



# The BASIC Programmer's Toolkit™

AUTO

DELETE

RENUMBER

APPEND

DUMP

TRACE

Multilinguality and  
the  
use of vocabularies at  
Europeana

Antoine Isaac

*Use of vocabularies for metadata curation  
and quality assessment in Social Sciences  
and Humanities  
Berlin, 27-28 March 2023*

*A Collection of Programming Aids for the Commodore PET*



# INTRO

## EUROPEANA



# Who is Europeana?

- A non-profit foundation
- A community of 2400 experts in digital heritage: the Europeana Network



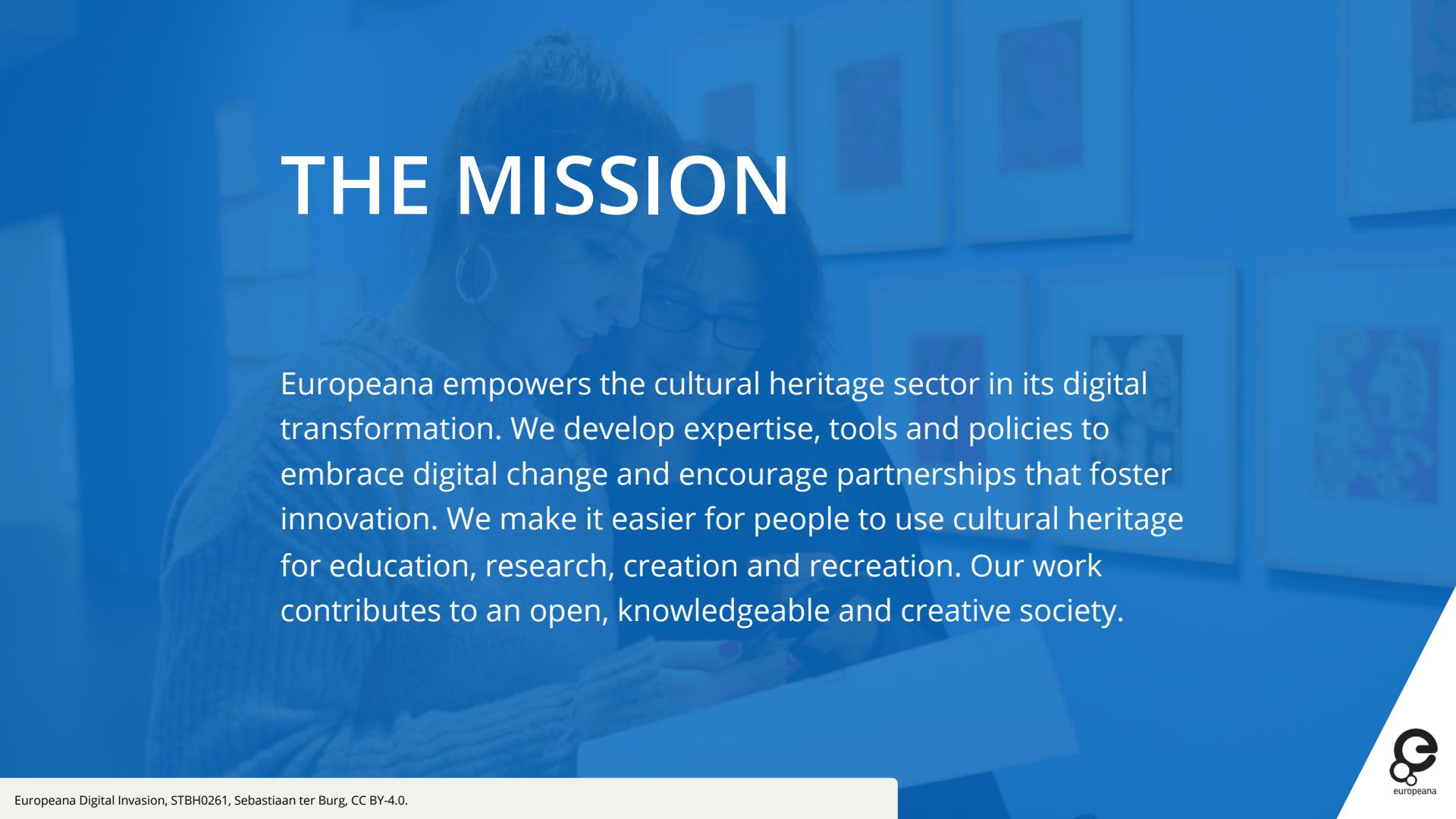
ana

# What does Europeana?

The European Commission's digital platform for cultural heritage

- Europeana portal: <https://europeana.eu>
- Europeana APIs: <https://pro.europeana.eu/resources/apis>

