

PARTHENOS – ARIADNE Common Services

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ARIADNE Coordinated Services


- **ARIADNE Registry**
- **Web Services** <http://portal.ariadne-infrastructure.eu/services>
 - **Visual Media Service:** easy publication and presentation on the web of complex visual media assets (<http://visual.ariadne-infrastructure.eu/>)
 - **Landscape Service:** large terrain dataset generation, 3D landscape composing and 3D model processing <http://landscape.ariadne-infrastructure.eu/>
 - **DANS Dendrochronology Service:** <http://dendro.dans.knaw.nl/>
 - **DAI Vocabularies:** <http://archwort.dainst.org/thesaurus/de/vocab>
 - **DAI Gazetteer:** <http://gazetteer.dainst.org/>
 - **Vocabulary Matching Tool:** <http://heritagedata.org/vocabularyMatchingTool>
- **Stand-alone Services**
 - **MeshLab:** open source, portable, and extensible system for the processing and editing of unstructured 3D triangular meshes <http://meshlab.sourceforge.net/>

ARIADNE Registry

Registerin information concerning datasets and services

- Web Interface for datasets and services description:
 - <http://ariadne-registry.dcu.gr/index.php?p=web>
- XML file
 - <http://ariadne-registry.dcu.gr/index.php?p=xml>
- Excel templates
 - <http://ariadne-registry.dcu.gr/index.php?p=excel>
- Database export to RDF according to the ACDM record
 - <http://ariadne-registry.dcu.gr/index.php?p=tools>


Registry Web Tool


ARIADNE
metadata registry

[Home](#) [Objects](#) [Settings](#) [Help](#) [Logout](#)


Welcome vassallo


Collection

 1 items


Add Instance 


Dataset

 16 items


Add Instance 


Database

 0 items


Add Instance 


GIS

 0 items


Add Instance 


Metadata Schema

 3 items

Add Instance 

Service

 0 items

Add Instance 

Vocabulary



All fields ▼

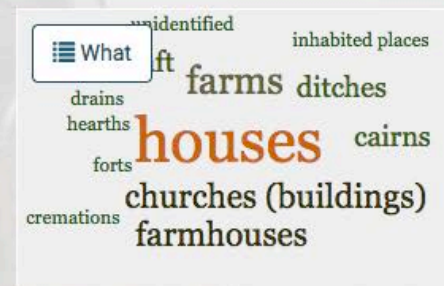
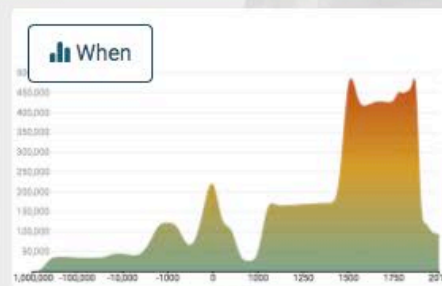
Search for resources in the Ariadne catalog ...



Welcome

ARIADNE brings together and integrates existing archaeological research data infrastructures so that researchers can use the various distributed datasets and new and powerful technologies as an integral component of the archaeological research methodology.

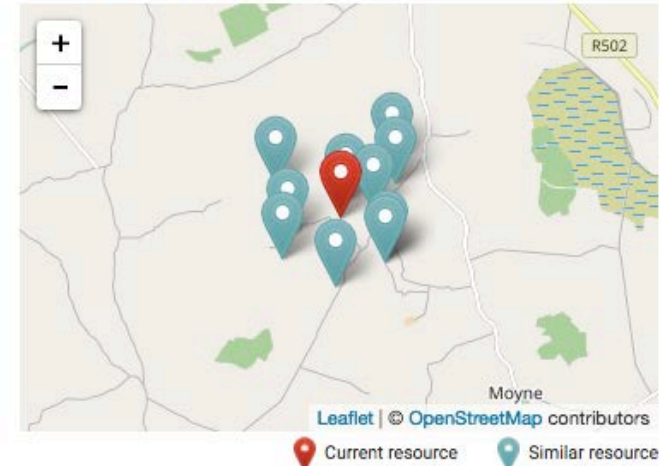
[Browse the Catalog](#)



ARIADNE Portal - Content Discovery

- Lighting fast search
- Content similarity
 - Geographical
 - Thematic
 - Temporal (TBA)
- Faceted browsing
- Multi-lingual AAT based search

Geographically similar ⓘ



Thematically similar ⓘ

- Castle - unclassified - SKRINE [R0041-116—]
- Castle - unclassified - COOLNAGEER [R0045-171001-]
- Castle - unclassified - CASTLETOWN [R0010-075—]
- Castle - unclassified - MOYSTOWN DEMESNE [OF022-003001-]
- Castle - unclassified - TULLAMORE [OF017-035—]
- Castle - unclassified - RAHAN DEMESNE [OF016-048—]
- Castle - unclassified - AHARNEY [OF016-005001-]

