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EUROPEANA INSIDE

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1. Introduction

1.1. Purpose

The aim of this document is to provide an overview of the status of the integration of the Europeana Inside toolkit (ECK) into the technical systems provided by various partner organisations. It also provides details of the content partners which have been involved in testing to date and plans for the roll-out of ECK functionality to each partner's wider group of client organisations via new and existing products.

1.2. Scope

The scope of this document includes all software developed as part of work packages 3 (Development) and 5 (Production) during the course of the Europeana Inside project. Only technical partners who have technical products which are directly involved in the supply chain of content to Europeana are included in the detailed analysis.

1.3. ECK Components and Architecture

1.3.1. Overall Architecture

Due to the nature of the ECK and its integration within the many different CMS and aggregator systems throughout the Europeana Inside project there can be no one overall 'system architecture' in the traditional sense. Rather the ECK will be made up of a set of modular components that may or may not be implemented as standalone services in the Europeana Inside ecosystem rather than as a single monolithic whole. Some of these modules will actually come from existing functionality within CMS systems, others will be developed as part of this project and can be incorporated directly into or interfaced with the CMS or aggregation systems themselves and others might be existing third party components which can be used 'as is' or wrapped in a service later with appropriate API calls.

The high level architecture was designed to meet the following principles:

- The overall architectural style complies with established principles for service oriented architectures¹
- The ECK comprises a set of modular components
- The components may be implemented locally or externally
- Functionality which is closely related to exist functionality within a CMS should be embedded within the CMS
- Components should expose (machine) interfaces to other components in a consistent fashion
- User interfaces, where necessary, will be embedded within the CMS and will be consistent with the look and feel of the individual CMS
- As well as the CMS, ECK components will interact with, and may be embedded in, aggregators
- Some ECK components will interact with aggregators or directly with Europeana

Figure 1 is a representation of the overall architecture and environment in which the ECK will operate. Some of the functional requirements listed in D2.4 are to be provided by the CMS

¹ http://en.wikipedia.org/wiki/Service-oriented_architecture

itself, while other parts are provided by external, shared modules. The connections between the components are of course as important as the individual modules themselves as they represent the interfaces presented by the different modules and the communications that are sent via these interfaces.

The figure depicts the overall architecture as consisting of a number of modules. These modules are summarised in Table 1.

As can be seen from Figure 1, some ECK modules have been incorporated into the aggregators used within the project. ECK functionality has also been implemented in other components of the ecosystem, such as middleware, but these variants have been left out of the diagram for simplification purposes.

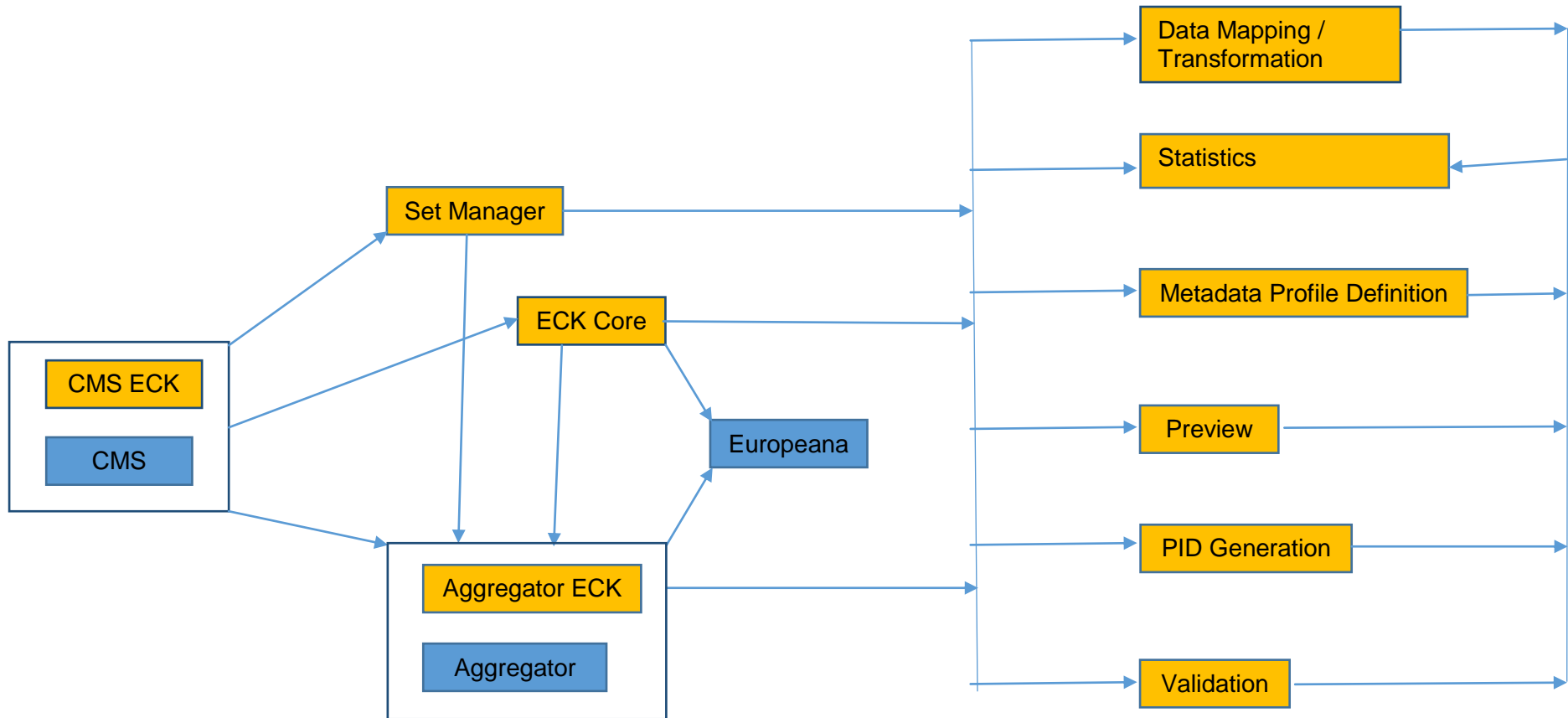


Figure 1: Representation of the overall ECK architecture and its communication with the CMS and aggregator / Europeana

Notes:

1. CMS / CMS ECK must contain either an OAI-PMH Repository or Data Push Client (Sword v1), management information and content re-ingestion functionality
2. Aggregator ECK contains an OAI-PMH client and repository, a Data Push Server (Sword v1), management information and content re-ingestion functionality
3. All modules document and implement their own persistence

1.3.2. ECK Modules

The table below shows the ECK modules and describes the functionality they deliver. These functional areas were identified by analysis of the requirements specification in conjunction with the high level design principles set out in section 1.3.1.

Module	Functional Description
CMS: ECK supporting functionality	All functionality that must be provided within or alongside a CMS in order to meet the functional requirements set out in D2.4, including Data Push and/or OAI-PMH repository and content re-ingestion.
ECK Core	The gateway to the various modules, so supports all interfaces that all the other modules support.
Metadata Definition	Provides definitions for metadata elements within profiles and error messages in the different languages
Data Mapping / Transformation	Converts between formats, e.g. Native format to LIDO or LIDO to EDM
Preview	Provides a preview of how the record will be rendered in the Europeana user interface
PID Generation	Provides a persistent id for the record
Set Manager	Manages the sets and records
Statistics	Provides statistics about the performance of modules
Validation	Validates the record to ensure it conforms to a provided profile (of either LIDO or EDM).
Aggregator: ECK supporting functionality	Accepts data via data push or OAI-PMH, supplies data to Europeana via OAI-PMH and provides management information and enriched records for re-ingestion

Table 1: Summary of ECK functionality

2. Partner status reports

2.1. Adlib Information Systems

2.1.1. Company overview

Axiell ALM (Archive, Library and Museum) Netherlands BV (Previous Adlib Information Systems B.V.) are the owner and developer of the comprehensive Adlib software suite for museums, archives and libraries. We develop innovative yet sustainable software solutions which simplify the processes of managing and sharing collections of all types. We ensure the resiliency, high performance and future sustainability of our systems by employing widely adopted Microsoft SQL database and .Net framework technology.

Adlib products readily integrate together, and through our open API also with 3rd party applications, to build a comprehensive and efficient information management solution. Our software offers a completely open platform for managing and publishing museum collection data, which includes Linked Open Data, multi-lingual operation and support for all relevant data standards.

We don't just make software: We make projects happen. No matter what the scale of your project is, large or small, Axiell ALM provides all the services you need to successfully implement Adlib software. 30 years of experience in the cultural sector and over a thousand successful museum projects have made us the most reliable partner for collections management. The Adlib user community has contributed extensively with practical solutions for every day challenges, such as workflows, reporting and multi-tenant configuration.

Some facts:

- HQ in Maarssen, The Netherlands
- Offices in The Netherlands, United Kingdom, Germany, Australia, Canada and USA
- 77 employees
- Products: Adlib, Calm, Mimsy and EMu
- Creator of Adlib software since 1986
- Customer base: over 2,500 museums, archives and special libraries
- Sold in more than 30 countries

Adlib's role in the project is Technical Partner and as supplier of collection management system, engaged to integrate the ECK Core in Adlib's products.

2.1.2. Current integration status

- Product(s) incorporating ECK

The ECK Integration is done in the Adlib core Software and in TheCollectionCloud.com. The Adlib software is delivered to all customers but will (in first instance) only be functional for Museum customers.

- ECK modules integrated

Adlib software uses the ECK Core in which the Set-Manager is the main controller being used. From the set-Manager Data-Mapping, Validation and Preview are triggered/used.

The status is given to the software by using the Management & statistics services.

Finally the data is pushed using the Data push service to in first instance the Dark Aggregator. Adlib foresees that local aggregators will join in the near future when the first results have been shown. In the Adlib software it has been made configurable to which aggregator the data is pushed.

- Testing carried out

Testing has mainly be carried out by Adlib's test panel. Although one of our customers 'Amsterdam Museum' was involved in this testing, they were no official Content Providers within the project. We used real data of the 'Amsterdam Museum' and data from another customer 'Deutsches Sport und Olympia Museum'.

- Conformance to requirements

Please see table in annex.

2.1.3. Roll out plans

- Release strategy

Our plan is to first release the software to a restricted customer population as a pre-release. This will be released in September. The official release for the complete customer base is planned in December 2014.

- Upgrade plans for existing customers

The software upgrade for customers is a standard procedure. Customers with a support agreement can upgrade for free to all new software releases.

- Maintenance and support

Maintenance and Support of all functionality in our core software is guaranteed and support is delivered to all customers with a support agreement.

- Associated costs for end users

New software releases are free for all Adlib customers with a support agreement. This counts for the whole software package so including new functions like the Europeana upload facilities.

2.1.4. Future planned enhancements

It is still under investigation if the data enrichment functionality of the ECK Core will be integrated in the Adlib software. As long as the sustainability of the ECK Core services is guaranteed Adlib will continue support and maintenance on this software functions.

2.2. iMinds

2.2.1. Company overview

iMinds is an independent research institute founded by the Flemish government to stimulate ICT innovation. The iMinds team offers companies and organizations active support in research and development. It brings together companies, authorities, and non-profit

organizations to join forces on research projects.

Both technical and non-technical issues are addressed within each of these projects. iMinds' ambition is to close the innovation deficit by combining world-class research excellence with an entrepreneurial and talent-focused approach. Uniting 1000+ researchers from 5 research departments specialized in one or more of iMinds' basic competencies, iMinds supports interdisciplinary research for innovative ICT services and applications within five application domains: Culture & Media, Healthy Society, Green ICT, Sustainable Mobility and Social & Secure ICT.

ICT research is unthinkable without elaborate testing. The practical feasibility of ICT innovations is therefore evaluated at the earliest possible stage of development, reducing the time needed to attain proof of concept. These tests entail state-of-the-art evaluation of the technical feasibility as well as large-scale user trials outside the lab context (so-called living labs).

iMinds also supports and enables the go-to-market of ICT innovations through an elaborate Entrepreneurship and Valorization program, offering a range of training, incubation and networking services that are supported by an active ecosystem of entrepreneurs, financial organizations, industrial partners and research departments.

The role of iMinds in the Europeana Inside project is to combine technical development expertise with social-scientific expertise related to organizational aspects of aggregating and distributing cultural content. As such, it is particularly well placed to contribute to the project's goal of removing or reducing not only technical but also organizational barriers to participation in this project.

2.2.2. Current integration status

The proposal from iMinds for contributions to Europeana Inside approved in July 2012 stated the development of a connection kit for Flickr content. Third parties could use it to include content from Flickr to enrich their datasets to be sent to Europeana. However, during development and testing, it soon became clear that the metadata of the Flickr collections of the Europeana Inside partners were insufficient to form valid LIDO records. Thus iMinds focused on turning the enrichment module - which would be a part of the Flickr connection kit – to a standalone tool.

The first goal of the enrichment module was to enrich metadata of art collections with metadata of related Flickr content. Because there was not enough Flickr content to be useful, iMinds extended the enrichment module to a standalone tool capable of enriching any content. It can be used by a content provider to perform enrichment before the records are sent to Europeana. This makes it easier for Europeana to perform further enrichment of the content, since disambiguation – one of the most difficult steps in the enrichment process – is already done.

The functionality is as follows:

1. The tool takes an EDM record as input.
2. It then looks for things to enrich. At this moment, this is the dc:creator element, but it can be easily extended in the code to act on other elements as well.
3. It searches for the term in data sources. At this moment, this is DBpedia, but other data sources can be added. The search is fuzzy, since the term to be found does not often occur literally in the data sources.

4. The n best matches (n can be configured) are candidates for disambiguation.
5. The user selects for each search term one of the candidate matches. This is the disambiguation step.
6. The element is replaced with an element with extra information related to the match selected in the previous step. For instance, the dc:creator element is replaced by an edm:Agent element, which contains edm:begin, edm:end, edm:isRelatedTo, ... elements.

It can be started as a standalone process with a RESTful web interface , or it can be used as a (Java) library embedded in third party software.

The functionality is tested with a set of 61845 records obtained from LIBIS, but only 2131 of these records had the dc:creator field. The main difficulty was extracting the right information out of the fields to search, as these are hardly filled out as intended. An example of such content in the creator field is "Szerző / Author: Hugo, Victor (1802-1885)", where the difficulty is to extract "Victor Hugo"; the other info doesn't belong in that field. Applying heuristics and fuzzy searching, we were able to find about 80 % of the authors that also existed in our data set.

