



KMSKA, artinflanders.be, Dominique Provost, public domain

The role of E-ARK in meemoo's ingest

10 years of E(-)ARKiving

Today's (story) arc

Who is meemoo?

A bit of context

Our search for a SIP

Introducing the 'meemoo SIP'

Ingest SIPs into our archive

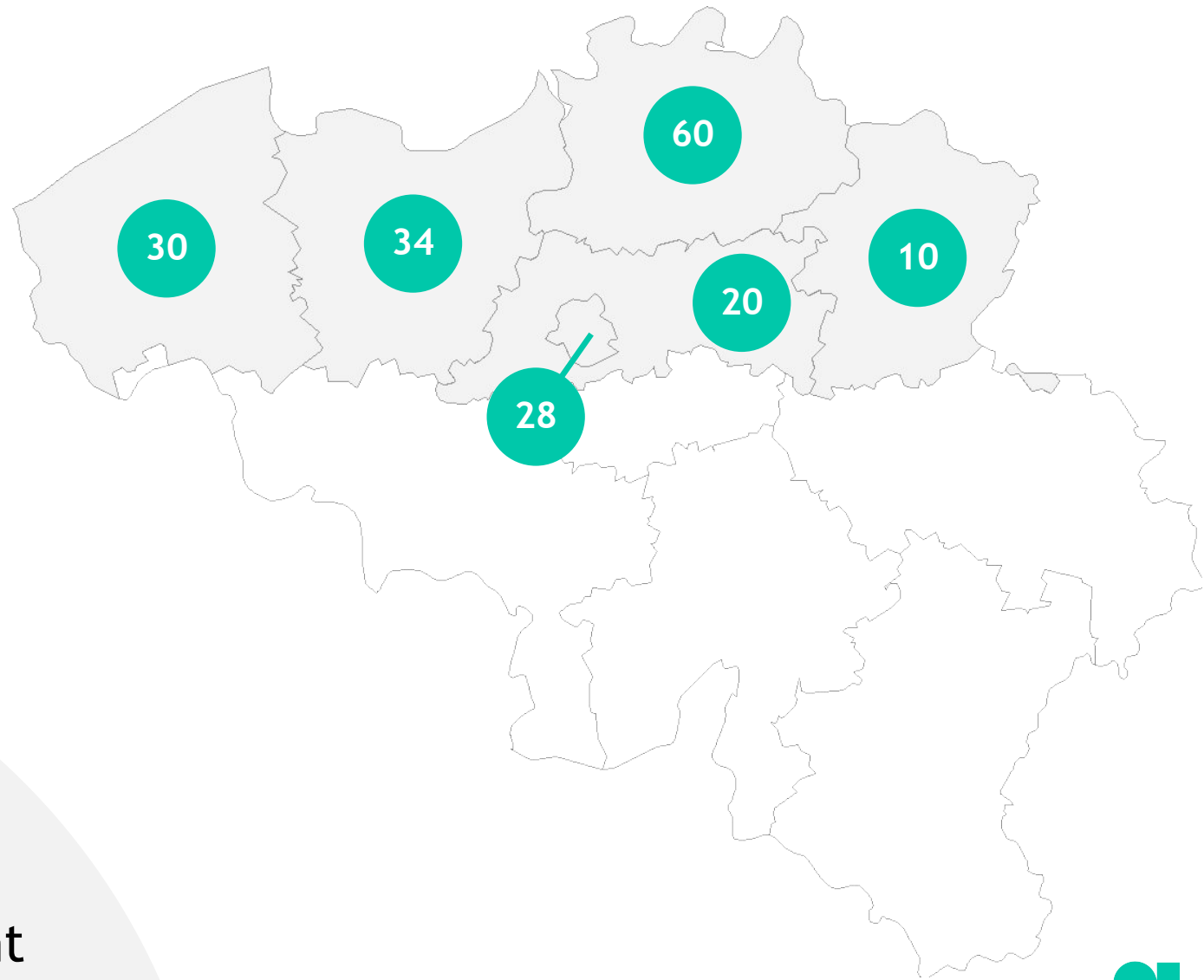
Lessons learned & way forward



meemoo's service provision

- **Digitisation, digital archiving and management of archival materials**
- **Make content accessible and usable**
- **Actively gather and share expertise on digital archive operations**
- **Advise on digital heritage processes**

Collaboration



182 content partners (CP) in culture, media and government

Content partners in different sectors



In figures



> 8 million
objects in our
archive system

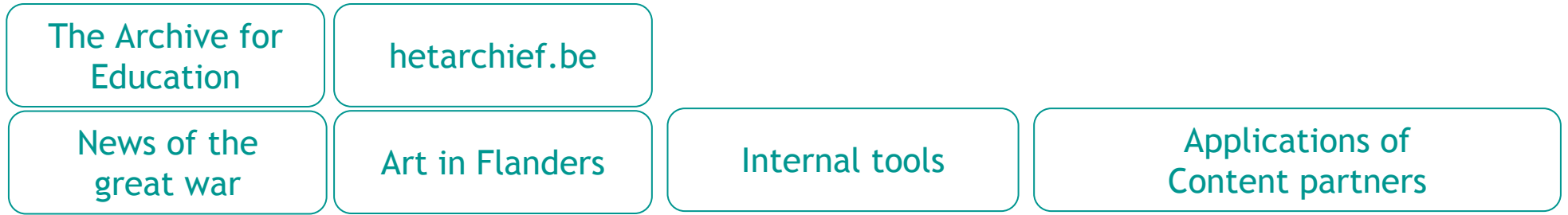


> 540,000
audiovisual carriers
transferred to our
archive system



nearly 185,000
user accounts at The Archive for
Education at end of 2022-2023
academic year

