



Deutsches Dokumentationszentrum für Kunstgeschichte -  
Bildarchiv Foto Marburg



Sharing Museum Information:  
Theory or Practice?  
A European Experience

Regine Stein

CIDOC 2010, Shanghai 10th Nov 2010



# Sharing Museum Information: Outline

1. Introduction
2. The Europeana Framework and ATHENA
3. The LIDO Format
4. Contributing content I: Bildarchiv Foto Marburg
5. Contributing content II: The ATHENA mapping and ingestion process
6. The European experience: Conclusions



# Presenting Museum Information

## In Cross-sectoral Context

My Europeana About us

beta

Paintings, music, films and books from Europe's galleries, libraries, archives and museums. [Find out more](#)

Search ?

Advanced search

ART NOUVEAU: AN ONLINE EXHIBITION

1 2 3 4

Share your ideas: [share](#)

People are currently thinking about: [Da Vinci](#) [Mozart](#) ["glasgow school"](#)

Explore and navigate: [Browse through time](#)

New content: [From our partner museums, archives, libraries and audio-visual collections](#)

Using Europeana Accessibility Sitemap Terms of use Privacy Language policy [Contacts](#) [Send us feedback](#)

co-funded by the European Union



# ATHENA

## Access to cultural heritage networks across Europe

The screenshot shows the ATHENA website interface. At the top, there is a navigation bar with a search field and a list of languages: Český, Български, русский язык, עברית, Deutsch, Ελληνικά, Eesti, English, Français, Italiano, Latviešu, Magyar, Nederlands, Polski, Română, Slovenčina, Slovenski, Suomi, Svenska. Below the navigation bar is the ATHENA logo, which features a stylized owl and the text "ATHENA Access to cultural heritage networks across Europe".

The main content area is divided into several sections:

- About us:** A vertical menu on the left side of the main content area, listing various sections like "Partners and contributors", "National Contact Points", "Work Packages", etc.
- ATHENA Help Desk:** A section providing technical help for LIDO and the ATHENA ingestor.
- ATHENA Wiki:** A section describing a tool for collaborative work for WP4 tasks.
- Events:** A section listing recent events, including "Budapest: ATHENA Plenary Meeting; Michael Culture Workshop: Innovative Public Services for Digital Cultural Heritage" (22-23 November, 2010), "Brussels: DC-NET Conference e-Infrastructures for Cultural Heritage" (29 October, 2010), "Shanghai: Cidoc 2010" (7-12 November, 2010), "Lemesos: Euromed 2010: 'Museum Futures: Emerging Technological and Social Paradigms'" (8-13 November, 2010), and "Jerusalem: EVA/MINERVA 2010 The 7th Jerusalem Conference on the Digitisation of Cultural Heritage" (16-17 November, 2010).
- News:** A section listing recent news items, including "2010-10-25 Next Work Programme and Call for Proposals - 2011", "2010-10-17 First ATHENA Content providers' collections available in Europeana", "2010-09-02 Europeana Semantic Elements Update - ESE v3.3", "2010-06-07 SKOS Workshop in TelAviv: videos available on line", and "2010-06-01 Europeana Publishes First White Paper:".

On the right side of the website, there are logos for the European Union, Europeana, Michael, and Minerva.



# Semantic interoperability with Europeana

The screenshot shows the Europeana search interface. At the top left is the Europeana logo with the tagline 'think culture'. The search results are for the query 'bathseba'. The interface includes a navigation bar with tabs for 'All', 'Texts (0)', 'Images (40)', 'Videos (0)', and 'Sounds (0)'. Below this is a pagination bar showing 'Results 1 - 12 of 40' and 'Page: 1'. On the left side, there are several filters: 'Refine your search:' with options for language (de: 22, nl: 18), country (germany: 22, netherlands: 18), date, provider (Saxon State Library: 21, Het Geheugen van Ned.: 18, Stadtgeschichtliches: 1), and type (image: 40). Below the filters are 'Actions:' including 'Save this search' and 'Login | Register'. The main area displays a grid of 12 search results, each with a thumbnail image and a caption. The results include: 1. A modern building (Bathseba, SLUB/Deutsche Fotothek). 2. A classical painting (Bathseba, Massys, Cornelis, 1549). 3. A classical painting (Bathseba, Corinth, Lovis, 1908). 4. A classical painting (Bathseba, Manet, Edouard). 5. A sculpture (Bathseba, Köhler, Klaus-Dieter, 1984). 6. A woodcut (Bathseba im Bade, 1600, Stadtgeschichtliches Museum Leipzig). 7. A classical painting (David und Bathseba, Cranach, Lucas, 1526). 8. A classical painting (David und Bathseba, Cranach, Lucas, 1526). 9. A classical painting (David und Bathseba, Cranach, Lucas, 1526). 10. A classical painting (David und Bathseba, Cranach, Lucas, 1526). 11. A classical painting (David und Bathseba, Cranach, Lucas, 1526). 12. A classical painting (David und Bathseba, Cranach, Lucas, 1526).



