



National
Documentation
Centre

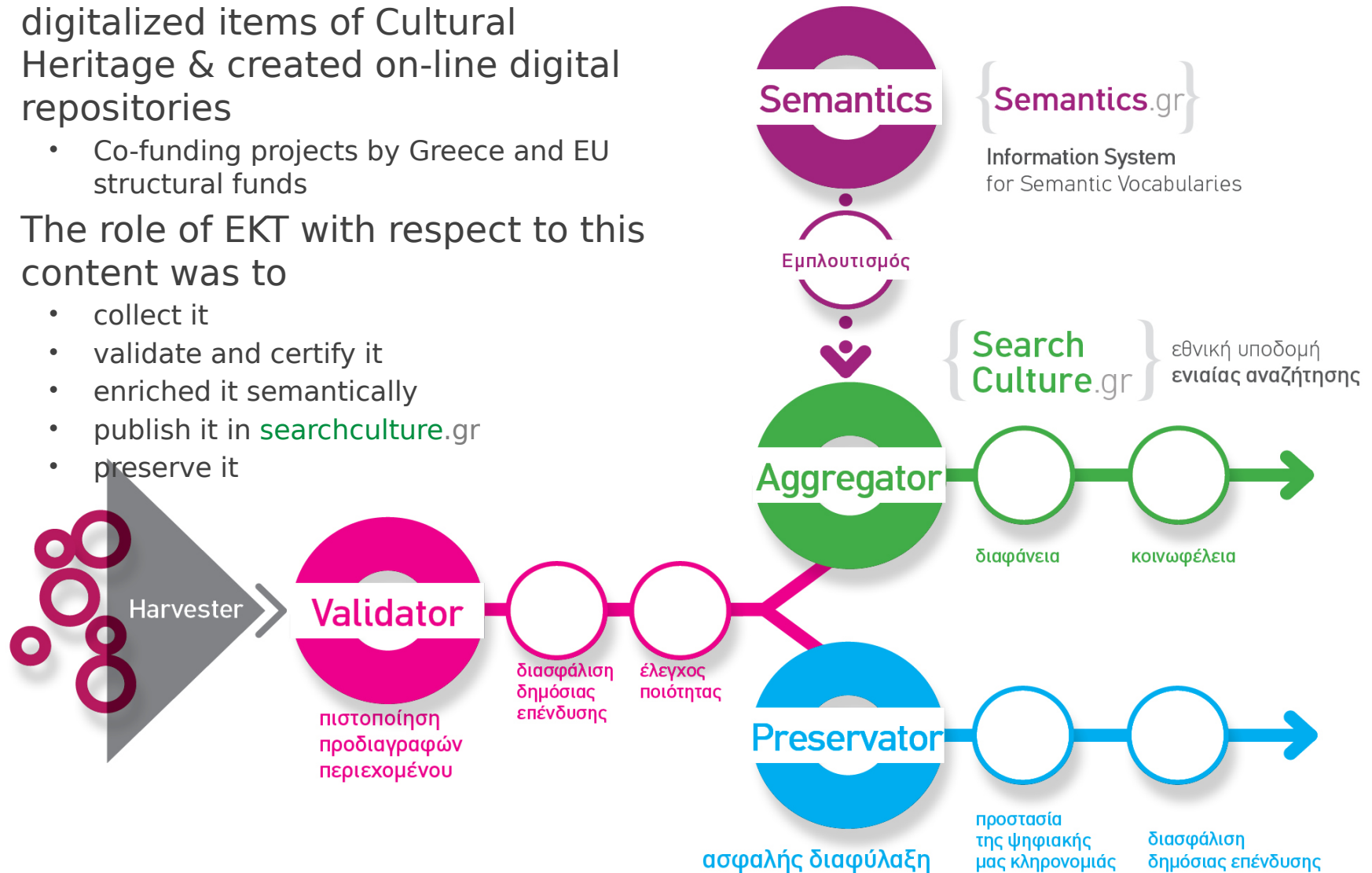


Open access in
Cultural Heritage
digital content

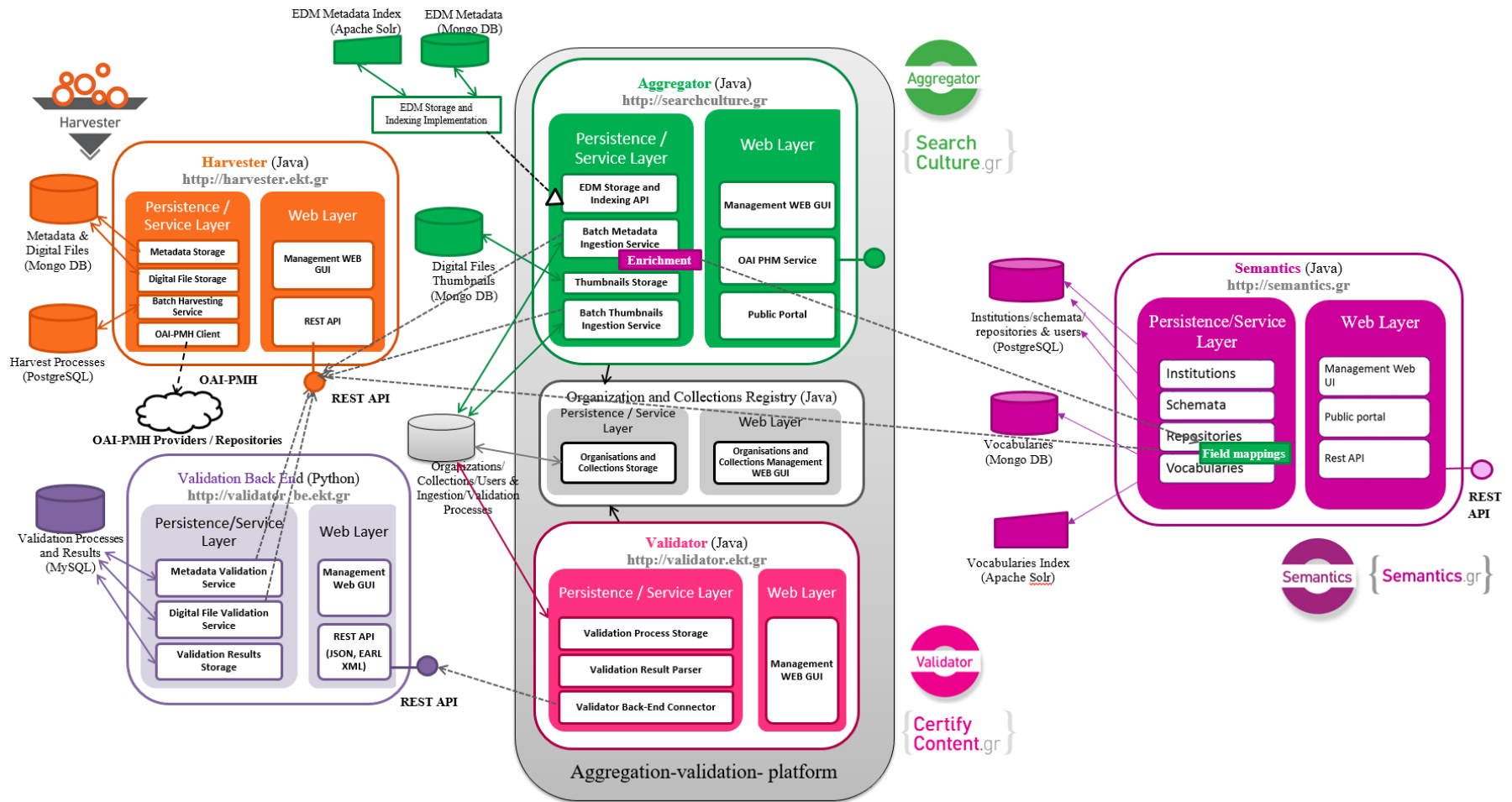
Haris Georgiadis, Ph.D.
Senior Software Engineer
| EKT
hgeorgiadis@ekt.gr

The beginning ..

- 42 institutions documented & digitalized items of Cultural Heritage & created on-line digital repositories
 - Co-funding projects by Greece and EU structural funds
- The role of EKT with respect to this content was to
 - collect it
 - validate and certify it
 - enriched it semantically
 - publish it in searchculture.gr
 - preserve it



The ecosystem architecture



harvester, aggregator (searchculture.gr),
validator (back-end & front-end),
system for enrichment (semantics.gr)



Open access in Cultural Heritage digital content

{ Search
Culture.gr }



Explore 157959 items of a rich variety of types*
from 42 institutions...