Integration Axis

- Subject

- Native to AAT subject mappings
- Semantic expansion
- Multilingual
















- Space

- Conversion to WGS84
- Geo-coding for all records
- Finding geographically closely located records

- Time

- Date normalization
- Perio.do mappings

Data Quality / Enrichment Services

<p>Activate</p> <p>British National Grid</p> <p>[ACDM] British National Grid Transform (Beta Version)</p> <p>More info </p>	<p>Deactivate</p> <p>Language</p> <p>[ACDM] Language Identification</p> <p>More info </p>	<p>Deactivate</p> <p>DaiGazeteer</p> <p>[ACDM] DaiGazeteer</p> <p>More info </p>
<p>Deactivate</p> <p>LoGeo</p> <p>[ACDM] GeoLocation Enrichment</p> <p>More info </p>	<p>Deactivate</p> <p>Geocode</p> <p>[ACDM] Geonames Geocoding</p> <p>More info </p>	<p>Deactivate</p> <p>Rev.Geocode</p> <p>[ACDM] Geonames Rev. Geocoding</p> <p>More info </p>
<p>Deactivate</p> <p>GeoInversion</p> <p>[ACDM] GeoInversion</p> <p>More info </p>	<p>Deactivate</p> <p>Pelagios</p> <p>[ACDM] Pelagios</p> <p>More info </p>	<p>Deactivate</p> <p>Vocabulary</p> <p>[ACDM] Vocabulary</p> <p>More info </p>
<p>Deactivate</p> <p>Back Link</p> <p>[ACDM] Background Link</p> <p>More info </p>	<p>Deactivate</p> <p>Thesauri mappings</p> <p>[ACDM] Thesauri Mappings</p> <p>More info </p>	<p>Deactivate</p> <p>PleiadesPlus</p> <p>[ACDM] PleiadesPlus</p> <p>More info </p>
<p>Deactivate</p> <p>Perio.do mappings</p> <p>[ACDM] Perio.do Mappings</p> <p>More info </p>	<p>Deactivate</p> <p>Perio.do</p> <p>[ACDM] Perio.do</p> <p>More info </p>	<p>Deactivate</p> <p>Centroid</p> <p>[ACDM] Centroid of Bounding Box</p> <p>More info </p>

Vocabulary Matching Tool

Vocabulary Matching Tool

Source Vocabulary

(FISH Archaeological Objects Thesaurus) ?



Arch

GO

ARCH Archetype ARCHITECTURAL ELEMENT
ARCHITECTURAL FRAGMENT ARCHITECTURE
FINIAL (ARCHITECTURAL) PARCHMENT
PARCHMENT PRICKER PIPE (ARCHITECTURAL)

ARCHITECTURE → ARCHITECTURAL FRAGMENT

Fragments of a structure, usually material that has been worked.

BOARD BRICK CAME CERAMIC DAUB
DRESSED STONE FIRE STONE FLAGSTONE FLASHING
PALING PLANK ROOF SLAB SHINGLE
STRUCTURAL TIMBER TESSERA TILE WALL PLASTER

Target Vocabulary

(Getty Art & Architecture Thesaurus) ?



Brick

GO

<brick by form: shape or size> <brick by form: solidity>
<brick by form> <brick by function>
<brick by location or context>
<brick by technique: drying process>

<brick by form> → <brick by form: shape or size>

angle brick brick slip brickbat bull-nose brick
bullnose brick compass brick cutter (brick) dog-leg brick
dogleg brick great brick jumbo brick modular brick
Norman brick plinth brick Roman brick soap (brick)

Concept Matching

ARCHITECTURAL FRAGMENT

close match



<brick by form: shape or size>

ADD MATCH



CLEAR

LOAD

SAVE

EXPORT (TRIG)

EXPORT (CSV)



<http://heritagedata.org/vocabularyMatchingTool/>

Mapping Memory Manager Tool (3M)

Creating CIDOC CRM information from legacy data



The screenshot shows the web interface of the Mapping Memory Manager (3M) tool. At the top, there is a header with the '3M' logo and the text 'Mapping Memory Manager'. Below the header, the main content area is titled 'User Login'. It contains two input fields: 'Username' and 'Password'. Below these fields is a 'Log In' button. Under the button, there are two links: 'Sign Up' and 'Request New Password'. At the bottom of the page, there is a footer with copyright information and logos for FORTH, ISL, and the Center for Cultural Informatics.