## Semantic interoperability with Europeana

- The data model currently used in the Europeana prototype, ESE, is based on the Dublin Core metadata format.
- Although initially created strictly for the description of web resources, Dublin Core has become the most common format in cultural heritage service environments.
- However, the ESE model is not considered as appropriate within the museum community: museum metadata is ‘flatten out’.



# Semantic interoperability with Europeana

The screenshot shows the Europeana search results for the query 'bathseba'. The interface includes the Europeana logo, search filters, and a list of results. The first result is highlighted, showing a woodcut image of Bathsheba in a garden. The metadata for this result is as follows:

**Matches for:** bathseba

**All** | Texts (0) | Images (40) | Videos (0) | Sounds (0)

Results 1 - 12 of 40 | Page: 1 | 2 | 3 | 4 | →

**Item details**

[Return to results](#)

**Bathseba im Bade**

**Title:** Bathseba im Bade

**Date:** 1590; 1610; um 1600

**Description:** Darstellung eines Gartens mit Laubengang und Brunnen, an dem einer Frau die FüÙe gewaschen werden.  
Holzschnitt

**Format:** 11,5 x 15,8 cm; Einzelobjekt; Papier / Holzschnitt

**Source:** Stadtgeschichtliches Museum Leipzig

**Provider:** Stadtgeschichtliches Museum Leipzig ; germany

**Identifier:** A 171; gr011366

**Subject:** Bathseba; Brunnen; David; Laubengang

**Type:** Grafik; Holzschnitt; Kunst/Kunsthandwerk

**Publisher:** SLUB/Deutsche Fotothek

**Subject:** Dresden; Tafelmalerei

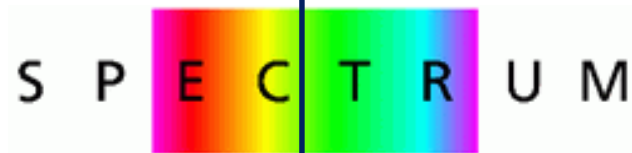
**Type:** image

[Login](#) | [Register](#)



## The LIDO format

2008-2010:



**LIDO**

- cdwalite-xsd-public-v1-1.xsd

- museumdat-v1.0.xsd

- spectrum-3.1.xsd



## XML Schema for Contributing Content to Cultural Heritage Repositories

- For delivering metadata, for use in a variety of online services, from an organization's online collections database to portals of aggregated resources – as well as exposing, sharing and connecting data on the web.
- Intended to represent the full range of descriptive information about museum objects, e.g. art, cultural, technology and natural science.
- It supports multilingual environments.



- Object Classifications –

Object / Work Type *(mandatory)*

Classification

-Object Identifications –

Title / Name *(mandatory)*

Inscriptions

Repository / Location

State / Edition

Object Description

Measurements

-Events –

Event Set

-Relations –

Subject Set

Related Works

-Administrative Metadata –

Rights

Record *(mandatory)*

Resource



is the result of a joint effort of several international key institutions and groups dealing with museum documentation standards

- It provides a single, common schema for contributing content to cultural heritage repositories.
- This enables museums and other content providers, using different data structures and software systems, to express and deliver a wide variety of information in a standardized and machine-readable format.
- This information can easily be accessed, harvested and recontextualized by semantic-aware services.