As this tool is standalone rather than a part of ECK functionality, some requirements were not applicable. This mainly involves communication with the ECK.

2.2.3. Roll out plans

The enrichment tool will be available as an open source project by the middle of August. The web service stays online at <http://yuca.test.iminds.be:8915/enrich>.

There is no fixed release strategy. The API is not expected to change soon, so code interfacing with it should continue to work fine after a new release.

2.2.4. Future planned enhancements

As development of the enrichment tool started late in the project, there was time to make enrichment only work for the dc:creator field. The same principles can be applied to other fields as well. So one of the near future enhancements is the enrichment of other fields.

Another thing that will be enhanced is the filtering of "noise"; data in fields that actually belong to other fields.

Another interesting feature – also in the interest of research, but not planned yet – could be context aware enrichment. Different fields can have common semantics that ease the (automatic) disambiguation of possible resource candidates for a given field.

2.3. KE Software

2.3.1. Company overview

- Background

KE Software (UK) is a privately owned company with approximately 10 employees, and is a wholly owned subsidiary of KE Software Pty Ltd, an Australian company.

- Customer base

Within the EU many of our customers are within the UK, though we have two prominent customers in France. Most of our customers are mid to large regional and national museums, and many have expansive, multi-discipline collections.

We have similarly sized customers all over the world, in the US and Canada, Australasia, Middle East and Europe.

- Products

The company produces two products: EMu, a collections management system for museums, galleries, archives libraries and herbaria; and Vitalware, vital records management for national registries.

2.3.2. Current integration status

- Product(s) incorporating ECK

EMu (Electronic Museum)

- ECK modules integrated

All modules have been integrated, with partial implementation of the Enrich / Return module.

- Testing carried out

Testing for all iterations has been carried out, though testing for iteration 3 has been combined with the development and testing of iteration 4 due to our difficulties coordinating the appropriate configuration of our content partners technical infrastructure with their IT team. Our associate content partner is Bristol Museums, who at times have found full involvement in the programme difficult due to lack of funding and available time.

- Conformance to requirements

Please see annex. Our implementation complies with all mandatory requirements, and most other requirements.

2.3.3. Roll out plans

- Release strategy

After successful completion of i4 testing and resolution of any raised issues our ECK implementation will become part of the standard product offering.

It is not appropriate to include the ECK in all customers' installations, as some outside the EU do not require or want it. We have designed the ECK implementation to be modular and so incorporation into customers systems is intentionally simple.

- Upgrade plans for existing customers

All of our customers who pay the optional software support and maintenance charge receive regular system upgrades, usually annually. Each of these customers will be given the option

to incorporate the ECK at no additional charge at the time of this upgrade. We anticipate no complications or very much additional time to install beyond the normal upgrade process.

- Maintenance and support

Maintenance and support of the ECK is available to existing and new customers at no additional charge.

- Associated costs for end users

There are no direct costs necessary, though customers may wish to dedicate staff time to data curation and cleansing in preparation of export through the ECK. KE offer assistance with LIDO mapping at an additional charge if required, but customers can perform this on their own if they prefer.

2.3.4. Future planned enhancements

We believe that two future enhancements could be: further use of re-ingested data, for example a more automated re-ingestion than we have currently built, and automated development of controlled vocabulary based on the frequency of terms use throughout the Europeana network.

2.4. Knowledge Integration

2.4.1. Company overview

- Company background

Knowledge Integration (K-Int) has been producing open source software for customers in the cultural heritage and educational sectors since 1999. The company specialises in information retrieval. We also engage actively with standards bodies and provide advice and consultancy to a range of public and private sector organisation.

- Customers

Within the museums sector, customers include Collections Trust, Imperial War Museum, National Maritime Museum, Royal Armouries and Museum of London. We also work closely with JISC Collections to provide solutions for users in UK Higher Education.

- Products

The two main products which are of relevance to Europeana Inside are:

➤ Open Data Aggregator

Open Data Aggregator is an open source data aggregation and publishing platform which has been used in a range of sectors. Within Europeana Inside it is used at the IT platform on which are built Culture Grid and the project's 'Dark' Aggregator.

➤ CIIM

CIIM is a modular middleware product which is used to collect, enhance, re-purpose and present data from a variety of institutional sources (Collections Management Systems, Library Systems, DAMS, etc.) via a flexible number of API 'end points' to third party systems. These include OAI-PMH, SOLR/ ElasticSearch, OpenSearch and SPARQL. In the majority

of implementation, the SOLR/ Elasticsearch API is also used to drive the institution's own 'Collections Online' web presence.

- Role in the project

K-Int are the lead technical partner in Europeana Inside, acting as work package leaders for work packages 3 (Development) and 5 (Production). As such we are responsible for all technical deliverables of the project. We also took the lead on developing the following ECK functionality:

- ECK Core
- Metadata Definition
Set Manager
- Management & Statistics
- OAI-PMH Repository
- Data Push
- Content Re-ingestion

K-Int does not own or market a Collections Management System. Being 'neutral' in a project with so many competing partners is part of the reason why we were chosen as work package leaders. As such, we do not have a remit or commitment to meet the full range of requirements for the ECK. Nonetheless, we have implemented and integrated elements of ECK functionality into our products in order to facilitate achievement of overall project deliverables in work packages 3, 4 and 5.

2.4.2. Current integration status

- Products incorporating ECK

Elements of ECK functionality have been incorporated in both Open Data Aggregator and CIIM products. Integration of ECK functionality into Culture Grid and Dark Aggregator was undertaken to allow all project partners to contribute content and to implement and test preferred workflows. Integration of ECK functionality into CIIM was undertaken to help Collections Trust meet its content targets as part of Work Package 4. This focussed on supply of LIDO records to Culture Grid via OAI-PMH.

- ECK modules integrated

All

- Testing carried out

Open Data aggregator features were used and tested by all content providers supplying data to Europeana via Culture Grid and the Dark Aggregator. CIIM features were tested with Imperial War Museum and National Maritime Museum.

- Conformance to requirements

Only specific elements of ECK functionality were integrated. As outlined in 2.4.1, we never set out to achieve 'end to end' compliance with the functional requirements. A full analysis of conformance is provided in the annex.

2.4.3. Roll out plans

- Release strategy

ECK integration into Open Data Aggregator is complete and live in Culture Gird and Dark Aggregator. CIIM ECK integration has been deployed at IWM, NMM and Horniman (in preparation for Europeana Food & Drink project).

- Upgrade plans for existing customers

LIDO export for all CIIM customers will be rolled out in the next major release. Upgrades for existing customers will begin Q4 2014.

- Maintenance & support

All upgrades will be covered by existing maintenance and support agreements.

- Associated costs for end users

None. Consultancy to assist with data mapping will be available if required at normal rates.

2.4.4. Future planned enhancements

We plan to discuss with the CIIM user group the desirability of adding additional ECK functionality (e.g. data mapping UI and content re-ingestion) at the next user group meeting.

2.5. Libis (K U Leuven)

2.5.1. Company overview

- Company background

Situated at the heart of Western Europe, KU Leuven has been a centre of learning for almost six centuries and is the oldest university in the Low Countries. It grew quickly into one of the largest and most renowned universities in Europe. KU Leuven is a charter member of the League of European Research Universities (LERU) and a member of the Coimbra group. At present, KU Leuven caters for 40,000 students, around 5000 of whom are international students from more than 120 nations.

LIBIS (KU Leuven) is a division of Leuven Research and Development (LRD) and part of the University Library. It provides innovative IT solutions for the library-, archival-, and museum collections of the University and to a network of more than 25 partners throughout Belgium and beyond. In the library catalogue alone, more than 6 million records from different partners are managed and shared through the own KU Leuven search platform LIMO as well as through other platforms such as UniCat, a union catalogue of Belgian libraries with data coming from the three main library networks in Belgium: Anet, LIBIS-net and Boréal. Besides library data, LIBIS also manages large sets of archival and heritage content.

As a centre of expertise for Digital Cultural Heritage, LIBIS has a strong experience in metadata modelling, data interoperability, archiving and preservation. With a 30 year record of successful operation LIBIS integrates different competences such as project management, networking and communication and the ability to connect and co-operate with Ex Libris, (one of) the major commercial players in the field as LIBIS enjoys a special development partner relationship with Ex Libris, the largest IT supplier to libraries and related organisations in the world.

- Customers

Most of the customers of LIBIS are situated in Belgium. Some customers, for example the European Central Bank, is situated in Frankfurt.

- Products

LIBIS is a service provider for libraries, museums and archives. We use systems of different vendors. The most important vendor is Ex Libris for library system and the long-term preservation system. LIBIS also uses scopeArchiv from Scope solutions, CollectiveAccess from Whirl-i-Gig as Collection management systems.

- role in EU Inside project

LIBIS is a technical partner and integrated the ECK with one of the systems we use (CollectiveAccess). This is an open source system that will be used as a central system to import the data from our different GLAM systems and export it to Europeana.

We also created the mapping and transformation service of the ECK Core.

2.5.2. Current integration status

- Product(s) incorporating ECK

We created a plugin for CollectiveAccess that can be used in any CollectiveAccess system.

- ECK modules integrated

We support every module, but we don't use the Set manager yet.

- Testing carried out

We had different testing moments to collect feedback from our partners about improvements, presenting the solution and discussing the mapping of the data to EDM.

The partners we tested with are KADOC and RBINS. We also asked our Subcontractor (ErfgoedPlus) to give us feedback, because ErfgoedPlus has lots of experience participating in Europeana projects and content aggregation.

Physical meetings with test partners KADOC, RBINS and ErfgoedPlus took place on the 25th of September 2013, 23rd of October 2013, and 2nd of April 2014. Another meeting with test partners is planned on August 11th 2014.

- Conformance to requirements

See annex.

2.5.3. Roll out plans

- Release strategy

The plugin will be released as open source and can be used by everybody who has

CollectiveAccess. We will also show the plugin to the developers of CollectiveAccess so they can put it on their website or include it with the CollectiveAccess application.

- Upgrade plans for existing customers

Our current customers will be upgraded when they request it.

- Maintenance and support

We will keep the plugin and the mapping and transformation service up-to-date, because we are using it for other purposes as well.

We will support our customers as part of the service contract they have with us. Support of the mapping and transformation service for non-customers depends on the results of the forward plan.

- Associated costs for end users

There are no costs for our users. It is part of the service contract we have with them. New users can get the plugin as part of the current service offering.

2.5.4. Future planned enhancements

- Resolve reported issues
- Enhance the user interface

2.6. Mobydoc

2.6.1. Company overview

- Company background

Mobydoc was funded 30 years ago by professionals in documentation and collections management. The company focuses its activity on the development of state of the art Collections Management Systems dedicated to museums, companies and private collections.

Now a worldwide reference, Mobydoc's team contains 20 specialists in documentation/collections management and IT professionals. All of them are keen to meet the needs of clients as closely as possible.

- Customers

MOBYDOC's customer base encompasses over 400 customers which ranges from Europe (France, Belgium, Switzerland, UK, Portugal, Poland), to America (Canada), Africa (Algeria, Morocco, Mali) and Asia.

- Products

MICROMUSEE is the complete collections management system for all types of collections and Museums. The new Version 7 offers a completely renewed interface for a better user experience and higher efficiency. It enhances the possibilities for shared or multilingual databases. Micromusée is user friendly and easy to customize.

- Role in the project

As a Technical Partner, MOBYDOC has aimed at fulfilling functional conformance criteria and providing its customers with an easy way to supply data from their database to EUROPEANA.

2.6.2. Current integration status

- Products incorporating ECK

The latest version of MICROMUSEE (V7) incorporates the ECK. A lot of improvements have been added to that version, which encourages customers to move on. This version and the ECK will later be deployed to other products from MOBYDOC, dedicated to natural sciences (SN-Base), libraries (Mobytext) etc...

- ECK modules integrated

Preview and Validation modules are integrated.

- Testing carried out

Tests have been carried out inside MOBYDOC and with User SEIXAL from Portugal. As far as SEIXAL doesn't run the latest version, tests couldn't be performed for all features.

- Conformance to requirements

2.6.3. Roll out plans

- Release strategy

Customers will be able to use the full module from last quarter 2014.

- Upgrade plans for existing customers

Customers running the latest version will be able to use the ECK module. The upgrade of existing customers has already started (almost 50 customers have already migrated).

- Maintenance & support

Maintenance and support are part of the maintenance contract, without additional cost.

- Associated costs for end users

The business model is not yet fully adopted. As for now, customers are offered to use an online platform for publishing their collections with OAI-PMH and delivering data to various aggregators. Associated cost starts from 35€/month and depends on volume published.

2.6.4. Future planned enhancements

Deployment towards other applications are planned.

2.7. Monguz

2.7.1. Company overview

- Company background

Monguz Ltd. has been providing information technology services, quality products and effective solutions - for around 400 public collections - for 15 years. Our clients are located in 5 countries: Hungary, Romania, Poland, Austria and Slovakia. The company is headquartered in Szeged, Hungary where the developers of our flagship software QULTO CMS are employed. Beside Szeged, Monguz operates 3 client service and sales offices in Budapest-HU, Cluj-Napoca-RO and Warsaw-PL. Currently, Monguz has near 50 employees and long-term subcontractors most of them are software engineers or library, museum specialists.

With this team, unique in the CEE region Monguz through its local partner companies - forming the Cultware Network - provides various projects and services from installing CMS, develop customized software solutions and implementing special hardware infrastructure for the GLAM sector. One example is that the expertise of the team has been and is being applied in Europeana related project in the last 6 years.

- Customers

Libraries

Our partners are all kinds of libraries from the smallest to national institutions.

- +150 school and small libraries having SaaS contracts, operating from Monguz server infrastructure
- Public libraries in 3 countries: Hungary, Romania, Slovakia: examples are Szabó Ervin Metropolitan Library in Budapest, Octavian Goga County Library in Cluj-Napoca,
- University and academic libraries: examples are 29 libraries of the Hungarian Academy of Sciences, Vienna University of Economics and Business + 7 out of 10 biggest University Libraries in Hungary, Biblioteca Academiei Române Filiala Cluj, Cluj-Napoca

Museums and Galleries

- 4 national level museums in Hungary + 1 national level museum in Poland
- several smaller museums

Beyond these Monguz has references from various kinds of archives: video archive of educational presentations, image galleries, university repositories.

