

# Background to the EARK Pilots

E-ARK Final Conference, Budapest  
6-8 December, 2016



# E-ARK Pilots

## 1. Full scale project pilot activities

Implementation, by consortium members, of one or more scenarios at one or more locations for a period of six months or longer.

## 2. Additional project pilot activities

Implementation, by consortium members of shorter 'stretch' pilots that extend the scenarios or apply them in different contexts.

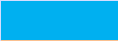

## 3. External validation activities

Implementation of project results by members of DLM Forum and DPC as part of an extended 'Beta' program with limited involvement from consortium members.



# E-ARK Full-scale Pilots - OAIS Overview

Pilot	Pre-Ingest	Ingest	Archival Storage Preservation	Data Management	Access
1. SIP creation of relational databases (Danish National Archives)	Focus of the pilot				
2. SIP creation and ingest of records (National Archives of Norway)	Focus of the pilot	Focus of the pilot	Elements also used/tried within the pilot		
3. Ingest from government agencies (National Archives of Estonia)	Focus of the pilot	Focus of the pilot	Elements also used/tried within the pilot		Focus of the pilot
4. Business archives (National Archives of Estonia, Estonian Business Archives)	Focus of the pilot	Focus of the pilot	Elements also used/tried within the pilot		
5. Preservation and access to records with geodata (National Archives of Slovenia)	Focus of the pilot	Focus of the pilot	Elements also used/tried within the pilot		Focus of the pilot
6. Seamless integration between a live DMS and a long-term digital archiving and preservation service (KEEP SOLUTIONS)	Focus of the pilot	Focus of the pilot	Focus of the pilot	Elements also used/tried within the pilot	
7. Access to databases (National Archives of Hungary)	Focus of the pilot	Focus of the pilot	Elements also used/tried within the pilot	Elements also used/tried within the pilot	Focus of the pilot

 Focus of the pilot  
 Elements also used/tried within the pilot



# Pilot 1

## SIP Creation on relational databases

Phillip Mike Tømmerholt  
Danish National Archives



<b>Pilot 1</b>	<b>SIP Creation on relational databases</b>																														
<b>Task leader</b>	Danish National Archives																														
<b>Scope</b>	The scope of this Pilot is to test the E-ARK SIP Creation tool with not less than 4 databases of different sizes and complexities (one contains several million records)																														
<b>E-ARK Specifications</b>	SIP		AIP		DIP		SMURF (ERMS)		SMURF (SFSB)		GeoData		SIARD 2.0	X																	
<b>E-ARK Tools</b>	<b>Pre-Ingest</b>					<b>Ingest</b>					<b>Access</b>																				
	Database Preservation Toolkit	ERMS Export Module	RODA-In	ESSArch Tool Producer (ETP)	ESSArch Tools Archive (ETA)	UAM	SIP creator (E-ARK Web)	SIP2AIP (E-ARK Web)	RODA Repository	ESSArch Preservation Platform	HDFS-Storage	SOLR index (E-ARK web)	Search and Display GUI		Order Management Tool	Lily - Ingest	ESSArch Preservation Platform	E-ARK Web (Search)	AIP2DIP (E-ARK Web)	Database Visualisation Toolkit	IP Viewer						QGIS	Geoserver	Peripleo	Oracle (OLAP Viwer)	CMIS portal/viewer
	X																														
<b>Pilot Scenarios</b>																															
<b>Scenario 1</b>	Extracting records from database (Data Set 1) - database with no documents																														
<b>Scenario 2</b>	Extracting records from database (Data Set 2) - database with no documents (large)																														
<b>Scenario 3</b>	Extracting records from database (Data Set 3) - database with documents																														
<b>Scenario 4</b>	Extracting records from database (Data Set 4) - database with documents (large)																														



# The Danish Pilot site

- The Danish National Archives (DNA) has been archiving digital records from public institutions since 1973.
- Since 1997 these digital records have also included digital documents in digital document and records management systems submitted as relational databases.



# The Danish Pilot site

- The DNA has archived more than 4,400 databases.
- The last three years the DNA has received about 220 relational databases each year.
- This year the DNA will ingest 40 terabyte of data from databases.



# The Danish Pilot site

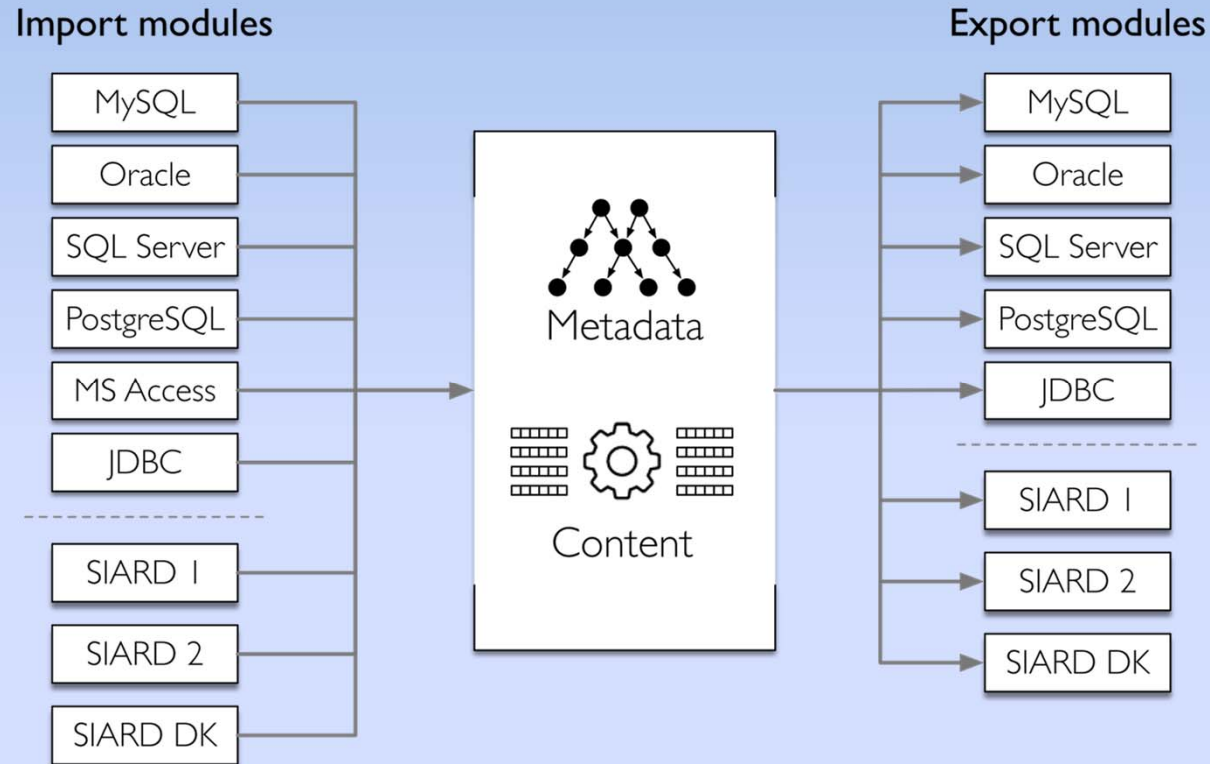
- The current SIP format using SIARDDK has been in place since 2010.
- SIARDDK is a slight deviation from the SIARD 1.0 format (created by the Swiss Federal Archives / Enter AG). It was deviated in order to support large amounts of files, a feature now supported by SIARD 2.0.