# THE MISSION



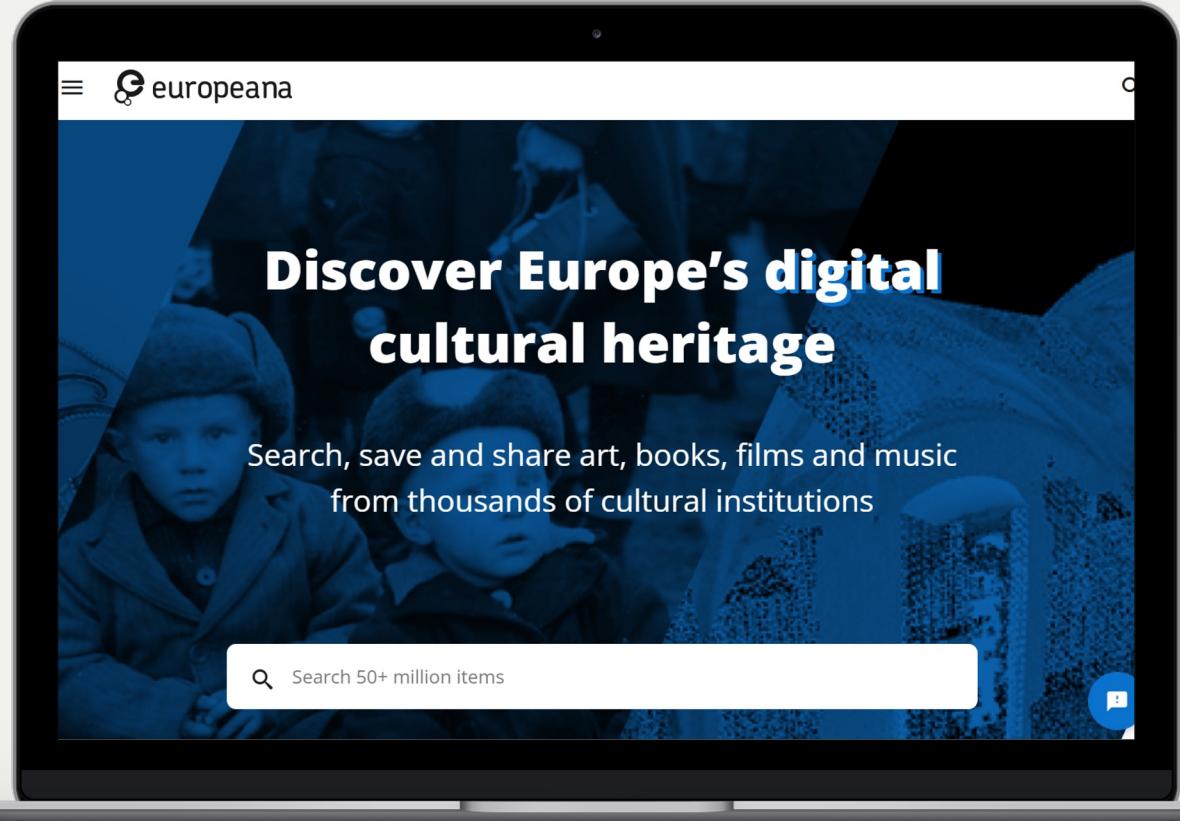
Europeana empowers the cultural heritage sector in its digital transformation. We develop expertise, tools and policies to embrace digital change and encourage partnerships that foster innovation. We make it easier for people to use cultural heritage for education, research, creation and recreation. Our work contributes to an open, knowledgeable and creative society.



europeana

# EUROPEANA WEBSITE

Cultural heritage from over 3500 museums, libraries, archives across Europe. Search and browse over 50M objects, discover stories, etc.



# RESEARCH

- [Europeana Research](#) community
- Partnerships with CLARIN,  
DARIAH
- Publishing in the European Open  
Science Cloud - [SSH Open  
Marketplace](#), data.europa.eu

The screenshot shows the CLARIN VLO homepage. At the top, there is a navigation bar with links for 'Virtual Language Observatory', 'Search', 'Contributors', and 'Help'. To the right of the navigation is the CLARIN logo. The main content area features a large title 'CLARIN Virtual Language Observatory' and a sub-headline 'Welcome to the VLO!'. Below this, a text block instructs users to use the 'search bar' or 'facets' to browse resources. Two buttons are present: 'See all records' (in blue) and 'Take a quick tour'. At the bottom of the page is a search bar with the placeholder 'Search through 916,587 records' and a magnifying glass icon.

# Découvrez le patrimoine culturel numérique européen



Recherchez, enregistrez et partagez des œuvres d'art,  
des livres, des films et de la musique issues de  
milliers d'institutions culturelles



Rechercher plus de 50 millions d'objets



Financé par  
l'Union européenne

# Data Quality Issues in Cultural Heritage



A classroom with children sitting at long tables and a teacher standing with a book in her hand. Lithograph by J.B. Sonde. - Wellcome Collection, United Kingdom - CC BY.



europeana

# What's inside Europeana?

- Descriptive and technical metadata: title, creator, subject, rights...
- Editorial content like virtual exhibitions
- User-generated metadata, incl. transcriptions, semantic annotations
- Thumbnails