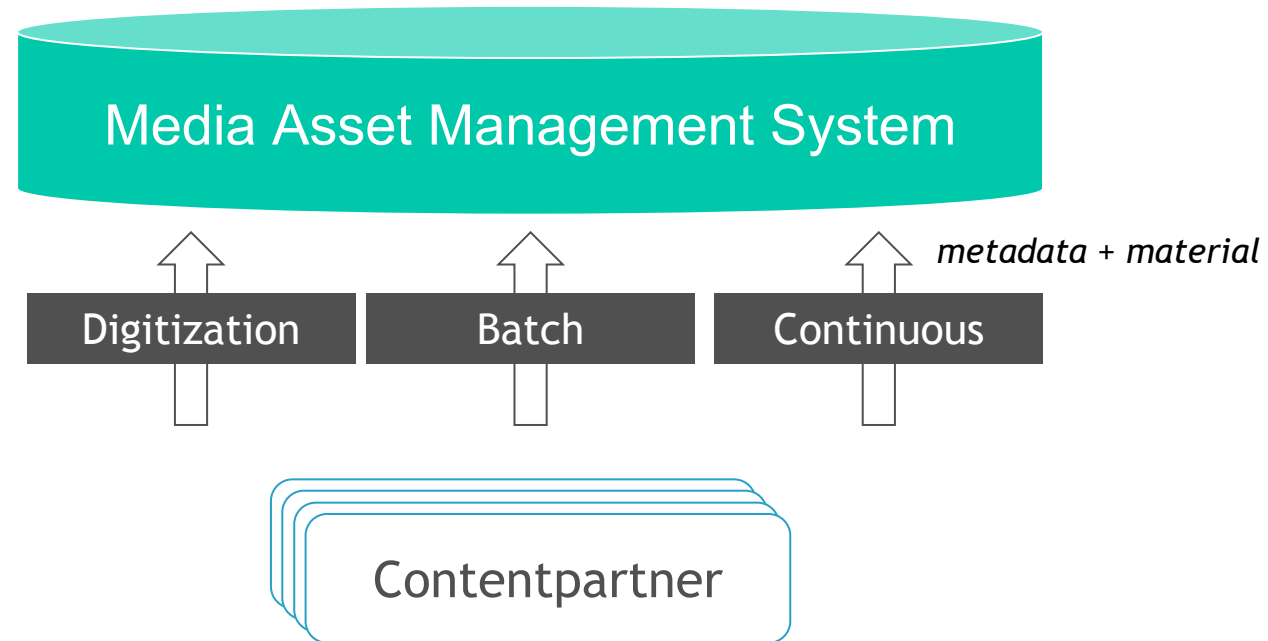
Interaction



Integration

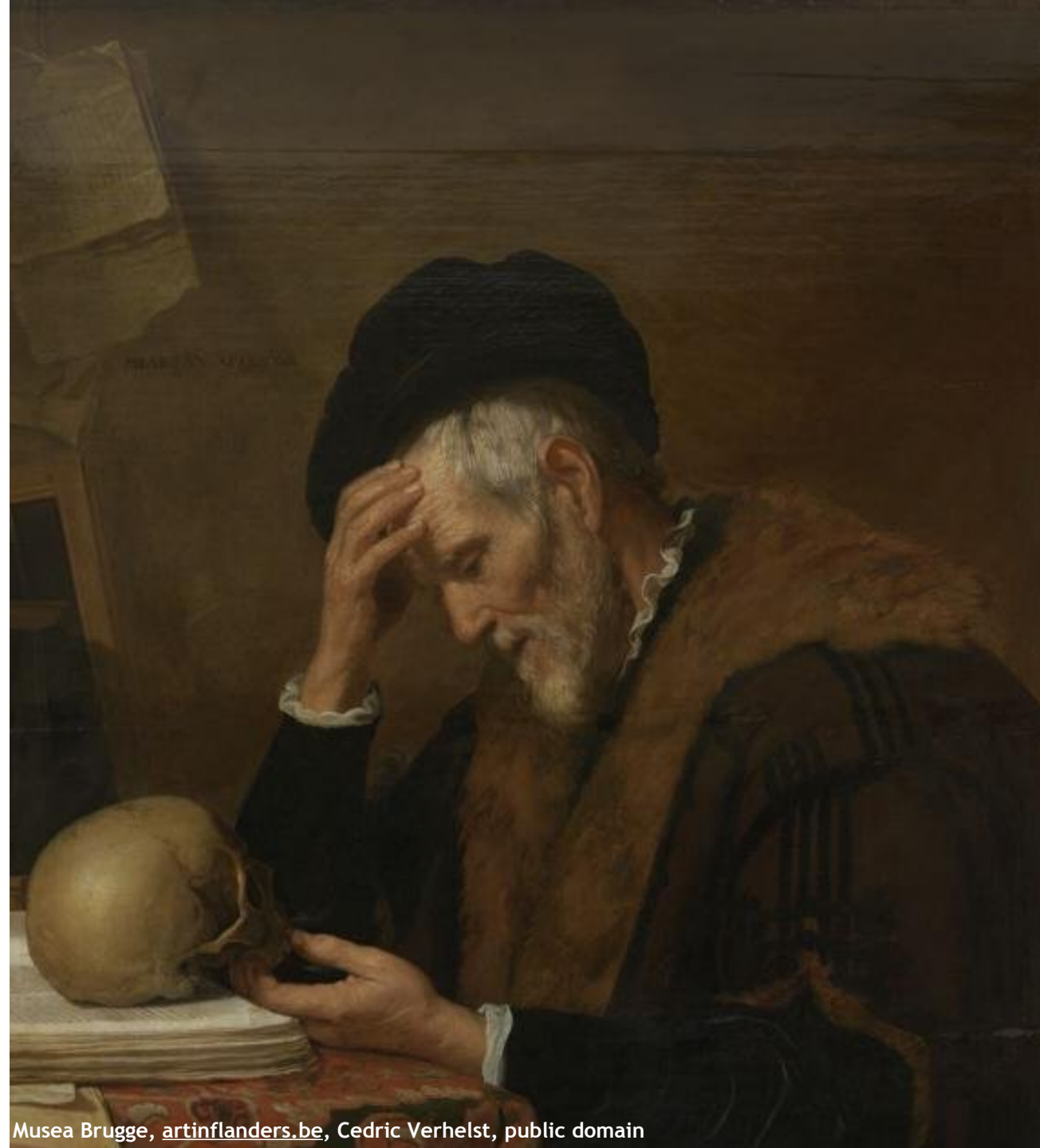


Archive + metadata management



A bit of context

how we came to the realization that we needed a SIP



First SIP practice in Digitisation

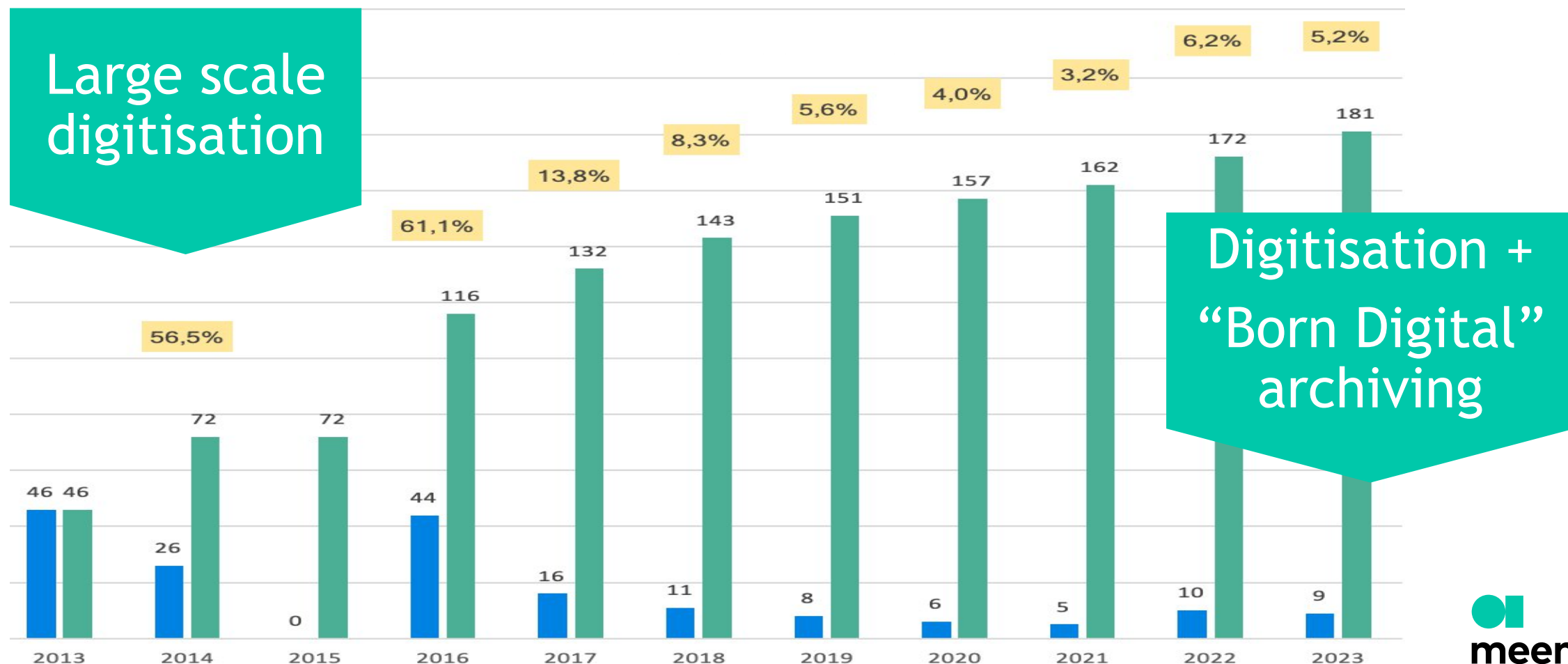


Digitisation via **external digitization companies**

Manageable & simple packaging rules

Vendor-imposed SIP (with a descriptive metadata twist)

Rise in number of partners



Influx of digital collections

Host: Gebruikersnaam: Wachtwoord: Poort:

Status: Mappenlijst van "/export/home/OR-7d2q67n/incoming/batches" opmaken geslaagd

Status: Mappenlijst van "/export/home/OR-7d2q67n/incoming/batches/PRD-BD-OR-7d2q67n-2023-03-13-002" ophalen...