# The tool

## Database Preservation Toolkit

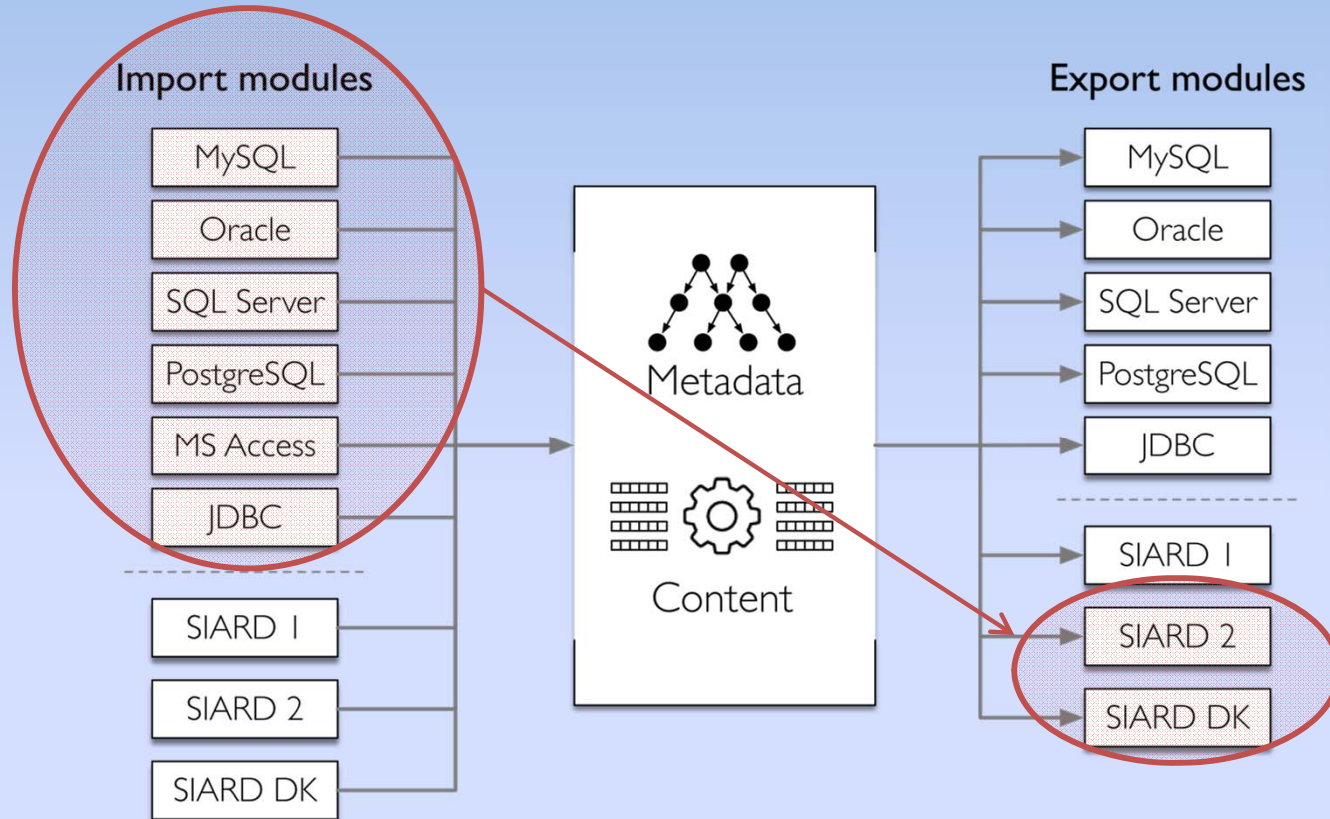


DBPTK can (via a user logon that have certain rights) attach to the relational database management system and export to SIARD format



# The tool

## Database Preservation Toolkit



DBPTK can (via a user logon that have certain rights) attach to the relational database management system and export to SIARD format



## **Scenario 1**

Extracting records from database (Data Set 1) - database with no documents

## **Scenario 2**

Extracting records from database (Data Set 2) - database with no documents (large)

## **Scenario 3**

Extracting records from database (Data Set 3) - database with documents

## **Scenario 4**

Extracting records from database (Data Set 4) - database with documents (large)



Technical details	System
MS SQL Server 90 tables 90,000 records	<b>Health system from the Danish Serum Institute</b> Database containing information from reported infectious diseases at a the national level. Infectious diseases for all Danish citizens.
MySQL 5 tables 33,000,000 rec.	<b>System from a private sector business. Kultunaut Aps</b> Harvesting and selling information about cultural events at national level from the smallest local gatherings to international exhibitions and events in Denmark.
MS SQL Server 289 tables 1,300,000 LOBs	<b>Administrative system from The Danish National Archives</b> Database containing information about all incoming scientific research data, and public deliveries of research data.
MS SQL Server 180 tables 100,000 LOBs	<b>Administrative and health records system from Ministry of Higher Education and Science</b> Database containing information about social, psychological, and psychiatric counseling to students in their educational situation.



# The results

The results from the pilot show that the E-ARK project open source Database Preservation Toolkit (DBPTK) made by project partner KEEP Solutions can export live databases in proprietary formats to system independent archiving formats SIARD 2.0 and SIARDDK (the latter provided by E-ARK project partner Magenta).

This open source tool can ease the export of databases by decreasing the cost and time spent for producers of SIPs as well for the archives due to fewer errors being submitted.



# The results

In the pilot we only validated SIARD 2.0 manually. Since SIARD DK and SIARD 2.0 specification are very close to each other, the DNA's internal validating tool was able to locate some bugs in the SIARD 2.0 products.

We still need a tool to validate SIARD 2.0



# Pilot 2

## SIP creation and ingest of records

Arne-Kristian Groven, Hans Fredrik Berg  
National Archives of Norway



<b>Pilot 2</b>	<b>SIP creation and ingest of records</b>																													
<b>Task leader</b>	National Archives of Norway																													
<b>Scope</b>	Not less than 2 transfers of unstructured records with mixed restricted and unrestricted material, and not less than 1 transfer of structured records.																													
<b>E-ARK Specifications</b>	SIP	X	AIP	X	DIP		SMURF (ERMS)	X	SMURF (SFSB)		GeoData		SIARD 2.0																	
<b>E-ARK Tools</b>	<b>Pre-Ingest</b>					<b>Ingest</b>					<b>Access</b>																			
	Database Preservation Toolkit	ERMS Export Module	RODA-In	ESSArch Tool Producer (ETP)	ESSArch Tools Archive (ETA)	UAM	SIP creator (E-ARK Web)	SIP2AIP (E-ARK Web)	RODA Repository	ESSArch Preservation Platform	HDFS-Storage	SOLR index (E-ARK web)	Search and Display GUI		Order Management Tool	Lily - Ingest	ESSArch Preservation Platform	E-ARK Web (Search)	AIP2DIP (E-ARK Web)	Database Visualisation Toolkit	IP Viewer						QGIS	Geoserver	Peripleo	Oracle (OLAP Viwer)
				X					X																					
<b>Pilot Scenarios</b>																														
<b>Scenario 1</b>	SIP Creation and Ingest of unstructured records (Data Set 1)																													
<b>Scenario 2</b>	SIP Creation and Ingest of unstructured records (Data Set 2)																													
<b>Scenario 3</b>	SIP Creation and Ingest of structured records (Data Set 3)																													





# Pilot 2: Goals

- Use ESSArch tools on production data sets
  - Containing a substantial number of digital records
- To evaluate
  - The ability to get a job done with a satisfactory result
- Quantitative measurements
  - Time consumption
- Preferably
  - Use the E-ARK package definitions



# Data Sets

- Scenario 1: The data is the standardized output from an EDRMS system(20 GB)
  - Noark-4 XML file containing (meta-) data descriptions + documents, mainly PDF/A files.
- Scenario 2: The data is the standardized output from an EDRMS system (5 GB)
  - Noark-5 XML file containing (meta-) data descriptions + 8194 documents, mainly PDF/A files.
- Scenario 3: 10 CSV files, originating from an old database from the 1980s (105 MB)
  - Containing 338.500 registrations.



# ESSArch Tools

- ESSArch Tools for Producer, ETP
  - Prepare content, select SIP structure, archival descriptions/ generate metadata
  - Submit the generated SIPs
- ESSArch Tools for Archivists, ETA
  - Receive SIPs from producer, prepare for ingest
- ESSArch Preservation Platform, EPP
  - Ingest (and store) the SIPs, derive AIPs, storage management, either on tape and/or disk storage



# The time used on the automated parts of these operations

- Scenario 1 (20 GB)
  - 1 h 50 min
- Scenario 2 (5 GB)
  - 1 h
- Scenario 3 (105 MB)



# To summarize our experience

- The tools we evaluated were able to produce satisfactory results (output).
- But we would like to evaluate on even larger data sets to conclude about scalability/time consumption
- The evaluated tools have implemented the METS and PREMIS standards as XML structures, which is a good thing.
- Suggestions to further improvements: The ability to provide standards like DC, ISAD(G), ISAAR etc.
- And also to provide import/export on standards like EAD or DC would also be positive.



