DIGICLIC

DIGIBIS

Information about enriched digitization, software for Libraries, Archives and Museums and international standards.

GOBIERNO DE ESPAÑA

MINISTERIO DE INDUSTRIA, ENERGÍA Y TURISMO

red.es

Red.es projects carried out by DIGIBÍS

DIGIBIB®

DIGIARCH®

DIGIHUB®
OAI-PMH Harvester

SUMMARY

DIGIBÍS is awarded the Red.es contracts

I n 2015, DIGIBÍS was awarded three important contracts published by the Red.es public company. In this issue of DIGICLIC, readers will get a full report of these.

The first one consisted in the cataloguing and digitization of a large part of the document collection of the Ministry of Defence, with the goal of becoming integrated into the Virtual Library of Defence. This was achieved.

The second contract served the purpose of creating an information system for the digital heritage of Extremadura, by designing and implementing a virtual library, a virtual archive, and a metadata aggregator to collect all the information into a repository, thereby contributing to the historical heritage records of the Autonomous Community of Extremadura to Hispana and, from there, to Europeana. This was also achieved.

The third one was also aimed at implementing museum records from Extremadura into the well-known DOMUS computer system. Even though it was not a project based on the DIGIBÍS software system, our company performed its duties under this the contract.

It should be noted that deadlines were very tight for all three projects.

The project for the Ministry of Defence was published in the middle of the summer and the two projects for Extremadura in the middle of autumn. Despite this, our company met the deadlines to the full satisfaction of all parties.

All of this, in addition to underscoring the versatility of DIGIBÍS, i.e. cataloguing, digitization and implementation of proprietary computer solutions or support for third-party computer programs, also shows that, if this has been achieved, it is because DIGIBÍS is fully aware of the fact that the goals of Red.es and those of the company are the same: to help build information and communication technologies. This is all framed under the Digital Agenda for Spain. ■

> DIGIBÍS gives shape to the Red.es projects for the Ministry of Defence and the Autonomous Community of Extremadura

INTERNATIONAL

Europeana AGM 2015

The 2015 Annual General Meeting of the Europeana Network Association, also called the Europeana AGM, took place on 3 and 4 November 2015 in Amsterdam, under the slogan "We are Europeana". Max Kaiser, chairman of the Europeana Network Association, opened the session with a marked spirit of optimism for Europeana's achievements, and introduced the topics to be addressed over the next two days, framed in the general objectives of the 2016 Business Plan: Usable, Reciprocal and Reliable.

Regarding the state of the Association, its financial and organisational status was reviewed and the 2016 and 2017 Business Plans were shown, in addition to the vision for Europeana for 2020. The video with the presentation of the candidates to Members of the Europeana Board was very well received.

The 2016 Business Plan seeks to strengthen and expand the role of Europeana as a reliable, open and reusable source of data for any type of user, from end users to cultural and creative industries, including content providers and cultural-heritage professionals.

As usual, the annual Europeana business plans build upon seemingly simple general objectives to create a complex network of applications, procedures and guidelines. Thus, and directly related to the four basic points of the Business Plan (creating value for members, improving data quality, opening data and strengthening the organisation), the Europeana Publishing Framework, the Europeana Statistics Dashboard and the results of meetings before the annual meeting, such as "Measuring the Impact of Europeana" and "Europeana turns five, so now what?", as well as a summary of the work performed by the Europeana Task Forces, were presented. Likewise and directly linked to the objective of improving user experience, the Europeana 280 project was presented, which aims to highlight 10 or so masterpieces of the 28 Member States of the European Union.

We will highlight the presentation of the new Europeana Publishing Framework, which introduced four levels of participation in Europeana: 1) Europeana as a search engine; 2) Europeana as a showcase; 3) Europeana as a distribution platform for non-commercial re-use; 4) Europeana as a free re-use platform. Furthermore, the content strategy of the Europeana Publishing Framework revolves around the active acquisition of content, by increasing the modalities for data intake and establishing new quality criteria for metadata and digital objects.