Mapping
Memory
Manager

User Login

Username

Password

Log In

- Sign Up
- Request New Password

© Copyright FORTH-ICS

© EUPL Version 1.1

FORTH
Institute of Computer Science

isl
Information
Systems
Laboratory

Center for
Cultural
informatics

<http://www.ics.forth.gr/isl/3M/>

3M in ARIADNE and PARTHENOS



Mapping : ACDM mapping

Info

Matching Table







Analysis







About

View mode

SOURCE←	TARGET←	CONSTANT EXPRESSION	IF RULE ←	COMMENTS ← ↕
D ../acdm:collection	E73_Information_Object			
P ↓ acdm:publisher	↓ P94i_was_created_by F30_Publication_Event ↓ P14_carried_out_by			
R acdm:publisher	E39_Actor			
P ↓ acdm:contributor	↓ P94i_was_created_by E65_Creation ↓ P14_had_participant			
R acdm:contributor	E39_Actor			
P ↓ acdm:owner	↓ P67_has_current_owner			
R acdm:owner	E39_Actor			
P ↓ acdm:legalResponsible	↓ P104_is_subject_to E30_Right ↓ P75i_is_posesseded_by	[P2_has_type] [E55_Type = "legal responsibility"]		
R acdm:legalResponsible	E39_Actor			
P ↓ acdm:creator	↓ P94i_was_created_by E65_Creation ↓ P14_carried_out_by			
R acdm:creator	E39_Actor			
P ↓ acdm:scientificResponsible	↓ P12i_was_present_at E7_Activity ↓ P14_carried_out_by	[P2_has_type] [E55_Type = "scientific responsibility"]		
R acdm:scientificResponsible	E39_Actor			

From ARIADNE to PARTHENOS

			IF	COMMENTS
SOURCE←	TARGET←	CONSTANT EXPRESSION	RULE ←	← ↕
D  ../acdm:publisher	 E39_Actor			
P ↓ foaf:name	↓ P131_is_identified_by			
R  foaf:name	 E82_Actor_Appellation			
P ↓ foaf:mbox	↓ P76_has_contact_point			
R  foaf:mbox	 → E51_Contact_Point	[P2_has_typ e] [E55_Type = "e- mail"]		

			IF	COMMENTS
SOURCE←	TARGET←	CONSTANT EXPRESSION	RULE ←	← ↕
D  ../acdm:contributor	 E39_Actor			
P ↓ foaf:name	↓ P131_is_identified_by			
R  foaf:name	 E82_Actor_Appellation			
P ↓ foaf:mbox	↓ P76_has_contact_point			
R  foaf:mbox	 → E51_Contact_Point	[P2_has_typ e] [E55_Type = "e- mail"]		

Explore/Access Visual Media

- **Visual Media Data:** any type of visual representation of Archaeological findings or assets, i.e.:
 - Standard **2D images** (high-res!)
 - **Advanced 2D images** (PTM, RTI, panoramic images, HDR)
 - **3D models** (single or complex scenes)
 - **Videos**
 - **Terrains, GIS data**

Visual Media and Landscape Services

- Data services – **Exploring Visual Data:**
 - *Cooperative Visualization/Analysis*: an innovative approach for the Archaeological community
 - Support requested by our community:
 - Good experience in **production** of visual data
 - **Publication of the web** of visual media is an issue,
 - but instruments should provide **easy learning** and **professional features**
 - Two services: **Visual Media & Landscapes**