Status: Listing directory /export/home/OR-7d2q67n/incoming/batches/PRD-BD-OR-7d2q67n-2023-03-13-002

Status: Mappenlijst van "/export/home/OR-7d2q67n/incoming/batches/PRD-BD-OR-7d2q67n-2023-03-13-002" opmaken g

Status: Mappenlijst van "/export/home/OR-7d2q67n/incoming/batches" ophalen...

Status: Listing directory /export/home/OR-7d2q67n/incoming/batches

Status: Mappenlijst van "/export/home/OR-7d2q67n/incoming/batches" opmaken geslaagd

Lokale site: /Users/laura/Desktop/ Externe site: /export/home/OR-7d2q67n/incoming/batche

Bestandsnaam Bestandsgroot Bestanc

FTP/S3

Untitled-1 x

Resource	Extension	Size	Hash	Format	Last modified	Mime type
/Users/laura/Docu...	jpg	398,3 KB	7e70c57672079ba...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	584,9 KB	24d83de48a539d...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	504,1 KB	ff8b13236ecc36c...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	136,8 KB	fe3845d7a5f18c8...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	476,6 KB	a874b8ece2a0883...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	500,4 KB	0f2eddaf904a58c...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	235,5 KB	99e85f957ce4e03...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	187,5 KB	5040bebd42f4e37...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	422,6 KB	3afcbf24ceb97d8...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	525 KB	845a08c25d9190a...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	465,7 KB	7b16eff35111942...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	517,7 KB	4c20acb195babc8...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	679,5 KB	63d5fe0eb2b7614...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	384,8 KB	3d2af456a8340d9...	JPEG File I...	24/08/21 ...	image/jpeg
/Users/laura/Docu...	jpg	384,8 KB	3d2af456a8340d9...	JPEG File I...	24/08/21 ...	image/jpeg

DROID

```

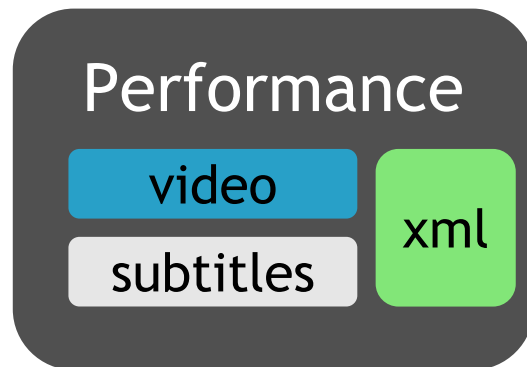
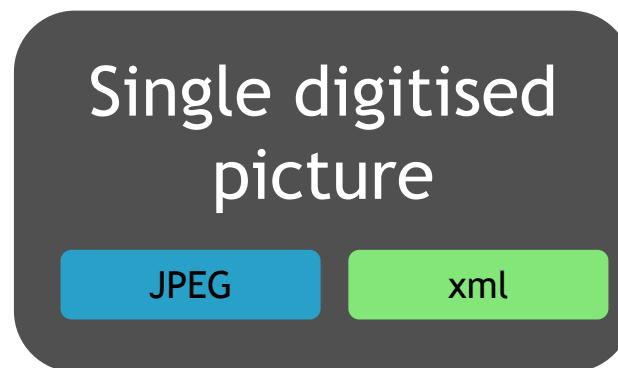
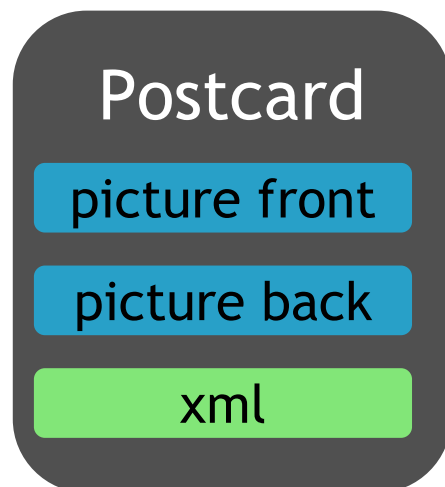
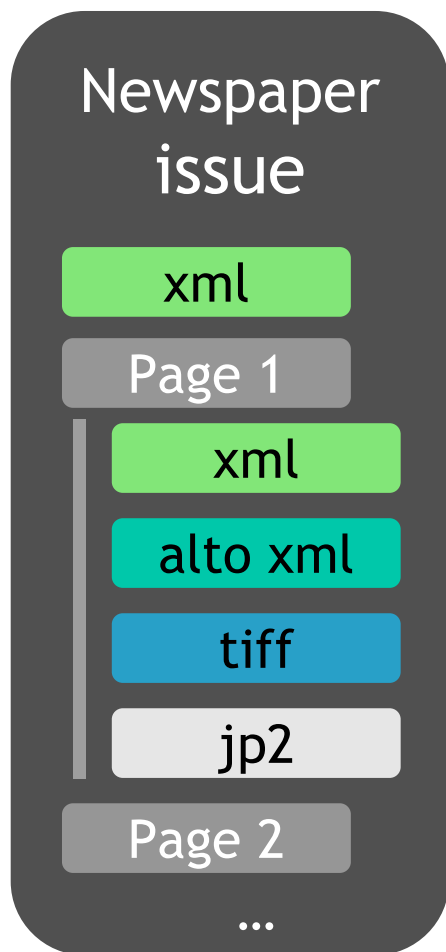
<xsl:template match="row" mode="sidecar">
  <xsl:variable name="output_filename">
    <xsl:value-of select="dc_identifier_localid" />
  </xsl:variable>
  <xsl:result-document href="{ $batch_id }/sidecars/{ $output_filename }.xml">
    <VIAA>
      <CP>
        <xsl:value-of select=" $cp_label " />
      </CP>
      <CP_id>
        <xsl:value-of select=" $or_id " />
      </CP_id>
      <batch_id>
        <xsl:value-of select=" $batch_id " />
      </batch_id>
      <dc_identifier_localid>
        <xsl:value-of select="dc_identifier_localid" />
      </dc_identifier_localid>
      <dc_identifier_localids type="list">
        <Bestandsnaam>
          { $xsl:value-of select="dc_identifier_localids_Bestandsnaam" /}
        </Bestandsnaam>
      </dc_identifier_localids>
      <dc_title>
        <xsl:value-of select="dc_title" />
      </dc_title>
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        <xsl:value-of select="dc_description" />
      </dc_description>
      <dcterms_created>
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      <dc_creators type="list">
        <Maker>
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        </Fotograaf>
        <Kunstenaar>
          <xsl:value-of select="dc_creators_Kunstenaar" />
        </Kunstenaar>
        <Auteur>
          <xsl:value-of select="dc_creators_Auteur" />
        </Auteur>
      </dc_creators>
    </VIAA>
  </xsl:result-document>
</xsl:template>
  
```

XSLT

dc_identifier_localid	dc_title	dc_description	dcterms_created	dc_identifier_localids_Bestandsnaam	dc_titles_reeks	dc_titles_seizoen	dcterms_issued	dc_creators_Acteur
Hoofd lokale CP ID = bestandsnaam zonder extensie	Hoofdtitel	Hoofdbeschrijving	Creatiedatum van het object, EDTF level 0 of 1. Zie developer.meemoo.be (datatypes)	Originale bestandsnaam van het object = hoofd lokale CP ID + extensie	Naam van de voorstelling of productie	Het seizoen van de voorstelling	Datum waarop het item is uitgegeven of uitgezonden. EDTF level 0 of 1. Zie developer.meemoo.be (datatypes)	De acteur in het object in kwestie
Offtherecord_CP_1	Off the record	Vier jongeren tussen 14 en 18 jaar tonen zich zoals ze zijn. Fel, kwetsbaar, schaamteloos en vol lef. Het podium is een vrijplaats waar ze letterlijk en figuurlijk spelen met de vele versies van zichzelf. Als hoofdrolspelers in hun eigen documentaire. Ze zijn de stemmen van het heden, de volwassenen van de toekomst.	2022-02-28	Offtherecord_CP_1.jpg	Off the record	2021 - 2022;2022 - 2023		Ben Herlaar Masina;Ziba Jafari;Mauro Michielsen;Mette Plysier

