ARIADNE

D13.3: Infrastructure services testing report

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INRAP

SEVENTH FRAMEWORK PROGRAMME

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1. Document History

Version	Date	Contributors	Activity
0.1	July 29th 2015	Bernard Pinglier	Draft structure of document
0.2	November 17th 2015	Roberto Scopigno, Matteo Dellepiane	Review Proposed structure questionnaire Visual Media Service
0.3	December 11th 2015	Federico Nurra Kai Salas Rossenbach Amala Marx Emmanuelle Bryas	Added Images Added References Modified Tables Added test prototype
0.3.1	December 18th 2015	Holly Wright	Quality Control
1.0	January 11th 2016	Federico Nurra	Added Captions Added Table of Figures Final editing

2. Introduction

This deliverable D13.3 presents the initial results of Task 13.4 (T13.4), which is part of Work Package 13 (WP13) in the ARIADNE Project.

As stated in the Description of Work (DoW) of the ARIADNE Project, the main objectives of WP13 are:

- *To analyse, select, design and deploy the service components of the integrated infrastructure in order to improve the provision of the online services to the researchers*
- *To take into account in the design and the deployment further enhancements of the service architecture as required by the additional implementation of results from WP14-WP17*

The tasks of the WP13 are:

Task 13.1 – Service Design and Specifications

Task 13.2 – Service Implementation

Task 13.3 – Long-term Preservation Services

Task 13.4 – Acceptance Testing

> *The Task will be in charge of testing the services produced in Task 13.2 and verify their correspondence to design (Task 13.1), use requirements (Task 12.1) and users' specifications (Task 2.1 and Task 2.2). New or improved services may be approved and passed to the next Task or returned to 13.2 for amendments. Testing will be carried out on a specific testing environment prepared by the partners in charge of the task. They will set up a number of simulated research contexts, relevant for archaeological research, and will compare the behaviour of the system with the expected one. They will furthermore verify overall compliance with requirements and the performance of the system in simulated real conditions. Such tests will be performed regularly. Their outcomes will be reported to the lead partner of Task 13.2 for the necessary feedback. The testing specifications and the routine testing mechanism will be detailed in Task 13.1.*

As shown in the following figure, taken from document D13.1, task T13.4 is related to most work packages and tasks within the ARIADNE project:

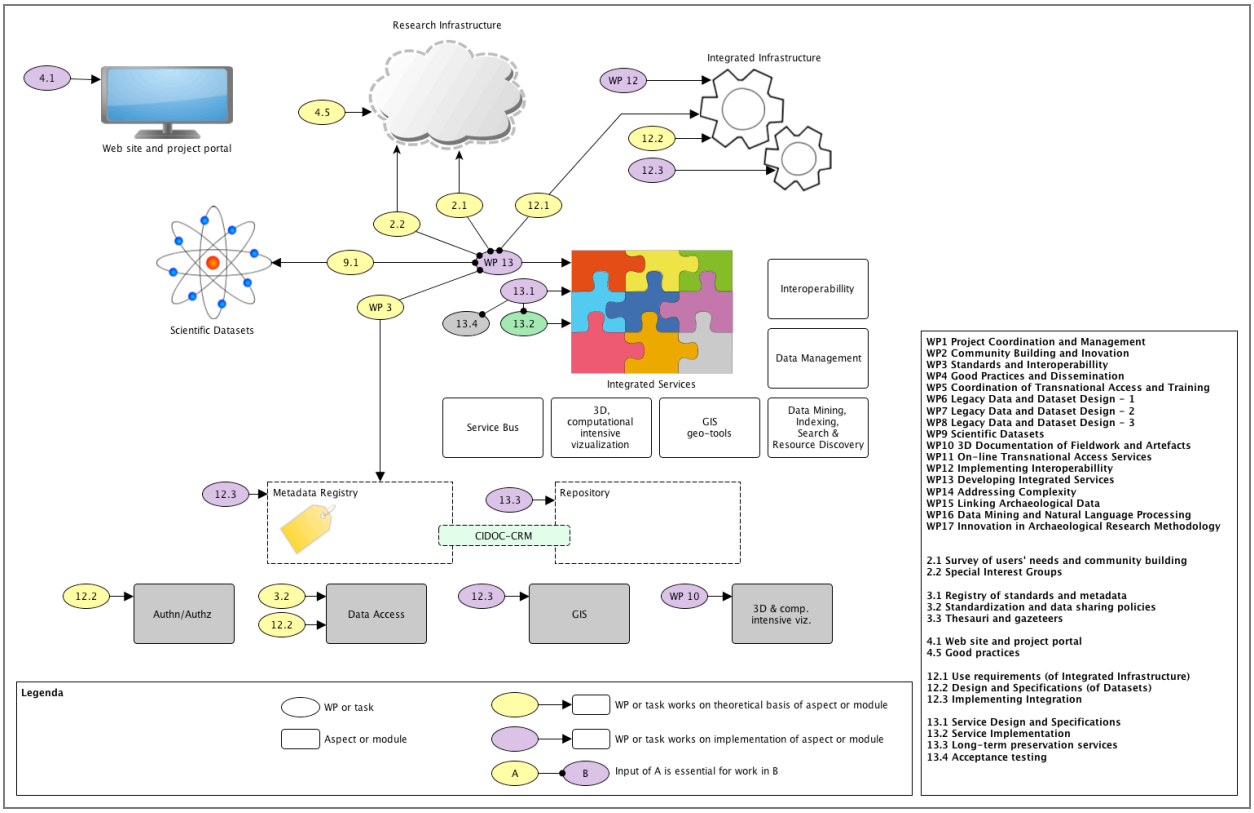

Figure 1: ARIADNE Tasks and Service Design

This report focuses on the following aspects:

- Overview of design, use requirements and user's specifications, the compliance with which the services have to be tested (see D13.1, D12.1 and D2.2 for a more detailed presentation)
- Services to be evaluated: functional description and progress report for implementation of these (see D13.2 for a more detailed presentation)
- Methodology used for the tests
- First testing results. Informal tests have been conducted by Inrap among a community of internal power users, showing a great interest in the service provided for visualization of 3D images, but also the need for enhanced visualization and analysis tools, and especially measuring tools
- Most of the work remains to be done starting in January 2016, when a comprehensive set of services will gradually be made available, including the services related to the Catalogue

3. Related Work

3.1. User Requirements (D12.1)

This document is a deliverable (D12.1) of the ARIADNE project ("Advanced Research Infrastructure for Archaeological Dataset Networking in Europe"), which is funded under the European Community's Seventh Framework Programme. D12.1 is associated with Task 12.1 within WP12, which is titled Implementing' Interoperability, and falls within the larger ARIADNE conceptual framework for the ARIADNE e-Infrastructure.

The main objective of D12.1 is to understand the current landscape from which the ARIADNE infrastructure can be created, in order to inform the development of the ARIADNE portal and services. This landscape includes the data, metadata, ontologies and vocabularies available for use, along with any associated issues of licensing and access, informed by users' needs.

3.2. Service Design (D13.1)

This document aims to specify the service design of the ARIADNE Portal, and provide a common vision, a user perspective on the functionality, and a framework to identify, discuss and validate the requirements for the underlying technical services. As such, the audience of this document was both technical and non-technical.

This service design was created using the following input: Description of Work, Task 2.1 (Survey of users' needs and community building), Task 12.1 (Assessment of use requirements), an examination of existing portals and WP3-12-13 Workshop discussions. The service design provided input for Task 13.2 (Build Services) and Task 13.4 (Acceptance testing). The service design provided a common vision formulated in terms of principles, derived from the mission statement in the Description of Work.

3.3. Second report on users' needs (D2.2)

The main objective of this report was to provide additional, more detailed evidence about user requirements of key target groups ("users") of the project with regard to the ARIADNE data portal. A panel of about 25 researchers was asked to describe in detail their use of digital data archives, to evaluate existing archives and other portals and to highlight useful features of these portals which could serve as "good practice" when creating a new research data portal. This information supports the ARIADNE project in taking informed decisions regarding the specification of the e-infrastructure and services so they are developed in a way that corresponds to perceived and actual research needs. The mandate was to provide evidence on these issues, notably through collecting feed-back from the ARIADNE community by way of a user survey.