The meeting ended with a fun launching of paper planes where the dreams of attendees for Europeana in 2020 were written: Fly your Europeana Dream. ◼

BECAUSE WE BELIEVE THAT TOGETHER WE ARE GREATER THAN THE SUM OF OUR PARTS

ENUMERATE: final report 2015

I e June 2015, the ENUMERATE Core Survey 3 was completed and a final report summarising its findings is already available. This third survey is the fourth largest study carried out regarding the status of digitization in European cultural institutions to date. It is preceded by the ENUMERATE *Core Survey 1* and *Core Survey 2* (in 2011 and 2013, respectively), as well the study of the NUMERIC project from 2008, the seed of these general surveys.

Spain is among the most active participants

The survey, carried out between February and May 2015, featured the participation of almost 1,000 institutions from 31 European countries in 13 different languages. With 194 responses, Spain once again occupies one of the first places among participants. As coordinator of the Spanish survey, DIGIBÍS is enormously grateful for their collaboration.

All the information is accessible through the ENUMERATE Data Platform

All statistical reports and data gathered (completely anonymous) through the different surveys are available and can be downloaded from the ENUMERATE Data Platform, developed by DIGIBÍS.

Cultural institutions will also find the Benchmark tool on this platform, where they can compare their performance indicators to those of other national or European institutions.

Most significant statistical data

A gradual evolution can be observed, with growth, sometimes minimal, towards an increase of digital and digitised objects, planning and resources used.
- 84% of cultural heritage institutions maintain a certain digital collection (83% in Core Survey 1 and 87% in Core Survey 2)

- 23% of collections have been digitised (20% in Core Survey 1 and 17% in Core Survey 2) and 50% have not been digitised yet (57% in Core Survey 1 and 52% in Core Survey 2)

- 41% of institutions have developed a digitization strategy (34% in Core Survey 1 and 36% in Core Survey 2)

- 60% of cultural heritage institutions collect works already created in digital formats (compared to 52% in Core Survey 1 and 53% in Core Survey 2)

- 91% of institutions analyse the use of their digital collections through web statistics (85% in Core Survey 1 and 91% in Core Survey 2)

- 26% of institutions have developed a written preservation strategy supported by management at the centre (23% in Core Survey 1 and 26% in Core Survey 2)

- An average of 33% of the staff of cultural heritage institutions works full time in digitization (3.3% in Core Survey 1 and 33% in Core Survey 2)

Europeana creates the ENUMERATE Observatory

ENUMERATE has become part of the development of Europeana. For this purpose, this third survey was included in the Europeana v3 project, giving rise to the creation of the ENUMERATE Observatory. ■

GLAM APPLICATIONS

METS update for 3D objects

On 7 June 2015, version 1.11 of the METS standard was published on the official web of the METS schema standard, updating it with changes for the coding of objects digitised in 3D.

The digitization service for 3D objects offered by DIGIBÍS, through the application of photogrammetric and modelling techniques, incorporates the generation of METS files that are already adapted to this new version of the schema.

Our applications include a viewer that supports3D and high resolution

DIGIBÍS has developed a 3D viewer as an specific module for its DIGIBIB application. This 3D viewer not only allows users to rotate or move an object in all directions but also includes high-resolution visualisation of any of its sides. This combination makes it possible to travel across the entire surface of objects of a documentary interest, often museological, from any of its sides.

High-resolution digitization and software processing has allowed for images to be viewed at a very high resolution using the DIGIBIB, DIGIARCH and DIGIMÚS programs.

In this way, materials like maps, especially handwritten ones, can be zoomed in until users can get a very clear and detailed image of the digitised object.

It is important to note that this is a module that can be integrated into the general viewer for digitised documents and that allows for exploring digitised images without the need to use a specific plugin. ■