- Products

QULTO integrated collection management system with modules:

- for Libraries, Museums
- for aggregators
- for digital asset management
- for portal interface
- for RFID and mobile devices
- Role in the project

Monguz took part in EU Inside as a software developer of the ECK providing Validation (LIDO and EDM) and Preview module component. Monguz also established infrastructure in order to maintain validation and preview services in the workflow of institutions. Monguz contributed to the project with its experience in mapping different formats (MARC to LIDO) and as a technical partner of 3 public collections (PIM, HNM, KMK) involved in EU Inside.

2.7.2. Current integration status

- Products incorporating ECK

QULTO CMS is integrated with ECK both for library and museum collections and aggregator service

- ECK modules integrated

Preview, Validation (LIDO and EDM) and Upload with SWORD protocol (data push) and ECK Core with enrichment are integrated functions in QULTO CMS.

- Testing carried out
 1. In-house tests
 2. testing instances for Monguz partners PIM, HNM, KMK
 3. upgrade to live system at PIM, HNM, KMK
 4. continuous bug reporting and fixing
 5. testing partners sent their test reports in the project
- Conformance to requirements

The conformance to requirements is almost 100%. There are some minor issues, which come from 1. the workflow implementation in QULTO differs from the original idea or 2. Europeana does not supply feedback (it is not possible to alert users in QULTO that their record appeared on Europeana site).

2.7.3. Roll out plans

- Release strategy

Europeana functionality is already available for customers. It is integral part of QULTO, subject of version upgrades, maintenance and every support activity related to the product.

- Upgrade plans for existing customers

Those partners who are involved in Europeana Inside project (PIM, HNM, KMK) are already upgraded with the functionality. In the near future the Aggregator services will be upgraded: Hungarian Museum Aggregator and The museum aggregator for Lesser Poland region in the National Museum, Cracow.

- Maintenance & support

As the functionality is part of QULTO CMS the maintenance and support services of Europeana connection functionality are becoming part of our contracted commitments.

- Associated costs for end users

There are no associated costs for end users (public users, third party re-users).

2.7.4. Future planned enhancements

In the near future the QULTO UI will be localized for Romania and Poland.

Considering Validation and Preview services Monguz decided to host the services after the project finishes. The plan is to build a microsite and assign a minimal price/record offer to the service covering our maintenance and operation costs. The microsite will also have a hot-line section to help institution using the system or support them in various issues, MARC, LIDO, EDM.

2.8. Postscriptum

2.8.1. Company overview

- Company background

PostScriptum, is an SME located in Athens, Greece. PostScriptum is specialized in consultancy and implementation of museum related software services and web presence, creating new channels of communication and development for the clients in the sector of culture.

Thanks to its extensive expertise on web technologies, PS has undertaken the design and implementation of various websites, for both the public and private sector, using state of the art technologies and integrating advanced CMS (Content Management Systems). PS has also planned, developed and created many corporate and product tools for institutions, organizations and corporate business, as well as organizations of local government.

PostScriptum staff consists of 10-15 highly qualified employees and technical experts, with skills spanning a broad spectrum of cultural informatics and Digital Heritage qualifications.

- Customers

PostScriptum has over 15 years of experience in technical development and consulting for Cultural Heritage organisations. PostScriptum's clientele includes organisations from the cultural industries, private companies, public sector organisations and local government actors from Greece.

PostScriptum is an integrator and reseller of zetcom's MuseumPlus for the Balkans, Turkey and Cyprus thus establishing strong ties to many important South East European Museums.

- Products

PostScriptum is an integrator and reseller of zetcom's MuseumPlus. In particular PS has installed, integrated and customized MuseumPlus in many museums and supports them as well.

- Role in the project

PostScriptum has acquired significant experiences through the years of consulting and technically supporting Cultural Heritage organisations. These experiences in combination with the assimilated technological know-how of the Europeana related technologies, qualify

the contribution of PostScriptum to EU Inside through activities related both with the support of the Content Providers in WP4 as well as with the design and development activities of WP3 and WP5. In particular, PostScriptum worked closely with zetcom for the development of the MuseumPlus extension that integrates the ECK services (application name: MCK) and had the role of organising and prioritising the development requirements in liaison with the end-users (content providers), component level testing of the MCK application and coordinating the evaluation activities for all four (4) iterations of ECK development in Group 2 that consisted of end-users with zetcom's MuseumPlus (KMKG, SPK, NAG & BEN). During iteration 2 it has been identified that MuseumPlus organisations that did not have the CMS's web extensions (older CMS version) had difficulties synchronising their content (images, thumbnails) during Europeana exports. PostScriptum has developed a new application (application name MP.ITS) that operates as an extension to MuseumPlus and can be invoked from within MCK, that solves web synchronisation problems with these types of MuseumPlus users.

In addition to the conformance of ECK functional requirements of MCK, presented in PostScriptum's annex to this deliverable, MP.ITS related specs are also justified in the same tables.

2.8.2. Current integration status

During iteration 4 the status of MP.ITS development is summarised as follows.

PURPOSE

MP.ITS is aimed to be a solution for MuseumPlus enabled museums that need to expose thumbnails of their objects to the web (e.g. to send URLs of thumbnails to Europeana or to a website).

PREREQUISITES

The following "elements" are required so that "MP.I.T.S." can be installed and operate normally:

- MuseumPlus installed
- Read access to MuseumPlus database and multimedia folder
- Web space with FTP access (this is provided by PostScriptum)
- .NET Framework 4.0

FUNCTIONALITY

The following list of functions is fulfilled:

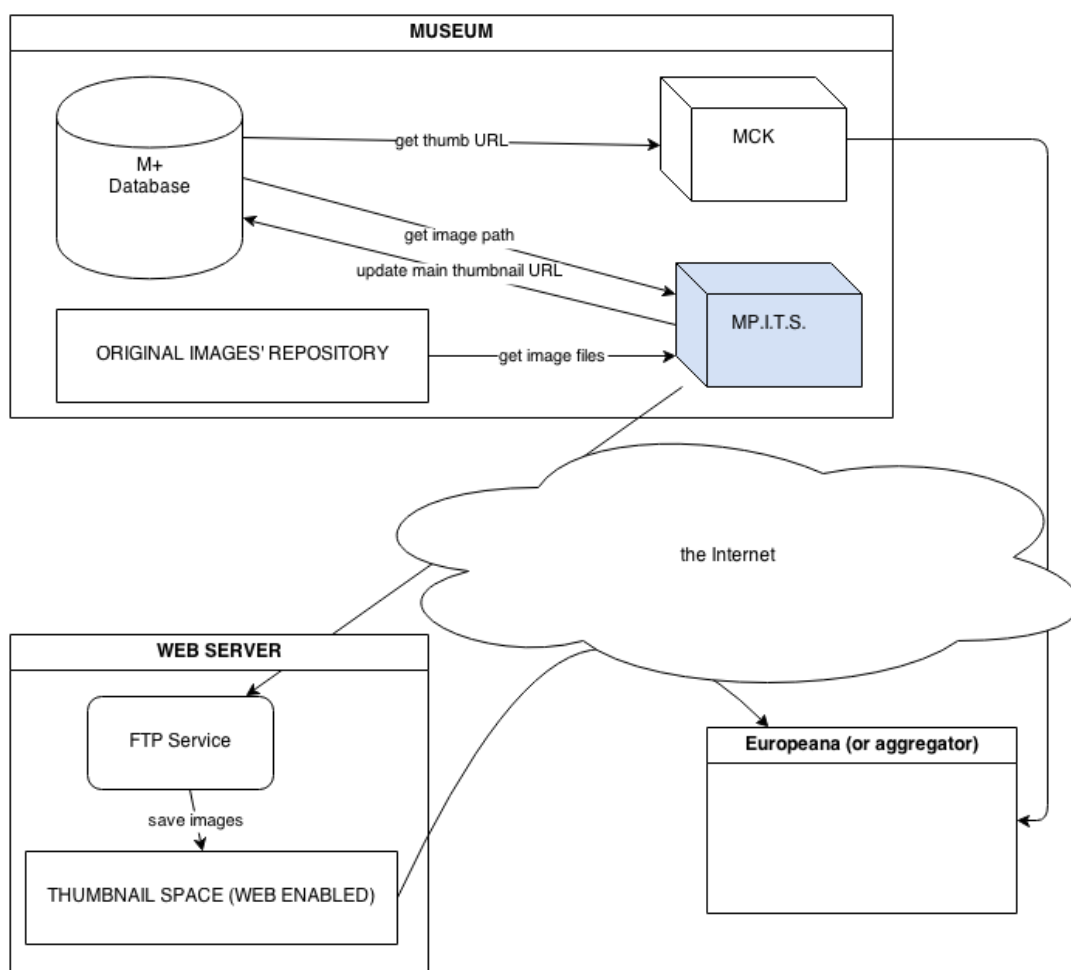
1. Configuration: the application is configurable with the following information:
 - i. M+ source fields (i.e. where to take the original image details from). By default this should be a set of fields from Multimedia table (MulPfadS, MulDateiS, MulExtentS - consider the use of a query instead of fields).
 - ii. Dimensions of thumbnails. The application is able to create more than one thumbnail for each object. The dimensions of the thumbnails is configurable. No automatic cropping takes place, only resizing. One of the thumbnails is flagged as "main" in order to use its URL to update M+ database (see iv).
 - iii. MP.ITS service Invocation parameters (i.e. FTP credentials and path that the thumbnails will be exported to, WEB base path).
 - iv. M+ update field (i.e. which field of M+ is to be updated with the main thumbnail URL - in order to be included it in the LIDO export of MCK).
 - v. Object filter - this is a way to distinguish which objects should be handled (e.g. a specific field/flag in the database).

Europeana Inside: Integration Status Report

2. Database abstraction: the application is able to work with any M+ supported database (MS Access, MS SQL, Oracle).
3. Ability to run as a scheduled task: supported.
4. Resize original images to designated thumbnails (no cropping). Rules for portrait & landscape scenarios can be supported.
5. FTP transport of thumbnails.
6. Update of M+ database with “main” thumbnail URL and object filter field.

TECHNICAL DATA

The suggested technology for this application is .NET. The application can be remotely invoked as a service and also run as a scheduled task.



- Products incorporating ECK

ECK services are incorporated in the MCK application. Justification is provided by zetcom.

- ECK modules integrated

PostScriptum performed the remote testing of “ECK validation” and “ECK preview” services. Communication with the consortium was conducted for these services. ECK services are integrated in the MCK application developed by zetcom.

- Testing carried out

PostScriptum was the coordinator of the evaluation activities for all four (4) iterations of ECK development in Group 2 that consisted of end-users with zetcom's MuseumPlus (KMKG, SPK, NAG & BEN). These testing and evaluation activities were conducted based on the testing plans provided by PostScriptum to all involved partners.

- Conformance to requirements

From the first version of the MCK development, PostScriptum organised and prioritised based on zetcom's assessment, all functional requirements provided by WP2 for ECK. Since MCK is a dashboard application that acts as an extension of MuseumPlus to the ECK services, certain functionalities that had to do with the CMS needed to be implemented in the MCK. Conformance was secured through close monitoring and testing of the component's functionalities. Testing and evaluation activities provided the required end-user feedback. Improvements were developed through four (4) iteration cycles.

Conformance of MCK with ECK functional requirements is presented in PostScriptum's annex to this deliverable. The MP.ITS supporting application is also justified in the same annex against the respective functional requirements that have been fulfilled.

2.8.3. Roll out plans

Based on the EU Inside experiences, PostScriptum has planned to use MCK in tandem with MuseumPlus for all National Projects contracted to be delivered until 2016.

The ECK extensions provide the mandatory requirements to link MuseumPlus content with Europeana and the Greek National Aggregator (EKT). In this setting, PostScriptum has all the required know-how to roll-out the ECK related features. In addition a preliminary agreement has been reached with zetcom that the MuseumPlus and MCK vendor will support this roll-out providing the following value-added services to PostScriptum:

- Museum Plus customisation in user roles and access rights.
- MCK customization store state information on all export actions (organisation ID, timestamping of actions etc)
- Training and support on the deployment method for synchronizing the Museum Plus ObjectIDs with the MCK generated PIDs
- Training on the implementation of PUID (Persistent Unique Identifiers) for exported objects and the respective URL generation methods to make these available to third party aggregators.
- Training and manuals on the methodology to implement the mapping from internal Museum Plus representation to LIDO format.
- Training and manuals on the methodology to implement the mapping from LIDO to the respective aggregator format (eg. EDM, custom EDM).
- Strategies for grouping objects in Museum Plus and exporting them through MCK.

- Release strategy

zetcom will provide MCK to all MuseumPlus customers from Oct. 2014, given that the ECK web-services are maintained. Based on this, PostScriptum has plans to promote our client's need to further promote their digital collections to established aggregators such as the Greek National Aggregator and Europeana. The MP.ITS will be required even for clients with older versions of the system and will be installed by PostScriptum with no additional costs.

- Upgrade plans for existing customers

Any existing customer with MuseumPlus 4.5 or higher will be able to use MCK (99% of zetcom's customers). MP.ITS is readily installable in these settings.

- Maintenance & support

Maintenance and support is included in the existing contracts with our customers.

- Associated costs for end users

No costs associated, besides the services needed to configure (i.e. mapping-optional) MCK are required. MP.ITS is provided at no extra costs.

2.8.4. Future planned enhancements

In the long term plans, PostScriptum plans to:

- use the MP.ITS application as the baseline to develop prototype components for the monitoring and reporting of exported content IPR and usage;
- employ and expand the ECK connectivity enhancement to address the participation of creative industries in the EuropeanaSpace value chain;
- use ECK to develop best practice examples addressing cultural sector's collaboration with creative industries in the field of digital products and services in the tourism sector.

2.9. Semantika

2.9.1. Company overview

- Company background

Semantika is an innovative software development company based in Maribor, Slovenia. It has over 10 years of experience in Software Development, Web Solutions, Mobile and Multi-touch Application. The company is specialized in natural user interfaces and human-computer interaction.

We pride ourselves in using state-of-the-art technologies and try to use innovative solutions whenever possible and are one of the chief application providers for Microsoft Surface, Microsoft PixelSense and Microsoft Kinect in Slovenia. We were one of the first to implement Microsoft PixelSense applications and the first provider to create a Kinect PC application even before Microsoft released the PC version of Kinect.