3.4. Infrastructure Design (D12.2)

The main goal of Task 12.2 is to specify a resource integration and discovery mechanism for use in ARIADNE. The resources to be integrated are datasets and collections, GIS data, metadata schemas, ontologies and vocabularies available from the project partners, as well as institutions outside the ARIADNE consortium. This deliverable provides an overview of the ARIADNE architecture, including a summary of the conformance of the architecture to the data and standards requirements set out in D12.1, as well as to the specifications of the Services of the ARIADNE Infrastructure, presented in D13.1. This is followed by a content analysis of the main content types defined in D12.1, and the integration strategy for the two levels of content: the metadata integration, and the data integration. This will attempt to integrate selected resources (datasets and/or metadata) from particular partners/data providers and provide cross-search and access mechanisms to integrated resources, using a facetted search on “what”, “where”, “when” and “resource type”.

4. Overview of design, use requirements and users' specifications

The users' needs are summarized as follows, derived from D2.2:

1. **Overall focus** of the ARIADNE project is on data discovery and access services.

2. The primary focus of the design and interfaces of the data portal should be an **overview of what data is accessible**, including statistical information on quantity, types, and distribution (e.g. country/area, period).

3. The portal should focus on the **European/international dimension**. Lack of underlying resources (per country, type of data, etc.) should not be seen as a deficit, but used to promote data mobilization (e.g. implementation of national data archives).

4. Added value should also be created through **linking** data and publication **resources not held within the ARIADNE Registry** (e.g. metadata of document archives and open access publishers).

5. Linked Open Data (LOD) can play a core role for value generation, but **further uptake of LOD principles** by archaeological institutions and projects must be encouraged.

6. In the development of the data search, access and other services, **members of the user community must be thoroughly involved** and regular feedback on implemented solutions sought by the wider community.

7. **User-focused development of the portal services** and applications (relevance, usability, user-friendliness) should be at the top of the project’s priorities.

8. **Services for websites for research communities** in particular subjects or geographic regions (e.g. alerts on relevant datasets) could greatly expand the reach of the data portal and, in turn, promote further data mobilization.

9. Full exploitation of the data resources (incl. metadata, conceptual knowledge) should be enabled by **interfaces for external applications** (e.g. a well-documented API, OAI-PMH target, SPARQL endpoint).

10. Support of e-research/science should, in the first instance, be provided through **integrating access to data resources** and by pointing users to existing tools for data extraction, processing and analysis.

The use requirements (D12.1) refer to the requirements for the design and specification of the subsequent tools and services necessary for integration. D12.1 produces recommendations for Datasets; Metadata Standards, Schemas and Vocabularies; and Access and Sharing Policies.

Datasets

- **Site and monument databases:** Most European countries and/or regions have them, and combining them may be useful for cross-border searching and geo-location
- **Intervention activity:** May have multiple activities associated with a geo-locatable site, which may allow linking of various activities to a single site or monument
- **Fieldwork databases:** Usually too diverse, so individual databases may not be useful for integration, but may be worth linking to intervention activities for bibliographic discovery
- Other **categories** are quite specific, but may be useful for integration:
    - **Scientific Databases**
    - **Artefact Databases**
    - **Burial Databases**

Balance data quality and quantity: specify requirements that datasets have to meet in order to be integrated, preferably using formal criteria.
The relationships between the types of data available from the content providing partners and the recommended integration activity to be designed within D12.2 are set out in the table below.

DATA Balance data quality and quantity	ARIADNE datasets					
Integration activity	Sites and monuments databases	Intervention databases	Fieldwork databases	Artefacts	Burials	Scientific datasets
Cross-border subject search	X	X	X			?
Cross-border period search	X	X	X			?
Map driven searching or visualisation	X	X	X		?	?
Bibliographic metadata from grey literature	X	X	X	X	X	X
Integration and interoperability from scientific databases						X
Integration of particular kinds of artefact data				X	X	
Dataset assessment required	+	+	+	+	+	+

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Metadata Standards, Schemas and Vocabularies

- The **use of international standards for the documentation of excavations and monuments** so as to render it transparent and comparable and, above all, make them more interoperable.
- **Free access to tools,** particularly for data mapping, to make it easier to incorporate these standards, and offering the means and guidance for archaeologists to deposit their digital records **in an appropriate archive**
- **The sustainability of digital datasets** must also be high on the agenda
  The relationships between the wishes and concerns with regard to metadata and the recommended tools to be designated or designed within D12.2 are set out in the table below:

	Metadata schemas	Vocabularies		Metadata mapping tools	Metadata input tool	Metadata description tool	SKOSifier tool
Wishes							
Data transparency	+						
Data accessibility	++	+					
Metadata quality	+++	+++					
Data quality							
International dimension	++	+++					
Concerns							
Metadata quality (managers)						X	X
Effort for metadata creation (researchers)					X		
Anxiety about unfamiliar schemas (researchers)				X			

Table showing the wishes and concerns with regard to data standards, categorised by the type of schema or vocabulary which may address the wishes, and the tools which may address the concerns. The + signifies the level of importance.

Access and Sharing Policies

• **A common method of data citation should be established** for adoption by partners, and promoted by ARIADNE to the archaeological research community. Academic recognition is an important motivation for encouraging researchers to share access to their datasets

• **Allocation of DOIs or the equivalent to datasets ingested to the ARIADNE infrastructure** should be investigated. The system used should be capable of identifying sub-sets within collections. Persistent identification of datasets is important in underpinning data sharing and data citation

• **Content itself (databases, document archives, images, 3D models, etc.) should be provided to ARIADNE by content partners using the Creative Commons license suite** (version 4.0 is preferred) under license permissions agreed with the content owner. CC BY is recommended for open access. CC BY SA or CC BY SA NC licenses may also be applicable

• **A Collection description** (of the whole collection and subFsets within the collection) should be published under a CC BY license for each dataset ingested to the ARIADNE infrastructure

• **Metadata records should be published under a CC0 license** – to enable integration of multiple datasets within the metadata repository, support resource discovery and enable linked open data

The Services Design (D13.1) introduces the functionality of the services, derived from a user perspective, and thus gives an important input for acceptance testing.

It presents a set of use cases representing various real situations encountered by members of the archaeological community:

- **Search and explore the Registry** to look for archaeological datasets to be previewed and/or downloaded:
  The use case is divided in several steps (navigation, entering search parameters, displaying the results) and relates to several services e.g. portal access, timeline search, geographical search, display of the results, etc.
- **Preview data** to determine the relevance of this data for specific research:
  The preview service and functionality depends on the nature of the data.
- **Access data** by downloading it for further processing
- **Deposit data** in the ARIADNE infrastructure to allow it to be browsed and re-used by fellow researchers:
  The service requires a set of guidelines for depositing data and an archive compatible with the data to be deposited.
- **Search and access the service registry** to discover tools and knowledge to support research/data management activities
- **Prepare and register a new collection** in the Registry
- **Enrich Visual Media Documents** from one of the visual documents (3D models , RTI images, high resolution images, terrain models) stored in one of the catalogues associated with the ARIADNE Portal provide a visualization window showing the visual services that could be applied to visual media
- **Manage accounts** to allow a security manager to handle and control authentication and access. The security manager may have an overview of the users and eventually change their attributes

5. Services to be evaluated

This section gives an overview of the services to be evaluated, as they exist to date. More details can be found in document D13.2 (Initial Services Implementation Report).

5.1. ARIADNE Portal

The ARIADNE portal is the front-end facility by which the user will access the various services provided by ARIADNE infrastructure.

The development is led by DAI. It began in September 2015 and is planned to be completed by January 2016.