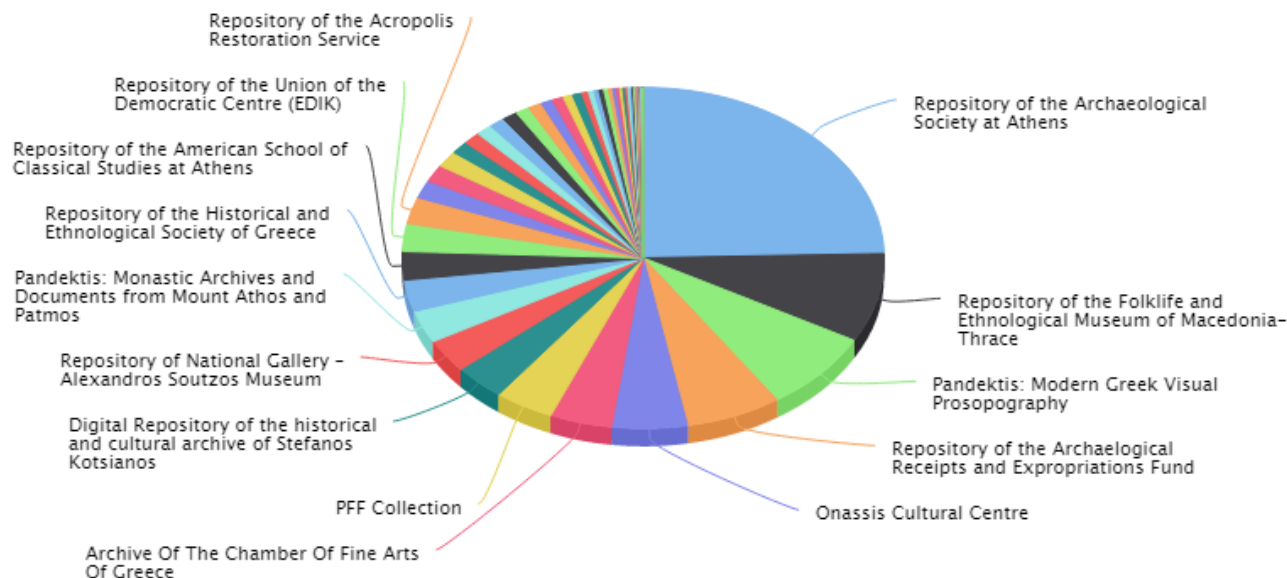
Script and type forms
Archaeological site
Tools and equipment
Master Clipping
Relief
Book page
Household accessories
Needlework
Fragment
Correspondence
Painting
Vase
Manuscript
Drawing/Sketch
Vessel
Engraving
Replica
Book
Article
Machine
Print
Slide
Figurine
Architectural element
Coin
Photo
Archaeological object
Religious visual works
Inscription
Costume (mode of fashion)
Legal case and case note
Photonegative
Sculpture
Jewellery
Ceramic ware
Images and ornament for layout features
Partial document
Personal accessories

*The classification of the content against a vocabulary of types was held by EKT



{ Search
Culture.gr }

Open access in Cultural Heritage digital content



150.000+ items | 53 collections | 42 institutions



Features

- **Aggregates digital content** from registered digital repositories



Public portal

Modern & effective search engine

facet queries

thumbnails



Dissemination as Open Linked Data (Open Linked Data)



Multilingual (English / Greek)



Responsive design



Rights statements per item, mostly CC, defining copyright, accessibility and reusability status



Presents the participating institutions & their collections

Supports **hierarchical navigation**



Challenges for aggregators



Challenges for aggregators

SeachCulture.gr

deals with this problem using **two strategies**



EKT has set specific requirements against which it validates and certifies the aggregated content using **Validator**



EKT using **Semantics.gr** enriches and homogenizes the aggregated content with respect to **dc:type** against a hierarchical bilingual vocabulary of types

Metadata records are enriched with a separated field **'EKT Type'** that holds references to terms of the vocabulary



Search Engine

1 Key-based search

4 Choose collection

2 Narrower search in specific fields

5 Choose EKT type

3 Multiple key-based criteria

6 Choose license for digital content



Search Results - facet filtering

Home page Search Institutions and collections EKT types Project Ελληνικά | English

Enter word or phrase In all fields ☒ + Search Clear

Select EKT types Choose license for digital content ☒

Search all collections ☒

Filters

<< < 1 2 3 > >>

(2577 results)

1/2 1/1

Clear

EKT type

{Semantics.gr}

- ☐ 2D Graphics (382)
 - ☐ Mosaic (51)
 - ☐ Mural painting (321)
 - ☐ Religious visual works (331)
 - ☐ Icon (10)
- ☐ 3D Artefacts and Realia (2231)
 - ☐ Archaeological object (1454)
 - ☐ Archaeological site (62)
 - ☐ Architectural element (478)
 - ☐ Arm (28)
 - ☐ Artifact (1)
 - ☐ Bone (14)
 - ☐ Building (23)
 - ☐ Ceramic ware (536)