One of our key focus areas is the field of cultural heritage. Our Collection Management System – Galis, is used by over 50 institutions and our Museums platform, most notable, Museums.EU is gaining new users every day.

We currently have 10 employees.

- Customers

Semantika has over 50 customers in the EU, mostly museums of different sizes. The majority of our clients come from Slovenia, where our Collections Management System is used by almost all the museums and galleries in the country, including national, regional, municipal and private institutions.

- Products

We offer different products and services in the heritage sector. Our most important products are: Galis – Collection Management System and Museums – our web publishing platform, which includes Museums.SI, Museums.EU, mobile apps and various widgets, which enable reuse of our clients' data on different platforms.

- Role in the project

Semantika's role in the project can be categorized in three different sections: 1. Help develop the ECK web services – PID generation and Validation; 2. Integrate the ECK into our Collection Management System and 3. Work with and Support two Associate Content partners from Slovenia.

2.9.2. Current integration status

- Products incorporating ECK

The ECK is now fully integrated into Galis, our Collection Management System. We have added a special "Europeana Export" section directly into the core of the system. The workflow for the integration is as follows:

- The "Select" and "Manage" functionality is handled by our CMS
- Once the user selects the records and clicks "Export to Europeana", the specialized ECK module takes over
- This module offers a "once click" solution that exports the records from our CMS, validates them, generates PIDs and publishes them online and makes them available to Europeana

Publishing to Europeana via our Collection Management System requires that records are made publicly available on a public facing website. Semantika has developed and published the Museums.EU website, which has a publishing API available and enables records to be uploaded from any CMS. Museums.EU then returns the URL of the public record, which can then be Previewed or published to Europeana via any aggregator.

- ECK modules integrated

We have integrated all the available modules from the ECK. Those modules are used in different stages of the publishing process, from Validation – for checking our internal export - to Preview – which shows the user how its record will look like in Europeana.

- Testing carried out

Semantika has invited two associate partners to join the consortium: The Božidar Jakac Art Museum (GBJ) and the National Liberation Museum Maribor (MNOM).

At the beginning of the project, we have created a separate "Europeana version" of our software. Only the two content partners received this version, which was constantly updated through the duration of the project. As soon as we updated the ECK integration, both partners' installations would automatically update over the internet.

During the entire project, we constantly collaborated with our users who helped us with testing, provided content and gave us feedback. As those two partners are from different parts of Slovenia and have very different types of collections, our other CMS users shouldn't have any problems.

- Conformance to requirements

As can be seen in the annex, Galis CMS conforms very well to the initial requirements. The only remaining question is the requirement about “reingestion of data received back from Europeana”. While a very interesting feature, our content partners and other museums we talked with expressed a reservation regarding this – especially about the quality of received content. We believe that this feature will most likely evolve and become more widely used as the quality of content in Europeana improves.

2.9.3. Roll out plans

- Release strategy

Galis CMS features an automatic update feature, so as soon as we push the “Europeana export” feature into production, all of our clients will begin getting this functionality.

We have made a firm commitment to a lot of our customers that “Publish to Europeana” is coming to Galis CMS this year.

Our current strategy is that we will continue to work on some last remaining integration issues in September (mostly work related to the User Interface/User Experience parts), do one final round of testing in October, before making this feature available to everyone in November.

- Upgrade plans for existing customers
- Maintenance & support
- Associated costs for end users

We treat the ECK integration feature the same as any upgrade to our software, so we will include this in one of our planned monthly releases and will offer the same type of support as we do for any other part of the software.

All of our clients license Galis CMS on a “software as a service” basis, which means that upgrades such as this one are already included in the core license and will not require any additional payment.

2.9.4. Future planned enhancements

Our current focus is the production release of the “Export to Europeana” feature but we’re certain that this feature will constantly improve and change once we get it into the hands of users.

However, as we plan on promoting the ECK/Europeana integration as one of the key benefits of using our software, the support of this integration is certainly in our long-term roadmap for our software.

One of the future developments we already are planning on, is the integration of our two ECK web services into our stable and scalable Museums.EU platform which will form part of the forward plan.

2.10. Skinsoft

2.10.1. Company overview

- Company background

Created in 2008, SKINsoft is a modern computer lab that uses web-based technologies that developed from the very beginning a solution awaited by a new generation of collection managers.

SKINsoft core application is technologically unique: it is the work result of SKINsoft R&D team in cooperation with culture professionals.

Following a development effort of 6,000 person-day, SKINsoft a powerful engine and a set of performing tools that easily customize applications. The SKINsoft technology is now available in a powerful and interoperable business applications range from scientific library to archives library, museum collections to digital asset management.

SKINsoft team counts today 10 people.

- Customers

Les Arts décoratifs de paris (Decorative Arts in Paris), Musée National de l'éducation (National Museum of Education), Centre National du Costume de Scène (National Center of Stage Costumes), Les musées départementaux de l'Isère ("Isère" region museums), Les musées départementaux du Lot ("Lot" region museums), Les musées départementaux du Tarn ("Tarn" region museums), Fondation Maeght ("Maeght Foundation"), Musée d'art moderne André Malraux (Museum of Modern Art André Malraux), Fenimore Art Museum, Farmer's museum (NYSHA, NY), Museum d'histoire Naturelle du Havre (Natural history museum – Le Havre) etc.

- Products

S-museum :

S-Museum is a web-based software that has been specifically developed for museums and contemporary cultural centres. It is mobile and very easy to use. S-Museum can be used in every type of establishment, from the smallest to the largest, for any kind of collection : art and history, archaeology, modern art, natural history, ...

S-collection :

S-Collection is a web-based software, specifically developed for the management of private collections and corporate historical collections. S-Collection gives an approach to document and manage collections of all nature and of all sizes, works of art or historical heritage, photographic archives, video, sound, ... and to share them.

S-archeo :

S-Archeo is a web-based software, specially developed for the management and the monitoring of preventive and programmed archaeological operations. S-Archeo covers the needs and requirements of structures of all natures and sizes.

SKINmedia :

SKINmedia is a web-based, autonomous or complementary software, very easy-to-use. SKINmedia integrates photograph library, video library and multimedia library, and is able to

classify, organize your media (sound, 3D, picture...) as you wish to.

SKINlibris :

SKINlibris is a web-based software, which coupled with S-Museum, S-Archeo, S-Collection, gives you specially designed features for the management of library and multimedia collections.

SKINweb :

SKINweb is a web-based software dedicated to the publication of collections. SKINweb enables users to pool databases, to organize them, to publish them on the web or to make them available for third-party applications.

SKINdam :

SKINdam is a web-based, autonomous, open software. SKINdam can record and manage all kind of media from the smallest to the largest, store, share them with third-party applications.

SKINheritage :

SKINheritage is a web-based software for cultural heritage, personal property, and real estate management, which integrates Palissy and Mérimée databases. SKINheritage offers many features for cultural heritage management: restoration/preservation, movements, audit, exhibitions, etc.

SKINarchive :

SKINarchive is a web-based software, which coupled with S-Collection or S-Museum, will provide you with all the necessary tools for the management of archives. The application offers a professional solution for the long-term preservation of your physical and digital archives.

- Role in the project

As a Technical Partner, SKINsoft :

- Supports the Technical deliverables of EUROPEANA INSIDE
- Participates in (WP2 SPECIFICATION)
- Participates in (WP3 DEVELOPMENT)
- Supports their client organisations in (WP4 CONTENT)
- Participates in (WP5 PRODUCTION)
- Supports Project Management and Dissemination activities

2.10.2. Current integration status

- Products incorporating ECK

ECK is available from the application SKINweb. SKINweb aggregate data from our products S-museum, SKINlibris, S-collection, S-archeo

- ECK modules integrated

Management, data selection, aggregator module, preparation module, mapping functionalities, data enhancement and connection system are fully integrated into SKINweb.

Validation, data acceptance, data supply and communication storage needs improvements.

- Testing carried out

Main unit tests were made on this project (on iterator, provider, mapping, data selection).

Functional tests are being finalized.

- Conformance to requirements

Management, selection and preparation phases are now available in our product S-museum. Supply features as well as data acceptance are about to be completed. See detailed table in annex.

2.10.3. Roll out plans

- Release strategy

The official release in September will be supported by SKINsoft by promoting it through article on the website, official announcement to current customers and also during fairtrades SKINsoft will attend.

- Upgrade plans for existing customers

Existing customers that already have a SKINweb application will have the choice to upgrade to the new SKINweb version for LIDO export.

- Maintenance & support

Maintenance and support of the application will be carried out by SKINsoft team.

- Associated costs for end users

Previous and new customers will not be charged.

2.10.4. Future planned enhancements

To be defined.

2.11. System Simulation

2.11.1. Company overview

- Company background

SSL was established in 1970 to work on simulations of human decision. Subsequent work in the 70s was chiefly concerned with the emerging technologies of computer graphics. SSL pioneered the use of interactive graphics in educational games and also for animation in the film and TV sectors. Successes were animations for "Alien" and the original Channel 4 Television logo.

In the 80s our work moved from graphics to the development of a new database technology

to support unstructured data for emerging multimedia applications. This led to a specialism in museum systems, image libraries and publishing and has sustained our development throughout the 90s into networking and the web. Today, from our premises in Covent Garden, London, our 15-strong team provides object cataloguing, digital asset management and archives systems, based on our CollectionsIndex+ family of products.

- Customers

While the majority of our clients are drawn from the cultural heritage sector, our products are also used by scientific, law enforcement and policy research bodies. Our museum clients include the British Museum, the Victoria & Albert Museum, London Transport Museum, Royal Academy of Arts and Sir John Soane's Museum in London; the Chopin Museum, Warsaw; and Islamic Arts Museum Malaysia. In addition to our commercial work, we have a rich track-record of participation in collaborative R&D, at both national and European levels.

- Products

The CollectionsIndex+ product family comprises six key applications:

- MuseumIndex+, our flagship SPECTRUM-compliant object collections management system;
- ImageIndex+, our image library system;
- AssetIndex+, which adds support for video and non-image assets;
- BooksIndex+, our MARC-21 standard book cataloguing system;
- ArchiveIndex+, for ISAD-G management of hierarchical archives collections;
- ContentIndex+ for web content management.

- Role in the project

Our role in EU-Inside is as a collections management system vendor seeking to provide our users with a straightforward way to export their collections to Europeana.

2.11.2. Current integration status

- Products incorporating ECK

The ECK is being integrated into our object collections management system, MuseumIndex+.

- ECK modules integrated
- The integration status of individual modules is shown in the table below.

Module	Partner	Integration Status
Data Mapping	Libis	Implemented internally
Data Transformation	Libis	Implemented internally
Metadata Definition	k-int	Integrated with external service
Europeana Statistics	Europeana	Not yet used
PID Generation	Semantika	Implemented internally
Preview	Monguz	Integrated with external service
Set Manager	k-int	Integrated with external service

Module	Partner	Integration Status
Statistics	k-int	Integrated with external service
Validation	Monguz	Integrated with external service
Validation	Semantika	Integrated with external service

- Testing carried out

Testing has been carried out using sample data from the London Transport Museum. The Museum has now specified the records that they wish to be exported to Europeana, and at the time of writing, work is in hand to prepare that live data for upload to the aggregator. We will then be able to test pull-back of enriched data.

- Conformance to requirements

Conformance to requirements is detailed in the annex. In summary, all musts are satisfied with the exception of the following requirements:

- Requirements relating to enriched data: testing of enriched data handling has been delayed pending preparation of the London Transport Museum live data set.
- User control over IPR on the data: rights data is currently hardcoded into the LIDO export due to issues with the Validation module. Export of actual rights data will be re-enabled when the validation module issues are resolved.
- Ensuring that successful validation warrants validation by Europeana at ingestion: no data has yet been made available to Europeana, but this satisfaction of this requirement is the responsibility of modules outside our control.

In addition, the majority of 'should's are met.

2.11.3. Roll out plans

- Release strategy
- Upgrade plans for existing customers

Typically MuseumIndex+ upgrades are rolled out to clients alongside contracted developments in order to minimise systems disruption. The precise timescale for deployment will therefore vary from client to client. However we anticipate that the majority of MuseumIndex+ users will receive Export to Europeana functionality in 2014. Prior to the upgrade being made available, we have reserved a one-month period of testing, procedural integration and documentation to immediately follow conclusion of the Europeana Inside project. As described below, mappings of Book and Archive catalogue fields to Europeana will be developed in the latter half of 2014, to coincide with the first live upgrade of a user to the merged CollectionsIndex+ application.

The benefits of the Export to Europeana feature will be promoted via the Index+ User Group, and through direct communication with clients. Nonetheless, the decision of whether and when to enable Europeana exports will lie with museums themselves. Therefore this choice, and, where the feature is to be enabled, specification of the permissions groups governing which users have the right to select records for export, will be added to our standard MuseumIndex+ pre-installation checklist.

- Maintenance & support
- Associated costs for end users

As a core MuseumIndex+ upgrade, installation, support and maintenance will be covered by clients' existing support contracts. For users not covered by a current support contract, we reserve the right to make a small charge for installation. Consultation and training will be available, priced at our standard rates.

2.11.4. Future planned enhancements

Our initial objective was to incorporate Europeana export functionality into MuseumIndex+, and to-date, it is in this configuration that our ECK integration has been tested. However concurrent with the EU-Inside project, we have unified MuseumIndex+, BooksIndex+ and ArchiveIndex+ and their respective databases as a single cross-collection CollectionsIndex+ application. The most profound benefits to our users are the delivery of cross-collections searches and workflows, but a positive side-effect of the merger is that subject to development of the necessary field mappings, the Export to Europeana option will also now be available to collections managed according to libraries or archives principles. The first beneficiary of this work is likely to be the V&A.

2.12. Zetcom

2.12.1. Company overview

- Company background

zetcom has been founded in 1998 and is one of the leading Collection Management System developers worldwide. 52 employees work in our offices in Berne, Berlin, Paris, Barcelona and Denver.