Images of the Félix Cañada Virtual Museum, implemented by DIGIMÚS, and of the Virtual Library of Defence, with DIGIBIB.
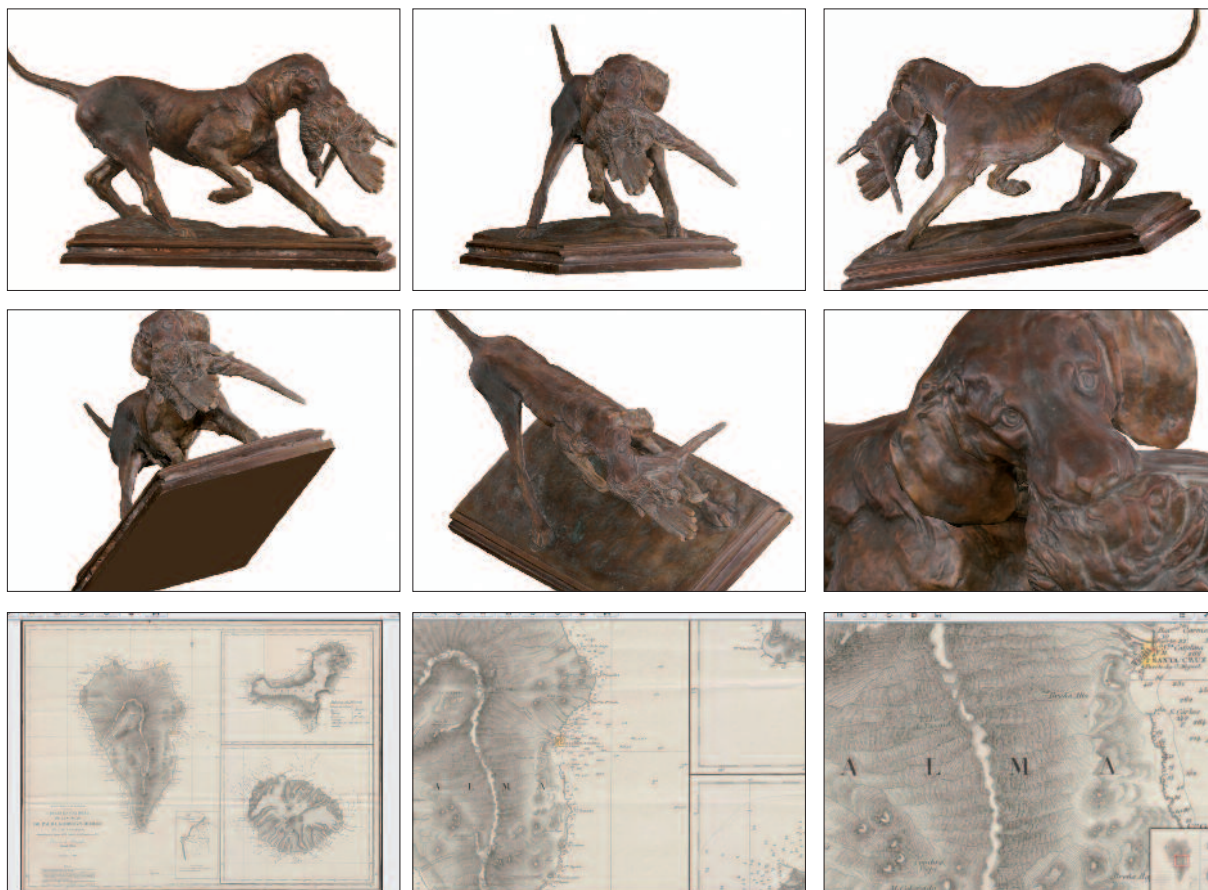
Update of the Digital Library of Castile and León to DIGIBIB v. 9.1

In the previous issue of DIGICLIC, we announced the first virtual libraries updated to DIGIBIB version 9.1. The update continues and more libraries are taking advantage of the semantic enrichment enabled by this new version. Among others, we can mention the Digital Library of Castile and Leon, another Spanish collection enriched through Linked Open Data (LOD) that is also accessible through Hispana and Europeana.

Thus, through links to external LOD sources, such as VIAF, DBpedia or the Subject Headings List for Public Libraries in SKOS, a "semantic layer" is created, which allows for enriching the descriptions of records –documents, people or institutions, places, subjects, etc.– and contextualising them.

This enrichment is done through links to URIs, included in the appropriate fields and subfields, which allow for identifying a resource unequivocally and produce richer descriptions with greater informational value to users and with the desired level of detail.

Through the use of Linked Open Data technology, in DIGIBIB 9.1, the tool used to manage the Digital Library of Castile and Leon, digital resources stored in its database can benefit, and do benefit, from the reuse of third-party information, enriching internal data with links and data from other sources.

Furthermore, the new version of DIGIBIB includes automatic semantic enrichment routines from different Linked Open Data sources and complies with the requirements of Europeana Data Model (EDM) 5.2.6, from December 2014, a mandatory data model for the aggregation of resources into Europeana, which establishes: the use of URIs to represent data obtained from authority and bibliographic records; support for the content-negotiation model; dynamic publishing and exporting of Europeana Data Model resources in RDF from bibliographic and authority records; dynamic publishing and exporting of subject authority records through SKOS; and support for the Europeana Data Model XML schema.