Europeana type

- ☐ Image (2577)

Rights

- ☐ CC BY-NC-ND 4.0 (2577)



Όστρακο "Αττικού λύχνου"

EKT type
Archaeological object, Vase, Vessel
Europeana type
Image
Creator
Άγνωστος
Rights
CC BY-NC-ND 4.0
Institution
The Ephorate of Antiquities of Euboea

RDF



Ναός αγίου Γεωργίου Αρμά

EKT type
Building, Monument, Temple
Europeana type
Image
Creator
Άγνωστος
Rights
CC BY-NC-ND 4.0
Institution
The Ephorate of Antiquities of Euboea

RDF



Μυροδοχείο

EKT type
Archaeological object, Vessel, Ceramic ware
Europeana type
Image
Creator
Άγνωστος
Rights
CC BY-NC-ND 4.0
Institution
The Ephorate of Antiquities of Euboea

RDF

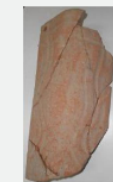


Όστρακο "βορειοαφρικανικού λύχνου"



Όστρακο ερυθροβαφούς κούπας


EKT type
Archaeological object, Vessel, Ceramic ware
Europeana type




Κεραμίδα

Item




 **download the file**
directly from the repository web site *.

 **use**
the file or the thumbnail according to the license CC BY-NC-ND 4.0.



 This item is provided by the institution :
National Gallery – Alexandros Soutzos Museum
and is hosted in the repository :
Repository of National Gallery – Alexandros Soutzos Museum

 **see item page**
in the web site of the repository *.

Semantic enrichment/homogenization by EKT

EKT type **Ζωγραφική** (EL)
Painting (EN)

Title Κεφάλι νέου

Creator **Τσαρούχης Πάννης**

Description Inventory number Π.6179Π.6179
Εθνική Πινακοθήκη - Μουσείο Αλεξάνδρου Σούτζου
Λάδι σε ξύλο

Type **Ζωγραφική**

Subject **Προσωπογραφία**
Μορφή

Provider Εθνική Πινακοθήκη και Μουσείο Αλέξανδρου Σούτζου (EL)
National Gallery – Alexandros Soutzos Museum (EN)

Source Εθνική Πινακοθήκη - Μουσείο Αλεξάνδρου Σούτζου

Publisher **Εθνική Πινακοθήκη - Μουσείο Αλεξάνδρου Σούτζου**

Created 2006-12-19T00:00:00.000+02:00

Date 1941

Europeana type Image


Format 35,5 x 24,5 εκ.


Language No linguistic information



Navigation / Institutions and collections

[Home page](#) [Search](#) [Institutions and collections](#) [EKT types](#) [Project](#) [Ελληνικά](#) | [English](#)

 **Institutions** 42 institutions contributed with 56 collections / repositories in total




Ephorate of Antiquities of Chania – Archaeological Museum of Chania
<http://www.chaniamuseum.culture.gr/>

The Archaeological Museum of Chania is subject to the Ephorate of Antiquities of Chania. It was founded in the early 20th century. Its purpose is the preservation, protection and promotion of cultural heritage of the area and includes exhibits from the Neolithic era (4th millennium BC) up to the Roman period (3rd century AD.).


explore
collection
content in SC

repository
Repository of Archaeological Museum of Chania – Digitized items database
<http://chaniamuseum.culture.gr>

The Portal of the Archaeological Museum of Chania provides access to digital collections and particularly to 614 items of the permanent exhibition distributed in 18 individual categories according to their type (Vessels - utensils, sculptures - reliefs, mosaics , inscriptions, coins, jewelry - gems, Others, figurines, miniature, clay tablets - seals, weapons - tools . In addition, eight of the above categories are presenting their objects in 3D application. Each object has been scientifically documented and the information concerning it are contained (data source, description, date, bibliographic reference). There are also photos or 3D presentations that allow an interactive rotation of the object. Finally, in the portal are educational programs, an entertainment platform, cultural routes and information about the opening hours and the activities of the Museum.



