

PROHUB - Protecting Oral Histories Using Blockchain and the NIOD

Victor-Jan Vos,
Head of Collections and Services

NIOD Institute for War, Holocaust and
Genocidestudies, Amsterdam, The Netherlands

v.vos@niod.knaw.nl

niod

instituut voor
oorlogs-, holocaust-
en genocidestudies



Co-financed
Facility of



Collections of the NIOD

400 archives about The Netherlands and World War II, holocaust, persecution etc. (about 4 km)

175,000 images of The Netherlands in World War II

1,800 war diaries

13 meters of letters and correspondence

on average 25 researchers per day

state archives as a loan of the Dutch National Archives





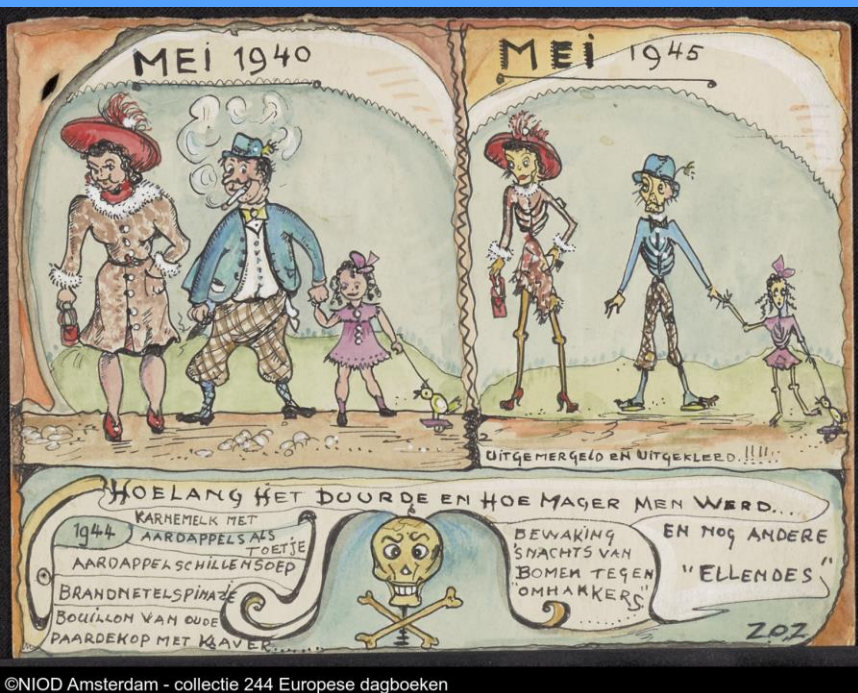
30

WOENSDAG



Engelsche confetti, uitgeworpen in den nacht van 29 op 30 April, boven Amsterdam.

stevig afgevoerd



©NIOD Amsterdam - collectie 244 Europese dagboeken

NIOD Collections contains sensitive personal data: religion, race, arrests, collaboration, convictions

Vrij dag. Alle mannen...
Zaterdag 16
Kaarten behaald
9 uur vergadering
bij burgemeester.
Ik uit op onduidelijk
adres. 10 uur beide
thuis op. Niemand ge-
londen. Een ommekeer
erden. Weer een dag
breed respijt.
Zondag 17
Lucht alarm. Rondvliegen
alleg hingen. Bommen
dachten Nyoma, Thermion
duidelijk met
beschieten van lucht
afweer. Landingen
van parachutisten.
Wonders bewijst dat de
Am. parash. in hotel
bouw en dal aeten. Kel.
de vrede gemaakt met
michaden en in de hel
de gelopen.
x Ruschillende meinden
die onduidelijk met heel
spijn: 7 middags al hem
hans raad weggevoerd of
kapotgevoerd.
maandag
7.10 eerste 4 Am.
parashutisten bevestigd
door med. agent, 4 km
hel. 100 collage onse

Auszug aus der Truppenstammrolle der 1/4 Waab. 3
(Truppenteil ufm.)
Einführungsjahr 1941 Tr. St. N. Nr. 46
Wehrnummer: 1141
1. Dienstgrad: 64. Gfm.
2. Familienname: Kerkels
3. Vornamen: Rocus
4. Geburtstag und -ort: 6. 4. 1909 Rotterdam
5. Religiöses Bekenntnis: Ned. Herv.
6. Familienstand: Verk. 2 Kinder
7. Anschrift der nächsten Angehörigen: Cornelia Aleida van Rangetrooy
Amersfoort Getimmelpennickstr. 28
8. Beruf: Kraftfahrer
9. Zugang am: 25. 11. 41
von: Amsterdam
10. Diensteintritt: 25. 11. 41
(tatsächlicher Einsetzungstag)
11. Verpflichtungsdauer: auf Lebenszeit
12. Ernennungen und Beförderungen
Dienstgrad: Gfm. R.Hf.
am: 25. 11. 41 / 1. 10. 44
13. Strafen: Keine
14. Führung: Gut
15. Abgang: Vernehmung
(Anlassung, Verlegung ufm.) am: 1. 10. 44 nach: S. N.
Grund: Pst. Bef. 22/44
(Datum und Nr. d. Verfügung) oide Hoff 4
16. Zuständige Wehrerfahrdienststelle: 44. Bn. Hlo. W.Hl.
17. DB liegt — nicht — vor:

©NIOD Amsterdam archief 077 HSSPF



Access control

The majority of the collections is access controlled: only for research or personal reasons archives can be consulted.

No photography is allowed, digitisation only for personal use.

Some restrictions disappear in 2025; concern for privacy stays!

Databases for improved access to facilitate users, for internal use only

A lot of documents and datasets therefore cannot be shown online, even though they are digitised.



Four types of access restrictions

- Dutch Archival Law (Archiefwet)
- GDPR
- Copyright
- Contractual agreements with donors



So, how can we control, check and restrict access to and use of digital and digitised documents?



Collections

- Diary archives 2000 diaries, 37.4 meters and 35 meter digitised
- 15 meter of personal accounts in archives about concentration camps and prisons in and outside of The Netherlands
- Ravensbrück Concentration camp: testimonies, minutes etc. 1.6 meter



ACTIONS	PUBLIC	NOT PUBLIC					
		Soft restriction:			Hard restriction:		
	Open access	GDPR	NA policy	Copyright	GDPR	NA Policy	Copyright
Inspection of scan in secured system	Allowed	Allowed after signing an archive-declaration	Allowed after signing an archive-declaration	Allowed	Allowed after one is granted permission	Allowed after one is granted permission	Allowed after one is granted permission
Reproduction Download Share re-use	Allowed provided that this complies with the general GDPR regulations. Responsibility for the researcher.	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed
Privatecopy homecopy	Allowed	Not allowed	Not allowed	Allowed under specific conditions	Not allowed	Not allowed	allowed
Quotation-right	Allowed	Allowed under specific conditions	Allowed under specific conditions	Allowed under specific conditions	Allowed under specific conditions	Allowed	Allowed