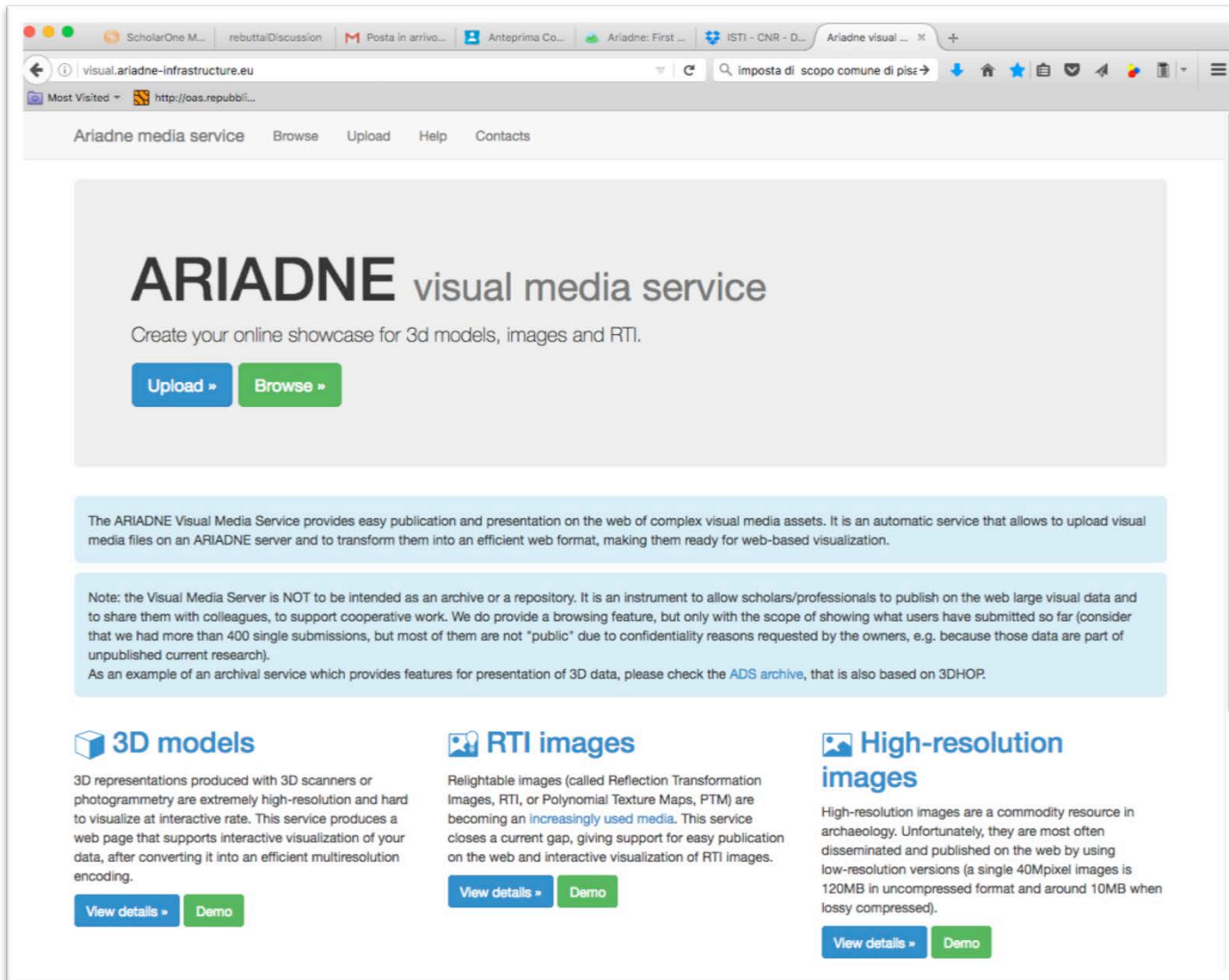
Modern Access to Visual Media

- The **web is the channel**:
 - *Click and immediately inspect the data*
 - *Inside current web page or into a new one*
 - *Using your favourite web browser*
 - Possible with many visual media using WebGL and modern support to data
 - How can we help our community to ***integrate those technologies in existing archives / databases?***