Archaeological object (609), 3D Artefacts and Realia (609), Vessel (282), Vase (281), Ceramic ware (280), Coin (99), Sculpture (85), Figurine (41), Jewellery (32), Relief (26), Sealstone (20), Imprint (17), Arm (12), Fragment (11), Disk (10), Tablet (10), Tools and equipment (9), Inscription (5), Mosaic (3), 2D Graphics (3)



Baron Michael Tossizza Foundation
<http://metsovomuseum.gr/>

THE BARON MICHAEL TOSSIZZA FOUNDATION was founded in 1947 with the aim of maintaining Metsovo's cultural heritage and sustaining its economic growth. Today, the Foundation works to achieve the same goals as in the past, adjusted to Metsovo's modern needs and conditions. The foundation remains focused on the Tossizza Cheese Factory, the Ski Resort, the Metsovo Folk Art Museum, Aghios Nikolaos Monastery and the Student House in Athens for students from Epirus, as well as on more recent initiatives, such as the Children's Library, the



Navigation / EKT types

[Home page](#)[Search](#)[Institutions and collections](#)[EKT types](#)[Project](#)[Ελληνικά](#) | [English](#)

EKT types

EKT enriches and homogenizes the aggregated content against a hierarchical bilingual [Vocabulary of Types](#) that has created. Metadata records are enriched with a separated field 'EKT Type' that holds references to terms of the vocabulary. Therefore, the content of SearchCulture.gr is been classified to a compact and balanced set of types which gives it semantic cohesion and improves its searchability, presentation and multilingualism.

2D Graphics (77914) [S](#)

- Banknote** (7) [S](#)
- Chart** (1) [S](#)
- Clipping** (1) [S](#)
- Collage** (1) [S](#)
- Drawing/Sketch** (9009) [S](#)
 - Architectural drawing** (1126) [S](#)
 - Technical drawing** (575) [S](#)
- Greetings card** (40) [S](#)
- Identifying marking** (732) [S](#)
- Images and ornament for layout features** (2696) [S](#)
- Master** (3344) [S](#)
- Mosaic** (506) [S](#)
- Mural painting** (720) [S](#)
- Painting** (10862) [S](#)

3D Artefacts and Realia (44370) [S](#)

- Album** (19) [S](#)
- Archaeological object** (23861) [S](#)
- Archaeological site** (1463) [S](#)
- Architectural element** (2272) [S](#)
- Arm** (475) [S](#)
- Artifact** (1) [S](#)
- Bone** (238) [S](#)
- Building** (34) [S](#)
- Ceramic ware** (3765) [S](#)
- Coin** (2128) [S](#)
- Costume (mode of fashion)** (6596) [S](#)
- Disk** (51) [S](#)
- Doll** (364) [S](#)
- Fragment** (2044) [S](#)

Text (34693) [S](#)

- Announcement** (481) [S](#)
- Article** (2680) [S](#)
- Biography** (9) [S](#)
- Book** (2516) [S](#)
- Book page** (1264) [S](#)
- Catalogue** (110) [S](#)

Sound Recordings (882) [S](#)

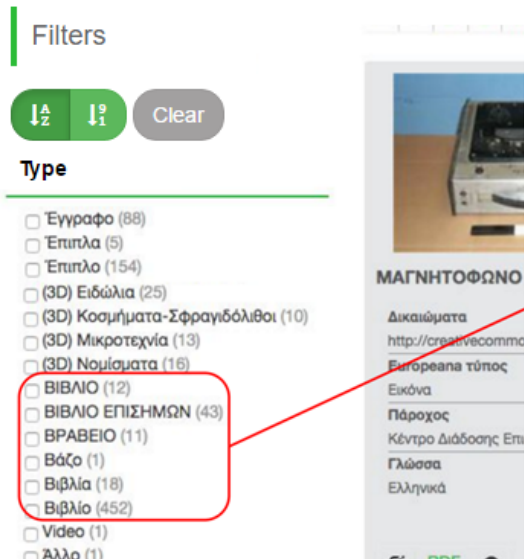
- Sounds** (15) [S](#)

Projected and Video Material (804) [S](#)



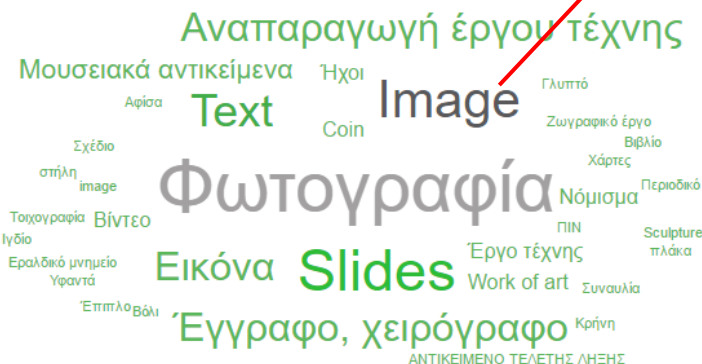
Semantic enrichment

The problems before enrichment



- Some types are in Greek others in English
- Some types are in capitals
- Some types are synonyms with each other
- Some providers are very general types some very detailed

