

		Project title: Automatic publication under Linked Data paradigm of library and museum data
		Acronym: ALIADA Grant Agreement No: 610927 EU FP7- ICT-2013 – SME-DCA Collaborative project

Deliverable D 4.3.2

ALIADA Exploitation plan v2

Work Package 4

Date: 30.10.2015

Version: 2.0

Leading Beneficiary:	SCANBIT (SCA)
Editor(s):	Cristina Gareta (SCA)
Author(s) (alphabetically):	Ivo Contursi (@CU), Cristina Gareta (SCA), Marta González (TEC), Adam Horvath (MFA), Javier Iriarte (ART), Iñigo Lapitz (SCA), Katalin Papp (MFA), Elena Roseras (ART)
Dissemination level:	PU

Versioning and contribution history

Version	Date issued	Description	Contributors
1.0	13.10.2014	TOC and first draft	Cristina Gareta (SCA)
1.1	23.10.2015	Contributions from partners	Ivo Contursi (@CU), Marta González (TEC), Adam Horvath (MFA), Javier Iriarte (ART), Iñigo Lapitz (SCA), Katalin Papp (MFA)
2.0	30.10.2015	Final version	Cristina Gareta (SCA)
2.1	02.11.2015	Post-version review	Elena Roseras (ART)

Table of contents

TABLE OF CONTENTS	3
1 INTRODUCTION	4
1.1 PURPOSE OF THE DOCUMENT	4
1.2 DETAILED OVERVIEW OF OBJECTIVES.....	4
1.3 AUDIENCE	4
2 BACKGROUND	5
2.1 INITIAL BUSINESS CASE.....	5
3 EXPLOTATION PLAN V2	7
3.1 SCANBIT	7
3.2 @CULT	9
3.3 MUSEUM OF FINE ARTS BUDAPEST	16
3.4 ARTIUM MUSEUM	18
3.5 TECNALIA	20
4 MANAGEMENT OF INTELLECTUAL RIGHTS	21
5 CONCLUSIONS	22

1 Introduction

1.1 Purpose of the document

The jointly evaluation of the foreseen prototypes and deployments in the cultural institutions with the community (IT SMEs, libraries, museums and organizations holding public data) during task 4.5 (Impact generation and assessment) will allow assessing the impact and driving exploitation plans to be delivered. The initial business case presented to the EC in the project proposal will be revised according to the results of the impact assessment after the second year of the project

This deliverable is the second one for task 4.6 Exploitation.

1.2 Detailed overview of objectives

The exploitation activities are aimed at using the assessment of outcomes of impact generation task to update the business case for ALIADA and to create an exploitation plan. The key objectives of this task are:

- to outline ALIADA's exploitation strategy
- to plan and to ensure adequate protection of Intellectual Property Rights (IPR).

This document is structured in the following sections:

- Introduction
- Background
- Exploitation plan for every partner
- Management of intellectual rights
- Conclusions

1.3 Audience

The intended audience of this document are the ALIADA Consortium, particularly the SMEs involved in the project, ALIADA-certified partners and the European Commission who supports and partial funds the ALIADA project. Libraries and museums interested in the project can read in this document the services for ALIADA offered by the SMEs in the Consortium.

The Consortium has assessed the impact of the ALIADA Project after the second year of the project. This assessment of the generated impact has been done using the feedback received from the stakeholders in the different dissemination activities over the last 24 months. All these results have been considered to update the initial business plan proposed in the project.

2 Background

ALIADA is an innovative and research project funded by the EC under the EU's Seventh Framework Programme (FP7), which is to improve the competitiveness of European industry. The partners in the project Consortium are IT companies (SMEs) devoted to library and museum software and services, a research agency on ICT and Semantic Web technologies, a big museum on international art and the library of a smaller museum on contemporary art. The countries represented in the Consortium are Spain, Italy and Hungary.

The SMEs in the Consortium, Scanbit (Spain) and @Cult (Italy), have high technological degree and experience in developing products at industrial level. More specifically, they have extensive experience as software and consultancy services providers for libraries and museums.