Visual Media Service

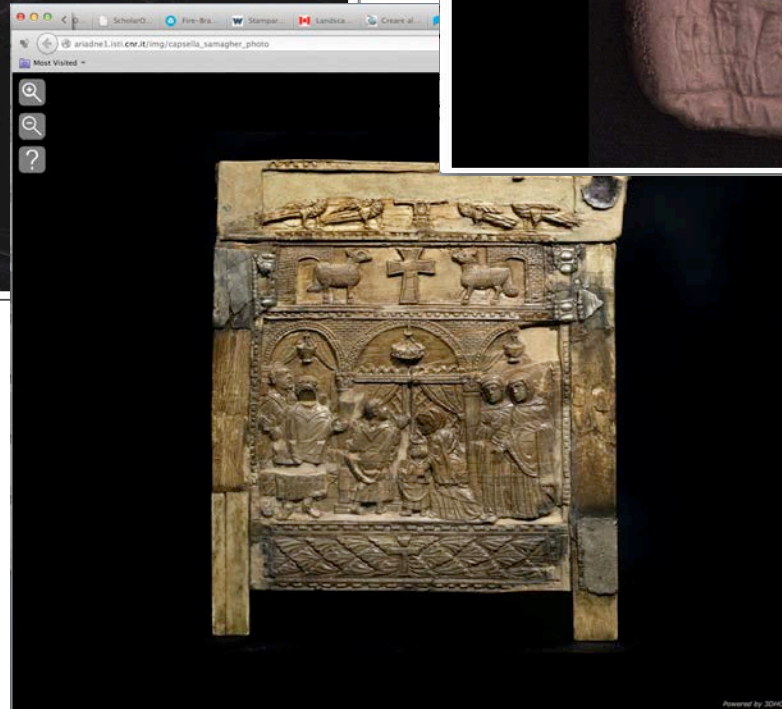
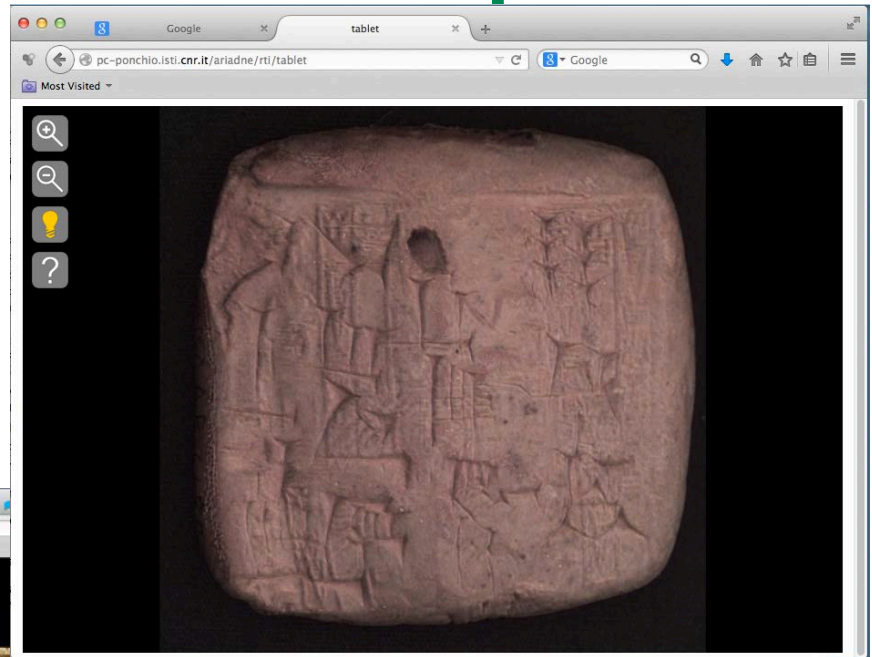
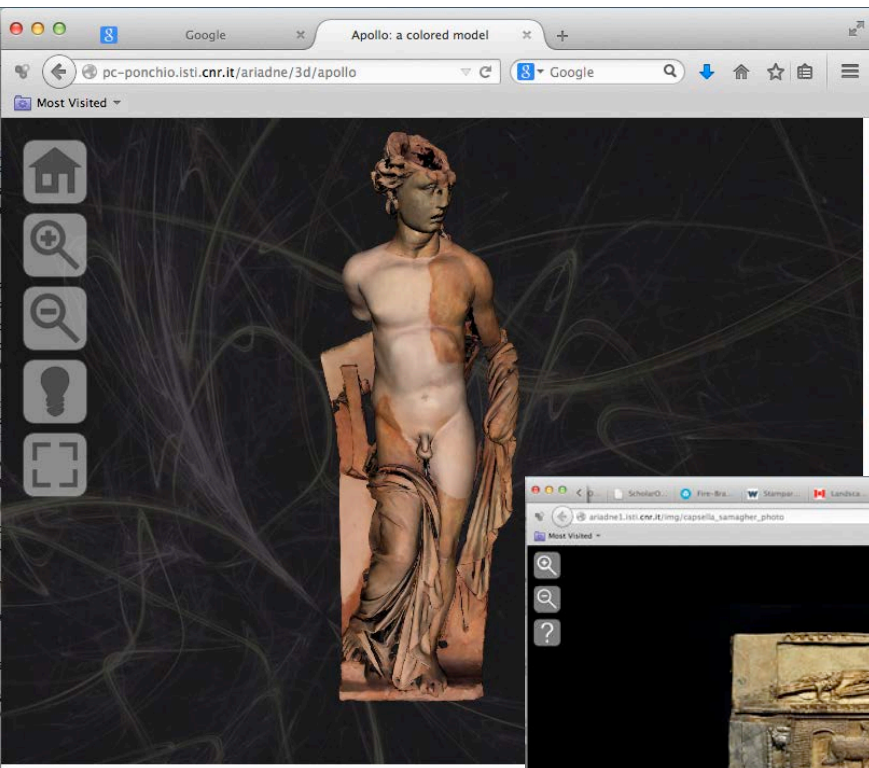
- For each visual media asset:
 - The **user** fills a simple form and uploads the data file
 - 3D models
 - High-resolution 2D images
 - Reflection Transformation Images (RTI)
 - An **automatic service** on the ARIADNE server opens, converts, transforms it in a **browsable** page
 - Multi-resolution encoding
 - Progressive transmission
 - Immediate visualization
 - An **URL** (or a .zip file) is created and sent to the user
 - The **user** links the media asset in his archive using the provided URL