# Final comments...

- When the pilot goals for our pilot were defined at the beginning of the project,
- the direction of the E-ARK work regarding OAIS package structure implementations was still not known to us.
  - We hoped it would imply minor changes compared to OAIS package structure we had defined at the National Archives of Norway a few years earlier.
- But the resulting E-ARK package structure represented more substantial differences than anticipated.
  - ES Solutions has provided us with two sets of package structures, one for the production scenarios . Another for additional scenarios using the E-ARK package structures.



# Final comments

- The resulting E-ARK package structure is for us an obstacle, preventing us from using E-ARK software
- If, in the final months of the project, the package structure could be made more generic it would have the potential to reach more European users
- ... Including the National Archives of Norway



# Pilot 3

## Ingest from governmental agencies

Karin Oolu, Tarvo Kärberg  
National Archives of Estonia





<b>Pilot 3</b>	<b>Ingest from government agencies</b>																																					
<b>Task leader</b>	National Archives of Estonia																																					
<b>Scope</b>	Export public records from an EDRM system of a governmental agency to the National Archives of Estonia and make these available through our own catalogue (i.e. Archival Information System, AIS) as well as provide an API for accessing the records from other systems (the original EDRMS at the agency)																																					
<b>E-ARK Specifications</b>	SIP	X	AIP		DIP	X	SMURF (ERMS)	X	SMURF (SFSB)		GeoData		SIARD 2.0	X																								
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						X																																X
<b>Pilot Scenarios</b>																																						
<b>Scenario 1</b>	Extract records from EDRM (of a governmental institution), create SIP and ingest to Preservica																																					
<b>Scenario 2</b>	Provide access to records from governmental institution through CMIS portal/viewer																																					



Scenario 1:

**Extract records from EDRM (of a governmental institution), create SIP and ingest to Preservica**



# Main steps

Data **selected and extracted** from the DELTA system in the Ministry of Justice of Estonia



Data **imported** to the Universal Archival Module (UAM) to **create E-ARK SIPs**



Data **ingested** to Preservica (at the National Archives of Estonia)



# Selection and extraction

**Arhiiviasutusele üle andmist ootavad toimikud** Koosta Wordi fail Märki üle andmiseks Ekspordi UAM-i

Toimikute filtreerimine

1 **Plaanitud üle andmine** alates 01.10.2016 kuni 27.10.2016 - Vali -

Arhiiviväärtuslik - Vali -

Säilitatakse alaliselt - Vali -

Säilitustähtaeg alates kuni - Vali -

Valitud üle andmiseks - Vali -

Eksporditud UAM-i - Vali -

Elukäik - Vali -

Otsi Näita kõiki

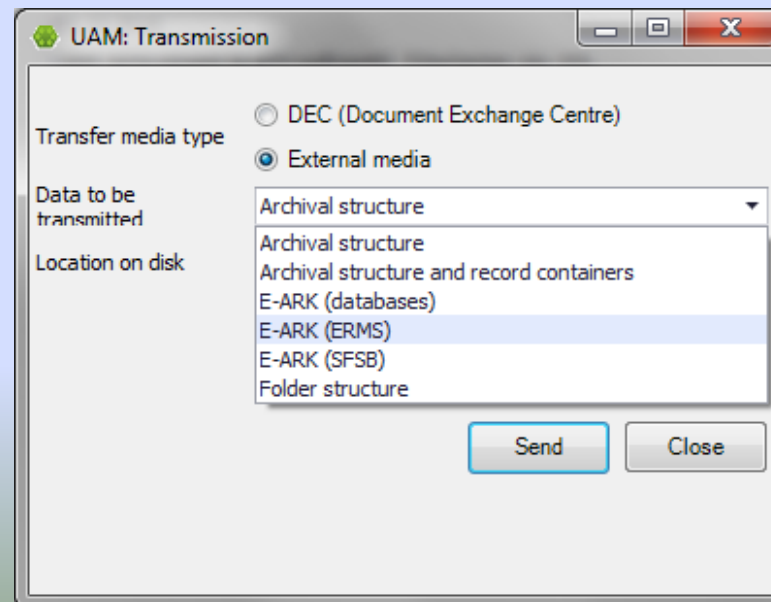
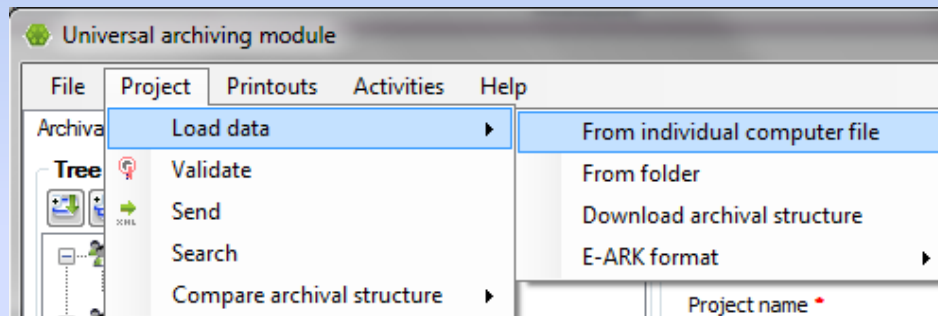
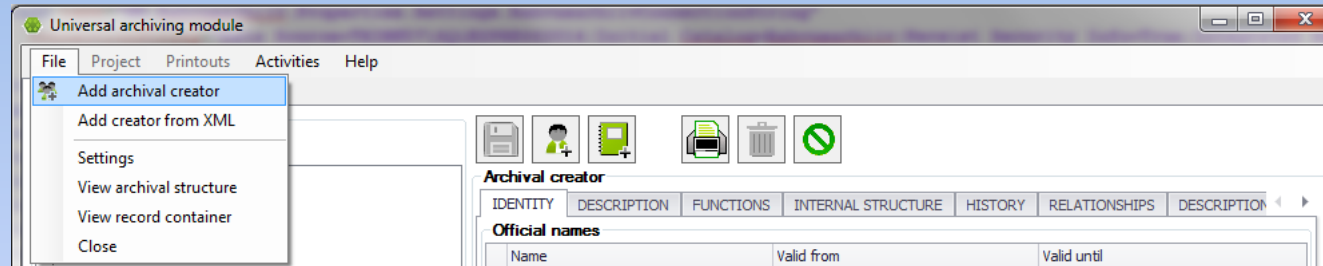
**Arhiiviasutusele üle andmist ootavad toimikud**

<input type="checkbox"/>	Tähis	Pealkiri	Plaanitud üle andmine	Säilitustähtaeg	Säilitamine	Valitud üle andmiseks	Eksporditud UAM-i	Kehtiv alates	Kehtiv kuni	Toimiku t
<input type="checkbox"/>	1.4-14	Kirjavahetus Rahandusministeeriumiga siseauditalastes küsimustes (7)	27.10.2016	31.12.2012	Alaline	Ei	Ei	01.01.2007	31.12.2007	Aastapõhi toimik
<input type="checkbox"/>	4.1-1	Riigieelarvestrateegia projektid (32)	26.10.2016	31.12.2011	Alaline	Jah	Jah	01.01.2004	31.12.2004	Aastapõhi toimik
<input type="checkbox"/>	4.1-2	Ministeeriumi kinnitatud aastaelarve (50)	26.10.2016	31.12.2011	Alaline	Jah	Jah	01.01.2004	31.12.2004	Aastapõhi toimik
<input type="checkbox"/>	4.1-3	Asutuste kinnitatud eelarved koos muudatustega (7)	26.10.2016	31.12.2011	Alaline	Ei	Ei	01.01.2004	31.12.2004	Aastapõhi toimik

2



# SIP Creation




# Statistics

- Two different data-sets:
  - first test on Oct 21, (**15 files**)
  - second test on Nov 10, (**200 files**)
- Selection, extraction, SIP creation
  - first test, duration ca **3 hours**
  - second test, duration ca **15 minutes**