Another notable innovation of DIGIBIB, which is used by the Digital Library of Castile and Leon, is the creation of microsites from bibliographic or authority records.

This way, users can browse the titles of the Teresian Digital Library or search an item published by the Health or Environmental Council in the Publications of the Regional Government of Castile and León. ■

José de Acosta's autority record in the Digital Library of Castile and León.
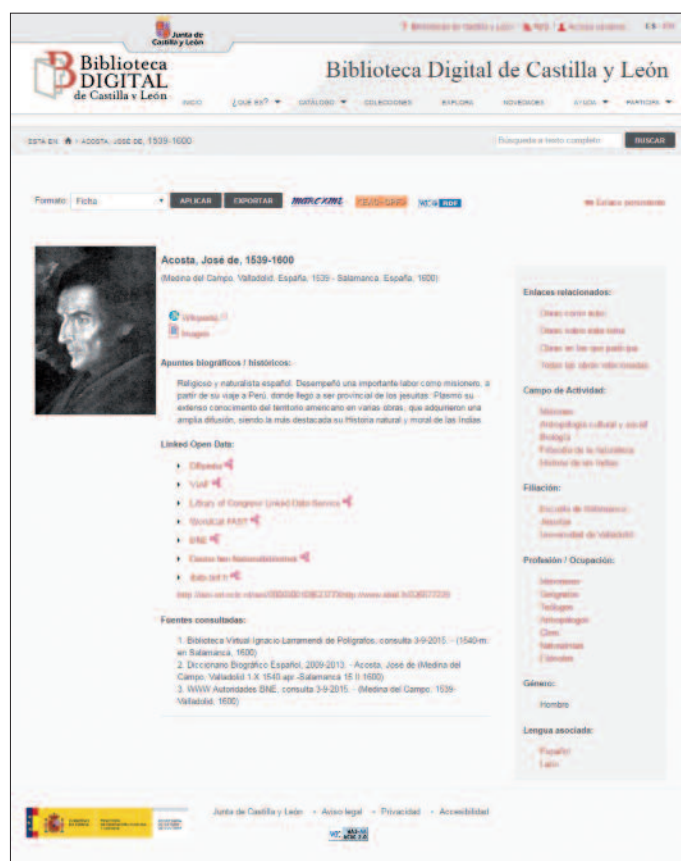
Hispana now holds over six

In our double issue of DIGICLIC in 2014, we announced that Hispana held over five million digital objects and we are now pleased to announce, 15 months later, that it has already exceeded six million. This huge and very significant quantity of digital objects come from the 209 OAI-PMH repositories harvested by HISPANA, the national aggregator of digital objects maintained by the Sub-Directorate General of Library Coordination, attached to the State Secretariat for Culture of the Ministry of Education, Culture and Sport.
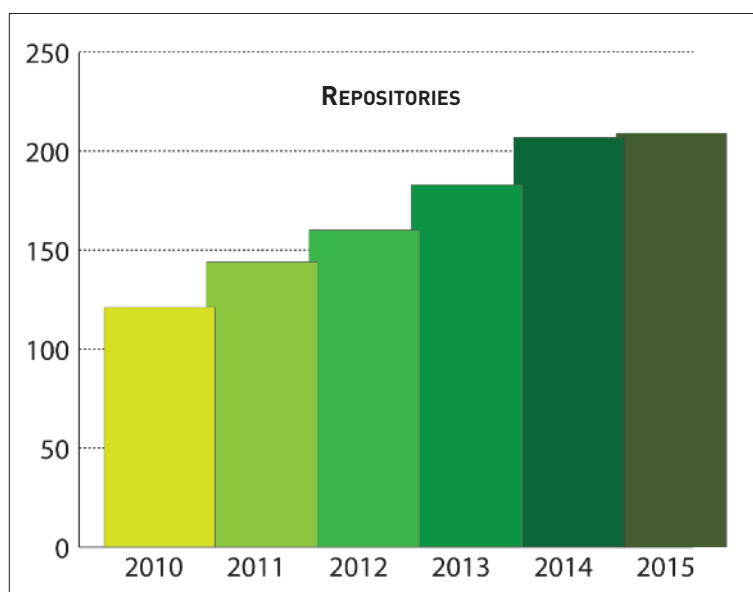
Hispana works with DIGIHUB

Hispana operates with the DIGIHUB application developed by DIGIBÍS, which allows not only for aggregating content from other repositories but also acts like an OAI-PMH repository at the same time, which enables other aggregators like Europeana or OAIster to aggregate its data. In this fashion, the records achieve greater dissemination at the same time as they enrich and become enriched with data from other virtual libraries that comply with the international standards for information exchange.