- Low searchability
- Narrow options for navigation and discoverability
- Poor presentation





Information system for vocabularies & semantic enrichment

- **A platform for establishing vocabularies and thesauri**
 - **public portal**
 - dissemination as **Open Linked Data**
- **Tool for semantic enrichment**
 - supports **automatic** classification of metadata items against **vocabulary terms**
 - uses information retrieval and **self-improving techniques**
 - can be used by repositories and aggregators for **controlled homogenization & enrichment** of their content

Home Search term Institution vocabularies Login EA EN		
Item types by EKT		
Content		
<div> <div>Category</div> <div>Semantic class</div> <div>Creator</div> <div>Default language</div> </div> <div> <div>Concepts</div> <div>skos:Concept</div> <div>National Documentation Center</div> <div></div> </div>		
409 terms 1/2		
<div> <div>Δισδιάστατα γραφικά</div> <div>2D Graphics</div> <div>RDF</div> </div>		
<div> <div> <div>Άλλο</div> <div>Other</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Αντίγραφο</div> <div>Replica</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Απόκομμα</div> <div>Clipping</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Αυτοκόλλητη ετικέτα</div> <div>Sticker</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Αφιερωματικές κάρτες Αγίων</div> <div>Santino</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Αφίσα</div> <div>Poster</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Γραμματόσημο</div> <div>Stamp</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Διάγραμμα</div> <div>Chart</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Διακόσμηση εγγράφου</div> <div>Images and ornament for layout features</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Εικόνα</div> <div>Picture</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Εκτύπωση</div> <div>Print</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Έργο θρησκευτικής τέχνης</div> <div>Religious visual works</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Φορητή Εικόνα</div> <div>Icon</div> <div>RDF</div> </div> </div>		
<div> <div> <div>Ευχετήρια κάρτα</div> <div>Greetings card</div> <div>RDF</div> </div> </div>		



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{ Semantics.gr }

Semantic
enrichment

- **SearchCulture.gr collections are registered** in Semantics.gr
- Per collection, for metadata field **dc:type**, the tool allows the user to map **all the distinct values**
to terms of the EKT Types Vocabulary
 - automatic OAI-PMH **harvesting** of distinct values
 - **automatic mapping** attempt based on string matching
 - a **secondary field** may be used for more precise mapping
- The tool improves the automatic suggestion effectiveness based on previous experience



{ Search
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{ Semantics.gr }

Semantic enrichment

Real example (1)

- ☐ Slides (8643)
- ☐ Βίντεο (779)
- ☐ Ήχοι (867)
- ☐ Κείμενα (101)
- ☐ Μουσειακά αντικείμενα (1823)
- ☐ Φωτογραφίες (1110)



Homogenization
based on **dc:type**
and **dc:subject**
(secondary field for
filtering)

- ☐ Δισδιάστατα γραφικά (10155)
 - ☐ Αφιερωματικές κάρτες Αγίων (9)
 - ☐ Αφίσσα (1)
 - ☐ Γραμμάτισμο (45)
 - ☐ Έργο θρησκευτικής τέχνης (79)
 - ☐ Φορητή Εικόνα (77)
 - ☐ Ευχετήρια κάρτα (37)
 - ☐ Ζωγραφική (324)
 - ☐ Σχέδιο/Σκίσο (28)
 - ☐ Ταχυδρομική κάρτα (202)
 - ☐ Τοιχογραφία (11)
 - ☐ Φιγούρα θεάτρου σκιών (522)
 - ☐ Φωτογραφία (1458)
 - ☐ Φωτογραφική διαφάνεια (8643)
 - ☐ Χαρτονόμισμα (5)
 - ☐ Ηχογραφήσεις (867)
 - ☐ Κείμενο (585)
 - ☐ Άρθρο (3)
 - ☐ Βιβλίο (29)
 - ☐ Διατριβή (2)
 - ☐ Έγγραφο (403)
 - ☐ Αλληλογραφία (141)
 - ☐ Έκθεση-Αναφορά (7)
 - ☐ Νομική υπόθεση και σημείωμα (3)
 - ☐ Εφημερίδα (9)
 - ☐ Ημερολόγιο/Σημειωματάριο (15)
 - ☐ Λεξικό (5)
 - ☐ Περιοδικό ποικίλης ύλης (1)
 - ☐ Φυλλάδιο (3)
 - ☐ Χειρόγραφο (80)
 - ☐ Παρτιτούρες (6)
 - ☐ Παρτιτούρα (6)
- ☐ 2D Graphics (10155)
 - ☐ Banknote (5)
 - ☐ Drawing/Sketch (28)
 - ☐ Greetings card (37)
 - ☐ Mural painting (11)
 - ☐ Painting (324)
 - ☐ Photo (1458)
 - ☐ Postcard (202)
 - ☐ Poster (1)
 - ☐ Religious visual works (79)
 - ☐ Icon (77)
 - ☐ Santino (9)
 - ☐ Shadow puppet (522)
 - ☐ Slide (8643)
 - ☐ Stamp (45)
 - ☐ 3D Artefacts and Realia (3872)
 - ☐ Arm (2)
 - ☐ Ceramic ware (1294)
 - ☐ Coin (17)
 - ☐ Costume (mode of fashion) (1107)
 - ☐ Furniture (17)
 - ☐ Household accessories (1700)
 - ☐ Jewellery (45)
 - ☐ Machine (11)
 - ☐ Medal (11)
 - ☐ Model (61)
 - ☐ Scale model (61)
 - ☐ Musical instrument (3)
 - ☐ Needlework (838)
 - ☐ Personal accessories (26)
 - ☐ Religious visual works (86)
 - ☐ Seal (3)
 - ☐ Tools and equipment (39)
 - ☐ Toy (6)
 - ☐ Transport (15)
 - ☐ Vessel (1057)