Visual Media Service



<http://visual.ariadne-infrastructure.eu/>


Visual Media Service: Online Inspection



<http://visual.ariadne-infrastructure.eu/>

Media Service Integration

- Results of the Visual Media Service can be incorporated directly in any existing archive
- See an example of work accomplished with **ADS**:

**ARCHAEOLOGY
DATA SERVICE**

HOMEARCHSEARCHARCHIVESADS-easyLEARNINGADVICERESEARCHABOUT USBLOGLOGIN

ALL | JOURNALS AND SERIES | GREY LITERATURE | PROJECT ARCHIVES | BIBLIOGRAPHIES | THESES

The Virtual Amarna Project

Barry Kemp, 2011

[Introduction](#)
[Overview](#)
[Downloads](#)
[Metadata](#)
[Usage Statistics](#)

Data copyright © Egypt Exploration Society, Amarna Trust unless otherwise stated

Primary contact
Prof Barry Kemp
McDonald Institute for Archaeological Research
Downing Street
Cambridge
CB2 3DZ
England

[Send e-mail enquiry](#)

Resource identifiers
ADS Collection: 1077
Collection doi:10.5284/1011330
[How to cite using this DOI](#)


Downloads - (38819) Wooden Head
Select another object.

Metadata



38819 MetadataPDF62 Kb

3D Model Preview

Powered by 3DHOP



Images

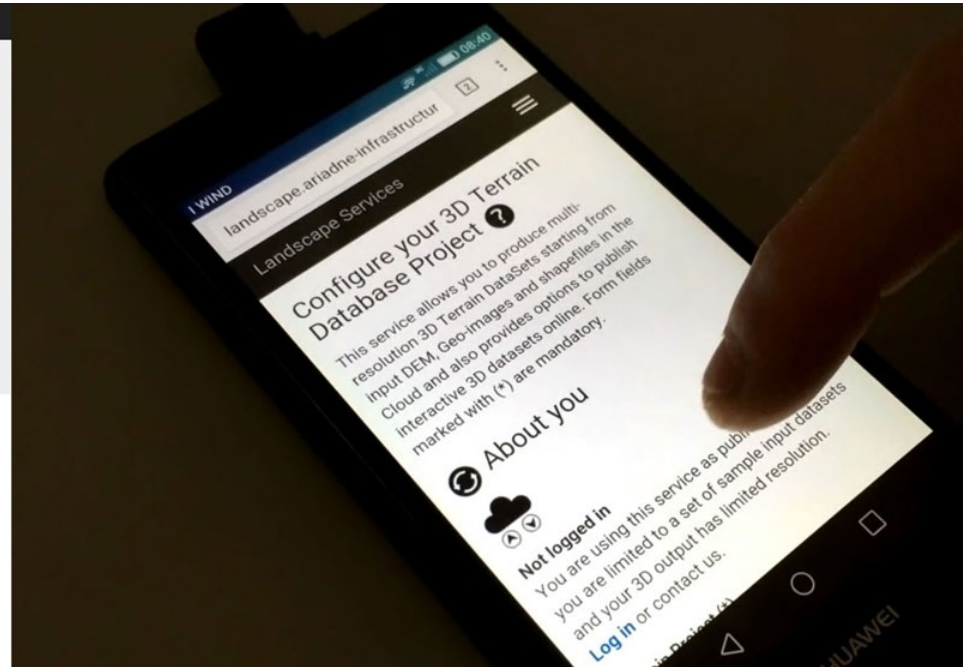
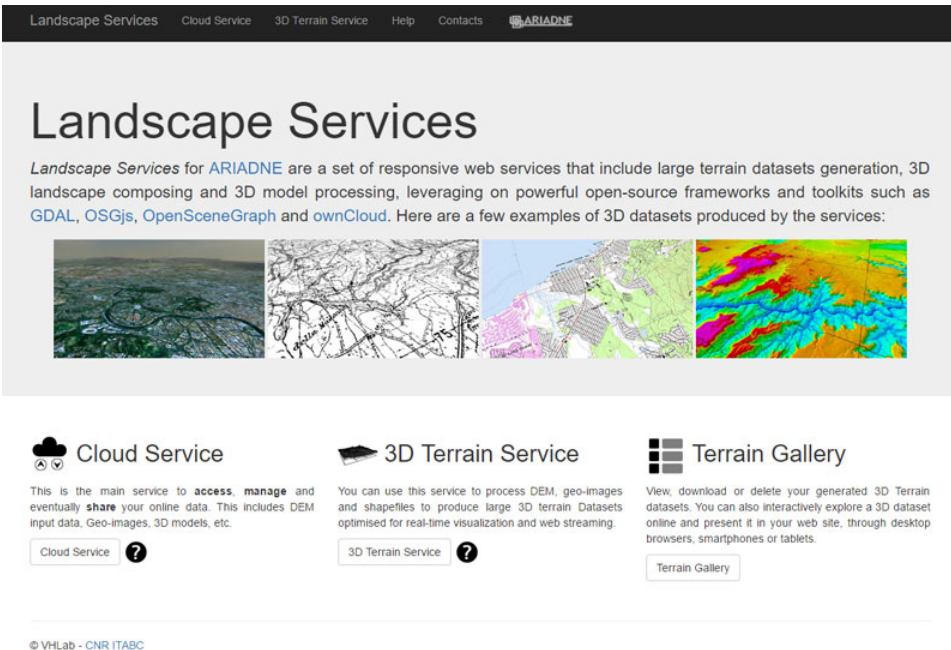
	38819 01	JPG	3.07 Mb
	38819 02	JPG	598 Kb