Constant growth

Despite these years not having been the most conducive to budgetary joys, Hispana has managed to grow at a rate of approximately one million records per year since 2010. The progress, which is shown in the graph on the upper right, has been as follows:

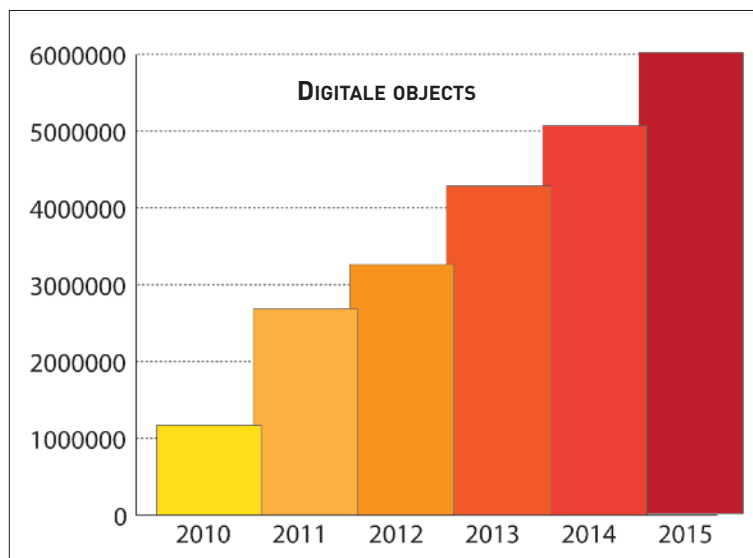• January 2010: 121 repositories and 1,171,417 digital objects
• January 2011: 144 repositories and 2,688,861 digital objects
• January 2012: 160 repositories and 3,264,093 digital objects
• January 2013: 183 repositories and 4,287,082 digital objects
• October 2014: 207 repositories and 5,071,542 digital objects
• December 2015: 209 repositories and 6,028,415 digital objects

DIGITALE OBJECTS

REPOSITORIES

million digital objects

For several years, Hispana has been the second largest aggregator for Europeana. Hispana is currently in sixth place, very close to the fourth and the fifth, Openup! and the Digitale Collectie, but it is the largest national aggregator in the European Union, contributing over 2,400,000 records. Out of these, a percentage largely exceeding 50% reaches Europeana from the digital libraries using management applications developed by DIGIBÍS.

With DIGIHUB from the outset

The Hispana project was put into production in early 2005, with 25 repositories and close to 120,000 digital objects. From the outset, it has featured an OAI-PMH repository and an OAI-PMH harvester, thanks to the DIGIHUB management system, which facilitates the automatic inclusion of entries harvested by the aggregator in the repository.

DIGIHUB also allows Hispana to aggregate the records of OAI-PMH repositories according to the Dublin Core metadata structure, which is the minimum required by OAI-PMH, as well as all metadata schemas used by the records of the different repositories. Hispana also uses the DIGIHUB SRU module, which allows for accessing stored data.

The OAI-PMH protocol must be extended

Despite this, the percentage of OAI repositories present in Hispana continues to be low (see the "Repositories" graph): out of the 622 digital collections in Hispana, only 209 —one third— have an OAI repository.

At DIGIBÍS, we are convinced that the incentives and aid policies of the Ministry of Education, Culture and Sport will result not only in a greater number of digital objects but also in an increase in the number of OAI repositories in our country, which will boost the Spanish contribution to Europeana. In any case, Spain is complying with the European Directive through its policy for the digitization and preservation of cultural heritage. ■

Hispana channels the Spanish contribution to Europeana and is its largest national contributor

Extremadura museums: migration of records to the DOMUS system

Red.es, a public company, and the FEDER European Fund launched a call for tenders in October 2015 for a "Service for the creation of inventory records of museums and heritage managed by the Regional Government of Extremadura in the DOMUS integrated documentation and museum management system". This call for tenders was a consequence of a collaboration agreement signed in July 2014 between the Ministry of Education, Culture and Sport (MECD) and the Council of Education and Culture of the Autonomous Community of Extremadura, on the matter of the joint operation of the DOMUS museum management application and the exchange of in-

DIGIBÍS was able to adapt to DOMUS and complete all project phases

formation through it to provide technical support to museums held by the state and with transferred management, as well as the Network of Museums and Permanent Museum Exhibits.