Tecnalia (Spain), expert in Semantic Web research, contributes to the project with their knowledge on the Linked Data technology and ontologies. They have extensive experience in innovation and research ICT projects at European level.

For their part, the cultural institutions in the Consortium, the Museum of Fine Arts Budapest and the ARTIUM Basque Museum Centre of Contemporary Art, are very active museums (the MFAB participates in the Europeana project and ARTIUM is pioneer implementing open source and innovative applications in their library) and both of them have an extensive network of contacts.

Once the ALIADA project is finished, ALIADA is already a real open source Linked Data Publisher for libraries and museums. The whole GLAM community can take advantage of it. However, there are certain issues that have still not been settled:

- during the project a number of new conceptual models, vocabularies, ontologies, trends and requirements appeared. ALIADA is able to include them, but this requires expert customization and consultancy services;
- the cultural institutions who want to publish their datasets will need, not only ALIADA to automatically publish their datasets on the LOD Cloud, but also a robust storage system and technical support to maintain their RDF database and the SPARQL endpoint;
- the GLAM industry is aware of the Linked Data challenge, but most of the librarians and curators still don't understand what are the benefits for their institutions. They will need more information about the Linked Data technology and its uses in the public bodies;
- the re-use of the data stored in libraries and museums will open a new world of possibilities for the cultural institutions. On the one hand, the enrichment of their public information platforms (OPACs, websites,...). On the other hand, the exploitation of the data they publish not only in the GLAM industry, but also in other similar industries and markets. All of those actions will contribute to the increase of the visits from online users and to the institution's prestige.

2.1 Initial business case

The foreseen business case for ALIADA is intended to solve the current situation of libraries and museums (cultural heritage institutions) that want to publish their data in the Linked Data Cloud but that don't have the required specialized knowledge and technology to perform it in a efficient and effective way. Moreover, individual and independent efforts carried out by these institutions require high financial resources and investment that may consume all the budget for innovation issues without achieving good enough results in the short-term.

The information available on the Web has resulted in an exponential increase, favoured by the Internet growth, contents digitalization and social media diffusion. By 2015 it is foreseen that 3 billion people will be online, pushing the data created and shared to nearly 8 zettabytes. It is evident that the key factor is to be ready to process all this data and to generate value. This assumption is also valid for other business market sectors as (for instance but not limited to) e-Learning, Knowledge Management, Health, Financial and Environment. In this context, libraries and museums strive to preserve cultural heritage and to provide universal and equitable access to information about them to people, communities and organizations. High quality library and information services would help to guarantee such access. As memory institutions they provide evidence of comparable cultural features in held documents and objects but, libraries and museums, have their own data codification and representation method (as MARC21, Z3950, ISO 2709, LIDO, CIDOC-CRM, etc.). If that information and objects were open or accessible by standard web applications, these institutions could be more efficient because they could reuse related published information and datasets from the web to describe and catalogue their collections, and, likewise, other institutions will avoid the duplication of data already created by these specialized institutions. Also web (semantic web) and open access to this information would avoid geographical access and language limitations to information and cultural heritage around the world.

Against this background, the linked data paradigm appears as promising information visualisation, interchange and association but not only for humans but also for machines. Linked Data lies at the heart of what Semantic Web is all about: large scale integration of, and reasoning on data on the Web thanks to RDF as formatting language, dereferenced URIs for its identification and HTTP protocol for access. In order data be understandable by machines (and so processed), ontologies appear to give sense to data and to represent the domain knowledge the data belongs to.

Therefore, ALIADA is intended as a solution to overcome the current limitations of current Library or Collection Management Software to share their contents when used in libraries, archives and museums, ALIADA proposes the accomplishment of a tool implementing a novel approach to automatically publish, under the Linked Data paradigm, the contents they host. Thus, achieving contents interoperability and 74 http://esto.nasa.gov/files/trl_definitions.pdf thereof added value to the collections and stored funds, favouring the reuse of public data, opening it to the world in a format that can be processed by machines and linked to other existing datasets. ALIADA will be an extension to library and museums systems (ILS), offered as an open source tool, allowing expansion and customization by third parties. ALIADA will be multilingual: English, Spanish, Italian and Hungarian are the initially foreseen languages. ALIADA will provide a unique access point to the published datasets offering a RESTful interface that can be invoked from multi-device platforms willing to use the linked datasets for innovative applications. ALIADA will rely on existing library and museum standards, initially MARCXML and LIDO. ALIADA will perform semantic treatment of textual content, by enrichment via natural language processing through relevant entities (named entities) recognition and extraction, linking to appropriate open datasets, reasoning to retrieve additional semantic information based on those retrieved via content enhancement and inferring additional knowledge.

