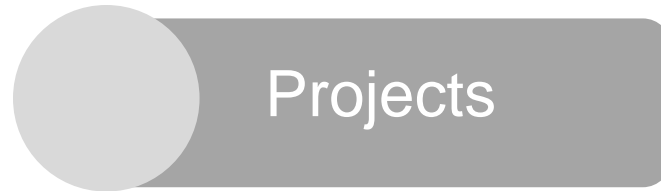


Digital preservation landscape: Estonia

Raivo Ruusalepp

Ernst & Young Baltics

Topics



Data from public administration



Databases Directive, Open Data Directive
Data Strategy, Data Governance Act,
Data Act



Databases Act → Public Information Act
Principles for Managing Services and Governing
Information
Archives Act



Digital Agenda 2030
Data Strategy
Data Governance Action Plan
AI Strategy
Data Description Standard



REPUBLIC OF ESTONIA
MINISTRY OF ECONOMIC AFFAIRS
AND COMMUNICATIONS

. . .
. . . STATISTICS
. . . ESTONIA



RIHA – Administration system of state information systems
Estonian Open Data Portal
RIHAKE – Data catalogue software for public agencies
X-road, Consent service, Personal data tracker, ...

Research data



Open Science Policy
ERA-policy agenda 2022-2024
Recommendation on access to and
preservation of scientific information

EOSC
FAIR
FRAND



Open Science Policy Framework



REPUBLIC OF ESTONIA
MINISTRY OF EDUCATION
AND RESEARCH



Estonian
Research Council



DataCite
HPC
ESTA
Data repositories of university libraries

Cultural heritage objects



Recommendation on the digitisation and online accessibility of cultural material and digital preservation
Recommendation on a common European data space for cultural heritage



European
Commission

EDSCH
ECCCH



Archives Act, Museums Act, National Library Act
Legal Deposit Act



Culture 2030 Agenda
Digital Culture Strategy
Digitisation programme for cultural heritage