Descriptive metadata templates

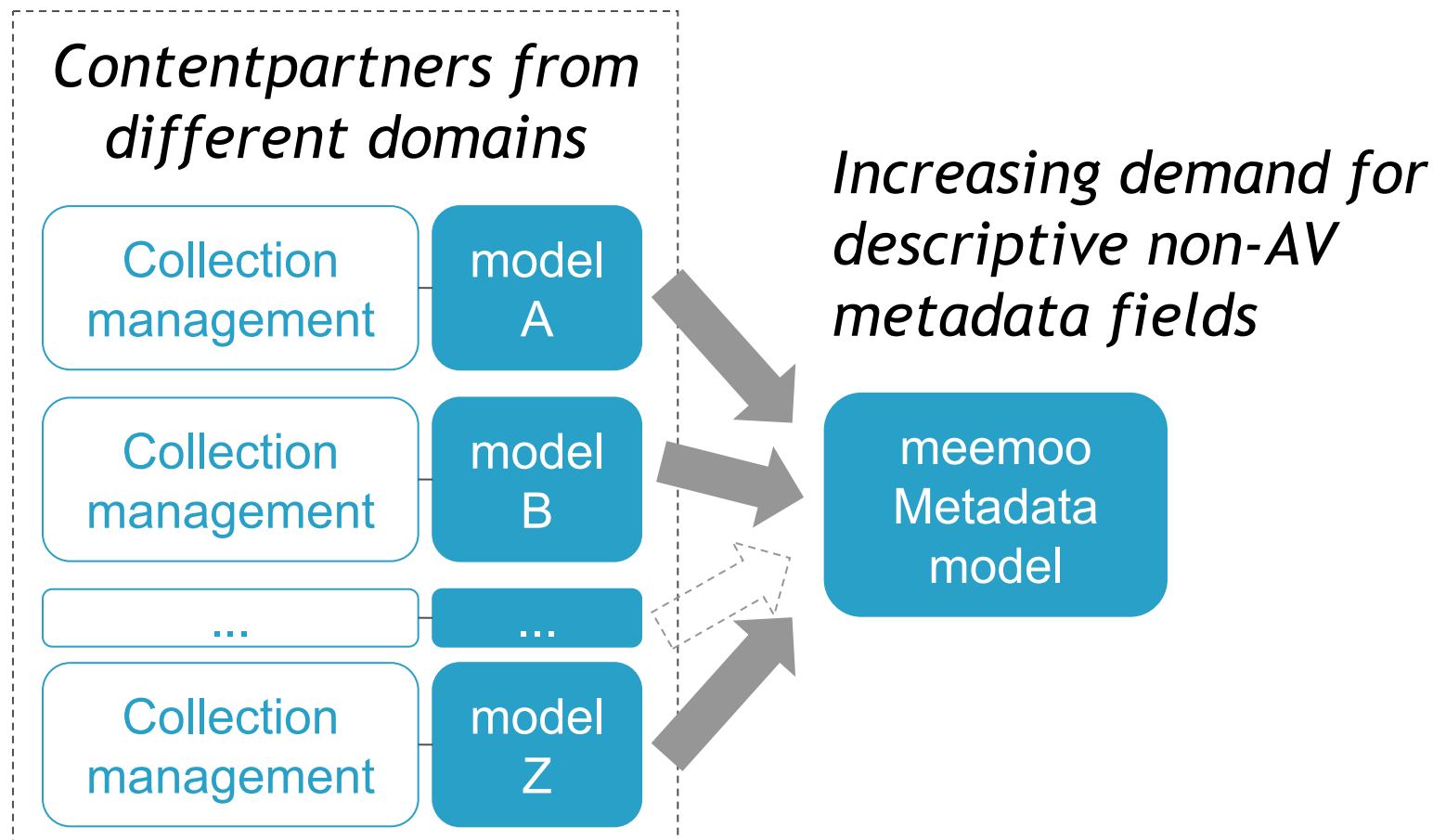
More complex object structures



heterogeneous...
file types
structure
object types
metadata

More heterogeneity in metadata

Diverse metadata intake



Mitigation strategies (sort of)

- Divide digital influx into different workflows
 - New vendor-specific SIPs for e.g. newspapers
 - Providing custom services via project manager
- ➔ All of this works (kind of), but increases complexity and overhead

Setting sail for a (new) SIP

how we came aboard the (E-)ARK



Requirements

A new uniform SIP design should ...

have a **formal and mature specification**

be embedded in **standards**

be technologically aligned with the **media and cultural heritage sector**

be **flexible and extensible**

Options we explored

	Standards	Specification	Mature	Verbosity	Community support	Sector alignment
RO-Crate	Green	Green	Yellow	Green	Yellow	Red
PCDM	Yellow	Red	Red	Green	Yellow	Red
BagIt	Yellow	Yellow	Green	Green	Green	Green
E-ARK	Green	Green	Yellow	Yellow	Green	Green

Closing the E-ARK and meemoo gap

Flexibility can lead to complexity, esp. with not very tech savvy partners

Need for more rules wrt. to object structure, but mostly descriptive metadata

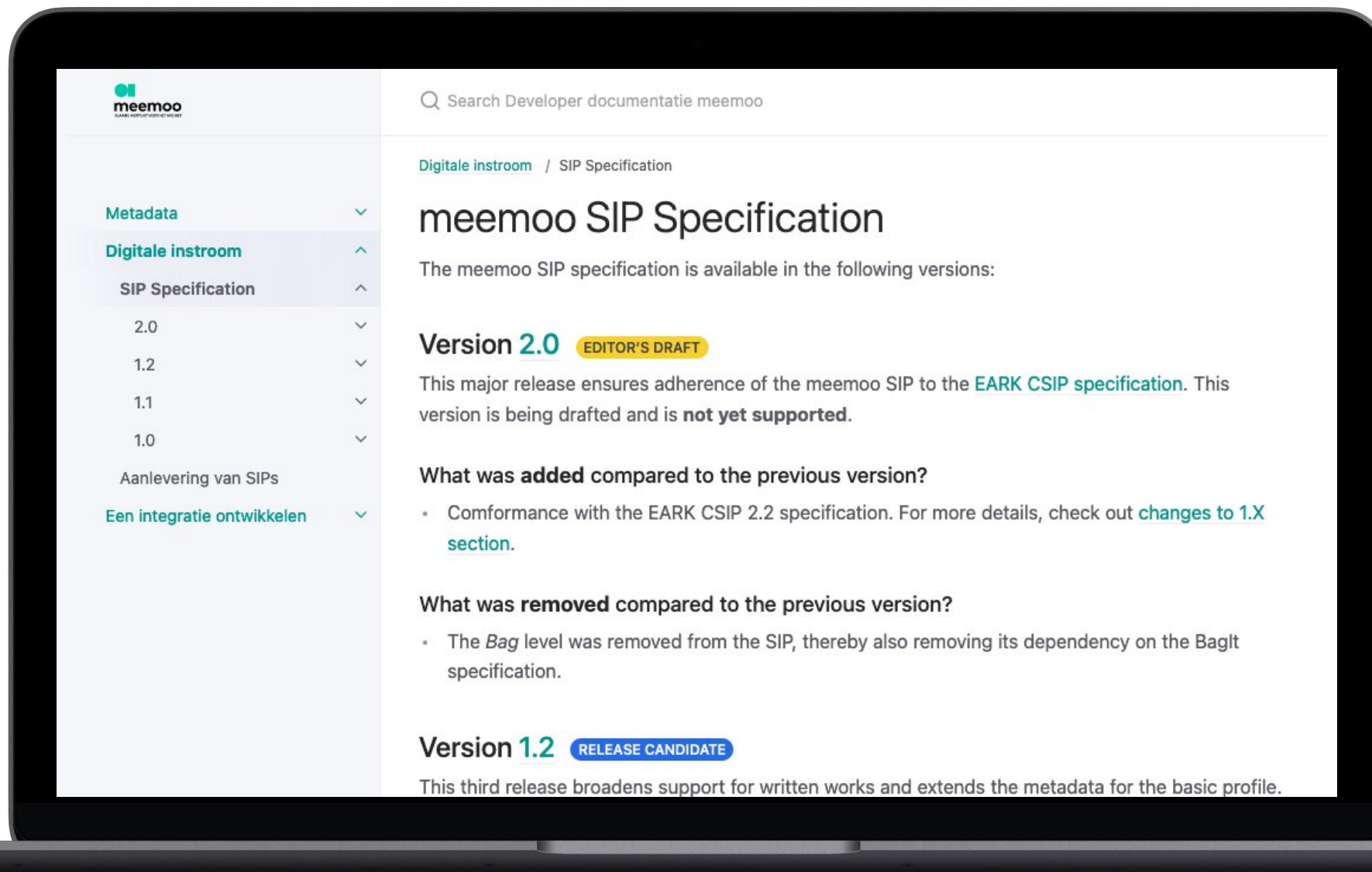
Translate E-ARK spec into our own meemoo SIP specification