# Ingest to Preservica

Start    Waiting    Running    **Completed**    Reports    Manage

 Show Filters

Date Completed ↓	Workflow Context	Creator	Collection Code	Top Level Record	Size	Files
27.10.16 16:10:15	Ingest AIP (w/o migr.)	Ingest AIP (w/o migr.)	2016-10-27-16-09 +	data	116 KB	2
27.10.16 16:09:51	EARK Import	EARK Import				0
27.10.16 16:09:21	EARK Import	EARK Import				0
27.10.16 16:09:15	Ingest AIP (w/o migr.)	Ingest AIP (w/o migr.)	2016-10-27-16-08 +	data	109 KB	2
27.10.16 16:08:45	<b>EARK Import</b>	<b>EARK Import</b>				0
27.10.16 16:08:21	EARK Import	EARK Import				0
27.10.16 12:38:45	Ingest AIP (w/o migr.)	Ingest AIP (w/o migr.)	2016-10-27-12-37 +	data	769 KB	3
27.10.16 12:37:51	EARK Import	EARK Import				0
27.10.16 12:33:15	Ingest AIP (w/o migr.)	Ingest AIP (w/o migr.)	2016-10-27-12-30 +	data	90 KB	2
27.10.16 12:32:27	Ingest AIP (w/o migr.)	Ingest AIP (w/o migr.)	2016-10-26-17-45 +	data	769 KB	3

 3 of 25



Scenario 2:

**Provide access to records from  
governmental institution through  
RESTful services**





Data selected and extracted from the DELTA system in the Ministry of Justice of Estonia



Data exported to the Universal Archival Module (UAM) to create E-ARK SIPs



Data ingested to Preservica (at the National Archives of Estonia)

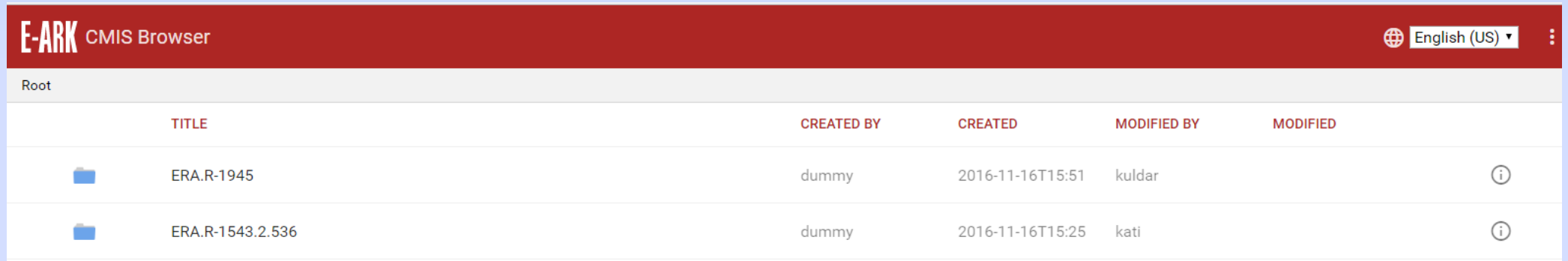






**Provide access** to ingested records from governmental institution using **CMIS protocol**



# E-ARK CMIS Browser

E-ARK tool for retrieving records from repositories using CMIS protocol and a lightweight access GUI.

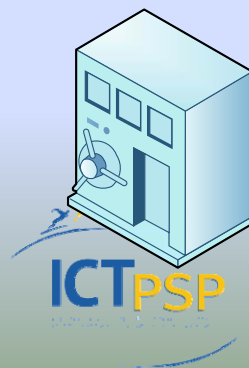
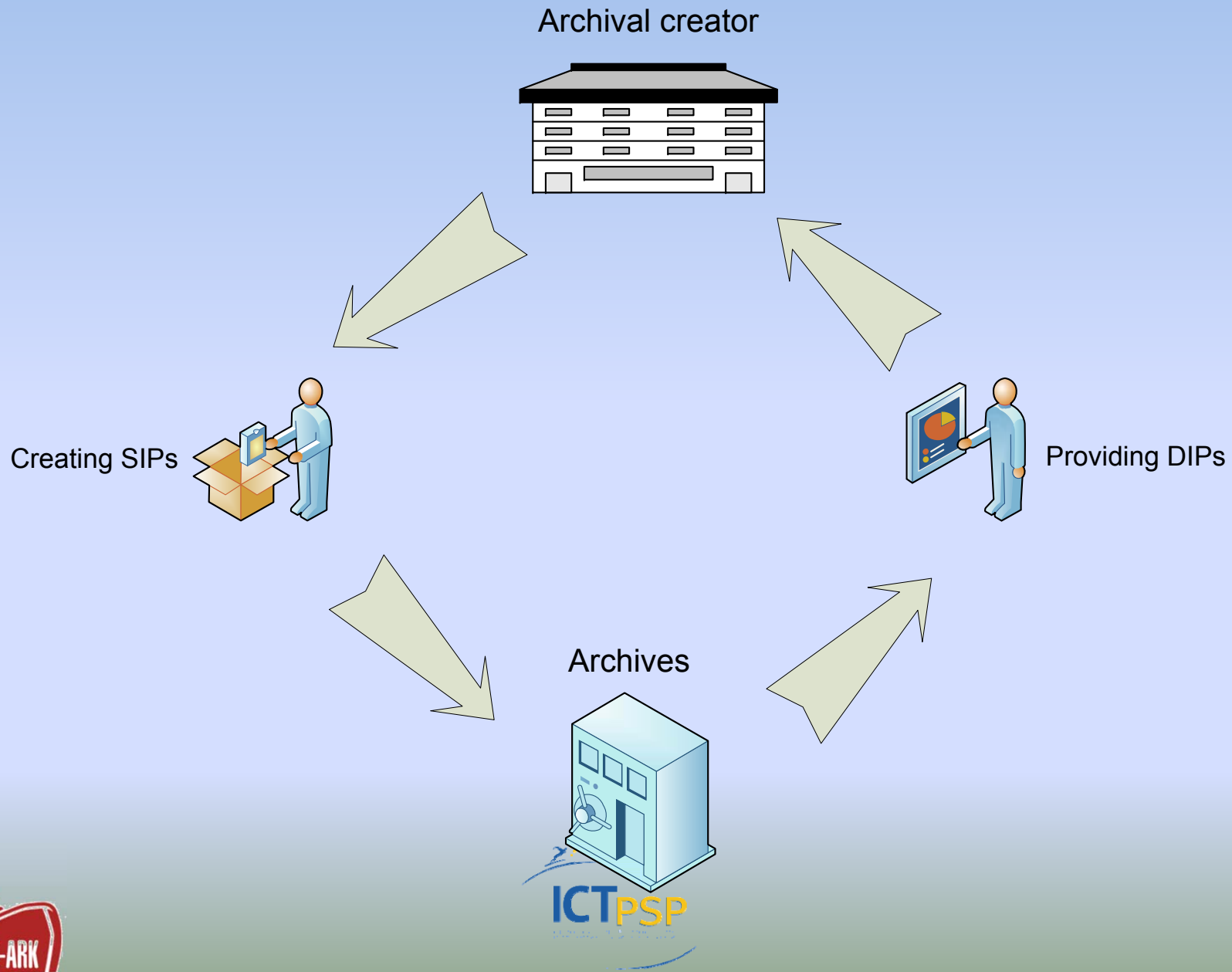


	TITLE	CREATED BY	CREATED	MODIFIED BY	MODIFIED
	ERA.R-1945	dummy	2016-11-16T15:51	kuldar	
	ERA.R-1543.2.536	dummy	2016-11-16T15:25	kati	

- configure repository
- manage users
- search and browse records



# Scenario 1 + scenario 2



# Pilot 4

## Business Archives

Ats Rand, Estonian Business Archives

Tarvo Kärberg, National Archives of Estonia



<b>Pilot 4</b>	<b>Business Archives</b>																												
<b>Task leader</b>	Estonian Business Archives with support by National Archives of Estonia																												
<b>Scope</b>	Pre-ingest preparation and transfer of business records to a digital archive solution in a business archive																												
<b>E-ARK Specifications</b>	SIP		AIP		DIP		SMURF (ERMS)		SMURF (SFSB)		GeoData		SIARD 2.0	X															
<b>E-ARK Tools</b>	<b>Pre-Ingest</b>					<b>Ingest</b>				<b>Access</b>																			
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	X																												
<b>Pilot Scenarios</b>																													
<b>Scenario 1</b>	Migration and Ingest of business data from bespoke business system (Data Set 1)																												
<b>Scenario 2</b>	Import business records from SIARD 2.0 (Data Set 1)																												
<b>Scenario 3</b>	Migration and Ingest of business data from bespoke business system (Data Set 2)																												
<b>Scenario 4</b>	Import business records from SIARD 2.0 (Data Set 2)																												



# The objective

To test the export functionality of business records from a bespoke business system to the digital archive system of the Estonian Business Archives (EBA) by using the Database Preservation Toolkit.