*As a rule, digitized content is served on our partners' websites*

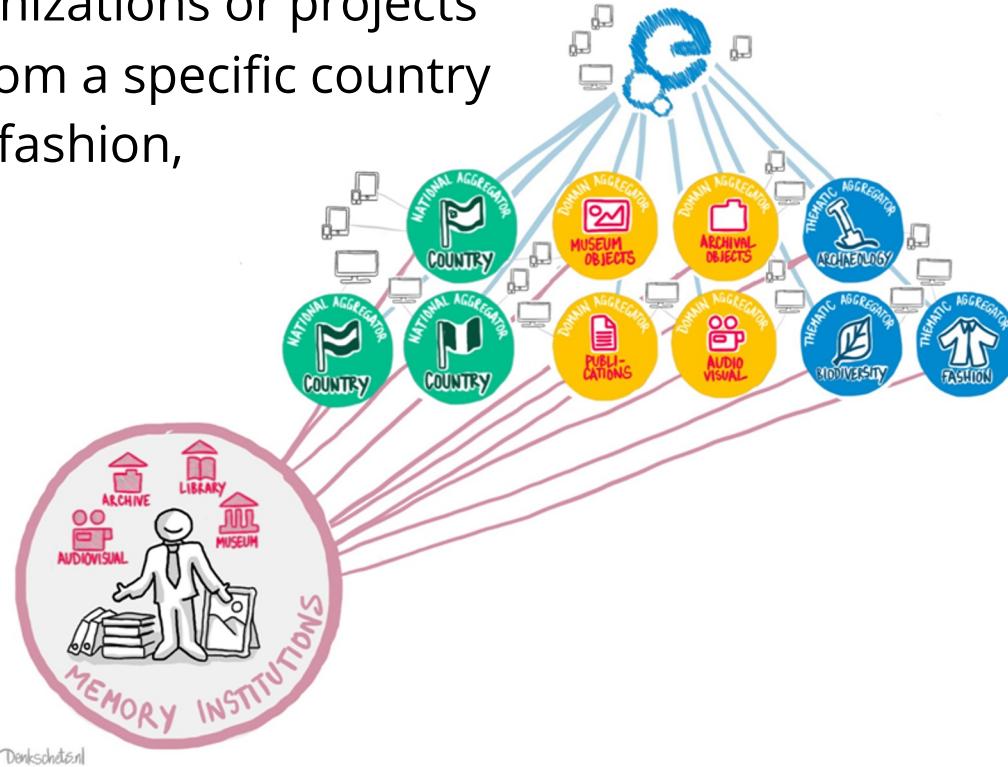
Except for some specific projects

- Newspapers
- WWI user-generated content

# Data flow in Europeana's network

**Data providers:** cultural institutions that provide metadata and links to digitized content

**Aggregators:** organizations or projects that gather data from a specific country or domain (music, fashion, archaeology...)



# Sparseness of (meta)data



*This one does not exist anymore 😊*

# Heterogeneity

*58M objects, from 3,500 institutions*

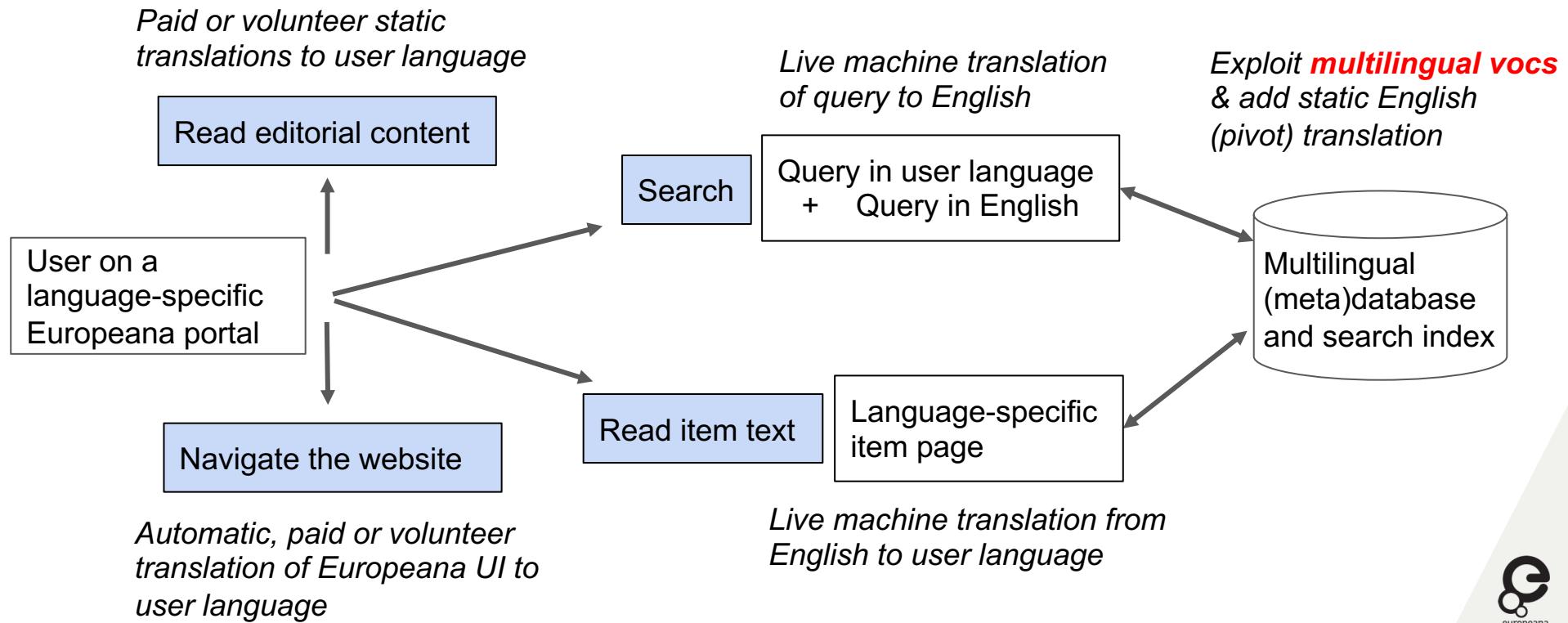
- Many different themes and types of objects  
*Books, newspapers, letters, diaries, archival papers, paintings, maps, drawings, photographs, music, spoken word, radio broadcasts, film, newsreels, fashion, sculpture, 3D objects, and more*
- Libraries, archives, museums have different ways to describe objects. Even within a sector, big differences can be observed

# Multilingualism

*58M objects, from 44 countries*

- Officially we get metadata in 38 languages
- But there are more languages used in individual metadata fields

# MULTILINGUAL STRATEGY





Working for  
higher quality,  
multilingual  
metadata

Tournoi royal de motos à Londres :  
changement d'une roue de side-car en  
marche

Agence de presse Mondial Photo-Presse.  
1932, National Library of France  
France, Public Domain

# Foreword

- The operator of the core service cannot do whatever they like - we do not operate in isolation!
- Our approach must be
  - easy and rewarding for our partners
  - based on community-agreed best practices

# A community sport

- Involving (technical) experts from libraries, archives, museums and academics – the EuropeanaTech community
- Adopting a collaborative, softer form of standardization



Europeana Assembly General Meeting, Rijksmuseum,  
Amsterdam, 2015

## EuropeanaTech

EuropeanaTech is the community of experts, developers, and researchers from the R&D sector within the greater Europeana Network.