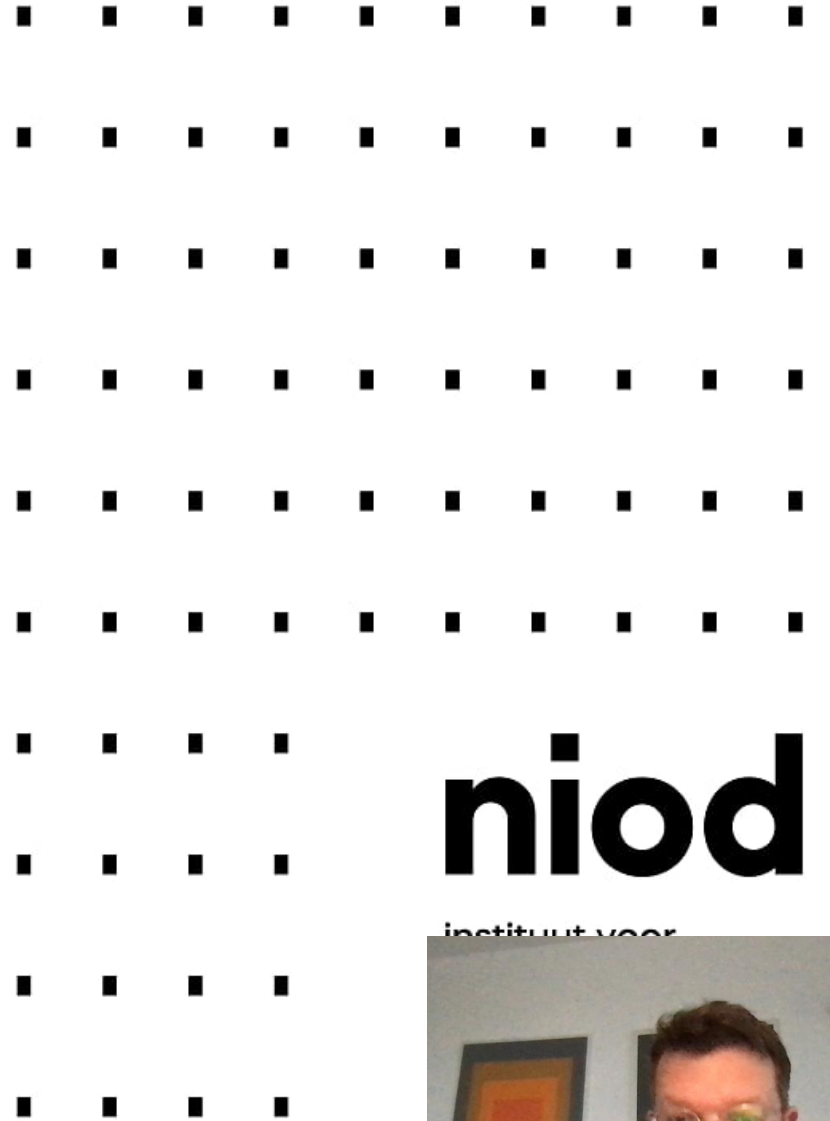
Thank you!

Victor-Jan Vos
Head of Collections and Services
NIOD Institute for War, Holocaust
and Genocide Studies
Amsterdam

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Co-financed by the Connecting Europe
Facility of the European Union



PROHUB

Protecting Oral Histories Using Blockchain

Recording, 09.01.2023

This project has received funding from the Connecting Europe Facility
(CEF) Telecom programme by the 2020-EU-IA-0185 eArchiving grant



OVERVIEW

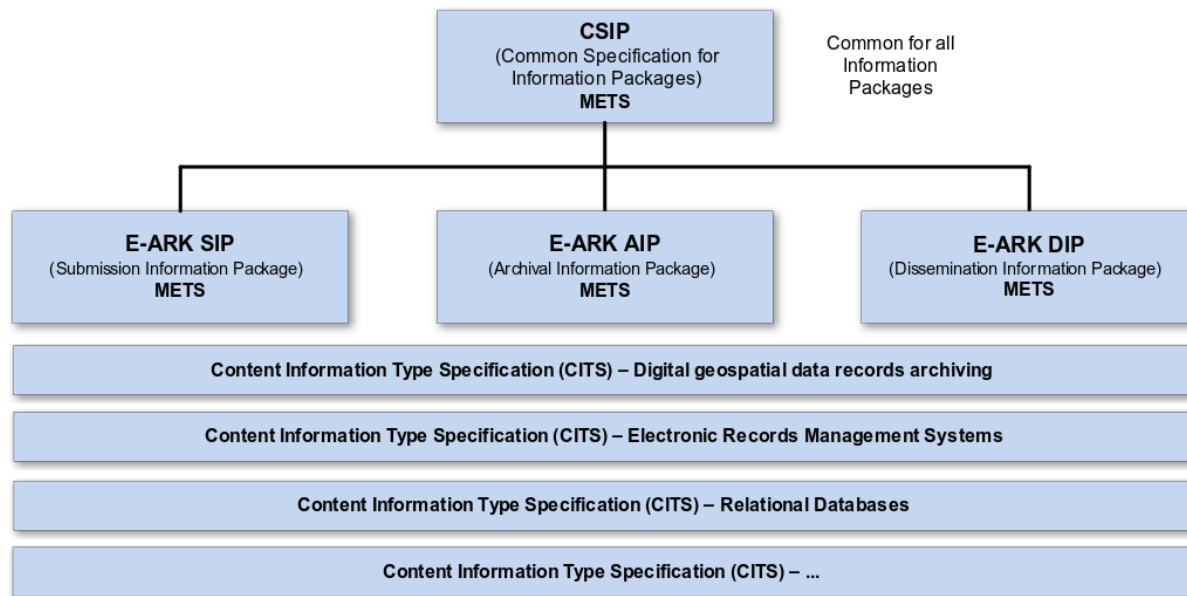
- Concept, Principles, and Use Case
- Stakeholder and Collections
- eArchiving Use Case
- Managing and Persisting Resource Access Information
- Blockchain-verifiable Resource Access Metadata



E-ARK STANDARDS & EUROPEAN BLOCKCHAIN SERVICE INFRASTRUCTURE



eArchiving (E-ARK Standards)