The project entailed the migration to the DOMUS museum management system of: 21,867 records of the Museum of Caceres, 3,000 records of the Extremadura and Latin American Museum

of Contemporary Art (MEIAC) and 801 records of the Inventory of Goods of the Institutional Collection of the Autonomous Government of Extremadura, from databases in Access 2007, 2008 and 2013, as well as in Filemaker 5.5, along with the migration and generation of existing images.

DIGIBÍS, aware of the importance of museum management –it has not developed the DIGIMÚS application in vain– tendered and was awarded the contract. Despite this not being a proprietary product of the company, as the DOMUS software is owned by the MECD, DIGIBÍS adapted and completed the four phases of the project: defining and planning the project in detail; defining the record-creation strategy; creating 25,668 records in the DOMUS system; and training museum managers in the DOMUS museum management system.

Museum collections in CER.ES

Thanks to this agreement between the MECD and the Council of Education and Culture of Extremadura, the museum collections of Extremadura are now available through the CER.ES portal (online collections). ■
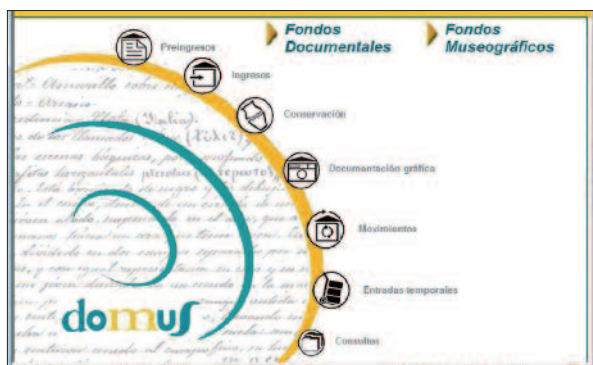
Complete management system for the Cultural Heritage of Extremadura

On 28 October 2015, Red.es, a public company, issued a call for tenders supported by the FEDER European fund, for the "Supply and implementation of a digital electronic archive for the digital cultural heritage of Extremadura".

As specified in the Technical Requirements, it requested the supply and implementation of a management system for the digital cultural heritage of Extremadura, made up of an integrated ecosystem of repositories that would be interoperable across the Hispana and Europeana platforms. The set of systems needed to offer:

• A dissemination and harvesting system featuring an OAI-PMH harvester and repository, web and administration modules and a directory of Digital Collections;

• A digital library management system with different web modules: administration, digital-object management and metadata management; and

• A digital archive management system featuring, like the library system, a web module, an administration module, and a digital-object and metadata management module.

A complete system made up of DIGIBIB, DIGIARCH and DIGIHUB

DIGIBÍS submitted its bid, offering its three management systems: DIGIHUB 4.1 as a harvesting and dissemination system; DIGIBIB 9.1 for digital-library management; and DIGIARCH Web 3 for digital-archive management. These three systems are completely interoperable with Hispana and Europeana, thanks to the application and use

Results page corresponding to a digital object belonging to the collections of figurative documents of the Provincial Historical Archive of Caceres in the section of "Maps, plans, sketches and drawings".

of the necessary protocols and standards (MARC21, EAD3, METS, Dublin Core, Europeana Semantic Elements, Europeana Data Model, SRU and OAI-PMH).

The interesting cultural heritage of the archives and libraries of Extremadura, such as the *privilegios* of Philip IV, the sketches of sculpture, the urban maps and plans of buildings or the "Allegationes iuris", often already digitised and which remained inaccessible to the public, will soon be available to any user, in Spain or internationally, thanks to this triple management system for the digital culture of Extremadura ■

DIGITIZATIONS

Digitization of the Rare Materials of the Historical Library of Santa Cruz

A set of works from the Rare Materials preserved at the Historical Library of Santa Cruz, in the University of Valladolid, was digitised by DIGIBÍS during the summer of 2015.