# Contributing Content: Bildarchiv Foto Marburg

Treffer 1 - 10 / 13

Treffer 1 - 10 / 13

Titel / Bauwerkname

 <p>Hauptbahnhof Paul Bonatz... 1911-1928, Stuttgart, Arnulf-Klett-Platz -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 - Joseph in seiner Werkstatt &amp; Rechter ... -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 - Joseph in seiner Werkstatt &amp; Rechter ... -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 - Joseph in seiner Werkstatt &amp; Rechter ... -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 - Joseph in seiner Werkstatt &amp; Rechter ... -</p>
 <p>Hauptbahnhof Paul Bonatz... 1911-1928, Stuttgart, Arnulf-Klett-Platz -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 - Kniendes Stifterpaar &amp; Linker Flügel -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 - Verkündigung Mariens -</p>	 <p>Mérode-Triptychon Robert Campin... 1425/1430 - Verkündigung Mariens -</p>



## Contributing Content: Bildarchiv Foto Marburg

- It requires analysis not only of the full data structure, but also of how these data fields have been filled.
- Even with a documentation system based on a standard, everyday indexing practice tends to establish collection-specific, implicit rules and preconditions, which have to be respected in the mapping.
- The most challenging part of the exercise was to correctly regroup information that is split up into specific data fields into the event-based LIDO structure, but: It worked!



# Contributing Content: Bildarchiv Foto Marburg



europæana\_collectionName:08501\*

Search



[Refine Search](#) [Advanced search](#)

Matches for: europæana\_collectionName:08501\* > text:gaasch

All Texts (0) Images (3,949) Videos (0) Sounds (0)

Results 1 - 12 of 3,949 Page: 1 2 3 4 5 6 7 8 9 10 → [share](#)

Refine your search:

By provider [+](#)

By language [+](#)

By country [+](#)

By date [+](#)

By type [+](#)

Actions:

[Save this search](#) →

[Login](#) | [Register](#)



No image? Click through the colour block to see the item. We are still loading...



**Apostelreliefs der Georgenchorschränke**  
Bildarchiv Foto Marburg  
Athena



**Apostelreliefs der Georgenchorschränke**  
Bildarchiv Foto Marburg  
Athena



**Apostelreliefs der Georgenchorschränke**  
Bildarchiv Foto Marburg  
Athena



**Apostelreliefs der Georgenchorschränke**  
Bildarchiv Foto Marburg  
Athena



**Apostelreliefs der Georgenchorschränke**  
Bildarchiv Foto Marburg  
Athena



**Rieger-Orgel**  
Bildarchiv Foto Marburg  
Athena



**Rieger-Orgel**  
Bildarchiv Foto Marburg  
Athena



**Georgenaltar**  
Heideloff, Carl Alexander von (Bildhauer)  
Bildarchiv Foto Marburg  
Athena



**Kathedra**



**Kirchgattdorfer Altar &**



**Kirchgattdorfer Altar &**



**Epitaph für Fürstbischof**



# Contributing Content: ATHENA mapping tool



**ATHENA**

Access to cultural heritage  
networks across Europe

- HOME
- MY PROFILE
- ADMINISTRATION
- IMPORT
- OVERVIEW
- DATA REPORT
- LOGOUT

## Overview

An overview of all the imports and items per organization and per uploader:

**Imports**

Organization:

**Imports by use**

View all available

Organization	Items
Alliance Israelite universelle, Paris	
Antwerp City Archives	
Benaki Museum	
Bibliotheksservice-Zentrum Baden-Wurtemberg	
Bildarchiv Foto Marburg	
Carinthian Regional Museum	
Central Library of the Bulgarian Academy of Sciences	
Centre of Technical Culture - Industrial Museum Ermoupolis	
Centre PIC	
Chouvashia State Art Museum	
Collection Flemish Government	
Collections Trust	
digiCULT-Verbund eG	
d:kult	
Emanuel Ringelblum Jewish Historical Institute, Warsaw	
English Heritage	
Estonian Ministry of Culture	
Finnish National Gallery	
Fitzwilliam Museum	
foobar	

Fertig

5. Contributing Content II:

The ATHENA mapping and ingestion process



# Contributing Content: ATHENA mapping tool

The screenshot displays the ATHENA mapping tool interface. At the top, there are two tabs labeled 'Athena Tool'. Below the tabs, the main area is titled 'Mappings: museumdat2lido (LIDO 0.9)'. A message states: 'Define your mappings and when you are done click the "Finished" button below to make them available to the rest of the users in your organization. \*Mapping relations are automatically saved every time you edit, delete or create a new one.' Below this message are buttons for 'Finished', 'Preview', and 'Summary'.