European Blockchain Service Infrastructure



Cooperation & Synergies

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NIOD'S COLLECTIONS

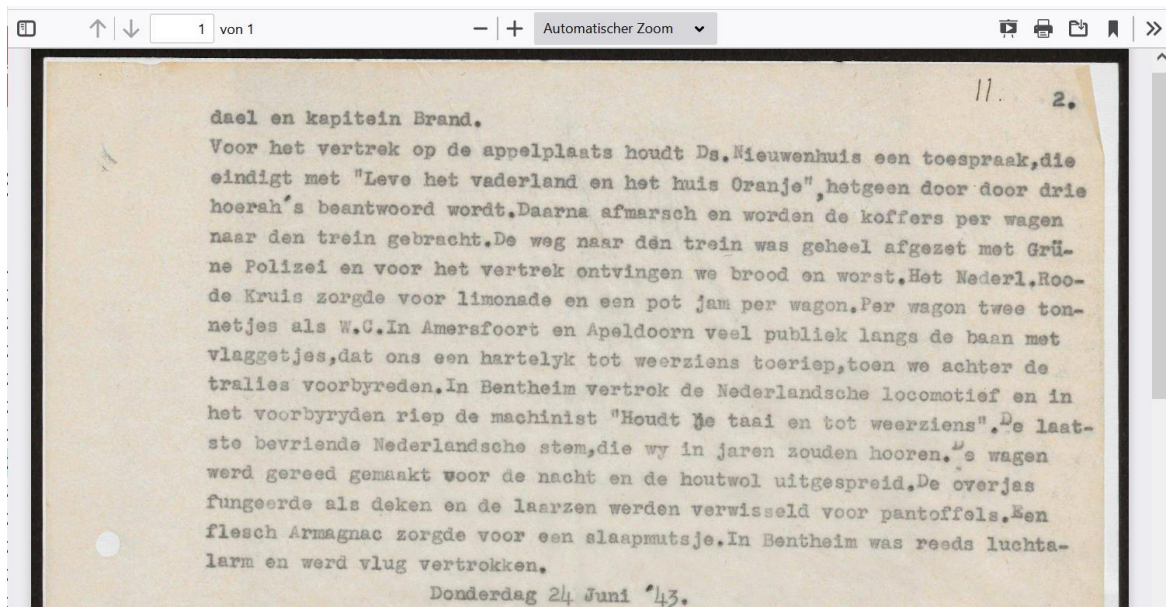
- The **NIOD Institute for War, Holocaust and Genocide Studies** provided several collections to test the concept of **E-ARK/EBSI based access** mechanisms.
 - Archive 244 European **Diaries and Egodocuments**
 - Diaries reporting stories of pain and loss, fear and hunger and moments of levity while facing greatest misery.
 - Archive 250D **Concentration Camps and Prisons**
 - Personal accounts of former prisoners of concentration camps.
 - Archive 250K **Concentration Camps outside the Netherlands.**
 - Records by private persons, interest groups of former inmates and organizations with the task to determine the fate of missing persons.
 - Archive 817 Ravensbrück **Women's Concentration Camp**
 - The collection includes personal Statements of former prisoners of Ravensbrück.