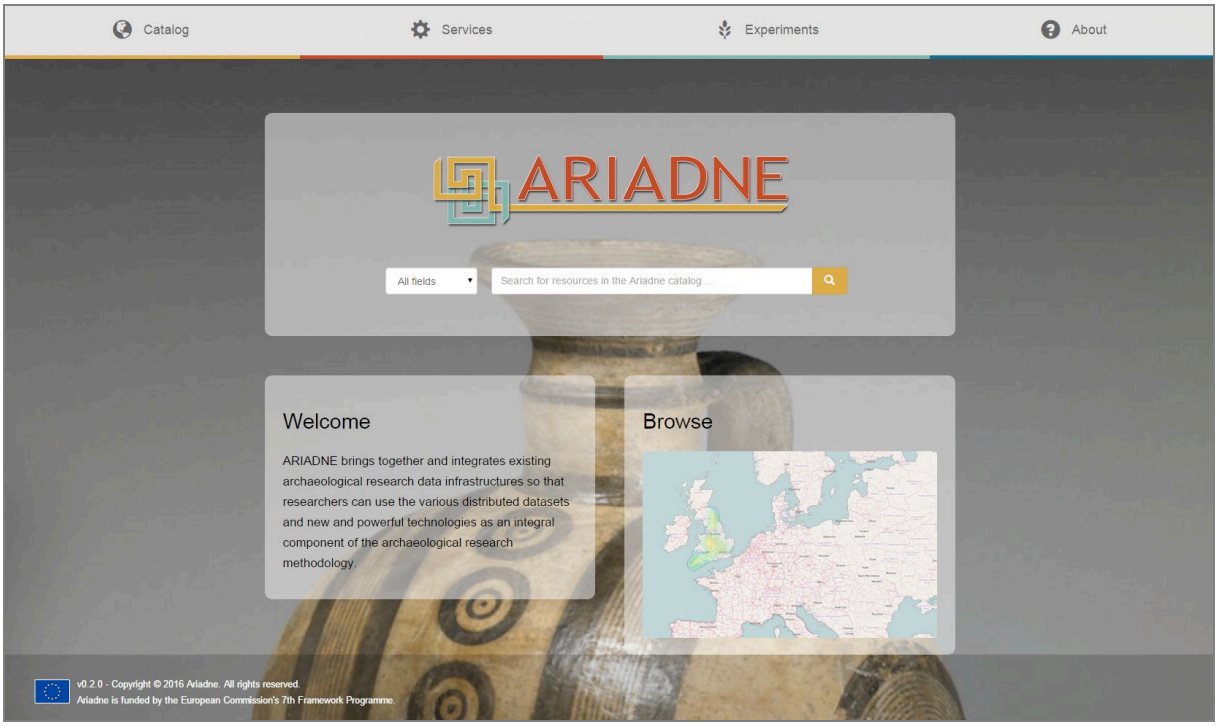


Figure 2: ARIADNE Portal – Home page

5.2. Services provided on the ARIADNE Catalogue

The ARIADNE Catalogue is based on the ACDM (Ariadne Catalogue Data Model), which describes the archaeological resources that are made available within the ARIANDE infrastructure to the researchers wishing to access and use them. The current version is ACDM 2.6, delivered on Sept. 26th, 2015.

5.2.1. Catalogue search

The search and retrieval functionalities for all kinds of resources described in the Catalogue are currently under development in the context of WP12 and should be delivered in January 2016.

The search and retrieval will be refined using several types of filters, including: type, resource type, subject, provider, period, publisher...

The filters reflect the structure of the ARIADNE Catalogue. They should guide the user not only in the phase of refining the search, but also in widening and completing the search.

http://ariadne-portal.dcu.gr/

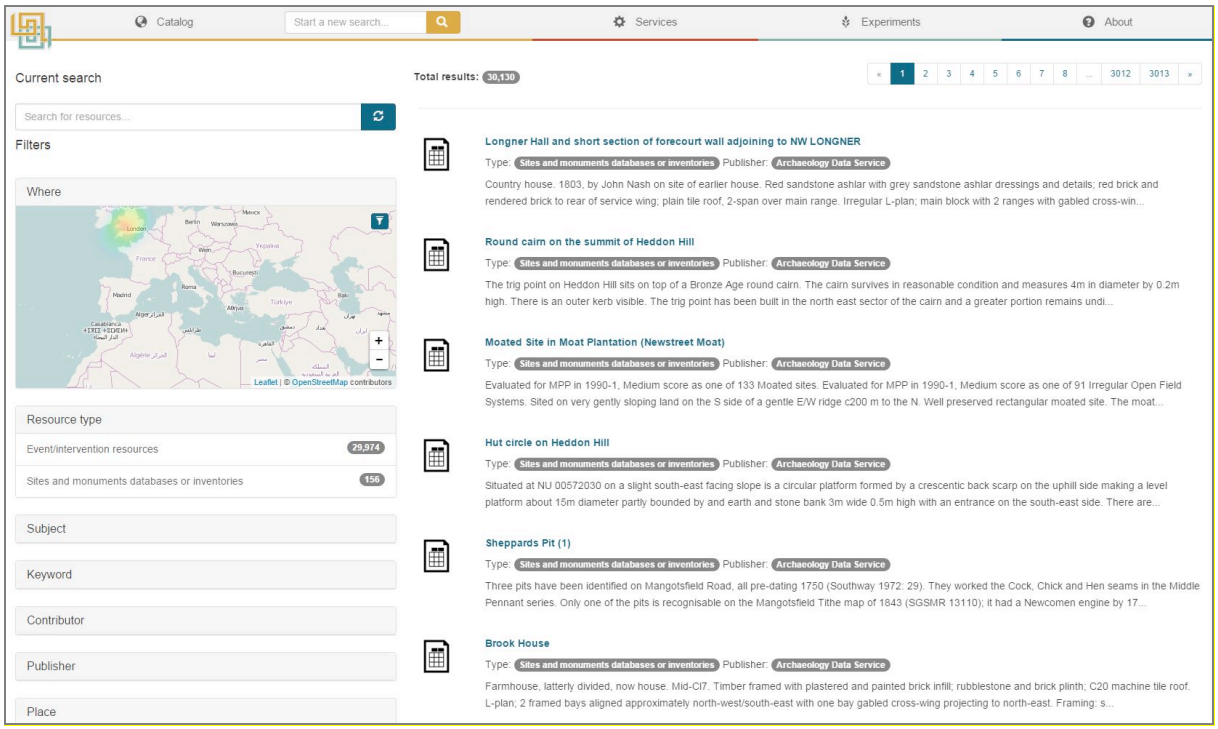


Figure 3: ARIADNE Portal – Textual research

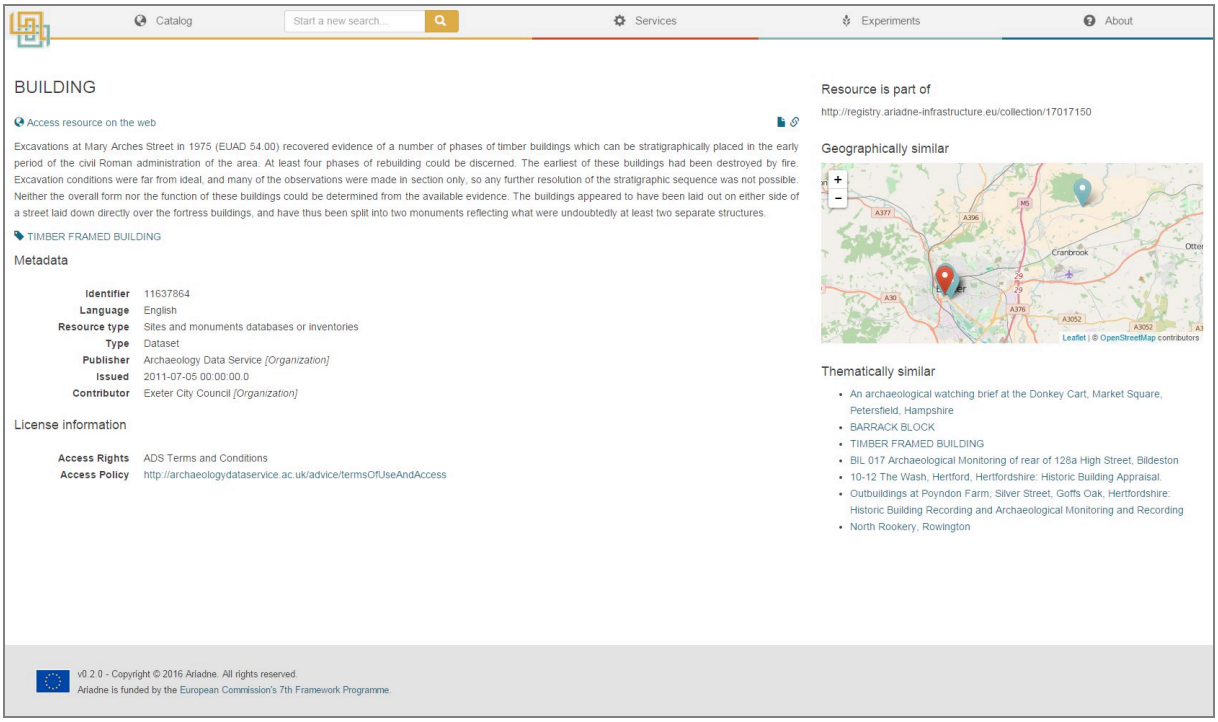


Figure 4: ARIADNE Portal – Dataset view

5.2.2. Spatial search and display

The spatial search and display facility is currently under development by CNR-ISTI and DAI and should be delivered in January 2016.