3 Exploitation plan v2

3.1 SCANBIT

This section describes the individual exploitation plan for the partner SCANBIT.

1. Overview

The current impact stage of the ALIADA project is the exploitation stage to reach the massive use of the tool. The last releases over the second prototype of ALIADA have satisfied the expected requirements of usability and functionality. The dissemination activities have achieved a great impact, not only in the GLAM community, but also in the European linked open data community. For the GLAM community, ALIADA is the first friendly tool to publish Linked Library and Museum Data (and it is open source). For the rest of the linked open data community, ALIADA is a very useful open source tool designed by experts in libraries and museums data and systems for publishing Linked Data (developers and researchers on Linked Data are unfamiliar with the library and museum metadata standards and rules).

2. Exploitation strategy

As expected in the beginning of the project, the exploitation strategy relies in the open source software (OSS) paradigm, basing its success in the community creation and growing rate. The exploitation strategy will therefore be as follows:

Support company of the ALIADA community

The ALIADA community will guarantee the continuous evolution of the open source version of the system. This will allow to any company to use it for free, and to adapt the system to its own needs. In the ALIADA community, SCANBIT will be available for contact as a paid support company specialized in development and consultancy services on library management systems and metadata management.

Development of a full version of the software.

After assessing the market, SCANBIT will also offer their own next-generation solution based on ALIADA standard code.

Installation and customization services

SCANBIT will offer their services for installing and customizing ALIADA standard in a real environment, as an expert in library management systems and metadata.

Integration with the current library management system of the cultural institution

After the integration of ALIADA with the AMICUS LibriSuite commercial library management system, SCANBIT is ready to provide the same service to other library management systems, specially if they are open source, using a RESTful API.

Hosting of the ALIADA software and RDF database

Hosting service for a single library or for a library network. It will include functional and technical support for ALIADA.

Consultancy services on Linked Data technology for libraries

SCANBIT is a 20-years old Spanish IT company specialized in library services and software. This know how and the knowledge about Linked Data technology learned during the project will enabled the company to be recognized as one of the best consultancy options on innovation in library management systems.

Development of plugins to re-use the published Linked Library Data

Libraries are specially interested in the benefit of re-using Linked Open Data to enrich their public catalogues and websites. SCANBIT is now enabled to provide that service in libraries and in other non librarian organizations. After the assessment of the market demand, it is expected to develop a plugin to reuse Linked Library Data in web applications and platforms.

3.2 @CULT

This section describes the individual exploitation plan for the ALIADA partner @CULT.

1. Overview

ALIADA tool, for nature and technical characteristics, have a high market potential:

- the product, technologically advanced, is unique compared to the state of the art;
- being developed with open source components it is:
 - easy to integrate into existing systems and architectures;
 - with a high level of customization and configuration;
 - able to greatly reduce the cost of deployment and maintenance.

Therefore, scalability is the first strong point of the product that makes it perfectly adaptable to the needs of every type and size of users. In addition, the project is located on the frontier of advanced technologies related to the Semantic Web and the paradigm of linked open data (lod).

The framework developed to automate the entire process of creating and publishing lod, although designed to exploit the information assets of organizations and institutions that operate in the context of historical and cultural (libraries, archives, museums), can be applied in any knowledge domain normalized by ontologies, regardless of the data source format.

The high degree with which the tool is able to adapt to the context in which it operates allows a strategic market penetration coefficient, among those of utmost importance for the third millennium economic development: the availability and interoperability of data as infrastructure for future economy.