The Library of Santa Cruz, founded in 1483, holds many works published before 1835. This collection of digitised works includes incunabula and rare prints dated between the last quarter of the 15th century and the early 16th century.

The latest versions of the METS and PREMIS formats were used

The corresponding metadata files were generated for all digitised documents, specifically: METS with PREMIS, METSRights, MARCXML, ISO2709 and DC. The results were validated with JHOVE.

The digitised works include a manuscript of the 15th century of *Epistles from Seneca to his good friend Lucilius;* three manuscript reports by Gregorio Mayáns y Siscar, the author of the first biography of Cervantes, printed in 1738, to whom the Ignacio Larramendi Foundation dedicated a CD-ROM that DIGIBÍS adapted to create an Author Library in the Digital Library of Valen-cia; or the *Falaris Letters,* known as Pseudo-Falaris and attributed to the King of Agrigento in the 6th century BC, a king renowned for his cruelty who eventually became renowned for his wisdom. ■

Above, the beginning of a text from In Aristotelis Analytica posteriora commentum, by Aegidus Romanum, of 1478; Below, digitization of the fore edge of the book Opus sermonu[m] trip[ar]titum..., by Meffreth, of 1487.

Digitization and cataloguing of the Archive of the Navy

The Ministry of Defence, along with the public company Red.es, issued a call for tenders for the "Services of documentary description, digital preservation and availability of the cultural heritage of the Ministry of Defence" in the summer of 2015. As the contract awardee, DIGIBÍS carried out the digitization, description and digital preservation tasks of the stock preserved in the General Archive of the Navy and the Museum of the Army.

The "Álvaro de Bazán" General Archive, created by a Decree of 1948 as a single historical archive to collect all the stock of the Armada, keeps a large portion of the documents about the maritime activities of the Armada from the late 18th to the early 20th century.

The documents mentioned include those of the Section of the Expedition to the Indies, which were part of the collection described and digitised by DIGIBÍS. This is a documentary collection, mostly official notices, which belongs to the stock of the Secretariat of State and the Office of the Navy, and which is of great interest to study the independence of Spanish America.

Over nine thousand handwritten documents.

A total of 91 files were digitised. Over nine thousand handwritten documents and files were digitised and, once described (using the METS format) and digitised, they were incorporated into the Virtual Library of Defence. Given the peculiar-

Bibliographic record of the manuscript "Sobre el capitán de fragata Lorenzo Noriega comisionado por Venadito para traer pliegos e informar verbalmente... (29-04-1822/25-05-1822)" and close-up of its first page.

ity of this Section on Expeditions to the Indies, a microsite was created with their name, which can be viewed independently from the rest of the Virtual Library. . ■
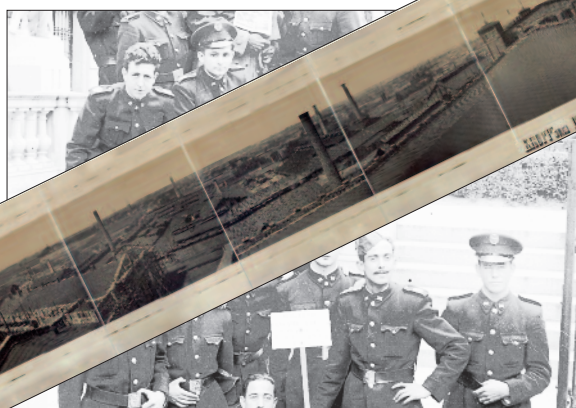
Digitization and cataloguing of the Army historical photography

As a result of the call for tenders mentioned in the previous page, "Services of documentary description, digital preservation and availability of the cultural heritage of the Ministry of Defence", published by Red.es for the Ministry of Defence, with the help of the FEDER European fund, DIGIBÍS carried out the digitization and description of a collection of historical photography kept at the Museums of the Army.

This is a collection of great relevance within the institution, due to its great thematic and technical heterogeneity, which includes items ranging from a daguerrotype dated 1852 with a portrait of General Ramón María Cabrera, including a panoramic photograph of the Krupp Factory in Essen (1870) or *Cartes de visite* –"visit cards" with portraits of political, military or royal personalities–, to slides and glass plates showing objects and rooms of the old Museum of the Army in Madrid, or the collections of BUFA photographs and and the Blue Division of the Second World War.