This functionality takes advantage of the data provided in the ACDM, where indications about the geographical position of the elements of the collections are provided. This enables the user to visualize collections, which come from different providers, but are related to a common geographical area. The spatial search and display will be possible both by exploring the map and focusing on the area of interest, and by visualizing all the collections that come from a specific query on the map.

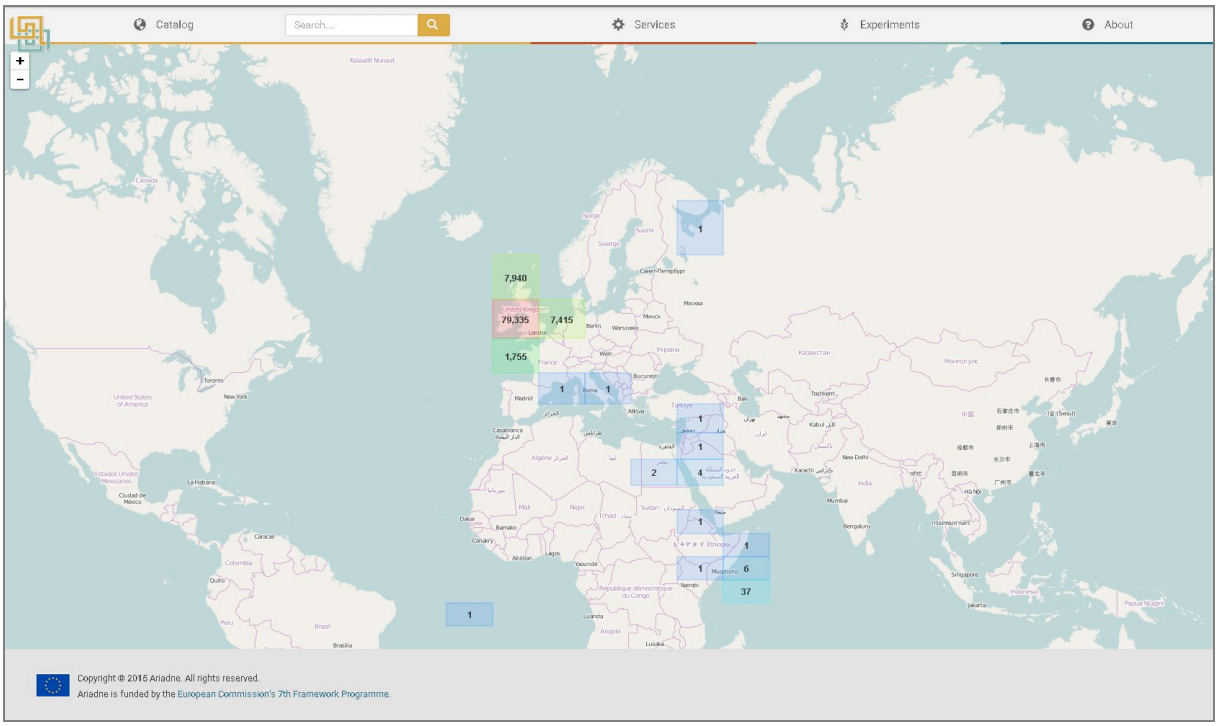


Figure 5: ARIADNE Portal – Geographical view of datasets

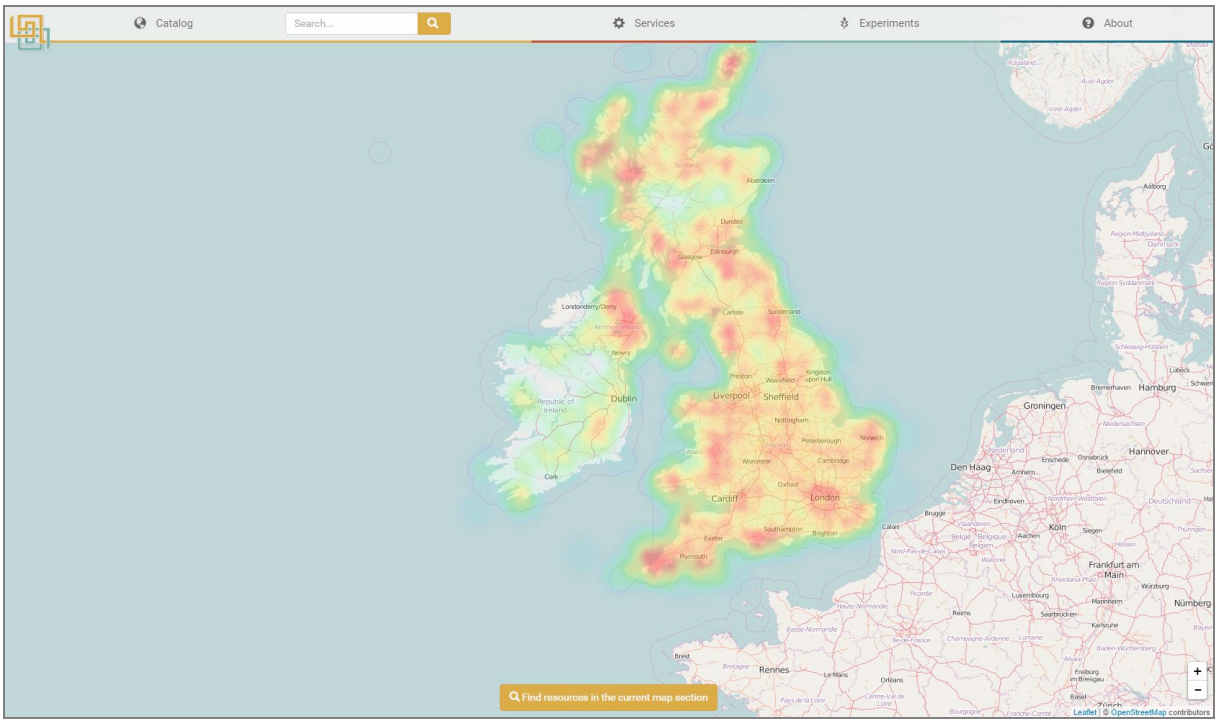


Figure 6: ARIADNE Portal – Detailed geographical view of datasets

5.2.3. Timeline search and display

The timeline search and display facility is currently under development by CNR-ISTI and DAI, and should be delivered in January 2016.

Similarly to spatial search and display, temporal search is possible due to the description of collections in the ARIADNE Catalogue Model. The work carried out within WP2 provided a set of period descriptions that refer to items in each collection.

The temporal search and display will provide a visual description of the items in the query, possibly displaying a timeline that will make it possible to zoom to selected sub-periods. The timeline will also be a possible starting point for other types of search.

5.3. Other Services created within the ARIADNE Project

5.3.1. Visual Media Services

A first version of the Visual Media Services was delivered by the Visual Computing Lab of CNR-ISTI in January 2015. This provides end users with the means to publish and visualize 3D datasets, RTI and high-resolution images on the web, with an easy and automatic procedure.

A second version is to be delivered in December 2015.

Currently, the Service gives the user the possibility for the user to upload a 3D model, an RTI Image or a high-resolution image. The Service will process the data by essentially completing two operations:

- Transform the item into a multi-resolution format, that could be used in a progressive rendering fashion for web visualization
- Create a simple visualization page, which will be stored and hosted by the Service. This simple page may also be downloaded by the user, in order to serve as a starting point for more complex visualization or integration in the context of other web pages.