- Customers

We care for approx. 900 museums and collections in 26 countries – ranging from the largest cultural institutions like the Louvre or the State Museums of Berlin to small local museums and private or corporate collections. MuseumPlus has been localized into 11 languages

- Products

- MuseumPlus (classic Client-Server CMS)
- MuseumPlus RIA (web-based Collection Management System)
- ArtPlus (web-based CMS for private and corporate collections, commercial galleries)
- eMuseumPlus (web-client for and of the above products – online collections)
- FoundationPlus (web-based business solution for foundations)

- Role in the project

Technical Partner

2.12.2. Current integration status

- Products incorporating ECK

MuseumPlus (via the MCK – MuseumPlus Connection Kit)

- ECK modules integrated

PID generation, Preview, Validation, PUSH to Dark Aggregator, Enrichment service

- Testing carried out

Testing done by zetcom, Postscriptum, SPK, KMKKG, NAT, BEN.

- Conformance to requirements

See Annex.

2.12.3. Roll out plans

- Release strategy

MCK will be available to our customers from Oct. 2014, given that the web-services are maintained.

- Upgrade plans for existing customers

Any existing customer with MuseumPlus 4.5 or higher will be able to use MCK (99% of all our customers).

- Maintenance & support

Maintenance and support is included in the existing support contract with our customers.

- Associated costs for end users

No costs associated, besides the services needed to install and configure (mapping) MCK.

2.12.4. Future planned enhancements

MCK will be integrated into the MuseumPlus RIA (and ArtPlus) platform as well.

3. Summary of partner reports

The integration status reports provided by partners indicate an extremely high level of integration of ECK functionality into a range of systems. The vast majority of systems which integrate ECK functionality are Collections Management Systems (CMSs) aimed at the museums sector. This is understandable given the make-up of the Europeana Inside consortium. Whilst it is true that some partners are more advanced than others in their integration activity, there is clear evidence that all partners providing status reports have made real progress and that this is evidenced in existing and planned product enhancements.

Roll out plans vary across partners. As can be expected, those vendors who have a small number of customers and/or offer a common cloud based or hosted platform are able to roll out changes relatively quickly and many ECK features are already available to new and existing customers. Other partner, particularly those who provide highly customised versions of their products, are adopting a slower roll-out procedure and many are making access to the ECK functionality optional.

All partners, except Skinsoft, report that the enhanced functionality will be made available to customers at no additional cost and that implementation and support will incur no additional costs for customers covered by existing support arrangements. Skinsoft report that they have yet to decide on a pricing strategy, but this is probably more an indicator that they are at an earlier stage in the implementation cycle than evidence of a real intention to charge customers. In addition, Mobydoc have indicated that there will be a cost to customers who wish to use their hosted OAI-PMH repository component as part of the ECK implementation.

Most partners have indicated that training and consultancy services, e.g. in relation to metadata mapping, will be available to users at standard rates.

All ECK implementations rely to some extent on the common web services (validation, transformation, aggregation, etc.) made available to the project. Although the ECK architecture would allow vendors to implement their own instances of these services, the most cost effective means of maintaining services seems to be to continue with some sort of shared service platform. All the partners currently hosting components have indicated that they will continue to make these available after the end of the project, although Monguz have indicated that they intend to introduce a charge for this.

4. Outstanding issues and actions

Delays by Europeana in introducing changes to their API have meant that there has been little opportunity to test the content re-ingestion functionality. Testing will continue in the final 2 months of the project and possibly after the end of the project.

Many ECK features are currently closely integrated into the aggregators used in the project (Culture Grid and Dark Aggregator). To promote more widespread use of these features, efforts need to be made to encourage other aggregators to integrate these services.

The vast majority of content providers and technical partners prefer the more active 'data push' method of data supply to providing a target for harvesting. Both project aggregators accept data push using the SWORD protocol but few other aggregators do. The project aggregators are able to push data on to other services, such as Europeana, but Europeana explicitly refused to implement this option as part of their architecture during the course of the project. It is hoped that this decision may be reviewed as part of Europeana's migration to a cloud based infrastructure.

Uncertainties around the future of shared web services are due to be addressed as part of the project's forward plan. This will be published at the end of the project as D5.4.

Annex - Detailed partner conformance statements

Key:

Colour coding of cells:

	Must
	Should
	Could
	Won't

Conformance:

Y Yes (conforms)

N No (does not conform)

P Partial

N/A Not Applicable

A1 Adlib Information Systems

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	The Set-manager provides this information
01.02	Revision history	Y	Record management is default functionality of Adlib
01.04	PID management	Y	The PID consists of object-number which is unique in Adlib
01.05	Enriched data management	N	This is not implemented as Europeana functionality but Adlib supports with the linked-open-data feature
02.01	Select multiple records	Y	Default functionality
02.02	Select single record	Y	Default functionality
02.03	Select records based on values	Y	Default functionality
02.04	Boolean operators	Y	Default functionality
02.05	Indication of selected fields	Y	Only selected records and fields are defined in Style-sheet
02.06	Selecting within record	N	
02.07	Reuse saved queries	Y	Default functionality using pointerfiles
02.08	Manage multiple selections	Y	Aggregator and sets are configurable
02.09	Standardised selection filters	P	Selections are stored in local log files after uploading
03.01	Automatic EDM mapping	Y	Adlib delivers LIDO to SetManager where the ECK services takes care of automatic

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			mapping to EDM.
03.02	Preview mapping	Y	The ECK preview service is integrated in Adlib solution
03.03	Editable mapping	Y	Standard Adlib provides mapping for Model Applications. This can be adjusted by editing the style-sheets
03.04	Mapping feedback	Y	Mapping is checked before uploading
03.05	Saving mapping	Y	In xslt file
03.06	Field explanations	Y	Mapping is checked before uploading
03.07	Automatic value insertion	Y	In xslt file and configuration file
03.08	Check digital asset availability	Y	
03.09	Thumbnail selection	Y	Default the first one is used, user can determine the order
03.10	Multiple assets	Y	
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	Y	Using the xlst style-sheet
03.13	Metadata field on IPR metadata	Y	
03.14	Metadata field on IPR preview	Y	
03.15	Mark mandatory fields	Y	
03.16	Choose default mapping	Y	Default Lido mapping is based on model application.
03.17	Automatic data suggestion	Y	Default functionality
03.18	Target format selection	P	Default Lido is supplied. Other mappings are configurable
03.19	Semantic data enrichment	Y	Default functionality
03.20	Conditional mapping	Y	Using the xlst style-sheet
03.21	Nested or grouped mapping	Y	Using the xlst style-sheet
03.22	Intermediate format mapping	Y	Using the xlst style-sheet
03.23	Support for conditional truncation	Y	Using the xlst style-sheet
03.24	Apply PID	Y	The Europeana upload functionality and parameters are configurable per CP
03.25	Conditional field conversion	Y	Using the xlst style-sheet
04.01	Validation	Y	We use the ECK validation services for this
04.02	Feedback on validation	Y	The manage function/button gives the details of the validation

			process
04.03	Edit invalidated fields	Y	Records can be uploaded again to the set-manager after correction is made
04.04	Automatic license validation	Y	
04.05	Test ingestion	Y	And can be previewed before live
04.06	Align validation	Y	Validation is based on the ECK validation services
05.01	Auto supply	Y	
05.02	Re-supply functionality for failed records	Y	The set-manager takes care of this and manually committing is also possible
05.03	Schedule data supply	P	Since the push of data requires user interaction this is not possible. But Adlib also facilitates OAI which can be scheduled.
05.04	Supply for 3 rd party collaboration	Y	Adlib can supply data using OAI and has an API.
06.01	Preview presentation Europeana	Y	The preview service is integrated in the manage function
06.02	Withdraw records	Y	Records can be deleted using the manage function
06.03	Update published records	Y	Records can be updated by uploading them again and using the manage function
06.04	Publication indication	Y	The manage function displays the status of the process per record
06.05	Automatic publication alert	Y	The manage function displays the status of the process per record
07.01	Available enriched content alert	N	Enrichment is not implemented. Still under investigation
07.02	Accept/ decline enrichments (record level)	N	Enrichment is not implemented. Still under investigation
07.03	Automatic ingest of enriched data	N	Enrichment is not implemented. Still under investigation
07.04	Separate enriched content	N	Enrichment is not implemented. Still under investigation
07.05	Enriched IPR identification	N	Enrichment is not implemented. Still under investigation
07.06	Choose target ingest	N	Enrichment is not implemented. Still under investigation
07.07	Accept/ decline (field level)	N	Enrichment is not implemented. Still under investigation
07.08	PID enrichment	N	Enrichment is not implemented. Still under investigation

07.09	Pull option	N	Enrichment is not implemented. Still under investigation
07.10	Enriched data management	N	Enrichment is not implemented. Still under investigation

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	P	Adlib support enrichment of data from different sources using linked-open-data functionality. Not specifically build for Europeana.
HLR.04	Data management	Y	Uploading and managing data is implemented
HLR.05	Transparency	Y	Part of managing data functionality
HLR.06	Choice of data pull or push to Europeana	Y	Data could already be provided using OAI, for Europeana inside pushing data has been provided.
HLR.07	Multiple targets (same as 05.04?)	Y	Adlib facilitates supply i.e. to TheCollectionCloud.com and use the linked-open-data functionality and external sources to enrich data.
HLR.08	Various routes	Y	OAI, API, Export, etc.
HLR.09	Contextualisation	Y	
HLR.10	Re-use available knowledge	Y	For ECK integration we re-used the TheCollectionCloud.com functionality
HLR.11	Modular	Y	The solution is a combination of new and existing functions.
HLR.12	Export-import	Y	XML is used
HLR.13	API	Y	It is a service based solution
HLR.14	Communication of changes	Y	The functionality is part of the core software and will follow the normal software release program
HLR.15	Version tracking	Y	
HLR.16	Changing and saving of settings	Y	Configuration is maintained in XSLT mapping and XML Configuration

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	The Adlib ECK integration will be part of the standard software and follows the standard support agreements.
NFR.02	Label for CMS software	Y	When the label is defined we will label the software accordingly to that
NFR.03	User friendly	Y	The main goal of the Adlib ECK integration was to keep it simple and create a 'one-click' solution
NFR.04	Auto-update	Y	As long as the service/interface definitions do not change and support backward compatibility the Adlib ECK Integration keeps functioning.
NFR.05	Make cultural heritage available to digital services	Y	That was the main goal
NFR.06	User manual and training materials	Y	The new functionality will be documented in our standard user documentation.
NFR.07	Multilingual support and documentation	Y	Adlib is standard multilingual all new functions will be translated before releasing the software
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	The solution is a combination of new and existing functions.
NFR.12	Easy adaptability	Y	The adaptability is mainly achieved by the choice of choosing the LIDO standard and let the ECK (cloud) Mapping Service do the translation to EDM.
NFR.13	Simplicity	Y	It's a one-click-solution
NFR.14	Public-private partnership	Y	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	Y	The functionality is incorporated in our standard software and therefor embedded for the future.

A2 iMinds

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	N	N/A
01.04	PID management	Y	
01.05	Enriched data management	Y	
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	N	N/A
02.04	Boolean operators	N	N/A
02.05	Indication of selected fields	N	N/A
02.06	Selecting within record	N	
02.07	Reuse saved queries	N	
02.08	Manage multiple selections	N	
02.09	Standardised selection filters	N	
03.01	Automatic EDM mapping	N	N/A
03.02	Preview mapping	N	N/A
03.03	Editable mapping	N	N/A
03.04	Mapping feedback	N	N/A
03.05	Saving mapping	N	N/A
03.06	Field explanations	N	N/A
03.07	Automatic value insertion	N	N/A
03.08	Check digital asset availability	N	N/A
03.09	Thumbnail selection	N	N/A
03.10	Multiple assets	N	N/A
03.11	Defining media type	N	N/A
03.12	Metadata field on IPR digital object	N	N/A
03.13	Metadata field on IPR metadata	N	N/A
03.14	Metadata field on IPR	N	N/A

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	preview		
03.15	Mark mandatory fields	N	N/A
03.16	Choose default mapping	N	N/A
03.17	Automatic data suggestion	N	
03.18	Target format selection	N	
03.19	Semantic data enrichment	Y	
03.20	Conditional mapping	N	N/A
03.21	Nested or grouped mapping	N	N/A
03.22	Intermediate format mapping	N	
03.23	Support for conditional truncation	N	
03.24	Apply PID	N	
03.25	Conditional field conversion	N	
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	N	
04.04	Automatic license validation	N	
04.05	Test ingestion	N	
04.06	Align validation	N	N/A
05.01	Auto supply	N	N/A
05.02	Re-supply functionality for failed records	N	N/A
05.03	Schedule data supply	N	
05.04	Supply for 3 rd party collaboration	N	
06.01	Preview presentation Europeana	N	
06.02	Withdraw records	N	
06.03	Update published records	N	N/A
06.04	Publication indication	N	
06.05	Automatic publication alert	N	N/A
07.01	Available enriched content alert	N	Enrichment happens synchronously
07.02	Accept/ decline enrichments (record level)	Y	
07.03	Automatic ingest of	N	

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	enriched data		
07.04	Separate enriched content	N	
07.05	Enriched IPR identification	N	
07.06	Choose target ingest	N	
07.07	Accept/ decline (field level)	N	
07.08	PID enrichment	N	
07.09	Pull option	Y	Pull from the enrichment service, not from the ECK.
07.10	Enriched data management	N	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	N	
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	P	
HLR.04	Data management	N	
HLR.05	Transparency	P	
HLR.06	Choice of data pull or push to Europeana	N	N/A
HLR.07	Multiple targets (same as 05.04?)	N	
HLR.08	Various routes	N	
HLR.09	Contextualisation	N	
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	
HLR.12	Export-import	N	N/A
HLR.13	API	Y	
HLR.14	Communication of changes	P	
HLR.15	Version tracking	N	N/A
HLR.16	Changing and saving of settings	N	

Non-Functional Requirements

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Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	N	
NFR.03	User friendly	P	
NFR.04	Auto-update	N	
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	P	Documents are being written
NFR.07	Multilingual support and documentation	P	Restricted multilingual support, documentation only in English
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	
NFR.12	Easy adaptability	Y	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	N	
NFR.15	Master-slave	N	
NFR.16	Organisation embedding	N	