# Main steps



# Preparation

- Preparation phase is needed in order to ensure archiving of the correct data. For example, that there are no ongoing procedures or daily back-up routines or other actions which can be interrupted or would corrupt data turning the export process.
- Client provides access to the database - this includes making the database accessible to the Database Preservation Toolkit.





# Extraction

- EBA IT staff and client's IT staff work together to set up proper configuration to start export data from database with Database Preservation Toolkit.
- The same configuration should be used for every export instance. Any modification should be documented and made public for both sides.



# Transfer

Data is transferred over HTTPS using the EBA digital archive solutions' RESTful API and web user interface to submit SIARD2.0 files to the endpoint.

Id	Name
1	"test_siard.siard"
2	"ico_mssqlprod_20161020.siard"
3	"ico_mssqlprod_20161020_1.siard"
4	"ico_mssqlprod_20161020_2.siard"



# Access

- Import process is started with Database Preservation Toolkit to any available database platform.
- Preferred database will always be initial database where data was exported from.
- When import is successful, the data is obtained and used through Microsoft SQL Server Management studio or other management studios PL/SQL Developer, phpMyAdmin web interface, depending on database platform.



# About the client side database system

- The system generates reports and statistical information based on analyses and medical observations.
- The System contains 63 tables with approximately **200 000 records** with 33 491 files. The size of the database is approximately **160 GB**.
- Data type: MS-SQL.



# Time

- The entire process for pre-ingest took roughly **6 hours**.
- Most of the time was spent on preparation and description activities.



# Pilot 5

## Preservation and access to records with geodata

Gregor Završnik  
National Archives of Slovenia





# What we promised?

During the e-ARK project the **standardized method** for **ingesting geo data** will be developed.

This will allow the **archives** to

- offer geodata as a selection and display criteria of records
- by means of integration of current state of the art tools.





# Presenting Geodata



GIS  
Application



Symbology, Geoprocessing, Exports

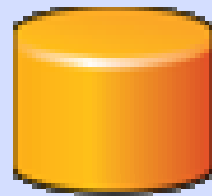
Sorting , Querying, Cartog. Projection, transformation



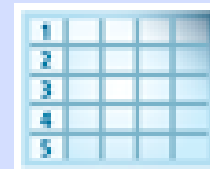
Vector  
layers



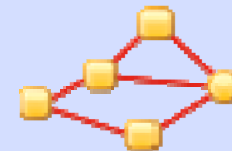
Raster  
layers



Databases



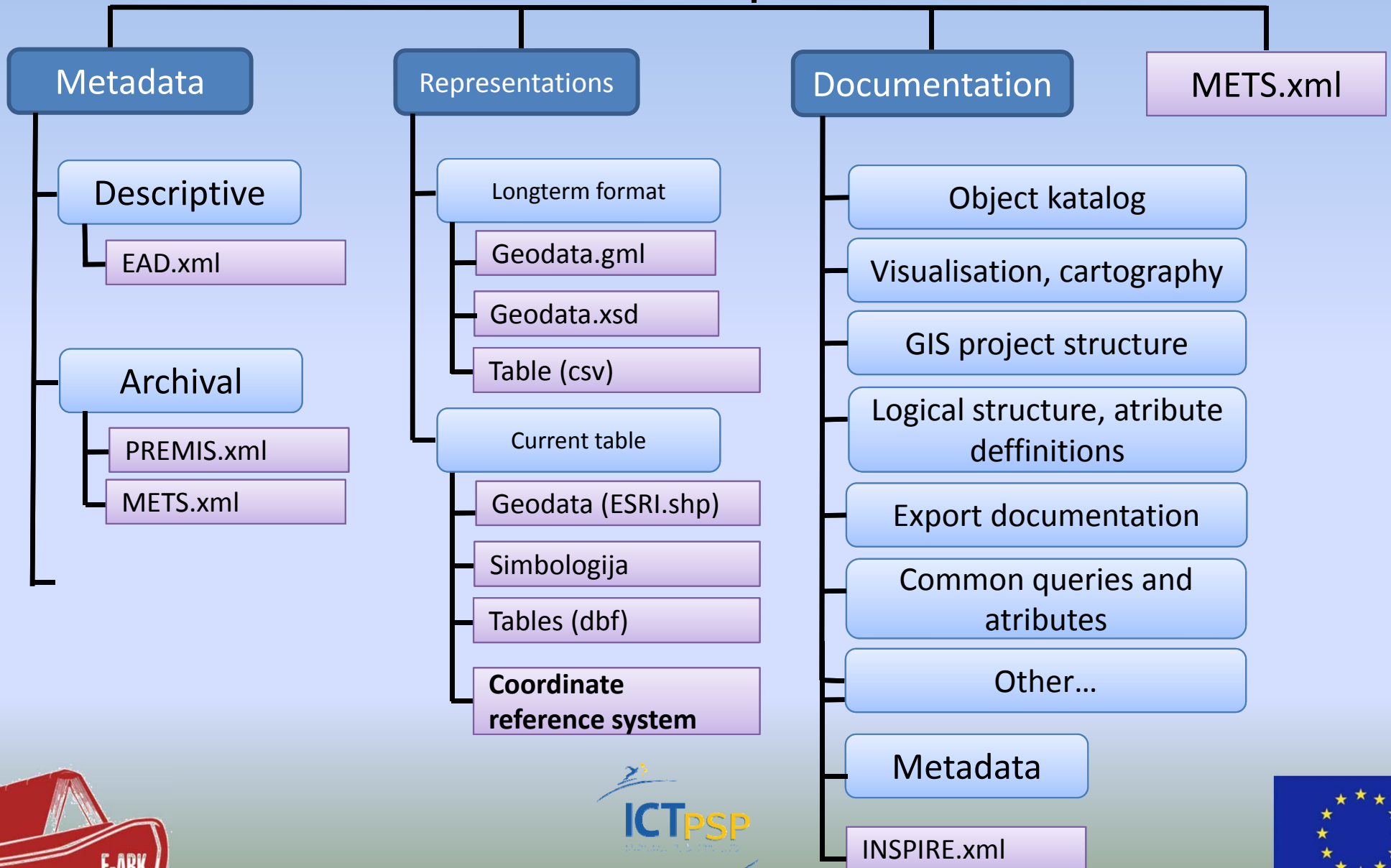
Codepages  
spreadsheets



Models



# Geo IP



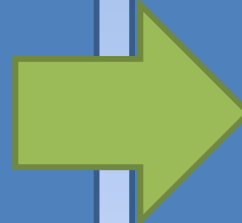
## Scenario 1

Historical Administrative Units

Roda-In (pre-ingest)

ESS Tools for Archivists

ESS Preservation platform



## Scenario 3

Earkweb platform

Magenta OMT Tool

Magenta IP Viewer

Geoserver

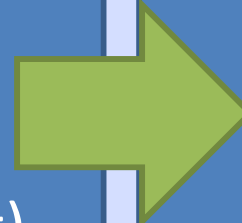
QGIS

## Scenario 2

Natura 2000 Layer

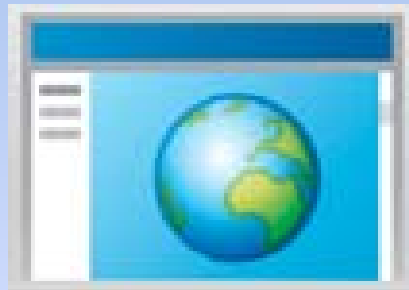
ESS Tools for Producers (pre-  
Ingest)

ESS Tools for Archivists (Ingest)  
ESS Preservation platform  
(Ingest)



## Scenario 4

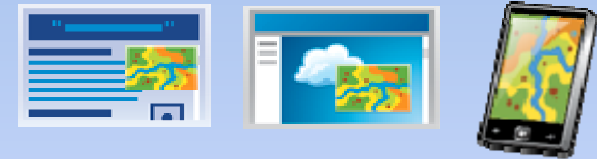
# DISPLAYING DATA



Browser



GIS app (QGIS)



## Web APPs

- Peripleo
- Other GIS apps
- Google Maps

DIP 0 > DIPu

## Files



## Databases



## Geoserver



CTPSP



# Pilot 6

Integration between a semi-active records management system and a long-term preservation service