All formats were digitised by DIGIBÍS at a resolution level optimal for each of them, which will also allow for their long-term preservation, given the fragility of some of them.

Readers can access and browse this magnificent photograph collection from the microsite that the Virtual Library of Defence has created on its website. ■

Digitization and cataloguing of the Pontifical University of Salamanca

In May 2015, DIGIBÍS completed the process for the digitization and generation of metadata of 37,767 pages corresponding to 84 works of the Pontifical University of Salamanca.

Over 37 000 pages digitised

These digital objects will be harvested soon and added to the records of the Pontifical University in Hispana and Europeana.

The advanced digitization service offered by DIGIBÍS consisted, in addition to the digitization of images themselves, in the semantic enrichment of authority records with Linked Open Data sources (VIAF, Dbpedia, Subject Headings List) and in the generation of metadata schemas, which included Dublin Core, METS with PREMIS and MARCXML. All digital objects will be available in Hispana and Europeana.

Enriched, expert or advanced digitization by DIGIBÍS entails the creation of metadata and the application of the digitization, preservation and dissemination standards necessary to give visibility to the digital objects and facilitate the exchange of information with other libraries and archives. ∎

Below, left, frontispice and cover of the History of the Old and New Testaments…, known as the Royaumont Bible (1841); to the right, In Evangelium Lucae paraphrasis Erasmi Roterodami… (1525). Above, detail of Ortographia tractatus (1493), by Ioannis Tortelli.

E V E N T S
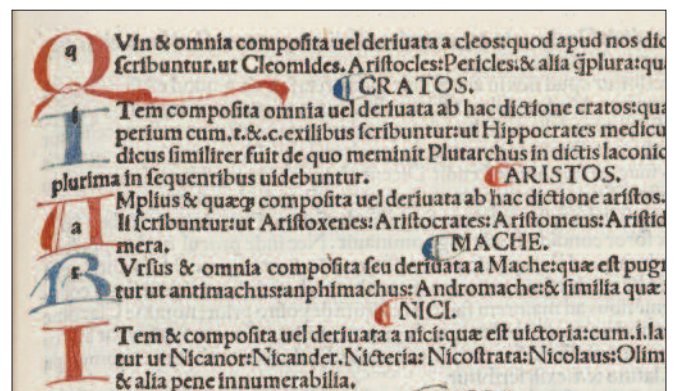
Semeritage Innovation Project

In 2014, DIGIBÍS, as a company active in R&D&I, as evidenced by its AENOR certificates received year after year, developed a line of work called "SEMERITAGE: Digital Cultural Heritage in the Semantic Web". As in previous years, this certification was deemed worthy of a reasoned report from the Ministry of Science and Innovation.

DIGIBÍS is constantly monitoring the situation of archives, libraries and museums at an international level and has defined its general strategy by focusing on the contribution of digital content to Europeana.

The 2014 DIGIBÍS Innovation project focused on the development of technology and products that allowed for the disseminaiton of digital cultural heritage on the semantic web in accordance with the Europeana strategy for the 2020 Horizon: exploring the value of its resources, linking them to other existing resources on the web and improving its semantic capabilities.

Semeritage: Semantic Heritage

Thus, in line with the development of both Europeana and the Digital Public Library of America (DPLA), DIGIBÍS focuses its Seremitage innovation project on the Semantic Web of digital cultural heritage.

To do so, its goals are:

• To apply new data models adapted to the data web or the semantic web, such as RDA or BIBFRAME, which entails the use of Linked Open Data (LOD)
• To promote the reuse of content, both from collections and from controlled vocabularies and authority records, which is linked to full compatibility with the Europeana Data Model (EDM)
• To incorporate new ways of presenting internal and external data, such as RDF data sources, which allow for greater and better use of digital cultural heritage
• To develop search systems compatible with different writing systems, through the use of the Unicode standard
• To promote the use of digitised cultural heritage at all levels of education and research in the humanities and social sciences

The development and achievement of all the above represents a considerable advantage to clients and users of the programs developed by DIGIBÍS (DIGIBIB, DIGIARCH, DIGIMÚS and DIGIHUB), as they specialise in the management, disseminaiton and preservation of digital cultural heritage in the semantic web. ■