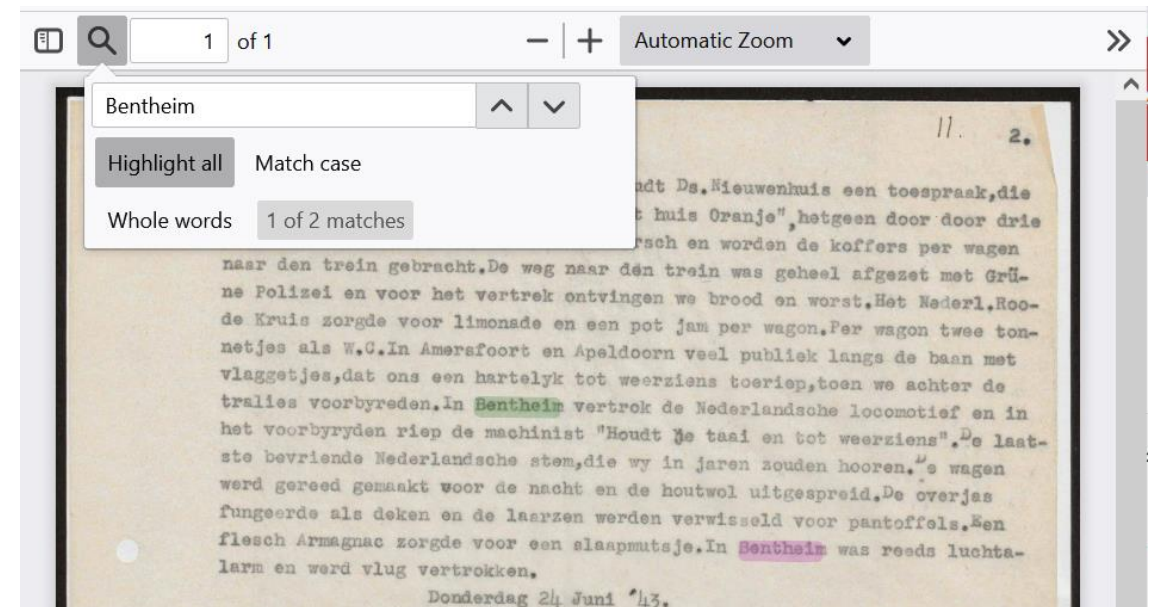
MASTER/DISSEMINATION REPRESENTATION



MASTER Image Representation



Searchable PDF Representation



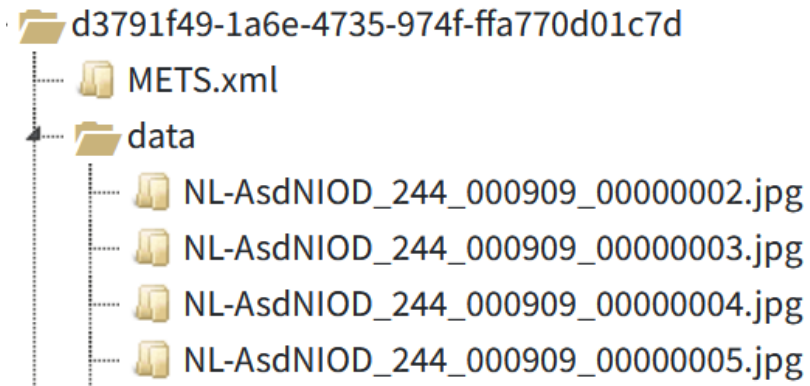
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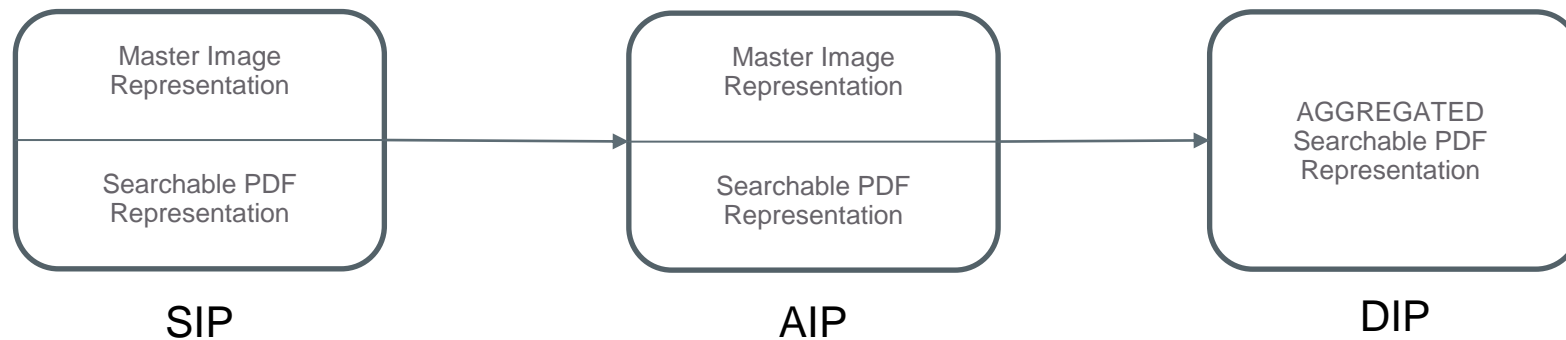
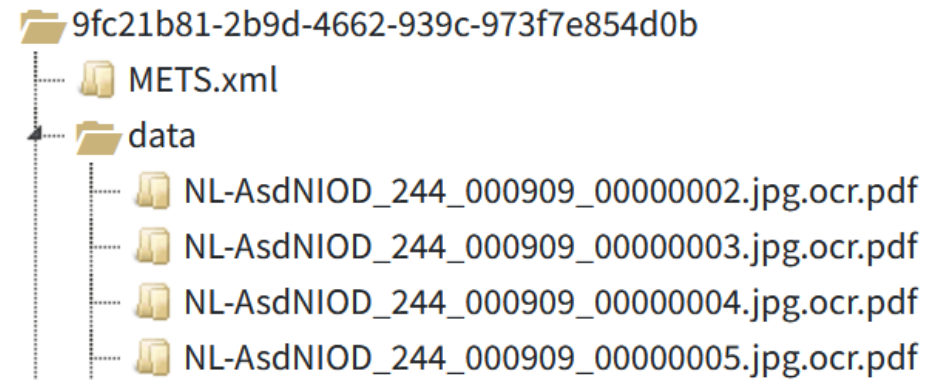
MASTER/DISSEMINATION REPRESENTATION



Master Image Representation



Searchable PDF Representation



E-ARK REPOSITORY REFERENCE IMPLEMENTATION



The screenshot shows a web browser window with the URL `prohub.ait.ac.at/earkweb/management/overview`. The page title is "Information package management" and the subtitle is "Archived information packages". There is a search bar with the placeholder text "Search for label, process id, or identifier". Below the search bar is a table with the following data:

Label	Working directory	Information package management	Version	Created	Change
NL-AsdNIOD_250d_01250	e9b31d00-a3f1-44a6-a052-2b8a8d6021ed	urn:uuid:973b6190-539e-4505-b209-7c6629f3d370	00001	01.03.2022 10:56:33	
NL-AsdNIOD_244_00909	2833cfae-9f14-4b9f-81e2-377949094784	urn:uuid:ffb201e1-8d79-4afe-840e-c998ef7faaa3	00002	28.02.2022 19:42:44	
NL-AsdNIOD_244_00920	e0f7ff38-9c39-4d43-8687-64a58aa28117	urn:uuid:8e55a1de-8139-4aef-8647-69c33e73c932	00001	28.02.2022 20:20:50	

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SEARCH



earkweb (en) x +

prohub.ait.ac.at/earkweb/access/search 90% ☆

Administration Information package creation Information package management Search & Access Language admin

Search & Access

Full-text search

Search term

Information package

Content type
odt
doc
html
pdf

Sort
Relevance

Content files only

Search

1 result found

urn:uuid:ffb201e1-8d79-4afe-840e-c998ef7faaa3 (v2, Mar 4, 2022, 12:29 PM)
urn+uuid+ffb201e1-8d79-4afe-840e-c998ef7faaa3_v00002_b00001/data 767
/representations/9fc21b81-2b9d-4662-939c-973f7e854d0b/data/NL-AsdNIOD_244_000909_00000012.jpg.ocr.pdf kB

Version 1.2 (31.10.2021)

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SEARCH

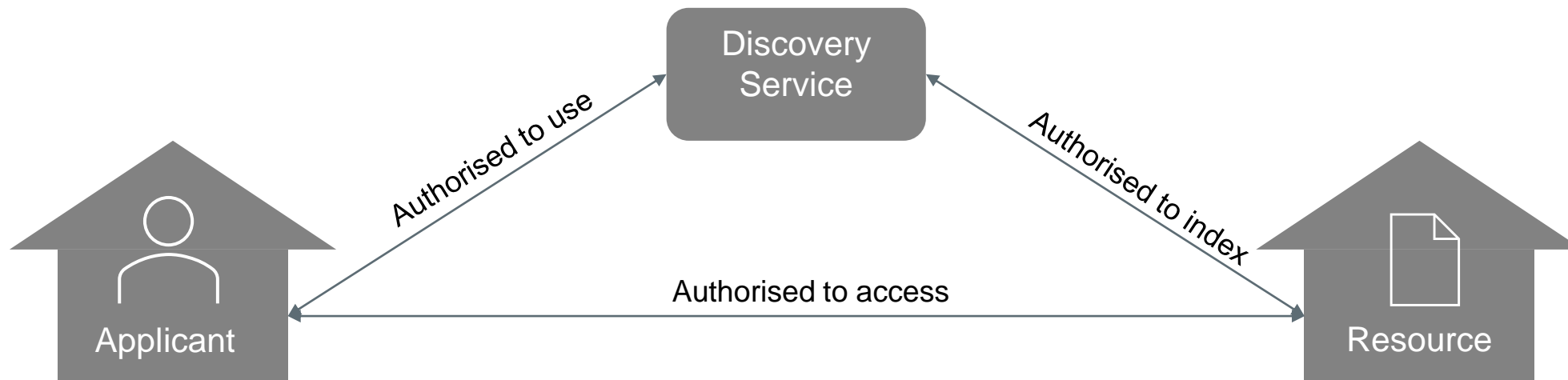


The screenshot displays the Prohub search interface. On the left, the 'Search & Access' sidebar includes a search term 'Bentheim', an information package identifier field, and content type filters for odt, doc, html, and pdf. The main search results area shows a list of results, with one result highlighted: '998ef7faaa3_v00002_b00001/data-2-939c-973f7e854d0b/data/NL-ocr.pdf'. A preview window is open over this result, showing a scanned document page with the word 'Bentheim' highlighted in red. The document text is in Dutch and discusses historical events related to Bentheim.