In the new ecosystem, identified by Smart Paradigm, regardless of its forms (living, education, citizen / community, government, infrastructure, utilities, mobility, environment, business), it will be increasingly crucial to understand and manage the processes of creating, processing, research and data sharing, as well as user friendly way to consume.

ALIADA tool, through data standardization enabling the creation of a collective wealth of knowledge, through relationships between related knowledge bases, is emerging as a fundamental tool for the development of "smart" projects or strategies.

2. Regional dimension

In general, given the context in which it has been developed, ALIADA tool identifies as natural market, the one where to achieve maximum benefit of project results, the GLAM market (acronym for identifying museums, libraries and archives) and Cultural Heritage sector (BC) as a whole.

Italy is known to be the custodian of a first-class heritage; an "energy reservoir" which, however, is not always able to be extracted and converted into real economic advantages.

Outcomes of analysis, studies and industry surveys, although the many initiatives aimed at enhancing the use of resources, result in the existence two more limits that make the domain of reference fragile and under-exploited its full potential:

- high pulverization of information sources, because of difficulty in finding them;

- significant lack of synergistic relationships between the multiple knowledge bases, due to fragmentation of information.

As a side effect of the continuation of this situation is reasonable to expect significant losses in terms of competitiveness, attractiveness, opportunities for growth and development for the entire sector.

A framework that automates the entire process of creating and publishing lod, transforming heterogeneous and broken knowledge bases into homogeneous knowledge, make itself as the best solution to remove obstacles determining lock-in effects and barriers to entry the market: fragmented offering.

In fact, the characteristics of context and product, make the tool competitive with highly significant margins of market penetration.

In the following, we proceed to a primary niche segmentation, according to a clustering-based principle to identify limitations, opportunities and more attractive methodologies to product penetration.

3. Market segments

Museums

The total number of museums and other similar institutions in Italy is 4,588.

It is a heritage widespread in a balanced way throughout the country but, analyzing the trend of visits to collections, it appears that only three regions provide 51% of the flow: Tuscany (22.1%), Lazio (20.1%) and Lombardy (8.8%).

This is important because it highlights the first "anomaly": Lombardy is, between the three, the only region in the north of Italy and with a much lower value than Tuscany and Lazio; though it is the north that the highest percentage of museums is localized (49%).

Furthermore, the values change further making the observations toward the highest average number of visitors per institution; the best performance are: Lazio (6.5%), Tuscany (4%) and Campania (3%).

What emerges, therefore, is that respect a huge, complex and varied set of institutions:

- Only a very small part (hub of great attraction) intercepts the cultural demand;
- offering is not completely aligned with demand.

A further limitation is that Italian museums are still not appropriately and effectively on the web.

With the exception of those of greatest importance and interest (approx 60%), many do not use any kind of tool that the new ICT technologies provide; only about 20% allowing online access to individual selected assets; less than 20% makes available a catalog.

Summarising, the country has a large and rich set of cultural sites but a sizeable percentage of structures is pulverized with the result that most of the wealth remains hidden and off the beaten track to fruition.

The collections: a wide and varied offering

The great variety of the Italian museum is reflected in the diversified nature of preserved and displayed assets. Their appeal depends, to the greatest extent, on the importance of the housing structure; industry studies show that it is the "brand" to motivate the visit.

This means that the aforementioned institutions pulverization corresponds to a similar pulverization of cultural resources, many of which are completely deficient in attracting visitors.

This is perfectly aligned to the foregoing (Cap. 2) about the limits that make, in general, fragile and weakened the field of BC as a whole:

- high pulverization of information sources, because of difficulty in finding them;
- significant lack of synergistic relationships between the multiple knowledge bases, due to fragmentation of information.

Many assets stored, but not always documented and valued

Many museums have an exhibition capacity lower than that of custody and preservation, so that the assets stored are many more of those exposed to the public.

Moreover, only a part of the vast wealth of available assets and collections is punctually documented, while a large proportion is not identified and registered, and, therefore, is completely inaccessible (except through documentary acts; certainly important for protection activities but not for profiling usage models).

Less than 50% of this huge deposit has been inventoried; 20% ca. cataloged; only 11% reproduced in digital format.