- `terminology` + `core concepts` sections
- narrowly following the hierarchical structure
- conceived the concept of 'content profiles': additional use-case driven constraints, often domain or material specific

A (deep) dive into the 'meemoo SIP'

how we put it in a Bag only to remove it afterwards





<https://data.hetarchief.be/id/sip/>

Content profiles

1 Intellectual Entity
1 Representation
Files

Intellectual Entities
Representations
Files

Limited metadata
(DC + schema.org)

Basic

Bibliographic metadata
(MODS)

Bibliographic

High-level metadata
(schema.org)

Material artwork

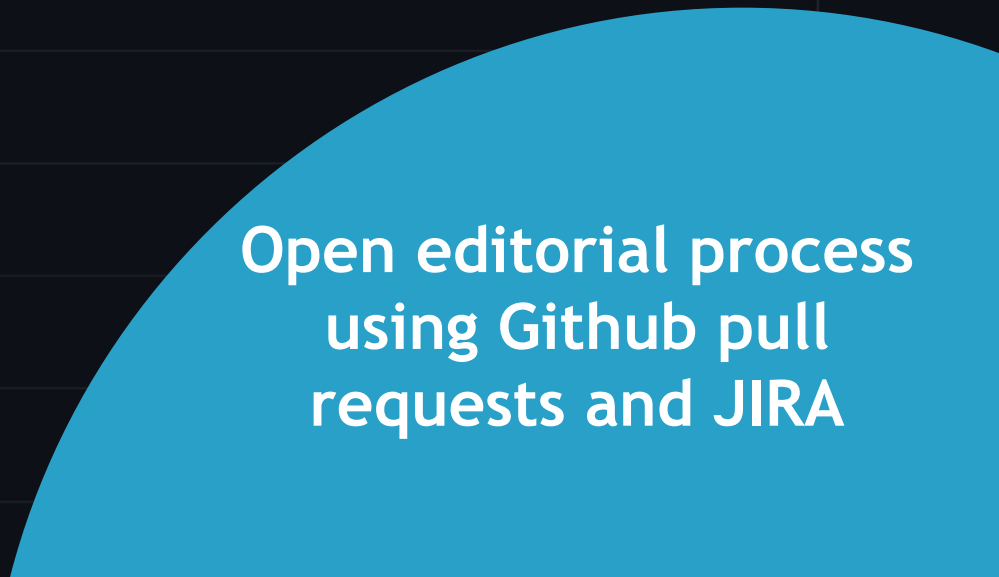
Filters is:pr is:closed SIP

Labels 9 Milestones 0

New pull request

Clear current search query, filters, and sorts

<input type="checkbox"/>		1 Open	✓ 26 Closed	Author	Label	Projects	Milestones	Reviews	Assignee	Sort
<input type="checkbox"/>		Meta 274 sip 2 0 closing the eark gap								55
		<small>#130 by mielvds was merged 2 weeks ago</small>								
<input type="checkbox"/>		META-266 - Fix (C)SIP namespace								25
		<small>#125 by spacid was merged on Mar 4 • Approved</small>								
<input type="checkbox"/>		DEV-2286: External documentation for S3	✓							12
		<small>#119 by maartends was merged on Jan 29 • Approved</small>								
<input type="checkbox"/>		Meta 171 sip versie 1 2								
		<small>#110 by mielvds was merged on Nov 2, 2023</small>								
<input type="checkbox"/>		Meta 230 aanvullen sip voor metadata give 3 d								
		<small>#100 by mielvds was merged on Sep 20, 2023</small>								
<input type="checkbox"/>		SIP spec: art form en art medium moeten van type lang string zijn en niet string								
		<small>#91 by mielvds was merged on Jun 13, 2023 • Approved</small>								
<input type="checkbox"/>		META-204 Remake bags								
		<small>#72 by spacid was merged on Apr 6, 2023 • Approved</small>								
<input type="checkbox"/>		Add unique language constraint to spec								
		<small>#65 by mielvds was merged on Mar 27, 2023 • Approved</small>								
<input type="checkbox"/>		META-153 Fixes contractions obligation and cardinality Representation PREMIS								
		<small>#53 by mielvds was merged on Feb 15, 2023 • Approved</small>								

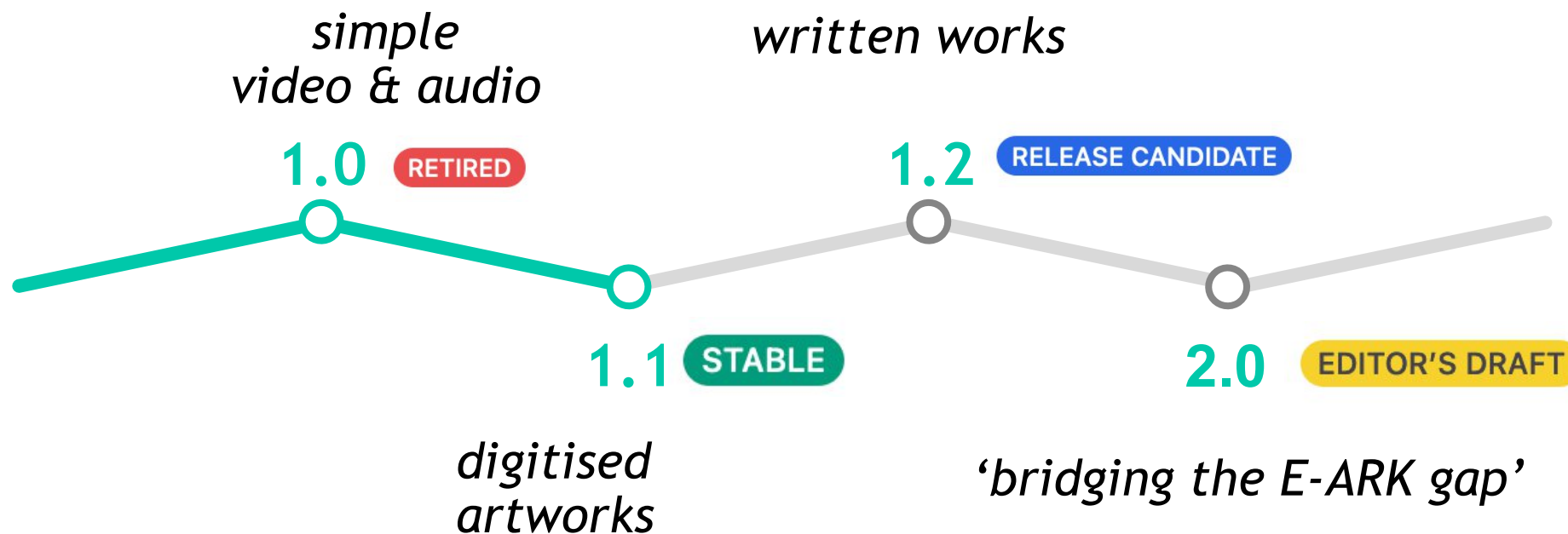


Open editorial process using Github pull requests and JIRA

Support level through publication statuses

EDITOR'S DRAFT	This version of the specification is still being developed.
RELEASE CANDIDATE	This version of the specification is ready for <i>public review</i> and <i>implementation</i> . The text can still undergo changes and meemoo does not give any guarantees that material can be supplied in this way.
STABLE	This version of the specification will no longer change and has been fully implemented. Meemoo guarantees that material supplied in this way can be archived.
DEPRECATED	This version of the specification is outdated and will no longer be supported in the future. Its use is not recommended by meemoo.
RETIRED	This version of the specification is no longer supported by meemoo. Material can no longer be supplied in this way.