{ Search
Culture.gr }

{ Semantics.gr }

Semantic enrichment

Real example (2)

- ☐ Βιβλίο (302)
- ☐ Φωτογραφία (9851)



Homogenization
based on
dc:type and
dc:title
(secondary field
for filtering)

- ☐ Δισδιάστατα γραφικά (5323)
 - ☐ Έργο θρησκευτικής τέχνης (364)
 - ☐ Φορητή Εικόνα (230)
 - ☐ Ζωγραφική (10)
 - ☐ Λιθογραφία (6)
 - ☐ Χαρακτικό έργο (4)
 - ☐ Σχέδιο/Σκίτσο (24)
 - ☐ Τοιχογραφία (128)
 - ☐ Φωτογραφία (4756)
 - ☐ Ψηφιδωτό (107)
- ☐ Κείμενο (338)
 - ☐ Βιβλίο (302)
 - ☐ Έγγραφο (36)
- ☐ Τρισδιάστατα Αντικείμενα και Έργα Τέχνης (4941)
 - ☐ Ανάγλυφο (517)
 - ☐ Αντίγραφο (17)
 - ☐ Αρχαιολογικό αντικείμενο (4821)
 - ☐ Αρχαιολογικός χώρος (14)
 - ☐ Αρχιτεκτονικό μέλος (205)
 - ☐ Γλυπτό (1111)
 - ☐ Ειδώλιο (249)
 - ☐ Δισκίο (17)
 - ☐ Έλασμα (96)
 - ☐ Ενδυμασία (15)
 - ☐ Έπαθλο (2)
 - ☐ Επιγραφή (110)
 - ☐ Εργαλεία και εξοπλισμός (82)
 - ☐ Έργο θρησκευτικής τέχνης (98)
 - ☐ Εργόχειρο (Κεντητική,
- ☐ 2D Graphics (5323)
 - ☐ Drawing/Sketch (24)
 - ☐ Mosaic (107)
 - ☐ Mural painting (128)
 - ☐ Painting (10)
 - ☐ Engraving (4)
 - ☐ Lithography (6)
 - ☐ Photo (4756)
 - ☐ Religious visual works (364)
 - ☐ Icon (230)
- ☐ 3D Artefacts and Realia (4941)
 - ☐ Archaeological object (4821)
 - ☐ Archaeological site (14)
 - ☐ Architectural element (205)
 - ☐ Arm (99)
 - ☐ Bone (41)
 - ☐ Building (2)
 - ☐ Ceramic ware (654)
 - ☐ Coin (219)
 - ☐ Costume (mode of fashion) (15)
 - ☐ Disk (17)
 - ☐ Fragment (54)
 - ☐ Ostrakon (28)
 - ☐ Imprint (41)
 - ☐ Inscription (110)
 - ☐ Jewellery (873)
 - ☐ Lamella (96)
 - ☐ Mask (16)
 - ☐ Medal (7)
 - ☐ Model (12)
 - ☐ Model for making (9)
 - ☐ Scale model (9)

...

...