Websites, online access to resources, usage mode

More than half of the museums has a website, but less than 20% is allowing online access to the exhibited assets. The web is an environment in which the Italian museums are beginning to take significant steps forward, although the available figure show that few of them use it to its full potential.

Visitors Profile

The flow of visitors besides being concentrated in a few destinations, is represented only 20% of young people aged between 18 and 25; since it may be related, inter alia, to the lack of attractive ICT technologies yet to be developed. Moreover, this gap helps to motivate a low penetrating power in the international public. Although the large number, it could be stated that an increased availability of data and apps, powered by new technologies, would significantly increase the number of visitors.

Conclusions

Three of four museal institutions are small or very small structures, that do not register more than 10,000 visitors per year; but that does not mean that preserved cultural heritage isn't of absolute importance.

Museums that attract more than 500,000 visitors per year are otherwise a rarity (less than 1% of the total), concentrated in a few regions and metropolitan areas, but by themselves they intercept more than 43% of the public. The Italian model is thus characterized by organizations of small size, basically isolated, weak in the means and ability to generate cash. Organizations of this type express, however, a first-class service in its own geographical context and the capacity to attract the young audience well above average: 30% vs. 20% of the larger organizations. Much more difficult, however, because

often outside the main circuits, to reach the audience of foreign visitors (14% vs 60% of the larger organizations). Half of the investigated institutions (50.5%) belongs to an organized museum system, allowing to share resources, reduce costs and create synergies, both organizationally and in content. But, despite the positive results reached, hitting the high percentage (approximately 44%) of museums and similar institutions that confirm they have never collaborated with other institutions in that area, confirming the inclination at not being a "system".

With respect to this issue, semantic technologies and linked open data can play a key role, in building a platform able at converting information silos into knowledge systems.

ALIADA tool, therefore, represents a highly strategic and attractive power with a high potential: not only is able, through the creation of integrated knowledge base, to facilitate the transition from single institution to system, but guarantees the objectives achievement with maximum economy and quality.

And is this last point that, from a market viewpoint, opens interesting scenarios, focusing its target on the large amount of small and medium-sized structures representing important cultural evidences in the area but that can not always leverage their assets; either for lack of specific technical know-how, either for lack of resources to invest in the realization of strategic objectives for their development.

Libraries

The library world, in Italy, has a long historical tradition certified by either the number (13,457), as well by the multiple typologies.

Libraries by administrative typology

- 6,705 local governments
- 1,905 State Universities
- 1,377 ecclesiastical institutions
- 942 academies, associations, foundations, institutions (public)
- 754 academies, associations, foundations, institutions (private)
- 727 Presidency of the Council of Ministers and Ministries
- 371 companies and autonomous government departments
- 300 Heritage and Culture and Tourism Ministry
- 90 companies and institutions of the National Health Service
- 67 Chambers of Commerce
- 66 Private universities
- 58 Individuals, families
- 54 Foreign institutions
- 25 International Organizations
- 15 Constitutional bodies

- 1 Extraterritorial institutions

Libraries by functional typology

- 5,770 Public
- 3,872 Specialized
- 1,966 Institute of Higher Education
- 1380 not Specialized
- 467 School
- 2 National Libraries

The National Library Service (SBN)

SBN is the Italian libraries network promoted by the Ministry of Heritage and Culture and Tourism, with the cooperation of the Regions and the Universities, and coordinated by the Central Institute for the Union Catalogue of Italian Libraries and for Bibliographic Information (ICCU) .

SBN has been made with the aim of overcoming the fragmentation of Italian library structures and is now made up of state libraries, local authorities, universities, schools, academies and public and private institutions, operating in different fields. Libraries participating in SBN are grouped into local hubs consisting of numerous institutions managing all their services with automated procedures. Today are 95 hubs for a total of 5699 libraries.

So, here too, are valid the considerations made earlier about museums structured in an organized system which allows, in addition to the sharing of resources, to bring down costs and create synergies with which to establish critical mass through which achieve objectives unattainable.