Versioning



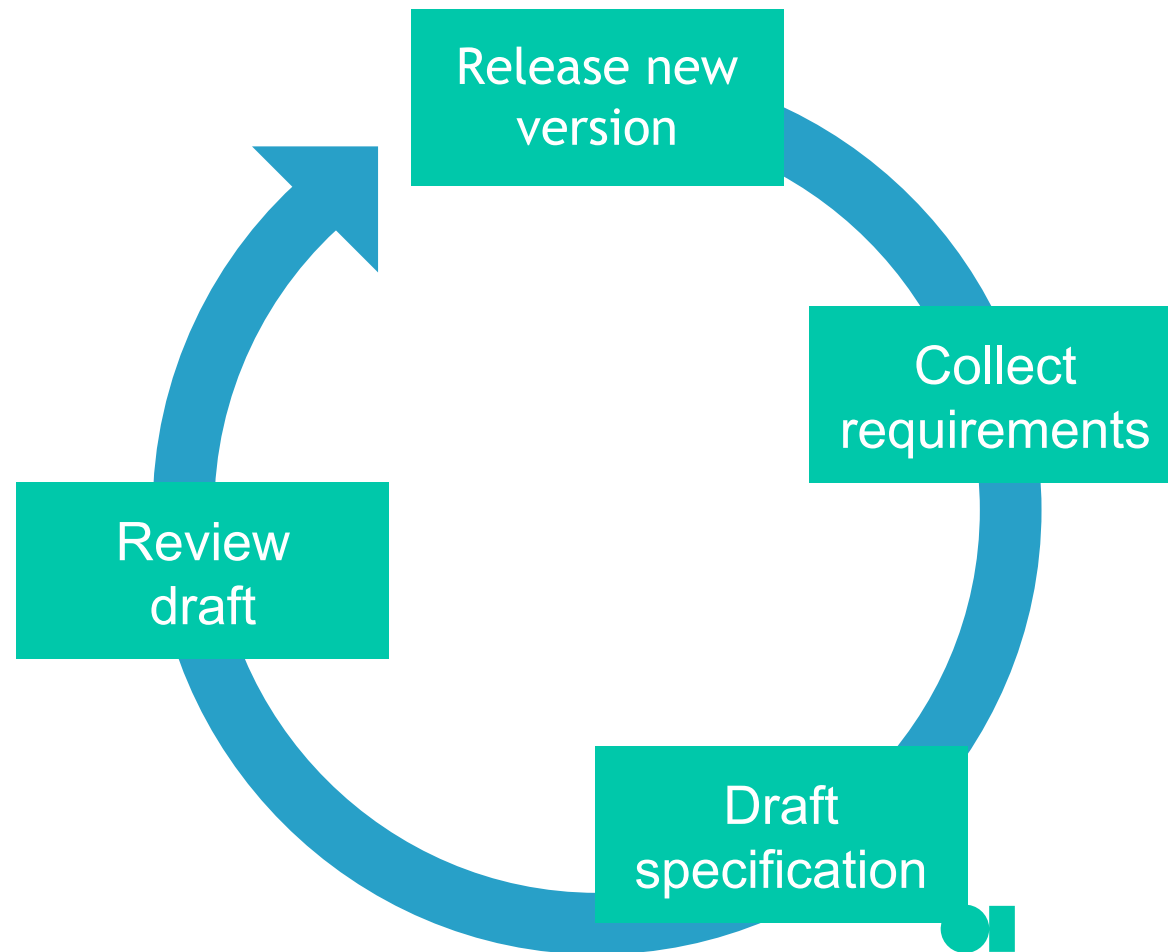
Move editing & versioning into governance