REPUBLIC OF ESTONIA
MINISTRY OF CULTURE



E-Varamu portal
Web archive

ELNET
KONSORTSIUM

RARA
EESTI RAHVUS-
RAAMATUKOGU

Data from public administration

Research data

Cultural heritage objects

Ministry for IT and Economics

Ministry of Education and Research

Ministry of Culture

National Archives

Academic libraries

Estonian Literary Museum

Museums

National Library

National Broadcasting

Performing Arts

National Heritage

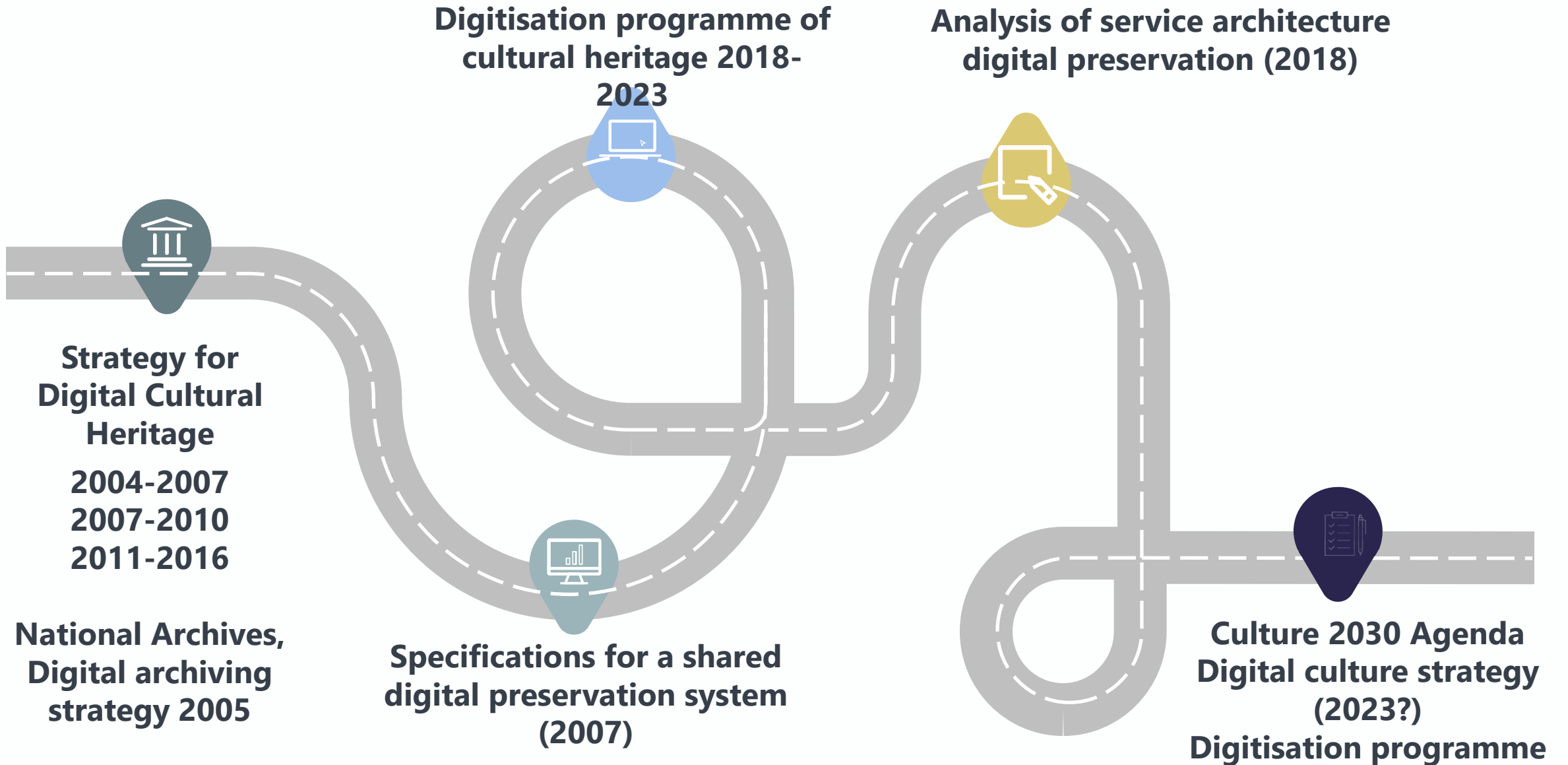
Data from public
administration

Research data

Cultural heritage
objects

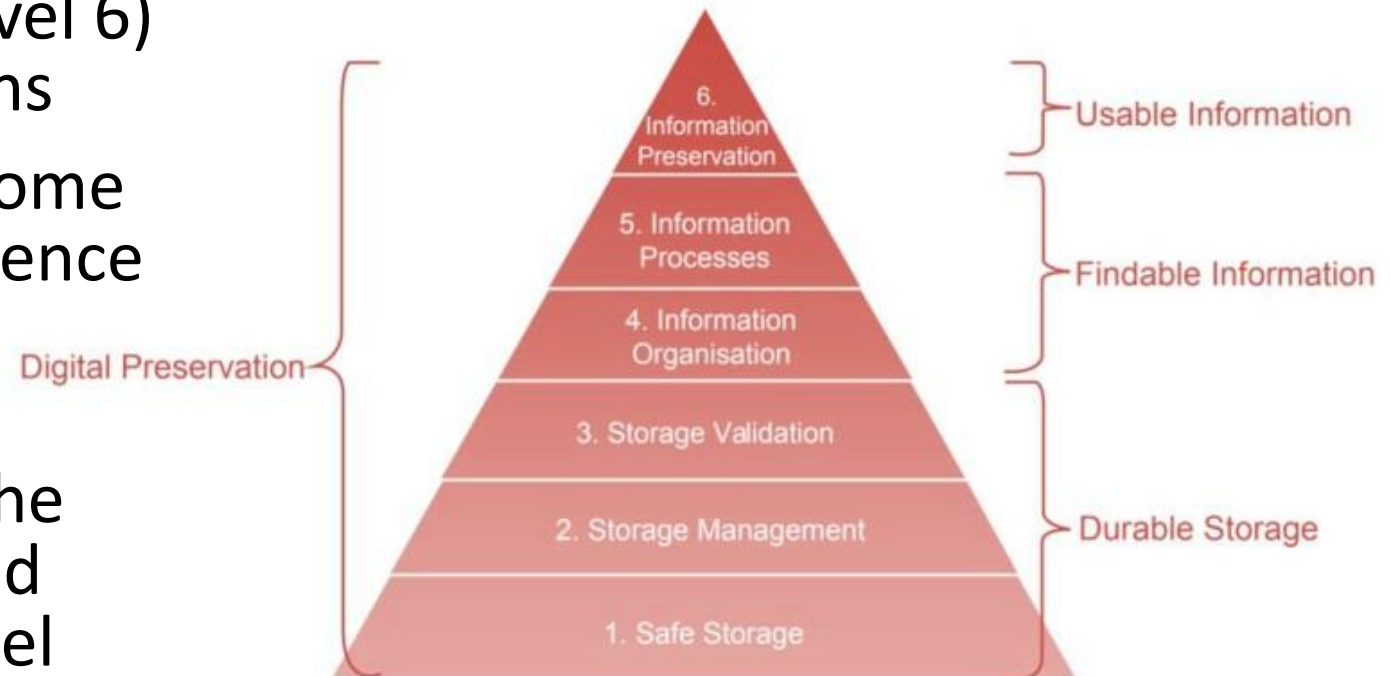
Access	Open data portal <i>Data portal</i>	DataDOI (TU), TalTechData (TalTech)	e-Varamu, Digar, DEA, Etera, MuIS, Kivike, Saaga, FOTIS, Meediateek, Jupiter, Arkaader
ID		DataCite	
Description	RIHA, RIHAKE <i>Astra by NA</i>	Data Management Plan	MuIS, ESTER, Astra/AIS
Archive workflow		Dspace (TU), Invenio (TalTech)	Digar, MuIS digihoidla, Kivike, Etera, Dspace
Active preservation			Rosetta (NL), Veebiarhiiv (NL), Preservica (NA), MuIS digihoidla
Storage	Government cloud, data centres of IT agencies	HPC, EOSC, Zenodo, Figshare	ExLibris (NL), NA+ERR tape robot, MuIS digihoidla data centre