Yet, whereas the total of the libraries surveyed amounted to 13,457 units, 7,758 bodies are outside the network; regardless of the reasons, which can be many, even for this segment is to highlight a fundamental inability to "create a system".

Libraries, Semantic Web, Linked Open Data

Linked Open Data growth continues to be a phenomenon in constant expansion and even libraries, as strongly affected by the integration of data and network resources, are concretely experimenting linked open data tech.

Reason behind is the need for the institutions, to deal with changing scenario because, although much has been done, still they appear outside the web; often their data are isolated and users, more and more, meet their information needs through a variety of sources (eg search engines) and less through libraries.

Conclusion

From a marketing perspective, in the outlined context ALIADA tool finds many elements and highly strategic perspectives:

- despite the classic catalog, closed and not connected to other resources on the network, it is now an obsolete instrument, data generated by most libraries are not on the web;
- in addition to the benefits derivable from lod, for individual institutions, to make available and reusable their data facilitates dynamic aggregation among different libraries and this, in the network optics, we have seen a fundamental element to increase visibility, mutual innovative capacity and competitiveness;
- the lack of integration between library resources become an even greater barrier when trying to aggregate the data with those of archives, museums and other institutions (in total contrast with the prospects of development in GLAM optics);
- convert knowledge bases into lod opens the way for the development and creation of new services, fundamental both to meet the new user needs as well for opening data to new market segments in order to develop new business models.

A specific reflection deserves the possibility of aggregation of libraries on a thematic basis, in a particular scientific discipline, not only to make a the system with mutual knowledge and skills, but also to relate constructively and cooperatively with the world of research.

The theme of the data resulting from scientific research and their interrelation with the world of scientific publishing is gaining a lot of room but the state of the art does not yet meaningful action in this regard.

4. Smart paradigm

As mentioned ALIADA tool can be applied in any knowledge, regardless of data source format; this makes it an essential tool for the development of projects or strategies in a "smart".

Regardless of the variations that the paradigm can take, it is identified with the possibility - thanks to the pervasive usage of advanced technologies - to address and manage issues and needs in an innovative manner, optimizing resources.

This model is based on the ability of data organization and usage: high capacity for acquisition, monitoring, analysis, management of streams and sources.

The interest for this paradigm, worldwide, is very high and also in Italy are significant figures:

- 1,263 projects
- 155 municipalities involved
- € 3.6 billion total investment

But when it comes to data, especially in a context like this, two are the main warning:

- the enormous production (Big Data);
- the high heterogeneity.

To create processes to extract all data value and turn them into valuable asset in order to operate more efficiently and make better decisions is essential to be standardized and made interoperable with each other and, so, converted into lod.

From a marketing perspective, this field offers significant margins of penetration and the open source tool ALIADA, due to its scalability and adaptability in any context, it is reasonable to be considered the quick wins for projects that focus on accessibility and maximum data interoperability to develop innovative services.

3.3 Museum of Fine Arts Budapest

This section describes the individual exploitation plan for the ALIADA partner Museum of Fine Arts Budapest.

1. Use of ALIADA

Continuous publishing of the museum collections dataset

The Museum of Fine Arts, Budapest plans to continuously publish new descriptions of its museum collections data held in its collection management system into the LOD cloud using ALIADA tool.

Publishing new datasets

The Museum of Fine Arts, Budapest has a library as well and the museum plans to publish the contents of the online catalogue of the library by means of ALIADA tool. The library collection comprises about 300 000 items.

Common OPAC for the museum and the library collection

The Museum of Fine Arts, Budapest also has the idea to make it possible for end-users to search the museum and library collections in one GUI. The bases of the search would be the linked open data produced from both the library and the museum collections with the help of ALIADA tool. One of the possible search engines would be the SolrRDF.

One-click presentation of information

The Museum of Fine Arts, Budapest plans to give further functionality to the OPAC of its collections based on the linked open data produced by ALIADA tool. The plan is that if the dataset produced by ALIADA have links for an entity (e.g. an author name) displayed in the OPAC, then the end user of the OPAC would be able to click on that entity (e.g. the name of the author) and would get all the information gathered from DBpedia, from VIAF, and from other external sources by ALIADA during the linking phase of the dataset creation.