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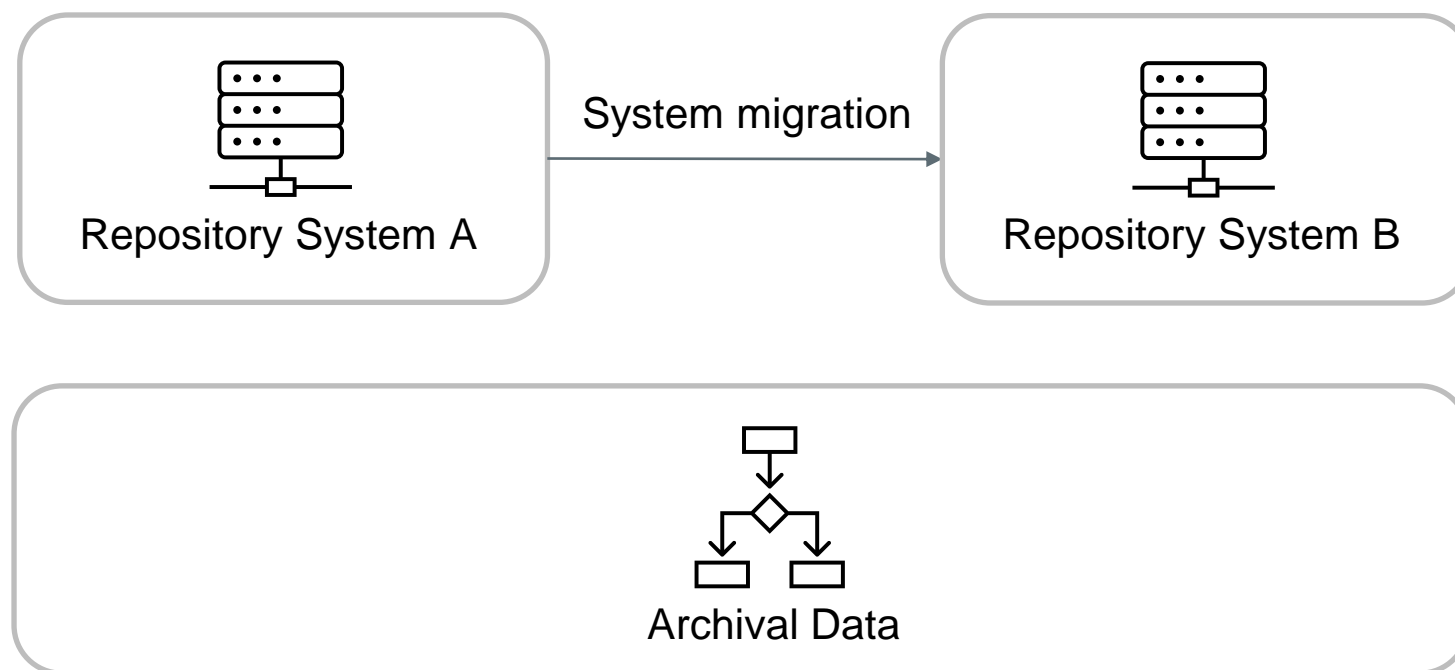


RESOURCE ACCESS AUTHORISATION



MOTIVATION

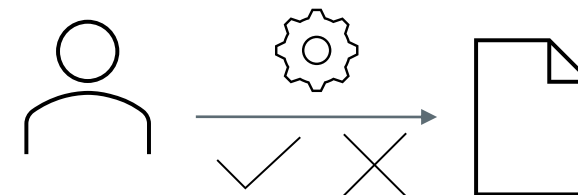
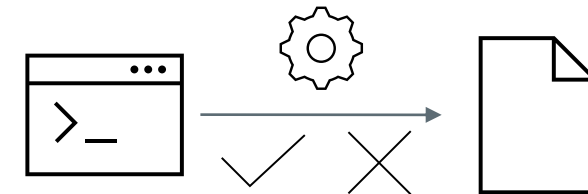
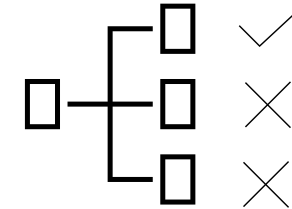
Why do we want to include authorisation metadata in the information package?



- *Problem:* Re-configuring authorization settings in a new system is labour-intensive and time-consuming.
- *Approach:* Authorization metadata and licenses remain valid after system migration – signatures, and licenses are interpreted by the new system

REQUIREMENTS

1. It must be possible to define *rights statements* on **information package, representation, or file level**.
2. It must be possible to define *rights statements* related to the application of **software agents** enabling information retrieval, such as Optical Character Recognition (OCR) or full-text indexing software, for example.
3. It must be possible to define *rights statements* regarding information **applicants**.