Miguel Ferreira  
KEEP Solutions



<b>Pilot 6</b>	<b>Integration between a semi-active records management system and a long-term preservation service</b>																													
<b>Task leader</b>	KEEP Solutions																													
<b>Scope</b>	The goal of this pilot is two-fold. On one hand, KEEP SOLUTIONS will demonstrate that the pan-European SIP structure designed in the WP3 is adequate to support the media types found in today's Electronic Records Management Systems (e.g. text documents, video, audio, images, etc) and, on the other hand, that the most adequate and scalable form of ingest is to automate the SIP creation and delivery process to the preservation service.																													
<b>E-ARK Specifications</b>	SIP	X	AIP	X	DIP		SMURF (ERMS)		SMURF (SFSB)		GeoData		SIARD 2.0																	
<b>E-ARK Tools</b>	Pre-Ingest				Ingest				Access																					
	Database Preservation Toolkit	ERMS Export Module	RODA-In	ESSArch Tool Producer (ETP)	ESSArch Tools Archive (ETA)	UAM	SIP creator (E-ARK Web)	SIP2AIP (E-ARK Web)	RODA Repository	ESSArch Preservation Platform	HDFS-Storage	SOLR index (E-ARK web)	Search and Display GUI		Order Management Tool	Lily - Ingest	ESSArch Preservation Platform	E-ARK Web (Search)	AIP2DIP (E-ARK Web)	Database Visualisation Toolkit	IP Viewer					QGIS	Geoserver	Peripleo	Oracle (OLAP Viwer)	CMIS portal/viewer
								X																						
<b>Pilot Scenarios</b>																														
<b>Scenario 1</b>	Automatic ingest of records from a semi-active archival management system																													



# Objectives

- Assess the **efficacy of the E-ARK SIP** specification to support the **transfer of content and metadata** between ERMS and a long-term preservation service
- Demonstrate that the **most scalable form of transfer is to automate the SIP creation and delivery** to the preservation service



# How

- Develop a specially-designed tool to support the:
  - Extraction, aggregation and **creation of SIPs**
  - **Transfer** of SIPs to the preservation service
  - Start the **ingest process**





# Success criteria

- Ingest no less than 900 records in E-ARK SIP format (**90% success** rate)
- **Completeness of data and metadata** should be 100%



# Stakeholders

- **Mafra Municipality**
  - The data provider
- **KEEP SOLUTIONS**
  - The solution provider





A collection of **digitised books** related to the Peninsular War dating from 1778 to 1834.

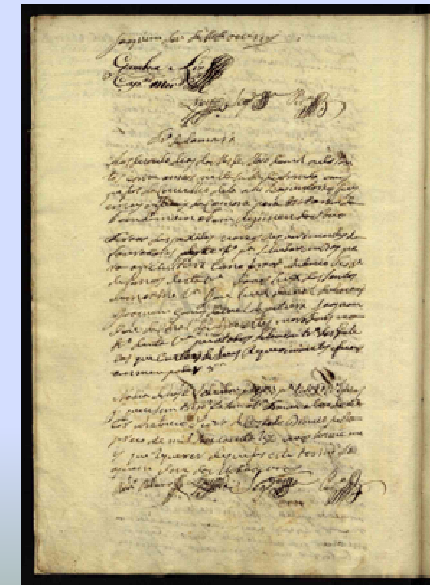
964 records

Metadata in **EAD** 2002

34.600 pages

1.2 TB

300 dpi uncompressed **TIFFs**



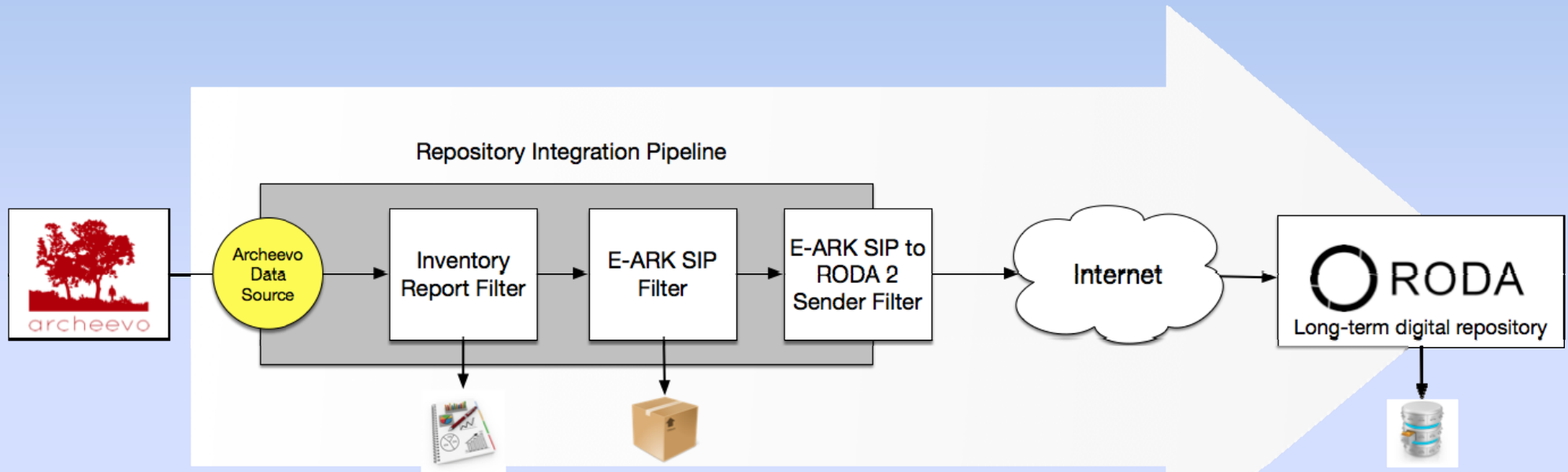


# Software components

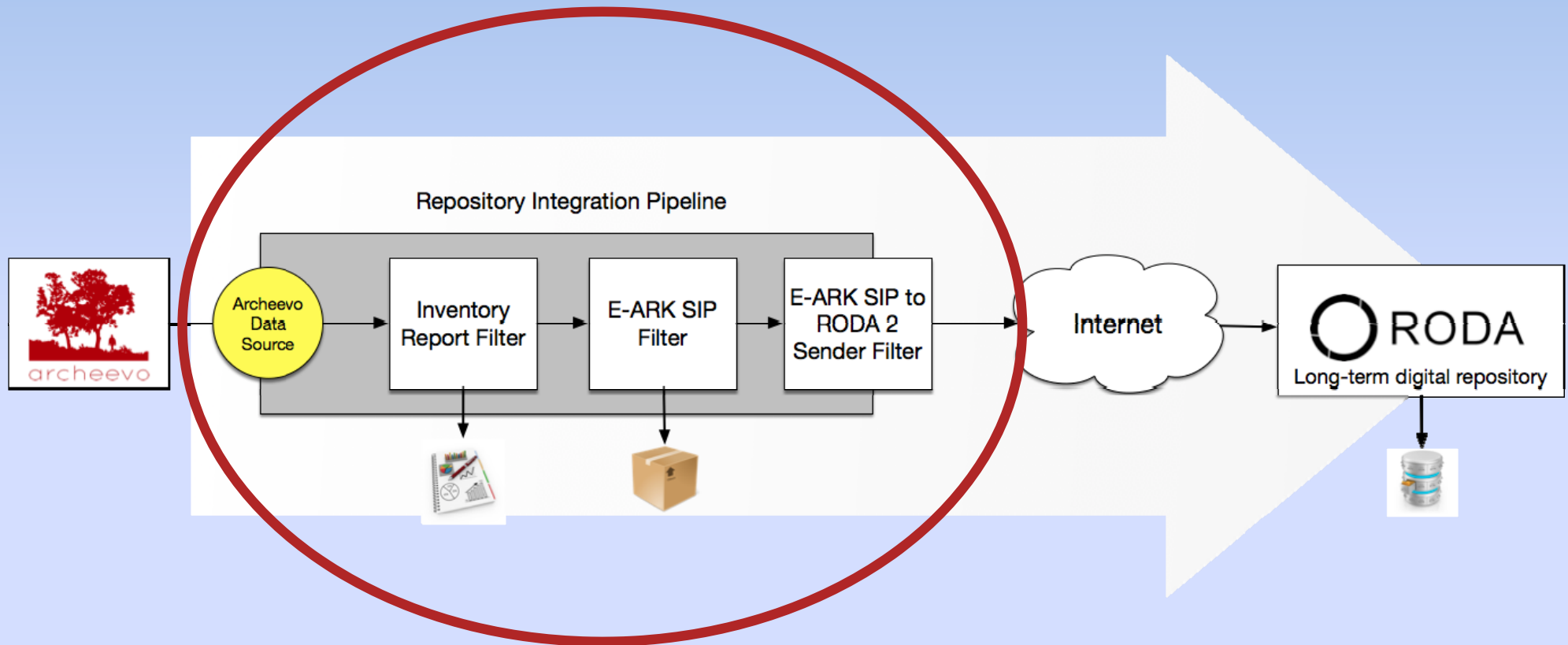
- Archeevo
  - **Archival Management** Software at the data provider
- RODA
  - Digital **preservation service**
- Repository Integration Pipeline
  - **Application** that runs a **sequence of tasks** that transform data from one repository system to another