### Contribute to EuropeanaTech

The EuropeanaTech community provides the expertise and technical know-how that allows Europeana to keep growing and improving.

### EuropeanaTech Insight

EuropeanaTech InsightA multi-media publication about R&D developments by the EuropeanaTech Community

### EuropeanaTech Task Forces

Outcomes and results from all our technical working groups.

### Data Quality Committee

Quality is a key priority for our

### FLOSS inventory

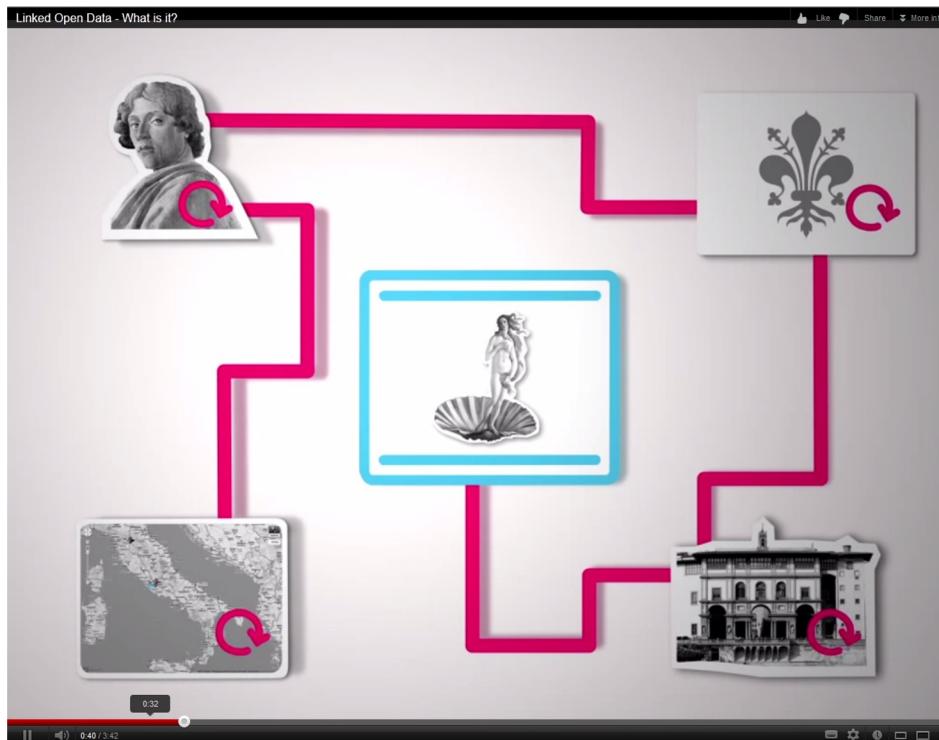
The FLOSS inventory lists all the Free Libre Open Source

### Technical readings

Publications, reports and deliverables on topics like Microsoft Pt

<http://pro.europeana.eu/europeana-tech>

# Following the Linked Open Data principles

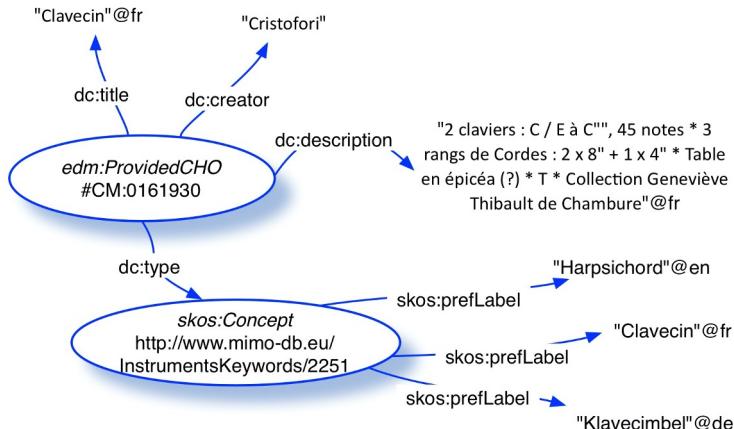


# Data modeling for interoperability and richer metadata: the Europeana Data Model



[Clavecin](#), Bartolomeo Cristofori

Cité de la Musique,  
MIMO - Musical Instruments Museums Online | CC BY-NC-SA



<http://pro.europeana.eu/edm-documentation>

# Properties for edm:ProvidedCHO

The Provided CHO is the cultural heritage object which is the subject of the package of data that has been submitted to Europeana.

## Mandatory fields:

dc:title or dc:description

One of dc:coverage, dc:subject, dc:type

dcterms:spatial

edm:type with value of TEXT, IMAGE, VIDEO,  
SOUND or 3D

dc:language for objects with edm:type value  
of TEXT

## Optional fields:

dc:contributor, dc:creator, dc:date, dc:format,  
dc:identifier, dc:language, dc:publisher, dc:relation,  
dc:source, dcterms:alternative, dcterms:extent,  
dcterms:temporal, dcterms:medium,  
dcterms:created, dcterms:provenance,  
dcterms:issued, dcterms:conformsTo,  
dcterms:hasFormat, dcterms:isFormatOf,  
dcterms:hasVersion, dcterms:isVersionOf,  
dcterms:hasPart, dcterms:isPartOf,  
dcterms:isReferencedBy, dcterms:references,  
dcterms:isReplacedBy, dcterms:replaces  
dcterms:isRequiredBy, dcterms:requires  
dcterms:tableOfContents  
edm:isNextInSequence, edm:currentLocation...