Release cycle to avoid ad-hoc alterations

Connect with partners, gather input & cover their needs

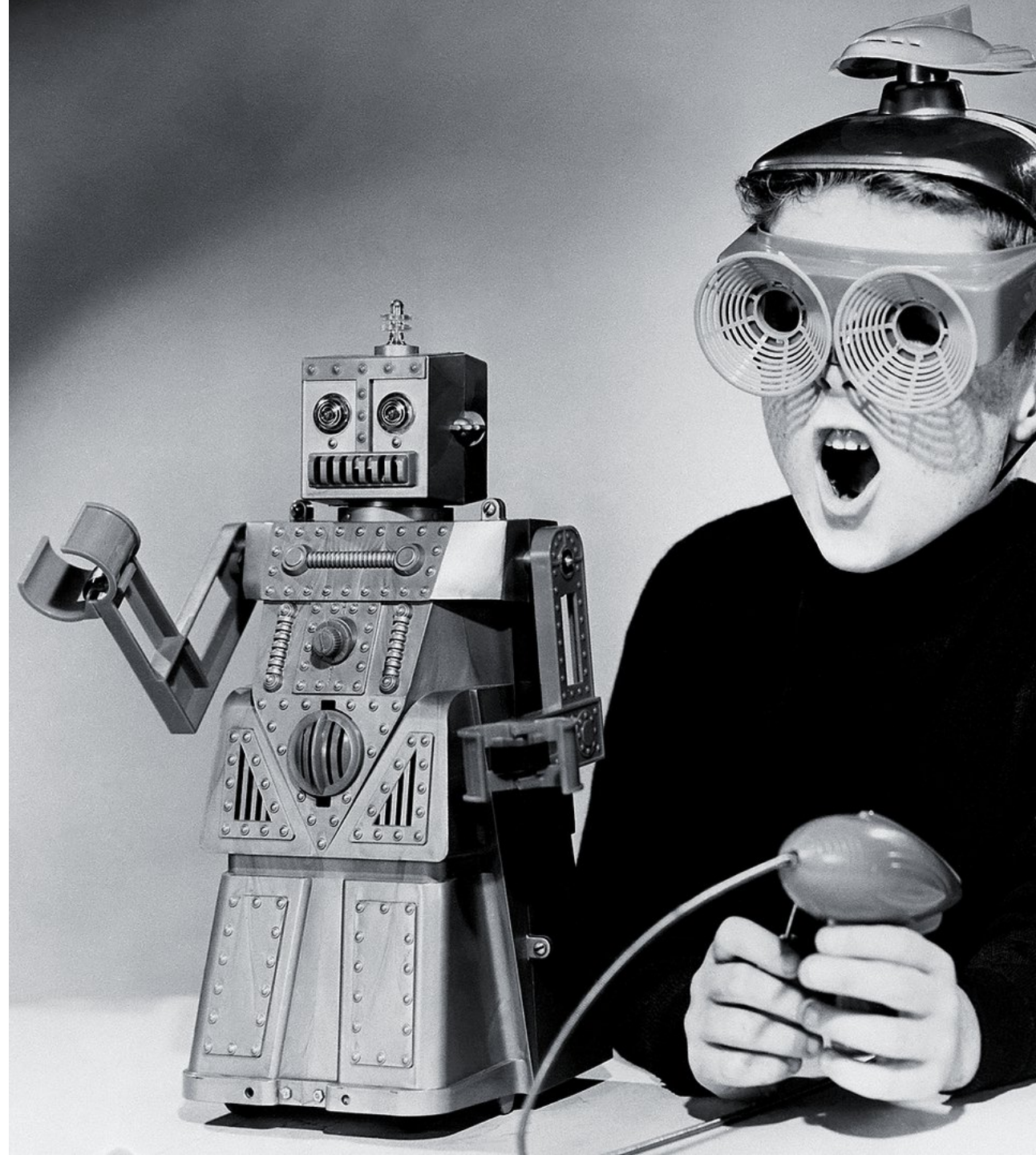
Predictable support for both sides

Still ongoing work

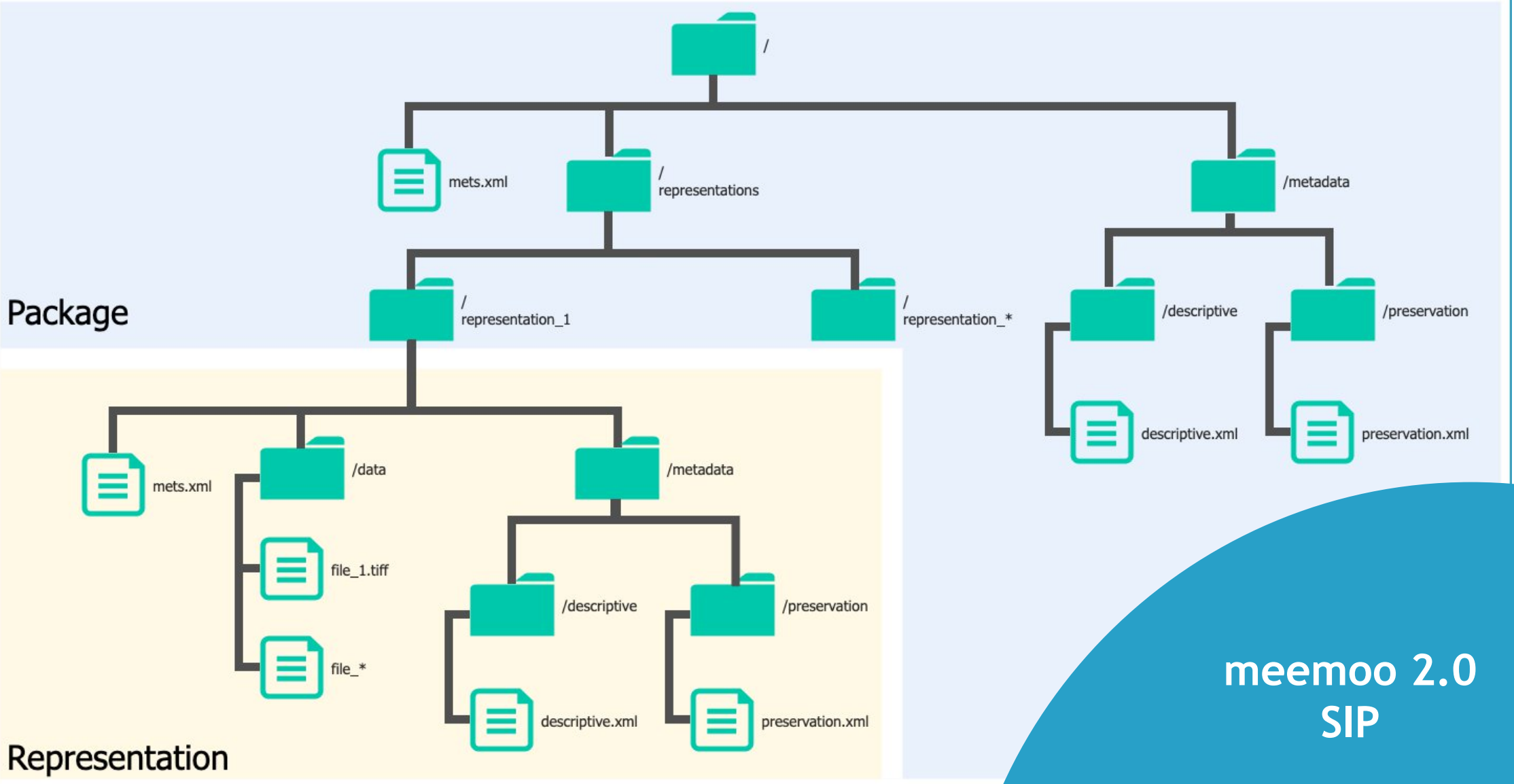


Ingesting a 'meemoo SIP'

how we transform it to a graph for semantic validation



meemoo SIP



Package

Representation



meemoo 2.0
SIP

Ingesting a 'meemoo SIP'