# Repository Integration Pipeline



# Repository Integration Pipeline





E-ARK is a multinational big data research project that aims to improve the methods and technologies of digital archiving, in order to achieve consistency on a Europe-wide scale

# Coleção de Fontes Locais das Linhas de Torres Vedras

65c907a8-1a82-4090-b804-839c9add2ce1  
173037

[/](#) [Collection](#) Coleção de Fontes Locais das Linhas de Torres Vedras

[Encoded Archival Description 2002](#) 

## Identity

Reference code

PT/AMM/CFLLTV

Title

Coleção de Fontes Locais das Linhas de Torres Vedras

Initial date

1778

Final date

1834

Descriptive date

1778/1834

Country code

PT



## Archival package


NEW 

MOVE 

PERMISSIONS 

REMOVE 

## Preservation


START NEW PROCESS 

EVENTS 

RISKS 

LOGS 

## Download

ARCHIVAL PACKAGE 

SCHEMAS 

## Search

IN THIS CONTEXT 





# Search

In this page you can search for Intellectual Entities, Representations or Files (use the down arrow to select the search domain). For each one of these domains you can search in all its properties or in specific properties (use the down arrow to expand the advanced search). For example, if you select Intellectual Entities, you can search in a specific field of the descriptive metadata, or find files of a certain format if the Files advanced search is selected.

The search engine locates only whole words. If you want to search for partial terms you should use the '\*' operator. For more information on the available search operators, take a look at the [help page](#).

<input type="checkbox"/>	▼ Id	Original	Type	Size	Files	Documentation	Schemas
<input type="checkbox"/>	PTAMMCFLLVTTPT V048	original	MIXED	384 MB	16 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V047	original	MIXED	2.7 GB	96 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V046	original	MIXED	349.6 MB	12 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V045	original	MIXED	359.5 MB	12 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V044	original	MIXED	3.7 GB	131 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V043	original	MIXED	352.3 MB	14 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V042	original	MIXED	233.8 MB	8 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V041	original	MIXED	229.8 MB	8 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V040	original	MIXED	109.4 MB	4 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V039	original	MIXED	348.7 MB	12 files	0 files	0 files
<input type="checkbox"/>	PTAMMCFLLVTTPT V038	original	MIXED	160.2 MB	6 files	0 files	0 files





E-ARK is a multinational big data research project that aims to improve the methods and technologies of digital archiving, in order to achieve consistency on a Europe-wide scale

Search files...

Há-se servir para o lançamento do Novo Imposto desta Vila e seu Termo do presente ano. Vai numerado e rubricado por mim. Mafra, 19 de Janeiro de 1818. José Roque Soares de Albergaria Monteiro. / Original (MIXED) / PT-AMM-CFLLTV-TT-PTV-048\_m0016.TIF

- [PT-AMM-CFLLTV-TT-PTV-048\\_m0016.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0015.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0014.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0013.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0012.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0011.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0010.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0009.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0008.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0007.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0006.TIF](#)
- [PT-AMM-CFLLTV-TT-PTV-048\\_m0005.TIF](#)



File preview not supported

[DOWNLOAD](#)

## Details

**Filename**  
PT-AMM-CFLLTV-TT-PTV-048\_m0016.TIF

**Size**  
26.3 MB

**Mimetype**  
image/tiff

**Format**  
Tagged Image File Format

**PRONOM**  
fmt/353

**Fixity**  
62AD4912F45BF7F4A375EC857D2985C29C1DABA275EEE470019438AD4CAF0F21 (SHA-256, RODA)  
C84F9D6E0BFF06A7B336CE4FAB633475 (MDS, RODA)

**Storage path**  
aip/ce4c1ed5-9f6e-4566-96bf-556290d3d286/representation/s/PTAMMCFLLTVTTPTV048/data/PT-AMM-CFLLTV-TT-PTV-048\_m0016.TIF



# Results

- 100% of the records were **successfully transferred** and ingested
- Extraction, SIP creation and **transfer** took **1,5 weeks** (including retries)
- Ingest took **27,5 hours**
- Completeness was checked by comparing **Inventory Reports** produced at both ends of the pipeline



# Results

- Users can now **search records** on preservation service
  - Descriptive metadata
  - Technical metadata
- **Download** representations
- Perform **preservation actions**
  - With PREMIS events
- Manage **risks**
- **Create dissemination derivatives**
  - for special designated communities



# Pilot 7

## Access to Databases

József Mizsei, Zoltán Lux  
National Archives of Hungary





<b>Dataset 1</b>	<b>Hungarian Prosecution Office database</b>
Description	Old (not normalized) database in CSV exports of DBASE files.
Data type	CSV files
Metadata format	none
Quantity	more then 300.000 cases and 500.000 name. (1,6 GB)
<b>Dataset 2</b>	<b>Scanned meeting minutes of the Central Committee of the Hungarian Socialist Party</b>
Description	Scanned documents in file systems in PDF file and corresponding metadata (EAD)
Data type	PDF/JPG files (representations)
Metadata format	EAD
Quantity	123.225 files. (101 GB)



# 5 Scenarios

2 ingest

3 access





# Scenario 1

BÜRKE  
RODA-in  
DBPTK



# Scenario 1 - BÜRKE

- Data from Hungarian Prosecution Office - from DBASE database
- Load data to Oracle server
- Create SIARD files
- SIARD to SIP
- SIP to Preservica & E-ARK WEB