Landscape Service

<http://landscape.ariadne-infrastructure.eu/>

Cloud-based services for ARIADNE

- Focused on processing, management and publishing of 3D landscape datasets
- Responsive (desktop + mobile browsers)




Landscape Service


Input data

- DEM/DTM
 - Orthophotos
 - Shapefiles
- Etc.


Input Data


Please select appropriate cloud source folders for DEM, Geo-images and shapefiles. You can use [Cloud Service](#) to upload / manage your DEMs, imagery and other input data; including also [ESRI World Files](#) (*.tif, etc.). More info also [here](#).

DEM Folder (*)  Please select a cloud folder containing all required elevation data, including also world files
Select a cloud folder containing DEMs (*.tif, *.grd, etc.) - REQUIRED

Geo-image Folder  Please select a cloud folder containing all required files for imagery, including world files
+ LAYER 0 (base): Select a cloud folder containing imagery (*.tif, *.png, etc.)
+ LAYER 1 (second channel)
+ LAYER 2 (third channel)
+ LAYER 3 (fourth channel)
☐ as Geocentric DB

Advanced input options »

Coordinate System  The string may be any of the usual GDAL/OGR forms, complete WKT, PROJ.4, EPS

Area  Please select a cloud shapefile (*.shp) to define Input Area
AUTOMATIC (whole DEM)

Cloud used for:

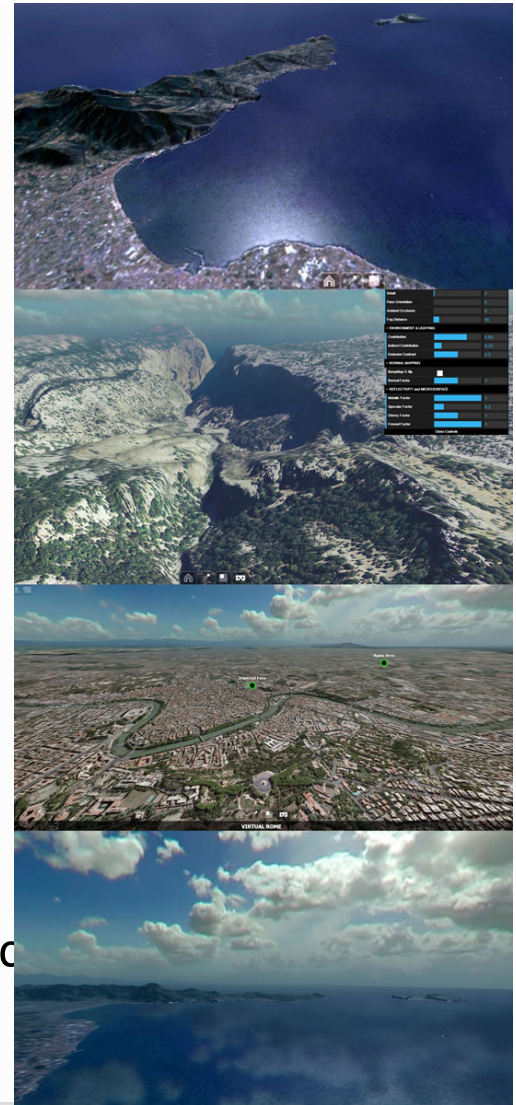
- **Collaboration** among professionals (*e.g. Landscape Reconstruction, etc.*)
- Fine-grained **control** on input data (*e.g.: multiple Research Institutions*)