The current version of the service is available at: http://visual.ariadne-infrastructure.eu/

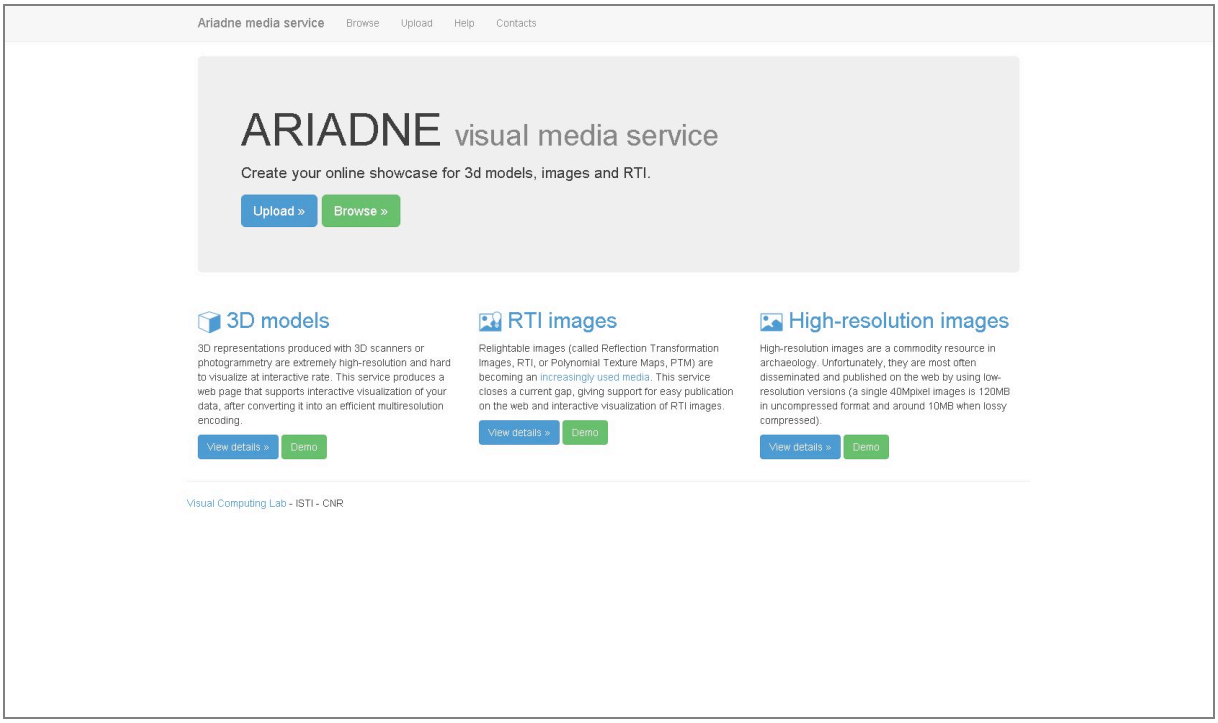


Figure 7: ARIADNE Visual Media Service – Home Page

Figure 8: ARIADNE Visual Media Service – 3D model view

5.3.2. Visual Media in archaeological collections

This service provides an integrated 3D viewing facility for existing databases containing 3D models. A preliminary version has been delivered in 2015, as a proof-of-concept, in the ADS portal (Amarna Project) and is currently under review.

The basic idea of this service is that a simple WebGL page can be automatically generated every time an item in a collection contains a 3D model. This visualization may be provided in parallel with the possibility of downloading and visualizing the model locally.

Some extensions could be implemented in other databases in a second phase, upon request by the database providers.

Figure 9: Visual Media in archaeological collections – ADS, «The Virtual Amarna Project»

The proof of concept can be viewed at:
http://archaeologydataservice.ac.uk/archives/view/amarna_leap_2011/

5.3.3. Landscape Services

Landscape Services were developed by CNR-ITABC and was delivered in July 2015.

This is a set of online services and tools focused on processing, management and publishing of large 3D interactive terrain datasets within collaborative workflow. Their goals within ARIADNE are (A) Aid and support 3D landscape reconstruction tasks and projects in Virtual Archaeology and (B) Provide tools for dissemination of interactive landscapes.

The service works in a similar fashion to the Visual Media Service, by providing a simple interface to the user, and is accessible to users with limited computer science and 3D modelling backgrounds.

The current version of the service is available at: http://landscape.ariadne-infrastructure.eu/index.php