{ Search
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Semantic enrichment

Improved **searchability** & search multilingualis

hermione Title ✓ +

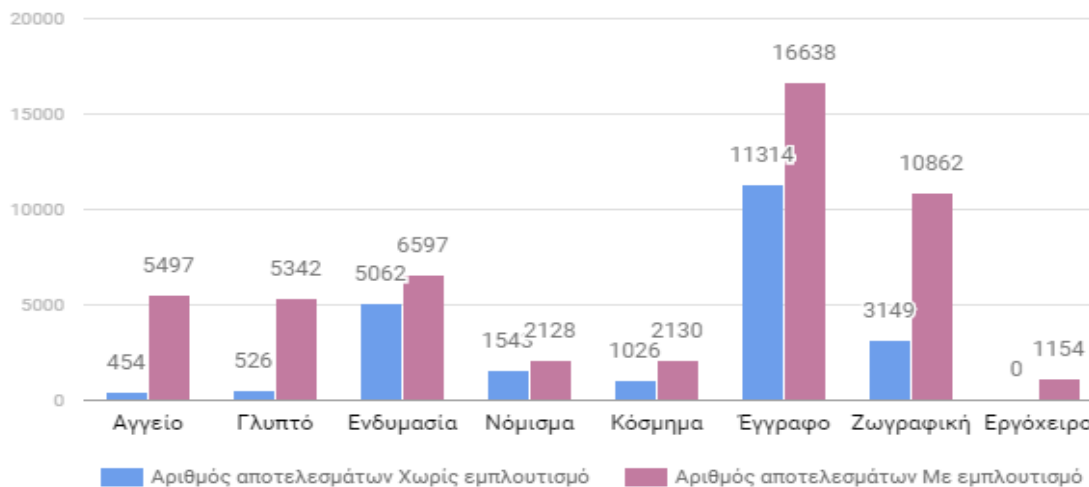
Select EKT types

- Sound Recordings
- Text
- Announcement
- Article
- Biography
- Book

Choose license for digital content ✓

Choose license for digital content ✓

Αριθμός αποτελεσμάτων τύπων στα Ελληνικά πριν και μετά τον εμπλουτισμό





New ways for navigation → improved **discoverability** of content

explore
collection
content in SC

repository

Repository of Archaeological Museum of Chania – Digitized items database

<http://chaniamuseum.culture.gr>

The Portal of the Archaeological Museum of Chania provides access to digital collections and particularly to 614 items of the permanent exhibition distributed in 18 individual categories according to their type (Vessels - utensils, sculptures - reliefs, mosaics - inscriptions, coins, jewelry - gems, Others, figurines, miniature, clay tablets - seals, weapons - tools). In addition, eight of the above categories are presenting their objects in 3D application. Each object has been scientifically documented and the information concerning it are contained (data source, description, date, bibliographic reference). There are also photos or 3D presentations that allow an interactive rotation of the object. Finally, in the portal are educational programs, an entertainment platform, cultural routes and information about the opening hours and the activities of the Museum.



Archaeological object (609), 3D Artefacts and Realia (609), Vessel (282), Vase (281), Ceramic ware (280), Coin (99), Sculpture (85), Figurine (41), Jewellery (32), Relief (26), Sealstone (20), Imprint (17), Arm (12), Fragment (11), Disk (10), Tablet (10), Tools and equipment (9), Inscription (5), Mosaic (3), 2D Graphics (3)



2D Graphics (77914) s

Banknote (7) S}

Chart (1) S)

Clipping (1) S)

Collage (1) S)

Drawing/Sketch (9009) S

Architectural drawing (1126) [S](#)

Technical drawing (575) [S](#)

Greetings card (40) S

Identifying marking (732) S

Images and ornament for layout features (2696) [S](#)


Master (3344) S]

Mosaic (506) S}

Mural painting (720) s

Painting (10862) s)



 3D Artefacts and Realia (44370) 

Album (19) S}

Archaeological object (23861) [S](#)Archaeological site (1463) [S](#)

Architectural element (2272) s

Arm (475) S

Artifact (1) S

Bone (238) S}

Building (34) S

Ceramic ware (3765) S

Coin (2128) s}

Costume (mode of fashion) (6596) s}

Disk (51) S}

Doll (364) S)

Fragment (2044) S)

EKT

ΕΘΝΙΚΟ ΚΕΝΤΡΟ
ΤΕΚΜΗΡΙΩΣΗΣ

NATIONAL
DOCUMENTATION
CENTRE

Thank you!

Learn more



{ Search Culture.gr } { Semantics.gr }

helios-