2. Dissemination of ALIADA

Conferences

The Museum of Fine Arts, Budapest plans to disseminate the usage of ALIADA in both library and museum conferences both in Hungary (e.g. Networkshop and MuzeumDigit) and abroad.

Publications

The Museum of Fine Arts, Budapest plans to disseminate the usage of ALIADA in both library and museum online and printed periodicals. One article will be published right after the end of ALIADA Project.



Knowledge sharing activity

The Museum of Fine Arts, Budapest is ready to share its knowledge about ALIADA and the semantic web in general with the interested parties. The experts of the Museum of Fine Arts, Budapest continue to take part in the national and international life of the semantic web community.

3.4 ARTIUM Museum

This section describes the individual exploitation plan for the ALIADA partner ARTIUM.

1. Publication of datasets in Basque language

The Artium Museum is a Basque Museum of Contemporary Art located in Vitoria-Gasteiz, the capital city of the Basque Country, an autonomous community in northern Spain. The library of the museum catalogues resources on contemporary art, at local, national and international level. The bibliographic resources are catalogued in the library management system AMICUS LibriSuite. The subjects are translated to English and Basque languages to provide multilingual access points to the references. The subject list in Basque language has been published as Linked Data as part of the dataset of Artium (datos.artium.org) and it will contribute to enrich the Semantic web because there are few data published in this language.

2. Publication of datasets about local artists

Artium catalogues bibliographic and authority resources in the LMS and creates dossiers in the CMS Drupal about artists belonging to the Artium Collection or artists that have participated in the museum exhibitions. Most of them are national and Basque artists. By publishing those metadata as Linked Data, the data about these artists will contribute to enrich the Semantic Web and other applications and information services about the Basque Country, Spain or contemporary art.

3. Publication of datasets about the museum collections

The ALIADA project enabled Artium to understand the LIDO format, a standard supported by the CIDOC and used in important digital libraries, such as Europeana. The current museum management system used in the museum does not support the LIDO format to describe museum collections and objects. After the project, Artium is considering the conversion to LIDO to publish the descriptions of the museum objects as Linked Data using ALIADA.

4. Integration of the library collection, the museum and the content manager DokuArt

Artium has among its aims to integrate the information of the library (Vufind, Dokuart, activities database, photographic archive, sound archive and digital newspaper library) and the museum's collection database in order to implement a semantic web and to improve the accessibility, utility, transparency and interaction of the museum's artistic and documentary collection.

Artium has achieved a valuable experience thanks to the meetings that we have been carrying out for the past two years with the Museum of Fine Arts of Budapest. In this sense, this knowledge could be the basis to build a library and museum network at a European level, where this model would be the line of work.

5. Enrichment of the current public catalogue

Artium could be pioneer implementing the Linked Data technology in their current public catalogue to re-use existing Linked Open Data to enrich the information provided by the museum on their web public platforms.

6. Dissemination of ALIADA among art libraries

Artium will share their experience publishing Linked Data and deploying ALIADA in the community of the art libraries and museums.

Artium is aware that most of librarians and curators do not understand yet the Linked Data challenge and the benefits that it can confer for their institutions. Hence the Artium Museum could be the booster centre of the Linked Data philosophy and where through case studies we could explain and defend the use of the Open Source Linked Data. To this end, we have the event “Encounters between contemporary art archive departments”, organised on a biennial basis. It is set up in a forum in which it is analysed the role of the documentation centres in connection with the new strategies of dissemination of information. Also communication technologies are used in order to contribute to cooperation programs among the aforementioned centres. Likewise, the museum is invited to participate in different congresses, meetings and debates, being this an ideal framework for expounding the work that the museum has carried out with ALIADA.

Artium could receive grants from local, national or European to finance their open data publication activities and to create a library and museum network in which the Linked Open Data would be the working philosophy.

3.5 TECNALIA

This section describes the individual exploitation plan for the ALIADA partner TECNALIA.