A3 KE Software

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	Y	Implemented through standard audit functionality
01.04	PID management	Y	
01.05	Enriched data management	P	Enriched data cannot be automatically applied
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	
02.06	Selecting within record	N	
02.07	Reuse saved queries	Y	
02.08	Manage multiple selections	P	
02.09	Standardised selection filters	N	
03.01	Automatic EDM mapping	Y	
03.02	Preview mapping	Y	
03.03	Editable mapping	Y	
03.04	Mapping feedback	P	Implemented through validation module
03.05	Saving mapping	Y	
03.06	Field explanations	Y	
03.07	Automatic value insertion	Y	
03.08	Check digital asset availability	Y	
03.09	Thumbnail selection	Y	
03.10	Multiple assets	Y	Only one exported to Europeana
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	Y	
03.13	Metadata field on IPR metadata	Y	

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03.14	Metadata field on IPR preview	Y	
03.15	Mark mandatory fields	Y	
03.16	Choose default mapping	Y	
03.17	Automatic data suggestion	Y	Implemented as part of validation module
03.18	Target format selection	N	Target format is always LIDO -> EDM for ECK
03.19	Semantic data enrichment	Y	
03.20	Conditional mapping	Y	
03.21	Nested or grouped mapping	Y	
03.22	Intermediate format mapping	Y	Part of this role is performed by aggregator
03.23	Support for conditional truncation	Y	
03.24	Apply PID	Y	
03.25	Conditional field conversion	Y	
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	Y	
04.04	Automatic license validation	Y	
04.05	Test ingestion	Y	This is available with coordination
04.06	Align validation	Y	
05.01	Auto supply	Y	
05.02	Re-supply functionality for failed records	Y	
05.03	Schedule data supply	P	This is only available with TP intervention
05.04	Supply for 3 rd party collaboration	Y	
06.01	Preview presentation Europeana	Y	
06.02	Withdraw records	Y	
06.03	Update published records	Y	
06.04	Publication indication	Y	
06.05	Automatic publication alert	Y	
07.01	Available enriched content alert	P	
07.02	Accept/ decline enrichments (record level)	N	

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07.03	Automatic ingest of enriched data	N	
07.04	Separate enriched content	P	
07.05	Enriched IPR identification	P	
07.06	Choose target ingest	P	
07.07	Accept/ decline (field level)	N	
07.08	PID enrichment	Y	
07.09	Pull option	N	
07.10	Enriched data management	N	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	Y	
HLR.04	Data management	Y	
HLR.05	Transparency	Y	
HLR.06	Choice of data pull or push to Europeana	N	We have only implemented Push
HLR.07	Multiple targets (same as 05.04?)	Y	
HLR.08	Various routes	Y	
HLR.09	Contextualisation	Y	
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	
HLR.12	Export-import	Y	
HLR.13	API	Y	
HLR.14	Communication of changes	Y	
HLR.15	Version tracking	Y	
HLR.16	Changing and saving of settings	P	Some require TP interaction

Non-Functional Requirements

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Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	P	We have not yet implemented a label but are able to
NFR.03	User friendly	Y	
NFR.04	Auto-update		
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	P	User manuals are awaiting update from i4
NFR.07	Multilingual support and documentation	Y	
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	
NFR.12	Easy adaptability	Y	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	Y	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	Y	

A4 Knowledge Integration**Functional Requirements**

Req	Title	Conformance		Comments
		CIIM	ODA	
01.01	Export management	Y	Y	
01.02	Revision history	Y	Y	
01.04	PID management	Y	Y	
01.05	Enriched data management	N	Y	
02.01	Select multiple records	N	N/A	
02.02	Select single record	N	N/A	
02.03	Select records based on values	N	N/A	
02.04	Boolean operators	N	N/A	
02.05	Indication of selected fields	N	N/A	
02.06	Selecting within record	N	N/A	
02.07	Reuse saved queries	N	N/A	
02.08	Manage multiple selections	N	N/A	
02.09	Standardised selection filters	N	N/A	
03.01	Automatic EDM mapping	Y	Y	CIIM does this via Aggregator
03.02	Preview mapping	N	N	
03.03	Editable mapping	N	N	
03.04	Mapping feedback	N	N	
03.05	Saving mapping	N	N	
03.06	Field explanations	N	N	
03.07	Automatic value insertion	Y	Y	
03.08	Check digital asset availability	Y	Y	
03.09	Thumbnail selection	Y	Y	
03.10	Multiple assets	Y	Y	
03.11	Defining media type	Y	N	
03.12	Metadata field on IPR digital object	Y	Y	
03.13	Metadata field on IPR metadata	Y	Y	

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03.14	Metadata field on IPR preview	Y	Y	
03.15	Mark mandatory fields	Y	Y	
03.16	Choose default mapping	Y	Y	
03.17	Automatic data suggestion	N	N	
03.18	Target format selection	Y	Y	
03.19	Semantic data enrichment	Y	Y	
03.20	Conditional mapping	Y	Y	
03.21	Nested or grouped mapping	Y	Y	
03.22	Intermediate format mapping	Y	Y	
03.23	Support for conditional truncation	Y	Y	
03.24	Apply PID	Y	Y	
03.25	Conditional field conversion	Y	Y	
04.01	Validation	Y	Y	CIIM does this via Aggregator
04.02	Feedback on validation	Y	Y	CIIM does this via Aggregator
04.03	Edit invalidated fields	Y	Y	
04.04	Automatic license validation	Y	Y	
04.05	Test ingestion	Y	Y	
04.06	Align validation	Y	Y	CIIM does this via Aggregator
05.01	Auto supply	Y	Y	
05.02	Re-supply functionality for failed records	Y	Y	
05.03	Schedule data supply	Y	Y	
05.04	Supply for 3 rd party collaboration	Y	Y	
06.01	Preview presentation Europeana	N	Y	
06.02	Withdraw records	Y	Y	via support for deletion in OAI-PMH repository
06.03	Update published records	N	Y	
06.04	Publication indication	N	Y	
06.05	Automatic publication alert	N	Y	
07.01	Available enriched content alert	N	Y	
07.02	Accept/ decline enrichments (record level)	N	N/A	

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07.03	Automatic ingest of enriched data	N	Y	
07.04	Separate enriched content	N	Y	
07.05	Enriched IPR identification	N	N/A	
07.06	Choose target ingest	N	Y	
07.07	Accept/ decline (field level)	N	N/A	
07.08	PID enrichment	N	Y	
07.09	Pull option	Y	Y	
07.10	Enriched data management	N	Y	

High Level Requirements

Req	Title	Conformance		Comments
		CIIM	ODA	
HLR.01	Exchange of cultural data	Y	Y	
HLR.02	Contributing to Europeana	Y	Y	
HLR.02	Adding value to local collections	Y	Y	
HLR.04	Data management	Y	Y	
HLR.05	Transparency	Y	Y	
HLR.06	Choice of data pull or push to Europeana	Y	Y	
HLR.07	Multiple targets (same as 05.04?)	Y	Y	
HLR.08	Various routes	Y	Y	
HLR.09	Contextualisation	Y	Y	
HLR.10	Re-use available knowledge	Y	Y	
HLR.11	Modular	Y	Y	
HLR.12	Export-import	Y	Y	
HLR.13	API	Y	Y	
HLR.14	Communication of changes	Y	Y	
HLR.15	Version tracking	Y	Y	
HLR.16	Changing and saving of settings	Y	Y	

Non-Functional Requirements

Req	Title	Conformance		Comments
		CIIM	ODA	
NFR.01	Sustainable and persistent workflow	Y	Y	
NFR.02	Label for CMS software	Y	Y	
NFR.03	User friendly	Y	Y	
NFR.04	Auto-update	Y	Y	
NFR.05	Make cultural heritage available to digital services	Y	Y	
NFR.06	User manual and training materials	Y	Y	
NFR.07	Multilingual support and documentation	Y	Y	
NFR.08	Flexibility and adaptability	Y	Y	
NFR.09	Open standards	Y	Y	
NFR.10	Re-use existing tools	Y	Y	
NFR.11	Modular (same as HLR.11)	Y	Y	
NFR.12	Easy adaptability	Y	Y	
NFR.13	Simplicity	Y	Y	
NFR.14	Public-private partnership	Y	Y	
NFR.15	Master-slave	Y	Y	
NFR.16	Organisation embedding	Y	Y	

A5 Libis (KU Leuven)

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	The logs show this information
01.02	Revision history	Y	The log for a record shows this information
01.04	PID management	Y	Pid generation service is used and the PID is stored in eckPid field
01.05	Enriched data management	Y	We need to test it still, but we want to use it
02.01	Select multiple records	Y	Sets are used to select multiple records
02.02	Select single record	Y	
02.03	Select records based on values	Y	A set can be created with a query for example
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	The set shows which records are included. All fields are included, which fields are exported to Europeana depends on the mapping
02.06	Selecting within record	Y	A user can remove images from the set. Removing the image is save in our system because it is a central CMS and not the users CMS. Also removing or changing information is possible.
02.07	Reuse saved queries	Y	Queries can be saved
02.08	Manage multiple selections	Y	Sets allow you to create different sets. It will be possible to select different sets to export in a future version.
02.09	Standardised selection filters	N	
03.01	Automatic EDM mapping	Y	You can use the default mapping
03.02	Preview mapping	Y	You can view the mapping
03.03	Editable mapping	Y	You can change the mapping and use it
03.04	Mapping feedback	Y	The validation service reports problems
03.05	Saving mapping	Y	You can keep the mapping. The mapping is also stored with the transformed records.

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03.06	Field explanations	Y	There is a manual
03.07	Automatic value insertion	Y	There are mapping rules to use default values
03.08	Check digital asset availability	Y	Is part of the validation service
03.09	Thumbnail selection	Y	Image_thumb is one of the metadata fields to select the thumbnail
03.10	Multiple assets	Y	
03.11	Defining media type	Y	There is a metadata field to store this information. Information can be added on individual records or by batch edit
03.12	Metadata field on IPR digital object	Y	There is a metadata field to store this information. Information can be added on individual records or by batch edit
03.13	Metadata field on IPR metadata	Y	There is a metadata field to store this information. Information can be added on individual records or by batch edit
03.14	Metadata field on IPR preview	Y	There is a metadata field to store this information. Information can be added on individual records or by batch edit
03.15	Mark mandatory fields	Y	The validation service validates records
03.16	Choose default mapping	Y	A default mapping can be used
03.17	Automatic data suggestion	N	There are no automatic data suggestion, but you can of course add this information in batch or for individual records. The validation service will tell if information is missing
03.18	Target format selection	Y	
03.19	Semantic data enrichment	Y	Thesauri and controlled vocabularies can be used.
03.20	Conditional mapping	Y	Conditional mappings are supported by the mapping service
03.21	Nested or grouped mapping	Y	Nested mappings are supported by the mapping service
03.22	Intermediate format mapping	Y	The central system supports LIDO and MARC21. This makes it possible to use a default mapping
03.23	Support for conditional truncation	Y	The mapping supports truncation of fields. This can be

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			combined with conditions
03.24	Apply PID	Y	PID generation can be applied. The parameters of the PID can be defined.
03.25	Conditional field conversion	Y	Mapping service supports conditions
04.01	Validation	Y	EDM validation is supported by the validation service
04.02	Feedback on validation	Y	Errors by the validation service are reported to the user
04.03	Edit invalidated fields	Y	A new set with only the invalid records can be created.
04.04	Automatic license validation	Y	The validation service validates the license
04.05	Test ingestion	Y	Different targets for data push can be defined.
04.06	Align validation	Y	The validation service uses the same rules as Europeana does.
05.01	Auto supply	Y	Data push is supported. The system also supports pull, but this is not tested.
05.02	Re-supply functionality for failed records	Y	Records can be resupplied. Only the failed records can be resupplied by adding them to a set.
05.03	Schedule data supply	N	The user needs to push the records
05.04	Supply for 3 rd party collaboration	Y	The target of data push is configurable and can be changed. Currently it is only tested with Europeana.
06.01	Preview presentation Europeana	Y	The preview service can be used
06.02	Withdraw records	N	Europeana doesn't support this
06.03	Update published records	Y	Updated records can be send to Europeana
06.04	Publication indication	N	Europeana doesn't support this. Europeana sends an e-mail to the contact person.
06.05	Automatic publication alert	N	Europeana doesn't support this. Europeana sends an e-mail to the contact person.
07.01	Available enriched content alert	N	Europeana doesn't support this. Europeana sends an e-mail to the contact person.
07.02	Accept/ decline enrichments (record level)	Y	Needs still to be tested. We intend to support this
07.03	Automatic ingest of enriched data	P	There is a separation between the CMS and the CMS used to send data to Europeana. The ingest is not automatic, but will be executed when requested.

07.04	Separate enriched content	Y	There can be extra fields defined to store extra information
07.05	Enriched IPR identification	N	
07.06	Choose target ingest	Y	The data can be exported and imported in a different system. That is a core concept of our solution
07.07	Accept/ decline (field level)	Y	Needs still to be tested. We intend to support this
07.08	PID enrichment	Y	The data can be exported and imported in the current CMS
07.09	Pull option	N	Data push is supported. The system also supports pull, but this is not tested.
07.10	Enriched data management	P	We will give information about when the data was exported not when it is ingested

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	The system supports global versions of MARC21 and LIDO. This means a fixed metadata profile is used for both so the exchange of cultural data is supported. It is also possible to add extra information to make the data global
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	Y	
HLR.04	Data management	Y	The data can be managed in the central system by the CP. The different formats that are used in the flow are visible to the CP.
HLR.05	Transparency	Y	The workflow is documented in the user interface
HLR.06	Choice of data pull or push to Europeana	Y	Data push is supported. The system also supports pull, but this is not tested.
HLR.07	Multiple targets (same as 05.04?)	Y	The target for data push can be changed
HLR.08	Various routes	Y	Data push can be configured for a different target. We tested the data push to the dark aggregator. Europeana doesn't support data push yet.