REQUIREMENT 1: OBJECT LEVELS



premis:object

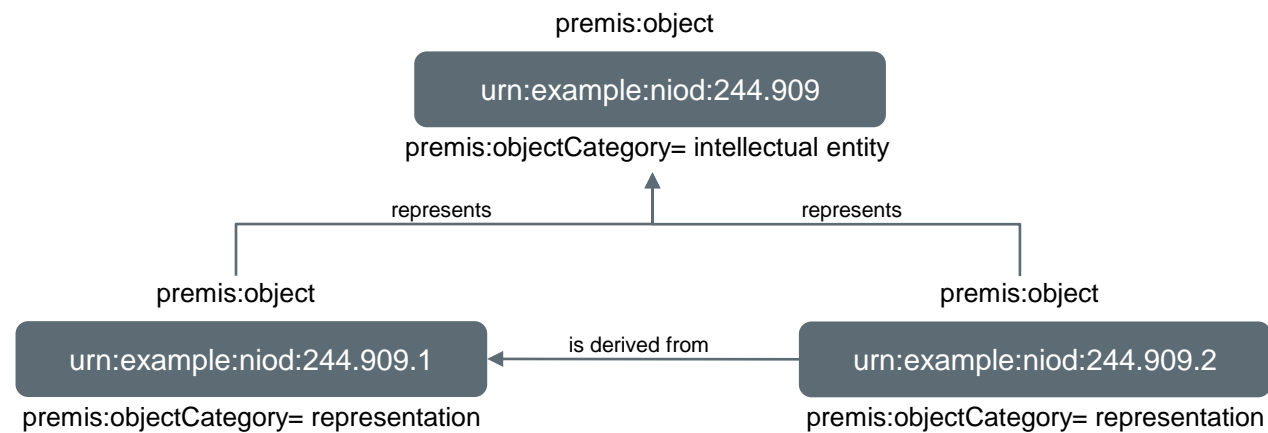
urn:example:niod:244.909

premis:objectCategory= intellectual entity

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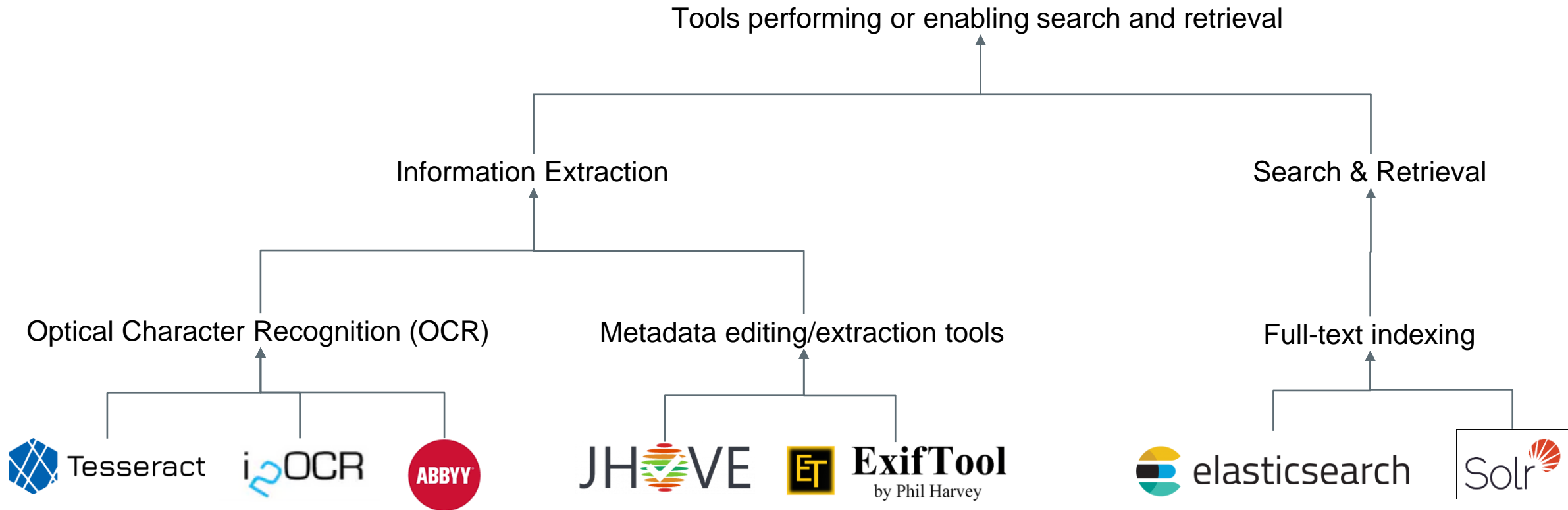
REQUIREMENT 1: OBJECT LEVELS



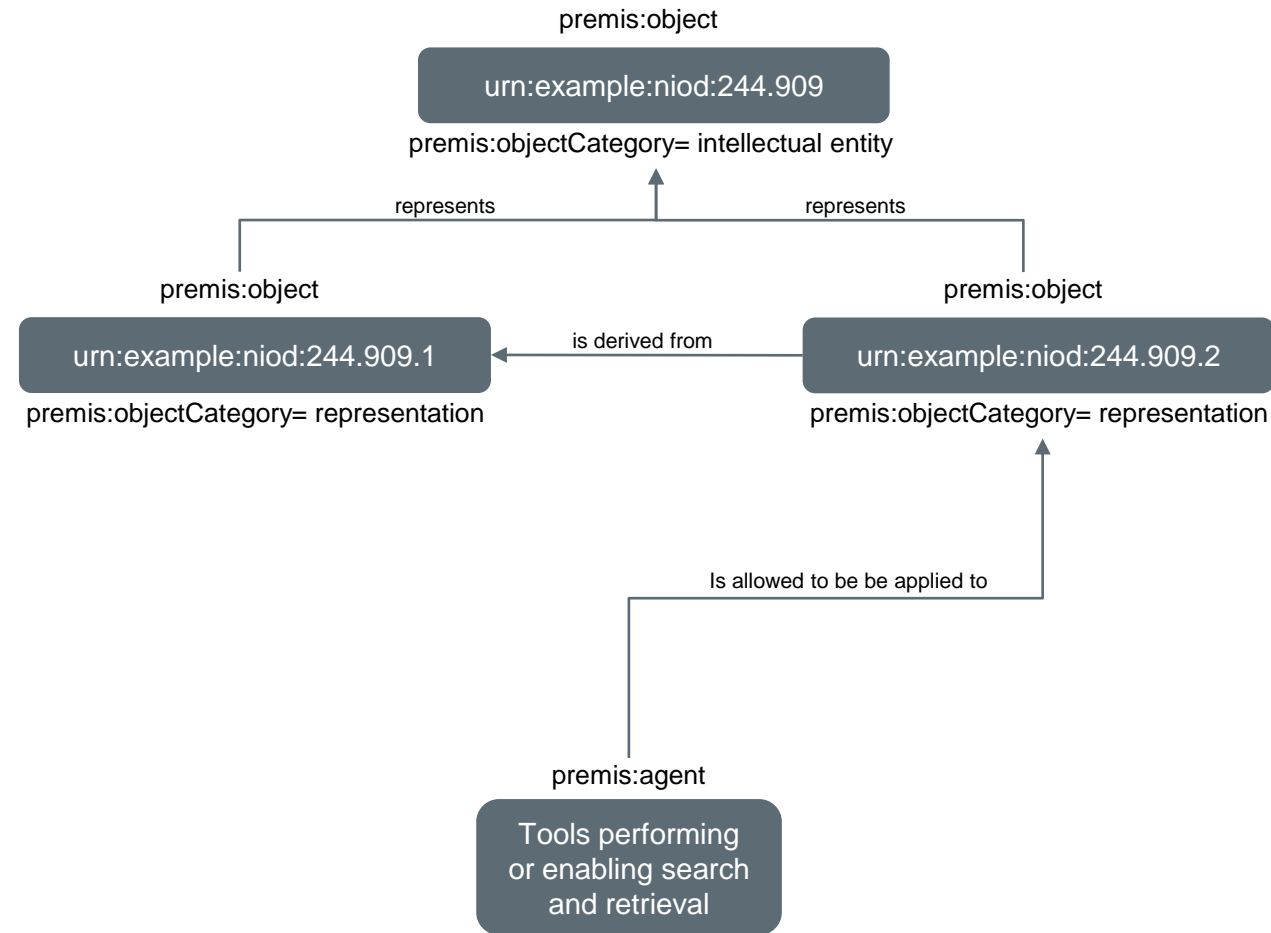
PREMIS Objects for the information package, representation, or file level can be defined and therefore rights statements can relate to the objects at these levels.