Tecnalia as a technological center has as main aim to transfer R&D results to companies, so for each asset coming from R&D projects an exploitation plan is defined. Initially each asset is assigned to the corresponding market sector in a Division, and then the market sector is on charge of defining the exploitation plan for the next 3 years. When the asset be enough mature the final transfer to a company will be achieved, such transfer consists on transferring the property of the asset to an external company for its commercialization. Tecnalia Ventures is the organization of Tecnalia in charge on deciding which assets can be transferred, to whom and under which circumstances: to an existing company, by the creation of a spin-off, etc.

After project completion, ALIADA will be an asset of the **Knowledge Market Sector** at the ICT-ESI Division in Tecnalia. This market sector has as aim to provide innovative solutions to the problems arising from (structured and non-structured) data management: variety, quantity, structure, complexity, localization, data source, etc.

The initial market for ALIADA is GLAM (Galleries, Libraries, Archives and Museums), only in Spain more than 6,800 libraries and more than 1,000 museums can be addressed. As ALIADA's assets are open source, initially, no direct incomings for licenses selling are foreseen. Considering ALIADA as a complete solution for the GLAM market, consultancy services are the main exploitation path. Such services comprised from ALIADA as-it-is installation up to ALIADA's adaptation to specific needs.

Tecnalia also consider ALIADA as a set of functional modules that can be reused and combined with other solutions where, for instance, data transformation or linking to Linked Open Datasets is a requirement. This approach helps when addressing other markets different from GLAM, for instance, public administration where transparency and data openness is a core requirement.

Tecnalia's Knowledge Market sector has defined an innovation plan to extend ALIADA with new features; the funding for such extensions should come from profits arising from selling ALIADA consultancy services and from R&D funds. In parallel with the innovation plan, Tecnalia's Knowledge Market sector is needed a marketing strategy to support ALIADA's commercialization. Such marketing strategy will define the best paths for dissemination (e.g. social media type, events type, etc.), as well as, the message that will accompany ALIADA depending on the addressed market.

4 Management of intellectual rights

There's a Consortium Agreement signed by the partners that set out the rules for all aspects of the project operation that are not completely specified in the Contract and that includes some exploitation issues. The principles related to the exploitation are the following:

- No partner will divulge technical or scientific information belonging to other partners if this information is not already in the public domain.
- Partners will maintain the confidentiality of all information contained in deliverables classified as confidential. Any partner wanting to publish results will seek prior clearance from the others.
- The Consortium Agreement will specify which existing background IPR ('know-how') that partners will make freely available to Partners for access and/or for use, and that which is subject to commercial restrictions or payment of licence fees. The Consortium Agreement will draw attention to any areas or items of know-how that are specifically excluded from the project.
- Research results should be patentable (or susceptible of registration under copyright or trademark law), the partner who developed them will choose whether to deposit the patents or intellectual property. They must inform the other partners of their decision.
- Patents or intellectual property filed by any of the Partners will mention the name of the inventors or the authors, who will be required to satisfy the formalities necessary for the filing, maintenance and prosecution of these patents.
- Specific licensing terms and conditions for knowledge created will be negotiated case by case.

Management of the intellectual rights for the ALIADA's outcomes:

- ALIADA open source edition tool will be maintained and developed by the ALIADA community and will be offered for free under GPL licence.
- All the materials, documentation and tools for installing, understanding or disseminating ALIADA will have a creative commons license <http://creativecommons.org/licenses/by-nc-sa/3.0/>



- ALIADA full version will be originally developed and distributed by the companies in the Consortium under a license fee

5 Conclusions

After the second year of the project, ALIADA tool was finished and released twice to the GLAM and to the Linked Open Data community. The tool was welcomed with interest by the community and by the stakeholders. The dissemination through the different activities and actions provided a very useful feedback to the whole Consortium to design the exploitation plan around ALIADA.

Other issue to have in account is that, at this moment, the Linked Data technology is an innovation objective in relevant libraries and museums of the art sector, but there's not a strong demand from those libraries because they don't know about the technology and the profit of the publication in the LOD cloud. Therefore, it's necessary to provide previous consultancy services and to disseminate the project to show libraries and museums the possibility of having their data in the Semantic web without big efforts.