Governance Pathway



Analysis of digital preservation service architecture

- Capacity of memory institutions with content that merits long-term digital preservation is low to medium
- Bit-level passive preservation is solved in most institutions
- Active digital preservation (level 6) capacity only at 3-4 institutions
- These institutions should become service providers and competence centres for smaller institutions in their domain
- The domain should develop the concept of service offering and a corresponding funding model



Projects in Digital Preservation: Technology

- The National Library is in the process of implementing ExLibris's Rosetta as their digital preservation system to replace Fedora repository that has been in use since 2006.
 - Based on their own hardware, secondary copy stored in the tape library of the National Broadcasting (ERR)
 - Integration of the repository with the Publishers' Portal, e-book lending platform and a new library catalogue system are being explored



<https://www.digar.ee/arhiiv>



<https://dea.digar.ee/?l=en>



<https://mirko.ee/en/home/>

Projects in Digital Preservation: Technology

- The National Archives has started to offer their Preservica solution as a service to two municipal archives
 - Using their own hardware and tape storage mirroring between Tartu and Tallinn
- Tape libraries of the National Archives in Tartu and ERR in Tallinn have been made interoperable and can now mirror each other's content
 - Bit-level preservation service for all interested memory institutions
- The National Archives is keeping separate its born-digital collection that is housed in Preservica and the extensive digitised collection that uses separate hardware and bespoke user interface
- Digital and digitised film as well as photographs have separate portals



<https://www.ra.ee/vau/>



<https://ais.ra.ee/>

Projects in Digital Preservation: Technology

- Museums in Estonia are all using a centralised cataloguing system
MuIS
 - Museums are obliged to make digital images of all catalogued objects in the catalogue
- MuIS has a digital repository attached to it
 - Primarily storing digitised images, but has capability to ingest and manage also born-digital content
 - Based on the hardware and data centre of a government IT agency (RIK), secondary copy stored in the tape library of the ERR



https://www.muis.ee/en_GB/

Projects in Digital Preservation: Technology

- The National Broadcasting has set up a ‘production archive’
 - Extensive digitised collection + digitally produced collection
 - Based on IBM tape library / robot that is being offered as a service to other memory institutions and is mirrored with the tape library of NA
 - Access portals and streaming services being developed



<https://arhiiv.err.ee/>



<https://jupiter.err.ee/video>

Projects in Digital Preservation: ML

Public funding is available in Estonia to run short experimental projects on the use of machine learning in different domains.

- Sälli – inventorying museum objects and evaluating their at-risk status
<https://www.muinsuskaitseamet.ee/et/museaalide-sailitamise-kratt-salli>
- Marta – tagging keywords to newspaper articles in Estonian (1850-2020)
<https://marta.nlib.ee/>
- Folli – clustering and analysing digitised images
<http://folli.stacc.cloud/demo>
- Face recognition in digitised collections - <https://www.ra.ee/ilme/web/en>
- Automated subtitling of digitised film and TV programmes
- Analysing the contents of the national web archive

Network and collaboration

- National digital preservation seminar each November, around the International Digital Preservation Day
 - ~ 30 participants from a range of institutions and universities
 - Sharing best practice, discussing collaboration opportunities
- Conferences to learn from international best practice
- Share events – Impressions and lessons from international conferences, webinars → collective technology watch
- Lessons learned from participating in international projects and networks (E-Ark, 4C, 3D scanning, etc.).



Challenges

- Making the recommended service architecture work
 - DP competence centres acting as service providers
 - Smaller institutions see themselves as customers
 - Collaboration to make best use of the meagre resources
- Continuous funding, especially for operating costs
- Where is the next generation of digital preservation specialists going to come from?

Aitäh!
Kiitos!

Raivo Ruusalepp

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