REQUIREMENT 2: SOFTWARE AGENTS

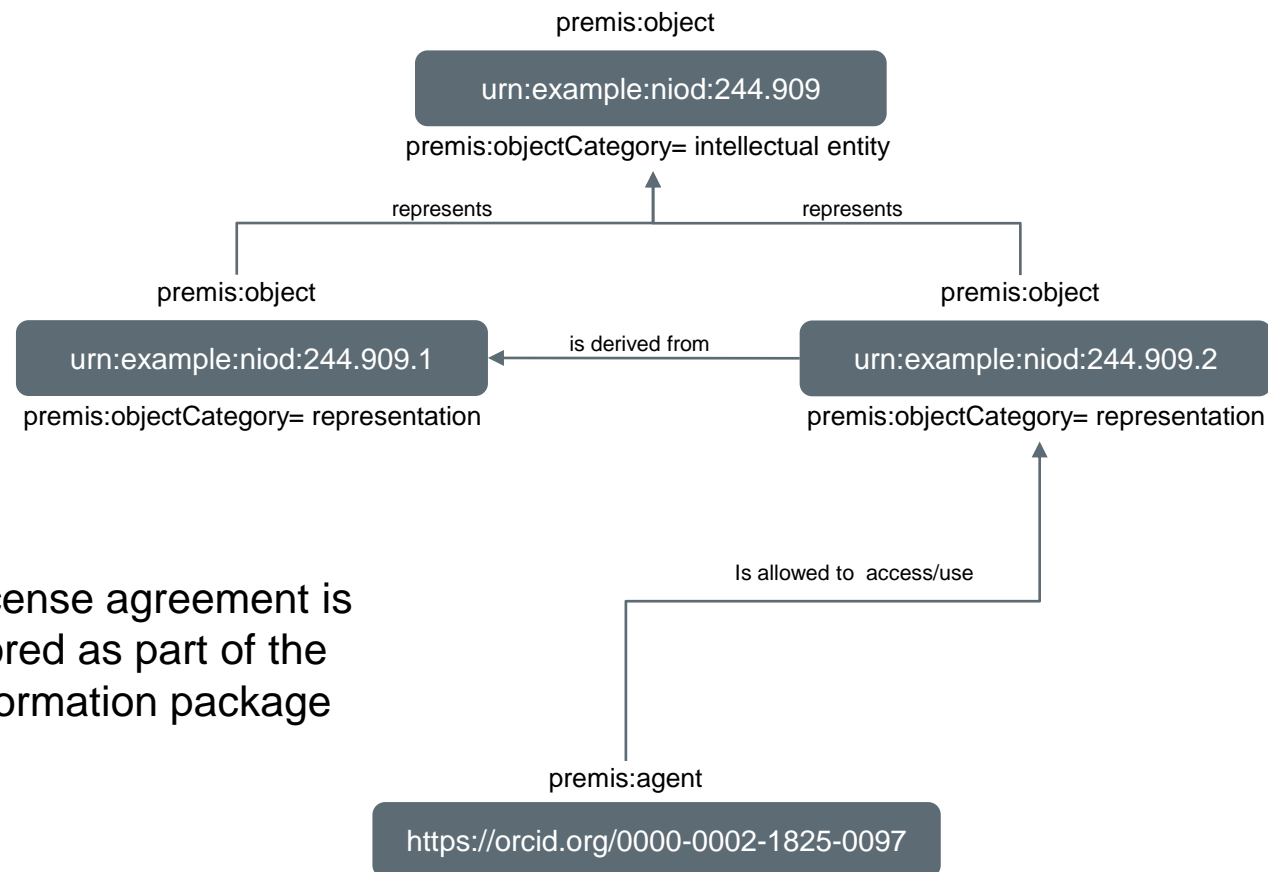
Tools performing or enabling search and retrieval

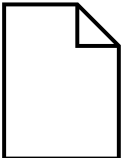


REQUIREMENT 2: SOFTWARE AGENTS



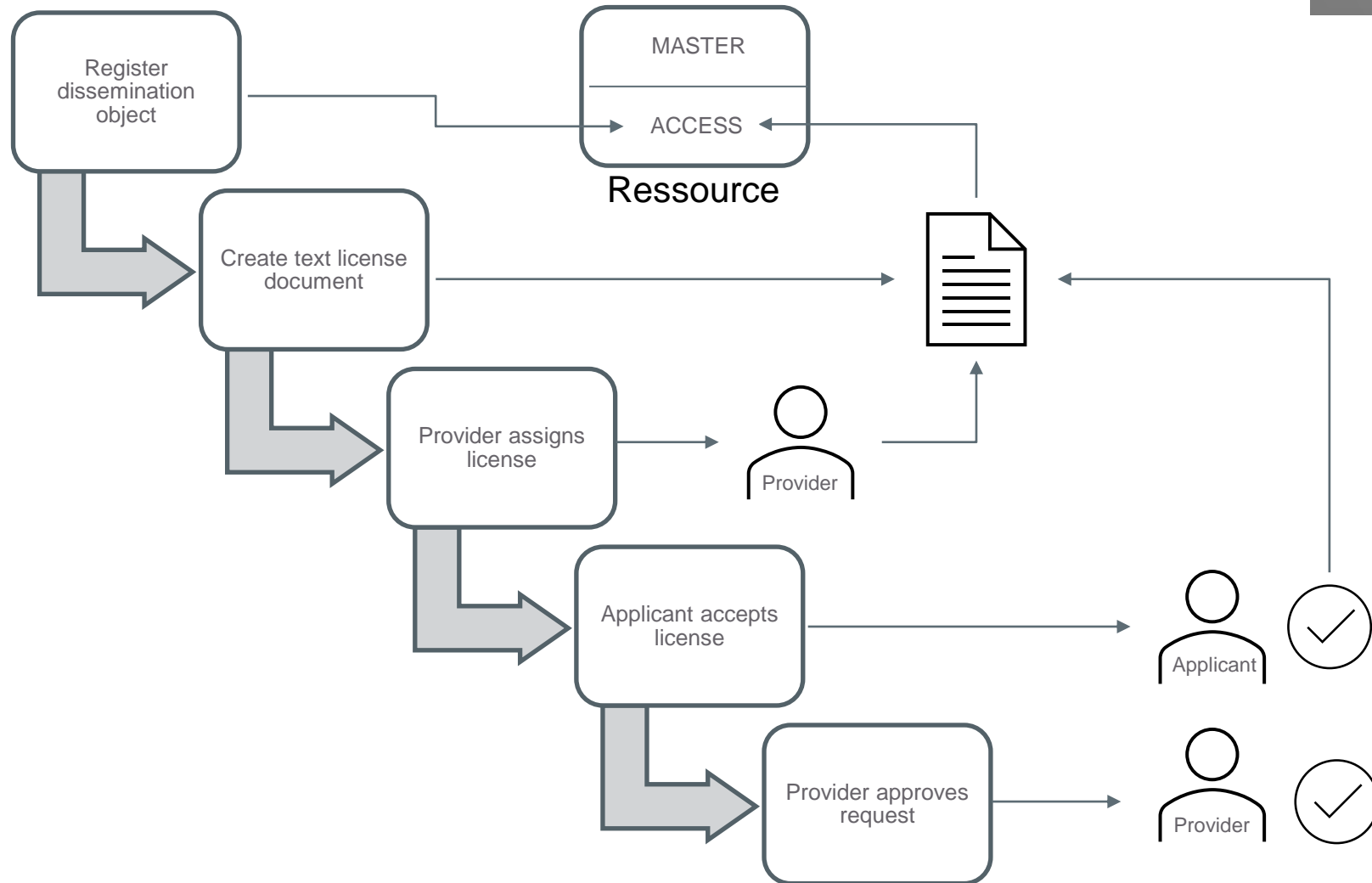
REQUIREMENT 3: APPLICANT



 License agreement is stored as part of the information package



BLOCKCHAIN OBJECT REGISTRATION AND LICENSE AGREEMENT PROCESS



EUROPEAN BLOCKCHAIN SERVICES INFRASTRUCTURE (EBSI)



What is EBSI?