## The message here:

- **These fields can be used with (LOD) entities**
- **There are few mandatory fields, more recommended ones**

# Contextual entities

Representing (real-world) entities related to a provided object  
as fully fledged resources, not just strings

## **edm:Agent**

foaf:name  
skos:altLabel  
rdaGr2:biographicalInformation  
rdaGr2:dateOfBirth

## **skos:Concept**

skos:prefLabel  
skos:altLabel  
skos:broader  
skos:related  
skos:definition....

## **edm:TimeSpan**

skos:prefLabel  
dcterms:isPartOf  
edm:begin  
edm:end  
....

## **edm:Place**

wgs84\_pos:lat  
wgs84\_pos:long  
skos:prefLabel  
skos:note  
dcterms:isPartOf....

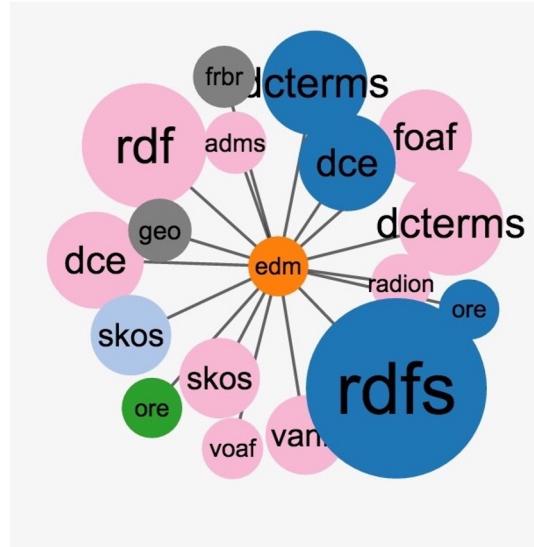
# Massive re-use of existing schemas



Plus

- Web Annotation
- RDA
- WGS84
- EBUcore
- ccRel
- ODRL
- DOAP
- SVCS
- DCAT
- ADMS

...  
(sometimes only for one property!)



[EDM in Linked Open vocabularies \(LOV\)](#)

<http://pro.europeana.eu/edm-documentation>

# Enriching metadata

- EDM gives a base for (linking to) multilingual, semantic metadata
  - *Data as resources with web URLs, not only strings*
- We encourage data providers to contribute their own links/data to local or external vocabularies
  - *Also aiming to reuse what's already in place!*

<https://pro.europeana.eu/page/europeana-semantic-enrichment>

# LOD Vocabularies currently recognized by Europeana in providers' metadata

Vocabulary	URL
MIMO Concepts	<a href="http://www.mimo-db.eu/">http://www.mimo-db.eu/</a>
MIMO Instrument makers	<a href="http://www.mimo-db.eu/">http://www.mimo-db.eu/</a>
The Getty - Art & Architecture Thesaurus (AAT)	<a href="http://vocab.getty.edu/">http://vocab.getty.edu/</a>
The Getty - Union List of Artist Names (ULAN)	<a href="http://vocab.getty.edu/">http://vocab.getty.edu/</a>
Virtual International Authority File (VIAF)	<a href="http://viaf.org/viaf/">http://viaf.org/viaf/</a>
Geonames	<a href="http://sws.geonames.org/">http://sws.geonames.org/</a>
IconClass	<a href="http://iconclass.org/">http://iconclass.org/</a>
Gemeinsame Normdatei (GND)	<a href="http://d-nb.info/gnd">http://d-nb.info/gnd</a>
Israel Museum Jerusalem Concepts	<a href="http://www.imj.org.il/imagine/thesaurus/objects/">http://www.imj.org.il/imagine/thesaurus/objects/</a>
Partage Plus concepts	<a href="http://partage.vocnet.org/">http://partage.vocnet.org/</a>
data.europeana.eu WWI Concepts from Library of Congress Subject Headings (LCSH)	<a href="http://data.europeana.eu/concept/loc">http://data.europeana.eu/concept/loc</a>
Europeana Sounds Genres	<a href="http://data.europeana.eu/concept/soundgenres/">http://data.europeana.eu/concept/soundgenres/</a>
EAGLE Material & Object Type	<a href="http://www.eagle-network.eu/voc/">http://www.eagle-network.eu/voc/</a>
DISMARC Formats & Genres	<a href="http://purl.org/dismarc/ns/">http://purl.org/dismarc/ns/</a>
UDC	<a href="http://udcdata.info/rdf/">http://udcdata.info/rdf/</a>
UNESCO Thesaurus	<a href="http://vocabularies.unesco.org/thesaurus/">http://vocabularies.unesco.org/thesaurus/</a>
YSO General Finnish Ontology	<a href="https://finto.fi/ys0/en/">https://finto.fi/ys0/en/</a>

<https://pro.europeana.eu/page/europeana-semantic-enrichment>

# Enriching metadata

- EDM gives a base for (linking to) multilingual, semantic metadata
  - data as resources with web URIs, not only strings
- We encourage data providers to contribute their own links/data to local or external vocabularies
- In parallel, we apply automatic enrichment to link object metadata to reference datasets/vocabularies for places, persons, concepts

<https://pro.europeana.eu/page/europeana-semantic-enrichment>

# Europeana's Entity Collection

- Centralized point of reference and access to data about contextual entities: places, persons and organizations, concepts...
- Caching and curating data from the wider Linked Open Data cloud
- A sort of Europeana knowledge graph
- With a dedicated API - including look-up by third-party URIs

<https://pro.europeana.eu/page/entity#entity-collection>

# Data currently in the Entity Collection

216,302  
resources

- *Places*

*a subset of **Geonames**, corresponding to places which are part of European countries and of some specific feature classes.*

165,005  
resources

- *Agents*

*a subset of **DBpedia** corresponding to most of the instances of dbp:Artist with some exceptions, and integrated from 49 DBpedia language editions.*

1,572  
resources

- *Concepts*

*a subset of **DBpedia** and **Wikidata** corresponding to a selection of concepts matching our needs, e.g., WWI battles, music genres (Europeana Sounds aggregator) and a photography vocabulary (Europeana Photography aggregator)*