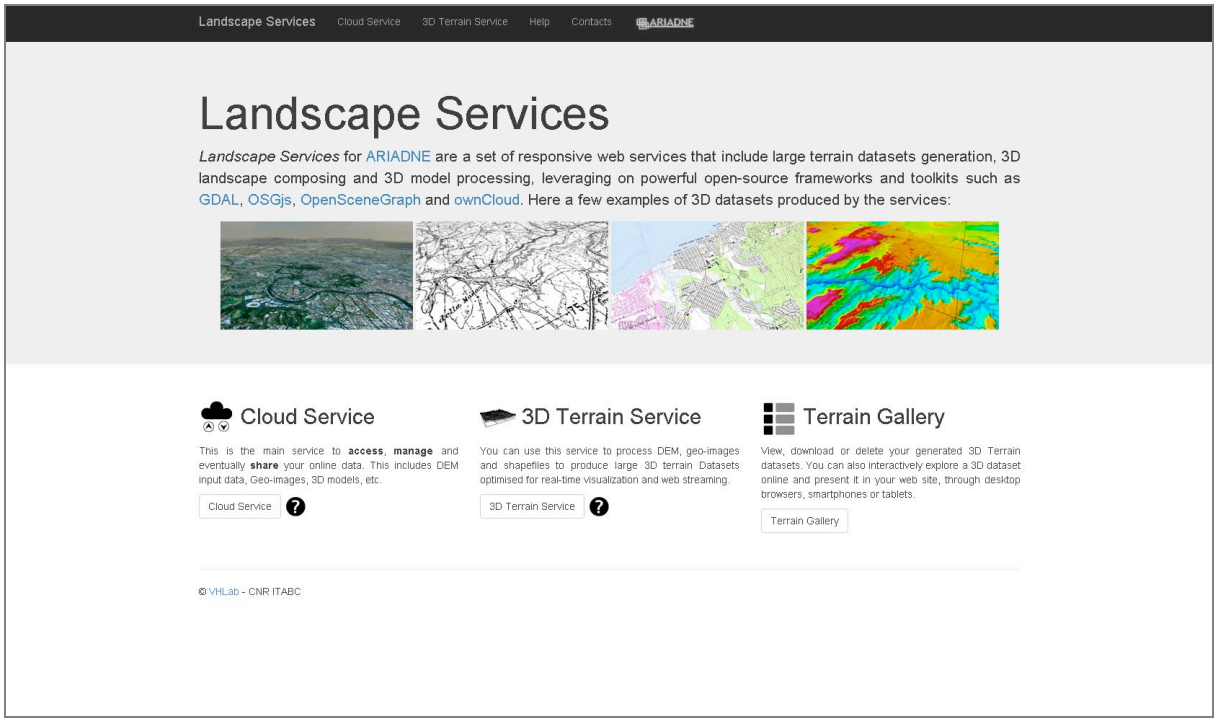


Figure 10: ARIADNE Landscape Services – Home Page

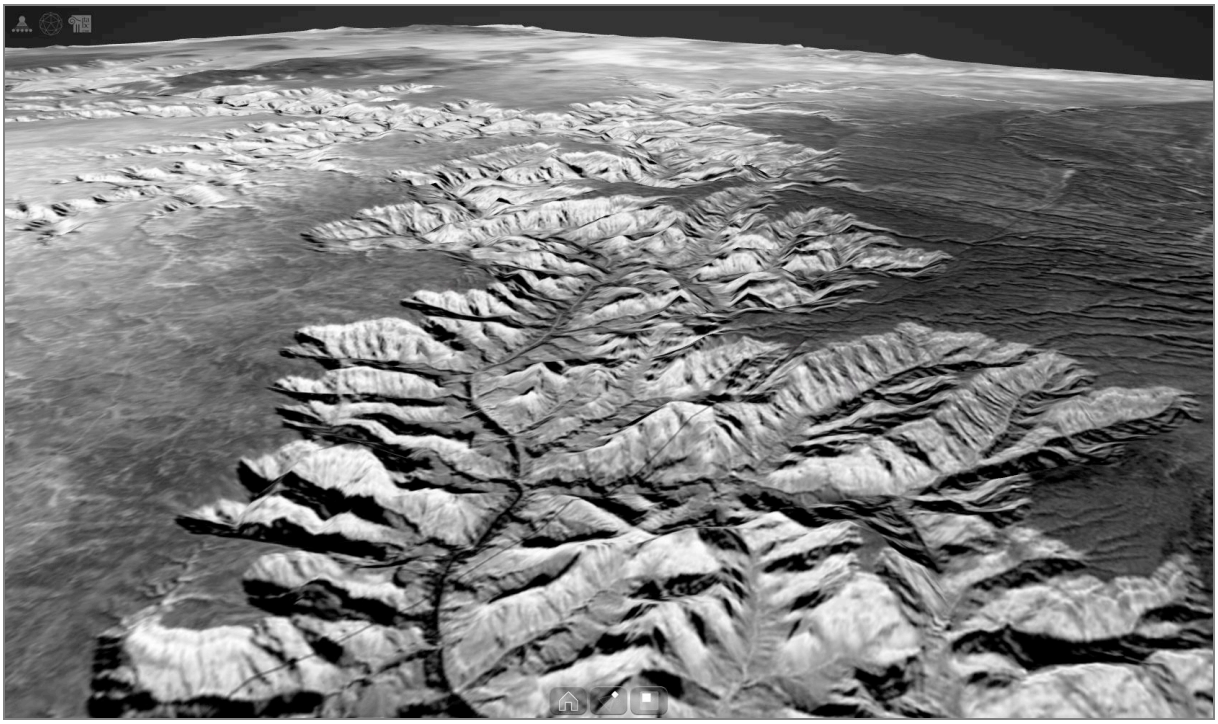


Figure 11: ARIADNE Landscape Services – 3D terrain view

5.4. Other Services provided "as is" by partners

These existing and broadly used services will become more accessible to ARIADNE users through an index provided within the ARIADNE portal.

5.4.1. Data Deposit and Preservation Services

ADS (Archaeology Data Service) http://archaeologydataservice.ac.uk/archsearch/

AIAC (Associazione Internazionale di Archeologia Classica) FASTI Online http://www.fastionline.org/

DAI (Deutsches Archäologisches Institute – German Archaeological Institute) online service: Arachne http://arachne.dainst.org/ and Zenon databases http://opac.dainst.org/

DCCD (Digital Collaboratory for Cultural Dendrochronology) http://dendro.dans.knaw.nl/

DANS (Data Archiving and Networking Services) http://dans.knaw.nl/ and EASY https://easy.dans.knaw.nl/ui/browse

6. Methodology used for evaluation

6.1. Scope of the testing

Testing is related to services implemented in the ARIADNE project and is briefly described in the previous pages.

No evaluation will be conducted for previously existing services operated by partners and made available through ARIADNE, only the newly provided access to these services through the ARIADNE Portal will be evaluated as a part of the ARIADNE portal service.

6.2. General aspects on methodology

The evaluation will be implemented in two complementary directions:

- Using predefined testing scenarios according to the following matrix
- Using open evaluation questionnaires

The evaluation cycle follows several steps:

- Preliminary tasks:
  - Creation of the group of evaluators
  - Preparation of the evaluation scheme
- Conducting the evaluation
- Analysing the results
- Producing a structured and commented feedback to the implementation team and (if necessary), and implementation of the requested changes and production of a revised version of the service/tool

6.3. Testing scenarios

Each testing scenario will be applied to one or several services for which this testing scenario is relevant, according to the following matrix:

		SERVICES								
		CATALOGUE			VISUAL MEDIA SERVICES			LANDSCAPE SERVICES		
		1.1	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3
		Catalogue Search	Spatial Search	Timeline Search	3D Models	RTI	High Res Images	Own Cloud	3D Terrain	Terrain Gallery
ACTIONS	Navigate	■	■	■	■	■	■	■	■	■
	Search	■	■	■						
	View	■	■	■	■	■	■	■	■	■
	Edit	■			■	■	■		■	
	Geo Search		■							
	Timeline Search			■						
	Upload	■			■	■	■	■	■	
	Conversion				■	■	■		■	
	Manage	■						■		■
	Download	■			■	■	■			■
	Embed	■			■	■	■			■

Notes:

- The ARIADNE Portal gives an integrated access to all the services, being designed within the ARIADNE project or not (pre-existing services). All the testing scenarios are related to this general-purpose service.
- Some use cases rely on services that are not included in the list of the services to be evaluated. It may be that these are not documented as services *per se*, or that their implementation is not scheduled. E.g. navigate and search accounts, visualize and search account attributes; prepare and register a new collection.

- Some services do not explicitly correspond to use cases. D13.1 has to be enriched to include these services. E.g. Landscape and terrain services. Landscape services are a set of responsive web services that include large terrain datasets generation, 3D landscape composing and 3D model processing.

6.3.1. Evaluation questionnaires

6.3.1.1. Content of the questionnaires

The aim of the questionnaire related to a specific service is to determine whether the service meets the expectations of the users.

Each service provider should provide, along with the service, an evaluation questionnaire giving the feedback that is most useful for the implementation team.

The useful data could be:

- The answer to precise questions about usability of the service
- Open comments about the service (usability, request for improvements, a.s.o.)
- A note given to the service (similar to what could be found in the AppStore)
- Quantitative data about usage (e.g. number of downloads of an application, number of clicks, number of files uploaded, ...)

The questionnaire prepared by the service provider must be completed by an evaluation questionnaire prepared by the teams in charge of designing the service and/or of the collection of users' needs.

A prototype of the test that will be submitted is attached in Annex II.

6.3.1.2. Translation

The questionnaires were created in English.

A partner wishing to translate them in another language may do so, to provide them to their community (*practical aspects are to be developed. In particular, this is not suitable for questionnaires submitted online directly in the web-based service*). In that case, the feedback to the task leader shall be fully translated in English, including the comments that are useful for evaluation purposes.

6.3.1.3. Operation

The questionnaire will be sent to a restricted set of users, previously identified as:

- Persons who have shown an interest for ARIADNE (respondents to the survey conducted in WP2)

- Users of the specific service willing to answer a set of questions online

The questionnaire, according to the scheme presented in Annex II, will be produced on a Google Form and will be sent to a list of testers.

The questionnaire will also be sent via the web to for those who will participate locally in the workshops for presentation of the project planned at the Inrap (Paris) during the first half of 2016.

The questionnaire will be sent a maximum of three times (monthly) to testers who don't respond. Testers who don't respond three times will be replaced in the panel.

6.3.1.4. Analysis of the data

The analysis will be made by the task leader, and in coordination with the teams D2.2 and D13.1 / D13.2.

A quarterly analysis of the data is planned. The results, transposed in appropriate graphics, will be sent to the WP leader, so it can be transmitted to other Tasks within WP13.

Particular attention will be given in the first testing to the global acceptance and implementation of the proposed services.

In the second half of 2016 the focus will be on the proper functioning of services and the speed of the operations carried out by testers.

The whole set of quarterly results will be presented into D13.5 Final Testing Report.

6.4. Other

Some partners may wish to use additional evaluation instruments. These could be useful to gain additional data from the evaluation, e.g. to have more precise comments on the usage of the services and potential improvements.

6.4.1. Individual contacts

Individual contacts can be made (phone, face-to-face or Skype meetings) either directly or after a person has answered a questionnaire and agreed to be contacted.

The contact may include a co-browsing phase by which the user navigates in the service under supervision of the evaluator. If that phase is conducted during a remote contact, the specific infrastructure has to support tracking of users actions, or the analysis could be done by using a teleconference system that allows visualization and grab the remote user's desktop.

6.4.2. Group sessions

Partners can organize a group session with several users of a service to collect information about the usage of the service. A group session allows emulation between the participants and allow more than single-contacts, but is obviously much more time-consuming.

The partner should take care of the organization and, if applicable, the specific costs of the session.

6.5. Feedback to the implementation teams

The results of the evaluation process will be sent back to the implementation team:

- Informal feedback will be sent every time important or critical feedback is received (e.g. to allow the service developers to react promptly to bug notifications)
- Formal feedback will be sent as part of the services testing report (D13.5, draft versions and final version, see hereafter the Agenda section)

6.6. Agenda

The evaluation process for any service obviously requires the full availability of the service, in a stable version upon which the implementation team has already conducted preliminary technical tests.

It also requires the availability of a comprehensive set of data appropriate to using the service.

Currently, the services that meet these criteria are the Visual Media Services, a first version of which has been delivered and upon which a first set of tests has been conducted; the Landscape Services and the Portal prototype, were delivered in November 2015.