HLR.09	Contextualisation	Y	Users can add information
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	The system is modular and for example we can support different modules. We tested this with the different validation services
HLR.12	Export-import	Y	The system supports out-of-the-box different export and import formats
HLR.13	API	Y	The REST API from the services are used
HLR.14	Communication of changes	N	This depends on the forward plan
HLR.15	Version tracking	Y	The system stores different versions of the results
HLR.16	Changing and saving of settings	Y	The users can manage the system

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	This depends on the Forward plan. We are already using our developments in other projects
NFR.02	Label for CMS software	Y	
NFR.03	User friendly	Y	
NFR.04	Auto-update	Y	
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	Y	
NFR.07	Multilingual support and documentation	Y	The documentation is not multilingual. The system is multilingual
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	We use as much out-of-the box functionality
NFR.11	Modular (same as HLR.11)	Y	We use the ECK modules
NFR.12	Easy adaptability	Y	This depends on the Forward plan
NFR.13	Simplicity	Y	

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NFR.14	Public-private partnership	Y	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	Y	

A6 Mobydoc

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	Y	
01.04	PID management	Y	
01.05	Enriched data management	N	
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	
02.06	Selecting within record	N	
02.07	Reuse saved queries	Y	
02.08	Manage multiple selections	Y	
02.09	Standardised selection filters	N	
03.01	Automatic EDM mapping	Y	
03.02	Preview mapping	Y	
03.03	Editable mapping	Y	
03.04	Mapping feedback	Y	
03.05	Saving mapping	Y	
03.06	Field explanations	Y	
03.07	Automatic value insertion	Y	
03.08	Check digital asset availability	Y	
03.09	Thumbnail selection	Y	
03.10	Multiple assets	Y	
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	Y	
03.13	Metadata field on IPR metadata	Y	
03.14	Metadata field on IPR	Y	

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	preview		
03.15	Mark mandatory fields	Y	
03.16	Choose default mapping	Y	
03.17	Automatic data suggestion	Y	
03.18	Target format selection	Y	
03.19	Semantic data enrichment	Y	
03.20	Conditional mapping	Y	
03.21	Nested or grouped mapping	Y	
03.22	Intermediate format mapping	Y	
03.23	Support for conditional truncation	Y	
03.24	Apply PID	Y	
03.25	Conditional field conversion	Y	
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	Y	
04.04	Automatic license validation	Y	
04.05	Test ingestion	Y	
04.06	Align validation	Y	
05.01	Auto supply	Y	
05.02	Re-supply functionality for failed records	Y	
05.03	Schedule data supply	Y	
05.04	Supply for 3 rd party collaboration	Y	
06.01	Preview presentation Europeana	Y	
06.02	Withdraw records	Y	
06.03	Update published records	Y	
06.04	Publication indication	N	
06.05	Automatic publication alert	Y	
07.01	Available enriched content alert	N	
07.02	Accept/ decline enrichments (record level)	N	
07.03	Automatic ingest of	N	

	enriched data		
07.04	Separate enriched content	N	
07.05	Enriched IPR identification	N	
07.06	Choose target ingest	N	
07.07	Accept/ decline (field level)	N	
07.08	PID enrichment	N	
07.09	Pull option	N	
07.10	Enriched data management	N	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	P	
HLR.04	Data management	Y	
HLR.05	Transparency	Y	
HLR.06	Choice of data pull or push to Europeana	Y	
HLR.07	Multiple targets (same as 05.04?)	Y	
HLR.08	Various routes	Y	
HLR.09	Contextualisation	Y	
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	
HLR.12	Export-import	Y	
HLR.13	API	NA	
HLR.14	Communication of changes	Y	
HLR.15	Version tracking	Y	
HLR.16	Changing and saving of settings	Y	

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	NA	
NFR.03	User friendly	Y	Hopefully
NFR.04	Auto-update	NA	
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	P	
NFR.07	Multilingual support and documentation	P	
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	NA	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	
NFR.12	Easy adaptability	NA	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	NA	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	?	

A7 Monguz**Functional Requirements**

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	Y	
01.04	PID management	Y	
01.05	Enriched data management	Y	
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	
02.06	Selecting within record	N	
02.07	Reuse saved queries	Y	
02.08	Manage multiple selections	Y	
02.09	Standardised selection filters	N	
03.01	Automatic EDM mapping	Y	
03.02	Preview mapping	Y	
03.03	Editable mapping	Y	
03.04	Mapping feedback	Y	
03.05	Saving mapping	Y	
03.06	Field explanations	Y	
03.07	Automatic value insertion	Y	
03.08	Check digital asset availability	Y	
03.09	Thumbnail selection	Y	
03.10	Multiple assets	Y	
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	Y	
03.13	Metadata field on IPR metadata	Y	
03.14	Metadata field on IPR	Y	

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	preview		
03.15	Mark mandatory fields	Y	
03.16	Choose default mapping	Y	
03.17	Automatic data suggestion	P	Instead of suggesting, the system fills out missing data using defaults set in configuration.
03.18	Target format selection	Y	
03.19	Semantic data enrichment	P	Manual enrichment is supported, automatic via content re-ingestion
03.20	Conditional mapping	Y	
03.21	Nested or grouped mapping	Y	
03.22	Intermediate format mapping	Y	LIDO and MARC21
03.23	Support for conditional truncation	Y	
03.24	Apply PID	Y	
03.25	Conditional field conversion	Y	
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	Y	
04.04	Automatic license validation	Y	
04.05	Test ingestion	Y	
04.06	Align validation	Y	
05.01	Auto supply	Y	
05.02	Re-supply functionality for failed records	Y	
05.03	Schedule data supply	Y	
05.04	Supply for 3 rd party collaboration	Y	
06.01	Preview presentation Europeana	Y	
06.02	Withdraw records	Y	
06.03	Update published records	Y	
06.04	Publication indication	N	Needs support from Europeana
06.05	Automatic publication alert	N	Needs support from Europeana
07.01	Available enriched content alert	Y	
07.02	Accept/ decline	Y	

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	enrichments (record level)		
07.03	Automatic ingest of enriched data	Y	
07.04	Separate enriched content	Y	
07.05	Enriched IPR identification	P	Needs manual approval to change IPR in CMS
07.06	Choose target ingest	P	Needs backend configuration, not available in the UI
07.07	Accept/ decline (field level)	Y	
07.08	PID enrichment	Y	
07.09	Pull option	Y	
07.10	Enriched data management	Y	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	Y	
HLR.04	Data management	Y	
HLR.05	Transparency	Y	
HLR.06	Choice of data pull or push to Europeana	Y	
HLR.07	Multiple targets (same as 05.04?)	Y	
HLR.08	Various routes	Y	
HLR.09	Contextualisation	Y	
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	
HLR.12	Export-import	Y	
HLR.13	API	Y	
HLR.14	Communication of changes	Y	
HLR.15	Version tracking	???	"The system provides the capability to store, maintain, exchange and reuse intermediate results. This allows version tracking of the uploaded data by the system." Storage?

HLR.16	Changing and saving of settings	Y	
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Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	???	Monguz has no effect on this
NFR.03	User friendly	P	
NFR.04	Auto-update	N	
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	P	
NFR.07	Multilingual support and documentation	Y	
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	
NFR.12	Easy adaptability	Y	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	Y	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	???	Monguz has very little effect on it

A8 Postscriptum

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	Y	
01.04	PID management	Y	PID Management is provided for content resources via the MP.ITS application developed by PostScriptum.
01.05	Enriched data management	Y	
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	
02.06	Selecting within record		
02.07	Reuse saved queries	Y	
02.08	Manage multiple selections		
02.09	Standardised selection filters		
03.01	Automatic EDM mapping	Y	
03.02	Preview mapping	Y	
03.03	Editable mapping	Y	
03.04	Mapping feedback	Y	
03.05	Saving mapping	Y	
03.06	Field explanations	Y	
03.07	Automatic value insertion	Y	
03.08	Check digital asset availability	Y	Digital asset availability is checked, updated and secured for all content resources exported to Europeana via the MP.ITS application developed by PostScriptum.
03.09	Thumbnail selection	Y	Thumbnail availability is checked, updated and secured for all content resources exported to Europeana via the MP.ITS application developed by PostScriptum. Thumbnail generation is

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			also supported through configurable dimensions and multiple images per object, if required.
03.10	Multiple assets	Y	In the case of multiple assets, availability is checked, updated and secured for all content resources exported to Europeana via the MP.ITS application developed by PostScriptum.
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	Y	
03.13	Metadata field on IPR metadata	Y	
03.14	Metadata field on IPR preview	Y	
03.15	Mark mandatory fields	Y	
03.16	Choose default mapping	Y	
03.17	Automatic data suggestion	P	
03.18	Target format selection	Y	
03.19	Semantic data enrichment	Y	
03.20	Conditional mapping	Y	
03.21	Nested or grouped mapping	Y	
03.22	Intermediate format mapping	Y	
03.23	Support for conditional truncation	Y	
03.24	Apply PID	Y	PID provided for content resources via the MP.ITS application developed by PostScriptum.
03.25	Conditional field conversion	Y	
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	Y	
04.04	Automatic license validation	Y	
04.05	Test ingestion	Y	
04.06	Align validation	Y	
05.01	Auto supply	Y	
05.02	Re-supply functionality for failed records	Y	
05.03	Schedule data supply	N	

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05.04	Supply for 3 rd party collaboration	Y	
06.01	Preview presentation Europeana	Y	
06.02	Withdraw records	Y	
06.03	Update published records	Y	
06.04	Publication indication	Y	
06.05	Automatic publication alert	Y	
07.01	Available enriched content alert	Y	
07.02	Accept/ decline enrichments (record level)	Y	
07.03	Automatic ingest of enriched data	Y	
07.04	Separate enriched content	N	
07.05	Enriched IPR identification	N	
07.06	Choose target ingest	N	
07.07	Accept/ decline (field level)	Y	
07.08	PID enrichment	Y	
07.09	Pull option	N	
07.10	Enriched data management	Y	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	The MP.ITS application developed by PostScriptum facilitates content synchronisation for MuseumPlus organisations during their exports to Europeana.
HLR.02	Adding value to local collections	Y	The MP.ITS application developed by PostScriptum facilitates content synchronisation for MuseumPlus organisations during their exports to Europeana. The same application can be used to synchronise all their web content resources (e.g. Portal, or 3 rd party aggregators).

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HLR.04	Data management	Y	
HLR.05	Transparency	Y	
HLR.06	Choice of data pull or push to Europeana	Y	
HLR.07	Multiple targets (same as 05.04?)	Y	
HLR.08	Various routes	Y	
HLR.09	Contextualisation	Y	
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	
HLR.12	Export-import	Y	
HLR.13	API	Y	
HLR.14	Communication of changes	Y	
HLR.15	Version tracking	Y	
HLR.16	Changing and saving of settings	Y	

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	Y	
NFR.03	User friendly	Y	
NFR.04	Auto-update	-	
NFR.05	Make cultural heritage available to digital services	Y	The MP.ITS application developed by PostScriptum facilitates content synchronisation for MuseumPlus organisations during their exports to Europeana. The same application can be used to synchronise content resources with 3 rd party aggregators (e.g. National Aggregators).
NFR.06	User manual and training materials	Y	In addition to the MCK Manual, the MP.ITS application developed by PostScriptum is accompanied by Admin and User Manual.
NFR.07	Multilingual support and documentation	Y	
NFR.08	Flexibility and	Y	

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	adaptability		
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	The MP.ITS application can be invoked remotely from MCK.
NFR.12	Easy adaptability	Y	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	Y	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	Y	

A9 Semantika

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	Y	
01.04	PID management	Y	
01.05	Enriched data management	N	
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	
02.06	Selecting within record	Y	
02.07	Reuse saved queries	Y	
02.08	Manage multiple selections	Y	
02.09	Standardised selection filters	N	
03.01	Automatic EDM mapping	Y	
03.02	Preview mapping	Y	
03.03	Editable mapping	N	Will be available before the system goes into production later this year. For now, we use a default mapping
03.04	Mapping feedback	Y	
03.05	Saving mapping	Y	
03.06	Field explanations	Y	
03.07	Automatic value insertion	Y	
03.08	Check digital asset availability	Y	
03.09	Thumbnail selection	Y	
03.10	Multiple assets	Y	
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	Y	

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03.13	Metadata field on IPR metadata	Y	
03.14	Metadata field on IPR preview	Y	
03.15	Mark mandatory fields	Y	
03.16	Choose default mapping	Y	
03.17	Automatic data suggestion	N	
03.18	Target format selection	Y	
03.19	Semantic data enrichment	N	
03.20	Conditional mapping	N	This is due to the fact that we currently use a default mapping
03.21	Nested or grouped mapping	Y	
03.22	Intermediate format mapping	Y	
03.23	Support for conditional truncation	N	The users disagree with this feature (could lead to incorrect data), so it won't be added
03.24	Apply PID	Y	
03.25	Conditional field conversion	N	
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	Y	
04.04	Automatic license validation	Y	
04.05	Test ingestion	N	
04.06	Align validation	Y	
05.01	Auto supply	Y	Our first batch was supplied to the DA
05.02	Re-supply functionality for failed records	N	Will be available when the system goes into production
05.03	Schedule data supply	N	
05.04	Supply for 3 rd party collaboration	N	
06.01	Preview presentation Europeana	Y	
06.02	Withdraw records	N	
06.03	Update published records	N	Unsure how Europeana handles this at the moment
06.04	Publication indication	Y	
06.05	Automatic publication alert	Y	
07.01	Available enriched content alert	N	

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07.02	Accept/ decline enrichments (record level)	N	
07.03	Automatic ingest of enriched data	N	
07.04	Separate enriched content	N	
07.05	Enriched IPR identification	N	
07.06	Choose target ingest	N	
07.07	Accept/ decline (field level)	N	
07.08	PID enrichment	N	
07.09	Pull option	N	
07.10	Enriched data management	N	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	Y	
HLR.04	Data management	Y	
HLR.05	Transparency	Y	Possible to export into a lot of different formats
HLR.06	Choice of data pull or push to Europeana	Y	With the help of what we did in EuropeanaInside
HLR.07	Multiple targets (same as 05.04?)	N	
HLR.08	Various routes	N	
HLR.09	Contextualisation	N	
HLR.10	Re-use available knowledge	N	
HLR.11	Modular	Y	
HLR.12	Export-import	Y	
HLR.13	API	N	
HLR.14	Communication of changes	N	
HLR.15	Version tracking	Y	
HLR.16	Changing and saving of settings	Y	

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	N	We will add a "ECK label" when the system goes into production
NFR.03	User friendly	Y	
NFR.04	Auto-update	Y	
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	Y	
NFR.07	Multilingual support and documentation	Y	
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	
NFR.12	Easy adaptability	Y	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	N	
NFR.15	Master-slave	N	
NFR.16	Organisation embedding	N	