Landscape Service

Output

- **Terrain Dbs:**
- Desktop formats + Online dissemination (WebGL)
- **Interactive 3D online dissemination:**
 - Fruition on multiple devices
 - (no plugins or apps required)
 - Responsive (desktop & mobile browsers)
 - Multi-textured datasets
 - (multi-temporal layers, PBR models, etc.)
 - Integration in web portals, blogs, etc.
- **Cloud used for:**
 - Semantic enrichment (annotations, summary, etc)
 - Presentation control



Landscape Service – Case Studies

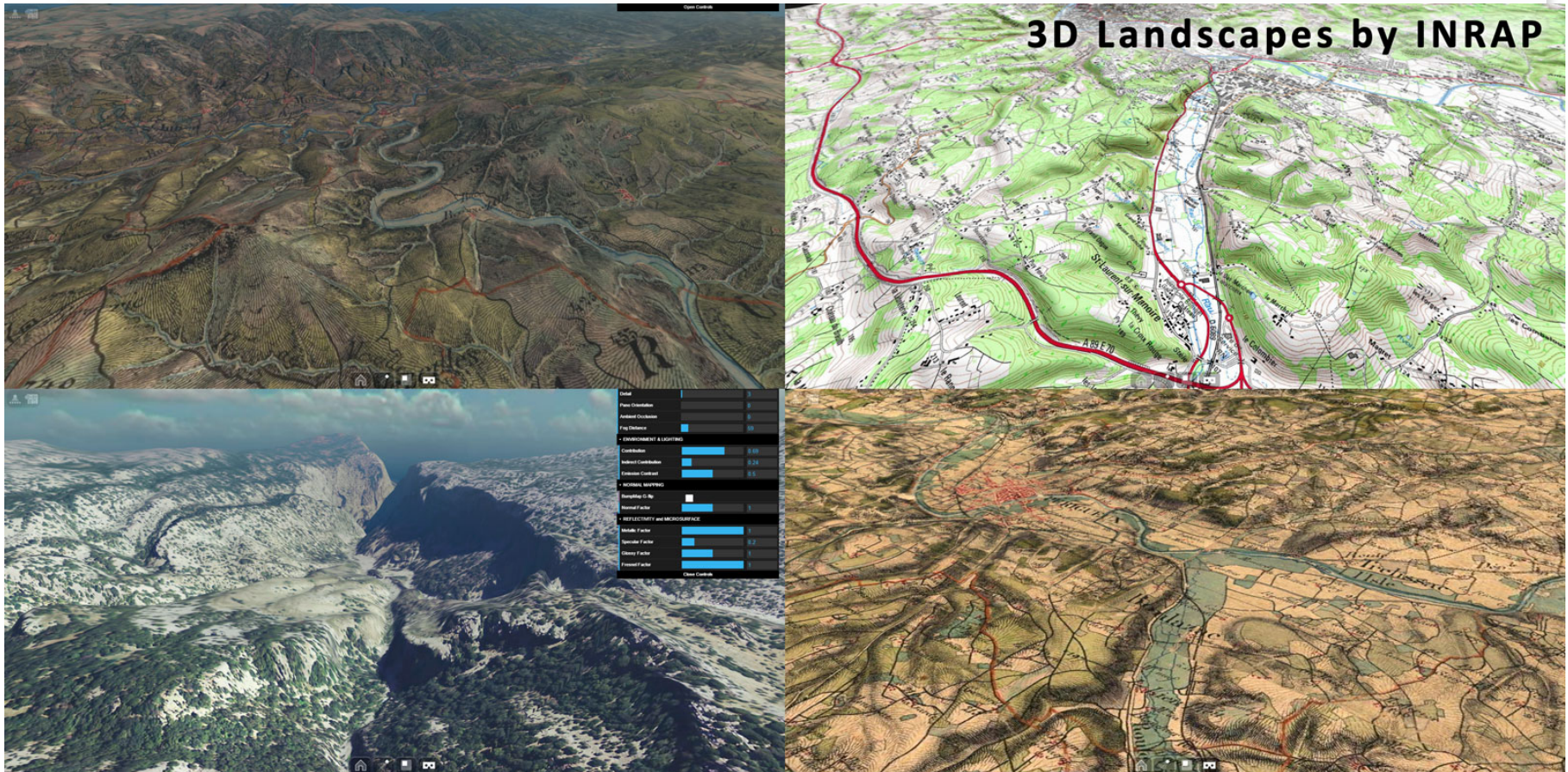
Stress tests on large DBs: “Virtual Rome 2.0”

- Multi-resolution *TerrainDB* produced from multiple contributing sources:
- LIDAR + IRS + 25cm Orthophotos
- Smooth 3D fruition on both desktop and mobile



Landscape Service – Case Studies

Datasets produced by ARIADNE partners (e.g. INRAP)



PARTHENOS Architecture