The other services are still under implementation and may not be tested at the time of production of the first release of this report.

6.6.1. Testing of individual services

A first testing phase, which began in November 2015 and will end at the latest June 30th 2016, will consist of testing all individual services that will be delivered within the ARIADNE project.

The testing procedure is meant to last for six months from the date of availability of the service, which means all services have to be fully ready and available at the latest by the end of December 2015.

An interim testing report, summing up the results of the individual evaluation of the services, will be created and delivered by June 2016, for feedback to the service providers.

6.6.2. Overall testing

A second testing phase upon the whole system will be conducted from July to December, 2016.

This testing phase will focus on the usability of the ARIADNE service infrastructure taken as a whole, the ARIADNE portal being the entry point.

6.7. Technical infrastructure issues

Each service provider will take care of the provision of the infrastructure related to its individual service.

The task leader will ensure that no part of the infrastructure is missing or under-implemented but should not have to provide a specific technical infrastructure.

7. First evaluation results

7.1. Visual Media Services

Informal tests have been conducted by Inrap among a community of internal power users, showing a great interest in the service provided for visualization of 3D images, but also the need for enhanced visualization and analysis tools, and especially measuring tools.

This feedback meets the development plan of the Visual Media Services; the new version to be released in the first half of 2016 shall answer to this need.

8. Conclusions

Most of the work remains to be done starting in January 2016, when a comprehensive set of services will gradually be made available, including the services related to the Catalogue which are the central part of the ARIADNE project.

9. References

ARIADNE– Project Website, http://www.ariadne-infrastructure.eu/

ARIADNE, 2014, D 12.1 "User Requirements", http://www.ariadne-infrastructure.eu/Resources/D12.1-Use-Requirements

ARIADNE, 2014, D 13.1 "Service Design", http://www.ariadne-infrastructure.eu/Resources/D13.1-Service-Design

ARIADNE, 2015, D 2.2 "Second report on users' needs", http://www.ariadne-infrastructure.eu/content/view/full/1188

ARIADNE, 2015, D 12.2 "Infrastructure Design", http://www.ariadne-infrastructure.eu/Resources/D12.2-Infrastructure-Design

10. Table of figures

11. Annex I – Testing scenarios

11.1. Basic Catalogue Services

Scenario Group 1	Basic Catalogue Services			
Pre-requisites	Basic ICT skills User browses the ARIADNE Portal			
Step	Action	Expected result	Conclusion	Validation
1.1	Catalogue Navigate			
1.2	Catalogue Search			
1.3	Catalogue View			
1.4	Spatial Navigate			
1.5	Spatial Search			
1.6	Spatial View			
1.7	Timeline Navigate			
1.8	Timeline Search			
1.9	Timeline View			

11.2. Advanced Catalogue Services

Scenario Group 2	Advanced Catalogue Services			
Pre-requisites	Basic ICT skills Basic geo search skills Basic time search skills User browses the ARIADNE Portal User advanced search on the ARIADNE Portal			
Step	Action	Expected result	Conclusion	Validation
2.1	Catalogue Parameterise Search			
2.2	Geo Parameterise Search			
2.3	Timeline Parameterise search			

11.3. Visual Media Services

Scenario Group 3	Visual Media Services			
Pre-requisites	Advanced image processing skills User has a visual media document (3D model, RTI, HR image)			
Step	Action	Expected result	Conclusion	Validation
3.1	3D Models Navigate			
3.2	3D Models View			
3.3	3D Models Upload			
3.4	3D Models Parameter			
3.5	3D Models Transform			
3.6	3D Models Download			
3.7	3D Models Embed (on web site)			
3.8	RTI Navigate			
3.9	RTI View			
3.10	RTI Upload			
3.11	RTI Parameter			
3.12	RTI Transform			
3.13	RTI Download			
3.14	RTI Embed (on web site)			
3.15	High Res Images Navigate			
3.16	High Res Images View			
3.17	High Res Images Upload			
3.18	High Res Images Parameter			
3.19	High Res Images Transform			
3.20	High Res Images Download			
3.21	High Res Images Embed (on web site)			

11.4. Own Cloud Services

Scenario Group 4	Own Cloud Services			
Pre-requisites	Advanced ICT skills User has some geographical datasets (Raster + DEM + shp file)			
Step	Action	Expected result	Conclusion	Validation