Delivery via S3

BAG validation

XSD validation

Transform to RDF graph

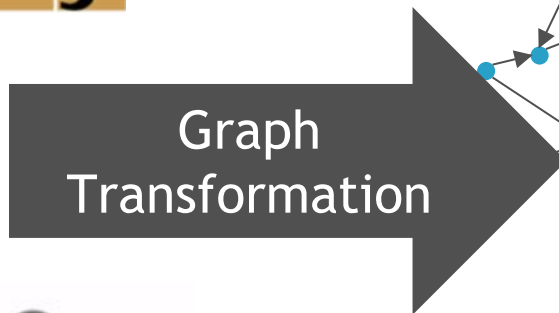
SHACL validation

MAM SIP

Validating the SIP as a graph

METS

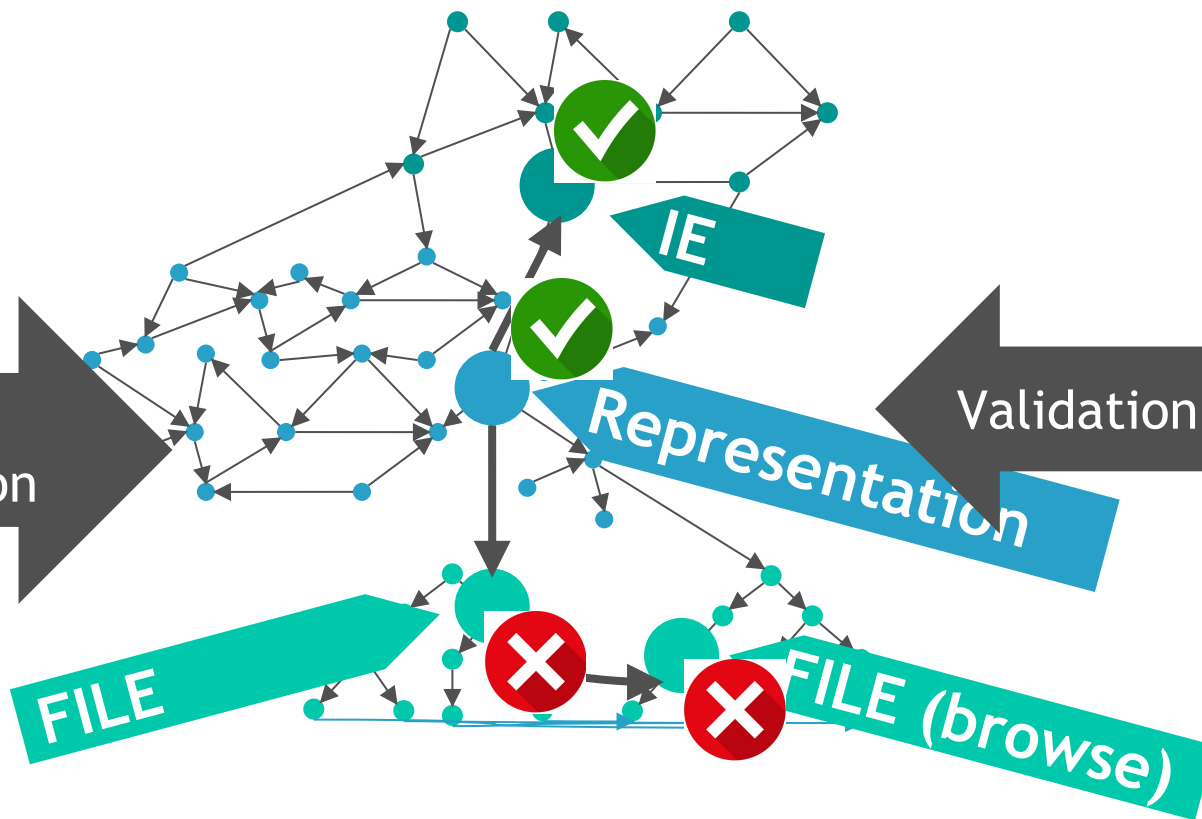
PREMIS



DublinCore

MODS

Schema.org



content profile

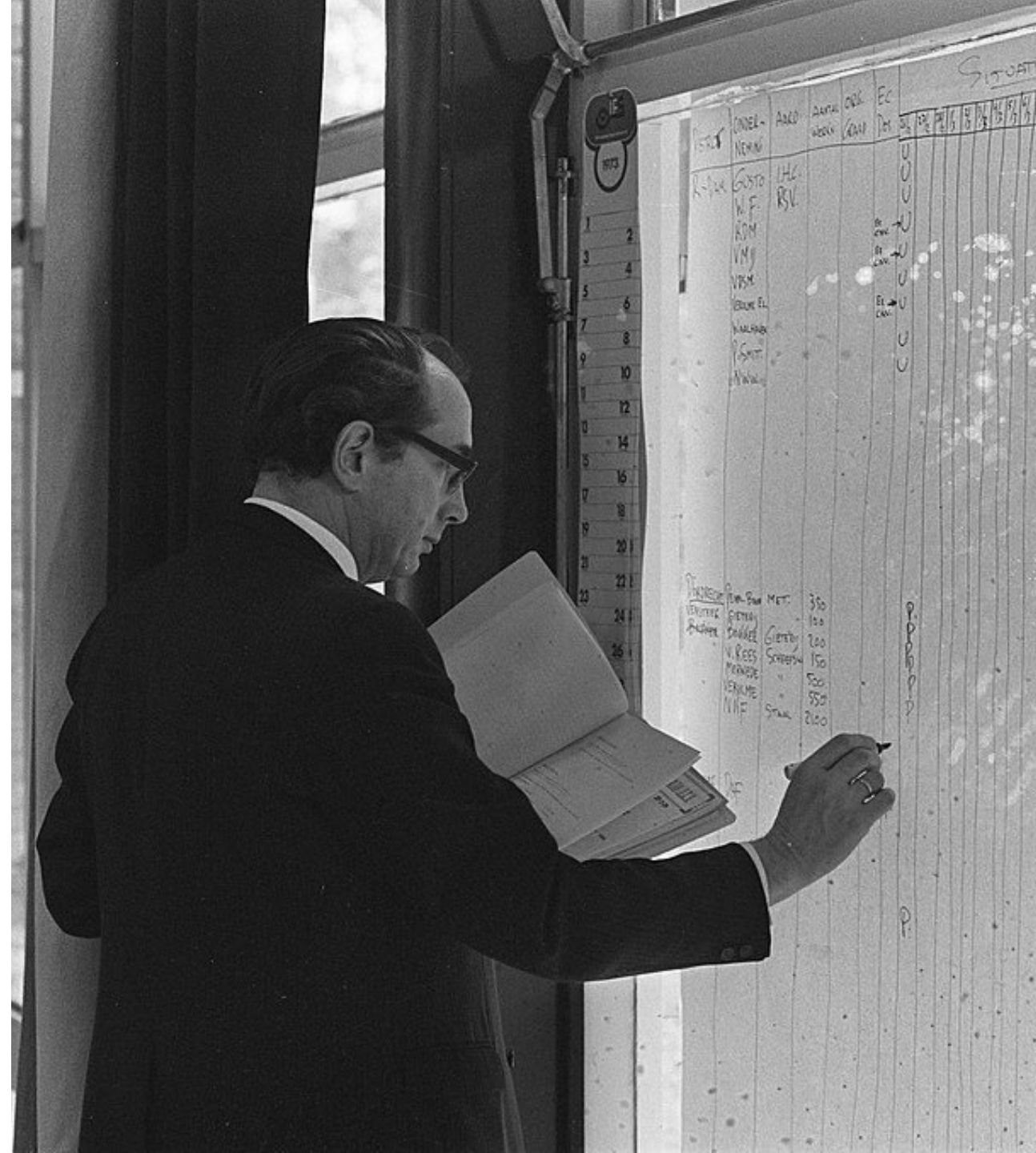


RDF Graph

PREMIS OWL + Schema.org/bibframe

Tides of wisdom

aka lessons learned and the way forward



Lessons learned

A meemoo-SIP specification is not enough for our partners

- non-technical manuals for creating specific meemoo-SIP
- support in metadata mappings

Information about E-ARK is scattered over websites and specs

- avoidable breaking changes & custom tooling
- too little contact with the E-ARK community

The way forward

Reducing the complexity of current meemoo-SIP

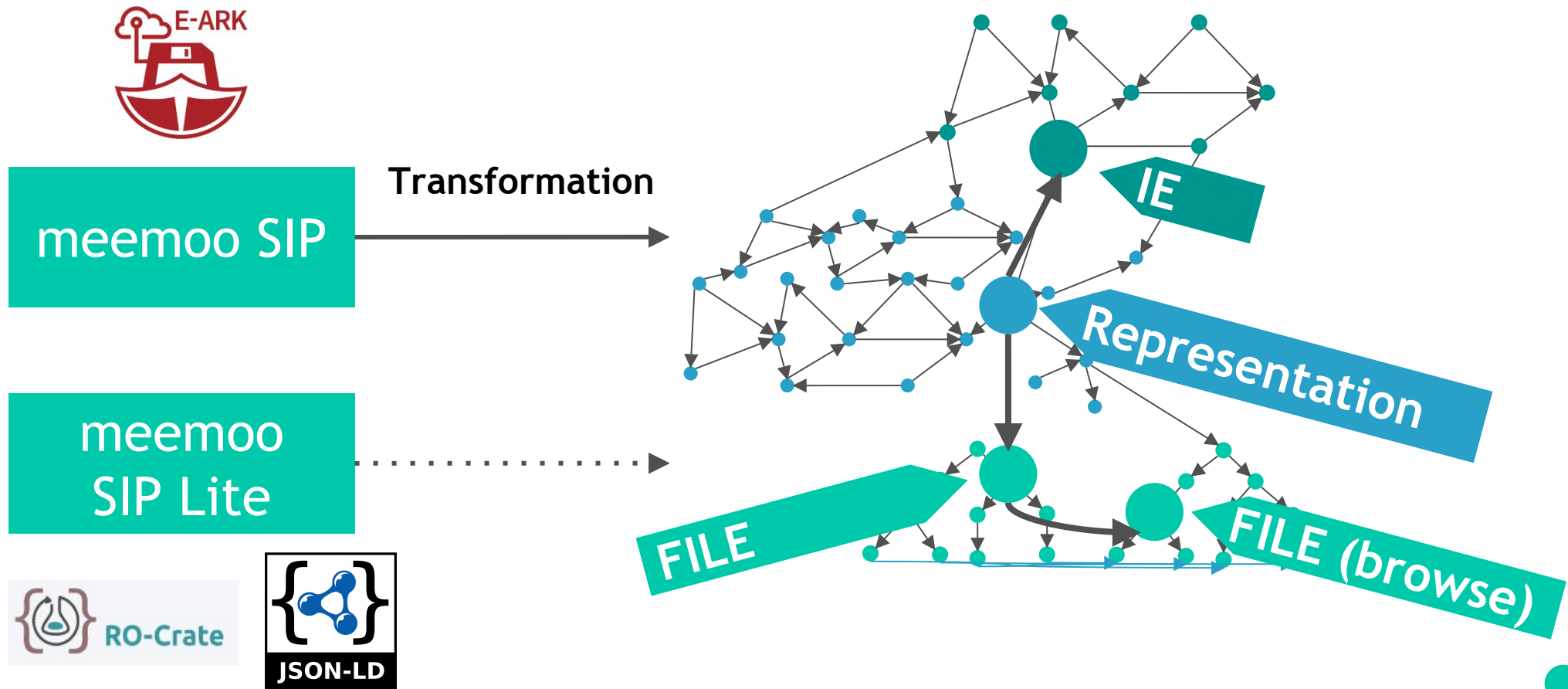
Bridging the E-ARK gap

Usage of E-ARK tooling and contributing

Specific documentation for users

Thinking about a SIP lite using JSON-LD

The way forward (2)





Thanks for listening!

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