The European Blockchain Services Infrastructure (EBSI) is a market-friendly distributed blockchain network based on open standards and transparent governance model.



Source: <https://ec.europa.eu/digital-building-blocks/wikis/display/EBSI/What+is+ebsi>

11/04/2023

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EBSI USE CASES



Identity

Diploma

Social security


Document traceability

(Coming soon)



Document traceability

The **Document traceability Use Case** aims to leverage blockchain to create trusted digital audit trails, automate compliance checks – for example in time-sensitive processes – and to prove data integrity. The intention is also to serve as generic registration and traceability capabilities for other EBSI Use cases.

Documentation 

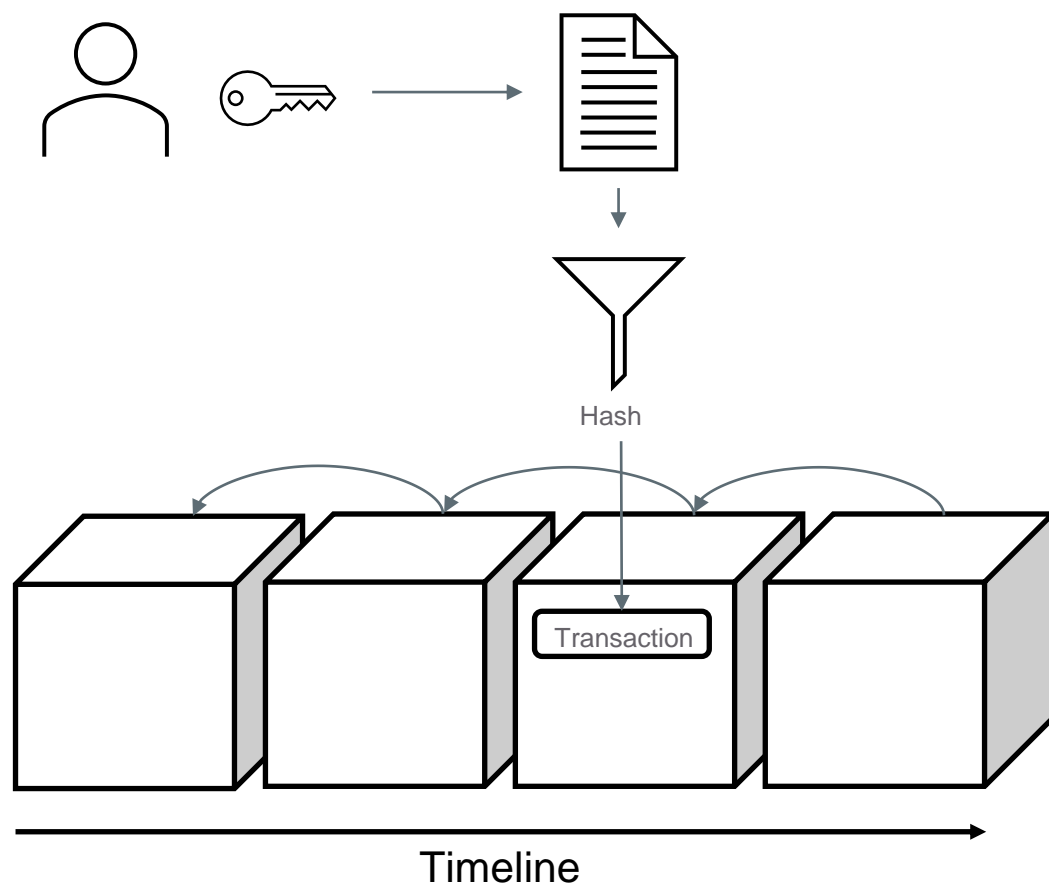
Source: <https://ec.europa.eu/digital-building-blocks/wikis/display/EBSI/Use+cases>

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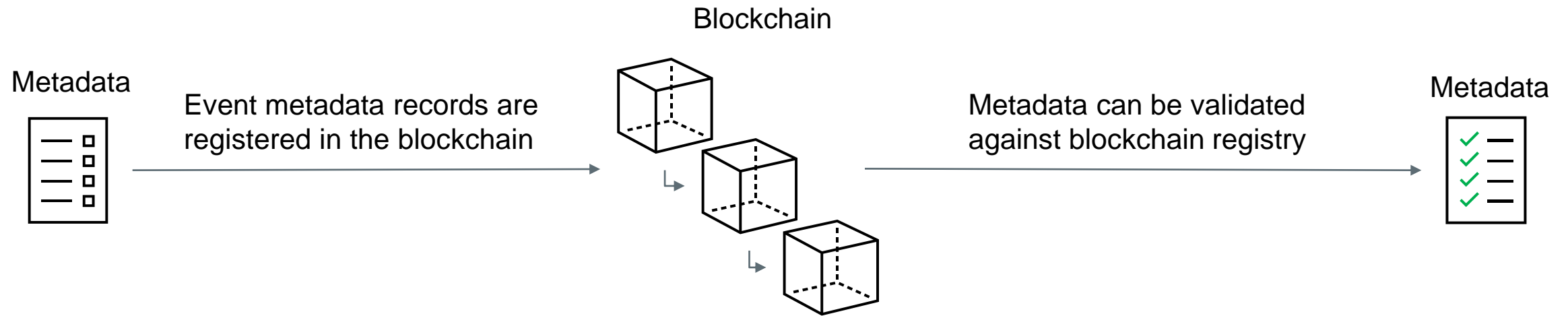
BLOCKCHAIN NOTARY



- Fingerprint (hash) of document(s) and optionally signatures is stored
 - impossible to derive the original document from the hash value only
- Transaction stores the hash value with a timestamp when it was performed
- The hash value may represent a single document or multiple documents
- Documents may be signed or hashed together with signature files
- Proof of existence and (optionally) proof of authenticity



BLOCKCHAIN BACKED METADATA



- Integrity and authenticity
 - Protection against manipulation
- } of resource access and authorization metadata



BENEFITS IN MANY ASPECTS



Security

Information security is enhanced by using blockchain-based **digital identity, authentication, and authorisation** mechanisms.



Transparency

The use of international, open, and widely adopted standards to record **restrictions and conditions for access and license agreement processes**



Accountability

Making sure that any **event of changing data or metadata** can be reported and explained in a trustworthy manner.



Authenticity

Making sure that **collection items** can be **clearly attributed**, while the **integrity** of the digital object is always guaranteed.



Cost effectiveness

By **using existing EU infrastructure and services**, technical means can be leveraged to build solutions in a very cost-effective manner.



THANK YOU!

<https://prohub.ait.ac.at>