The interface is divided into several panels:

- Source Schema:** Two panels showing the 'museumdat' schema structure. The left panel shows the original schema, and the right panel shows the mapped schema with elements like 'eventSet', 'displayEvent', and 'event'.
- Mappings:** A central panel showing the mapping configuration for 'eventSet'. It includes a mapping for 'event' with various attributes like 'eventID', 'eventType', 'roleInEvent', etc.
- Target Schema:** A panel on the right showing the 'LIDO 0.9' target schema structure.
- Help Window:** A pop-up window titled 'Help' with a 'Mapping' tab. It displays statistics for the 'museumdat:eventType=Herstellung' mapping. The statistics include:
 

Value	Frequency
Herstellung	123
Standort	53
Aufbewahrung	40
Herkunft	12
Erweiterung	11
Auftrag	9
Umgestaltung	6
Gedenken	4
Entwurf	4
Restaurierung	3
Fund	2
Zerstörung	2
Objektstandort	2

At the bottom right of the interface, there is a copyright notice: '©National Technical University of Athens'.

## 5. Contributing Content II: The ATHENA mapping and ingestion process



## Contributing Content: ATHENA mapping toolc

- The mapping tool enables semantic interoperability of content from many different collections and from different management systems with different data structures.
- The overall mapping results are good and the questions on the helpdesk list comprehensive.
- Yet to get to a meaningful mapping that best reflects the source information in the target schema, several feedback loops are often needed.



## Contributing Content: ATHENA mapping tool

- The mapping process is considerably easier if the source schema is based on a documentation standard such as SPECTRUM, CDWA, or national standard.
- Features supporting data analysis and data value statistics, provided in the mapping tool, help immensely in this process.
- It is both appropriate and simpler to map to a well-structured metadata format instead of randomly choosing some corresponding field in a flat structure.



# Contributing Content: ATHENA mapping tool

The screenshot displays the Athena Tool interface. At the top, the logo for ATHENA (Access to cultural heritage networks across Europe) is visible, along with navigation tabs: HOME, MY PROFILE, ADMINISTRATION, IMPORT, OVERVIEW, and LOGOUT. The main content area is titled 'Overview' and provides an overview of imports and items per organization and per uploader. A sidebar on the left shows the organization 'Bildarchiv Foto Marburg' with options to 'show all imports' and 'show all items', and the uploader 'Regine Stein' with options to 'show imports' and 'show items'.

The central focus is the 'XML Transformed' window, which shows the mapping process for the artwork 'La Primavera / Der Frühling'. The window title is 'XML Transformed' and it indicates 'Transformed using Mappings museumdat2lido'. The window has tabs for 'Input XML', 'Generated XSL', 'Output XML (Lido)', 'Output XML (ESE)', and 'Europeana'. The main content of the window displays the following information:

- Title:** La Primavera / Der Frühling
- Date:** 1482
- Format:** Tempera; Farbmaterial; Pappelholz; Holz
- Provider:** ATHENA Project
- Less** (link)
- Identifier:** 00154983
- Type:** Bild; Bildwerk; IMAGE; Tafelmalerei; Malerei

A red arrow points from the 'View In Original Context' link in the XML Transformed window to the 'bildindex' search results. The 'bildindex' window shows the search results for 'La Primavera / Der Frühling' by Sandro Botticelli. The search results include a list of items with their respective image thumbnails and metadata, such as 'Foto Marburg, Aufnahme-Nr. C 654.591; (color); Aufn.-Datum: 1949; Fotoinhalt: gesamt'.



# Contributing Content: ATHENA mapping tool



Related content:

Items

Female figure

Male figure

Male figure (blulo-bian)

[See all related items](#)

Actions:

[Add a tag](#) →

[Save to My Europeana](#) →

[Login](#) | [Register](#)

Matches for: europeana\_collectionName:08502\*

Item details

[Return to results](#)



**Pair of figures (bateba)**

Title: Figure  
Pair of figures (bateba)

Date: Late 19th – early 20th century [Create]

Description: Repository/Location: Israel Museum, Jerusalem

Format: H: 75.6 (female), 73 cm (male); Wood

Rights: Gift of Mr. and Mrs. Gustave Schindler, New York, to American Friends of the Israel Museum; Israel Museum, Jerusalem; Photo © The Israel Museum, Jerusalem [Resource]

