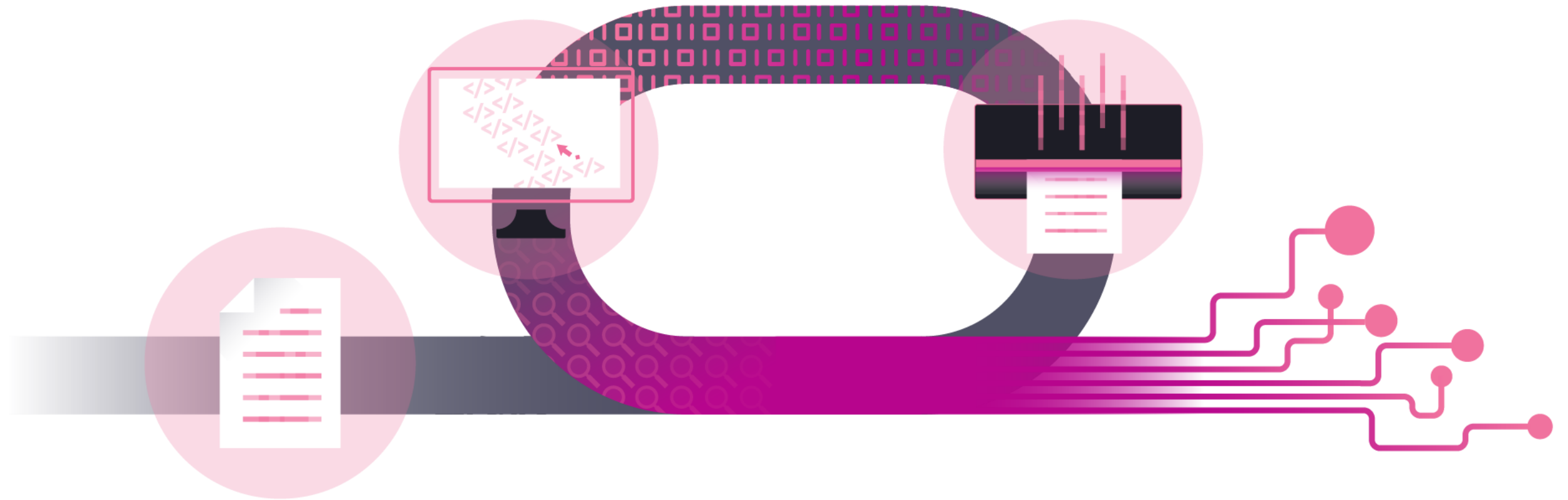
Digitization is based on the benefits of digitization and who will be served by change. Digitization requirements depend on the intended use. The material intended to be transferred to long-term storage requires a different process than the digitization aimed solely at internal use or individual data needs. Digitization projects can be carried out on a small or large scale. Every project is different. If there is much material to digitize, or if there is not enough knowledge to achieve the desired result, the service can be obtained from the outside. However, each project should be carefully planned. Planning ensures the high-quality implementation of digitization and improved usability of material for users. Quality requirements must always support the goal of digitization. The aim of quality assurance is to ensure that the result of digitization is the creation of uniform digitized data according to the plan.

The guide is aimed at all those planning and preparing a digitization project. It deals with the digitization of the public sector, but it is also suitable for private and third sector use. The publication consists of basic data, perspective articles and case examples of various digitization projects in the design and management of the digitization project.

The guide was produced in the Digitization competencies training project. The aim is to support the management of successful and goal-oriented projects that consider the quality of digitization work.

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The trainings organized by the project supported digital ability and increased the understanding of digitization processes and digitization projects. The project collected information on digitization projects and used information both in educational content and in this guide.



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Digitization competences training project



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