3,304  
resources

- *Organizations*

*Extracted from Europeana's CRM and aligned to **Wikidata** when possible*

<https://pro.europeana.eu/page/entity#entity-collection>

# Selecting data sources for enrichment

- **Availability and access:** open license, published as linked data
- **Granularity, size and coverage:** multilingual data, with a rather generic scope. NB: too generic or too large datasets can create too much ambiguity for the simple processes we have (e.g., enrichment)
- **Quality:** intrinsic aspects like correctness of representation
- **Connectivity:** good data sources are well-connected internally and externally to other datasets

# An example Resource for “Mozart” in the Entity Collection

```
{ "@context": "http://data.europeana.eu/entity/context.json",
  id: "http://data.europeana.eu/agent/base/146951",
  type: "Agent",
  *prefLabel: [
    ar: "مُوْظْفَاتُ مُوسَّى مُوسَّى مُوسَّى",
    az: "Wolfgānq Amadey Mōzār",
    be: "Вольфганг Амадей Моцарт",
    bg: "Волфганг Амадеус Моцарт",
    bs: "Wolfgang Amadeus Mozart",
    ca: "Wolfgang Amadeus Mozart",
    cs: "Wolfgang Amadeus Mozart",
    cy: "Wolfgang Amadeus Mozart",
    da: "Wolfgang Amadeus Mozart",
    de: "Wolfgang Amadeus Mozart",
    el: "Βόλφρανγκ Αμαδείους Μότσαρτ",
    en: "Wolfgang Amadeus Mozart",
    es: "Wolfgang Amadeus Mozart",
    et: "Wolfgang Amadeus Mozart",
    eu: "Wolfgang Amadeus Mozart",
    fi: "Wolfgang Amadeus Mozart",
    fr: "Wolfgang Amadeus Mozart",
    ga: "Wolfgang Amadeus Mozart",
    gd: "Wolfgang Amadeus Mozart",
    gl: "Wolfgang Amadeus Mozart",
    he: "וּלְפָגָן אַמָּדֵעַס מֹזָאַרְט",
    hi: "वोल्फगांग अमेड़ेयस मोर्तार",
    hr: "Wolfgang Amadeus Mozart",
    hu: "Wolfgang Amadeus Mozart",
    hy: "Անդրանիկ Անդրանիկ Մուշեղի Մो"
    is: "Wolfgang Amadeus Mozart",
    it: "Wolfgang Amadeus Mozart",
    ja: "ヴォルフガング・アマデウス・モーツアルト",
    ka: "ვოლფგანგ ამადეუს მოზარტი",
    ko: "볼프강 아마데우스 모차르트",
    lt: "Wolfgangas Amadėjus Mocartas",
    lv: "Wolfgangs Amadejs Mocarts",
    mk: "Волфганг Амадеус Моцарт",
    nl: "Wolfgang Amadeus Mozart",
    no: "Wolfgang Amadeus Mozart",
    pl: "Wolfgang Amadeusz Mozart",
    pt: "Wolfgang Amadeus Mozart",
    ro: "Wolfgang Amadeus Mozart",
    ru: "Моцарт, Вольфганг Амадей",
    sk: "Wolfgang Amadeus Mozart",
    sl: "Wolfgang Amadeus Mozart",
    sq: "Wolfgang Amadeus Mozart",
    sr: "Волфранг Амадеус Моцарт",
    sv: "Wolfgang Amadeus Mozart",
    tr: "Wolfgang Amadeus Mozart",
    uk: "Волфранг Амадей Моцарт",
    yi: "וּלְפָגָן אַמָּדֵעַס מֹזָאַרְט",
    zh: "沃尔夫冈·阿马德乌斯·莫扎特"
  ],
  *altLabel: [
    en: "Mozart, Johann Chrysostom Wolfgang Amadeus",
    "en.en": "Mozart, Wolfgang Amadeus"
  ],
  *biographicalInformation: [...],
  *dateOfBirth: [
    "1756-01-27"
  ],
  *dateOfDeath: [
    "1791-12-05"
  ],
  *end: [
    "1791-12-05"
  ],
  *identifier: [
    "32197206"
  ],
  *placeOfBirth: [
    {
      "@id": "http://dbpedia.org/resource/Salzburg"
    },
    {
      "@id": "http://dbpedia.org/resource/Austria"
    }
  ],
  *placeOfDeath: [
    {
      "@id": "http://dbpedia.org/resource/Vienna"
    },
    {
      "@id": "http://dbpedia.org/resource/Austria"
    }
  ],
  *sameAs: [
    "http://sw.dbpedia.org/resource/Wolfgang_Amadeus_Mozart",
    "http://ro.dbpedia.org/resource/Wolfgang_Amadeus_Mozart",
    "http://bg.dbpedia.org/resource/Волфранг_Амадеус_Моцарт",
    "http://nds.dbpedia.org/resource/Wolfgang_Amadeus_Mozart",
    "http://pa.dbpedia.org/resource/ഡേബ്ലാൻ അമേദുസ് മോസ്റ്റർ",
    "http://oc.dbpedia.org/resource/Wolfgang_Amadeus_Mozart",
  ]
}
```

Preferred labels for many languages

Inter-linking information

Coreference links to other datasets  
(e.g. Wikidata)

# An enrichment example



LANGUAGE

[Return to Home](#) / Item

Search by keyword here



We want your feedback on our new item page, use our feedback button to leave your comments.



Zittende jongeman bij ton met het hoofd naar links

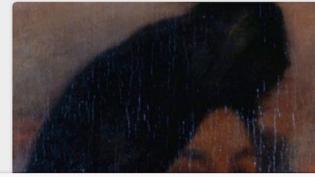


## Drawing

Drawing is a form of visual art that makes use of any number of drawing instruments to mark a two-dimensional medium. Instruments used include graphite pencils, pen and ink, inked brushes, wax...