Data provider: Israel Museum, Jerusalem

Provider: Athena ; Europe

[Less](#)

Identifier: item 224831 [Metadata]; local (default) B85.0080(a-b)

Subject: Africa; Art; Figure

[View in original context](#)  
Opens in a new window

Matches for: europeana\_collectionName:08501\* > text:hajdu

Item details

[Return to results](#)

[share](#)



**Antependium: Christus und die 12 Apostel**

Title: Antependium: Christus und die 12 Apostel

Date: 1101/1200 [Herstellung]

Geography: Schwaben [kultureller Kontext] [Herstellung]

Location: Aufbewahrung/Standort: Großcomburg, Katholische Stiftskirche Sankt Nikolaus

Creation: Aufnahme des Fotos: 2006

Contributor: Hajdu, Rose

Material: getrieben & vergoldet

Material: Edelstein

Provider: Deutsches Dokumentationszentrum für Kunstgeschichte - Bildarchiv Foto Marburg

Provider: Deutsches Dokumentationszentrum für Kunstgeschichte - Bildarchiv Foto Marburg

Provider: Hajdu, Rose [Resource]

Provider: Bildarchiv Foto Marburg

Provider: Athena ; Germany

Identifier: info:isil/DE-Mb112 - rhsha003 [Resource]; local 20118048 [Metadata]

Identifier: 11 D 32 1 (+0); 11 13; die zwölf Apostel (als Gruppe), in der Regel mit Büchern oder

Material: Ilen (nicht im biblischen Kontext), mit Paulus statt Judas; Majestas Domini: Christus in

Material: ndorla sitzt auf einem Regenbogen oder einer Kugel und wird vom Tetramorph begleitet

Material: antependium; Kunstgewerbe; Skulptur



## The European experience: Conclusion

- Not entirely surprisingly, here is a close connection between the level of control initially practised in a source format, e.g. in data structure and data values, and its comprehensive mapping to a standardized harvesting format.
- So try to think of your data, from the outset, as being used outside of your own home context.
- The ease of connecting your research information with other sources increases immensely when data structure and terminology standards are used.



## The European experience: Conclusion

- LIDO, considered as a format for delivering machine-readable data, is an important piece in the whole framework, but standing alone it does not guarantee interoperability.
- It does not resolve the issues of multilingualism in data provided across 20 different European countries using 20 different languages.
- In the first instance, this is a question of data value control.



# The European experience: Conclusion



europæana  
think culture

EDM  
Europeana Data

## ▼ Mérode-Triptychon

**Robert Campin** Maler

Überarbeitung: **Rogier van der Weyden** Maler

1425/1430

Retabel, Tafelmalerei, Triptychon

Öl, Eichenholz

64,5 x 117,8 cm

New York, Metropolitan Museum of Art, The Cloisters

Vorbesitzer: Brüssel, Dauer: bis 1956

Abb. in anderen Microfiche-Publikationen: WIT,12302,F,6-12303,C,4



Foto Marburg, Foto: Ludwig,  
Carl;  
Aufnahme-Nr. 199.535;;  
Aufn.-Datum: 1942/1943;



Objekt 01000066 (Foto Marburg)

## ▼ Verkündigung Mariens

Mitteltafel

64,1 x 63,2 cm

Wappen

Ikonographie (Iconclass)



Foto Marburg, Foto: Ludwig,  
Carl;  
Aufnahme-Nr. 199.538;;  
Aufn.-Datum: 1942/1943;  
Fotoinhalt: Gesamtansicht





## The European experience: Conclusion

- LIDO effectively prepares the ground for new, data quality focused approaches.
- Used in conjunction with controlled terminology, will enable museums to recontextualize their collections in a meaningful way.
- If we succeed to make meaningful connections between objects in different collections, this may improve our understanding of both, tangible and intangible heritage, within the greater cultural heritage context.



Thank you for your attention!

Regine Stein

Deutsches Dokumentationszentrum für  
Kunstgeschichte - Bildarchiv Foto Marburg

E-Mail [r.stein@fotomarburg.de](mailto:r.stein@fotomarburg.de)

<http://www.lido-schema.org/>

<http://www.bildindex.de/>

<http://www.athenaeurope.org/>

<http://www.europeana.eu/>