# Scenario 2

PDF to E-ARK SIP by RODA-in

PDF to NAH SIPs by Elev SIP  
készítő or XIP Creator by Poliphon

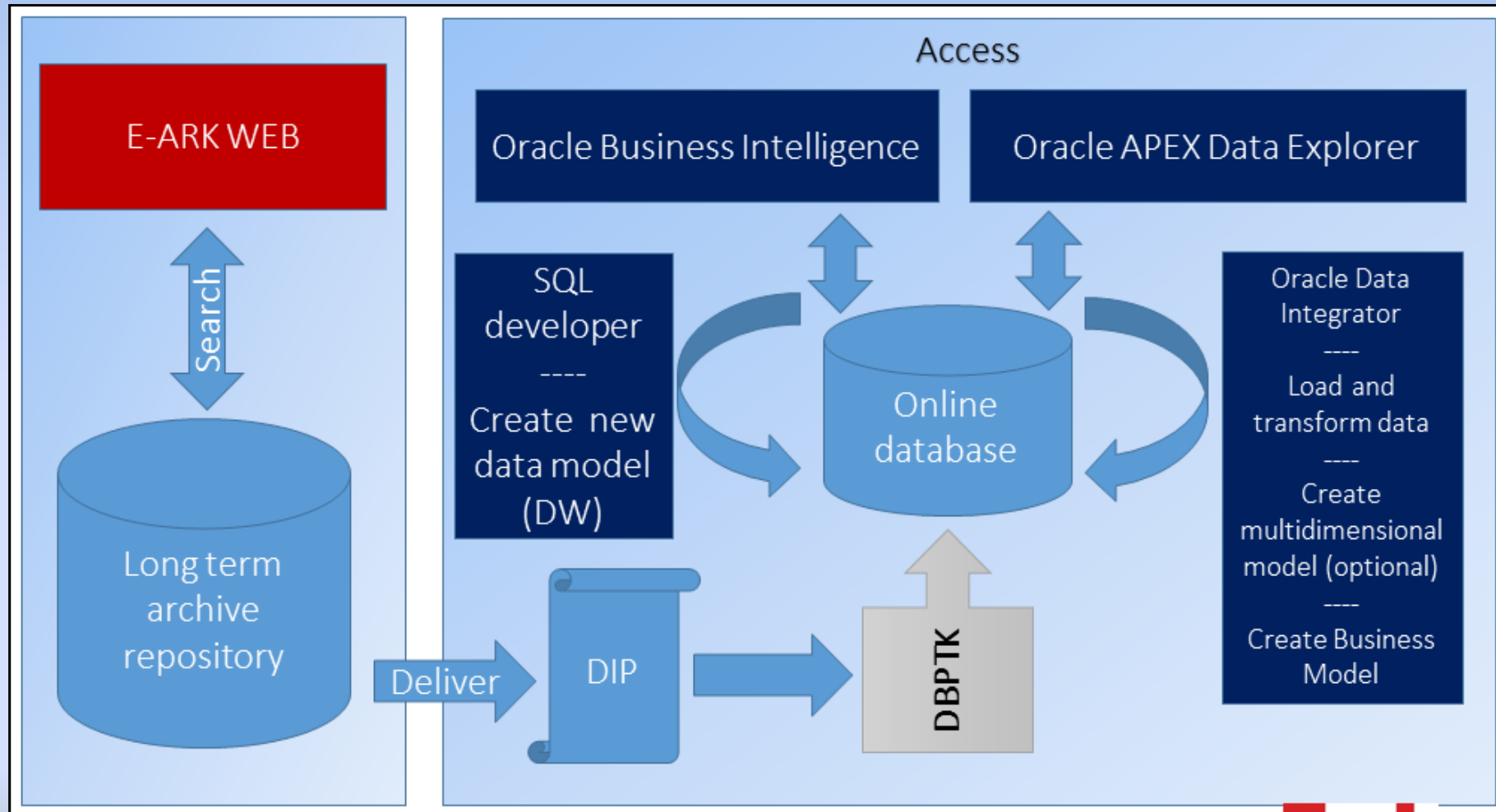


# Scenario 2

- SIP from PDF files with E-ARK SIP creator (RODA-in)
  - Load into E-ARK WEB
- Create SIPs from PDF files with our SIP or XIP creator
  - Load into our SDB

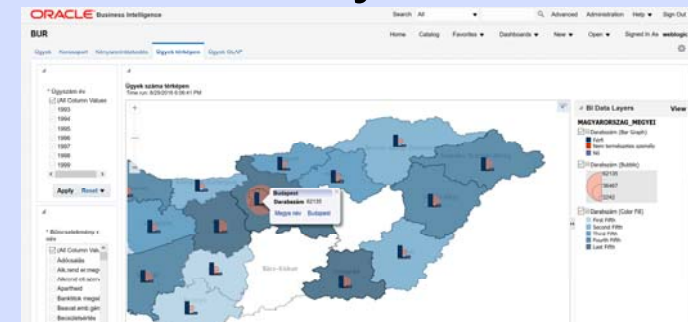


# Scenario 3-4



# Scenario 3 - access

- Access database information of the Hungarian Prosecution Office in SIARD format using Oracle APEX and Oracle Business Intelligence.
  - Relational database archived as SIARD package in SDB (SIARD 1.0) and in E-ARK Webe (SIARD 2.0)
  - Load SIARD package into a live database by DPTK
  - Transform data (ODI, OWB)
  - Create multidimensional model
  - Create business model
  - Present it by OBI
  - Present it by Oracle APEX (Data Explorer Interactive Report)



The screenshot shows the Oracle APEX Data Explorer Interactive Report interface. The report is titled 'Ügyek' and is an interactive report. The table below shows the data:

Ugy Id	Audit Id	Ugyeszeg Id	Eloado Id	Buncsakmeny Id	Intezkedes G Id	Intezkedes H Id	Ugyzam Ev	Ugyzam	Btk Verzio	Ki
4012805	1	318674	104296	605248	104261	-	1996	276	1	
4012806	1	318674	104342	605276	104261	-	1996	58	1	
4012807	1	318674	104322	605101	104261	-	1996	802	1	
4012808	1	318674	104333	605067	104261	-	1996	800	1	



# Scenario 4 - access

- Access database information of the Hungarian Prosecution Office in SIARD format using HADOOP based search and present it by E-ARK access tools.
  - IP Viewer
  - Data Visualization Toolkit



# Scenario 5

Access information from  
unstructured files - access





# Scenario 5 - access

- DIPs can be created
- AIPs can be found by OCR text



## SIP to AIP conversion

The AIP – as defined in the [OAIS reference model](#) – is an information package used to transmit and/or store archival objects within a digital repository. An AIP contains both, structural and descriptive metadata about the content, as well as the actual content itself.

The SIP to AIP conversion is a set of tasks that can be performed to convert an E-ARK SIP to an E-ARK AIP which both must comply with structural and metadata requirements defined by the E-ARK project.

### Active SIP to AIP conversion processes

The following table gives an overview about open SIP to AIP conversion processes. Each package has a package name which was provided in the first step of the SIP creation process and an internal process identifier (Process ID). The process identifier is also the name of the working directory where information package transformations take place (Working directory).

filter by identifier, packagename, or uuid

Package name	Process ID	Identifier	Last change	Last task	Outcome
danubeswabians	5e9e8b51-c5bb-4f98-9546-ce73ecfa88a9	cbdb495a-005a-44f8-a944-4b7574097ed7	01.12.2016 10:10:07	LilyHDFSUpload	Success ✔
HU_MNL_OL_M- KS_288-22_APO_1967_018_15906 - ID2aef9e9e-2a2b-4567- b9f7-aa768f126481	e97072c5-9401-4b46-bca0-713f28800cb1	urn:uuid:8f458c1c-ff09-4bb5- c9e3-8914116fde62	01.12.2016 10:08:58	LilyHDFSUpload	Warning ⚠
HU_MNL_OL_XX- 10-m_BUR_1997_2120 - ID1ac7249b-9e16-4d27- a0fc-0d8459e5066b	de1f6520-5948-4bbb-8ce4-312b44d78d3f	urn:uuid:cf7e3130-322a-4c18-8cd9- d57b61e65062	30.11.2016 12:29:59	LilyHDFSUpload	Success ✔
HU_MNL_OL_M- KS_288-22_APO_1960_009_13312 - ID743b874d- cf25-4048-8e86-2bdc0a790343	8046b564-3b8a-4e9c-9257-e52e4885f29e	urn:uuid:682187fb-cb66-4acb- aa50-d8eb7e6a5137	17.11.2016 13:48:08	LilyHDFSUpload	Success ✔
HU_MNL_OL_M- KS_288-22_APO_1960_009_13305	79be1c5a-373a-4374-b03d-f55b4e1bfcf6	urn:uuid:eeaab640-8da6-4866- b144-dedef67b274a	17.11.2016 13:47:16	LilyHDFSUpload	Success ✔



Felépítés		Szinkronizálás		Eszközök	Megtekintés	↓	↑	Manifesztáció	
#	Név	Leírás	Méret	Típus					
▶	MNL_teszt								
▶	[000100] MNL Magyar Nemzeti Levéltár								
	[000004] MNL Országos Levéltár iratairól készült digitális másolatok	undefined		Gyűjtemény					
	[001024] Magyar kancelláriai levéltár (A szekció)	undefined		Gyűjtemény					
	[001536] Helytartótanácsi Levéltár (C szekció)	undefined		Gyűjtemény					
	[002048] Magyar Kincstári Levéltárak (E szekció)	undefined		Gyűjtemény					
	[002560] A Thököly- és Rákóczi-szabadságharc levéltára (G szekció)	undefined		Gyűjtemény					
	[002564] Az 1848/1849-i minisztériumi levéltár (H szekció)	undefined		Gyűjtemény					
	[002568] Polgári kori kormányhatósági levéltárak (K szekció)	undefined		Gyűjtemény					
	[002572] A Magyar Dolgozók Pártja és a Magyar Szocialista Munkáspárt	undefined		Gyűjtemény					

Szűrés    Keletkezett fájlok mutatása  Gyermekek 1 of 1 1-29 of 29



Név: [000004] MNL Országos Levéltár iratairól készült digitális másolatok  
 Gyűjteménykód: undefined  
 Type: Gyűjtemény Méret: Hivatkozás: MNL\_4101642



# QUESTIONS?