[View more](#)

## Type of this object



## Johannes Vermeer

Johannes, Jan or Johan Vermeer (Dutch: [jo'hɑnəs jan vɔr'me:r]; 1632 – December 1675) was a Dutch painter who specialized in domestic interior scenes of middle-class life. Vermeer was a moderately...

FEEDBACK

Created by

Johannes Vermeer



Anoniem (17e eeuw), Vermeer, Johannes (1632 - 1675), tekenaar, oude toeschrijving tekenaar

# And what it allows

[Return to Home](#) / Item

We want your feedback on our new item page, use our feedback button to leave your comments.



## Zittende jongeman bij ton met het hoofd naar links

Created by

Johannes Vermeer



Anoniem (17e eeuw), Vermeer, Johannes (1632 - 1675), tekenaar, oude toeschrijving tekenaar

### OUR SITES

### LANGUAGE

Dansk	Català	Čeština
<b>English</b>	Deutsch	Ελληνικά
Suomi	Español	Eesti
Hrvatski	Français	Gaeilge
Lietuvių	Magyar	Italiano
Norsk	Latviešu	Malti
Português	Nederlands	Polski
Slovenčina	Română	Русский
	Slovenščina	Svenska

### Drawing

Drawing is a form of visual art that makes use of any number of drawing instruments to mark a two-dimensional medium. Instruments used include graphite pencils, pen and ink, inked brushes, wax...

[View more](#)

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FEEDBACK

# And what it allows

UNSERE SEITEN

SPRACHE ▾

[Zurück zur Startseite](#) / [Objektdetail](#)

Hier nach Stichwort suchen



We want your feedback on our new item page, use our feedback button to leave your comments.



Zittende jongeman bij ton met het hoofd naar links

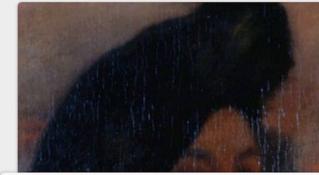


Zeichnung (Kunst)

Eine Zeichnung ist ein Bild, das ein Motiv in unterschiedlich stark vereinfachender Weise mit Linien und Strichen darstellt. Das unterscheidet die Zeichnung von der Malerei, die ein Motiv durch den...

[Mehr anzeigen](#)

Type of this object



Jan Vermeer

Jan Vermeer van Delft (getauft 31. Oktober 1632 in Delft; begraben 15. Dezember 1675 in Delft; zeitgenössisch: Joannis ver Meer, Joannis van der Meer) ist einer der bekanntesten holländischen Maler...

FEEDBACK

Created by

Jan Vermeer



Anoniem (17e eeuw), Vermeer, Johannes (1632 - 1675), tekenaar, oude toeschrijving tekenaar

# Automatic enrichment is not easy!

Inde

Lire Modifier

Plus



Rechercher



Pour les articles homonymes, voir [Inde \(homonymie\)](#),  
[Sous-continent indien](#) et [Plaque indienne](#).

L'Inde, en forme longue la **République de l'Inde** (en [hindi](#) भारत गणराज्य (hi) Écouter) ou [Republic of India](#) (en) est un pays du sud de l'**Asie** qui occupe la majeure partie du sous-continent indien.

L'Inde est le deuxième pays le plus peuplé et le septième pays le plus grand du monde. Le littoral indien s'étend sur plus de sept mille kilomètres. Le pays a des frontières communes avec le

République de l'Inde

भारत गणराज्य (hi) Écouter

Republic of India (en)



Drapeau de l'Inde



सत्यमेव जयते  
Emblème de l'Inde



Inde

Skatīt

Labot

Vairāk

Meklēt



Vikipēdijas lapa

Inde ir viela vai vielu maišķums, kas jau mazās devās nāvējoši iedarbojas uz dzīvu [organismu](#).



Šis ar [ķīmiju](#) saistītais raksts ir nepilnīgs. Jūs varat [dot savu ieguldījumu Vikipēdijā, papildinot to](#).



Šis ar [bioloģiju](#) saistītais raksts ir nepilnīgs. Jūs varat [dot savu ieguldījumu Vikipēdijā, papildinot to](#).



ES standartos noteiktais apzīmējums toksiskām vielām

Kategorijas: [Nepabeigli raksti par ķīmiju](#) | [Nepabeigli raksti par bioloģiju](#) | [Toksiķoloģija](#)

*Poisonous India or the Importance of a Semantic and Multilingual Enrichment Strategy*

Marlies Olensky, Juliane Stiller, Evelyn Dröge, MTSR 2012

[http://link.springer.com/chapter/10.1007%2F978-3-642-35233-1\\_25](http://link.springer.com/chapter/10.1007%2F978-3-642-35233-1_25)

CC BY-SA

# Enriching metadata

- EDM gives a base for (linking to) multilingual, semantic metadata
  - data as resources with web URIs, not only strings
- We encourage data providers to contribute their own links/data to local or external vocabularies
- In parallel, we apply automatic enrichment to link object metadata to reference datasets/vocabularies for places, persons, concepts
- Partners further develop crowdsourcing/"nichesourcing" of metadata as well as their own automatic enrichments

# Partner enrichments

- Types: semantic enrichment, translation, transcription...
  - Provenance: automatic, manually crowdsourced,
  - Validation: by providers, by the crowd
- 
- We extended EDM for representing provenance of enrichments and confidence values  
<https://pro.europeana.eu/page/edm-profiles#enrichments-provenance-profile>
  - We are working on an enrichment (and validation) policy



**Encouraging everyone  
on the way to improve  
their data**

Photograph of two men step cutting on the ice face of  
the Tasman Glacier, New Zealand in the late 19th or  
early 20th century.