4.1	Own Cloud Navigate			
4.2	Own Cloud (Access and) View			
4.3	Own Cloud Upload			
4.4	Own Cloud Manage			

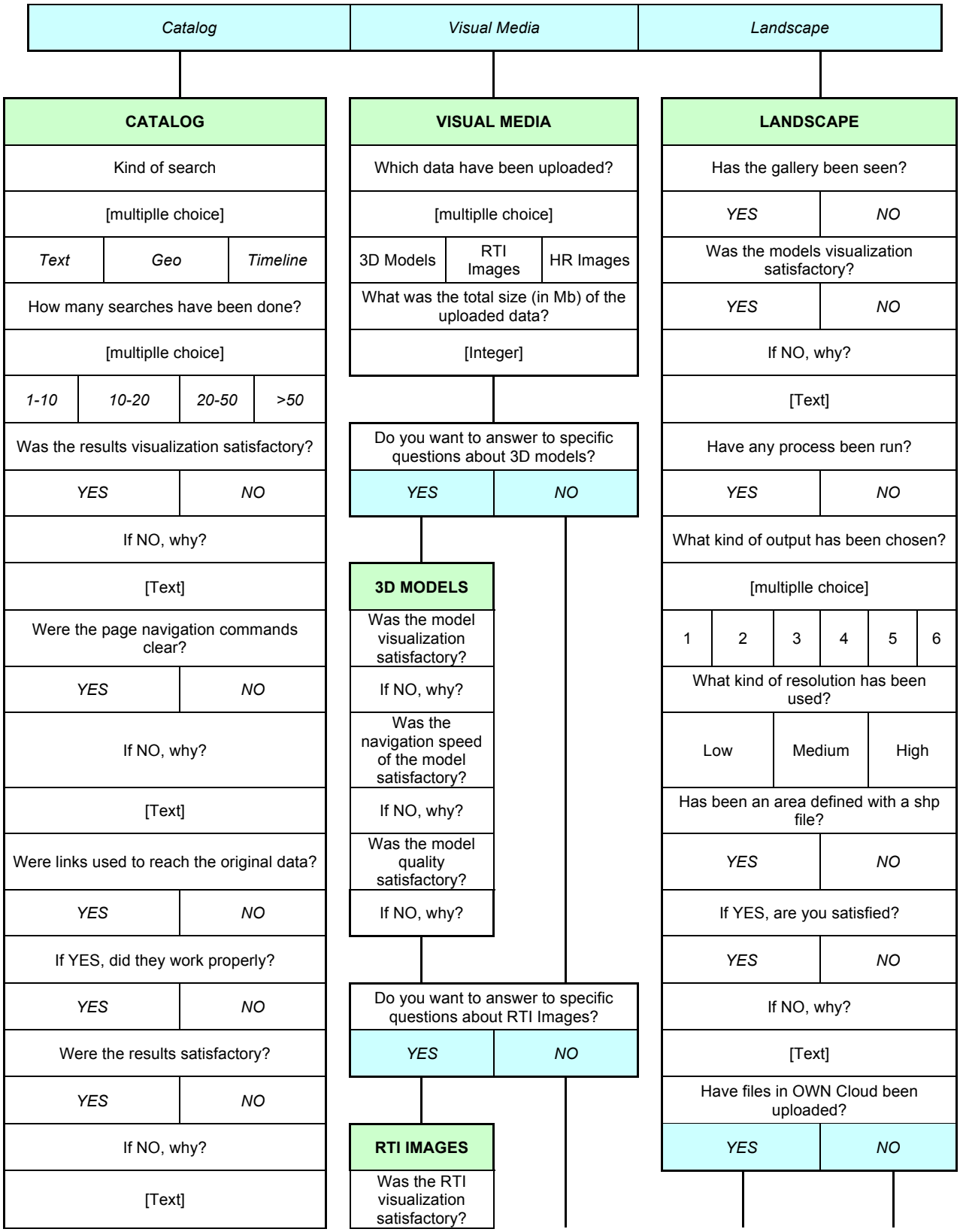
11.5. Landscape Services

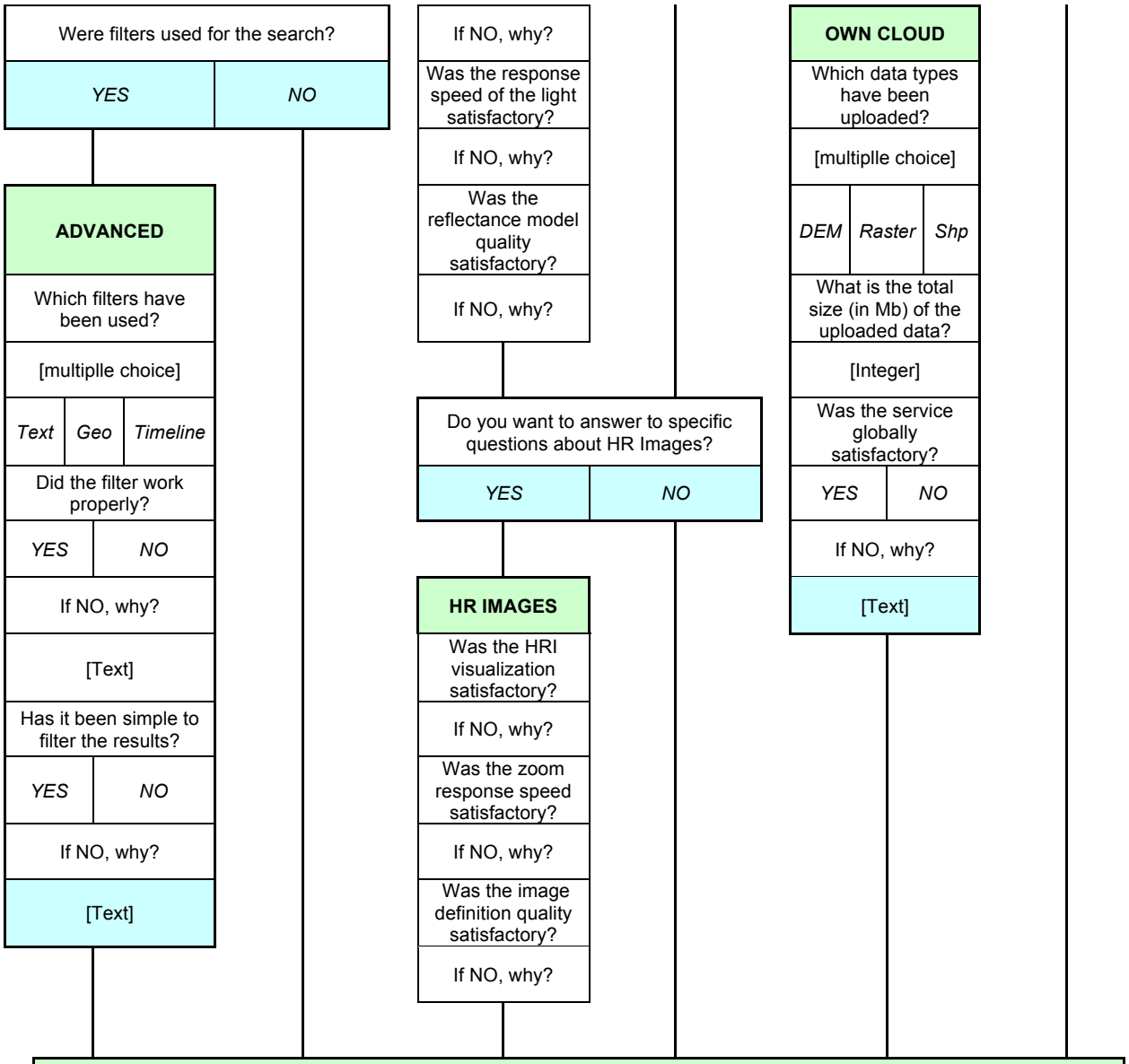
Scenario Group 5	Landscape Services			
Pre-requisites	Basic GIS skills User has uploaded a geographical dataset on Own Cloud			
Step	Action	Expected result	Conclusion	Validation
5.1	3D Terrain Navigate			
5.2	3D Terrain View			
5.3	3D Terrain Parameter			
5.4	3D Terrain Upload			
5.5	3D Terrain Transform			
5.6	Terrain Gallery Navigate			
5.7	Terrain Gallery View			
5.8	Terrain Gallery Download			
5.9	Terrain Gallery Embed (on web site)			

12. Annex II – Prototype questionnaire for the evaluation of the ARIADNE Services

TESTER DATA
First Name
[Text]
Last Name
[Text]
Institution
[Text]
Country
[Text]

START			
How was the web site reached?			
[multiplle choice]			
Google	*Direct Link*	*Ariadne Site*	*Other*
Was the service description provided on the web clear?			
YES		*NO*	
If NO, why?			
[Text]			
Was the provided service speed satisfactory?			
YES		*NO*	
If NO, why?			
[Text]			
Used services			


Catalog
Visual Media
Landscape
CATALOG
Kind of search
[multiplle choice]
Text
Geo
Timeline
How many searches have been done?
[multiplle choice]
1-10
10-20
20-50
>50
Was the results visualization satisfactory?
YES
NO
If NO, why?
[Text]
Were the page navigation commands clear?
YES
NO
If NO, why?
[Text]
Were links used to reach the original data?
YES
NO
If YES, did they work properly?
YES
NO
Were the results satisfactory?
YES
NO
If NO, why?
[Text]
VISUAL MEDIA
Which data have been uploaded?
[multiplle choice]
3D Models
RTI Images
HR Images
What was the total size (in Mb) of the uploaded data?
[Integer]
Do you want to answer to specific questions about 3D models?
YES
NO
3D MODELS
Was the model visualization satisfactory?
If NO, why?
Was the navigation speed of the model satisfactory?
If NO, why?
Was the model quality satisfactory?
If NO, why?
Do you want to answer to specific questions about RTI Images?
YES
NO
RTI IMAGES
Was the RTI visualization satisfactory?
LANDSCAPE
Has the gallery been seen?
YES
NO
Was the models visualization satisfactory?
YES
NO
If NO, why?
[Text]
Have any process been run?
YES
NO
What kind of output has been chosen?
[multiplle choice]
1
2
3
4
5
6
What kind of resolution has been used?
Low
Medium
High
Has been an area defined with a shp file?
YES
NO
If YES, are you satisfied?
YES
NO
If NO, why?
[Text]
Have files in OWN Cloud been uploaded?
YES
NO


Were filters used for the search?
YES
NO
ADVANCED
Which filters have been used?
[multiplle choice]
Text
Geo
Timeline
Did the filter work properly?
YES
NO
If NO, why?
[Text]
Has it been simple to filter the results?
YES
NO
If NO, why?
[Text]
If NO, why?
Was the response speed of the light satisfactory?
If NO, why?
Was the reflectance model quality satisfactory?
If NO, why?
Do you want to answer to specific questions about HR Images?
YES
NO
HR IMAGES
Was the HRI visualization satisfactory?
If NO, why?
Was the zoom response speed satisfactory?
If NO, why?
Was the image definition quality satisfactory?
If NO, why?
OWN CLOUD
Which data types have been uploaded?
[multiplle choice]
DEM
Raster
Shp
What is the total size (in Mb) of the uploaded data?
[Integer]
Was the service globally satisfactory?
YES
NO
If NO, why?
[Text]
HELP SECTION
Has the help section been used? Has it been resolutive/helpful/satisfactory?
YES
NO
If YES but it did not solve issues, why?
[Text]
Have problems/bugs been experimented using the system?
YES
NO
In case problems/bugs have been experimented, have they been reported to the developers?

YES	*NO*
If YES, has an answer from the developers been received?	
YES	*NO*

FINAL EVALUATION		
Have been the service performances satisfactory?		
YES	NO	
If NO, why?		
[Text]		
Have been the system used while connected to:		
[multiple choice]		
High speed network (>10MB)	Ordinary network (3-10MB)	Low speed connection (< 3MB)
Global judgement on the experience:		
(* * * * *)		
Experience description (optional)		
[Text]		
Are any suggestions for the developers possible? (Possible suggestions for the developers:)		
YES	NO	
If YES, what?		
[Text]		
Which other data type should be managed by the Services? (Specify data type)		
[Text]		
Which visualization or interaction features should be considered while extending the Visual Media Service? (Please specify)		
[Text]		