A10 Skinsoft

Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	For each record, export date to Europeana is stored
01.02	Revision history	Y	Export to Europeana is incremental.
01.04	PID management	Y	Each object has an identification number.
01.05	Enriched data management	P	
02.01	Select multiple records	Y	Object selection can be made manually, within selections, or automatically with requests.
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	Field selection is entirely configurable.
02.06	Selecting within record		
02.07	Reuse saved queries	Y	Filter and queries are stored for each export configuration.
02.08	Manage multiple selections		
02.09	Standardised selection filters		
03.01	Automatic EDM mapping	Y	Default mapping could be defined for each field, for a selection or for the entire export.
03.02	Preview mapping	Y	Thumbnails are visible in any format, including format used for Europeana export. However, the preview of the data through the mapping is not yet implemented.
03.03	Editable mapping	Y	Mapping is editable through the « mapping editor ».
03.04	Mapping feedback	P	
03.05	Saving mapping	Y	Mappings are stored apart and could be used from all export configurations.
03.06	Field explanations	P	
03.07	Automatic value insertion	N	In finalisation step
03.08	Check digital asset	Y	Possibility to use the main

	availability		image of an object, all images, or a specific one. Possibility to define a default image if none is present.
03.09	Thumbnail selection	Y	
03.10	Multiple assets	Y	
03.11	Defining media type	P	Defined per batch
03.12	Metadata field on IPR digital object	Y	IPR of digital object is retrieved and stored into the database. IPR informations can also be modified by the user.
03.13	Metadata field on IPR metadata	Y	
03.14	Metadata field on IPR preview	Y	
03.15	Mark mandatory fields	N	In finalisation step
03.16	Choose default mapping	Y	Default mapping used if needed.
03.17	Automatic data suggestion	N	In finalisation step
03.18	Target format selection	Y	Mapping is always related to the source format.
03.19	Semantic data enrichment	Y	Fields could be linked with thesaurus (e.g. Joconde thesaurus) or controlled vocabularies.
03.20	Conditional mapping	Y	Filters are available to apply or not a mapping
03.21	Nested or grouped mapping	Y	Mapping is applicable on simple element and complex elements (with nested or grouped elements). Each sub element can also have a mapping.
03.22	Intermediate format mapping	N	In finalisation step
03.23	Support for conditional truncation	N	In finalisation step
03.24	Apply PID	Y	Identifiers management is automatic and takes care of CP data configuration.
03.25	Conditional field conversion	P	
04.01	Validation	N	
04.02	Feedback on validation	N	
04.03	Edit invalidated fields	Y	Export could be incremental if the structure is unchanged.
04.04	Automatic license validation	P	In finalisation step
04.05	Test ingestion	N	In finalisation step

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04.06	Align validation	P	This functionality needs improvement
05.01	Auto supply	Y	The system supplies prepared data to Europeana by push.
05.02	Re-supply functionality for failed records	P	In validation
05.03	Schedule data supply	Y	Data export is accessible through a separate job which can be scheduled as needed.
05.04	Supply for 3 rd party collaboration	P	oai:dc, Joconde and Unimarc
06.01	Preview presentation Europeana	P	In finalisation step
06.02	Withdraw records	P	In finalisation step
06.03	Update published records	Y	In incremental mode, published records are updated only if needed.
06.04	Publication indication	Y	Information in log files for the moment.
06.05	Automatic publication alert	P	In finalisation step
07.01	Available enriched content alert	N	
07.02	Accept/ decline enrichments (record level)	Y	Each record could be tagged as authorized or not for the export
07.03	Automatic ingest of enriched data	P	
07.04	Separate enriched content	P	
07.05	Enriched IPR identification	P	
07.06	Choose target ingest	P	
07.07	Accept/ decline (field level)	P	
07.08	PID enrichment	N	
07.09	Pull option	P	
07.10	Enriched data management	P	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.0 1	Exchange of cultural data	Y	
HLR.0 2	Contributing to Europeana	P	Partial conformance (see Functional Requirements)
HLR.0 3	Adding value to local collections	Y	
HLR.0 4	Data management	Y	Data is controlled during the wall process
HLR.0 5	Transparency	P	Reports and validation needs improvement (see 06.04, 06.05, 04.01 and 04.02)
HLR.0 6	Choice of data pull or push to Europeana	Y	
HLR.0 7	Multiple targets (same as 05.04?)	P	
HLR.0 8	Various routes	N	In finalisation step
HLR.0 9	Contextualisation	Y	
HLR.1 0	Re-use available knowledge	Y	
HLR.1 1	Modular	Y	Data publication is generic in S-museum
HLR.1 2	Export-import	Y	
HLR.1 3	API	Y	
HLR.1 4	Communication of changes	P	
HLR.1 5	Version tracking	Y	
HLR.1 6	Changing and saving of settings	Y	Stored in database

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.0 1	Sustainable and persistent workflow	Y	Sustainable system, available for maintenance and upgrades.
NFR.0 2	Label for CMS software	Y	
NFR.0 3	User friendly	Y	
NFR.0 4	Auto-update		
NFR.0 5	Make cultural heritage available to digital services	Y	
NFR.0 6	User manual and training materials	P	
NFR.0 7	Multilingual support and documentation	P	Multilingual support. Documentation is currently being translated.
NFR.0 8	Flexibility and adaptability	Y	
NFR.0 9	Open standards	Y	
NFR.1 0	Re-use existing tools	Y	
NFR.1 1	Modular (same as HLR.11)	Y	
NFR.1 2	Easy adaptability	Y	Code is documented and tested, with functional tests witch helps to make evolutions.
NFR.1 3	Simplicity	Y	
NFR.1 4	Public-private partnership	Y	
NFR.1 5	Master-slave	Y	
NFR.1 6	Organisation embedding	Y	

A11 System Simulation**Functional Requirements**

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	Y	
01.04	PID management	Y	
01.05	Enriched data management	P	Not yet ingested final data
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	
02.06	Selecting within record	Y	
02.07	Reuse saved queries	Y	
02.08	Manage multiple selections	P	Untested
02.09	Standardised selection filters	N	
03.01	Automatic EDM mapping	Y	
03.02	Preview mapping	Y	
03.03	Editable mapping	Y	
03.04	Mapping feedback	Y	
03.05	Saving mapping	Y	
03.06	Field explanations	Y	
03.07	Automatic value insertion	Y	
03.08	Check digital asset availability	Y	
03.09	Thumbnail selection	Y	
03.10	Multiple assets	Y	
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	P	In the end problems with the validation module not validating according to the specifications of the profile module led to the

			rights statement being moved from the mapping into core code. This works but is less than ideal.
03.13	Metadata field on IPR metadata	P	See 03.12
03.14	Metadata field on IPR preview	P	See 03.12
03.15	Mark mandatory fields		
03.16	Choose default mapping	Y	
03.17	Automatic data suggestion	Y	The supplied mapping contains these as string constants which can be altered in batch or on a per record basis
03.18	Target format selection	N	Source is always Index+, target is always LIDO effectively though EDM actually via the Set Manager.
03.19	Semantic data enrichment	Y	
03.20	Conditional mapping	Y	The value side of the assignment in the mapping for LIDO takes the form of the Index+ expression language allowing a fully featured conditional and transformational approach to the data
03.21	Nested or grouped mapping	Y	
03.22	Intermediate format mapping	Y	Index+ handles the mapping to LIDO and relies on an external Set Manager to transform this to EDM
03.23	Support for conditional truncation	Y	See 3.20
03.24	Apply PID	Y	
03.25	Conditional field conversion	Y	See 3.20
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	Y	
04.04	Automatic license validation	Y	
04.05	Test ingestion	Y	
04.06	Align validation	N	Not sure if this is the case. The system relies on the Set Manager to do validation but no steps are taken to ensure Europeana validates the data as far as I can see.

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05.01	Auto supply	Y	Data is pushed to the Set Manager, the aggregator uses the live set as the OAI repository
05.02	Re-supply functionality for failed records	Y	
05.03	Schedule data supply	N	
05.04	Supply for 3 rd party collaboration	N	
06.01	Preview presentation Europeana	N	This functionality is unavailable. The data can be previewed in the Preview module which is external to Europeana
06.02	Withdraw records	Y	
06.03	Update published records	Y	
06.04	Publication indication	Y	
06.05	Automatic publication alert	Y	
07.01	Available enriched content alert	N	Only a test set of data was available owing to having no content from an actual Europeana enrichment. The field is visible however
07.02	Accept/ decline enrichments (record level)	Y	Enriched data is ingested automatically but is stored in a single field.
07.03	Automatic ingest of enriched data	Y	Enriched data is always recovered and stored in it's own field so that the CP can do what they want with it
07.04	Separate enriched content	Y	
07.05	Enriched IPR identification	N	
07.06	Choose target ingest	N	The enriched data is all stored in a single field and not mapped to a set of fields automatically
07.07	Accept/ decline (field level)	N	
07.08	PID enrichment	N	Actual enrichment not yet seen. Internal PID module means that URI/PID combinations may cause problems. Enriched data is not automatically mapped
07.09	Pull option	N	
07.10	Enriched data management	Y	Records can be returned on the basis of having enriched data as a search context

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	Once final data is loaded
HLR.02	Adding value to local collections	Y	Once final data is loaded
HLR.04	Data management	Y	
HLR.05	Transparency	Y	
HLR.06	Choice of data pull or push to Europeana	N	Currently no choice. Push implemented and pull chosen as best solution
HLR.07	Multiple targets (same as 05.04?)	N	Planned for future work
HLR.08	Various routes	Y	
HLR.09	Contextualisation	Y	
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	
HLR.12	Export-import	Y	
HLR.13	API	Y	
HLR.14	Communication of changes	N	
HLR.15	Version tracking	Y	
HLR.16	Changing and saving of settings	Y	

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	N	Not aware of a label being made available.
NFR.03	User friendly	Y	
NFR.04	Auto-update	N	
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	Y	

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NFR.07	Multilingual support and documentation	P	Translatable application. Documentation not yet translated
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	
NFR.12	Easy adaptability	Y	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	Y	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	Y	The intention is to make the ECK a default component of our product configuration and adapt it further.

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Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
01.01	Export management	Y	
01.02	Revision history	Y	
01.04	PID management	Y	
01.05	Enriched data management	Y	Enrichment feedback is saved into separate database tables in the CMS.
02.01	Select multiple records	Y	
02.02	Select single record	Y	
02.03	Select records based on values	Y	
02.04	Boolean operators	Y	
02.05	Indication of selected fields	Y	
02.06	Selecting within record		
02.07	Reuse saved queries	Y	
02.08	Manage multiple selections		
02.09	Standardised selection filters		
03.01	Automatic EDM mapping	Y	
03.02	Preview mapping	Y	
03.03	Editable mapping	Y	
03.04	Mapping feedback	Y	
03.05	Saving mapping	Y	
03.06	Field explanations	Y	
03.07	Automatic value insertion	Y	
03.08	Check digital asset availability	Y	
03.09	Thumbnail selection	Y	
03.10	Multiple assets	Y	
03.11	Defining media type	Y	
03.12	Metadata field on IPR digital object	Y	
03.13	Metadata field on IPR metadata	Y	
03.14	Metadata field on IPR	Y	

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	preview		
03.15	Mark mandatory fields	Y	
03.16	Choose default mapping	Y	
03.17	Automatic data suggestion	P	Feedback in log file for some specific cases available.
03.18	Target format selection	Y	Target format is always fixed (LIDO xml).
03.19	Semantic data enrichment	Y	
03.20	Conditional mapping	Y	
03.21	Nested or grouped mapping	Y	
03.22	Intermediate format mapping	Y	Native data model is transformed to LIDO, transformation to EDM takes place at Aggregator
03.23	Support for conditional truncation	Y	
03.24	Apply PID	Y	
03.25	Conditional field conversion	Y	
04.01	Validation	Y	
04.02	Feedback on validation	Y	
04.03	Edit invalidated fields	Y	
04.04	Automatic license validation	Y	
04.05	Test ingestion	Y	
04.06	Align validation	Y	
05.01	Auto supply	Y	
05.02	Re-supply functionality for failed records	Y	
05.03	Schedule data supply	N	
05.04	Supply for 3 rd party collaboration	Y	
06.01	Preview presentation Europeana	Y	
06.02	Withdraw records	Y	Done via the aggregator
06.03	Update published records	Y	
06.04	Publication indication	Y	Done via the aggregator
06.05	Automatic publication alert	Y	Done via the aggregator
07.01	Available enriched content alert	Y	
07.02	Accept/ decline enrichments (record level)	Y	

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07.03	Automatic ingest of enriched data	Y	
07.04	Separate enriched content	N	
07.05	Enriched IPR identification	N	
07.06	Choose target ingest	N	
07.07	Accept/ decline (field level)	Y	
07.08	PID enrichment	Y	
07.09	Pull option	N	
07.10	Enriched data management	Y	

High Level Requirements

Req	Title	Conformance (Y, N or P)	Comments
HLR.01	Exchange of cultural data	Y	
HLR.02	Contributing to Europeana	Y	
HLR.02	Adding value to local collections	Y	
HLR.04	Data management	Y	
HLR.05	Transparency	Y	
HLR.06	Choice of data pull or push to Europeana	Y	
HLR.07	Multiple targets (same as 05.04?)	Y	
HLR.08	Various routes	Y	
HLR.09	Contextualisation	Y	
HLR.10	Re-use available knowledge	Y	
HLR.11	Modular	Y	
HLR.12	Export-import	Y	
HLR.13	API	Y	
HLR.14	Communication of changes	Y	
HLR.15	Version tracking	Y	
HLR.16	Changing and saving of settings	Y	

Non-Functional Requirements

Req	Title	Conformance (Y, N or P)	Comments
NFR.01	Sustainable and persistent workflow	Y	
NFR.02	Label for CMS software	Y	
NFR.03	User friendly	Y	
NFR.04	Auto-update	-	
NFR.05	Make cultural heritage available to digital services	Y	
NFR.06	User manual and training materials	Y	
NFR.07	Multilingual support and documentation	Y	
NFR.08	Flexibility and adaptability	Y	
NFR.09	Open standards	Y	
NFR.10	Re-use existing tools	Y	
NFR.11	Modular (same as HLR.11)	Y	
NFR.12	Easy adaptability	Y	
NFR.13	Simplicity	Y	
NFR.14	Public-private partnership	Y	
NFR.15	Master-slave	Y	
NFR.16	Organisation embedding	Y	