Roslin Glass Slides, creator unknown

University Of Edinburgh, CC BY

# Convincing by impact



# Europeana Publishing Framework: Metadata

Here you see how the different metadata tiers of the Publishing Framework work.

TIER	LANGUAGE	ENABLING ELEMENTS*	CONTEXTUAL CLASSES**	BENEFITS (CUMULATIVE)
A Europeana as a basic search platform. <i>'I want to find a specific item that I'm looking for.'</i>	At least 25% of the provided EDM metadata fields that are relevant have at least 1 language qualified value	At least one enabling element taken from one of the 'Discovery scenario' groups	None	<b>Findability</b> - material is available on Europeana Collections, indexed by search engines, and linked data technology <b>Web traffic</b> - click-throughs to your site
B Europeana as an exploration platform. <i>'I want to browse and explore Europeana even if I'm not sure what I'm looking for.'</i>	At least 50% of the provided EDM metadata fields that are relevant have at least 1 language qualified value	At least three distinct elements taken from two of the 'Discovery scenario' groups	At least one contextual class with all minimum required elements, OR link to <b>LOD vocabulary</b>	Greater potential for: <b>Use in thematic collections</b> - providing context and relation to other collections <b>More marketing</b> through Europeana
C Europeana as a knowledge platform. <i>'I want to search and browse in a more precise way, by named authors, specific subjects or topics.'</i>	At least 75% of the provided EDM metadata fields that are relevant have at least 1 language qualified value	At least four distinct elements taken from two of the 'Discovery scenario' groups	At least two distinct contextual classes with all minimum required elements, OR links to <b>LOD vocabularies</b>	Greater potential for: <b>Use in Europeana's existing partnerships and projects</b> , in e.g. education and research <b>Use in apps and services</b> <b>Use by creative industry</b>

<https://pro.europeana.eu/post/publishing-framework>

# GUIDELINES

Europeana Knowledge Base section on enrichment:

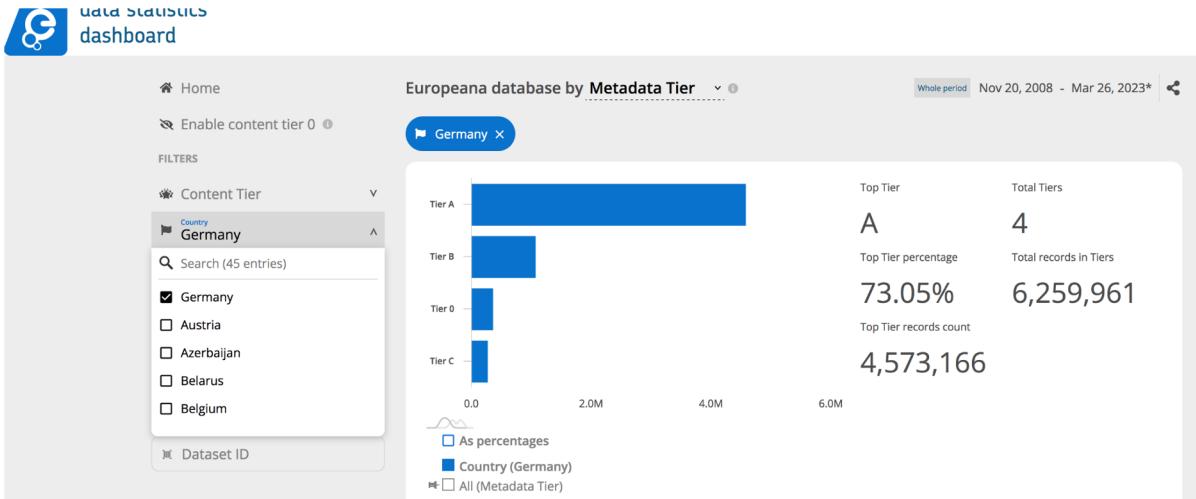
<https://europeana.atlassian.net/wiki/spaces/EF/pages/1476952093/Enrichments>

- Explains what Europeana does automatically
- Explains what vocabulary we de-refer and how to submit new ones

# REPORTING

Metis Statistics dashboard

<https://metis-statistics.europeana.eu/en/>



# REPORTING

Metis Sandbox reports on problem patterns – field warnings

- Reporting on the number of occurrences of selected quality problem patterns (for the moment focusing on titles issues like redundancy between title and description)
- Available to Europeana aggregators
- Will include some problem patterns that are relevant for vocabularies and multilinguality
  - Missing language tags in metadata values, wrong URIs for vocabulary entities



Problem Patterns (Dataset)

Dataset: 3419  
26/10/2022, 10:39:13

⚠ P1: Systematic use of the same title (ignoring case)  
Occurs in 13 records:

- /3419/\_providedCHO\_MHC\_EMC\_09\_ms\_018  
"Erken Cumhuriyet'te havacılıkla ilgili Concerni..."
- There are 7 records with this title ▾
  - /3419/\_providedCHO\_MHC\_EMC\_09\_ms\_018
  - /3419/\_providedCHO\_MHC\_EMC\_09\_ms\_009.jpg
  - /3419/\_providedCHO\_MHC\_EMC\_09\_ms\_036

# A community sport, again!

Involving (technical) experts from libraries, archives, museums and academics and Europeana's aggregators

- The [Data Quality Committee](#) from the EuropeanaTech community
- The [Europeana Aggregators Forum](#)

TECH

Posted on Tuesday August 1, 2017

## Data Quality Committee

Quality is a key priority for our whole community!  
The Data Quality Committee works to address key data quality issues over time.

Updated on Monday November 7, 2022

Data standards Network Cultural  
Heritage Institutions data-quality  
europeantech working-group



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